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WILLIAM JACK'S GENERA AND SPECIES OF MALAYSIAN PLANTS

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With one plate

THIS PAPER was not planned to consider other than certain phases of Jack's botanical work. Hooker published an excellent biographical sketch of William Jack prefixed to one of the series of papers in which the Jack plant descriptions of 1820–22 were republished, to which the reader is referred.¹ Supplementing these data are the remarkably interesting letters written by Jack to Nathaniel Wallich from Penang, Jan. 14 to May 19, 1819, from Singapore, June 8 to June 18, 1819, and from Bencoolen, Sumatra, Aug. 19, 1819, to Oct. 26, 1821.² These letters contain a wealth of information regarding Jack's experiences and observations as a pioneer botanist operating in the then botanically unknown and very rich forests of Penang, Singapore, and Sumatra. For Jack was indeed the pioneer post-Linnean Malaysian botanist, his work antedating the investigations of Blume at Buitenzorg, Java, which were initiated, as to publication, in 1823, a year after Jack's death. On February 12, 1819, he wrote to Wallich, "I am 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, as 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 or two to make a selection for you." An excellent summary of the essential data regarding William Jack and his botanical accomplishments has been included by Mrs. M. J. van Steenis-Kruseman in her recent publication.³

¹ Hooker, W. J. Description of Malayan Plants. By William Jack. With a brief Memoir of the Author and Extracts from his Correspondence. Comp. Bot. Mag. 1: 121–147. 1835.

² Burkill, I. H. William Jack's Letters to Nathaniel Wallich, 1819–1821. Jour. Straits Br. Roy. As. Soc. 73: 148–268. 1916.

³ Van Steenis-Kruseman, M. J. Malaysian Plant Collectors and Collections, Fl. Malesiana I, 1: 256–257. 1950.

Briefly, William Jack was born in Aberdeen, Scotland, Jan. 29, 1795, and died at Bencoolen, Sumatra, Sept. 15, 1822, of pulmonary tuberculosis, apparently complicated by malaria contracted on a trip to Moco-moco. His physical condition was so serious that he had been placed aboard a ship bound for England, the actual sailing of which was delayed by adverse weather conditions; but failing very rapidly he was removed to Government House, Bencoolen, where the end came. The entry in Pritzel's Thesaurus that he died on shipboard near the Cape of Good Hope is erroneous. He was a very precocious student, excelling in languages and developing an interest in botany at an early age. Receiving his M.A. degree from Aberdeen University at the age of sixteen, he then studied for the M.D. degree, finishing his medical training in London where he was admitted as a Fellow of the College of Surgeons at the end of January, 1812. Having received an appointment for service in India he left England in January, 1813. His services with the British East India Company were in the medical field. It was while actively engaged in the Nepalese war that he commenced to correspond with Nathaniel Wallich in Calcutta, and it was in this campaign that he unfortunately contracted pulmonary tuberculosis, which a few years later was to terminate what promised to be a most brilliant botanical career. William Jack was unquestionably one of the most able botanists ever to become associated with the tremendously rich and the then very little known flora of the Malay Peninsula and Archipelago.

In November 1818, having been strongly recommended by Nathaniel Wallich to Sir Stamford Raffles, he was appointed by the latter to serve as botanist on his staff in an attempt to rehabilitate the British East India Company's controlled areas on the west coast of Sumatra, where British influence had long been dominant. What he was able to accomplish in less than three years was most remarkable. His publishing activities, commencing in the remote settlement of Bencoolen in 1820, terminated there in 1822, the year of his untimely death, and finally ceased a year later with the posthumous appearance of the three papers he had prepared in Bencoolen and sent to the Linnean Society in London. How well he developed his knowledge of those parts of Malaysia which he personally explored is manifest from his published papers. Had not his herbarium, his manuscript descriptions and notes, and his drawings of many species been destroyed in the burning of the "Fame" at the time when the British East India Company relinquished control of its Sumatra holdings in 1824 to concentrate on the building up of Singapore, Jack's name would undoubtedly have been written much larger in the annals of Malaysian botany than is now the case. As it is, no botanist who has concentrated on a study of the flora of the region has accomplished so much of lasting value in such a limited time as did William Jack. And what he published is of very high order indeed. His usually ample descriptions, as contrasted with the very short diagnostic data provided by Blume in his early work, as Griffith noted in 1843, are actually autographs of plants. To write a technical description is a simple matter, but to include in not overlong

descriptions, as Jack did, all or most of the essential data needed by a later monographer to place a species in association with those described by other authors is an art in which Jack excelled. Thus it is that in such large and critical genera as *Antidesma* and *Ilex*, I do not hesitate in reducing, from Jack's descriptions, associated with an examination of Sumatra specimens collected by others, *Antidesma frutescens* Jack (1822) to *A. ghaesembilla* (Linn.) Gaertn., and *Octas spicata* Jack (1822) to *Ilex spicata* Blume (1826), although up to this date European monographers have retained the former as a valid species allied to *A. ghaesembilla*, while although *Octas* Jack has been correctly reduced to *Ilex* Linn., no author has even hinted that Jack's species is identical with that of Blume. In the very much larger and exceedingly critical genus *Ficus* Linn. I do not hesitate in replacing *F. diversifolia* Blume (1825) by the earlier *F. deltoidea* Jack (1822), and *F. glaberrima* Blume by the earlier *F. rigida* Jack (1822), although no extant Jack types are known.

DEVELOPMENT OF INTEREST IN JACK PROBLEMS

In my somewhat more than two decades of residence in the Philippines, I had access to only a part of the reprinted William Jack plant descriptions. In building up the botanical library in Manila, starting with nothing in the way of books, I was never able to acquire a copy of the Companion to the Botanical Magazine containing many of the republished Jack descriptions. It was only toward the end of my Philippine career that I discovered the 1887 Trübner reprint of the Jack papers and acquired a copy of it. This experience stimulated my interest in problems appertaining to the Jack species when, in later years, I did have access to certain records never available in Manila. Perhaps the chief reason for the preparation of this index to the Jack species was my own difficulty encountered in earlier years in locating various descriptions needed for reference—and difficulties continue to face all systematists who seek original or reprinted Jack descriptions, except those located in a very few favored centers. This applies particularly to those taxa characterized in the short-lived and never generally available Malayan Miscellanies published in Bencoolen, Sumatra, 1820–22. Indices are lacking in the original Jack papers and in the Hooker reproductions of 1830–36, the latter still being the most generally available source of the Jack descriptions. In standard works of the Index Kewensis type references included are for the most part only to the original places of publication of new names, not to subsequent republications of descriptions.

The original Jack Malayan Miscellanies papers are exceedingly rare and are to be found in only a very few of the older botanical libraries. I know of only two complete sets, one at Kew and one at Calcutta, and while these are complete for the regular Malayan Miscellanies papers, the Kew set lacks the "Appendix" of 1820. Two of the three Jack papers were in the Linnean Society Library, but one of these was unfortunately

lost. I judge that Blume must have been familiar with at least a part of the Malayan Miscellanies botanical papers when he initiated his botanical work at Buitenzorg, Java, in 1823. Perhaps Jack took with him to Buitenzorg copies of the parts then issued when he visited Java in 1821; see Burkill, *Jour. Straits Br. Roy. As. Soc.* 73: 198. 1916, footnote 188. However, no copies of the original Jack papers exist today in either the Buitenzorg or the Leiden libraries.

Where library facilities are limited, as was the case in Manila — and is the case in a great many institutions established within the present century, or for that matter within the past century or more — it occurred to me that an index to all the Jack taxa (1820–23), with references to all the reprinted Jack descriptions (1830–36, 1843, 1877), might serve a useful purpose. The preparation of a mere list would have been a simple matter, but the decision to inquire into the status of each name in relation to those proposed by other authors made the task a more complicated and time-consuming one. Certain data were compiled in 1950, including basic lists. The rough draft of the index proper was written at El Zamorano, Honduras, in February and March, 1951, data therein rechecked in Boston later in the year, and the introductory matter was mostly drafted on the S.S. "Mauretania" en route from New York to Southampton in June, and finished in London in July, 1951.

The Jack papers were so significant at the time they were originally printed that their appearance created a great deal of interest in the work of that young botanist. The very fact that the technical plant descriptions of 1820–22 have since been reprinted three times (or four times if we consider the Griffith separately paged reprint of 1843 to constitute a distinct publication) speaks for itself. I do not know of a parallel case in the literature of systematic botany. Jack was the first post-Linnaean botanist to work in the field on the exceedingly rich Malaysian flora. In his time, from a botanical standpoint, "all the world was new" in Penang, in Singapore, and in Sumatra. In the period 1819–22 one may safely estimate that out of every hundred plant species that Jack actually observed at least seventy-five were unnamed and undescribed, and in Jack's time many of the widely distributed Malaysian genera had not been named or characterized.

JACK'S ORIGINAL PUBLICATIONS 1820–23

What concerned and still concerns most botanists are the Jack descriptions of 1820–22.⁴ These were the papers published in remote Bencoolen, of which few copies were distributed at the time of publication and of which the undistributed stock was destroyed in the burning of the "Fame" in 1824. No copy of these papers is to be found in any American library. For a microfilm of the Kew copy I am indebted to Mr. H. S. Marshall, Librarian, Royal Botanic Gardens, Kew. In addition to these

⁴ Jack, W. Descriptions of Malayan Plants. *Mal. Miscel.* 1 (1): 1–27. 1820; 1 (5): 1–49. 1821; 2 (7): i–iii. 1–96. 1822. Sumatran Mission Press, Bencoolen.

three papers another was printed but never published which has caused some confusion and misunderstanding. This⁵ was actually printed in 1820, not in 1823 as Hooker surmised. Its purpose was to assemble certain descriptive data in form for easy reference and to provide Nathaniel Wallich in Calcutta with a copy for his criticism of various proposed new taxa. Actual publication of the document was neither planned nor consummated. Regarding it Hooker, *Comp. Bot. Mag.* 1: 259. 1836, states:

"In point of interest, the 'Third' Memoir, as it is called, of Mr. Jack, far exceeds the previous ones . . . I have reason to think that the present Memoir is very little known in this country, as I have never seen it quoted, nor met with any copy but that which has been kindly lent to me by the mother of the lamented author. This number of the Malayan Miscellaney is without date, and only bears the title 'Appendix, Descriptions of Malayan Plants, by William Jack, No. 3.'"

The only known extant copies of this document appear to be the one sent by Jack to Wallich and now preserved in the library of the Calcutta Botanic Garden, and a copy in the library of the Asiatic Society of Bengal, presented by Major General Hardwick, July 14, 1821. For bibliographic data regarding this item I am indebted to Dr. K. Biswas, Director of the Calcutta Botanic Garden. The included taxa, some of which were published elsewhere by Jack himself and by other authors, date from the time of effective publication by Jack himself, G. Don (one case), Griffith (one case), and Hooker. The latter thought, with expressed doubt, that this Appendix was printed in 1823. But Jack died in 1822, and by the time of his death publication of the Malayan Miscellanies had ceased. As Burkill notes, *Jour. Straits Br. Roy. As. Soc.* 73: 227. 1916, footnote 273, on the basis of evidence supplied by Jack and by Raffles, the document was printed in 1820, and we now know that a copy was in the library of the Asiatic Society of Bengal as early as July 14, 1821. Some of the more or less confused references to it which one notes in botanical literature are: "Mal. Misc. iii. [1823?]," "Descr. Mal. Pl. iii. 12 [1823]," "Mal. Misc. App. Ined. [1823] 21," etc.

Yet at least one other botanist in Great Britain must have had access to the document. G. Don probably saw Mrs. Jack's copy, as he actually published the technical descriptions of *Stagmaria* Jack and *S. verniciiflua* Jack in 1832, four years prior to Hooker's similar action. Wallich, for whom, in part, the document was originally printed, as noted above, had a copy in Calcutta, and Griffith had access to it in 1843.

If referred to at all this Jack "Appendix" should be cited as "ined." In this paper I have included references to it in square brackets, thus: "[App. Descr. Mal. Pl. . . . 1820]" followed by a reference to the later validating description in each case. Unfortunately Hooker in reprinting the Jack descriptions gave no bibliographic references to individual species.

⁵ Jack, W. Appendix. Descriptions of Malayan Plants. No. 3. p. 1-26. [1820]. Sumatran Mission Press, Bencoolen.

Jack's other botanical contributions were limited to the three papers published in London in 1823,⁶ the year following his untimely death. The plant descriptions included in these papers have been generally available to botanists who have at times needed to consult them. They were reprinted only by Griffith in 1843.

Certain other manuscript descriptions were sent by Jack to Nathaniel Wallich in Calcutta, to whom discretionary powers were extended. Some of these appear in volume two of the Carey and Wallich edition of Roxburgh's *Flora Indica* (1824), and one, *Pittosporum serrulatum* Jack, was first published by Griffith in 1843. The Jack *Melastoma* and *Cyrtandraceae* papers were summarized in Oken Isis 22: 1036-1039, 1176-1181. 1829.

THE HOOKER REPRINTS, 1830-36

These, initiated in 1830 and completed in 1836, include the genera and species originally published by Jack in the Malayan Miscellanies papers, plus most of those contained in the unpublished Appendix discussed above.⁷ It has been in this series that the Jack descriptions of 1820-22 have been, and still are, most accessible to botanists, in spite of the later reprintings of 1843 and 1887. Because these reprinted Jack descriptions are scattered through four unindexed volumes of three different serials issued over a period of seven years, one must often search for an individual description when needed. One of the reasons why Griffith again reprinted the Jack descriptions in 1843 was the difficulty encountered both in securing access to sets of the Hooker periodicals and in locating individual Jack descriptions when needed. Griffith had in mind the need of individuals located as he was, remote from the botanical centers of Europe. It is of course to Hooker's distinct credit that he did rescue the contents of these very rare Jack papers from practical oblivion.

We learn from Hooker's own statement, *Comp. Bot. Mag.* 1: 122. 1835, that it was Nathaniel Wallich who suggested to him the desirability of reprinting the Jack papers, and it was for this purpose that Wallich provided Hooker with the set of the Malayan Miscellanies now on the library shelves of the Royal Botanic Gardens at Kew. Wallich, of course, knew the fate of Jack's herbarium and the undistributed stock of the Malayan Miscellanies, and he knew that because of the burning of the "Fame," Feb. 4, 1824, it would be impossible for future botanists to acquire copies of this Bencoolen serial. For on the "Fame" were the Bencoolen records, Jack's herbarium, manuscript descriptions, notes, drawings, the extensive natural history collections assembled by Sir Stamford Raffles, and finally, all the reserve stock of the Malayan Miscellanies.

⁶ Jack, W. On the Malayan Species of *Melastoma*. *Trans. Linn. Soc.* 14: 1-22. *pl.* 1. 1823; On the *Cyrtandraceae*, a New Natural Order of Plants. *Op. cit.* 23-45. *pl.* 2. 1823; Account of *Lansium* and Some Other Genera of Malayan Plants. *Op. cit.* 114-130. *pl.* 4. 1823.

⁷ Hooker, W. J. Descriptions of Malayan Plants, by William Jack. *Hook. Bot. Misc.* 1: 273-290. 1830; 2: 60-89. 1830; *Hook. Jour. Bot.* 1: 358-380. 1834; *Comp. Bot. Mag.* 1: 121-157. 1835; 219-224, 253-272. 1836.

THE GRIFFITH REPRINTS, 1843

William Griffith, inspired by much the same reasons that in 1830 induced Hooker to commence the reprinting of the original Malayan Miscellanies descriptions of Jack, republished all of the Jack descriptions known to him in a series of three papers in the Calcutta Journal of Natural History in 1843.⁸ He noted the rarity of the Jack papers published in 1820–22 and commented on the very inconvenient subdivision of the parts as reprinted by Hooker.

This Griffith series includes not only those descriptions reprinted by Hooker (1830–36) from the Malayan Miscellanies, but also all of those included in the three Jack papers published in London in 1823, most of those which had been published by Wallich under Jack's name in volume two of the Carey and Wallich edition of Roxburgh's *Flora Indica* (1824), and even one (*Pittosporum serrulatum* Jack) which appears only in the Griffith document. Occasionally one finds complete or partial copies of these Griffith papers with the original Calcutta Journal of Natural History pagination, as in the case of the libraries of the British Museum (Natural History) and the Rijksherbarium at Leiden.

