THE

STRAITS BRANCH

OF THE

ROYAL ASIATIC SOCIETY

COUNCIL FOR 1916.

Hon. C. J. Saunders, President.

Hon. W. George Maxwell, C M G., Vice-President for Singapore.

Hon. A. T. Bryant, Vice-President for Penang.

Hon. A. H. Lemon, Vice-President for the F. M. S.

Dr. R. Hanitsch, Honorary Treasurer.

I. H. Burkill, Esq., Honorary Secretary.

C. Bazell Esq., Honorary Librarian.

Dr. R. D. Keith,

W. Makepeace Esq.

H. Marriott Esq.

H. Robinson Esq.

Councillors.
PROCEEDINGS
of the
Annual General Meeting.

Minutes of the Annual General Meeting held at the Society's rooms, Raffles Museum at 5 p.m. on Thursday, February 10th, 1916.

Present: —

In the chair, Rev. Dr. W. G. Shellabear, (President,) Rev. A. J. Amery, Messrs. C. F. C. Ayre, and A. W. Bean, Professor Argyll Campbell, Dr., D. J. Galloway, Mr. A. W. H. Hamilton, Dr. R. Hanitsch, Messrs. A. Knight, V. Knight, W. Makepeace, H. Marriott, Hon. W. George Maxwell, Messrs. R. D. Pringle, H. Robinson, Hon. C. J. Saunders, Messrs. See Teong Wah, and I. H. Burkhill. (Hon. Secretary).

Also as visitors, Mrs. Burkhill, Mrs. Legrew Watkins and others.

The minutes of the meeting of April 12th, 1915, were read and confirmed.

The Annual Report and accounts, which had been circulated in print, were accepted.

On the recommendation of the retiring Council, His Highness the Raja Muda of Sarawak, was elected an Honorary Member on a show of hands.

The names of the following were put before the meeting as seeking membership:—

Mr. A. Rogers, Singapore, proposed by Mr. C. Bazell, seconded by Mr. C. F. C. Ayre,

Mr. G. B. Kellagher, Singapore, proposed by Mr. C. Bazell, seconded by Mr. C. F. C. Ayre,

Mr. Ong Boon Tat, Singapore, proposed by the Mr. See Teong Wah, seconded by Dr. D. J. Galloway,

Mr. L. Rayman, Pak u, proposed by Dr. W. G. Shellabear, seconded by Mr. G. M. Laidlaw,

Mrs. Legrew Watkins, Singapore, proposed by Dr. R. Hanitsch, seconded by Mr. I. H. Burkhill,

Mr. Frank H. Myers, Singapore, proposed by Rev. A. J. Amery, seconded by Mr. I. H. Burkhill,

Mr. W. E. Math, Sembrang, proposed by Mr. J. O' May, seconded by Dr. W. G. Shellabear.

Mr. Marriott pointed out that under rule 4 election of new members rested with the Council.
The Honorary Secretary stated that the retiring Council made the following nominations for the succeeding Council but asked for other nominations:

President ... ... ... Hon. C. J. Saunders.
Vice-President for Singapore ... Hon. W. G. Maxwell.
Vice-President for Penang ... Hon. A. T. Bryant.
Vice-President for the F. M. S. ... Hon. A. H. Lemon.
Hon. Secretary ... Mr. I. H. Burkill.
Hon. Treasurer ... Dr. R. Hanitsch.
Hon. Librarian ... Mr. C. Bazell.

{ Dr. R. D. Keith.
  Mr. W. Makepeace.
  Mr. H. Marriott.
  Mr. H. Robinson.

No other nominations having been made, the Council's were voted on, and the officers as proposed elected.

The Hon. W. G. Maxwell, proposed and the Hon. C. J. Saunders seconded that a vote of thanks be accorded to the retiring President for the great service that he had done to the Society in editing the Hikayat Sri Rama. This was passed.

The Hon. Secretary explained how exactly a map of the Peninsula projected by the Survey Department, F. M. S., would compete with the Society's, and that the Council saw no other course than to abandon their work towards a new Edition.

The Hon. C. J. Saunders, proposed and Mr. Ayre seconded that a vote of thanks be accorded to Mr. W. Makepeace for his services in auditing the accounts of the Society. This was passed.

There being no further business, the President asked Mrs. Legrew Watkins to exhibit her collection of articles used by the Ainu of Northern Japan; and the meeting became informal.
ANNUAL REPORT
of the
Straits Branch, Royal Asiatic Society
for 1915.

Membership. During 1915 the following new members were elected:

Mr. A. F. Worthington, Mr. V. Knight.
... Lim Cheng Law, ... A. W. H. Hamilton.
... See Tiong Hwa, ... J. G. Raggi.
... H. C. W. Allen, ... F. M. Baddeley.
Dr. C. Strickland, ... J. W. Boyd-Walker.
Mr. L. Lewton-Brain, ... C. C. Brown.
... O. T. Dussek, ... H. D. Mundell.

The Branch lost by death 4 members, and from other causes 5 members.

In January 1916 the following were elected:—Messrs. H. W. Ford, T. G. Watson, Shiva Prasad Gupta, J. W. Cundell Ellis and Professor Argyll Campbell.

Council. During the year Mr. Gold and Mr. Still resigned their places on the Council. To fill the vacancy caused by Mr. Gold’s resignation, the Hon. W. G. Maxwell was co-opted. Mr. Still’s place was not filled up.

Journal. Three parts of the Journal were issued. The first part contained the Proceedings, and four short papers as follows:—
J. E. Nathan, A Journey over the Main Range from Perak to Pahang.
H. Overbeck, New Notes on the Game of Chongkak.
H. N. Ridley, New and Rare Malayan Plants.
I. H. Burkill, An Abnormality in the Coconut Palm.

The second part contained Dr. R. Hanitsch’s monograph on the Malayan Blattidae or cockroaches. The last part contained the Hikayat Sri Rama verbatim from an old manuscript in the Bodleian
Library, Oxford, which the University kindly enabled the Branch Society to use. The President edited the text, and the Council wish to record their gratitude to him for doing so.

In accordance with plans determined on in 1914, the parts of the journal were paged so as to make an annual volume, the Malay text forming an appendix. A title page and an index will be issued with the small part still unpublished.

The Council printed 550 copies of the first two parts but 1000 of the last, so that it may be sold to the public. As the text has been stereotyped, a second edition, if called for, will cost little. In order to sell the first edition the price has been fixed as low as the Society's expenses in procuring the photographic copy of the manuscript, in transcribing and in printing permit.

Towards the 1916 Journal, the Council has eight papers actually in hand, including the Hikayat Marong Maha-wangsa or Annals of Kedah, promised in the Annual Report for 1914. As additional to the Journal, the Council has undertaken to publish the Reports on the Robinson-Kloss expedition to Korinchi Peak, Sumatra, and has put a part of the illustrations already into preparation.

Map. Subject to confirmation at the annual meeting the Council has decided to abandon its preparations for a new edition of the Map of the Malay Peninsula in consequence of the projection of a similar map by the F. M. S. Survey Department.

Library. One hundred and eighty-two volumes have been bound. They have been put onto the shelves, but cause a congestion which necessitates a rearrangement. A pair of pigeon-hole almairahs have been constructed especially for the holding of unbound periodicals.

Photographic Record. Owing to the difficulty of obtaining permanent photographic paper during the war, little progress has been made with the Photographic Record. Messrs. Topham, Jones and Railton have been so good as to present photographs and several members have offered negatives.

Finances. The expenditure for the year exceeded the revenue. In the Treasurer's statement, appended, it is recorded that he received:

\[
\begin{align*}
\text{By subscriptions} & : & : & : & 1329.68 \\
\text{By sales} & : & : & : & 476.48 \\
\text{By interest} & : & : & : & 385.75 \\
\text{Total} & : & : & : & 2191.91
\end{align*}
\]

and paid out $1932.04; but by the deduction of a printing bill paid in
1915, amounting to $627.83, for the 1914 Journals and by the addition of a printing bill for $1998.44 dated 31st December last, for the 1915 Journals, etc., it is shown that $1110.74 was incurred above the receipts for the year. This excess has gone into the improvement of the Journal and into the sale copies of the Hikayat Sri Rama. It is hoped that it will come back in an increased membership and a demand for the latter publication, so rapid as to justify reprinting.

Application has been made to the Administrator of the Estate of the late Hon. Treasurer for the balance which was in his hands at his death.

I. HENRY BURKILL,
Hon. Secretary.

13th January, 1916
<table>
<thead>
<tr>
<th>Receipts</th>
<th>$</th>
<th>c.</th>
<th>Payments</th>
<th>$</th>
<th>c.</th>
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<td>To Balance Brought Forward from last Account</td>
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<td></td>
<td>By Printing Journal No. 67</td>
<td>627</td>
<td>83</td>
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<tr>
<td>On Fixed Deposit: Merc. Bank</td>
<td>4,700</td>
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<td>do. do. No. 68</td>
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<td>do. Chart.</td>
<td>1,500</td>
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<td>Illustrations for Journal Nos. 68 and 69</td>
<td>468</td>
<td>16</td>
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<td>Current Account Merc. Chart.</td>
<td>369</td>
<td>66</td>
<td>Paid to Messrs Stanford for Maps</td>
<td>169</td>
<td>67</td>
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<tr>
<td>In the Hands of the Executors of the late Hon. Treasurer, Mr. Montgomerie</td>
<td>198</td>
<td>68</td>
<td>Furniture</td>
<td>86</td>
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<td>Stationery</td>
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<td>Salaries</td>
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<td>Do. do. 1913</td>
<td>25</td>
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<td>Postages and Potties</td>
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<td>Do. do. 1914</td>
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<td>Cheque book</td>
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<td>Do. do. 1915</td>
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<td>Do. do. 1916</td>
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<td>On Fixed Deposit:</td>
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<td>Mercantile Bank</td>
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<td>To Sale of Journals</td>
<td>175</td>
<td>98</td>
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<td>&quot; Sale of maps</td>
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<td>On Current Account:</td>
<td>633</td>
<td>17</td>
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<tr>
<td>&quot; Refundments</td>
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<td>50</td>
<td>Mercantile Bank</td>
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<td>63</td>
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<td>Received by the late Hon. Treasurer, Mr. Montgomerie</td>
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<td>57</td>
<td>Chartered Bank</td>
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<td>In the Hands of the late Hon. Treasurer, Mr. Montgomerie</td>
<td>4</td>
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<td>In the Hands of the Executors of the late Hon. Treasurer, Mr. Montgomerie</td>
<td>198</td>
<td>68</td>
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<tr>
<td>To Bank Interest, Mercantile Bank</td>
<td>325</td>
<td>75</td>
<td>do. late Hon. Treasurer</td>
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<td>&quot; Chartered Bank</td>
<td>60</td>
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<td>Mr. Montgomerie</td>
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<tr>
<td></td>
<td>9,180</td>
<td>08</td>
<td></td>
<td></td>
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</tbody>
</table>

Audited, vouchers and counterfoil receipts and F/D receipts seen and found correct.


R. HANITSCH,
Hon. Treasurer.
January 15th, 1916.
Officers of the Straits Branch
of the Royal Asiatic Society
1878-1915.

Presidents.

1881—1882 The Hon'ble (afterwards Sir) Cecil Clementi Smith, G.C.M.G.
1883—1884 The Hon'ble C. J. Irving.
1885 The Hon'ble A. M. Skinner.
1886—1887 The Hon'ble (afterwards Sir) J. F. Dickson, K.C.M.G.
1888—1889 The Hon'ble A. M. Skinner.
1890—1891 His Excellency Sir J. F. Dickson, K.C.M.G.
1892—1893 His Excellency Sir Charles Warren, K.C.M.G., K.C.B.
1894—1907 The Right Rev. G. F. Hose, Bishop of Singapore and Sarawak.
1908—1913 The Hon'ble Dr. D. J. Galloway.
1914—1915 The Rev. Dr. W. G. Shellehear.

Vice Presidents.

Two from 1878 to 1909, but three from 1910 forward.

J. D. Vaughan Esq. (1878).
D. Logan Esq. (1878; 1883—1888; 1890—1894; 1896—1897).
Hon'ble C. J. Irving (1879; 1880).
Major S. Dunlop, (1879).
Hon'ble (afterwards Sir) Cecil Clementi Smith (1880).
G. W. Lavino Esq. (1881—1882).
Dr. E. Bieber (1881—1882).
Hon'ble (afterwards Sir) W. E. Maxwell (1889; 1893—1894).
Hon'ble A. M. Skinner (1883—1884).
Hon'ble Dr. W. C. Brown (1898; 1900; 1902; 1904).
Hon'ble C. W. S. Kynnersley (1889; 1901; 1903—1904).
W. A. Pickering Esq. (1885—1888).
Hon'ble J. K. Birch (1899; 1905—1906).
Hon'ble R. N. Bland (1907—1909).
The Right Rev. G. F. Hose, Bishop of Singapore and Sarawak (1890—1892).
Rev. G. M. Reith (1895).
Past Services.

Hon’ble W. R. Collyer (1896—1900: 1902—1905).
A. Knight Esq. (1901).
Hon’ble Dr. D. J. Galloway (1906—1907).
Hon’ble W. D. Barnes (1908—1910).
Hon’ble C. J. Saunders (1910—1911; 1914—1915).
A. R. Adams Esq. afterwards the Hon’ble (1910).
Hon’ble W. Evans (1911: 1913).
W. G. Maxwell Esq. afterwards the Hon’ble (1911—1912).
Rev. Dr. W. G. Shellabear (1913).
Hon’ble J. O. Anthonisz (1912).

Hon. Treasurers.

1878  Hon’ble C. J. Irving.
1879  J. Miller Esq.
1880—1891  Edwin Koek Esq.
1891—1893  H. T. Haughton Esq.
1894—1897  J. O. Anthonisz Esq. (afterwards the Hon’ble).
1898—1906  Dr. R. Hanitsch.
1907—1909  R. J. Bartlett Esq.
1910  Dr. R. Hanitsch.
1911  C. F. C. Ayre Esq.
1911  Dr. R. Hanitsch.
1912—1914  J. Love Montgomerie Esq.
1915  Dr. R. Hanitsch.

Hon. Secretaries.

1878  Dr. N. B. Dennys.
1879  A. M. Skinner Esq. (afterwards the Hon’ble).
1880—1882  Frank A. Swettenham Esq. (afterwards Sir).
1883—1888  The Hon’ble William E. Maxwell (afterwards Sir).
1888—1889  H. T. Haughton Esq.
1890—1893  H. N. Ridley Esq.
1894—1895  R. J. Wilkinson Esq. (afterwards the Hon’ble).
1896  C. O. Bla Desmond Esq.
1896—1900  H. N. Ridley Esq.
1901  P. J. Burgess Esq.
1902—1907  H. N. Ridley Esq.
1908  M. Hellier Esq.
1908—1911  H. N. Ridley Esq.
1912—1913  Dr. R. Hanitsch.
1914—1915  I. H. Burkill Esq.
Past Services.

Hon. Librarians.

1909—1913 W. Makepeace Esq.
1913 A. C. Baker Esq.
1914—1915 Dr. R. van Beuningen van Helsdingen.

Councillors.

Alphabetically Arranged.

List of Members for 1916.

*Life Members. †Honorary Members.

Patron His Excellency Sir Arthur Young, K.C.M.G. Governor of the Straits Settlements and High Commissioner for the Malay States.

Date of election.
4 June, 1908. *Ayre, C. F. C. Outram Road School, Singapore.
Past Services.

Hon. Librarians.

1909—1912 W. Makepeace Esq.
1913 A. C. Baker Esq.
1914—1915 Dr. R. van Beuningen van Helsdingen.

Councillors.
Alphabetically Arranged.

List of Members for 1916.

*Life Members. †Honorary Members.

Patron His Excellency Sir Arthur Young, K.C.M.G. Governor of the Straits Settlements and High Commissioner for the Malay States.

Date of election.

— 1907. ADAMS, Hon. A. R. Messrs. Adams and Allan, Penang [Vice-President, 1910].
10 March, 1909. ADAMS, T. S. District Officer, Kuala Krai, Kelantan.
17 Feb., 1913. ALLEN, Rev. George Dexter, Singapore.
— 1890. ANTHONISZ, J. O., C.M.G. England, (Hon. Treasurer, 1894-1896; Vice-President 1913).
3 May, 1915. BADDLEY, F. M., Postmaster General, Singapore.
1 Feb., 1915. BAIN, Norman K. Jugra, Selangor.
MEMBERS FOR 1916.


10 Jan., 1899. *BANKS, J. E. c/o the American Bridge Co. Ambridge, Pa., U. S. A.

9 Nov., 1910. BARNARD, Basil, Forest Department, Taiping, Perak.

15 April, 1912. BARNARD, H. C., F. M. S. Railways, Kuala Lumpur.

23 June, 1904. BARTLETT, R. J. Inspector of Schools, Singapore.


27 Jan., 1910. BEATTY, D. Tavoy, Burma.

16 June, 1913. BELL, V. G. Forest Department, Kuala Lumpur.


— 1885. BICKNELL, W. A. Nork House, 4 Earls Road Bournemouth, W., England.


5 May, 1914. BLUETT, H. A. Newton, Lebong Loetit, Benkoelen, Sumatra; or Oaklea, Chaucer Road, Bedford, England.


7 Feb., 1910. BRISON, Clifford S., 32 Archfield Road, Cotham, Bristol, England.
MEMBERS FOR 1916.

1 April, 1910. BROOKE, J. R., Government Monopolies Department, Keppel Harbour, Singapore.
13 Jan., 1909. BROOKS, C. J. Lebong Tandai, Benkelen, Sumatra.
8 Sept., 1909. BROWN, A. V., Police Court, Singapore.
1 April, 1910. CAMPBELL, J. Chartered Bank of India Australia and China, Soerabaya, Java.
1 Dec., 1913. *CHOO KIA PENG, Kuala Lumpur.
16 March, 1911. CLAYTON, T. W., Temerloh, Pahang.
2 Feb., 1914. CLEMENT, W. R. T., Sarawak.
13 Jan., 1913. CHULAN, Raja bin Ex-Sultan Abdullah, Taiping, Perak.
1 March, 1897. *CONLAY, W. L., Taiping, Perak.
27 Jan., 1910. CROUCHER, Dr. F. B., General Hospital, Singapore.
13 Jan., 1905. DALLAS, Hon. F. H., Sarawak.
<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Position</th>
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<tr>
<td>24 May, 1910</td>
<td>Daly, M. D.</td>
<td>Batu Gajah, Perak</td>
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<td>18 July, 1891</td>
<td>Dane, Dr. R.</td>
<td>Penang</td>
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<td>1 Dec., 1911</td>
<td>Deasy, R. 57 Ennerdale Road</td>
<td>Kew Gardens, Surrey, England</td>
</tr>
<tr>
<td>5 Nov., 1903</td>
<td>Deshay, H. F.</td>
<td>Southfield, Combe Down, Bath, England</td>
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<td>23 Sept., 1897</td>
<td>Dickson, E. A.</td>
<td>Grik, Upper Perak</td>
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<tr>
<td>28 July, 1905</td>
<td>Douglas, Hon. R. S. Baram</td>
<td>Sarawak</td>
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<tr>
<td>30 Nov., 1914</td>
<td>Duncan, W. Wallace</td>
<td>Assistant Censor, General Post Office, Penang</td>
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<td>27 Jan., 1910</td>
<td>Dunman, W.</td>
<td>Grove Estate, Tanjong Katong, Singapore</td>
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<tr>
<td>16 Aug., 1915</td>
<td>Dussek, O. T.</td>
<td>Malay College, Malacca</td>
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<tr>
<td>13 Oct., 1899</td>
<td>Edmonds, R. C.</td>
<td>F. M. S. Civil Service, Seremban</td>
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<tr>
<td>13 Nov., 1901</td>
<td>Egerton, His Excellency</td>
<td>Sir W., K. C. M. G. Government House, British Guiana</td>
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<td>3 June, 1909</td>
<td>Ellis, Sir Evelyn C.</td>
<td>Messrs. Drew and Napier, Singapore</td>
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<td>16 Jan., 1916</td>
<td>Ellis, J. W. Cundell</td>
<td>F. M. S. Civil Service, Kuala Lumpur</td>
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<td>27 Jan., 1910</td>
<td>Engel, L.</td>
<td>Netherlands Trading Society, Batavia</td>
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<td>25 March, 1913</td>
<td>Everitt, H. H.</td>
<td>Santubong, Sarawak</td>
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<td>7 Feb., 1910</td>
<td>Falsaw, Dr. P. S.</td>
<td>Government Veterinary Department, Singapore</td>
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<td>8 Sept., 1909</td>
<td>Farrer, R. J. Kota Bharu</td>
<td>Kelantan</td>
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<td>28 Oct., 1912</td>
<td>Faulkner, Dr. S. B.</td>
<td>Christmas Island</td>
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<td>26 Jan., 1911</td>
<td>Ferguson-Davie, Rt. Rev. Dr.</td>
<td>Bishop of Singapore (Council, 1912-1913).</td>
</tr>
<tr>
<td>8 Sept., 1909</td>
<td>Ferrer, J. G.</td>
<td>e/o Borneo Company, Soerabaya, Java</td>
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<td>24 May, 1910</td>
<td>Firmstone, H. W.</td>
<td>Education Department, Singapore</td>
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<td>12 Jan., 1900</td>
<td>Fleming, T. C.</td>
<td>Kuala Kubu, Selangor</td>
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<tr>
<td>2 Sept., 1897</td>
<td>Flower, Capt. S. S.</td>
<td>Zoological Gardens, Ghizeh, Egypt</td>
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<tr>
<td>Date</td>
<td>Year</td>
<td>Name</td>
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<td>16 Jan.</td>
<td>1916</td>
<td>FORD, H. W.</td>
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<tr>
<td>19 Aug.</td>
<td>1908</td>
<td>FREEMAN, D., 9,</td>
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<td>FREER, Dr. G. D.</td>
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<td>14 Aug.</td>
<td>1912</td>
<td>GALLAGHER, W. J.</td>
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<td>23 Jan.</td>
<td>1903</td>
<td>GALLOWAY, Dr. D. J.</td>
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<td>26 May.</td>
<td>1897</td>
<td>GERINI, Lt.-Col. G. E.</td>
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<td>15 Apr.</td>
<td>1912</td>
<td>GIBBONS, V.</td>
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<td>8 Sept.</td>
<td>1903</td>
<td>GIBSON, W. S.</td>
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<td>28 May.</td>
<td>1902</td>
<td>*GIMLETTE, Dr. J. D. 5</td>
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<td>4 Jan.</td>
<td>1916</td>
<td>GLENNIE, Dr. J. A. R.</td>
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<td>18 Mar.</td>
<td>1909</td>
<td>GOULDING, R. R.</td>
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<td>27 Jan.</td>
<td>1910</td>
<td>GRAY, N. T.</td>
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<td>13 Jan.</td>
<td>1916</td>
<td>GUPTA, SHIVA PRASAD</td>
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<td>14 Sept.</td>
<td>1911</td>
<td>GRIFFITHS, J.</td>
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<td>12 Jan.</td>
<td>1900</td>
<td>HAINES, Rev. F. W.</td>
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<td>15 Jul.</td>
<td>1907</td>
<td>HALL, G. A.</td>
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<td>5 May.</td>
<td>1914</td>
<td>HALL, J. D. Patu Pahat</td>
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<td>26 Jan.</td>
<td>1911</td>
<td>HALIFAX, F. J.</td>
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<td>12 Apr.</td>
<td>1915</td>
<td>HAMILTON, A. W. H.</td>
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<td>16 Mar.</td>
<td>1911</td>
<td>HANDY, Dr. J. M.</td>
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<td>3 June.</td>
<td>1909</td>
<td>HARRINGTON, A. G.</td>
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<td>5 Jan.</td>
<td>1904</td>
<td>HAYNES, A. S.</td>
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<td>14 Aug.</td>
<td>1912</td>
<td>HERMANSSEN, J. C.</td>
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<td>HEWAN, E. D.</td>
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<td>1878</td>
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<td>HILL, E. C.</td>
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</tbody>
</table>
MEMBERS FOR 1906.

22 Nov., 1897. Hose E. S., Department of Agriculture, Kuala Lumpur.
15 July, 1907. Humphreys, J. L., Trengganu.
27 Jan., 1910. Jamieson, Dr. T. Hill, 4 Bishop Street, Penang.

17 Feb., 1913. Jones, S. W., Kuala Lipis, Pahang.
16 April, 1912. Jones, W. R. Geological Department, Batu Gajah, Perak.

5 Oct., 1897. Kehding, Dr.


31 Jan., 1902. Laidlaw, G. M. Pekan, Pahang.
16 Feb., 1914. Lambourne, J., Castleton Estate, Telok Anson, Perak.
5 May, 1914. LAVILLE, L. V. T. Balik Pulau, Penang.
5 Oct., 1906. LAWRENCE, A. E., Kuching, Sarawak.
29 Sept., 1913. LEICESTER, Dr. W. S., Pekan, Pahang.
30 May, 1890. LEWIS, J. E. A., B. A., 698 Harada Mura, Kobe, Japan.
16 Aug., 1915. LEWTON-BRAIN, L. Director of Agriculture, Kuala Lumpur.
20 May, 1897. LIM BOON KENG, Hon. Dr. M. D. c/o The Dispensary, Singapore.
12 April, 1915. LIM CHENG LAW, Millview, Penang.
16 Feb., 1914. LORNSIE, J. Land Office, Singapore.
22 Jan., 1896. LUERING, Herr Prof. Dr. H. L. E., Wittelsbacher Allee, Frankfurt am Main, Germany.
26 June, 1907. LYONS, Rev. E. S., 82 Isla de Remere, Manila.
3 June, 1909. MCArTHUR, M. S. H., Kuala Lumpur.
23 Sept., 1897. McCaUSLAND, C. F., Port Dickson.
15 Jan., 1906. MACDOUGALL, Dr. W., c/o the Dispensary, Singapore.
1 April, 1910. MACLEAN, L., Penang.
21 April, 1904. MAHOMED, Hon. Datoh bin Mahbob, Johor Bahru, Johor.
15 April, 1908. MAIN, T. W., Cheng Estate, Malacca.
10 Feb., 1916. MANN, W. E., Hotel Pavillon, Samarang, Java.
24 June, 1909. MARSH, F. E., Municipal Offices, Singapore.
8 Sept., 1903. MARSHALL, F. C., Bentong, Pahang.
3 June, 1909. MAULDON, E. F., c/o the Straits Trading Co., Singapore.
16 Feb., 1914. MAUNDRELL, E. B., Brunei.
MEMBERS FOR 1916.

18 June, 1903. Maxwell, Eric, Boulogne.
(Council, 1905, 1915; Vice-President, 1916).
7 Feb., 1910. Miller, T. C. B., Fairlie, Nassim Road, Singapore.
15 June, 1911. Munro, R. W., Morib, Selangor.
17 Feb., 1913. Murray, Rev. W., M. A., 1 Gilstead Road, Singapore.
9 May, 1900. Norman, Henry, Kelantan.
26 Jan., 1911. O'May, J., Kuala Kangsar, Perak.
10 Feb., 1916. Ong Boon Tat, 29 South Canal Street, Singapore.
17 Feb., 1913. Overbeck, H.
3 May, 1915. RAGGI, J. G., Phlab Phla Jai Road, Bangkok, Siam.
10 Feb., 1916. RAYMAN, L. Assistant District Officer, Pekan, Pahang.
27 Jan., 1910. *REID, Dr. Alfred, Parit Buntar.
20 Oct., 1909. RICHARDS, D. S.
27 Jan., 1890. †RIDLEY, H. N., C. M. G., F. R. S., 7 Cumberland Road, Kew Gardens, Surrey, England.
14 Sept., 1911. ROBERTSON, G. H. M.
10 Feb., 1916. ROGERS, A., Public Works Department, Singapore.
29 Sept., 1913. RUNCIMAN, Rev. W., M. A., B. D.
7 April, 1909. SANDERSON, Mrs. R.
— 1878. †SARAWAK, His Highness The Raja of, Kuching, Sarawak.
10 Feb., 1916. †SARAWAK, His Highness The Raja Muda of, Tilney Home, Wimbledon Common, London, S. W.
— 1885. †SATOW, Sir Ernest M., Beaumont, Ottery St. Mary, Devon, England.
17 March, 1904. SCHWABE, E. M., Cheras Estate, Kajang, Selangor.
26 March, 1888. SIAH LIANG SIAH, c/o Chop Chin Hin, Singapore.
MEMBERS FOR 1916.

12 April, 1915.  
SEE TIONG WAH, c/o Hongkong and Shanghai Bank, Singapore.

30 Jan., 1894.  

3 June, 1909.  
SIMS, W. A., c/o Commercial Union Association Singapore.

10 Nov., 1909.  
SKINNER, Capt. R. McK.

20 May, 1912.  
SMITH, Prof. Harrison W., Massachusetts Institution of Technology, Boston, Mass., U.S.A.

12 Oct., 1911.  
SMITH-STEINMETZ, G. A. Butterworth, Province Wellesley.

27 Jan., 1910.  
SONG ONG SIANG, c/o Messrs. Aitken and Ong Siang, Singapore.

27 Jan., 1910.  
SPAKLER, H. Netherlands Embassy, New York, U. S. A.

20 June, 1910.  

24 May, 1910.  
STEADMAN, V. c/o Messrs. Swan and Maclaren, 5 Raffles Place, Singapore.

10 Nov., 1909.  
STEEDMAN, R. S., Duff Development Co. Ltd., Kuala Tui, Kelantan.

27 Jan., 1910.  

27 Jan., 1910.  

3 May, 1915.  
STREICHLAND, Dr. C. Malaria Bureau, Kuala Lumpur.

14 Sept., 1911.  
STUART, E. A. G., Alor Star, Kedah.

24 May, 1910.  
STURROCK, A. J.

25 Feb., 1910.  
SUNNER, J. H., c/o The Straits Steamship Co., Singapore.

22 Jan., 1912.  
SWAYNE, J. C., Limbang, Sarawak, Via Labuan.

4 June, 1908.  
TAN CHENG LOCK, 59 Heeren Street, Malacca.

27 Jan., 1910.  
TAN JIAR KIM, C. M. G., Panglima Prang, River Valley Road, Singapore.

16 June, 1913.  

10 Nov., 1909.  
THUNDER, M. Tekka Ltd., Gopeng, Perak.

14 Aug., 1912.  

14 Aug., 1914.  
TRACY, F. D., c/o The Standard Oil Co., Penang.

— 1887.  
VAN BEUNINGEN VAN HELSINGEN, Dr. R., 484/2 Bukit Timah Road, Singapore. (Hon. Librarian, 1914-1915).

3 June, 1909.  
WARD, A. B., Semanggang, Sarawak.
10 Feb., 1916. WATKINS, Mrs. Legrew, Hotel de l'Europe, Singapore.
13 Jan., 1916. WATSON, J. G., Forest Department, Kuala Lumpur.
27 Jan., 1910. WELD, F. J., Johore Bahru.
15 July, 1907. WELHAM, H., c/o The Straits Echo, Penang.
15 April, 1912. WHARTON, S. L., c/o The Singapore Club, Singapore.
4 June, 1908. *WOOD, E. G., Taiping, Perak.
12 April, 1915. *WORTHINGTON, A. F.
5 May, 1914. WYLEY, A. J., Lebong Tandai, Benkoelen, Sumatra.

Recipients of the Society's Publications, not being Members.
(Exchanges with enemy countries, with Belgium and with German Asiatic Society, Tokyo, being in suspense).

AMSTERDAM. Nederlandsch Aardrijkskundig Genootschap, Domseelaerstraat, 19, Amsterdam, Netherlands, in exchange for that Society's Tijdschrift.

AMSTERDAM. Koloniaal Instituut, Amsterdam (formerly of Haarlem), in exchange for that Institute's publications.

BALTIMORE. The Johns Hopkins University, Baltimore, U. S. A. in exchange for the University's Circulars, Studies, and American Journal of Philology.

BANGKOK. The Vajeranana National Library, Bangkok, in exchange, for the Library's publications.

BATAVIA. Bataviaasch Genootschap van Kunsten en Wetenschappen, in exchange for that Society's Tijdschrift voor Indische Taal Land-en Volkenkunde and other publications.
BATAVIA. Mijnwezen in Nederlandsch-Indie, Batavia (Chef van het Mijnwezen), in exchange for the Jaarboek of the Department.

BERKELEY. University of California, Berkeley, Cal. U. S. A. (Manager of the University Press), in exchange for the University’s “Publications.”

BERLIN. Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Berlin S. W., Königgrätzer Strasse 120, in exchange for the Zeitschrift für Ethnologie.

BERLIN. Gesellschaft für Erdkunde, 23 Wilhelmstrasse, Berlin, in exchange for that Society’s Zeitschrift.

BOMBAY. Royal Asiatic Society, Bombay Branch, Town Hall, Bombay, India, in exchange for the Branch’s Journal.

BREMEN. Geographische Gesellschaft, Bremen, in exchange for that Society’s Geographische Blätter.

BRUSSELS. Société Belge d’Etudes Coloniales, Rue de Stassart 34, Bruxelles, Belgium, in exchange for that Society’s Bulletin.


CHICAGO. Field Museum of Natural History, Chicago, U. S. A. in exchange for the Museums “Publications.”

COLOMBO. Royal Asiatic Society, Colombo Branch, Colombo, Ceylon, in exchange for the Branch’s Journal.

GIESSEN. Oberhessische Gesellschaft für Natur und Heilkunde Giessen, Germany, in exchange for that Society’s Berichten.

GOA. The Government of the Portuguese Indies, Goa, India (O Director, Imprensa National), in exchange for the Journal “O Oriente Portugues.”

HAMBURG. Hamburgische Wissenschaftlichen Anstalten, in exchange for the Jahrbuch.

HANOI. Ecole Française d’Extrême Orient, Hanoi, Indo-China (Director), in exchange for the School’s Bulletin.

HALLE. Kaiserliche Leop.-Carol. Deutschen Akademie der Naturforscher, Halle, Germany, in exchange for that Society’s Abhandlungen.


HONOLULU. Bernice Pauahi Bishop Museum, Honolulu, Hawaiian Islands, (Librarian) in exchange for the Museum’s Occasional Papers, and other publications.

EXCHANGE LIST.


Kuala Kangsar. Committee for Malay Studies (pays for publications).


Lincoln. University of Nebraska, Lincoln, Nebraska; U. S. A. in exchange for that University's publications.


Lisbon. Sociedade de Geographia de Lisboa, Rue Eugenio dos Santos, Lisboa, Portugal, (Secretary), in exchange for the Society's Bulletin.


London. Royal Colonial Institute, Northumberland Avenue, London, W. C. (Librarian) in exchange for "United Empire."

Malacca. The Malacca Library, Malacca (pays for publications).

Manila. The Bureau of Science Manila, (Director) in exchange for the Philippine Journal of Science.


Mexico. Instituto Geologico de Mexico, Mexico City, in exchange for their Parergones and Boletin.


Ottawa. The Geological Survey, Department of Mines, Sussex Street, Ottawa, Canada (Librarian) in exchange for the Department's publications.


ROMA. Reale Societe Geografica, Via del Plebiscito 102, Roma, Italy, in exchange for the Society’s Bollettino.

ST. LOUIS. Academy of Natural Sciences, St. Louis, Mo., U. S. A. in exchange for the Society’s Transactions.

ST. LOUIS. Missouri Botanical Garden, St. Louis, Mo. U. S. A. (Director), in exchange for the Garden’s Annals.

SARAWAK. The Sarawak Museum, Borneo, in exchange for the Museum’s Journal.

SIMLA. Director-General of Archaeology, Simla, India, in exchange for the Archaeological Survey’s publications.

SINGAPORE. The Raffles Museum, Singapore.

SHANGHAI. Royal Asiatic Society, N. China Branch, Shanghai, China, in exchange for the Society’s Journal.

SYDNEY. Royal Society of New South Wales, Elizabeth Street, Sydney, New South Wales, in exchange for the Society’s Proceedings.

TOKYO. Asiatic Society of Japan, 6 Babasaki, Kojimachi, Tokyo, Japan (Hon. Treasurer) in exchange for the Society’s Transactions.

TOKYO. Deutsche Gesellschaft für Natur und Völkerkunde Ostasiens, Tokyo, Japan, in exchange for the Society’s Mittheilungen.

UPSALA. The University, Bibliothèque de l’Université Royale, Uppsala, Sweden, in exchange for that University’s Aarskrift.


ZURICH. Natürforschende Gesellschaft (Bibliothèque centrale, Bureau d’échange de la Société d’histoire naturelle). Zurich, Switzerland, in exchange for that Society Vierteljahrschrift.

[Closed April 14th, 1916.]
RULES
of the Straits Branch
OF THE
Royal Asiatic Society.

I. Name and Objects.
1. The name of the Society shall be 'The Straits Branch of the Royal Asiatic Society.'
2. The objects of the Society shall be:
   (a) The increase and diffusion of knowledge concerning British Malaya and the neighbouring countries.
   (b) the publication of a Journal and of works and maps.
   (c) the formation of a library of books and maps.

II. Membership.
3. Members shall be of two kinds—Ordinary and Honorary.
4. Candidates for ordinary membership shall be proposed and seconded by members and elected by a majority of the Council.
5. Ordinary members shall pay an annual subscription of $5 payable in advance on the first of January in each year. Members shall be allowed to compound for life membership by a payment of $50.
6. On or about the 30th of June in each year the Honorary Treasurer shall prepare and submit to the Council a list of those members whose subscriptions for the current year remain unpaid. Such members shall be deemed to be suspended from membership until their subscriptions have been paid, and in default of payment within two years shall be deemed to have resigned their membership.
   No member shall receive a copy of the Journal or other publications of the Society until his subscription for the current year has been paid.
7. Distinguished persons and persons who have rendered notable service to the Society may on the recommendation of the Council be elected Honorary members by a majority at a General meeting. They shall pay no subscription, and shall enjoy all the privileges of a member except a vote at meetings and eligibility for office.

III. Officers.
8. The officers of the Society shall be:
   A President.
   Three Vice Presidents, resident in Singapore, Penang and the Federated Malay States respectively.
   An Honorary Treasurer.
   An Honorary Librarian.
   An Honorary Secretary.
   Four Councillors.
These officers shall be elected for one year at the annual General Meeting, and shall hold office until their successors are appointed.

9. Vacancies in the above offices occurring during any year shall be filled by a vote of majority of the remaining officers.

IV. Council.

10. The Council of the Society shall be composed of the officers for the current year, and its duties and powers shall be:

(a) to administer the affairs, property and trusts of the Society.

(b) to elect ordinary members and to recommend candidates for election as Honorary members of the Society.

(c) to obtain and select material for publication in the Journal and to supervise the printing and distribution of the Journal.

(d) to authorise the publication of works and maps at the expense of the Society otherwise than in the Journal.

(e) to select and purchase books and maps for the Library.

(f) to accept or decline donations on behalf of the Society.

(g) to present to the Annual General Meeting at the expiration of their term of office a report of the proceedings and condition of the Society.

(h) to make and enforce by-laws and regulations for the proper conduct of the affairs of the Society. Every such by-law or regulation shall be published in the Journal.

11. The Council shall meet for the transaction of business once a month and oftener if necessary. Three officers shall form a quorum of the Council.

V. General Meetings.

12. One week's notice of all meetings shall be given and of the subjects to be discussed or dealt with.

13. At all meetings the Chairman shall in the case of an equality of votes be entitled to a casting vote in addition to his own.

14. The Annual General Meeting shall be held in February in each year. Eleven members shall form a quorum.

15. (i) At the Annual General Meeting the Council shall present a Report for the preceding year and the Treasurer shall render an account of the financial condition of the Society. Copies of such Report and account shall be circulated to members with the notice calling the meeting.

(ii) Officers for the current year shall also be chosen.

16. The Council may summon a General Meeting at any time, and shall so summon one upon receipt by the Secretary of a written requisition signed by five ordinary members desiring to submit any specified resolution to such meeting. Seven members shall form a quorum at any such meeting.
17. Visitors may be admitted to any meeting at the discretion of the Chairman but shall not be allowed to address the meeting except by invitation of the Chairman.

VI. Publications.

18. The Journal shall be published at least twice in each year, and oftener if material is available. It shall contain material approved by the Council. In the first number in each year shall be published the Report of the Council, the account of the financial position of the Society, a list of members, the Rules, and a list of the publications received by the Society during the preceding year.

19. Every member shall be entitled to one copy of the Journal, which shall be sent free by post. Copies may be presented by the Council to other Societies or to distinguished individuals, and the remaining copies shall be sold at such prices as the Council shall from time to time direct.

20. Twenty-four copies of each paper published in the Journal shall be placed at the disposal of the author.

VII. Amendments to Rules.

21. Amendments to these Rules must be proposed in writing to the Council, who shall submit them to a General Meeting duly summoned to consider them. If passed at such General Meeting they shall come into force upon confirmation at a subsequent General Meeting or at an Annual General Meeting.

Affiliation Privileges of Members.

*Royal Asiatic Society.* The Royal Asiatic Society has its headquarters at 22 Albenarle Street, London W., where it has a large library of books, and MSS. relating to oriental subjects, and holds monthly meetings from November to June (inclusive) at which papers on such subjects are read.

2. By rule 105 of this Society all the Members of Branch Societies are entitled when on furlough or otherwise temporarily resident within Great Britain, and Ireland, to the use of the Library as Non-Resident Members and to attend the ordinary monthly meetings of this Society. This Society accordingly invites Members of Branch Societies temporarily resident in Great Britain or Ireland to avail themselves of these facilities and to make their home addresses known to the Secretary so that notice of the meetings may be sent to them.
3. Under rule 84, the Council of the Society is able to accept contributions to its Journal from Members of Branch Societies, and other persons interested in Oriental Research, of original articles, short notes, etc., on matters connected with the languages, archaeology, history, beliefs and customs of any part of Asia.

4. By virtue of the afore-mentioned Rule 105 all Members of Branch Societies are entitled to apply for election to the Society without the formality of nomination. They should apply in writing to the Secretary, stating their names and addresses, and mentioning the Branch Society to which they belong. Election is by the Society upon the recommendation of the Council.

5. The subscription for Non-Resident Members of the Society is 30/- per annum. They receive the quarterly journal post free.

Asiatic Society of Bengal. Members of the Straits Branch of the Royal Asiatic Society, by a letter received in 1903, are accorded the privilege of admission to the monthly meetings of the Asiatic Society of Bengal, which are held usually at the Society's house, 1 Park Street, Calcutta.
JOURNAL
A Fragment of the History of Trengganu and Kelantan.

The following fragment of the history of Trengganu and Kelantan was written in about 1876 by Haji Abdullah, a court historian in Trengganu. The manuscript is in the possession of Nara Wangsa Mohamed Ali, better known as the Dato' Mata-mata, of Trengganu. The fragment describes the struggles between Kelantan and Trengganu from about 1770 to 1835, when the further intervention by Trengganu in Kelantan affairs was perceptibly stopped by Siam. The Sultan Mahmud of Linggi referred to in the text was the father of Sultan Hussain of Singapore. He was driven out of Rio by the Dutch in 1785, and found a refuge in Trengganu until the capture of Malacca by the English in 1795 permitted his return to his own country. The Tuan Snik of Kampong Raja who was raised by the Siamese to the Raja-ship of Kelantan was the famous Sultan of the Red Mouth who reigned in Kelantan until his death in 1877. The present Sultan is his great-grand-son. The present Sultan of Trengganu is a descendant in the direct male line of Sultan Mansur.

H. Marriott.

MALAY TEXT.


Jour. Straits Branch R. A. Soc., No. 72, 1916.

Jour. Straits Branch
tan. Ketika itu hampir bulan duabelas berangkat-lah ia dengan delapan-puluh haluan maka berhenti ia di-perhentian. Maka dari-
perahu-nya buka layar lalu belayar. Maka beberapa perahu orang yang melawan-melawan mengiring-nya taktala hampir Kelantan di-
lihat-nya kubuertiangsan-pa-janghantapi. Sa-telah sampai maka Raja Muda dan To' Limbat pun naik ka-darar malam Temeng-
gong tinggal di-perahu. Maka segala tua-tua kubu itu di-
behagi oleh Raja Muda dengan di-beri-nya kain dan baju dan seluar masing-masing dengan pakaiannyae serta kata nasihat-nya, "Apa hal engkau jaga ini kubu darah amgangat Yang-di-Pertuan yang da-
tang di-laut itu ia-lah yang ampunya Kelantan dan Lun Pandak itu sa-kadar wakil Lun Drahman yang telah mati tiada-kah nama
kamu derhakakan Duli Yang-di-Pertuan?" Sa-telah itu benar fikir
mereka itu maka dapat-lah bersuaka dan bersedia maka perahu yang
bersama Temenggong masok serta di-permainakum Duli Yang-di-
Pertuan di-laut. Ia pun sa-lalu berangkat masok sa-telah Raja
Muda menengar titah sa-lalu-lah ia mudek dengan sakalian yang
bersama-nya sa-telah berjumpa lawan berkelahi-lah kadua-nya pihak
beberapa yang mati dan luka. Maka Lun Pandak pun undur lari
ada-nya. Sa-telah Kelantan pun dapat maka di-kurniakan Raja
Muda juga akan jadi Raja di-Kelantan. Maka berangkat-lah balek
ka-Terengganu tiada berapa lama maka Inche Wan Teh pun sa-
telah baliagh-lah maka di-kawinkan oleh Sultan Mansur akan putera-
nya Tungku Muhammad. Sa-telah beberapa lama-nya maka dapat
akan akan Tungku Sulong. Sa-telah selesai-lah perajaan negeri
kemudian maka Sultan Mansur pun ada suka memperluakn ist-
tana besa lima ruang. Maka di-suroh panggil Raja Muda Kelan-
tan akan meramu kayu perkakas istana. Maka Raja Muda pun
datang-lah ia-kira-kira sa-riubu orang berhenti sa-kalian di-Pasir
Sa-berang dengan beberapa bangsal dan cenemat. Kemudian me-
ramu-lah ia ka-dalam Sungai Nerus sa-telah dapat segala kayu
maka Raja Muda pun mohon-lah ia akan balek ka-Kelantan karna
bimbang ia akan negeri serta memohonkan sa-orang dariipada putera
Duli Yang-di-Pertuan akan jadi baju di-dalam Kelantan ada-nya.
Sa-telah balek ia beberapa lama-nya maka sampai-lah umur Tungku
Sulong itu kira-nya enam tahun katujoh maka Sultan Mansur pun
sediakan perahu akan membawa putera-nya Tungku Muhammad
sata dengan anak dan isteri dan hamba sahaya ka-Kelantan. Maka
pada masa itu Sultan Mahmud Lingga pun ada di-Terengganu
maka ia pun berangkat menghantarn bersama. Sa-telah sampai

R. A. Soc., No. 73, 1916.

Jour. Straits Branch

R. A. Soc., No. 72, 1916.

Jour. Straits Branch
lainkan tujoh delapan buah tinggal menengggu akan kanaikkan di-
Pulau Ketitir jua dan sa-teleh perang-lah beberapa hari maka Lun Muhammad beri surat akan Ungku Muda menyatakan ia akan undur ka-Sukui melainkan mina ampun-lah bahwa jangan-lah di-
turut akan dia ka-Sukui bahwa-sa-nya ia tiada-lah menderhaka lagi akan anak chuehu Marhum. Jika ia menderhaka lagi bair-lah safa safat i sampaiakan chuehu dan sa-teleh undur-lah Lun Muhammad ka-Sukui kemudian maka berjumpa akan Inche' Udin Serada itu Raja-raja perempuan yang-lari bergajah-gajah serta-nya laki-
laki kata Inche' Udin, “Kita ambil Raja-raja ini sembahkan tuan penghulu kita.” Maka di-tegah oleh anak-nya maka tiada di-pakai-
tan itu ka-Sukui maka segala yang perang di-darat pun merampas-
lah sa-dapat-dapat daripada kerbau dan lembu dan lain-nya. Ke-
mudian lalu membakar segala rumah dairah Kenali dan di-Ja Kechil dan Ja Besar dan di-balai Jawa Kampong Raja. Kemudian dari-
nya. Maka mengadu-lah Lun Daud akan Duli Yang-di-pertuan Besar maka titah-nya “Kawan datang dengan pekerjaan bermati luka sa-kadar orang yang sa-orang itu jadikan bichara.” Sa-teleh itu Yang-di-pertuan Besar pun hendak berangkat baleh hanya di-
tinggalkan Tungku Ahmad dan Tungku Endak dan beberapa orang baik-baik serta-nya beberapa rayat akan menanti Datok Lun Ismail akan menyerta-i langgar ka-hulu pula. Sa-teleh Duli Yang-di-
pertuan berangkat balek maka Datok pun sampai maka di-sampei-
kan titah akan dia. Maka sa-lalu-lah ia berjalan serta orang
Terengganu akan melanggar kubu di-Pasir Mas. Maka di-langgar
tiba-tiba tiada sampai berapa hari orang Kelantan sa-belah Lun
Muhammad pun datang tindeh dengan beberapa ribu China Galas
serta di-rangkak-nya masok tiada tertahan orang Petani dan orang
Terengganu hanya sa-lalu undur balek daripada berperahu dan yang
berjalan kaki ada-nya. Sa-telah kembali sa-kalian ka-negeri maka
pada tahun yang katiga berangkat pula akan perang maka berhenti
pula di-dalam Besut beberapa hari tiba-tiba Yang-di-pertuan Besar
pun datang gering maka berangkat-lah balek. Shahadan telah
selesai-lah daripada pekerjaan perang pada tarikh Sanat 1217
musim bulan sa-belas masok bulan sa-belas pada sa-lekor Rejab sa-
telah tetap-lah di-Terengganu maka di-mulai meletakkan kerja
kawin Tungku Che' Muda dengan Tungku Sulong. Sa-telah itu
beberapa tahun tiada jua dapat anak. Adapun Inche' Puan Kelan-
tan bonda-nya dapat anak akan sa-orang Tungku Sulong itu jua
dan Inche' Wan Teh adek Inche' Puan itu dapat sa-orang anak akan
nama Meriam bersuami ia akan Tungku Salam dan Tuan Dagang
adek Inche' Wan Ngah beranakkan Raja Inche' dan Raja Mai dan
Tuan Kechik dan Nang Senik dan Lun Drahman dan Tuan Senik
Sungai Pinang. Adapun Lun Muhammad tiada beranak ada-pun
Lun Yusuf anak-nya tujob ia-itu Lun Ahmad dan Tuan Bulat dan
Lun Saleh dan Lun Omar dan Lun Ibrahim dan dua perempuan
satu jadi isteri Lun Nik Patani anak Lun Koris ia-itu Engku Tiba
dan satu lagi jadi isteri Tun Lun Hasan. Adapun Lun Zainal
anak-nya lima ia-itu Lun Drahman dan Ungku Lebai dan Ungku
Tengah dan Tuan Kling dan Lun Dris. Adapun Inche' Ungku
Pelembang tiada beranak ia bersuami akan Ungku Kabong kemu-
dian jadi isteri Ungku Kadir Besut. Adapun Ismail anak-nya
tiga ia-itu Tun Besar yang jadi Raja Petani dan Lun Nik Kamp-
pong Laut dan Tuan Busu. Adapun Lun Tan anak-nya lima ia-
itu Lun Nik Gagah dan Tuan Senik Kota dan Tuan Senik Kamp-
pong Sireh dan Tun Busu dan yang perempuan Tun Besar jadi
isteri Tun Besar Petani. Adapun Lun Pandak anak-nya sa-orang
ia-itu Tun Senik Lebar. Shahadan telah kembali Kelantan dapat
akan Lun Muhammad ia-itu perang dahulu di-serta oleh China
Galas. Maka memerontah-lah ia beberapa tahun maka di-beri-nya
nama akan Tuan Dagang itu Ungku Sewa Raja dan akan Lun
Drahman Kuala Cha itu di-panggil orang Lun Raja dan akan Lun
Zainal itu bernama Raja Bendahara dan akan Lun Tan itu ber-
nama Raja Temengong dan sa-telah tetap-lah kerajaan Lun
Muhammad daripada tarikh Sanat 1216 pada bulan sa-belas masok
sa-belas sa-puluh haribulan Rejab hingga sampai kapada tarikh
Sanat 1251 waktu tengah malam Rabu 27 Safar Lun Muhammad
pun kembali ka-rahmat Allah dan jadi-lah lama karaajan-nya tiga
puluh empat tahun tujob bulan tujob hari daripada hari hilang
Lun Muhammad itu maka anak-anak saudara-nya membenarkan
Lun Zainal itu akan jadi Raja dan Lun Ahmad akan jadi Raja

Jour. Straits Branch

Tersurat pada hari Sabtu 16 haribulan Shawal 1293.

ENGLISH TRANSLATION.

In the name of Allah the Merciful and Compassionate, the Lord to whom belongs majesty and glory. This is a story related by old men, partly derived from the annals of Petani and Kelantan and partly from the annals of Sultan Mansur the Great the son of Zainalabidin the son of Abdulmajid, from the time when he went to Petani to the time when his son Sultan Zainalabidin went to Kelantan and stayed in Besut. Now the Rajas of Kelantan sprang from Dato’ Wan who was called Raja of Petani after the time of
Baginda Nam Chayam. Dato' Wan's son was Dato' Pengkalan Tua and the latter had three sons, Dato' Pasir, Tuan Besar and Tuan Lun Nik. Dato' Pasir remained in Petani and the other two came to Kelantan, for at that time there was no Raja in Kelantan. After they were settled in Kelantan Dato' Pasir had a son Lun Pandak. Tuan Besar had a son Lun Nik, and Lun Nik had two daughters and a son Lun Yunus. Tuan Besar told Lun Nik to stay in Kelantan as he intended to make an expedition to the islands. It is not certain where he went, but suddenly there came news of his death. A certain Raja of Legeh conquered the country. He was called Baginda Lun Drahman, a brother of Lun Man and nephew of the Dato' of Pujud. While in Legeh Lun Drahman had a son named Lun Nik. After this Lun Drahman came with all his forces to Kelantan and there married a daughter of Lun Nik and so closely related himself to Lun Yunus. Not long after he quarrelled with his father-in-law and in the fight that ensued Lun Drahman got the worst of it. Not long after they fought again and once more he was defeated by his father-in-law. After a time he quarrelled again with his father-in-law who would not allow him a share in the government of the country. Lun Drahman still sought means to increase his power and another fight followed in which the father-in-law was worsted. So Lun Drahman killed his father-in-law and obtained possession of Kelantan. Lun Yunus retired to Trengganu and lived at Bukit Dato' and there he took to himself a concubine. From there he moved to Losong where a son named Lun Muhammad was born to him. He subsequently married Tuan Inche' Jumat, the eldest daughter of Ungku Tenang Wangsa. By her he had children, Inche' Wan Teh, Inche' Wan Ngah and Tuan Dugang. After Baginda Lun Drahman had obtained possession of Kelantan he appointed Lun Pandak as his representative to rule in Kelantan and himself returned to Legeh. In A. H. 1186 (A. D. 1771) a letter came from the Dato' of Jeram to Sultan Mansur asking for help and offering to accompany Sultan Mansur if he wished to acquire Pujud. At this time Sultan Mansur's age was 57. Sultan Mansur equipped a fleet consisting of several scores of vessels and proceeded to Petani taking Lun Yunus with him. When they arrived at Penarik in Petani in the district of Ru Sarang Lang he landed and the Dato' of Jeram gave suitable presents to the Raja to further his project. The Sultan then ordered Inche' Aim of Losong and Bandar Abdul Muluk to go to the Dato' of Pujud and inform him that the Sultan and his chiefs were coming to look into the affairs of Pujud. When these two men had conveyed this information to the Dato' he told them to make this humble reply to the Sultan: 'It is better for Your Highness to go back. Why follow the wishes of another? I am ready to follow your own wish but if you wish to follow that of another, even so Pujud will not be won. If Your Highness desires merely to see the contest, match me with my enemy from the West. Whoever is defeated, Your Highness can adopt and cherish his
victor." At the same time he sent to the Sultan a present of 30 tahills of gold ore and in addition several buffaloes and bullocks and goats and several loads of rice and other things much exceeding the presents of the Dato' of Jeram. And each of the men who carried the presents was careful to take with him a bundle of spears. So there was no invasion of Pujud and the expedition returned to Trengganu. When it was known that Baginda Lun Drahman was in Legeh and that Lun Pandak alone remained in Kelantan Lun Yunus was very anxious to take Kelantan and asked permission of Sultan Mansur to do so. The Sultan granted his request and allowed the Dato' Temenggong to accompany him. When the expedition was ready they set out with a large force. When they arrived in Kelantan they seized the country and Lun Pandak retired to Legeh and Lun Yunus obtained possession of Kelantan. The Temenggong returned to Trengganu and shortly after Baginda Lun Drahman came with a large force to recover Kelantan from Lun Yunus. Lun Yunus retired to Trengganu (according to some accounts after an unsuccessful resistance) and Lun Drahman asked whether it was a manly act to seize his country when his back was turned. When Sultan Mansur heard the news he sent Inche' Kadir to Baginda Lun Drahman bidding him get ready as His Highness was coming to take Kelantan. Lun Drahman replied that he was glad to hear it as otherwise he would himself have had to go and take Trengganu. So Sultan Mansur collected 80 vessels and several thousands of soldiers were sent overland. The fleet sailed and when they had reached Stiu news was received that Baginda Lun Drahman had reached Telaga Tujoh with several thousands of his subjects fully equipped to attack Trengganu, and there could be seen many persons on the shore but it was doubtful whether they were enemies or friends. So Inche' Dahmad was ordered to go ashore and investigate. Suddenly Lun Drahman approached in a boat manned by 13 men; and some say that because of the bold and fearless manner of his approach, half the fleet began to pull up their anchors in their anxiety; but the other story is as follows:—many people had gone to the Sultan's vessel and the Sultan enquired who would go ashore to find out the truth of the news, but no one replied; the Sultan looked at Wan Muhammad of Stiu who was sitting in the bow of the Sultan's vessel and told him to come forward. Wan Muhammad came as far as the foremost and the Sultan told him to come on. Wan Muhammad approached and the Sultan asked him if he would go ashore and see if the news about Lun Drahman was true. He replied that he would not refuse to do anything that the Sultan ordered. So the Sultan ordered him to go. He saluted the Sultan and got into a boat and told his children that he did not know whether he would ever return. He then sailed to the shore and the people on shore would have fired on him but refrained as they said he might be the bearer of a message. When he landed he met Baginda Lun Drahman himself. Baginda Lun Drahman addressed him by name, and coming close up to him said "I put my

R. A. Soc., No. 72, 1916.
life into your hands." Wan Muhammad replied "Your slave does
the same. His life is in your hands and at your feet." When they
had thus confided in one another, Baginda Lun Drahman said that
if Wan Muhammad would answer for the anger of His Highness
he would go and see him, and Wan Muhammad accepted the
responsibility. They then got into the boat paddled by 13 men and
rowed straight to the Sultan's vessel. When they reached it, they
were both allowed to go on board. When they sat down before the
Sultan, Baginda Lun Drahman presented the kris at his waist to
the Sultan and the Sultan pulled off his coat and gave it to Baginda
Lun Drahman, at the same time asking him the cause of the trouble
in Kelantan. He replied that he submitted to the Sultan, but
requested that during his lifetime he might rule on behalf of the
Sultan. Sultan Mansur agreed to this and made him a present of
a chest of opium. Baginda Lun Drahman then respectfully with-
drew and returned in his boat to Legeh with all his followers.
Sultan Mansur proceeded to Kelantan and made Lun Yunus Raja
Muda of Kelantan under Lun Pandak. At this time the Sultan
wished to take to wife Tang Snik the daughter of Lun Dil of
Pulau Beluru. So he took her to wife and she bore to him Tengku
Ahmad. After this he went back to Trengganu. Not long after
the news came that Baginda Lun Drahman had gone to Benara for
a cock fight. He was letting go his bird after the spurs had been
fixed and was bending down to blow up the feathers, when it slipped
from his hands and a spur struck Lun Drahman's head. Lun
Drahman told his attendants to take away the bird as he said that
his seer had foretold that he would not be wounded, but that if he
was wounded he would die. So he returned to Legeh and became
ilf with another sickness and shortly after died. When the Raja
Muda of Kelantan got the news he went over to assist in the
matter of Lun Drahman's death. While the Raja Muda was in
Kelantan there were born to him five sons by his concubine; Lun
Yusuf, Lun Zainal, Inche' Ku Pelembang (daughter), Lun Tan,
Lun Ismail, and Lun Pandak. And the Raja Muda was as it were
a constable in Kelantan for Sultan Mansur, being under Lun
Pandak only, at the time of Baginda Lun Drahman's death. Not
long after the Raja Muda got into trouble on account of his govern-
ment, and there was anger in Trengganu about it, so he was re-
called to Trengganu and ordered to live near Bukit Jalan Kaliran,
but shortly after he moved to Beladu and during this period Lun
Pandak alone carried on the government of Kelantan. Not long
after Lun Pandak rebelled and refused to recognise the govern-
ment of Trengganu. Thereupon the Sultan ordered his fleet to
be got ready to invade Kelantan. It was very nearly the twelfth
moon when the fleet consisting of 80 vessels set sail and anchored
in the harbour, and daily it grew nearer to the stormy season. The
Dato' Temenggong went to the Sultan and said that in his opinion
it was very near to the time when the river would be closed and
that they had better return home. The Sultan however gave no

Jour. Straits Branch
answer, so the Temenggong came a second time and said "With regard to Kelantan let me and my three brothers, Raja Muda, Raja Besut and To' Limbat go to Kelantan. If we do not get Kelantan we will not come back to Trengganu but will go on the pilgrimage to Mecca." The Sultan agreed and he respectfully withdrew and the four of them went to their boats and set sail. They were accompanied by many other vessels and when near to Kelantan they saw a number of stockades along the sea shore. The Raja Muda and To' Limbat went ashore leaving the Temenggong in his boat. To all the commanders of the stockades the Raja Muda apportioned presents of cloth and coats and trowsers and at the same time he gave them advice-saying "What are you doing in guarding these stockades against this expedition which is now at sea? His Highness owns Kelantan and Lun Pandak is only the representative of the late Lun Drahman. Will you not all get the reputation of being rebels against His Highness?" They considered that this was true and they agreed to be faithful subjects to His Highness, and the Temenggong's boat came in and reported to His Highness who was at sea. He then came in and when the Raja Muda heard the royal commands they went up river, and when they met the enemy there was a fight and many people were killed and wounded. Lun Pandak retired and fled. When Kelantan was regained the Raja Muda was made Raja in Kelantan. Not long after he had returned to Trengganu, Inche' Wan Teh being now grown up, Sultan Mansur married her to his son Tungku Muhammad. In due time she bore a son Tungku Sulong. After the sovereignty of the country had been settled Sultan Mansur decided to make a large palace on ten pillars. So he sent for the Raja Muda of Kelantan to collect the necessary timber. The Raja Muda came with about a thousand men and stayed at Pasir Sebrang in many sheds and huts. The timber was collected in Sungai Nerus and when it was all got the Raja Muda asked permission to return to Kelantan as he was anxious about the country and he asked that one of the sons of His Highness should be sent to be a good steel blade in Kelantan. After he had been back some time and when Tungku Sulong was six or seven years old, Sultan Mansur equipped a vessel to take his son Tungku Muhammad with his wife and child and their retainers to Kelantan. At this time Sultan Mahmud of Lingga was in Trengganu and he accompanied the expedition. When the expedition reached Kelantan, Tungku Muhammad was dressed in state clothes belonging to Sultan Mahmud. He was overcome with a fit of shivering and seemed about to faint. Sultan Mahmud supported him and when he was composed it was proclaimed that His Highness the great Sultan had granted to his son Tungku Muhammad the title of His Highness of Kelantan and when the Sultan was about to return home he gave to Inche' Wan Teh the title of Inche' Puan of Kelantan. Then Sultan Mansur returned to Trengganu and Sultan Mahmud returned to Lingga. Three months later Sultan Mansur fell sick and he sent for His Highness

R. A. Soc., No. 72, 1916.
of Kelantan. When the later had reached Batu Rakit, cannon announced the death of Sultan Mansur which took place at 12 p.m. on the eve of Friday the 14th of Jemadalakhir A. H. 1208 (A.D. 1793). The next day the body was washed and prayers were recited over it and his son (Zainalabidin) was proclaimed Sultan in the afternoon. The body was then carried in procession as befits a Raja and buried in the mosque. When the news of the Sultan's death reached the Raja Muda he was very grieved and it so changed his health that people said he showed the effects of the change until the end of his life. After eight or nine months in the month of Safar A. H. 1209 (A. D. 1794) he returned to his maker. About eight years after the death of Sultan Mansur the Sultan betrothed Tungku Sulong to his daughter Tungku Che Muda. His Highness of Kelantan made all preparations for the wedding and the kitchens alone remained to be made. His Highness ordered Lun Drahman and Lun Zainal and Tuan Dagang and Lun Dil to remove and rebuild the house at Kota Tras but from early morning to noon they did not obey the summons. Accordingly His Highness sent Lun Muhammad to see what was the difficulty. Lun Muhammad went and found them all taking shelter under a tree. Lun Drahman said "How is it that you are doing nothing when His Highness has ordered you to rebuild the house?" Lun Drahman said "Come here." So Lun Drahman went to him. Then Lun Zainal said "What do you think of these Trengganu men coming here? Do you think we shall be lean or fat? It is Tengku Che Muda who has come and he has brought with him Lun Mydin and Lun Daud, whose father you killed: the others do not count." Lun Muhammad replied "What single resource have I got?" and they said "That does not matter as long as we are all agreed" and Lun Muhammad replied "If that is so, I will fall in with the general opinion." After this each came up with such weapons as he had but there was only one flask of gunpowder. Then Lun Muhammad went back to His Highness who asked him for his report. He told His Highness that all of them were sick, some with head-aches and some with stomach-aches, and that the house was not yet pulled down. In the meantime the Trengganu fleet arrived with all the paraphernalia for the wedding and with many women. His Highness of Kelantan went on board the Sultan's vessel and told him all about the house etc. Then His Highness of Kelantan returned. The Sultan ordered Tuan Syed Akil and Bandar Abdul Muluk and the Dato' Mata-mata Inche' Saleh to call Lun Muhammad. When they met him and gave him the Sultan's summons Lun Muhammad answered "I respect the summons, and you who bring it here are as fathers to me. His Highness of Kelantan promised to take me with him to the Sultan, but he has already gone to the Sultan alone. At this hour, as you see I cannot go; I should be afraid to go alone and moreover I have a head-ache." It was evening and the messengers went back and told the Sultan. The Sultan then changed his plans and thought it would be better to
have the wedding in Trengganu, for he said that if Lun Muhammad came there was not likely to be any trouble with the others. So he ordered His Highness of Kelantan and Inche' Puan to be told to get their things on board. After Syed Akil and his companions had returned from summoning Lun Muhammad, Lun Muhammad went to His Highness of Kelantan and informed him of the Sultan's summons. His Highness of Kelantan told him that he had better go to the Sultan. He replied "If Your Highness goes I will go with you." But His Highness said "If I do not go it does not matter." Lun Muhammad went back and induced his friends and four or five young Rajas who sided with him to accompany him until he had a following of four or five hundred men. Inche' Rashad said "Who are these trying to set the Sultan's boat adrift?" and when they came to the Sultan he said "Well, Lun Muhammad, you have come at last," and not a drop of coffee was served. Not many hours later Lun Muhammad retired and shortly after a cannon was fired from Pulau Sabar, and that night the Sultan ordered boats to go up river to bring down all the women. As they went the noise of timber-cutting was heard and the glimmer of lights was seen. The next day when the women were being brought down a stockade was seen. So the boats with all the women proceeded down river and joined the Sultan's vessel. The next day, Friday morning, a cannon was fired from Syed Akil's boat in the direction of Kampong Laut and Pulau Sabar. All the boats then fired their cannon that Friday from morning until evening, but there were only occasional replies from the enemy and at night the firing ceased. Next morning the firing was resumed and a shot came in the direction of Tikat from Syed Osman's boat and fell on Tungku Che Muda's boat. This caused great consternation and there was great confusion as if there were desertion to the enemy. When the Sultan was informed he replied that he had not come prepared for war but for a wedding and that as there appeared to be a hitch in the proceedings they had better go back to Trengganu. The firing then ceased and by the help of God the Sultan suffered no losses amongst his people except that one man who was steering the boat of Wan Muhammad of Kebur was shot in the mouth and killed. The Sultan's fleet then sailed out and went to Trengganu. When the two rulers arrived back in Trengganu the wedding of Tungku Che Muda was not proceeded with that year and the only business was that of the next year's war and the increase and improvement of weapons. Messages were also sent to Petani asking for help from Dato' Lun Ismail, and in the second year when the harbours were open, they collected the young Rajas who were going by land with their penghulus and followers, viz. Ungku Muda, Tuan Inche' Kepong, Tuan Jamal Maras, Tuan Sulaiman, Tuan Mahamud and Inche' Ungku Long. They were followed by boats with ammunition and other things, as a reserve against a shortage. The fighting penghulus with their followers who were taken were Inche' Udin of Serada and Penghulu Bahrul of Serada and Penghulu Deman.
and Pa' Sulong of Dunah and the keeper of the war flags was Penghulu Sapai of Pertang. All of them had hundreds of followers and Inche' Udin had a thousand followers. When they were all ready to start the Sultan sailed with his young Rajas and great men and with a large number of boats of all descriptions. The expedition stopped at Besut and waited several days for the boat of Inche' Aim of Lesong as he was sick. The Sultan amused himself by going backwards and forwards to Besut while waiting for news of Panglima Prang Inche' Abdullah, who had gone in a boat to Petani to see if Dato' Lun Ismail would collect his fleet. Suddenly Inche' Aim came from Trengganu and roused his Highness by asking if they were going to wait on account of two men before they attacked the country. The Sultan then hastily proceeded in the fishing boat named "Bujang Sa' ribu" and thence sailed to Kelantan. The fleet which accompanied the Sultan went right to Kelantan but the Sultan himself stopped at Pulau Ketitir in Sungei Pinang. Now those who had travelled overland had already got into touch with the enemy and after stockade fighting for about twenty days the enemy had retired and made a stand at Lubok Limau Nipsis. The stockade at Semerak was captured and then Lubok Limau Nipsis was attacked and in the end similarly captured. The enemy then retired to Kulu Kandih and it was also captured and the enemy retired and made a stand at the stockade of Klun Tarak in Kelantan. This stockade was in turn attacked and here the attackers were supported by the fleet attacking the villages alongside the river in Kelantan, only seven or eight boats remaining to guard the Sultan's vessel at Pulau Ketitir. After the fighting had lasted several days Lun Muhammad gave a letter to Ungku Muda saying that he was retiring to Sukui and asking for pardon and requesting that he should not be followed to Sukui as he would no longer be a rebel against the descendants of the late Sultan. He added that if he rebelled again he trusted that he and his descendants might be entirely ruined. After Lun Muhammad had retired to Sukui, Inche' Udin of Serada met the royal ladies who had fled on elephants with their husbands and Inche' Udin said he would capture them and hand them over to his penghulu. His children tried to dissuade him but he would not listen to them. Suddenly Inche' Udin met the husband of the ladies with a lot of their people. These rescued the ladies and after a fight Inche' Udin and fifty or sixty of his followers were killed. At this place Inche' Lok made Inche' Ahmad bin Isahak get up and said "Where are the rest of the men who gorged their food by trays full at the palace?" Inche' Ahmad rushed with Inche' Sharif of Pulau Ketam in order to thrust a spear at Lun Dil who was on an elephant. They were shot at from the elephant and missed but the driver of the elephant stabbed Inche' Ahmad and Inche' Sharif from underneath the elephant and both were killed, and the fugitives went on to Sukui. After the Kelantan men had retired to Sukui all those who were fighting on land plundered whatever
they could get in the way of buffaloes, bullocks etc. And they burnt all the houses in the districts of Kenali and Ja Kechil and Ja Besar and the Balai Jawa at Kampong Raja. After this they remained about a month longer in Kelantan. Altogether including the time on the road and the time of the actual fighting it was about five months before those who went by sea reached Trengganu. Some time after the war news was received that Lun Muhammad had retired to Hulni. And at this time everyone plundered as much as he could. After this His Highness of Kelantan moved from his boat to his house in Kelantan and His Highness of Trengganu went up stream. About this time Lun Daud wanted to marry a daughter of the Orang Kaya of Tandun. But when he asked for her her father said that she was already betrothed. The father then went to His Highness of Kelantan and His Highness said that if Lun Daud attempted to get the girl by force he was to resist him, and, as a sign of His Highness's authority to do so, he gave him a spear. So when Lun Daud came with Lun Mydin and tried forcibly to carry out his wish the father resisted him with the emblem of His Highness's authority. Lun Daud complained to His Highness of Trengganu. The Sultan said "You have come on a business of life and death, and yet in the matter of a single person you are making trouble." The Sultan then wished to go back, and leaving only Tungku Ahmad and Tungku Endak he took with him many good men and followers and waited for Dato' Lun Ismail to accompany him in his attack up river. After the Sultan had started back the Dato' came and the Sultan's commands were conveyed to him. So they all went together to attack the stockade at Pasir Mas. When they had attacked for a few days there suddenly came many people of Lun Muhammad's party supported by several thousands of Chinese from Galas. These crept in and could not be stopped by the Petani and Trengganu people, and both those who had come by boat and those who had come by land had to retreat. After they had returned to their countries, in the third year, there was an armed expedition, but it stopped some days in Besut. Here the Sultan was suddenly taken ill and went back. After the war was over in A. H. 1217 (A. D. 1802) in the 11th moon on the 21st of Rejab the wedding of Tungku Che Muda and Tungku Sulong was celebrated in Trengganu. In many years they got no children. The mother, Inche Puan of Kelantan had only the one son Tungku Sulong, and Inche' Wan Teh (sic) the younger sister of Inche' Puan, had a daughter named Meriam who married Tungku Salam. Tuan Dagang, the younger brother of Inche' Wan Ngah had children: Raja Inche', Raja Mai, Tuan Kechik, Tang Snik, Lun Drahman, and Tuan Snik of Sungei Pinang. Lun Muhammad had no children. Lun Yusuf had seven children; Lun Ahmad, Tuan Bulat, Lun Saleh, Lun Omar, Lun Ibrahim, and two daughters, one Ungku Tiba the wife of Lun Nik Pati the son of Lun Koris, and the other the wife of Tun Lun Hassan. Lun Zainal had five children; Lun Drahman, Ungku Lebai, Ungku

R. A. Soc., No. 72, 1916.
Tengah, Tuan Kling, and Lun Dris; Inche' Ungku Pelembang had no children by her husband Ungku Kakong, and later became the wife of Ungku Kadir of Besut. Lun Ismail had three children: Tun Besar who became Raja of Petani, Lunik Nik of Kampong Laut, and Tuan Busu. Lun Tan had five children: Lunik Nik of Gagap, Tun Snik of Kota, Tun Snik of Kampong Sireh, Tun Busu, and a daughter Tuan Besar who became the wife of Tuan Besar of Petani. Lun Pandak had one son, Tun Snik of Lebar. So Lun Muhammad got back Kelantan in the former war when he was helped by the Chinese of Galas. He ruled for several years and gave to Tuan Dagang the title of Ungku Sewa Raja; Lun Drahman of Kuala Cha was called Lun Raja; Lun Zainal was called the Raja Bendahara, and Lun Tan the Raja Temenggong. And the reign of Lun Muhammad was established from the 10th or 11th of Rejab A. H. 1216 (A. D. 1801) to his death at midnight on the eve of Wednesday the 27th of Safar A. H. 1251 (A. D. 1835). His reign lasted 34 years 7 months and 7 days, and from the date of Lun Muhammad's death his relations allowed Lun Zainal to be Raja, Lun Ahmad to be Raja Muda, Tun Snik of Kota to be Bendahara, Tun Snik of Kampong Sireh to be Temenggong and Tuan Besar to be Perdana Mantri. About two months later, the two Tuan Sniks conspired to seize the kingdom from Lun Zainal and Lun Ahmad. So they attacked the Raja's fort, but meeting with resistance they retired to Keluan and admitted their error. Lun Ahmad would have crushed them but Lun Zainal would not allow him and the Siamese intervened. Then the Tuan Sniks went to Bangsul and made a stockade there, and surrounded both Lun Zainal and Lun Ahmad in the Raja's fort, and when they had been shut up there for about four months Lun Zainal got out and retired to Benara. After nearly six months Lun Ahmad managed to get out and lived at the mosque at Sungei Budul. Then he retired to Tumpat, and after forty days Tuan Lonik of Tapong with Tuan Besar made a stockade at Titian Papan and attacked the stockade of Tuan Busu of Bachok. Tuan Besar induced Lun Ahmad to accompany him to Tumpat. They came to Pekan and went to Kampong Bukit but they were pursued by Tun Snik of Kota and Ungku Sri Mas. These two met Lun Ahmad on the hill and fought there for several days until Ungku Sri Mas was transfixed with a spear by Tuan Bulat the son of Lun Koris. He was borne on a litter to Limbat and Kelantan was very nearly regained by Lun Ahmad owing to the defeat of the other side. Then Lun Hamad went to Lekub Titian Papan to seize the stockade of Tuan Busu of Bachok, when there suddenly came men from Siam bringing letters appointing Tun Snik of Kampong Sireh as Raja and Tun Snik of Kota was given the title of Sultan Dewa. Then Lun Ahmad realised that however much he resisted he could get nothing owing to the orders from Siam. So he went to Bachok and took boat to Trengganu. He had not been long in Trengganu when letters came to Trengganu from Siam ordering Lun Ahmad
to be removed for fear of a disturbance with Kelantan. So he was removed to Kemamam. This collection of tales from the annals was finished on Sunday the 23rd of Rejab A. H. 1285 (A. D. 1868) by the hand of Abdullah, a poor and humble mosque official.

Written on Saturday 16th Shawal A. H. 1293 (A. D. 1876).
A Naning Wedding-Speech.

J. L. Humphreys,
Straits Settlements Civil Service.

I first heard this speech in the year 1908, at a wedding in Naning. It was recited by a Malay, Ungkai Lisut, local headman of the Mungkar tribe at Kelemak, Alor Gajah. The bridegroom was one of his clansmen. After the usual fencing, fireworks, and show of resistance below the house, in which, I remember, some Hailam kulis gave an amusing display of Chinese boxing, Ungkai Lisut, with several of his tribesmen, led the bridegroom up the steps on to the verandah of the bride's house. The headman of her clan was seated at the far end with the party of the bride, and to him Ungkai Lisut addressed this recital, pausing after each period, and raising his hands together in salute with each repetition of the words "Sembah, Dato'!"

The ritual was conducted with considerable solemnity, and was followed with close attention: doubtless portions of it had a semi-religious significance in pre-Muhammadan days. On its conclusion the usual wedding ceremonies were continued.

I asked Ungkai Lisut some time afterwards to repeat the speech, and took it down in writing: he had no record of it but his own memory. In the year 1914, meeting him in Singapore, I again asked him to recite it: he did so without hesitation, and with hardly the alteration of a word.

This set speech is an interesting exposition of the domestic Menangkabau custom still surviving in Naning. A very complete discussion of the fuller exogamic custom of Negri Sembilan is given in Rembau, Farr and Mackray, volume 56 of the Journal.

The homely precepts of the recitation recall more than one passage in the Second Georgic: among the Naning, as among the Virgilian, peasantry are still found

....patiens operum exiguoque assueta juventus,
Sacra deum sanctique patres.

I am indebted to Mr. W. H. Mackray, of the F. M. S. Civil Service, who has kindly read through this paper, for several valuable suggestions, which I have adopted.

The following is a short summary of the recital:

Our lives are guided by religious law, and by ancient Menangkabau custom. (Lines 1-47.)

I tell of the customs that govern our marriages and the upbringing and wedding of our children. (Lines 48-94.)

Lastly, I tell of the making of this marriage, to fulfil which I am now come. (Lines 95-131.)

A few notes have been added to elucidate obscure passages.

R. A. Soc., No. 72, 1916.
Ada-lah pebilangan adat,
Hujan berpohon,
Kata berpangkal;
Sakit bermula,
Mati bersebab:
Mengaji ka-pada alif,
Membilang ka-pada esa;
Pebilangan pada nang tua-tua,
Perkhabaran pada nang kecil-kecil.

10. Maka ada-lah pebilangan,
Sa-pertama kala Allah,
Ka-dua kala Nabi,
Ka-tiga kala tua,
Ka-empat resam negeri:
Hidup berperuntongan,
Mati berhukum Allah.

Nama mana kala Allah?
Rezeki di-makan,
Pertemuan di-nikahi.

Nama mana kala Nabi?
Berhadis berdalil,
Berlepar bermaana.

Nama mana kala tua?
Berlukis berlembaga,
Berturas berteladan;
Nang di-ucha di-pakai,
Nang di-pesar di-biasakan,
Turan-menurun dari-pada nenek moyang:

30. Di-anjak layu,
Di-chabut mati.

Nama mana resam negeri?
Shariat palu-memalu,
Berbudi orang berbahasa kita:
Dunia berganti-ganti,
Sa-kali di orang sa-kali di kita.
Sembah, Dato'!

Maka lepas dari-pada itu ada pebilangan pula;
Sa-lilit Pulau Percha,
TRANSLATION.

The saying of the custom runs,
Rain from a rain-cloud,
Speech from a prelude;
Sickness from a beginning,
Death from a cause:
Spell from letter A,
Count from figure I;
The old men know tradition,
The young men hear report.

10. And there is a saying runs,
First, the law of God,
Second, the law of the Prophet,
Third, the law of tradition,
Fourth, the custom of the land:
Living we work our fate,
Dead we abide the doom of God.

What is the law of God?
To eat the daily bread,
To wed the destined mate,
To lie below the heaped-up sod.

What is the law of the Prophet?
The sayings, the commentary,
The text, the interpretation.

What is the law of tradition?
The pattern becomes the mould;
The example becomes the type;
Precept passing into usage,
Practice passing into custom,
The custom handed down by our fore-fathers from
generation to generation:

30. Transplanted it withers,
Uprooted dies.

What is the custom of the land?
Duty gives and receives again,
Courtesy repays kindness:
The hap of this life goes by turns,
Awhile to him, anon to me.
Homage, O Chief!

And after that there is another saying;
Round the circle of the isle of Sumatra,
40. Sa-lembang tanah Melayu,
    Sa-alam Menangkabau,
    Untong sa-kali malang berturut:
    Untong ta'boleh di-raih,
    Malang ta' boleh di-tolakkan,
    Untong melambong, malang menimpa,
    Hidup di-kandong adat,
    Mati di-kandong bumi.

Maka beruntong-lah kita,
    Bersuku berwaris,
50. Jauh pun ada, dekat pun ada:
    Jika jauh di-dengar-dengarkan,
    Jika dekat di-pandang-pandangkan.

Maka kemudian dari-pada itu,
    Menerima pula orang semenda,
    Tiap-tiap menerima orang semenda itu,
    Di-tentukan pula dengan benar dengan muafakat:
    Kalau ada berkata ada,
    Kalau tidak berkata benar.
    Ka-baroh sawah yang sa-lepah lantak yang bertukul,
60. Ka-darat kampong yang sa-sudut pinang yang sa-batang,
    Tempat ka-bukit menchari minum,
    Tempat ka-lurah menchari makan,
    Bagi orang semenda:
    Menchari kepala yang ta' terserungkap,
    Menchari belakang yang ta' tersauk,
    Menchari perut yang ta' berisi.
    Sembah, Dato'!

Maka lepas dari-pada itu,
    Lama-kelamaan mengadakan anak,
70. Si-laki-laki pun ada, si-perempuan pun ada:
    Sa-hari ada sa-hari bernama,
    Sa-hari berhutang dengan mak bapa-nya.

Apa hutang mak dengan bapa?
    Hutang-nya di-atas lima perkara:
    Sa-pertama kerat pusat,
    Ka-dua upah bidan,
    Ka-tiga bedak langir,
    Ka-empat akhir baligh,
    Ka-lima nikah kawin.
80. Yang kecil di-gedangkan,
    Yang bingong di-cherdekkan:
    Ibarat ayam,
    Pagi lepas, petang di-rehan,
    Yang jantan di-serah mengaji,
A NANING WEDDING-SPEECH.

Through the stretch of Malay land,
O'er the realm of Menangkabau,
Weal comes once, woe times and again:
Weal may not be wooed,
Woe may not be denied,
Weal soars away, woe comes crushing down;
Living we bide in the womb of custom,
Dead we lie in the womb of earth.

This then is our lot,
Clansmen of a clan, tribesmen of a tribe,
With kin both far and near:
To those afar we hearken,
Those near we mark and obey.

And after that,
A stranger weds into our clan
For every stranger that weds into our clan
A share is set with just consent:
If there be land a share is proclaimed,
If there be none we deny it not.
To the low land a rice-plot with planted posts,
To the high land an orchard-square with betel-palm
for mark;
A place for the bride-groom to win his daily bread,
To the hill for drink,
To the valley for meat:
To win a cover for the bare head,
A coat for the naked back,
A meal for the empty belly.
Homage, O Chief!

And after that,
The years pass by, children are born,
Both boys and girls:
The day of birth is a day of naming,
A day of debt for mother and sire.

What is the debt of mother and sire?
The debt is five-fold:
First, to sever the navel,
Second, to pay the midwife,
Third, to wash and cleanse,
Fourth, to circumcise,
Fifth, to give in wedlock.

To make small folk big,
To make dull wits keen:
After the manner of fowls,
Let loose at dawn, penned at eve.
The boys learn the Koran,
Yang betina di-serah menjahit.  
Kechil 'dah gedang,  
Bingong 'dah cherdek,  
Karna hutang mak dengan bapa-nya,  
Adat yang benar bekas semenda yang tahu.

90. Maka ada pebilangan pula,  
Yang jantan di-semendakan ka-orang,  
Yang betina di-semendai orang:  
Yang betina di-iras-iraskan,  
Yang jantan di-gurau-sendakan di-arah-arahkan.

Chukup pula gedang panjang,  
Di-arahkan sudah di-gurau-sendakan sudah.

Maka di-sebut pula,  
Risek yang berlusus,  
Gamit yang berkeechapi.

100. Pada pemandangan andai-andai  
Tali tidak merentang,  
Batang tidak teragalang.  
Maka di-rupai pula dengan chin chin,  
Sah lalu batal kembali,  
Maka kata adat:—  
Sah lalu berterima  
Adat di-isi,  
Anak buah di-hantar,  
Orang di-nikahkan.

110. Maka lepas dari-pada itu,  
Rupa lalu, kata di-rundingkan,  
Orang hendak bersetemenda.  
Adat tidak menggalang,  
Hukum tidak menghambat,  
Boleh-lah di-terima:  
Chin chin di-terima berkebulat waris,  
Jauh berpanggilan,  
Dekat berimbauan;  
Sah lalu batal kembali.

120. Maka kemudian dari-pada itu,  
Kata bulat, janji di-laboh;  
Janji di-laboh di-muliakan;  
Janji sampai di-tepati.

Maka ini-lah saya datang,  
Laksana jaring kurang pengena,  
Laksana sikat kurang pendaspat,  
Laksana singkal kurang pembalik,
The girls learn needlework,
Folk that were small are big,
Wits that were dull are keen,
Because of the debt of mother and sire,
Paid well or ill the clansmen know.

90. And then the saying runs,
Our boys we wed to other clans,
For our girls wooers come;
For our girls whispered hints,
For our boys jokes and jests.

And now our boy is tall and straight,
The jokes and jests have passed and sped.

And so my tale proceeds,
Of the ceaseless whispering word(*),
Of the restless beckoning hand.

100. To the eye of the messenger
There was no string across the path(\textsuperscript{2}),
No log athwart the track.
And so a ring was sent for a token,
Received to enter, rejected to return.
The custom says:—
When a pledge is received and taken,
A bride-price is paid,
A bride-groom is sent,
A pair are wed.

110. And so it was, that
The pledge passed in, the prayer was weighed,
The prayer of my clan for a bride.
When custom bars not,
When religion bars not,
The pledge is taken.
The pledge-ring is taken when the tribesmen are agreed,
The distant summoned,
The near sent for and called:
Received the pledge-ring enters, rejected returns.

120. And after that
The tribe was at one, a bond was made;
The bond made was proclaimed;
The bond due is fulfilled.

And therefore come I now,
Like a net that snares but ill,
Like a harrow that harrows amiss,
Like a ploughshare that turns but little sod,
Saya datang menepati janji,
Mengisi adat serta anak buah.

130.

Habis kata.

Sembah, Dato':
I come and fulfil the bond,
I pay the bride-price, I bring the bride-groom my kinsmen.

130. My tale is told.

Homage, O Chief!

NOTES.

(1) Line 54. Under Menangkabau exogamic custom, the bride-groom on marriage is severed from his own tribe, and enters into the tribe of the bride.

(2) Line 61. The husband is subject to the family of his wife, (*tempat semenda,* lives in her house, and tills her fields. On divorce the children of the marriage remain with her; joint earnings or debts are divided; he removes the personal property brought by him to the marriage.

(3) Line 71. A Malay child, immediately on birth, before the severance of the umbilical cord, is given a name by one of the parents; that is, a baby name or pet name; the true name is given subsequently.

The meaning of lines 71 and 72 is that the peculiar debt of the parents commences to run from the moment of birth; it ends with the marriage of the child. The clan is the judge of its proper fulfilment. (Line 89.)

(4) Lines 98 and 99 are customary phrases to describe the activities of the go-betweens, who make the informal advances that precede a formal proposal of marriage.

*Kechapi* is a Chinese string instrument, played after the fashion of a "guitar. The continuous 'beckonings' of the marriage-maker suggest the twitching fingers of the lute-player.

(5) Lines 101 and 102 mean that no obstacle to the union was found either in religious law or exogamic custom. See lines 113 and 114.

Trengganu.

November, 1915.
Note on the name Kuala Lumpur.

By E. Macfadyen.

Kuala Lumpur is generally assumed to be a descriptive title—'Muddy Mouth'—but the use of a descriptive epithet to qualify the word Kuala is so unusual, that one frequently hears ingenious explanations put forward to account for it in this instance.

Kuala in place names is commonly qualified by the name of the river or tributary which debouches at that point into the sea or a main river; Kuala Perak for instance or Kuala Kubu. If one met a Kuala Merah it would naturally be the name of a place where a Sungai Merah flowed into some larger river. I do not think it would occur to Malays to speak of a place as Kuala Merah because the water there had a red tinge.

Some old residents of Kuala Lumpur have even gone the length of suggesting that a small stream known as the Sungai Lumpur once flowed into the Klang where the Selangor Government offices now stand. If so the name Kuala Lumpur would be quite natural; but I much doubt there being any historical basis for this hypothesis.

An old Malay who worked for me in Kuala Langat used to speak of Kuala Lumpur as Pengkalan Lumpur and I have once or twice questioned Malays on the subject who said that old-fashioned people used that name for the place. It is to be noted, moreover, that the town of Klang was formerly known as Pengkalan Batu; a name by which it is still considered good form to describe the place in full dress writing.

At a time when there were only two settlements on the Klang river it appears probable enough that one should be called Pengkalan Batu and the other Pengkalan Lumpur. The place up stream, however, was from the first almost exclusively a Chinese settlement and anyone who has heard Chinese residents of places like Pengkalan Durian or Pengkalan Kempas refer to these places will agree that 'Kalen Lumpur is about as near an approximation to the correct form as they would be at all likely to attain.

I suggest that this is possibly the origin of the name. The transition, by a false analogy, to Kuala Lumpur would be tempting to people much more accustomed to Malay place names beginning with a Kuala than with a Pengkalan; and at a time when the 'tulisan Roman' was an undiscovered art there would be few obstacles to the mistaken version becoming stereotyped. No large or indigenous Malay element existed in the population to correct such tendency.

Jour. Straits Branch R. A. Soc., No. 72, 1916.
Hikayat Marong Maha Wangsa.

or

Kedah Annals.

EDITED
BY
A. J. STURROCK
F. M. S. Civil Service.


Ini-lah mutia segala chërita dan segala chahaya dari-pada përupamaan-nya.

Maka barang siapa mëmbacha dia jangan-lah di-bicharakan lagi têrlalu amat sempurna bichara-nya, karna hikayat ini tahu-lah kami akan përkataan karna sabda nabi sal’l-lahu alaihi was-salam tafakaru fi dzati’ilahi ya’ni bicharakan oleh-mu pada segala

Jour. Straits Branch R. A. Soc., No. 72, 1916.
kếbésaran Allah jangan Kamu fikirkan pada dzatu'lllah kétahui oleh
mu ka-pada zéman dahulu kala dan pada masa télah lalu, kata
yang émpunya chaérta ini. Maka ada-lah ka-pada suatu masa
sédang zéman Nabi Allah Sulaiman alaihi'ssalam naik jadi raja
yang tétap di-atas takhta kêrájaan di-kurnia Allah taala di-dalam
dunia ini, mêmérentahkan sélja makhlók khalayak yang bérjénis-
jénis bangsa yang di-jadikan Allah subhanahu wataala di-dalam
dunia ini di-títah-kan oleh tuhan sérū sakalian alam mêmérenta-
kan isi alam dunia ini di-dalam hukum Nabi Allah Sulaiman
alaihi'ssalam tiada boleh hédand melalui dari-pada hukum-nya baik
dari-pada binatang yang mêlata di-bumi dan yang tèrbang di-
dudara sakalian-nya di-dalam hukuman Nabi Allah Sulaiman bë-
bèrpara bukit pulu guñong yang mènjadi pasak dunia ini yang di-
diam di oleh makhlók.

Sa-bèrmula maka tèrsèbut-lah pèrkataan Pulu Langkapuri itu
sa-lama pénìnggal pràrang Sérí Rama dan Anduman itu jadi sunyi-
luh pulu itu tiada siapa-siapa dudok. Maka datang-lah sa-ekur
burong gèroda yang amat bèsar-nya, ya-itu asal-nya dari-pada anak
chuehu maharaja ñewata. Maka burong gèroda itu-lah yang diam
di-pulu itu mènchari makan. Maka burong gèroda itu pun pada
zéman Sérí Rama dan Anduman biasa masok pràrang banyak juga
kèxaktian dan banyak juga sègalá binatang yang tèrbang dan bér-
jàlan di-bumi takut akan dia. Maka pada suatu hari datang-lah
sa-ekur burong rajawali ka-pada burong gèroda itu, kata-nya,
"Ada-kaì tuan hamba bêroleh khabar bahwa Raja Rum itu bêroleh
sa-orang anak laki-laki? Sèkarang ini ia hédand mèminang anak
raja bènu China karna nègèri kèdua itu têrlalu-lah jauh-nya, sa-
buah nègèri sa-bèlah matarahi naik dan sa-buah nègèri sa-bèlah
matarahi mati. Maka kèhéndak Raja Rum itu hédand mènghantar-
kan anak-nya itu bérpèrâhun dan bèrlayar." Maka kata burong
gèroda itu ka-pada burong rajawali, "Mana tuan hamba bêroleh
warta ini?" Maka kata burong rajawali, "Hamba bêroleh warta
dari-pada burong kakktúa ia-lah yang mêlihat orang membañu
utusan dan pèndomah dari bènua Rum hédand pèrgi ka-bènua
China. Maka hamba pun tèrbang mêlintas mêlihat kêlakuan itu
nyata-lah ada-nya sèpèrti warta itu karna raja Rum itu hédand
mènunjokkan kèbésaran-nya mana yang tiada dapat di-kèrjakan
oleh sègalá raja-raja di-dalam dunia ini, ia-lah konon hédand
mèngadakan dan mènghantarkan." Maka kata burong gèroda ka-
pada burong rajawali, "Di-mana dapat ia sakalian hédand mèngèr-
jakan pèkerjaaan itu? Pada fikirán-ku tiada boleh jadi; tétap
nanti-lah dahulu, aku hédand pèrgi mèngadap Nabi Allah Sulai-
man, karna ia Raja bèsar di-dalam alam dunia ini. Jikalau sudah
ada pèkerjaaan yang dèmikian itu, tiada-lah aku bëri jadi pèkerjaaan
níkah kèdua-nya anak raja dua buah nègèri itu." Sa-télah di-
dèngar oleh burong rajawali kata burong gèroda itu, maka ia pun
bèrmchon ka-pada burong gèroda lalu ia tèrbang. Sa-télah itu
lalu burong gèroda itu pun tèrbang naik ka-udara sampai pèrgi
mèngaras awan udara bèrasap-lah këlîhatan dunia ini bahwa pada

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R. A. Soc., No. 72, 1916.