THE GRIFFITH SEPARATELY PAGED REPRINT OF 1843

Immediately following the issue of the Jack papers in the Calcutta Journal of Natural History in 1843, Griffith reprinted them in the form of a separately paged volume under the same title as that used in the Journal itself. The pagination is 1–230, i–iii. In the two copies of this work that I have seen (Linnean Society Library and the Lindley Library, Royal Horticultural Society) the text covers the descriptions of three plates, but the plates themselves are missing. There is also a copy of this reprint in the library of the British Museum (Bloomsbury). Because of an irregularity in including on pages 135–160 of the volume the data published in Griffith's own paper on some remarkable plants in the Calcutta Garden (*Calc. Jour. Nat. Hist.* 4: 231–256. 1843) it is suspected that very few copies of this reprint were distributed. The essential data regarding this separately paged reprint were kindly supplied by Mr. I. H. Burkill, and I later examined the copies mentioned above.

Of this pages 1–62 are identical with the first paper in the Calcutta Journal series. On pages 63 to 77 certain adjustments in page contents are made, but there are no changes in the text. Pages 135 to 160 include the Griffith paper above mentioned. Then the rest of the Jack descriptions appear on pages 161 to 227. Pages i–iii consist of an index by families and genera.

Had this Griffith Calcutta reprint of the Jack descriptions been generally available, probably any further consideration of them would have been

⁸ Griffith, W. Descriptions of Malayan Plants. By William Jack. Arranged According to their Natural Families, etc. *Calc. Jour. Nat. Hist.* 4: 1–62: 159–231; 305–347. *pl.* 14–16. 1843.

unnecessary. But sets of the Calcutta Journal of Natural History are lacking in very many, perhaps most botanical libraries, and the separately paged reprint was apparently suppressed; at any rate it was never widely distributed.

THE TRÜBNER REPRINT OF 1887

The Trübner Oriental Series consists of four volumes, a first series of two volumes, 1886, and a second series, also of two volumes, 1887. A total of fifty-one papers were reprinted from various sources, covering important contributions to our knowledge of the botany, zoology, geology, exploration, history, philology, linguistics, anthropology, inscriptions, climate, minerals, and other subjects appertaining chiefly to the Malay Peninsula and Archipelago. Many of the original papers appeared in serial literature that is sometimes not generally available. I judge that these reissued papers are not well known to botanists and botanical bibliographers, for this 1887 reprint of the important Jack papers escaped the attention of Rehder when he compiled the remarkably complete Bradley Bibliography, published from 1911 to 1918, covering the literature of the world appertaining to woody plants, appearing before the end of the nineteenth century. The Trübner⁹ series is well worth a place on the shelves of all special research libraries devoted to the subjects above mentioned. The main title is a somewhat unfortunate one as it appears on the first series, but it was emended in the second series by the addition of the phrase, following Indo-China "and the Indian Archipelago." As a matter of fact, in the republished papers there are very few which in any way appertain to Indo-China, most of them applying strictly to the Malay Peninsula and Archipelago. The initiative behind the selection and republication of this distinctly important series of 51 technical papers came from the officers and council of the Straits Branch, Royal Asiatic Society, Singapore.

It is in volume two of the second series that one can now gain the easiest access to the early Jack descriptions, for the technical names of all species are included in the index to the volume. This paper occupies pp. 209–295 of volume two of the second series, 1887. Appended to it and occupying pages 296 to 302 are various botanical references giving the then accepted names for many of the Jack species prepared by Sir J. D. Hooker, with many philological notes on the significance of the Malay names listed by Jack, these prepared by D. F. A. Hervey.

JACK'S HERBARIUM

It is known from the published records that Jack industriously increased his herbarium wherever he had an opportunity of botanizing, but chiefly in Penang, Singapore, and on the west coast of Sumatra and its neighbor-

⁹ TRÜBNER'S ORIENTAL SERIES. Miscellaneous Papers Relating to Indo-China. Reprinted for the Straits Branch of the Royal Asiatic Society. 1: i–xii. 1–318; 2: 1–309. 1886. Second Series. 1: 1–viii. 1–307; 2: 1–313. 1887. Trübner & Company. London.

ing islands. It must have been a large collection, but there are no extant records as to its actual size. The Jack holotypes were destroyed with all of his undistributed duplicates, and all of his unstudied or partly studied material when the "Fame" burned just after sailing from Bencoolen Feb. 4, 1824. Such Jack material as now exists represents duplicates of his Penang and Singapore collections which he sent to Wallich and which were numbered in the Wallich List ("Catalogue"). There are certain Jack Sumatra specimens in the Delessert herbarium at Geneva, and others at the Rijksherbarium, Leiden, but the total number is apparently not great. Among those at Geneva are specimens representing *Aeschynanthus radicans* Jack, *Connarus semidecandrus* Jack, *C. villosus* Jack, *Cyrtandra hirsuta* Jack, *C. macrophylla* Jack, *Didymocarpus corniculata* Jack, and *Melastoma obvolutum* Jack.

There are also certain Jack specimens in the herbarium of the British Museum (Natural History) other than those in the Wallich distribution. These seem to be entirely duplicates of his Penang and Singapore collections sent by Jack directly to Robert Brown. No extant list is known. On March 7, 1819, writing from Penang, Jack notified Brown that accompanying his letter he would receive the box of specimens mentioned in an earlier letter. The highest number located is "59" for a specimen of a *Trichomanes* from Penang. Later Jack sent at least four *Nepenthes* specimens from Singapore, where he arrived from Penang, May 31, 1819. The labels on these fugitive Jack collections are in his handwriting, but on at least some of them somebody at the Museum later wrote the name "Wallich" as the collector, which doubtless explains why many of these specimens were not previously recognized as being actual Jack duplicates.

At Leiden, in 1950, without making an intensive search, I located *Ternstroemia serrata* Jack, *T. rubiginosa* Jack, *Salacia* . . . Jack (an unpublished binomial), and *Lasianthus attenuatus* Jack, and Dr. Hoogland located *Tetracera arborescens* Jack. These Jack Sumatra specimens bear his original labels. They are indicated as having been received in 1829, and they later reached the Rijksherbarium via the Hasskarl private herbarium. It is suspected that these specimens may have represented a small lot that was perhaps left behind when the British left Bencoolen in 1824, which was probably retrieved by some Dutch official and transmitted by him to Holland, where the specimens came into the possession of Hasskarl.

It is evident that Jack sent certain Sumatran material home, but it is not known what became of some of these collections. Thus in a Jack letter to Wallich dated at Bencoolen September 9, 1820, there is a very amusing account of a collection of botanical specimens he selected at the request of a certain Marchioness for the Edinburgh Museum.¹⁰ In this letter, *inter alia*, he says: "My best specimens are all gone home as you know." Mr. Burkill's attempts to locate the Jack specimens of this particular sending failed, nor in the relatively little time I could spend in the Edinburgh herbarium in July, 1951, did I succeed in locating any of these fugitive

¹⁰ Burkill, I. H. Jour. Straits Br. Roy. As. Soc. 73: 215. 1916.

specimens. Late in 1951 Mr. Burt found one specimen, of which Dr. J. M. Cowan kindly supplied a photograph. Jack had mentioned the poor quality of the specimens he selected for the Edinburgh Museum, and the type collection of *Didymocarpus crinita* Jack verifies his statement. I have introduced the photograph (Plate 1) chiefly because its extended label provides an excellent specimen of William Jack's handwriting.

It is recorded that Jack, as well as Raffles, sent botanical material to Lambert in England. Burkill notes, op. cit. 200, footnote 194, that at the Lambert sale in 1842 lot no. 111, catalogued as probably from Jack, was sold for £1 to William Pamplin, a dealer, and that lot 255, listed as from Raffles and others, was purchased by a Mr. Rich for £3. What may have become of the lot purchased by Mr. Pamplin is unknown, but the Jack Sumatra specimens now in the Delessert herbarium in Geneva certainly came from the Lambert collection. In 1879 Mr. Pamplin, then living at Llandderfel, North Wales, provided Henry Trimen with the information that Mr. Rich, and his father before him, were the accredited British agents of Delessert; see Jour. Bot. 17: 275. 1879, footnote.

In April, 1952, Dr. Van Steenis found in a *Gnetum* loan from the Barker Webb Herbarium, Florence, a single Jack specimen from Penang which proved to be a representative of the genus *Petunga*. As the label carried the statement "misit amicissime Guilielmus Jack," it is probable that this Jack specimen had passed through the hands of Wallich, as the above is the phrase that Wallich used in his List where he included Jack material. There may, of course, be other Jack specimens in the Barker Webb Herbarium.

SOURCES OF JACK'S BOTANICAL MATERIAL

After Jack's arrival in India, attracted by its luxuriant flora, which was, of course, entirely new to him, he commenced, during the Nepal campaign, to correspond with Nathaniel Wallich in Calcutta, sending him a certain amount of botanical material from northern India. This correspondence apparently commenced in May, 1815. In July, 1818, after his return to Calcutta, he called on Wallich at the Calcutta Botanical Garden, and the latter insisted that Jack remain as his guest while prosecuting his botanical investigations there. It developed that Jack was ill, and from a letter written by Sir Stamford Raffles January 1, 1823, we learn that this illness was pulmonary tuberculosis contracted during his tour of service in the Nepalese war. This was soon to terminate a short but very productive botanical career, for Jack died at Bencoolen, Sumatra, in September, 1822. In November, 1818, after Wallich had introduced him to Sir Stamford Raffles, his plans were abruptly changed, for he was offered a position on Sir Stamford's staff for botanical and other investigations primarily in western Sumatra, centered at Bencoolen. He sailed with Raffles from Calcutta December 10, 1818, and reached Penang on December 31. Possibly on this trip the ship on which he was a passenger stopped at Car Nicobar, the most northern island of the Nicobar group, where Jack col-

lected some botanical material for the types of *Microcos glabra* Jack and *Connarus jackianus* Wall. = *Lepidopetalum jackianum* Radlk.; yet it is possible that these Car Nicobar specimens were collected when Jack made a trip from Bencoolen to Calcutta and return later in 1819. Otherwise all the Jack species were based on specimens collected by him in Penang, Singapore (one on Pulo Bintang in the neighboring Rhio Archipelago), and at various places, chiefly Bencoolen, on the west coast of Sumatra and its neighboring islands.

PENANG AND SINGAPORE

William Jack commenced his field work in Penang, exploring that island from January 1 to May 21, 1819. Thus about fifty of his published new species were based wholly on Penang specimens. On May 31 he landed at Singapore and he remained there until June 28. From the botanical specimens he then prepared sixteen new species were described. For these Penang and Singapore species supplementary material was mentioned in a few cases as coming from Malacca, Sumatra, and in one case from Pulo Bintang in the Rhio Archipelago southeast of Singapore. Most fortunately, both Penang and Singapore have been intensively explored, and their floras are very well known. Again Jack sent to Wallich in Calcutta specimens representing most of his species, which were listed and distributed by Wallich. Thus it is that there seems to be little or no doubt as to the limits and relationships of all the Jack taxa based on material originating in these two islands, for authentically named Jack specimens have been available to his successors, in addition, of course, to Jack's excellent published descriptions.

SUMATRA

The longer period spent in Sumatra naturally resulted in much larger collections of botanical material being made at various places on the west coast of that large island and on various islands and islets off its west coast. While Jack was engaged to prosecute botanical investigations, he could not devote full time to this work, as various tasks quite unrelated to botany were from time to time assigned to him. On the basis of the Sumatran collections assembled by him a total of about 125 new species were described. Of these about fifty are not more closely localized than being from "Sumatra," but in most cases it can safely be assumed that the material on which they were based came largely from the Bencoolen region. Somewhat over thirty species were definitely from Bencoolen and its vicinity, including Gunong Bunko or Sugar Loaf Mountain, about eighteen miles to the northeast of that town. Sixteen species are definitely indicated as from Tapanuly and Tapanuly Bay, six species were from Pulo Nias, one of the larger islands off the west coast, five from Natal on the west coast, and for smaller west coast localities and west coast small islands one or two species each were indicated as from Salumah, Kataun,

Laye, the Musi country, Moco-moco, Pulo Nica, Pulo Mosella, Pulo Pegang, and Pulo Bintangor. These for the most part can be located with little trouble on any of our better maps.

The flora of Sumatra is still inadequately known, particularly when contrasted with our knowledge of such areas as the Malay Peninsula (including Penang and Singapore) and Java. If comprehensive and adequate modern collections were available from the west coast of Sumatra and from certain adjacent islands, the task of matching Jack's descriptions with such material would be relatively simple. Until such collections are available and are intensively studied, there will be a residue of Jack's species which will remain known only from his published descriptions. And to a certain degree Jack has suffered because many of his published descriptions were not generally available to his successors; and his types had been destroyed.

JACK'S GENERA

In his relatively short career as a botanist, what Jack actually accomplished in descriptive botany is distinctly remarkable. When he reached Penang the first of January, 1819, he found himself in a very luxuriantly forested region rich in species regarding which he knew nothing, and up to the end of his most unfortunately short life he was surrounded by a profusion of unclassified and unnamed plants, a very high percentage of them quite unknown to the botanists of Europe and of India. There were then no professional botanists in all of Malaysia, Jack's chief contact with the botanical world being by correspondence with Nathaniel Wallich in Calcutta. He proposed and characterized one new family of plants, the Cyrtandraceae, now placed as a subdivision of the Gesneriaceae, thirty-one new genera, and about two hundred new species of plants. But he published only a part of the descriptions he prepared. Writing from Penang March 7, 1819, which he had reached just over two months earlier, he stated that he had then described about 130 plants, of which eighty were probably new, "besides examining and ascertaining the characters of at least as many more." Of some he personally prepared drawings, and he employed a Chinese artist to prepare others. And this for Penang only, with Singapore to come, and then the richer Sumatran flora which awaited his attention!

Although at the beginning of the present century only two of Jack's new genera remained that had not been placed in their proper families, these have now been disposed of. *Coelopyrum* Jack (1822) = *Camptosperma* Thwaites (1854), and *Octas* Jack (1822) = *Ilex* Linn. (1753). *Helospora* Jack (1823) is identical with the officially conserved *Timonius* DC. (1830); *Enchidium* Jack (1822) is earlier than the universally accepted *Trigonostemon* Blume (1825); *Psilobium* Jack (1822) antedates the later and identical *Acranthera* Arnott (1838) by sixteen years; and *Coelopyrum* Jack (1822) antedates the universally accepted *Camptosperma* Thwaites (1854) by thirty-two years. Unless officially conserved

here are three cases where Jack's earlier generic names should replace the later equivalents of Blume, Arnott, and Thwaites.

The other actually (and correctly) reduced Jack genera, as generic limits are currently accepted, are *Epithinia* Jack (1820) = *Scyphiphora* Gaertn. f. (1805); *Glaphyria* Jack (1823) = *Leptospermum* Forst. (1776); *Pyrrhanthus* Jack (1822) = *Lumnitzera* Willd. (1803); *Sphalanthus* Jack (1822) = *Quisqualis* Linn. (1753); *Stagmaria* Jack (1820; 1832) = *Gluta* Linn. (1753); *Hedycarpus* Jack (1823) = *Baccaurea* Lour. (1790); *Chionotria* Jack (1822) = *Glycosmis* Corr. (1805); and *Monocera* Jack (1820) = *Elaeocarpus* Linn. (1753). The eighteen remaining genera, all universally accepted, are characteristic of the Indo-Malaysian floras, some small in the number of known species, others large or very large.

There are doubtless those who might feel inclined to criticize Jack for his failure properly to interpret a few previously described genera. Thus *Veratrum* Linn. (one species), *Pittosporum* Banks (one species), *Ternstroemia* Mutis ex Linn. (five species), and *Halorrhagis* Forst. (one species) were clearly misinterpreted, but in most other cases he correctly interpreted genera proposed by his predecessors. In the *Ternstroemia* case he merely followed Roxburgh. One must constantly bear in mind that he did not have access to herbarium material other than that which he himself had prepared, that his library facilities were limited, and that conditions in 1819-22 in the then primitive Penang, Singapore, and in the much more remote port of Bencoolen, isolated as it was on the west coast of Sumatra, were not favorable for scientific work. There were then in all Malaysia no established scientific institutions or reference libraries, for up to that time strangely little scientific work had been done in any field of biology, following the pioneer work of Rumphius, who finished his extensive manuscript in Amboina about 1690. Jack was the pioneer Malaysian botanist after the binomial system was established, and he doubtless assumed that if Roxburgh and his contemporaries and immediate successors could prosecute descriptive botany to advantage in India in the opening decades of the nineteenth century, then he could do likewise in Malaysia. Some of us who entered the field at the beginning of the present century with very limited (or no) herbarium and library facilities may only hope that our percentages of error were as small as were those of William Jack nearly a century earlier. It is one thing to initiate descriptive work with ample herbarium and library facilities available; it is quite another matter when one starts in as did William Jack. To a distinctly high degree, with few books, no specimens, and no previous knowledge of the flora, Jack was dependent on his own efforts in such remote and primitive places as were Penang and Singapore in 1819, to say nothing of the now almost forgotten Bencoolen. He had no one to turn to for assistance or advice other than Wallich in distant Calcutta, and yet he took full advantage of his opportunity. Very few individuals would have had the courage to initiate descriptive work in botany under the conditions that William Jack so successfully faced in the early decades of the last century.

JACK'S VALIDATION OF CERTAIN ROXBURGHIAN NOMINA NUDA

Jack actually validated certain *nomina nuda* proposed by Roxburgh in his *Hortus Bengalensis* (1814) by accepting the binomials and associating technical descriptions with the names from three to twelve years before Roxburgh's own validating descriptions were published. Jack had a manuscript copy of Roxburgh's *Flora Indica* for consultation, the dates of publication of the several volumes (two editions) of Roxburgh's work being 1820, 1824, and 1832.. In some cases, doubtless, identifications of Jack specimens with Roxburghian species were made in Calcutta by Wallich. Cases are *Curculigo sumatrana* Roxb., *Gmelina villosa* Roxb., *Loranthus ferrugineus* Roxb., *Melastoma decemfidum* Roxb., *Phyteuma begonifolium* Roxb., *Rottlera alba* Roxb., *Sterculia angustifolia* Roxb., and *Vitex arborea* Roxb. There are a few similar cases in relation to Wallich's binomials. In one or two cases it is evident that the species actually described by Jack under a Roxburghian epithet is not the same as the one to which Roxburgh assigned the binomial and which Wallich later published; see the case of *Clerodendron nutans* Jack (*C. penduliflorum* Wall.), 1820, not *C. nutans* Wall. List 1829, *nom. nud.*, et ex Hook. Bot. Mag. 53: pl. 3049. 1831, descr. These and various other minor bibliographic adjustments are made in this paper, and under the priority rule a certain number of new binomials appear in the index proper which follows this introduction.

The number of changes in names is small, indicating that much time and attention have been given by various botanists to ascertaining the status of these early Jack species, even if others, in the absence of types, may have ignored the Jack species, or at least made no really serious attempt to interpret them. As a result, a certain number of species proposed and described by later authors as new are reduced to synonymy. Gradually the situation clears, for the status and relationships of most of the Jack species, whether the types be preserved or not, are now clear.

WILLIAM ROXBURGH'S CONCEPT OF THE MOLUCCAS

As one examines the Roxburgh text of his *Flora Indica*, one notes an occasional entry, accompanied by a short description, followed by the entry "Moluccas." The natural assumption in such cases is that the material on which these short descriptions came originated in that group of islands south of the Philippines and east and southeast of Celebes to which the term Moluccas is now and probably always was correctly limited. But Roxburgh's concept of the Moluccas included, at times, also the Malay Peninsula and the Sunda Islands proper,¹¹ and so it is that various "Moluccan" species of Roxburgh unquestionably came from Penang or from various localities on the Malay Peninsula or in the Sunda Islands proper. It is not necessary, as some have done, to suggest that in such a case as

¹¹ Prain, D. A Brief Memoir of William Roxburgh. Ann. Bot. Gard. Calcutta 5: 1-9, *portr.* 1895 (p. 6).

Sonerila moluccana Roxb. he perhaps intended to derive his specific name from Malacca. Examples are: *Ardisia divergens* Roxb., *Melastoma im-
puber* Roxb., *Sonerila moluccana* Roxb., *Uvaria pilosa* Roxb. (= *Uvaria
hirsuta* Jack), and others. These species are now known from Penang
and neighboring places, but have never appeared in any Moluccan collec-
tions and are still unknown from any part of eastern Malaysia. Yet Rox-
burgh did indeed have much botanical material from Amboina and from
other parts of the Moluccas proper. Some idea of the importance of Rox-
burgh's contributions in his *Flora Indica* to our knowledge of the Malay-
sian flora is indicated by the following data. About 540 Roxburghian
descriptions are to be interpreted from Malaysian material. Of these ap-
proximately 435 were proposed and described as new on the basis of Malay-
sian specimens. Of these 435 "new species" 104 were from Penang, 157
indicated as from the Moluccas, plus 54 from Amboina and Honimoa, 56
from Sumatra, 36 from the Malay Archipelago, with a few indicated more
definitely as from Singapore, Malacca, Banda, etc. Doubtless some, per-
haps many, of the "Moluccan" species were from the Moluccas proper,
but one must constantly bear in mind that probably most of these were
from the Sunda region proper, the Malay Peninsula, Penang, Singapore,
and Sumatra, and not from the Moluccas. These Roxburghian Malaysian
species have not been properly studied and an investigation of them in
relation to those described by other authors is highly desirable.

EXPLANATION OF THE SEVERAL CATEGORIES USED IN THE FOLLOWING LIST APPERTAINING TO THE REPUBLICED JACK DESCRIPTIONS

In the following list of the Jack species I have included references to
the original place of publication of each taxon, and also references to those
places where the descriptions were republished. To save repetition of
references the classification I to V is accepted as explained below, of
which I is scarcely used as such, II seldom used (because in these cases
the references are repeated), but III to V are always used if individual
Jack descriptions were included in this or that set of reprinted descriptions.

- I. The original Jack papers. In each case a reference is given, the cate-
gory indication I not used.
- II. The Hooker reprinted descriptions 1830-1836. For details see p. 204.
In each case the complete reference is given rather than merely II.
- III. The Griffith Calcutta Journal of Natural History papers, volume four
(1843). For details see p. 205.
- IV. The separately paged Griffith reprint of the above. For details see
p. 205.
- V. The 1887 reprint in Trübner's Oriental Series. For details see p. 206.

These technical names preceded by an asterisk, such as *Acacia *grav-
eolens* Jack still remain unlisted in standard indices. Most of these are
nomina nuda and appear in Jack's letters to Nathaniel Wallich, which were
published in 1916. Yet although actual descriptions may never have been
published, most of these fugitive binomials are safely identifiable.

ACACIA Willdenow.

A. *graveolens Jack, Mal. Misc. **2** (7): 78. 1822; reimpr. Hook. Comp. Bot. Mag. **1**: 224. 1836; III. 163; IV. 67; V. 285, *nom. nud.* in obs. [Sumatra] = *Parkia graveolens* King, Jour. As. Soc. Beng. **66** (2): 241. 1897 (Mater. Fl. Mal. Pen. **3**: 241) *nom.* in obs. = *Parkia speciosa* Hassk. Flora **25** (2): Beibl. 55. 1842 (*P. macrocarpa* Miq. Fl. Ind. Bat. **1**: 53. 1855). Malay Peninsula, Sumatra; introduced in Java. *Acacia graveolens* Jack, *Parkia graveolens* Prain, and the very much older *Acacia gigantea* Noronha (1790) are all *nomina nuda*, although all are safely identifiable by the cited Malay name *pete* or *petek*.

ACROTREMA Jack, Mal. Misc. **1** (5): 36. 1820; reimpr. Hook. Bot. Misc. **2**: 81. 1830; III. 217; IV. 121; V. 240.

A. costatum Jack, l.c.; reimpr. Hook. op. cit. 82; III. 217; IV. 121; V. 240. Penang. Common in the Malay Peninsula; see Ridley, Fl. Malay Penin. **1**: 7. 1922. Also in Borneo and Sumatra.

ADINANDRA Jack, Mal. Misc. **2** (7): 49. 1822; reimpr. Hook. Comp. Bot. Mag. **1**: 153. 1835; III. 205; IV. 110; V. 271.

A. dumosa Jack, op. cit. 50; reimpr. ll.cc. Sumatra and other Malay Islands. The type of the genus; common in the Malay Peninsula, Sumatra, Java (probably only planted), and Borneo, represented by very numerous collections; for synonymy see Kobuski, Jour. Arnold Arb. **28**: 55. 1947.

A. sylvestris Jack, Mal. Misc. **2** (7): iii. 1822; reimpr. Calc. Jour. Nat. Hist. **4**: 208. 1843; IV. 112; V. 295. Western Sumatra at Moco Moco. Not actually described and cannot be placed from the inadequate data; see Kobuski, op. cit. 93.

AESCHYNANTHUS Jack, Trans. Linn. Soc. **14**: 42. 1823; reimpr. Calc. Jour. Nat. Hist. **4**: 60. 1843; IV. 60, *nom. conserv.* (*Trichosporum* G. Don, 1822).

A. radicans Jack, op. cit. 43; reimpr. III. 62; IV. 62. Sumatra, inland from Bencoolen. (*Trichosporum radicans* Nees). Jack's type is apparently in the Geneva herbarium; see C. B. Clarke, Monog. Phan. **5**: 41. 1883. Sumatra, Malay Peninsula, Borneo.

A. volubilis Jack, l.c. *pl.* 2, *fig.* 3, *a-i*; reimpr. III. 61. *pl.* 15, *fig.* 3; IV. 61. Sumatra, near Bencoolen (*Trichosporum volubile* Nees). Definitely known only from Sumatra, but has been credited to Celebes.

AGLAIA Loureiro.

A. odorata Lour. Fl. Cochinch. 173. 1790; Jack, Mal. Misc. **1** (5): 33. 1821; reimpr. Hook. Bot. Misc. **2**: 79. 1830; III. 192; IV. 96; V. 238. [Malay Islands; planted]. Widely planted in the Old World, native of southeastern Asia.

ALPINIA Roxburgh (1810), *nom. conserv.*, non Linnaeus.

A. capitellata Jack, Mal. Misc. **2** (7): 4. 1822; reimpr. Hook. Jour. Bot. **1**: 360. 1834; III. 5; IV. 5; V. 248. Inland from Bencoolen, Sumatra. See Holttum, Gard. Bull. Singapore **13**: 143. 1950, who tacitly accepted Ridley's 1899 interpretation of the species. There is no extant type. Sumatra and the Malay Peninsula.

A. elatior Jack, Mal. Misc. **2** (7): 2. 1822, reimpr. Hook. Jour. Bot. **1**: 359. 1834; III. 4, *sphalm*, "elatoir"; IV. 4; V. 247. Pulo Nias and Ayer Bangy =

Nicolaia elatior (Jack) Horan. Monog. Scit. 32. 1862. This case is an illustration of how one may sometimes be led astray by accepting modern interpretations, even in standard monographic treatises, without checking the record. *Nicolaia* Horan. was validly published in 1862, its type being *N. imperialis* Horan. Its author knew of the earlier but invalidly published generic name *Phaeomeria* Lindl., for he listed it as a synonym. The latter was published by Lindley, Nat. Syst. ed. 2, 446. 1836, the entire entry being "*Phaeomeria* = *Alpinia magnifica* Bojer in Bot. Mag. t. 3192." This does not constitute valid publication under the conditions specified in Article 41 of the Code of Botanical Nomenclature, in spite of K. Schumann's acceptance of Lindley's generic name in 1904 (who first published a description of *Phaeomeria* Lindl., although Ridley in 1899 had treated it as a section of *Hornstedtia* Retz.) and Loesener's selection of it in preference to *Nicolaia* Horan. in Engl. & Prantl, Nat. Pflanzenfam. ed. 2, 15a: 593. 1930. K. Schumann in 1904 had recognized sixteen species of *Phaeomeria* Lindl. The code provision is clear in that the name of a genus "is not validated by mention of included species" (this is all that Lindley did, for he never published a generic description); nor can Lindley's generic name be validated under any of the exceptions to this rule. Both K. Schumann and Loesener should have accepted *Nicolaia* Horan., as this is the proper name for this genus. In 1921 Valeton¹² correctly interpreted the situation, accepting *Nicolaia* Horan. and critically considering fourteen species. It is unfortunate that he did not explain why he rejected *Phaeomeria* Lindl. (correctly), for such action might have rendered this discussion unnecessary. However, this is perhaps an optimistic statement, considering the conservatism of the average taxonomist and the tendency that some have to justify the name-selections of their predecessors, regardless of approved rules. Except for his several new species being properly listed in Index Kewensis, Valeton's paper has been rather consistently ignored. It is worthy of note that although Valeton did not accept Jack's specific name (which he listed as a synonym of *Nicolaia speciosa* Horan.), he did have specimens from the type locality (Nias Island) and cited other collections from Sumatra. The last to consider our particular species was Holttum, Gard. Bull. Singapore 13: 181. 1950, who, while providing a nicely detailed description, was not at all impressed by Valeton's correct selection of *Nicolaia* Horan. as the correct generic name; nor was he impressed by the manifest fact that Jack's specific name had five years priority over the one he accepted. Thus it is that Jack's beautifully described species has been rather consistently ignored, and in the meantime it has acquired a rather extensive synonymy, being, I suppose, the most spectacular species in the Zingiberaceae. The extensive synonymy is due, in fact, to the reluctance of some taxonomists to interpret species from descriptions alone when the types are lost, even when some of these descriptions, like those of Jack, are remarkable for their clarity, and further, to the reluctance of others to accept what manifestly is the oldest valid name for a particular species. These synonyms include *Elatteria speciosa* Blume (1827), *Alpinia magnifica* Rosc. (1828), *Phaeomeria *imperialis* Lindl. ex K. Schum., Pflanzenr. 20 (IV. 46): 262. 1904, *Alpinia speciosa* Dietr. (1839), *Nicolaia imperialis* Horan., and *N. speciosa* Horan. (1862), *Phaeomeria magnifica* K. Schum. (1904), *Amomum magnificum* Benth. (not published until it appeared in Index Kewensis 1: 108. 1893), *Hornstedtia imperialis* Ridl. (1899), *Phae-*

¹² Valeton, T. *Nicolaia* Horan. Description of New and Interesting Species. Bull. Jard. Bot. Buitenz. III. 3: 128-140. pl. 1-5. 1921.

omeria speciosa Koord. (1911; Merr., 1923), and *Alpinia*longiscapa* Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 225. 1916, *nom.* No matter how desirable it may be to retain Lindley's invalidly published generic name of 1836, I fail to see how this can be done unless one wishes to ignore the code provisions governing valid publication. In selecting the name *Phaeomeria*, Lindley was undoubtedly influenced by Bojer's suggestion, in the discussion of the beautiful plate of *Alpinia magnifica* [Rosc.], Bot. Mag. 59: *pl.* 3192. 1832, that a new genus might be represented. It is most unfortunate that he never found time to characterize his suggested new genus; but K. Schumann's tardy recognition of the validity of the group as a genus in 1904, and Loesener's action in 1930, in an apparent attempt to justify K. Schumann's selection of a generic name for the group, do not save the day for Lindley's generic name. *Nicolaia elatior* (Jack) Horan. is widely distributed in Malaysia, much of its range being due to this strikingly ornamental plant being man-distributed; it has also been introduced in many other tropical countries in both hemispheres, but is unquestionably of Malaysian origin.

AMOMUM Linnaeus.

A. biflorum Jack, Mal. Misc. 1 (1): 2. 1820; reimpr. Hook. Bot. Misc. 1: 274. 1830; III. 3; IV. 3; V. 210. Penang. For the best modern consideration of the species, with synonymy, see Holttum, Gard. Bull. Singapore 13: 199. 1950. Siam to the Malay Peninsula.

ANTIDESMA Linnaeus.