HIKAYAT MARONG MAHAWANGSA.


Jour. Straits Branch
Hikayat Marong Mahawangsia.

Hata tiada bër APA lama-nya bërlayar itu ada-lah kira-kira sa-
hari sa-malam lagi hêndak sampai ka-pulau Langkapuri itu maka têrlihat-lah ka-pada burong gêroda angkatan pelayaran anak raja itu, lalu di-nautikan hari malam. Sa-têlah itu bahtêra raja Marong Mahawangsia pun singgah ka-pada suatu pulau mëngambil ayer kayu. Maka gêroda pun datang-lah sêperti ribut tofan yang têr-
amat bêsar ménymabar dan mêmukul dêngen sayap-nya dan më-

Shahadan tiada bër APA lama-nya bërlayar itu sampai-lah ka-
pada têmpat anak raja Rum itu rosak lalu bêrtêmu dengan orang bêrêunang di-ambl-nya dan bêrtanya. Maka di-hikayatkan orang itu sêgala hal-nya yang di-binasakan oleh burong gêroda malam tadi. Dêmi di-dêngar oleh raja Marong Mahawangsia yang dêmi-
kian itu, maka di-suroh lâvar kapal pêrgi mênchari kalau-kalau bêrtêmu dengan anak raja Rum itu. Maka di-charikan orang-lah tiada bêrjumpa sa-hingga bêrêmu dengan orang lain juga bêr-
tabaran pada sêgala laut itu. Hata bër APA hari lama-nya anak raja Rum itu tiada bêrjumpa dengan siapa-siapa jua pun. Maka raja Marong Mahawangsia pun têrlalu-lah kêmashghulan hatî-nya karna ia suatu harapan yang bêsar ka-pada Sultan Rum itu. Maka di-
suroh-nya chari pada sêgala mênêri para pênggawa hulu-balang sa-
kalian tiada juga bêrêmu. Maka raja Marong Mahawangsia pun bêlayar-lah hala ka-sa-bêlah timur dengan bahtêra-nya mênuyur daratan tanah bêsar itu sambil mênchari anak raja itu. Hata dengan hal yang dêmikian, maka sampai-lah ka-pada suatu têlok dengan suatu tanjong. Maka raja Marong Mahawangsia pun bêr-
gadap raja Marong Mahawangsia. Maka raja Marong Mahawangsia pun sudah kêtahui bangsa-nya gêrgasi lalu di-têgur-nya dengan manis suara-nya mënghabur hatî-nya. Maka sêgala kaum gêrgasi

sa-bèrmula maka tèrsèbût-lah pèrkataan anak raja Rum di-atas papan ia bèrgantong tiada makan dan minum kursions kèring tuboh badan-nya dengan di-hinggap oleh kapang dan tèritip pada sègala badan-nya datang pasang di-sorong oleh pasang datang surut di-bawa surut dengan di-julang pula oleh ombak angin. Dengan hal yang dèmikian itu jatoh-lah di-chêlah batu yang di-pulau Langkapuri dengan lèteh lèsu dan lapar dahaga-nya. maka mèngerang pun tiada kòdèngaran suara lagi karna sangat dzaif itu.
Hikayat Marong Mahawangsa. 47


R. A. Soc., No. 72, 1916.
kala rupa paras-nya pun baik sêperti sa-lama-nya hanya yang kurang pakaian sahaja. Maka sêmbah mak inang ka-pada tuan puteri, "Nyata-lah anak raja Rum patut sangat dengan budi pêkêrti-nya dan pérkataan-nya bêrtambah pula dengan rupa paras-nya dari-pada sa-hari ka-pada sa-hari bêrlainan dari-pada anak raja yang kêhanyakan di-bênu China atau raja lain-lain pun hanya sayang sêdikit dêngan sêbah tiada bêrpakaian sahaja." Maka itah tuan puteri, "Hai, mak inang, sabar-lah dahulu, nanti datang burong ka-mari kita pintu ka-pada-nya sêgala pakaian." Sa-têlah hari sudah malam maka burong gêroda datang-lah m ê n g h a n t a r k a n m a k a n a n a k u t a n puteri. Maka kata tuan puteri, "Hai, burong gêroda, bêtapu nenek-ku bawa akan kami kêtiga ini ka-sini membêri kêsakitan di-atas kami? Bahwa sa-sunggoh-nya nenek-ku membêri makan dêngan sêrba aneka makanan sakalian, têtapî sêgala pakaian aku hêndak-lah nenek ambil bêri boleh-lah aku bêrsalin hal kami kêtiga orang di-sini."

Maka burong gêroda pun têrtawa mên-dêngar kata tuan puteri itu sêrta bêrkata, suara-nya sêperti halilintar membêlah dari langit, "Hai chuchu-ku, tiada apa yang nenek hêndak bêrbuat di-atas chuchu-ku yang tiga bêrhabma ini, hanya nenek mênanti janji dêngan Nabi Allah Sulaiman jua, tiada bêrapa lama nenek hêndak kêmhalikan chuchu-ku kapada avah bonda chuchu-ku di-bênu China." Maka kata tuan puteri, "Hai nenek-ku, ada-lah di-dalam istana bêsar avah-ku raja di-bênu China itu di-dalam suatu bîlek yang bêrdinding chêrmin ada suatu pêti bêsar yang bêrsêndi gading dan bêrsêndi dêngan pêrmata yakud di-situ-lah sakalian ada pakaian-ku boleh nenek-ku ambil bêri kapada aku, maka têrlalu-lah kêsukaan hati kami tiga orang ini."

Maka kata burong gêroda, "Baik-lah hai chuchu-ku biar-lah nenek pêrzi ambil bêri ka-pada chuchu-ku jangan sêrerti istana avah bonda chuchu-ku di-bênu China itu, jika têrlêbêh sukar dari-pada têmpat itu pun kêhêndak chuchu-ku itu nenek pêrzi ambil jua."

raja itu, térlalu-lah hebat dan dahshat-nya pékak tuli télingsa sakalian yang méndénggar itu. Maka di-lihat oleh burong gëroda itu sakalian orang itu di-ćalam lorat bélaka ka-sana ka-mari tiada bérkétahuan. Maka burong gëroda pun turun-lah di-ćalam kélam kabut itu ménuju istana bésar itu sûreta méanchabut suatu papan dinding istana itu ménghulur këpala-nya méngangkakkan péti itu dèngan paroh-nya sëpërти di-pésan oleh tuan putèri itu tiada bér-

salahan lagi. Sa-télah daptad sudah péti itu maka ia pun térbang

lah këmbali ka-atas udara sëpërти angin yang maha tangkas ménuju ka-pulau Langkapuri itu. Maka tiada bérpara lama-nya ia tér-
bang itu sampái-lah ka-hadapan tuan putèri itu lalu mêlétakkak

péti itu di-hadapan-nya. Dëmi di-lihat tuan putèri péti-nya

dudah datang itu, maka térlalu-lah suka hati-nya sûreta méñerkam
dan méncehpi péti-nya itu dèngan anak kunchi-nya; lalu di-ambl

oleh tuan putèri sëgala pakaian-nya yang di-gëmar-nya bërtimbun-
timbun di-hantarkan di-hadapan-nya. Maka burong gëroda pun
térbang-lah naik ka-atas mércu pulau itu bërrtinggir bérhëntikak

lélah-nya. Télah këesokan hari-nya maka burong gëroda itu pun

térbang ka-darat méñchari makan. Maka tuan putèri pun mêng-
gambil sa-péranggu pakaian-nya dari-pada jënis péta ratna yang

këcemasan lengkap dèngan alat-nya pakaian sëgala raja-raja, di-
suroh-nya mak inang hantarkan ka-pada anak raja itu. Maka

oleh inang itu pun di-bawakan sëgala pakaian sûreta dèngan nasi

sa-kali anak anak raja Rum, lalu di-hantarkan sëgala pakaian dan

nasi di-hadapan-nya lalu ia pun mënyëmbah ka-pada anak raja

Rum itu. Maka anak raja itu pun térlavlu-lah sukachita hati-nya

bëroleh pakaian itu. Sa-télah datang antala ènam tujoh hari-nya

këtika burong gëroda tiada ia përgi méñchari makan. Maka anak

raja Rum pun datang-lah méngadap di-bawa oleh mak inang. Sa-
télah di-lihat oleh tuan putèri akan anak raja itu maka ia pun
tundok këmalu-maluan rupa-nya. Maka anak raja Rum pun jatoh-

lah hati-nya jadi tiada takut këdua-nya itu akan burong gëroda

itu. Maka apakala hari pëtang pada këtika burong gëroda hëndak

këmbali maka këdua-nya bërpélëk bërhoëëum bërtanggis-tanggisan.

Sa-télah sudah maka anak raja Rum itu pun këmbali përgi ka-

dalam goa tëmpat duduk-nya itu di-bawakan oleh inang tuan putèri

itu sûreta dèngan makanan anak raja itu hëndak makan ka-pada

malam itu. Sa-télah sudah sampái maka sëgala makanan itu pun
di-hantarkan ka-hadapan-nya sûreta mëngangis bélas hati-nya mè-
mëndang hal këdua-nya lalu ia mënyëmbah këluar dari dalam goa

itu sambil mëntutupkan pintu goa itu dèngan batu lalu ia pun

këmbali ka-pada tuan putèri di-dapati-nya sëdang mëngangis bër-
kënangka untong nasib-nya. Télah di-lihat oleh inang maka ia

pun sëgëra mënyapu akan ayer mata-nya. Maka sa-këtika ia dudok

itu burong gëroda pun datang-lah mëmbawa makanan akan tuan

putèri tiga béranak itu, lalu ia pun térbang ka-atas mércu pulau

itu dëmikian-lah këlakuan tuan putèri dan anak raja Rum itu tiap-
tiap hari burong gëroda pun tiada-lah khali mëngantarkan makan-
an, akan tétapi tiada di-këtahui oleh burong itu, bahwa anak raja

R. A. Soc., No. 72, 1916.
HIKAYAT MARONG MAHAWANGSA.

sabda nabi Allah Sulaiman ka-pada raja jin Harman Shah,
"Hendak-lah tuan hamba dêngan sa-ribu têntêra jin bawakan anak raja kêdua ini êmpat bérhamba lima dêngan péti-nya itu hantar-
kan ka-pada raja bênua China, sêrtê tuan hamba suroh kahwin kêdua-nya ini sêperti adat anak raja-raja yang bêsar, dan suroh
raja bênua China itu mêmberi surat ka-bênua Rum nyatakán,
hhabar hal ahual anak-nya kêdua ini." Maka sêmbah raja jin
Harman Shah, "Baik-lah, ya nabi Allah, tërjunjong-lah sabda nabi Allah itu." Maka anak raja Rum ën anak raja bênua China êmpat bérhamba itu pun mênjunjong duli lalu masok ka-dalam
péti-nya dan mêngunchikan péti dari dalam-nya. Maka raja Har-
man Shah pun mêmêmbah ka-pada nabi Allah Sulaiman lalu
mêmênyurow hulubalang-nya mêngusong péti itu têrbang hala-
nya mêmênuju ka-bênua China dêngan sa-ribu orang têntêra-nya. Ada
pun tatkala itu raja bênua China têngah ramai di-hadap oleh raja-
raja mêmêntêri hulubalang pênoh sêskâ di-balai rong itu muafakat
bichara mêmêntu sêgala mêmêntêri pêrgi mêmêchari khabar anakanda
baginda tuan putêri dan anak raja Rum itu di-mana juga khabar-
nya, dan utusan dari-pada bênua Rum itu pun ada lagi tiada
kêmbali ka-bênua Rum ada hadizir sakalian-nya nudok mêngadap
raja China itu karna tiada di-lêpas oleh raja bênua China sakalian
kêmbali lagi hêndak bêri têntu iuga warta itu. Tatkala itu maka
datang-lah raja jin Harman Shah tërdiri di-hujong balai rong
langsong ka-tanah lantas pêrgi ka-pintu gêrbang itu pênoh sêskâ
dêngan têntêra jin. Dêmi di-lihat mangkubumi raja bênua China
hal yang démêkikian kaum jin têrlalu banyak datang itu maka ia pun
sêgêra-lah bangun dêngan sa-orang raja bêrsama-sama dêngan dia
datang mêngadu-ngalukan jin sakalian itu sêrta raja-nya jin Har-
man Shah pêrgi ka-hujong balai rong itu sêrta bêrtanya kata-nya,
"Siaja tuan hamba ini dan dari mana tuan datang ini maka tiba-
tiba timbul sudah ada tërdiri di-balai rong raja kami ini?" Maka
kata raja jin Harman Shah, "Hamba ini namâ-nya raja jin Har-
man Shah hamba ka-mari ini mêmêbawa surat titah dêngan di-
titahkan oleh raja kami raja sêgala makhluk di-dalam dunia ini
ya-itu nabi Allah Sulaiman mêmênurow bawa titah ini ka-pada raja
tuan hamba di-sini." Sa-têlah di-dêngar oleh mangkubumi dan
raja itu démêkikian maka sêgêra di-pêngang tangan raja jin Harman
Shah itu sa-orang sa-bêlah di-bawa ka-hadapan raja China. Maka
raja China pun bangun mêmêberi hormat taadzim sêrta dêngan
hairan mêlihat péti-nya di-bawa orang di-lêtakkân ka-hadapan
raja yang banyak itu sêrta bêrkata, "Silakan tuan hamba dudok."
Maka di-unjokkan oleh raja jin Harman Shah surat dari-pada nabi
Allah Sulaiman itu. Maka di-sambut oleh raja bênua China surat
itu di-junjjong dan di-chium-nya lalu di-unjokkan ka-pada mang-
kubumi-nya. Maka sêgêra-lah di-têrîma oleh mangkubumi akan
surat itu, di-pêrmulia-nya pula dêngan sa-ribu kêmêliaan lalu di-
buka-nya bêchakan sambil tërdiri juga démêkikian-lah bunyi-nya,
"Bahwa ini-lah surat dari-pada nabi Allah Sulaiman datang ka-
pada raja bênua China hêndak-lah tuan hamba kêthahui pêrbañat
R. A. Soc., No. 72, 1916.


Jour. Straits Branch


R. A. Soc., No. 72, 1916.


R. A. Soc., No. 72, 1916.

Maka sempah segala menteri, "Patut sangat tuanku menanakan negeri ini supaya tiada sesat dari-pada sebutan-nya."
Maka sempah pula menteri Rum, "Bukanakah dêngan kemudahan juga mendapat negeri ini dengan tiada sukarnya. Jikalaun ka-pada nama-nya pun demikian juga."


R. A. Soc., No. 72, 1916.

Hata dēngan hal yang dēmīkian maka anak raja yang kē-empat itu bēsar-lah patut rēmaja putēra mēnanggong kērajaan. Maka pada suatu hari tēngah ramai raja Marong Mahapodisat di-hadap oleh sēgala mēntēri hulubalang-nya. Maka sēmbah mēntēri yang tua kēempat ka-pada raja Marong Mahapodisat, "Pada fikiran patek baik-lah tuankan bichara akan paduka anakanda in hantarkan ka-pada masing-masing tēmpat-nya mēnurut sēpērti ḍēsan ayahanda baginda raja Marong Mahawangsā itu karna sangat-

R. A. Soc., No. 72, 1916.


Sa-têlah têtap-lah anak raja itu di-atas takhta kêrajaan nêgêri Perak itu datang-lah khabar-nya ka-pada paduca ayahanda baginda raja Marong Mahapodisat mënagatakan sudah anakanda baginda itu mënjadi raja sêrta di-namakan nêgêri-nya Perak jadi têtap.
lah anakanda baginda itu di-atas takhta kērajān dengan mēntēri hulubalang para pēnggawa rayat sakalian pun makin bērtambah-tambah bērhimpun dagang ka-nēgēri Perak dengan adil murah-nya raja itu.


R. A. Soc., No. 72, 1916.
kū, patut sangat mama-ku kēmbalī mēngadap paduka ayahanda baginda itu di-nēgēri Kēdah sēmbahkan nēgēri ini Pētani nama-
nya dengan sēhab tuah kēris Lēla Mēsani itu jadi di-namakan nēgēri ini Pētani.” Maka mēntērī kēěmpat mēnỳēmbah lalu bĕr-
jalan kēmbalī mēngadap raja Marong Mahapodisat maalumkan sēgala pērentah nā. Maka apabila di-dēngar oleh raja Marong Mahapodisat sēmbah mēntērī maka tērlalu-lah kēsūkaan-nya jadi sēlaman sēmpurūna-nya sakalian anakanda baginda pada masing-
masing tēmpat-nya. Maka yang sangat mēmbērī kēdukaan oleh mēlihat anak yang muda itu tinggal dengan sa-orang diri-nya
sunny nēgēri-nya tiada banyak rayat. Akan hal diri pun tiada-
lah sudah bēroleh anak lagi karna badan-nya sudah tua. Maka baginda pun dudok-lah dengan kēsūkaan pērgī ka-hutan bērbaru dan mēmikat burong tiada-lah lagi bērputusan-nya ia pērgī itu akan nēgēri itu anakanda baginda-lah dengan sēgala mēntērī hulu-
balang para pēnggawa sakalian mēmērentahkan dia.

Hata tiada bērapa lama-nya sēlang tahun maka gēring-lah
raja Marong Mahapodisat lalu pulang ka-raḥmahutilāh taala.
Maka oleh anakanda baginda dēngan mēngikut adat raja yang bēsar-bēsar. Maka dudok-lah anakanda baginda dēngan kēmash-
hulan lalu mēmbuat surat mēnghantarkan ka-pada sōndara-nya
yang di-dalam tiga buah nēgēri itu mēngatakan pērī ayahanda
baginda itu sudah hilang. Maka mēntērī hulu-balang pun bēr-
muafakat hēndak di-namakan raja. Maka anak raja itu pun mē-
lētakkan nama sĕndiri raja Sĕrī Mahawangsa pada nēgēri Kēdah
itu supaya mudah mēntērī hulu-balang mēngantar surat dēngan
nama raja itu. Maka raja Sĕrī Mahawangsa pun tiada-lah suka
hēndak dudok di-kota Lāngkasuka itu karna jauh sangat dari laut,
punkan kapur dan kulit kēpah hēndak di-pērbut kota ka-hilir karn
na sungai itu bēsar dēngan luas-nya bērtambah-tambah dēngan aver-
Maku lalu di-titah-nya ka-pada mēntērī kēěmpat suroh chari him-
sungai itu bēsar dēngan luas-nya bērtambah-tambah dēngan aver-
nya tērlalu dēras. Maka di-kēĕrkakan-lah oleh sēgala mēntērī hulu-
balang bagai titah itu. Maka raja Sĕrī Mahawangsa pun tiada
khali bērulang-ulang ka-hilir mēlihat tēmpat tanah bumi yang hēndak di-pērbut kota parit. Maka di-pērbut-nya istana kēchil
ka-hulu ka-pada tanah bumi itu yang bērnama Sērûkum. Maka
tatkala itu raja Sĕrī Mahawangsa pun bēroleh sa-orang putēra
laki-laki dēngan sa-orang anak raja pērĕmpuan dari-pada anak
raja Mēlavy. Maka anakanda baginda itu pun tērlalu baik rupa
paras-nya. Maka di-pēlihara-lah dēngan bēberapa inang pēngasoh-
nya sēpērī istiadtat raja yang bēsar-bēsar juga.

Hata antara bēberapa lama-nya datang-lah surat dēngan bing-
kisan yang indah-indah dari-pada paduka kakanda yang tua itu
di-hēnua Siam mēngatakan ia sudah bēroleh sa-orang anak laki-

Jour. Straits Branch

1R. A. Soc., No. 72, 1916.


Jour. Straits Branch.

R. A. Soc., No. 72, 1916.
nya. Maka sėgala mĕntĕri hubulabang sakalian pun kaseh gĕmar akan baginda itu.


Jour. Straits Branch


Jour. Straits Branch
lamba ini tèrlalu-lah sakit antara gigi manis kèdua-nya itu baharu tumboh pula bakat-nya sahaja baharu jadi.” Maka di-
lihat oleh mèntèri di-sèmbah-nya, “Siong, tuanku.” Maka titah-
nya pula, “Pada fikiran rasa beta tiada patut tumboh siong.”
Maka ia bèrakata-kata itu sambil tèrtawa pula, “Jika hèndak
tumboh siong pun tèntu-lah ada dari-pada mula jadi atau dari-
pada masa sèdlang kèchih dahulu.” Maka sèmbah sa-orang mèn-
tèri, “Apa yang kègèmaran tuanku di-dalam pèrsiantapan lauk
nasi di-dalam sa-hari-hari ini?” Maka titah-nya sambil tèrtawa,
“Ada-lah yang kègèmaran beta makan itu hanya gulai lecheh yang
bèrtumis ya-itu batang bayam juga dengan daun-nya.” Maka
sèmbah mèntèri itu, “Jikalau boleh pèrkara itu hèndak-lah tuanku
tinggalkan dia barangkali sayur itu mènjadi ulat gigi tuanku.”
Maka titah-nya pula, “Bagaimana beta hèndak tinggal? karna
dari muda beta sudah mèmakan dia sampai-lah masa ini sudah
sampai sa-tèngah umur beta tiada pèrnah beta tinggalkan, jikalau
tiada barang sa-pagi atau sa-pèntang tiada lalu beta makan.”
Maka sakalian pun diam-lah. Maka masing-masing pun kètahou-lah raja
Ong Maha Perita Dèria itu tumboh siong-nya, maka di-namakan
dengan nama raja Bèsiòng. Maka sègala mèntèri hulu-balang pun
bèrmothon kèmbali ka-rumah-nya.

Hata ka-pada suatu hari raja Bèsiòng dudok di-balai rong-
nya, sa-tèlèh datang tèngah hari rèmbang maka raja Bèsiòng
masok-lah ka-istana pèrgi mandi. Maka tatkala itu gèrau yang
di-dapur itu pun tèngah mèmotong sayur bayam dengan goboh-
nya hèndak di-pèrbuat gulai lecheh. Maka tèrleha-lah mata-nya
sèdkit, maka lalu tèrsavat-lah hujong jari-nya. Maka sègèra-lah
di-ambil-nya kain, di-balut sèrtà di-ikat-nya. Maka pada sangka-
nya tiada kèlvar darah itu. Sa-tèlèh di-buboh-nya rèmpah-rèmpah
ka-dalam sayur itu lalu di-jèrangkan ka-atas api. Maka pada
waktu itu tèngah mèlecheh sayur itu dengan di-lihat-nya, hèndak
di-pèrbuat laim sayur pun tiada sèmpat karna baginda sudah datang
dari-pada mandi hèndak santap. Maka di-buboh-nya ka-dalam
hidangan dengan goboh-nya lalu di-angkat-nya-lah hidangan itu
di-hantarkan ka-hadapan raja. Maka raja Bèsiòng pun santap-
lah nasi itu mènuangkan gulai lecheh dengan isi kuah-nya sakali.
Sa-tèlèh-sudah santap maka raja Bèsiòng pun tèrlalu amat lazat
chita rasa-nya tèrlèbeh dari-pada sèdia kala hingga habis-lah gulai
di-dalam bèlanga itu. Tèlalah sudah maka ia pun basoh tangan
santap sìreh lalu di-ambil pèdang di-chabut mata-nya sèrtà bèr-
tithah, “Muna gèrau mènanak mènggulai?” Maka gèrau itu pun
datang dudok mènyèmbah. Maka bèrtithah raja Bèsiòng, “Hai
gèrau bèrkata bènar-lah èngkau ka-pada aku, apa juga èngkau
buboh rèmpah-rèmpah di-dalam sayur itu tadi? Maka tèrèlalu-lah
aman bèrlainan rasa-nya dari-pada tiap-tiap kali, jikalau tiada
èngkau bèrkata bènar nèschaya jatoh-lah pèdang ini’màti-lah
èngkau.” Maka pèrèmpuan tungkang masak bèrèkìr di-dalam hati-
nya, “Jika tiada aku bèrkata bènar tèntu-lah mati; jika bèrkata

R. A. Soc., No. 72, 1916.
pun mati juga: maka baik-lah aku katakan dengan sa-bènar-nya.”
Maka patek jèrangkan ka-api. Maka tatkal a patek mèlechek itu, maka tértitek-lah darah yang di-hujong jari patek itu sa-titek jua tuanku. Maka patek hèndak pèrbuat lain pun tiada sempat karna duli tuanku sudah datang duduk hèndak santap, hingga itu-lah boleh patek sèmbahkan jikalau tuanku bunoh patek mati.”

Jour. Straits Branch

R. A. Soc., No. 72, 1916.
makan hati darah itu." Maka titah raja Bésiong, "Jika sampai ka-pada beta sa-orang tinggal sakali pun, apa-lah beta händak katakan lagi shukur-lah beta yang pèkèrjaan itu tiada dapat beta händak tinggalkan." Maka sèmbah mèntèri kèèmpat. "Jika dèmi-

kian melainkan jadi-lah lawan patek kèèmpat ka-pada tuanku karna dari-pada zèman dato nenek moyang tuanku pun tiada pèrnah mèmbunoh makan hati darah, orang." Maka titah-nya, "Jika tuan hamba händak langgar dan bunoh beta pun tèntu-lah beta tahan mana yang sa-boleh-nya." Sa-tèelah dèmi-kian titah-


masing pun sègèra-lah turun bérhimpun dèngan sènjata karna sakalian-nya itu sàngat-lah bènchi ka-pada raja Bésiong itu. Hata ada pun akan raja pèrèmpuan istèri raja Bésiong itu sàngat-lah ia mènaroù pèrchintaan di-dalam hati-nya kalau-kalau habìs mèti sakalian isi istana atau rosak binasa dèngan sèbab pèrangau suàmi-

nya itu. Maka di-panggil èmpat orang dayang di-suroh pèrgi ka-

pada mèntèri kèèmpat itu mèngatakan takut rosak isi istana sa-

kalian. Maka kata mèntèri kèèmpat, "Baìk-lah, jika raja pèrèm-

puan sùka masok champur dèngan kira-kira kàmi ini, maka sèlamarat-lah sakalian isi istana itu, hanya yang kàmi händak bunoh raja Bésiong sahaja." Maka sèmbah dayang-dayang itu, "Mua-

faktàt yang sa-màcham màno dato kèèndakì itu tèntu di-ikut oleh raja pèrèmpuan." Maka kata mèntèri kèèmpat, "Hèndàk-lah èngkàu sàmpàikan sèmbah kàmi kèèmpat pada ka-bàwàh dùli ràja pèrèmpuan hèndàk-lah sègàla bèdil mèriam itu isi ubat sahaja jàgan bùbàh pèluru, nèshàya tiàda-lah rosàk kàmi sakàliàn dèn ça-

rayàt. Sa-tèlàh dèmi-kian kata mèntèri kèèmpat di-dèngàr olei-

dayang-dayang itu, maka ià pun bèrmohon puláng mèngàdàp ràja pèrèmpuan sèmbahkàn sakàliàn itu. Maka sùka-làh ràja pèrèm-

puan sùroh pànggìl sègàla pènghulu yang di-dàlam kòta mèni-

tàkàn sakàliàn kèèhèndàk itu. Maka sèmbah pènghulu, "Bagàimànà bìcharà tuànkù màka boèlàh-làh patek hàmbà tèà màfuàkàt pada sakàliàn yang di-dàlam kòta ini sùroh mèngèrkààn bagàimànà títàh dùli tuànkù itu." Hata màka mèntèri kèèmpat pun sa-tèlàh datàng-làh sègàla rayàt-nya dèngàn siàp alàt sènjàta-nya, maka ià pun bahàgì-làh èmpat kètumbàkàn kòta ràja itu ka-pàda masing-

R. A. Soc., No. 72, 1916.
masing suku-nya dengan alat sênjata têrlalu banyak. Sa-têlah sudah siap maka tunggul panji-panji pun bêrkibaran-lah sûrtâ di-suroh palu gêndang pêrang mênaikkkan bêrani hati yang takut. Maka di-langgar-lah sûrtâ dengan têmpêk sorak-nya têrlalu bêr-gêmuroh bêrdahênm bunyi-nya. Maka datang-lah êmpat kêtum-
bokan pada êmpat pênjuru kota itu sakali datang kêsêmua-nya itu. Maka raja Bêsiong pun mêmakai-lah alat sênjata pêpérrang. Tatkala itu di-pakai-nya ikat pinggang dari-pada kain izêrang-kashmiri yang panjang êmpat puloh hasta itu dan têngkolok bulang randi dan kêris têterapang êmas dan bêrsêlêndang sawat sandang kiri kanan, dan mêmakai baju antêlas yang bêrêmas biji bayam têrlalu hebat sikap-nya, dan mêmêgâng tombak yang bêrmata kait bêrkilat-kilat rupa mata-nya itu. Maka sêgêra-lah ia kêluar dari dalam istana bêrlari-lari datang bêrkêlliling kota mênuyroh mê-
masang sêgala bêdîl mêmâm yang saddah bêrisi ubat itu dan mênuyroh orang tikam dêngan lembing buang-buangan itu dari atas pêlarian kota-nya, dan pintu kota itu habis-lah têrkunci. Sa-
têlah dêmikian itu, maka di-kerjakan orang lima ratus itu dêngan têmpêk sorak-nya têrlalu ramai-nya sêpêrti akan têrcharab kota itu dari-pada kêbanyakkan têntêra yang mêllanggar êmpat pênjuru kota itu jikalau guruh hallilintar di-langit sa-kali pun tiada kê-
dêngaran lagi dari-pada sangat adzmat bunyi-nya itu. Ada pun akan mêmêrî kêêmpat kêtumbokan itu sangat-lah rasâ-nya kê-
mashghulâh di-dalam hâtî-nya oleh mêlihat rayat-nya tiada boleh hampir dengan kota karna lichin sêpêrti minyak laku-nya hingga bêrtaburan sêgala kayu yang di-pêrtajam itu turun mênimpa di-
atas kota itu pun gugur-lah sêpêrti buah masak luroh dari-pada têngkai-nya, sêpêrti budak bérmian laku-nya. Maka tiada-lah mêmêrî takut dan ngêrî ka-pada sakalian itu hanyu mêlawan juga di-dalam asap bêdîl mêriam itu; maka tiada-lah bérmênti mêlawan lagi hingga sampai dêlapan hari. Maka lêpas-lah mêmê-
têri keêmpat dan orang-nya ka-atas pêlarian kota. Tatkala itu raja Bêsiong pun bêrlari-lah ka-sana ka-mari suroh orang mêm-
masang bêdîl mêriam mêmênik ka-pada orang itu. Maka di-lîhât-
nya sa-orang pun tiada mati dan luka sa-bêlâh lawan-nya itu. Maka mêmêrî keêmpat itu sa-têlah lêpas ia masok ka-dalam kota itu lalu mêmêhari raja Bêsiong. Démi di-dênggar oleh raja Bêsiong maka lari-lah ia mêmêchari têmpêh hêndak sêmbunyikan diri-nya lalu di-buka suatu pintu maling kêchhil dari sa-bêlâh matakahi naik lari mênuju ka-dalam hutan. Maka datang-lah orang bêr-

Jour. Straits Branch.


Sa-bêrmula maka têrêbut-lah pêrêkataan surat mênêri kêempat dan raja pêrêmpuan yang tôlah di-bawa oleh utusan ka-bênuia Siam itu. Maka tiada bêrâpa antara-nya itu sampai-lah ia lalu masok mêngadap raja bênuia Siam. Maka raja Siam pun kêtiika itu tengah ramai di-hadap oleh sêgala mênêri hulubalang

R. A. Soc., No. 72, 1916.

Jour. Straits Branch

R. A. Soc., No. 72, 1916.


Jour. Straits Branch
Sèbab itu-lah pènghulu patek mèntèri Kèlalam di-suroh oleh raja bènua Siam sèrta déngan surat-nya bawa pèrgi ka-Kèdah mènnama-
kèn raja Kèdah itu. "Dèmi di-dèngar oleh raja Kèlana Hitam
maka naik-lah marah-nya muka-nya merah sèperti bunga raya sèrta
di-titah-nya, "Main yang mana kamu tewas dan pèpèrangan yang
mana kamu sudah alah tiada patut-kah aku mènjadi raja di-nègèri
Kèdah? Jika tiada boleh aku mènjadi raja déngan baik maka ku
ambil juga déngan sènjava-ku. Maka hèndak-lah kamu katakan
ka-pada pènghulu èngkau itu jikalau ia hèndak mènggalang-galang
atau mènyèkati kami sakalèn ini hèndak pèrgi ka-nègèri Kèdah
itu, kèluar-lah ia ka-medan pèpèrangan mèlihatkan pèrtikama
kami baik esok atau sèkarang ini, itu pun mana-mana kèsukaan
kamu." Maka orang itu pun bèrmohon kèmbali. Tèlah datang
ka-pada pènghulu-nya mèntèri Kèlalam sakalèn-nya di-sèmbah-
kèn sègala pèrkañan raja Kèlana Hitam itu. Dèmi di-dèngar
oleh mèntèri Kèlalam pèsan raja Kèlana Hitam itu, maka sangan-
lah marah-nya sèrta hèndak bèrpèrangan dan mèngajak ia ka-medan
pèpèrangan sèrta mènnyuoèh siap sa-buat kota yang kukeh.
Sa-tèlah sudah sa-buat kota itu déngan alat sènjava-nya dan orang-
nya pun bèrtunggu ka-pada èmpat pènjuru kota itu, maka pada
malam waktu kètkiça saat yang baik pada pètang itu di-ambil oleh
mèntèri Kèlalam sa-orang anak raja yang bèrnama Phra Surin
di-jadikàn kèpala pèrang di-suroh-nya arak pada kèlling kota
sèrta mèmalu bunyì-bunjìan déngan tèmpèk sorah-nya yang amat
gèmpita bunyì sèrta mèmalu gèndang pèrang. Tèlah sampai tiga
kali lalu di-bawa orang-lah masok dudok. Maka pada malam itu
di-pukul orang-lah gèndang pèrang itu sa-malam-malaman maka
kèdéngaran ka-kota raja Kèlana Hitam bunyì tanda mèngajak
pèrang itu. Maka ia pun mènnyuoèh maharajar Dahar al alam
mèmalukan géndang pèrang ka-pada malam itu tèrlalu-lah sayu
bunyì-nya. Sa-tèlah datang-lah pada waktu tuan putèrì Shahrin
Maghib masok bèrada ka-dalam mahaligai-nya maka sèmamay
raja Shah Alam di-sèrì takhìa singgasana di-tèpi langit-nya. Hata
maka kèdua pihak kèluar-lah dari dalam kota bèrdìri bèrsaf-saf
di-tèngah mèdàn. Maka mèntèri Kèlalam pun mènnyuoèh tampil
raja Angsurin mèngikat pèpèrangan. Maka ia pun mèngaturkan
sègala raja-raja dan hulu-balang para pènggawa pahlawan yang
bèrnama Chakar Dèngki Kala, raja Phra Angsurin sèndiri jadi
saf sa-bèlah kanan dan raja Phra Angkurin jadi saf kiri raja
Phra Angkunirat jadi tuboh déngan sègala raja-raja pèrdana mèn-
tèri Kèlalam sakalèn-nya, dan raja Phra Alu Añglna mènjadi
ekur-nya. Tèlah ikat-lah pèpèrangan masing-masing bèrkèmas
diri-nya. Sa-tèlah di-lihat oleh raja Kèlana Hitam maka ia pun
mèngikatkan pèpèrangan sèperti ikatan lawan-nya juga, maharajar
Dahar al Alam mènjadi saf kanan dan maharajar Dahar al Salam
jadi saf kiri dan maharaja Dar al Gunong déngan sègala hulu-
balang dan raja Kèlana Hitam. Maka maharaja Jèkajaku mèn-
jadi ekur-nya. Sa-tèlah sudah mèngikat pèrang maka lalu bèr-
sama tampil bèrpèrangan laksana kala tèraòèt bèrmok-amokan dan

R. A. Soc., No. 72, 1916.

Ada pun rayat bala têntêra raja Kêlana Hitam banyak tuboh-nya tiada di-pakan oleh bêsi karna tuboh-nya itu bêrlêbu dan rambut-nya kuning dan bati pêrut-nya banyak kêtêgar. Sa-têlal di-lijit oleh penggawa maharaja Dahar al Alam dan maharaja Dar al Salâm itu pun sêgêra-lah mêmîkat pêrang sama-lah têgoh-nya tiada bêrurak kêdua kaun itu sêrtâ pula sama sabar hâtî-nya

Jour. Straits Branch


përang-lah dëngan Pëkërna Bukit bërkisar-kisar. Maka datang-

lah marah pënglima Jëngkäni Kala lalu mëmbunangkan gada-nya mëlopmat mënjëngkap pënglima Pëkërna Bukit. Maka ia pun ségëra mënjëngkap akan Jëngkäni Kala gërgasi dëngan bërkëra-

kërasan këdua-nya. Sa-këti këpatah-lah di-tëngkap oleh pëng-

lima gërgasi, maka di-sëralhan ka-pada orang-nya. Maka bërtargar-

lah bunyi sorak ségala têntéra gërgasi bërgëmurow. Maka pëng-

lima gërgasi pun mënëmpoh pula masok mëlawan têntéra mëna-

raja Dahar al Alam da mahara'ja Dar al Salam. Maka këdua-


B. A. Soc., No. 72, 1916.
tumpu sakalian ini menjadi kawan dan mèramaikan tèngku.
Maka kata mèntèri Kèlaham ka-pada raja Lègur, "Jangan-lah
saudara-ku sakalian mènaroh susah hamba hèndak pèrgi ini sa-
kadar bantu hamba mèramaikan pèpèrangan raja Kèlana Hitam itu
pun ada-lah, hèndak-lah saudara-ku pulang ka-tèmpat masing-
masing, jika datang haru hara hamba béri khabar ka-pada saudara
hamba sèrtà himpunkan sègala rayat mana yang ada hidup.

Sa-tèlah itu maka mèntèri Kèlaham pun bèrjamu makan
minum bèrsuka-sukaan tiga èmpat hari lama-nya di-kota itu.
Maka raja gèrgasi kèempat itu pun bèrmohon-lah kèmbali mèm-
bawa raja Kèlana Hitam Pèrut itu ka-bènua Siam, dan sègala
raja-raja Lègur sakalian-nya pun bèrmohon-lah kèmbali ka-nègèri-
nya sèrtà mèngantarkan makanan pada mèntèri Kèlaham.
Maka mèntèri Kèlaham pun bèrjalan-lah dèngan sègala tèntara-nya sèrtà
dèngan bèbèrapa pula sègala raja-raja yang lain. Hata maka
tèrus-lah mèntèri Kèlaham bèrjalan ka-nègèri Kèdah mèngikut
susur tèpì laut. Maka tatkala itu gunong Tanjong itu suhah jauh
ka-daratan dan ka-habisan pulau itu Pulau Kèrìng itu pun sudah
menjadi daratan. Maka ia sakalian pun bèrjalan-lah susur tèpì
laut itu di-lihat-nya banyak sègala pèruh bèlayar pèrgi mari.
Maka sampai ka-pada suatu tanah yang tinggi sadikil maka pada
tèmpat itu ada-lah anak sungai. Maka banyak ikan dan binatang
pèburuan ada-lah di-situ, maka mèntèri Kèlaham pun bèrhènti-
lah sègala orang-nya pèbuat sa-bèji kota parit-nya akan tèmpat
ia hèndak bèrmain sèrtà sègala orang-nya mèmbawa surat
ka-pada mèntèri kèempat jikalau ada sudah raja di-dalam kota
nègèri itu pun bawà-lah sèrtà raja itu bèrmain-main ambil ikan
dan bèrburu sègala binatang di-dalam hutan karna banyak sudah
sakalian-nya siap dèngan kota parit ia sakalian pèbuat tanah
di-sungai Sala nama-nya. Maka orang yang di-suroh itu pun bèr-
mohon lalu bèrjalan mènuju ka-kota raja Bèsìong. Tiada bèrapa
lama-nya ia bèrjalan itu, maka sampai-lah ka-kota raja Bèsìong.
Tatkala itu maka mèntèri kèempat dengan raja-nya pun dudok
mèngorek Sungai Kuala Muda nama-nya karna sakalian-nya pun
hèndak mèndèkatkan dèngan kota aur raja Bèsìong itu dèngan
laut sèrtà hèndak mèmbètulkàn talì ayer sungai bèsar itu, karna
sungai lama-nya itu sangat bèrbèlit, lagi pun hèndak di-kambuskàn
menjadi sungai tua-lah. Maka orang itu pun datang-lah mèmbèri
surat pènghulu Kèlaham itu, maka di-suroh raja oleh mèntèri
kèempat. Sa-tèlah sudah maka masing-masing pun kèmbali-lah
ka-kota sakalian-nya bèrsiajakan sègala kèlèngkapan raja hèndak
bèrangkat ka-hutang rimba bèlantara itu sèrtà mèmbawa alat pèr-
buruan dan alat mèngambil ikan. Sa-tèlah sudah maka bèrangkat-
lah sakalian mèngiringkan raja-nya itu tèrlalu-lah ramaì-nya
bèrjalan itu sambil mèmunung sègala bunga-bungaan dan buah-
buahan barang di-mana hari malam bèrhènti-lah sakalian bèrbuat
pondok tëratak, jika hari siang mènchari wilahar dan kubang
mènangkap ikan tèrlalu-lah ramaì-nya, maka antara tiga èmpat
hari bèrènti di-situ, maka bèrjalan-lah pula hingga sampai ka-
R. A. Soc, No. 72, 1916

Jour. Straits Branch


R. A. Soc., No. 72, 1916.
buruan dan ikan. Maka dudok-lah raja Phra Ong Mahapodisat
dengan mënteri këémpat di-kota Kuala Muda itu mëmmërentahkan
sangat-lah murah-nya. Maka raja përmépuan sangat-lah kaseh-
nya akan raja Phra Ong Mahapodisat têtapi pun sunggoh démikian
ada sa-dikit tiada suka dengan sébab anakanda baginda itu tiada
di-péroleh anak itu. Maka raja përmépuan dëngan bëbërapa kaul
dan bërnádzar dëngan bërtapaan mëmminta doa akan datok nenek
orang tua dan raja yang dahulu-dahulu biar boleh anak raja Phra
Ong Mahapodisat itu. Hata antara bërapa tahun dan bulan-nya
maka istëri raja Phra Ong Mahapodisat pun hamil-lah lalu di-
adakan oleh raja përmépuan dan raja Phra Ong Mahapodisat
dengan sëpërti-nya. Sa-tëlah gënap-lah bulan-nya, maka istëri
raja Phra Ong Mahapodisat pun bëranakh-lah sa-orang laki-laki
yang tërlalü elok rupa paras-nya mënnurut rupa nenda baginda
raja yang tua Marong Mahapodisat tërlalü-lah baik rupa-nya.
Maka tërlalü-lah suka raja përmépuan mëlihat chunda baginda
itu, lalu di-pungut oleh raja Phra Ong Mahapodisat anak mënteri
hulubalang jadi inang pengasoh-nya. Maka raja Ong Maha-
podisat pun mënamakan anakanda baginda itu dengan nama raja
Phra Ong Mahawangsa. Dëmi raja përmépuan dan sakalian-nya
mëndëngar nama chunda baginda itu sëpërti gëlaran nama raja
yang bësar itu, maka masing-masing pun tërlalü-lah suka. Maka
di-pëlihari-lah oleh raja përmépuan chunda baginda itu dengan
sëpërti-nya. Dëngan hal yang démikian makin sa-hari makin
bësar-lah bërtambah dengan rupa paras-nya. Maka sakalian yang
mëmandang pun gëmar kaseh akan dia. Ada pun ayah-nya raja
Phra Ong Mahapodisat akan buloh bëtong itu di-taroh-nya susur
dëngan têmpat përaduan-nya tiada-lah bërjauh dengan dia karna
sangat kaseh akan-nya sërta pula buloh itu pun makin sahari makin
bësar. Sa-tëlah démikian maka gënap-lah bilangan dan waktu
yang sëjahtëra maka buloh bëtong itu pun pëchhah-lah lalu këluar
sa-orang kanak-kanak laki-laki tërlalü sakali baik rupa paras-nya.
Maka sakalian pun tërkjëut-lah dëngan hairan mëlihat budak itu.
Maka raja Phra Ong Mahapodisat pun sëgëra mëngambil mën-
jadikan anak-nya sërta dëngan inang pengasoh-nya; maka di-nam-
kan budak itu raja Buloh Bëtong; maka di-pëliharakan-nya lah
dëngan sëpërti-nya mëngikut istiadat anak raja yang bësar-bësar
juga dari-pada sa-hari ka-pada sa-bulan bërtambah-tambah-lah
rupa-nya dëngan elok sëgala budi pëkërti-nya itu. Maka raja
Phra Ong Mahapodisat këdua laki istëri pun tërlalü-lah mënaroh
sayang-nya ka-pada raja Buloh Bëtong itu sëpërti anakanda ba-
ginda raja Phra Ong Mahawangsa itu-lah di-përbëla-nya tiada bër-
lainan lagi. Maka baginda muafakat dengan mënteri këémpat
tiada suka hëndak dudok di-kota raja Bësiong karna ia bëroleh
putëra itu. Maka mënteri këémpat pun mëngajak raja itu përgi
bërjalan mënhari ikan ka-tëpi laut sambil bèrmain-main mëm-
buru sëgala binatang. Sa-tëlah démikian maka bërjalan-lah saka-
lian-nya dari-pada tëpi laut Kuala Muda itu maka sampai-lah ka-
Tanjong Putëri. Maka di-lihat-nya tanah bumi itu tiada jua

Jour. Straits Branch.

raja Besiong itu ka-pada anakanda baginda kédua-nya itu. Maka
ménjadi pérugi datang-lah raja Buloh Bétong ménagadap ayah-nya
dan bérmain dengen saudara-nya raja Phra Ong Mahawangsa.
Maka kota kédua buah itu pun makin ramai tiada bérputus ségala
dagang sëntéri pérugi datang. Maka di-dalam itu pun raja Phra
Ong Mahapodisat pun ményuroh lagi orang pérugi ménchari tanah
bumi sa-bélah matahari hidup antara barat laut yang dapat di-
pérbuat kota istana buat négara akan anakanda baginda raja Phra
Ong Mahawangsa dan raja Buloh Bétong yang lain dari-pada
tanah bumi Kuala Muda itu, karna badan-nya sudah tua lagi pun
méntéri yang tua itu pun sudah dzaif badan-nya. Maka di-dalam
duduk bérkira-kira itu maka raja perémptuan sakit-lyah yang amat
sangat sampai ka-pada hilang-nya. Sa-télah itu maka di-pérrentah-
kan oleh raja Phra Ong Mahapodisat dengen méntéri kêempat
ménigiket sëpérti istiadiat raja yang bésar di-simpanken di-hulu
sungai pulau Tiga itu sërtä di-suroh oleh raja pérbuat langgar
dan kacha puri akan raja pérémpuan itu. Maka raja Ong Mahapodi-
sat pun duduk-lah dengen anakanda baginda kédua sërtä
dengen méntéri kêempat di-dalam kémashghulan. Tiada bërara
lama-nya maka méntéri kêempat sa-orang ka-pada sa-orang datang-
lah sakit sampai ka-pada hilang-lah kêempat-nya. Tatkala démí-
kian maka bértambah-tambah kémashghulan-lah baginda itu.
Sa-télah itu maka di-ambil pulu oleh baginda akan-anak anak méntéri
 kêempat itu di-jadikan ganti ayah-nya. Maka anak méntéri kê-
empat pun mémérentahkan ménigiket ayah-nya masing-masing tiada
bérsilapan lagi. Maka raja Phra Ong Mahapodisat pun hilang-lah
sëdiket pérchintaan-nya. Maka baginda pun mérajakan anakanda
baginda raja Phra Ong Mahawangsa itu ménjadi raja di-dalam
négéri Kédah sërtä ményuroh anakanda baginda raja Buloh Bétong
bérjalan mélíhat bumi tanah yang baik hén dak di-pérébuat kota
istana sërtä di-béri-nya dengen ségala méntéri hulabalang rayat
bala ténëra méngringken anakanda baginda itu. Maka raja
Buloh Bétong pun bérjalan-lah bérسام--sama dengen orang yang
di-suroh oleh baginda itu. Maka pénninggal raja Buloh Bétong
bérjalan itu, maka raja Phra Ong Mahapodisat pun datang-lah
géring-nya langsong hilang-lah baginda itu. Maka di-pérrentahkan
oleh anakanda baginda raja Phra Ong Mahawangsa dengen ségala
méntéri hulabalang dengen adil murah-nya méméliharakan ségala
rayat bala ténëra-nya. Ada pun raja Phra Ong Mahawangsa itu
sangat-lah gëmar ia mémínum arak aápi dan arak nasi akan mén-
jadi tuboh-nya sihat dari-pada pénjaket. Maka di-taroh-nya bér-
tempayan banyak-nya tiada-lah kurang, bahawa sa-sunggo-nya ia
mémínum arak itu hingga bangun sahaja dari-pada tidur-nya sa-
bélum ia mémbsah muka pada kétika itu di-minta-nya suatu piala
Sa-télah sudah ia minum itu baharu-lah mémbsah muka-nya dan
makan sireh, démíkian-lah pada tiap-tiap hari sa-lama-lama-nya;
tétapi ka-pada waktu ia makan minum tiada sakali-kali di-pérbuat-
nya, mélainkan pada kétika ia sakalian bérusaha-sukaan makan

Jour. Straits Branch
minum dengannya menteri hulubalang-nya, baharu-lah ia mënumin arak api dan arak nasi, tetapi raja Phra Ong Mahawangsa itu tiada mau mendatangkan khial dan muok kalau-kalau menjadi gila atau péning ka-pada-nya hingga sa-hari sa-kali jua ia mënumin itu ada-nya.


R. A. Soc., No. 72, 1916.
Maka kata guru-nya, "Apa juga tuan hamba kërjakan dudok itu?"
Maka kata shaikh Abdullah, "Tiada apa-apa hanya diam juga dëngan mëmbacha avat koran sahaja."
Maka kata guru-nya, "Harus-lah tiada këlihatan di-mata, karna ia takut dan bënci tiada boleh mëndëngar avat koran itu."
Maka kata tuan shaikh Abdullah, "Tiada-lah hamba këthahi ia takut atau bënci akan avat koran itu hamba bëcha përlahan-perlahan sahaja."
Maka kata guru-nya, "Jikalau përlahan sakali pun di-këthahi-nya juga nês-chava undur-lah ia dari-pada kita."
Maka kata shaikh Abdullah, "Biarr-lah, jika dëmkian esok-lah hamba përgi pula bërdiam akan diri hamba dëngan tiada bërkata-kata suatu pun."
Maka jawab-nya, "Bukan-kan tuan hamba bërhajat hëndak bërtëmu dëngan hamba?"
Maka kata shaikh Abdullah, "Tuan hamba-kah pënghulu shaitan iblis itu?"
Maka kata-nya, "Hamba-lah pënghulu sëgala shaitan iblis. Aya jua këhëndad tuan hamba ka-pada hamba ini?"
Maka kata shaikh Abdullah, "Hajat hamba hëndak bërguru ka-pada tuan hamba.
Sabagai mana dapat tuan hamba hëndak bërguru ka-pada hamba karna mana-mana yang tiada tuan hamba gëmar, itu-lah yang hamba kërjakan sa-hari-hari ini nês-chaya këtëguran-lah tuan hamba sakalian pëkërjaan hamba itu, tiada-lah boleh tuan hamba bërguru karna bërlainain përangi hamba dëngan anak chuchu hamba sakalian-sangat-lah

R. A. Soc., No. 72, 1916.
banyak di-dalam alam dunia ini." Maka kata shaikh Abdullah, "Ajarkan-lah juga ka-pada hamba. Maka sakalian pérbutan tuan hamba itu hamba turut-lah ikut kēhēndak tuan hamba jikalau tiada, mana-tah dapat sa-suatu pēlajarun itu?" Maka kata pēng-
hulu iblis, "Jika mau tuan hamba dēmikian itu, ambil-lah tongkat hamba ini, pēgang di-tangan, mari-lah kita bērjalan." Sa-tēlah itu maka shaikh Abdullah pun sēgēra mēngambil tongkat itu, lalu mēnurut di-bēlakang iblis bērjalan tiada kēlihātan ka-pada mata-


datai-suroh dan di-hunjamakan ka-pada anak pērēmpuan dan ibu sēgala yang mati mēnuntuti bela anak laki-laki dan saudara kēdua pihak. Maka jadi bērkēlahi pula sēgala pērēmpuan yang tēramat rumai-nya sampai bērbunoh-bunoh pula tiada mēmbēri takut dan ngēri lagi sēgala pērēmpuan itu mēmēgang sēnjata dan mēnikam sēnjata-nya dari-pada bēsar fitēnāh shaitan iblis itu hingga habis-lah sakalian-nya rēbāh bērkēhantaran. Maka tēr-
tinggal-lah kampong dusun itu tiada bērōrāng lagi. Maka bēr-

jalan pula pēnghulu shaitan iblis ka-pada orang tēmpat yang lain, tīnggal-lah anak chuchu-nya di-tēmpat itu. Maka sampai-lah ia ka-tēmpat orang bērjuel bēlī dari-pada sērba dāgangan dan mākan-
an, dan apabila sampai ka-pada tēmpat yang chayer di-situ-lah yang amat banyak berak kēnching-nya sērta di-suroh anak chuchu-
nya mēreka itu. Maka bērjalan pula pēnghulu iblis itu sampai-

lah ka-pada sa-orang pērēmpuan yang baik rupa paras-nya, maka kata-nya, "Sēkarang aku hēndak mēmbācha kitab-ku." Maka di-
hampir dēkat pērēmpuan itu, lalu di-isharātakan oleh pēnghulu iblis dēnāng di-selakkan kain di-dada-nya, lalu di-tolakkan sa-
gaji sadikīt dī-sīnī." Maka di-hampiri ka-pada orang tēngah bēr-

main judi, mana yang alah di-suroh-nya jual gāda sēgāla kain baju-nya sērta sēgala harta bēnda-nya suroh lawan juga bērjudi

Jour. Straits Branch


Jour. Straits Branch

Jour. Straits Branch


Jour. Straits Branch

pada kētika itu sampai-lah pēnghulu shaitan iblis itu dēngan anak chuchu-nya pēnōh-lah isi nēgēri itu kata-nya, "Baharu-lah kita bērtēmu dēngan misjid kita ini, boleh-lah kita sakalian bērbaru
amal ibadat di-siini." Sa-tēlah itu maka pērgi-lah pēnghulu shaitan
masok ka-dalam mulut bērbara itu lalu bēršēru dēngan sa-habs-
habis kua-nya sēpērti bunyi guroh yang bēsār sampai kēdēngaran-
lah ka-pada sakalian orang di-dalam nēgēri itu, kata-nya, "Hēndak-
lah ēngkau, hai raja Kamishdzur, siapakan sēgala kēlēngkāpan
pēpērangan kēluar-lah sēgēra karna sudah ada datang raja tiga
buah nēgēri itu hēndak mēlanggar; maka dēngan pēnōlōng aku
mēnang-lah ēngkau." Maka ia pun diam-lah tiada bērkata-kata
lagi. Dēmi di-dēngar oleh raja Kamishdzur dēngan sēgala mēntērī
hulubalang, maka masing-masing pun bēlari datang mēnēymbāh
dan mērāngkēk mēnyungkēr ka-tanah pīnta di-mēnēngkāng
sēpērti mētēri nutuk-lah sētēru musoh yang datang itu. Maka datang-lah sēgala
makanan bērtimbul-timbun sēpērti bukti di-hadēpan bērbara itu
karna sa-umur-nya bērbara itu tiada pērnēh bērkata-kata. Maka
datang-lah mēntēri yang bērnēma Chang Mēshēteri ka-pada raja
Kamishdzur, kata-nya, "Baik juga, tuanku, kita surohn solo pērgi
lihat musoh yang datang itu sēpērti titah raja tuahun kita yang
amat bēsār." Maka titah raja Kamishdzur, "Bēnār-lah sēpērti
kata tuan itu tētāpi kita di-dalam pērmainan kērja tuhan kita
mēntēri sēpērti shaitan sēpērti tiada lah sēmāpt hēndak mēnyiapkan sakalian itu." Maka mēntēri
itu pun mēnyuoh orang pērgi melihat angkatan yang datang itu.
Tēlah orang itu bērjalan maka raja Kamishdzur pun pērbuat-lah
sa-buah rumah yang bēsār lagi tinggi-nya lalu di-angkatkan bēr-
bara itu ka-atas rumah yang di-pērbuat-nya itu dan bērbara kēchil-
kēchil dato rakan bērkēlīng-nya. Maka sēgala orang isi nēgēri
itu pun bērhimpun-lah mēnēymbāh bērbara itu sērta dēngan raja-
nya pun tiada-lah pulang ka-istana lagi dēngan pērmainan juga
siang dan malam tiada-lah bērēntēi sa-hinggā lupa-lah raja ka-
mishdzur akan sērū laung bērbara itu.

Ada pun orang yang di-suroh pērgi lihat angkatan musoh
yang datang itu maka habis-lah di-tangkap oleh angkatan musoh
yang datang. Maka datang-lah langgar-nya dēngan tiada di-
kētahui oleh raja Kamishdzur. Maka sakalian pun gēmpār-lah
mēngatakan musoh mēlanggar itu dan sa-tēngah mēngatakan orang
datang hēndak mērāmaikan pērmainan itu karna nēgēri itu bēsār
juga daerah-nya. Maka orang yang datang itu dari sa-bēlah
matahari mati kota-nya. Maka pada hari itu juga datang lang-
gar raja Pēkērma Dewa dēngan angkatan yang amat bēsār juga
sa-bēlah selatan kota-nya itu pun dēmikian juga kata-nya sa-tēngah
kata orang datang mērāmaikan pērmainan raja-nya. Maka datang
pula suatu angkatan lagi raja Usul Alan nama-nya itu pun bēsār
jua angkatan-nya di-pērbuat kota sa-bēlah matahari hidup. Sa-
tēlah siap-lah ka-ēmpat itu maka bērbunyi-lah bēōlīāīeriam yang
tērlalu amat dahshat lagi yang mēndēngar-nya lalu mēnrēk
masok ka-dalam rayat yang tērlalu ramai dēngan bunyi-bunyian
itu masok mēngamok dari sa-bēlah utara. Maka tattkāla itu masok-

Jour. Straits Branch
lah pénghulu shaitan ka-dalam mulut běrhala itu lalu ia bērlaung.

Bērnuła maka raja kētiga kētumbukan itu bērpērang-lah tér-lalu ramai bērēmak-amokan sama sēndiri-nya karna orang nēgēri itu habis-lah mati dan tērtangkap sērta pula habis sēgala rumah tangga-nya itu térbakan dan rumah běrhala itu pun habis-lah térbakan dēngan běrhala sakalian hangus bērhuburan habok-nya

R. A. Soc., No. 72, 1916.
di-tiup oleh angin. Maka ada-lah kétiga kétumbokan mélanggar itu tiada-lah di-kétahui-nya atau muafakat masing-masing mél-
minang itu ménjadi datang langgar itu sama-sama datang kétiga-
nya karna raja Kamishdzur itu téngha-ramai déngan ségala pér-
mainan itu, sèbab itu-lah di-katakan orang datang méranaíkan
pérmainan ia itu ménjadi kétiga raja tiga kétumbokan itu mél-
langgar hén dak mén da'angkau hari siang ménjadi haru-biur-lah
déngan ségala bèdil mèriam di-atas pélarian kota itu. Maka hari
pun siang-lah dan orang pérang itu pun kélihatan-lah surut-lah
undur ka-bélakang masing-masing suku-nya ka-témpat pérhèntian-
nya. Maka baharu-lah raja Kishar Alan ményuroh orang tanya
khabar akan raja kédua kétumbokan itu raja mana. Maka masing-
masing pun ménğatakan raja-nya dan kēhén dak-nya datang langgar
itu. Maka raya rat masing-masing pun tinggal sa-bahagi lagi karna
banyak yang télah mati. Maka bértimbun-timbun-lah bagai
gunong dan darah-nya bagai laut oleh kēbanyakan mati. Maka
tiada-lah térbilang banyak-nya rumah yang térbakar sa-hingga
ménjadi padang lapang-nya. Sa-télah hari siang maka raja Ka-
mishdzur pun bérhènti-lah dari-pada ményuroh orang mémasang
bèdil mèriam itu, lalu duduk muafakat déngan mèntéri dan sau-
dara-nya dari hal pèkèrrjaan pérang itu. Maka datang-lah pèng-
hulu shaitan dudok hampir télinga raja Kamishdzur mèmbèr
rahsia yang raib ményuroh orang mèngorek bumi yang bérténtang
déngan kota raja Kishar Alan hén dak di-bakar déngan ubat bèdil
sa-bélah matala'eri mati itu. Maka di-kèrjakan orang karna hampir
déngan kota raja Kamishdzur. Télah tétap-lah pèngajaran-nya
pada raja itu maka pènghulu shaitan pèrgi pula ka-témpat pér-
hèntian raja Usul Alan dari sa-bélah utara karna raja itu pun
bézar jua angkat-nya; sèrta sampai dudok hampir télinga raja
Usul Alan. Maka pada kètika itu raja téngha muafakat déngan
mèntèri-nya hén dak mèrosakkan kota raja Kamishdzur. Maka
di-rahsiakan oleh pènghulu shaitan suroh mèngorek bumi tanah
yang bérténtangan déngan kota raja Kamishdzur suroh mèmbèr
sègala istana dan rumah kèchil-kèchil di-dalam kota itu déngan
ubat bèdil. Maka sègèra di-kèrjakan orang-lah tiada man bé-
lanjutan pèkèrrjaan pérang itu dan kēhèndak hati Usul Alan itu
jangan boleh ka-pada siapa pun tuan putèri anak raja Kamishdzur
itu. Télah dèmikian hari pun tèngha naik datang-lah langgar
mèntèri bézar kédua déngan mèntèri kèdelapan kétumbokan kota
pérhèntian raja kétiga itu déngan alat sènjava dan kēndèrana-
nya dari-pada gajah kuda. Maka pada satu-satu kétumbokan itu
ada-lah bèrlaksa-laksa orang banyak-nya. Maka mèntèri sa-puloh
itu pun datang-lah langgar mèngamok ka-dalam tèntèra raja
kétiga itu. Maka sègala raja itu pun masok bérpèrang tiada
sèmpat lagi bérsiapkan alat pèpèrangan tèrlalu-lah gègak gèmpita
tiada sangka bunyi lagi déngan tèmpek sorak-nya. Maka hèr-
datang sèmbah mèntèri Chang Mèshèrèi ka-pada raja Kamishdzur:
hèndak mèngèluarkan musoh itu. Maka di-bènlar oleh raja Ka-
mishdzur itu. Maka kéluar-lah ia déngan mèntèri hulu-balang dan

Jour. Straits Branch

R. A. Soc., No. 72, 1916.


Jour. Straits Branch

R. A. Soc., No. 72, 1916.
pada raja. Maka raja pun mèminum-lah arak satu piala itu. Sa-telah sudah maka Shaikh Abdulllah pun kata-lah ka-pada pèng-
hulu shaitan, kata-nya, "Astaghfur Allah al-adzim, bêta pa juga
tuan hamba bêri minum aver kêching ka-pada raja itu?" Maka
cata pènghulu shaitan, "Bukan-kah hamba kata dan pesan jangan
tuan hamba têgur sa-barang pèrbaikan hamba di-atas sêgala manu-
sia?" Maka kata Shaikh Abdulllah, "Pada têmpat yang lain
tiada hamba têgur, ini ia sa-orang raja bésar mêmêngang suatu
nêgêri. Maka sampai hemat tuan hamba bêri ia minum aver
kêching." Maka raja Phra Ong Mahawangsa pun hair an buny
orang bêrbabil di-têpi kelambu-nya tiada kêlihatan suara sahaja
yang di-dêngar, jadi tiada mêmbasoh muka-nya dudok mêlingong
mêmêngar akan hal pèrbabilan kêdùa-nya. Maka pènghulu shaitan
pun datang-lah marah-nya akan Shaikh Abdulllah kata-nya, "Jika
sudah pandai tuan hamba bêrêchêrai-lah kita," sambil di-rabut-nya
tongkat yang di-tangan Shaikh Abdulllah itu dan di-tumbok-nya
sakali lalu turun dari istana raja itu lalu hilang raib. Maka
shaikh Abdulllah pun kêlihatan-lah pada mata orang têrdiri di-
hadapan raja. Maka raja pun têrkût jut langsong bangun bêrdiri
mêmêngang tangan shaikh Abdulllah kata-nya, "Dengan siapa kamu
bêrkata-kata sa-kêjap ini? Dan dari mana juga tuan datang ka-
pèraduan hamba ini dengan êngkap sêgala pakaiain alamat orang
ejah? Dan siapa mêmawé tuan ka-mari ini? Karnu budak-
budak perêmpuan lagi tidur." Maka kata Shaikh Abdulllah, "Ya
raja, bahawasa-nya orang yang hamba lawan bêrbabil tadi pèng-
hulu iblis, bukan-kah raja mêmêminar arak tadi? Ya-itu bukan-
nya arak, itu kêching-nya di-dalam piala itu." Dêmi di-dêngar
oleh raja akan kata Shaikh Abdulllah itu lalu di-bawa oleh raja
dudok bêrênggir di-susur kelambu-nya sêrta kata-nya, "Jika dêmi-
kian hamba bêrêminar aver kêching iblis rupa-nya." Maka kata
Shaikh Abdulllah, "Ya-lah tuanku. Ada pun hamba ini anak
nêgêri Abani datang dari nêgêri guru hamba nêgêri Baghdad di-
bawa oleh iblis karna hamba hêndak bêrguru dan mêlihat sêgala
pèrbaikan shaitan; dan di-bêri ka-pada hamba suatu têngkat mën-
jadi hilang-lah dari-pada mata orang banyeak dengan bêbêrapa
pèrbaikan di-atas sêgala manusia pèrbaikan-nya sa-mata-mata kê-
jahatan jua hingga sampai ka-istana tuanku ini." Maka kata
raja raja Phra Ong Mahawangsa, "Bahwa jauh juga nêgêri Baghdad
dengan nêgêri Kêdah ini tiga êmpat bulan pêlayaran, khabar
orang yang sêlalu pêrgi datang itu." Maka kata shaikh Abdulllah,
"Sêkârang ugama yang mana di-pêgang oleh tuanku sakalian di-
nêgêri Kêdah in?" Maka kata raja, "Ada pun ugama yang
hamba sakalian turut dari-pada orang tua-tua dahu lalu kala ia itu
mênyêmbah bêrhala sakalian-nya." Maka kata Shaikh Abdulllah,
"Ada pun jangan-lah tuanku sakalian tiada di-kêthahu ini-lah
zêman ugama nabi Muhammad rasul Allah yang akhir al zêman
hêndak-lah kita sakalian umat yang kêmudian ini mêmawé shareat
ugama islam mêmurut kitab koran yang di-turunkan Allah sub-
hanahu wataala ka-pada pêsuroh-nya nabi Muhammad rasul Allah

R. A. Soc., No. 72, 1916.

Jour. Straits Branch


R. A. Soc., No. 72, 1916.

Jour. Straits Branch


yang patah dan sumbing dan rosak jadi suda dan ranjau ménikam-
kan kaki tangan orang yang bérkélahi. Maka télralu késukaran
ka-pada orang yang ada itu hédak mélangkahkan kaki-nya. Maka
raja Búlok Béntong pun gémbira-nya sèpérti singa yang galak.
Maka dato Sangkai pun sambil ia bértikam itu dèngan mèngèrling
mélompak undur ka-bélakang mèlihat orang-nya habis. Maka
wikam raja Búlok Béntong pun kénæ ka-rosok dato Sangkai tèr-
sungkur rêbah, maka sègèra ia hédak mèmbalas. Maka di-tambah
oleh raja Búlok Béntong sakali lagi kénæ pada paha tèrùs ka-sa-
bélah. Maka dato Sangkai pun datang gémbira-nya ménikamkan
tombak kénæ pada lèngan raja Búlok Béntong luka sadikit mata
tombak pun patah. Maka di-champakkan oleh dato Sangkai lalu
mèngunuus kérís panjang ménikam pula tèrsisip ka-sa-bélah itu
pun lagi kuat raja Búlok Béntong marah-nya sègèra ménikamkan
tombak bérturut-turut kénæ rèngkong dato Sangkai sampai ka-hulu
hati rêbah langsóng mati. Takàkala itu mèntéri Lèla Putèra pun
sampaí dèngan kuda-nya mèndapatakkan raja Búlok Béntong. Maka
raja itu mabok darah tèngah hédak rêbah. Maka sègèra dì-
sambut oleh mèntéri Lèla Putèra di-bawa masok ka-dalam istana
di-baringkan di-atas gèta. Làpas itu maka mèntéri Lèla Putèra
pun kèmbali pula ka-dalam pèpèrangan mèlihat sègalà rayat raja
Búlok Béntong. Maka masing-masing pun kèmbali-lah bérseñang-
kàn dirì-nya ka-dalam kota itu. Ada pun akan kèmatian dato
Sangkai èmpat bersonaura itu pun bérkaparan-lah di-tèngah
medan. Maka mèntéri Lèla Putèra pun datang mèndapatakkan raja
Búlok Béntong mèlihatkan sakit luka-nya itu. Maka makin hæri-
hèndak malam makin-lah sakit. Dèngen hal yang dèmikian sampai
tèngah malam maka raja Búlok Béntong hilang-lah raib dari-pada
mata sègalà khalayak yang banyak pulang ka-pada asal-nya mèn-
jadi buloh. Maka mèntéri Lèla Putèra pun sangat ménaròh kè-
masghulàn di-hati-nya lalu ia mèmbuat surat antarkan ka-pada
Sultàn Mudzalal Shàh màlumkàn sèmbah sakaliàn hāl ahuàl
yang lèlah bèrlaku itu, sèkarang tinggèl-lah kota dua bijì dèngan
tiada bèrajà; maka ia hèndak datàng mèngadap pun tiàda siapa
boleh mènunngù kòta. Maka utusan itu pun bèrjalan-lah ka-kòta
Kuala Muda. Tiada bèrapa lama-nya sampai-lah langsóng masok
mèngadap. Maka kètiaka itu bagìnda tèngah di-hàdáp oleh sakaliàn
mèntèri hulubàlang dan tuan Shàikh âbbùllah dan anakànda
bagìnda kètiga pun ada hadìzì mèndèngàrkàn sègalà hukùm Allah
dan shàreàt ugàma islam. Maka surat mèntèri Lèla Putèra pun
sègalà khalayak yang banyak itu. Sa-èlah paham-lah bagìnda
dì-sèmbakhàn; maka di-suroh oleh bagìnda bòhàkàn di-hàdàpan
sakaliàn-nya, maka tiada bèrkàta-kàta lagi tundòk tèngàdah mè-
nahàkàn ayèr mata-nya kènanggàn sàndara-nya Ràja Búlok
Béntong itu. Maka titàh bagìnda ka-pada mèntèri kèèmpat suroh
bìchàra hàl kòta itu. Maka sèmbah mèntèri, "Pàda fikìàn hèmat
patek dùli tuânkù pun sùdàh tua, bâi-kàh padùka anakànda ba-
gìnda ini bàrang dua orang di-hàntàrkàn mènjàdî ràja di-kòta dua
bijì itu." Maka di-hàti bagìnda bènàr-làh sèpèrtì sèmbah mèntèri

R. A. Soc., No. 72, 1916.


Jour. Straits Branch
NOTES ON MALAY HISTORY.

BY C. O. BLAGDEN.

I. AN EARLY REFERENCE TO MENANGKABAU.

In Chau Ju-kua's "Chu-fan-chi," translated by Hirt and Rockhill, under the heading "Palembang, San-fo-ts'í," p. 61, the following passage occurs:

"There is an old tradition that the ground in this country once suddenly gaped open and out of the cavern came many myriads of cattle, which rushed off in herds into the mountains, though the people all tried to get them for food. Afterwards the crevice got stopped up with bamboo and trees and disappeared."

The editors have rightly surmised that this contains a reference to the legendary etymology of the place-name "Menangkabau," § in Central Sumatra. It evidently represents one of the many variant ways in which "popular etymology," as it is called, has attempted to explain this obscure name. The second half is always identified (rightly or wrongly) with the Malay word for "buffalo," but in other respects the explanations are very various. In connection with this Chinese authority, the chief point of interest is that he speaks of the legend as "an old tradition:" evidently it had been current for some time before his own date (which was about the middle of the 13th century of our era); and this goes to show that the Menangkabau country was known by that name from a considerably earlier period, that the real meaning of the name had been forgotten and there had been time for legends to grow up around it.

II. AN EARLY MENTION OF THE OLD SINGAPORE.

In Wang Ta-yūan's "Tao i chih lio" (dated 1349 A.D. and recently partially translated by Rockhill in T'oung Pao, March 1915), under the heading "Hsien," † p. 100, the following passage occurs:

"The people are much given to piracy; whenever there is an uprising in any other country, they at once embark in as many

* 三 佛 齐

§ First actually mentioned, I think, in the Nagaratretagama (A. D. 1365): see this Journal, No. 53, p. 147.

† 逃

Jour. Straits Branch R. A. Soc., No. 73, 1916.
as an hundred junks with full cargoes of sago (as food) and start off and by the vigor of their attack they secure what they want. (Thus) in recent years they came with seventy odd junks and raided Tan-ma-hsi† and attacked the city moat. (The town) resisted for a month, the place having closed its gates and defending itself, and they not daring to assault it. It happened just then that an Imperial envoy was passing by (Tan-ma-hsi), so the men of Hsien drew off and hid, after plundering Hsi-li."‡

According to the editor, "Hsien" was Siam, and I think there is no reason to doubt that it especially referred to some part of that country adjacent to the Gulf named after it. Tan-ma-hsi was the old Singapura (see this Journal, No. 55, pp. 155-6). Assuming these identifications to be correct, as I believe we are entitled to do, the above quotation suffices to establish the fact that a naval expedition from Siam attacked Singapore in the first half of the 14th century. That is an interesting scrap of information about a period of Malay history which is otherwise almost a blank, so far as real history is concerned, though of course legends and traditions are not altogether lacking. Slight as the information is, it fits in well with what we already knew about the relations of the Siamese with the Malays of the Peninsula in this period, and it confirms the view (now pretty well established) that the old Singapore was a flourishing port during the first three quarters of the 14th century.

† 單馬錫
‡ 昔里

Jour. Straits Branch
An Experimental Investigation concerning the
Effects of "Tuba" (Derris elliptica)
Fish-Poison.

By J. Argyll Campbell.

"Tuba" is a term used by the Malays to denote various plants which possess fish-poisoning properties. *Derris elliptica* Benth., Leguminosae, is the most powerful of these plants.

Interesting accounts of "tuba" fishing are given by George Maxwell (1) and W. H. Furness (2). According to these authors the root of the low climbing plant, *Derris elliptica*, is most commonly employed. The root is pounded by a club and then extracted by soaking it in water contained in boats. The soaked root is compressed and a milky-white watery fluid escapes. This fluid is mixed with lime to make it sink and spread when poured into the river. Previously a barricade has been erected some distance down the river to prevent the fish escaping. The poison stupefies the fish and they flee before it. Men in boats and on the barricade scoop up the fish in nets or spear them as they come to the surface. Furness says that the fish seem to be affected by suffocation.

Research has been done concerning the chemical composition of this poison. M. Greshoff (3) obtained a resin which he called "derrid" and which he found to resemble pachyrrhizid, timboine, nicouline and piscidine in composition. Wray (4) also isolated a resinous substance which he named "tubaine."

I can find no research concerning the actions of the poison upon the living tissues, although much has been written about its apparent actions. Greshoff (5) says that drinking the poison produces vomiting, dizziness and death. He records a case of suicide in Java. Ridley (6) mentions that "tuba" poison is speedily fatal to man when swallowed or to fish when in contact with the gills; and that it is used by Malays as an abortifacient (7). Gimlette (8) gives a good deal of information. Fish stupefied by the poison can be eaten with impunity by man. Chinese use the poison extensively as an insecticide, especially for spraying pepper vines. It is put into wells with criminal intent, but death seems to be rare. A decoction is used by Malay girls to produce abortion; death sometimes occurs owing to uterine haemorrhage. Acute cases of poisoning are characterised by fixation of the jaws. In Borneo the Dyak girls use it to commit suicide. It is also mixed with "ipoh" poison by the Sakei in preparation of dart poison for blow pipes.
Preparation of the Poison.

In my research the extract was prepared in the same way as Malay fishermen prepare it. When necessary the root was not extracted with water, but with Ringer's physiological saline solution (NaCl .9%; KCl .01%; Ca₃(PO₄)₂ to saturation). It was then filtered and boiled. These processes do not interfere with its toxic properties and the fluid is still milky-white. The poison passes very slowly through parchment; only one seventieth part of the poison passes through in five days, so that it seems to be in colloidal solution. The extract keeps at least for a week. In most cases the extract was prepared fresh when required. The specimen of the root used by me, was kept for three months in a cupboard and retained its full powers all that time.

The extract is not antiseptic. Organic matter soaked in it soon putrefies at ordinary room temperature (28°C).

The extract is faintly acid in reaction. It has an acrid taste and smell. The taste persists for a long time; strong solutions cause slight numbness of the gums and mouth about ten minutes after tasting.

I have not attempted to separate the active substance, but I have investigated the actions of the extract as used by the natives.

In estimating the strengths of the solutions used, I have taken 1 gm. by weight of the root in 100 cubic centimeters of water as 1 in 100 solution.

Before performing any experiments, the milky extract to be used was first tested to prove that it was capable of killing fish. It never failed to do this. A given weight of the root contains a constant quantity of the poison and kills fish in a definite time.

Effects on Different Animals.

Effects on Fish. Fish, Ophiocephalus gachua, Buch.-Ham., of about fifty grammes weight were used. Solutions as weak as 1 in 100,000 are fatal to these fish. Wray (9) found that 1 in 350,000 of the isolated resin "tubaine" kills fish in half an hour. Greshoff (9) obtained the same results with a much weaker solution of the resin "derrid."

The symptoms of poisoning as observed by myself are constant. In a solution 1 in 4500 the fish becomes agitated almost at once and swims about wildly at the surface of the water taking in mouthfuls of air which escapes into the water by the gill slits. In two minutes time the fish is lying on its side at the bottom of the vessel, breathing slowly and deeply. In another five minutes the breathing stops, the fins twitch, but reflex movements can be elicited for another three minutes. The fish dies eleven minutes after immersion. A solution 1 in 12,000 kills in twenty eight minutes, a solution 1 in 50,000 in eighty three minutes. The fish...
does not seem to lose consciousness until the breathing is greatly affected. Post mortem examination shows venous congestion of the organs; the heart is full of blood, but still capable of contracting in response to stimuli. If the heart be examined soon after the breathing has stopped, it is observed to be beating feebly, and if relieved from the distension with blood, will beat for a long time.

From these observations it seems very probable that death is due to asphyxia.

Another series of experiments was done in which a small quantity (1 cubic centimeter) of the extract was injected into the stomach of the fish by means of a long narrow metal tube passed down the oesophagus.

The minimal lethal dose, in this manner of injection, is the extract obtained from 1/200 gm. of the root. The extract actually injected is 1 c. c. 1 in 200 solution. The symptoms of poisoning are exactly the same as those described above. The poison is rapidly absorbed by the stomach, the fish becoming affected two minutes after the injection. Wray (9) points out that "tubaine" is insoluble and that he has seen a fish eat a quantity without ill effects. I have not used the isolated substance "tubaine," but the milky extract is certainly rapidly fatal when administered in this way. The extract from 1/25 gm. of the root kills fish in twelve minutes, from 1/200 gm. in one hour.

I have not experimented with fish larger than 50 gm. Undoubtedly larger fish would require larger doses to kill them.

Effects on Tadpoles. Tadpoles of the common Singapore toad, Bufo melanostictus, were immersed in solutions of various concentrations. The symptoms of poisoning closely resemble those described for fish, but stronger solutions are required. Solutions weaker than 1 in 12,000 do not kill tadpoles. A solution 1 in 12,000 kills in forty three minutes and a solution of 1 in 4,500 in twenty minutes. These solutions kill fish in half these times respectively.

Effects on Mosquito Larvae. Stegomyia larvae were employed. Solutions weaker than 1 in 10,000 are not fatal, nor do they prevent the larvae developing. A solution 1 in 10,000 takes at least two days to kill larvae; 1 in 5,000 kills them in about two days; 1 in 1,000 in one day, 1 in 500 in three hours, 1 in 10 in one hour. Therefore much stronger solutions and much longer periods of action are required to kill mosquito larvae than to kill fish or tadpoles.

Effects on Toads. The common toad, Bufo melanostictus, was employed. The poison was administered either by subcutaneous injection or by injection into the stomach of one cubic centimeter of the fluid extract. The minimal lethal dose by the
first method of injection is 1 c. c. 1 in 50, that is the extract obtained from 1/50 gm. of the root, by the second method of injection 1 c. c. 1 in 12, that is the extract obtained from 1/12 gm. of the root. In both cases the symptoms are similar. In a few minutes the animal becomes agitated for a short time, then quietens down and in another ten minutes its breathing becomes deeper and irregular in rate, the nostrils dilating at each inspiration. The animal is still conscious and all its reflexes are normal. In another twenty minutes the breathing stops, reflexes diminish and finally disappear about thirty five minutes after the injection. Post mortem examination reveals signs of death from asphyxia, the organs being congested, and the heart full. The heart can be stimulated to contract for a long time after removal from the animal.

**Effects on Monkeys.** Two varieties of monkeys were used, the common kra (*Macacus cynomolgus*) and the larger pig-tailed monkey (*Macacus nemestpinus*).

The poison was injected subcutaneously; the injection causes no pain. The minimal lethal dose is the extract from 2 gm. of the root. The extract is concentrated to small bulk by boiling; boiling does not effect the poison. Within five minutes the animal becomes weak, and the gums and tongue are very pale. There is usually slight vomiting about this time. The vomiting resembles cerebral vomiting and soon ceases as the animal goes to sleep. It can be aroused and its reflexes are normal. Then the breathing shows great increase in depth, and soon becomes very deep and slow; then gasping inspirations occur about six a minute; the reflexes now disappear and the animal cannot be aroused; gasping gradually ceases and the animal dies. The heart beats for several minutes after the respiration ceases. These symptoms are those of asphyxia and post mortem examination shows the signs of death from asphyxia. Death occurs in about forty minutes.

Experiments in which the poison is introduced into the stomach by a stomach tube give the same results. Vomiting comes on in about five minutes and is not excessive. In any case sufficient poison is absorbed because death takes place even after vomiting. The extract from 2 gm. weight of the root is the minimal lethal dose. Death occurs in forty minutes, the symptoms resembling those produced by subcutaneous injection of the poison. When the respiration is greatly affected, the reflexes disappear, the corneal reflex being the last to go. The pupils are dilated.

**Action on the Tissues and Organs Removed from the Body.**

**Effects on Voluntary Muscle.** When in concentrations 1 in 8 to 1 in 2,000, its action on the voluntary muscles of the tongue and of the calf of a toad is to weaken their power of contraction. The motor nerves and end plates are not affected. This
weakening of the muscle is removed by washing out the poison. Weaker solutions have no action on voluntary muscle.

In the experiments on the tongue the poison was injected under the mucous membrane. Induction shocks were used to stimulate the muscle.

**Effects on Involuntary Muscle.** "Tuba" poison in solutions 1 in 60 to 1 in 6,000, diminishes the tone and movements of the involuntary muscle of the intestine of a monkey. This weakening is counteracted by the presence of a dilute solution of sodium carbonate.

**Effects on Heart Muscle.** "Tuba" poison, even in strong solutions, has no action on heart muscle. The isolated heart beats strongly and for a long time in Ringer's solution containing the poison in concentrations 1 in 8 or 1 in 100. The same results are obtained when the heart is perfused with the poison 1 in 80.

These results with heart muscle, verify the fact that for some time after the respiration has ceased in the living animal under the influence of the poison, the heart may be felt still beating strongly.

**Effects on the Blood.** Strong solutions (1 in 100) of the poison in Ringer's solution alter neither the red nor white cells of the blood of the monkey. The white cells show the usual amoeboid movements if the solution be kept warm. There is no haemolysis or breaking up of the red cells.

The oxygen capacity of the blood is not altered by the poison, the red cells taking up oxygen easily and giving it off easily.

**Effects on the Blood Vessels.** Solutions of the poison varying in strength from 1 in 30 to 1 in 4000 were perfused through the blood vessels of a toad. In most cases the poison dilates the blood vessels, in a few cases no effect is produced.

In another series of experiments the extract (from 1 in 50 up to 1 in 1250) was perfused through the blood vessels of a limb of a monkey. In these vessels dilatation is produced and the poison so affects the blood vessels that the power of adrenalin to constrict them is markedly lessened and in most cases abolished.

**Experiments on Anaesthetised Monkeys.**

*Macaque cynomolgus* and *Macaque nemestrinus* were the monkeys employed, chloroform being used as the anaesthetic. The poison was injected into a vein, usually the femoral vein, by means of an injection cannula; records of the blood pressure, usually that of the femoral artery, and of the respiration were taken.

Injected in this way the extract from 1/50 gm. of the root is sufficient to produce death. In all cases marked effects are produced on the respiration and blood pressure (Fig. 1). Respiration is usually stimulated at first, then depressed and finally paralysed. The blood pressure falls considerably but only temporarily.
Later further changes are produced in the blood pressure, but these are produced by the asphyxia.

A dose as weak as 1 c. c. of 1 in 10,000 solution produces similar changes in the respiration and blood pressure but the changes are not so well marked; the respiration is not paralysed and death does not occur, the normal conditions prevailing again.

The tissues apparently become accustomed to the poison in a slight degree. Thus a dose from 1/50 gm. of the root kills if injected without any previous injection being made; but if many injections of weaker solutions of gradually increasing strengths are first performed, a stronger dose than 1/50 gm. is required to produce death.

The poison acts upon the respiratory nervous centre in the medulla and not on the vagal ending in the lungs, because the same results are obtained if the vagi are cut (Fig. 2). Also if the poison is injected into the carotid artery, the respiration is affected in a few seconds.

It has already been stated that the poison dilates the blood vessels of the isolated limb of a monkey and that it greatly weakens the tone and movements of the involuntary muscle of the intestine of the same animal. The fall of blood pressure is explained by these actions. Further experiments and chemical analysis are required to prove whether one substance causes both paralysis of respiration and dilatation of the blood vessels or whether there are two distinct substances for these actions.

The previous injection of adrenalin only slightly modifies the depressing influence of the poison upon the blood vessels, and the fall of blood pressure is still very well marked.

**After-effects of the Poison.**

In some experiments injections were made subcutaneously into monkeys, but although these injections were strong enough to produce very great effects on the respiration, causing a marked degree of asphyxia, they were not strong enough to kill the animals. In these cases the animals recover completely in a few hours and exhibit no ill after-effects,—no paralysis, no digestive troubles and no weakness of any kind.

**Discussion.**

From the results on different animals it is evident that the poison affects the more highly developed members of the animal kingdom more readily that it does the primitive members. This is only to be expected since its action concerns the brain and one particular part of this, namely the medulla oblongata.

It could be used to destroy mosquito larvae, but it should be used in solutions not weaker than 1 in 1,000, that is just enough
of the extract should be added to the pool to make the water cloudy. Of course this would kill fish up to 50 gm. far more quickly than it would the larvae and in time it would certainly affect much larger fish.

Its effects on the higher animals can be explained from the results obtained in the experiments performed on anaesthetised animals. The great weakness exhibited in cases of poisoning is due to the fall of blood pressure and to the weakening of the voluntary and involuntary muscle. The effects on the respiration are due at first to the stimulation and afterwards to the paralysis of the respiratory centre. The vomiting which usually occurs seems to be due to the stimulation of the vomiting centre in the medulla. After injection of the poison into the stomach whatever the dose a definite interval elapses before vomiting takes place. It occurs at the same time as the other changes and it is never excessive. Even after vomiting death takes place thus showing that sufficient poison is absorbed before vomiting occurs.

From the facts that the animal remains conscious and that the reflexes are present until the respiratory centre is greatly affected, it follows that the poison has no previous effect on other parts of the brain and spinal cord. The animals do become sleepy but that can be explained by the muscular weakness and the fall of the blood pressure. The unconsciousness and absence of reflexes come on during the asphyxia.

It has already been mentioned that cases of abortion with fatal haemorrhage have occurred by the use of this poison. The poison does not act directly on the uterus since it weakens involuntary muscle. The abortion must be due to the asphyxia produced by the poison. The uterine haemorrhage is due to the dilatation of the blood vessels.

The poison is very virulent since the extract from only 2 gm. (30 grains) of the root is sufficient to kill a large monkey. Cases of murder have not been reported probably because the would-be victim detects the presence of something to be avoided owing to the acrid taste and smell of a strong solution. Cases of suicide have been reported. A few months ago a case of suspected "tuba" poisoning was recorded in Singapore. I am indebted to Dr. R. D. Keith acting Government Pathologist for the details. A quantity of "tuba" root was found in the room with the body. Post Mortem examination revealed nothing but venous congestion of the organs. The lungs possessed an acrid odour. Analysis of the stomach contents was negative. "Tuba" poison was not tested for, because chemical tests for this poison are unknown, although Greshoff (3) describes crystals of definite shape and colour, which are obtained from the poison.

The Post Mortem examinations in my experiments only show venous congestion of the organs.

R. A. Soc., No. 73, 1916.
It should be easy enough to detect the presence of "tuba" poison in the stomach contents by simply testing the effects, after boiling and filtering, of some of the fluid upon small fish, seeing that they are killed by very weak solutions of the poison.

The treatment indicated is that for poisons which produce muscular weakness and paralyse the respiratory centre. The natives of Sarawak administer sugar and cold baths. (8).

Conclusions.

(1) "Tuba" fish-poison (Derris elliptica) causes death by paralysing the respiratory centre in the medulla. The sap from 2 gm. weight of the root when administered by mouth, is sufficient to kill a monkey (Macacus nemestpinus).

(2) It usually stimulates the respiratory centre before depressing it.

(3) It causes great weakness, because it weakens both voluntary and involuntary muscle and because it produces a great fall of blood pressure.

(4) It has no action upon the heart muscle or heart nervous mechanism.

(5) It produces a marked fall of blood pressure because it greatly weakens the muscle of the vessel walls, thus causing dilatation.

(6) It causes vomiting probably by stimulating the vomiting centre in the medulla; but, after swallowing large doses, sufficient poison to cause death is absorbed even if vomiting occurs.

(7) Fish poisoned by "tuba" can be eaten with impunity by man, because fish are killed by very small quantities of the poison.

(8) It is not antiseptic and its poisonous action is less marked on the lower members of the animal kingdom than on the more highly organised members. It kills mosquito larvae and tadpoles but it is less toxic to these than to fish.

I am indebted to Dr. Hanitsch of The Raffles Museum and to Mr. I. H. Burkhill of The Botanical Gardens, for assistance with the literature.

References.

CONCERNING THE EFFECTS OF "TUBA" FISH-POISON. 187


(The author regrets that no reference has been made in the above paper to Van Hasselt's research published in the Archives internationales de Pharmacodynamie et Therapie, xxi. (1911) p. 243. Information regarding the existence of Van Hasselt's work was received after the paper had gone to press).

Fig. 1. Monkey under chloroform anaesthesia. Effects on respiration and blood pressure of injecting 1 c. c. 1 in 30 "tuba" poison into the femoral vein. A. Record of respiration. B. Blood pressure in femoral artery. C. Signal of injection. D. Time in two seconds. Note that the respiration and blood pressure are affected about forty seconds after the beginning of the injection. Respiration is greatly affected and ceases eleven minutes after the injection (Fig. 1 X), thus producing death. The blood pressure falls very considerably at first but recovers in a few minutes, and is still well maintained when the respiration ceases. The heart was felt beating after the respiration ceased.

Fig. 2. A. Monkey under chloroform anaesthesia, vagi intact. Effects on respiration and blood pressure of injecting ½ c. c. 1 in 100 "tuba" into the femoral vein. A. B. C. D. same readings as in fig. 1. Respiration is at first slightly augmented and later, weakened.

Fig. 2. B. Same animal as in fig. 2 A, but with vagi cut. Effects on respiration and blood pressure of injecting 1 c. c. 1 in 100 "tuba" into the femoral vein.

The respiration is similarly but more markedly affected in fig. 2 B, than in fig. 2 A, a larger dose of the poison being injected. The respiration recovers eventually. Note the fall of blood pressure in both cases. In fig. 2 A, the heart beats are just perceptible on the tracing. After cutting the vagi, Fig. 2 B, the heart beats are greatly augmented and the blood pressure is raised considerably, these results being the normal effects of cutting the vagi.

In this experiment death does not occur, because the dose of poison administered is non-lethal.
New and Rare Malayan Plants.
Series VIII.

By H. N. Ridley, F.R.S.

Herewith I give an account of some additions to the Flora of the Malay Peninsula, with notes on species insufficiently or incorrectly described, in continuation of the Series previously described in the Journal.

Ryparosa Wallichii, n. sp. (Bixaceae). A tree; branches when young covered with red hair. Leaves glabrous above, coriaceous, lanceolate-oblong, base slightly narrowed, apex acute, pale whitish beneath, 8-9 inches long, 2 inches wide, the nerves five pairs, elevated, ascending, often hairy beneath; midrib also hairy; petiole 1.5 inches long, hairy. Male racemes axillary or from the trunk of the tree, 6-8 inches long; bracts small, lanceolate; pedicels 25 inches long. Flowers 2 inches long, yellow. Sepals 5, short, ovate, hairy. Petals rounded, hairy, much larger than the sepals, with the scale inside about half as long, and hairy. Staminal column glabrous: anthers 4, oblong.

Singapore: Gardens' jungle (Ridley). Penang: "A climber from the hills, October" (Wallich 7847B); Herb. Finlayson (Wallich 7847A).

Wallich's specimens are like the Botanic Gardens ones—male, but with young spikes, axillary and quite short. Those from the Gardens' jungle were fully developed and borne on the trunk. Wallich describes it as a climber from the Penang hills; but it has not been collected again, and as no species of the genus is a climber, it is possible that the label is wrongly affixed. The species is chiefly remarkable for its narrow leaves and hairy inflorescence.

Xanthophyllum puberulum, n. sp. (Polygalaceae). A large shrub with pubescent branches. Leaves oblong-elliptic or lanceolate, cuspidate, shortly narrowed at the base, thinly coriaceous, 5.5 to 8 inches long, 2.25 to 2.75 inches broad, nerves 5 to 6 pairs, elevate beneath; reticulations large, all pubescent: petiole 25 inches long. Flowers white, in short terminal panicles 2 to 3 inches long, pubescent: branches few. Sepals unequal, ovate obtuse, minutely pubescent. Petals spathulate, glabrous: keel slightly pubescent. Stamens glabrous except at the base. Ovary villous, stipitate; ovules 4.

A handsome bush, distinguished by its villous 4-ovuled ovary and pubescent leaves.

Chodat in the Bulletin de l'Herbier Boissier, iv. p. 255, has published a revision of this genus since it was described by King in the Materials for a flora of the Malay Peninsula, and made several corrections and additions:—

X. ellipticum, King, is not the species described by Miquel under that name, but a plant of the Malay Peninsula which is now called X. Kingii, Chodat.

X. eurhynchum, King, is also not Miquel's plant, and is renamed X. verrucosum, Chodat (l.c. 263).

X. glaucum, Wall. Chodat separates King's plant from Wallich's, as X. microcarpum, saying that it has "Fructus parvus nec verrucosus nec costatus" which is an excellent description of Wallich's type of X. glaucum. King's plant from Trang is absolutely identical with Wallich's X. glaucum.

He describes two new species.

X. hebecarpum, Chodat (l.c. 263) based on imperfect fruiting specimens collected in Pangkor (Curtis 1639) with large velvety fruit.

X. discolor, Chodat (l.c. 257). A small tree with leaves glaucous beneath, and rather large white flowers, collected by me at Scool and in the Gardens' jungle, Singapore.

Garcinia clusiaefolia, n.sp. (Guttiferae). A tree, with black branches not angled. Leaves stiffly coriaceous, obovate, apex obtuse, base cuneate, nerves very fine inconspicuous above, invisible beneath, 5-5.5 inches long, 2-2.5 to 3 inches wide, drying greenish; petiole 5 inches long, stout, not wrinkled. Male flowers in fascicles upon axillary tubercles 10 or more in a fascicle, very small, 1 inch long; bracts ovate, numerous; pedicels thick, 2-2.5 inches long. Sepals 4, 2 outer coriaceous orbicular concave, 2 inner thinner obovate oblong. Petals oblong, obtuse, as long as the sepals. Stamens connate into a subconic mass, not lobed; anthers sessile, minute, 2-celled, cells separated by the broad subtriangular connective. Pistil 0. Female flowers and fruit not seen.

Pahang: at Wray's camp on Gunong Tahan (Ridley 16242).

Allied to the lowland swamp-loving G. bancana, Miq, but distinct in the more finely and numerous veined foliage, much shorter and thicker petiole, smaller flowers, and the connective of the anther triangular, with the cells at the point and so closer together, and not quadrate as in G. bancana.

Garcinia pyriferum, n.sp. (Guttiferae). A tree; branchlets yellow, angled. Leaves coriaceous, drying light greenish, elliptic, subacute, shortly narrowed at the base, 3-5 inches to
5-5 inches long, 1-75 to 2-25 inches wide, nerves very numerous horizontal meeting in an intra-marginal nerve close to the edge; reticulations visible; costa rounded; edge not thickened; petiole very short, wrinkled, 1.5 inches long. Male flowers not seen. Female flowers solitary, axillary from tubercles covered with short ovate bracts. Fruit obvoid, pear-shaped, narrowed at base, widest near apex, tipped depressed, 2-5 to 3 inches through, on a long 1-75 inches peduncle, yellow. Sepals persistent, small, ovate. Stigma small, 5-lobed, lobes rounded. Seeds 2-3, reniform, brown, 1 inch long, 1.25 inches wide.

Penang: Penara Bukit (Curtis 3094).

Near G. densiflora, King, of which the female is unknown but the foliage is quite different, the texture being thinner; and drying pale, the midrib is not acute and the margin not thickened.

**Ternstroemia montana**, n. sp. (*Ternstroemiaceae*). Branches stout, grey. Leaves thick, coriaceous, obovate to oblanceolate, blunt, long-narrowed to the petiole, 2-5 to 3 inches long, 1.1-2.5 inches wide, nerves above invisible, beneath often invisible but sometimes distinct, 3-4 pairs, arched, and anastomosing some way from the margin. Flowers in the upper axis of the leaves or below the leaves; pedicels short and thick, 20 inches long; flowers 5 inches across glabrous. Sepals subequal, rotund, coriaceous. Petals coriaceous, rotund, edges denticulate. Stamina glabrous; anthers linear, oblong, longer than the filament.

Perak: Gunong Kerbau at 4500 feet (Robinson).

This differs from *T. Maclellandii*, Ridl. for which I at first took it in the nervation, which in that species so far as it is ever visible is horizontal slightly ascending, in this it is curved in the centre and anastomoses some way from the edge, the flowers are bigger, the pedicels much shorter and thicker, the petals coriaceous and minutely denticulate.

**Gordonia singaporeana**, Wall. Cat. 1457, (G. grandis, King in Journ. As. Soc. Bengal, lix. (1890) p. 203) (*Ternstroemiaceae*). There seems to have been some confusion as to the Gordonias of the low country of the Malay Peninsula. The type of *G. singaporeana* referred by King to his *Gordonia excelsa*, is undoubtedly the common *G. grandis* King, a native of Singapore. This species is closely allied to the true *G. excelsa*, Bl. of Java, resembling it in the leaves in which the lamina is decurrent on the petiole, differing in the rather smaller flowers, and silky pubescence of the bud and young shoot. *G. grandis* having these parts quite glabrous.

*G. excelsa*, King, is a totally different plant, and has rather an affinity with *G. Maingayi* as King suggests than with the *G. excelsa*, Bl. I describe it under the name of *G. penangensis*.
Gordonia penangensis, n. sp. (G. excelsa, King l.c. 203 not of Blume) (Ternstroemiaceæ). A tree 30 to 40 feet tall, 10-15 inches through the stem, branchlets silky pubescent. Leaves thinly coriaceous, glabrous, lanceolate elliptic acuminate, edges serrulate or entire, base acuminate, 2-5 to 4 inches long, 1-1.75 inches wide, nerves very faint sometimes almost invisible 5 to 7 pairs inarching doubly within the edge: petiole 25, creamy white or yellow: pedicel very short silky. Sepals rounded, silky outside. Petals round, narrowed at the base, backst silky. Stamens very numerous: anthers oblong. Ovary conic, silky: style 1, stout, pubescent, 5-lobed. Capsule 5- or 6-angled, 1-2.5 to 1-5 inches long, conic, hairy or glabrescent, valves acute.

Penang: common on Penang Hill (Curtis), and I have also found it in Singapore at Seletar (6214 and 3913 of my collection).

Gordonia hirtella, n. sp. (Ternstroemiaceæ). A tree with silky buds and shoots. Leaves coriaceous, elliptic lanceolate, acuminate, base narrowed subacute, nerves very fine much reticulate, the secondary nerves and reticulations as distinct as the primary nerves, above almost as invisible as on the lower surface, margins crenulate or entire, above glabrous, beneath appressed hairy, 3-5 to 6 inches long, 1-5 to 2 inches wide; petiole 25 inches long. Flowers rather small, cream coloured; peduncles silky 1 inch or less long. Sepals orbicular, silky tomentose, 2 inches long. Petals obovate, silky on the back. Stamens apparently few. Capsule 7-5 inches long, appressed pubescent outside, valves subacute.

Selangor: in mountain forests, Bukit Kutu at 3000 feet (Ridley 7350). Perak: Gunong Batu Puteh (Wray 1116).

This species is nearest to G. dipterospерma, Kurz, of Bhotan. The leaves are more coriaceous, and it is more hairy, and the hairs do not spring from large pustules on the leaf as in that species. From G. penangensis it differs in the hairy backs of the leaves and smaller flowers and fruits. The nervation is much the same as in penangensis but the reticulation is more elaborate.

Hopea albescens, n. sp. (Dipterocarpaceæ). Leaves coriaceous, ovate to elliptic, acuminate, apex blunt, base rounded, glabrous, nerves 8 pairs very slender almost invisible above, 2-75 to 3 inches long, 1-25 inches wide: petiole 4 inches long. Panicles axillary and terminal, 3-4 inches long. Flowers subsecund, white tomentose, shortly pedicelled. Sepals lanceolate ovate, obtuse. Petals 2 inches long, a little longer than the sepals, oblong, broad, blunt, pubescent outside. Stamens 15, filaments elongate triangular; anther elliptic, seta very fine, as long as the anther. Ovary pubescent; style short.

Pahang: at Raub (Burn-Murdoch) "Merawan."

Jour. Straits Branch
NEW AND RARE MALAYAN PLANTS.

This species is allied to *H. odorata*, Roxb. of Tenasserim, but has smaller leaves more coriaceous, fewer nervet, and more abruptly acuminate, flowers distinctly pedicelled (not sessile as in *H. odorata*), petals smaller and the filaments different in shape.

**Hopea Lowii**, Brandis. This moderate sized tree has not previously been recorded from the Malay Peninsula. I have met with it at Chua Chu Kang, (No. 6685 of my collections) but I believe the only tree I ever saw there is gone now; and I have had it also from Muar, and Penang Waterfall (Curtis 3635). It is also a native of Borneo and Sumatra.

**Durio singaporensis**, n. sp. (*Malvaceae*). A large tree. Leaves oblong, obtuse or subacute, base blunt rounded, coriaceous, glabrous above, with channelled midrib, beneath scaly raw sienna colour, nerves very numerous, and inconspicuous above, and hardly distinct beneath, 7-9 inches long, 2-5-3 inches wide; petiole thick 2½ inches long, angled. Flowers in clusters of 2 or 3 on the trunk; peduncles short; pedicels ½-5 inches long, 4-angled, with 2 lanceolate bracts at their bases: floral bracts ovate, acute, 1 inch long and as wide. Sepals oblong, 2 inches long, acute, scaly, cinnamon colour. Petals linear, oblong, 1½ inches long, outside scaly with fringed scales, cinnamon colour, within pubescent white. Stamens and pistil like those of *D. malaccensis*, Griff.

**Singapore**: Bukit Timah (Ridley 3204); Ang Mo Kio (Ridley 6676); Seletar. **Johore**: in Johore Bahru (Ridley 6677), and Mount Austin (Ridley 11996).

**Scaphium longiflorum**, n. sp. (*Sterculiaceæ*). Tree. Leaves coriaceous, elliptic rounded, shortly acuminate, blunt, sometimes glaucous beneath, nerves 7 pairs strongly raised, and the reticulations conspicuous beneath, above smooth, 4-5 to 6 inches long, 2½ to 3 inches across: petiole 2-2 inches long. Panicles axillary, 6 inches long, sparingly red-tomentose, compact, much branched. Flowers numerous glabrous: bracts caducous: pedicels glabrous, ½ inch long. Calyx 3 inches long; tube cylindric, ½ in. long; lobes 4, much shorter, ovate, acute, all glabrous except the inner edges which are woolly. Stamens 8, in a globose woolly head, staminal column longer than the calyx tube, woolly.

**Perak**: (Scortechini 2077 and 2026).

I have seen no female flowers or fruit of this species which was confused with *S. affine*, but from which it is very distinct in its long tubed glabrous flowers and woolly long androecium. The panicles are also much more glabrous.

I consider it advisable to keep the genus *Scaphium* distinct from *Sterculia* from which it differs not only in its membranous one-seeded carpels but also in the form of the flowers. Besides this there are known four other species.
1. Scaphium Wallichii, R. Br., only known from one gathering in Martaban in Wallich’s collection and described usually as Sterculia scaphigera, Wall. Cat. 1130. I have seen no flowers of this species which has much larger leaves than the commoner species, S. affine.

2. Scaphium affine, Ridl. (Sterculia affine Masters). This plant is the “Kembang Semangkok” of the Malays and occurs in Singapore, Malacca and Pahang. Pierre’s Sterculia scaphigera (Fl. For. Cochinchine, t. 201) may be this species but the flowers have not been seen.

The species is very distinct in its small short-tubed flowers with a very short stalked staminal column quite glabrous. The inflorescence is very tomentose.

3. S. Beccarianum, (Pierre l.c.) is a native of Sarawak, in Borneo, and has quite glabrous flowers more resembling those of S. longiflorum. I found fallen fruits and leaves of what I take to be this species in the Matang forest. The fruit which has not been described is thin and green, 5 inches long and over 1-5 inches deep, much shorter and broader and quite blunt at the tip. The seed was an inch long.

4. Scaphium linearicarpum, (Sterculia linearicarpa, Masters) a rare Malacca tree, belongs to the genus also.

Pterygota Roxburghii, Schott and Endl. Melet. p. 32 (Sterculia alata Roxburgh) (Sterculiaceae) is given in King’s Materials as a native of the Malay Peninsula on the strength of a specimen in Scortechini’s collections without locality. The tree is a native of Southern India and the Andamans. It has been introduced from the Calcutta Gardens and largely planted as a road side tree in Singapore and Penang, and perhaps Scortechini’s specimens are not from a wild plant. No one else has found it wild, and it would be advisable to leave it out of our Flora until we get additional evidence of its being a native tree. The genus Pterygota of which there are several species in Africa, is a very good one, and distinct from Sterculia.

Buettneria brevipes, n. sp. (Sterculiaceae). A glabrous woody climber. Leaves coriaceous, elliptic, obtuse, base narrowed truncate, nerves five pairs conspicuous on both surfaces as are the reticulations, inarching within the margin, 4-5 inches long, 2 inches wide; petiole 2 inches long. Cymes numerous, slender, axillary, 1 inch long; pedicels umbellate, very slender, minutely pubescent. Sepals lanceolate, acuminate, 3 inches long. Petals about as long as the sepals, base obcuneate with 2 short points at the upper angles, apex candeate. Staminial tube short, broad, cylindric: anthers small, oblong. Ovary small, ovate, conic 5-lobed bluntly with scabrid angles. Fruit not seen.
DINDINGS: at Simpit near Lumut (Ridley).
Allied to B. Curtsii, Oliv. of Penang, but the leaves are much broader with more nerves and conspicuous reticulations. They are dark brown when adult and dry.

**Buettneria uncinata**, Mast. in Hook. fil., Fl. Brit. Ind. i. p. 377 and King, Journ., As. Soc. Bengal, p. 200, 91. (*Sterculiaceae*). The type of this in Herb. Kew, is a fruiting specimen of *Mallotus Griffithianus*, Hook. fil. (*Euphorbiaceae*) collected by Maiingay in Malacca. Another sheet put with it in Herb. Kew as possibly the same is also a species of *Mallotus*.

**Waltteria indica**, Linn. is given by King as occurring "in all the provinces, a weed." I have never seen a specimen of this at all from the Malay Peninsula, either in Kew or the British Museum herbarium; nor have ever seen it myself anywhere in the Peninsula. It is a common weed in many parts of the world and may be expected to turn up; but it has not done so yet.

**Murraya caloxylon**, Ridl. (*Rutaceae*). I found that this plant was flowering in the Singapore Botanic Gardens in the spring of 1915, although little more than a bush about 6 feet tall. The petals and stamens have never been described. The petals are 1.5 inches long and 2.5 inches wide in the upper part; they are linear spathulate, gradually narrowed to the base and pale green, four or five in number. The sepals or rather lobes of the calyx are also either 4 or 5. The stamens nearly half an inch long, have long slender filaments, small oblong anthers with the connective prolonged into a short point beyond the cells; they are 8 in number. In the flower and foliage this plant resembles most a *Murraya*, but the fruit is quite unlike that of any species described, and is more like that of *Limonia*. On the whole I think it better to keep it in the genus *Murraya*.

**Diodia sarmntosa**, Sw. Prodr. Veg. Ind. Occ. p. 30. (*Rubiaceae*). I found this new addition to our Flora abundantly on the East Coast road near Tanjong Katong in Singapore. It is a herbaceous plant growing as much as 2 feet tall, the stem hairy, four-angled, stout, the ridges crisped in the upper part. Leaves obovate, sessile, 2.5 inches long, 2.25 inches wide, apex subacute, base narrowed, hairy on both sides, with 6 pairs of nerves; stipules linear, bristles numerous. Flowers numerous, crowded in axillary heads. Calyx lobes 4, hairy, 25 inches long. Corolla 112 inches long, lobes rounded white tipped with lilac. Capsule 1 inch long hairy, splitting from the top to near the base into 2 cocci, which dehice on the inner face. Each contains one elliptic brown seed deeply grooved on the inner face.

This plant is a native of South America and the West Indies and also occurs in Tropical Africa and the Mascarene islands, but I cannot find any specimens from Asia in the Kew Herbarium, nor any record of its occurring in any part of Asia.
Dendrocalamus hirtellus, n. sp. (Gramineae). A tall bamboo, about 40 feet long, and 2 inches through, but rather weak, walls thin, internodes long. Leaves broad, oblong, acuminate, with a long point, base broad rounded, glabrous above, softly pubescent beneath, 11 inches long, 1-5 inches wide; petiole thick, 1 inch long, glabrous; ligule of few stiff bristles; sheath glabrous. Panicle branches pendulous, 3 feet long. Spikelets in dense heads 5 inches through and 1-5 inches apart; bracts numerous ovate acute keeled. Glume I, lanceolate; glume II similar, but longer many nerved; III twice as long as I, mucronate; IV similar longer. Palea shorter, lanceolate, three-nerved, pale. Stamens 6, filaments free: anthers oblong, muticus, exsert. Style simple shortly plumed.

Johore: in forests at Gennang (Ridley) April 1915.

Schizostachyum elegans, n. sp. (Gramineae). Stems slender, 1 inch through; walls rather thick: internodes long and weak; branches slender, whorled. Leaves thin, lanceolate, acuminate, pubescent beneath, margins denticulate, base narrowed to the very short petiole, 6 inches long, 1.75 inches wide; ligule of few rather long bristles; sheath hairy. Panicles graceful, 15 inches long slightly geniculate, branches 2-4 inches long: spikelets 2.25 inches long, light green, 4 or 5 in a fascicle, with several ovate bracts at base, fascicles little over 2.25 inches apart. Glume I ovate; II longer, lanceolate, shortly mucronate; III still longer, mucronate; IV similar but longer. Palea a little shorter, lanceolate, not keeled, glumelike but thinner. Stamens 6; filaments free; anthers exsert, oblong, obtuse, violet. Ovary conic, stipitate, subtriquetrous: style simple, grain obliquely blunt conic stipitate.

Kedah: Lankawi Islands: common, cultivated in the Botanic Gardens Penang, where it forms a large bush of sarmentose habit and where it flowered in March 1915.
William Jack’s Letters to Nathaniel Wallich, 
1819-1821.

copied for the 
Straits Branch of the Royal Asiatic Society. 
from the Records of the Royal Botanic Gardens, Calcutta, 
by kind permission, 
under the superintendence of Major A. T. Gage, edited, with a 
list of the plants known to have been collected by Jack, 
and with notes by I. H. Burkhill.

Sir Stamford Raffles, in 1817, when on leave in England, 
was appointed by the Court of Directors of the Honourable East 
India Company to the post of Lieutenant-Governor of the decaying 
settlement of Bencoolen in Sumatra; and he sailed from Ports- 
mouth to take up his new duties. He had attached to his staff 
the naturalist Joseph Arnold, whose name is so aptly associated 
with his own in Rafflesia Arnoldii,—that of the parasite with the 
gigantic flower, which they discovered together on a journey into 
the interior of Sumatra (May 20th, 1818). Soon after this, per- 
haps from the fatigues of this very journey, Arnold died (vide 
Memoir of the Life and Public Services of Sir Thomas Stamford 

Affairs so fell that after Arnold’s death Raffles had to 
revisit Calcutta, and when there he got together a staff of natura-
lists. This is how he alludes to them in a letter dated Nov. 26th, 
1818 to the Duchess of Somerset “I take down from hence a 
medical man of the name of Jack, who will be entrusted with the 
botanical part of my researches: and I have two Frenchmen, M. 
Diard and M. Duvancel, the former the pupil and the later the 
step-son of Cuvier......... These three savans with a missionary 
clergyman, who takes charge of a printing press, form my equip-
ment from Calcutta, so that I hope we may do something.”

William Jack, who has thus been introduced to the reader, 
was the eldest son of the Rev. William Jack, and his wife Grace 
Boult.

Of the father, Dr. J. W. H. Traill, Professor of Botany in the 
University of Aberdeen, has been so good as to supply the follow-
ing information. He had the degrees of M.A. and M.D. and was 
chosen to be Professor of Mathematics in King’s College, Aberdeen 
in 1794. This chair he held until 1811 when he exchanged it for 
that of Moral Philosophy. In 1815 he was elected to the post of 
Principal, and held it until his death at a great age in 1854.

The son’s career is given in Hooker’s Companion to the 
Botanical Magazine, i. 1835, p. 120, from the pen of his mother:

Jour. Straits Branch R. A. Soc., No. 73, 1916.
and thence the following statements have been taken. William Jack, the younger, was born in King’s College on January 29th, 1795, and at the age of six was sent to the Grammar School. At the age of twelve he proceeded to the University, and at fourteen commenced the study of medicine. Mr. McLachlan, the Head-Master of the Grammar School, seems to have given him an excellent grounding in Latin, and at the same time Mr. Duncan, Professor of Natural Philosophy, taught him to apply his knowledge by reading descriptions in the Latin botany books of the period of the wild plants which already interested him. There were two other Aberdeen botanists of the time who are said to have helped him—Dr. Beattie and Dr. Knight: but the first named can have had little influence as he died when Jack was eight. William Knight must have had much more influence: he was a young man, nine years older than young Jack; and from 1811 to 1815 he taught Botany in Aberdeen privately.

At the age of sixteen Jack graduated M. A. in Aberdeen, and was preparing to proceed to Edinburgh to go through the Medical Schools there, when scarlet fever laid him up, and caused him to lose the session. During this break Mr. Duncan having been paralysed, young Jack taught the university botany class for a short time. In October, 1911, he proceed to London to finish his medical training there, and on the last day of January, 1912, he was orally examined by the Court of the College of Surgeons, and admitted a Fellow.

His friends, chiefly the eminent judge Sir Vicary Gibbs and Lady Gibbs, at once sought for him a surgeonship under the Honourable East India Company, but he preferred to defer his departure, and remained in Britain until the sailing of the Company’s ship “Baring” on January 29th, 1913.

Published with the memoir from which the above facts are drawn are extracts from letters, which show that after his arrival in Calcutta, he was attached to a regiment stationed at the adjoining cantonment of Dum-Dum, and was then sent out with troops which fought in the Nepalese war. It is recorded that on January 9th, 1815, he was encamped on the Chorea ghattee hills with the force advancing on Khatmandoo, but he had not been in the fight at Pursua. A month later he was at Bichiakoh, encamped in the broad stony bed of the stream which debouches from those hills at that halting place. In May he was back at the cantonment of Dinapur, near Patna.

From Dinapur he wrote to his parents as follows “I have lately opened a correspondence with Dr. Wallich the Superintend-ent of the Calcutta Botanic Garden, from which I expect to derive both pleasure and advantage. Till now I have always felt at a loss in my botanical researches, from not being acquainted with the progress of the science in India, and particularly with Roxburgh's extensive labours and discoveries, so that I could never
be sure that my own were not anticipated. It was to remedy this and to obtain, if possible, a copy of Roxburgh's manuscript descriptions, that I wished to commence an intercourse with the present Superintendent. In the first letter which I wrote to Dr. Wallich, I sent him some seeds, and a description of a Lobelia which I had found in Nepaul, and which did not agree with any published species. I received in reply a most friendly letter, accompanied by some papers of his own on Indian Botany, informing me that my Lobelia was a perfectly new species, and soliciting further communications. I have since transmitted to him another despatch, with more plants which I conceive to be new." Then again he wrote on July 19th, 1818, I have paid a visit to Dr. Wallich, at the Botanic Garden, a short distance from Calcutta; he received me with great kindness and warmth, and insists on my coming to stay with him while I remain here. He is much inclined to assist me in obtaining some situation, which may open a field for Botanical research, and connect me with himself in that Department. He has already introduced my name with due acknowledgements, in a paper presented to the Asiatic Society, containing an account of some new plants from Nepaul, one of which was communicated by me." Then again he writes under the date August 19th, 1818, "Dr. Wallich has kindly insisted on my staying with him to pursue my Botanical researches: he has an excellent house in a delightful situation, about six miles below Calcutta, where I hope to pass my time most agreeably, free from those temptations to fatigue and exertion which beset me at Calcutta, and where I trust to be so much benefitted by ease of body and mind, that my health will improve as fast as it could from a sea voyage." So Jack had been ill: it was of lung trouble; and Sir Stamford Raffles says in a letter of Jan. 1st, 1823, that it was contracted during the Nepalese war, with which his Indian Service began. Jack continues:—"I am now engaged in drawing up a paper of some of my discoveries, which I have promised to furnish for a periodical work, about to be printed at the Serampore press."

Again on November 10th, 1818, he writes:—I hasten to inform you of the occurrences of the last few days, which have made a considerable alteration in my plans, since I wrote to you. Some days ago Sir Stamford Raffles, the governor of Sumatra, came here to see the garden, and spent the day, during which Dr. Wallich and I had a long conversation with him, the result of which has been my agreeing to accompany him to Sumatra, and his promising to forward my views, and in particular, to afford me every facility for exploring the Natural History of that island. I expect to sail, shortly, with Sir Stamford Raffles in the Company's cruizer "Nearchus."

Nathaniel Wallich, who was thus instrumental in bringing Jack to the notice of Sir Stamford Raffles, was a dane, and had been in the service of the Danish East India Company established

R. A. Soc., No. 75. 1916
at Serampur on the river Hoogly above Calcutta. From Serampur, when the Danish territory was ceded, his ability secured, after some little delay, the post at the Botanic Gardens which he desired so much. To him,—a generous and good friend,—Jack wrote as he had a mind to do; and the letters were filed by Wallich along with other considerable accumulations. They have been copied at the expense of the Straits Branch of the Royal Asiatic Society under the kind supervision of Major A. T. Gage, the present Superintendent of the Royal Botanic Gardens, Calcutta, on the suggestion of Mr. H. N. Ridley, and are here for the first time printed with the omission—always indicated—of certain criticisms passed on Diard and Duvaucel, and of the official letters from Raffles to them at the end of their service which may be read in the first edition of Lady Raffles' *Memoir of Sir Stamford Raffles*.

The voyage from Calcutta to Penang (Dec. 10th to Dec. 31st, 1818) was made as planned in the "Nearchus" and took just twenty-one days.

The voyage from Calcutta to Penang (Dec. 10th to Dec. 31st, Council by Colonel John Alexander Bannerman, a senior officer who had even served on the Directorate in London, and had been sent out in 1817. Bannerman seems to have considered himself too senior to suffer the interference of a younger man like Raffles and have lent a very willing ear to opposing counsels from his second commissioner. But Raffles had the authority of the Marquess of Hastings then Governor-General in India (1) to bring to a close the disputed succession to the Kingship of Acheen, and (2) subsequently to endeavour to effect a settlement further to the eastward than Penang,—both matters which had been very much in the hand of the Governor of Penang: in fact Bannerman had just tried under the orders of the Court of Directors to effect this last himself, and failed, because the Dutch forestalled him. It seems that he was therefore unwilling to see how another could succeed, and he proved obstructive. It has been hinted that some of his subordinates were venial: and if so it may be asked whether it was merely by prescience or by leakage of information that the Dutch came to forestall Bannerman at Rhio; but the biscuit had been fingered hesitatingly before by Bannerman (see *Memoir of Sir Stamford Raffles*, p. 395). With these matters Jack had nothing to do: they took Raffles away from Penang where he left his wife in the charge of Jack as her confinement was approaching.

Major W. Farquhar, we shall see, met Raffles at Penang possibly by accident but more probably by appointment: for if by accident why had he brought his drawings (see p. 153) with him. It was he who had been sent by Bannerman only a few weeks earlier to found the establishment at Rhio; and he on his return found himself under Raffles orders instead. Doubtless the handing over of the services of his emissary to the younger man would be a thing particularly nettling to Bannerman; for that the services were
handed over is evident from Jack's remark that Raffles had sent Farquhar on a mission down the Straits, when the change of front on the part of the Governor caused him to go first to Singapore, and only afterwards to Acheen.

The Acheen affair proved very tedious, and Raffles records that the proceedings taken down in the investigation ran to upwards of a thousand pages of the Company's largest sized paper. He had returned from founding Singapore to Penang and thence gone forward to Acheen; and all this time Jack was left with light duties and the interesting flora of Prince of Wales Island to investigate.

Of books Jack seems to have possessed Roxburgh's *Hortus Bengalensis*—a mere catalogue printed in 1814, his Coromandel plants, Loureiro's *Flora cochinchinensis*, Rumph's *Herbarium amboinense*, and Lamarck's volumes of the *Encyclopédie Méthodique* and some of Poiré's, together with extracts from the manuscript of Roxburgh's *Flora indica*. Later he employed through Wallich, a clerk to copy the whole manuscript, and he commenced to subscribe for Rees' *Cyclopaedia*, De Candolle's *Regni Vegetabilis Systema* and Roemer and Schultes' *Systema Vegetabilium*. He also bought Rheede's great *Hortus Malabaricus*. In 1820 Carey and Wallich produced the first volume of their revision of Roxburgh's *Flora*, and an early copy was sent to Jack, who thereupon sent back to Carey what seem to have advance sheets.

He employed a Chinese draftsman in Penang; but it is not recorded if he continued to employ artists afterwards.

The interest of the time was the finding of new species, and their cataloguing. Jack brought to this work a really excellent understanding of the natural system of classification, a kind of intuition, the origins of which must have come from work in Britain; and had he lived longer his work would have been splendid. He also showed a small interest in geographic botany.

**SERIES 1—PENANG LETTERS.**

Prince of Wales Island

Jan. 14th 1819.

My dear Wallich,

At length the land of promise begins to open to me, and very glorious it seems to be. I am so thoroughly occupied that I perceive I shall have little time to write to you, if I put it off to the last, therefore mean to take an hour or two from the night occasionally and to continue my letters at intervals, which though it will make them a little disjointed, I am sure you will excuse, as I shall thereby be able to give you longer details. Of the voyage I need not say much but that it was long and tedious, and on several accounts far from comfortable. Sir Stamford was very ill during part of it.

R. A. Soc., No. 73, 1916.
We landed on the 31st and soon forgot everything unpleasant. Among the first objects that saluted me were the Nutmeg and Clove:1 of the latter there are two trees in full blossom before my door. The pride of the East, the Mangosteen, next presented itself. I must seek and get someone to attempt grafting it for the purpose of being sent round. The variegated Pineapple,2 I believe is only a variety of the cultivated; but I have heard of another kind which probably differs specifically. The *Melastoma malabathrica* is in the greatest profusion. The situation of the anthers before flowering is very remarkable.

I am convinced this Island will produce many things entirely new. I have already met with and described two species of *Mangifera*, which must be quite new. The first is called the Bachang and for which I intend the specific name of *M. rubicunda.5* ["Folii lati lanceolati retusi, paniculis ascendentibus, floribus submonandris, corollis infundibuliformibus limbo patente demum reflexo"]. The other is a very singular one, which I propose to call *M. quadrifida,4* [folii oblongo lanceolati, paniculis axillaribus laxis, floribus quadrifidis, monandris, petalis nudis glandulosis]. Another very interesting discovery is the *Nelumbium javanicum*, Lamark,5 which seems to have been overlooked by later authors, but is without doubt a distinct species from the *N. indicum*. I have also found the *Rubus alceafolius*, Lamark,6 which also seems

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1. In the year 1818 there were 6,900 nutmeg trees in bearing in the island of Penang (vide Ridley, *Spices*, London, 1912, p. 102) besides large numbers of younger trees or males—the acquisition of 22 years; for it was in 1796 that the East India Company undertook the introduction and sent Christopher Smith to the Moluccas for the purpose: and by 1802, when the trees first fruited, Smith and his successors had sent out from the Moluccas 71,266 in all, mostly to Penang.

To the same date they had sent out 55,265 clove trees, also in chief part to Penang; but there was only a lesser measure of success with them up to the time of Jack’s visit.

2. It is quite possible that the pineapple with variegated leaves was familiar to Jack from existing in the Calcutta garden. Roxburgh the first Superintendent of the Garden, knew of its existence in Calcutta.7 It thrives well in Penang.

3. Jack subsequently found that the bachang had received the name of *Mangifera foetida* from Roxburgh: and in these letters we find him first suspecting that this was so, asking Wallich for a diagnosis; then sending specimens to Wallich, which appear to have reached Calcutta safely for, in or after 1828, Wallich when distributing the collections of the East India Company sent out under No. 8488 material of *M. foetida* collected by Jack. We find in Carey’s and Wallich’s revision of Roxburgh’s *Flora Indica* a description borrowed from Jack (vol. ii., p. 440).

4. *Mangifera quadrifida*, Jack, found a place in the same work, where occur almost the very words used above.

5. *Nelumbium javanicum*, Lamk., has been reduced to *Nelumbium speciosum* along with *N. indicum*.

6. *Rubus alceafolius*, Poir., is the common bramble in the low ground of Malaya, which has passed in our floras as *R. moluccanus*. It is interesting that Curtis had not found it in Penang (this journal No. 25, 1894).
to have been neglected. I have a species of *Loranthus*, which from
the specific name I think may be Roxburgh’s *L. ferruginea*. Mine
is quadrifid, tetrandrous. There is also very common here a species
of *Morinda*, which appears to differ from all Roxburgh’s in having
both the anthers and style exert. What confusion there has been
about the *Minusops Kauki*. I wish I had Roxburgh’s character
of it. There is a hexandrous species here about which I am doubt-
ful. Major Farquhar who has been for many years resident at
Malacca, arrived here the day before us. He has made a very
large collection of drawings and subjects of Natural History. I
have just had an opportunity of examining his drawings of Malacca
plants. Most unfortunately, from want of scientific acquaintance
with the subject they are deficient in many essential points of
dissection, but they will be extremely useful as a guide, by taking
the native names of all that promise to be new or interesting, and
making inquiries accordingly for the originals.

I have not yet been up the hill, but shall soon, when I shall
find an abundant harvest. There is a species of Fir here with
solitary leaves11 which is probably new—I am in hopes of getting
cones. The arborescent ferns are I am told in great abundance.

Our future plans are not determined, probably we shall go
first to Bencoolen, it being a great object to arrive there early on
account of Lady Raffles.

There does not appear to be any great cordiality here on the
part of this Government, nor am I surprised, for they cannot but
feel how little and insignificant they are in comparison with the
energy of Sir Stamford.

I cannot express to you how much I am delighted with him;
he is of the real Sterling stamp, of that active and comprehensive
mind that diffuses a portion of its own energy to all around: even

7. *Loranthus ferrugineus*, Roxb., is one of the commonest of the
mistletoes in Penang.

8. *Morinda umbellata*, Linn. is the common Morinda of Penang.
Whether anthers an exerted or not, is but a sexual character in it: and
sexual dimorphism was little understood in Jack’s time.

9. Wallich quotes a series of synonyms under *M. Kauki* in his
Catalogue: and it is known that he was both confused and confused others
over this species. Probably he had been talking to Jack about it.

10. There were two Farquhars connected with Malacca about this
time. The one was the Lieutenant-Colonel Sir R. T. Farquhar who as
Governor of Penang in the year 1795 suggested the demolition of the
fortifications of Malacca. The other, this Major William Farquhar of the
Engineers, described truly by Jack as for many years Resident at Malacca—
actually from 1803 to 1818—and at a later date, when a Colonel, the first
Resident and Commandant of Singapore. He employed, so we learn also
from Wallich, a Chinese artist, and was the discoverer of that strange fern
*Mropolitan pectinata* on Mount Ophir. Buckley in his Anecdotal History of
Singapore (1902) vol. 1, p. 50 details his service, and adds (p. 105) that
he died in retirement in 1839.

11. *Dacrydium elatum*, Wallich, which was new at that date.
our two savans\textsuperscript{12} feel a little of the Promethian touch, without which—it is needless to say more. Twelve o'clock, so good night.

Jan. 16th—I find mention made of a species of \textit{Mangiferu, M. foetida}, which I suspect is the Bachang, and which I prematurely proposed calling \textit{runicundu}.

\textsuperscript{12} Have you a description of that species? if so, you will be able to judge from the character I gave you and you shall have specimens by the first opportunity; there has not been one yet. We have remarkably rainy weather, which probably is one cause of the difficulty I have found in getting the plants poisoned, I have been obliged to throw away many.

Do you know that the \textit{Rhizophora} has four ovula, three of which abort? I have made a very accurate investigation and sketch of the carpology of a species which I found here,\textsuperscript{14} which approaches to the \textit{R. cylindrica}, but differs in several respects, particularly in habit, erect conduplicate petals, and peduncles 3—4-florous. They are a very extraordinary tribe; if I am not mistaken, you refer \textit{Avicennia} to it. Are you acquainted with the Rambutan, \textit{Nephelium lappaceum} of authors, \textit{scyaltia rambutan}, Roxb.\textsuperscript{15} Is it not surprising that the analogy with the Litchi should have escaped observation? Look at what a strange corner Jussieu has popped it into. Its being dichinous, is very peculiar, and I suppose the cause of the mistake. I think Roxburgh was right in his idea of the Natural Order, whether it is admissible merely as a species of \textit{Scyaltia} is not quite so certain, what say you? I have found a singular species of \textit{Pothos} with aculeate petioles and scapes, and large pinnatifid leaves with long linear divisions, can it be Roxburgh's \textit{pinnatifida}\textsuperscript{916} Pray send me his specified charac-

\textsuperscript{12} Diard and Duvanee; see the introductory lines, p. 147, and letters below at pages 187 and 201 et seq.

\textsuperscript{13} See note No. 3, p. 152.

\textsuperscript{14} \textit{Rhizophora carophylloides}, Jack, which is now placed as \textit{Bruguiera carophylloides}, Blume. The species to which he compares it, \textit{Rhizophora cylindrica}, is now placed as \textit{Bruguiera parviflora}, W. & A., and is common in the Sundribans of Bengal. Jack described \textit{Rhizophora carophylloides} in the Malayian Miscellanea and the description was reprinted in Hooker's Botanical Miscellany, ii. p. 86.

\textsuperscript{15} The rambutan had been introduced into the Calcutta Botanic Gardens during Roxburgh's time; but it does not thrive in northern India, and was probably lost before Jack came to know the plants therein. Jack wrote at a later date than this, as internal evidence shows, his description of the plant which was published in the Malayian Miscellanea, vol. 1, (1820) No. 1, p. 10.

\textsuperscript{16} \textit{Pothos pinnatifida}, Roxb., for the characters of which Jack asks, is a climbing plant of Sumatra which was introduced into the Calcutta gardens under Roxburgh, and described by him from leafy specimens. It has been reduced in the \textit{Flora of British India} to \textit{Epipremnum mirabile} where the locality is given as "Penang, Roxburgh." But without doubt Ridley is right in stating that this is probably an error; perhaps the original source of it is here, and its perpetuation was due to one of Wallisch's annotations, vide Ridley, Materials for a Flora of the Malay Peninsula, iii. (1907) p. 46.

Jack's plant would be \textit{Lasia aculeata}, Lour., and therefore Roxburgh's \textit{Pothos heterophylla} instead of \textit{P. pinnatifida}.

\textit{Jour. Straits Branch}
ters. I find here a remarkable variety, or more probably a distinct species from the Acanthus ilicifolius, to be readily distinguished even at a distance by its flowers being white, much smaller, and in longer quadrifarious spikes, only at the summits of the branches. The true A. ilicifolius is also to be found here, so that I have the opportunity of comparing them together, and find besides the above striking differences the following more minute ones—Calyx shorter than the tube, one bracteate at base, style shorter than the stamina, and stigma simple in the white one; the contrary of which is the case in A. ilicifolius, which has three bractts to the calyx and a bifid stigma. In leaves and habit they are much alike, and equally prickly. By the bye, is not Lamarck in a mistake in attributing to the ilicifolius, alternate leaves? see "Enc. I sub Acantho." Pray is not that splendid Cassia which we often took notice of on the walk down to the great Ficus infectoria the Cassia alata, Linn. and not a Roxburghian species? it is here abundant on the road sides. The Mussaenda frondosa is another ornament of these neglected spots.

Jan. 23rd—My occupations have been a little interrupted by an unexpected series of events which have produced quite a revolution in our little world, and which I must now give you a short account of, that I may carry you along with me in everything that occurs. I have already mentioned that I thought there was no cordiality on the part of the Government towards Sir Stamford, and you shall hear presently the lengths they have since proceeded in their spirit of jealousy. You probably know that Sir Stamford left Bengal with a commission to settle the affairs of Acheen where two rivals have been contending for power, and

17. Acanthus ebracteatus, Vahl. It happens that A. ilicifolius, Linn., is not recorded from Penang; but there is no reason why it should not occur or have occurred in Jack's time.
18. Cassia alata, Linn., occurs in Penang as a cultivated plant and an escape from cultivation. It is used medicinally as a poultice for Ringworm, and grown for the purpose.
19. Mussaenda frondosa, Linn., does not occur in Penang: but M. glabra, Wall. is of common occurrence; and it would be this which Jack had noticed.
20. The rivals were (1) Johar Alam, the king, who had ascended the throne in 1802 and (2) Saif-ul-Alam, son by a slave girl, of a wealthy Penang merchant named Said Husein, the father himself being again the son of a slave girl.

Acheen for long had been a hotbed of trouble because the chiefs were almost as powerful as the king and therefore able to resist him. In this case they seem to have been done out of import exactions by the King, who permitted trade only at Acheen, and they conspired with the rich Penang family for the sake of the money that they needed for resisting; so that armed vessels paid for by Said Husein sailed from the Settlement to harass the King. From 1815 to the date of Raffles' mission this particular brew of mischief fermented; and the Penang Government was miserably timid throughout—parleying with traitors, permitting hostile acts to take their origin in their own port, and worse than that by some of the officials assuredly taking bribes. Once a judge condemned Said Husein to prison, and the Recorder released him with honour. So they played fast and loose.

The story may be read in John Anderson's Acheen and the ports of the north and east of Sumatra (London, 1840).
both are desirous of obtaining our aid and protection. He has also in view to make some settlements farther to the Eastward, and as these are in fact the most important, he was anxious to make the earliest possible arrangement of the Acheen affairs in order to be more at liberty in proceeding with his other plans. Expedition however forms no part of the political code of Penang, besides which, there has been such a scene of intrigue, and I believe I may add corruption\(^{21}\) going on here in regard to Acheen as is quite disgusting. Of the two rivals whose claims are to be decided, the one is the legitimate King, with whom the nobles quarreled some time since, and whose power is insufficient to preserve peace; the other is the son of a Penang merchant, who appears to have no other claim than his father's immense wealth, and the support he has,—God knows why!—been receiving from this government. You may easily imagine that the arrival of a man like Sir Stamford to clear up such a business as this, could not be welcomed by those whose schemes were likely to be overset by the event; and they accordingly determined to throw every possible obstacle in the way, and to try every scheme that cunning could suggest to defeat his objects and prevent if possible their own disgrace. It would be tiresome to relate to you the artifices, the meannesses they had recourse to in the pursuit of this object, suffice it to say their conduct was disgraceful not only to their rank and situation, but to their character as men. But they had to do with a man too much their superior. Sir Stamford first intended to have gone to Bencoolen on Lady Raffles' account, and to have returned to make the final arrangements. The intrigues that were going on here however rendered the execution of that plan impossible, and he was at last obliged to determine on her remaining here,\(^{22}\) and going himself over to Acheen. In the meantime, that his other plans might not be entirely suspended, during the delays of the Acheen business, he employed Major Farquhar to proceed on a mission\(^{22}\) down the Straits, as, though very desirous of it, he could not go himself. Major Farquhar sailed on the 18th and he was to go in a few days after to Acheen. Now you must know that Sir Stamford had offered to the Governor that if he wished to make any reference to Bengal on the subject of Acheen, that he would delay his proceedings till an answer should arrive and in the meantime pursue his ulterior object, but the Governor was just as averse to these other views, and wished if possible to

\(^{21}\) Lady Raffles recorded that an attempt was made to influence Sir Stamford by the presentation of a casket of diamonds to her. Vide *Memoir of the Life and Public Service of Sir Thomas Stamford Raffles* 1830, p. 379. Anderson hints that the official interpreter for Achenese, a man with an European name, was not without bias.

\(^{22}\) Raffles' determination to leave Lady Raffles in Penang is mentioned in one of his published letters dated Jan. 16th, 1819, i.e. two days before the Governor's change of front.

\(^{23}\) Jack is silent as to the object of the mission, which is quite likely to have been an examination of the Karimon islands.
prevent his accomplishing either, therefore declined the offer, in hopes, by throwing obstacles in the way, to keep him idle here. He was afraid to take any decided step to prevent his going to Acheen till after Major Farquhar should have sailed for fear he should go away on that expedition. But no sooner was Major Farquhar's ships out of harbour than he addressed to Sir Stamford the most urgent solicitation that he would suspend all proceedings relative to Acheen till a reply should be received to important references that had already been made to Bengal. This, I suppose was considered a master stroke of policy, but respiice finem. The moment he received this, Sir Stamford took his resolution; Major Farquhar's ships were but just outside the harbour, and at anchor till next tide: he immediately dispatched intimation to them, ordered the ship in which he was to have proceeded to Acheen to get ready to go to sea immediately, and commenced sending everything on board. This was in the evening, and as soon as everything was arranged for his starting before day-break next morning, he wrote to the Governor to say that he had determined to meet his wishes, and complied with his request of suspending all proceedings relative to Acheen till the arrival of the expected reply, and had in consequence determined to sail next day to overtake Major Farquhar, and that he should return in time to resume the Acheen affairs after the requested delay had been granted. Every arrangement being made he did embark next morning and set sail,²⁴ before the people here, who had no idea of any such promptitude and decision, knew anything about it, or had time to consider on any further obstacles to impede his progress. You may easily conceive the Governor's astonishment and disappointment, at finding his scheme defeated, and falling into a snare of his own devising. But there was no remedy. As Sir Stamford wished me to remain with Lady Raffles, here I am, in a house which he took for her residence while here, in preference to being a guest at the Governor's. Could anything be more excellent? In the first place admire the energy of Sir Stamford, then think how comfortable I am, with so agreeable a woman as Lady R., abundant leisure to examine the productions of this Island: in short I am delighted, and the day is not half long enough for all that I have and wish to do. It is needless after what I have related to make any comments on the extraordinary conduct of the

²⁴. Note how in seeking his settlement to the eastward before closing the Acheen business, Raffles deviated from that narrow path of subservience which must be taken to satisfy certain superiors,—a path followed with such faithful subordination to the Board of Directors, and so ineptly, by the Government of Penang throughout these years. To Colonel Bannerman, who himself had been a Director, the "sin" may well have seemed large: and latter, because if Raffles had obeyed the letter of his orders, the instructions from Calcutta ordering him to desist would have overtaken him. Apparently this deviation was one of several acts of competence which caused the Board a little later to order that Raffles should have nothing further to do with Acheen, and to keep him in exile in decaying Beneoolen.

R. A. Soc., No. 72, 1916.
Governor of this Island; could I waste time and paper on details, the picture would astonish you. The fact of the matter is he is a weak man, with violence of temper sufficient to commit any folly or absurdity, and is entirely under the influence of one of the members of council, an artful designing character, utterly devoid of principle, who is the prime mover of all mischief, without appearing as a principal, and who does not care to what extremities he urges the other while he himself remains secure from the consequences. I wish I could convey to you some idea of the reverse of this picture, and contrast the activity and comprehensiveness of Sir Stamford's mind, with the narrow contracted spirit displayed in the other, which is almost too contemptible to be ridiculous. Were it not painful to see a British Governor so unworthy of his situation, I could really be amused, the whole is so perfect a burlesque upon politics. "Du sublime au ridicule n'est qu'un pas" was one of Bonaparte's observations, and really the only difference is often in the scale on which they are performed. That in fast is all that distinguishes an Iliad from a Batracomyomachia. When a horde of Pindarries commits a few depredations and a Governor-General takes the field with the whole armed force of Hindostan to suppress them, it is grand but if a Governor of Penang endeavours to place a king on the throne of Acheen, the trumpet of fame is silent, and yet neither of them perhaps surpasses in foresight and contrivance a wily school boy forming a scheme for the plunder of an orchard. Enough however upon this subject. I wish you had added to the list of names of Malacca trees and plants, the scientific names of such as you knew, it would rather have been an assistance. There are two or three of the first named, the Rambay and Dookoo for instance, whose fruit I have met with, but not the flowers, and have not therefore been able to determine yet. I shall add the Linnean names as I discovered them. Have you in the garden the Bua

25. Jack, like another botanist, Francis Buchanan-Hamilton, felt no strong attachment towards the Marquess of Hastings: and from the way in which he writes to Wallieh it appears as if his sentiments were shared; but their cause does not transpire in these letters. Buchanan-Hamilton had been treated at the close of his Indian career, as if he could shut up his interests like a tedious novel, and on a minute by the Marquess of Hastings the materials were clumsily withheld from him that he had gathered together to take to the India House there to elaborate in retirement. That years after, he still held himself unjustly treated is evident from the advice which he gave to Wallieh to keep control of his collections. It may have been this: but is likely to have been something complex, which caused the feelings held by Jack.

Jack alludes here to the circumstance that Lord Hastings had called out in 1817, 116,000 infantry and cavalry, with 300 guns, which as Marshman remarks (History of India, ii. p. 327) was a force "out of all proportion to the simple object of extinguishing bands of marauders who never stood attack." But events justified Hastings; and Jack's remark is that of a boy in politics.

Krass, a species of *Aleurites*? I have just examined it, and was at first a little puzzled by it. It appears to have been described under three different genera, *Croton*, *Jatropha*, and *Aleurites*, I have not the least doubt that the *Croton moluccanum* and *Jatropha moluccana*, see Lamk. Enc. are the same thing; it is quite absurd to compare the two descriptions, which are almost word for word the same, and I should suppose Forster’s *Aleurites triloba* also to refer to the same plant but for the trifid calyx which he attributes to it. I observe in the catalogue, only this latter mentioned; does Roxburgh make them to be all three the same? The calyx of the male of what I have examined is always bifid. There is here a large tree, at present only in fruit, which is called Bua Jiring. I think it may be Roxburgh’s *Mimosa Djiringa*. I will send you some of the fruit which is very peculiar, the pod being deeply sinuate or lobed on one side, each lobe or articulation monospermous and the whole spirally contorted.

As this letter has already become of rather an unconscionable length, I will have mercy upon you, and here close it. I shall send it to the Post Office to go by any accidental opportunity, which there sometimes is by native vessels or by the way of Madras—which I may not hear of, and write again when I know of a good opportunity. Specimens of course must wait, as they are mostly too large for the Dak, but to show that they are not forgotten, I shall add a few small ones to take their chance, it would be useless to send good ones on a chance opportunity. I am afraid it will be sometime before I hear from you, as your letters will have gone to Bencoolen. As we may leave this about the 20th of Feb., I believe there would hardly be time after the receipt of this, to address me here.

I am very anxious to have accounts.

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27. *Aleurites triloba*, Forst. It was a fairly common tree about Calcutta at this time (vide Abbey-Yates, in the *Agricultural Ledger*, 1907, p. 31). *Jatropha moluccana*, Willd. and *Aleurites moluccana*, Willd. are synonyms.

28. *Pithecolobium lobatum*, Benth., is the name which is applied now to Jack’s *Mimosa Jiringa*. Jack published his description in the *Malaya Miscellanea*, i. No. 1 (1820) p. 14. The fate of the pod which he advises and of the specimens sent with his letter of March 5th is not to be traced; they do not appear to have found a place among the collections which Wallich distributed from 1828 forward, and in this respect are like a great quantity of further material which must have passed into the early Calcutta herbarium but never came out into any other,—Roxburgh’s dried plants for instance and more of Jack’s material sent later. It may be suspected that such was lost from want of attention during Wallich’s lengthy visits to Nepal, Singapore, Ava, and the sal forests of Sindh. And Wallich with such losses on his mind may well have become very anxious to carry through his distribution of the East Indian Company’s herbarium in order to save the material.

29. Post.

Give my compliments to .......... 26 if you see him, and to Col. Hardwicke. 27

Believe me ever,

Yours most sincerely,

William Jack.

Pulo Penang,
Jan. 2nd, 1819.

P.S. I enclose seeds of a new species of Sonerila, 22 which I found this morning in the woods. I found also two very splendid plants, the Alpinia mutica 23 and punicea 24 of Roxb. I shall send the other few trifling specimens in a separate packet with this. I am looking very anxiously for a good opportunity to give you a sample of this Island. If not too much trouble, I should like to have Roxb.‘s char: of his Melaleuca caujuputi. 25 He gives in the list 26 a Mangifera gandaria, but there is no description of it in the MSS, 27 which I have. Whose and what is it? I could wish to

26. Name illegible. A. T. G.

31. Colonel, afterwards Major-General, Thomas Hardwicke (died 1835) a zoologist of great merit, served in the Indian army for many years, using his opportunities there and in Mauritius for collecting specimens, and making drawings. He was Vice-President of the Asiatic Society of Bengal when Lord Hastings was its President. A Major H—is mentioned in the extracts of Jack’s letters to his parents which Sir William Hooker printed, as stationed with Jack at Dinapur, and it may be that this was Major General Hardwicke.

32. Probably Sonerila erecta, Jack, described in the Malayan Miscellanea, i. No. 5 p. 7.

33. Alpinia mutica was described by Roxburgh as having been introduced into the Calcutta Botanical Gardens from Penang. It flowered in Calcutta; and it has been in many Gardens since, so that it is well known. But it has not been found in Penang by any one during the last century; and the query is raised whether Roxburgh got it from wild plants, it being extinct now in Penang, or from its known home on the eastern side of the Malay Peninsula via Penang. The allied Alpinia assimilis, K. Schum., which occurs freely in Penang might have been mistaken by Jack for the other (vide Ridley, in this Journal No. 30, 1899, p. 165).

34. Alpinia punicea, Roxb., Flora indica, i. p. 71 is Hornstedtia punicea, K. Schum., a plant not known to occur in Penang. But there is in the island H. megalocheilos, Ridl., which has ‘‘crimson stars of flowers on the surface of the ground’‘ just as Jack describes this in the next letter: and it was probably it that he had obtained.

35. It is worth remark in passing that here we have again one of the Roxburghian adoptions of a Dutch spelling of which Jack complains. Mimosa Dyiranga and Melaleuca Cajuputi are equally objectionable, or acceptable. See p. 165.

36. Roxburgh’s Hortus Bengalensis, which had been printed by Carey in the year after its author left India.

37. Roxburgh with as much generosity as Scotch prudence, left several copies of his Flora indica in manuscript in India in the hands of friends, and it appears as if Jack had been able to provide himself with extracts from one of them, but at this date was in need of much more than be had. We find him later paying the wages of a copyist in Calcutta for the obtaining of further copy. See note No. 119, p. 181.
have the characters of Roxb.'s *Scutalia* and *Melastome*, of which latter I have found several, one very strange tetrandrous one, with bluish flowers, but I must not make my correspondence and requests a tax upon you.

Will you kindly send the enclosed to Mr. Calder when convenient.

Thine

W. J.

P. Penang,

Feb. 12th, 1819.

My dear Wallich,

My last will have given you some idea of how I am employed, and what is going on in this quarter. We have just had accounts from Sir Stamford, who has taken possession of Singapura (the City of the Lion) an ancient Capital of the Malays and situated on the Island of Singapore, opposite to Johor, and at the Eastern extremity of the Peninsula and Straits of Malacca, which is to be our principal settlement of that quarter, and a most important one it will be. We look for his return very soon. So much for affairs.

Now for Botany; I am actually overwhelmed with the treasures that pour in upon me; I have been employed night and day so as not even to leave time for correspondence. I actually wish for a little remission, for my cough has been teasing me, but how is it possible? I cannot even now get through all; my specimens are in piles that are quite alarming, and I have not time to look over them: I must however take a day to make a selection for you. I look forward to getting on board ship to bring up arrears, and get things in some order, and then you shall not be forgotten. I am at this moment engaged upon a drawing of a splendid new *Tecca* with entire leaves, diphyllos involucrum &c. &c.; of which you shall presently have a full account, and which I mean to dedicate to Lady Raffles. Say Amen! I will send you the drawing

38. This Calder belonged to one of the Agency firms in Calcutta, and appears to have been the James Calder, who supplied a geological paper to the eighteenth volume of the Asiatick Researches and was an energetic member of the Asiatic Society of Bengal two years later than the date of this letter. Dr. Gravely, Hon. Secretary of the Society has ascertained that James Calder was elected member on April 12th, 1817.

39. *Tecca cristata*, Jack in Malayan Miscellanies, i. 1820, No. 5, p. 23, a common plant at low elevations in Penang. We find it here as *Tecca rafflesiana*, and in this understand how Wallisch came to distribute it in or after 1826 under that name (Wall. Cat. No. 5172); but the cause of Jack's alteration is not recorded.

There is a note in the *Malayan Miscellanies* making reference to Curtis' *Botanical Magazine*, plate 1488 published in 1812, which should not be considered evidence that Jack had access in Malaya to that work: for Jack had an opportunity to work in Calcutta before he published the description.

R. A. Soc., No. 78, 1916.
to be engraved, which I think it will not even require the aid of
gallantry to induce you to do.

This is the very land of Melastomae, I cannot tell you how
many species I have got, many I think new, though some perhaps
Roxburghian.

Have you not established a genus Cyathospermum? I have
some recollection of you speaking about some Sylhet plants which
you had so named; I shall enclose in this, a section of the seed
of a Rubiaceous plant I found here only in seed, whose structure
is so peculiar, that I think it may be your genus from the name.

I enclose some ripe capsules of a diandrous plant, habitu
didynamoid, which has puzzled me a little. I most distinctly
recollect your Nepaul Koom Koom, which you referred to Incar-
rillea, but I think the capsules of this plant resemble it. The
placenta are so peculiarly reflected, that they appear to be four
celled; 40 I have met with two or three species. It seems to have
an affinity to Bœa.

I have also a new species of Cookia or Wampi, 41 differing
from the common one in having long tomentose leaves, consisting
of 10 or 12 pairs of very inequilateral pinnae, and small greenish
flowers whose petals are pellucidly punctate in the same manner
as the leaves.

I have found two very splendid Alpinias, which I believe you
have in the gardens, the A. mutica and punicea 42 of Roxburgh.
The latter is particularly beautiful, throwing up its crimson stars
at the very surface of the ground, and its noble leafy stems by
their sides. I have also a smaller species which may be new.

Feb. 15th—Sir Stamford is returned, and there is a vessel
going to Bengal to-night or tomorrow morning. I have prepared
with all possible ex. a packet of specimens for you which, though
selected and put up in haste, will I think please you, and give
you some idea of our Penang flora.

I hope they will keep, for I have put none that are not quite
dry. Among them you will find:—

two species of Sonerila, one Roxburgh’s moluccana, 43 the other
my new one, which from its habit might I think be called S.
erecla 44 of which I send you seeds,

40. It is clear that he is referring to a Didymocarpus: and it would
be to one of the three described by him from Penang viz, D. crinata, D.
reptans and D. frutescens.

41. Clauana excavata, Burm., probably, which is common on the
cost of Penang.

42. Alpinia mutica, see note No. 32 and Alpinia punicea see note
No. 33.

43. Sonerila moluccana, Roxb. Flora Indica, i. p. 170.

44. S. erecta, Jack. Vide note No. 32.
a *Melastoma* which I shall be glad to know what you say of; it may be *Osbeckia tetandra*, Roxb.;\(^45\)
a *Volkameria* with beautiful hanging panicles,\(^46\) which I suspect is one you have in the garden.
two species of *Melaleuca*,\(^47\) on which I wish to have your opinion.
a species of *Corypha* which I think is new.
a new *Morinda* with terminal umbellated capitula, and corolla villous within and tetrandrous.\(^48\)
a species of *Connarus*\(^49\) which from the name may perhaps be Roxburgh’s *C. paniculata*.
my new *Mangifera quadrifida*\(^50\) of which I have got a very good drawing.
I have numbered a greater part of them for the facility of reference when you write.
I enclose in this a leaf and some of the fruit of a beautiful shrub whose flowers I have not seen. Is it an acquaintance of yours? The leaf is so remarkable that it cannot be mistaken, it is numbered 96.

Sir Stamford has brought with him a number of specimens which I have not yet gone through; among them however are no less than three new and splendid species of *Nepenthes*\(^51\) from Singapore, the new settlement. I must name one of them after him, and Lady Raffles. I must keep her *Taccia* also. I shall have

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45. Possibly *Dissocheta pallida*, Blume, which was described by Jack as *Melastoma pallida* in the *Transactions of the Linnean Society of London*, xiv. p. 12.
46. *Clerodendron nutans*, Jack in this place and in the *Malayan Miscellanea*, i. (1829) No. 1, p. 17, must have been *C. penduliformum*, Wall.
47. *Melaleuca Leucadendron*, (M. Cajuputi, Roxb.), is a very variable plant. Bentham wrote of it as follows:—it “varies exceedingly in the size, shape and texture of the leaves, in the young shoots very silky villous or woolly, or the whole quite glabrous; in the short and dense or long and interrupted spikes; in the size of the flowers; in the greenish-yellow, whitish, pink or purple stamens etc., and at first sight it is difficult to believe that all can be forms of one species.” There is therefore no reason to think that Jack had found in his second plant a species of this genus now lost from the island.
49. *Connarus ferrugineus*, probably, which Jack described in the *Malayan Miscellanea*, ii. part 7, p. 37. Wallich distributed Jack’s specimens under his number 8536, but without a specific name.

Raffles mentions them in a letter dated 10th June, 1819 (Memoir of Life of Sir T. S. Raffles p. 381). Sir William Hooker in the Botanical Magazine under plate 4285 (1847) suggests that Jack was the actual discoverer of *N. Rafflesiana*, but obviously in error.
drawings made of them and ample descriptions, and will send them to you to be engraved and brought into the world in the way you shall think most proper and satisfactory.

I am anxious to know how our "Contributions" 52 come on? Shall the above plants appear in it or the Society 53 or how? I am sure you are as much interested as myself to do proper honour to Sir Stamford, who deserves all we can do, and more. He is a second Mr. Gardener 54 et plus. I have not time at present to enter upon foreign topics, or would give you some account of his proceedings since he went away, but I will at a more leisureed time, and shall only let you know at present that he has established a new settlement at Singapore, which combines so many advantages as must soon make it the most important place in the Eastern Archipelago, and the centre of trade. The style in which the thing has been done will delight you when I have time for it. I enclose a few seeds of one of the new Nepenthes.

He has also brought a single specimen of one of your Napaul Orchideæ whose name I forget, but the sketch annexed will give you an idea, the leaves are purple and beautifully variegated with yellow veins. The specimens and probably this letter, proceed by the Hope.

My best compliments to Mrs. Wallich and believe me, in great haste your ever and sincerely,

William Jack.

Prince of Wales' Island
March 5th, 1819
[Reed Apr 2].

My dear Wallich,

Ever since I wrote you last and Sir Stamford's return, I have been so busy that I have had no time for writing. A vessel is expected to sail for Bengal in a day or two, and I cannot think of allowing it to pass without something from me.

Sir Stamford is about to leave this for Acheen, where his business will probably detain him about three weeks. I remain here.

March 6th—I was interrupted yesterday and have just learnt that the vessel, the "Mercury," sails to-morrow morning. I have therefore in all haste made up a parcel of specimens for you, to the imperfection of which I crave your indulgence. Some will

52. A proposed joint publication which never matured. Wallich's plans were commonly larger than his means of putting them into execution.

53. Without a doubt a reference to the Asiatick Researches of the Asiatic Society of Bengal. Jack on 12th Feb. 1819 became a member of the Society; Wallich had been a member since the 5th of December, 1810.

54. E. Gardner, British Resident at the Nepalese court. It was he who arranged for Wallich's visit to the valley of Nepal; and previously he had been a contributor to the collections in the Calcutta gardens.
probably interest you, as they promise to be new. There are specimens of the *Mimosa* I formerly mentioned to you as likely to be Roxburgh’s *M. Djiringa*! barbarous! why not call it *Jiringa*; it is Dutch spelling he has adopted. There is another nearly related species, with small red contorted legumes. Observe also a *Melia* which seems new, a species of *Curculigo* a *Bauhinia* with red flowers, a most beautiful climber which displays its blossoms of flame on the summits of the highest trees. Let me know what you think of No. 3 with beautiful red arilled seeds, which seems related to *Celastrus*, but is monosperous and capsule bivalved. I could not observe any corolla in its flowers. Tell me whether you think Roxburgh’s *Phyteuma begonifolia* really belongs to that genus. I am doubtful. You can probably tell me at once what species of *Elaocarpus* is the one I have sent. Let me have also your opinion on No. 124 a very singular and beautiful pentandrous plant with crimson flowers, which appears to belong to the family of *Combretaceae*.

I can make nothing of no. 131, but I have described it; is it an acquaintance of yours? It was introduced here from the Eastward. I send you a specimen of that beautiful *Volkameria* or more properly *Clerodendron* (if they are admissible as distinct genera) with long hanging panicles. I have sent a leaf of the new *Tacca*. I have only one spec. of the flower and it is not dry. I shall be glad to know what you make of the next to it No. 146.

55. *Pithecolobium lobatum*, Benth., which Jack described as *Mimosa Jiringa* in the *Malayan Miscellanies*, ii. 1820, No. 1, p. 14; and Wallieh distributed specimens under his number 5268.


57. *Melia excelsa*, Jack, in *Malayan Miscellanies*, i. part 1, p. 12, specimens of which Wallieh distributed under his number 1253.


60. *Paracelastrus bivalvis*, Wall., which was described by Jack as *Celastrus? bivalvis* in *Malayan Miscellanies*, i. No. 5 p. 19.

61. *Pentaphragma begonifolium*, Wall., named as *Phyteuma begoniifolium* in Roxburgh’s *Hortus bengalensis*, and described in the *Flora indica*. Jack described it in the *Malayan Miscellanies*, i. (1820) No. 1 p. 5, with the remark that possibly it ought to constitute a new genus.

62. *Elaocarpus*. There is nothing by which this can be identified. We know that Jack obtained in Penang *E. nitida* and *E. integra*, but these are two only of several which occur in the island.


64. *Clerodendron pendulforum*, vide note No. 46.

the Gloogor of the Malays.\textsuperscript{66} I am much puzzled by it, and am inclined to fancy it intermediate between \textit{Artocarpus} and \textit{Cecropia}. I must discuss a number of these with you when I have more leisure; however I must add to this a plant I found some days ago,\textsuperscript{67} which I have described and drawn. I enclose impressions of its leaf and enlarged bract with pencil sketch of its inflorescence and flower. It appears to me allied to \textit{Porana}, but it is the bract not the calyx, which expands as the fruit ripens. The ovarium is 4-sporous, the fruit 1-seeded, with the same contortuplicate cotyledons as \textit{Porana}. It is a weak spreading shrub; it is further digynous. Let me know, whether it is an acquaintance, or if you think it new.

Have you any acquaintance of the leaf I enclose, No. 183 and 96, I have not seen its flower or anything but the stem and leaves. I have found here the true Sago,\textsuperscript{68} certainly very different from the \textit{Sagus Raphia} described as the true one by Lamarck.

I must now turn to another subject, I have lately had some conversation with Sir Stamford on my future plans, a subject we had not before touched on since leaving Bengal. He has in consequence addressed (pro forma) a letter to me requesting me to accompany him on his further voyage to the Eastward, and offering me the appointment of Personal Surgeon to him retrospectively from the 1st of January; to this I of course gave an affirmative reply, which he will forward with his own letter to Bengal and request His Lordship’s confirmation of the appointment. For my own part, I would rather the arrangement had been deferred till I heard from you about our other schemes.\textsuperscript{69} Mais le mien de l’éviter. I put him in mind of those plans and asked his opinion concerning the notice to be taken of them in writing to Bengal. He said they might be left to their own course, to which I said, Amen. Now, my dear Wallich, I leave the conduct of all that may be necessary to you. You know all the circumstances, and you know me as well as yourself. Perhaps I have not been successful, and then there is no more to be said. If I have, I think there is no need that my acceptance of this situation should render vain all the exertions of my friends. It may I think easily be managed so that the one appointment should stand, and any temporary arrangement be made for the duties, either by Mr.

\textsuperscript{66} The Glugor is this case is obviously the Glugor salah \textit{Cyclostemon longifolius}, Blume: and the genus would be just as new to Wallich as to Jack.

\textsuperscript{67} \textit{Neuropeltis racemosa}, Wall., obviously; but somehow no botanist has found this plant in Penang subsequently.

\textsuperscript{68} \textit{Metroxylon Sagus}, Rotth. is the sago palm of most of Malaya. Jack described it with great care under the name of \textit{Sagus lavis} for the \textit{Malayan Miscellaneies} and this description, appearing again in Griffith’s Palms and elsewhere has generally been the foundation of those made later in Floras.

\textsuperscript{69} Apparently a reference to his wish for the post of Surgeon in Champaran.
Renton's remaining, which doubtless he would be glad to do, or another being sent. I do not think it probable I shall be in any hurry to leave Sir Stamford, for the very society of such a man is worth a sacrifice, if there were any in the case. Besides which between ourselves, he has made me another promise, still more flattering, which is to appoint me his Private Secretary, as soon as the situation becomes vacant, which it will, when the Acheen business is over. There are numbers of plans in embryo, all of which I will enter upon as soon as I can find time. By the bye, a Mr. Gibson, a young man who was one of the officers of the Nearcclus, is going up to Bengal, and will soon after come down to Benecoolen. He has promised to call to receive your commands, when he is about to proceed, which will be an excellent opportunity. Will you allow me to lay a tax upon your kindness, and request you to send a further supply of paper for specimens, and of wax cloth, which I unfortunately forgot, and there is none procurable here? I have not time to recollect how much I am in your debt, but on the present emergency enclose a draft on Mack & Co. for a 100 rupees. You are not yourself I know, over exact in accounts, therefore request you will beg as a favour to me, of Mrs. Wallich to keep an account of all the expenses you have been at, and may incur in future on my account, and be most particular and exact therein, as on that will depend my doing you the honour of teasing you with my commissions!! Dreadful threat. Seriously however, I am so careless myself in these matters, that it will be a real obligation if Mrs. Wallich will be good enough to relieve me from the burden, and I shall then have less scruple in applying to you.

Give my best regards to Mrs. Wallich, and believe me ever,

Yours very affectionately,

William Jack.

Pulo Penang,

March 6th, 1819.

P.S. How does my young romping friends Master George?

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70. Mr. Renton would appear to have been the retiring surgeon of that district.


72. George, Wallich's son. He had a distinguished career in the Indian Medical Service up to 1860, in which year he left and was attached to the S.S. 'Bulwark' for a survey of the sea-bottom in the course of laying a cable across the Atlantic. Thence-forward he worked at marine zoology, until his death in 1899.
There is a ship sailing for England and I am writing to Brown: 32 I have not yet written to Mr. Colebrooke: 34 as I have nothing to send. This Island yields no mineral but principally granite.

Lord have mercy upon you in the attempt to decipher this hieroglyphical letter, and thank heaven that there is no time for my doing it myself and so escape the heaviest part of the task.

Penang March 15th, 1819
Received May 25th
per Bengal Merche.

My dear Wallich,

You will ere this have received my last hurried letter and dispatch by the Mercury. With writing to Europe, the bustle of preparation for Sir Stamford's departure, plants coming in, and a variety of trifling interruptions, I had quite enough to do. Now I am quiet and at leisure. Sir Stamford sailed for Acheen on the 8th inst.; he wished to have delayed it till after Lady Raffles' confinement, but under the circumstances of the time, and the open hostility of the Government who appear resolved to indulge it to the utmost by any means, honorable or dis-honorable, he found it impossible to prolong his stay. On the 13th Lady R. was brought to bed of a son, and is now recovering very fast. I have just found means to send the agreeable intelligence to Sir Stamford, who will I am sure be delighted. Their first child was a daughter, and I know his wish was for a son, so he will be doubly gratified.

I believe I promised to give you some account of the settlement at Singapore, but have not yet had time. I think I informed you of the way in which Sir Stamford got away from this, and the extraordinary conduct of the Government on the occasion. You probably know that ever since the restoration of Java, the Dutch have been endeavouring to extend their influence over the

73. Robert Brown (1773-1858) "facile botanicorum princeps, Britanniae gloria et ornamentum" in the words of von Humboldt. Jack had made his acquaintance in London at the time when obtaining admittance to the College of Surgeons.

74. Henry Thomas Colebrooke (1765-1837) was one of the many extremely able civilians in the service of the Honourable East India Company at the commencement of the last century, a Sanskrit scholar, a mathematician and a botanist. He was a leader among the men who made the Asiatic Society of Bengal, and its President for ten years. He rose to the position of Chief judge, Bengal, and then accepted the acting post of Superintendent of the Botanic Gardens, Calcutta, in Roxburgh's absence when Buchanann-Hamilton, who had taken over the duties at first, was leaving India. This he did for the sake of his wife's health, it being thought that a stay outside the capital in the quiet of Shibpur might do her good; but losing her he begged leave to retire and left India in February, 1915, taking with him such an active interest in the promotion of Oriental Research as to bring about the foundation in London of the Royal Asiatic Society.
whole of the Eastern Islands, and by establishing a complete monopoly of their trade, and shutting all the native ports against us, to exclude the British entirely from that commerce. The spirit of hostility in which their designs were carried on, was open and avowed: it is astonishing with what supineness we have looked upon their progress. In Bengal the subject seems scarcely to have attracted attention and indeed how could it in the full ardoi of a grand Pindaree Hunt. This Government\(^5\) made one feeble effort, to get a settlement at the mouth of the Straits, but in their usual spirit of inefficiency and incapability, neglected to support it, and blundered the whole business so abominably, it was worse than doing nothing, for the Dutch finding out our object, came with a force, overturned our treaty and made another in their own favor, excluding us and all foreign nations from the port. This Government took the affront very quietly, in truth my own opinion is, that they would be well pleased at the complete success of the Dutch schemes, for so perfectly local are their prejudices and so narrow their views, that I believe they fancy the loss of the British influence to the Eastward, would increase the importance of this settlement, and that the loss of the commerce of the Islands, would make the possession of this paltry bit of a place, which has hitherto been maintained as a kind of intermediate station, appear the more valuable. It would make you laugh to hear the way in which the Governor talks of the vast and increasing prosperity of the Presidency, so it is always called. To listen to his account of the extensive cultivation and plantations of spices, nutmegs, cotton, tea, coffee, pepper, &c. &c. one would suppose that he was talking of a place equal to the peninsula of India. He got some time ago a single pod of Pernambuco cotton,\(^6\) which was sown, and has multiplied. He was so full of the vast superiority of this cotton, of the great importance of his discovery, and the plantations of it which were to drive all other cotton out of the European markets, that I was anxious to see this staple article of the commerce of Penang. It was some time before I could discover it; at last a couple of acres near the jail were pointed out to me, where amid the luxuriance of weeds, I distinguished a few stunted bushes of a Gossypium. This field is now figuring in the dispatches of the Government, and the Honorable Court of directors are, perhaps now calculating the profits of this new created commerce. In anticipation of these exhaustless resources, he is laying new duties upon trade, new taxes upon industry, raising new crops for the service of the Island, and declares he will make the Island pay its own expenses. I beseech you now, do not think that I am giving you a chapter from the annals of Laputa, it is plain sober fact, and I am now in the place of wonders.

\(^{75}\) That of Penang.

\(^{76}\) Pernambuco cotton had been introduced into India in the eighteenth century and considerable interest was being taken in it about this time. It has persisted in the damper parts of India, not as a field crop but as a garden plant useful for candle wicks, sacred thread, etc.

R. A. Soc., No. 73, 1916.
To return from this digression, Sir Stamford went down to endeavour to find a place fitted for a station at the mouth of the straits of Malacca, if such could be got unoccupied by the Dutch. Fortunately he found all that could be desired, at Singapore on the Island of the same name, one of the most commanding positions in that quarter. The place was formerly the Capital of the Malays, but had been deserted for many centuries, and its harbour was unknown to Navigators. He also found there the eldest son of the late Sultan of Johore, who had been kept out of his regular succession by the numerous sub-ordinate chiefs, who had seized the opportunity of his absence, at the time of his father's death, to establish themselves independent at his expense. He was now however acknowledged as the chief of Singapore, and with both these authorities the necessary treaties were made by us. Sir Stamford left Major Farquhar there as Resident, and the company of Sepoys he had taken with him, and returned here. His first care was to send a re-inforcement, to ensure the respectability of the station, and applied for the troops which this Government had promised to have in readiness whenever he should call for them. Would you believe that they actually refused them, in defiance of their own written promises, and the orders of the Governor General, and why, because they disapproved of the measures that had been taken, or in plain English, because it did not originate with themselves. There is good reason to believe that they have conveyed intimation of their hostile sentiments to the Dutch, in the hope of its exciting them to exert themselves against the settlement. I should hardly obtain credit for all the extraordinary steps they have taken to affect, if possible, the ruin of the finest settlement in the British possession.

Happily however, they and the Dutch together, will only be able to create some petty obstructions, which a little time will entirely obviate. I hope too, their conduct will sooner or later meet with its due reward, and be exposed as it deserves, for it is impossible to conceive anything more disgraceful from first to last.

On the Island there is but one opinion, both of the Governor and the limb of Satan who guides him, and is the prime mover of all the iniquity and mischief of the place. A government must be bad indeed that cannot even command a voice among those most nearly connected with it, and dependent on it.

Enough however on such a subject; I am tired of it, and I dare say so are you.

March 25th. I have just seen some Bengal papers, in one of which I find "Mr. Asst. Surg.—somebody appointed to Patna vice Tytler" appointed to the Chumpanar." Is it so? Then there is

77. John Tytler wrote papers on the Mathematics of the Arabs—in the Asiatick Researches.
an end of the matter. 78 I ought under all circumstances to be indifferent to it, as there was so little chance of my returning to take up the situation, but I know not how it comes, the news has actually annoyed me. I hate to be foiled in anything. I believe I should have cared less had any one else carried it against me, but to John Tytler, to such an Ursa Major, it is a little provoking to yield. I hope you have congratulated Major Hay on his acquisition; he seemed mightily afraid that Botany and duty would not go on well together, as if the important charge of him, his wife, and his Sepoys was enough to employ all the faculties of any single man. But let him and the bear rub on together as they may, be now Sumatra my field, and it shall go hard if it does not produce something.

I told you in my last, of Sir Stamford's handsome proposal and my acceptance. There is a good beginning; I have much in prospect, which it is too soon yet to enter upon. Perhaps too, we may carry some of our further plans yet into effect. I am anxious to get to Bencoolen, to receive your letters, to be at the capital as it were, to see about me and form my plans, which in this unsettled kind of place I cannot so well do.

I am preparing a large dispatch which I think will please you. I have been thinking that the most regular and methodical way would be, to send along with the specimens, a list containing such remarks on the plants as may be useful, which will be more convenient to you than having to refer to a desultory letter. It will also be easier for you to return me your remarks in the same manner, either on the same list, or if you prefer keeping it, on another similarly numbered. I would send you the list in duplicate to save you trouble, if I had anyone to write for me. I will also for the same reason, send you a list of the principal contents of the former dispatches, that we may go on regularly. I find I have several times numbered the same plant twice, when I did not happen to recollect whether I had before sent specimens. This is a mistake which can be easily rectified, and which you will readily excuse. I send many also without numbering, which I have not had time to examine particularly, but which are not the less worthy of being examined. For instance, there are a great number of *Ixora* here, which I have not attempted to ascertain, as I have not Roxburgh's descriptions. Have you got yet into *Tetrandria* in his printed Flora? 79 What are the "Contributions" doing? I shall ere long have plenty to contribute.

78. His hopes of the post; see note No. 69.

79. Carey and Wallich were engaged in an attempt to publish Roxburgh's *Flora India*; and Wallich contrived to publish "Descriptions of some rare Indian plants" Calcutta 1818. The first volume of the *Flora* containing the *Tetrandria* came out in 1820 and was not much altered from the original manuscript: but into the second volume which appeared in 1822 so much revision was put by Wallich that the two authors never got beyond it, or say one third of the whole.
April 12th.—No opportunity has occurred of writing till now; a vessel has arrived from China and proceeds to Bengal. I send by her a box of specimens, to which I have added some fruits and seeds, which may not be unacceptable. I enclose a list of the present dispatch, and also, one of the principal contents of the former ones. Some of the things now sent, will I think be interesting.

Sir Stamford has not yet returned, but we are in hourly expectation of him. I think we shall leave this immediately on his return, and I shall not be sorry: new plants begin to get scarce, but on the whole I think the Island has not been unproductive. I have 130 descriptions¹⁰ about 40 drawings &c; I shall have employment when I get to Bencoolen, in investigating these further than my present means of reference allow, and above all in comparing them with the information I expect from you.

Have the goodness to remember me very kindly to Mrs. Wallich.

Do you see my friend Lindsay¹¹ occasionally? I must write him if possible before I leave this.

Believe me ever,
My dear Wallich,
Yours very affectionately,
William Jack.

P.S. Write soon.

Pulu Penang
May 7th, 1819
[Received June 23rd].

My dear Wallich,

Sir Stamford did not return from Acheen till the 29th ult. the business there having proved more difficult and tedious than was anticipated. It will take him some days longer to close the affair altogether, and then we shall bid adieu to this Island of delay and obstruction. You will I am sure be happy to learn, that the cause of honour and justice has been triumphant over that which was in every way the reverse. Every person here rejoices in the result, from regard to the British character, except the

80. Jack's published writings contain only 54 descriptions of Penang plants.

81. Who this Lindsay was, has not been ascertained. Dr. F. G. Gravelly, Hon. Secretary of the Asiatic Society of Bengal, has been so good as to search his records in Calcutta, and does not find his name as a member.

Jour. Straits Branch
Governor and his two coadjutors. Capt. Coombs,*2 the 2nd Commissioner, one of these, made every possible effort to frustrate and defeat the objects of the Mission, but though he supported the opposite party with incredible obstinacy, he was no match for Sir Stamford’s abilities and perseverance. The weight of evidence was such, that he was obliged to give way at last in every material point, and concur in the final resolution of supporting the old and legitimate Sovereign, with the influence of our alliance. A treaty has accordingly been concluded with him, on the usual terms of defensive alliance, but without pledging ourselves to any interference in the internal affairs of the country. The old King appears to be a very superior character, and to possess a much greater share of information than usual among natives. He speaks and writes English, and has some acquaintance with our literature and science, and what is better still, has a great deal of English honesty and plain dealing, no common qualification in this quarter of the world. The investigation has brought to light a great deal of iniquity upon the side so warmly espoused by this Government, and a sense of piracy and plunder on the coasts of Acheen, that is quite disgusting. This Government will use their utmost endeavours to overturn the arrangements, but I do not think it possible the Bengal Government can be so weak as to yield to their clamour. I should like to know the Calcutta opinion on all the affairs of this quarter. Never were there men whose conduct more deserved reprobation than the members of this Government, but it is not unlikely that their remoteness and the little interest excited by affairs in this quarter, will enable them to escape the odium their conduct would otherwise bring upon them.

I now turn to more pleasing subjects. Capt. Fergusson of the Boyne, has agreed to take charge of a box of growing plants, and a parcel of specimens, which I hope will arrive safe. I am sure

82. Captain John Monckton Coombs was the second commissioner under Governor Bannerman. It seems that he owed the position to the interest of Governor Petrie, Colonel Bannerman’s predecessor. He had been sent in 1818 to Acheen to enquire into the real state of affairs, having sailed on January 13th, from Penang and reached Acheen on the 17th. Unfortunately he did not understand the Acheenese language, nor did his official interpreter; so he ‘‘peacock-ed’’ about, and thought that he had made an impression. Then he wrote a report which is contradictory in its statements but for the usurper wholly in its conclusions; and he proceeded direct to Bengal to give information there and receive orders. When he arrived, Lord Hastings was up country in Oudh; and it was some months before Coombs could get his ear, during which other reports had come from Acheen, not altogether in accord with the story as told by this ‘‘special commissioner’’; and moreover Raffles was available for consultation. This fortunate delay led to Raffles and Coombs being sent back to make a new investigation jointly, in the course of which as Jack says Coombs had to give way on every material point. Raffles (vide Memoir, p. 397) says in other words that Coombs if opiniated was not dishonest over this affair.

The treaty made with the restored king carries both Raffles’ and Coomb’s signatures.
he will take the utmost care of them: you will find him a worthy excellent man, and of superior character. I have no doubt if his voyage lies in any direction you are interested in, he will attend to any wishes you may express.

I hope the box of plants will please you; it contains a good many which I have never seen in flower, and can therefore say nothing about. Of those I know, you will be glad to have a healthy plant of *Taccu Rafflesiana*.*83* I need not say take care of it: it is the only one I have met with. There are besides two species of *Arum,* *84* one of *Calla,* *85* a *Pinus,* *86* and another nearly allied with distichous leaves, *87* the *Pancratium amboinense,* *88* several species of *Amomum,* an *Aerides,* *89* and several other kinds of air plants, and plants of which the specimens are numbered 183-220-239. These I think are the chief contents, and most are at present vigorous.

I also send a supplement to my last dispatch of specimens, containing many duplicates, and new ones down to 263 as per enclosed list. A few of these are from Acheen, brought by Sir Stamford, which I have not had time to look over. He brought very few, as they were but little on shore, and too busy to attend much to them. The principal known ones from hence are the splendid *Barringtonia speciosa,* *86* the *Nymphaea cyanea,* Roxb.*91* at least I take it to be so and several of which I have sent specimens from hence as *Volkameria,* *Calophyllum,* *Cardiospermum,* *Gmelina.*

I send you a few seeds of the Pernambuco cotton, which I have mentioned to you; and a few other seeds. Among the plants lately found, of which the specimens are not dry, are the *Guettarda*

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*83. Taccu cristata,* see note No. 39.

*84. Arum.* Unless there is some manuscript record of the fate of this at Calcutta, it is impossible to guess what it was, as botanists in the time of Jack put so many different Aroids under the genus Arum.

*85. Calla humilis,* *Calla angustifolia,* and *Calla nitida* were all described by Jack from Penang. The first is *Homalomena humile,* Hook. f., the second *Homalomena angustifolium,* Hook. f., and the third *Aglaiomena oblongifolium,* Schott. The first two are plentiful in Penang.

*86. Daecrydium clatum,* Wall. See note No. 101 in the next letter.

*87. Podocarpus imbricatus,* Blume (P. cupressina.)

*88. In regard to Pancratium amboinense,* it is not possible to say how Jack used the name.

*89. If* Jack sent *Aerides suavissima* to Wallich, he had got an orchid which now occurs very rarely in Penang.

*90. Barringtonia speciosa,* Forst. is a shore tree exceeding likely to occur at Acheen.

*91. Nymphaea cyanea,* Roxb., is a variety of *N. stellata,* Willd., quite likely to occur at Acheen.
speciosa, 92  Ardisia umbellata, 93  Scavola Taccada, 94  Nymphaea stellata, 95  Bruguiera gymnorrhiza, 96  and Rhizophora mucronata, 97  Barringtonia racemosa, 98 &c. &c.

I hope to leave this in a week from this time; I am heartily sick of the place, and most anxious to get to Bencoolen, and receive your letters.

A paper which I saw some little time ago, conveyed to me the first intimation of your late loss, 99 which I learnt with much concern. I trust ere this reaches you, the time for condolence will have passed, and will therefore forbear the subject, especially as I know how useless are words in those trials which are beyond our control, and for which there is no remedy but resignation.

Present my very best regards to Mrs. Wallich,

and believe me
to be most sincerely yours

William Jack.

P.S. Excuse the haste apparent in the letter.

Penang May 19th, 1819.

My dear Wallich,

I have a favor of a very unusual kind to ask you, of which a little explanation is necessary. I have given you some account of the Acheen affairs, and you know somewhat of its iniquities. The party have spared no means to carry their point; among other things a letter appeared in the Calcutta Journal, the writer of

92. There is considerable interest in this record of Guettarda speciosa, if from Penang. It is a common sea-shore tree and is known to occur in Kedah and on the inlands north of Penang, as well as on the coasts well to the south. But Curtis never found it in Penang, nor are there specimens in the Singapore Herbarium thence. Unfortunately there is evidence that Jack visited the Kedah coast, and no evidence here that Jack got the Guettarda on Penang island.

93. Ardisia umbellata, Roth, is A. humilis, Vahl, known to occur in Penang.

94. Scavola Taccada is S. Koenigii, Vahl, common on the coast of Penang.

95. Nymphaea stellata, Willd., is common in Penang now in ditches about rice fields, etc.; but may have been rare in Jack's time.

96. Bruguiera gymnorrhiza, Lamk., is not recorded by Curtis as a plant of Penang, nor by anyone else; but there is one old specimen in the Singapore herbarium.

97. Rhizophora mucronata, Lamk., is not recorded by Curtis as a plant of Penang, nor by anyone else; but there is no unlikelihood of its occurrence. However we find it mentioned here along with several plants which may have been brought by Jack from the mainland.

98. Barringtonia racemosa, Roxb., is not recorded by Curtis as a plant of Penang; but a specimen from the islet of Pulau Tikus on the north coast is in the Singapore herbarium.

99. Apparently the death of an infant.

R. A. Soc., No. 73, 1916.
which we very well know,\footnote{100} giving a most unfair view of the business, and throwing out some shameful insinuations. A wish was expressed that it should be met and answered, and I have undertaken it. I believe that Buckingham will have no objection to inserting a reply, and I shall be greatly obliged if you will undertake the task of getting him to do it. You may with perfect confidence assure him that every word in it may be depended on. Of course I do not wish to be known as the writer of it, but above all it must never be suspected that Sir S. had any knowledge of it. If Buckingham does not like, any of his rivals will be glad of it. Read it and let me know whether you think it intelligible. I do not think it possible that they can answer it. The writer of the letter is to a certainty ; Capt. Coombs, a man of whom I believe there is but one opinion, and that is such as need not be put on paper. You may easily believe that what I now send you is a job I would never readily undertake, but I believe you participate in the sentiment that has induced me on this occasion to travel so far out of my usual track. In fact, it is not possible to be an indifferent spectator of what is here passing, to refrain from admiration of the one, or for honest indignation at the others. It has hardly been possible for me to convey to you an idea of the contrast, the one is too disagreeable a subject to be dwelt on, and the other it is not easy to express without seeming partial. I know however what your own early impressions were on this subject, and need only say that every day's experience would have strengthened them.

I have very little time for writing at present, so you will excuse a short letter. I expect to leave this in a few days more, which I shall do with less regret than any place I have ever been in.

If an answer to mine should ever appear, approve me.

I dispatched to you a box of growing plants some time ago, by the Boyne, which I hope will have arrived in good condition. I have little to add at present on our own subject. I have however made a discovery of some importance, that what I sent you as a Pinus, is not a Pinus. I had long sought in vain for the cones, and at length procured some with a small berry, which proves it to be either a Taxus or Juniperus, I have not determined

\footnote{100} Anderson in his book on "Aceen" already quoted, p. 134, says "The papers in Calcutta now began to take up the subject of Aceen affairs very warmly, and the friends and supporters of both parties had an opportunity of conveying their opinions in the shape of extracts of private letters from Penang. Some of the letters addressed to the Calcutta Journal bear the stamp of having been written by the different organs of each party, if not by the Commissioners themselves. The style of the first so much resembles that of the paper of October, 1817, and the reports of the envoy, that if he did not write it himself, he must have entrusted it to a head and hand fully capable of catching at his precise ideas." Jack here says that Captain Coombs, i.e. the Envoy, "certainly" wrote it; and he reveals the fact that he wrote a reply.

Jour. Straits Branch
which. I enclose a sprig with one of these fruits. The cones I formerly found, belonged to the Pinus Dammara, which is abundant.

This goes for the Bishop; he has been with us once or twice, and has seen all that is going on in the various departments of Natural History, at which, between ourselves, he expressed nothing more than common vulgar wonder, and we certainly did give him enough for that, however as you will probably meet him at the Society, you will probably hear his account of Penang and its wonders. What attracted most his attention was two natives of the Andamans, who were brought here some time ago, whom he pronounced to be in the lowest state of civilization in which he had yet seen human nature, and certainly there could not well be conceived a greater contrast than was exhibited between the portly figure of the Bishop himself, and the two poor wretches he was examining. I should have liked to have asked him whether he really believed himself to have sprung from the same common stock with them; and whether Adam resembled these Aboriginees.

I made a memorandum of the peculiarities of form of these men, which I will send you when I have time to copy it. The most striking peculiarity, is their diminutive stature, the taller of the two being 4 ft. 7 in.

My best regards to Mrs. Wallich, and believe me.

Yours very sincerely
William Jack.

SERIES 2—SINGAPORE LETTERS.

Singapore, June 8th, 1819.
[Received July 27th].

My dear Wallich,

We got clear of Penang on the 22nd ult., and arrived here on the 31st. It is impossible to conceive any thing more beautiful than the approach to this place through the Archipelago of

101. Dacrydium elatum, Wall. Jack had mentioned this as a fir and as a Pinus in his earlier letters. The finding of the fruit put him on the right track.

102. Agathis loranthifolia, Salisb. otherwise known as Agathis alba, Foxworthy, or Dammara alba, Lamk.

103. The Right Rev. Thomas Fanshaw Middleton (1769-1822), first Bishop of Calcutta under the East India Company, a competent organiser, but narrow towards dissenters. We know that there were several baptist missionaries in association with Raffles, so that the Bishop might not have felt inclined to be very friendly.

Raffles (Memoir of the life of Sir T. S. Raffles, p. 400) mentions Dr. Middleton's visit to Penang, in a long letter there printed.

104. Jack in a letter to his family which is printed in the Botanical Magazine (1847) under plate 4285, uses these same words and then goes on to a more detailed description than that above.

R. A. Soc., No. 73, 1916.
Islands that lie at the Eastern extremity of the Straits of Malacca, The place itself is advancing rapidly, and will soon become one of the most populous settlements to the Eastwards. The forests that now form my delight will gradually give place to man and his habitations, but they are more interesting to me in the present state. Flora here luxuriates in endless varieties, where she finds soil, climate and everything congenial.

I find many, or most of my Penang acquaintances with others surpassing them in magnificence. Witness two most splendid species of *Nepenthes*, of which I have procured perfect specimens, male and female, and have completed two drawings, to which I flatter myself it will not be easy to bring a parallel. I am sure they will glad your eyes, when they shall be submitted to them.

Quale portentum neque militaris
*Napalia* in latis alit esculetis,
Nec Indiæ tellus generat, *novarum*
Stirpium nutrix.

I have found here another specimen of the new *Tacca* in fruit which I had not before seen. The Gambir, *Uncaria Gambir* is here extremely cultivated; I did not meet with a single plant of it at Penang. Among the new plants I have ascertained are the *Lytbrum Pempthis* *Xyris indica*,*Fagraea* which I think may be new,* with large splendid flowers. It has led me to the discovery that No. 131 of your specimens, is the *Fagraea fragrans* of Roxburgh at least as far as I can decide from the abbreviated character, which is all I have. Pray is Roxburgh's *Ardisia umbellata* truly distinct from Swartz's *A. coriacea*? I find here that

105. *Nepenthes Rafflesiana*, and *N. ampullaria*—both described by Jack, and the descriptions put into proof which was reprinted by Sir William Hooker in 1835 (vide note No. 51, p. 163).
108. *Xyris indica*, Linn. is a weed of such places as rice-fields, and is found in the north of the Malay Peninsula down as far as Malacca. Through the Peninsula southwards to Singapore, occurs *X. anceps*, Lamk., and it is similar enough to be easily mistaken. Although we have reason to believe that there were rice-fields in Singapore previously, it is more likely that Jack named *X. anceps* as *X. indica*, than that *X. indica* has been lost through the abandonment of the cultivation for rice.
109. Doubtless *Fagraea auriculata*, Jack, the description of which appeared in the Malay Peninsllaries, ii. (1822) p. 82. There are in Wallich's beautiful *Planta Asiatica Rariores*, certain plates, that of *Fagraea auriculata* being one, bearing no artist's name: and in several cases the reason is to be traced to the circumstance that a friend of Wallich had supplied the plate. The plate of *Jackia ornata* is in the same category. It may be suggested from this, but unfortunately without proof, that Jack had supplied the drawings for these two plates, unsigned, so that the published illustrations passed out from the press without a name on them.
110. Apparently distinct. *Ardisia umbellata*, Roth, is *A. humilis* Vahl. See note 93.
the umbels are often disposed in terminal panicles as well as axillary. I have ascertained another point, which it may be worth while to attend to when you come so far in printing Roxb.'s Flora, which is that Cordia campanulata R. is the same with C. subcordata Lamarck.\textsuperscript{111}

I am afraid the Singapore specimens will scarcely be dry enough for transmission: however I shall send a few that I think will bear it, and you shall have further dispatches from Bencoolen, which I am now very anxious to reach. I shall not be surprised if this should in time become our head-quarters, and by all accounts it will be much preferable to Bencoolen, which is sadly out of the way.

I send this by Dr. Smith of the 20th N.I.—and regret that I have not more to send by so good an opportunity. However I shall have another soon after I arrive at Bencoolen, when I will begin to get things in order, which I cannot do in the way we are living here.