A. frutescens Jack, Mal. Misc. 2 (7): 91. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 257. 1836; III. 229; IV. 133; V. 292. Bencoolen, Sumatra = *Antidesma ghaesembilla* Gaertn. This was accepted as a valid species by Pax & Hoffmann, Pflanzenr. 81 (IV. 147. XV): 157. 1922, and was placed by them in the alliance with Gaertner's species. An attentive comparison of Jack's excellent description (there is no extant type) with Gaertner's species clearly indicates that what Jack described is only a form of the very common and widely distributed *A. ghaesembilla* Gaertn., which might have been expected from Jack's comparison of his species to *A. pubescens* Roxb. *Rahmat si Toroes* 4185 from Sumatra, which is clearly *A. ghaesembilla* Gaertn., agrees closely with Jack's description, as do other Malayan collections. Western India and the tropical Himalayan region to Ceylon, eastward to southeastern China and southward throughout Malaysia, including the Philippines, to New Guinea and tropical Australia.

ARDISIA Swartz.

A. punctata Jack in Roxb. Fl. Ind. 2: 275. 1824. Penang. A species known only from Penang and of which *A. divergens* Roxb. Hort. Beng. 85. 1814, *nom. nud.*, Fl. Ind. l.c., is a synonym. Roxburgh said that his specimen came from the Moluccas, but it should be realized that his concept of the Moluccas covered all of the Malay Peninsula and Archipelago; see Prain, Ann. Bot. Gard. Calcutta 5: 6. 1895. The actual type of *A. divergens* Roxb. undoubtedly came from Penang. The Roxburgh description, compared with that which Wallich prepared for Jack's species, is very short.

Ardisia punctata Jack was overlooked by Griffith when he prepared his 1843 paper on the Jack descriptions. This interpretation of the Jack species necessitates a new specific name for the common Chinese *Ardisia punctata* Lindl., Bot. Reg. 10: *pl.* 827. 1824, as this plate is dated Sept. 1, 1824. The

introduction to volume two of Roxburgh's *Flora Indica* is dated March, 1824. The proper name for the Chinese *Ardisia punctata* Lindl., non Jack, is *Ardisia lindleyana* D. Dietr. Syn. 1: 617. 1839.

ARECA Linnaeus.

- A. tigillaria** Jack, Mal. Misc. 2 (7): 88. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 256. 1836; III. 12; IV. 12; V. 290. Sumatra and the Malay Islands = *Oncosperma tigillaria* (Jack) Ridl. (*O. filamentosum* Blume). In transferring the specific name to *Oncosperma* Ridley credited the original binomial to Griffith, who, however, was merely concerned with Jack's species. Malay Peninsula, Sumatra, Borneo, and Java.

ARISTOLOCHIA Linnaeus.

- A. hastata** Jack, Mal. Misc. 2 (7): 6. 1822; reimpr. Hook. Jour. Bot. 1: 362. 1834; III. 358; IV. 214; V. 249, non HBK. (1817). West coast of Sumatra at Natal = *A. jackii* Steud. Apparently known only from Jack's description.

BAUHINIA Linnaeus.

- B. bidentata** Jack, Mal. Misc. 2 (7): 76. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 223. 1836; III. 160; IV. 63; V. 284. "Native of Malayan Forests." This species of the Malay Peninsula and Sumatra is amply described by King, Jour. As. Soc. Beng. 66 (2): 187. 1897 (Mater. Fl. Mal. Penin. 3: 187).
- B. emarginata** Jack, op. cit. 76: reimpr. ll.cc., non Mill. (1768). Sumatra = ? *Bauhinia lucida* Wall. Baker's interpretation of Jack's species is possibly correct, although *B. lucida* Wall. seems to be definitely recorded only from Penang and Perak. However, there is in the Gray Herbarium a Marsden specimen from Sumatra named by Hooker as *B. lucida* Wall. which may represent both it and the form Jack characterized. In any case Jack's specific name is an invalid one.

BEGONIA Linnaeus; Jack, Mal. Misc. 2 (7): 8. 1822; reimpr. Hook. Jour. Bot. 1: 363. 1834; III. 342; IV. 198; V. 250.

- B. bracteata** Jack, op. cit. 13; reimpr. II. 367; III. 346; IV. 202; V. 353. Gunong Bunko, inland from Bencoolen, Sumatra. A de Candolle's description, Prodr. 15 (1): 316. 1864, was based on that of Jack; type not extant. Placed in *Diploclinium* by Miquel and in *Knesebeckia* by Hasskarl. But Koorders in 1912 reduced it to *Begonia lepida* Blume (1827), although Jack's name is older.
- B. caespitosa** Jack, l.c.; reimpr. II. 363; III. 342; IV. 198; V. 250. West coast of Sumatra at Bencoolen. Known only from Jack's description; see A. de Candolle, op. cit. 397. Placed in *Diploclinium* by Miquel.
- B. fasciculata** Jack, op. cit. 12; reimpr. II. 365; III. 345; IV. 201; V. 252. West coast of Sumatra at Tapanuly. See A. de Candolle, op. cit. 322. Placed in *Diploclinium* by Miquel and in *Petermannia* by Klotzsch. Known only from Jack's description.
- B. geniculata** Jack, op. cit. 15; reimpr. II. 368; III. 347; IV. 203; V. 253. Sumatra = *B. isoptera* Dryand. (1791), fide A. de Candolle, op. cit. 320, the latter occurring in the Malay Peninsula, Borneo, and Java, as the species is currently interpreted.
- B. orbiculata** Jack, op. cit. 9; reimpr. II. 364; III. 343; IV. 198; V. 250. West coast of Sumatra at Bencoolen. Known only from Jack's description. Placed in *Diploclinium* by Miquel; see A. de Candolle, op. cit. 398.

- B. pilosa** Jack, op. cit. 13; reimpr. II. 366; III. 345; IV. 201; V. 252. West coast of Sumatra inland from Bencoolen. Known only from Jack's description. By Miquel placed in *Diploclinium*; see A. de Candolle l.c.
- B. racemosa** Jack, op. cit. 14; reimpr. II. 367; III. 346; IV. 202; V. 253. West coast of Sumatra, inland from Bencoolen. Known only from Jack's description. Placed by Miquel in *Diploclinium* and by Klotzsch in *Petermannia*; see A. de Candolle, op. cit. 322.
- B. sublobata** Jack, op. cit. 10. 1822; reimpr. II. 364; III. 343; IV. 198; V. 251. Under moist rocks on Pulo Pegang, west coast of Sumatra. Known only from Jack's description. Placed by Miquel in *Diploclinium*; see A. de Candolle, op. cit. 354.

CALLA Linnaeus.

- C. angustifolia** Jack, Mal. Misc. 1 (1): 24. 1820; reimpr. Hook. Bot. Misc. 1: 288. 1830; III. 11; IV. 11; V. 221. Penang = *Homalomena humilis* (Jack) Hook. f. var. *pumila* (Hook. f.) Furtado, Gard. Bull. Straits Settl. 10: 203. 1939, cum syn. Malay Peninsula, Sumatra, Borneo (*Chamaecladon angustifolium* Schott).
- C. humilis** Jack, op. cit. 22; reimpr. Hook. Bot. Misc. 1: 288. 1830; III. 11; IV. 11; V. 221. Penang = *Homalomena humilis* (Jack) Hook. f. Fl. Brit. Ind. 6: 533. 1893; Furtado, Gard. Bull. Straits Settl. 10: 199. 1939. Malay Peninsula, Sumatra (Batu Island), and Anambas Islands.
- C. nitida** Jack, op. cit. 24; reimpr. Hook., op. cit. 289; III. 12; IV. 12; V. 221. Penang = *Aglaonema nitidum* (Jack) Kunth, Enum. 3: 76. 1841 (*A. oblongifolium* (Roxb.) Schott; Engl. Pflanzenr. 64 (IV, 23, Dc.): 13. fig. 4. 1915, cum syn.). Malay Peninsula, Buru, Borneo, Sumatra. Engler should have adopted Jack's specific name, as it was published twelve years earlier than that of Roxburgh; the two species are clearly identical.

CAREYA Roxburgh.

- C. macrostachya** Jack, Mal. Misc. 1 (5): 47. 1820; reimpr. Hook. Bot. Misc. 2: 88. 1830; III. 305; IV. 161; V. 245. Penang = *Barringtonia macrostachya* (Jack) Kurz. Malay Peninsula, Sumatra, Borneo.

CELASTRUS Linnaeus.

- C. bivalvis** Jack, Mal. Misc. 1 (5): 19. 1820; reimpr. Hook. Bot. Misc. 2: 71. 1830; III. 196; IV. 100; V. 231. Penang = *Microtropis bivalvis* (Jack) Wall. List, no. 4340. 1840; Merr. & Freem. Proc. Am. Acad. Arts Sci. 73: 301. 1940, cum syn. (*Paracelastrus bivalvis* Miq.). Jack's original collection was distributed as a part of Wallich 4340. A species still known only from Penang.

CELTIS Linnaeus.

- C. *attenuata** Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 196. 1916, *nom. nud.* Sumatra at Tapanuly, said to be frequent.

- CHIONOTRIA** Jack, Mal. Misc. 2 (7): 53. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 155. 1835; III. 193; IV. 97; V. 273 = *Glycosmis* Correa (1805).

- C. rigida** Jack, op. cit. 54; reimpr. Hook. l.c.; III. 193; IV. 97; V. 273. Penang = *Glycosmis rigida* (Jack) comb. nov. (*Glycosmis macrophylla* Lindl. in Wall. List no. 6377. 1830, *nom. nud.*; Ridl. Jour. Straits Br. Roy. As. Soc. 75: 13. 1917, *descr.*, incl. var. *macrorachis* (King) Ridl. l.c.; *G. pentaphylla* Corr. var. *macrorachis* King). In the first place Ridley never should have validated

Lindley's species, for, as a binomial, it was invalidated by the different *G. macrophylla* Miquel; hence, as long as an invalid binomial is currently applied to this Penang species, I do not hesitate to replace it by the much earlier specific name published by Jack in 1822. The only character indicated by Jack that does not conform to Ridley's description is that he stated that the leaves were opposite; they are alternate in all species of *Glycosmis*. Note particularly Jack's description of the inflorescences as racemes. Actually the inflorescences are very narrow panicles, the distant branchlets being often only 0.1 inch long, varying from 0.1 to 0.4 in. in length, and thus simulating racemes. When Ridley considered the species in 1917, he stated, "a very distinct plant peculiar apparently to Penang," and in his *Fl. Mal. Pen.* 1: 349. 1922, he had not extended its range. The only other possibility would be *G. malayana* Ridl., which occurs also in Penang, but this has pinnate leaves (had Jack's specimen had other than simple leaves surely he would have mentioned it), while its paniculate inflorescences have branches up to one inch long; Jack never would have characterized such an inflorescence as a raceme. A species characterized essentially by its very narrow raceme-like inflorescences, still known only from Penang.

CLERODENDRON Linnaeus.

- C. divaricatum* Jack, *Mal. Misc.* 1 (5): 48. 1820 (*Clerodendrum*); reimpr. Hook. *Bot. Misc.* 2: 89. 1830; III. 40; IV. 40; V. 246. West coast of Sumatra at Laye = *Clerodendron serratum* (Linn.) Spreng. India and Ceylon to Madagascar and the Mascarene Islands through Malaysia to the Lesser Sunda Islands and Celebes.
- C. molle* Jack, *Mal. Misc.* 1 (1): 15. 1820; reimpr. Hook. *Bot. Misc.* 1: 283. 1830; III. 38; IV. 38; V. 217, non HBK. (1817). Sumatra and Penang = *C. villosum* Blume (1826). Another synonym is *Clerodendron velutinum* Wall. List no. 1797. 1829, *nom. nud.* India and Burma to the Malay Peninsula and Archipelago, including the Philippines.
- C. nutans* Jack, *Mal. Misc.* 1 (1): 17. 1820; reimpr. Hook. *Bot. Misc.* 1: 284. 1830; III. 39; IV. 39; V. 217, *omn. sub C. molle* Jack. Penang (*C. penduliflorum* Wall. List no. 1795. 1829, *nom. nud.* et ex Schauer in DC. *Prodr.* 11: 664. 1847, *descr.*), non *C. nutans* Wall. List no. 1793. 1829, *nom. nud.* et ex D. Don, *Prodr. Fl. Nepal.* 103. 1825, *descr.* Jack's description, although short, is excellent. It was based on Penang material, as he thought that which he had before him represented the as yet undescribed *C. nutans* Wallich. When one scans Jack's graphic description, "paniculis longissimis terminalibus nutantibus, pedunculis [ramis] remotis paucifloris," and again "these panicles or racemes hang gracefully from the extremity of the branches," it is understandable why Jack thought that he had before him a representative of Wallich's species. Wallich erred, List no. 1794. 1829, when he renamed what he supposed to be the form Jack had described as *C. jackianus* Wall.; this, as later described by Schauer, based on the actual Wallich specimen, explains why the very different *C. disparifolium* Blume, *C. laevigatum* Blume, and *C. acuminatum* Wall. became involved here. Mr. H. K. Airy Shaw reports that *Wallich 1794* from Penang (this was collected by Wallich in 1822, not by Jack), in his opinion, represents the very different *C. disparifolium* Blume. For the binomial as here accepted and applied, that is *C. nutans* Jack (non, Wall.), *C. penduliflorum* Wall. is a synonym, as Wallich's species is defined and amply described by Gamble in King and Gamble, *Jour. As. Soc. Bengal* 74 (2): 830. 1909 (*Mater. Fl. Mal. Pen.* 4: 1040), and accepted by Ridley.

Its range is apparently Burma, the Nicobar Islands, Penang, and various parts of the Malay Peninsula. I am confident that a Korthals collection from Mt. Singalang, Sumatra (a rather poor specimen of which is before me), which Hallier f., Meded. Rijksherb. 37: 72. 1918, listed as *C. nutans* Wall., really represents *C. nutans* Jack. The Indian form was not introduced into cultivation in Malaya before 1820; and Ridley is clear, as to this Malay Peninsula form with pendulous inflorescences, that it occurs here and there in forests — i.e., that it is a native of the region.

Schauer, in 1847, recognized *C. nutans* Wall. (Bengal, Sylhet), *C. jackianum* Wall. (Penang), and *C. penduliflorum* Wall. (Tavoy) as distinct species. All taxonomists have overlooked the fact that as far as the binomial *C. nutans* is concerned, Jack was the first author who associated a description with it, and that the binomial to be maintained must hence be *Clerodendron nutans* Jack (1820). It seems to be clear that the common Indian form, currently known as *Clerodendron nutans* Wall., of which at least fifteen individual collections are available to me from northern India to Burma, as well as specimens taken from cultivated plants in Cuba and in Australia, has no valid name. This is unfortunate, because now that species is widely distributed in cultivation. For this a new binomial is proposed, ***Clerodendron wallichii* nom. nov.** (*C. nutans* Wall. List no. 1793. 1829, *nom. nud.*, et ex D. Don, Prodr. Fl. Nepal. 103. 1825, *descr.*, et auctt. plur., non Jack, 1820). This species was beautifully illustrated by Hooker, Bot. Mag. 58: pl. 3049. 1831. The species occurs in the Malay Archipelago only as an introduced and cultivated plant, unless one be willing to interpret *C. nutans* Wall. as being identical with *C. nutans* Jack, together with *C. penduliflorum* Wall., a proceeding that I am not willing to approve. *Clerodendron jackianum* Wall., as described by Schauer, and *C. acuminatum* Wall. are totally different from *C. wallichii* Merr.

CNESTIS Jussieu.