June 15th.—I am in hopes we shall not be detained here much longer. I send half a dozen specimens, just to show that I am doing something. There is one very beautiful species of Loranthus among them.\textsuperscript{112} Pray is the tree I sent you from Penang as a Pinus, and afterwards discovered not to be so, the Juniperus elata, Roxb.?\textsuperscript{113} the name and nativity render it highly probable.

The beautiful white-fruiting shrub\textsuperscript{114} No. 183 of your specimens is very abundant here, as also a second and smaller species of the same genus, with red fruit.\textsuperscript{115} I suspect it to be a new genus, what think you? The generic character will be as follows:—Calyx inferus, 5-phyllus pares. Corolla (alba) 5-petala, petalis reflexopatentibus calyce duplo longioribus. Stamina 5 hypogyna. Filamenta brevissima. Antherae longae in conum conniventes, apice acuminate poro dehiscentes. Stylus longitudinum staminum. Bacca supera, 5-sperma vel 5 pyrena. Seminibus arillatis, arillo fibrosa, embryone inverso cylindrico, longitudine seminis, albumine inclus. Folia pulcherrima striata nervis transversis parallelis. In some specimens there were five yellow filaments like abortive anthers alternating with the true stamina, but they were not constant.

\textsuperscript{111} Later botanists have confirmed this.

\textsuperscript{112} Loranthus coccineus, Jack, apparently. It was described by him in the Malayan Miscellaneus, i. (1820) No. 1, p. 8.

\textsuperscript{113} Yes; it is: and it is now known as Dacrydium clatum, Wall.: see note p. 101.

\textsuperscript{114} Euthemis leucocarpa, Jack, which is a plant common locally in Singapore island. The genus Euthemis was quite new in Jack's time, and so distinct that later botanists have made of it a distinct tribe of the order Ochnaceae.

\textsuperscript{115} Euthemis minor, Jack, described by him along with the last in the Malayan Miscellaneus, i. (1820) p. 18. It has only been collected again in the island of Singapore (Chou-Chu-Kang, Ridley) once since Jack's time, and once on the islet of Pulau Battam to the south.

R. A. Soc., No. 73, 1916.
I found a day or two ago, a singular Decandrous Leguminous shrub, of which I can make nothing. The marginal scratch may give an idea of it. The calyx tubular with a flat 4-parted limb, the two opposite divisions larger: one single petal, erect unglulate with a subrotund lamina. Three long fertile stamina, seven short abortive. Germen pedicellate, pedicel of the length of the calyx and concrete with it. Style as long as stamina. Legume large, flat, few-seeded. Flowers in terminal corymbs Leaves pinnate with two pairs without an odd one. Folioles subrotund marginate.

I have a favor to ask of Mrs. Wallich which I hope she will be able to grant without much trouble. I have promised to procure for Lady Raffles a copy of the music of the Persian air "Tareh ba tareh" I believe Mrs. Wallich plays it. And if she would be so good as to take the trouble to copy it I will be greatly obliged. Perhaps she would increase the favor by adding any other good Hindostanee Airs.

Lady R. is a superlative performer, and I should like to hear some of these tunes with the advantage of her execution.

Both Sir S. and Lady R. frequently desire to be remembered to you, oftener than I remember to record it, so you must always take it for granted to be understood if not expressed in like manner as the affectionate regard with which I am always, My dear Wallich.

Yours very truly,
William Jack.

P.S. I have written up the country to order down some things I left behind me, to your address and care. I will be much obliged if you will take the trouble to receive and forward them.

My dear Wallich,

Since I closed my letter I have got one of Thetis's drinking cups to send you, a huge crateriform Spongioid Zoophyte. They have been brought of various sizes, some larger than the present one. If it should not particularly interest you, perhaps Col. Hardwicke would like it, and as I have not yet sent him anything it will just serve to show that I am not quite unmindful. I have found it convenient to occupy myself very little with Zoology, as it seems to be expected that every thing in that department should go to the Frenchmen, and I perceive a kind of jealous feeling on their part. I shall probability be more at liberty when I get to Bengoolen. They have been very industrious, but I shall take another opportunity of telling you more about them. You know them pretty well. They are not deficient in vanity but it does not meet with much consideration among us.

116. Aszelia retusa, Kurz, or perhaps the doubtfully distinct Aszelia bifuga, A. Gray.
117. Not reproduced.
118. This specimen was described by Colonel Hardwicke in the fourteenth volume of the Aviatick Researches, p. 180, under the title A description of a Zoophyte commonly found about the Coasts of Singapore Island.

Jour. Straits Branch
We have just had a dissection of a Dugong, a very singular herbivorous Cetaceous animal hitherto very imperfectly known. Some account perhaps would be interesting to Col. Hardwicke, which I shall send you when I have another opportunity.

Adieu,
Yours in Haste,
William Jack.

SERIES 3—BENCOOLEN LETTERS.

No. 9.

Bencoolen,
Aug. 19th, 1819.

My dear Wallich,

At length after all my wanderings here I am at the ultima Thule, and indeed it seems to deserve the appellation well enough, for it is grievously out of the way. Of your letters I have received those of the 18th Feb., of the 10th of April, of the 27th and a note of the 14th June, but several alluded to, particularly per "Tagus," and "Isabella Robertson" are yet to make their appearance. I have further received from Mr. Halked the writer's labours down to Polygonum, 119 and (mihi gratissima) two vols. of Enc. Botanique 120 for all which, my best thanks. I am most anxious to receive your other dispatches, which I hope will not be long delayed. As they seem to be a little irregular in their transit, it might be a good plan, and save also a little valuable ink and paper, to number our letters, by which means it will be easy to know whether they all arrive safely without constant quotation. To commence therefore I mark this No. 9, which appears by my Dak Book 121 to be the number already sent from Penang and Singapore, exclusive of parcels etc. I need not trouble you with much account of my voyage which was long and tedious. We left Singapore on the 28th of June, and two days after got aground on a shoal in the Straits of Rhio, where we were obliged to start all our water overboard before we got off again. This obliged us to run into the Dutch Port of Rhio, and gave me an opportunity of landing and seeing it. It is a paltry miserable place since the Dutch took possession of it. The only new thing I found there was the Hypericum alternifolium, Vahl. 122 From there we pro-

119. This remark shows that Jack was employing a writer (clerk) under Wallich’s supervision to make for him a copy of Roxburgh’s Flora indica. See note 37.

120. Encyclopédie Méthodique. The botanical part by Lamarck, continued by Poiret, Paris, 1783-1817.

121. Post despatch book. This is the eighth preserved letter.

122. Archytas Vahlii, Choisy. Wallich distributed specimens of this plant collected by Jack labelled Penang, under his number 4806; and because the plant is found at Batu Feringhi in the island of Penang, the locality has never been questioned. But we find Jack stating here that A. Vahlii was a new thing to him; and so well did he know his plants that it is impossible to think that he overlooked getting it in Penang if it were so. He got it at Rhio.

R. A. Soc., No. 73, 1916.
ceed to the Straits of Banca, where our progress was very slow, the monsoon being against us. I had not once an opportunity of landing again till we arrived here, although we were always in sight of and often very near the land. From the Straits of Sunda our passage was good, the same wind which had before opposed us, being then in our favour. The track we pursued was a very unusual one at this season, and one that many people would have pronounced impracticable. I have been as you may suppose, very busy since I arrived, and am hardly yet quite settled and got into regular train. Unfortunately I was far from well during the latter part of the voyage and for a fortnight after my arrival, which rather retarded my labours. I have not yet got through the arrangement of the piles of specimens I brought with me. I am very anxious to have your letters with observations on the specimens sent you. Those I have already received are invaluable, and have given me much new light on several points, on which I shall enter presently. A new field seems to open here, for of all that has yet been brought in, very few indeed are acquaintances. Optime amice mihi, what do you think of specimens of the flowers of the Camphor.\textsuperscript{123} from which I have made an excellent drawing? Is not that an admirable beginning!! It belongs to Monadelphia polyandra: calyece 5-partito: cor. 5-petala: ovario triloculare 6-sporo, stylo filiformi stam. longiore: antherae longae circa stylum conniventes.

As there is not at present any direct opportunity to Bengal, (this goes via Penang) I cannot send any parcels, but I cannot deny myself the pleasure of enclosing a sprig of that great desideratum, which has so long bloomed in vain and “wasted its fragrance on the desert air.”

By the bye I should have mentioned that the box of paper and wax cloth is as good as arrived, for though not yet in my possession Capt. Bowman has told me of it, and promises to land it in a day or two. You mention that it is blotting paper, I am sorry therefore, as I prefer the country paper, on a comparative trial of the two; I ought to have mentioned this to you before, and do it now for your information in future. The dry coarse rather stiff paper appears to answer best, such as, what I shall make the cover of this letter of. Allow me to make my acknowledgements for your and Mrs. Wallich’s kindness in so readily agreeing to incur the

\textsuperscript{123} Cn page 149 of Marsden’s History of Sumatra (third edition, London, 1811), there is given the then-existing information in regard to the Malayan Camphor-tree. The leaf is described and the habit of the tree: Gaertner’s figure of the fruit, and an engraving of the foliage made for Lambert are referred to: but the flower had “not yet been brought to England.” In the twelfth volume of the Asiatick Researches Colebrooke described the fruit, together with an excellent figure of leaves, fruit and seed (1816, p. 539 and appendix p. 3).

With attention directed to the need, in 1819 Mr. Prince, whose name occurs in these letters, sent flowers to Raffles from Tappanouly.

Jour. Straits Branch
trouble of my commissions, of which I shall now avail myself without mercy.

You will by this have considerably exceeded the amount of my former remittance, therefore I now enclose a draft on the Treasury for Sa R 300. On receiving the cash will you be good enough to desire Messrs. Gibson & Co, Tailors, to send you a small bill which I owe them for a suit of clothes which I had just before leaving Calcutta, and at same time order a genteel blue coat, of no nonsensical dandy fashion, but such as a gentleman may put on? Pray send it at convenient opportunity, together with the books and atlas, which you were so good as to take charge of. As I may consider myself fixed here for some time, I may as well collect my rattle traps about me.

Pray is any acknowledgement of the honour necessary to the Asiatic Society to which your good offices have procured me admission. I find from my account "Curr." that Mr. Calder has done the needful in regard to payment which I suppose is the most essential part of the acknowledgement. Now in regard to your wish for a paper, pray tell me when they are likely to bring forth a vol. 124 Something or other they must have, but what, may be regulated by the probable delays. If they are not likely to publish soon, something of minor interest will do, for instance elucidations of some imperfectly known Rumphian or Malay trees and fruits, as the Bachang, Rambutan, Rambel, etc. etc. A perfect Clavis Rumphianus is rather a desideratum. Do you know anything of the Rasamala of Rumph? 125 His description makes it a Pinus. Here they have a Rasamala, which is different and is more like a Guttifera. There are here a great many kinds of wild nutmegs, which will be interesting and which I must investigate. I think I mentioned to you at Penang my having observed the true Nutmeg to be polygamous. I find the observation confirmed here, in so much that the planters trouble themselves

124. The Asiatic Society produced the thirteenth volume of the Asiatick Researches in 1820, and the fourteenth in 1822: but Jack was not among the contributors. The fifteenth volume appeared in 1825. In a later letter he writes to Wallich "I think you told me that there were two volumes in hand or in the press." Possibly he thought the manuscript closed, which cannot have been the case as Hardwicke’s paper on the Singapore zoophyte went into the fourteenth.

125. Rasamala to Rumpf was a wood—"Caju Rasamala"—which was brought to Amboyna from New Guinea, from a country of barbarians, and its origin was only to be investigated by hearsay. At a much later date, the botanists who worked in Java, e.g. Blume who was Jack’s contemporary, Noronha, Hasskarl, and Junghuhn, showed that one kind of Rasamala is the resin of the forest-tree, Altissia excelsa, Noronha,—not one of the Guttiferae as Jack suggests, but of the Hamamelidaceae. However apparently not all rasamala is from this tree. Rasamala in commerce has been much confused with Rosanalla or liquid storax from the Levant.

R. A. Soc., No. 73, 1916.
very little about preserving male trees, as there are generally a
sufficiency of monoecious trees to answer the purpose.126

I delivered your letter to Dr. Lumsdaleine,217 with whom I am
very good friends, and out of whom I mean to extract all the in-
formation that is in him. He is a peculiar character, as I shall
have occasion to explain to you more at length hereafter, sus-
picious and tenacious, but not difficult to be managed by a little
skill. If you see Dr. Smith who carried up my Singapore des-
patches, he can give you his character at length, having been with
him many years. I was not aware that the Dammar would be
so interesting or I could have sent larger supplies from Penang;
however I doubt not to procure it here also.128 The Alpinias also
I expect to find, but did not send them from Penang as from their
being in the list of the garden, I supposed they were abundant. I
take it there will be found here many new Scitamineae. I have
one which appears to belong to Hellenia, Br.129

On looking over Roxburgh’s Coromandel plants a few days
ago, I observed the figure of *Getonia floribunda*130 which appears
to be my plant Nos. 55 and 92. Smith in Rees' Cyc. refers it to
Elaeagni, can this be correct? I considered it *Combretaceous*; it
wants however the corolla. The figure in the same work of *Sym-
phorema involucrata* resembles in habit my No. 233,131 but cannot
be the same as it has serrate leaves. Can No. 232 be a *Fagrea*?
I yesterday got a fruit of it, which is a superior berry of two
cells and many seeds. If so *anne nova*? I found the *Uncaria
Gambir* at Singapore and different from all the Penang ones. Is
my *Bauhinia* Nos. 230 and 244 Roxb.’s *integrifolia*?132 A memo-
randum that has fallen in my way makes me think it may.
I began a few days ago an examination of the genus *Memecylon*,
which appears to be in a sad confusion, beyond my power to un-
ravel. Are not *Memecylon edule*, Roxb. and *M. capitellatum* one

of Chinese owners of uprooting male trees is referred to.

127. Dr. James Lumsdaleine was Assistant Surgeon of Benooleen. We
find his name in the Proceedings of the Agricultural Society, and as a
contributor on the Healthiness of Fort Marlborough. We find him with
Raffles in Singapore after Jack’s death, as a member of a Committee ap-
pointed to consider the suitability of the south bank of the Singapore
River for occupation (vide this Journal, No. 65, p. 41), and on a Land-
Allotment Committee in 1823 (vide Buckley’s *Anecdotal History*, i. p. 79).
He retired from Government Service in 1825. What is of most interest in
connection with him is that he was one of the first ‘‘natives of India’’
to be admitted to the service (vide Crawford, *History of the Indian Medical
Service*, 1914, i. p. 502).

128. *Agathis loranthidolia*; see note No. 102, p. 177.

129. i.e. Alpinia.

130. *Getonia floribunda*, Roxb., is *Calycoceris floribunda*, Lamk., of
the *Combretaceae*. Its number suggests that Jack had obtained it in
Penang, where it occurs.

131. Jack’s 233 might be *Sphenodesme pentandra*, Jack.

132. Probably.
and the same?²¹³² *M. grande*, *cordatum*, Lam. and *amplexicaule*, Roxb. are very badly defined, and not one of them agrees well with my amplexicaul species, sent from Penang No. 223.²¹³⁴ The other No. 240, subagrees with *capitellatum*, *edule*, *ovatum* and another of Smith's in Rees. Non nostra tantas componere lites.

I must now close this long rambling letter, I hope to have ere long some direct opportunity and to be able to send you some things. I shall have now means, more than I had, of sending hence plants, seeds, and everything for the increase for the garden.

My very best and kindest regards to Mrs. Wallich and believe me.

My dear Wallich,

Thine ever,

William Jack.

Bencoolen,

Aug. 26th, 1819.

[Received 29th, October, per Geo. Cruttenden].

No. 10.

My dear Wallich,

A second opportunity offers of writing to you via Madras, of which I avail myself to forward the duplicate of the Draft contained in my last. I also sent you a few flowers of the Camphor tree of Sumatra, which I am sure will delight you. I have found means to send to Tappanooly for further and ample supplies, together with whatever other interesting plants can be procured. This month has been the feast of *Puassir* among the natives during which no business of any kind is done. In a few days more it will be at an end, and all the chiefs come in a body to pay their compliments to the Govr., after which business returns to its old train. We have formed extensive plans for obtaining the productions of all parts of the country which will then be commenced, and mean to have occasionally councils of the chiefs for the purpose of inquiries into all subjects of Natural History, on which information can be obtained from them.

I have taken a look over Sir Stamford's specimens of plants found on the Menang Kaboo trip,²¹³⁵ almost all of which are new to me, and they have very much of an Alpine character. I observed among them, a *Rhopala*, perhaps the *serrata*,²¹³⁶ and two

¹³³. Yes.


¹³⁵. Raffles had left Bencoolen early in July, 1818, for Padang; and from there had marched into the interior, starting on September 16th. The naturalist Thomas Horsfield was of the party and went ahead carried on the shoulders of four men in order that by arriving at the camping places early he might gain time for botanising. The journey lasted fourteen days, and covered 250 miles (vide *Memoir of Sir Stamford Raffles* first edition, pp. 314-368, or second edition, i. pp. 388-434).

¹³⁶. *Helicia serrata*, Blume, which may occur in the mountains behind Bencoolen.
new Sonerila. 137 I find here a species of Nepenthes different from all the Singapore ones, and evidently the N. phyllamphora, Lour., 138 which is also the cantharifera, Rumph., differing from the N. distillatoria in having petiolate leaves, urns ventricose at the lower part, and the striated margin depressed or flattened. Sir Stamford proposes that we should send the Nepenthes with a few more of the most interesting of our discoveries home to be published in a small fascicle, in the most splendid style that they can be executed in, colored figures of the full natural size. I think it would be a good thing to attract attention to the subject. It may or may not be continued, according to circumstances. Give me your idea on the subject. You know that Sir S. has brought a printing press with him; he proposes keeping it constantly employed in printing papers on Natural History, and on a variety of other subjects of local information. He has himself a mass of papers on the Eastern Islands, which in their present MSS. form, are but little available, and of course liable to accidents and destruction; these he proposes printing, in order to preserve them and to afford the means of distributing them to a certain extent. He proposes to go on for some time printing without publishing, but after a little to make selections from among the materials thus collected, of which to form a volume which may be published quarterly or as matter sufficient may accumulate. In this way a great deal will be preserved of considerable interest; but perhaps not finished enough for the established channels of information as the Asiatic Researches &c. 139 For instance we think of printing descriptions of plants, whether new or not, which can then be distributed to a few, better than in MSS. I would send to you, Mr. Brown &c. for your observations, after which what was really valuable might be made public or not, and in such way or channel as would appear afterwards eligible. By the bye, in what state are the vols. of the Asiatic Society, is there any soon likely to appear? 240 Sir S.

137. These Sonerilas were not described by Jack.
138. Nepenthes phyllamphora, Willd., was described in print by Jack in proofsheets for the Malayan Miscellanea which were reprinted in Hooker’s Companion to the Botanical magazine i. (1835) p. 271 with the remark “abundant in moist places and ravines in the neighbourhood of Bencoolen.” Later botanists have collected it on the same coasts.
139. Rajendra Lala Mitra in his part of the Centennial Review of the Asiatic Society of Bengal (1883) p. 50, referring to the Asiatick Researches says “a large quarto volume necessarily suggested elaborate and finished essays, and in the selection of papers for it, short notes describing new discoveries or new ideas, however interesting were frequently rejected.” And he continues by recording that many members of the Society were dissatisfied at the slowness of publication and its insufficiency. A motion was even brought forward for improvement but though it passed, it effected little. Possibly, had the Society felt itself able to provide the outlet, its prestige being so great, Wilson’s Quarterly Oriental Journal, the Transactions of the Medical and Physical Society of Calcutta, and the Malayan Miscellanea would not have sprang up as small octavos for notes rather than essays, and for early publication.
140. See note 124 on p. 183.
JACK'S LETTERS TO WALLICH, 1819-1821.

187

says he would wish to go hand in hand with it, if the delays are not too great. I think you told me there were two vols. in hand or in the press: are they filled up, and when is another likely to come forth? There are description of some animals, for instance the Dugong, which would be worthy of a place there. Diard told Sir S. that he heard that a description of the Tapir of Malacca from Major Farquhar was to appear in one of the present vols.\(^\text{141}\) That description is not only imperfect but inaccurate, and as we have a better account of the same animal belonging to Sumatra, it would be a pity that a less accurate paper should occupy the pages of the Asiatic Researches. Sir S. I believe would be glad to know how the case actually stands, and whether the Secretary would like to insert his account in preference. He will probably write on this subject to you or Mr. Wilson.\(^\text{142}\)

It is intended also to have all the Frenchmen's descriptions of animals &c. printed, in order to prevent being inundated with ... flummery. I believe, they are to be engaged to put them all into Latin, by which they will become, not only more concise, but more generally available. I have said very little to you, I believe, about the Frenchmen, and as they are good friends of yours, you will perhaps wish to know something about them, the estimation in which they stand, and what they are doing. Between ourselves then, I believe they are estimated "a peu pres a leur propre valeur" and you know pretty well what that amounts to. They have been the source of not a little amusement to us during our voyages, when there was not much to occupy us.....

You may easily conceive ................. how they fared ............... against a long head like Sir S., and a hard one like Crossly, who to good abilities joins a bluntness more than usual even among Englishmen. I must however give them a great deal of credit of having preserved a good deal of temper throughout, probably they knew well enough that the contrary would be to no purpose. In regard to their labours, they have unquestionably been very industrious in making their collections, nor do they spare their personal fatigue. The number of birds and animals that they have prepared is very great.—I must let you know the footing on which Sir S. supports them, which will explain to you the reasons for my taking no part in the Zoological affairs.

I believe his plan is to employ them in making the collections on the public account, that is to say, that they engage to give the whole fruits of their labours without reservation to be at Sir S's. disposal, in return for which he is to defray their expenses. They are glad to make this bargain, as their own funds

\(^{141}\) This appeared in the *Asiatick Researches*, XIII, 1820, p. 417.

\(^{142}\) Dr. Horace Hayman Wilson (1784-1860), Secretary of the Asiatic Society 1815-1832, the Sanskrit Scholar, and historian.
were nearly exhausted in Bengal without having done much, and
the credit of the collection they now make, will of course be theirs,
though the property of it be British. This I believe from some
private conversation I had with Sir S. on the subject of deriving
the most advantage from their labours, to be nearly his plan, and
certainly they may be very useful, as the subjects are by no means
such as are generally cultivated, particularly in this country.
They also regard less than most people the trifling inconveniences
of bad smells, putrescence &c. &c. and are therefore well fitted
for anatomists. What I have now mentioned, as I have not heard
Sir S. speak openly on the subject, is of course private between us.
It will explain however, why I do not like to make any private
collection for myself, or to do anything that could look like inter-
fering, especially as they might feel a kind of jealousy, and I do
not suppose they entertain any affection for me; that of course
I care very little about, and they are liberal enough of politesses,
but as Sir S. evidently endeavours to keep them in good humour
by little attentions, I do the same, or at least nothing to the con-
trary. If I wished anything, particularly anything of that de-
scription, I would ask Sir S. for it. You see therefore it will be
very little in my power to send to Col. Hardwicke, as he is himself
a correspondent of Sir S. who will probably send from himself.
If I should ever be separate, the case would alter.

A species of *Quercus* was brought in to me a day or two ago.
Nat. name Punning.\(^{143}\) Roxb. I see has several Penangian. I
have been thinking how it would do to employ a man with you to
sketch off rapidly on thin paper, the outlines of such of Roxb.'s
drawn species as I am likely to meet with here, which would be
of considerable use to me and would there be any objection to
such copies being taken? yes, one suggests itself this moment, the
putting the vols. in the hands of natives to finger, by which they
have already suffered; however you will judge, and whether it
would be worth the trouble. I have found also the *Casalpinia?
sumatrana* Roxb.,\(^{144}\) and the *Brueca sumatrana,\(^{145}\) the latter fig-
ured in Rumph.

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143. Apparently *Quercus racemosa*, Jack, in *Malayan Miscellanea*,
ii. (1822), No. 7, p. 86, which is found to be the same as *Quercus spicata*,
Smith (Pasania spicata, *Oorel.*) a widely distributed species.

144. Roxburgh had described in MS. *Casalpinia sumatrana* from a
plant introduced into the Calcutta gardens from Sumatra. It is found to
be a *Mezoneuron* and becomes *M. sumatranum*, W. & A. It has been collect-
ed since Jack's time on the Bencoolen coast.

145. *Brueca sumatrana*, Roxb., had been introduced into the Calcutta
Gardens similarly and described by Roxburgh, in the manuscript of his
*Flora indica*. It is a common Malayan plant recorded for the Bencoolen
east in other places than this. One interest which attaches to it, is that
Wallich collected it in Singapore island, where it had ceased to grow
towards the end of the last century, probably in consequence of clearing
(vide Ridley in the *Agricultural Bulletin of the Straits and Federated
Malay States*, i, 1902, p. 343).

Jour. Straits Branch
I have met with a great misfortune, in losing the services of my watch; it got a fall which has I believe dislocated the balance wheel. I am the more annoyed as it cannot be repaired here, and I have a value for it. I will send it up to you, and will you have the kindness to send it to the best watch-maker in Calcutta to be repaired. I know not whether I shall be able to send you anything by this occasion, but will if I can, and if not per next.

My best regards to Mrs. Wallich, and Believe me,

My dear Wallich,

Thine ever,

William Jack.

No. 11.

Bencoolen,

Sept. 1st, 1819.

[Received Oct. 23rd].

My dear Wallich,

The vessel has not sailed so soon as was expected, which gives me the opportunity of giving you a supplement to my last, and adding a small sample of Sumatran novelties. I have not yet got into the thick of them, to use a vulgar phrase, not however from idleness, for I have been bringing up a good deal of arrears; among these there are some things worth giving you. The specimen No. 5 I have now ascertained to be as I supposed Roxb.'s *Grewia paniculata*,¹⁴⁶ which however is superseded by *Microcos tomentosa* of Sir J. E. Smith, Rees' *Cyclop. in loco*, which agrees most exactly. It is singular to find it so well described from a specimen, which he says was imperfect and without even an indication of its native country. I perceive that Sir J. E. has availed himself of specimens brought home by Mr. C. Smith,¹⁴⁷ who will have anticipated me in many things. I have further been investigating the *Kamooning*,¹⁴⁸ concerning which there has been sad confusion which I think I can now clear up, being acquainted now with the three of Rumph.

¹⁴⁶. Jack's No. 5 would probably be a Penang plant. *Grewia paniculata*, Roxb., occurs there.

¹⁴⁷. Christopher Smith, was sent to Tahiti in H. M. S. Providence in 1791, then as botanist to the Honourable East India Company to the Moluccas (see note No. 1), and about 1805 was made Superintendent of the Botanic Gardens there; but he died in Penang either in the next year, or immediately afterwards. His drawings and specimens may be found in the British Museum of Natural History, South Kensington.

¹⁴⁸. Jack wrote in the *Malayan Miscellanies*, i. (1820) p. 31, an account of the Kamunning. Rumph as Jack says had figured three plants, first what he calls Camunium or Camuneng, which is the *Chalcas paniculata* of Loureiro, and the *Murraya paniculata* of Jack, and *Murraya exotica* (2) the camunium sinense, which is *Aglaia odorata* of Loureiro, and (3) the camunium japonense which is again *Murraya exotica*. Jack here explains to Wallich that the first is the true Kamunning; and in his note he calls it *Murraya paniculata*; the second is *Aglaia odorata*, and the third is to be distinguished from the first as *Murraya exotica*. Unfortunately for Jack's conclusions we have come back to Lamarck's position that the Camunium of Rumph and his Camunium japonense are both *Murraya exotica*.

R. A. Soc., No. 73, 1916.
The two figured in plate 18 vol. 5, are plain enough and well known, fig. 1, the *Camunium Chinense*, Roxb. quite distinct from the others, fig. 2, the *Murraya exotica*. All the confusion has been with reference to the true Kamooning, t. 17, which has most unaccountably by Lamarck and others been supposed the same with *Murraya*, in the face of Rumphius's figure and of Loureiro's description, who distinguishes the two very well. I am not pleased with any of the names they have borne. *Murraya exotica* is an absurd appellation, and *Chalca racemosa* is a false name as it happens not to be panicled, which is abundantly evident from the fig. of Rumphius. They belong to the same genus, and are distinguished by the one being a tree, furnishing the wood most highly valued by the Malays for making the handles of kreeses, having ovate acuminate leaves, and the flowers 1-3 from the axils of the superior leaves. The other the *exotica* having blunt thick leaves and panicled flowers (ni fallor) and not exceeding a shrub. I suspect Loureiro's other distinction of *Bacca* 2 and 1-spermae will not be found sufficiently constant.

What is known about the two species of Sagus put down in the garden, viz. *inermis* and *spinosa*. Had Roxb. any description of them, and what is the *S. Rumphii* in the appendix? Sir J. E. Smith does not attempt to clear up the matter. Do you know what Rottboll says of them? he is quoted in the Act. Dan. I think I have two of Rumph's species, the one armed the other unarmed. I have the fruit only of the latter but both are planted here. The specimen 213 is I find, the *Aegicera fragrans* Konig. Am. Bot., and figured in Rheede vol. 6. How could it possibly have ever been placed under *Rhizophora*? I see Roxburgh calls *Volkameria inermis* Linn. *Clerodendron littoreum*; is that sanctioned by any other authority? it is a much better name than *inermis*, and I feel much inclined to adopt it; I think two species have been confounded under it, specimens of which have been sent you, one, 204, *fol. ovatis, pedunc. avillar. trichotomis*. The other *fol. lanceolatis, ped. axillill. trifloris*.

Mr. Nicolson, a gentleman who has purchased a nutmeg plantation here, goes up by this opportunity. I have therefore requested him to take charge of the few specimens I have ready, and

149. It is thought that Roxburgh had only got races or conditions of the common Sago palm which he distinguished under these two names. *S. Rumphii* which is named next is according to some the Sago palm of Eastern Malaya: but others do not distinguish it from the Western or common Sago palm.

150. *Aegicera fragrans* is *A. majus*, Gaertn., a common coast plant of Malaya. The number indicates that it was obtained by Jack in Penang, where it is common.

151. Some regard these as varieties of *Clerodendron inerme*, Benth. whereunder is then included *C. neriifolium*, Wall.; others separate them, Rumpf had *C. neriifolium* as *Jasminum littoreum*, whence Roxburgh's *Clerodendron littoreum*.
also send by him my watch, about which I spoke in my last; will you do the needful concerning it? Mr. Nicolson will return here soon again, and will probably take charge of anything you may wish to send. He brings down his family to settle on his estate, which he purchased for a mere song. I thought at first he would be rather an acquisition to the place, but he has shown a bad litigious spirit, which has made me less satisfied with him. He has a pushing insinuating manner; should you see him and he tell you any long stories about Benneollen and the favor he stands in, you will know the degree of credit to attach to them. I mention this that you may know the sort of man, in the event of his seeking your acquaintance, which is not improbable.

I have purchased Rheed, and Rees Cyclop. cum aliis. The latter comes down to Fol. Fum. Part 71; have you got any later?

What steps have you taken for procuring the last volumes as they appear, that I may adopt the same.

I am going tomorrow for a week to Rat Island so must close this letter, which I wish you may be able to read. My best compts. to Mrs. Wallich. And believe me yours very truly.

William Jack.

P.S. I wish it were possible to procure in Calcutta such paper for specimens, as that which forms the cover of those now sent nothing ever injures it.

If you can, procure some pairs of hyper-robust shoes, size within a trifle of 10½ inches.


My dear Wallich,

A vessel has just called with dispatches, and is off again for Calcutta immediately. I shall only be able to send you a few lines. The intelligence she has brought is most unexpected and important. An extraordinary mortality at Penang has swept

152. Rheede tot Drakenstein, Hortus malabaricus, 12 vols. 1686-1703.


154. Rat island is opposite Bencoolen.

away the Governor;\textsuperscript{156} Mr. Phillips\textsuperscript{157} and another;\textsuperscript{158} the Government thus becoming vacant by the disappearance of both the heads of it, it will of course rest with the Bengal Govt. to make the necessary provisional arrangements. We shall of course be anxious to hear what these are; and the most probable is that it will be united with this under Sir Stamford. The plan has already been recommended by Lord Hastings to the Court of Directors, for adoption on the retirement of Col. Bannerman, so that I think that there can be little doubt of his embracing this unlooked for opportunity of carrying it into effect;\textsuperscript{159} I shall rejoice at it on Sir Stamford’s account, though I confess after so much moving about as we have had lately, I would rather remain quietly here for some time, especially as I have so much in hand. Sir S. himself would like to remain here too for some time: however we must take things as they come.

I am extremely busy at present. I was in hopes ere this to have had some printed sheets of descriptions to send you, but Mr. Ward\textsuperscript{160} is so slow and dilatory, that I fear he will be of little use to us. A first paper (not mine) which was given him on trial, has not been got out of his hands yet. My botanical time is a

\textsuperscript{156} Colonel Bannerman.

\textsuperscript{157} The Honorable W. E. Phillips for a long time a servant of the East India Company in Penang, acted as Governor thrice before Colonel Bannerman came out, and became confirmed as Governor in 1819. He lived in great state having a park full of deer round his residence, and was most hospitable. He did not die of cholera in this year: so, either Jack’s information was wrong, or we must look for another Phillips. The first alternative is more than probable.

Succeeding to the Governorship, W. E. Phillips by his prompt and firm action in the end of 1819. snuffed out a renewed attempt on the part of Saif-ul-alam to disturb the peace, at the time when Raffles was in Calcutta, on his very mission for the subdivision of the Penang Governor-ship: and which it seems, he undertook thinking this apparently capable officer dead.

\textsuperscript{158} Whoever was dead, it further was not Captain Coombs for he remained in Penang after this date, and died much later in Scotland.

\textsuperscript{159} After the receipt of this news Raffles proceeded to Calcutta to urge personally the amalgamation of the Straits Settlements into one government as already half-promised (vide Memoir of Sir Stamford Raffles, p. 396). He arrived there on or about November 12th, 1819, taking Jack with him, and Jack taking his collections. In Calcutta, Raffles became ill; and the stay was prolonged, giving Jack facilities for working over his plants with Wall’ehe. Because of this interruption of the correspondence by personal contact, it has been thought best to divide the Beneelen letters at this break into two series.

\textsuperscript{160} The Rev. N. M. Ward, one of Raffles’ missionaries, doubtless the one mentioned by him in his letter to the Duchess of Somerset already quoted p. 147. He subsequently penetrated into the interior of Sumatra. Was it not he who in 1815 was with Carey and Marshman at Scaramore? (Vide Private Journal of the Marquess of Hastings, (London 1858, ii. p. 93). Jack did not think much of him.
little diminished at present, by Sir S. having put me on a committee\textsuperscript{161} to inquire into the state of society among the natives under this establishment; a tremendous subject, and unfortunately the greater part of the burden of it falls on me.

The marine plant\textsuperscript{162} No. 271 which I sent you in my last dispatch, I again found on the Coral Reefs at Rat Island, and having got better specimens, discover that is the \textit{Stratiotes acoroides}, figured in one of the last vols. of Rumphius. Have you any idea what the plant is that is figured in Rumph. vol. 3, t. 26, and very well described at page 47, by the name of \textit{Lignum Emanum}? I do not find it quoted anywhere, and am extremely puzzled what to make of it; can it have any relationship to Taxus? I found the plant at Singapore, and am not sure whether you have had specimens of it: in case you should not I enclose one in this.\textsuperscript{163} If it has separate male flowers, I have never met with them, and Rumph, seems to have been equally ignorant of them.

I have again met with the Sago, in still more perfect condition, and hope soon to be able to give you a full account of it. I find that it is absolutely hermaphrodite; it seems to be Rumphius’s \textit{Sagus levis}. There is also here a spinous species, whose fruit I have not yet procured.\textsuperscript{164}

The \textit{Morinda} with umbellate flowers (spec. 77)\textsuperscript{165} which you in one of your letters observe to be new, seems to agree very exactly with the Pada-vara, Rheed. H. Mal. 7 p. 51, t. 27, and as it does not appear that the said figure has ever been quoted, I think there can be little question of its novelty. If it is to remain a \textit{Morinda}, it may be called \textit{M. tetrandra} “pedunculis umbellatis terminalibus, corollis 4-fidis, intus hirsutis, foliis lanceolatis.”

161. Raffles thus writes to William Wilberforce under the date of September 1819. "In our chaplain, the Rev. Charles Winter, I found every disposition to extend the sphere of usefulness, and by associating him in a Committee of gentlemen...... I found the means of effective superintendence. The enclosed printed copy of the proceedings of this committee will place you in full possession of the principles in which we have proceeded, and of the particulars of what has been done towards the establishment of schools at Benevolen. In the last report of the Committee with which this paper concludes, you will perceive some interesting observation on the condition of society, the character and usages of the people, and the facilities generally extending the plan of educating the whole of the native population" (Memoir of Sir Thomas Stamford Raffles, p. 47). And again (on p. 49), "I am in a particular manner indebted to a member of my family, Mr. Jack, for the ardour and ability which he has infused into the researches of the Committee."

162. Enhalus Koenigii, Rich. Miquel in his "Sumatra, zijne Plantenwereld," Amsterdam, 1862, only records this for Tapanuli; but it must be common all down the coast.

163. Podocarpus Rumphi, Rhume, differing in small points from \textit{P. nerifolia}, Don, which Jack had found in Singapore. See note No. 172.

164. Probably not a distinct species.

165. A Penang specimen. It was \textit{Morinda tetrandra}, described by Jack in the Malayan Miscellanies, i. (1820 p. 13), now united to \textit{M. umbellata}, Linn.; and Wallich distributed specimens collected by Jack.

R. A. Soc., No. 73, 1916.
At Singapore I got a still more extraordinary species of the same genus, to all the peculiarities of the former adding the singularity of polyspermous berries!! It may be called *M. polysperma* and characterised as follows, "tetandra, pedunculis axillaribus et terminalibus, corollis 4-fidis intus hisrutis, foliis ovatis acuminatis, baccis bilocularibus polyspermis!". Both these species are very like each other in appearance and general habit; their flowers agree, but the fruit is quite inexplicable. They must I think come into one genus, the alliance is so close, but whether they can unite with *Morinda* is another question, what think you?. My spec. of this last have almost gone to wreack, and I only got one or two; I must however send you a leaf and fruit, that your eyes may be convinced.

I look very impatiently for the letters of yours still due, which have not made their appearance. I am at this moment plagued with a sharp attack of rheumatism, consequent on a slight touch of fever I got by a trip in the sun. It comes very mal a propos, for I really have not time to attend to it, although it actually lames me, and utterly banishes Mr. Somnus. What I would give for full and perfect health just now!

Give my best regards to Mrs. Wallich and believe me,

My dear Wallich,

Ever thine,

William Jack.

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**Series 4—Bencoolen Letters**

*After the Visit to Calcutta in 1819.*

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On board the Indiana off Tappanooly

Feb. 27th, 1820.

My dear Wallich,

There is a small vessel in company with us which goes soon to Madras, I shall therefore commence an account of our proceedings to go by her; we had a delightful breeze and a most excellent passage down the bay till we approached the coast of Sumatra. There and particularly about Hog Island, we were delayed by calms. We reached Tappanooly on the 23rd and left it again

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Jour. Straits Branch
yesterday. If I had anticipated so long a passage, during which I have had very little to do, I would have carried down with me a part of the specimens to work at on the way. One mischanter befel me, the box which contained my description book happened to be in a cabin below, which was set afloat one night by a sea through an open port, and it got most thoroughly and completely soaked; I have been obliged to make a copy of the greater part of it, but one good effect has resulted, that in doing so I have perfected the descriptions and put them in shape to be immediately printed, and shall commence thereon as soon as I arrive at Ben-coolen. I hope when I arrive there I shall receive letters from you by the Coromandel, which will probably arrive almost as soon as we ourselves; and also by Watson. I hope in dispatching the specimens, you have taken care to preserve for yourself a complete set. We may wish to refer to some of them. I wish we had not done away with the arrangement, of those of which there were duplicates from those which are the only specimens, which is the case with a great many, and certainly with all of which you had not previously received specimens. There were several of these that I should have liked to have ascertained and made descriptions of along with you. You will however distinguish in going over them, as well as I could, such as are of interest, and when necessary we can refer to them afterwards. I shall be anxious to hear what discoveries you make among them. There are several particular points and queries I want from you; the best way will be to put them down in order, that you may have them before you at once, and comply with them when convenient and at leisure. In the first place I wish to have copies of the descriptions you made of several plants, some before, and some as we went along. These are principally your descriptions of:

1. Fagraea obovata. Sylhet etiam Singapore.
2. Strophanthus. ................. Penang.

167. Raffles wrote to the Duchess of Somerset under date "off Sumatra, Feb. 12th, 1820" saying that he had just left Tappanooly. On the 27th, he was off Natal, and in a letter to Marsden states that Jack was with him. Thus we get two dates for visits to Tappanooly, one just previous to Feb. 12th, and Jack's i.e. 23rd to 26th. As there are many slight printing errors in the Memoir of the life of Raffles suspicion falls less on Jack's than on Raffles' dates.

168. This is a reference to the first series of descriptions of Malayan Plants, Malaya Miscellanies, vol. i., 1820. Naturally the greater number of the plants described came from Penang.

169. Wallich described this plant in his and Carey's revision of Roxburgh's Flora Indica, ii. p. 33. It seems that it was familiar to him from Sylhet before Jack found it in Singapore. Specimens were distributed by Wallich under his No. 1595 which Jack had communicated to him.

170. Strophanthus Jackianus, Wallich in his Catalogue No. 1643, being specimens which Jack had sent to him. But the plant is now transferred from Strophanthus and becomes Wrightia dubia, Spreng. It grows near the coast of Penang.

R. A. Soc. No. 73, 1916.
3 Celtis attenuata. Frequent at Tappanooity. 171
5 Uncaria lanosa. 173
6 Posoqueria anisophylla, described during examination. 174
7 of the two Patisae. 175
8 of Ardisia paniculata affinis. 176
9 of your Myrica Kayphul. 177
10 My description of Limonia? leptostachya, accompanying the specimens: I have no other.

Roxb.'s short character of Urtica nauciliflora, numero staminun. 179

What species was that which grew from seed from Penang C............folium? also its spec. char.:—

171. It is impossible to ascertain what this may have been, except by search for a species common at Tappanooly.

172. Podocarps neriifolia, Don.

173. Uncaria lanosa, Wallich in his and Carey’s revision of Roxburgh’s Flora Indica, ii. p. 131, is described from these specimens of Jack’s.

174. Posoqueria anisophylia must be a synonym for Randia anisophylia, Jack, described in Wallich and Carey’s revision of Roxburgh’s Flora Indica, ii. p. 561. It is a common Penang tree, and Jack’s specimens were distributed by Wallich when breaking up the East India Company’s herbarium, as No. 8399.

175. The genus Patisa was never published. The only genus which it can have been is Urophyllum. Wallich had Jack’s descriptions for publication at his discretion, and appears to have substituted this name of his own for Jack’s. That is why, in publishing Urophyllum, Wallich wrote his own name after the genus, but Jack’s after the two species. Griffith (Calcutta Journal of Natural History. iv. 1844, p. 17) pointing this out thought that Wallich had inadvertently written his own for Jack’s name. The two species are U. villosum and U. glabrum.

176. Ardisia divergens was described in Carey’s and Wallich’s revision of Roxburgh’s Flora Indica ii. p. 275, and is placed by Wallich next after A. paniculata, Roxb. in his Catalogue No. 2269. Jack’s association with the species being recorded by the citation of “punctata” as a synonym. The species seems to have been unknown to Roxburgh, as it does not appear in the 1832 edition of the Flora which was printed from the original manuscript.

177. Myrica ascultenta, Buch.-Ham., a common plant on the coasts of Malaya, and very widely distributed in Asia.

178. Limonia leptostachya, Jack, MS., is Galeria Jackiana, R. Br., and remote from Limonia. It is to be noted that in this letter Jack questions the genus: and as the only specimen which he had gathered was not in his hands, but had been left with Wallich, probably it is not exactly accurate to assert that Jack called it a Limonia, as it seems to have been Wallich who dropped the query.

179. Roxburgh’s Urtica nauciliflora is Conoecephalus wualcolens. This enquiry shows that Jack’s clerk in Calcutta, was yet far from getting to the end of the work of copying the Flora Indica.
If Roxburgh has a figure of Uvaria pilosa, R. what the color of its flowers. I think I have it described with 'red.' It is also among the species.\(^{180}\)

Query are the berries of Uvaria grandisflora\(^{181}\) angled, as in the fig. in your Tentamen, or round as described by Roxb.

Pray send me a pencil outline of Ternstroemia trilocularis R.\(^{182}\) if there is a fig. Can No. 235 of your specimens be a Ternstroemia?

What is Brown's remark on Memecylon in Tuckey's Congo. Also what his char: of Amyrideæ in Do.?

I found at Tappanoooy the flowers of what from the fruit alone we called Cnestis longifolia (Singapore);\(^{183}\) but what say you, it is only pentandrous; there are two little villous processes between each of the stamina. I found also two more species of Connarus,\(^{184}\) the examined 5—all new. One from Penang C. ferrugineus, of which I have the description, three from Singapore\(^{185}\) of which I have none, and I fear no duplicate specimens. If you have made any memoranda of them let me have them, for these Connaroidæ must be attended to. I have been looking over Roemer.\(^{186}\) That and De Candolle\(^{187}\) (try to get it for me) will be invaluable when completed. What does Roemer mean by saying that Mangifera Indica has fol. venetatissima. True? I happened also to have observed that he gives Helicia Cochinchinensis in one place, and then in the next under Rhopala Cochinchinensis quotes it; somewhat tautological?

When do you begin on Roxburgh's Flora Indica vol. II, and in the event of your proceeding to Nepal what will be the arrangement? I hope it will not stop. I forgot to ask whether you have got a genus yet under your patronage, if not, how would you like that your critical acumen should be commemorated by

\(^{180}\) Uvaria pilosa, one of the species described by Roxburgh as from "the Moluccas" is Jack's Uvaria hiszuta, from Penang.

\(^{181}\) Uvaria grandisflora of Roxburgh is Uvaria purpurea, Blume; but Uvaria grandisflora, Wallich is Uvaria Hamiltonii, Hook. f. Wallich had made a mistake, and Jack was apparently upon the track of it.

\(^{182}\) Ternstroemia trilocularis, Roxburgh, is Sauarauja tristyla, DC.

\(^{183}\) Cnestis longifolia cannot be identified.

\(^{184}\) Connarus ferrugineus was described by Jack from Penang in the Malayen Miscellanes, ii. (1828) p. 372.

\(^{185}\) Wallich's catalogue shows that two of these were Agelata vexitata Hook. f., No. 8555, and Connarus semidecandrus, Jack, which Wallich called C. gibbosus, No. 8541.

\(^{186}\) Roemer and Schultes, Systema vegetabilium, 1817-1830.

\(^{187}\) A. P. de Candolle's Regni vegetabilis systema naturale, Paris 1818-1821, two volumes.

R. A. Soc., No. 73, 1916.
taking those acuminate gentry the Patisne under your wing. 188 Wallichia? glabra is a Tappanoolian. I am not however decided that it shall be so. I shall perhaps have something more splendid to name, only I should like it to be Pentandrian that it may come out soon.

During the two days we stayed at Tappanooly, I scrambled over not a few hill and forest tracts, but the season is not the best. The night we came in, we had a narrow escape. We went ashore on Mansilar Island in the evening, the vessel continuing under sail, night came on, the ship out-sailed us, we lost sight of her, and had to row about 20 miles in the dark without compass and no stars visible. Ten minutes after we did get on board, (which was at one o'clock at night) there came on a most furious squall which nearly drove us from our anchors, and would have sent us and the boat, had we been out in it, to the D-l in double quick time. However we were born under lucky stars. On Mansilar, we found what I take to be Schrebera Swietenioides Roxb., 189 a delightfully fragrant tree. The Camphor trees were not in flower, 190 but we cut down one and got some Camphor out of it a piece of good fortune, as one in a hundred is only found to contain it. They are indeed the monarchs of the forest. The one cut down measured 90 ft. to the first branch, diameter in proportion, and perfectly straight. I have got young plants, and also of the Styrax Benzoin. 191 Dryobalanops is a confounded herbaceous name, and is nonsense nimis affinis! What think you of a fourth species of Didymocarpus, 192 which I have a great mind to call D. ornithopus, for the capsules are arranged in such a way as to look very like crow's feet. I am almost at a loss how to

188. Jack proposed Wallichia as an alternative for his Patisne—but Wallieh called it Urophylhum, see note No. 175. However Blume in his catalogue of the Buitenzorg gardens published Wallichia as Reinwardt's name for the genus. Now Reinwardt was in charge of these famous Gardens when Jack went to Java in the hope of recuperating his health: (See p. 239 forward) so that it is probable that Reinwardt got the name Wallichia from Jack then, used it there, and when Blume succeeded Reinward without knowing the history of the name, it was ascribed to Reinwardt. Note the connection of the name Urophylhum, or tall-leaf, with Jack's expression ' acuminate gentry.'

189. This plant is not recorded as Sumatran by Miquel in his account of the Flora of Sumatra.

190. See note No. 123.

191. Styrax Benzoin, Dryand., was considerably cultivated in Sumatra at this time, but rather in the interior: and the plant was scarcely familiar to botanists.

192. Didymocarpus corniculata, Jack in Malayan Miscellanies, i. part 5, p. 4 (1820).
describe the inflorescence; the scrawl on the margin will give an idea. The pedicels are irregularly fascicled on the summit of the peduncle, and all the flowers turn one way and are bent at an angle to the pedicel. Would "pedunc: axillaribus floribus cristato fasciculatis secundis" do? Are your Didymocarpi alternifolious or oppositifolious? I have species both ways. I have a great mind to bring this genus into my grand fascicle, with a drawing of D, frutescens\textsuperscript{193} and characters of the others. Fagrea racemosa would also deserve a place.

The people in the interior of Tappanooly are Battus, and we were curious to ascertain whether they were really cannibals as has been represented: our inquiries have placed the fact beyond a doubt, and the circumstances attending the practice are such as I am almost afraid to mention, as they are scarcely to be credited. It appears that by the Battu laws, the capital punishment ordained for certain crimes is to be eaten, and the execution of the sentence is the occasion of a grand feast. But the most horrible part of the story is, that the prisoner is actually eaten alive, and has the

\textsuperscript{193} Described in the *Malayan Miscellanies*, i. part 5 (1829) p. 5.

R. A. Soc., No. 73, 1916.
pleasure of seeing his own flesh devoured before his eyes. Cutting off his head is the conclusion of the ceremony. Will you give credit to this tale? however incredible, I fear it is a fact. However it is our intention sometime or other to pay them a visit, and have the evidence of our eyes to the matter. We are resolved to witness a human feast. Shall I send you a tit bit preserved in pyro-ligneous acid? The palms of the hands are epicurean morsels, or will you have a great toe? More of this however at another time.

I enclose to you two letters for Mr. Colebrooke and Mr. Lambert, which pray forward. Read them and tell me if you approve; I wrote them in hopes of being able to send them per Carnatic, but was too late; I wrote Brown by her. Pray how goes on the report, has it gone in? I wish we could have finished it together, but it will be just as good otherwise. I shall be anxious to hear what it produces. We must keep in view the bringing about a connection between us in the Dept.

I shall also enclose letters for Calder and Lindsay; you see I do not spare you in any way. There are enough of requests and commissions in this for one letter at least.

Sir Stamford has completely recovered on the way down, and is now as well as ever. By the bye, he wishes to ask you some day that you happen to be in Calcutta, to take a look at the specimen of the Bintooron, an animal sent up from Malacca by Major Farquhar to the Asiatic Society and in the Museum, and ascertain the number of its teeth; ... is a desideratum; also if you can, whether it is what Cuvier calls a plantigrade, i.e., whether the whole length of the foot is applied to the ground.

194. Aylmer Bourke Lambert (1761-1842), a great collector of plants. He inherited a considerable patrimony which he used freely for the furtherance of science, chiefly by getting together large collections which were at the service of savants. David Don was his curator, the author of the *Prodromus flora nepalensis*, which was based on material obtained by Lambert from Wallieh. Raffles and Jack sent to him Sumatran plants. And at his sale in 1842 lot No. 111 was catalogued as probably from Jack and lot 255 as from Raffles, and others. According to information most kindly supplied by Sir David Prain, Director of the Royal Botanic Gardens, Kew, the first was bought by the dealer William Pamplin for £1, the second by someone named Rich for £3; their subsequent fate is not known to the writer. Lambert was one of the original members of the Linnean Society and for nearly fifty years a Vice-President.

195. Robert Brown, see note No. 73 p. 168.
196. See note No. 38 p. 161.
197. See note No. 81 p. 172.
198. *Artiodactyla* Binturong—the Cat-bear which occurs from Assam to Java; and the habits of which are still but incompletely known. The word missed out is illegible.

Jour. Straits Branch
Sir Stamford desires to be remembered.

My very best regards to Mrs. Wallich, and believe me ever,

My dear Wallich,

Yours very sincerely,

William Jack.

No. 2 Bencoolen,
March 15th, 1820.

My dear Wallich,

An event has just taken place which you may have in some measure anticipated. Our Frenchmen\textsuperscript{199} . . . . . . . . . . . you know . . . . . . . . . . . were taken up and brought forward by Sir S. Raffles in Calcutta, at a time when their means were exhausted, and they despaired of being able to effect anything; and you know with what kindness they have been treated, the important aid that has been afforded them, the opportunities that have been opened to them, in short the manner in which they have been patronised by that princely man, as never men were patronised before. They have been allowed 1000 rupees a month ever since they have been with him, to defray all their expenses of establishments &c. &c.—besides being provided with passage, table, and here with a house free of all expense. In return for all this, the only stipulation made was, that their collections should be on account of the Company, and that the account of the discoveries they might make, should not appear in France until they had been noticed in England. It was Sir S's intention, and indeed still is, to have ultimately presented to them a complete set of duplicates in further acknowledgement of their services. To those conditions they gave their full agreement in writing, and in words professed the utmost gratitude for the liberal terms allowed them, and their extreme desire to give everything into the absolute disposal of Sir S. At the same time they were given to understand, that the arrangement was made subject to the approbation of the Supreme Govt., and that the period of their employment would be regulated by that authority. The reply of the supreme Govt. was received in Calcutta, disapproving of the arrangement, sanctioning the expense already incurred, but directing it to cease for the future. On our arrival here we found that they had been very industrious, and had got a considerable number of animals of one kind and another. As therefore they had exerted themselves, Sir Stamford, with all the reason which you know he had to be discontented with them before, felt unwilling to disappoint them in any way, and resolved to make an exertion in their favor rather than at once put a stop to their labours. He accordingly offered them an allowance of 600 rupees a month out of his own pocket, on the chance of its eventually being approved by the Company;

\textsuperscript{199} Diard and Duvauel.

R. A. Soc., No. 73, 1916.
explaining to them at the same time, that as a sufficient number of the principal specimens had already been obtained, the expense might easily be kept within the limits by avoiding an unnecessary number of duplicates. Now what do you think was the reply to this noble proposal?—no words but those of the letter itself can convey to you the full idea, or measure of the ingratitude of it; I shall ask Sir S. to let you have a copy of the correspondence. The fact is they think they have nearly exhausted Sumatra; and now meditate their retreat with as much as they can carry off. They say they were solicited to come here, and in compliance therewith abandoned the researches they had so successfully commenced in Bengal, with many similar lies.

As they seemed determined not to recede in their pretensions, it became necessary to appoint a committee to take charge of the whole of the collections, which has accordingly been done. They express themselves very indignant, and talk of going to Bengal to protest; Let Gen. Hardwicke (to whom I beg my compliments on his late accession of honors) know the story, and see the correspondence. If possible prevent Lord Hastings from being humbugged by them, humbug, (I like the word and so do you) not being one of the things that his Lordship is quite proof against. There is a vessel here at present that will take a great part of the collections at once to England, which will be so much secured. Our return perhaps was fortunate, as it appears that they had actually been preparing to steal a march and to be off with the whole. So much was this expected that the acting Resident had actually his eye upon them, to place a guard over the house and property, if they should make the attempt.

Enough however of such a subject: I have commenced with it as being the uppermost at the moment, before even acquainting you with our safe arrival here. I wrote you by a vessel that parted with us at Padang, and was proceeding from thence to Madras.

In that I gave you some account of Tappanooly, and the discoveries in that quarter. We arrived here on the 3rd of March, but the weather was so bad, and the surf so great in consequence, that we were unable to land till next day. Rather tantalising this, particularly, to Sir S. However we are now once more quietly settled and beginning to resume our old routine. This business of the Frenchmen will give me some additional occupation and disturbances, as all their collections come in, here, and there will be the plague of stowing and arranging them, cum stinkibus, et filthibus, et ceteris et ceteris.
I found here some of your former dispatches which had not appeared on my leaving this, particularly the valuable one by Mr. Stuart. Only one of the series appears to be totally missing, that of March 1819, per Brig Tagus, of which not a trace, and what is provoking, it probably contained a portion of Roxburgh’s mss, as I find the part from “Polygonum lanatum” to “Cassia inermis” wanting. Pray make some inquiry respecting its probable fate, and if lost—the writer may as well supply it. I wanted to have referred to it lately in examining a species of Laurus, called by the Malays Kayu Gadis, or the virgin tree, which name I find subjoined in the catalogue to Roxb.’s L. porrecta. Why the devil did you give it that specific name; I can hardly think of letting it stand, when a much more elegant one might be given in allusion to the native appellation. Let it henceforth be called Laurus virgo, or Laurus Parthenoxylon, alias the Virgin Laurel. Which do you approve? It yields an oil much valued by the natives, and having a balsamic smell somewhat resembling Capivi.

Watson arrived not long after us, but, prop. dolor! brought nothing from you. I hear however that another vessel is to follow, by which I may have your dispatches.

Now I have a grand affair to inform you of, nothing less than specimens of the gigantic flower of Sumatra. Rafflesia Titan? Quid dicis? Marsden in a letter to Sir Stamford, proposes Rafflesia elephantina, Query, which?. I must send you a pencil outline of its fructification, in which respect it appears to be as singular and unique as in size. It is no Asclepiad, as was at first guessed; nor does it appear to belong to any known Natural family. It is Polyandrous or rather Gynandrous. The anthers are large spherical bodies, sessile and lodged in hollows under and covered by the lower and projecting edge of the stigma. They are of a

201. See notes No. 37 and 119.
202. Cinnamomum Parthenoxylon, Meissn. The wood at all stages has a strong smell as of Citronella oil, not of Camphor, though Kurz called it Martaban Camphor-wood. The seed yields an oil used for rheumatism. Marsden, History of Sumatra, at p. 162 of the third edition, mentions it as having wood smelling of Sassafras. The tree is found in the Malay islands and Peninsula and as far north as the Yang-tze-Kiang valley in China.
203. Rafflesia Arnoldii. Flowers of this strange parasite were obtained in 1818, and a figure from one of them may be seen in the Memoir of Sir T. S. Raffles, opposite p. 316. In a letter later (vide p. 208) Jack says that it had proved to be not uncommon. He described it in detail for publication in the Malayian Miscellanies, under the name of Rafflesia Titan, but held up his description pending news from Europe. Sir William Hooker in 1835 published that description.
204. William Marsden (1754-1836), for eight years (1771-1779) resident in Beneoolen; after which in 1783 he published his History of Sumatra, wherein the care and fidelity exhibited made his reputation. The History went through editions in 1784 (second), and 1811 (third), each of which received the author’s careful attention.

Marsden and Raffles had been in correspondence from 1805.
spongy porous texture internally, and having on the summit, an umbilicate spot of a lighter color, in the centre of which is a pore or foramen. The specimen I examined was a yet unopened bud, of the size of a good cabbage. I have information of others, and as soon as I hear of their being blown, mean to take a journey to see them in their native spot.

March 23rd.—The business with the Frenchmen is drawing to a close. The correspondence has become so long, and Sir S. is anxious to send a copy home by the ship which sails tomorrow, that I fear that I shall not be able to enclose it in this, but it shall follow. The committee have done their duty in taking charge of all the specimens, in the course of which the Frenchmen showed further their mean jealous spirit in refusing to give specific names to the subjects, and taking off all the distinguishing tickets that they had previously appended to them. The specimens being received, the committee were directed to inform them, that by the terms of their agreement, they were bound to deliver up the observations, and that if they assented to this, and gave their word of honor that the whole of the collections were made over without reservation, they were authorised to make them an offer which was, that if they would agree not to publish in France till the expiration of a year, their descriptions should all be returned to them, and a complete set of duplicates still given to France.

Duvaucel I understand is going to Batavia, thence to Bengal; and Diard talks of going to Padang to prosecute further researches. The sooner they go the better and a good riddance. Let me know what they say or do in Calcutta.

I send by this ship, the "Mary," Indian ink drawings of the two Nepentes, the gigantic flower, the Camphor, and of that beautiful pantandrian with finely veined and serrated leaves and white fruit. I have named it Euthemis, ab "euthémố́n"—concinus, quid dicis? The two species are E. leucocarpa and E. minor. I have also sent descriptions of these and of the true Sago. They go to Mr. Marsden with instructions to take such notice of them as may prevent anticipation, at the same time that he is apprised of the intention of publishing them afterwards in a fascicle. It would not I think be easy to select other five as interesting. I must soon send you a copy of my account of these. I shall ere long have lots of descriptions for you.

205. Jack succeeded in sending to Wallich by the same boat copies of that part of the correspondence which is in English, but not that in French; Raffles, however sent the whole to London. It is useless to reproduce here the part, not only because it is imperfect, but because the whole, reprinted from Raffles’ despatch, may be read in the Memoir of his Life, 1st Edition pp. 702-723.

206. The same boat was to take to Marsden the whole of Raffles’ geological collections, as stated in a letter contained in the Memoir of Sir T. S. Raffles, 2nd edition, ii. p. 103.

207. Rafflesia Arnoldii, R. Br.

208. Euthemis was defined by Jack in the Malayan Miscellanies, i. (1820) part 5, p. 15, with two species. See not No. 114 on p. 179.
The singular *Combretacea* with crimson flowers and thick fleshy leaves, I found here on the banks of the Sillibar River mounted to the size of a good tree. The native name is Api Api, (fire) I propose therefore in allusion to that to call it *Pyrrhanthus flammaea*?

I have now intelligence of the great flower within thirty miles, not yet blown, but will be within a month, and then!!! If once these ships and Frenchmen were off, I shall set to tooth and nail, and you shall see. I found among the convicts a fellow who was employed (he says) in your seed house Engl. Here is a tremendous letter, and yet if I could settle myself to work, I have fifty hundred more things to say. A harum scarum chap of artillery, Lieut. Hele, is going up to Calcutta to get married and returns here with his wife. He asked to take any commissions for me, and I told him to let you know when he was coming down, and take charge of anything you might have.

I trouble you with a letter for our friend Mr. Gillman, as I know not whether to address it to Calcutta or Monghyr.

I am anxious to hear your plans in relation to Nepaul &c. &c. Have you any accounts of George since the "Nepal" sailed. My very best regards to Mrs. Wallich, and believe me ever.

My dear Wallich,

Yours very sincerely,

William Jack.

P.S. Sir S. and Lady Raffles always desire to be remembered to you both. The sweet briar arrived in excellent condition, and was most acceptable, as also the other things in the two boxes.

W. J.

No. 3 Bencoolen 29th March, 1820.

My dear Wallich,

I avail myself of a vessel proceeding to Batavia, to send you the conclusion of the correspondence, of which part was forwarded by the Coromandel. When I wrote you last the Committee had just closed their proceedings, and the Frenchmen had given their word of honor that they had given up everything. On that Sir S. wrote to them, that as they had concluded everything with the committee, the question of right being no longer in dispute, he was enabled to offer them the same consideration that he always intended; and to do this in the most gratifying manner, desired them to send in a list of such duplicates as they esteemed most valuable, which he would be happy to present to them. They sent in a list accordingly which was complied with .............. The day the Committee concluded the business of receiving charge of the collections, Diard

209. *Lumnitzeria cocinea*, W. & A.

210. George, Wallich's son. See notes 72 and 221.

R. A. Soc., No. 73, 1916.
and Duvauceul reported that a robbery had taken place the night before, by which they had lost all their papers. A robbery of nothing but papers looked a little suspicious, but no comment was made. Yesterday however a man came in and reported that a box had been seen among the grass near the house where the Frenchmen had been living, but that he was afraid to touch it for fear of being accused of having stolen it. It was then sent for and brought in to Sir S. while in Court, where he happened to be sitting that day. It was a box securely nailed up, and well tarred outside and at the joints. On opening it there appeared first a quantity of tow, and then a quantity of papers rolled up and laid in as if hastily packed; these proved to be the Frenchmen’s papers, who were informed of the circumstance, and were somewhat surprised at the coming to light of the precious deposit. The box was handed over to the Committee, to receive from the Frenchmen such part of the contents as related to Natural History. They gave a few scraps, and sketches, and gave their word of honor that all the rest were private papers. Unfortunately for the value of their word, some of the rolls of paper had been looked at, and known to be descriptions and sketches, but these were not delivered up, so that they have given their word of honor to what the whole court know to be untrue. So much for that part of it. As to the finding of the box, from the place where it lay, untouched and unopened, the way in which the papers were stowed, not laid in order as if it had been their usual depository, but rolled up hastily as they came to hand; the way in which the box itself was secured with nails and hammer, and further the box having been recognised to have been made only the very day before it was said to be missing, there seems little doubt that it was lost where it could readily be found, and that its discovery was a disappointment to those who had been bewailing its loss. But I am sick of the subject: thank Heaven, Sir S. is done with them. Diard I understand is going to Batavia; and Duvauceul talks of going to Padang, to make, he says, in three months, a better collection than that of Sir S. in a year. Diard says he goes from Batavia to Calcutta. I think there is little to apprehend from anything two such (what shall I call them) can do. I have already told you to be prepared to meet any mis-statements they may spread, for which purpose I have wasted so many words on them.

They having given over the collection without names or observations, or at least with very few, it becomes necessary to supply the deficiency and prepare an account of it for England. This task of course falls on me, and is no trifling one. As the object is to have it out soon, I am obliged to devote myself to it, and must therefore let my own pursuits stand still for a little.

I have been at work for some days, and have got pretty well through the Mammalia. It is a devil of a job, but there is no help-

Jour. Straits Branch
ing it, it must be got through. I have not time for more at present, so I conclude, with best regards to you and Mrs. W.

And I am ever,
My dear Wallich,
Yours very truly,
William Jack.

Bencoolen,
1st June, 1820.

My dear Wallich,

I have been much disappointed at not having a single opportunity of writing you for a long period, and now I have nothing better than the circuitous route of Batavia. I must therefore content myself with a few lines, and trust that ere long I shall have some direct opportunity. I am very anxious to hear from you and learn your plans for the ensuing season. The time of your proposed voyage is fast approaching, and I am desirous of learning your arrangements regarding it. I do hope on your own account that you will put it in execution, it will relieve you from a great deal of tiresome worrying business; and a year passed in amusement and pleasure in an alpine region like Nepal, will be as good as a voyage to Europe, and be an epoch from which to date the commencement of a new lease of life. If you could have made a voyage here in place of the Nepal trip, it would have been to me still more delightful, but we are seldom fated to have all we wish in this world, and happy is he who looks at the brightest side of the present, whatever it be, and takes the honey of every flower he finds, without repining that it is not the wished for rose. I think there are few people who have more the means of being independent of circumstances than ourselves, and such as like us can turn from any prospect, however dark to that of nature which is always the same, fresh and bright. But stop, good Mr. pen, not so fast, as Fielding says, we have got on the top of a hill, how we are to get down again is the question. I believe he does it, by ringing the bell for breakfast, and though I have not that resource at hand just now, I must somehow contrive to descend to matters of fact.

And first for domestic news; I have a new character to introduce on the stage in the person of Lady Raffles' second son, who made his debut about a week ago with great applause. Captain Watson's lady also presented him with a girl a few days before. In short, increase of the population is the order of the day in more ways than one. Sir Stamford's indefatigable mind is now turned to the improvement of this place, and to drawing forth its

211. Journey to Nepal. Wallich resided at or near Khatmandu from 21st Dec., 1820 to November 8th or 9th, 1821.

R. A. Soc., No. 73, 1916.
resources whatever they may be. It would be too long to give you here a detail of all he has done, and all he is doing; suffice it to say the very aspect of the place is changed, and in spite of all its natural disadvantages, there are good hopes of its rising. Natives and Europeans all seem to awake to the new impulse they receive, and I really think the former more readily and fully than the latter. It is hardly possible to conceive the apathy and *vis inertia* of the Europeans who have been trained up and imbied the spirit of the old school of this place.

The last twenty years of Bencoolen have been its age of Gothic darkness. It was far better before in the time of its old government, but has declined ever since it fell under Bengal. Nunc redit ad pristinam dignitatem, yea, it revives in more than pristine splendour.

I have just concluded the second and longest part of the Zoological Paper—The Birds.²¹² The remainder will not be given so much in detail, and will I hope be soon finished; then for Botany anew. It has been almost suspended by these and other occupations. I have got numbers of the great flowers²¹³ and have at length satisfied myself upon every point, and have corrected many of the first ideas of it. I mean to send you a few specimens. How to send it living is more puzzling. I find it is parasitic on a species of Cissus with quinate and ternate leaves, which I cannot ascertain as yet²¹⁴ for want of Roxb.—these leaves are serrate and smooth. From the stems of this woody Cissus which run either on, or under the ground, spring these gigantic flowers. At first a round knob, enveloped in a number of calicine or bracteal leaves, which open as the flower enlarges, and mostly drop off as it gets ripe. The flowers are unisexual? ergo Dioecious. The male has the globular anthers disposed round the margin of the central column, as I have already described. The female wants them, but is otherwise similar: and the centre of the column is occupied by the minute seeds which are not exactly nidulant but disposed on the surfaces of a number of fissures, which traverse the substance of the column without any order or regularity. We get them [the flowers] in numbers from all parts of the country, so that they do not appear to be rare. Strange that they never before should have been heard of. They are called by the natives Pelinum Sekuddi, or the devil's sirih box, or as you would call it in Bengal Paun box. I like the name—*Poculum Jovis preocc dub*:

I had a story to tell you of the Frenchmen, but will let it alone just now. Here break we off at that unhallowed name like bards of old when words illomened came.

Believe me my dear Wallich, thine in sæcula sæculorum.

William Jack.

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212. *Eding of the work of Diard and Duvaneel.*
214. *Vitis angustifolia, Wall.* *(Cissus angustifolia, Roxb.)*, according to Jack in the *Malayan Miscellanies.*

*Jour. Straits Branch*
Bencoolen,  
28th June, 1829.

My dear Wallich,

We are still without any arrivals from Bengal, and consequently not a line of advice from you. The time must be approaching for your trip up the country, and I am not even certain whether this will find you in Calcutta. The London, a large China ship, arrived here some time ago direct for England, and we have taken advantage of that opportunity to send home the greater part of the Zoological collections.\(^213\) The second part of the description of them is finished and goes home now via Bengal. Sir S. is very desirous to get the drawings home at the same time, as it will give the people at home the means of examining and comparing the whole, and making any corrections in the paper that may be necessary before publication. As there is no likelihood of any direct opportunities from home, we have determined to send them via Bengal. They are put in charge of young O’Brien, one of the officers of Watson’s corps, who is going up on duty, and his directions are to take them direct to you, if you are in Calcutta; and if you should have left it, to entrust them to Calder. They will be put up ready and fit for transmission to England, and it is therefore an object to avoid their being opened at the Custom House, or in any way overhauled until they arrive at their destination. We were thinking at first of addressing them to you, in case you might wish to look at them, but considering the chance of your being away, and moreover that they are not of main interest to you, and that your time is too fully occupied otherwise, we thought it best to save you all trouble but that of despatching them. This I am sure you will readily undertake to do, and get them off by the very first opportunity. It is of great consequence their arriving early, as if they are much delayed the paper will be out without the advantage of reference, the “pieces justificatives” as the French would say. They ought to go I think regularly manifested, and with a letter of advice to enable Sir Jos.\(^216\) to get a Treasury order for their landing. There is lots of trouble for you, and I cannot think of giving you so much without taking example in some degree by the native custom, of not making solicitations empty handed. As they conclude their letters with, “I have nothing to offer my friend but—which I request him to accept,” so I shall conclude the above request with specimens in spirits, of our gigantic flower.

\[
\text{Quale portentum neque militaris} \\
\text{India in latis alit esculetis} \\
\text{Nec Juba tellus generat leonum} \\
\text{Arida nutrix.}
\]

\(^{215}\) Arrived safely.  
\(^{216}\) Sir Joseph Banks.  

R. A. Soc., No. 73, 1916.
I have dispatched a cask of them to England, and here are some for you. You cannot imagine what abundance we have procured of them, and I have thereby been enabled to ascertain every point respecting them. I think I gave you in my last the particulars, that it is parasitic on a species of Cissus, that it is dioecious, and that the seeds are minute and nidulant in the centre of the column of fructification.

Botany I am sorry to say, has been most grievously at a stand, but I hope soon to resume it and make up for leeway.

Among our other plans and schemes here, is an agricultural Society which we have established, and of which I am Secretary. Our objects are more practical than to make a figure on paper, and the people will feel the benefits of it most. If however I frame any report on the subject, which I have some idea of doing on the state of the country generally with reference to it, you shall see our lucubrations.

We have no intelligence from home on the points of immediate interest to ourselves, and there is so much else to occupy people at home, that I do not think anything will be speedily decided. Perhaps it is all the better, the longer they are about it, the better it probably will be done.

As the vessel will be soon off, and I have a good deal to do to get everything ready, I must make this a short letter. I hope to hear soon from you, and then you shall have more.

Remember me to Mrs. Wallich,

And believe me always, my dear Wallich,
Yours most sincerely,

William Jack.

P.S. The box of drawings will be addressed to Sir Joseph Banks and Mr. Marsden jointly. A letter containing a list of the contents will be written to them, and sent to Calder to forward. You can therefore communicate with him.

By the bye, a late letter from Sir Joseph to Sir Stamford acknowledges the receipt of seeds of my Nepenthes through you.

The specimens of the Titan, are large buds, the opened flowers are difficult to preserve, and buds exhibit everything essential. I advise you to prepare your largest microscope against the arrival of these diminutive fellows.

Bencoolen,
19th Aug., 1820

My dear Wallich,

It is not long since I received your letter No. 2, from Mr. Hall, but No. 1 has not yet made its appearance. I hope it will soon, for I am anxious to have replies from you on many points.

Jour. Straits Branch
I rejoice to hear that the Nepal expedition has been so happily brought about; both as regards yourself and as regards science it is most glorious. You will spend a year or more most delightfully in a Hyperborean climate, with no vile Calcutta cares and vexations to disturb you, restore your health "to its pristine dignity" (that phrase is a favorite of yours and mine) and descend again into the plains like a new fledged eagle from his mountain eyrie. But what is this to the harvest before you, to the glorious discoveries that await you, you are about to revel among the living sweets, whose dead anatomies have been exciting our admiration during past years. Agreeably as I am situated here, I could wish to transport myself in a twinkling to your side in a ramble over some pine covered hill, or enormous snow crowned mountains. What exclamations, what triple marks of admiration!!! verily and truly, friend of mine, we lose a positive pleasure in surveying all our wonders with solitary eyes.

I wish in place of your present trip, we could have carried you with us to this island of wonders. But we cannot have everything we wish.

I enclose for your edification, two copies of the first fruits from our Sumatran Press, it is my part of the first volume of the Malayan Miscellaneies, (so we have entitled our collections). The first volume is not particularly interesting, consisting chiefly of papers that Sir S. left to keep the press at work during our absence, and taken at random out of a mass of materials, without undergoing examination or revision. As however when we returned we found enough to make a small volume, forth they come, as they are, and to help it out I have given a few descriptions of minor interest. We have also put one or two of the Frenchmen's papers, which will show what they really are, and enable us if they attempt anything, to judge them out of their own mouths. Let me have the benefit of any remarks that suggest themselves to you upon the plants here mentioned.

Our second volume will be more interesting, it is proposed to contain the proceedings of the Agricultural Society, the first Report of which I have just completed. It is in fact rather a statistical than Agricultural paper, and forms a kind of supplement to my former Report on the State of Society. I am now cogitating on my projected fascicle, and plan a considerable extension of the original idea. It strikes me, that such splendid plates as they are intended to be, ought to be accompanied with more than the few sheets of letter press that the mere scientific

217. E. Gardener, the Resident in Nepal has been sending down specimens dried.

218. Not one copy of part No. 1 and one of part No. 5 of volume I, but two copies of part No. 1; for part No. 5 was not printed at this date.

219. It did not. The Proceedings were printed under their own title, and made a volume of about 200 pages.

R. A. Soc., No. 73, 1916.
descriptions would occupy. I am therefore thinking of a general view of the Natural History of the Eastern Islands, to which the descriptions will be an appendix. It will take me some time to execute this up to the plan I have in view, but I think I shall be able to get sufficient materials, and it will be a pity not to make use of them. I am very glad you had an opportunity of mentioning the circumstances about the Frenchmen to Lord Hastings. I have heard very little about them lately; they will probably sink into merited insignificance and there let them rest.

I read your letter on the subject of timber plantations with much interest. I wish however, to have from you some of the collateral history of it, that is to say, of the circumstances which called for it etc.

The teak forests in Java were a very important object of attention, and I believe there were some able Reports made on them. I mean to see if I can rummage them out among Sir Stamford's papers, and if I find anything in them likely to be interesting to you, I will let you know.

I send this up by Capt. MacKenzie, a brother of Holt MacKenzie. He is appointed resident of Singapore, and goes up to Calcutta previous to taking charge. I imagine he has no chance of seeing you in Calcutta, but if it should so happen, I should wish you to see him, and he is equally desirous of paying you a visit.

This vessel goes round by the Straits of Sunda, and we expect another here soon on its way to Calcutta direct, so I shall write again and more at length by that occasion, and may perhaps in the interim receive some more of your letters.

Lady Hastings has requested me to send a Hortus Siccus for the Edinburgh Museum, which of course I must do, and I shall take care that at least the things be neatly put up and in good paper, which perhaps are points that are better understood than the value of the specimens. Were it not that it would be as well on Sir Stamford's account to keep her in good humour, I should hardly be induced to take even that trouble for any attention I have ever received, or good I am ever likely to get from her.

I shall conclude with best regards to Mrs. Wallich and yourself and am always,

My dear Wallich,

Yours very truly,

William Jack.
JACK'S LETTERS TO WALLICH, 1819-1821.  

Bencoolen,  
9th September, 1820.  

My dear Wallich,  

I have just received your letter of the 7th of June No. 3, but have no tidings of No. 1. I begin to fear it may be lost in some of the dreadful gales that occurred in March and April. As your two last letters have been brief, I conclude that it must have been long and full, if so, it will be most melancholy to find that it has gone to the bottom where “All its hidden treasures” sleep known but to the genii of the deep who (d-n their eyes) will be none the wiser. Pray recapitulate the contents thereof, and mention whether it had any accompaniments. I am without information from you on a number of interesting points, such as the particulars of your arrangements for your trip, and during your absence, your notes and observations on the specimens e multis et ceteris.—I see you have been able to make some use of them in the second vol. of Roxburgh. I will presently give you a few remarks on some of these and as you are going on so briskly, I must make haste to send you such further remarks, as may eventually be useful to you in this chapter.  

I sent you a few printed descriptions by the “Frolie,” which left this some time ago.  

The concluding paragraph of your letter respecting George,²²¹ depend upon it shall be fully complied with. I am glad you have written yourself to my father, and be assured I shall follow it up.  

I am sadly out of spirits with some late news from home, the most grievous however of which I, as yet, have only from the public papers, I mean, the death of my valued friend Sir Vicary Gibbs.²²² I have at this moment on my table a letter from Lady Gibbs which I must answer; hers is long antecedent to this event, and in what terms to reply I know not. It is terrible to think how my circle of friends has been narrowed in the short time that has elapsed since I left home, and the fatality has fallen more among those which my personal connection was the most intimate with, than among relations, whom from less personal intercourse, I cannot be warmly attached to.  

²²¹ George Charles Wallich, born in 1816, Jack’s “romping young friend” of the letter printed on p. 167. He was now being sent to school. It is evident from a later letter that Wallich, through Jack, sought the advice of Jack’s father, in regard to the boy’s schooling. He was educated in Scotland, taking an M.D. in Edinburgh.  

²²² Sir Vicary Gibbs, (1751-1820), who in a large measure obtained for Jack his appointment under the East India Company. Sir Vicary was a judge of the most solid eminence, a native of Devon, and not attached to Jack by other ties than friendship. His life may be gathered from the Dictionary of National Biography vol. xxi.
It is not fair however to vent on you my lamentations, but I
know not how it is when a subject is uppermost in my mind, it
must come out before I can go on, and I mention it to account for
a disjointed letter, as I foresee this will be.

In a late advertisement respecting the Edinburgh Journal,
I think I saw an article announced under your name, "Progress
of Botany in India." I think. Is it correct?

I am glad to find the Patons'223 favorites of yours: they are
very much so of mine. I received by young Hule the first volume
of Roxburgh224 and duly presented the copy to Sir Stamford. I
returned to Dr. Carey the portion of a copy still remaining here,
which had previously been received.223

By the bye, I hope you do not mean to make my copy a gift,
in place of being my subscription to the work. Between you and
me such is by no means necessary. I wish further, that you would
order on my account a copy to be sent to my father. I think he
would like to see it and Calder will forward it.

Did I ever tell you of an idea that we started here some time
ago regarding your discovery of the Daphne cannabina?226 A
gentleman whose name I forget, but who seems to be a scheming
sort of character wrote to Sir S. making a variety of requests,
such as, for the different kinds of grain, pulse etc. of this country,
and among other things, whether there was any material for paper
peculiar to the East, as an idea had been started, that if bank notes
could be made on paper of some foreign and difficultly procurable
material possessed of qualities different from the common Europe
paper, that the difficulty of forging them would be materially in-
creased. I suggested the Nepal paper as answering the required
conditions, and further being capable of being monopolised and,
Sir S. sent in consequence a copy of your account in the Asiatic
Researches and the specimens of the paper which I gave him out
of the same. The idea seems to me feasible enough, and who
knows but your name may soon figure in the annals of the Bank
of England, not in their books I fear, which would be much better,
but as a contributor to their securities. If they adopt it, I think
they should make you a present of the amount of their former
losses by forgery, or at least make you their contractor for the
supply of paper, which would perhaps be better. At all events
the discovery may be the means of saving a considerable number
of lives.

223. A Paton from 1814 to 1817 was district judge at Krishnagar,
Bengal, one day's journey by water from Calcutta. But there is nothing in
these letters by which these Patons can be identified.
224. Wallich and Carey's revision of Roxburgh's Flora Indica.
225. Apparently advanced proofs of volume i. of the Flora Indica.
226. The material from which paper is made in Nepal and South-
western China.

Jour. Straits Branch.
In one of my late letters from Lindsay, he communicates a request from the Marchioness, that I would send her a Hortus Siccus for her Edinburgh Museum.\footnote{227} I comply with it by this occasion, but mean to humbug her in the matter. My best specimens have all gone home, as you know, .......... I have therefore put up a parcel of second rate ones, with plenty of good paper, which is of more consequence (Kaleidoscopically!) and sent her such a flaming list, as will make her think she has the most precious and learned collection ever sent from India. I trust to her indolence never to look into them; indeed if she did, I don’t suppose she would know a Mangosteen from an apple, and then as for the \textit{most learned} body to which they are to go, the name of the Marchioness will humbug them, and I daresay the sapient Professor of Botany will in reply, extol her Ladyship’s skill and discernment in the selection, and sound the praises of that of which he knows nothing about.

Now for remarks on sheets A to H. \textit{Fagraea fragrans}, I think Roxburgh is wrong in saying it was brought from China. I found it also in the same garden alluded to, where nobody knew where it had come from,\footnote{228} but afterwards got abundance of it from the Kedah shore, where it is a timber tree and well known to the natives.

\textit{F. auriculata},\footnote{229} I ought to have given you my mens on this. It is arborescent; I had also very fine fruits as large as an egg, of which the following is my note. \textit{Fructus baccatus ovoides, glaber, parte styli persistente acuminatus, bilocularis, seminibus numerosis, pulpa nidulantibus.}

I have great doubts as to diversity of \textit{F. racemosa}\footnote{230} and \textit{volubilis}. In the first place I question the latter being voluble; it is straggling and often with twisted branches, but I think I have seen it grow to a stout but small tree. I always considered them the same; however I will make a more vigorous examination and report to you accordingly.

\footnote{227} Sir T. Carlaw Martin, Director of the Royal Scottish Museum, Edinburgh, has been so good as to turn up his records seeking information upon this Hortus Siccus; but he is unable to find any, and adds that no specimens are in the Museum.

\footnote{228} The tembusu,—\textit{Fagraea fragrans}, Roxb., is not common in Penang doubtless because suitable sandy land does not exist in quantity; and this is perhaps the reason why those in correspondence with Roxburgh who visited Penang had not told him that the tree is Malayan. It is to be noted that Jack records it also for Kedah. This mention of the Kedah shore is most important as it is the only indication that Jack landed on the mainland: and makes it possible that some of his ‘‘Penang’’ plants, thought to be extinct now, were not actually obtained by him in the island.

\footnote{229} \textit{Fagraea auriculata}, Jack, had been obtained from Singapore, and later at Tapanouly.

\footnote{230} \textit{Fagraea racemosa}, Jack, had been obtained in Sumatra and described in Wallich and Carey’s revision of Roxburgh’s \textit{Flora}. As hinted here \textit{F. volubilis}, which was described at the same time, does not differ.

R. A. Soc., No. 73, 1916.
Your name of Neupeltis\textsuperscript{231} I like much, and prefer it to the one I was thinking of Neuropteris, which is too like the fam. of Insecta. My account of the fruit is as follows:—Capsula 4-valvis, monosperma, semen globosum, albumine parce mucilaginoso cotyledonibus contortuplicatis, radicula “umbilico obversa” intera.

I believe I mentioned to you having found what I took to be a new Macroleobium\textsuperscript{232}. I happen afterwards accidentally to refer to Jonesia and Rheede's Asjoogam, when the similarity with my Macroleobium struck me, and on further comparison I was convinced of their identity in genus, not in species, mine being tetranudrous. On analysing however Roxburgh's description, which is ineffably bad, for who would call the bracts a diphylous calyx, and give a leguminous plant a tubular monopetalous corolla, bearing not only the stamina but the pistillum, a thing \textit{hactenus inauditum}, I have arrived at the conclusion that Jonesia is nothing else than Macroleobium disguised under a blundering description. The only single point of difference is that Jonesia wants the petal which Macroleobium has. They are both equally variable in the No. of stamina, and I think it questionable whether the want of petal is a difference of generic value. Both ought certainly to be placed in Decandria in place of their present absurd situations, and with as good right as Bauhinia and many other genera.

As I hence, so far, altered my plan of a fascicule, that it will be a work of some time to complete it, I begin to think of getting out all my plants of any consequence in other ways, which I may at any time resume again in the fascicule, with the addition of figures. You shall have whatever I can give in Pentandrias and the other classes as you go on, and in the mean time I think of giving some to the Linnean or other Societies at home. Do the Asiatic deserve any \textit{i.e.} will they bring them out in any decent time? I think for home, the best way will be to group them; for instance, I think of making one paper on the Leguminose that I may have, in which the Macroleobia may come. I thought of another on the Mangifere, but my materials are not yet complete. I shall send you what I have as it comes into print: I have lately got two new ones besides my former \textit{M. quadrifida}, and have information of several others. One of these I have described as \textit{M. casia}\textsuperscript{233} (at least I think that shall be the name) which is a very remarkable species.

\textsuperscript{231} \textit{Neuropeltis} is one of the Convolverlaceae, and it seems probable that Jack had found \textit{N. racemosa} in Penang, whence Wallieh also brought it a few years later. But it seems extinct on the island now.


\textsuperscript{233} The description of \textit{Mangifera caesia} was sent to Wallieh and inserted by him in his and Carey's revision of Roxburgh's Flora Indica, ii. p. 441.
I perceive you quote Roemer, Systema Vegetabilium vol. IV. 234 I hope you have taken measures to have a copy of that work for me. DeCandolle 235 is another desideratum. We are busy making a final clearing of all zoological subjects, when I think all arrears may be considered brought up, and we may make a fresh start. I have been long intending a trip into the interior, but the number of things that have occurred to keep me employed, has prevented it as yet, and the season is now so far advanced, that a very short one will be all that can be attempted. However, I am in no want of materials, so it does not signify. Let me know how your letters had best be addressed.

My best regards to Mrs. Wallich; Sir S. and Lady Raffles join in the same to you both.

Thine ever,
William Jack.

P.S. Lady Gibbs tells me that they have made a discovery in England that all tropical bulbs will thrive in the open air if sunk in a pond, near the surface in summer, and deeper in winter, so as to be out of the reach of the frost, and with greater luxuriance than in hot houses. She therefore begs me to send her bulbs and handy seeds; may I request you to remember her in this way at the dispatching season. The bulbs of course, dry in a box. I am glad we sent her some last year, they will be acceptable.

The stones you mention may remain with you.

There are some large Mangosteen plants going up to Lady Hastings, who I hope will send them to the garden, as I think they are large enough to thrive. I mean also to send to the garden, a few plants of our noble Datura arborea. 236

W. J.

No. 9 Bencoolen,
19th September, 1820.

My dear Wallich,

My last two letters went by the Venus; I now send the remainder of my Pentandriam descriptions. Since I wrote them I have somewhat altered my plan in regard to my descriptions, and have determined on forthwith printing here everything that I have worth it. That once done, it is secured and the number of copies being very small I can make use of any of them again when necess-

236. Datura arborea, Linn., is a native of the Andes: but it has long been in cultivation in the East.

B. A. Soc., No. 73, 1916
sary in any other work. They can also be circulated and I can better have the advantage of remarks upon them. In a country like this where new things, and new subjects are perpetually occurring, the old ones lose their interest unless taken at the moment, and what is once printed may be considered as finished and disposed of, whereas if you go on accumulating, the mass becomes too great and you are prevented by arrears from advancing. We are now at leisure to attend to these things with the means at hand; how can we promise that we shall have the same a year hence? On all these accounts I have determined to print. Some that I now send you will be contained in mine too, but that is of no consequence; if mine is first out, you can quote, and if not, your bringing it out is no prejudice to the other. The Mangiferae, Rauwolfia sumatrana, Euthemis, Stphyelia, Celastrus bivalvis, and Morindae will probably be in this number.237 Some I shall not for fear of cross purposes about names. Patisma not in case you should adopt Wallichia which I left at your option. I have not found another Pentandrous genus to which to give that worthy name. Euthemis unluckily has gone home and may come out under that appellation, and I cannot here adopt it to any plant of another class till I know whether you have approved the Patisma or not. I once thought Rauwolfia new, and had fixed on it, but it turned out otherwise. What sayest thou to Strophanthus plicata from the plaited, not squamous faux.238 Mind, not your original proposal of my name, which I do not wish to see figure in that way at all at all.249 It is no object of my ambition, and the cacophonous must not be suffered by such admirers of the classical graces of Euphony as you and I. To memory, put down that!! My Didymocarpi and Sonerila are now in the press. Do you recollect a Singapore tetrandrus Rubiacea which we examined together.

237. There is a postscript to this letter which is to be read in conjunction with the paragraph above. The postscript shows that before the letter left Jack's hands, the mission press had actually sent to him proof (some of it revised proof) towards the contemplated number. This proof Jack sent on to Wallich asking for criticism, and waited. In a later letter Jack says that he had had no letter from Wallich since a date previous to this; and so it is evident that the looked for criticism never came. Meanwhile the time for publication came, and Jack issued the number as No. 5 of volume 1 of the Malayan Miscellanies having withdrawn from it a part e.g. the Mangiferæ. It would be most interesting if the unpublished proof could be traced among the records of the Royal Botanic Gardens, Calcutta.

238. Patisma of Jack ined. otherwise Wallichia of Jack in these letters and of Reinwarth in the Buitenzorg Gardens, published by Blume in his catalogue, is Urophyllum of Wallich, vide note No. 188 on p. 198.

239. It is evident that this is Wallich's Strophanthus Jackianus published in the Catalogue, No. 1643, which is Wrightia dubia Spreng. Jack collected it in Penang where it grows.

240. What Jack collected and sent to Wallich, became No. 1643 in Wallich's Catalogue.

R. A. Soc., No. 73, 1916.
and determined to be a new genus. I have called it Epithinia (i.e. littorea from its habitat). How often when making a name when you think you have hit on a highly classical one, which you flatter yourself is unoccupied, turn to Brown and lo! you are anticipated. For this I thought I had made a capital inovation of Aegialites, but on turning to the Prodromus behold it gracing the shores of New Holland, instead of Singapore. So I must reduce to a vile Epithinia. Of the enclosed descriptions the Euthemides have gone home. The Euchelia and Ardisia are copies of our common Mems. Styphelein you will see I have completed, we were interrupted in the middle of it. I have ascertained in other specimens that the anthers do burst in the middle, so as to be only one celled as so admirably described by Brown; we did not find any anthers spontaneously burst, and therefore put a "vix non ut in Brown Prod. H." which need not now be so ceremoniously stated.

For the three valved capsular plant which follows Patisna, I have not thought of a name yet. It comes near to Varea, but is valved not baccate. You had specimens of it. What may it be, or what shall it be called. On second thought it must belong to Pittosporaceae, Br., vix opinor ejusdem generis, the seeds having no pitch on them!

What do you make of my Hypsogyne sent in my last? I think it is new. It is a great bore the huge distance that separates us. One is so long of getting an answer to a question, and I have hundreds that I would ask if we were nearer. Recollect the list of queries and descriptions that I gave you in one of my early letters. The fair Monsoon is approaching for vessels to come here, so fail not to write fully, now that you have fewer vexations and interruptions. Let me know all your arrangements, how the editing of Roxburgh is to go on. How do you manage for books for reference? you cannot carry all with you.

241. Described in the Malayan Miscellaneis, i. 1820, part 5, p. 12, Jack however was forestalled by Gaertner who had called it Scyphyphora hydrophyllacea. It is common round the coasts of Malaya.


243. See notes No. 114 and 115.

244. Euchelia is not to be identified.

245. Ardisia punctata, Jack, possibly. No description of this appeared in the Malayan Miscellaneis and it would appear as if it had been withdrawn along with those of the Mangiferas for publication by Carey and Wallich. A. punctata, Jack, is A. divergens, Roxb.

246. A reference to Leucopogon malayanum, Jack in Malayan Miscellaneis, i. (1820) part 5, p. 20.

247. Abodeia perhaps.

248. Hypsogyne is Salacia. See note No. 257 forward.

R. A. Soc., No. 73, 1916.
I find Roxburgh's Murraya sumatrana is nothing more than Loureiro's Chaleca pijniculata, Rumphius's Camunium, unjustly degraded from the rank of a species and confounded with Murraya exotica: I mean to restore it as M. paniculata, a bad name by the bye, because not panicked. I think you would do well to alter Roxburgh's Camunium, which is improperly applied. The Murraya is the true Camunium (I find it is Aglaia of Loureiro, so pray adopt that name, which is good. I mean to do so in the present number of my descriptions).

What is Roxburgh's Petaloma in reality, it has nothing to do with Petaloma, and I suspect it of being congener of a coccineous Combretaceae which I was thinking of calling Pyrrhanthus. An affinis Laguncularia, Gaertn.?

Pray is Avicennia resinifera, distinct from A. tomentosa. The former is perhaps Rumph.'s Mangium album which I have here, and is a good figure. I do not precisely remember the Avicennia of the Sunderhunds, but I think this is different. The fruit of mine is much smaller, being less than an inch long. The leaves are lanceolate, pointed, white but not tomentose below.

My very best regards to Mrs. Wallich, and believe me always.

Thine Affectionately,

William Jack.

P.S. The press has been more active than I expected, and enables me to send you the 3 first sheets of my second paper, the last are uncorrected proofs. They include all Pentandria and I therefore withdraw the MSS. of those that appear in it. Pray give me what remarks occur to you.

I think you have now all the Pens that I have made descriptions of. You have some which on that account I did not take up myself, such as Posoqueria? anisophylla &c.

Thine in haste,

W. Jack.
On board the Natal Choonean off Padang,
11th October, 1820.

My dear Wallich,

When I last wrote you I little thought to be so soon on the move; but so it is. Sir S. and I had some conversation one morning at breakfast about Pulo Nias which ended in his proposing to me to go there on a special mission, and so in two days thereafter, I put myself on board a native vessel for Natal the point of appui for Nias, and am thus far on my way. Of the objects &c. of this trip I shall hereafter write more fully. I only sit down at present to be prepared for any chance opportunity that may occur to give you a few of my botanical discoveries that may be in time for Roxburgh's second vol. It is more than doubtful whether I shall be able to send this before my return to Bencoolen, so it would be idle to say much on other subjects. For the last few days I have been bothered with calms, but (to speak in that case like an Irishman) "its an ill wind that blows nobody good," so instead of fretting for a wind that would not come, I ordered out the boat, and proceeded to ransack the hundred beautiful little islands that stud this part of the Sumatran coast. Pulo Kumbang, Pulo Bintangor, Pulo Pegang, Pulo Shytan! &c. &c. have thus been explored, and their plants rescued from oblivion. You can hardly imagine anything more beautiful than these little islands, rising in little hills out of the blue waters, and covered either with forests, or planted with coconut trees. The access to them is not however always easy, their shores being generally guarded by coral reefs, on which the heavy surf is always beating,—a good roll in which is often the price of landing.

I am now up with you in Didymocarpi, having found my fifth in one of these excursions, a didynamous species, which I mean to call D. elongata, from having the lower lip of the corolla and its tube unusually elongated, also long second spikes. 256

I found also fresh specimens of what in my last despatches I called Hyposagyne, and on referring to Roxb. (which I had not with me when I first found it at Tappanooly) find that it is neither more nor less than his Johnia, but a new species.—Sumatrina (si velis, mihi). 257 With all due deference, I think it is a great pity Roxburgh discovered it first, for I like my own name best. I found at the same time a Hippocratea, which agrees with Roxb, H. obtusifolia in having 4-seeded capsules, but has serrated leaves, ergo I think new. 258 Have you not often remarked what singular

255. A large island off the west coast of Sumatra.
257. Salacia sp. Jack in the Malayan Miscellanea, ii. (1822) No. 7, p. 92, reduced Johnia to Salacia, and remarked that he had found two species in Sumatra, but he did not give them names.
258. This Hippocratea was not described.

R. A. Soc., No. 73. 1916.
want of precision is in all Roxb’s. descriptions, and particularly in his specific characters? He does not seem to have understood the true intention of them, and generally is very much out in the selection of essentialities. Compare in this respect that wonderful man Brown, I must send you herewith a Pentandrian species of his, which perhaps you would not expect from hence, and which, if in time, may enter into Roxburgh: it is Sersalisia obovata, Br. Prodr. N. H. p. 530259 and would be a Sideroxylon of Linnean nomenclature.

I have one other very interesting pentandrian for you. Hoya grandiflora, Br.260 a most splendid personage; flowers 2 inches in diameter, red shading into white, corolla thick and polished like a Japan tea tray. The whole plant hirsute!! Hoya viridiflora261 I have also found in considerable abundance.

I have also found a new Begonia. Do you remember a Myrtoidea from Acehn among the specimens we examined together, with 3-nerved leaves?; I have again found it, and another nearly related species,262 which I think I must make a genus of, as it has a 1-celled ovary, many ovula attached to parietal receptacles. Berry few seeded. Now if the general character of the Myrtoideæ are more dependent on their ovaries than fruit, this will not come under any of the present genera.

Pray what are the affinities of Hippocrates and Johnia? Their flowers are so exactly alike, that without the fruit they would pass for the same genus, and a 3-celled berry and a 3-capsuled fruit are not incompatible with a junction. I doubt however their affinity to Aceræ. Their resemblance is strong to Rhamnæ in habit, but an exalbminous fruit is against, an Hippocrates vere exalbminosa? They seem to be somewhat intermediate between Terebinthaceæ and Rhamnæ, at least as much as between Aceræ and Malpighiæ. I confess I do not very well understand the distinction between a calycine nectarial disk and a hypogynous one.

Nattal, 15 Oct. 1829. I arrived here last night and find a boat going off for Padang, of which I avail myself, as it is the most likely way of this reaching you. I intended to have put up a

259. Sersalisia obovata, R. Br. is Sideroxylon Brownii, F. Muell,—a plant of Queensland. It is probable that Jack had not this very plant before him, but some ally.

260. This Hoya grandiflora cannot be Tylophora grandiflora which is Brown’s H. grandiflora, as Jack thought it.

261. Hoya viridiflora, R. Br. is Dregae volubilis, Benth.

262. Rhodansea triandra, Blume, would be the first; the second E. ciaerea, Jack, but really is a variety of the first.
specimen of Sersalisia, but my traps have not come ashore, and the boat is going off, so I must content myself with the description.

My best regards to Mrs. Wallich.

And believe me always,
Yours very sincerely in haste,
William Jack.

On board the Sophia,
Jan. 2nd, 1821.

My dear Wallich,

I know not whether any of the letters I have fired off at you since leaving Bencoolen have reached their destination, but I will suppose so, and think you know that I have been on my perigrinations to Pulo Nias &c. I am now on my return and as there will probably be lots of business awaiting me at my head quarters, I shall take the opportunity of ship leisure to give you some account of my operations.—I learn from Sir S. that there is a huge despatch of yours waiting my return on which I long to feast, and after the long privation of all such food it will be doubly delightful. What would I not have given for you to have been with me on this trip, what exclamations, what treble marks of admiration, how many of those evanescent figuries and freaks of the imagination which constitute the very essence of the pleasure of such exploration, alas! all lost for want of a congenial spirit. Only imagine my situation, condemned to the solitary enjoyment of all these wonders in company with a freezing mass of ice, out of which all my fire failed to elicit one single spark, on whom all the wonders of nature were as much thrown to waste as the flies and insects were on Pharaoh and who could see more beauties in a well kept ledger and Day book, than in all that ever occupied the thoughts and heads of a Linnaeus or a Brown.

Verily there is a benumbing influence surrounding such inert masses of vitality, and it will require a little time of more genial intercourse and more enlivening atmosphere to restore to me the caloric I have wasted without effect.

I believe I told you that I was sent to form a settlement on Pulo Nias and for this purpose joined in a commission with Mr. Prince of Nattal. After several delays and difficulties I reached

263. As there is only one in the correspondence preserved, it appears as if some have been lost.

264. Mr. John Prince, a precise automaton, who was of not a little service to the botanists of India at this time, see for instance p. 182. He furnished to Roxburgh information from Sumatra as well as living plants; and he furnished later plants from Sumatra and Singapore to Wallich. He is mentioned by Raffles as a witness to his assertions regarding the cannibalism of the Bataks (Memoirs of the Life of Raffles, 1st edition, p. 432, or 2nd Edition, ii. (1835) p. 90).

R. A. Soc., No. 73, 1916.
Nias on the 14th of Nov, and commenced the business. The object was to get the cession of the whole island to the Company in full sovereignty, and as it is held by a great number of independent chiefs, the necessary negotiations occupied a long time. We visited every port on the Eastern and Southern sides of the Island, and succeeded in effecting almost every point. Tello Dalam, a fine harbour to the Southward has been selected as our station, and the whole Island is a British possession. It is altogether one of the richest, finest countries I have ever seen, cultivated almost too highly for a botanist, and populous as many parts of India. It has long been a great mart of slaves, furnishing not less than 1500 a year. The abolition of this trade formed one of our great objects, and it too is in the best train possible. The people are pagans, and a very original race differing from all their neighbours, and display a mixture of barbarism and civilization that makes them very interesting. On seeing a parcel of half naked savages, armed with spears and wooden shields, their physiognomies rendered horrible by helmets and artificial beards of long black Ijau, striking up a war dance, with violent howling and gesticulations, you could fancy yourself transported to the Otaheiti, or some such South sea Island, while on the other hand on seeing their villages, their houses, the style of comfort, and I might say elegance in which they live, one is tempted to give them a superiority over almost every other Eastern race. Their houses are so substantial and well constructed, that a European might live in them with comfort; their villages are built in most picturesque situations upon the pinnacles of the hills for defence, but the ascent is facilitated by noble flights of stone steps, and paved roads are sometimes carried on to the distance of some miles, shaded too on each side by rows of fruit trees. The surface of the country is very uneven, but this only makes it more beautiful to the eye, as the sides of the hills are cultivated up to the very summits and there is a sufficiency of wood to give a picturesque variety, without passing into the dull uniformity which unbroken and primeval forests always produce.

The principal export of the country is rice, an article of which there is a woeful deficiency in all our Sumatran territories, and which makes the possession of a granary like Pulo Nias an object of importance. Notwithstanding all these advantages and temptations to an intercourse with this island, I believe it is less known in all respects than Otaheiti. Its Geography is almost a blank further than that an island called Pulo Nias exists in such a latitude, and the people have only been known by the great value set upon them as slaves, in which capacity they are highly esteemed throughout the Archipelago. But as to the population, the nature and resources of the island, nothing is known; Marsden devotes, I think, a page to it.—I have as you may suppose, besides the official

265. Ijau is Ijok — fibre of Arenga saccharifera.
business, been busy collecting all the information respecting it that was to be procured, and as we continued visiting the different parts of the island till the 31st Dec., a month and a half, it is pretty complete upon all points. It is not improbable that Sir Stamford may wish me to draw up some account of it for our Miscellanies, so I need not trouble you with much of its history now, as I may have that opportunity of sending you the whole in shape, if you feel any curiosity on the subject.

In the botanical department, although its over cultivation was greatly to be abused, it has been by no means unproductive. The first thing I met with was a new Alpinia\(^{266}\) of the division with radical inflorescence, but which threw up its spikes to the height of two feet lacteus, I think, inauditum. I have roots of it which are thriving, and which shall go up to you by the first good opportunity. In what possible way can you make a specific name of Nias, Niasana or Niasensis, in no way can I arrive at euphony? I believe it cannot be admitted into the Botanical temple of fame. Alpinia longiscapa will perhaps answer.—I found also a very extraordinary Zingiber of which the fellow neglected to bring the roots. The spike was larger than a pineapple, and the edges of the bracts involute in such a manner as to give the whole the appearance of a carved capital of the Corinthian or some nondescript order. The Callicarpa arborea Roxb.\(^{267}\) is very abundant; you mention having it from Nepal; here we come again in contact. I sent you in one of my late letters the description of my Hoya grandiflora, I have now discovered what I take to be another species on Pulo Nias. It has in every respect the habit and character of Hoya, except that the column and nectaries are not so flat, but are more conical than in the other. The position of the masses is the same and the inner angle of the nectarial leaflets is acute and incumbent on the membrane of the anther. Can you understand this?—the other species are depressed in the centre, this rises. It is a delicate slender species and may be called H. gracilis,\(^{268}\) the leaves about the size and shape of this:—

![Fig. 2](image)

the margin thick and fleshy. I shall send you my description when I get to Bencoolen, if I think it is likely to be in time for Roxburg's Flora.

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267. *Callicarpa arborea*, Roxb., is a widely distributed plant, not at all unlikely to be Sumatran.

268. *Hoya gracilis* was never described under this name.

R. A. Soc., No. 73, 1913.
Another curious gentleman that I found at Tello Dalam is a Hypericum with dark purple flowers triadelpha stamina, alternating with a very curious set of large yellow sacate nectaries.269 I have here and on other parts of the coast, found a great number of Orchideans, which I have described a la Brown, but they are such a plaguy race, that I have not even attempted their discovery, indeed I have not the requisite books. However I shall perhaps come back upon them someday, and yet experience shows that that arrarars are bad things, the day of bringing them up never arrives: it is so much pleasanter to go forward than go back.

I have two species of Rhopala270 that I take to be new, both with large sessile leaves, the one entire, the other strongly serrated. Of the latter I have the ripe fruit. At Tappanooly I found Fagraea auriculata with flower not quite expanded, it must when open be a flos giganteus.271 Fagraea racemosa272 on P. Nias grows to a small tree with a straight trunk and round bushy head. F. volubilis is certainly only a twisted specimen of F. racemosa.

Nattal Jan. 5th.—I find here a vessel which after remaining sometime on this coast, goes up to Calcutta, and as other opportunities are uncertain, I shall close this and let it take its chance. I hope to start in a few days for Bencoolen and to have a good run. I shall be very glad to get back, and I find that Sir S. is impatient for my return, which he expected before this, and truly so did I, but there is no calculating on time where winds, waves, and Nias people are concerned.—I shall only at present add my best regards to Mrs. Wallich and yourself, and assure you that

I am always,

My dear Wallich,

Yours Affectionately William Jack.

Bencoolen, May 1st, 1821.

My dear Wallich,

Were I not an extreme philosopher I believe I should be for sending Bencoolen to the D—I. It is four months since we have had any arrival from Bengal, and I have no letter later than the 1st of July last from you. I fear there must have been some losses, which will be very provoking. The only letters I have from you since I left Bengal are No. 2 May 27th 1820.

No. 4 July 1st 1820.]

extra brief!

No. 3 June 7th 1820.]


270. Rhopala as Jack used it = Helicia. Jack’s R. attenuata and R. moluccana are species of Helicia from Penang. His R. ovata is Helicia ovata. Benn. from Tappanooly. These two are additional and were never described in print.

271. Fagraea auriculata has flowers about six inches long.

No. 1 must I fear have fed the fishes. I know not whether my letters have been more fortunate: those from P. Nias &c. have probably made a very circuitous passage.

I now send you No. 2 and 3 of Malayan plants, and I am

273. Just as part 2 of Jack's Descriptions of Malayan Plants was put into print and held up for revision on criticism from Wallich (vide note No. 237 on p. 218) so this above-named "No. 3" was prepared and held up. Under the date of May 1st, 1821 the part was sent to Wallich. But there is an earlier letter printed in the Memoir of the Life of Sir Stamford Raffles, at p. of the first edition, under which Raffles sent this "No. three" to Marsden with the following lines "I have now the pleasure to send you the third paper on our Malayan plants. These are only to be considered notices of the moment, where we have not the advantage of reference to late publications, or communications with scientific friends. The paper contains an account of the nepenthes, sago, camphor, several new mangifera, many ligna-vite, the melastomas, etc." The letter continues "You will recognise many of your old friends particularly the kayu gadiis, or virgin tree. Under Styphelia you will find an interesting observation respecting Singapore."

The date at the head of this letter in Lady Raffles' Memoir of her husband is October 9th, 1820. Now on September 19th, 1820, Jack wrote to Wallich that he had decided to put everything into print for preservation and was making up a "number" containing Styphelia. This he actually did; and it is the second of his papers instead of the third. Moreover this second paper contains the description of the kayu gadiis. So that we have in Raffles' letter to Marsden two plants mentioned as if described in the "third paper" which we know were described in the second. The date of the letter i.e. October 9th, 1820, is certainly a reasonable one for the forwarding to Marsden of the second paper; and fortunately it is easy also to explain how Raffles could have had then the third paper also, whereas Jack only sent it to Wallich under date of May 1st, 1821, for we must recollect that immediately after September 19th, 1820, Raffles sent Jack with Prince to effect an agreement with the chiefs of Pulau Nias, and that it was January 1821 before he returned, whereafter, as he explains himself, four months passed without any communication with Bengal.

Jack would take the very first opportunity of sending these descriptions to Wallich which the scant shipping afforded. And he sent at the same time a clean copy of the second paper which was not out of the press at the time of his departure for Pulau Nias. Raffles' allusion of Styphelia and Kayu Gadiis is to be explained by his sending also part 2 along with "No. 3."

The so-called "No. three" bore as a title Appendix to the Malayan Miscellanies. We find that it was printed in 1820, and we have the testimony of Raffles and Jack that there was no intention of publication at the actual time of printing. It is therefore correctly quoted as "incl." in our dictionaries of plant-names, but the date should be 1820 and not 1823. A copy fell into the hands of Sir William Hooker who printed from it in his Companion to the Botanical Magazine, vol. 1, in 1835. As Sir William was able to draw on private letters from Jack to his family, it appears probable that he got the copy from which he printed also from the family.

This Appendix to the Malayan Miscellanies is quite distinct from Jack's third series of descriptions of Malayan Plants, which appeared as part 7 of the second volume of the Malayan Miscellanies; but in Singapore there are not the books wherefrom to ascertain how much Jack may have taken out of the Appendix for this other paper. He sent the descriptions of the Melastomacas from the appendix to Lambert in a paper which was published after his death in the Transactions of the Linnean Society of London; and in that same periodical by the help of Jack's friends another series of his descriptions appeared.

R. A. Soc., No. 73, 1916.
in hopes before this vessel sails of being able to send you a volume of Agricultural proceedings from the Sumatran press. I do not know that you will find much to interest you in it, but it will give you an idea of what we are about here, and will show you the flourishing condition of our spice cultivation, which we find to be now equal to the supply of Great Britain. There is a paper on it by Lumsdaine where you will find some curious remarks on the "rapturous impulses" of these hot blooded trees! Lumsdaine generally writes very much to the point, but is often very quaint in his expressions.—The first Report is perhaps the most readable part of the Vol. but you will perhaps wonder what the D—I it has to do with Agriculture. In fact our Agricultural Society allows itself great latitude, and it has need, for the agriculture (strictly speaking) of Benooleen might be discussed in a few words.

Of the fascicle No. 2. I sent you the first three sheets before my departure for Nias; I now send the whole corrected and with additions from further observation. The part printed after my departure is full of errors.

Of Didymocarpus I have since discovered three additional species D. racemosa, D. elongata, and D. barbata. I thought I had other two, but on lately finding their fruit I find it baccati, they must therefore belong to Cyrtandra. In D. barbata I have fully ascertained the seeds to be pendulous.

I have also discovered here Incarvillea parasitica Roxb., but without the fully ripe fruit. The seeds however do not seem to be winged and Roxb. does not say that they are. An ergo Nicarvillea? It differs too much in habit to be a true Didymocarpus; what then is it to be, an novum genus ob stamina sub-exserta?

To Ixora pendula, I have now to add Ixora neriifolia, a very marked species.

I have very lately found a new and very distinct Tacca with palmate leaves.

I found Acrotrema which you may recollect pronouncing a Saxifragoid ester at Tappanoooy with fruit further advanced.

275. All these were described by Jack in his paper published posthumously, in the Transactions of the Linnean Society of London. The first stands; the second is now transferred to the genus Didisandra as D. elongata (vide note No. 250 p. 228 above); and the third is transferred to the genus Chirita becoming C. Horstfeldii, R. Br.
277. Ixora neriifolia was described by Jack in the Malayan Miscellanea, ii. (1822) No. 7, p. 82. I. pendula, from Penang, had been described in vol. i. (1821), No. 5, p. 11.
278. This Tacca was never described.
279. Poetaster—a poor sort of poet; Saxifragoidester—a poor Saxifrage-like thing. Jack evidently found it first in Penang.

Jour. Straits Branch
but not ripe. The seeds are enveloped in an umbilical aril, and the capsules burst internally, but are not quite distinct. An affinior Rutaceis? I also found the stamina twenty in number.

Of Ternstroemia I have two more species. 280 Roxburgh's T. triocularis might be any or all of them and must I think be dropped. Query might not the trilocular Ternstroemia be separated from those with two cells and few seeds? They appear to me to differ very widely, see a figure of the fruit in Mirbel's Elementa de Bot.

In Tetraecera arborescens, 281 I fell into a mistake; the only one I had then seen was an old sturdy individual that had chocked its support, and was then standing alone as an independent tree, whereupon I called it "arborescens," but on seeing a greater number since, I find it to be a real climber, though a very strong one. Ought therefore the specific name "arborescens" to be retained, or should it be changed? Had I known its real character at first, I certainly would not have so called it. It comes near to T. euryandra: the corolla is really three-petalled and the calyx five-sepalled! for the calyx is persistent and has ciliate leaflets, which is not the case with the corolla.

No. 3, will I think please you, but you must observe that though called an appendix to the Malayan Miscellanies it has been kept back till we hear what is done at home about the great flower. If it is brought forward in England, then this is to be suppressed and not published; if not, then this may be used in the event of the French getting hold of it, as a proof of priority of publication. So you understand that it is at present "inedita," 282 dost thou comprehend.

Rafflesia, Dryobalanops, Sagus, and Nepenthæ are subjects of no small interest. Tell me what you think of Stagmaria: 283

280. These Ternstroemias would be T. serrata from Pulau Nias, and T. acuminata from Tapamooly.
281. Tetraecera arborescens, Jack in Malayan Miscellanies, i. (1820) part 5, p. 244.
282. The appendix to the Malayan Miscellanies never became a publication.
283. Jack wrote a very full account of his Stagmaria verniciiflua and put it into print, for the third part of his Descriptions of Malayan Plants. Then apparently he withdrew it; for as he tells us after the description had been printed in 1821 and when he was sending to Wallich a copy in what we must recognise as proof, a suspicion crossed his mind that Stagmaria instead of being new, was but Gluta Benghas: and it is quite evident that he had no intention of publishing unless he could make sure that Stagmaria and Gluta are distinct. With one or more copies out in print the description was reprinted in Hooker's Companion to the Botanical Magazine, i. (1835) p. 267, and so stands in books as if unblinded by Jack. Wallich later mis-identified Melansorrhaca Wallichii, which he had collected in Singapore, as this Stagmaria of Jack. It is now accepted that Stagmaria verniciiflua is Gluta Benghas, the well-known Renghas tree of Malaya.

The date of this pamphlet of Jack's cited as Descriptions of Malayan Plants, iii. has not been known with certainty; and now it appears that we must consider the date of the publication of Stagmaria not as 1823 but as 1835, and the place Hooker's Companion to the Botanical Magazine.

R. A. Soc., No. 73. 1916.
being a Pentandria Trigynia vel Monogynia it will be of use to you in Roxburgh, and you can introduce it either from Mal. Misc. generally or as my communication direct to you. Since printing it an idea has come into my head whether this may not be Linnaeus's Gluta Benghas, erroneously for Renghas, which has been discovered by no one since Linnaeus, see Lin. Rees. Cyl. The point can only be ascertained by a comparison with the specimen in the Linnaean Herbarium, and I have a great mind to send a specimen to Sir J. E. Smith for the purpose.

From the character of our Sago which must be admitted to be a true one I am inclined to suspect that S. Mussia is not a true Sagus, though its fruit is similarly imbricated. I observe in the catalogue that Roxb. has two species of Sagus, but I have not his description. Does he give a full account or had he ever their fructification?

I am at present at a country residence of Sir Stamford's in the midst of forests and jungles, from which I am daily receiving treasures. Materials are accumulating so fast upon me that I should like to clear off arrears by getting out descriptions. When a thing is printed, it is in a manner done with, and you go on unincumbered. I have prepared a Monograph on East Insular Melastomae containing 15 species, all new except two, one of which is Roxburgh's.—M. decemfida, which is as good as new. I am thinking of sending it home for the Linnean or some such periodical publication, but I wish first to hear something from the folks in England, particularly Brown. Has the Asiatic Society adopted the plan of printing their papers as they come in; if they have, I would not care to give them one. Do they deserve it?

I am anxious to learn how Roxb. Vol. ii comes on, that I may know what to send you for it.

I am making an abstract of Rumphius, for the purpose of inquiring for his plants by their native names, and in the course of it, have ascertained several of his hitherto unnamed species, such as his

Machilus medius, iii. t. 41. = Laurus incrassata mihi;
Arbor spiculorum, iii. t. 106, que Euphorbiacea;
Clypearia rubra, iii. t. 112.

284. Sagus Mussia is not a Sagus. See note No. 149 on p. 190.
285. This paper on Melastomaeceae appeared posthumously in the Transactions of the Linnean Society, vol. xiv. (1823).
286. Jack published his Laurus incrassata in the Malayian Miscellanies, ii. (1822) No. 7, p. 33. It is referred to Dehassia microcarpa, Blume, with a query, on the authority of Walliech in his Catalogue under No. 258.
288. Described by Jack in the Malayian Miscellanies, ii. (1822) No. 7, p. 78 as Inga Clypearia; and now called Pithecolobium Clypearia, Benth.
Nidus germinans formicarum rubr. vi. t. 55. f. 2. quae Rubiaceae: tetrandra. 289

I look anxiously for the first arrival from Bengal, that I may know what you have been able to do for me towards procuring my Librarial desiderata, 290 particularly Roemer, Decandolle and the last of the Encyclopaedia Smith: supr: I am not sure that I could not get some of these foreign works but by the way of Batavia, but I do not care to send the commission till I hear from you. I have advice of the dispatch from England of the later vols. of Rees Cyc. but they are not yet arrived. I see by some English advertisements that the work is brought to a close.

Have you heard yet of George’s arrival in Copenhagen, 291 and received an answer from my father? I have not yet heard, none of my letters coming down so late. My best compliments to Mrs. Wallich and believe me always.

Yours sincerely,

William Jack.

Bencoolen, July 3rd, 1821.

My dear Wallich,

The Robarts and John Bull arrived here some time ago, but neither of them brought a line from you. Since that the Repulse has arrived direct from England and brought me a letter from Lambert in answer to mine forwarded by you. Strange that I should have later accounts by six months from home than from you in Bengal. He says, he looks for the specimens which you had promised to send, by which I infer that you had not been able to send them early. I fear that in leaving them for you to arrange and dispatch, I threw a greater labour on you than either of us reckoned on, 292 and I shall not be sorry to learn that they are still in your possession, without your having been able to command time to arrange them. I reckon that this letter is not unlikely to find you in Calcutta, and if my supposition in regard to the specimens is correct, I would, (when you have leisure, to look over them) wish to make an alteration in the original plan of dispatch, and put you in mind of a few former requests. I must in the first place tell you of some of my new plants and ideas. I believe you know that I had some idea of bringing out a fascicle of plants &c. at home with observations on Malayan Botany; in considering the subject, however I have greatly changed and enlarged my original plan until it has swelled to the design of a work for which I shall go on collecting materials in this country and not publish

290. See notes No. 234 and 235 p. 217.
291. Wallich’s son, who was being sent to school. Apparently he was sent first to see Wallich’s family in Denmark.
292. See note 194 recording that plants from Jack were in Lambert’s sale. As there stated these plants passed from Lambert’s executors to the dealer Pamplin. Whither they went from Pamplin’s shop is unknown; and it is quite impossible to tell if they were specimens sent direct by Jack or specimens left with Wallich for forwarding.

R. A. Soc., No. 73, 1916.
till I go home. Such is the present whim, whether ever to be executed is another question; but the result of the change of plan is, that I shall confine myself at present to detached papers as opportunities of printing them occur, and make my botanical collections and observations as extensive as I can, with the ultimate view of combining the whole into a Catalogue Raisonnée of Malayan Flora secundum ordines naturales with stupendous elucidations and illustrations!! I have gone through all my collections here, and arranged them in the most beautiful order, and mean to go through the whole again genus by genus, putting together all I know and have upon each, by which means every future acquisition will at once find its proper place. Now I find that I carried up and left with you many specimens of which I have no duplicates, and that several genera are in consequence less complete than they might have been. What I would therefore propose, in the event of your still having my collection, would be, instead of sending the whole home, to make the first and most perfect set for me, with all your own annotations and remarks, and to send home only duplicates. Thus I shall be enabled to complete my arrangement of all I ever collected, have the advantage of your observations, and in the case of those of which I may have kept duplicates, they can form part of the first dispatch I send from hence, and there is every probability of some direct occasions. It will also enable me to name a great many that I have since described or ascertained, before sending them away.

I hope you have not forgotten a request I formerly made for the Menang Kabau specimens\(^{293}\) to be all returned: they were put up separately in a different kind of paper from the rest. I have held my tongue to Sir S. about their being left behind.

Let me also refer you to a list of desiderata given you in my letter of Feb. 1820, from on board ship.

There is another thing I must mention, I received the work of the writer\(^{294}\) to Gynandria, but you must know that he did the whole of Gynandria for me before I left Calcutta, therefore when you set him to work again he must not begin where he left off, but at Ficus (\(F\) comosa is the last written), where his previous copy stops. I could wish however that he would copy first Brown's remarks in the appendix to Tuckey's Narrative, which I am anxious to have. You see there is no end of my requests, but I must let you breathe before I come with more.

By the Repulse I also received a very kind letter from Mr. Colebrooke in which he says he has proposed me a member of the Geological Society, and given them something about Malay geology

\(^{293}\) Raffles' own collecting. See note 135 on p. 185.

\(^{294}\) Writer = clerk.
out of my letter. I do not recollect exactly what I wrote, but it
must have been very short and slight. I wrote some time ago by
a vessel that went home direct from Mr. Colebrooke and sent him
a copy of the Agricultural Volume and of the two Botanical
fascicles. In replying to his present letter I mean to make up a
selection of Sumatran rocks, and shall give him some notes on
Sumatran Geology, which if he likes he may give to the Society.

I see there is a paper of his in the Linnean Society, on what
I think of demonstrating the Cyrtandraeae. In my last I think
I told of my suspicion of the affinity of Cyrtandra and Didymo-
carpus; since that I have made an expedition to the top of the
Sugar loaf,295 a remarkable mountain in the interior of Bengoolen,
in the course of which I found no less than 8 species of Cyrtandra
in addition to those I had before, and two species of a new genus,
of the same family which I call Loxonia. With these materials
I have adventured to construct a new order296 (Cyrtandraeae from
the oldest genus) an account of which I shall send to Lambert and
get him to submit to Brown before presenting it, to see if it will
stand muster. The order stands thus, Cyrtandra 11 species, Didymo-
carpus, 7, and Loxonia 2, exclusive of your Didymi. I shall
send you (if I can get it copied) my characters of the order and
genera, on which let me have your opinion. Note, Forster's figure
of the fruit of Cyrtandra is utterly wrong.

I have huge suspicions concerning Incarvillea, but I cannot
find its carpology any where. I have not yet got the fruit of
Roxb.'s Incarvillea parasitica,297 but as far as I can make out from
the dried ovaries the septum appears to be complete and to separate
at the sides from the valves, a character which would make it
agree with Bignonieae, but not with Didymocarpus.

In the course of my excursion to Sugar loaf, I made several
interesting discoveries. Two new species of Melastoma which I
shall send home298 to be added to my former paper as M. eximia299

295. Jack's journey to the Sugar Loaf Mountain was described in
the Malayana Miscellanies, ii, (1822) No. 1, pp. 1-22 and was reprinted in
the Society's Papers relating to Indo-China, series 2, vol. ii, pp. 57-69. Raffles
in a letter to Marsden under date July 12th, 1821, says "Dr. Jack and a
few friends have just ascended the Sugar-loaf and were the first Europeans
who reached the summit."

296. The paper containing Jack's account of the Cyrtandraeae is
to be found in the Transactions of the Linnean Society of London, vol.
xiv. (1825). The number of species there described is exactly as given
here.

297. Incarvillea parasitica, Wall. is Aeschynanthus grandiflora, Spreng.
But see note No. 276.

298. The Melastomaceae were also published in the Transactions of the
Linnean Society of London, xiv. (1823).

299. Melastoma eximium, Jack, is Medinilla eximia, Blume.

R. A. Soc., No. 73, 1916.
and *M. alpestris*, being from the very summit. I believe I told you of my having sent Brown a Monograph on E. Insular Melastomae with an attempt at a new subdivision found on the similitude or dissimilitude of the alternate anthers. It contains now 17 species—all new except *M. malabathrica* and *M. decemfida* of Roxb., and Osbeckia tetrandra Roxb., which is my Melastoma glauca (certissime no Osbeckia). My other Alpine discoveries are a species of *Rhododendron*, one of *Vaccinium*, lots of *Begonia*, an *Impatiens*, a *Lobelia*, a new *Alpinia*, and a second species of a pentandrous genus I sent you with 3-valved, 1-celled capsules, related to the *Pittosporaceae*. I am anxious to know what progress you are making in Roxburgh’s Flora; the second volume ought to be nearly complete. I hope the next arrival will bring me the remaining part of it, or a copy complete.

You will probably ere this have received an answer from my father to your letter. Some fatality seems to have lately attended my correspondence, for I have not a line from home by any of the late opportunities. I am utterly at a loss to account for having none by the way of Bengal, tho’ I suspect it to be some mistake of Calder’s as to the sailing of the vessel.

My best regards to Mrs. Wallich and believe me always,

My dear Wallich,

Yours very truly,

William Jack.

July 18—Since I began this letter distresses have accumulated upon us and thrown a gloom over everything. The first visitation was the death of Sir S.’s eldest boy, one of the finest and loveliest children I ever saw. Searcely had Sir S. and Lady R. begun to recover some degree of composure after such an affliction, than Capt. Auber fell ill, and was carried off after a few days by an apoplectic stroke. This has been a severe blow, not merely from

300. Melastoma alpestris, Jack in Medicina alpestris, Blume.

301. Osbeckia tetrandra, Roxb, is no Melastoma; but in the subdivision of that genus it has become *Amplexicaule trianae*. Triana.


304. Begonia. Eight species of *Begonia* are described together by Jack in the Malayan Miscellanies, ii. (1822); and one among them is said to come from the foot of Gunong Bengkoh, the Sugar Loaf Mountain. Some others are said to have come from the interior of Bencoolen and were possibly got on this journey.

305. The *Impatiens* was not described by Jack.

306. The *Lobelia* was not described by Jack.

307. An *Alpinia capitellata*, was described by Jack in the Malayan Miscellanies, ii. (1822) No. 7, p. 4 from the interior of Bencoolen, which is probably this.

308. *Celastrus pumilus*, Wall. For this plant see p. 246.

Jour. Straits Branch
his relationship to Lady R., but from the great regard and esteem in which he was personally held. He was a man of most engaging manners and superior mind, and had embarked on an extensive speculation with every prospect of success, which is now destroyed by his premature death. He had been my companion on the trip to the Sugar loaf, and bore the fatigues of it much better than I did. It was a singular circumstance that the natives strongly dissuaded us from attempting the ascent as they said it would provoke the anger of the Dewas whose sanctum is on the summit. We of course laughed at such a reason, but they tried everything at the difficult parts of the ascent to induce us to turn back by representing it was impossible to get further. Our party consisted of four, three of us persevered in reaching the summit and one gave up half way. On our return the people declared one of the three, Auber, Salmond and myself would be sure to die for having profaned the sacred spot; and now they are of course firmly persuaded of the special interposition of the offended spirit of the Mountain. The coincidence is certainly singular and the more so as Auber to all appearance was the least likely to have suffered of any of us. His death however does not appear to have had any connection with the trip or exposure in the course of it.

These unfortunate events have depressed all our spirits; Sir Stamford himself has not been well, and the fatigue and anxiety of looking after so many invalids has almost knocked me up. I wish all was quiet again that I might take my ease for a few days and get well by indulging the luxury of doing nothing. Sir S. as you may recollect in Calcutta, is a very bad patient, for there is no keeping up his spirits when he is ill.

I have employed some odd hours in overhauling my Hexandrous plants for you, and send you herewith for entry in Roxburgh, three species of Tradescantia, three of Curculigo, four of Loranthus, and a new genus, which pray tell me what you think of. If I find time before this vessel sails, I shall add some more, but I am much at a loss how far back or forward to go until I learn something of your progress in Roxburgh.

21st July—Another arrival from Calcutta, and not a line from you, or from Calder to whom I look for my Europe dispatches. This is very inexplicable and very provoking; other letters that I care not for three straws, arrive with perfect regularity, while the

309. Captain Francis Salmond was harbour master of Beneoolen and afterwards in Singapore (vide this Journal No. 65, 1913 p. 43). On one occasion having been sent to Palembang by Raffles, the Dutch carried him a prisoner to Batavia (Memor of Sir Stamford Raffles, p. 394).

310. Wallich apparently was unable to make use of Jack’s descriptions of Tradescantia and Curculigo.

311. Loranthus cylindicus, L. patulus, and perhaps I. ferrugineus, all of which Wallich inserted into his and Carey’s revision of Roxburgh’s Flora, together with another which cannot be identified even approximately.

R. A. Soc., No. 73, 1916.
only ones that can be of real interest come not. There is still one chance, that Mackenzie may bring some, though they might as well have been put under a wild goose wing as given to him. I begin to abominate this place very grievously, however it is a nasty gloomy day, I am out of humour on many accounts, and there is no saying how I may alter my mind when the weather clears up and matters begin to go smoother. A man should never sit down to write a letter in the temperament I am now in, so I will have mercy on you, and spare you a jeremiad.

I add descriptions of three more Aralia\(^{312}\) and my new genus of the same family.

W. Jack.

Bencoolen,
October 6th, 1821.

My dear Wallich,

I wrote you pretty fully in August by my cousin Andrew Henderson, but I cannot allow this opportunity which may be the last for some time to pass without sending you a few lines. I am still without any account from you, nor do I know whether this will find you in Calcutta, though I think it most probable it will. Mackenzie arrived here some time ago but brought no letters at all, so that I cannot help thinking there must be some strange mistake which prevents my hearing by the direct arrivals from Bengal. The monsoon is now about to change, and I hope abundance of communications this season will recompense the disappointments of the last. Mr. Palmer\(^{313}\) is here on his way up from Java, with which he seems to be highly delighted. We are going on in our usual quiet way; plants and stones, the order of the day. I have drawn up a short paper for Mr. Colebrooke on the Geology of Sumatra, giving him an outline of our present information on the subject. This may serve as an inaugural dissertation to the Society as they have dubbed me a Member. By the bye, will you

\(^{312}\) These cannot be identified.

\(^{313}\) Mr. John Palmer, a merchant of Calcutta, called "the prince of merchants" (vide MacDonald's "Narrative" p. 128) of the firm of Palmer and Co., active in many enterprises. Mr. Palmer's firm were agents to Sir Stamford Raffles, and to Said Husein, father of the pretender to the throne of Acheen, as well as to the Dutch and therefore came into opposition with Raffles. Mr. Palmer was influential enough to get for the Acheen pretender a pension after the trouble had been dispersed; he was also influential enough to get a merchant sent as the Company's agent to Siam, whereby the Company was put to great expense and their possible trade diverted to the agent. In partnership with Sir William Humbold he was in those unscrupulous banking transactions in the Nizam's dominions which brought down the Court of Directors upon the government in India and drove Lord Hastings into retirement. In 1828 the firm unable to reap in the exorbitant interest that they had counted on, went bankrupt. (Vide Anderson's Acheen, London, 1840 p. 78 and Marshman's History of India London, 1871, i. p. 371).
undertake a trifling commission for me, which is, to find out the amount of subscription to the Geological Society, and get a remittance for the sum from Calder, which you can forward to Mr. Colebrooke on my account the first time you write him. I believe it is usual for Members of these societies abroad to pay at once a certain sum in lieu of all future payments, which is far the best mode for us in India, and saves all after trouble. So pray let the remittance be to that amount and effect. I would sooner have been proposed for the Linnean, as being more in my way, but that may come in good time. I told you of my having sent Lambert a paper on the Cyrtandraceae, I have since found a new plant of that family which will form a new genus sub nomine, Aeschynanthus, and to which I think Incarvillea parasitica, Roxb. will be properly referrable. Mine has axillary crimson flowers, exsert stamina, four with the rudiment of a fifth. Capsule strictly pseudo 4 locular more Didymocarpi, but the seeds with an arista or long hair at each end, and having something like an apophysis above. I shall send the account of this additional gentleman to Lambert to complete his paper. I am putting together some of the most interesting of my new genera, and I think I shall send them to Mr. Colebrooke through you, so that they may have the benefit of your corrections and remarks. They cannot be ready in time for this occasion, but I shall try and have them ready in case of another offering. Proposals are circulating here for a second volume of the Malayan Miscellanies to be published by the missionaries if they get a sufficiency of subscriptions; if they do, I shall give them some plants to help them out. When it will be finished is a matter of great doubt in Mr. Ward's hands, for he is the laziest animal I ever met with, and one of the stupidest. If such are the people we are to meet in heaven, Lord help me out of it. Did you know our junior surgeon here Lancaster, who died lately; he was an odd and in some things not a very agreeable man, but is a great loss to the settlement. A good for nothing chap (a friend of Calder's by the bye) Mr. MacCalman has been put in temporarily but there is no wish to keep him here for good. If you know any person, a married man in particular, who would like a quiet settled situation of 650 rupees a month it might be worth applying for. I should wish him to be junior to me. McCalman is a true highlander, with all the captious jealousy and tenaciousness of his countrymen, among whom such qualities are sometimes to be found, and has not contrived to make himself agreeable here. He brought a letter to me from Calder, in conse-

314. Aeschynanthus was described by Jack with two species—A. radicans and A. volubile. It would be the second to which he refers here.

315. Lambert did as desired: after incorporating the new genus, he communicated Jack's paper on Cyrtandraceae to the Linnean Society, Brown had that on Melastomataceae; and Jack sent as he here proposes the third paper to Colebrooke.

316. See Linn. No. 160, p. 192.

R. A. Soc., No. 73, 1916.
quence of which I shewed such attention as was in my power, but it does not appear to have come up to his expectations. I wonder whether Calder is particularly interested about him, or whether he is merely a Scotch consignment to the house. I mention this that you may not accidentally commit me with Calder, in case the subject happens to come between you.

I have not time for more so shall only add my best regards to Mrs. Wallich and ever my dear Wallich.

Yours very truly,
William Jack.

P.S. Don’t forget the remittance to Mr. Colebrooke.

Bencoolen,
October 26th, 1821.

My dear Wallich.

I write a few lines by this opportunity, which is a very circuitous one, merely to say that there will be no occasion for your troubling yourself further about the request I made in my last as to the subscription for the Geological Society, to be remitted to Mr. Colebrooke. I have since received a letter from the secretary of the Society announcing my election and requiring the payment of ten guineas admission fee, and have in consequence written to my father to settle the account. A remittance from Bengal will therefore be unnecessary. So if you have spoken to Calder on the subject, countermand it. Two vessels have arrived from Bengal without bringing a line from you, but Hardwicke mentions that you are not expected down till December.

He has been making some sad piece of humbug to the Asiatic Society on presenting the proceedings of the Agricultural Society, which would have been better-spared, tho’ no doubt well intended. Writing and eloge are not his forte.

At present I am literally doing nothing, being neither very well nor in very good spirits, so excuse a brief scrawl.

And believe me always,

My dear Wallich,
Yours very truly,
William Jack.

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317. From Nepal. Wallich left the Nepal valley on November 7th, 1821, and reached Patna on the 22nd.
318. Asiatic Society in Calcutta, later Asiatic Society of Bengal.
319. The Proceedings of the Agricultural Society of Bencoolen, see note No. 219 p. 211.
Jack's letters to Wallich thus end eight months before his death with an admission that he was ill. He apparently had not complained before to Wallich, but in a letter home dated April 8th, 1821, he told his parents that he had recovered from another attack of lung trouble. His illnesses added to the sadness of that year when Raffles' three children died. Jack himself seems to have been ill from this date continuously, the lung trouble recurring; but according to Raffles acute Malaria carried him off which was contracted on a trip to Mocomoco. He took a voyage to Java in the hope that it might place him on the road to recovery; but it did not; and he returned to Bencoolen worse. As a last resort he was put on board another vessel for the Cape. From what Raffles wrote it appears that he was landed again dying, and was buried in the Settlement.

This is how Raffles wrote (i.) on September 4th, 1822, "My inestimable friend, Jack, still remains in a very dangerous state, and is obliged to embark in the Layton for the Cape. In him I lose my right hand," and again (ii.) September 14th, "I have very little hope for him; I shall feel his loss most severely, both as a private friend and as an able assistant," and yet again (iii.) September 15th. "We were to have embarked this morning for Singapore, but the wind has proved foul; and it was ordained that we should remain another day, to bury our dear and invaluable friend, William Jack. Poor fellow! a finer head or heart there never was; and whether as a bosom friend, or as a scientific assistant, he was to me invaluable; he had been long ill and returned from Java about a fortnight ago, after an unsuccessful visit for change of air: we embarked him yesterday in the Layton for the Cape; and he died this morning before the ship weighed her anchor."

In a letter to Wallich telling him of the loss Raffles says that he died at Government House: if so he was landed again to die. He was but twenty-seven.

He was unmarried; and Buckley's one-time speculation that Jack's was among the children taken home in 1824 by Sir Stamford, is without foundation (vide Anecdotal History i. p. 10).

Wallich received the news of his death at Singapore on October 10th, 1822, where he had arrived on a voyage for his health. His letter of condolence to the parents is reprinted in the companions to the Botanical Magazine. It appears that he had had no premonition of the approaching end; and that Jack's last letter to Wallich here printed was in reality the last written.

The following lines written by Raffles under the date of February 4th, 1824, give rather histrionically the fate of Jack's collections:

"We (that is Sir Stamford's party) embarked on the 2nd instant in the Fame, and sailed at daylight for England with a fair wind, and every prospect of a quick and comfortable passage."
The ship was everything that we could wish; and having closed my charge here (Bencoolen) much to my satisfaction, it was one of the happiest days of my life. We were, perhaps, too happy; for in the evening came a sad reverse. Sophia (Lady Raffles) had just gone to bed and I had thrown off half my clothes, when a cry of fire! fire! roused us from our calm content, and in five minutes the whole ship was in flames. I ran to examine whence the flames principally issued, and found that the fire had its origin immediately under our cabin. Down with the boats. Where is Sophia? Here. A rope to the side. Lower Lady Raffles. Give her to me, says one. I'll take her, says the Captain. Throw the gunpowder overboard. It cannot be got at; it is in the magazine close to the fire. Stand clear of the powder. Skuttle the water casks. Water! water! Where's Sir Stamford? Come into the boat, Nilson! Nilson, come into the boat. Push off push off. Stand clear of the after part of the ship.

All this passed much quicker than I can write it; we pushed off, and as we did so the flames burst out of our cabin-window, and the whole of the after part of the ship in flames; the masts and sails now taking fire, we moved to a distance sufficient to avoid the immediate explosion; but the flames were now coming out of the main hatchway; and seeing the rest of the crew, with the Captain, still on board we pulled back to her under the bows, so as to be more distant from the powder. As we approached we perceived that the people on board were getting into a boat on the opposite side. She pushed off; we hailed her: Have you all on board? Yes, all, save one. Who is he? Johnson sick in his cot. Can we save him?—No, impossible. The flames were issuing from the hatchway; at this moment the poor fellow, scorched, I imagine, by the flames, roared out most lustily, having run upon the deck. I will go for him, says the Captain ......... he then pulled under the bowsprit of the ship and picked the poor fellow up. ............... The Captain fortunately had a compass .......... and ........ to make the best of our misfortune we availed ourselves of the light from the ship to steer a tolerably good course towards the shore. She continued to burn till about midnight, when the saltpetre which she had on board (the powder had blown up towards nine o'clock) took fire, ............... illuminating the horizon in every direction to the extent of not less than fifty miles. She burnt and continued to flame in this style for about an hour or two, when we lost sight of the object in a cloud of smoke. ............... At daylight we recognised the coast and Rat Island. About eight or nine we saw a ship standing to us from the Roads: they had seen the flames on shore, and sent out vessels to our relief. They gave us a bucket of water, and we took the Captain on board as a pilot. The wind however, was adverse, and we could not reach the shore, and took to the ship where we got some refreshment and shelter from the sun. About two o'clock we landed safe and sound. ...............
The loss, I have to regret, beyond all, is my papers and drawings,—all my notes and observations, with memoirs and collections, sufficient for a full and ample history, not only of Sumatra, but of Borneo and almost every other island of note in these seas;—my intended account of the establishment of Singapore, the history of my own administration; eastern grammars, dictionaries and vocabularies;—and last, not least, a grand map of Sumatra, on which I had been employed since my arrival here .............

This however was not all; all my collections in natural history—all my splendid collection of drawings, upwards of two thousand in number, with all the valuable papers and notes of my friends, Arnold and Jack; and to conclude I will merely notice, that there was scarce an unknown animal, bird, beast, or fish, or an interesting plant, which we had not on board: a living tapir, a new species of tiger, splendid pheasants, etc., domesticated for the voyage; we were in short, in this respect, a perfect Noah's Ark. All, all has perished; but thank God, our lives have been spared. .............

The fire had its origin in the store room, ............. and was occasioned by the shameful carelessness of the steward going with a naked light to draw off brandy from a cask which took fire. 

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JACK'S HERBARIUM.

as far as recorded in various places.

Sources of information:—

i. the above letters to Wallich;


* Not available for consultation in Singapore.

v. Descriptions of plants communicated to Wallich for his and Carey's Revision of Roxburgh's Flora Indica, published 1820-1824. Jack seems to have had proof sheets of part submitted or lent to him (letter dated 9th Sept. 1820). The descriptions were extracted by Griffith and printed in the Calcutta Journal of Natural History along with the above.

vi. Suppressed or unpublished descriptions, recovered by Sir William Hooker from printed advanced sheets entitled like the three above, Descriptions of Malayan Plants, Appendix to the Malayan Miscellaneies, and reprinted in the Companion to the Botanical Magazine, Vol. (1835).

vii. Wallich's Catalogue of the Plants in the Honourable East India Company's Herbarium, lithographed from 1828 to 1832 and Sir Joseph Hooker's Flora of British India (1872-1897) containing the elaboration of these.

viii.-x. Jack's three papers published by the Linnean Society of London in the fourteenth volume of their Transactions, (1823), viz.

On the Malayan Species of Melastoma, pp. 1-22.

On Cyrtandraeaceae, a new Natural Order of Plants, pp. 23-45.

Account of Lansium and some other Genera of Malayan Plants, pp. 114-130.

DILLENIACEAE.

**Acrotrema costatum**, Jack. A common plant in the Waterfall Valley, Penang, where Jack found it. He described it in the Malay. Misc. i. No. 5, p. 36. Later it was found by him at Tapanuli, Sumatra (letters p. 228). Acrotrema was at the time a new genus,—a herb in an otherwise woody order; and Jack did not recognise its affinity. After consulting Wallich, he left it open.

**Tetracera arborescens**, Jack, was found near the shores of the Bay of Tapanuli, Sumatra, and described in Malay. Misc. i. No. 5, p. 145. It seems (letters p. 229) to have been obtained again, probably at Tapanuli.

Jour. Straits Branch
Wormia pulchella, Jack, found at Natal, Sumatra, and described in Malay. Misc. ii. No. 7, p. 76.

Wormia excelsa, Jack, found at Bencoolen, Sumatra, and described in Malay. Misc. ii. No. 7, p. 69.

ANONACEAE.

Uvaria purpurea, Blume, was collected by Jack in Penang, whence he sent specimens to Wallich (Wall. Cat., No. 6485). It is a coast plant of Penang.

Uvaria hirsuta, Jack, was found in Penang, and described in Malay. Misc. i. No. 5, p. 46. We find (letters p. 197) an enquiry addressed to Wallich for the characters of U. pilosa, Roxb., which proves to be the same species.

NYMPHAEAECAE.

Nymphaea stellata, Willd., the common water-lily of Penang was obtained by Jack there in April or May, 1819, and its variety cyanea was recognised by him among a few (letters p. 175); and its variety cyanea was recognised by him among a few plants brought from Acheen by Raffles (letters p. 174).

Nelumbium speciosum, Willd., was found by Jack in Penang (letters p. 152).

VIOLACEAE.

Alsodeia sp. may perhaps be what Jack refers to in a letter of 19th Sept. 1820 (letters p. 219) as a Penang plant.

BIXACEAE.

Flacourtia inermis, Roxb., (F. Rukam, Zoll. & Moritzl), was described by Jack from Penang, where it is cultivated, and also from Sumatra in Malay. Misc. i. No. 1, p. 25.

HYPERICACEAE.

Cratoxylon formosum, Benth. and Hook. f., was described by Jack from Sumatra as Elodea formosa (Malay. Misc. ii. No. 7, p. 24).

Cratoxylon sumatranum, Blume, was described by Jack from Telok Dalam in Pulau Nias as Elodea sumatran (Malay. Misc. ii. No. 7, p. 22). He mentions it in a letter to Wallich (letters p. 226).

GUTTIFERAE.

Garcinia Mangostana, Linn., is mentioned in Jack’s letters as cultivated in Penang (letters p. 152) and was sent by him alive to Calcutta from Bencoolen (letters p. 217).

Calophyllum sp. from Acheen, brought thence by Raffles (letters p. 174).
TERNSTROEMIAE.

Adinandra dumosa, Jack, was described from Sumatra as "abundant in thickets" and in various parts of the Malay Islands (Malay. Misc. ii. No. 7, p. 50).

Adinandra sylvestris, Jack is named in the Malay. Misc. ii. No. 7, affixed sheet iii) as having been obtained in Moco-moco, Sumatra.

Saurauja tristyla, DC., was described by Jack from Penang as Ternstroemia pentapetala (Malay. Misc. i. No. 5, p. 40).

Saurauja sp. was described from Salumah, Sumatra, as Ternstroemia cuspidata (Malay. Misc. ii. No. 7, p. 28).

Ternstroemia serrata, Jack, was obtained on Pulau Nias and described in Malay. Misc. ii. No. 7, p. 27. It would seem to be one of the Ternstroemias referred to in his letters (p. 229).

Ternstroemia acuminata, Jack, was described from Tapanuli in Malay. Misc. ii. No. 7, p. 26, and would seem to be referred to in his letters (p. 229).

Cleyera rubiginosa, was described by Jack from Sumatra as Ternstroemia rubiginosa (Malay. Misc. i. No. 5, p. 39).

Archytacea Vahlii, Choisy, was collected by Jack at Rhio (letters p. 181): but Wallich distributed specimens as Jack's from Penang, possibly erroneously (Wall. Cat. No. 4866).

DIPTEROCARPACEAE.

Dryobalanops Camphora, Gaertn., grows freely near Tapanuli, Sumatra, and thence Mr. Prince, the Resident, had supplied information about it to Roxburgh, together with the foliage. Living plants and seeds from the same source were sent to Colebrooke, and served for a description with a plate published by the Asiatic Society in 1816 (Asiatic Researches xii., p. 538). In 1819 Mr. Prince got the flowers and sent them to Raffles, who put them in Jack's hands (letters p. 182). Jack there-upon drew up a description which went into print in the suppressed part of his Descriptions (see above, item No. vi. of the sources).

MALVACEAE.

Gossypium brasiliense, Macf., the Pernambuco cotton, is reported as cultivated experimentally in Penang in a letter (p. 169).

STERCULIACEAE.

Sterculia laevis, Wall., is recorded by Jack as having been found in Penang, but under the wrong name of S. coccinea, Roxb. (Malay. Misc. i. No. 1, p. 20).
Sterculia rubiginosa, Vent., is recorded by Jack as having been found in Penang, but under the wrong name of S. angustifolia, Roxb. (Malay. Misc. i. No. 1, p. 21). It is not a common tree in Penang; and Curtis’ only locality is Penara Bukit.

Pterospermum Jackianum, Wall., is founded on specimens collected by Jack in Penang (Wall. Cat. No. 1164).

TILIACEAE.

Grewia paniculata, Roxb., was found by Jack in Penang, who adhering to Smith’s name of Microcos tomentosa described it under this in Malay. Misc. i. No. 1, p. 13. He refers to the plant in his letters (p. 189).

Grewia Microcos, Linn., was obtained by Jack from Car Nicobar, and briefly diagnosed as a new species under the name of Microcos glabra in Malay. Misc. i. No. 1, p. 14.

Elaeocarpus nitidus, Jack, which occurs in the Waterfall valley, Penang, was found and described by Jack (Malay. Misc. i. No. 5, p. 41). Under one of his early letters he sent specimens of an Elaeocarp to Wallich (p. 165) but it is impossible to say which.

Elaeocarpus Jackianus, Wall., is a not-uncommon Singapore plant, of which Jack sent specimens to Wallich (Wall. Cat. No. 2679), and which Jack described as Monocera ferruginea (Malay. Misc. i. No. 5, p. 44).

Elaeocarpus petiolatus, Wall., is described by Jack from Penang as Monocera petiolata in the Malay. Misc. i. No. 5, p. 43.

LINACEAE.

Ixananthes icosandra, Jack, was found in the interior of Sumatra behind Bencoolen, and described in the Malay. Misc. ii. No. 7, p. 53. Writing of it in 1872, Sir Joseph Hooker pointed out that there are differences between Jack’s description and the tree as we know it in Malaya (Flora of British India i. p. 416). It is therefore desirable that someone should search in the region from which Jack got his plant for something which would explain the divergence.

Ixananthes reticulata, Jack, was found at Tapanuli, Sumatra, and described in Malay. Misc. ii. No. 7, p. 51.

GERANIACEAE.

Impatiens sp. An Impatiens was found by Jack on his journey to Gunong Bengkok, behind Bencoolen, (letters p. 234).

RUTACEAE.

Glycosmis pentaphylla, Correa, var. macrophylla, was found by Jack in Penang and described under the name of Chionotria rigida in the Malay. Misc. ii. No. 7, p. 54.
Micromelum hirsutum, Oliv., was sent to Wallich from Penang, and distributed by him without a name in Wall. Cat. No. 8516.

Murraya exotica, Linn., type, and the variety paniculata were both described by Jack, who held them specifically distinct: he wrote as if he had found the type himself, but not quite definitely about the variety, though familiar with its usefulness to the kris-maker (Malay. Misc. i. No. 5, p. 31). In his letters (p. 189) he refers to the species without adding to what he published later. At a later date (letters p. 220) he explains that Murraya sumatrana, Roxb., is the same as the variety paniculata.

Clausena excavata, Burm., appears to be the plant which Jack names in his letters (p. 162) as having been found in Penang. It is common near the coast there.

SIMARUBACEAE.

Brueca sumatrana, Roxb., is mentioned in Jack's letters as having been found at Bencoolen (p. 188).

Eurycoma longifolia, Jack, was found in Singapore and in Sumatra at Tapanuli and Bencoolen. It was described in the Malay. Misc. ii. No. 7, p. 45. Jack placed it in Connaraceae.

OCHNACEAE.

Gomphia sumatrana, Jack, was described from Sumatra no locality being named (Malay. Misc. i. No. 5, p. 29).

Euthemis leucocarpa, Jack, a shrub common on the sandy parts of the Singapore coast, was found by Jack and described in the Malay. Misc. i. No. 5, p. 16. In his letters to Wallich (pp. 179 and 204) he mentions it. And his recognition of it at once as belonging to a new genus shows his great perspicacity.

Euthemis minor, Jack, was found along with the last in Singapore, and described with it (Malay. Misc. i. No. 5, p. 18). Though common on Pulau Battam, south of Singapore, it has only once been found in recent years on Singapore island.

MELIACEAE.

Melia excelsa, Jack, was obtained in Penang (letters p. 165) and described in the Malay. Misc. i. No. 5, p. 12. Wallich received specimens which became No. 1253 in his Catalogue. No Melia answering the description has been found recently; and everything considered, it is impossible that Jack's plant belonged to the genus.

Sandoricum indicum, Cav., was got by Jack in Penang, and distributed by Wallich as No. 1249 of his Catalogue. It is the cultivated Sentol.

Jour. Straits Branch
Aглая odorata, Lour., is a common tree of cultivation in Malaya, as Jack records (Malay. Misc. i. No. 5, p. 32).

Aглая sp. is the Lansium montanum of Jack found in the forests near Bencoolen (Trans. Linn. Soc., xiv. p. 117). Rumph had used the combination; and Jack believed that he had got Rumph's plant. The name Lansium montanum is sometimes referred to Steudel.

Lansium domesticum, Jack, is the cultivated Langsat which Jack described in the Trans. Linn. Soc. xiv. p. 115. He defined a variety aqueum (L. aqueum), a superior race. In his letters (p. 168) he names it as the "Dookoo."

CELASTRACEAE.

Paracelastrus bivalvis, Miq. (Microtropis bivalvis, Wall.), was obtained by Jack in Penang and described as Celastrus bivalvis (Malay. Misc. i. No. 5, p. 19). He mentions it in his letters (pp. 165 and 218), first as related to Celastrus and then as Celastrus bivalvis.


Celastrus lucida, Wall., is a plant, not a Celastrus, collected by Jack in Penang and distributed under this name by Wallich (Cat. No. 4318).

Hippocratea, sp. near H. obtusifolia, Roxb. is mentioned in Jack's letters (p. 221) as having been found in Pulau Nias.

Salacia sp. Jack found on Pulau Nias a Salacia which in his letters is called Johnia sumatran, and would be one of the two species referred to, without name, in the Malay. Misc. ii. No. 7, p. 92.

Salacia sp. Jack had sent to Wallich a species of Salacia under the name of Hypsagyne (letters 219 and 221) which was obtained at Tapanuli earlier than the Salacia just named. It may have been the second Salacia mentioned in the Malay. Misc. ii. No. 7, p. 92. Of these two species the one, he wrote, agrees very well both with S. chinensis and with Johnia salacioides (which is Salacia Roxburghii, Wall.) ; and the other is nearly related to Johnia coromandeliana, Roxb. (which is Salacia prinoides, DC.)

AMPELIDACEAE.

Vitis racemifera, Jack, was described from Sumatra in the Malay. Misc. ii. No. 7, p. 94.

Vitis angustifolia, Wall. is recorded by Jack from Ben-coolen (letters p. 208) under Roxburgh's name of Cissus angustifolia.
SAPINDACEAE.

Cardiospermum sp. is mentioned as occurring at Acheen (letters p. 174).

Erioglossum edule, Blume, is the Sapindus rubiginosus of Roxburgh under which name Jack records its cultivation in Penang (Malay. Misc. i. No. 1, p. 11).

Lepidopetalum Jackianum, Radlk. (Cupania Jackiana, Hiern in Flora Brit. India, i. p. 678) is a Car Nicobar plant which Wallich distributed as Connarus? Jackianus (Wall. Cat., No. 8552).

Nephelium lappacem, Linn., the Rambutan, was described by Jack from Penang and elsewhere (Malay. Misc. i. No. 1, p. 16). He mentions it in his letters (p. 154).

ANACARDIACEAE.

Mangietera quadriiida, Jack, was found in Penang, and diagnosed in a letter to Wallich (p. 152). Afterwards it was described from Jack’s MS. in Carey and Wallich’s revision of Roxburgh’s Flora Indica ii. p. 440.

Mangietera foetida, Lour., was found by Jack in Penang letters p. 152 and described along with the last from Penang and Sumatra, etc. Specimens collected by Jack were distributed by Wallich (Cat. No. 8488).

Mangietera caesia, Jack, was found by Jack in Sumatra, perhaps at Bencoolen (letters p. 216), and described along with the above two (p. 441).

Gluta Benghas, Linn., was found by Jack at Natal and Moco-moco in Sumatra, etc. He described it in print as Stagmaria verniciflua, but withdrew the description from publication, for as pointed out in his letters (p. 229) he found out the identity. Sir William Hooker published Jack’s name-Stagmaria—and the description in the Companion to the Botanical magazine, i. (1835) p. 267.

SABIACEAE.

Meliosma nitida, Blume, is the Millingtonia sumatrana described by Jack from Pulau Nias (Malay. Misc. ii. No. 7, p. 36).

CONNARACEAE.

Agelaea vestita, Hook. f. Wallich distributed this plant from Jack’s collecting in Singapore as No. 8535; and on p. 197 of his letters he mentions having got three species of its order,—the Connaraceae,—calling them Connarus, in Singapore, the specimens of which were left with Wallich.

Rourea concolor, Blume, is thought to be the Caestis mimosoides described by Jack from Tapanuli, Sumatra, (Malay. Misc. ii. No. 7, p. 44).
Connarum ferrugineus, Jack, was found in Penang. It was to it probably that Jack applied the name Connarum paniculata, Roxb., in his letters (p. 163). But after visiting Calcutta in 1826 he used the name Connarum ferrugineus (letters p. 197) and described it in the Malay. Misc. ii. No. 7, p. 37.

Connarum semidecandrus, Jack, occurs in Penang; but Jack did not detect it there. He described it from the west coast of Sumatra (Malay. Misc. ii. No. 7, p. 39). It would further seem to be one of the species obtained in Singapore, which are referred to in his letters (p. 197): for Wallich’s Catalogue No. 8538 in part is it.

Connarum grandis, Jack, was described from Tapanuli, Sumatra, in the Malay. Misc. ii. No. 7, p. 40.

Connarum villosus, Jack, was described from Sumatra in the Malay. Misc. ii. No. 7, p. 38.

Connarum lucidus, Jack, was described from Sumatra in the Malay. Misc. ii. No. 7, p. 41.

Cnestis longifolia, is a name used by Jack in his letters (p. 197) for something that he got in Singapore and at Tapanuli.

Cnestis emarginata, Jack, is a plant described from Bencoolen in Malay. Misc. ii. No. 7, p. 43.

Cnestis floridea, Jack, is a plant from Pulau Nias and Sumatra described in the Malay. Misc. ii. No. 7, p. 43.

LEGUMINOSAE.

Millettia atropurpurea, Benth. This common tree was collected by Jack in Penang, and Wallich distributed the specimens under the name of Pongamia atropurpurea (Wall. Cat. No. 5910).

Mezoneuron sumatranum, W. & A., was found by Jack at Bencoolen, and is referred to under Roxburgh’s name of Caesalpinia sumatrana. From the way in which Jack puts a question mark after the word Caesalpinia, it seems that he suspected Roxburgh to have got the genus wrong (letter p. 188).

Cassia alata, Linn., is quite likely to have been the plant to which Jack refers in his first letter from Penang (p. 155).

Saraca declinata, Miq., was described as Jonesia declinata by Jack from Sumatra in the Malay. Misc. ii. No. 7, p. 74. A reference in his letters (p. 216) indicates Bencoolen as probably the locality where it was found.

Alzelia retusa, Kurz, appears to be the Singapore plant referred to in Jack’s letters (p. 180).

R. A. Soc., No. 73, 1916.
Bauhinia emarginata, Jack, is described in the Malay. Misc. ii. No. 7, p. 75 from Sumatra.

Bauhinia bidentata, Jack, is described in the Malay. Misc. ii. No. 7, p. 76 as from the forests of Malaya. In his letters (p. 165) he refers to it as occurring in Penang.

Pithecolobium lobatum, Benth., was described by Jack under the name of Mimosa Jirinda in the Malay. Misc. i. No. 1, p. 14. He collected it in Penang, and records Malacca as an additional locality, perhaps from Farquhar's collection of drawings. He discusses it in his letters to Wallich (pp. 159 and 165).

Pithecolobium Clypearia, Benth., was described by Jack in Malay. Misc. ii. No. 7, p. 78 as Inga Clypearia, from Bencoolen. It is mentioned in his letters as found also in Penang (p. 165) and recognised by him as one of Rumph's plants (p. 230).

Pithecolobium bubalinum, Benth., is described by Jack in the Malay. Misc. ii. No. 7, p. 77, as Inga bubalina.

ROSACEAE.

Rubus alceaeolius, Poir., is mentioned in Jack's letters (p. 152) as a Penang plant.

Parinarium costatum, Blume, was described by Jack from Sumatra but without any locality in the Malay. Misc. ii. No. 7, p. 67, under the name of Petrocarya sumatrana.

Parinarium Jackianum, Benth., was described by Jack without locality in the Malay. Misc. ii. No. 7, p. 66, under the name of Petrocarya excelsa.

RHIZOPHORACEAE.

Rhizophora mucronata, Lamk., is mentioned in Jack's letters (p. 175) as a Penang plant.

Bruguiera gymnorhiza, Lamk., is mentioned in Jack's letters (p. 175) as a Penang plant.

Bruguiera caryophylloides, Blume, is described as Rhizophora caryophylloides in the Malay. Misc. 8, No. 5, p. 34, from Penang and Singapore. It is also mentioned in his letters (p. 154) as a Penang plant.

Anisophyllaea trapezoidalis, Baill., is described from Singapore, Sumatra and elsewhere under the name of Haloragis disticha in the Malay. Misc. ii. No. 7, p. 19.

COMBRETACEAE.

Lumnitza coccinea, W. & A., is described by Jack in the Malay. Misc. ii. No. 7, p. 57 as Pyrhranthus littoreus
occurring in the Malayan Peninsula and Sumatra. In his letters he writes of finding it in Penang (p. 165) and on the Silebar river, Sumatra (p. 205).

_Calycopteris floribunda_, Lamk., is mentioned as a Penang plant in his letters (p. 184).

_Quisqualis densiflora_, Wall., was described by Jack under the name of _Sphalanthus confertus_ in the Malay. Misc. ii. No. 7, p. 55, no locality being given.

### MYRTACEAE.

_Leptospermum_ sp. is the identification given of Jack’s _Glyphyria sericea_ from Pulau Pinang on the west coast of Sumatra (not the British Penang). Jack described it in Trans. Linn. Soc., xiv. p. 129. By an oversight it was included in the Flora of British India.

_Leptospermum_ sp. would be the identification of his _Glyphyria nitida_ from Gunong Bengkok, described in the same place p. 128 and in the Malay. Misc. ii. No. 7, p. 6.

_Melaleuca leucadendron_, Linn., is named by Jack in his letters (p. 160) as obtained in Penang; he uses Roxburgh’s name _M. Cajuputi_.

_Rhodamia trinervia_, Blume. It appears that Jack had obtained from Sumatra this plant and also its variety _spectabilis_. He refers to them in his letters (p. 222) and in the Malay. Misc. ii. No. 7, p. 48.

_Eugenia Jambos_, Linn., was collected by Jack in Penang; and Wallich distributed the specimens as No. 3615 of his Catalogue.

_Eugenia caryophyllata_, Thunbg., was mentioned by Jack as cultivated in Penang (letters p. 152).

_Barringtonia speciosa_, Forst., is mentioned in Jack’s letters (p. 174) as a plant of Acheen.

_Barringtonia racemosa_, Roxb., is mentioned in Jack’s letters p. 175) as a plant of Penang.

_Barringtonia macrostachya_, Kurz, was described by Jack (Malay. Misc. i. No. 1, p. 47) as _Careya macrostachya_, from Penang.

### MELASTOMACEAE.

_Melastoma malabathricum_, Linn., attracted Jack’s attention in Penang during his first days there (letters p. 152); and afterwards he paid great attention to the order to which it belongs. In describing it in the Trans. Linn. Soc. xiv. p. 4, he gives the localities as “Sumatra and the Malay islands.” Under _M. malabathricum_ he included the very closely allied _M. polyanthum_, and appears to have described the latter rather than _M. malabathricum_ under the name of “malabathricum.”

R. A. Soc., No. 73, 1916.
**Melastoma polyanthum**, Blume, appears to be the Sumatran part of Jack’s *M. malabathricum*.


**Melastoma erectum**, Jack, was described in the Trans. Linn. Soc. xiv. p. 5 from Tapanuli, Sumatra; but is doubtfully distinct from the above three.

**Melastoma saquineum**, Sims, was described by Jack in the Trans. Linn. Soc. xiv. p. 6 from Penang, under Roxburgh’s name of *M. decemfidum*.

**Medinilla alpestris**, Blume, was described by Jack from Gunong Bengkok, Sumatra, in the Trans. Linn. Soc. xiv. p. 28 under the name of *Melastoma alpestrae*. In his letters (p. 234) he mentions it.

**Medinilla rubicunda**, Blume, was described by Jack from Singapore (Trans. Linn. Soc. xiv. p. 18) as *Melastoma rubicundum*.

**Medinilla eximia**, Blume, was described by Jack from Gunong Bengkok, Sumatra (Trans. Linn. Soc. xiv. p. 17) as *Melastoma eximium*. In his letters (p. 233) he mentions it.

**Allomorpha exigua**, Blume, was described in the Trans. Linn. Soc. xiv. p. 16 from Penang as *Melastoma exiguum*.

**Sonerila erecta**, Jack, was found in Penang (letters pp. 160, 162) and described in the Malay. Misc. i. No. 5, p. 7.

**Sonerila paradoxoa**, Naud., was found by Jack in Penang (letters p. 162) and described in the Malay. Misc. i. No. 5, p. 9, as *Sonerila moluccana*, Roxb.

**Sonerila heterophylla**, Jack, was obtained at Tapanuli and at other places on the west coast of Sumatra; and it was described in the Malay. Misc. ii. No. 7, p. 16.

**Sonerila spp.** Two species are named (letters p. 186) as having been obtained by Raffles on his Menangkabau trip; but for some reason Jack did not refer to them again in his later writings, probably because they were left with Wallich (vide p. 232).

**Phyllagathis rotundifolia**, Blume, was collected by Jack in the Musi country which is behind Bencoolen and was described by him under the name of *Melastoma rotundifolium* in Trans. Linn. Soc. xiv. p. 12.

**Marumia stellulata**, Blume, was described by Jack in the Trans. Linn. Soc. xiv. p. 6 from the west coast of Sumatra under the name of *Melastoma stellulatum*.
Marumia nemoresa, was collected by Jack in Sumatra and on Pulau Nias, and was described under the name of Melastoma nemorosum in Trans. Linn. Soc. xiv. p. 8.

Dissochaeta bracteata, Blume, was described by Jack from Penang in the Trans. Linn. Soc. xiv. p. 9 as Melastoma bracteatum.

Dissochaeta pallida, Blume, was obtained first in Penang (letter p. 163) but was described after he had got it elsewhere (Trans. Linn. Soc. xiv. p. 12), under the name of Melastoma pallidum. Wallich distributed specimens under No. 4049 collected by Jack in Penang.

Dissochaeta celebica, Blume, is very probably Jack's Melastoma fallax from Sumatra (Trans. Linn. Soc. xiv. p. 13).


Anplectrum divaricatum, Triana, is Jack's Melastoma glauca from Penang (Trans. Linn. Soc. xiv. p. 14). In his letters (p. 234) he writes of it.

Pogonanthera pulverulenta, Blume, is Jack's Melastoma rubicundum and pulverulentum from Singapore and Sumatra, as well as the islands off the west coast (Trans. Linn. Soc. xiv. p. 19).


Pterandra coerulescens, Jack, was found in Penang and described in the Malay. Misc. ii. No. 7, p. 61.

Pterandra capitellata, Jack, was named and very briefly diagnosed in the addenda prefixed to Malay. Misc. ii. No. 7 (p. iii). He had found it at Moco-moco, Sumatra. In the Flora of British India ii. p. 537 it is said to have been found by Jack in Penang; but the authority for this is unknown to me. However it is a common species of Penang, which Sir George King regarded as but a variety of the last.

Kibessa simplex, Korth., appeared as Pterandra echinata in Wallich's Catalogue No. 4078, and is named in the Malay. Misc. ii. No. 7, p. iii, the locality being recorded as Kataun. Griffith on p. 310 of the Calcutta Journal of Natural History, iv. says Kataun in Malacca; but it is without doubt Pasar Katahun, a days journey northward up the coast from Bencoolen.

Memecylon caeruleum, Jack, was found in Penang (letters p. 184) and described in the Malay. Misc. i. No. 5, p. 26.

Memecylon paniculatum, Jack, was described from the island of Pulau Bintangor and the Sumatran coast at Tapanuli in the Malay. Misc. ii. No. 7, p. 62.
LYTHRACEAE.


_Lagerstroemia floribunda_, Jack, was described from Penang in the Malay. Misc. i. No. 5, p. 38.

BEGONIACEAE.


_Begonia bracteata_, Jack, described from the foot of Gunong Bengkok in the Malay. Misc. ii. No. 7, p. 13. In his letters (p. 234) he names Bongonias as found on this trip.


_Begonia isoptera_, Dryand., was described by Jack from Sumatra under the name of _Begonia geniculata_ (Malay. Misc. ii. No. 7, p. 15.


_Begonia pilosa_, Jack, was described from the country behind Bencoolen in the Malay. Misc. ii. No. 7, p. 13.

_Begonia racemosa_, Jack, was described from Bencoolen in the Malay. Misc. ii. No. 7, p. 14.

_Begonia sublobata_, Jack, was described from Pulau Penang, West Sumatra, in the Malay. Misc. ii. No. 7, p. 16.

UMBELLIFERAE.

_Hydrocotyle asiatica_, Linn., was sent by Jack to Wallich from Penang and appears under No. 566 on Wallich’s Catalogue.

ARALIACEAE.

Jack in his letters (p. 236) mentions Araliaceae from Sumatra.

RUBIACEAE.

_Uncaria Gambier_, Roxb., is mentioned by Jack as freely cultivated in Singapore, but not seen in Penang (letters p. 178).

_Uncara lanosa_, Wall., may well be the Penang plant mentioned in Jack’s letters (p. 196).

_Greenia Jackii_ W. & A., is the _Rondoletia corymbosa_, described by Jack in the Malay. Misc. i. No. 1, p. 4 from Penang.

_Ophi rrhiza heterophylla_, Jack, was described in the Malay Misc. ii (1822), No. 7, p. 85, from the neighbourhood of Bencoolen.
Argostemma humile, Benn., was obtained by Jack in Penang and sent to Wallich. Wallich described the plant in Bennett’s Plantae Javanicae Rariores p. 94, and distributed Jack’s specimens under his number 8391.

Mussaenda glabra, Vahl, is probably the Penang plant which Jack calls M. frondosa (letters p. 155).

Lucinacea Morinda, DC., is Jack’s Morinda polysperma (Malay. Misc. i. No. 5, p. 14) from Singapore. He mentions it in his letters (p. 194).


Urophyllum glabrum, Wall., is a name which Wallich gave to a plant described in MS. by Jack for him, Jack had proposed to call it Patisna glabra or Wallichia glabra (letters pp. 196 and 218), and Wallich published the description in Carey’s and his revision of Roxburgh’s Flora Indica, ii. p. 186 altering the generic name. Urophyllum glabrum was obtained by Jack in Penang, and found again later at Tapanuli, Sumatra.

Urophyllum villosum, Wall., was found by Jack in Penang and described along with the last. It is mentioned incidentally in Jack’s letters (p. 196).

Lecananthus erubescens, Jack, was described in the Malay. Misc. ii. No. 7, p. 83 from the country behind Ben-coolen.

Randia anisophylla, Hook. f., was described by Jack in Carey and Wallich’s revision of Roxburgh’s Flora Indica ii. p. 461 from Penang as Gardenia anisophylla. In Wallich’s Catalogue it appears as Gardenia? anisophylla No. 8399. It is a common tree in Penang. It is mentioned in his letters (p. 220).

Scyphyphora hydrophyllacea, Gaertn., was referred to in one of Jack’s letters (p. 219) as found in Singapore; and in the Malay. Misc. i. No. 5, p. 12 he described it as Epithinia malayana.

Guettarda speciosa, Linn., is mentioned in Jack’s letters (p. 175) as a Penang plant.

Ixora pendula, Jack, was described in the Malay. Misc. i. No. 5, p. 11 from Penang; and it is probably one of the species referred to in his letters (p. 171). See also p. 228.

Ixora nerifolia, Jack, was described in the Malay. Misc. ii. No. 7, p. 82 from the west coast of Sumatra. It is mentioned in his letters (p. 228).
Morinda umbellata, Linn., Jack found in Penang (p. 153), and not understanding the sexual differences in the flowers, he described the form with exerted anthers under the name of M. tetrandra in Malay. Misc. i. No. 5, p. 13. He refers to the plant again in his letters at pp. 163 and 193.

Psychotria malayana, Jack was described from Penang in the Malay. Misc. i. No. 1, p. 3. Jack's specimens were later distributed by Wallich as P. aurantiaca, Catalogue No. 8355.

Psychotria viridiflora, Reinw. (Psychotria Jackii, Hook. f., in the Flora of British India iii. p. 167), is Jack's plant from Penang distributed by Wallich under his Catalogue number 8343.

Psychotria stipulacea, Wall., in Carey's and Wallich's revision of Roxburgh's Flora Indica ii. p. 164, is founded on specimens obtained by Jack in Penang, which were distributed by Wallich under his Catalogue number 8329.

Lasianthus attenuatus, Jack, is a plant found in the country at the back of Bencoolen, and described in the Trans. Linn. Soc., xiv. p. 126.

Lasianthus cyanocarpus, Jack, is a plant found at Tapanuli, Sumatra, and described in the Trans. Linn. Soc., xiv. p. 125.

Psilobium nutans, Jack described in the Malay. Misc. ii. No. 7, p. 85, was found in the country behind Bencoolen.

Psilobium tomentosum, Jack, was diagnosed in the sheets affixed to the Malay. Misc. ii. No. 7, p. iii, and said to have come from Kataun, north of Bencoolen.

Hydnophytum formicarum, Jack, was found in Sumatra and described in the Trans. Linn. Soc. xiv. p. 124.

Myrmecodia tuberosa, Jack, was found on Pulau Nias and described in the Trans. Linn. Soc. xiv. p. 123. It is referred to in Jack's letters (p. 231).

COMPOSITAE.

Sphaeranthus africanus, Linn., was collected by Jack in Penang and found its way into Wallich's Catalogue as No. 3179.

GOODENOVIACEAE.

Scaevola Koenigii, Vahl is named as a Penang plant in Jack's letters (p. 175).

CAMPANULACEAE.

Lobelia sp. is mentioned in Jack's letters (p. 156), as having been found on Gunong Bengkok.

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Pentaphragma begoniaefolium, Wall., was obtained by Jack in Penang, and described in the Malay. Misc. i. No. 1, p. 5 as Phyteuma begoniaefolium. It is mentioned in his letters (p. 165).

VACCINIACEAE.

Vaccinium sumatranum, Jack, described in the Malay. Misc. ii. No. 7, p. 18 was obtained from the summit of Gunong Bengkok. It is mentioned in his letters (p. 234).

ERICACEAE.

Rhododendron malayanum, Jack was described in the Malay. Misc. ii. No. 7, p. 17, from the summit of Gunong Bengkok and is mentioned in his letters (p. 234).

EPACRIDACEAE.

Leucopogon malayanus, Jack, was described in the Malay. Misc. i. No. 5, p. 26, from Singapore; and it is mentioned under the name of Styphelia in his letters (pp. 218 and 219).

MYRSINACEAE.

Embelia canescens, Jack, was described in Carey’s and Wallich’s revision of Roxburgh’s Flora Indica ii. p. 292 from Penang and the specimens became No. 2311 of Wallich’s Catalogue.

Ardisia divergens, Roxb., is mentioned as a Penang plant in Jack’s letters (196) and is the A. punctata of Jack in Carey and Wallich’s revision of Roxburgh’s Flora Indica ii. p. 275.

Ardisia javanica, A.DC., (A. humilis, Vahl) is mentioned in Jack’s letters as a Penang plant (p. 175) under the name of Ardisia umbellata of Roxb., and on p. 178 as a Singapore plant.

Aegiceras majus, Gaertn., is mentioned as a Penang plant in Jack’s letters (p. 190).

SAPOTACEAE.

Sideroxylon sp. Jack informed Wallich (letters p. 222) that he had found the Australian Sersalisia obovata on the west coast of Sumatra; but this must have been a mistake, some Malayan Sideroxylon deceiving him.

Mimusops sp. Under the name of M. Kauki, Jack recorded the finding of a Mimusops in Penang (letters p. 153).

STYRACEAE.

Styrax Benzoin, Dryand., the source of Gum Benjamin, is mentioned in Jack’s letters (p. 198) as a plant of the country behind Tapanuli, Sumatra.
Styrax serrulatum, Roxb., was collected in Penang by Jack whose specimens were distributed under No. 4401 of Wallich’s Catalogue with the name S. Porterianum.

Oleaceae.

Schrebera swietenioides, Roxb., is mentioned as thought to be a plant of Mansilar, towards Tapanuli, Sumatra, in Jack’s letters (p. 198).

Linoeira purpurea, Vahl., is the L. odorata which Jack described in the Malay. Misc. ii. No. 7, p. 96 from Natal and Pulau Mosella.

Apoecynaceae.

Leuconotis anceps, Jack, was described in the Trans. Linn. Soc. xiv. p. 121 from Sumatra.

Rauwolfa sumatrana, Jack, was described in the Malay. Misc. i. No. 5, p. 22 from Bencoolen, and finds a passing mention in his letters (p. 218).

Tabernaemontana macrocarpa, Jack, was described in the Malay. Misc. ii. No. 7, p. 80, from the country behind Bencoolen.

Wrightia dubia, Spring., was found by Jack in Penang (letters 195) and apparently again at Bencoolen (letters p. 218). Wallich distributed Jack’s specimens from Penang under the number 1643 of his Catalogue and with the name Strophanthus Jackianus.

Marsdenia volubilis, T. Cooke (Dregea volubilis, Benth.), is mentioned in Jack’s letters (p. 222) as a Sumatran plant under the name of Hoya viridiflora, R. Br.

Hoya spp. Two Sumatran species of “Hoya” are mentioned in Jack’s letters (pp. 222 and 225) as Hoya grandiflora and Hoya gracilis. It cannot be that the first named is Tylophora grandiflora R. Br., for Jack’s description does not fit that Australian plant, although Jack seems to have thought that it did.

Loganiaceae.

Fagraea auriculata, Jack, considerably interested Jack on account of the great size of its flowers; he described it in Malay. Misc. ii. No. 7, p. 82, from Singapore and Tapanuli, Sumatra; and in his letters he mentioned it several times, firstly (p. 178) its discovery, then the despatch of notes on it to Wallich (p. 215) and lastly (p. 226) its occurrence at Tapanuli.

Fagraea carnosa, Jack, was described in the Malaya. Misc. ii. No. 7, p. 81, from Bencoolen.
Fagraea fragrans, Roxb., was found in an old garden at Penang, and on the Kedah shore (letters pp. 178 and 215).

Fagraea obovata, Wall., was found at Singapore (letters p. 195).

Fagraea racemosa, Jack, must have been found on the Sumatran coast (letters p. 215) already when he got it on Pulau Nias (letters p. 226). It was described in Carey’s and Wallich’s revision of Roxburgh’s Flora Indica, ii. p. 35. As Jack states in the Malay, Misc. ii. No. 7, that his total of species of Fagraea was five, the other references to the genus in his letters must refer to some of the above.

CONVOLVULACEAE.

Neuropeltis racemosa, Wall., is mentioned as a Penang plant in Jack’s letters (pp. 166 and 216).

BORAGINACEAE.

Cordia subcordata, Lamk., is mentioned as a Singapore plant in Jack’s letters (p. 179).

SOLANACEAE.

Datura arborea, Linn., a South American plant is mentioned in Jack’s letters as at Bencoolen, where doubtless it was in cultivation (letters p. 217).

GESNERACEAE.

Aeschynanthus grandiflora, Spreng. Jack (letters p. 228) says that he obtained Incarvillea parasitica, Roxb. at Bencoolen; but in his published writings he does not refer to it; and consequently it may be assumed that he had realised some difference between his plant and Roxburgh’s.

Aeschynanthus volubilis, Jack, was described as a plant of Bencoolen in the Trans. Linn. Soc. xiv. p. 42. Perhaps it is the plant mentioned in his letters (p. 237).

Aeschynanthus radicans, Jack, was described as a plant found in the interior of Sumatra, Trans. Linn. Soc. xiv. p. 43.

Didymocarpus reptans, Jack, was described from Penang in the Malay. Misc. i. No. 5, p. 3, and in Trans. Linn. Soc. xiv. p. 35. It may be the plant referred to in letters (p. 162). In the Trans. Linn. Soc. xiv. p. 35 the locality given, is “with the proceeding,” which is D. racemosa from Tapanuli; but this Tapanuli plant is an intercalation, and the “proceeding” intended is D. crinita, which is a Penang plant.

R. A. Soc., No. 73, 1916.
Didymocarpus crinita, Jack, was described from Penang in Malay. Misc. i. No. 5, p. 4, and in Trans. Linn. Soc. xiv. p. 33.

Didymocarpus racemosa, Jack, was described from Tapanuli in the Trans. Linn. Soc. xiv. p. 34. It is mentioned in his letters (p. 228).

Didymocarpus corniculata, Jack, was described from Tapanuli, Sumatra, in the Malay. Misc. i. No. 5, p. 5 and the Trans. Linn. Soc. xiv. p. 36. It is mentioned in his letters (p. 199).

Chirita Horsfieldii, R. Br., was described by Jack from Sumatra in the Trans. Linn. Soc. xiv. p. 38 as Didymocarpus barbata. It is mentioned in his letters (p. 228) in such a way as to show that he got it about the time of his visit to Pulau Nias and probably he had found it at more than one of the Sumatran ports at which he touched on his journey thither.

Didissandra frutescens, C. B. Clarke, was described from Penang in the Malay. Misc. i. No. 5, p. 5 and the Trans. Linn. Soc. xiv. p. 39 as Didymocarpus frutescens. He mentions it in his letters (p. 199) but only in reference to a drawing which he wished to publish.

Didissandra elongata, C. B. Clarke, was described as Didymocarpus elongata in the Trans. Linn. Soc. xiv. p. 37 from Pulau Bintanhor off the west coast of Sumatra. He mentions it in his letters (pp. 221 and 228).

Loxonia acuminata, R. Br., is the Loxonia hirsuta of Jack described in the Trans. Linn. Soc. xiv. p. 41 as well as the L. discolor of the same publication p. 40, both from the interior of Bencoolen.

Cyrtandra aurea, Jack, was described from Gunong Bengkok in the Trans. Linn. Soc. xiv. p. 29.

Cyrtandra frutescens, Jack, was described from Malaya without nearer locality in the Trans. Linn. Soc. xiv. p. 31.

Cyrtandra rubiginosa, Jack, was described from Malaya without nearer locality in the Trans. Linn. Soc. xiv. p. 32.

Cyrtandra bicolor, Jack, was described from Sumatra in the Trans. Linn. Soc. xiv. p. 27.

Cyrtandra incompta, Jack, was described from Sumatra in the Trans. Linn. Soc. xiv. p. 29.

Cyrtandra maculata, Jack, was described from Sumatra in the Trans Linn. Soc. xiv. p. 26.

Cyrtandra peltata, Jack, was described from Sumatra in Trans. Linn. Soc. xiv. p. 36.

Cyrtandra carnosa, Jack, was described in the Trans. Linn. Soc. xiv. p. 30, without indication of its locality.
**Cyrtandra hirsuta**, Jack, was described from Sumatra in Trans. Linn. Soc. xiv. p. 27.

**Cyrtandra glabra**, Jack, was described from Bencoolen in Trans. Linn. Soc. xiv. p. 28.

**Cyrtandra macrophylla**, Jack, was described from the interior of Sumatra in Trans. Linn. Soc. xiv. p. 25.

**ACANTHACEAE.**

**Acanthus ilicifolius**, Linn. is mentioned as a Penang plant in Jack's letters (p. 155).

**Acanthus ebracteatus**, Vahl, is mentioned along with the last as a Penang plant (letters p. 155).

**VERBENACEAE.**

**Callicarpa longifolia**, Lamk., was distributed by Wallích under No. 1835 of his Catalogue as from Jack collected in Acheen.

**Callicarpa arborea**, Roxb., is mentioned by Jack in his letters (p. 225) as a plant found on Pulan Nias.

**Gmelina villosa**, Roxb., was described by Jack as a Sumatran plant in Malay. Misc. i. No. 1, p. 18.

**Gmelina** sp. is mentioned in Jack's letters as a plant of Acheen (p. 174).

**Vitex pubescens**, Vahl (V. arborea, Roxb.), was described by Jack as a Sumatran plant in Malay. Misc. i. No. 1, p. 18.

**Clerodendron penduliflorum**, Wall., is the plant of Penang and Acheen which Jack in the Malay. Misc. i. No. 1, p. 17, called C. nutans. It is mentioned in his letters (pp. 163, 165, and 174).

**Clerodendron villosum**, Blume, was described by Jack from Penang and Sumatra as C. molle, in Malay. Misc. i. No. 1, p. 15.

**Clerodendron nerifolium**, Wall., is mentioned in Jack's letters (p. 190) as a plant of Penang.

**Clerodendron serratum**, Spreng., was described in the Malay. Misc. i. No. 5, p. 48, as C. divaricatum, a plant obtained at Laye and elsewhere in western Sumatra.

**Clerodendron paniculatum**, Linn., was described by Jack as C. pyramidalé, a plant of Acheen and elsewhere in Sumatra, (Malay. Misc. i. No. 1, p. 16).

**Peronema canescens**, Jack, was described in Malay. Misc. ii. No. 7, p. 46 from Sumatra.

**Sphenodesme pentandra**, Jack was described from Penang in Malay. Misc. i. No. 1, p. 19; and it seems that this is the plant referred to in one of Jack's letters (p. 184). On
Jack’s specimens Wallich founded *Congea Jackiana*, a name to be found in his Catalogue No. 1735.

*Avicennia* sp. An *Avicennia* is mentioned under the name of *A. resinifera*, in Jack’s letters (p. 229) as occurring at Bencoolen; and mentioned again under his description of *Pyranthus*.

**LABIATAE.**

*Ocimum Basilicum*, Linn., was recorded as collected by Jack at Penang in Wallich’s Plantae Asiaticae Rariores ii. p. 13, and occurs in Wallich’s Catalogue as No. 2713. Sir David Prain’s remarks (Journ. Asiatic Soc. Bengal, lxxiv. p. 702) may be referred to as showing that Wallich’s 2713, is something unusual.

**NEPENTHACEAE.**

*Nepenthes ampullaria*, Jack, was brought to Jack from Singapore by Raffles (letters p. 163), and then was found by Jack himself in the same place (letters p. 178) and also at Rhio. Jack put a description into print but did not publish it: it would have formed part of his third paper in the Malay and Miscellanies, had he not withdrawn it. Sir William Hooker in 1835 reprinted and published this description in the Companion to the Botanical Magazine, i. p. 271.

*Nepenthes Rafflesiana*, Jack, was likewise collected in Singapore first by Raffles (letters p. 163), and then again by Jack (letters p. 178). Jack’s description was similarly put into print but withdrawn from his third paper in the Malay Miscellanies; and similarly also published by Sir William Hooker in 1835 in the Companion to the Botanical Magazine, i. p. 270.

*Nepenthes phyllamphora*, Willd., was obtained by Jack, in Bencoolen, and other parts of western Sumatra; he mentions finding it at Bencoolen in his letters (p. 186). He described it in print for the third paper of his Descriptions of Malay Plant and the reprinting and publishing were done in 1835 by Sir William Hooker in the Companion to the Botanical Magazine i. p. 271.

*Nepenthes gracilis*, Korth. is assuredly the *N. distillatoria* of Jack, described very briefly along with the last from Singapore and Malacca. It is possible that Raffles first got it in Singapore (letters p. 163). Macfarlane, in Das Pflanzenreich, iv. No. 111, p. 59, quotes a specimen collected by Jack.

**CYTINACEAE.**

*Rafflesia Arnoldi*, R. Br., was found first by Raffles and Arnold, before Jack joined the service at Bencoolen. Jack, later found it to be by no means rare in the country behind

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(letters pp. 203, 204, 208 and 209). He drew up a very care-
ful description of it under the name of *Rafflesia Titan*, and put
it into print along with other material for the third of his Des-
criptions of Malayan Plants, but withdrew it as Robert Brown
had prepared a description under the name of *Rafflesia Arnoldi*.
Jack's description was published by Sir William
Hooker in the companion to the Botanical Magazine in 1835,
vol. i.

**ARISTOLOCHIACEAE.**

* Aristolochia hastata, Jack, was described from Natal,

**MYRISTICACEAE.**

* Myristica fragrans, Houtt., the nutmeg, is mentioned
  in Jack's letters, both its cultivation in Penang (p. 152)
  and in Bencoolen (p. 183).

* Knema glaucescens, Jack, was described in the Malay.
  Misc. ii. No. 7, p. 35.

**LAURACEAE.**

* Dehaasia microcarpa, Blume, probably is the *Laurus*
  inerussata mentioned in Jack's letters (p. 230) and described
  in the Malay. Misc. ii. No. 7, p. 33, as from Natal, Sumatra.
  The reduction depends on Wallich's authority in his Catalogue
  under No. 2589.

* Dehaasia sp.? Another "Laurus" is mentioned by Jack
  as a Bencoolen plant under his description of the last.

* Cinnamomum Parthenoxylon, Meissn., was described
  by Jack under the name of *Laurus Parthenoxylon* in Malay.
  Misc. i. No. 5, p. 28, from Sumatra, and is mentioned in his
  letters (p. 203).

* Tetracera arborescens, Jack, was described from Tapan-
  nuli, Sumatra, in the Malay. Misc. i. No. 5, p. 45.

* Litsea cordata, Hook. f. was described by Jack from
  Sumatra under the name of *Tetrathera cordata* in the Malay.
  Misc. ii. No. 7, p. 34.