- C. emarginata** Jack, Mal. Misc. 2 (7): 42. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 150. 1835; III. 166; IV. 70; V. 267. Sumatra, at Bencoolen = ***Roureopsis emarginata*** (Jack) comb. nov. (*Roureopsis javanica* Planch. Linnaea 23: 424. 1850, excl. syn. Blume; Schellenb. Pflanzenr. 103 (IV. 127): 113. 1938). Schellenberg erred, op. cit. 142, when he disposed of Jack's species as a synonym of the utterly different *Santaloides mimosoides* (Vahl) O. Kuntze, which has numerous small, truncate-emarginate leaflets. Jack clearly states that the 5 to 7 leaflets of *C. emarginata* Jack were long-acuminate and emarginate, the terminal leaflet frequently 7 inches long. His graphic description agrees perfectly with *Roureopsis javanica* Planch. *Connarus javanica* Blume (1826) = *Rourea javanica* Blume (1850), which has been confused here, is a synonym of *Santaloides floridum* (Jack) O. Kuntze. There are now very many collections available from western Sumatra which agree with Jack's excellent description, such as *Rahmat Si Toroes* 3279, 3369, 3421, 3506, 3599, 3746, 3813, 3939, 4095, 4147, 4246, *Bartlett* 2882, 6894, as well as those of Planchon and of Schellenberg. The very conspicuously acuminate leaflets, the distinctly retuse tips of the acumens are characteristic.
- C. florida** Jack, op. cit. 43; reimpr. Hook. op. cit. 151; III. 167; IV. 70; V. 267. Sumatra, west coast, and Pulu Nias = *Santaloides floridum* (Jack) O. Kuntze; Schellenb. op. cit. 124, cum syn. Malay Peninsula, Sumatra, Java, Borneo, and Morotai.
- C. *longifolia** Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 197, 249. 1916, *nom. nud.* Singapore.

- C. mimosoides** Jack, op. cit. 44; reimpr. Hook. l.c.; III. 167; IV. 71; V. 268. Sumatra at Tapanuly = *Santaloides mimosoides* (Vahl) O. Kuntze; Schellenb. op. cit. 142, cum syn. (excl. *Cnestis emarginata* Jack). Jack cited *Connarus mimosoides* Vahl as the basis of his binomial and his interpretation of Vahl's species was apparently correct. Siam and Indo-China, the Malay Peninsula, Nicobar Islands, Sumatra, Borneo, and Java.

COELOPYRUM Jack, Mal. Misc. 2 (7): 65. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 220. 1836; III. 341; IV. 197; V. 279 = *Campnosperma* Thwaites (1854).

- C. coriaceum** Jack, l.c.; reimpr. ll.cc. West coast of Sumatra near Bencoolen = *Campnosperma coriacea* (Jack) Hallier f. ex van Steenis, Fl. Males. Bull. 3: 74. 1948 (*C. macrophylla* (Blume) Hook. f.). Malay Peninsula, Sumatra, Borneo.

This genus remained among the unplaced ones until Hallier f., Beih. Bot. Centralbl. 39 (2): 161, 162. 1921, correctly associated it with *Campnosperma* Thwaites. Van Steenis, l.c., has recommended that Thwaites' generic name be officially conserved against Jack's earlier one. I cannot distinguish *C. macrophylla* (Blume) Hook. f. from Jack's species, Blume's taxon dating from 1850.

CONNARUS Linnaeus.

- C. ferrugineus** Jack, Mal. Misc. 2 (7): 37. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 149. 1835; III. 170; IV. 73; V. 264. Penang. Widely distributed in the Malay Peninsula; see Schellenb. Pflanzenr. 103 (IV. 127): 258. 1938.
- C. grandis** Jack, op. cit. 40; reimpr. Hook. Comp. Bot. Mag. 1: 150. 1835; III. 172; IV. 76; V. 266. Sumatra at Tapanuly. The species is now known from the Malay Peninsula, Sumatra, Borneo, Java, and the Moluccas; see Schellenb. op. cit. 257, cum syn.
- C. lucidus** Jack, op. cit. 41; reimpr. Hook. Comp. Bot. Mag. 1: 150. 1835; III. 172; IV. 76; V. 266. Sumatra. See Schellenb. op. cit. 112, who discussed this species under *Roureopsis pubinervis* Planch. (1850) of the Malay Peninsula, Lingga, Bangka, Sipora, and Sumatra; but as Schellenberg noted, Jack's description does not wholly agree with the characters of Planchon's species.
- C. semidecandrus** Jack, op. cit. 39; reimpr. Hook. Comp. Bot. Mag. 1: 149. 1835 (*semidecander*); III. 171; IV. 75; V. 266. West coast of Sumatra. A species known only from Sumatra, *C. pyrrhocarpus* Miq. (1863) being a synonym. Jack's type is preserved in the Delessert herbarium at Geneva; see Schellenberg, op. cit. 281.
- C. villosus** Jack, op. cit. 38; reimpr. Hook. Comp. Bot. Mag. 1: 149. 1835; III. 171; IV. 74; V. 265. Sumatra. Also in the Malay Peninsula and Borneo. According to Schellenberg, op. cit. 228, Jack's type is preserved in the Delessert herbarium at Geneva.

CURCULIGO Gaertner.

- C. sumatrana** Roxb. Hort. Beng. 24. 1814; Roxb. ex Jack, Mal. Misc. 1 (1): 9. 1820; reimpr. Hook. Bot. Misc. 1: 277. 1830; III. 8; IV. 8; V. 212; Roxb. Fl. Ind. ed. 2, 2: 146. 1832. Sumatra and Penang = *C. latifolia* Ait. (1811), the type of which was also from Penang. Burma to Indo-China southward through the Malay Peninsula and Archipelago to the Moluccas. *Involucrum* Rumph. Herb. Amb. 6: 114. pl. 53. 1750, actually typifies Roxburgh's taxon as published in 1814; it was also cited by Jack. It has been erroneously

referred to the different *C. recurvata* Dry. = *C. capitulifera* (Lour.) O. Kuntze. The Singapore form with hirsute leaves, mentioned but not named or described by Jack, was undoubtedly *C. villosa* Wall.

CYRTANDRA Forster.

- C. aurea* Jack, Trans. Linn. Soc. 14: 29. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 50. 1843; IV. 50. At the foot of Gunong Bunko inland from Bencoolen, Sumatra. Also in Java; see C. B. Clarke, Monog. Phan. 5: 260. 1883.
- C. bicolor* Jack, op. cit. 27; reimpr. III. 47; IV. 47. Sumatra. There is a Jack specimen in the Delessert herbarium, fide C. B. Clarke, op. cit. 242. Also in the Malay Peninsula.
- C. carnososa* Jack, op. cit. 30; reimpr. III. 51; IV. 51. No locality indicated but probably from Sumatra. Known only from Jack's description; see C. B. Clarke, op. cit. 207.
- C. frutescens* Jack, op. cit. 31; reimpr. III. 51; IV. 51. No locality indicated, but Jack's specimen in the Delessert herbarium at Geneva is from Sumatra, fide C. B. Clarke, op. cit. 205.
- C. glabra* Jack, op. cit. 28; reimpr. III. 49; IV. 49. Inland from Bencoolen, Sumatra. Occurs also in Java, fide C. B. Clarke, op. cit. 245.
- C. hirsuta* Jack, op. cit. 27; reimpr. III. 48; IV. 48. Sumatra. Known only from the type collection, there being a Jack specimen in the Delessert herbarium at Geneva, fide C. B. Clarke, op. cit. 246.
- C. incompta* Jack, op. cit. 29; reimpr. III. 48; IV. 48. Sumatra, no locality indicated. Known only from Jack's description, fide C. B. Clarke, op. cit. 285; no extant specimen known.
- C. macrophylla* Jack, op. cit. 25. *pl. 2, fig. 1, a-g*; reimpr. III. 46; IV. 46. Sumatra, no locality indicated, but Jack's type (the only known collection) in the Delessert herbarium is from Selebong, in the jurisdiction of Bencoolen, Sumatra, fide C. B. Clarke, op. cit. 243.
- C. maculata* Jack, op. cit. 26; reimpr. III. 47; IV. 47. Sumatra. No definite locality indicated. Known only from Jack's description, fide C. B. Clarke, op. cit. 286.
- C. peltata* Jack, op. cit. 30; reimpr. III. 50; IV. 50. Sumatra, no definite locality, type not preserved, but represented by various Sumatran collections, fide C. B. Clarke, op. cit. 241.
- C. rubiginosa* Jack, op. cit. 32; reimpr. III. 52; IV. 52. No locality cited, probably from Sumatra; type unknown; see C. B. Clarke, op. cit. 285.

DIDYMOCARPUS Wallich.

- D. barbata* Jack, Trans. Linn. Soc. 14: 38. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 57. 1843; IV. 57. Sumatra = *Chirita horsfieldii* R. Br. (1838); see C. B. Clarke, Monog. Phan. 5: 123. 1883. Sumatra, Java. Here Jack's specific name should have been accepted by Clarke, but it is now invalidated in *Chirita* by the different *Chirita barbata* Sprague (1908).
- D. corniculata* Jack, Mal. Misc. 1 (5): 4. 1820; reimpr. Hook. Bot. Misc. 2: 62. 1830; III. 55; IV. 55; V. 224; et Jack, Trans. Linn. Soc. 14: 36. 1823. Sumatra at Tapanuly. According to C. B. Clarke, DC. Monog. Phan. 5: 86. 1883, there is a Jack specimen in the Delessert herbarium at Geneva. Known only from Sumatra.
- D. crinita* Jack, Mal. Misc. 1 (5): 1. 1820; reimpr. Hook. Bot. Misc. 2: 60. 1830; III. 53; IV. 53; V. 223; et Jack, Trans. Linn. Soc. 14: 33. *pl. 2, fig. 2, a-i*. 1823. Penang. A valid species. Malay Peninsula, Sumatra, with varieties in

Borneo; see C. B. Clarke, op. cit. 93. A duplicate of Jack's type is in the Edinburgh herbarium; see pl. 1.

- D. elongata** Jack, Trans. Linn. Soc. 14: 37. 1823; reimpr. III. 56; IV. 56. Pulo Bintangor, an island off the west coast of Sumatra = *Didissandra elongata* (Jack) C. B. Clarke in DC. Monog. Phan. 5: 67. pl. 7. 1883. Also in Borneo.
- D. frutescens** Jack, Mal. Misc. 1 (5): 5. 1820; reimpr. Hook. Bot. Misc. 2: 63. 1830; III. 58; IV. 58; V. 225; et Jack, Trans. Linn. Soc. 14: 39. 1823. Penang = *Didissandra frutescens* (Jack) C. B. Clarke, l.c. Malay Peninsula, Sumatra.
- D. *ornithopus** Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 198. fig. 1. 1916, descr. abbr. Sumatra at Tapanuly = *D. corniculata* Jack, supra.
- D. racemosa** Jack, Trans. Linn. Soc. 14: 34. 1823; reimpr. III. 54; IV. 54. West coast of Sumatra at Tapanuly. A species known only from Sumatra; see C. B. Clarke, op. cit. 94.
- D. reptans** Jack, Mal. Misc. 1 (5): 3. 1820; reimpr. Hook. Bot. Misc. 2: 61. 1830; III. 55; IV. 55; V. 224; et Jack, Trans. Linn. Soc. 14: 35. 1823. Penang. Reported by C. B. Clarke, op. cit. 95, also from lower Burma and from Java; widely distributed in the Malay Peninsula.

DRYOBALANOPS Gaertner f.

- D. camphora** Colebr. As. Res. 12: 535. 1816; Jack [App. Descr. Mal. Pl. . . . 1820]; reimpr. Hook. Comp. Bot. Mag. 1: 264. 1836; III. 213; IV. 117. West coast of Sumatra at Tapanuly = *D. aromatica* Gaertn. f. (1805). Malay Peninsula, Sumatra, Lingga, Borneo.

ELAEOCARPUS Linnaeus.

- E. nitidus** Jack, Mal. Misc. 1 (5): 41. 1820; reimpr. Hook. Bot. Misc. 2: 84. 1830; III. 224; IV. 128; V. 242. Penang. I accept Corner's interpretation of this species, Gard. Bull. Straits Settl. 10: 323. 1939, as he clearly demonstrated that King's earlier interpretation of 1891 was erroneous. I found in the British Museum herbarium an unnamed *Elaeocarpus* labeled in Wallich's handwriting "Elaeocarpus e, Penang miscet Wm. Jack, 1819." This is *E. nitidus* Jack as interpreted by Corner and is unquestionably an isotype of Jack's species. Common, Malay Peninsula, Sumatra, Borneo; see Merrill, Jour. Arnold Arb. 32: 184. 1951, for synonymy.

ELODEA Jack, Mal. Misc. 2 (7): 21. 1822; reimpr. Hook. Jour. Bot. 1: 371. 1834; III. 208; IV. 112; V. 256, non *Elodes* Adanson (1763), nec *Elodea* Juss. (1789) = *Cratoxylon* Blume (1825).

- E. egyptica** Jack, op. cit. 25; reimpr. Hook. Comp. Bot. Mag. 1: 154. 1835; III. 211; IV. 115; V. 272, in obs., sub *Ixonanthes* = *Hypericum aegyptiacum* Linn.

E. formosa Jack, op. cit. 22; reimpr. Hook. Jour. Bot. 1: 374. 1834; III. 210; IV. 114; V. 258. Sumatra = *Cratoxylon formosum* (Jack) Dyer in Hook. f. Fl. Brit. Ind. 1: 258. 1874; Corner, Gard. Bull. Straits Settl. 10: 28, 34. 1939, cum syn. Malay Peninsula and Sumatra to Java, Borneo, the Philippines, and the Moluccas. Corner, l.c., has definitely shown that my application of the binomial *Cratoxylon cochinchinense* (Lour.) Blume to this species was erroneous.

- E. sumatrana** Jack, op. cit. 22; reimpr. Hook. op. cit. 372; III. 209; IV. 113; V. 257. Pulo Nias, off the west coast of Sumatra = *Cratoxylon sumatranum* (Jack) Blume. See Corner, Gard. Bull. Straits Settl. 10: 27. 1939, for a

discussion of this species. He suggests that *C. racemosum* Blume (type from Java) is its most likely synonym; to be compared, however, is *C. clandestinum* Blume (type from Java), if *de Voogt 1168* from Bencoolen, Sumatra, was correctly named.

EMBELIA Burman f.

E. canescens Jack in Roxb. Fl. Ind. 2: 292. 1824. Penang. A well-understood species now also known from the Malay Peninsula and Sumatra. Overlooked by Griffith when he compiled the Jack descriptions in 1843.

ENCHIDIUM Jack,¹³ Mal. Misc. 2 (7): 89. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 257. 1836; III. 228; IV. 132; V. 291 = *Trigonostemon* Blume 1827 (*Trigostemon* Blume, 1825).

E. verticillatum Jack, op. cit. 90; reimpr. ll.cc. "Sumatra and the Malay Islands" = *Trigonostemon verticillatus* (Jack) Pax, Pflanzenr. 47 (IV. 147): 87. 1911 (*T. indicus* Muell.-Arg., 1865; *Telogyne indica* Baill., 1858). Malay Peninsula, Penang, Sumatra. Jack's actual type was from Sumatra, and is apparently no longer extant. His addition "and the Malay Islands" was apparently made because he thought that the Moluccan *Abor spiculorum* Rumph. Herb. Amb. 3: 167. pl. 106. 1743, represented his species; but what Rumphius illustrated was a sterile specimen of what is clearly an *Actinodaphne* of the Lauraceae, and is *A. rumphii* Blume.

EPITHINIA Jack, Mal. Misc. 1 (5): 12. 1820; reimpr. Hook. Bot. Misc. 2: 67. 1830; III. 24; IV. 24; V. 228 = *Scyphiphora* Gaertn. f. (1805).

E. malayana Jack, l.c.; reimpr. ll.cc. Singapore = *Scyphiphora hydrophyllacea* (Jack) Gaertn. f. (1805). A common and widely distributed species growing within the influence of salt or brackish water in the Indo-Malaysian region.

EURYCOMA Jack, Mal. Misc. 2 (7): 44. 1822; reimpr. Roxb. Fl. Ind. 2: 307. 1824; reimpr. Hook. Comp. Bot. Mag. 1: 151. 1835; III. 168; IV. 72; V. 268.

E. longifolia Jack, op. cit. 45; reimpr. ll.cc. Tapanuly and Bencoolen, west coast of Sumatara, and at Singapore. A small genus, this species common in parts of Sumatra, Borneo, and the Malay Peninsula, extending to Siam and Indo-China.

EUTHEMIS Jack, Mal. Misc. 1 (5): 15. 1820; reimpr. Roxb. Fl. Ind. 2: 203. 1824; reimpr. Hook. Bot. Misc. 2: 69. 1830; III. 200; IV. 104; V. 230.