**PROTEACEAE.**

* Helicia attenuata, Blume, was described as *Rhopala*
  attenuata in the Malay. Misc. i. No. 5, p. 10 from Penang and
  the specimens were distributed as No. 1040 of Wallich's
  Catalogue.

* Helicia petiolaris, Benn., was described in the Malay.
  Misc. i. No. 5, p. 10 as *Rhopala moluccana*, and the specimens
  were distributed as No. 1041 of Wallich's Catalogue.
Helicia serrata, Blume, (Rhopala serrata, R. Br.) is thought to have been the plant collected by Raffles on his journey to Menangkabau, which is mentioned in Jack’s letters (p. 185).

Helicia ovata, Benn., was described by Jack in the Malay. Misc. ii. No. 7, p. 95 as Rhopala ovata from Tapanuli, Sumatra.

Helicia spp. Jack in his letters (p. 226) mentions the finding of two species of Rhopala on Pulau Nias.

THYMELEACEAE.

Phaleria capitata, Jack, was described in the Malay. Misc. ii. No. 7, p. 59 from Sumatra.

LORANTHACEAE.

Loranthus ferrugineus, Roxb., was found by Jack in Penang (letters p. 153), and again in Sumatra (letters p. 235). He described it in Malay. Misc. i. No. 1, p. 9 from Sumatra, and also for Wallich (vide Carey’s and Wallich’s revision of Roxburgh’s Flora Indica, ii. p. 267).

Loranthus retusus, Jack (Elytranthe retusa, G. Don.) was described in Carey’s and Wallich’s revision of Roxburgh’s Flora Indica, ii. p. 212, from Singapore.

Loranthus cocineus, Jack, was found in Singapore, (letters p. 179) and described in the Malay. Misc. i. No. 1, p. 8.

Loranthus cylindricus, Jack, was described in Carey’s and Wallich’s revision of Roxburgh’s Flora Indica ii. p. 213, from Sumatra. It is mentioned in the letters (p. 235).

Loranthus patulus, Jack, was described along with the last (p. 214), and appears to be mentioned in his letters (p. 235).

Loranthus incarnatus, Jack, was described from Pulau Nias along with the last two (p. 213).

EUPHORBIACEAE.

Cyclostemon longifolius, Blume, is mentioned as a Penang plant in Jack’s letters (p. 166).

Antidesma frutescens, Jack, was described from Bencoolen in the Malay. Misc. ii. No. 7, p. 91.

Baccaurea bracteata, Muell.-Arg., is the Pierardia dulcis described by Jack in the Trans. Linn. Soc. xiv. p. 120 from Sumatra.

Baccaurea Motleyana, Muell.-Arg., the Rambai, is mentioned in Jack’s letters as a Penang plant (p. 158).

Jour. Straits Branch

Galeraia Jackiana, R. Br., was obtained by Jack in Penang, and distributed by Wallich as No. 8585 of his Catalogue, under the name of Limonia leptostachya, Jack.

Aleurites triloba, Forst., is mentioned in Jack's letters (p. 159) as a Penang plant.

Trigonostemon indicus, Muell.-Arg., was described by Jack under the name of Enchidium verticillatum in the Malay. Misc. ii. No. 7, p. 89 from Sumatra, and is mentioned at p. 230 of the letters.

Mallotus albus, Muell.-Arg. (Rottlera alba, Roxb.) was described as a plant of Penang and Singapore in Malay. Misc. i. No. 1, p. 26.

URTICACEAE.

Conocephalus suaveolens, Blume, appears to be a plant mentioned in Jack's letters (p. 196) without locality—the natural inference of the reference is that he had collected it.

Ficus diversifolia, Blume, was described by Jack in Malay. Misc. ii. No. 7, p. 71 as F. ovoides from Singapore and from Sumatra, and also as F. deltoidea from Sumatra.

Ficus rigida, Jack, was described in the Malay. Misc. ii. No. 7, p. 72 from Sumatra.

MYRICACEAE.

Myrica aesculenta, Buch.-Ham., is mentioned in Jack's letters (p. 196). It is a very widely distributed plant and doubtless had been obtained in Malaya by him.

CUPULIFERAE.

Pasania spicata, Oerst. (Quercus spicata, Smith), was described by Jack in the Malay. Misc. ii. No. 7, p. 86, as Q. racemosa, from Sumatra; and it is mentioned in his letters (p. 188) in a way which shows that he had got it at Bencoolen.

Quercus urceolaris, Jack, was described in the Malay. Misc. ii. No. 7, p. 87, from Sumatra.

CONIFERAE.

Dacrydium elatum, Wall., was found by Jack in Penang. It is referred to in his letters, pp. 153, 174, 177, and 179. He sent it alive to Wallich.

Podocarpus nerifolia, D. Don, was found by Jack in Singapore and is referred to in his letters (pp. 193 and 196).

Podocarpus imbricatus, Blume, was found by Jack in Penang and is referred to in his letters (p. 174).
Agathis loranthifolia, Salisb. was found by Jack in Penang, and is mentioned in his letters (p. 177).

HYDROCHARIDACEAE.

Enhalus Koenigii, Rich., was found by Jack near Bencoolen and is mentioned in his letters (p. 193).

ORCHIDACEAE.

Aerides suavissima, Lindl., may have been the plant of Penang referred to in Jack's letters (p. 174).

Anoectochilus sp.? is mentioned as a Singapore plant in Jack's letters (p. 164).

SCITAMINEAE.

Globba ciliata, Jack, was described as common in Sumatra (Malay, Misc. ii. No. 7, p. 5).

Hedychium sumatranum, Jack, was described from Salumah, west Sumatra, in the Malay. Misc. ii. No. 7, p. 1.

Amomum biflorum, Jack, was described from Penang in Malay. Misc. i. No. 1, p. 2.

Hornstedtia megalocheilos, Ridl., is probably the Penang plant to which Jack refers in his letters (p. 160) as an Amomum.

Zingiber gracile, Jack, was described from Penang in the Malay. Misc. i. No. 1, p. 1.

Alpinia capitellata, Jack, was described in the Malay. Misc. ii. No. 7, p. 4, from the interior behind Bencoolen. His letters (p. 234) show that he got it on his journey to Gunong Bengkok.

Alpinia elatior, Jack, was described from Pulau Nias and Ayer Bangi on the west coast of Sumatra, in the Malay. Misc. ii. No. 7, p. 2. He mentions it in his letters (p. 225).

Alpinia assimilis, K. Schum., may perhaps be the plant of Penang called by Jack in his letters (p. 160) A. mutica.

Alpinia sp. Jack mentions a Hellenia as occurring at Bencoolen (letters p. 184).

BROMELIACEAE.

Ananas sativa, Schultes f., var. variegata, was found by Jack to exist in Penang (letters p. 152) and it is still freely cultivated there.

AMARYLLIDACEAE.

Curculigo latifolia, Dryand., was described by Jack from Penang and Sumatra under Roxburgh's name of C. sumatrana, in the Malay. Misc. i. No. 1, p. 7, and it is mentioned as a
Penang plant in his letters (p. 165) as well as being beyond doubt the species with hirsute leaves found in Singapore.

_Curculigo_ sp. Three species are mentioned in Jack’s letters (p. 235) as having been found by him, but he give no value.

_Pancratium amboinense_, Jack (letters p. 174) cannot be precisely identified.

**TACCACEAE.**

_Tacca cristata_, Jack, was found in Penang and is mentioned in his letters as _Tacca Rafflesia_ (pp. 161, 165, and 174); and later it was got in Singapore (letters p. 178). He changed the name before publishing his description so that it appears in the Malay. Misc. i. No. 3, p. 3 as _Tacca cristata_.

_Tacca_ sp. Jack mentions in his letters (p. 228) the obtaining of another species in Sumatra.

**DIOSCOREACEAE.**

_Dioscorea pyrifolia_, Kunth, was got by Jack in Singapore and distributed by Wallich as _D. glabra_, No. 5105 of his Catalogue.

**LILIACEAE.**

_Dracaena Jackiana_, Wall., was collected by Jack in Penang and distributed by Wallich as No. 5145 of his Catalogue.

_Cordyline terminalis_, Kunth, was collected by Jack in Penang, and was distributed by Wallich as No. 5140 of his Catalogue.

**XYRIDACEAE.**

_Xyris indica_, Linn., is mentioned as a Singapore plant by Jack (letters p. 178); but as _X. indica_ is not known to occur in Singapore whereas the very similar _X. anceps_, Lamk., does, it seems probably that Jack had the latter.

**FLAGELLARIACEAE.**

_Susum anhelminicum_, Blume, was described by Jack under the name of _Veratum? malayanum_ in Malay. Misc. i. No. 5, p. 25. He had got in Penang.

**COMMELYNACEAE.**

_Tradescantia_ spp. Jack in his letters (p. 235) says that he had obtained three species.

_Floscoa scandens_, Lour., was collected by Jack in Penang and distributed by Wallich under his Catalogue number 5204.
PALMAE.

*Corypha* sp.? may perhaps be the Penang palm mentioned in his letters (p. 163).

*Oncosperma filamentosum*, Blume, was described by Jack under the name of *Areca tigillaria* from Sumatra and the Malay islands in Malay. Misc. ii. No. 7, p. 88.

*Metroxylon Sagu*, Roth, the sago palm, interested Jack, and the description which he gave had furnished the basis for most of those of subsequent authors. Jack first found the sago palm in Penang (letters p. 166) and subsequently examined it in detail at Bencoolen (letters pp. 190 and 193). He records as localities for the tree: "Siak and the Fagi islands." His description was prepared for the Malayan Miscellanies, put into proof, but only published by Sir William Hooker in his Companion to the Botanical Magazine vol. i. (1835) p. 256.

ARACEAE.

*Aglaonema marantifolium*, Blume, was described in the Malay. Misc. i. No. 1, p. 24, from Penang under the name of *Calla nitida*. It is mentioned in Jack's letters (p. 174).

*Homalonema angustifolium*, Hook. f., was described by Jack from Penang in the Malay. Misc. i. No. 1, p. 24 under the name of *Calla angustifolia*. It was mentioned in his letters (p. 174).

*Homalonema humile*, Hook. f., was described from Penang in the Malay. Misc. i. No. 1, p. 22 under the name of *Calla humilis*. Jack in his letters (p. 174) perhaps refers to it.

*Arum* sp. Jack obtained in Penang an Aroid (letters p. 174) which he refers to the genus *Arum*, not then split up as now.

*Lasia aculeata*, Lour., is almost certainly the plant of Penang which Jack calls in his letters (p. 154) *Pothos pinnatifida*.

**Very imperfectly known.**


Preliminary Diagnoses of some New Species and Subspecies of Mammals and Birds Obtained in Korinchi, West Sumatra, Feb.—June 1914

BY HERBERT C. ROBINSON, C.M.Z.S., M.B.O.U.
and
C. BODEN KLOSS, F.Z.S., M.B.O.U.

The following brief diagnoses, which are merely sufficient to establish the species and subspecies, are published in advance of the detailed report on our expedition to Korinchi Peak to be issued by this society, which may possibly be somewhat delayed. In it will be found the narrative of the expedition, detailed descriptions of all new forms and a complete account of the zoological and botanical results.

MAMMALS.

ERINACEIDAE.

_Hylomys parvus_, sp. nov. _Type_:—Adult female (skin and skull), Federated Malay States Museums No. 576/14, collected on Korinchi Peak, 10,000', West Sumatra, on 9th May 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Like _H. suillus_ but smaller, though with tail actually longer and bicolored; fur longer and less harsh and the grey of the underparts rather more pronounced. Skull more lightly built, teeth strikingly smaller.

Measurements:—Head and body, [105 av.]: tail, 25; hindfoot, 23.5 mm. Skull: greatest length, 31.2; basal length, 27.8; palatal length, 17.0; upper tooth row, 15.8; _pm^1-m^3_, 6.9; breadth of palate behind canine, 4.4; zygomatic breadth, 15.6; length of mandible, 22.4 mm.

Specimens examined:—Twenty.

SCIURIDAE.

_Sciurus tenuis altitudinis_, subsp. nov. _Type_:—Adult male (skin and skull), Federated Malay States Museums No. 471/14, collected at Sungei Kring, Korinchi Peak, 7,300'.


Jour. Straits Branch R. A. Soc., No. 73, 1916.
West Sumatra, on 28th April 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—A form of *Sc. tenuis* about the size of *Sc. t. gunong*² from the mountains of the Siamese Malay States but with much longer fur and longer and narrower nasals.

Measurements:—Head and body, 150; tail, 115; hindfoot, 36 mm. (taken in the flesh). Skull: greatest length, 40.8; condylo-basilar length, 33.2; palatilar length, 15.3; diastema, 9.1; upper molar row inclusive of *pm₃*, 7.4; median nasal length, 12.3; interorbital breadth, 12.9; zygomatic breadth, 23.5 mm.

Specimens examined:—Thirteen.

*Sciurus vanakeni*, sp. nov. Type:—Adult male (skin and skull), Federated Malay States Museums No. 650/14, collected at Barong Bharu, West side Barisan Range, Korinch, 4,000', West Sumatra, on 4th June 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—A small dark-backed member of the *Sc. lowi*³ group. with the pale colour of the under-surface reduced in extent and indistinctly margined. Skull and teeth smaller than the Bornean and allied Malay Peninsula forms.

Measurements:—Head and body, 122; tail, 57 (imperfect) normally 80-90; hind foot, 30 mm. (measured in flesh). Skull: greatest length, 34.0; condylo-basilar length, 28.1; palatilar length, 14.0; diastema, 7.8; upper molar row including *pm₃*, 5.7; median length nasals, 9.7; interorbital breadth, 10.5; zygomatic breadth, 19.2 mm.

Specimens examined:—Thirteen.

**MURIDAE.**

*Oromys*, gen. nov.

External form as in *Epimys*, tail not shorter than head and body. Fur dense and long, interspersed with longer very slender spines. Hindfoot with fifth toe reaching beyond the middle of the basal phalanx of the fourth; six distinct elevated plantar pads. Seven palatal ridges, the last four divided mesially.

Skull slender, narrow and tapering; zygomatic much compressed anteriorly; no masseteric knob present at the base as in *Mus*; lateral profile of rostrum straight; posterior terminations of premaxillae very oblique; interorbital breadth great; no supraorbital or parietal ridges; interparietal transversely long and narrow, front and back edges almost parallel.


FROM KORINCHI, W. SUMATRA.

Palatal foramina long and narrow; interpterygoid space narrow, with almost parallel sides, not wider anteriorly. Bullae moderately dilated (as in the *Epimys whiteheadi* group). Ascending ramus of mandible very low, coronal process much reduced.

Bevelled edge of incisors notched and proportions of molars as in *Mus*, but the structure more nearly as in *Epimys*, though the transverse laminae are slightly more curved and the anterior cusp of the first lower molar situated more on the inner side of the tooth. Combined length of the second and third upper molars about three-fourths that of the first. Upper incisors scarcely curved, lower very long and slender.

*Type*:—*Oromys crociduroides*, sp. nov.

**Oromys crociduroides**, sp. nov. *Type*:—Adult female (skin and skull), Federated Malay States Museums, No. 571/14, collected on Korinchi Peak, 10,000', West Sumatra, on the 8th April 1914, by H. C. Robinson and C. Boden Kloss.

*Characters*:—A small, thickly-furred, dark-coloured rat, belly slightly paler than, and not sharply differentiated from, the sides. Tail longer than head and body.

*Measurements*:—Head and body, 103; tail, 133; hindfoot, 22 mm. (measured in flesh). Skull: greatest length, 27.7; condylo-basilar length, 25.7; diastema, 9.8; upper molar row, 4.1; length of palatal foramina, 5.0; median nasal length 11.7; breadth of nasals, 2.7; zygomatic breadth, 12.9 mm.

*Specimens examined*:—Thirty-five.

**Epimys setiger**, sp. nov. *Type*:—Adult female (skin and skull) Federated Malay States Museums, No. 626/14, collected at Baron Bharu, West side Barisan Range, Korinchi, 4,000', West Sumatra, on 11th June 1914, by H. C. Robinson and C. Boden Kloss.

*Characters*:—Like *E. ciliata* (Bonhote) but with underparts chalk-white instead of ivory-white; tail and feet longer. Skull with shorter nasals, larger teeth and longer palatal foramina.

*Measurements*:—Head and body, 290; tail, 352; hindfoot, 56 mm. (measured in flesh). Skull: greatest length, 60.6; condylo-basilar length, 52.0; diastema, 15.9; upper molar row, 11.3; length of palatal foramina, 9.7; median length of nasals, 22.0; breadth of nasals, 7.0; zygomatic breadth, 26.8 mm.

*Specimens examined*:—Two.


R. A. Soc., No. 73, 1914.
Epimys ululans, sp. nov. Type:—Adult male (skin and skull), Federated Malay States Museums, No. 233/14, collected at Siolak Dras, Korinchi Valley, 3,100', West Sumatra, on 17th March 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Externally closely resembling Epimys vociferans (Miller) with bicolor tail; but skull with interpterygoid space narrower and parallel-sided, the pterygoids less prominent and projecting and the palatal foramina narrower, the upper tooth row shorter and not diverging posteriorly to the same extent.

Measurements:—Head and body, 237; tail, 253; hindfoot, 45 mm. (measured in flesh). Skull: greatest length, 53.5; condylo-basilar length, 46.1; diastema, 14.1; upper molar row, 9.8; length of palatal foramina, 7.7; median nasal length, 20.5; breadth of nasals, 6.1; zygomatic breadth, 24.7 mm.

Specimens examined:—The type.

Epimys similis, sp. nov. Type:—Adult female with worn teeth (skin and skull), Federated Malay States Museums, No. 285/14, collected at Siolak Dras, Korinchi Valley, 3,100', West Sumatra, on 27th March 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Resembles E. pellax (Miller) of the Malay Peninsula but has the colour of the upper parts extending over the inner side of the fore-limbs and thighs, cutting off the white of the abdomen from the extremities. Skull narrower and less robust.

Measurements:—Head and body, 186; tail, 183; hindfoot, 37.5 mm. (measured in flesh). Skull: greatest length, 43.3; condylo-basilar length, 36.5; diastema, 12.3; upper molar row, 6.9; length of palatal foramina, 6.0; median nasal length, 17.2; breadth of nasals, 4.0; zygomatic breadth, 18.0 mm.

Specimens examined:—Five.

Epimys ravus, sp. nov. Type:—Adult (aged) male (skin and skull) Federated Malay States Museums, No. 422/15, collected at Sungei Kumbang, Korinchi, 4,700', West Sumatra, on 20th April 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Like E. catellifer (Miller) with comparatively slender dorsal spines but tail more markedly bicolor; tail and feet longer; no buffy abdominal markings.

FROM KORINCHI, W. SUMATRA.

Measurements:—Head and body, 192; tail, 202; hindfoot, 43 mm. (measured in flesh). Skull: greatest length, 48.0; condylo-basilar length, 39.5; diastema, 13.0; upper molar row, 6.8; length of palatal foramina, 6.5; median length of nasals, 18.6; breadth of nasals, 4.9; zygomatic breadth, 21.0 mm.

Specimens examined:—Twenty-four.

Epimys inflatus, sp. nov. Type:—Adult female (skin and skull) Federated Malay States Museums, No. 323/14, collected at Sungei Kumbang, Korinchi, 4700', West Sumatra, on 2nd April 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—A tawny spinous-backed rat with a bicolored tail and suffled under-surface, having a superficial resemblance to the rats of the rajah-surifer group; skull closely resembling these but with a pronounced swelling on the sides of the rostrum immediately in front of the infraorbital plate.

Measurements:—Head and body, 200; tail, 155; hindfoot, 40 mm. (measured in flesh). Skull: greatest length, 46.6; condylo-basilar length, 39.3; diastema, 13.4; upper molar row, 6.5; length of palatal foramina, 8.2; median nasal length, 10.1; breadth of nasals, 5.3; zygomatic breadth, 20.3; breadth of rostrum across swellings, 11.0 (in a specimen of E. surifer of equal size, 8.0 mm.).

Specimens examined:—Twenty.

Epimys fraterculus, sp. nov. Type:—Adult male (skin and skull), Federated Malay States Museums, No. 387/14, collected at Sungei Kumbang, Korinchi, 4700', West Sumatra on 13th April 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Rather darker above than E. orbus, Robinson and Kloss,8 of the Siamese Malay States with the dark tips of the spines more exposed and having below an ochraceo-tawny patch on the chest, which is always lacking in Malayan animals.

Measurements:—Head and body, 162; tail, 231; hindfoot, 32.5 mm. Skull: greatest length, 40.6; condylo-basilar length, 33.5; diastema, 10.2; upper molar series, 6.9; length of palatal foramina, 6.4; median nasal length, 16.4; breadth of nasals, 4.6; zygomatic breadth, 17.2 mm.

Specimens examined:—Thirty-four.

Epimys hylomyoides, sp. nov. Type:—Aged male (skin and skull), Federated Malay States Museums, No. 440/14, collected at Sungei Kring, Korinchi Peak, 7300', West Sumatra, on 26th April 1914, by H. C. Robinson and C. Boden Kloss.


B. A. Soc., No. 73, 1916.
Characters:—A small concolorous rat with a bicolorated tail: base of pelage throughout dark neutral grey, the fur long and soft, thickly beset on the back with long, slender, pliable spines. Tail almost the same length as the head and body.

Measurements:—Head and body 126; tail, 126; hind-foot, 27 mm. (measured in the flesh). Skull: greatest length, 34.4; condylo-basilar length, 28.8; diastema, 8.3; upper molar row, 6.0; length of palatal foramina, 4.5; median nasal length, 12.9; breadth of nasals, 3.2; zygomatic breadth, 14.9 mm.

Specimens examined:—Fifteen.

Epimys stragulum, sp. nov. Type:—Adult male (skin and skull), Federated Malay States Museums, No. 482/14, collected at Sungei Kring, Korinchi Peak, 7,300′, West Sumatra, on 30th April 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—A species of the concolor-ephippium group but with the pelage long and soft, beset with a number of slender, long, hardly distinguishable spines, with dark tips and whitish centres. Skull and teeth like those of E. ephippium but with the bullae smaller and the posterior termination of the nasals a little narrower.

Measurements:—Head and body, 109; tail, 136; hind-foot, 23 (measured in flesh). Skull: greatest length, 30.0; condylo-basilar length, 25.0; diastema, 7.4; upper molar row, 5.0; length of palatal foramina, 5.2; median nasal length, 10.7; breadth of nasals, 3.0; zygomatic breadth, 14.3 mm.

Specimens examined:—Ten.

Epimys rattus argentiventer subsp. nov. Type:—Adult male with worn teeth (skin and skull), Federated Malay States Museums, No. 602/14, collected at Pasir Ganting, coast of West Sumatra, Lat. 2° 7′ S., on 20th June 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Like E. r. neglectus (Jent.) but with the annulations of the fur of the upper parts coarser and less ochraceous and with the underparts silver-grey throughout. Tail shorter than head and body. Skull with larger bullae, palatal foramina and teeth.

Measurements:—Head and body, 184; tail, 173; hindfoot, 32 mm. Skull: greatest length, 41.0; condylo-basilar length, 36.2; diastema, 11.9; upper molar row, 7.9; length of palatal foramina, 8.5; median nasal length, 14.7; breadth of nasals, 4.2; zygomatic breadth, 19.8 mm.

Specimens examined:—One, the type.
Epimys korinchi, sp. nov. Type:—Adult female (skin and skull), Federated Malay States Museums, No. 442/14, collected at Sungei Kring, Korinchi Peak, 7,300', West Sumatra, on 26th April 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Like E. baluensis (Thomas) with long, soft and spineless fur, beset on the upper surface with numerous longer piles; but with longer tail and paler underparts; nasals broader, but bullae much smaller; teeth considerably larger.

Measurements:—Head and body, 166; tail, 224; hindfoot, 34; ear, 23 mm. (measured in flesh). Skull: greatest length, 41.0; conylo-basilar length, 35.5; diastema, 10.9; upper molar series, 7.9; length of palatal foramina, 8.2; median nasal length, 15.3; breadth of nasals, 4.9; zygomatic breadth, 19.0 mm.

Specimens examined:—The type and an immature female.

Epimys muelleri campus, subsp. nov. Type:—Adult female (skin and skull) Federated Malay States Museums No. 586/14, collected at Pasir Ganting, coast of West Sumatra, Lat. 2° 7' S., on 18th June 1914, by H. C. Robinson and C. Boden Kloss.

Characters:—Like the typical E. muelleri, but with the buff element in the upper pelage a little richer in tone: rostrum decidedly broader, zygomatic width greater and the bullae a little larger.

Measurements:—Head and body, 214; tail, 256; hindfoot, 44 mm. (measured in flesh). Skull: greatest length, 53.1; conylo-basilar length, 46.0; diastema, 14.2; upper molar row, 9.2; length of palatal foramina, 8.6; median nasal length, 22.0; breadth of nasals, 6.0; zygomatic breadth, 26.6 mm.

Specimens examined:—Three.

BIRDS.

STRIGIDAE.

Pisorhina vandewateri, sp. nov. A small species of owl, with the bill clear yellow, tarsi partially bare for one third their length in front, post-cervical collar strongly marked. A member of the group in which is included Heteroscoops luciae of Borneo, Heteroscoops vulpes of the Malay Peninsula and

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13. Scops luciae, Sharpe, Ibis, 1888, p. 478; id. op cit. 1889, p. 77, Pl. III.

R. A. Soc., No. 73, 1919.
Scops rufescens\textsuperscript{15} from the same general region. From the latter it can be separated by its strongly mottled undersurface and from the two former by its strongly marked collar and much darker general tone. The characters of the facial plumes are similar to those of *H. luciae*.

**Type:**—Adult female, No. 1097, collected on Korinchi Peak, at 7,300 feet, West Sumatra, on April 23rd 1914, by H. C. Robinson and C. Boden Kloss.

**Specimens examined:**—One, the type.

**EURYLAEMIDAE.**

*Serilophus lunatus intensus*, subsp. nov. Differs from the Malay Peninsula form *Serilophus lunatus rothschildi*, in the same way as that does from the typical race from Tenasserim. General colour of the mantle and the chestnut of the inner secondaries and rump very much richer in tone, and under surface a darker grey. Greyish white of the crown, stopping somewhat abruptly at the level of the eyes and the ear-coverts washed with clay brown as in the typical race and not so grey as in *S. l. rothschildi*\textsuperscript{16}.

**Dimensions:**—6 3. Total length, 167-177; wing, 80-86; tail, 66-70; tarsus, 17.5-19; bill from gape, 20.5-22.5 mm. (measured in the flesh). 4 9. Total length, 165-178; wing, 78-87; tail, 67-69; tarsus, 18.5-20.5; bill from gape, 20.5-22.5 mm. (measured in flesh).

**Types:**—Male No. 256; female No. 36; collected at Siolak Dras, Korinchi Valley, 3,100 feet, West Sumatra, on 19th and 24th March 1914, by H. C. Robinson and C. Boden Kloss.

**Specimens examined:**—Ten.

**TIMELIIDIACE.**

*Turdisinus epilepidotus dilutus*, subsp. nov. Differs from *T. epilepidotus\textsuperscript{17}* from Java in being considerably lighter (less blackish) above and in having the feathers of the throat more decidedly tipped with black, those of the Javan form being almost immaculate in the centre of the throat. Dimensions slightly different from those of the Javan bird, the tail and tarsus being slightly longer and the bill decidedly shorter.

**Dimensions:**—Of type: Total length, 110; wing, 57; tail, 36; tarsus, 23; bill from gape, 19 mm. Range of eight adult males. Total length, 108-120; wing, 55-58; tail 36-40; bill from gape, 17-19; tarsus 22.5-27 mm. Range of six Javan specimens. Total length, 116-125; wing, 52-59; tail, 31-35;

\textsuperscript{17} Myiothera epilepidota, *Temminck, Pl. Col. ii*, pl. 448, fig. 2 (1827).
bill from gape, 19.5-21; tarsus, 21-24 mm. All measurements taken in the flesh.

Type:—Adult male, collected at Sungei Kumbang, Korinchi, 4,700', West Sumatra, on 13th April 1914, by H. C. Robinson and C. Boden Kloss.

Specimens examined:—Twenty-one.

TURDIDAE.

_Turdus indrapurae_, sp. nov. Very closely allied to _Turdus fumidus_18 from the Gedeh Volcano, West Java, but distinguished by having the general colour of the upper parts and of the throat and upper breast dark earthy brown, distinctly paler on the cap; whereas in _T. fumidus_, the mantle is dark bronzy grey, tinged with olivaceous, with the cap blackish, distinctly darker than the rest of the upper parts. Belly and flanks earthy chestnut richer in tint than the corresponding parts of _T. fumidus_, centre of belly and anal patch whitish, under tail coverts blackish brown with narrow shaft stripes, white, tinged with buff, these shaft stripes being narrower than in _T. fumidus_ but broadening to the tip.

Dimensions.—Male: Total length, 242; wing, 122; tail, 110; tarsus, 32; bill from gape 25 mm. (measured in flesh). Female: Total length, 212; wing, 122; tail, 103; tarsus, 30; bill from gape, 27 mm. (measured in flesh).

Types:—Male, No. 1196; female, No. 1274; collected on Korinchi Peak, at 10,000 feet, West Sumatra, on April 27th and April 29th 1914, by H. C. Robinson and C. Boden Kloss.

Specimens examined:—Twenty seven.

MUSCICAPIDAE.

_Cryptolophra sumatrensis_, sp. nov. Closely allied to _Cryptolophra grammiceps_ (Strickl.)19 of Java, from which it differs in having the mantle and back clear grey, not light ashy brown and in the absence of the white on rump, which is uniform with the lower back.

Dimensions:—Male: Total length, 107; wing, 54; tail, 48; tarsus, 17.5; bill from gape, 12.5 mm. Female: Total length, 107; wing, 52; tail, 43; tarsus, 18; bill from gape, 12.5 mm. (taken in the flesh).

Types:—Male, No. 538; Female, No. 529; collected at Sungei Kumbang, Korinchi, at 4,700 feet, on 31st March and 1st April 1914, by H. C. Robinson and C. Boden Kloss.

Specimens examined:—Seventeen.

Cryptolopa muelleri, sp. nov. In general appearance resembling the preceding species but differing in having the rump, sides of the body and under tail coverts bright sulphur yellow, the scapulars and lower back olive green and the outer tail feathers edged and tipped with white. In these particulars it resembles C. castaneiceps (Hodgs.) of the Himalayas, from which it is separated by the cinnamon chestnut of the lores, sides of the head and ear coverts, which are white or grey in that species.

Dimensions:—Total length, 98; wing, 53; tail, 41; tarsus, 18; bill from gape, 13 mm. (in dried skin).

Type:—Adult male, No. 2088, collected at Barong Bharu, Barisan Range, 4,000 feet, West Sumatra, on June 8th 1914, by H. C. Robinson and C. Boden Kloss.

Specimens examined:—One, the type.

Dicaeidae.

Dicaeum beccarii, sp. nov. Allied to D. ignipectus from the Himalayas and the Malay Peninsula, but differing in the entire absence of red in the plumage and in the reduction of the black abdominal patch, which is without gloss.

Dimensions:—Male, total length, 92; wing, 50; tail, 34; tarsus, 14; bill from gape, 10 mm. (measured in flesh).

Type:—Adult male, No. 1,171, collected on Korinchi Peak, at 7,300 feet, West Sumatra, on 26th April 1914, by H. C. Robinson and C. Boden Kloss.

Specimens examined:—Three.

JOURNAL

of the

Straits Branch

of the

Royal Asiatic Society

December, 1916.

SINGAPORE:
Printed at The Methodist Publishing House
1916
Barnacles from deep-sea Telegraph Cables in the Malay Archipelago.

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(Zoological Survey of India).

Many years ago Capt. F. Worsley of the S. S. 'Sherard Osborne' obtained a number of deep-sea barnacles from cables that his ship was engaged in repairing. Some of these he presented to the Indian Museum in Calcutta, the others (the major part) to the Raffles Museum in Singapore. Those in the Indian Museum were described by me in 1905 in the Memoirs of the Asiatic Society of Bengal; I have now to thank Dr. Hanitsch for the opportunity of examining those in Singapore and of comparing selected specimens with the collection in Calcutta.

There is one slight uncertainty as to the provenance of the Singapore specimens. A large portion of them are stated to have been found in lat. 10° 22' 30'', but it is not stated whether North or South. There can, however, be little real doubt that South is meant, for the corresponding specimens in Calcutta are labelled "Bali Straits."

The majority of the specimens are from Bali and Gasper Straits and the Java Sea. There is also one species from off Timor. Probably all were brought up from depths of between 60 and 200 fathoms, except Heteralepas malaysiana, the type-specimen of which came from 30 fathoms.

A remarkable feature of the collection is the very large proportion of otherwise unknown forms represented in it. In the following list those species that are recorded also from other sources are distinguished by a star at the end of their names.

List of the Pedunculate Barnacles from Telegraph Cables in the Malay Archipelago.

Scalpellum (Smilium) nudipes, sp. nov. Scalpellum stearnsi,* Pilsbry. Scalpellum persona, sp. nov.
Scalpellum hamulus,* Hoek. Scalpellum sociabile var. parviceps, var. nov.

Poecilasma (Glyptelasma) gigas, sp. nov.

Thus, of nine forms, six, or two-thirds, are only known from a small series of less than a hundred specimens. This is the more remarkable from the fact that some eighty species of bottom-haunting Cirripedia Pedunculata were represented in the collection made by the Dutch 'Siboga' Expedition in the seas of the Malay Archipelago.

Now the greater part of the sea-bottom is soft, buried in deep ooze; and fixed sessile organisms must often have great difficulty in finding solid objects to which to attach themselves on settling down in life. To such organisms a telegraph cable is a godsend. A scientific expedition, no matter how well equipped, may dredge over the sea-bottom for thousands of miles and discover no nidus so favourable. Deep-sea Cirripedes are usually fixed to the more solid parts of other organisms such as the anchor-fibres of Hexactinellid sponges like *Hyalonema* or the stems of colonial Coelenterates. These organisms grow anchored in the ooze. The surface of attachment is, however, small. Other favourite bases for deep-sea barnacles are the manganese nodules that form themselves round bodies such as the teeth of dead sharks, the solid ear-bones of whales, and cinders dropped from passing ships. But even these, if the vast area of the sea-bottom be considered, must be scanty upon it. When the larvae of a barnacle, produced as they are in hundreds if not thousands simultaneously, chance on a cable at the moment of fixation, it is evident that a much larger proportion of them will survive than would otherwise be the case. A large number of the species of the group known from depths greater than 100 fathoms are only known at most from a few isolated specimens. One species (*Scalpellum albatrossianum*, Pilsbry) only exists so far as museums are concerned in two individuals, one of which was dredged by the 'Albatross' in the north Atlantic from 2045 fathoms, the other by the 'Investigator' in the Bay of Bengal from 1997 fathoms. Two-thirds of the species in Capt. Worsley's collection are, however, represented by series of ten or more specimens each.

The barnacles are not only remarkable for their abundance but also for their large size. Only one of the species (*Heteralepas malaysiana*) can be called a small one, while no less than three of the nine species are, each in its own genus, the largest known, namely *Scalpellum stearnsi*, *Poecilasma gigas*¹ and *Heteralepas gigas*. *S. persona* is also among the most bulky of the Pedunculata. Moreover, the type-specimen of *S. inerme* (= *S. stearnsi*), found by Capt. Worsley on a cable in Bali Straits, is the largest individual of its species as yet recorded, while the examples of *S. hamulus* from cables are twice the size of those found attached to small objects by the 'Siboga' at about the same depth.

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¹ In *P. subcarinatum* (Pilsbry) from the Atlantic the capitulum is at least as big but the peduncle is shorter.
It is strange to find a barnacle such as *Heteralepas gigas* on the sea-bottom in comparatively deep water, for it has all the appearance of a pelagic form. The specimens in the Raffles Museum, however, were undoubtedly attached to a telegraph cable, as is proved by an examination of the material adhering to their bases. They have been preserved in alcohol for many years and are now dull and formless objects, shrivelled out of all resemblance to their natural form, but much less uniformly contracted than the type-specimen. In life they were in all probability even larger than they are now and their integument must have been smooth, transparent and swollen; they must have borne a close external resemblance to the true *Aplepas*, which is found on the surface, as a rule depending from the bells of medusae (see Rec. Ind. Mus., X, p. 276, pl. xxxiii, fig. 2).

Both *Scalpellum stearnsi* and *S. persona*, which are not closely allied species, display a tendency to get rid of the calcareous valves or plates on the capitulum and to substitute for them a homogeneous cartilaginous or thick membraneous investment. In all families of the true Cirripedia Pedunculata a similar tendency occurs and re-occurs in certain genera and species. It may be correlated either with a deep-sea or a pelagic existence or with semi-parasitic habits and therefore affords a rare instance of parallel evolution in which convergence is connected not with similar but with diverse modes of life. In the genus *Scalpellum* itself we find two if not three different manifestations of this curious tendency, which may perhaps be regarded as an ultimate reversion to a primitive condition. In the first place we may note a number of species of comparatively small size (*e.g.* *S. laccadicicum*, Annandale = *S. polymorphum*, Hoek, and *S. larvatum*, Pilsbry) with compressed capitula and very delicate valves in which there is great variation in the development of these plates. Even when they are most degenerate the membrane that covers them is not thick. In some cases individuals are known in which the greater part or the whole of the capitular surface is covered by the valves, while others occur in which the valves are reduced by an excavation of their lower margins until (as in *S. lambda*, Annandale) they may all have a form approaching to that of the Greek letter *I*. In such forms the valves of the young are, at any rate in some species, more complete than those of the adults. At the other extreme we find a little group of very large species such as *S. giganteum*, *S. persona* and *S. alcokianum*, with stout, more or less inflated capitula and with relatively thick valves almost completely concealed beneath a thick cartilaginous investment. In such species the condition of the valves seems to be much more stable than in the other group; in *S. giganteum* they are relatively large, in the two Oriental species very small. But in these latter their area though small is not, except in the terga and to a less extent in the carinal latera, reduced by excavation of the margins of the plates, but by a general reduction in size. Such forms as *S. stearnsi* and *S. gruvelii* are to some extent
intermediate between these two extremes, being very variable in the extent of the valves, having great or moderately great bulk, a moderately thick capitulum and a moderately thick investment. The reduction of their valves, however, is brought about mainly not by excavation of the margins, and it is possible that they may represent an offshoot from the same stock that has produced *A. giganteum* and *S. persona* successively in the direct line, having valves capable of reduction as in the latter, but lacking the very thick investment and other extreme characters of both species.

In spite of its biological and taxonomic interest the collection does not cast much light on the distribution of the deep-sea fauna of Malaysia. One species (*Scalpellum stearnsi*) appears to be a true eastern form, common in Japanese seas in shallow water and at moderate depths near shore and found by the 'Siboga' at several places in the Malay Archipelago in from 112 to 221 fathoms. It has not been taken anywhere west of the Malav Peninsula. The other seven species have been found only in the Malay Archipelago, but one of them (*Scalpellum persona*) from the Java Sea is closely related to a form (*S. alcockianum*) described from greater depths (859-980 fathoms) off Ceylon. *S. sociabile* is probably confined to the western and central parts of the Archipelago, while *S. nudipes*, *S. sociabile var. parviceps*, *Heteralepas gigas*, *H. malaysiana* and *Poecilasma gigas* are only known from the seas round Java and Borneo. None of these species are related to others very closely.

I know of no other collection of barnacles from deep-sea cables in the Malay Archipelago. There is a small one in the British Museum from a cable in the western part of the Indian Ocean, including specimens of three species only, all of which are different from the Malayan ones. It is, however, from a considerably greater depth (1200 fathoms) than the collection considered here. Two of the species (*Scalpellum velutinum*, Hoek and *S. gruvelii*, Annandale) are fairly large forms, but the third, *S. (Smilium) acutum*, Hoek, is decidedly small. *S. acutum* and *S. velutinum* are both species with a very extensive range in the deep sea, while *S. gruvelii* is known otherwise with certainty only from off Ceylon and from the Laccadive Sea, but is so closely related to American forms from both the Atlantic and the Pacific that their specific identity has been suggested.

**Family SCALPELLIDAE.**

**Genus Scalpellum, Leach.**


*Jour. Straits Branch*
Of the recent species ascribed to this genus by modern authors, now numbering well over a hundred, only six were known to Darwin in 1851 and of these, four had already received separate generic names. The type-species of Scalpellum was S. vulgare, Leach: 1824 (= Lepas scalpellum, Linne: 1767 and Poli: 1795); Gray in 1848 had described a second species under the name Thaliella ornata; the same author in 1835 had named a third species Smilium Peronii, and a fourth in the same year Calantica Homii (= Pollicipes villosus, Leach: 1824). All these Darwin included in Scalpellum, together with two new species, S. rutilum and S. rostratum. He was not, however, by any means dogmatic in so doing, for he wrote, “I have felt much doubt in limiting this genus: the six recent species which it contains, differ more from each other than do the species in the previous genera.”

Hoek in his report on the ‘Challenger’ collection (1883) followed Darwin in recognizing only one genus, in which he set up two primary divisions, to include (A) those with imperfectly and (B) those with perfectly calcified valves.

Gruvel, in his Monographie des Cirripèdes (1905), accepted Hoek’s classification.

In his account of the Cirripedia in the collection of the United States National Museum (1907) Pilshby considerably elaborated this system, accepting three subgenera (Calantica, Smilium and Scalpellum) and further subdividing the subgenus Scalpellum into three sections, which he called Scalpellum, s. str., Holoscalpellum and Neoscalpellum. He based these subgenera and sections mainly on the number, form and position of the capitular valves of the hermaphrodite or female but also considered the characters of the dwarfed males when these were known.

In the following year, in a paper “On the Classification of the Scalpelliform Barnacles,” he carried the process further, laying greater stress on the males, and recognized four genera, Calantica, Smilium, Euscalpellum and Scalpellum. Scalpellum he subdivided into two subgenera, Arcoscalpellum and Scalpellum, s. str. He also recognized other minor groups.

In the meanwhile (1907) Hoek had published his report on the Cirripedia Pedunculata of the ‘Siboga’ and had introduced into literature the names Euscalpellum and Arcoscalpellum, which Hoek adopted from him. These names, however, Hoek used only as those of “Sectiones,” together with two others of similar application—Proto-Scalpellum and Meso-Scalpellum. In all cases he inserted a hyphen and spelt the ‘Scalpellum’ part of the compound with a capital S. In distinguishing the four sections he gave great importance to the form of the carina, but also considered other valves in the hermaphrodite and female and did not ignore the males.

In 1910 I gave reasons for recognizing only the genus Scalpellum with two subgenera, Smilium and Scalpellum, s. str.

R. A. Soc., No. 74, 1916.
Quite recently (1916) Joleaud, writing largely from a palaeontological point of view and ignoring everything but the capitular valves of the hermaphrodites or females, has proposed an entirely new classification. He separates off the apparently more primitive forms assigned to Scalpellum by Hoek and places them in the genera Pollicipes, which he distinguishes from Mitella, and Scillaelepas. The remaining species he retains in Scalpellum, which he divides into two subgenera. To these he assigns the names Protoscalpellum and Scalpellum. In Protoscalpellum he recognizes three sections, Euprotoscalpellum, Subpseudoscalpellum and Pseudoscalpellum. To Scalpellum (s. str.) he also assigns three sections, which he calls Adeuscalpellum, Subeuscalpellum and Euscalpellum. To say the least of it, these sectional names are ponderous. Their invention, considering the terminology already available, seems to have laid an unnecessary burden on the ingenuity of the author.

In all of this I see no reason to recede from the position I took up in 1910, at any rate so far as the Indo-Malayan species are concerned. The forms assigned by Joleaud to Pollicipes and Scillaelepas are certainly very remarkable and may be worthy of subgeneric or even generic rank, but none of them occur in the Indian Ocean and I have little personal experience of any. Of course I do not deny that among the numerous species I retain in Scalpellum (s. str.) several more or less distinct groups occur, but these groups are not strictly separated one from another and I think it better, when it is necessary to refer to them separately, merely to call them after the most characteristic species known (as "the group of S. alcocianum" or "the group of S. stratum").

Throughout the Pedunculata valves are liable to degenerate and disappear and I doubt whether the absence of any one valve has much significance. The presence, on the other hand, of more than a definite number is in most genera a fact of importance. In Scalpellum (s. l.) there may be as many as 15 valves on the capitulum of the hermaphrodite, or as few as 13; but it is significant that in all known males of the genus in which the calcareous armature is not degenerate there are six valves. Moreover, in many if not in all species a stage in the post-larval development of the female or hermaphrodite can be found in which there are six main calcified areas.¹ The six valves that appear on these grounds to be primitive are the carina and rostrum, a pair of terga and a pair of scuta. The primitive armature thus differs from that typical of the Lepadidae mainly in the presence of a rostrum. In Mitella, on the other hand, there seems to be no evidence for the existence at any stage in the evolution of the genus of so small a number of valves. As I have pointed out elsewhere,² the lines of evolution in the Cirripedia are so complicated and uncertain that any statement

¹. How readily extra valves of no particular significance can be produced in Scalpellum is shown by S. valvulifer, Annandale, Vid. Meddel. naturh. Foren. Kbhavn., 1910, p. 214, pl. iii, figs. 1, 2.

as to the descent of any genus or group of species must be regarded as little more than an expression of individual opinion. I do not deny that a morphological classification would be the ideal one, but when so many doubts exist as to the significance of different structures and organs, convenience is the safest course to follow. It is not convenient to refer to a species as belonging to the genus Scalpellum, the subgenus Proto-scalpellum and the section Subpseudoascalpellum, and though this terminology may convey a definite morphological meaning to its author and his followers, it is merely confusing to the average carcinologist, as well as being technically incorrect.

Subgenus Smilium, Gray.


Scalpellum nudipes, sp. nov.

(Pl. IV, fig. 1; pl. V, figs. 1-6; pl. VI, figs. 1, 2).

The species is a somewhat isolated one readily distinguished by the vestigial nature and microscopic size of the calcareous valves of its stalk. This character is combined with a fully calcified capitular armature, great bulk and leaf-like anal appendages.

CAPITULUM.

The capitulum is large, ovoid and compressed. There are thirteen large, fully calcified capitular valves in all of which the umbo is apical. They are of a dead white colour and are covered by a thin, smooth, transparent membrane and embedded in a brown cartilaginous investment that separates them slightly. Together they practically cover the surface of the capitulum; none of their apices project strongly. Their surface is smooth, with widely separated obsolete angulate ridges and furrows. They are all stout and brittle. There are no upper latera.

Terga. The tergum is relatively large, triangular in outline and with all its angles acute. The three angles are situated, one (the umbo) at the apex of the capitulum, one underneath the apex of the scutum on the orificial margin, and one close to the carina and to the posterior angle of the upper latus. The posterior margin of the valve slopes backwards and downwards and is somewhat sinuous but convex outwards as a whole; the anterior margin is straight and relatively short; it is directed downwards and only a very little outwards; the lower margin resembles the upper but with its convexity reversed. The apex is very slightly retroverted.

Scuta. The outline of the scutum somewhat resembles that of the tergum but is relatively shorter and more irregular; the valve is also somewhat smaller. The upper posterior angle is situated immediately above the apex of the upper latus. The apex of the scutum is distinctly retroverted and overlaps the tergum.

R. A. Soc., No. 74, 1916.
Inframedian. The inframedian latus is comparatively large and of broadly triangular form. Its base forms an acute angle anteriorly with that of the carinal latus. The posterior angle dives beneath the carina and is truncate; the anterior angle is somewhat produced below the base of the scutum.

Carinal latera. The carinal latus is also triangular, but more symmetrical, more produced at the anterior and posterior angles and with its base parallel to that of the capitulum and its apex pointing directly upwards between the upper latus and the carina. The base of the valve is buried in the cartilaginous investment but the apex projects outwards almost to the surface.

Rostral latera. The rostral latus resembles the carinal latus in shape and orientation but is even more transverse and is considerably produced backwards, extending for some distance below the base of the latter valve.

Carina. The carina is of moderate size. It extends upwards very little beyond the apex of the scutum and falls far short of that of the tergum. Viewed from the side it is narrow and tapers gradually to the apex; its upper half has a distinct but by no means strong curvature and the apex projects very little behind the posterior margin of the tergum. The base is convex downwards. The dorsum is obscurely carinate and slopes outwards on either side. The base is subangulate and the apex sharply pointed.

Subcarina. The subcarina, which projects almost directly backwards but extends very little behind the carina, is broadly triangular and of comparatively large size. Its apex lies below the middle of the base of the carina and between the posterior angles of the carinal latera.

Rostrum. This valve resembles the subcarina closely but is a little larger and has its apex retroverted below the base of the capitular orifice. It projects hardly at all.

PEDUNCLE.

The peduncle is stout, somewhat compressed and distinctly constricted in the middle. It is of a pale brown colour and a cartilaginous consistency. The surface is wrinkled transversely and divided into small areas, which on the lower part are transverse and rhomboidal, by a network of minute grooves. To the naked eye the capitulum appears to be quite unarmcd, but a lens reveals numerous microscopic calcareous particles embedded in the membrane. They have a spindle-shaped or oval outline, are flattened and for the most part directed outwards but do not penetrate the surface. Their position is not correlated with that of the areas on the surface, which are perhaps of artificial origin.

CIRRI, ETC.

1st Cirrus. Both rami are slender and tapering, without dilated segments, the anterior ramus is considerably the shorter of
the two and has about 22 segments. The first cirrus is widely separated from the second.

_Cirri 2-6_. The remaining cirri are moderately stout and long. Their anterior fringe is well developed though consisting of rather short chaetae; the posterior armature consists of bunches of fine hairs, of which the longest is about equal in length to the segment, attached to the upper extremity of each segment. Except at the extremities of the rami, each segment is ornamented on its anterior half by several sloping, sinuous lines constituted by an internal thickening of the cuticle.

Anal appendages. These are flattened from before backwards and expanded. They consist of a single leaf-like segment devoid of all armature except a very minute and scanty pilosity. The outer margins are strongly concave, the inner a little sinuous. The tips of the appendages do not reach as far as the upper end of the basal segment of the peduncle of the sixth cirri.

_Penis_. The penis is long, rather broad but compressed laterally, strongly and closely annulate, pointed, armed only with soft fine hairs.

**MOUTH-PARTS.**

_Labrum_. The labrum is by no means large and not at all bullate. It has a sharp chitinous edge posteriorly but no teeth. The palps are rather short and stout.

_Mandible_. The mandible is broad and has a large number of teeth, but, as is usual when it takes this form, is probably variable. In the specimen examined the biting margin is almost straight and bears five main teeth, of which the outermost, the 4th and 5th are subequal and larger than the 2nd and 3rd. Between the 1st and 2nd, 2nd and 3rd and 3rd and 4th there are smaller subsidiary teeth. Of these the first is the largest and the third much the smallest. The inner angle, which projects very little beyond the base of the 5th tooth, is asymmetrical. None of the teeth are pectinate and the whole appendage is practically naked.

_MAXILLA_. This appendage is rather broad. The outer chaeta is very stout and is followed by a rather deep but short quadrate excavation. There is also a small notch on the margin about half way between the excavation and the inner angle. The marginal bristles are numerous and long but delicate. There is a fringe of fine hairs running almost parallel to and at some distance from the margin on the posterior surface of the appendage.

_E. maxillae_. The form of these appendages is normal. The sensory organ connected therewith is situated on a rounded papilla.

**ACCESSORY MALE.**

There are four accessory males attached to the capitulum of the hermaphrodite just below the orifice, but only one of them appears to be mature. It possesses a well differentiated capitulum.
armed with 8 valves. The number of valves is, however, probably abnormal as it is brought about by the separation, quite asymmetrically, of two small plates, one on either side of the carina a little above its base. The normal number is, as in allied forms, probably 6. The capitulum is about as broad above as it is high, it is much broader than the peduncle and moderately compressed from side to side. The orifice opens upwards and outwards.

The six valves are stout and of comparatively large size. The terga are much smaller than the others and have an almond-shaped outline. Their main axis is vertical. The scuta are broadly triangular and much wider than the other valves; their apices are pointed and turned backwards slightly. The rostrum is large, relatively narrow, very prominent but somewhat retroverted at the apex. The carina is narrow, curved, pointed above and subtruncate at the base. The apices of this valve, of the terga and of the scuta are almost on a level. The appendages are relatively shorter than in the hermaphrodite but otherwise similar. They lack the peculiar ornamentation characteristic of the larger sex but are armed similarly. The mouth-parts are well developed and also resemble those of the hermaphrodite, except that the labrum is relatively smaller and the mandibles have fewer teeth. The anal appendages are leaf-like and consist of a single segment; there is a small bunch of long hairs at their free extremity. The penis is not annulated.

The younger males have a much narrower capitulum of oval outline. The rostrum and carina are considerably smaller and not at all prominent, while the other valves are less regular in shape. The vesicula seminalis, a conspicuous feature of the large male, is barely visible in the smaller individuals.

**Measurements.**

<table>
<thead>
<tr>
<th></th>
<th>Hermaphrodite (type)</th>
<th>Adult Male</th>
<th>Young Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height of capitulum</td>
<td>55 mm.</td>
<td>4·5 mm.</td>
<td>2·5 mm.</td>
</tr>
<tr>
<td>Width of capitulum</td>
<td>40 &quot;</td>
<td>4·5 &quot;</td>
<td>2·0 &quot;</td>
</tr>
<tr>
<td>Thickness of capitulum</td>
<td>20 &quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of peduncle</td>
<td>56 &quot;</td>
<td>2·8 &quot;</td>
<td>1·5 &quot;</td>
</tr>
<tr>
<td>Diameters of peduncle</td>
<td>25 x 18 &quot;</td>
<td></td>
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</tr>
</tbody>
</table>

*Type-specimen.* Crustacea, 9319/10, Z. S. I. (Ind. Mus.).

*Locality.* Lat. 10° 22' 30" (?S), long. 120° 7' 30" E. (130-500 fathom), Java Sea.

This species, taking both the hermaphrodite and the male into consideration, would find a place in the genus Calantica as re-defined by Pilsbry in 1908, but is not at all allied to *S. villosum* (Leach), the type of that genus. Nor is it related to the North Atlantic forms assigned by Pilsbry to the group Scalpellaeus. In spite of the absence of an upper latus in the hermaphrodite it seems to me to be probably related to such forms as Scalpellum stratum,
BARNACLES FROM DEEP-SEA CABLES.

Aurivillius, from the West Indies and S. sinense, Annadale, from the seas of Burma and China. It is, in any case, an extremely distinct species, remarkable for its large size, almost naked peduncle and curious anal appendages. The regularity of the valves of the hermaphrodite is a noteworthy feature and the comparatively large size and high development of the male another.

I have examined only the type-specimen, but there is, I think, another from the same locality in the Raffles Museum.

Subgenus Scalpellum, Leach.

1913. Scalpellum (s. s.), id., ibid., IX, p. 227.

Scalpellum hamulus, Hoek.


I assign to this species two comparatively large specimens from Johul Bank 90 miles south of Timor (70 fathoms). They were attached to the cable in the midst of a massive Alcyonian of the genus Dendronephthya. The capitulum in one specimen is 36 mm. long by 22 mm. broad, the peduncle 37 mm. by 11 mm. The valves are tinged with pink, especially at the apices. The only difference from Hoek's figure that I can detect is that all the lower latera are relatively a little larger, the carina distinctly longer and the upper margin of the tergum less sinuate above. The two last characters are probably correlated.

The cirri of this species are extremely slender and the hairs on their anterior margin very delicate. The basal segment of the anal appendages is expanded and flattened, but much less so than in S. sociabile; it bears a long flagellum-like process with about sixteen segments, the exact number, as in S. sociabile, being probably variable.

Scalpellum sociabile, Annandale.

1908. Scalpellum sociabile, id. III. Zool. 'Investigator', Entomostraca, pl. iii, fig. 9.

The typical form, which is well represented in Capt. Worsley's collection, is more variable (in particular as to the mouth-parts and the number of segments in the anal appendages) than I realized when drawing up the original description. Indeed, the mandibles of the specimen then dissected seem to have been altogether abnormal (op. cit., 1905, p. 78, fig. 2). A characteristic feature of the appendage is, however, shown even in the abnormal specimen, namely the great distance between the first and second tooth and the strong sinuosity or irregular outline of the margin between these two teeth (cf. pl. vi, fig. 6). The form of the anal appendages,

R. A. Soc., No. 74, 1916.
with their large and greatly expanded basal segment and short cylindrical flagellum, is also most characteristic, though the number of segments in the flagellum is variable.

The characteristic features of the typical form are, as distinguishing it from both the two varieties discussed below, its comparatively narrow and compressed capitulum, the large size of the calcareous plates on the upper part of the peduncle and the relatively considerable, though not excessive size of the peduncle.

The type-specimens in the Indian Museum are from Bali Straits (160 fathoms), while the examples in the Raffles Museum are labelled, lat. 10° 22' 30" (S.), long. 120° 7' 30" E., 130-500 fathoms. The latter do not exhibit the extreme gregariousness of those figured in 1905.

**var. pellicatum**, Hoek.


Hoek recognized the close relationship of this form to my species, which was described while his 'Siboga' report was in the press, but left it to future investigators to ascertain the precise connection. In view of the variations seen in the large series of *S. sociabile* I have now examined, I am convinced that *S. pellicatum* is no more than a variety of that species. The curious hook on the upper margin of the capitulum, due to the fact that the apex of the carina is entirely free from the capitular membrane, is perhaps abnormal, but the form differs otherwise from the *forma typica* in its relatively broad capitulum and short peduncle armed with close-set plates.

The specimens dredged by the 'Siboga' (the only examples known) were taken in the Celebes Sea and east of Halmahera in depths of 450 and 397 metres. They were probably all attached to sea-urchins. I have not examined specimens.

**var. parviceps**, nov.

(Pl. IV, fig. 2; pl. V, fig. 9; pl. VI, fig. 6).

This variety differs from the typical form mainly in its very large peduncle, which is armed with relatively small, widely-separated plates, in the strong development of the hairy capitular epidermis and of the membrane in which the valves are buried. The capitulum is also stouter and more quadrate and the valves are relatively a little smaller. I figure the type specimen and also its mandible and anal appendage.

The measurements of the type-specimen are as follows. It is
numbered 9318/10, Crustacea in the books of the Zoological Survey of India. There is a cotype in the Raffles Museum.

Height of capitulum . . . . . . 35 mm.
Breadth of capitulum . . . . . . 25 "
Length of peduncle . . . . . . . 53 "
Diameter of peduncle . . . . . . 17 "

The two specimens were taken in lat. 10° 22' 30" (7S), long. 120° 7' 30" E. (130-500 fathoms) in the Java Sea. They were attached side by side to the cable.

The differences in the three varieties of this species may perhaps be correlated with differences in environment. The specimens of the typical form were found attached to a telegraph cable or to one another and those of var. *pellicatum* probably to the spines of sea-urchins. In the first instance there was obvious opportunity for free growth and rapid reproduction, in the second the short peduncle may have been of advantage in permitting the guests to lie closer to their host and so to receive full protection from its spines; but I am unable to suggest an explanation of the long peduncle and thick investment of the var. *parviceps*.

**Scalpellum stearnsi**, Pilsbry.


I have already pointed out (op. cit., 1909) the close resemblance between recent examples of this species and Darwin’s figure of the fossil *S. magnum*1 of the Coralline Crag of Sudbourne. Apart from possible anatomical differences, which of course cannot be discussed, I would have no hesitation in regarding the fossil and the recent form as specifically identical.

*Scalpellum stearnsi* was described under that name by Pilsbry in 1890 and redescribed as *S. calcariferum* by Fischer in the following year. In 1905 I described *S. inerme*, which I now believe to be merely an extreme form of the species, without recognizing its true

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1. This resemblance was first noticed by Fischer in 1891, *op. cit.*, p. 118.
R. A. Soc., No. 74, 1916.
relationship. My attention was first drawn to the close affinities of the two forms by the Rev. T. R. R. Stebbing, F. R. S. Two years later Hoek referred specimens from the Malay Archipelago to two new varieties, which he called *robusta* and *gemina*. The type of *S. inerme* differs from one of his specimens of the variety *gemina* hardly more than these specimens vary among themselves. Hoek's Malayan examples differ considerably from those hitherto described from Japan, in particular in the great development of the peduncle and the capitular investment. I have, however, been able to examine a good series both from Japan and from the Malay Archipelago and cannot find any distinct break either between specimens from different localities or between those of the supposed varieties.

There are in the Indian Museum four specimens from Japan. Two of these, which were received in exchange from the British Museum, are comparatively small, the capitulum of the larger example being only about 25 mm. in length. They agree sufficiently well with Pilsbry's and Fischer's figures and differ little, apart from size, from the young specimen of the variety *robusta* figured by Hoek, except that all the prominent valves are a little more pointed. I recently obtained in Japan two very large specimens which have the following measurements:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height of capitulum</td>
<td>63 mm.</td>
<td>55 mm.</td>
</tr>
<tr>
<td>Breadth of capitulum</td>
<td>43 &quot;</td>
<td>35 &quot;</td>
</tr>
<tr>
<td>Thickness of capitulum</td>
<td>26 &quot;</td>
<td>22 &quot;</td>
</tr>
<tr>
<td>Length of peduncle</td>
<td>62 &quot;</td>
<td>49 &quot;</td>
</tr>
<tr>
<td>Diameter of peduncle</td>
<td>25 &quot;</td>
<td>22 &quot;</td>
</tr>
</tbody>
</table>

In measuring the breadth of the capitulum I have not included the prominent part of the carinal latera; I have measured the thickness of the capitulum at the base.

These two specimens, which were taken side by side, agree much more closely with the description and figures of the variety *robusta* than they do with those of the typical form. The investment of their capitulum is thick and semi-opaque and their peduncles, though less swollen than those of the type of *robusta*, are very nearly as long. I do not think, therefore, that the Japanese form can be regarded as a local race of the Malayan one and I see no reason for giving the latter a distinct name, so far as well calcified examples are concerned.

My supposed species *inerme* differs from the typical form and from *robusta* merely in the rather shorter peduncle and in the extreme degeneration of the capitular valves, for the anatomical differences noted by Pilsbry are certainly not beyond the limits of variation. In respect to the degeneration of the valves it is merely an extreme form of Hoek's form *gemina*, one of the co-types of which is now in the Indian Museum. There is in the Raffles Jour. Straits Branch
Museum a fairly large series from the Malay Archipelago, and the series includes a number of individuals intermediate between the forms *robusta* and *gemina*. I am doubtful, therefore, whether distinct varieties based on the development of the valves should be recognized in the species, but if it is considered desirable to refer to the form with degenerate valves by a distinct name, they should clearly be called var. *inerme*. Some justification may be found for this course in the apparent absence from Japanese seas of individuals with degenerate valves.

*S. steurnsi* was originally described from shallow water (6-10 fathoms), on the east coast of Japan. The type was attached to a *Vermetus* shell. The type of *S. calcariferum* was from Enoshima in Sagami Bay. My own Japanese specimens are also from Sagami Bay, but probably came from rather deeper water, as Pilsbry’s (op. cit., 1907) from off Hondo certainly did. The latter were taken in 94 fathoms. Mine were attached to a dead shell of *Xenophora*, which was mined by the sponge *Ciona vastifica* v. *concharum*, Thiele. Hoek’s specimens were from the Sulu Archipelago and the Sulu Sea; they came from depths of from 204 to 405 metres. The types of *gemina* were taken at the latter depth, but no examples of the var. *robusta* were found in depths greater than 330 metres. The specimens in the Raffles Museum are from the Java Sea, from depths of between 130 and 500 fathoms, while the type of *S. inerme* was from Bali Straits (160 fms.). Hoek’s specimens were attached to shells or (the types of *gemina*) to the anchor-filaments of a *Hexactinellid* sponge; all of those from Malaysia in the Raffles and the Indian Museum were fixed to telegraph cables.

It is possible that large size and a strong development of the capitular investment are correlated in this species with-life in comparatively deep water, but I have not found this to be the case in the European *S. vulgare*, in which somewhat similar, but not so extreme, variation occurs so far as the calcification of the capitulum is concerned.

*Scalpellum persona*, sp. nov.

(Pl. IV, fig. 3; pl. V, figs. 7, 8; pl. VI, figs. 3-5).

This species belongs to a little group of large *Scalpella* of doubtful affinities and remarkable for the great development of the capitular investment, in which the valves are buried and almost completely hidden. The valves themselves are more or less reduced

1. Pearl-oyster shells from shallow water in Sagami Bay are attacked by a form of the same sponge much more closely resembling the *forma typica*. The upper surface of the *Xenophora* shell, round the base of the barnacles, was almost completely covered by a thick crust of another sponge, *Gellius glacialis* v. *niveus*, Ridley and Dendy, which I do not think has hitherto been recorded from Japan. The apertures of the mining species were mostly on the lower surface of the shell, which was rather deeply concave owing to breakage. It would seem to have been lying free on the bottom.

R. A. Soc., No. 74, 1916.
in size but their margins, except in the terga and to some extent the carinal latera, are not excavated.

**Capitulum.**

The capitulum is ovoid, of large size and considerably inflated. The valves are completely concealed (except, in some cases, for the apices of the terga, carina and latera) in a thick, opaque, brownish, cartilaginous investment, the surface of which is glabrous and almost smooth. There are eleven relatively well developed valves in addition to a vestigial rostrum. Even those that are relatively well developed are actually of small size and they occupy together only a small proportion of the capitular area. They have, however, an opaque white colour and are fairly thick. Their umbones are apical. There is no subcarina.

*Terga.* The tergum is much reduced and has the form of a four-pointed star with two of its rays greatly and two slightly produced. The two long rays extend downwards, one reaching the tip of the scutum, the other a point about midway between the upper latus and the carina; one of the short rays is directed upwards and forms the tip of the capitulum, while the other points backwards and downwards. Both the long rays are strongly ridged.

*Scuta.* The scutum, though of small size and widely separated from all other valves but the tergum, is of normal form and has none of its margins excavated or deeply concave. It constitutes a triangle with a broad base and acutely pointed apex. The base lies parallel to that of the capitulum. The anterior margin of the valve is convex forwards, the posterior margin slightly concave and the basal margin nearly straight. The apex slightly overlaps the lower margin of the tergum.

*Upper latera.* The upper latus is small, triangular, non-emarginate. It is widely separated from all the other valves. Its larger axis occupies a line running from the apex of the scutum to the upper angle of the carinal latus. The antero-superior part of the valve is carinate.

*Infra median latae.* These valves are almost vestigial, consisting of minute triangular plates deeply embedded in the investment. They are situated immediately below the upper latae and nearer the rostral latae than any other valve.

*Rostral latera.* The rostral latus is transverse, elongate and band-shaped. The two valves meet below the orifice. Their inner angles are immediately below those of the scuta.

*Carinal latera.* The carinal latera project strongly behind the capitulum some distance below the base of the carina. Their bases, however, lie deeply buried. Their apices are very slightly turned upwards.

*Rostrum.* The rostrum is vestigial and concealed behind the rostral latera.
Carina. The carina is reduced in size. Above it extends nearly to the apex of the capitulum, but below falls far short of the base. Its apex approaches that of the terga; otherwise it is widely separated from the other valves. In lateral view it is almost linear, strongly curved in its upper third and with its umbo strictly terminal. The dorsum, which is deeply buried, is narrow and feebly convex; the base is subangulate.

Peduncle.

The peduncle is cylindrical and of about the same length as the capitulum. It is armed with distinct circles of large, projecting alternate plates more or less completely covered by a cartilaginous investment. They are much compressed from above downwards and their exposed margin is angulate or sub-angulate.

Cirri, etc.

1st Cirrus short and rather stout, the two rami subequal, the central segments of the anterior ramus expanded and produced backwards, the inner surface of both densely covered with hairs.

Cirri 2-6 not far removed from 1st cirrus, slender, armed anteriorly with two rows of long stiff but slender chaetae and posteriorly with terminal bunches of slender hairs, the largest of which are a little longer than the segment to which they are attached. Each bunch proceeds for a short distance down the back of the segment; those of the 6th cirri are feebly developed.

Anal appendages long, slender and tapering, consisting of a large number of segments, but much shorter than in S. alcockianum. The basal joint much the longest and somewhat expanded and flattened from before backwards.

Penis. Rather short, smooth, slender and pointed.

Mouth Parts.

Labrum. Small, not at all bullate; labial palp slender, pointed.

Mandible. Rather small, variable in dentition, but with three main teeth in addition to the inner angle, which is variously divided and broad as a whole; the outer tooth remote from and larger than the 2nd and 3rd, which are equal and situated rather close together.

Maxillae. Relatively large, with a broad shallow excavation on its upper margin occupying more than half the margin, the remainder of which is obliquely subtruncate. The two outer spines very stout but not lengthy.

Outer maxilla remarkable for the great development of the olfactory organ, which takes the form of a blunt conical process about half as long as the appendage is broad.

Family Lepadidae.


R. A. Soc., No. 74, 1916.
BARNACLES FROM DEEP-SEA CABLES.

Subfamily LEPADINAE.


Genus *Heteralepas*, Pilsbry.


Subgenus *Heteralepas*, Pilsbry.

*Heteralepas gigas* (Annandale).


The type-specimen was taken by Capt. Worsley in Bali Straits on a cable at a depth of 160 fathoms. There are numerous specimens from the Java Sea (lat. 10° 22' 30" (S.), long. 120° 7' 30" E.; 130-500 fathoms) in the Raffles Museum. The latter are considerably more swollen and distorted than the former and show that the animal must have had a gelatinous appearance in life much like that of the *Alepas* found attached to medusae on the surface. The hairs I described on the external surface of the type do not belong to the animal but are the remains of a Hydrozoan attached to it. I reproduce a photograph of a specimen from the Java Sea.

The type-specimens of *Poecilasma* (*Glyptelasma*) *gigas* were found attached to the peduncle of examples of this species.

Subgenus *Paralepas*, Pilsbry.


*Heteralepas malaysiana* (Annandale).


Subfamily POECILASMATINAE.

Genus *Poecilasma*, Darwin.


Subgenus *Glyptelasma*, Pilsbry.

This subgenus only differs from that which contains the typical forms of *Poecilasma* in the peculiar structure of the base of the carina. Pilsbry regards it as intermediate between *Poecilasma* and *Megalasma* and as probably ancestral to the latter, under which he places it. The species now to be described, however, though it evidently comes into the subgenus is in most respects a true *Poe-
cиласма and I think that Pilbry's Glyptelasma has on the whole greater affinity with Darwin's genus than with Hoek's Megalasma, in which the umbo of the scuta has undergone a peculiar rotation.

_Poeclilasma gigas_, sp. nov.

(Pl. IV, fig. 4; pl. V, figs. 10-14, pl. VI, figs. 7, 8).

This is one of the largest species as yet known either in Poeclilasma or in Megalasma. It has also a longer peduncle than is usual in either Megalasma or Glyptelasma, both of which usually differ in their very short peduncle from the more Lepas-like Poeclilasma (s. str.). The form of the base of the carina is characteristic of the species.

**CAPITULUM.**

The capitulum is large, rather narrow, strongly compressed in the tergal and carinal regions and only moderately inflated in the scutal. In form it is nearly rectangular, but rendered asymmetrical by the strong backward slope of the upper margin. The valves are nearly smooth, white and opaque; they are separated by lines of membrane and covered with a rather thick brownish cuticle, which is usually torn.

_Terga_. The terga are broad but have comparatively little vertical depth. They are rendered quadrangular by the fact that the posterior angle is distinctly truncated by the apex of the carina. The backward slope of the valve is well marked, its margins are all straight and its apex though not retroverted forms a very acute angle. The occludent margin almost forms an angle with that of the septum, being directed backwards as well as upwards. There is a well-developed triannular tooth at the outer end of the lower margin on the inner surface of the left valve, but none on the right valve.

_Scuta_. The scuta are large, quadrangular in outline, moderately inflated in their basal parts, and symmetrical externally. The carinal margin is arched, the others almost straight. The occludent margin is, however, a little rounded below and the basal margin, which is the shortest of the four, slightly concave. The umbo is slightly introverted. The occludent margin is much the longest. There is a well-marked groove running along the basal margin above the edge. The right valve bears a blunt tooth on the inner surface at the basal occludent angle. This tooth fits into the concave surface of a short process in the corresponding position on the other valve.

**Carina.** The carina is of normal length. Seen from the side it is strongly arched and narrow, especially above, but bears at the base two short transverse processes with blunted extremities that impinge on the inner ends of the basal grooves on the scuta. Seen from behind the valve is quite flat in its upper half but strongly carinate towards the base, at which the carina terminates in a sharp,
slightly introverted point; the apex is subangulate and a little expanded. The transverse basal processes are strongly carinate, their carinae meeting that of the dorsum at a right angle but not extending so far outwards towards the surface of the capitulum. The inner surface of the carina is flat above; below it is deeply but narrowly grooved. The basal floor is slightly concave inwards and terminates at either side in a blunt tubercle.

**Peduncle.**

The peduncle is slender and cylindrical, sometimes nearly as long as the carina. In the specimens examined it is much wrinkled, but this condition is probably artificial. It is quite naked.

**Cirri, etc.**

*1st Cirrus* short, slender, with the basal segments of both rami very long; the anterior ramus a little longer than the posterior; both rami somewhat bluntly pointed.

*2nd-6th Cirri* slender, rather short, with the anterior bristles numerous and well-developed, long and rather stout, the posterior hairs forming short transverse bands across the posterior surface of the tips of the segments; some of these hairs on some segments longer than the segment, but the majority distinctly shorter.

*Anal appendages* short, conical, having on the upper part of the opposed surfaces a small, ovoid, flattened squamose area; a scanty vertical row of bristles borne on the upper part of this area and extending over the tip of the appendage; the bristles of variable length but the apical one much the longest.

*Penis* long, slender, smooth; the tip rather blunt, bearing a dense bunch of soft hairs.

**Mouth-Parts.**

*Labrum* short, triangular, armed at its base with a semicircular row of minute conical teeth; the teeth in the middle part of the row much smaller than those in the outer parts. Labral palps short and rather stout.

*Mandibles* evidently very variable, with a considerable number of teeth, narrow and long.

*Maxillae* broad; the only chaetae of large size at the outer angle; a well-marked excavation occupying nearly one-half of the margin, the inner lobe of which is broadly rounded; a few short bristles present at the base of the excavation; no stout chaetae on the lower part of the margin.

*Outer maxilla* of normal type.
MEASUREMENT OF TYPE.

Height of capitulum .... 24 mm.
Breadth of capitulum .... 13 "
Thickness of capitulum .... 6.5 "
Length of peduncle .... 12 "
Diameters of peduncle .... 6 x 4 "

Type-specimen. Crustacea, 9322/10, Zoological Survey of India (Ind. Mus.)

Locality. 10° 22' 30" (?S.), long. 120° 7' 30" E. (130-500 fathoms).

The species is an isolated one, intermediate between the genus Megalasma, Hoek, which it resembles in the structure of its carina, and Poecilasma, Darwin, with which it agrees in other points. On the whole it seems to be most nearly related to P. kaempferi, Darwin, a Japanese species with local races in many seas. It is easily distinguished, however, from all of these by its large size and by the form of its carina.

The type-specimens were attached to the peduncle of Heteralepas gigas: a considerable number of specimens were found thus associated with a group of that species from a telegraph cable. Other, smaller examples were fixed to the capitulum of the type of Scalpellum nudipes from the same locality.

Description of Plate IV.

Fig. 1.—Type-specimen of Scalpellum (Smilium) nudipes, sp. nov., with young specimens of Poecilasma (Glyptelasma) gigas attached to its seuta.

Fig. 2.—Type-specimen of Scalpellum sociabile var. parviceps, var. nov.

Fig. 3.—Type-specimen of Scalpellum persona, sp. nov.

Fig. 4.—Type-specimen of Poecilasma (Glyptelasma) gigas, sp. nov.

Fig. 5.—Specimen of Heteralepas gigas (Annandale) from the Java Sea.

All the figures are of the natural size.

Description of Plate V.

Scalpellum nudipes, sp. nov.

Fig. 1.—Part of 4th cirrus (greatly enlarged).

Fig. 2.—Body from behind, showing anal appendages and base of 6th cirrus (x 4).

Fig. 3.—First cirrus (x 2).

Fig. 4.—Mouth-parts in lateral view (x 4).

Fig. 5.—Immature male (x 8).

Fig. 6.—Capitulum of adult male (x 8).

R. A. Soc., No. 74, 1916.
Scalpellum persona, sp. nov.

Fig. 7.—Outline of capitulum and capitular valves (reduced).
Fig. 8.—Dorsal view of anal appendage (x 10).

Scalpellum sociabile var. parviceps, var. nov.

Fig. 9.—Right anal appendage as seen from behind (x 15).

Poecilasma gigas, sp. nov.

Fig. 10.—Lateral teeth and right lateral palp as seen from in front (x 75).
Fig. 11.—Part of fifth cirrus (greatly enlarged).
Fig. 12.—Oblique internal view of anal appendage (x 15).
Fig. 13.—Base of carina and right scutum in lateral view (x 3).
Fig. 14.—Internal view of base of carina (x 8).

Description of Plate VI.

Scalpellum nudipes, sp. nov.

Fig. 1.—Mandible (x 10·66).
Fig. 2.—Maxilla (x 10·66).

Scalpellum persona, sp. nov.

Figs. 3, 3a.—Mandibles of type (x 12).
Fig. 4.—Maxilla (x 12).
Fig. 5.—Outer maxilla (x 20).

Scalpellum sociabile var. parviceps, var. nov.

Fig. 6.—Mandible of type (x 6·66).

Poecilasma gigas, sp. nov.

Figs. 7, 7a.—Mandibles of type (x 20).
Fig. 8.—Maxilla (x 20).
A Kelantan Glossary.

BY W. E. PEPYS,
F. M. S. Civil Service.

Introduction.

The omissions and shortcomings of this glossary will be obvious to the many Europeans who have some knowledge of Kelantan Malay. The only excuse for its publication is that I know of no other published collection of Kelantan phrases and idioms except Mr. A. J. Sturrock's article "Some Notes on the Kelantan Dialect," published in the Journal of the R. A. S. (Straits Branch) in December 1912, to which I am much indebted in the compilation of the following pages.

It has been my object to include (1) words and expressions peculiar to Kelantan, most of which have a Siamese origin, (2) words used in Kelantan in a different sense to that in which they are usually found in the F. M. S. and (3) words which, though common in literature, are rarely heard colloquially in the F. M. S., though daily used in ordinary speech by Kelantan Malays.

Most of the words included I have noted when first heard in the mouth of some Kelantan Malay; but some too have been in the first instance supplied me by various Malay clerks, whose assistance I gratefully acknowledge.

I am also indebted to Mr. R. O. Winstedt, to whom I showed this collection, for criticism and advice.

In such a compilation as this, spelling presents an unusual difficulty; since most of the words being essentially colloquial and rarely if ever written, there is no standard. I have in the majority of cases followed phonetic spelling.


W. E. PEPYS.

Pronunciation.

Malay as talked in Kelantan is in many ways different from the language spoken in the Western States; and the European who comes here from the other side hears a jargon, the worst feature of which (from his point of view) is not the intersprinkling of Siamese or local terms, which he may soon pick up for practical purposes, but the clippings and contortions of words he used to know but in their new form fails to recognise. Nor is the difficulty confined to Europeans: Malays from Perak or Selangor find it almost as hard at first to understand or make themselves understood.

The following are a few of the more obvious differences in Kelantan pronunciation as compared to that of the Western States.

(1) Final - a - ah - ak - ar become - aw.
Every where there is a tendency among Malays to pronounce apa or mana, when spoken by themselves, as if they were apah or manah: in Kelantan this is intensified, and the sound is definitely apaw, manaw, kilaw, etc.
So too one hears timaw for timah, kakaw for kakak and (though less pronouncedly) bésor for bésar.

(2) Final -am, -ang, -an become -ain.
Words like pélang, tuan, are pronounced so as to rhyme exactly with the French termination—ain in "demain" or "bain:" e.g. "Awang datang samalám, Tuan," has a nasal ring very different to the effect of the same sentence pronounced on the other side.
But most monosyllables, e.g. lain, kain and main are exceptions to this rule, and are pronounced as elsewhere. Cham however becomes "chain."

(3) Final - ai become - ò.
e.g. pakai is pronounced pakă, tupai is pronounced tupă.

(4) Medial - m or n before another consonant is omitted.
Thus Kélantan becomes Kélátain, and tumpat tupat: in the case of the latter word, the final -t is practically inaudible, and thus the pronunciation of tumpat is indistinguishable from that of tupat noted above.

(5) Final - s inaudible in many words.
e.g. lèpá for lèpas, sa-bala for sa-balas (resembling) sa-bêla for sa-bélas (eleven). But the -s here taken away is reinstated sometimes where it has no business to be, e.g. duas for dua, Dollas for Dollah, pulos for puluh, and bharus for bharu.

(6) Medial - ng before k is often omitted.
Thus longkah (which takes the place of the more common lekong in the F. M. S.) becomes lokah and chongkil choki.

Phrases for Divisions of Time.

Of the phrases given in Maxwell’s Grammar, a few only are heard in Kelantan in common use, viz.
Jinderu budak, about 9 p.m.
Tuli tenggala muda, about 9 a.m.
Tuli tenggala tua, about 11 a.m.

Lepas sembanyang jumaat is more commonly heard than the technical phrase “lepas baadah salah.”
The ordinary Kelantan Raiat more often employs, in place of these picturesque phrases, the name of the Mohammedan periods of prayer, somewhat loosely, to denote stages of the day, viz.

Dlokor: any time from 12 noon to 2 p.m., and lepas Dlokor 2 p.m. to 3 p.m. [So too pernama Dlokor, the middle of the period, for 1 p.m. and even for 1 a.m.].

Asar: Any time from 3.30 p.m. to about 6 p.m.

Maghrib and Isha for after dark.

Suboh, daybreak, does not trouble him much: [bēlum chērah or bēlum ayam terkukor is the phrase he employs for that period].

But the only way by which he can denote at all accurately at what o'clock a given event took place, and the method he feels most at home in using, is by pointing and indicating “matahari bagitu,” taking himself as noon, behind his back as A.M. and in front of him as P.M.

Numbers.

“Lēkor” a score is in common use to describe numbers in the twenties. One never hears dua puloh tujah naturally from a Kelantan Malay but tujah lēkor.

Again the use of tēngah is commoner than on the other side: Tēngah ampat puloh, not tiga puloh tēma.

Sa’, abbreviated from satu is common: tiga puloh sa’, korang sa’ ampat puloh.

In expressing sums which fall short of a round sum by 50 cts. use is made of sa’ mas, e.g. korang sa’ mas $50, = $49.50 cts.

Personal Pronouns.

The most remarkable use is that of kita for “you.” This is rather a polite use, or rather kamu is ruder. Kita (pron. kitaw) is the usual word.

It is also often used for “I.”

Dēma is often heard for “they.” It is really a corruption of dia sumua, but illogically enough it is sometimes used for dia, “he,” singular, and even for “you.”

ACHAP KALI.

Ambo. Often.

Pronounced ’mbu. Elephant language: said by the driver to make a kneeling elephant get up.

Anchak. Drying fish screens.

Andor. The cry of ploughman to his lembu to urge it to go to the left, pronounced No No: to the right is cha chi chi.
A KELANTAN GLOSSARY.

ANGIN BESAR. The great wind which swept Kelantan from shore to ulu about 30 years ago, tearing up houses and trees, lifting boats out of rivers and depositing them on dry land. This dates everything to the older generation in Kelantan, just as the "entry of the orang puteh" does in the F. M. S.

ANJING. Męnganjing, to pull one's leg, try to be funny.

APAR-APAR. Jelly fish.

ARA. Tiada ara = tiada daya upaya, "Impossible."

AREK-AREK. cp. Tidor ayam: to doze, but with one's ears open for any unusual sound: not fast asleep.

AWAK. Awak-awak perahu: the crew of a boat, anak perahu.

AYAR. Of children and animals, something like Nakal: "up to tricks," "restless," "a "handful."

BABOK. Stupid.

BADA. Bada-bada is a phrase expressing inevitability, nolens volens.

BADIK. A small dagger = the Phg. tumbok lada.

BAGIH. A form of pęteri without music: the bagih is the medium who shakes his head until he gets into a trance, and then replies to the questions of the Mindo (Bomo).

BALAH. Quarrel, ill feeling, grudge. Kila ber-balah sa-umur, "we have an old feud."

BALAR-LAH. = Tid'apa, biar-lah.

BALAS. With prefix sa-: sa-balas (q.v.) dęngan = resembling. An odd sounding phrase is sometimes heard: it sounds like Balas itu kenek: this is really sa-balas dęngan itu-kah ini?, a question, and resolves itself into the more simple Bągitu-kah?

BALEK. Balek sana 30 = more than 30.

BALOH. = Jelapang, padi granary.

BANGAT. To hasten, hurry.

BARAT. Indicates Southern Siam, as Timor indicates Singapore, Johore and F. M. S. (vide Mętimor).

BAROH. A wet rice field (pron. Barus) = Savah.

Jour. Straits Branch
Beka.  
**Bér-bèka** flirting, carrying on an intrigue.

Bekal.  
Common colloquially for food, provisions.

Bekas.  
**Bèkas Toh Kweng**, the ex-Penghulu.

Belimbing Kris.  
The Kelantan name for the fruit called **belimbing manis** in Pahang, because it is used for cleaning the blade of a **kris**.

Benar.  
**Orang këbhènaran** = **orang bunian**, the good fairies in the jungle. **Orang këbhèneran** is also a common euphemism for Government servants, especially Police: cp. **orang tengah**.

Bengkeng.  
pron: **bëkeng**: fierce, irascible, of men as well as animals.

Berbewah.  
To give a wake (**kënduri**) for the dead.

Berhuma.  
Rice planted on a cleared patch of jungle, distinct from **tugalan** (q.v.), although the method of planting on each is the same.

Beri  
**Pëmbrian hidup** = **hèbah**, a gift inter vivos.

Berlaga.  
Not confined to the fighting of large animals. In fact **bërlaga ayam** is more commonly heard than **menyabong**. **Bërlaga angin**, to get on well with a person. **Tiada bërlaga angin**, “I can’t stand him.”

Bichara.  
**Bichara mal**, a civil case.

**Bichara jënaiah**, a criminal case.

**Kërat bichara**, to give judgment.

Bojing.  
Hair brushed with a parting: **=suak**, **ber-këröl** (Johore).

Bong.  
A cock-pit.

Bua.  
**Dua buah rumah** does not necessarily mean two separate houses (which would be indicated by the use of **suku**) but two divisions or rooms of what we should call the same house, separated by an uncovered passage (**jëmuran**).

Buas.  
Besides its ordinary meaning ‘fierce,’ ‘wild’ of animals, **buas** is used of a naughty mischievous child. Applied to grown up persons it means immoral.

Bujang.  
The usual word for widow: **janda** is rarely used.

R. A. Soc., No. 74, 1916.
A KELANTAN GLOSSARY.

Buleh Kelik. "To get back" a thing that was lost: buleh here has its full possessive sense = posses rei.


Butir. A small lump on the surface of a lēmbu’s skin which the owner will quote as his distinguishing mark, cp. pusaran. Butir is also the numeral coefficient used with pusaran and padang (padi field) besides its normal use with fruit, jewels, seeds, etc.

Cha Chi Chi. The cry of a ploughman ordering his lēmbu to go to the right.

Chak. = changkul; chak bētul = a ‘hoe,’


Chanchang. Standing upright.

Chatok, Menyatok. To sit or squat (dudok bersila).

Cherik. To carry in the fingers, with arm at full length hanging down.


Chedongan. Tanah chédongan = sawah, bendang, a rice swamp to which the rice seed is transplanted from a nursery. Vide tugal and bērhumā.

Che Weh. Che Che Weh a euphemism for tiger in jungle.

Chelika. = chérdek, cunning, but always in bad sense.

Chemoh. = jēmu. Sated, "fed up."

Chendana. A sīreh set.

Cherah. Korang chērah = korang pēreksa, but more polite: "I am afraid I don’t know."

"It is not clear."

Chokih. To carry on a stick over the shoulder.

Chut. "To let go," when one has one end of a rope, or to "let out," the string of a kite.

Damah. To lose money in speculation.

Dapat. Common for to recover from illness with or without the addition of sihat. Da- pat sadikit "A bit better."

Deka. With one arm deformed i.e. bent.

Jour. Straits Branch
DEMA. "They" a corruption of dia sēmua but sometimes used illogically for dia singular and sometimes for "you."

DENING. Sa-dēning = "a pair," used only of yoked oxen.

DEPA. The dēpa in use in Kelantan is the Siam-ese, 6'6 feet.

DERAK. "To find out" = pareksa, siasat.

DERAR. Bērdērar = bērgilir, taking turn and turn about.

DONG. Hērla dong = property which one possessed prior to marriage, as opposed to property acquired during marriage, (sa-charian).

EMBING. Very, excessively. Embing dia kēna hukum, "he got a heavy sentence."

ENDOR. Cradle.

GAGOK. = gagap, to stammer.

GĀK. An affix = juga (vide siat).

GAYONG. Bērgayong = the dance known as bērsilat, (which term is rarely heard).

GEGER-GEGER. = Bising, to make a row (colloquial).

GELAR. Breadth of horns. Tandok sama gēlar = horns the same breadth all the way.

GEMOLAH. = Si mati, "the deceased."

GERAI. = Pangkeng. Not confined to the marriage couch, but = sleeping bench, generally. It is also used of Market Stalls.

GERUN. (1) Faintness at the sight of blood: (2) dizziness at high altitudes, and the feeling one must fall. Cp. gayat, and (Phg.) sērun.

GETEK. "Also."

GOK. (hard g) = Gaol. Gok ayan = Rēban.

GONDEK. Tandok gondek = drooping horns ( = tandok badul).

GONG. Stupid.

GU. Sa-gu "a pair" (of rings) besides a "yoke" of oxen. Gu lak ini = sa-rupa dēngan ini, "another exactly the same."

GUAMAN. A court case. Anak guaman = parties to a case. Bērguam, to go to law.

GUDANG. Usual for a shop. Kēdai is a market stall.

GUNDOL. A tally.

R. A. Soc., No. 74, 1916.
GURI.
If a shopkeeper tells you to bêrguri, it means that for your first purchase of all you must pay cash but for anything else you will be allowed credit.

HABOK.
Tiada sa-keteh habok (or habu), an emphatic negative, "There is none at all;" "It is all gone." Sa-keteh is only found in this phrase. Ta'pakai sa-kali habok, "I never use it at all."

HAK.
(Arab, = "property"), the common possessive pronoun in Kelantan. Hak kita = mine (sahaya punya). Not used as an adjective: one cannot say Rumah hak kita for "my house," but Rumah itu hak kita for "That is my house" is correct. Sometimes Hak ini, i.e. "this" simply: or hak tua, "the old one."

HALA.
Direction: Hala ka darat. Hala ka sana, in that direction.

HERAU.
Ta'herau = ta pêduli, "don't care."

HUNGGAH.
(pron: honggah), to hasten, run quickly.

HUSANG.
Bêras husang, rice over from last year.

HUTANG.
In Kelantan is used as a delicate way of referring to a loan. Few Malays will openly say "I want to pinjam $5 from you:" but most will suggest that they shall hutang you as much as they think you are good for.

IBU.
Sa ibu, dua ibu, etc.: "once," "twice," etc. of blows, stabs, snake bites and insect stings.

IGAT.
=tangkap, to catch or arrest.

IKAT TANGAN.
A method of making one's guests pay—and overpay—for their dinner or entertainment by sending round the hat.

JAM.
A round in cock fighting, marked by the fall of a small cup with a hole in the bottom, which is placed in a bowl of water: when it is full it sinks, and the round is over.

JANGAK.
Used of men and women = "smart," "got up to kill," e.g. pakai jangak. So "mahu jangak ka-mana?" "Where are you off to, dressed in all your best?"

JEBAT.
= Black.
JEMOK.  
Bêrjêmok = muafakat, to consult.

JEMURAN.  
The uncovered passage connecting two divisions of a Malay house (2 buah rumah).

JENAIAH.  
Bichara jênaih = "a criminal case."

JENALIT.  
= biasu, familiar with, well acquainted with.

JENTING.  
With one leg shorter than the other.

JERAGAN.  
(a corruption of juru agon), the usual word for Captain of a boat (nakhoda).

JERIT.  
The usual word for "to call out." (têriak) is mênjërit. It generally implies alarm or excitement but not necessarily great fear.

JUJOK.  
Bêrjujok. In single file.

JUJU.  
Said by driver to make an elephant pick up something and give it to him.

JURU.  
Much used in Kelantan to express an agent: e.g. juru pëmikat, juru silam, juru tukang and jeragan noted above. It is often used where in the F. M. S. the prefix pêr- would suffice: thus of a lëmbu, "Mat was pulling it, Ali driving it from behind, Mat juru hëret, Ali juru hambat. Juru kakak, a distinctive use of juru for an extra domestic servant or assistant at an entertainment.

JURUS.  
Clever, smart. So negatively ta'bërara jurus, "Not quite all there."

KADAH.  
Bêrkadah = different; bërbëza (which is rarely used).

KAKAK.  
The usual word for abang, elder brother. To specify the female, Kak nik or Kak wan is used. (2) Kakak bulan yang habis, = the month before last.

KASA.  
A brass "cakestand" or plate for eatables on a pedestal.

KECHEK.  
Very common for "to chat." It often implies an intrigue. Dia kechek bëlîna hamba sa-umur, "he is always trying to flirt with my wife."

KECHOK.  
= Kekok, awkward, clumsy.

KEDAI.  
A market stall. Gudang is "shop."

KEKAH.  
To bite, of dogs or humans in a fight.

KELEH.  
Usual word for "to see."

R. A. Soc., No. 74, 1916.
A KELANTAN GLOSSARY.

Kelepek. With sticking out ears.

Kelik. To return. Buleh kelik = to get back (something that was lost).

Kelintasan. Kéna kélintasan = térkéna, is to be struck by an evil spirit of any kind, e.g. resident in a well or ditch which one passes.

Kelok. To call out (= teriak). Sa-jauh mana rumah kita dengar rumah dua? Kelok dengar. “How far is your house from his? Within earshot.”

Kemesek. Easily done, not difficult.

Kenaling. Trembling from fear, = mënggelitar.

Kenderi. 3 cents (not a coin): Sa-kendéri dua, a paraphrase for “cheap.”

Kepala. Sa-képala, a team or troop: less common than sa-puak.

Keping. Satu képing = a ‘pitis’ (q.v.).

Keraja. = chukai, duty, tax.

Kerat. Bichara, to give judgment: kératau a judgment.

Kerek. (= Rapat) too close together, e.g. of trees too closely planted.

Kerja. (Besides “work) the usual name for any kind of entertainment (kënduri)” — tuan kërja, the giver of the entertainment.

Kerto. The wooden clapper or bell around the neck of buffaloes cattle or sheep (= kéron-chong).

Kesok. = Kësak (F. M. S.) to move up, make room.

Ketam. Mengétam padi, the usual word for harvest (= Phg. menuai).

Keterai. An acid fruit, something between a jambu and a belimbing.

Keting. = Knee of a lëmbu or kërbau (not Tendo Achillis). (2) Mëngétìng = to claim.

Khabar. ‘Ta’khabar’ unconscious; more common than “ta’ sadar.”

Kira. A very common Kelantan word: it is used of the preliminaries before money changes hands in any kind of transaction. E.g. “kira biyas” = to see about buying rice. (2) Masok kira, to interfere, to be a busy body.
KIRIM. To entrust money or anything else to another’s keeping (= pérchayakan).

KITA. The usual word for “you.”

KOHOR. Kohor dahulu = sabar dahulu, wait a little; kohor kohor = pérlahan-pérlahan, “slowly.” Sometimes also chakap kohor-kohor, to speak softly.

KOLEK. Not a little canoe like the Tioman kolek, but a big fishing boat costing about $200 like the Pahang Jalak.

KUDI. A unit of timber measure = 20 képing.

KUET. Said by driver to make an elephant clear branches etc. out of his way.