E. leucocarpa Jack, op. cit. 16; reimpr. ll.cc. Singapore, Malay Peninsula, Borneo, and probably Sumatra.

E. minor Jack, op. cit. 16; reimpr. Roxb. op. cit. 304; II. 70; III. 201; IV. 105; V. 231. Singapore. Widely distributed in the Malay Peninsula, Borneo, and apparently also in Sumatra.

FAGRAEA Thunberg.

F. auriculata Jack, Mal. Misc. 2 (7): 82. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 254. 1836; III. 29; IV. 29; V. 287, omn. sub *F. carnosae* Jack; Jack ex Roxb. Fl. Ind. 2: 34. 1824, descr. Singapore and the west coast of Sumatra at

¹³ Jack's generic name has priority, but because about eighty binomials have been published in *Trigonostemon* and only one in *Enchidium*, van Steenis, Fl. Males. Bull. 3: 74. 1948, has recommended that Blume's name be conserved, which is manifestly desirable.

Tapanuly. Now recorded from the Malay Peninsula, Sumatra, Banka Billiton, Borneo, Java, and Mindanao (*F. epiphytica* Elm.).

F. *carnosa* Jack, op. cit. 81 (sphalm, *Fagroea*); reimpr. ll.cc. Sumatra, near Bencoolen. Known only from Sumatra; *F. monantha* Miq. (1857) is a synonym.

F. *racemosa* Jack, op. cit. 82; reimpr. ll.cc., omn. *nom.* sub *F. carnosa* Jack; Jack ex Roxb. Fl. Ind. 2: 35. 1824, *descr.* Penang. A common species extending from Indo-China through the Malay Peninsula and Sumatra, Java, Borneo, the Philippines southward to New Guinea. *Fagraea volubilis* Wall. in Roxb. Fl. Ind. ed. 2, 2: 36. 1824, is sometimes erroneously listed as a Jack species. It is a synonym of *F. racemosa* Jack, its type, a fruiting specimen sent to Wallich by Jack from Bencoolen; but Wallich, who described it, expressed doubt if it was distinct from *F. racemosa* Jack.

FICUS Linnaeus.

F. *deltoidea* Jack, Mal. Misc. 2 (7): 71. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 222. 1836; III. 369; IV. 225; V. 282. Sumatra (*F. diversifolia* Blume, 1825). A species with exceedingly variable leaves. Malay Peninsula, Sumatra, Java, Borneo, and Palawan.

F. *ovoidea* Jack, l.c.; reimpr. ll.cc. Singapore, west coast of Sumatra, and neighboring islands. Clearly only a form of *F. deltoidea* Jack.

F. *rigida* Jack, op. cit. 72; reimpr. Hook. Comp. Bot. Mag. 1: 222. 1836; III. 369; IV. 225; V. 282. Sumatra, no locality indicated (*F. glaberrima* Blume, Bijdr. 457. 1825; King, Ann. Bot. Gard. Calcutta 1: 37. *pl.* 43. 1887; Koord. & Val. Atlas Baumart. Java 4: *fig.* 710. 1916). Northern India to Burma, Indo-China, southern China and Hainan, the Malay Peninsula, Sumatra (*Yates* 741!), and Java. Jack's description is an excellent one and can apply only to this widely distributed, well-known species; his specific name is valid and has priority.

FLACOURTIA Commerson.

F. *inermis* Roxb. Hort. Beng. 73. 1814, *nom. nud.*, Pl. Coromand. 3: 16. *pl.* 222. 1819, Fl. Ind. ed. 2, 3: 833. 1832; Jack, Mal. Misc. 1 (1): 25. 1820; reimpr. Hook. Bot. Misc. 1: 289. 1830; III. 230; IV. 134; V. 221. Jack's material was from Sumatra and Penang, and it seems to be evident that he correctly interpreted Roxburgh's species. Roxburgh said that his material came from the Moluccas, but as noted elsewhere, he interpreted the Moluccas to be synonymous with Malaya, including Penang and Sumatra. Van Slooten, Bull. Jard. Bot. Buitenz. III. 7: 373. 1925, has critically considered the species, and concluded that the *tomi tomi* or *lobi lobi*, as this cultivated fruit tree is widely known, is an introduced species in the Moluccas, as it is in many other parts of Malaysia, and further cited Reinwardt as recording the fact that the species was common in the Moluccas in 1820, although it was apparently unknown to Rumphius. He surmised that its introduction in Amboina might have been between 1700 and 1800. It has been introduced into Ceylon, India, and other tropical countries, and in Malaysia extends from the Malay Peninsula to Sumatra, Java, Borneo, Celebes, the Moluccas, and New Guinea, chiefly in cultivation and largely man-distributed. See Koord. & Val. Atlas Baumart. Java 2: *pl.* 335. 1914 and Ochse, Fruits Dutch East Ind. 47. *pl.* 18. 1931.

GARDENIA Ellis

- G. anisophylla** Jack in Roxb. Fl. Ind. 2: 561. 1824. Penang, Singapore = *Randia anisophylla* (Jack) Hook. f. Fl. Brit. Ind. 3: 114. 1880. This was published by Roxburgh under *Gardenia*, not under *Randia*, as Hooker f. and King indicate. Malay Peninsula, Borneo.

GLAPHYRIA Jack, Trans. Linn. Soc. 14: 128. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 306. 1843; IV. 162 = *Leptospermum* Forster (1776).

- G. nitida** Jack, l.c.; reimpr. ll.cc. Gunong Bunko or Sugarloaf Mountain, inland from Bencoolen, Sumatra = *Leptospermum javanicum* Blume (1826) (*L. commune* Sm. var. *javanica* King). Widely distributed in Malaysia, Smith's species is Australian. Jack's binomial antedates that of Blume, but his specific name is invalidated in *Leptospermum* by the different *L. nitidum* Hook. (1860).
- G. sericea** Jack, op. cit. 129; reimpr. III. 307; IV. 163. "Found on Pulo Penang [Pegang], an island on the western coast of Sumatra." Ex descr. = *Decaspermum fruticosum* Forst., *sensu lat.* Indo-Malaysia to Polynesia.

GLOBBA Linnaeus.

- G. ciliata** Jack, Mal. Misc. 2 (7): 5. 1822; reimpr. Hook. Jour. Bot. 1: 361. 1834; III. 7; IV. 7; V. 248; K. Schum. Pflanzenr. 20 (IV, 46): 143. 1904. Sumatra. Known only from Jack's description.

GMELINA Linnaeus.

- G. villosa** Roxb. Hort. Beng. 46. 1814, *nom.*; Roxb. ex Jack, Mal. Misc. 1 (1): 17. 1820, *descr.*; reimpr. Hook. Bot. Misc. 1: 284. 1830; III. 42; IV. 42; V. 218; Roxb. Fl. Ind. ed. 2, 3: 86. 1832. Native of Sumatra = *Gmelina elliptica* Sm. (1810). Burma through Malaysia to the Philippines and the Moluccas eastward to Palau.

GOMPHIA Schreber.

- G. sumatrana** Jack, Mal. Misc. 1 (5): 29. 1820; reimpr. Hook. Bot. Misc. 2: 77. 1830; III. 198; IV. 102; V. 237. Sumatra = *Ouratea sumatrana* (Jack) Gilg = *Ouratea angustifolia* (Vahl) Baill. = *Ouratea zeylanica* (Lam.) Alst. in Trimen Handb. Fl. Ceyl. 6: 42. 1931. India and Ceylon through Malaysia to the Philippines and Celebes, represented by very many collections. The oldest specific name is that of Lamarck which Alston accepted. The particular Sumatra form is represented by *Gomphia sumatrana* Jack as interpreted by Planchon in Hook. Ic. 8: *pl.* 712. 1848. There are those who will perhaps not be satisfied with the generic designation here accepted, and certainly those who will not accept the species as thus interpreted, *sensu latiore*. Thus Ridley, Kew Bull. 1925: 79. 281. 1925, retained *Gomphia* as the generic name with *G. sumatrana* Jack limited to Sumatra, and the Malay Peninsula form separated as *G. oblongifolia* Ridl.

HALORRHAGIS Forster.

- H. disticha** Jack, Mal. Misc. 2 (7): 19. 1822; reimpr. Hook. Jour. Bot. 1: 371. 1834; III. 336; IV. 192; V. 256 (as *Haloragis*). Sumatra, Singapore, and other parts of the Malay Archipelago = *Anisophyllea disticha* (Jack) Baill. (*A. trapezoidalis* Baill.). Malay Peninsula, Sumatra, Borneo.

HEDYCARPUS Jack, Trans. Linn. Soc. 14: 118. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 184. 1843; IV. 88 = *Baccaurea* Lour. (1790).

H. malayanus Jack, l.c.; reimpr. III. 185; IV. 89. Sumatra = *Baccaurea malayana* (Jack) King, quoad syn. Jack. Corner, Gard. Bull. Straits Settl. 10: 288. 1939, demonstrated rather convincingly that the Malay Peninsula form referred here does not represent Jack's species and that the latter stands as a species known only from Jack's description. Jack says that the fruit of *bera tampui* ranks in point of taste and flavor with the *lanséh* (*Lansium domesticum*), which is one of the excellent Malayan fruits. There is an adage to the effect that botanists never collect specimens from cultivated plants. I know of no existing herbarium specimens which represent this Sumatran species.

HEDYCHIUM Koenig.

H. sumatranum Jack, Mal. Misc. 2 (7): 1. 1822; reimpr. Hook. Jour. Bot. 1: 358. 1834; III. 6; IV. 6; V. 246. West coast of Sumatra at Salumah. As yet unplaced, being known only from Jack's description. Allied to *H. collinum* Ridl. of the Malay Peninsula?

HELOSPORA Jack, Trans. Linn. Soc. 14: 127. 1823; reimpr. III. 16; IV. 16 = *Timonius* (Rumph.) DC., 1830, nom. conserv.

H. flavescens Jack, l.c. pl. 4, fig. 3; reimpr. ll.cc. Sumatra = *Timonius flavescens*; (Jack) Baker, Fl. Maurit. 144. 1877. Malay Peninsula, Sumatra, Borneo, many collections. *Timonius peduncularis* Ridl. (1923) is a synonym. See Boerl. Bull. Dép. Agr. Ind. Néerl. 26: 34. 1909.

HOYA Linnaeus.

H. *gracilis Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 222, 225, fig. 2. 1916. Pulo Nias. This species was never described.

H. *grandiflora Jack ex Burkill, op. cit. 223, 225. Sumatra, west coast. Never technically described, but the notes indicating that the flowers are two inches in diameter, red shading into white, the whole plant hirsute, is probably sufficient to place the species if one has access to Sumatran material. The name is invalidated by the earlier *H. grandiflora* Blume. It must be closely allied to *Hoya imperialis* Lindl. of the Malay Peninsula and Borneo.

HYDNOPHYTUM Jack, Trans. Linn. Soc. 14: 124. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 21. 1843; IV. 21.

H. formicarum Jack, l.c.; reimpr. ll.cc. Sumatra; Griffith in 1843 added Malacca. Its range is now given as Indo-China, Malay Peninsula, Sumatra, Java, Borneo, and the Philippines.

***HYPSAGYNE** Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 219, 221, 247. 1916, nom. = *Salacia* Linnaeus.

INGA Scopoli.

I. bubalina Jack, Mal. Misc. 2 (7): 77. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 224. 1836; III. 162; IV. 66; V. 285. Sumatra = *Pithecellobium* (*Pithecolobium*) *bubalinum* (Jack) Benth. Malay Peninsula.

I. clypearia Jack, op. cit. 78; reimpr. ll.cc. Sumatra, at Bencoolen = *Pithecellobium* (*Pithecolobium*) *clypearia* (Jack) Benth. Malay Peninsula and Sumatra through Malaysia to the Philippines and the Moluccas.

IXONANTHES Jack, Mal. Misc. 2 (7): 51. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 154. 1835; III. 211; IV. 115; V. 272.

I. icosandra Jack, op. cit. 53; reimpr. ll.cc. Bencoolen, Sumatra. Throughout

the Malay Peninsula; see King, Jour. As. Soc. Beng. 62 (2): 191. 1893 (Mater. Fl. Mal. Pen. 2: 433) for synonymy and an amplified description.

- I. *reticulata* Jack, op. cit. 51; reimpr. Hook. l.c.; III. 211; IV. 115; V. 272. West coast of Sumatra at Tapanuly. See King, op. cit. 192, 434, for an amplified description and synonymy. Most or all parts of the Malay Peninsula.

IXORA Linnaeus.

- I. *neriifolia* Jack, Mal. Misc. 2 (7): 82. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 254. 1836; III. 26; IV. 26; V. 288. West coast of Sumatra. Bremekamp, Bull. Jard. Bot. Buitenz. III. 14: 241. 1937, limited the species to Sumatra, citing various Sumatran collections, and indicated a Korthals specimen as the lectotype.
- I. *pendula* Jack, op. cit. 1 (5): 11. 1820; reimpr. Hook. Bot. Misc. 2: 66. 1830; III. 25; IV. 25; V. 228. Penang. See Bremek. Bull. Jard. Bot. Buitenz. III. 14: 292. 1937, and Corner, Gard. Bull. Straits Settl. 11: 226. 1941 (*I. opaca* Don, *I. montana* Ridl., *I. candida* Ridl., *I. pendula* Jack var. *opaca* Ridl., *I. parkinsoniana* Craib). Common in the Malay Peninsula, extending to Siam and Sumatra.

JOHNIA Roxburgh = *Salacia* Linnaeus.

- J. **sumatrana* Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 221. 1916, *nom.* West coast of Sumatra. This name unquestionably belongs with the named but undescribed *Salacia* of Jack, of which there is a specimen in the Rijksherbarium, Leiden, as its specific name is the same as that of this *Johnia*. The species is very similar to *Salacia prinoides* (Willd.) DC.

JONESIA Roxburgh.

- J. *declinata* Jack, Mal. Misc. 2 (7): 74. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 223. 1836; III. 161; IV. 64; V. 283. Sumatra = *Saraca declinata* (Jack) Miq. Malay Peninsula, Sumatra, Java.

KNEMA Loureiro.

- K. *glaucescens* Jack, Mal. Misc. 2 (7): 35. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 148. 1835; III. 357; IV. 213; V. 263. West coast of Sumatra at Bencoolen (*Knema glauca* Warb., 1897; *Myristica glauca* Blume, 1825; *M. sumatrana* Blume, 1835). After an attentive comparison of Jack's description with Warburg's excellent description and with herbarium material, I see no reason for not accepting Jack's earlier name for this widely distributed species. Warburg placed Jack's species as a doubtful synonym of *Knema glauca* (Blume) Warb. Nova Acta Acad. Leop.-Carol. Nat. Cur. 68: 594. 1897 (Monog. Myrist. 594), but was apparently loath to displace Blume's binomial by the earlier one of Jack. At the end of his treatment he added a compiled description of Jack's species, p. 616, under the heading "species negligenda." His hesitancy in adopting Jack's binomial was due to the fact that, as with many of Jack's Sumatran species, there is no extant type. But he cited the following Sumatran collections, *Forbes 2466*, *Beccari 532*, *Beccari s.n.*, *Korthals*, *Teysmann*, *Junghuhn*; there are many more modern Sumatran collections now available. I do not hesitate in accepting what is manifestly the oldest binomial for this widely distributed Malaysian species. Malay Peninsula, the Nicobar and Andaman Islands, Sumatra, Banka, Java, Borneo.

LAGERSTROEMIA Linnaeus.

- L. *floribunda* Jack, Mal. Misc. 1 (5): 38. 1820; reimpr. Hook. Bot. Misc. 2:

82. 1830; III. 333; IV. 189; V. 241. Penang. Recorded from Burma, Siam, Indo-China, and the Malay Peninsula.

LANSIUM (Rumph.) Correa, Ann. Mus. Hist. Nat. Paris 10: 157. *pl. 10, fig. 1.* 1807; Jack, Trans. Linn. Soc. 14: 115. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 187. 1843; IV. 91.

L. aqueum Jack, op. cit. 116; reimpr. op. cit. 189; IV. 92. The round-fruited form of the next species, indicated by Jack as "Var. β *L. aqueum*," its Malay name *ayer ayer*.