KUKAR. Kukar kukar (onomat.) for the restless moving of oxen in the stable.

KUPANG. 12½ cents, not 10 (not a coin).

KUPI. A small tin box.

KUPIN. = Sengau, talking through the nose.

KUTIR. To pinch, or nip with fingers.

KWENG. Siamese. The territorial division in Kelantan which corresponds to a Mukim in the F. M. S. Toh Kweng corresponds to the Penghulu, a word used in Kelantan exclusively for the petition writer or ‘lawyer burok.’ Mukim is a “Surau” or Mosque division.

LABOT. Naturally, probably: labot-nya jika hujan bagini bah-lah sungai—“If it goes on raining like this, the river will surely flood.” cp. lazim; “judging from experience I should say.”

LAH, OR LAHKAH. (sahaja) to let alone, not to interfere; orang Europa bérpérang orang Mérikan dia lahkan sahaja.

LAH LOH. Come on, hurry up.

LAIUT. Of horns of cattle, sloping outwards slightly at the tips.

LANAS. = Nanas, Pineapple.

LATLAIU. Irregularly “Dia datang latlau;” “sometimes he comes, sometimes he does not.”

PELAWAK. To lie—more common than Bohong.

LAYANG. Layang rumah = the eaves.

BERLELEK. (= tèrlonédék) of a sarong carelessly tied around the breast.

R. A. Soc., No. 74, 1916.
A KELANTAN GLOSSARY.

LELEK.

(1) The same "alike:" it can be used alone or following sa-rupa. "Moga ini lelek dengan itu," "This article is exactly the same as that."

(2) 'Verily, in truth' lek lek dia pukul Awang, têlapi ta' mengaku, he truly did hit A, but won't admit it."

To cast or throw. Cp. pêkong.

= Lumat, "fine," of flour.

Orang lêreh, a rolling stone, one who does not stick long at one job.

= Chêrdik (common).

All spent, all finished (of money).

To surround.

Ignorant, stupid, often followed by bodok — Generally in a limited sense of stupid = hasty, of a man who goes and does a thing straight off without taking sufficient thought.

Immediately, at once.

(Pronounced laûni) now = sakarang.

( ? From gélorat, = géloru) = bangat "to hurry."

To dawdle.

Ber Mak-anak = bêrmudu, the relationship of 2 wives to the same husband.

Aunt.

= Late, unpunctual.

Béri mai = to suckle, menyusukan.

Bichara mal = A civil case.

Sa-mas = 50 cents.

Dia sêlalu masok kira = he is a busy body, meddler. (Cp. Pahang Ganggu, sêle-weng).

Bêli menda = to get a thing cheap.

To claim = tuntut.

"To adopt Eastern habits," said of a person just returned from a more civilised country e.g. Johore, Singapore, or even from the F. M. S. (though not cast of Kelantan) and adopting un-Kelantan talk and habits which include the saying of punya every other word.

Jour. Straits Branch
Menunggah. Of thing sold one for one pitis (a coin ½ cents [like “one a penny”]) a pitis being the chief unit of currency in the Market. Jual menunggah = ‘a pitis each.’

Menyatok. To “Squat,” bërsila.

Menyihau. (Onomat:) “lowing” of oxen.

Mestah. Buah mesta = manggis the mangosteen.

Mindo. The Bomo in a ‘Bagih’ q.v.

Moga. A “thing”—vague, nonspecific—“Moga ini” ‘this article’ “this what’s-its-name.”

Molek. Pretty, excellent = the Pahang Elok.

Moreh. The Kelantan variation of Marah.

Muda. Anak muda, “virgin:” more common than anak darah.

Mulih. A small mark like the Pusaran q.v.

Nangga. Ploughshare.

Nering. (Siamese) the Këtua of a Kampong. These are the administrative officers under the Toh Kweng (Penghulu).

Nya. Attached after personal pronouns without any special meaning, e.g. Hamba-nya “I” and itu-nya. Ini-lah Sayid-nya, “This is Sayid.”

Ok. Bearable, of sickness or a wound.

Olength. “Rolling” of a boat, from bergoleng.

Padang. A padi field, or stretch of padi fields.

Pakau. A small hillock = (Pk.) changkat.

Palu. Land given to bride in part or wholly instead of the usual cash “bëlanja kah-win.”

Pangan. Orang Pangan = Sakai.

Panggong Ayer. A dam on a watercourse.

Patah Tabuan. A description of dark red colour, but lighter than Nibong. Black with some dark red.

Patut. Used differently to its common use, as “probable.” Patut Mat churi lëmbu itu “I suspect Mat stole that cow.”

Pa’uhi. A silly ass. “Jangan buat pa’ uhi déngan hamba,” don’t play the fool with me.

Pauh. Buah Manggah, Manggo.
PATAH TABUAN. A description of dark red colour, but lighter than "Nibong." Black with some dark red.

PEKONG. To throw = baling.

PELEKA. = herau (q.v.) to take notice of, pay attention to.

PELIMA GELANGGONG. On the day that a bersilat pupil "passes" and emerges from his novitiate he is said to be the "pélima gélanggong," and gives a feed and presents (a Songkok, etc.) to his guru. He is now eligible to be a teacher himself.

PENAKA. P. děngan "like," identical with.

PENGAS. Lascivious, fast, of a young girl.

PENGHULU. A native pleader or petition writer, generally used disparagingly as laxsýer burok. (The F. M. S. Pěnghulu corresponds to the Toh Kweng).

PENJURU. A land measure, 400 square depa. 2½ penjuru = 1 acre.

PERAH PERAH. Onomatopoeic sound for rain. "Drip drip."

PERAT PERAT. Onomatopoeic sound for foot steps "Pit pat."

PERAK. The most common word for money generally: when speaking of coins it means dollar pieces exclusively.

PERHISAB. (From Arabic Hisab which ordinarily means "to calculate") used in Kelantan for "to search," e.g. of a Policeman searching a house on a search warrant, pron. Pěsa.

PERIT PERIT. Mata: Squinting or twitching eyes: cp. chèdēra.

PERLAHAN. Chakap perlahan perlahan to speak softly (not "slowly").

PERNAMA. Pěrnama bulan the full moon: the kampong man's ability to date an event is generally confined to saying whether it occurred bělum pěrnama or lěpas pěrnama—before or after the middle of the month.

Pěrnama dlohor: about 1 p.m., i.e. the middle of the period.

Jour. Straits Branch
Peteri. *Bermain pétéri*, any kind of incantation or magic seance, but usually in a sick house. The *pétéri* is the medium who becoming possessed drives out the evil spirit from the sick person. Unlike the bérbagh (q.v.) it is a musical ceremony.

Perwai-wai. A notice; *pérwawakan*, to give notice.

Petoloh. A pimp.

Pitis. A round tin coin with a hole in the centre 5 go to a cent.

Poho'. Soft, properly cooked of meat.

Po' Ngo'oh. Irritable.

Pongok. *Sombong*.

Pongsu. Ant heap = *busut*, which is rarely used.


Pueng. *Bérpueng*, to struggle with someone detain-ing you and try to get away.

Punah. Adjective, 'wicked.'

Punjor. $20 *punjor*, = $20 odd.

Pusaran. The natural centre of a crest of hair on a cattle, corresponding to the crown of a head of hair. A Malay owner will carefully count these and, if his bullock be lost, can enumerate how many *pusaran* it had and where.

Puting. A numeral coefficient with teeth.


Rasa. *Bérasa* = uzur, indisposed.

Rating. *Bérating bérasabi*, connected with.

Rek Ngam. *Padi rek ngam* is rice planted in a swamp (*baroh*, q.v.) but reaped before the Mon-soon, when the padi *chédongan* (q.v.) has only a short time been moved from the nursery.

Rembas. To hurl to the ground: *bérembas*, to strug-gle.

Riang. Elephant language: said by the driver to make the elephant avoid a tree.

Riayal. The common word for the Straits dollar (ringgit).

Riok. 'Lame,' not the result of a fracture.

Rok.  
*Hutan rok* = belukar.

Rompong.  
Lacking a nose.

Royang.  
(Pron: *Royain*) the wayang Kulit.

Royat.  
The Arabic for narrative (= riwayat): this is the common Kelantan word for “to tell,” and may be used equally well for *kata, bilang, chérilakun* and *khâbarkan* (pronounced *roya*).

Sa-  
This prefix is often put before an adjective or adverb of time or place, followed by mana in a question. Thus *sa-jauh mana, sa-bêsar mana, how far?, how big? Sa-lama mana dêngan loh ini? How long ago?*

Sa-balas.  
*Sa-balas dêngan* = resembling, like (pron. *sâbalâ*).

Sa'ik.  
(Pron: dissyllabic) ‘Warm” of body, damp with slight perspiration.

Sain.  
‘Intimate with,” “friendly with.” = *kawan.* Not only “travelling together.” *Hamba bér Bain dêngan dia sa-umur, I am an old friend of his.*

Sakar.  
Persian, for sugar, is common, not *gula.*

Sakendri Dua.  
A paraphrase for “cheap,” a kêndri being 3 cents (not a coin).

Salalu.  
The universal word for continuity of action = forthwith, straightway. *Langsong* is rare.

Sa-marap.  
The distance from the elbow to the knuckles of the clenched fist: i.e. less than a hasta by the length of the fingers.

Sa-mentara.  
Usual word for boundary (*sêmpadan*).

Sampeng.  
(pron: *sâpeng*): *rumah sâpeng* a brothel.

Sa-penanak Nasl.  
A paraphrase for 4 hour: as long as it takes to cook a plate of rice.

Sa-tangan.  
=*Tengkolok*, a head kerchief.

Sa-umur.  
The usual phrase for “a long time,” but not necessarily “all my life,” “a lifetime.” Also “often,” “always;” *Dia mari sa-umur, “he often comes.” Dia makan chandu sa-umur, “he is always smoking chandu.”*

Selibah.  
*Bérâlibah*, confused, not clear.

Semping.  
Lacking an ear.

Jour. Straits Branch
A KELANTAN GLOSSARY.

SENAI.

SENDUNG.

SENGELING.

SENG.

SER.

A list.

To "tie up securely" a boat or buffalo.

= dēngan sēnga, "on purpose."

= lagi. Hilam seng, "blacken."

Only found in negative. Ta ser = ta maku.

Cp. Phg. Ta' amboh. [pron: Ta' sāy].

There is an expression pronounced say ay, an abbreviation of Ta' ser ayer = "water funk" of children, but extended so as to include dislike of mud and even of medicine. [The same word as Sir, lust].

SERAMPANG.

SEREK.

If one happens to pass a lot of things in a heap and picks one up and takes it away, one is said to sérek sadikil.

SEROH SERAIH.

(onomatopoeic) Scratching on floor, etc.

SERUNAI.

The batang sērunai is that part of a sarong kris which is just below the cross piece (sampilan) and just above the join with the batang proper.

SIAT GAK.

= Jangan-lah.

SILAM.

Hukum menyilam, the ordeal by diving.

SODOK UDANG.

Of horns, = sticking straight out. Elsewhere cp. Sinar matahari.

SUAR.

Before a bull fight, the animals which are to fight are taken in couples to look at one another across a hurdle, and it is then decided whether in size and demeanour they are properly matched. This mutual inspection is called Bērsuar.

SUHU.


SUSUT.

The general word for "to hide," apparently an extension of its literary and western meaning "To place under."

TAKUT.

Often used like "I fear," "I am afraid" colloquially in English when fear is not really meant, e.g. Takut dia tiada, "I am afraid he may be away." Really = "perhaps." Rumah siapa ini? takut beak Che Mat, "Whose house is this? may be Che Mat's."
Tali Tangan.  More common than gēlang for 'bracelets.'
Tandeh.  Senyap tandeh or chuchi tandeh = sudah habis, all finished.
Tanyih.  To urge on a cock to fight.
Tar.  Roma buah tor muda, a description of colour of animals, light red yellow (? from lontar).
Tebeng.  To try vainly, persist in a useless effort. "Jangan-lah tēbeng," "its no good."
Teh.  As an affix is a superlative: mahaē teh, "very dear," often sarcastically "molek teh," "what a beauty."
Tejuih.  Prominent teeth.
Tengah.  Orang tēngh = Government servants, especially Police.
Tepong.  Usual where in F. M. S. they would say kueh.
Terunai.  Anak tērunai bridegroom.
Tetirok.  Snipe. Berkek is rarely used.
Thabit, Sabit.  (Arab.) Connected. Ini tidak bērsabīt dēngan hambā, "This has nothing to do with me." Also Hamba bērsabīt dēngan dia, "He is a connection (relative) of mine."
Tirang.  To hit with a stick.
Tohok.  To throw away as useless (buang).
Tokok.  Bertakok, to wrestle.
Topeng.  Tiang topeng, the foremost.
Tuba Tikus.  Arsenic.
Tugalan.  Padi tugalān, distinct from berhumā because the latter always means that jungle has been cleared, whereas padi tugalān is on a flat rice field, from a distance exactly like chēdōngan or barōh (q.v.) but it is higher ground, and the rice is planted direct therein (and not transplanted from a nursery), with the tugal as in bērhuma.
Tukir.  A cylindrical vessel: prond: Tōkēh.
Ucāh Achēh.  = Goyang-goyang, of reeling gait.
Utun.  Appeal.
Wau.  A kite.
Wangan.  A 'lot' of land, = su-kēping.

Jour. Straits Branch
Weh. An interjectory affix of alarm. Bangat weh Quick! Penchuri weh. Thieves!

Notes on the Hukum Menyilam and the Hukum Ber-chelor.

The following is a literal translation of an account of the Test by Immersion and the Test by Scalding given by a Kelantan Malay.

"About twenty years ago, before there were white men in " Kelantan, cases of libel, jealousy, disputed lands, quarrelling, etc., " were tried by the old Malay Judges appointed by the reigning " Sultan.

"Sometimes it was hard for the judge to arrive at a decision, " as both the plaintiff and the defendant were willing to swear in " the mosque with the Koran on their heads. The judge then " came out of the balai followed by the Court Officials, the parties to " the case, and a crowd of spectators. Proceeding to the river bank, " the judge ordered the Court Officials to catch hold of two male " passers by, who were not in any way connected with the matter. " The Judge allotted one as champion to the plaintiff and the " other to the defendant, and ordered them both to dive under " water 5 or 6 feet deep, holding fast to the posts which had been " fixed in the river bed. The party, whose champion rose to the " surface first lost the case.

"Another time two wrong doers were arrested for theft by the " Budak Raja," who did the work of Policemen now-a-days. These " two men accused each other of the crime, and both were willing " to swear or do whatever the judge ordered. The judge called the " Imam, who wrote something on a piece of metal, which was placed " in a big pan full of coconut oil. The oil was then heated until it " boiled, and the two men were then ordered, in front of the guards " and the assembled people, to plunge their hands in and take out " the piece of metal.

"It is wonderful to relate that by some magic in the metal the " one who succeeded in seizing and drawing it out escaped scalding, " and he was declared innocent. But the other, who was adjudged " to be the culprit, had to suffer the consequence of plunging his " hand in the boiling oil.

"This method of deciding a case, called " Berchelor " was " often employed."
INDEX.

A
Abortion by Derris, 129
Acanthus ebracteatus, 155, 261
" ilicifolius, 155, 261
Acheen throne, 150, 155, 172, 175
Acrotema, 228
" costatum, 242
Adinandra dumosa, 244
" sylvestris, 244
Aegiceras majus, 190, 257
Aerides suavissima, 174, 266
Aeschynanthus grandiflora, 228, 233, 259
" radicans, 237, 259
" volubilis, 237, 259
Afzelia retusa, 186, 249
Agathis loranthifolia, 184, 265
Aglaeon vestita, 197, 248
Aglai a odorata, 189, 220, 247
" sp., 247
Aglaiionema oblongifolium, 174
" marmantifolium, 268
Agricultural Society of Bencoolen, 211
Alepas gigas, 298
" malayana, 290
Aleurites triloba, 159, 265
Allomorphia exigua, 252
Alpinia assimilis, 160, 266
" capitellata, 234, 266
" elatior, 225, 266
" mutica, 160, 162
" punicca, 160, 162
" sp., 266
Alsodeia, 219, 243
Altingia excelsa, 183
Anamum biforum, 266
Ananas sativa, 266
Anisophylla trapezoidalis, 250
Annandale, N., On Barnacles, 281
Anoechocilus sp., 266
Anplectrum divaricatum, 253
" glaucum, 234
" viminalis, 253
Antidesma frutescens, 264
Araliasceae, 254
Arachyttae vahlia, 181, 244
Ardisia divergens, 196, 219, 257
" humilis, 175, 178
" javanica, 257
" punctata, 219
Arenga sacecharifera, 244
Argostemma humile, 255
Aristolochia hastata, 263
Artietis Binturong, 200
Arum, 174, 268
Asiatic Society of Bengal, 186
Auber, Captain, 234
Avicennia resinifera, 220
" sp., 262
B
Baccaurea ebracteata, 264
" malayana, 265
" motleyana, 158, 264
Bali Straits, barnacles from, 281
Bannerman, Colonel J. A., 156, 192
Barnacles, 281
Barringtonia macrostachya, 251
" racemosa, 175, 251
" speciosa, 174, 251
Bataks, cannibalism of, 199
Bauhinia bidentata, 165, 250
" emarginata, 250
Begonia, 222, 254
" ebracteata, 254
" caespitosa, 254
" fasciculata, 254
" isoptera, 254
" orbiculata, 254
" pilosa, 254
" racemosa, 254
" sublobata, 254
Bintooron, 200
Blagden, C. O., On Malay History, 127
Brown, Robert, 168
Brucea sumatrana, 188, 246
Bruguiera caryophylloides, 154, 256
" cylindrica, 154
" gymnorhiza, 175, 250
Buettneria brevipes, described, 144
" uncinata, 145
Bufo melanostictus, effect of Derris on, 131
Burkill, I. H., Jack's letters edited, 147
C
Calautica homii, 225
Calder, James, 161
Callicarpa arborea, 235, 261
" longifolia, 261
Calophyllum sp., 243
Calycotteria floribunda, 184, 251
Campbell, J. A. On Tuba poison, 120
Cardiospermum sp., 248
Cassia alata, 155, 249
Celastrus lucida, 247
" pauciflorus, 234, 247
Jour. Straits Branch
<table>
<thead>
<tr>
<th>Index</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celtis attenuata</td>
<td>196</td>
</tr>
<tr>
<td>Chirita Horsfieldii</td>
<td>228, 260</td>
</tr>
<tr>
<td>Cholera in Penang</td>
<td>191</td>
</tr>
<tr>
<td>Cinnamomum Parthenoxylon</td>
<td>203, 263</td>
</tr>
<tr>
<td>Cirropedes</td>
<td>282</td>
</tr>
<tr>
<td>Clausena excavata</td>
<td>162, 246</td>
</tr>
<tr>
<td>Clerodendrum inerme</td>
<td>190</td>
</tr>
<tr>
<td>″ nerifolium</td>
<td>190, 261</td>
</tr>
<tr>
<td>″ paniculatum</td>
<td>261</td>
</tr>
<tr>
<td>″ penduliflorum</td>
<td>163, 165, 263</td>
</tr>
<tr>
<td>″ serratum</td>
<td>261</td>
</tr>
<tr>
<td>″ villosum</td>
<td>261</td>
</tr>
<tr>
<td>Clevera rubiginosa</td>
<td>244</td>
</tr>
<tr>
<td>Cliona vascifera</td>
<td>295</td>
</tr>
<tr>
<td>Clove</td>
<td>152</td>
</tr>
<tr>
<td>Cnestis emarginata</td>
<td>249</td>
</tr>
<tr>
<td>″ florid</td>
<td>249</td>
</tr>
<tr>
<td>″ longifolia</td>
<td>197, 249</td>
</tr>
<tr>
<td>Coelopyrum coriaceum</td>
<td>268</td>
</tr>
<tr>
<td>Colebrooke, H. T.</td>
<td>168</td>
</tr>
<tr>
<td>Conarua ferruginea</td>
<td>163, 197, 249</td>
</tr>
<tr>
<td>″ grandis</td>
<td>249</td>
</tr>
<tr>
<td>″ lucidus</td>
<td>249</td>
</tr>
<tr>
<td>Conarua semidecandrus</td>
<td>197, 249</td>
</tr>
<tr>
<td>″ villosus</td>
<td>249</td>
</tr>
<tr>
<td>Conoeophalus suaveolens</td>
<td>196, 265</td>
</tr>
<tr>
<td>Coomba, Captain J. M.</td>
<td>173, 192</td>
</tr>
<tr>
<td>Cordia campanulata</td>
<td>179</td>
</tr>
<tr>
<td>″ subcordata</td>
<td>179, 250</td>
</tr>
<tr>
<td>Cordyline terminalis</td>
<td>267</td>
</tr>
<tr>
<td>Corypha sp.</td>
<td>268</td>
</tr>
<tr>
<td>Cotton, Pernambuco</td>
<td>169</td>
</tr>
<tr>
<td>Cratoxylon formosum</td>
<td>243</td>
</tr>
<tr>
<td>″ sumatranaum</td>
<td>243, 226</td>
</tr>
<tr>
<td>Cryptolopa muelleri, described</td>
<td>278</td>
</tr>
<tr>
<td>″ sumatrensis, described</td>
<td>277</td>
</tr>
<tr>
<td>Curculigo</td>
<td>235</td>
</tr>
<tr>
<td>″ latifolia</td>
<td>165, 266</td>
</tr>
<tr>
<td>″ spp.</td>
<td>267</td>
</tr>
<tr>
<td>Cyclostemon longifolius</td>
<td>166, 264</td>
</tr>
<tr>
<td>Cyrtandra aurea</td>
<td>260</td>
</tr>
<tr>
<td>″ bicolor</td>
<td>260</td>
</tr>
<tr>
<td>″ carnosa</td>
<td>260</td>
</tr>
<tr>
<td>″ frutescens</td>
<td>260</td>
</tr>
<tr>
<td>″ glabra</td>
<td>261</td>
</tr>
<tr>
<td>″ hirsuta</td>
<td>261</td>
</tr>
<tr>
<td>″ incompta</td>
<td>260</td>
</tr>
<tr>
<td>″ macrophylla</td>
<td>261</td>
</tr>
<tr>
<td>″ maculata</td>
<td>260</td>
</tr>
<tr>
<td>″ peltata</td>
<td>260</td>
</tr>
<tr>
<td>″ rubiginosa</td>
<td>260</td>
</tr>
<tr>
<td>D Acrostichum elatum</td>
<td>153, 174, 177, 179, 265</td>
</tr>
<tr>
<td>Daphne cannabina</td>
<td>214</td>
</tr>
<tr>
<td>Datura arborea</td>
<td>217, 259</td>
</tr>
<tr>
<td>Dehaasia microcarpa</td>
<td>230, 263</td>
</tr>
<tr>
<td>sp.</td>
<td>263</td>
</tr>
<tr>
<td>Dendrocalamus hirtellus, described</td>
<td>146</td>
</tr>
<tr>
<td>Derris elliptica, poison of</td>
<td>129</td>
</tr>
<tr>
<td>Diard, 145, 187, 201, 204, 205, 208</td>
<td></td>
</tr>
<tr>
<td>Dieaenum beccarii, described</td>
<td>278</td>
</tr>
<tr>
<td>Didissandra elongata</td>
<td>221, 228, 260</td>
</tr>
<tr>
<td>″ frutescens</td>
<td>260</td>
</tr>
<tr>
<td>Didymocarpus coriacea</td>
<td>198, 260</td>
</tr>
<tr>
<td>″ erinata</td>
<td>162, 260</td>
</tr>
<tr>
<td>″ elongata</td>
<td>221</td>
</tr>
<tr>
<td>″ frutescens</td>
<td>162</td>
</tr>
<tr>
<td>″ racemosa</td>
<td>228, 260</td>
</tr>
<tr>
<td>″ reptans</td>
<td>162, 258</td>
</tr>
<tr>
<td>Diodia sarmentosa</td>
<td>described, 145</td>
</tr>
<tr>
<td>Dioscorea pyrifolia</td>
<td>267</td>
</tr>
<tr>
<td>Dissochaeta bracteata</td>
<td>253</td>
</tr>
<tr>
<td>″ celebica</td>
<td>253</td>
</tr>
<tr>
<td>″ pallida</td>
<td>163, 253</td>
</tr>
<tr>
<td>Dookoo</td>
<td>159</td>
</tr>
<tr>
<td>Draecena Jackiana</td>
<td>267</td>
</tr>
<tr>
<td>Drygea volubilis</td>
<td>228</td>
</tr>
<tr>
<td>Dryobalanops Camphora</td>
<td>182, 198, 244</td>
</tr>
<tr>
<td>Dugong</td>
<td>181</td>
</tr>
<tr>
<td>Durio singaporensis</td>
<td>described, 143</td>
</tr>
<tr>
<td>Dutch, commercial policy of</td>
<td>169</td>
</tr>
<tr>
<td>Duvaucel, 145, 201, 204, 206, 208</td>
<td></td>
</tr>
<tr>
<td>E Acrostichum elatum</td>
<td>165</td>
</tr>
<tr>
<td>″ Jackianus</td>
<td>245</td>
</tr>
<tr>
<td>″ nitidus</td>
<td>245</td>
</tr>
<tr>
<td>Elytion</td>
<td>245</td>
</tr>
<tr>
<td>Embelia canescens</td>
<td>257</td>
</tr>
<tr>
<td>Enhalus Koenigii</td>
<td>193, 266</td>
</tr>
<tr>
<td>Epimys fraternus, described</td>
<td>273</td>
</tr>
<tr>
<td>″ hylemoides, described</td>
<td>273</td>
</tr>
<tr>
<td>″ inflatus, described</td>
<td>273</td>
</tr>
<tr>
<td>″ korinehi, described</td>
<td>275</td>
</tr>
<tr>
<td>″ muelleri campus, described</td>
<td>275</td>
</tr>
<tr>
<td>″ rattus argentiventer, described</td>
<td>274</td>
</tr>
<tr>
<td>″ ravus, described</td>
<td>272</td>
</tr>
<tr>
<td>″ setiger, described</td>
<td>271</td>
</tr>
<tr>
<td>″ stragulum, described</td>
<td>274</td>
</tr>
<tr>
<td>″ ululans, described</td>
<td>272</td>
</tr>
<tr>
<td>Erioglossum edule</td>
<td>248</td>
</tr>
<tr>
<td>Euchelia</td>
<td>219</td>
</tr>
<tr>
<td>Eugenia caryophyllata</td>
<td>251</td>
</tr>
<tr>
<td>″ Jambos</td>
<td>251</td>
</tr>
<tr>
<td>Eurya longifolia</td>
<td>246</td>
</tr>
<tr>
<td>Euthemis leucocarpa</td>
<td>204, 246</td>
</tr>
<tr>
<td>″ minor</td>
<td>179, 204, 246</td>
</tr>
<tr>
<td>Exchanges, xxii</td>
<td></td>
</tr>
<tr>
<td>F Fagraea auriculata</td>
<td>178, 215, 226, 258</td>
</tr>
<tr>
<td>″ carnosa</td>
<td>238</td>
</tr>
<tr>
<td>″ fragrans</td>
<td>215, 259</td>
</tr>
<tr>
<td>″ obtusata</td>
<td>195, 259</td>
</tr>
<tr>
<td>″ racemosa</td>
<td>215, 226, 259</td>
</tr>
<tr>
<td>&quot;Fame,&quot; Shipwreck of</td>
<td>239</td>
</tr>
<tr>
<td>Farquhar, Major W.</td>
<td>150, 153, 156, 170</td>
</tr>
</tbody>
</table>
INDEX

Ficus diversifolia, 265
" rigidia, 265
Fish-poison, Derris elliptica as a, 129
Flacourtia inermis, 243
Flora indica, Roxburgh’s, 214
Flosoa scandens, 267

G
Galearia Jackiana, 196, 265
Garcinia elusiaeologia, described, 140
" Mangostana, 243
" prirferum, described, 140
Garin, E., 164
Gasper Straits, barnacles from, 281
Gellius glacialis, 295
Geological Society of London, 236, 238
Getonia floribunda, 184
Gibbs Sir V., 213
Glaphyra nitida, 251
" setacea, 251
Globba eiliata, 266
Ghuta Benghas, 229, 248
 Glycosmis pentaphylla, 245
Gmelina sp., 261
Gloss, 261
Gomphia sumatrana, 246
Gordonia excelsa, described, 142
" grandis, 141
" hirtella, described, 142
" penangensis, 142
" singapureana, 141
Gossypium brasiliense, 244
Greenea Jackii, 254
Grewia Microcos, 245
" paniculata, 188, 245
Guettarda speciosa, 174, 255

H
Hardwicke, Major-General T., 160, 180
Hedychium sumatrana, 266
Helicula attenuata, 263
" ovata, 226, 264
" petiolaris, 263
" serrata, 185, 264
" ssp., 226, 264
Heteralepas gigas, 282
" malayiana, 282, 298
Hikayat Sri Rama stereotyped, viii.
Hipperoratea, 221, 247
Homalosoma angustifolium, 174, 268
" humile, 174, 268
Hopea albescens, described, 142
" lowii, 143
Hornstedtia megalochelios, 160, 266
" punicia, 160
Horsfield, T., 185
Hoya gracilis, 225
" ssp., 258
Humphreys, J. L, a Nanjing Wedding Speech, 25
Hyalonema, 282
Hydnophytum formicarinum, 256

Hydrocotele asiatica, 254
Hylomys parvus, described, 269

I
Idronema canescens, 261
Impatiens, 234, 245
Incavilla parasitica, 228, 233
Insecticide, Derris as, 129
Ipoh poison, 129
Ixonanthus icosandra, 245
" reticulata, 245
Ixora neriifolia, 228, 255
" pendula, 228, 255

J
Jack, William, letters of, 147

K
Kaya Gadis, 203
Kedah, Annals of, 37
Kelantan, history of, 1
" language of, 303
Kibessa simplex, 253
Kloss, C. B., on new Mammals, 269
Knema glaucifolium, 256
Korinchi Peak, mammals and birds of, 269
Kuala Lumpur, origin of name, 35

L
Lagerstromia floribunda, 254
Lambert, A. B., 200, 237
Lansium domesticum, 199, 247
" montanum, 247
" Lasia aculeata, 154, 263
Lasianghus attenuatus, 256
" cyanocarpus, 256
Lecanathus erubescens, 255
Lepas, 285
Lepidopterum Jackanium, 248
Leptospermum sp., 251
Leucocotis anceps, 258
Luecogon malayanum, 219, 257
Litgium Emanum, 193
Lindsay, 172, 215
Linoceira purpurea, 258
Litsea cordata, 263
 Lobelia, 234, 256
Lemustrus coeruleus, 179, 264
" cylindricus, 235, 264
" ferrugineus, 153, 235, 264
" incarnatus, 264
" patulus, 235, 264
" retusus, 264
Loxonia, 233
" acuminata, 260
Luceinace Morinda, 194, 255
Lumnitzera coecinea, 165, 205, 250
Lumsdale, Dr. J., 184, 228
Lun Drahman of Kelantan, 2, 14

Jour. Straits Branch
INDEX

M

Macelus eumomolus, effect of Derris on, 132
" nemenrous, effect of Derris on, 132
Maefadyen, E., on name Kuala Lumpur, 35
McKenzie, Captain, 212, 236
Mahmud of Linggi, Sultan, 1
Malayan Miscellaneies,
" 195, 211, 218, 225
" Appendix to, 227, 229
Mallotus albus, 265
Mangifera caesia, 215, 248
" foetida, 152, 154, 248
" gadaria, 160
" indica, poisonous, 197
" quadrifida, 152, 163, 248
Mangosteen, 152, 217
Mansur, Sultan, 2, 14
Map, Society's, abandoned, vii
Marong Mahawangs, Hikayat, 37
Marriott, H., on History of Treng- gau, 1
Marsden, W., 203
Marsdenia volubilis, 258
Marumia nemorosa, 253
" stellulata, 252
Medinilla alpestris, 234, 252
" eximia, 233, 252
" rubiicunda, 252
Melaleuca Cajuputi, 160
" Lannea decandra, 163, 251
Melastoma decemfida, 230, 234
" erectum, 252
" malabathriuim, 152, 234, 251
" obvolutum, 251
" polyanthum, 251
" sanguineum, 252
Melia excelsa, 165, 246
Meliosma nitida, 248
Member list, xii
Memeeylon coeruleum, 185, 253
" paniculatum, 253
Menangkaban, 127, 185, 252
Metroxylon Sagus, 166, 190, 268
Mezoneuron sumatranum, 188, 249
Mieromelum hirsutum, 246
Middleton, Bishop T., F., 177
Milletia atropurpurea, 249
Minusops Kauki, 153
" sp., 257
Monkeys, effect of Derris on, 132
Morinda umbellata, 153, 163, 193, 256
Murraya caloxylon, 145
" exotica, 189, 220, 246
" paniculata, 220
" sumatranu, 220
Mussaenda glabra, 155, 255
Myrica nesuleana, 196, 265
R. A. Soc., No. 74, 1916.

Myristica fragrans, 263
Myrmecodia tuberosa, 231, 256

N

Naning, Wedding speech of, 25
Nelumbium speciosum, 152, 243
Nepenthes ampullaria, 163, 178, 262
" gracilis, 163, 262
" phylamphora, 186, 262
" Rafflesiana, 163, 178, 262
Nepheium lappaceum, 154, 248
Neuropeltis racemosa, 166, 216, 259
Nutmeg, 152, 184
Nymphaea stellata, 174, 175, 243

O

 Ocimum basilicium, 262
Octas spicata, 268
Officers, past, x
Onosperma filamentosum, 268
Ophiocephalus gachua, effect of Derris on, 130
Ophiorhiza heterophylla, 254
Oromys crociduroides, described, 271

P

Palmer, J., 236
Pancratium amboynense, 174, 267
Paper, Nepal, 214
Paracelastra bivalis 165, 247
Parinariu costatum, 250
" Jackianum, 250
Pasania spicata, 188, 265
Patisma, 196, 198, 218
Paton, 214
Pemphis acidula, 178, 254
Pentaphragma begonifolium 165, 257
Pepys, W. E., On language of Kelant- tan, 303
Petalosa, 220
Phaleria capitata, 264
Phillips, W. E., 192
Photographic record, vii
Phyllogathis rotundifolia, 252
Pineapple, variegated, 152
Pisorhina vandewateri, described, 275
Pithecolobium bubalinum, 250
" Clypearia, 165, 230, 250
" lobatum, 159, 165, 250
Podocarpus imbricatus, 174, 265
" neerifolia, 196, 265
" Rumphii, 193
Poecillasina gigas, 282, 299
" subcarinatum, 282
Pogonanthera pulverulenta, 253
Poisoning by Derris 129
Pollipipes, 286
" villosus, 285
Pothos pinnatifida, 154
Prince, J., 223
Psilobium nutans, 256
" tomentosum, 256
Psychotria malayana, 256
" stipulacea, 256
" viridiflora, 256
Pterandra coerulescens, 253
Pterospermum Jackianum, 245
Pterygota Roxburghii, 144
Pulau Nias, 221

Quercus spicata, 188, 265
" ureecolaris, 265
" Quisqualis densiflora, 251

R
Raffles’ children, 168, 206, 234, 239
" scientific assistants, 147, 185, 187, 201
" zoological collections, 201, 205, 209, 211
Rafflesia Arnoldii, 203, 208, 262
Rambai, 158
Rambutan, 154
Randia anisophylla, 196, 220, 255
Rasamala, 183
Rauwolfia sumatrana, 258
Rhio, 1, 181
Rhizophora, 154
" mucronata, 175, 250
Rhodamnia trinervia, 222, 251
Rhododendron malayanum, 234, 257
Rhopala attenuata, 226
" molucanana, 226
Rice, 224
Ridley, H. N., on new plants, 139
Robinson, H. C., on new Mammals, 269
Rourea concolor, 248
Rubus alceaeolius, 152, 250
" molucaneus, 152
Rules, xxvii
Rumphius, 236
Ryparosa Wallichii, described, 139

S
Sago palm, 190
Sagas Ruffia, 230
Salacia, 219, 221, 247
Salmon, Captain F., 235
Sandoricum indium, 246
Saraca declinata, 216, 249
Saurauja sp., 244
" tristyla, 197, 244
Scaevola Koenigii, 175, 256
Scapelllum albatrossianum, 282
" aleoekianum, 283
" calciferum, 283
" gruvelii, 283
" hamulus, 290
" inerme, 283
" laecadivieum, 283
Scapelllum lambda, 283
" lavale, 283
" magnum, 283
" nudipes, 287
" persoma, 283, 285
" pellicatum, 292
" polymorphum, 283
" rostratum, 285
" utilis, 285
" sociabile, 284, 291
" stearnsi, 283, 293
" stratum, 290
" valvulifer, 286
" velutinum, 283
Scaphium affine, 144
" Beecariuman, 144
" linearicarpum, 144
" longiflorum, described, 143
" Wallichii, 144
Schizostachyum elegans described, 146
Schrebera swietenoides, 198, 258
Scillaeepres, 286
Scirurus tenuis altitudinis, described, 269
" vanakeni, described, 270
Seyphyphora hydrophyllacea, 219, 255
Scolopinus lunatus intensus, described, 276
Sideroxylon Brownii, 222
" sp., 257
Singapore, early mention of, 127
" founding of town, 161, 170
Slave trade of Nias, 224
Smilium peronii, 285
Smith, Christopher, 152, 189
Snik, Tuan, of Trengganu, 1
Sonerila erecta, 160, 162, 252
" heterophylla, 252
" molucanana, 162
" paradoxa, 252
" spp., 186, 252
Sphaeranthus africanus, 256
Sphenodesme pendentra, 184, 261
Stagnaria verniciflua, 229
Sterculia alata, 144
" laevia, 244
" rubiginosa, 245
Strophanthus jackianus, 195, 218
Sturrock, A. S., on Kedah Annals, 37
Styrax Benzoin, 198, 257
" serratum, 258
Sugar-loaf mountain, 233
Sussam anthelminticum, 267

T
Tabernaemontana macrocarpa, 238
Taece eristata, 161, 165, 174, 178, 267
" sp., 228, 267
Telegraph cables, barnacles from, 281
Ternstroemia acuminata, 229, 244
" montana, described, 141
" serrata, 229, 244

Jour. Straits Branch
INDEX

Tetracera arborescens, 229, 242, 263
  " euryandra, 229
Tetralepas gigas, 298
Thaliella ornata, 285
Thetis’ drinking cup, 180
Timonius Koenigii, 255
Tradescantia, 235, 267
Treugganu, history of, 1
Trigonostemon indicus, 230, 265
Tuba, fish poison, 129
Turdinulus epileptidetus dilutus, described, 276
Turdus indrapumo, described, 277
Tylophora grandiflora, 222
Tytler, John, 170

U
Unearia Gambier, 254
  " lanosa, 196, 254
  " pilosa, 197
Urophyllum glabrum, 196, 255
  " villosum, 196, 255
Uvaria grandiflora, 197
  " Hamiltonii, 197
  " hirsuta, 243
  " purpurea, 243

V
Vaccinium sumatrannum, 234, 257
Vitex pubescens, 261
Vitis angustifolia, 208, 247
  " racemiflora, 247

W
Wallich, George C., 167, 205, 213, 231
Wallich, Nathaniel, 147, 149, 171, 178, 207, 239
Wallichia, 198
Waltberia indica, 145
Ward, Rev. N. M., 192, 237
Wedding speech, Nanjing, 25
Wilson, Dr. H. H., 187
Winter, Rev. C., 193
Wormia excelsa, 243
  " pulehella, 243
Wrightia dubia, 195, 218, 258

X
Xanthophyllum discolor, 140
  " hebecarpum, 140
  " puberulum, described, 140
Xyris anceps, 178
  " indica, 178, 267

Z
Zingiber gracile 266
Zoophyte from Singapore, 180
MALAYAN DEEP- SEA CIRRIPIEDIA.

S. C. Mondul, & D. N. Roych, del.

MALAYAN DEEP-SEA CIRRIPEDEA.
THE

STRAITS BRANCH

OF THE

ROYAL ASIATIC SOCIETY

Council for 1917.

Hon. C. J. Saunders - - President.
W. Makepeace, Esq. - - Vice-President for Singapore.
Lieut.-Col. the Hon. A. R. Adams - Vice-President for Penang.
Hon. A. H. Lemon - - Vice-President for F. M. S.
I. H. Burkill, Esq. - - Hon. Secretary.
Dr. R. Hanitsch - - Hon. Librarian.
C. Bazell, Esq. - - Hon. Treasurer.
Professor J. Argyll Campbell
Hon. H. Marriott - -
Capt. J. C. Moulton - -
H. Robinson, Esq. - -

Councillors.
Minutes of the Annual General Meeting of the Straits Branch of the Royal Asiatic Society, held at the Society's rooms in the Raffles Museum, at 5 p.m. on Tuesday, February 27th, 1917.


The minutes of the meeting of February 10th, 1916, were read and confirmed.

The Annual Report and Statement of Accounts which had been circulated in print were accepted on the motion of Mr. H. Robinson, seconded by Dr. J. A. R. Glennie.

The Hon. C. J. Saunders moved, and the Hon. H. Marriott seconded that, as recommended by the retiring Council, Dr. D. J. Galloway, a past-president, be elected an Honorary Member on account of his notable service to the Society. Dr. Galloway was elected an Honorary Member upon a show of hands.

The Hon. Treasurer explained that the Council had determined to place two thousand two hundred dollars ($2,200) from the Society's reserve funds into the Colonial War Loan and to earmark the interest therefrom for use in connection with the Library.

The following were elected consecutively office-bearers for 1917:

Hon. C. J. Saunders
Mr. W. Makepeace
Hon. A. R. Adams
Hon. A. H. Lemon
Mr. I. H. Burkill
Dr. R. Hanitsch
Mr. C. Bazell

President.
Vice-President for Singapore.
Vice-President for Penang.
Vice-President for the F. M. S.
Hon. Secretary.
Hon. Treasurer.
Hon. Librarian.
A ballot was next taken for the election of four Councillors.

On the motion of Dr. J. A. R. Glennie, seconded by Captain A. R. Chancellor the meeting returned a vote of thanks to the retiring Council.

The President asked Mr. H. N. Ridley to give an address on the subject of the Scientific Exploration of the Malay Peninsula, while the result of the ballot for councillors was being ascertained. Mr. Ridley spoke as recorded in the Society's Proceedings:* and a discussion followed upon the means by which further work might be encouraged.

The President proposed a vote of thanks to Mr. Ridley for his address, which was accorded: and he announced that as the result of the ballot the Hon. H. Marriott, Captain J. C. Moulton and Mr. H. Robinson had been elected Councillors, that Dr. W. G. Shellabear and Professor Argyll Campbell had received an equal number of votes for the fourth place and that five other members had received votes. He suggested that as Dr. Shellabear had not returned to the Colony and as the date of his return appears uncertain, Professor Argyll Campbell should be asked to serve. On a show of hands this proposal was adopted.

* pp. vii—xi.
The Scientific Exploration of the Peninsula.

An address at the General Meeting of February 27th, 1917.

BY H. N. RIDLEY, F.R.S., C.M.G.

The Object of the Scientific exploration of a country is to get a clear systematized knowledge of the Fauna, Flora, Ethnology, Anthropology and Geology of the country,—in fact of the whole of the Natural History of the area,—and to publish it in such form that it may be accessible to everyone.

To get a clear idea of the whole of Nature, its origin and development, it is not sufficient to study one group alone: for all the various sections of Natural Science have a more or less close relationship with each other; and before we can come to any satisfactory deductions from the facts in one part of the subject, we must know or be easily able to find out the stories of the other parts.

In the early days of the development of a Colony, such as ours, the study of Natural History is usually commenced by a few Amateur Naturalists, who collect specimens and observations on all branches of the subject. Later we get a few to take up special groups or subjects, individually; for it is nor possible for any one man in a lifetime to study every group in detail in so rich an area as a tropical region.

Later still a Museum or Museums are formed, with scientific men attached who, assisted at least by the Government, are able to devote their time to collecting and preserving specimens, as well as recording observations and data, and storing the specimens in the Museums for reference, and publishing the information obtained in reports or publications. And here comes in the great value to the world of such societies as ours which record facts of Natural history, the geography of the country, and all that belongs to a complete knowledge of the country we live in.

Now in the beginning of these researches we find that certain groups of animals are more popular than others, such as birds and butterflies, and we therefore find a larger number of collectors of these animals, and consequently we get sooner a good knowledge of these groups than we do of say beetles or molluscs; and we require a number of collectors and students of these more difficult groups to collect. In many of the country Natural History Societies at home the members contrive to get one or other of
their numbers to take up a single group and devote himself to collecting that group, assisted of course by others who send him any specimens they chance upon. I do not know how far some such system could be adopted here, but there are many of our members living in distant parts of the country who could materially help by catching and sending insects or other such easily collected animals to the various naturalists who in this country are studying them.

When I first arrived in this country in 1889, large areas of forest and mountain, now easily reached by train and motor car, were only accessible by long and difficult marches, and the few naturalists in the country found it impossible to get to these remote spots in the time and with the funds at their disposal. But the rapid development of agriculture of late years has resulted in the increased accessibility and in the settling of Europeans in parts of the Peninsula at that time out of reach. Many of these Europeans would assist in collecting if shown the way, I am sure, and indeed I have great cause to be grateful to very many who in the course of my wanderings into their districts have given me the greatest assistance in collecting plants.

But the wide developments of agriculture of late years has not been, alas, all to the advantage of the Naturalist, for the felling and burning of the forest has caused the disappearance of many plants and probably many insects and other animals; and as this work is still continuing, it becomes of more and more importance to save specimens (which is all we can do) of the vanishing flora and fauna, ere they become as extinct as Dodos.

I would now like to run over the various branches of Natural Science and see how far we have progressed towards a systematic investigation and record of the separate groups as far as regards this country.

In Zoology we have already published the account of the Reptiles and Batrachia by Boulenger, and I understand the works on the Mammals and Birds are nearly complete. These have been done by the zoologists of the Federated Malay States Museum.

In fishes we have an account of those of fresh-water by Dunck, a Naturalist who was here some years ago. In Marine fish we have no separate work; but those of our seas have been mentioned in works by Bleeker and Weber, dealing with the fishes generally of the Indian and Malayan Seas.

A complete separate account of those occurring in our own waters is required.

On Molluscs papers have been written by De Morgan.

Of Insects Butterflies have been well done many years ago by Distant in the well known book Rhopalocera Malagana but of course there have been since then many additions and corrections made.
The *Cockroaches* have been well described and figured by Dr. Hanitsch in our journal lately and I believe the *Mosquitoes* are pretty well known.

But of the rest of the insect fauna we have only scattered papers and descriptions in journals and other works which are often inaccessible to the local student and in any case entail a lot of work in searching among descriptions of species from all manner of countries to find the ones recorded from the Malay Peninsula.

The same state of affairs rules also in nearly all the other groups of invertebrates from centipedes, and spiders to Corals and Marine organisms generally. It would be highly desirable to collect all the notes and descriptions of the various groups applying to the Malay Peninsula, and put them together and publish them in an accessible form so that we might have an idea of what amount of knowledge on these animals had been obtained already and form a base for further work.

In *Botany*, at least that of flowering plants and ferns, progress is being made as fast as possible. Before my arrival in the East in 1889, it was proposed by the F. M. S. Government to publish a flora based on the plants collected by Kunstler, Scortechini and Wray in Perak, Sir Cecil Clementi-Smith very wisely urged that the flora should not be confined to these collections, which were practically limited to the Perak mountains; but that a flora of the whole of the Malay Peninsula should be taken in hand.

The work was to be done by Dr. King and Sir Joseph Hooker: the number of plants known or collected in the Peninsula at that date was small; and King arranged to publish a preliminary series of papers known as the *Materials for a Flora of the Malay Peninsula* in the *Journal of the Asiatic Society of Bengal*. This took many years; and in fact 2 orders *Euphorbiaceae* and *Urticaceae* are not yet published. In the meantime extensive collections were made all over the Peninsula and the work got fuller and fuller as it went on. Sir George King died some years ago and Mr. Gamble, and Major Gage of the Calcutta Gardens continued the *Materials*, while I did the Monocotyledons and some other orders. I am now engaged in re-writing the whole flora, to be published as soon as may be in book form, condensed and largely revised and added to, so that the public may in a few years, I hope, possess a work in a few volumes so written and illustrated that they will have no difficulty in identifying any plants that they may meet with. The work will take some time as there are known between 8,000 and 9,000 species; and all that have been already described will have to be checked over and carefully re-examined. However the greater part of the *Polypetalae* and *Monocotyledons* are already finished, and I hope in a few years to complete the work.

The Cellular plants,—Mosses, Lichens, Fungi and Algae, have not been entirely neglected; but such as have been described have been published in scattered papers in various journals; and there
is a large field for work both in collecting and investigating in these groups.

Considering the importance of tin and other minerals to the Peninsula, it seems remarkable that so long a period elapsed before any attempt was made to study the Geology of the country. Practically nothing of importance was published till the arrival of Mr. Scrivenor. Logan in Logan's journal published indeed some papers on the rocks of Singapore, but he was no geologist and the work was extraordinarily erroneous.

We have now at least several extremely valuable papers by Mr. Scrivenor; and we shall hope for many more such researches as he has made.

Ethnology and Anthropology we are well advanced in, thanks to the works of Skeat, Wilkinson, Robinson and many others.

But there is one branch of Natural Science which has been curiously neglected, that of Meteorology. It is true that rainfall readings have been taken and published for many years in some parts of the Peninsula; but the returns are in many cases I fear dubious; and in the earlier days of Singapore when the returns would have been exceptionally valuable, as showing us if there had been any change in the climate at all, there are so far as I know no records. The late Mr. Knight was the only person I know of, who took an interest in the subject at all. Unfortunately he published little; but he may have left notes behind him which would be worth preserving, if they could be obtained by the Society. It would be very desirable if some member of the society would take up the subject of the meteorology of the Malay Peninsula collecting and utilizing such returns and reports published during the last 50 years. The subject is one of much interest and importance.

When I arrived in Singapore in 1889, the greater part of the Peninsula was still a blank as regards Natural History research, the few Naturalists we had then, had only been able to collect in a few of the accessible parts such as Singapore, Malacca, Penang and parts of Perak. Even the geography of the Peninsula was very far from complete as may be seen by referring to our first editions of the Map, and even now large areas of the centre and East coast have not yet been visited by any Naturalists. When this is done without doubt very many more new species will be collected in almost every group.

Taking Botany again as a sample of how far we have collected specimens of all our flowering plants, I may say that by far the largest number of the plants of the low country are now well known, and it is not easy to get big additions of novelties in the low lands of either coast, and that thanks very largely to Messrs. Robinson and Kloss who have greatly added to our knowledge of the botany of the highest accessible mountains we have obtained the greater part of the flora of above 4,000 feet elevation. This does not mean that we know all the plants in our forests. It is
a poor collecting trip still which does not yield some novelties even in the low country. But we have in our 9,000 known species a very large proportion of the flora, and enough to base at least some deductions as to the origin and history of the flora of the Peninsula.

We have practically a sample collection, not a complete one.

The same thing applies, I take it, to most of the zoological groups; but I believe that I shall not be wrong in stating that in Mammals, birds, reptiles and batrachians and butterflies we have now an almost absolutely complete knowledge of the species. The number of novelties to be added is probably small. Further explorations in out of the way localities will probably yield important results in most groups. We have not enough naturalists to get over the whole ground in a short time so that the residents in these distant parts may often be able to assist in sending specimens to our museums of insects or plants or other such things that they may accidentally come across. As an example I may mention that of two new kinds of bats which some years ago I accidentally obtained I believe that neither have ever been caught again.

I have now I think given some idea of the progress in Natural History that we have made here in the past quarter of a century. It is very considerable; but a great deal remains to be done. The Society by its Journal and by indirectly and directly interesting residents in the knowledge of the Natural History of the Peninsula has played an important part in this work, and I trust that it may continue to do the same for very many years to come.
ANNUAL REPORT

of the

Straits Branch, Royal Asiatic Society

for 1916.

On November the 4th the Society entered upon its fortieth year, having the name of one founder and of two who joined in the first year, still on the Member list,—the Right Rev. Bishop Hose, the Hon. Datoh Mahomed bin Mahbob of Johore, and the Ven. Archdeacon J. Perham of Chard, Somerset. The rules under which the Society works have been little altered since they were passed at the general meeting of January 21st, 1878. On July 15th of the same year, the Society having 142 members, issued its first Journal and in December a second, making the year's output 166 pages. The Society stands, this day, with 297 names on the member list.

The number of pages in the Journal of the year under review was 358. The average for the thirty-nine completed years of publishing has been 305.

The Society in the first year of its existence met frequently for the reading of papers: but it was found impossible to maintain these meetings: and when the practice fell into disuse, it became necessary to vest in the Council powers which councils of Societies rarely possess, asking the members to meet but once a year to regulate their affairs, by the election of a new council and by the ratifying of the proceedings of the retiring body. The arrangement tends to create an aloofness on the part of the members which the Council has been most anxious to dispel: and with that intention in 1915 two steps were taken: in the first place an offer was gratefully accepted from a member, Mrs. Legrew Watkins, that at the annual meeting she would exhibit her collection of objects used by the Ainus of Japan; and in the second place it was arranged that the Journal should appear oftener, if possible, than twice a year. The attendance at the last annual meeting was gratifying and Mrs. Legrew Watkins' exhibit most interesting. The Journal, which had appeared thrice in 1915, has appeared again thrice in 1916.

The Journal is now paged into an annual volume, and has been issued complete for 1916, with title page and index. It contained xxx + 328 pages, with six plates and two line blocks in the text. Its cost to the Society was $1,217.66 or 58% of the Society's income.
Of the income a further 22% was absorbed by salaries, stationery, postages, and other small charges essential to the running of the Society’s office, leaving only 20% for the purchase of books, furniture, and for unusual causes of expense. A larger membership, meaning a larger income, is desirable.

Also a larger inflow from members of short papers for publication is desirable.

The Hon. Treasurer’s balance sheets for the last and the preceding four years show the following figures:

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<td>By member’s subscriptions including life-members</td>
<td>1,356.08</td>
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<td>3,274.80</td>
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<td>189.92</td>
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Nearly half of the receipts in 1916 by sales of parts of the Journal came from the Hikayat Sri Rama, of which 51 copies were taken.

The Society’s invested funds are less than a year ago by $1,500, in consequence of withdrawals from fixed deposit to meet the cost of printing the Hikayat.

The price of printing has unfortunately been raised against the Society; but this, it is trusted, will be but temporarily.

The Council has no new undertakings to record. The rule which lays it down that the object of the Society is to increase and to diffuse knowledge concerning British Malaya and the neighbouring countries has been strictly observed. One of the papers in the Journal treats of the Malay language, five of the History of the Peninsula, one of Malay customs, two of Malay plants, one of the action of a Malay poison, and two of Malay zoology. It may be recalled that the inception of the Society occurred just when the interior of the Peninsula was opened to exploration and many accounts of Journeys reached it; but such papers are rarer now. There were none in the Journal for 1916.

It has been stated above that the member list carries 297 names; that is the same as the last published list carried. By death the Society has lost two Honorary members, Sir Cecil Clementi Smith and Mr. A. Knight; and two, who were members, have lost their lives at the front in France—Messrs. H. E. Pennington, and P. Gold.

The Council elected during the year the following as members:

Mr. H. W. Ford, Mr. J. W. Cundell Ellis,
Prof. J. Argyll Campbell, Mr. A. Rogers,
Mr. J. G. Watson, Mr. G. B. Kellagher,
Mr. Shiva Prasad Gupta, Mr. Ong Boon Tat.
Mr. L. Rayman. 
Mrs. Legrew Watkins. 
Mr. Frank H. Myers. 
Mr. W. E. Mann. 
Mr. E. Stuart Young. 
Mr. Arthur Mitchell Goodman.

Mr. G. F. C. Woollett. 
Mr. H. C. Abraham. 
Mr. H. H. Banks. 
Mr. W. G. Stirling. 
Mr. R. Balfour Blair.

His Highness, the Raja Muda, of Sarawak, was elected an Honorary member at the last Annual meeting.

Council. During the year Dr. R. D. Keith resigned from the Council, and in his place Captain J. C. Moulton was co-opted. The office of Vice-President, Singapore, fell vacant by the departure of the Hon. W. G. Maxwell from the Colony, but was not filled.

Library. The following books have been added to the library in addition to the serials received as exchanges:—

Brandstetter, R., An introduction to Indonesian languages, translated by C. O. Blagden ...

Hale, A., The adventures of John Smith in Malaya, 1600-1605 ...

Shellabear, W. G., An English-Malay dictionary ...

Skeat, W. W., Malay Magic ...

Posewitz, Theodor, Borneo, its Geology and Mineral Resources ...

Furness, W. H., Folklore in Borneo ...

Swettenham, Sir F., British Malaya (presented by H. Robinson Esq.) ...

A Set of "Papers on Malay Subjects" published by the F. M. S. Govt. (presented by Hon. C. J. Saunders)

Wilkinson, R. J., Malay Beliefs ...

Winstedt, R., An English-Malay Dictionary ...

The Ramayana, translated by Manmatha Nath Dutt ...

Kitab Gemala Hikmat ...

Pelayaran Abdullah ...

Hikayat Hang Tuah ...

Hikayat Abdullah ...

Hikayat Awang Sulong Merah Muda ...

Cherita Jenaka ...

Hikayat Malim Dewa ...

Hikayat Malim Deman ...

Sejarah Melayu ...

Hikayat Raja Muda ...

Hikayat Anggun Che' Tunggal ...

Pantun Melayu ...

Hikayat Pelandok ... Malay texts

McNair, J. F. A., Prisoners their own warders .
Baring Gould, S., History of Sarawak .
St. John, S., Earlier adventures of a Naval Officer .
Hubback, T. R., Elephant and Sladang in Malaya .
Cowie, A., English, Sulu, and Malay vocabulary .
Keppel, H., A visit to the Indian Archipelago .
Davies, R. D., Siam in the Malay Peninsula .
Ross, J. D., The Capital of a little empire .
Read, T. H., Across the Equator .
Maryatt, F., Borneo and the Indian Archipelago .
Hudson, H. H., Malay Orthography .
Boys, H. S., Some notes on Java .
Fokker, A. A., Tidong dialects of Borneo .
Van Daventer, M. L., Daendels-Raffles .

Presented by the Singapore Free Press.

It has been decided not to print the index to Malay Pantuns which Mr. H. Overbeck prepared and made over to the Society; and as it was considered inadequate by itself the Hon. H. Marriott has prepared another which he has presented to the Society, so that both may be preserved in the library together. Mr. Overbeck's index is by the third line, but Mr. Marriott's by the leading words. The Council's intention in preserving these is that members who interest themselves in the collection of Pantuns may easily ascertain whether such as they meet with are published or unpublished; and they consider that unpublished pantuns might well find a place in the Society's Journal.

I. HENRY BURKILL,
Hon. Secretary.
## STRAITS BRANCH ROYAL ASIATIC SOCIETY.

Receipts and Payments Account for the year ended 31st December, 1916.

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<td>Balance Brought Forward from last Account</td>
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<tr>
<td>On Fixed Deposit: Mercantile Bank</td>
<td>4,700</td>
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<td>do. Chartered</td>
<td>1,560</td>
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<tr>
<td>Current Account Mercantile</td>
<td>633</td>
<td>17</td>
<td></td>
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<td>do. Chartered</td>
<td>151</td>
<td>63</td>
<td></td>
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<tr>
<td>From the Executors of the late Hon. Treasurer</td>
<td>203</td>
<td>18</td>
<td>7,247</td>
<td>98</td>
</tr>
<tr>
<td><strong>Payments</strong></td>
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<tr>
<td>By Printing Journal No. 69 &amp; 71</td>
<td>1,993</td>
<td>28</td>
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<tr>
<td>do. do. No. 72</td>
<td>376</td>
<td>64</td>
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<tr>
<td>do. do. No. 73 including annual Report</td>
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<td>458</td>
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<td>Illustrations for Journal</td>
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<td>Stationery</td>
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<td>91</td>
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<td>Salaries</td>
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<td>Postages and Petties</td>
<td>167</td>
<td>52</td>
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<td>Books for Society’s Library</td>
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<td>14</td>
<td>4.120</td>
<td>69</td>
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<td>Balances carried forward:</td>
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<td>On Fixed Deposit: Mercantile Bank</td>
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<tr>
<td>On Current Account: Mercantile Bank</td>
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<td>Chartered Bank</td>
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<td>4,700</td>
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<td>1,110</td>
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<td>To Sale of Journals</td>
<td>478</td>
<td>26</td>
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<td>&quot; Sale of Maps</td>
<td>446</td>
<td>15</td>
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<td>&quot; Refundments</td>
<td>1</td>
<td>53</td>
<td></td>
<td></td>
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<td>&quot; Bank Interest, Mercantile Bank</td>
<td>188</td>
<td></td>
<td></td>
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<tr>
<td>do. Chartered Bank</td>
<td>62</td>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9,534 32

Audited, vouchers and counterfoil receipts and F/D receipts seen and found correct.

W. MAKEPEACE.

R. HANITSCH, Hon. Treasurer.
January 12th, 1917.
## List of Members for 1917

*Life Members. †Honorary Members.

Patron His Excellency **Sir Arthur Young**, G.C.M.G., Governor of the Straits Settlements and High Commissioner for the Malay States.

<table>
<thead>
<tr>
<th>Date of Election</th>
<th>Name and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 Jan., 1903</td>
<td>Abbott, Dr. W. L., 400 South 15th Street, Philadelphia, U. S. A.</td>
</tr>
<tr>
<td>—</td>
<td>Adams, Lieut.-Col., the Hon. A. R. Messrs. Adams and Allan, Penang [Vice-President, 1910; 1917].</td>
</tr>
<tr>
<td>22 March, 1917</td>
<td>Adams, Dr. J. W., Moulmein Road Hospital, Singapore.</td>
</tr>
<tr>
<td>22 March, 1917</td>
<td>Adams, R. H., c/o Messrs. Topham, Jones and Railton, Ltd., Singapore.</td>
</tr>
<tr>
<td>10 March, 1909</td>
<td>Adams, T. S. District Officer, Kuala Krai, Kelantan.</td>
</tr>
<tr>
<td>17 Feb., 1913</td>
<td>Allen, Rev. George Dexter, Singapore.</td>
</tr>
<tr>
<td>22 March, 1917</td>
<td>Allen, P. T., Chinese Protectorate, Singapore.</td>
</tr>
<tr>
<td>27 Oct., 1908</td>
<td>Arthur, J. S. W., Assistant Adviser, Kedah.</td>
</tr>
<tr>
<td>4 June, 1908</td>
<td>Ayre, C. F. C. High School, Malacca.</td>
</tr>
<tr>
<td>3 May, 1915</td>
<td>Baddeley, F. M., Postmaster General, Singapore.</td>
</tr>
<tr>
<td>1 Feb., 1915</td>
<td>Bain, Norman K. Kuala Langkat.</td>
</tr>
</tbody>
</table>


10 Jan., 1899. *Banks, J. E., c/o the American Bridge Co. Ambridge, Pa., U. S. A.

23 June, 1904. Bartlett, R. J., Inspector of Schools, Singapore.


16 June, 1913. Bell, V. G., Forest Department, Kuala Lumpur.


4 June, 1908. *Bishop, Major C. F., R. A.


5 May, 1914. Bluett, H. A. Newton, Lebong Loetit, Benkoelen, Sumatra; or Oaklea, Chaucer Road, Bedford, England.


1 April, 1910. Brooke, J. R., Government Monopolies Department, Keppel Harbour, Singapore.

8 Sept., 1909. BROWN, A. V., Johore.
(Council, 1913: Hon. Secretary, 1914-1917).
16 Jan., 1916. CAMPBELL, Professor J. Argyll, M. D., D. Sc.
Medical School, Singapore (Council, 1917).
16 Feb., 1914. CARDWELL, G. E., 3/4th Devon Depot Battalion,
Exmouth, Devon, England.
1 Dec., 1913. *CHOO KIA PENG, Kuala Lumpur.
16 March, 1911. CLAYTON, T. W., Temerloh, Pahang.
2 Feb., 1914. CLEMENT, W. R. T., Sarawak.
13 Jan., 1913. CHULAN, Raja, bin Ex-Sultan Abdullah, Taiping.
Perak.
(Council 1904: Vice President, 1897-1900, 1902, 1904-1905: Hon.
Member, 1906).
13 Feb., 1917. CROSS, Rev. W. Cavanagh Road, Singapore.
27 Jan., 1910. CROUCHER, Dr. F. B., General Hospital, Singapore.
22 March, 1917. CUBITT, G. E. S., Conservator of Forests, S. S.
and F. M. S., Kuala Lumpur.
13 Jan., 1905. DALLAS, Hon. F. H., Sarawak.
24 May, 1910. DALY, M. D., Batu Gajah, Perak.
18 July, 1891. DANE, Dr. R., Penang.
27 Jan., 1910. DARBISHIRE, Hon. C. W., c/o Messrs. Paterson
<table>
<thead>
<tr>
<th>Date</th>
<th>Name and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Dec., 1911</td>
<td>DERRY, R., 57, Ennerdale Road, Kew Gardens, Surrey, England.</td>
</tr>
<tr>
<td>23 Sept., 1897</td>
<td>DICKSON, E. A., Grik, Upper Perak.</td>
</tr>
<tr>
<td>28 July, 1905</td>
<td>DOUGLAS, Hon. R. S., Baram, Sarawak.</td>
</tr>
<tr>
<td>27 Jan., 1910</td>
<td>DUNNAN, W., Grove Estate, Tanjong Katong, Singapore.</td>
</tr>
<tr>
<td>16 Aug., 1915</td>
<td>*DUSSEK, O. T., Malay College, Malacca.</td>
</tr>
<tr>
<td>13 Nov., 1901</td>
<td>ELCUM, J. B., Singapore.</td>
</tr>
<tr>
<td>27 Jan., 1910</td>
<td>ENGEL, L., Netherlands Trading Society, Batavia.</td>
</tr>
<tr>
<td>25 March, 1913</td>
<td>ERMEIN, C., Kuching, Sarawak.</td>
</tr>
<tr>
<td>17 March, 1890</td>
<td>EVERETT, H. H., Santubong, Sarawak.</td>
</tr>
<tr>
<td>7 Feb., 1910</td>
<td>FALSHAW, Dr. P. S., Government Veterinary Department, Singapore.</td>
</tr>
<tr>
<td>8 Sept., 1909</td>
<td>FARRER, R. J., Kota Bharu, Kelantan.</td>
</tr>
<tr>
<td>28 Oct., 1912</td>
<td>FAULKNER, Dr. S. B., Christmas Island.</td>
</tr>
<tr>
<td>26 Jan., 1911</td>
<td>*FERGUSON-DAVIE, Rt. Rev. Dr. C. J., Bishop of Singapore (Council, 1912-1913).</td>
</tr>
<tr>
<td>8 Sept., 1909</td>
<td>FERGUSON, J. G., c/o Borneo Company, Soerabaya, Java.</td>
</tr>
<tr>
<td>22 March, 1917</td>
<td>FINLAYSON, Dr. G., Singapore.</td>
</tr>
<tr>
<td>24 May, 1910</td>
<td>FIRMSTONE, H. W., Education Department, Singapore.</td>
</tr>
<tr>
<td>12 Jan., 1900</td>
<td>FLEMING, T. C., Larut, Taiping, Perak.</td>
</tr>
<tr>
<td>2 Sept., 1897</td>
<td>*FLOWER, Capt. S. S., Zoological Gardens, Ghizeh, Egypt.</td>
</tr>
<tr>
<td>16 Jan., 1916</td>
<td>FORD, H. W., Municipal Offices, Malacca.</td>
</tr>
</tbody>
</table>
MEMBERS FOR 1917.

19 Aug., 1908. FREEMAN, D., 9, Court of Justice, Kuala Lumpur.

— 1897. FEEB, Dr. G. D.


23 Jan., 1903. GALLOWAY, Dr. D. J., British Dispensary, Singapore. (Vice-President, 1906—1907; President, 1908—1913; Hon. Member, 1917).

26 May, 1897. *GERINI, Lt.-Col. G. E.

8 Sept., 1903. GIBSON, W. S., High Court, Kedah.

28 May, 1902. *GIMLETTE, Dr. J. D., 5, Merton Road, Southsea, England.

4 Jan., 1916. GLENNIE, Dr. J. A. R., Municipal Offices, Singapore.


27 Jan., 1910. GRAY, N. T., Taiping, Perak.

13 Jan., 1916. GUPTA, SHIVA PRASAD, Nandansahu Street, Benares City, United Provinces, India.


12 Jan., 1900. HAINES, Rev. F. W.


5 May, 1914. HALL, J. D., Batu Pahat, Johore.


12 April, 1915. HAMILTON, A. W. H., Central Police Office, Penang.

16 March, 1911. HANDY, Dr. J. M., St. Mary's Dispensary, 75, Hill Street, Singapore.


22 Nov., 1897. Hose, E. S., District Officer, Lower Perak.
15 July, 1907. Humphreys, J. L., Trengganu.
21 Sept., 1916. James, Hon. F. S., C. M. G., Colonial Secretary, Singapore.
27 Jan., 1910. Jamieson, Dr. T. Hill, 4 Bishop Street, Penang.
17 Feb., 1913. Jones, S. W., Kuantan, Pahang.
5 Oct., 1897. Keiding, Dr.
xxiv

MEMBERS FOR 1917.

12 April, 1915. KIITE, Valentine, Raffles Museum, Singapore.
26 March, 1907. KRIEKENBEK, J. W., Taiping, Perak.
16 Feb., 1914. LAMBBORNE, J., Castleton Estate, Telok Anson, Perak.
5 May, 1914. LAWEN, L. V. T., Balik Pulau, Penang.
5 Oct., 1906. LAWRENCE, A. E., Kuching, Sarawak.
29 Sept., 1913. LEICESTER, Dr. W. S., Pekan, Pahang.
22 March, 1917. LEMBERGER, V. V., c/o United Engineers, Ltd.,
Singapore.
30 May, 1890. LEWIS, J. E. A., B. A., 698, Harada Mura, Kobe,
Japan.
16 Aug., 1915. LEWTON-BRAIN, L. Director of Agriculture,
Kuala Lumpur.
20 May, 1897. LIM BOON KENG, Hon. Dr. M. D., c/o The Dis-
ensary, Singapore.
12 April, 1915. LIM CHENG LAW, Millview, Penang.
27 Jan., 1910. LLOYD, J. T., c/o Messrs. Powell and Co.,
Singapore.
8 June, 1909. LOW, H. A., c/o Messrs. Adamson, Gilfillan and
Co., Penang.
22 Jan., 1896. LUEERING, Prof. Dr. H. L. E., Wittelsbacher Allee,
Frankfurt am Main, Germany.
27 Jan., 1910. LUPTRON, Harry, Bukit Mertajam, Province
Wellesley.
26 June, 1907. LYONS, REV. E. S., 82, Isla de Remere, Manila.
3 June, 1909. MACARTHUR, M. S. H., Kuala Lumpur.
23 Sept., 1897. McCASLAND, C. F., Port Dickson.
1 April, 1910. MACLEAN, L., Kuala Lumpur.
21 April, 1904. MAHOMED, Hon. Datoh, bin Mahbob, Johor
Bahru, Johor.
8 Sept., 1903. MAKEPEACE, W., c/o Singapore Free Press,
Singapore. (Council, 1914-1916; Hon. Librarian, 1910-1912; Hon. Treasurer, 1909; Vice-
President, 1917).
15 April, 1908. MAIN, T. W., Cheng Estate, Malacca.
10 Feb., 1916. MANN, W. E., Hotel Pavillon, Samarang, Java.
(Council, 1907-1908, 1910-1913, 1915-1917).
24 June, 1909. MARSH, F. E., Municipal Offices, Singapore.
<table>
<thead>
<tr>
<th>Date</th>
<th>Year</th>
<th>Name</th>
<th>Address/Position</th>
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<tbody>
<tr>
<td>15 July</td>
<td>1907</td>
<td>*Marriner, J. T.</td>
<td>Kuantan, Pahang.</td>
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<td>18 June</td>
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<td>Maxwell, Eric</td>
<td>Boulogne.</td>
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<td>5 Nov.</td>
<td>1903</td>
<td>Maxwell, W. George</td>
<td>C. M. G., Taiping.</td>
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<td>16 Dec.</td>
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<td>May, C. G.</td>
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<td>Mead, J. P.</td>
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<td>1908</td>
<td>Millard, H.</td>
<td>c/o Messrs. Donaldson and Burkinshaw, Singapore.</td>
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<td>7 Feb.</td>
<td>1910</td>
<td>Miller, T. C. B.</td>
<td>Fairlie, Nassim Road, Singapore.</td>
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<td>8 Sept.</td>
<td>1909</td>
<td>*Moulton, Capt. J. C.</td>
<td>Fort Canning, Singapore.</td>
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<td>15 June</td>
<td>1911</td>
<td>Munro, R. W.</td>
<td>Morib, Selangor.</td>
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<td>17 Feb.</td>
<td>1913</td>
<td>Murray, Rev. W.</td>
<td>M. A., 1 Gilstead Road, Singapore.</td>
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<td>9 May</td>
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<td>Nunn, B.</td>
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<td>O'May, J.</td>
<td>Kuala Kangsar, Perak.</td>
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<td>10 Feb.</td>
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<td>Ong Boon Tat</td>
<td>29, South Canal Street, Singapore.</td>
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<td>17 Feb.</td>
<td>1913</td>
<td>Overbeck, H.</td>
<td>Trial Bay, N. S. W., Australia.</td>
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<tr>
<td>2 Feb.</td>
<td>1914</td>
<td>Panyarjun, Samahu</td>
<td>The Royal State Railways Dept. Standard Gauge, 196, Hluang Road, Bangkok, Siam.</td>
</tr>
<tr>
<td>4 Jan.</td>
<td>1910</td>
<td>Peirce, R.</td>
<td></td>
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<td>5 May</td>
<td>1914</td>
<td>Pepys, W. E.</td>
<td>Pasir Puteh, Kelantan.</td>
</tr>
</tbody>
</table>


3 May, 1915. RAGGI, J. G., Phlab Phla Jai Road, Bangkok, Siam.

10 Feb., 1916. RAYMAN, L. Assistant District Officer, Raub, Pahang.

27 Jan., 1910. *REID, Dr. Alfred, Parit Buntar.


20 Oct., 1909. RICHARDS, D. S.


14 Sept., 1911. ROBERTSON, G. H. M.


10 Feb., 1916. ROGERS, A., Public Works Department, Singapore.


29 Sept., 1913. RUNCIMAN, Rev. W., M. A., B. D.

7 April, 1909. SANDERSON, Mrs. R.

--- 1878. †Sarawak, His Highness The Raja of, Kuching, Sarawak.

10 Feb., 1916. †Sarawak, His Highness The Raja Muda of, Kuching, Sarawak.

--- 1885. †Satow, Sir Ernest M., Beaumont, Otter St. Mary, Devon, England.


27 Jan., 1910. Scott, R., District Court, Singapore.


12 April, 1915. See Tiong Wah, c/o Hongkong and Shanghai Bank, Singapore.


20 May, 1912. Smith, Prof. Harrison W., Massachusetts Institute of Technology, Boston, Mass., U.S.A.

27 Jan., 1910. Song Ong Siang, c/o Messrs. Aitken and Ong Siang, Singapore.


3 May, 1915. Strickland, Dr. C. Malaria Bureau, Kuala Lumpur.


4 June, 1908. Tan Chong Lock, 59, Heeren Street, Malacca.

27 Jan., 1910. Tan Jiak Kim, C. M. G., Panglima Prang, River Valley Road, Singapore.
MEMBERS FOR 1917.

10 Nov., 1909. THUNDER, M., Tekka Ltd., Gopeng, Perak.
1887. VAN BEUNINGEN VAN HELSDINGEN, Dr. R., 484/2, Bukit Timah Road, Singapore. (Hon. Librarian, 1914-1915).
3 June, 1909. WARD, A. B., Semanggang, Sarawak.
13 Jan., 1916. WATSON, J. G., Forest Department, Kuala Lumpur.
27 Jan., 1910. WELD, F. J., Johore Bahru.
15 July, 1907. WELHAM, H., c/o The Straits Echo, Penang.
15 April, 1912. WHARTON, S. L., c/o The Singapore Club, Singapore.
24 Nov., 1904. WINSTEDT, R. O.
4 June, 1908. *WOOD, E. G., Batu Gajah, Perak.
21 Sept., 1916. WOOLLET, G. F. C., Klagaw, Labuk and Sugu District, B. N. B.
5 May, 1914. WYLEY, A. J., Lebong Tandai, Beukoele, Sumatra.
35 Feb., 1910. WYMODZEFF, A de.
26 April, 1916. YOUNG, E. Stuart, Kinarut Estate, via Jesselton, B. N. B.
RECIPIENTS of the Society’s PUBLICATIONS, not being MEMBERS.  
(Exchanges with enemy countries, with Belgium and with the German Asiatic Society, Tokyo, being in suspense).

AMSTERDAM. Nederlandsch Aardrijkskundig Genootschap, Domseelaerstraat, 19, Amsterdam, Netherlands, in exchange for that Society’s Tijdschrift.

AMSTERDAM. Koloniaal Instituut, Amsterdam (formerly of Haarlem), in exchange for that Institute’s publications.

BALTIMORE. The Johns Hopkins University, Baltimore, U. S. A. in exchange for the University’s Circulars, Studies, and American Journal of Philology.

BANGKOK. The Vajeranana National Library, Bangkok, in exchange, for the Library’s publications.

BATAVIA. Bataviasch Genootschap van Kunsten en Wetenschappen, in exchange for that Society’s Tijdschrift voor Indische Taal Land- en Volkenkunde and other publications.

BATAVIA. Mijnwezen in Nederlandsch-Indie, Batavia (Chef van het Mijnwezen), in exchange for the Jaarboek of the Department.

BERKELEY. University of California, Berkeley, Cal. U. S. A. (Manager of the University Press), in exchange for the University’s “Publications.”

BERLIN. Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Berlin S. W., Königgrätzer Strasse 120, in exchange for the Zeitschrift für Ethnologie.


BOMBAY. Royal Asiatic Society, Bombay Branch, Town Hall, Bombay, India, in exchange for the Branch’s Journal.

BREMEN. Geographische Gesellschaft, Bremen, in exchange for that Society’s Geographische Blätter.

BRUSSELS. Société Belge d’Études Coloniales, Rue de Stassart 34, Bruxelles, Belgium, in exchange for that Society’s Bulletin.


CHICAGO. Field Museum of Natural History, Chicago, U. S. A. in exchange for the Museums “Publications.”

COLOMBO. Royal Asiatic Society, Colombo Branch, Colombo, Ceylon, in exchange for the Branch’s Journal.

GIESSEN. Oberhessische Gesellschaft für Natur und Heilkunde, Gießen, Germany, in exchange for that Society’s Berichten.

GOA. The Government of the Portuguese Indies, Goa, India (O Director, Imprensa National), in exchange for the Journal “O Oriente Portugues.”
EXCHANGE LIST.

HAMBURG. Hamburgische Wissenschaftlichen Anstalten, in exchange for the Jahrbuch.

HANOI. Ecole Francaise d’Extrême Orient, Hanoi, Indo-China (Director), in exchange for the School’s Bulletin.

HALLE. Kaiserliche Leop.-Carol. Deutschen Akademie der Naturforscher, Halle, Germany, in exchange for that Society’s Abhandlungen.


HONOLULU. Bernice Pauahi Bishop Museum, Honolulu, Hawaiian Islands, (Librarian) in exchange for the Museum’s Occasional Papers, and other publications.


KUALA KANGSAR. Committee for Malay Studies (pays for publications).


LINCOLN. University of Nebraska, Lincoln, Nebraska, U. S. A. in exchange for that University’s publications.

LEIPZIG. Museum für Völkerkunde, Leipzig, Germany, in exchange, for the Museum’s Jahrbuch.

LISBON. Sociedade de Geographia de Lisboa, Rue Eugenio dos Santos, Lisboa, Portugal, (Secretary), in exchange for the Society’s Bulletin.


LONDON. Royal Colonial Institute, Northumberland Avenue, London, W. C. (Librarian) in exchange for “United Empire.”

MALACCA. The Malacca Library, Malacca (pays for publications).

MANILA. The Bureau of Science, Manila, (Director) in exchange for the Philippine Journal of Science.

Mexico. Instituto Geologico de Mexico, Mexico City, in exchange for their Parergones and Boletin.


Ottawa. The Geological Survey, Department of Mines, Sussex Street, Ottawa, Canada (Librarian) in exchange for the Department's publications.


Rome. Reale Societa Geografica, Via del Plebiscito, 102, Roma, Italy, in exchange for the Society's Bolletino.

St. Louis. Academy of Natural Sciences, St. Louis, Mo., U. S. A. in exchange for the Society's Transactions.

St. Louis. Missouri Botanical Garden, St. Louis, Mo, U. S. A. (Director), in exchange for the Garden's Annals.


Simla. Director-General of Archaeology, Simla, India, in exchange for the Archaeological Survey's publications.

Singapore. The Raffles Museum, Singapore.

Shanghai. Royal Asiatic Society, N. China Branch, Shanghai, China, in exchange for the Society's Journal.


Tokyo. Asiatic Society of Japan, 6, Babasaki, Kojimachi, Tokyo, Japan. (Hon. Treasurer) in exchange for the Society's Transactions.

EXCHANGE LIST.

UPSALA. The University, Bibliothèque de l'Université Royale, Uppsala, Sweden, in exchange for that University's Aarskrift.


ZURICH. Naturforschende Gesellschaft (Bibliothèque centrale, Bureau d'échange de la Société d'histoire naturelle). Zurich, Switzerland, in exchange for that Society Vierteljahrschrift.

[Closed March 24th, 1917.]
RULES
of the Straits Branch
OF THE
Royal Asiatic Society.

I. Name and Objects.

1. The name of the Society shall be 'The Straits Branch of the Royal Asiatic Society.'

2. The objects of the Society shall be:
   (a) The increase and diffusion of knowledge concerning British Malaya and the neighbouring countries.
   (b) The publication of a Journal and of works and maps.
   (c) The formation of a library of books and maps.

II. Membership.

3. Members shall be of two kinds—Ordinary and Honorary.

4. Candidates for ordinary membership shall be proposed and seconded by members and elected by a majority of the Council.

5. Ordinary members shall pay an annual subscription of $5 payable in advance on the first of January in each year. Members shall be allowed to compound for life membership by a payment of $50.

6. On or about the 30th of June in each year the Honorary Treasurer shall prepare and submit to the Council a list of those members whose subscriptions for the current year remain unpaid. Such members shall be deemed to be suspended from membership until their subscriptions have been paid, and in default of payment within two years shall be deemed to have resigned their membership.

No member shall receive a copy of the Journal or other publications of the Society until his subscription for the current year has been paid.

7. Distinguished persons and persons who have rendered notable service to the Society may on the recommendation of the Council be elected Honorary members by a majority at a General meeting. They shall pay no subscription, and shall enjoy all the privileges of a member except a vote at meetings and eligibility for office.

III. Officers.

8. The officers of the Society shall be:
   A President.
   Three Vice Presidents, resident in Singapore, Penang and the Federated Malay States respectively.
   An Honorary Treasurer.
   An Honorary Librarian.
   An Honorary Secretary. Four Councillors.
These officers shall be elected for one year at the annual General Meeting, and shall hold office until their successors are appointed.

9. Vacancies in the above offices occurring during any year shall be filled by a vote of majority of the remaining officers.

IV. Council.

10. The Council of the Society shall be composed of the officers for the current year, and its duties and powers shall be:

(a) to administer the affairs, property and trusts of the Society.

(b) to elect ordinary members and to recommend candidates for election as Honorary members of the Society.

(c) to obtain and select material for publication in the Journal and to supervise the printing and distribution of the Journal.

(d) to authorise the publication of works and maps at the expense of the Society otherwise than in the Journal.

(e) to select and purchase books and maps for the Library.

(f) to accept or decline donations on behalf of the Society.

(g) to present to the Annual General Meeting at the expiration of their term of office a report of the proceedings and condition of the Society.

(h) to make and enforce bye-laws and regulations for the proper conduct of the affairs of the Society. Every such bye-law or regulation shall be published in the Journal.

11. The Council shall meet for the transaction of business once a month and oftener if necessary. Three officers shall form a quorum of the Council.

V. General Meetings.

12. One week’s notice of all meetings shall be given and of the subjects to be discussed or dealt with.

13. At all meetings the Chairman shall in the case of an equality of votes be entitled to a casting vote in addition to his own.

14. The Annual General Meeting shall be held in February in each year. Eleven members shall form a quorum.

15. (i) At the Annual General Meeting the Council shall present a Report for the preceding year and the Treasurer shall render an account of the financial condition of the Society. Copies of such Report and account shall be circulated to members with the notice calling the meeting.

(ii) Officers for the current year shall also be chosen.

16. The Council may summon a General Meeting at any time, and shall so summon one upon receipt by the Secretary of a
written requisition signed by five ordinary members desiring to submit any specified resolution to such meeting. Seven members shall form a quorum at any such meeting.

17. Visitors may be admitted to any meeting at the discretion of the Chairman but shall not be allowed to address the meeting except by invitation of the Chairman.

VI. Publications.

18. The Journal shall be published at least twice in each year, and oftener if material is available. It shall contain material approved by the Council. In the first number in each year shall be published the Report of the Council, the account of the financial position of the Society, a list of members, the Rules, and a list of the publications received by the Society during the preceding year.

19. Every member shall be entitled to one copy of the Journal, which shall be sent free by post. Copies may be presented by the Council to other Societies or to distinguished individuals, and the remaining copies shall be sold at such prices as the Council shall from time to time direct.

20. Twenty-four copies of each paper published in the Journal shall be placed at the disposal of the author.

VII. Amendments to Rules.

21. Amendments to these Rules must be proposed in writing to the Council, who shall submit them to a General Meeting duly summoned to consider them. If passed at such General Meeting they shall come into force upon confirmation at a subsequent General Meeting or at an Annual General Meeting.

Affiliation Privileges of Members.

Royal Asiatic Society. The Royal Asiatic Society has its headquarters at 22, Albemarle Street, London W., where it has a large library of books, and MSS. relating to oriental subjects, and holds monthly meetings from November to June (inclusive) at which papers on such subjects are read.

2. By rule 105 of this Society all the Members of Branch Societies are entitled when on furlough or otherwise temporarily resident within Great Britain, and Ireland, to the use of the Library as Non-Resident Members and to attend the ordinary monthly meetings of this Society. This Society accordingly invites Members of Branch Societies temporarily resident in Great Britain or Ireland to avail themselves of these facilities and to make their home addresses known to the Secretary so that notice of the meetings may be sent to them.
3. Under rule 84, the Council of the Society is able to accept contributions to its Journal from Members of Branch Societies, and other persons interested in Oriental Research, of original articles, short notes, etc., on matters connected with the languages, archaeology, history, beliefs and customs of any part of Asia.

4. By virtue of the afore-mentioned Rule 105, all Members of Branch Societies are entitled to apply for election to the Society without the formality of nomination. They should apply in writing to the Secretary, stating their names and addresses, and mentioning the Branch Society to which they belong. Election is by the Society upon the recommendation of the Council.

5. The subscription for Non-Resident Members of the Society is 30/- per annum. They receive the quarterly journal post free.

*Asiatic Society of Bengal.* Members of the Straits Branch of the Royal Asiatic Society, by a letter received in 1903, are accorded the privilege of admission to the monthly meetings of the Asiatic Society of Bengal, which are held usually at the Society's house, 1 Park Street, Calcutta.
Flag of the Governor of the Straits Settlements

Colonial Ensign Straits Settlements

Flag of the Chief Secretary Federated Malay States
The Flags of the Malay Peninsula.

In response to a request made some little time ago, the Council of the Society has decided to publish here seven plates illustrative of the flags generally recognised in the Malay Peninsula. The drawings from which the plates have been prepared were in most cases procured through members of the Society, who are at the same time Officers of the State serving in different parts of the Peninsula. For the ready way in which they gave their help, the Society’s best thanks are due.

The ensign of the Straits Settlements is constructed as those of all British Colonies from the Blue Ensign, by the addition of the Colonial emblem in the fly. The same Colonial emblem wreathed in oak leaves in the centre of the Union Jack makes the Governor’s flag. The device of the emblem is three crowns embayed on white in a lozenge the ground of which is red, the crowns representing the three Settlements.

The Chief Secretary of the Federated Malay States has a Jack corresponding to the Governor’s in which a kris is the emblem.

Very recently all the Malay States used flags as emblems which were of one colour; but as it became known in them that the self-coloured flags at sea and elsewhere had special significances for the purpose of signalling, the desirability of using something more distinctive was realised and a change has been made in every State except Tringganu. Tringganu still retains its plain white flag.

Pahang, its neighbour, used a plain black flag, until, as symbolical of the Union of the ruler with his people, white was associated with the black,—first a narrow white band along the inner edge then an upper white half. This final design was fixed by the State Council on the 28th of December, 1903. As far as can be ascertained the flag of Kelantian was plain white up to the time when the State came under British Protection. Being white, it would not be distinctive as regards Tringganu. After the State had come under protection, a figure of a tiger was added in mid-flag coloured in the case of the State flag a very dark blue, and in His Highness the Sultan’s own flag yellow, the ground remaining white as before. Similarly the Perak flags used to be self-coloured, but now the three colours, formerly employed, are combined into the one flag. In Kedah up to six years ago self-coloured flags were used. The Sultan used a plain yellow one, the Malay emblem of Royalty, the State flag was a plain red one and the late Raja Muda’s a plain black. When the Sultan and his suite went to Europe for the coronation of their Majesties King George V. and Queen Mary, the
Malays were chagrined to find that none of their old flags could be flown as they were the nautical symbols for quarantine, gunpowder and piracy, and then the device called by the Malays the "Kedah Crown" as superimposed on the old grounds of the Sultan's, and the State's flags; and the President of the State Council was given a green flag instead of the old black one.

The crescent of Muhammadanism appears in the Kedah flag; and the crescent and star in those of Selangor and Johore. The Selangor State flag is yellow and red in quarters with a yellow crescent and star in canton. It was devised in the reign of Sultan Abdul Samad; and the yellow and red quarterings are symbolic of flesh and blood; for, as the body is of flesh and blood so is the State a combination of necessary parts.

The Johore flag is white with the crescent and star red in canton on blue.

The Negri Sembilan flag is yellow with red and black diagonal in canton; red for the Government, yellow for the Raja, and black for the Undang or States' rulers. "Negri Sembilan" means "Nine States."

The device of the Kelantan flag reads:

كَراِجَانٌ كِلَانَن
نصُرُونَ اللَّهِ وَفَتَحُ فَرَبِّ بَشَرِّ الْمُؤْمِنِينَ

KERAJA'AN KELANTAN.

Nasrom minallah-hi wafat-hung karibun wabasshirel mo'minin.
FLAG OF THE FEDERATED MALAY STATES

FLAG OF THE SULTAN OF JOHORE

FLAG OF THE STATE OF JOHORE
FLAG OF THE STATE OF NEGRI SEMBITAN

FLAG OF THE STATE OF PERAK

FLAG OF THE STATE OF TRENGGANU
Flag of the State of Selangor
Flag of the State of Perlis
Flag of H.H. the Sultan of Kelantan
Flag of the State of Kelantan
New and Rare Malayan Plants.

Series IX.

By H. N. Ridley, F.R.S.

In continuing my work on the Flora of the Malay Peninsula, I find a number of plants in the earlier collections which have been overlooked and not described, as well as several genera in which the species, chiefly described from more or less inadequate dried specimens, seem to have been much confused; such genera are Glycosmis, Ventilago and Allophyllus. In critical genera like these a really big series of specimens is required and this we seldom possess in any tropical genus. Some also differ more in habit than in what may be called herbarium characters. In the field one could not mistake the one for the other; but specimens without adequate notes as to height, and form of growth may look so far similar that a botanist who has not seen the plants alive may easily be led into thinking that they are all mere forms of one somewhat variable species. We really want more collecting and observation done. I have been surprised to note how very badly many of our commonest plants are represented in herbaria. The collections of an amateur who, just commencing the study of botany collects every weed he can find, are often extremely valuable, as the plants he gathers are just the plants that others neglect.

ANONACEAE.

Unona. Safford in Bull. Torrey Club, xxxix. p. 502, shows that the original species of this genus was an American plant to which were later added among others the species known as Unona in the East Indies: and eventually the original Unona discreta, Linn. fil., was actually excluded from the genus. This plant proves to be a Xylophia. The East Indian plants are quite distinct from it so that the generic name Unona disappears as a synonym of Xylophia. The earliest name for the East Indian "Unona" is Desmos of Loureiro and the following are the names of the Malay species of Unona now referred to that genus.


Desmos dasymaschala, Safford L.c. 507. Unona dasymaschala, Bl.
Desmos filipes, Ridl. Unona filipes, Ridl.

The genus when confined to the shrubs with large rather thin flowers with two series of unequal petals and moniliform fruiting carpels forms a well-defined genus; but to it has unfortunately been added a section Stenopetalae including Desmos Wrayi, D. desmantha, D. crinita, D. stenopetala all Unonas of Hook. fil. & King, and kept in Desmos by Safford. These are small trees about 20 feet tall with the flowers and fruit exactly of Polyalthia and closely allied to P. Beccarii. The ovaries in the species referred to Unona (Desmos) contain from 2 to 5 ovules. The distinction given to Polyalthia from Unona is that it has but one or two ovules. None of the species of this supposed section of Unona have moniliform fruit, but 3 seeds are often developed.

I propose to remove all of them to their correct genus Polyalthia and transfer them to their real affinity with P. Beccarii, under the names of Polyalthia Wrayi, P. desmantha, P. crinita and P. stenopetala.

Unona pycnantha, Hook. fil. only known from Maingay's specimen looks to me to be a young specimen of one of these species probably P. desmantha, in which the flowers are not fully developed.

Polyalthia cauliflora, Hook. fil. and Thom., Fl. Ind. 138; Hook. fil., Fl. Brit. Ind. I. 60, was based on Wallich's Uvaria cauliflora (Wall. Cat. 6476) a plant collected in Singapore. King omitted it altogether from the "Materials for a flora of the Malay peninsula" but quoted the description in the Annals of the Botanic Gardens of Calcutta (Anonaceae) and said it was indeterminable. I have examined the type in Wallich's herbarium and find it to be identical with Polyalthia Teysmannii, Boerl., Ic. Bogor. I 107; Guatteria Teysmannii, Miq. Fl. Ind. Bat. Suppl. 378.

This species is very common in Singapore and much resembles P. Beccarii. It is a small tree with a stem 3 inches through with transversely wrinkled bark. The flowers are orange yellow, and not cinnamon brown as in P. Beccarii; the fruit is larger and sometimes at least pubescent.

It occurs in Singapore, at Chan Chu Kang (6231 of my collection), Toas river and Changi (5980); also on Gunong Panti in JOHORE; at Sepang in SELANGOR; and on the Tahan river in PAHANG, usually in rather sandy open woods.

Unona Brandisana, Pierre, Fl. Forest Cochinch. p. 19 is referred by Safford to the genus Canangium, as Canangium Brandesianum, Safford (I.c. p. 504).

It is certainly closely allied to Canangium Scortechinii having the long conic anther appendage and elongated style of that species. The style of Canangium odoratum is however quite different.

It is regrettable that Safford published the name as Canangium Brandesianum as Pierre intended to associate the plant with Sir Dietrich Brandis and called it Brandisana. It should have been in correct Latin Brandisianum.

Canangium monospermum (Cananga monosperma, Hook. fil.).

"A tree about 5 feet high; stem about the size of a man's thumb found on the top of Gov. Hill." "Large tree with a thick stem found about half way going up Government Hill" in Maingay's collections. This has been treated by Hooker and King as a doubtful plant; and the fruit with the specimens perhaps does not belong. It is no Canangium and I am very doubtful as to what it is. It has not been collected since Maingay's time; neither Curtis nor Mhd. Haniif nor I myself have been able to find it. It requires searching for again.

Sphaerocoryne, Scheff. ms. in Boerlage, Ic. Bogor. LXIX.