L. *domesticum Correa, l.c.; Jack, op. cit. 115. *pl. 4, fig. 1.* 1823; reimpr. Calc. Jour. Nat. Hist. 4: 188. *pl. 4, fig. 2;* IV. 92. Malay Islands. The commonly cultivated fruit tree known as *langsats*, *lanseh*, *lansone*, *duku*, etc.

The Correa publication of the binomial *Lansium domesticum* (1807) is not admitted in Index Kewensis. He depended on Rumphius for his generic characters, as did Poiret when he accepted *Lansium domesticum* Correa in Lam. Encyl. Suppl. 3: 299. 1813. If one wishes an older specific name it is supplied by the validly published *Melia parasitica* Osbeck, Dagbok Ostind. Resa 278. 1757, as his extant type at Stockholm has been examined and it is an inflorescence of *Lansium domesticum* Correa.

LASIANTHUS Jack, Trans. Linn. Soc. 14: 125. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 23. 1843; IV. 23.

L. attenuatus Jack, l.c.; reimpr. ll.cc. Inland from Bencoolen, Sumatra. Jack's actual type is preserved in the Rijksherbarium, Leiden, this specimen, labeled in his own handwriting, agreeing absolutely with his description, having been acquired by Hasskarl in 1829. It is well matched by *Rahmat Si Boea (Toroes)* 1369, 6728, 7420 from Asahan, Sumatra. It strongly resembles *L. cyanocarpus* Jack (*L. inaequalis* Blume) except in having very different bracts. Its range, other than Sumatra, is uncertain.

L. cyanocarpus Jack, l.c.; reimpr. ll.cc. Tapanuly on the west coast of Sumatra (*L. inaequalis* Blume, Bijdr. 996. 1826). This is Bakhuizen van den Brink's interpretation of the species, and I agree that the Javan *L. inaequalis* Blume cannot be distinguished from the Sumatran one as described a few years earlier by Jack. *Rahmat si Boea* 7042, 9466, 9992, 10020, all from Asahan, Sumatra, agree with Jack's excellent description. Malay Peninsula, Sumatra, Java, Borneo.

Lasianthus cyanocarpus auctt. plur. (non Jack) is a very different species, which has been given a range from northern India to southern China and Formosa, southward through Malaysia and the Philippines to New Guinea. One of its rather numerous synonyms is *L. oculus-cati* Miq. Miquel himself has cleared up the mystery, for he clearly states, Fl. Ind. Bat. 2: 315. 1857, that *Lasianthus oculus-cati* Miq. was based on *L. cyanocarpus* Blume, Bijdr. 996. 1826, non Jack. In other words, Blume merely misinterpreted Jack's description and based his description of *L. cyanocarpus* on Javan material. For this widely distributed *Lasianthus cyanocarpus* Blume, non Jack, I propose *Lasianthus hirsutus* (Roxb.) comb. nov., typified by *Triosteum hirsutum* Roxb. Hort. Beng. 68. 1814, *nom. nud.*, Fl. Ind. 2: 180. 1824, *descr.*, ed. 2, 1: 539. 1832, type from Chittagong. One might hesitate to accept this name because of Roxburgh's very short description but for the fact that when *Lasianthus roxburghii* Wight, Calc. Jour. Nat. Hist. 6: 501. 1846, was proposed as a new name for *Triosteum hirsutum* Roxb., Wight provided additional descriptive data. Furthermore, Roxburgh's species is represented in the

British Museum herbarium by two excellent sheets, the type collection. Britten, Jour. Bot. 47: 43. 1909, cleared up the confusion which had existed up to that date. I have examined the Roxburgh specimens. They do not represent *Lasianthus cyanocarpus* Jack as Britten thought, but rather *L. cyanocarpus* sensu Blume et auctt. plur. (*L. oculus-cati* Miq.). The characteristic bracts are larger than in specimens from the Malay Archipelago, the largest ones being 5 cm. long and 2.5 cm. wide. Other synonyms are *L. bracteatus* Wight (1846), type from the Malay Peninsula, *L. oculus-cati* Miq. (1857), a new name for *L. cyanocarpus* sensu Blume, non Jack, type from Java, *L. laevicaulis* Kurz (1875), type from the Nicobar Islands, and *L. everettii* Merr. (1908), type from the Philippines. Eastern India to Indo-China and Hainan, through the Malay Archipelago and the Philippines to the Moluccas and New Guinea.

LAURUS Linnaeus.

L. incrassata Jack, Mal. Misc. 2 (7): 33. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 147. 1835; III. 355; IV. 211; V. 262. Sumatra, west coast, at Natal = *Dehaasia incrassata* (Jack) comb. nov. (*Dehaasia microcarpa* Blume, Rumphia 1: 162. pl. 44. 1835; *Haasia microcarpa* Nees; *H. incrassata* Nees; *Persea incrassata* Nees; *Machilus incrassatus* Nees). Malay Peninsula, Sumatra, Java, Borneo.

L. parthenoxylon Jack, Mal. Misc. 1 (5): 28. 1820; reimpr. Hook. Bot. Misc. 2: 76. 1830; III. 354; IV. 210; V. 236. Sumatra = *Cinnamomum parthenoxylon* (Jack) Meisn. in DC. Prodr 15 (1): 26. 1864; Gamble, Jour. As. Soc. Beng. 75 (1): 87. 1912 (Mater. Fl. Mal. Pen. 5: 87), cum syn. Burma to south-eastern China southward through the Malay Peninsula to Sumatra, Java, Borneo, and Celebes.

LECANANTHUS Jack, Mal. Misc. 2 (7): 83. 1822; reimpr. Roxb. Fl. Ind. 2: 319. 1824; reimpr. Hook. Comp. Bot. Mag. 1: 254. 1836; III. 28; IV. 28; V. 288.

L. erubescens Jack, l.c.; reimpr. ll.cc. Inland from Bencoolen, Sumatra. Represented by many collections from the Malay Peninsula, Sumatra, and Borneo.

LEUCONOTIS Jack, Trans. Linn. Soc. 14: 121. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 30. 1843; IV. 30.

L. anceps Jack, l.c. pl. 4, fig. 2; reimpr. ll.cc. pl. 4, fig. 2. Sumatra (*L. eugenifolia* A. DC., 1844; *L. cuspidata* Blume, 1849; *Melodinus eugenifolius* Wall. list no. 1616. 1829, nom. nud.). Malay Peninsula, Sumatra, Borneo. The cited Sumatra collections are *Teysmann* 4053, *Beccari* 844, *Curtis* 3551, *Forbes* 1586, 2725, with at least a half dozen additional modern ones from that island. It is interesting to note that when Griffith reprinted Jack's original description in 1844, he added Malacca to the range of the species. I do not hesitate in accepting Jack's binomial, the type of the genus, to replace the later and currently used *L. eugenifolia* A. DC., in spite of the fact that Jack's type is apparently not extant.

LEUCOPOGON R. Brown (1810) = *Styphelia* Smith (1793).

L. malayanum Jack, Mal. Misc. 1 (5): 20. 1820; reimpr. Roxb. Fl. Ind. 2: 301. 1824; reimpr. Hook. Bot. Misc. 2: 71. 1830; III. 37; IV. 37; V. 232. Singapore = *Styphelia malayana* (Jack) J. J. Sm. (*S. malaica* Spreng.; *S.*

malayica Druce). Common in various parts of the Malay Peninsula, occurring also in Banca and Borneo.

LIMONIA Linnaeus.

- L. *leptostachya* Jack ex Wall. List no. 8585. 1848, *nom. sub Bennettia* R. Br., et Hook. f. Fl. Brit. Ind. 1: 492. 1875, *nom. in syn.* Penang = *Galearia jackiana* (R. Br.) Miq. = *G. fulva* (Tul.) Miq. fide Ridley. Jack's Penang specimen was distributed as *Wallich 8585A*. I suspect that Ridley is correct in accepting the binomial *Galearia fulva* (Tul.) Miq. *Cremostachys fulva* Tul. was published in 1851; *Bennettia jackiana* R. Br. in 1852. Malay Peninsula, Penang, and Singapore.

LINOCIERA Swartz.

- L. odorata* Jack, Mal. Misc. 2 (7): 96. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 259. 1836; III. 33; IV. 33; V. 295. West coast of Sumatra at Natal, and on Pulo Mosella. Known only from Jack's description. One suspects from the localities cited that this was a low altitude species, perhaps from near the seashore. *Chionanthus litoreus* Miq. Fl. Ind. Bot. Suppl. 559. 1862 = *Linociera litorea* Knobl. (1894), type a *Teysmann* specimen from Siboga on the west coast of Sumatra north of Natal, from its description is almost certainly Jack's species; but Miquel had only a fruiting specimen, and Jack's lucid description was based on a flowering one. It is certainly not *Linociera purpurea* Vahl nor *L. dichotoma* Wall., to both of which it has been reduced.

LORANTHUS Linnaeus.

- L. coccineus* Jack, Mal. Misc. 1 (1): 8. 1820; reimpr. Roxb. Fl. Ind. 2: 215. 1824; reimpr. Hook. Bot. Misc. 1: 278. *pl. 58*. 1830; III. 347; IV. 203; V. 213. Singapore = *Helixanthera coccinea* (Jack) Danser, Bull. Jard. Bot. Buitenz. III. 11: 374. 1931, cum syn. Indo-China to Burma, the Malay Peninsula, Sumatra and Borneo. I suspect that the cited Horsfield "Java" specimen actually came from Sumatra, as Horsfield botanized in Sumatra in 1818. There are no actual Java specimens known.
- L. cylindricus* Jack ex Roxb. Fl. Ind. 2: 213. 1824; reimpr. Calc. Jour. Nat. Hist. 4: 349. 1843; IV. 205. Sumatra = *Helixanthera cylindrica* (Jack) Danser, op. cit. 377, cum syn. Burma to Indo-China, the Malay Peninsula, Sumatra, Java, Borneo, and Celebes.
- L. ferrugineus* Roxb. Hort. Beng. 87. 1814, *nom.*; Roxb. ex Jack, Misc. 1 (1): 9. 1820; reimpr. Roxb. Fl. Ind. 2: 208. 1824; reimpr. Hook. Bot. Misc. 1: 279. *pl. 59*. 1830; III. 348; IV. 204; V. 213; Roxb. Fl. Ind. 2: 207. 1824. Roxburgh's very short description was based on a Penang specimen; Jack's ample and excellent one, reproduced by Wallich following that of Roxburgh in 1824, was based on Sumatran material. As Danser noted, Jack's description antedated that of Roxburgh, but Jack correctly credited the binomial to Roxburgh = *Scurrula ferruginea* (Roxb.) Danser, op. cit. 432, cum syn. Malay Peninsula to Sumatra, Borneo, Java, and Palawan.
- L. incarnatus* Jack ex Roxb. Fl. Ind. 2: 213. 1824; reimpr. Calc. Jour. Nat. Hist. 4: 350. 1843; IV. 206. Pulo Nias = *Dendrophthoe incarnata* (Jack) Miq.; Danser, op. cit. 411, cum syn. Known only from Sumatra and some of the west coast islands.
- L. patulus* Jack ex Roxb. op. cit. 214; reimpr. III. 351; IV. 207. Inland from Bencoolen, Sumatra = *Macrosolen cochinchinensis* (Lour.) Danser, op. cit. 279, cum syn. Northern India to southeastern China southward through the Malay Peninsula to Sumatra, Java, Borneo, the Philippines, and Celebes.

L. retusus Jack ex Roxb. op. cit. 212; reimpr. III. 349; IV. 205. Singapore = *Macrosolen retusus* (Jack) Danser, op. cit. 296. Malay Peninsula, Sumatra, and Borneo. The Java record, based solely on a *Lobb* collection, is surely erroneous, as this specimen came from either the Malay Peninsula or Borneo; see Merrill, Philip. Jour. Sci. 10: Bot. 184. 1915, Enum. Philip. Pl. 4: 76. 1926.

LOXONIA Jack, Trans. Linn. Soc. 14: 40. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 59. 1843; IV. 59.

L. discolor Jack, l.c.; reimpr. ll.cc. Inland from Bencoolén, Sumatra (*Loxophyllum racemosum* Blume, Bijdr. 751. 1826; *Loxonia acuminata* R. Br. in Benn. Pl. Jav. Rar. 105. pl. 25. 1838). Sumatra, Java. I note in passing that Robert Brown's description and illustration of 1838 were based on material collected by Horsfield in Sumatra in 1818 when he accompanied Sir Stamford Raffles on a trip from Padang to the Menangaboo country. The account closes with the statement: "He did not observe it in Java."

L. hirsuta Jack, op. cit. 41; reimpr. III. 60; IV. 60. Inland from Bencoolén, Sumatra = praec., fide C. B. Clarke in DC. Monog. Phan. 5: 158. 1883. Jack apparently separated this from his *L. discolor* chiefly by its hirsute leaves and branched inflorescences.

MANGIFERA Linnaeus.

M. caesia Jack in Roxb. Fl. Ind. 2: 441. 1824; reimpr. Calc. Jour. Nat. Hist. 4: 174. 1843; IV. 78. Sumatra. A species in part man-distributed (Java, Philippines). Apparently a native of the Malay Peninsula, Sumatra, and Borneo, although in these regions sometimes also planted.

M. foetida Lour.; Jack ex Roxb. l.c.; reimpr. III. 174; IV. 78. Penang and Singapore. Loureiro's species was correctly interpreted by Jack, and Wallich List 8488A is an actual Jack specimen. This is, in part, a man-distributed species, now extending from Burma to Indo-China southward through the Malay Peninsula to Sumatra, Java, Borneo, Celebes, the Moluccas, and New Guinea.

M. quadrifida Jack ex Roxb. op. cit. 440; reimpr. III. 173; IV. 77. Sumatra "and other islands of the eastern Archipelago." Wallich List no. 8489 is a Jack specimen from Penang. Now known from the Malay Peninsula, Sumatra, and Borneo.

*M. *rubicunda* Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 152. 1916, descr. abbr. Penang = *M. foetida* Lour., supra.

MELASTOMA Linnaeus.

M. alpestre Jack, Trans. Linn. Soc. 14: 20. pl. 1, fig. 3. 1823 (*alpestris*); reimpr. Calc. Jour. Nat. Hist. 4: 330. pl. 1, fig. 3. 1844; IV. 186. On the summit of Gunong Bunko or Sugarloaf Mountain, inland from Bencoolén, Sumatra = *Medinilla alpestris* (Jack) Blume, Flora 14: 514. 1831. Bakhuizen van den Brink f., Rec. Trav. Bot. Néerl. 40: 182. 1943, placed this as a doubtful synonym of *Medinilla javanensis* (Blume) Blume, which dates from 1826. Should this prove to be correct, and I think it is, then Jack's specific name will replace that of Blume. It should be noted that the type of *Medinilla verrucosa* Baker f., which Bakhuizen van den Brink f. reduced to Blume's species without discussion, was from Mount Dempo a short distance south of Gunong Bunko. Sumatra, various collections; Java, many collections; Bali.