The species on which Scheffer apparently intended to base this genus, S. siamensis, was put by Boerlage into the genus Polyalthia as P. siamensis, when he described Scheffer's species. It had however been already described by Pierre, Fl. Forest Cochinch., as Unona Mesnyi (Pl. 17). Pierre seemed doubtful as to where to place the plant, as in Herb. Kew he writes notes on it referring it also to Popovia: and Craib (Kew Bulletin, 1914, p. 5) makes a new combination of this as Popovia Mesnyi. Popovia edulis, Pierre, seems to me the same thing. Two other species closely allied to this species are Polyalthia affinis, Teijsm. and Binn., in Tijdschr. Nederl. Ind. xxvii (1864) 37; Boerlage, Ic. Bogoriensis, t. LXIII, of unknown origin cultivated at Buitenzorg and Polyalthia aberrans, Maingay in Hook. fil. Fl. Brit. Ind. i. 67 of Malacca and Perak.

It does not seem possible to refer these three plants to any of the genera suggested, and I therefore propose to keep up the proposed genus of Scheffer's Sphaerocoryne which I define below. The affinities of these plants are obscure, but they are certainly allied to Scheffer's Rauwenhoffia from which Sphaerocoryne differs mainly in its small stigmas, cylindric style and single or 2 ovules. Rauwenhoffia has very large stigmas, a very short style and many ovules.
Sphaerocoryne, Scheff. ms. genus ined.


Species 3.

PeraK.


Siam, Cambodia.

S. affinis, Ridl. Polyalthia affinis, Teijsm. and Binn. ex Boerlage, Ic. Bogor. t. LXIII.

Cult. in Hort. Bogor. origin unknown.

TILIACEAE.

Elaeocarpus acmosepalus, Stapf. ms.

A tree with young parts silky pubescent. Leaves thinly coriaceous drying brown, glabrous, elliptic acute or acuminate, base cuneate, margins entire, slightly thickened, nerves 3 pairs inarching within the margin, elevate beneath, reticulations wide not conspicuous, 7 cm. long, 4 cm. wide; petiole slender, geniculate .75 in. long. Racemes slender in upper axils, 6—7 cm. long, puberulous. Pedicels 6—7 mm. long. Sepals 5, lanceolate acuminate, sparsely hairy or glabrous, 6 mm. long. Petals cuneate, fimбриate, edges ciliate, nearly as long. Stamens 20—25, filaments glabrous, as long as the anthers which are awned, the awn nearly as long as the anther and tipped with hairs. Torus of 5 rounded tomentose glands grooved on the back. Ovary ovoid conic silky pilose, 3-celled, 2 ovules in each cell. Style glabrous above, pilose at base.

Johore. Pengerang (N. Caunley). Also in Sarawak (Beccari 3433), and Bau (Hariland 2035).

Allied to E. parvifolius, Wall., and E. robustus, Roxb., which latter it resembles in having some of the leaves shewing signs of pustulations, but the leaves are quite entire and dry.
dark brown above and red brown beneath. The sepals are very narrow and when dry at least are curiously hooked at the long acuminated tip. Haviland's plant is more pubescent and the leaves show slight signs of crenation.

Dr. Stapf recognized this species as distinct in the Kew Herbarium but never published his description of it.

GERANIACEAE.

**Connaropsis glabra**, n. sp.

Tree? branches with pale bark, glabrous. Leaves simple, thinly coriaceous, oblong acuminated acute, base rounded, nerves 5—6 pairs ascending inarching within the margins, reticulations conspicuous beneath, not glaucous, 4 in. long, 1.6 in. wide, petiole .5 in. long, petiolule .2 in. Panicles axillary and terminal, erect, 3.5 in.—4.5 in. long, lax; branches short .2—3 in. long; pedicels .01 long. Sepals ovate acute, glabrous. Petals oblong, narrower at the base, obtuse. Stamens 10 in 2 whors of unequal length; ovary glabrous, ovoid, obscurely angled.

**Perak.** On Hermitage Hill at 1000 feet, alt., flowering in December, (Curtis 1345).

This species has thinner and longer leaves, (not glaucous on the backs,) than *C. monophylla*, Planch. The panicle is laxer and the whole plant glabrous.

**Connaropsis laxa**, n. sp.

Tree 40 to 50 feet tall, the bark of the branches pale. Leaves simple, coriaceous, lanceolate acuminated, shining, the base rounded; nerves 6 pairs slender, inarching within the margin, elevated beneath, reticulations fine conspicuous beneath, 3—4.5 in. long, 1.4—2 in. wide, petiole .5 in. long, petiolule .2 in. long. Panicles terminal and axillary, slender, lax, puberulous 2.5 to 6 in. long; branches distant 2—3 in. long with the branchlets crowded at the tip. Sepals connate at base, 5, oblong, obtuse, glabrous. Petals 5, cuneate truncate, cherry red. Stamens 10, 5 short alternating with 5 long. Ovary oblong ovate. Styles 5, short. Fruit globose, 2-celled, dark red. Seed 1.

**Perak.** Taiping Hills, within 300 feet of Sea level (Kunstler 2384); Tea Gardens (Curtis 2896).

The appearance of this plant suggests a *Dapania* but it appears to be a tree and to have indehiscent fruits.

**Impatiens polycycla**, Hook. fil. ms.

A branched herb with nearly glabrous stem. Leaves in whors of 2 to 5, lanceolate acuminated, narrowed to the base, serrate spinulose, with scattered long hairs on the upper sur-
face, glaucous beneath and glabrous, nerves hardly visible 1 to 1.5 in. long, .4 in. wide; petiole .2 in. long. Stipules filiform. Peduncle 1.5 to 2 in. long. Flower patent 1 in. across, rose pink. Sepals .2 in. long, ovate caudate, glabrous, spurred one ovate lanceolate, flat, spur long and slender, 1.5 in. long. Capsule ovoid dilate in middle .5 in. long. Seed obovoid, compressed hairy .1 in. long.

**Perak.** Temengoh on a sand bank in the river (Ridley 14591). I could find but a single plant anywhere.

Allied to *T. Griffthii*, Hook. fil. but a more branched stouter plant, with broader leaves, hairy above with the nerves almost invisible, in whorls of 5, the lower ones in pairs. The spur is also much longer and more slender.

*Impatiens exilipes*, Hook. fil. ms.

A branched glabrous herb about 2 feet tall. Leaves opposite or in whorls of 3, broadly lanceolate acuminate, narrowed to the base, serrate spinulose, quite glabrous, beneath glaucous, nerves 6 pairs conspicuous, 3 to 4.5 in. long, .7 to 1 in. wide; petiole .5 in. long. Pedicels 2 to 3 in. long. Flowers rose pink, centre darker. Sepals ovate oblong, cuspidate, spurred one boat-shaped, mucronate, .4 in. long, spur slender 1.3 in. long. Standard obovate, cuneate, truncate with a short point and a short rounded keel, wings broad bifid, basal lobe oblong retuse, upper one obovate retuse. Capsule short .6 in. long, broadly fusiform, beaked. Seed obovoid, flattened, glabrous.

**Perak.** On the road between Tapah and Jor, abundant at one spot (Ridley).

I got this pretty balsam in the return from the expedition to Telom. Like the last species Sir Joseph Hooker examined it and made notes on it shortly before his death and gave it the above manuscript name. It belongs to the same section as the last but is distinct in being quite glabrous like *I. Curtisii* of the Taiping Hills but has lanceolate not ovate leaves. *I. Wrajii*, Hook. fil. from the same district has hairy leaves, an orbicular standard not narrowed at the base and a central raised line with an erect tooth in the centre, the wings are very unequally lobed and the seed is hairy. *I. sarcantha*, Hook. fil. from the Telom river has broad hairy leaves and an obovate standard, emarginate with a strong central keel running the whole length, and oblong truncate unequal lobes to the wings. The seeds are glabrous.

**Rutaceae.**

*Glycosmis.* The various species of this genus of shrubs or small trees occurring in the Malay Peninsula have been reduced
first by Oliver, Journ. Linn. Soc. V. Suppl. ii. 37, and later by Hooker in the Flora of British India and King in the Materials which have followed. Oliver's classification, into three species only \textit{G. pentaphylla}, Correa, the \textit{Limonia pentaphylla} of Retz. and Roxburgh, \textit{G. sapindoides}, Lindl. and \textit{G. puberula}, Lindl., the greater number of the Indian and Malayan species being reduced to forms of \textit{G. pentaphylla} "a very variable and most perplexing species."

The typical \textit{G. pentaphylla} is based upon what appears to me a very distinct species which is confined to India, and does not occur at all in our area. After examining the various plants included under the names of this and the other two species, I have come to the conclusion that the various forms, perhaps a little difficult to make out from poor herbarium specimens can be quite well distinguished into species, and are not really so variable as would at first sight appear.


A short stiff shrub about 5 feet tall, with thinly coriaceous 1- to 3- foliolate leaves, elliptic lanceolate or oblanceolate, narrowed to the base, shortly blunt apiculate; nerves very fine, nervules nearly as conspicuous, usually distinctly gland-dotted, 4-5 in. to 6 in. long and 1.5 in. wide; petiole 1-2.5 in. long, petiolule .1 in. long. The panicles are axillary and terminal, erect and spike-like about .5 to 2 in. long, the peduncle .1—.75 in. long, but occasionally much longer. The flowers fairly numerous, are sessile or nearly so, .1 in. long. Sepals ovate acute, stiff; petals about twice as long, oblong obtuse. Stamens with linear-subulate filaments and very small anthers elliptic or elliptic lanceolate. Ovary 3—4-lobed, flask-shaped on a small disc, papillose, glabrous. Fruit as big as a pea, pale pink, translucent.

This plant does not appear to be very common in the Malay Peninsula, but I have it from Tanglin in \textit{Singapore} from the heaths in \textit{Setul}, and Kamponds at Kota Bahru, \textit{Kelantan}.

It is abundant in Hongkong, and Java, Bandoeng (Forbes 1215); and also occurs in Dutch Borneo, Banjermasin (Motley 271), \textit{British North Borneo} (Fraser): \textit{Philippines} (Cumings 1200; Loher 215), Manila (Merrill 112778).

The form with unifoliolate leaves, has usually stiffer and larger leaves and is probably the \textit{G. lanceolata}, Spreng. It occurs also in French Guyana (\textit{Glycosmis americana}, Sagot) and Jamaica. "According to Dr. Broughton it was introduced into Jamaica from England under the name of Mandarin orange in 1798 by Hinton East, Esq."

\cite{R. A. Soc., No. 75, 1917}
the Hongkong plant in having a tomentose inflorescence. The Malayan form is quite glabrous.

G. macrocarpa, Wight, Ill. i. 109.

A tree or shrub quite glabrous. Leaves 1- to 5-foliolate on the same plant, subcoriaceous, the trifoliolate leaflets are lanceolate, distant acuminate, shortly narrowed to the base, 3 in. long, .7 in. wide, petiolule .1 in.; the unifoliolate leaflets elliptic lanceolate, acuminate, base shortly narrowed, 7.5 in. long, 2.7 in. wide, very finely gland-dotted, nerves often distinctly elevate beneath in the larger leaflets, 8 pairs. The flowers white are .2 in. long 2 to 3 on very stout axillary racemes in the only Malay specimen I have seen, in terminal clusters .5 in. long in the Indian type, rachis and calyx scurfy. Sepals short ovate. Petals quite 3 times as long, linear oblong, subacute. Stamens with broad truncate linear filaments and short oblong anthers. Ovary glabrous, cylindric on a moderately large disc. Berry .75 in. long, globose with 2 large plano-convex seeds.

PERAK. At 4500 feet, "a tree, flowers white" (Wray 264). SOUTH INDIA: Courtallum (Wight).

A very distinct plant in its large flowers and very large fruit as big as a cherry. Wight gives it as shrubby, Wray as a tree.

G. malayana, n. sp.

A glabrous shrub, about 6 feet tall, with light green leaves. Buds red tomentose. Leaves 5-foliolate, thin, submembranous, leaflets elliptic, bluntly acuminate, shortly narrowed at the base, nerves 5 pairs impressed above conspicuously elevate beneath, inarching .3 in. within the margin, very finely gland-dotted above, sometimes but not always beneath, 3.5-5.5 in. long, 1-2 in. wide, petirole .5-1 in. long, petiolules .1-2 in. long. Panicles axillary and terminal 2-3 in. long, branches spreading 1 in. long, glabrous, rarely red scurfy. Buds globose. Sepals orbicular ciliate on the edges. Filaments broad, flat. Ovary cylindro-conic, 5-celled, glabrous. Fruit white, globose, narrowed at the base, .2 in. through.

SINGAPORE. Chan Chu Kang (Ridley 3912). JOHORE. Bukit Murdom (Kelsall), and Sedanah (Ridley 13508). SELANGOR. Kuala Lumpur. PERAK. Larut (King’s Collector 2035, 2839). PENANG. (Wallich 6373D); Muka Head (Curtis 722); Government Hill (Maingay).

This is our commonest species. The very smooth leaves with strong elevated nerves beneath and very inconspicuous nerves and reticulation beneath are very characteristic points. Frequently they are not at all gland-dotted but in the more northern Perak and Penang specimens conspicuously so.

Jour. Straits Branch
Kunstler's specimen No. 2035 described as a tree 20—30 feet tall has a tomentose inflorescence. This is unusual though the buds in all specimens are red tomentose. The Penang plants have more distinct nervules and reticulations and are gland-dotted on both sides, and the branchlets are pustular, while the inflorescence is much more copiously branched and compact. In this it approaches G. sapindoides, Lindl. In the Kew herbarium specimens have been tentatively named G. chlorosperma, Spreng., the description of which is too incomplete to identify any species by, but as the type was obtained in Java where this species does not seem to occur, it is probable that that species is something else.

G. sapindoides, Lindl. in Wall. Cat. 6373; Hook. fil. Fl. Brit. Ind. I. 501, was collected by Wallich in Penang in 1822. The leaves are 5- to 7-foliolate with 11 or 12 pairs of fairly well elevated nerves and conspicuous nervules and reticulations, the branches are pustular, the inflorescence fascicled racemose axillary short and red tomentose, the ovary is rufous tomentose at the base. The plant collected by Maingay on Government Hill, Penang, described in his field note as 30 feet high and as thick as a man's thumb, is quite glabrous, and has a terminal inflorescence; so I refer it to G. malaya. No one has apparently seen sapindoides since Wallich's time.

G. macrophylla, Lindl. Wall. Cat. 6377, not of Miquel.

A shrub 2—3 feet tall. Leaves always simple, thinly coriaceous, elliptic, narrowed slightly at the base, acuminate, frequently not gland-dotted, pale beneath, nerves strongly elevate beneath 10 pairs marching shortly within the margin, reticulations conspicuous, 8 in. long, 3.5 in. wide, petiole thick .2—1 in. long. Panicles terminal, or 1 axillary in the uppermost leaf axil, 2.5 in. long with very short branches .1 in. long. The flowers very small in umbels at the end of the branches. The sepals ovate not ciliate. The petals short oblong. Ovary conic cylindric, glabrous on a very large disc.

Penang. (Wallich 6377; Curtis 89).

var. macrorachis, King.

An erect shrub 2 to 4 feet. Leaves lanceolate acuminate, 13 in. long, 3—7 in. wide, narrowed to the base. Panicle slender elongate, 6 in. long, quite glabrous, base 1 in. wide, floriferous part 6 in., branches distinct .1—4 in. long with small terminal umbels of flowers at the ends. Fruit round and white.

Penang. Waterfall and Pulau Butong (Curtis 89).

A very distinct plant peculiar apparently to Penang.

B. A. Soc., No. 75, 1917.
G. tomentella, n. sp.

Shrub. Buds red tomentose. Leaves 5-foliolate, rhachis finely tomentose, 4 in. long; leaflets elliptic ovate bluntly acuminate, base rounded, submembranous, nerves 5 pairs elevate beneath, inarching within the margin, 4 in. long, 2 in. wide, terminal one 7 in. long 2.25 in. across, petiolule tomentose .1 in. long. Panicle terminal; peduncle 1.5 in. long, floriferous portion 1.5 in. long, lower branches 1.2 in. long, patent, rhachis scurfy, flowers .1 in. long, sessile in small clusters on the branches. Sepals ovate obtuse. Petals oblong obtuse. Stamens; filaments linear, flat, oblong, anther elliptic. Ovary conoid on a rather large cushion-like disc, glabrous.

SELANGOR. Menuang Gasing, Langat (Kloss).

A very distinct plant in its ovate leaflets with rounded bases, and finely scurfy tomentose rhachis, petiolules and inflorescence: a little scurf occurs too on the midrib and back of the leaves generally.

G. crassifolia, n. sp.

Branches stout, woody. Leaves simple, very coriaceous, oblong, elliptic lanceolate, narrowed to the base, bluntly acuminate, gland-dotted above, less conspicuously beneath, nerves fine not elevate inconspicuous, 10 pairs, nervules nearly as conspicuous, reticulations very inconspicuous, 8 in. long, 2.1 in. wide, petiole thick .5 in. Flowers small sessile in very short axillary clusters .1 in. long, very few in the cluster, rhachis and ovate sepals red tomentose. Petals broadly lanceolate blunt, glabrous. Stamens short “connective of anthers with a glandular blunt apiculus.” Ovary conoid cylindric, glabrous. “Fruit fleshy.”

MALACCA. (Maingay 3374).

A very curious plant of which I have only seen a single specimen of Maingay’s with one open flower. The coriaceous simple leaves and small flowers in very small axillary clusters distinguish it readily from any other species. Hooker referred it to the var. longifolia, Oliv. of G. pentaphylla, an Assam plant which I think is distinct though allied.

G. monticola, n. sp.

Shrub glabrous. Leaves 5 in. long, leaflets 5, coriaceous, dotted above, narrow lanceolate, acuminate cuspidate tip blunt, base long, narrowed, cuneate, nerves 6 pairs faint, 3 to 4 in. long, .5 to 1 in. wide, petiolules .1 in. long. Panicle terminal 1 in. long, branches .2 in. long, few flowered. Sepals rounded. Petals ovate. Stamens: filaments very short, anthers apiculate. Pistil cylindric.

Jour. Straits Branch
NEW AND RARE MALAYAN PLANTS.

MALACCA. Mt. Ophir (Ridley 3285).

Distinct in its very narrow elongate, coriaceous leaves, gland-dotted above, finely reticulate beneath ending in a long blunt tipped point and much narrowed to the base.


A small leaved shrub with usually trifoliolate leaves and red tomentose inflorescence and ovary. Fruit as big as a pea, globose, glandular.

PENANG. (Wallich 6375 A and B); Government Hill at 500 feet (Curtis 88). PERAK. (Scortechini). A variety with stiff coriaceous leaves with a broad blunt point, nerves invisible above.

Wallich 6375B is labelled Singap(ore) but it may be doubted if it too did not come from Penang, as it has never again been found so far south.

G. rupestris, Ridl. is allied to G. puberula, but its ovary is always glabrous, as is the whole inflorescence.

KEDAII. On Gunong Geriang, Pulau Adang, Rawei Island; PERLIS, on Bukit Lagi. (Ridley 15752).

var. tomentosa, n. var. has the inflorescence red hairy though the ovary is glabrous, but glandular.

KEDAII. Lankawi, Pulau Segai (Ridley 15566). Pulau Adang (Ridley 15844 and 15843) both larger leaved than type. SOUTHERN SIAM. Koh Samui (Robinson).

A plant very closely allied to G. rupestris, if not identical specifically, was collected at Montalban in the Philippines in the Province of Rizal (Loher 6767 and 6774) but the leaves are all unifoliolate.

BURSERACEAE.

Santiria laxa, King. Canarium laxum, Benn.

The female flowers of this tree have not been described. They are distinctly larger than the male flowers, the blunt oblong petals being .3 in. long and are borne on longer slender pedicels, .5 in. or more in length. The stamens (abortive) are as long as the pistil, the anther thick linear and blunt, longer a little than the filament. The ovary is thick oblong and somewhat distinctly 3-lobed. The stigma sessile, large three-lobed, thick and overlapping the ovary.

Icicaster Planchoni, n. gen.

I found the genus Icicaster for the plant formerly known

B. A. Soc., No. 75, 1917.

Planchon named it *Icicopsis* in Herb. Hook., but this generic name was never published and Engler unfortunately used it for certain American plants now reduced to *Icica*. In the Pflanzenfamilien it is put as a section of *Santiria* under the name *Icicopsis*, and *Trigonochoilamys* is also put as a section of *Santiria*.

The plant in fruit resembles *Trigonochoilamys Griffithii* except for the small calyx lobes but the flowers are small and resemble those of a *Santiria* except that they have but three stamens.


It appears to be not rare in the south of the Peninsula in Singapore, Malacca and Perak as far north as Taiping. The fruit is yellow and bead-like.

**MELIACEAE.**

*Amoora malaccensis*, n. sp.

Tree, bark of branches wrinkled, young branches red pubescent (when dry). Leaves 9—12 in. long, imparipinnate, rachis scurfy puberulous; leaflets 11—13, opposite, elliptic or elliptic-lanceolate, acuminate, base cuneate or rounded, slightly inaequilateral, coriaceous, glabrous, smooth, slightly shining above, red brown beneath when dry, nerves about 16 pairs, very fine and inconspicuous, depressed above, faint beneath, 2.1 to 4.25 in. long, .75—1.8 in. wide, petiolules .1—.2 in. long. Panicles axillary 6—8 in. long with ascending branches 1—2 in. or less long, scurfy, pubescent. Flowers male .05 in. long in threes or fours at the ends of the branchlets, sessile. Calyx lobes short, rounded base thick campanulate, pustular. Petals ovate obtuse longer incurved. Stamen-tube nearly as long as the petals, broadly oblong globose, wide open at the top, lobes rounded, short, anthers 6, not exserted. Ovary glabrous, oblong. Fruit globose, 2 in. through, densely minutely velvety tomentose, pericarp very thick, woody.

Jour. Straits Branch
MALACCA. Aver Panas (Goodenough; Ridley 1797) flowers; (Maingay 1456) fruit.

Nearest to A. lanceolata, Hiern, but the leaves are thinner, larger and less coriaceous with more distinct nerves, the flowers are smaller and glabrous, the staminal tube has rounded short lobes.

Aglaia rufibarbis, Ridl.

I find that the plant described by me in the Journ. Roy. As. Soc. Str. Branch vol. 54, p. 32, as Aglaia rufa, Miq. is not that species but is a distinct and previously undescribed one. I therefore give it the name of A. rufibarbis.

Dysoxylon pulchrum, n. sp.

A small tree, glabrous except the flowers. Leaf over a foot long, rhachis stout. Leaflets more than 11, alternate, rather distant, coriaceous, oblong, rather abruptly blunt acuminate, base cuneate or broadly rounded, equilateral or very nearly so, midrib stout, prominent beneath, nerves 11 pairs, slender but prominent beneath, 8—9 in. long, 3—3.5 in. across, petiolules .2—3 in. long, stout. Panicles large over a foot long, branches 8—12 in. long, stout, scurfy, branchlets scattered, 1—2 in. long with short terminal cymes of 1—3 flowers. Pedicels .1 in. long. Flowers nearly .2 in. pure white, buds truncate, oblong. Calyx flat, saucer-shaped with 4 or more irregular lobes. Petals much longer, oblong obtuse, glabrous outside, puberulous inside. Stamen-tube cylindric, thick pubescent outside, villous inside, mouth nearly entire, anthers included 10. Disc cylindric, hairy, longer than ovary. Style very stout, glabrous above. Stigma large capitate.

Penang. At the top of the hill, 1800 feet alt. (Ridley) in thick forest.

A beautiful plant which was a mass of white bloom when I collected it in March 1915.

The leaves closely resemble those of D. thyrsoides, Griff. but the panicles and flowers are far larger, the petals broader, the stamen-tube quite hairy inside and out.

Walsura tenuifolia, n. sp.

A tree glabrous except the flowers. Leaves 5 in. long; leaflets 5, thin membranous, glaucous beneath, elliptic acuminate acute, base rounded or shortly cuneate, nerves about 8 pairs, elevate beneath, reticulations fine, conspicuous when dry, 2—4 in. long, 1—1.5 in. wide, 1.5 in. apart on the rhachis; petiolules .2 in. long. Panicles long, 12—14 in., lax with distant branches 1.5 in. long, glabrous below, scurfy above. Flowers few .2 in. long, pedicels .05 long. Calyx minutely puberulous, short;
lobes acute 5. Petals oblong obtuse puberulous outside, glabrous within. Stamens connate for half their length, pubescent on both sides, filament (free part) linear subulate, anthers small. Ovary cylindric, glabrous. Style stout, shorter than the stamens. Stigma capitate. Disc thick fleshy annular.

PERAK. Kamuning (Ridley 3022).

Allied to W. neurodes, Hiern. but with much thinner leaves, the stamens much more united, and ovary glabrous.

OLACACEAE.

Gonocaryum crassifolium, n. sp.

Shrub with flexuous branches, glabrous except the inflorescence. Leaves alternate, stiffly coriaceous, ovate acuminate or oblong acuminate, base rounded, midrib above channelled, beneath strongly elevate, almost keeled, yellow, nerves elevate beneath, 5 pairs ascending, rather slender, 7 in. long, 3.5 in. wide, petiole thick rugose .75 in. long, yellow. Spikes 3—4 together in an axil, slender, pubescent, 2—2.2 in. long. Flowers .05 in. long, scattered. Bracts small ovate. Calyx base campanulate, 5-lobed, lobes ovate obtuse, pubescent outside, imbricate. Petals twice as long hardly cohering, glabrous, ovate oblong, apex incurved, fleshy edges thickened, concave. Stamens 5, filaments much shorter than the anther, which is oblong obtuse, red. Disc small annular undulate. Pistilode small, pilose. Female flowers and fruits unknown.

SELANGOR. Sempang mines (Ridley 15695).

In foliage this resembles G. pyriforme, Scheff. but the flowers are very much smaller and the rachis and calyx pubescent.

CELASTRACEAE.


A glabrous woody climber with black stem. Leaves usually stiffly coriaceous, elliptic to ovate, acute or acuminate, serrate or nearly entire, base shortly cuneate; nerves 5 to 6 pairs, prominent beneath, 3.5 to 4.5 in. long, 1.5 to 1.7 in. wide, petiole .25—5 in. long. Racemes several from one axil 2 in. long with the flowers in small lax cymes, pedicels .01. Flowers nearly .1 in. across. Calyx very small, obscurely 5-lobed. Petals very small, oblong round-tipped. Fruit on pedicels 2 in. long, three-valved, orange colour, valves ovate .3 in. long and as wide. Seed 1.

PAHANG. Sungei Jelai (Ridley 11581); Telom (Ridley). PERAK. Gunong Batu Putih (Wray), Maxwell’s Hill (Ridley). PENANG. Penang Hill (Ridley); Penara Bukit (Curtis). PATANI. Tomoh (Machado).
Native name "Akar Surukop."

This plant appears to me to be quite distinct from the Hongkong plant, the flowers of which are larger and in umbellate cymes on the ends of branches, not as in this case in racemes of small cymes. The petals are smaller and narrower, and the fruit smaller, the valves being as long as they are wide.

Microtropis valida, n. sp.

Branches stout. Leaves thickly coriaceous, shining, elliptic, acuminate acute, base cuneate, 3.5 to 6 in. long, 1.5 to 3 in. wide, nerves 6 to 8 pairs, slender, nervules and reticulations equally prominent on both sides, petiole thick grooved .5 in. long. Cymes stout, 3 in. long, peduncle 1.5 in. long, branches .5 in., branchlets .2 in. long. Flowers clustered in threes on the end of each branchlet, .4 in. across, sessile. Sepals 4, imbricate, rounded in two unequal pairs, glabrous, coriaceous with thinner edges, the inner pair the largest. Petals connate below, lobes 4, short, broad, rounded. Stamens 4 inserted on the tube, filaments broad. Pistillode truncate.

Perak. Hermitage Hill (Curtis 1331).

Euonymus rufulus, n. sp.

Small tree with grey rather knotted branches. Leaves opposite, coriaceous, glabrous, elliptic, blunt, acuminate at both ends, base subacute, nerves about 5 pairs, invisible above, obscure beneath, midrib elevate on both sides, 1.5—4 in. long, .5—.75 in. wide; petiole .25 in. long, thick, grooved. Cymes several in an axil, slender, peduncle .4 in. long, pedicles as long, about 3. Flowers dull red, .15 in. across. Sepals orbicular 5. Petals transversely rounded, oblong, minutely denticulate punctate. Stamens 5, very short, filaments subtriangular, flat; anthers transversely oblong; style short.

Pahang. Gunong Tahan at 5000 ft. alt. (Robinson and Wray 5332). Small tree, flowers dull red.

A very distinct species with more coriaceous leaves, and smaller flowers with shorter, broader petals than E. Wrayi which is probably its nearest ally.

Salacia rubra, Lawson in Hook. fil., Flora of British India, I. 627.

Of this dubious plant collected formerly by Maingay, who had only fruiting specimens, we have now adequate material, collected in the garden jungle in Singapore by me, (No. T0164 of my collections), so I give a complete description of it.—A climbing shrub with whitish bark. Leaves opposite, elliptic cuspidate, narrowed to the base entire, coriaceous and drying dark brown, nerves 5 to 6 pairs, faint inarching far from the

R. A. Soc., No. 75, 1917.
margin, 3.5 in. long, 2 in. wide, petiole .2 in. long. Flowers .15 in. across in fascicles of 5 or 6, pedicels 2 in. long, slender. Calyx flat, lobes short, blunt, rugose. Petals lanceolate, obtuse, rather fleshy with a keel on the back. Stamens 3 from the top of the disc which is tall and fleshy; filaments short, linear recurved rather broad, anthers rounded, elliptic. Ovary quite immersed in the disc. The fruit about 1 in. through, rugose bright red.

**S. verrucosa**, Wight Ill. i. 134 (1831). This is identical with **S. polyantha**, Korthals, Flora, XXXI (1848) 379, and is the earlier name. It is a native of Mergui and Borneo and has been collected also at Tongkah, and Lankawi by Curtis.

**S. ovalis**, Lawson l.c. 627: **S. Lawsonii**, King in the Materials, appears to me to be nothing more than a state of the common **S. flavescens**, Kurz.

**S. Lobbi**, Lawson, seems to be merely a form of **S. Maingayi**, Lawson.


A climbing shrub with rather large alternate coriaceous leaves, oblong with a short blunt point; nerves elevate beneath the 7 pairs, 7 in. long and 2.75 in. wide. Flowers in small cymes at the ends of axillary panicles with rather thick dichtomous branches, 1.5 in. long, including the rather long peduncle. Sepals rounded, 5. Petals oblong, yellow, .1 in. long. Disc rather large and thick. Fruit ovoid blunt, .75 in.

**Singapore.** Bukit Timah Road at 7½ miles (Hullett 905). Also occurs in Java.

This plant has been omitted by King from the Materials. It does not appear to be common anywhere. The branches are in Javanese specimens especially dotted over with raised lenticles hence the name **S. radula**, but Hullett’s plant hardly shows them. The long stalked inflorescence is peculiar, and gives it the appearance of a **Hippocratea**.

**Hippocratea nigricalvis**, n. sp. **H. macrantha**, King l.c. 357, not of Korthals.

Slender climber 10 to 30 feet long, stem black, rough. Leaves coriaceous, shining, bright green, elliptic, blunt, rounded at the base, crenulate sometimes very slightly, nerves 6 pairs, elevate beneath, 2—5 in. long, 1.3 to 2.75 in. wide, petiole .01 in. long. Panicles 1 in. long, red puberulous. Flowers .3 in. across, pale yellow or greenish yellow. Calyx cupular with broad shallow teeth. Petals triangular lanceolate, minutely puberulous, outside, quite glabrous within. Disc deep fleshy,
glabrous with some minute hairs on the upper part. Fruit elliptic oblong of 2 carpels 3.2 in. long, .75 in. wide, thin woody striate. Seeds 2.25 in. long.

MALACCA. In forests, (Griffith). SELANGOR. Rawang Camphor forest (Ridley). PERAK. Larut Hills (Kunstler 7570, 5118). PENANG, Government Hill (Ridley). BURMAH. ASSAM. Duffla Hills (King's collector 83). BENGAL, Chittagong (Lister).

This plant was referred by King to H. macrantha, Korth. Vcrh. Nat. Gesch. 187 t. 39 which plant is undoubtedly the same thing as H. Cumingii, Laws. Flor. Brit. Ind. l. p. 624. Korthal’s figure and a specimen from him in Herb. Kew clearly represent the river-bank plant known as H. Cumingii. The black rugose stem, crenate leaves very variable in size, red pubescent inflorescence, absence of hairs on the petals and larger fruit distinguish H. nigricaulis, Korth. readily from the true H. macrantha.

H. macrantha, Korth. is not rare in the south of the Malay Peninsula, Borneo and the Philippines. There is a specimen from the Hookerian Herbarium at Kew labelled Ceylon collected by Colonel Walker. It does not seem to have been met with in Ceylon again and the specimen was perhaps from Singapore where also Colonel Walker collected. It occurs on the banks of tidal rivers and is called Akar Bintang by the Malays from its yellow star-shaped flowers.

H. ferruginea, King. An examination of the type plant of Salacia Griffithii, Lawson Fl. Brit. Ind. l. 628, shows that this plant collected by Griffith in Malacca is no Salacia at all but Hippocrates ferrugineus, King.

RHAMNACEAE.

Ventilago. The species of this genus have been very much confused in the Flora of British India and in King's Materials for a Flora of the Malay Peninsula, and the whole genus confined to the Indo-Malayan region with outliers in China and Formosa requires revision. The type of the genus is V. madras-palana, Gaertn. a native of India as far as Mergui. It has not been met with apparently in Java, for the plants so identified belong to a distinct species. V. calyculata, Tul. has much the same distribution, but occurs also in Siam and Cochinchina. Its curious yellow fruits covered half way by the cupshaped calyx and entirely pubescent distinguish it readily.

Ventilago leiocarpa, Benth. in Journ. Linn. Soc. V. 77; Fl. Hong-kongensis was described shortly from plants from Hongkong collected by Champion, some of Griffith's Malacca plants and
a West African plant collected by Barter. All these separate gatherings belong to distinct species, which merely have in common the covering of the nut half-way up by the calyx. It seems probable that Bentham first employed the name *leiocarpa* for the Hongkong plant and for that it had better be kept. It has nearly entire small leaves, branches quite glabrous, flowers in cymes of 3, axillary in the axils of full-sized leaves; the fruit has the nut covered for a quarter of its length only by the cupshaped calyx and its wing is slightly narrowed towards the base and acute at the tip.

**V. malaccensis**, n. sp. *V. leiocarpa*, Benth. in part. (Malacca specimens).

A big climber, branchlets velvety pubescent. Leaves elliptic acuminate, rather abruptly and bluntly, base shortly narrowed, edge bluntly serrate, 2.5 to 3.5 in. long, 1.25 to 2 in. wide, thinly coriaceous, drying dark brown, nerves 4—8 pairs, prominent beneath, faint and sunk above, petiole pubescent thick grooved .2 in. long. Flowers in compact axillary cymes of about 12 or more, and about .15 across on slender pubescent branches with small leaves about 1 in. long soon caducous so that the branches eventually appear as panicles often over 6 in. long. Bracts ovate acut, pubescent, pedicels .1 in. long, glabrous. Buds flattened at top, bluntly 4-angled, glabrous. Calyx campanulate, lobes 5, triangular acute, glabrous with a keel on the inner face near the tip. Petals much smaller, spatulate bilobed, lobes rounded. Stamens a little longer, filament slender, anthers small. Ovary immersed in disc, hairy. Styles 2. Nut globose, covered half way by the calyx, .2 in., wing oblong linear blunt, glabrous, not narrowed at the base, 2 in. long, .3 in. wide.

**SINGAPORE.** (Cantley 190). **MALACCA.** (Maingay 1669, 1148, 406, 408, 1670; Griffith). **PERAK.** Larut (Künstler 3461, 7644), Batang Padang district (Künstler 7750). **PENANG.** Chalet (Curtis). **BORNEO.** Rejang (Harvilland 2863).

There is a considerable amount of variation in specimens as to size of leaves, amount of serrulation and development of panicle. Some specimens have small but well developed leaves on the slender branches which bear the flowers, but these are never as large as the stem-leaves and appear to fall off very soon. In many specimens I see no trace of these leaves, so that the whole inflorescence forms a panicle with numerous branches bearing the small scattered cymes. Occasionally the branchlets appear to be glabrous.

**V. gracilis**, Rolfe and Merrill, is apparently closely allied but the flowers are pubescent. I am very doubtful about **V. lucens**, Miq. of Sumatra. The description is hardly adequate and the only specimen I have seen in Herb. Kew has rather
stiffy coriaceous leaves not narrowed to the petiole but with a short rounded point like a small form of V. Maingayi.

V. gladiata, Pierre, Fl. Forest. Cochinch. t. 314, C.

Leaves lanceolate acuminate, narrowed to the base, membranous, minutely serrulate and minutely postulate on the back, nerves 6 pairs, slender elevate beneath, transverse nervules not seen, 2.6—3 in. long, 1—1.1 in. wide, petiole .15 all glabrous. Inflorescence axillary racemes the cymes very small and few flowered, rhachis puberulous. Flowers unknown. Fruit glabrous, pedicel .1 in. long, nut .2 in. globose enclosed in the calyx cup for ⅔ its length, wing lanceolate narrowed to the base and acute at the tip, 2.5 in. long, .4 in. wide.

Distrib. Sungai Larut (Wray 2276).

V. oblongifolia, Bl. Bijdr. 1144; Miq. Fl. Ind. Bat. I. i. 640, Smythe macrocarpa, var. pubescens, King.

A stout liane with membranous lanceolate acuminate acute leaves, base rounded serrate, glabrous on both sides or tomentose beneath, nerves 7 to 9 pairs, strongly elevate beneath, 4 to 4.5 in. long, 1.5 to 1.75 in. wide; petiole .1 in. or less. Inflorescence axillary or terminal, rhachis rather stout, tomentose; branches 4 in. long with distant cymes of several flowers. Fruit glabrous, nut .2 in. long, ovoid; calyx not enclosing it; wing linear oblong obtuse twisted at the base 3.1 in. long, .5 in. wide.

Distrib. Java and Philippines.


This plant seems to be distributed over the sea shores from the South of the Peninsula, from Singapore, Serangoon (Ridley 9151), Bajau (3592a), Toas (6379), Johore, Scudai river (12211), Tan Runto (1917) to Penang, Pulau Jerajak (Curtis 2424) and also Pulau Sangjan. Borneo, Timorlaut, Aru, New Guinea and Philippines to the Fiji Islands.

AMPELIDACEAE.

Vitis pyrrodisys, n. comb. Cissus pyrrhodasys, Miq. Fl. Ind. Bat. Suppl. 517 is in King’s Materials, put as a synonym of V. adnata, Wall. Cat. It seems to be abundantly distinct in its dense red tomentum covering the stem and the backs of
the leaves, V. adnata, Wall. having only a thin rusty pubescence in place of it. I have not seen it from the Malay Peninsula.

V. glaberrima, Wall. in Roxb. Fl. Ind. (ed. Carey II. 476) is given as a synonym of V. hastata, Miq. by King on the ground that Wallich distributed a mixture of this and another species which he described as V. cerasiformis, Teysm. var. Wallichii and that the description agrees with V. hastata, Miq. Carefully reading the description however I find that it does not apply at all to the latter species but it is a good description of the plant King describes as V. cerasiformis var. Wallichii. It seems to be a very distinct species and not very common. The fruit is by no means large.

V. hastata, Miq. is a common and conspicuous plant in Singapore, and occurs in Pahang at Pekan, in Malacca, Selangor, Province Wellesley, Perak and Lankawi, also in Sumatra and Borneo. It is easily recognised by its square-winged stem, almost white and succulent, and bright red tendrils. The flowers in moderately large cymes with red tinted peduncles, have a cup-shaped entire calyx of a pale green. The petals are oblong thick and shoe-shaped, excavate, reddish outside with a darker red spot at the tip, widely expanded in flower. The filaments narrowed upwards are green, anthers short, oblong, yellowish edged red. The disc is flat, rather thick with wavy margins, orange colour. The ovary immersed in it is pale green, the style stout and shorter than the stamens with a capitate yellow stigma. The flowers have a faint scent of cowslips. The fruit small and black. The glaucous stems and red tendrils with the red tinted flowers give it quite a pleasing appearance.

Vitis (Tetrastigma) Curtisi, n. sp.

Stem smooth, black, terete. Leaves trifoliate; leaflets coriaceous, glabrous, entire, obovate cuspidate, narrowed to the base, nerves about 8 pairs, nervules and reticulations as prominent, 2.5 to 3.6 in. long, 1.3 to 1.9 in. wide, petiolules .2 in. long, median one .4. Petiole .5 in. Cymes numerous .3 in. long, graceful, spreading, compound, puberulous. Flowers .1 in. long, pedicels as long. Calyx very short, cup-shaped. Petals oblong, apex incurved fleshy, .4. Stamens shorter; filaments broad linear. Ovary globose, free. Stigma large, conic, lobed.

Penang. Government Hill, close to Gun Hill (Curtis 3363).

Vitis polystachya, Wall. Cat. 6028.

King and Planehon both say "in part;" but the type is a single specimen from herb. Finlayson. V. nitida, Lawson

Jour. Straits Branch
from Penang is the same. *V. polythyrsa*, Miq. a much more slender plant does not occur in the Malay Peninsula at all; nor does *V. thrysiflora*, Miq. which resembles *V. polystachya*, but is very thickly tomentose instead of being nearly glabrous beneath the leaves. All the specimens put under these two species quoted by King, which I have seen, are *V. polystachya*, Wall.

*V. capillaris*, n. sp.

Slender vine; stem arachnoid hairy. Leaves compound, petiole 1.75 long, base thickened and red hairy, leaflets membranous, central one elliptic lanceolate rather abruptly narrowed to a broad or acute mucronate point 2.5 in. long, 1 in. wide, petiolo short red hairy, lateral petiololes .3 in. long, blade hairy trifoliate, uppermost leaflet biggest, lanceolate acuminate, laterals oblique narrowed to base, sparsely toothed on the outer edge, nerves 3—4 pairs, slender, hairy beneath, .5—1.5 in. long, .4—.9 in. wide. Peduncle 4 in. long, slender pubescent, panicle 2.75 in. long, branches .5 in. long or less, all pubescent, lower ones branched again. Flowers distichous, .05 in. sessile. Calyx cup-shaped, obscurely 4-toothed, glabrous. Petals 4, oblong. Ovary conic, style conic, stout.

Borneo. Sarawak (*Beccari*, 748).

Nearest to *V. polythyrsa*, Miq. but much more slender, much less hairy, leaves thinner, leaflets fewer-nerved and toothed and more oblique.

*V. pterisanthella*, n. sp.

A slender vine nearly completely glabrous except the inflorescence. Leaves trifoliate, membranous, petiole 1.2—2 in. long, leaflets thin, elliptic acuminate nearly entire with about three short obscure teeth towards the apex, narrowed at the base, median elliptic lanceolate, laterals with an oblique rounded base, nerves very fine and inconspicuous, 6 pairs, median 2.75—4 in. long, 1.2—2 in. wide; petiolo .4—.6 in. long; laterals smaller; petiolo .2, a few red hairs at the base of the petiololes. Inflorescence very slender, 3.5 in. long, peduncle nearly 3, bearing a slender tendril 1.5 in. long and sometimes twining itself. Spikes few, about 7—14 in. long, pubescent, rhachis at base flattened broadly and narrowed to tip. Flowers distichous, pubescent, .05 in. long, sessile. Calyx lobes ovate, subacute. Petals 4, much larger, puberulous outside. Stamens 4, anthers large, oblong, filaments short. Ovary subglobose with a thick conic style, glabrous.

Borneo. Sarawak; Siul (*Ridley*).

I collected this very curious vine in September 1905 in the forests on the Siul Hill near Kuching. It seems most nearly allied to *V. capillaris*, Ridl., but is very peculiar in the

R. A. Soc., No. 75, 1917.
rhachis of the branches of the inflorescence being flattened as in *Pterisanthes* and the flowers distichous on the edge. It has the peduncular tendril of *Pterisanthes* which however occurs also in species of *Ampelocissus* and on the whole seems a connecting link between *Pterisanthes* and *Ampelocissus*.

**Pterisanthes Dalhousiae**, Planch.

This species was described by Planchon from a specimen from "Indes Orientales? Lady Dalhousie in herb. Deessert ex herb. Graham 1846." As no species of the genus has been met with except in the Malay Peninsula and Archipelago it is as he suggests improbable that it came from India. The description given is very short but it applies very fairly well to a plant collected by Mr. Curtis in Penang except that the leaves are smaller. Planchon gives no measurements of his specimen unfortunately, but says that they are much smaller than those of *P. cissoides*, "3—4 cent. de long sur ¼—1 cent. de large."

I do not quite understand the passage. In the herbarium of Kew is a coloured drawing of a plant evidently this, of unknown origin from "Prince of Wales Island." Lady Dalhousie we know did collect in Penang.

**Leea saxatilis**, n. sp.

A low herbaceous plant. Leaves pinnate, petiole 18 in. long to 3 feet, smooth, red, leafy portion 12 in. or more, rhachis when young sparsely hairy, leaflets 9, oblong lanceolate acuminate with a long acute point, base rounded slightly oblique, terminal one larger narrowed to base, serrate or biserate, submembranous above, glabrous with an elevate midrib beneath, the nerves 12—13 pairs elevate slender hairy tomentose, nerves and reticulations conspicuous, 4—7 in. long, 2 in. wide; terminal one 7 in. long, 2.6 in. wide; petiolules lowest .6 in., median .4, terminal 1 in. long. Flowers in a dense capitulum .75 in. through on a peduncle hairy .5 to 1.5 in. long, dull red, small globose. Bracts ovate acuminate hairy, Calyx thin, 5-lobed mucronate hairy. Petals as long, oblong obtuse, glabrous, calyptrate. Stamens with filaments long, anthers large oblong, urceolus with blunt rounded lobes. Fruit dull red, dry elliptic, depressed, .3 in. across, 5-lobed on a peduncle 3 in. long and a cyme of 1 in.

**Selangor.** On limestone rocks at the base of the Batu caves, (Ridley 305, 8260); also **Pahang** on the Tahan river and at Kuala Dipang in **Perak** and Lankawi (Kedah).

**SAPINDACEAE.**

**Allophyllus scandens**, n. sp.

A woody climbing shrub with cinnamon brown bark densely covered with paler lenticels, glabrous except the very
young parts and inflorescence which are puberulous. Leaves trifoliolate, petiole thick 1.75 in. long, leaflets coriaceous, obovate, narrowed to the base, apex shortly blunt acuminate, entire, nerves about 8—10 pairs conspicuous though slender beneath, midrib moderately stout, 4—6 in. long, 2—3 in. wide, the median leaflets biggest, petiolules .2—.3 in. long. Inflorescence extra-axillary, peduncle 1—1.5 in. long, stout, decidedly puberulous, racemes usually 2 (occasionally only one, rarely 3) widely divaricate 1—1.5 in. long, usually unequal, rachis pubescent. Flowers numerous, crowded small on pedicels longer than themselves, glabrous. Bracts minute, acuminate. Sepals glabrous, suborbicular, imbricate. Petals shorter, claw and bifid limb glabrous, scale silky. Fruit unknown.

SINGAPORE. Bukit Panjang, climbing on trees in swampy forest (Ridley). BORNEO. Mt. Gading, Lundu (Harland 987), Baram (Hose 123).

In spite of the number of species of Allophyllus described more or less insufficiently by Blume and Radlkofcr I can find no description of any species that fits this; but it seems to be nearest to A. timorensis, Bl.

ANACARDIACEAE.

Gluta virosa, n. sp.

A large branching tree 50 to 70 ft. tall. Leaves coriaceous lanceolate 9 in. long, 2.75 in. wide, acuminate at both ends blunt, nerves about 18 pairs slightly raised beneath, reticulations small fine conspicuous; petiole 2 in. long. Panicles in the terminal axils short. Calyx tube red spathaceous, .2 in. long, split on one side. Petals twice as long, linear oblong, white. Ovary pubescent. Fruit obovoid, smooth, light brown, fleshy, 2.5 in. to 4 or 5 in. long.

SELANGOR. Rantau Panjang (Ridley). PERAK. Gunong Pondok (Kunstler). PENANG. Telok Bahang (Curtis 3005), and Penara Bukit (Curtis 1527), Moniots Road (Ridley).

Native name “Rengas Kerbau Jalang,” i.e. Buffalo on the warpath, on account of its poisonous character.

I have seen no good flowers of this plant though it does not seem to be rare. Some of the specimens I at first thought were Gl. Wraxii, King, but having seen good specimens of that species at Kew, I am now sure it is a distinct species. Malay collectors are very shy of gathering specimens of any of the Rengas plants, Gluta and Melanorrhea, as they are apt to be poisoned by them.

R. A. Soc., No. 75, 1917.
LEGUMINOSAE.

Bauhinia monticola, n. sp.

A slender glabrescent climber. Leaves ovate deltoid, tip acuminate very shortly bifid or entire, coriaceous glabrous, nerves 7, 2—2.5 in. long, 1.5—2 in. wide, petiole 1 in. long. Racemes short 1—2 in. long lax glabrous or nearly so. Pedicels long slender 1.5 in. long sparsely hairy. Bracts minute caducous. Buds ovoid. Calyx tube cylindric .4 in. long red, appressed hairy; lobes ovate .3 in. long hairy. Petals oblong obtuse, conspicuously veined when dry, sparsely hairy on the back, claw .1 in. long, blade .7 in. long, .5 in. wide. Stamens very short hairy at base. Ovary stalked, cylindric red-hairy on the sutures, .2 in. long. Style almost half as long, hairy on the upper edge. Stigma large peltate.


This plant is certainly allied to B. Kingii, Prain, for which I at first mistook it and to B. cornifolia, Bak, but it has much larger flowers than either of these species. The flowers are apparently red. It belongs to the big set of showy Bauhinias which with their masses of yellow flowers turning red, make such a magnificent show in our forests, a group very characteristic of the Malay Peninsula for few of them seem to occur elsewhere.

Bauhinia holosericea, n. sp.

A big climber, branches, petioles and inflorescence densely red velvety. Leaves coriaceous, orbicular cordate, entire or retuse at the tip, nerves 7 or 9 elevated beneath, glabrous above, densely red velvety beneath on the nerves and reticulations, less so on the rest of the surface, 2—2.5 in. long, 2.4—3 in. wide, petiole 1.25 in. long. Panicles of a few stout axillary and terminal racemes from 2.5 lengthening to 5 in. long, the branches with numerous distinct elevated scars where the flowers have fallen, densely red, velvety. Bracts lanceolate acuminate, .1 in. long. Pedicels slender .6 in. long. Buds ovate acute with a shorter tube. Calyx tube cylindric, dilate at base, .2 in. long, lobes oblong 2 in. long, hairy. Petals oblong, rather short clawed, very red hairy .35 in. long, .2 in. wide, apparently red. Stamens fertile, 3, glabrous. Ovary hairy all over. Style about as long, slender, glabrous. Stigma peltate. Pod woody, firm, .8 in. long, 2.5 in. wide, oblong blunt, slightly narrowed at the tip. Seeds flat orbicular .1 in. long.

Perak. Forests at Temengoh (Ridley 14674).

This also belongs to the same group as the last, but seems distinct from any species in its very velvety stem, round leaves, and thick velvety racemes of which the rhachis is rough with
the short processes from the base of the pedicel scars. The panicles are mostly really reduced to simple racemes, but occasionally have one or two branches.

**Crudia lanceolata**, n. sp.

A glabrous tree. Leaves with a rhachis 1.5 in. long; leaflets 3, subcoriaceous lanceolate or ovate acuminate obtuse, base rounded, quite glabrous, nerves fine 7 pairs, reticulations conspicuous beneath, drying grey 3.5—5.75 in. long, 1.5 in. wide, petiole .1 in. long thick. Raceme about 6 in. long, fairly stout, puberulous. Flowers distant, .3 in. across, on pedicels .3 in. long puberulous. Calyx tube short puberulous, lobes oblong reflexed puberulous outside, glabrous inside. Stamens glabrous. Ovary dense pale, woolly, stalk very short.

KEDAH. Lankawi; Gunong Rayah, (Mohamed Haniiff).

This is allied to *C. gracilis*, Prain, but the leaves are lanceolate. The sepals, pedicels and rachis are pubescent, and the flowers are distinctly pedicelled.

**ROSACEAE.**

**Parastemon spicatum**, n. sp.

A glabrous shrub. Leaves coriaceous, elliptic, abrupt caudate acuminate, blunt, base long narrowed, nerves 6 pairs, 2.5 to 2.75 in. long, 1 in. wide, petiole .15 in. long. Spike axillary 3.5 in. long shortly peduncled with many very small sessile flowers. Bracts linear oblong. Calyx tube short campanulate, interior pubescent. Petals 0. Stamens 2 glabrous, from the edge of the tube.

BORNEO. Sarawak, Rejang, Sibu, (Haviland and C. Hose 3240); and 2 miles from Kuching (Haviland 723).

This species differs from the only other one, *P. urophyllum*, in its being a shrub, (whereas the other is a large stout tree) and in its flowers being sessile.


A tree about 20 ft. tall, the branches rather thick and when young covered with velvety yellowish tomentum. Leaves stiffly coriaceous, ovate lanceolate, acuminate, base rounded, glabrous above, beneath pale reddish, woolly, nerves strongly elevated about 20 pairs, midrib strong beneath, depressed slightly above, 3.5—4 in. long, 1.25—1.75 in. wide, petiole red-woolly .2 in. long. Panicles .5 in. long densely red woolly. Flowers few hardly .2 in. long. Bracts ovate acute woolly and hairy on the back. Calyx tube funnel-shaped deep woolly red outside, densely villous with long hairs inside, teeth ovate acute. Petals a little longer white ob lanceolate rounded, edges pubes-

B. A. Soc., No. 75, 1917.
cent. Stamens much shorter than sepals glabrous. Style very short with the ovary densely villous. Stigma discoid.

PAHANO. Gunong Tahan in woods across the Teku (Ridley).

The indumentum and short racemes and more coriaceous leaves are so different in this plant from those of true P. costatum that I consider it advisable to separate it specifically, though it is certainly allied to that species.

**Pygeum coriifolium**, n. sp.

Small tree, leaves coriaceous elliptic shortly blunt and acuminate, base very shortly narrowed, glabrous, nerves invisible above prominent beneath distant 5 pairs, midrib very prominent, reticulations invisible, 6 in. long 3.5 in. wide, petiole 5 in. long. Racemes solitary axillary .5 in. long, pedicels very short, puberulous. Calyx tube campanulate, pubescent, lobes 6 unequal, ovate acute pubescent, inside of tube glabrous. Petals 0. Stamens with filaments long, rather thick, 20. Style stout, shorter. Stigma clubbed, flattened, ovary short, globose, hairy.

**PERAK.** Temengoh and Kertai rivers; in forests (Ridley).

Allied to P. parviflorum, Teysm. but the leaves are larger and rather more fleshy, with distant and fewer nerves. The raceme is almost a spike, solitary, very short.

**SAXIFRAGACEAE.**

**Polyosma grandis**, n. sp.

A tree 40 to 50 feet tall with spreading branches. Stem 1.5—2 ft. through. Leaves membranous drying black, ovate elliptic, cuspidate, acuminate, base cuneate, margins denticulate, glabrous except the midrib and prominent 12 pairs of nerves beneath, secondary nerves nearly as prominent 6—7 in. long, 3—4 in. wide, petiole stout .5 long, flattened, pubescent. Raceme 6 in. long, peduncle 1 in. long, flattened, pubescent. Buds narrow cylindric blunt, pedicels .1 in. long, pubescent. Calyx-tube cylindric, lobes broad, ovate, acute as long as the tube. Petals subglabrous, narrow, linear, sparsely villous inside. Stamens shorter, filaments villous.

**PERAK.** Larut Hills at 3500 to 4000 ft. (Kuntzler 3802). Flowers white, base greenish.

This plant was referred by King to P. integrifolia, Bl. but is clearly very distinct from that species and is most closely allied to P. ilicifolia, Bl. but from this it differs in its large size and very large ovate elliptic leaves and thick petals.

_Jour. Straits Branch_
**Polyosma conocarpa**, n. sp. *P. mutabilis*, King in part.

Tree 20—30 feet tall, young parts appressed, hairy. Leaves membranous, elliptic lanceolate, acuminate, long narrowed to base, quite entire, glabrous, nerves about 8 pairs, conspicuous beneath inarching well within the margin, 3.5—6 in. long 1.25—2 in. wide, petiole .2 in. long appressed and hairy when young. Raceme 5 in. long appressed hairy. Flowers white, scattered or in little groups; pedicels .1 in. in fruit .2 in. Calyx tube campanulate, hairy, teeth very small, subacute. Petals linear .2 in. long sparsely hairy outside, villous inside. Stamens nearly as long. Fruit conoid, truncate strongly 4-ribbed when dry, .25 in. across at base, narrowing upwards.

**SINGAPORE.** (Wallich 8472). **PERAK.** Larut Hills (Kuntsler), Birch's Hill (Wray). **KEDAH.** Lankawi, Gunong Raya (Mohamed Hainiff). **SUMATRA.** Padang at Ayer Mantjur (Beccari 524). Forests up to 1000 ft. Flowers scented like privet.

This is quite different from Blume's *P. mutabilis* of Java in the fruit, which resembles that of *P. velutina*, Bl. as figured in Koorder's and Valenton's Boomsorten.

**P. glauescens**, n. sp.

A small tree 20—30 feet tall, or shrub. Leaves elliptic to lanceolate acute, base narrowed, thick, coriaceous, glabrous beneath, nerves very obscure 3—3.5 in. long, 1.75 to 1.5 in. wide, petiole 1 in. long. Raceme pubescent 2.5—3 in. long. Flowers crowded .2 in. long. Buds oblong, dilate at base. Calyx very short funnel-shaped, lobes acute spreading, pubescent: Petals oblong, blunt, sparsely strigose outside, densely villous at tip inside. Stamens shorter.

**PAHANG.** Gunong Tahan (Robinson 5388, 5493; Ridley 16260): on the Padang and on Skeat's ridge (Ridley 16018, 16019).

I originally referred this to varieties *intermedia* and *lanceolata* of King's *P. coriacea*, but on closely examining it conclude it to be specifically distinct not only in the foliage, the leaves being thicker with very inconspicuous nerves, and usually glaucous beneath, but with shorter, broader flowers less pubescent and dilate at the base. The leaves vary in form somewhat, perhaps according to the amount of exposure on these rocky ridges and growth of the plant.


The only plants of this I have seen are those collected by Wallich in **SINGAPORE** (mixed unfortunately with *P. Wallichii* from Khasia distributed under the next number in many distributions by accident) and one which appears the same collected in **PERAK** without locality by Scortechini. In Havi-
land's SARAWAK collections are two plants I take to be this, though the flowers are rather smaller .15 in. long. Dr. Haviland notes "Ovary 2-celled, 3 in one case, several ovuled."

They were obtained at Kuching (Haviland 944 and 1886).


To this species King refers a plant which occurs in PERAK at Goping and in Larut (Kunsler), the BINDINGS, Brusas (Ridley) and in PENANG on Penang Hill and at Balik Pulau (Curtis 1165) with bright yellowish green leaves, like those of *P. laetevirens*. He had not seen specimens of Blume's plant, nor have I seen types of Blume's plant. But I have not seen anything like King's species from Java; and the plant identified with *P. velutina*, Bl. by Koorders and Valeton (Boomsorten Pl. 195) and distributed as this plant No. 24404b is entirely different, and belongs to the section of *Polyosma* with membranous and black drying leaves. I conclude therefore that King's *P. velutina* cannot be Blume's plant and give the name of *P. flavovirens* to it. Blume's description of *P. velutina* is short; but the only species I have seen from Java with velvety leaves is the above mentioned plant from Koorders' collections and one from Zollinger No. 886: and these agree with Blume's description as far as it goes. It has membranous black drying leaves densely fuscons velvety beneath and curiously angled branches. The fruit is ovoid and .2 in. long in these specimens. Specimens collected at Kuching in SARAWAK by Haviland (No. 2914) seem identical.

**Polyosma fasciculata**, n. sp.

Leaves sub-coriaceous, elliptic sparsely toothed along the edge, base blunt and shortly narrowed, tip subacute, quite glabrous, nerves 6 to 10 pairs branched at the tip, rather obscure and not elevate, 4—6 in. long thick. Spikes rather slender 6 in. long puberulous. Flowers numerous, .4 in. long, sessile, fascicled in groups of 2—1 or 5. Buds cylindric blunt very sparsely puberulous. Bracts hairy acute. Calyx tube very short sub-companulate, lobes ovate acute spreading. Petals rather broad in proportion to length, sparsely villous inside. Stamens a little shorter.

**KEDAH.** Gunong Jerai (Ridley 5219).

King refers this dubiously to *P. coriaeae*, King, but it seems to me in its small very sparsely hairy flowers much more nearly allied to *P. Scortechinii* a very little known plant which has however quite entire leaves and distinct pedicels to the flowers. The flowers in this species are not evenly scattered over the rachis, but clustered together in small lots.
Polyosma pisocarpa, n. sp.

Stem pale not angled; young parts velvety hairy. Leaves stiffly coriaceous elliptic, acute or obovate blunt, nerves fine about 12 pairs very irregular faint on both sides, glabrous except at first the midrib slightly hairy, 3—4 in. long, 1.5—1.75 in. wide, petiole .5 in. long rather stout sometimes pubescent. Raceme 6—7 in. long dense many flowered pubescent. Flowers green, pedicels stout much longer than calyx, hairy. Calyx tube campanulate, lobes triangular acute. Petals .35 in. long sparingly pubescent linear subacute villous inside. Stamens distinctly shorter. Style very slender. Fruit pea-shaped globose, .2 in. long, glabrous "blue" on pedicels slender, glabrous, .2 in. long. Seed smooth globular.

Borneo. Sarawak at Kuching and between it and Santubong (Haviland, 2911, 2912, 2913, 1464, 1988).

This species in nearest P. coriacea, King, but it has longer flowers on longer pedicels. The small pea-shaped blue fruit is peculiar. The raceme long and dense. The leaves as Haviland points out are of two forms, in one lanceolate and acuminate, in the other obovate and retuse, but there are more or less intermediate forms on the different specimens and in other respects the plants are the same.

HAMAMELIDACEAE.

Rhodoleia ovalifolia, n. sp.

A big shrub up to 10 feet tall with thick branches, the young parts densely red-hairy. Leaves, young lanceolate acute base acuminate, older 4 to 6 in. long 1.5 to 2 in. wide, rigidly coriaceous ovate with a rounded subcordate base, apex acute; at first red-scarify beneath later becoming white-glaucescent, nerves strongly elevate 6—8 pairs with some of the secondary nerves nearly as strongly elevate both nerves and reticulations depressed on the upper surface, 4—4.5 in. long, 2.5 in. wide, petiole at first densely velvety, later glabrous. Capitula solitary but often numerous axillary on the ends of the branches, one inch across. Peduncles thick decurved red, hairy. Bracts rounded, red, velvety, much larger than in R. Teyssmanni. Petals narrow linear spathulate round at tip, .5 in. long, .1 in. wide, shorter than the stamens. Filaments .75 in. long, anthers oblong. Capsule .5 in. long, densely red-hairy.

Pahang. Gunong Tahan (Robinson, Ridley).

This is the third described species of the genus. One species Rhodoleia Chamäpioni of Hongkong, a shrub, has flowers as large as this, but the petals are much broader, and the plant is much more glabrous. R. Teyssmanni of Sumatra and of the mountains of the Malay Peninsula is a tree. It is
nearly glabrous, and the leaves are all lanceolate or oblong, capitula smaller, and fruit smaller all glabrous except a little pubescence on the bracts. *R. ovalifolia* is remarkable for the dense red velvety hair covering the shoots, peduncles, bracts and fruit. The leaves in Robinson’s flowering specimens are much the shape of those of *R. Teysmanni* but more acuminate the nerves hardly more visible, but the midrib is red-scurfy. In the fruiting plants the leaves are quite different; they are remarkably coriaceous with the nerves depressed above and strongly elevate beneath. At first these leaves are red beneath with a deciduous red scurf; but this at last disappears and the leaves appear nearly white beneath. There is a certain amount of variation in the leaves of *R. Teysmanni* but nothing at all like this. The capitula densely red-hairy, are as big as those of *R. Champions* or nearly so but the petals are quite as narrow as those of *R. Teysmanni*.

**SAMYDACEAE.**

*Casearia albicans*, Wall.

There has been a considerable amount of confusion about this species which requires clearing up. In Wallich’s Herbarium are three sheets of plants under the number 3197, labelled 3197, 3197.2, 3197.3. The only one labelled *C. albicans* is 3197.3 from Penang; and it appears to be *C. esculenta*, Roxb. No. 3197.2 from Singapore is in fruit, and seems also to be *C. esculenta*, No. 3197.3 from Penang, is identical with another plant No. 7432; and this is probably the plant described by King as *C. albicans*, Wallich. It has no name in Wallich’s Herbarium, and is not the same as the plant so named by Wallich. It, therefore, being a distinct plant, requires a name. I call it *C. latitolia*. I have collected the plant myself on the side of the track to West Hill in Penang. What Clarke called *C. albicans* in the Flora of British India, King has already altered to *C. Clarkei*. No specimens of it occur at all in Wallich’s Herbarium.

*Casearia velutinosa*, n. sp.

A shrub. Branches velvety, flexuous. Leaves thinly coriaceous, oblong to ovate, abruptly acuminate, base rounded or shortly narrowed, nerves 12 pairs ascending prominent beneath and depressed above, glabrous above, soft, tomentose beneath, 6—10 in. long, 3—4 in. wide, petiole tomentose .2 in. long. Glomeruli .15 in. across. Flowers .1 in. wide. Sepals 5, imbricate, pubescent, suborbicular oblong, hairy outside. Petals 0. Stamens 10, glabrous, anthers small, forming a tube with the spathulate oblong hairy staminodes. Ovary conic, glabrous. Stigma large, capitate.

*Jour. Straits Branch*
NEW AND RARE MALAYAN PLANTS.

PERAK. Gunong Keledang (Ridley). DINDINGS. Lu- mut and Bruas (Ridley).

Allied to C. latifolia, Ridl., but differing in the very tomentose branches, backs of leaves and petioles.

Homalium spathulatum, n. sp.

A glabrous tree. Leaves thinly coriaceous, elliptic acu- minate, tip blunt, base narrowed, entire or undulate on the edge; nerves about 7 pairs, very fine and rather obscure, as are the reticulations, shining, 4 in. long, 1.5 in. wide; petiole 2 in. long. Racemes axillary, simple, 3 in. long, tomentose, slender. Flowers numerous, not clustered, subsessile 2 in. across. Calyx-tube funnel-shaped, tomentose .1 in. long; lobes very narrow linear, 10, edged with long white hairs. Petals 10, a little longer, linear spatulate. Stamens shorter, 2 opposite each petal. Glands villous. Styles 3, glabrous.

DINDINGS. Pangkor (Curtis 1370).

This differs from II. myrianthum, Bak. in Kew Bull. 1896, p. 23, of Sandakan in the panicked racemes, funnel- shaped calyx and nearly sessile flowers.

BEGONIACEAE.


This little plant I find, on seeing the co-type of King's B. paupercula in Herb. Kew, is not the species he intended, I therefore give it the above name which refers to the red stripes on the small flowers. It was formerly very common on the path leading up to the Batu Caves, Selangor; but at my last visit I noticed that it had become scarce owing to a series of steps having been made up the slope where it grew. I have seen it nowhere else.

Begonia tricornis, n. sp. B. Roxburghii, Ridl. in Journ. Fed. Malay States Mus. iv. 20, not of DC. This plant is really more near allied to B. inflata, Clarke, of the Himalayas, but is distinct from all species of the section. It is the only one in the Malay Peninsula of the section Casparya, (with pulpy 3-angled not winged green fruit).

Begonia longicaulis, n. sp.

Stem elongated, red, with internodes 2.5 in. long, glabrous. Leaves ovate cuspidate, base deeply cordate, very unequal, 3 in. long, 2.5 in. wide; petiole 4—6 in. long. Stipules persistent, oblong with a terminal setiform process. 1.1 in. long, .2 in. wide. Peduncle 6 in. long, with 2 terminal flowers on
peduncles 1 in. long. Flowers pinkish-white. Sepals of male flowers broad ovate rounded, .75 in. long and as wide; petals oblong-lanceolate, blunt, .3 in. wide. Stamens in a globose head on a short stalk.

PERAK. Gunong Kerbau (Robinson). PAHANG. Gunong Tahan (Ridley).

This plant is rather puzzling. It seems closely allied to B. venusta, King, with which species it occurred; but instead of having a creeping rhizome with leaves and peduncles arising directly from it, it has long erect stems with long internodes and large stipules with a long-setaceous point. In this, except for the form of the stipules which have no seta, it resembles B. megaperta. I cannot distinguish King's B. megapteroides from B. venusta. Is it possible that this plant sometimes develops a caulescent stem, and that it is a form or state of B. venusta? The specimens are neither very complete.

Begonia eiromischa, n. sp.

Rhizome short, stout. Leaves fleshy, obliquely reniform peltate, acuminate, dark green, glabrous 3—3.5 in. long and as wide, nerves 7: petiole 2—3 in. long, with dense thick red wool. Peduncles glabrous, red, about 5 in. long. Flowers on two branches, small, .5 in. across, rose pink. Male sepals 2, broad, orbicular, rounded. Petals very narrow, linear. Style of female flower trident; branches bifid. Capsule .6 in. long lateral wings very short, posterior rather thin, broad, oblong, rounded .3 in. long and as wide.

PENANG. Pulau Butong (Curtis 1928).

I have seen specimens of this and a good coloured drawing made in the Penang Gardens. It is undoubtedly near B. Hasskarli but differs conspicuously in the woolly stalk of the leaf. In the drawing the fruits are figured as equally 3 angled and bright red; perhaps they were not ripe when drawn.

Begonia rhoephila, n. sp.

Rhizome stout, creeping, 1 in. long. Leaves nearly or quite glabrous, lanceolate, erect, caudate-acuminate, base decurrent on the petiole, sparsely distantly toothed, apex closely toothed, nerves 4 pairs, often hairy on the underside, midrib always hairy with appressed hairs, 5—6 in. wide, petiole 1.5—4 in. long, glabrous or hairy. Peduncle 1—2 in. long in flower, stouter and up to 12 in. in fruit, glabrous. Flowers few, short pedicelled white tinted on the back or all pink. Sepals of the male flower oblong-ovate, .3 in. long, .2 in. wide. Petals narrower, oblong. Stamens numerous, anthers oblong, apiculate as long as the free filaments. Female flowers 5-petalled.
Capsule 1.1 in. across, .5 in. long; lateral wings blunt, triangular; posterior .75 in. long, .3 in. wide, oblong rounded, thick ribbed.

Selangor. Ulu Gombak, on rocks in the stream (Ridley).

This belongs to the jungle stream set of Begonias with narrow lanceolate leaves hardly or not lobed or unequal at the base, viz. B. Kunstleri ana (B. Scortechinii) and B. perakensis, King. The latter has the leaves rounded. The former has them narrowed but not decurrent on the petiole as in rhoeophila and very hairy. I take B. Scortechinii, King, of unknown locality to be a narrow leaved form of B. Kunstleri ana.

ARALIACEAE.

Schefflera, Forst. This genus was made by Forster for two species of plants, one from New Zealand and the other from Fiji. Later the genus Heptapleurum was founded by Gaertner, to which a considerable number of Asiatic species were attributed. The difference between the two genera is however, too slight to warrant their being kept distinct and Harms in the Pflanzenfamilien has placed the Heptapleurums under the earlier name Schefflera, in which I follow him, excluding however, the genus Brassaia which appears to me sufficiently distinct. It may however, be found necessary to separate from Schefflera such abnormal plants as S. (H.) Wrayi, with racemose not umbellate flowers; and I am rather dubious of the following new species which has the number of stamens double that of the perianth lobes and ovary cells.

Schefflera polyandra, n. sp.

Leaves digitate; petiole 9 in. long; leaflets 5, oblanceolate or oblong lanceolate acuminate, blunt, base narrowed, edge serrate, coriaceous, glabrous, smooth, nerves 7 pairs faint, reticulations faintly visible beneath, 4—6 in. long, 1.25 to 1.75 in. wide, petiolule 1.3 in. long. Panicle 5 in. long, branchlets .5 in. long, umbels of 4—5 flowers; pedicels .2 in. long, stout. Calyx campanulate, edge thin, truncate, entire .1 in. long. Petals shorter, ovate, 5. Stamens 14 to 16; anther as long as filament. Style conic, cylindric. Ovary 8-celled.

Perak. Gunong Keledang (Ridley 9763).

Arthrophyllum pinnatum, Clarke. Under this name in King's Materials two plants have been combined, one the true A. pinnatum of the Penang Hills. The other a smaller plant with many more smaller leaflets and smaller flowers, A. alternifolium Maingay, MS. a native of Mt. Ophir.

R. A. Soc., No. 75, 1917.
Arthrophyllum lancifolium, n. sp.

Tree. Branchlets slender, angled, yellow, glabrous. Leaves coriaceous, lanceolate ciliate at the tip, acuminate at both ends, edge crenulate, undulate, midrib winged on both sides, nerves and reticulations fine, 3—3.5 in. long, 1—1.5 in. wide; petiole 1—2 in. long only .3 in.; uppermost leaves jointed with the stem. Umbels 4—5, on short pedicels .4 in. long. Flowers 10—13 in an umbel, .05 in. long. Calyx short campanulate; limb undulate, not toothed. Petals 5, calyptrate valvate, oblong, connate at the tip. Stamens 5; anthers oblong, connate at the tip. Stamens 5; anthers oblong, longer than the filament. Style columnar, stout. Ovary 1-celled.

Perak. Ulu Batang Padang, at 4,900 feet (Wray 128).

In the Kew Herbarium a sheet of this is written up by King as Mustizia gracilis, King, but the description of that species (based on a plant collected in Perak at 3,900 feet by Wray No. 1528) does not apply to the plant at all well, especially in the length of the petiole is given as .2—.25 in. long, and the inflorescence as cymose. This plant has umbellate inflorescence much resembling that of A. alternifolium and is clearly an Araliaceous plant.

Brassaia singaporensis, n. sp.

Leaves digitate, petiole over 6 in. long, base widely dilate; leaflets 15, stiffly coriaceous, oblong ovate, blunt, rounded at both ends, 3—4 in. long, 1.75 in.—2.5 in. wide; petiolules 1.5 in. long. Panicle 18 in. long, stout; branches 1.5 in. long, thick, bearing heads of about 10 sessile flowers .5 in. through. Bracts 4, ovate, acuminate, longer than the calyx-tube. Calyx very short, margins undulate. Corolla calyptrate rounded, coriaceous. Petals connate 5. Stamens 9 to 12, filaments short, anthers oblong linear. Stigma subsessile conic.

Singapore. Bukit Timah (Ridley 8061).

When dry this plant resembles much B. actinophylla, Br. of Australia and the flowers are as big, but the leaves are quite different in form and size. The genus consists of four or five species ranging from Sumatra through New Guinea to Australia.
A curious adaptation of habit to its environment of a Malayan mosquito.

By C. Strickland, M.A., B.C.

Travelling Medical Entomologist, F. M. S.

During a recent visit to the Gap, on the Selangor-Pahang boundary, which is at 2,800 feet, I observed a curious and interesting fact in the life of mosquito which seems worthy of record.

This mosquito, kindly identified for me by Dr. Stanton as *Chaelomyia* (Leicesteri) *flava*, Leicester, which had been caught in the resthouse and was kept in a test-tube, was observed to have attached to a hind-leg a mass which until closer examination, seemed to be one of those *Ceratopogon* which have a habit of attaching themselves to mosquitoes to suck out their body-juices. On examination however with a microscope it proved to be an ova-mass, and what was very interesting, from each ovum the head of a young larva was sticking out, the whole thing looking like a miniature nest of young sparrows.

The mosquito was introduced to a bottle in which was some water, when it immediately flew down to the water and dipped its hind-leg methodically into it. Immediately all the larvae came out of the ova-mass and swam away as lively as a crowd of children coming out of school on a holiday.

On two occasions I observed this phenomenon and on another I caught a specimen of the mosquito with the ova-mass on its leg from which all the larvae had gone.

I think it seems clear that the mosquito ovideposits on its own leg and that the phenomenon represents a device by which the mosquito is enabled to deposit its larvae in collections of water which are inaccessible to it for ordinary deposition; perhaps in bamboos, or in the leafy axils of plants like common *kladi* or pig-lily, or it may be to save the eggs from some danger which they might incur if they were laid on water.

I am much indebted to Mr. de la Mare Norris of the Agricultural Department, F. M. S., for the drawing which is given.

1. Leicester in his monograph on *Culicidae of Malaya* 1908 says that he has found the adult larvae in bamboos and in coconut shells lying in the jungle.

*Jour. Straits Branch R. A. Soc., No. 75, 1917.*
Elaeocarpus Barnardii,
a new Species described from Perak.

BY I. H. BURKILL.

The Elaeocarps are abundant in the Malay Peninsula and are on the whole very much of one type: to this type Elaeocarpus Barnardii in general conforms.

It occurs close to Taiping at low elevations: and it is there known by the name Jiha. It is a tree with reddish chestnut bark on the branches, and with relatively small somewhat crowded obovate bright green smooth leaves, the margins of which are slightly and distantly toothed. The flowers are of average size, and, as is always the case in the genus, face earthwards along horizontal racemes. The fruits are of a deep blue.

The affinity seems to be to Elaeocarpus cuneatus, Wight, a widely spread tree of India, which southwards reaches Tenasserim.

Elaeocarpus Barnardii, inter Diceras E. cuneato, Wight, affinis: differt praecipue ovario et putamine.

Arbor, ramorum cortice castaneo vel rufo-castaneo. Folia obovata, apice obtusa, minopere acuminata, glabra, obscure 7–8-dentata, ad 9 cm. longa, ad 4 cm. lata, sed plerique fere dimidio minora; nervi laterales 5–6, inter quos 2 vel 3 basales ad originem in pagina inferiori domatiam ferent; petiolus ad 3 cm. longus. Racemi 12–20-flori, vel foliis breviore vel aequantes vel paullulio longiores. Flores Dicerarum. Sepala linearia, 6 mm. longa. Petala obcuneata supra medium laciniata, sepalis aequilonga. Stamina, plus minusve 20, 3 mm. longa; antherae apice barbatae, 2 mm. longae. Ovarium 3-loculare, pubescens. Fructus olivaeformis, ad 2 cm. longus vel paullulio longior, putamine laevi.

PERAK. Haud procul ab oppido Taiping collegit H. B. F. Barnardi, cum floribus mense Februario, cum fructu immaturo mense Martio, etiamque cum fructu sed maturo mense Januario.

Notes on Dipterocarps.

1. The Seedling of Anisoptera costata, Korth.

By I. H. Burkhill.

Fig. 1. Flower seen from below, × 2½.

It is proposed to clear the way for a general review of the Malayan Dipterocarps by a series of short papers, of which this is the first. It deals with the seedling of Anisoptera costata, Korthals.

Anisoptera costata is a tall forest tree wild in the Botanic Gardens, Singapore, where two individuals flowered freely at the commencement of April, 1916, producing with new foliage, panicles of pendent white flowers from the ends of the branches. The shape of the flower is given above (fig. 1): the corolla does not fall.

The seeds from this flowering ripened about the end of June: and when they fell, a leaf-fall occurred, followed by a more abundant production of new leaves than had been the case when the flowers appeared.

The seeds germinated at once, lying on the ground. In germination the radicle is extruded, curves earthwards, and anchors itself; then the cotyledons are pulled out of the capsule by the straightening of the hypocotyl. The process is seen in progress in Figs. 2 and 5 below.

Fig. 2. Seedling at the time when the cotyledons have just been withdrawn from the capsule. *l. cot.* larger cotyledon; *sm. cot.* lesser cotyledon.

Fig. 3. Seedling at the time when the whorl of leaves is expanding. *1 pair* the two larger of the four leaves.

The figures show how unequal are the two cotyledons: the larger is markedly four-ridged on the back (figs. 2, 3, and 5); the lesser is only obscurely four-ridged and is sagittate-reniform in outline. This inequality though very evident in *Anisoptera*, is yet greater in some other genera of the order, e.g. *Dryobalanops*.

During germination the petiole of the cotyledons elongates only a little. Brandis and Gilg, in Engler's *Pflanzenfamilien*, III, 6, (1895) p. 242, from very imperfect knowledge stated that great elongation is a character of the order, an error due to familiarity with the genus *Dipterocarpus*, where it occurs, and want of knowledge of other genera.

In several if not all of the species of *Dipterocarpus*, the cotyledons do not function as green leaves in the nourishment of the seedling and are not drawn out of the capsule. But in *Anisoptera costata* as well as in other genera the seedlings are greatly injured, if the withdrawing is prevented, or if they do not reach the light: for instance if the capsules are buried under the surface of the ground, so that the cotyledons are imprisoned, the seedlings in *Anisoptera* either die or languish; while the seedlings of *Shorea*, of several species at least, under the same circumstances die.

The cotyledons when they have been freed, and as the hypocotyl completes its straightening, part and come to stand more or less horizontally (fig. 6). Then from between them, the shoot pushes out and bears four leaves in a whorl. These leaves are to be seen in figure 3 with their faces folded together. The fifth leaf and all
which follow are solitary. The four leaves of the whorl were fully developed in September, i.e. at three months and the fifth leaf generally in December or January, i.e. at six months.

![Diagram of a plant with four leaves and a seedling]

**Fig. 4.** Seedling at the time of the unfolding of the fifth leaf: Cot. Scar, the scar whence the cotyledons have fallen is seen below.

It is of particular interest that among the four leaves, in equality is found, that two are commonly larger than the others,—two which are not opposite, but contiguous, being those over the lesser cotyledon (fig. 6). The inequality is already obvious before the leaf-blades have expanded, and persists through life (figs. 7, and 8); but is sometimes very slight (figs. 9 and 10).

![Diagram of a seedling with cotyledons and leaves]

**Fig. 5.** The seedling as the cotyledons separate, seen obliquely from above: l. cot., larger cotyledon; sm. cot., lesser cotyledon.

**Fig. 6.** Seedling as the leaves of the whorl separate, seen from above: l. pair, larger pair of leaves.

B. A. Soc., No. 75. 1917.
The inequality of the cotyledons is apparently connected with the way in which they are packed in the seed. A compromise has been made in them there between fleshiness for the storage of food, and surface for assimilation later, resulting in extension beyond the diameter of the seed and in a rolling of the embryo on itself which places one cotyledon outside the other: and probably therefrom comes their inequality: but why the inequality should be repeated in the whorl which succeeds the cotyledons is not evident. *Shorea* have

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**Fig. 7.** above. The whorl of leaves expanded, showing the inequality: *1st pair*, the larger pair; and

**Fig. 8.** below. The whorl and the fifth leaf, seen from above.

*Jour. Straits Branch*
more simple equal cotyledons and the first two leaves are equal. *Shorea* cotyledons are sagittately bilobed, and the first leaves are paired: but *Anisoptera* cotyledons are four ridged, and the first leaves are in a whorl of four. In both genera with the next leaf, the alternate condition sets in which persists through life.

There is no important difference in the microscopic structure of the petiole of a leaf of the whorl and of the fifth leaf: both in section about the middle exhibit (see fig. 11) a ring of normal cortex enclosing a ring of sclerenchyma within which is phloem and xylem, and an included bundle with the xylem towards the face of the leaf as drawn. Associated with the largest xylem vessels are resin ducts to the number of five. Close under the blade,
through that part of the petiole which is a pulvinus, the sclerenchyma is wanting, while the ring of bundles is a little irregular and the cortex is thicker. Such changes are of course connected with the mobility required of the pulvinus; they take place in the petioles of the whorl in the same way as in the fifth leaf. And there is nothing further peculiar about these whorled leaves beyond the circumstances of their association and their inequality.

Compared with the adult leaves, they are of course much smaller, up to 8.2 cm. long by 4.1 cm. wide, and the vascular elements in the petiole, etc., in the large leaves are altered by the increased number of groups of larger xylem vessels in the ring, and by the space within this ring being completely occupied by a complex of bundles with much sclerenchyma. At the pulvinus the sclerenchyma is interrupted, and the ring somewhat irregularly broken up. But beyond the pulvinus, in the midrib of the leaf, the included bundles form up into orderly lines in concentric semicircles, which get less in numbers of their parts until near the tip of the leaf a condition is reached closely resembling the condition found in the petiole of the seedling leaves.

Brandis (in Journ. Linn. Soc. Bot. xxxi, 1895, p. 29) suggested sectioning the pulvinus for the study of generic characters; but the middle of the petiole promises more.
Some Rare Words.

Kutaha; nakas; turap; teterapan; kop; biram; ganteh;
Seri Menanti.

By R. O. Winstedt.

Kutaha. In the Hikayat Raja-raja Pasai (No. 66, March, 1914, of this Journal) there occurs a word كاتأ several times (pp. 30, 35, 39, 41). Obviously from the contexts it is an interrogative particle. Mr. Mead romanized it wrongly kelah: it is found fully pointed in vowels—kutaha—in one of the 6 old Malay MSS. in the Cambridge University Library; vide p. 38 of Dr. Ph. S. van Ronkel’s ‘Account’ of those MSS. in the “Bijdragen tot de Taal- Land- en Volkenkunde van N. I. 6e Vol. II.” “Briefly” he observes, “after apa, mana, and ada-kah, this interrogative is seldom wanting,” in those MSS. He suggests it may be compared with the Sundanese kutan.

Nakas. On p. 31 of Mr. Mead’s transliteration of the same work there occurs a word نكس: mengénakan sugga nakas bêper-mata. This word occurs also in a passage from the Bustanu’s-salatin quoted by a Javanese scholar, Raden Dr. Hoesin Djaadinatingrat on p. 570 of the “Tijdschrift van het Bataviaasch Genootschap, deel LVII, afl. 6.” Batu puteh di-ukir pêlbagai warna dan nakas dan sêlimpat dan têmbosa dan mega arak-arakan. Klinkert gives it as نكس It is possibly a motive in art.—where figures face one another perhaps: and derived from the Arabic nakas.

Turap. In Perak painted wicker-work panelling for houses is called têpas bêlurap. In Achenese turah means to do masonry. Turap occurs several times in the aforesaid passage from the Bustanu’s-salatin:—di-sisi gunong itu kandang baginda dan dewal kandang itu di-turap dengan batu puteh:.......sa-pohon niuir gading bêrgêlar Sërbat Jinuri di-tambak dêngan batu bêlurap dêngan kapur:.......jambangan batu bêlurap. In one passage a variant MS. gives di-têrap for di-turap; and in the same context as the above sentences occurs dan ada-lah dewal yang di-dalam itu bêlêtêrapan batu puteh

belauardi perdutan orang benua Turki. There is also a kēris tēterapan, which Wilkinson translates ‘a creese with a groove running up the blade’; but kēris térapang means ‘a creese with a sheath covered with metal,’ and in Achinese tér- apan is ‘a metal envelope.’ Wilkinson is certainly right in his explanation of turap, which must mean ‘to dress, plaster, line.’ His Dictionary says, “Covering; plastering; lining; giving a surface (of a different material) to anything, as a coat is lined or as a table is covered with green baize;”—I cannot state the authority for his instances. And perhaps tēterapan is connected with turap.

Kop ‘the cupola of the howdah of an elephant; Hikayat Marong Mahawangsā Wilkinson. In Achinese khob means “to cover with a dome, a cupola.” And the same passage from the Bustanī’s-salatin has dan pintu-nya mēngadap ka-istanan, dan perdutan pintu-nya itu bērkop; di-atas kop itu batu di-pēr- buat saperti biram bērkēlopak dan bērkēmunchakkan dari-pada sangga pēlinggam.” Kop means any kind of ‘dome, cupola.’

Bīram. Wilkinson gives this word as meaning only ‘elephant.’ In the passage quoted under kop, it means ‘a mythical snake with a head at both ends,’—a meaning it bears also in Achinese; a ring in the form of such a snake being called unchiēn lumpa bīram. This meaning of the words explains chinching patah bīram, a Malay ‘puzzle-ring’—vide p. 89 “Circumstances of Malay Life” by myself.

Ganteh. In the folk-tales of Sēri Rama and Awang Sulung occurs the lines

Anjong perak, gēmala ganti
Bēratap tila bērdinding kacha.

For ganti we should read ganteh, which means, ‘thick in the centre, of pillars; barrel-shaped; round.’ On p. 46 of Mr. Wilkinson’s Sēri Mēnanti occurs kērbau bungkal ganteh in-itu bulat ujong tandok-nya, kadang-kadang jatoh bungkal-nya tēlapī bērganti balek (App. B. 5) and on p. 47 Mungkal ganteh liang tangga kēchil di-atas di-bawah. These two quotations corroborate the meaning given, except that kadang-kadang jatoh bungkal-nya tēlapī bērganti balek has been added by some Malay philologist, to whom the real meaning of ganteh was unknown.

Sēri Mēnanti. The name of the seat of H. H. the Yamtuan of Negri Sembilan is explained by Malays as a place where the early settlers found rice of the kind called sēri awaiting them. I would suggest that it is more probable it is a name reminiscent of sēri mēnganti (= mēnanti) the ‘waiting-hall’ in the palace of Javanese princes.
The Malay Rice Cycle.

BY R. O. WINSTEDT.

In Kedah there is a phrase bērtēmu kop for the 'completion of a cycle of years.' It is pretty certain that kop is derived through the Siamese khāb from the Pali kappā, which in turn is the Sanskrit kalpa. It is used by Hindus and Buddhists to express an aeon during which the physical universe is destroyed. In Malay, it is applied to a cycle of a few years, generally to the 12 year cycle of the rice parang, the years of which are designated by animal names. The cycle is common to Siamese, Cambodians, Chinese and Japanese. But both the word kop and the Malay names for the animals are from the Siamese and not from the Cambodian. The Cambodian form is kalba = kalpa, and the Cambodian words for the animals are more remote from the Malay words, while the Siamese words are almost identical:—

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The cycle is not known to the Mons.

This settles the problem discussed by Mr. Shaw on p. 7 of his paper on 'Rice Planting.' The linguistic evidence proves conclusively that the cycle was borrowed directly from the Siamese, who in turn may have borrowed from the Cambodians.
The Teaching of Malay in Europe.

By R. O. Winstedt.

It is commonly held that the best place to learn an Oriental language is in the country where it is spoken. To that facile contention Sir Charles Lyall gave an admirably considered answer in a memorandum addressed to the committee appointed in 1907 to consider the organisation of oriental studies in London. “In the first place, it is not the view which has dictated the establishment of the flourishing schools established by our commercial rivals in Germany and France. These nations have been quick to perceive the advantages of providing, in their own country, centres where persons intending to make a career for themselves in Asia may prepare themselves for their task; and, so far as Germany is concerned, it is generally admitted that they have been strikingly successful. In trade, it is found that German agents, owing to their knowledge of the languages and the habits and customs of the East gained at home, are liable to outstrip their English competitors even in our own dominions. The amount of trade which is carried on between India and the nations of continental Europe is immense and growing; and in this expansion it is scarcely open to doubt that the Germans owe much of their advantage to the training which they receive in oriental methods in their own country. Secondly, much time is lost by persons, who defer until they land in the East the commencement of the study of oriental subjects. Europeans require, in order to overcome the initial difficulties presented by oriental languages, the guidance and assistance of Europeans who have already encountered and surmounted those difficulties. The genius of oriental speech is so different from that of European languages that a student, if left to his unassisted efforts, is likely to waste both time and labour in approaching his task. Moreover, so far as my experience goes, the art of teaching is little understood in the East. The ordinary munshi of India, at any rate, does not understand how his pupil’s intelligence should be directed or stimulated, on what points stress should be laid, how differences of idiom between the two languages should be explained and other like matters which make the difference between good teaching and bad.” And then Sir Charles Lyall goes on to lay stress upon the personal influence of a European teacher as compared with a munshi; and again, on the value of European libraries with their stores of comparative literature. Every one of his points is corroborated by our experience in the Malay Peninsula.
Before the same committee the late Lord Cromer expressed the view that almost as important as instruction in language is instruction in "Oriental history, in religion, in all the social customs and the things that cluster round religion."

The result of the recommendations of the committee was the establishment of the School of Oriental Studies at Finsbury Circus, which was opened by His Majesty the King-Emperor in February (1917). On the faculty is a Lecturer in Malay, and Mr. C. O. Blagden, late of the Straits Settlements Civil Service, has been appointed first Lecturer.

The Report of the Committee has been published as an official blue-book and affords very profitable reading to all interested in Oriental languages. Sir Frank Swettenham is quoted as favouring preliminary training in England for six months or a year for cadets in our civil service. Sir Cecil Clementi Smith, also gave evidence, especially on the study of Chinese. Mr. Addis, joint manager of the Hongkong and Shangkai Bank gave evidence of the value of Chinese in commercial circles and the rarity of the self-denial required to master the drudgery of learning it in men once launched on business careers abroad. Mr. Ray writes a memorandum on the study of Melanesian languages.

The Report gives brief accounts of the instruction provided in Malay at Paris and Leiden.

Mr. Blagden has published the curriculum at Paris in Journal 50 of September 1908, and I have nothing to add to his account, except that the Pancha-Tandaran and Chérila Jénéka are now text-books, for pupils in their first year and that 'Papers on Malay Subjects,' Skeat's 'Magic,' Wilkinson's 'Dictionary,' and my own 'Malay Grammar' are books consulted. In 1906-1907 there were 24 regular students of Malay at the École Spéciale des Langues Orientales Vivantes.

At Leiden are taught (a) a general knowledge of the Indonesian languages, (b) Malay, (c) Javanese, (d) Old Javanese, (e) Sundanese, (f) Madurese, (g) Minangkabau (h) Batak. Synoptical lessons are given in history, religion, geography and ethnography, especially for students destined for the Dutch colonial civil service. The courses in Malay are designed for

(i) candidates for the administrative civil service of the Dutch East Indies

(ii) doctors of law who desire to become magistrates in the Dutch East Indies

(iii) candidates for the degree of Doctor of Languages and Literatures of the East Indian Archipelago.

For students in groups (i) and (ii) a practical knowledge of Malay is the aim of the course; for students in (iii) a more profound comparative study of Malay and the general linguistics of the Indian Archipelago.

R. A. Soc., No. 75, 1917.
The School of Oriental Studies in London is designed "to give instruction in the languages of Eastern and African peoples, Ancient and Modern, and in the Literature, History, Religion and Customs of these peoples, especially with a view to the needs of persons about to proceed to the East or to Africa for the pursuit of study and research, commerce or a profession." Special inter-collegiate arrangements with the London School of Economics will be made for instruction in the sociology and anthropology of the less civilized races. Inter-collegiate arrangements will also be made for instruction in phonetics; and modern phonetic methods will be used to facilitate the acquirement of correct pronunciation.

It is to be hoped that large local commercial firms and estates will recognise the value of preliminary instruction in Malay for young men embarking on careers in the Malay Peninsula; a value fully recognised by prominent business men acquainted with colonial needs. Cadets, too, might well spend the few months they pass in England between their selection for the service and their departure for the East in attending the School. For such students elementary practical teaching is provided. I had the pleasure of reading Mr. Blagden's opening lecture and can attest its illuminating simplicity. But, it is hoped that an advanced course also may be wanted. The library, the comparative method of teaching, the lectures on Arabic and Sanskrit at the same School would all be profitable to any man, on leave in London, who might desire to perfect his knowledge of Malay linguistics, literature and history. Sanskrit and Pali and India must always be to us what Malay and Javanese and the Dutch Indies are to Holland; but it is high time that some of us at least should get to know the best that is written about things Malayan, to recognise that there is a best, a standard of scholarship, in Malay studies. For those, who have that ambition, I can say confidently that a course of the lectures provided will dispel the hallowed notion that the highest authority on Malay matters is a kampong elder.