M. bracteatum Jack op. cit. 9 (*bracteata*); reimpr. IV. 320; V. 176. Penang =

- Dissochaeta bracteata* (Jack) Blume, Flora 14: 495. 1831; Bakh. f., Rec. Trav. Bot. Néerl. 40: 225. 1943, cum syn. Malay Peninsula, Sumatra, Borneo, and perhaps Java.
- M. decemfidum** Roxb. Hort. Beng. 90. 1814, *nom. nud.*; Roxb. ex Jack, Trans. Linn. Soc. 14: 6. 1823, descr.; reimpr. III. 317; IV. 173; Roxb. Fl. Ind. ed. 2, 2: 405 [406]. 1832. Penang = *Melastoma sanguineum* Sims, Bot. Mag. 48: pl. 2241. 1821. Burma to southeastern China southward to the Malay Peninsula, Sumatra, Borneo, and Java.
- M. erectum** Jack, op. cit. 5 (*erecta*); reimpr. III. 316; IV. 172. Sumatra, west coast at Tapanuly. This has been placed as a doubtful synonym of *Melastoma polyanthum* Blume (1831). Bakhuizen van den Brink f., op. cit. 103, left it as a species unknown to him, perhaps a villose form of *M. polyanthum* Blume. Whenever collections from near the type locality become available, it will probably be possible to place this species. *Melastoma polyanthum* Blume, *sensu lat.*, is credited with extending from India to southern China and throughout Malaysia to northeastern Australia.
- M. exiguum** Jack, op. cit. 10. pl. 1, fig. 2, a-b (*exigua*); reimpr. III. 321. pl. 2, fig. 2, a-b; IV. 177. Penang = *Allomorphia exigua* (Jack) Blume, Flora 14: 523. 1831. See King, Jour. As. Soc. Beng. 69 (2): 10. 1900. Malay Peninsula and, fide King, also in Sumatra (*Forbes 3062*); but Bakhuizen van den Brink f., Rec. Trav. Bot. Néerl. 40: 290. 1943, cites *Forbes 3062* under *A. magnifica* (Miq.) Guill. (*Sonerila magnifica* Miq.) of Sumatra, from which one surmises that the latter may prove to be a synonym of *Allomorphia exigua* (Jack) Blume, as is also *Melastoma impuber* Roxb. Fl. Ind. ed. 2, 2: 405. 1832, according to King. One should not be misled by Roxburgh's statement, "native of Moluccas," as he applied this term to material from parts of the Malay Archipelago. *Rahmat Si Boea 8620* from Asahan, Sumatra, matches our Penang specimen (*Henderson 35358*) rather closely.
- M. eximium** Jack, op. cit. 17 (*eximia*); reimpr. III. 327; IV. 183. Gunong Bunko or Sugarloaf Mountain, inland from Bencoolen = *Medinilla eximia* (Jack) Blume, Flora 14: 515. 1831. A species known only from Jack's distinctly good description.
- M. fallax** Jack, op. cit. 13; reimpr. III. 323; IV. 179. Sumatra = *Omphalopus fallax* (Jack) Naud. Ann. Sci. Nat. III. Bot. 15: 277. 1851. Sumatra, Java, Bali, a variety reported from New Guinea. For its extensive synonymy see Bakhuizen van den Brink f., op. cit. 118.
- M. glaucum** Jack, op. cit. 15 (*glauca*); reimpr. III. 325; IV. 181. Penang = *Anplectrum glaucum* Triana = *Melastoma divaricatum* Willd. = *Anplectrum divaricatum* Triana = *Diplectria divaricata* (Willd.) O. Kuntze, Rev. Gen. Pl. 246. 1891; Bakh. f. Rec. Trav. Bot. Néerl. 40: 200. 1943, cum syn. Siam, Malay Peninsula, Sumatra, Java, Borneo, Celebes, Moluccas, and New Guinea.
- M. gracile** Jack, op. cit. 18 (*gracilis*); reimpr. III. 324; IV. 180. Sumatra = *Dissochaeta gracilis* (Jack) Blume in Flora 14: 498. 1831 = *Neodissochaeta gracilis* (Jack) Bakh. f. Rec. Trav. Bot. Néerl. 40: 137. 1943, cum syn. Siam to the Malay Peninsula, Sumatra, Borneo, Java.
- M. malabathricum** *sensu* Jack, op. cit. 4. pl. 1, fig. 1, a-g (*malabathrica*); reimpr. III. 315, pl. 8, fig. 1; IV. 171, non Linn. "Abundant throughout Sumatra and the Malay Islands" = *Melastoma polyanthum* Blume. As currently interpreted a collective species extending from India to southern China, through Malaysia and the Philippines to New Guinea and Australia; see Bakhuizen van den Brink f., Rec. Trav. Bot. Néerl. 40: 64. 1943, for its extraordinary synonymy.

- M. nemorosum** Jack, op. cit. 8 (*nemorosa*); reimpr. III. 319; IV. 175. Sumatra, Pulo Nias = *Marumia nemorosa* (Jack) Blume, Flora 14: 505. 1831 = *Macrolenes nemorosa* (Jack) Bakh. f. Rec. Trav. Bot. Néerl. 40: 206. 1943, cum syn. Malay Peninsula, Sumatra, Borneo. Bakhuizen van den Brink f., op. cit. 26, 203, correctly, I believe, accepted *Macrolenes* Naudin as the proper generic name for this group, because *Marumia* Blume (1831) is invalidated by the earlier and totally different *Marumia* Reinwardt (1823, 1827), a synonym of *Saurauia* Willdenow.
- M. obvolutum** Jack, op. cit. 3 (*obvoluta*); reimpr. III. 314; IV. 170. West coast of Sumatra at Tapanuly. Cogniaux, in DC. Monog. Phan. 7: 349. 1891, on the basis of an examination of Jack's type, which is preserved in the Delessert Herbarium at Geneva, recognized this as a valid species, extending its range to the Philippines (*M. homostegium* Naud.). Pending a re-examination of this extant type, I accept his conclusions rather than Bakhuizen van den Brink's reduction of it, op. cit. 80, to a variety of *M. malabathricum* Linn. Sumatra, Borneo, Philippines.
- M. pallidum** Jack, op. cit. 12 (*pallida*); reimpr. III. 322; IV. 178. Malay Islands, no definite locality indicated but probably Penang or Singapore = *Dissochaeta pallida* (Jack) Blume, Flora 14: 500. 1831. Malay Peninsula, Banca; see Bakhuizen van den Brink f. op. cit. 229 for synonymy and a complete description.
- M. pulverulentum** Jack, op. cit. 19 (*pulverulenta*); reimpr. III. 329; IV. 185. Singapore, Sumatra, and islands on the west coast of Sumatra = *Pogonathera pulverulenta* (Jack) Blume, Flora 14: 521. 1831; Bakh. f. Rec. Trav. Bot. Néerl. 40: 128. 1943, cum syn. Malay Peninsula, Sumatra, Java, Borneo, Philippine Islands, southward to New Guinea.
- M. rotundifolium** Jack, op. cit. 11 (*rotundifolia*); reimpr. III. 321; IV. 177. Musi region, inland from Bencoolen, Sumatra = *Phyllagathis rotundifolia* (Jack) Blume, Flora 14: 507. 1831; Bakh. f., op. cit. 267. Siam, Malay Peninsula, Sumatra.
- M. rubicundum** Jack, op. cit. 18 (*rubicunda*); reimpr. III. 328; IV. 184. Singapore = *Medinilla rubicunda* (Jack) Blume, Flora 14: 512. 1831; Merrill, Brittonia 4: 128. 1941 (*M. hasseltii* Blume, op. cit. 513). Malay Peninsula, Sumatra, Borneo, Java, Bali, central and southern Philippines, and Celebes. Bakhuizen van den Brink f. Rec. Trav. Bot. Néerl. 40: 197. 1943, failed to place Jack's species (type from Singapore) probably because the species had been confused with the distinctly different *M. erythrophylla* (Wall.) Lindl. of India and Upper Burma. He made *Medinilla hasseltii* Blume a variety of the older *M. crassifolia* (Blume) Blume, which dates from 1826. But Jack's specific name is the oldest one for this group.
- M. stellulatum** Jack, op. cit. 6 (*stellulata*); reimpr. 4: 318; IV. 174. West coast of Sumatra, at Saloomah = *Marumia stellulata* (Jack) Blume, Flora 14: 505. 1831 = *Macrolenes stellulata* (Jack) Bakh. f. op. cit. 216, cum syn. Sumatra, Borneo.
- M. viminale** Jack, Trans. Linn. Soc. 14: 16. 1823 (*viminalis*); reimpr. III. 327; IV. 183. Sumatra, no definite locality indicated = *Anplectrum viminale* (Jack) Triana, Trans. Linn. Soc. 28: 84. pl. 7, fig. 90 a. 1871 (*Aplectrum viminale* Blume; *Backeria viminalis* Bakh. f. Rec. Trav. Bot. Néerl. 40: 133. 1943,¹⁴

¹⁴ **Aplectrum* Blume, Flora 14: 502. 1831, is invalidated by *Aplectrum* (Nutt.) Torr. (1826). For this reason A. Gray, Bot. Wilkes U. S. Explor. Exped. 597, 1854, correctly proposed the new generic name *Anplectrum* for this Malaysian group. He

cum syn.). Sumatra, Billiton, with a variety, fide Bakhuizen van den Brink (*Anplectrum rostratum* Blume), in Mentawi, Sumatra, Malay Peninsula, Java and Borneo.

MELIA Linnaeus.

M. excelsa Jack, Mal. Misc. 1 (1): 12. 1820; reimpr. Hook. Bot. Misc. 1: 281. 1830; III. 190; IV. 94; V. 215. Penang. A valid species, but one not well understood until recently. For a critical consideration and a detailed description see Corner, Gard. Bull. Straits Settl. 10: 263-267. fig. 1-2. 1939. A duplicate of Jack's type was distributed under Wallich List no. 1253, the entry being "Penang, b. Jack," but the specimen at Kew is very fragmentary, the flowers all fallen, fide Airy Shaw in lit. Corner expressed the opinion that the old trees observed by him at the Penang cemetery were the very ones from which Jack's material was taken, which may well be the case. I agree with Mr. Corner, and Mr. Airy Shaw confirms this, that *Azadirachta integrifoliola* Merr., type from Palawan, is the same as Jack's species. I have material from Sumatra (Bencoolen), *Neth. Ind. For. Serv.* 31664; Borneo, *Neth. Ind. For. Serv.* 29263, 29414; and from British Malaya, Penang, *Md. Haniff* 7586, Perak, *Corner* 31642, Selangor, *Corner* 31698, and various Palawan collections distributed as *Azadirachta integrifoliola* Merr. which, I believe, all represent Jack's species. The range, Malay Peninsula, Sumatra, Borneo, Palawan, Basilan, is a natural one. Because of its strictly pinnate leaves this species impresses me as being anomalous in *Melia*.

MEMECYLON Linnaeus.

M. coeruleum Jack, Mal. Misc. 1 (5): 26. 1820; reimpr. Hook. Bot. Misc. 2: 75. 1830 (*caeruleum*); III. 310; IV. 166; V. 235. Penang. In all or most provinces of the Malay Peninsula; also in Sumatra. The credited Philippine range (*M. manillanum* Naud.) was due to an erroneously localized collection, Naudin's type, *Cuming* 2322, being from Malacca.

M. paniculatum Jack, op. cit. 2 (7): 62. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 219. 1836; III. 312; IV. 167; V. 277. Tapanuly and Pulo Bintangor (just south of Padang), west coast of Sumatra. I interpret this, from Jack's excellent description (he failed to indicate whether the branchlets were terete, subterete, or angled) as the same as *M. costatum* Miq. (1850), as interpreted by Bakhuizen van den Brink, Rec. Trav. Bot. Néerl. 40: 345. 1943, cum syn., a very common, variable, and widely distributed species extending from the Malay Peninsula (possibly from Siam) throughout Malaysia to the

gave no generic description, this being unnecessary as long as he cited *Aplectrum* Blume as the name-bringing synonym, as he did. Hence what Blume actually described fixed the type of *Anplectrum* A. Gray; the fact that Gray's single Fiji species proves to be a representative of another genus has no bearing on the case. Bakhuizen van den Brink f., Rec. Trav. Bot. Néerl. 40: 130-146. 1943, apparently assuming that Gray prepared a new generic description, erroneously decided that the latter's new generic name was invalid, and in its place proposed a new generic name *Backeria* Bakh. f. to replace *Anplectrum* A. Gray. Unfortunately for the new generic name *Backeria* all three of the binomials proposed by Blume in 1831 under *Aplectrum* Blume, namely *A. rostratum* Blume, *A. viminale* Blume, and *A. stipulare* Blume, also form the entire basis of *Backeria* Bakh. f. At the same time he segregated from *Anplectrum* a certain group of species for which he proposed a new generic name *Neodissochaeta* Bakh. f. If he had assigned the new generic name *Backeria* to this group, it could have been maintained; as it is he merely added another generic synonym to *Anplectrum* A. Gray (*Aplectrum* Blume).

Moluccas and represented by very many collections. Bakhuizen van den Brink merely listed Jack's species as one unknown to him (there is no extant type). The Jack description is distinctly definite (except as to the branchlet characters), a plant with oblong-ovate, obtusely acuminate leaves 7 to 8 inches long, with distinct nerves which unite into a line near the margins. If we accept the definitely collective species as Bakhuizen van den Brink interprets it, I see no reason why we should not also accept its oldest published binomial.

MICROCOS Linnaeus.

M. glabra Jack, Mal. Misc. 1 (1): 14, 1820; reimpr. Hook. Bot. Misc. 1: 282. 1830; III. 222; IV. 126; V. 216. Carnicobar¹⁵ Island = *Microcos paniculata* Linn. India to the Nicobar Islands, Siam, Burma, and southern China southward to the Malay Peninsula and Java.

M. tomentosa Smith; Jack, op. cit. 13; reimpr. Hook. op. cit. 28. pl. 60; III. 221; IV. 126; V. 216. Penang. Jack apparently interpreted Smith's species correctly and correctly cited the very inadequately described and later *Grewia paniculata* Roxb. as a synonym (type also from Penang). Siam and Indo-China to the Malay Peninsula, Sumatra, and Java.

MILLINGTONIA Roxburgh (1820); Jack, Mal. Misc. 2 (7): 29. 1822; reimpr. Hook. Jour. Bot. 1: 377. 1834; III. 180; IV. 84; V. 260, non Linn. f. (1781) = *Meliosma* Blume (1823).

M. sumatrana Jack, Mal. Misc. 2 (7): 30. 1822; reimpr. Hook. Jour. Bot. 1: 378. 1834; III. 181; IV. 85; V. 261. Pulo Nias off the west coast of Sumatra = *Meliosma sumatrana* (Jack) Walp. (*M. nitida* Blume). Malay Peninsula, Sumatra, Java, Borneo. *Meliosma nitida* Blume, which is currently placed as a synonym of Jack's species, may prove to be distinct.

MILNEA Roxburgh = *Aglaia* Loureiro.

M. montana Jack, Trans. Linn. Soc. 14: 118. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 180. 1843; IV. 94. Near Bencoolen, Sumatra. Clearly an *Aglaia*, but as yet not associated with any other described species. Jack's rather good description follows his consideration of *Lansium*, and at the very end his binomial appears thus: "if admitted as a separate genus, the above will constitute a second species . . . and may be denominated *M. montana*."

MIMOSA Linnaeus.

M. jiringa Jack, Mal. Miscel. 1 (1): 14. 1820; reimpr. Hook. Bot. Misc. 1: 282. 1830; III. 161; IV. 66; V. 285 = *Pithecellobium* (*Pithecolobium*) **jiringa* (Jack) Prain, Jour. As. Soc. Beng. 66 (2): 267. 1897 (Mater. Fl. Mal. Penin. 3: 267), in obs. Penang, Malacca, Tenasserim and the Malay Peninsula, Sumatra, Borneo, Java (mostly planted). See Merr. Philip. Jour. Sci. 14: 243. 1919; Contr. Arnold Arb. 8: 72. 1934. The still earlier binomials *Mimosa koeringa* Roxb. Hort. Beng. 40. 1814 and *M. djiringa* Roxb. op. cit. 93 are *nomina nuda*.

¹⁵ Car Nicobar is the most northern island of the Nicobar group, north of Sumatra, which Jack apparently visited either on his voyage from Calcutta to Penang, or on his one trip from Bencoolen to Calcutta and return. The basis of *Connarus ? jackianus* Wall. List no. 8552 = *Cupania jackiana* Hiern = *Lepidopetalum jackianum* Radlk. was a Jack specimen also collected on Car Nicobar. *Connarus jackianus* Schellenb. (1924) is a valid Bornean species, having nothing to do with the Wallichian binomial; and the latter, being a *nomen nudum*, does not, or course, invalidate Schellenberg's later name.

MONOCERA Jack, Mal. Misc. 1 (5): 42. 1820; reimpr. Hook. Bot. Misc. 2: 85. 1830; III. 225; IV. 129; V. 243 = *Elaeocarpus* Linn. sect. *Monocera* (Jack) Benth.

M. ferruginea Jack, op. cit. 44; reimpr. Hook. op. cit. 86; III. 226; IV. 130; V. 244. Singapore = *Elaeocarpus ferrugineus* (Jack) Steud. Nomencl. ed. 2, 1: 545. 1840 (*E. jackianus* Wall.; *E. borneensis* Knuth). Malay Peninsula, Borneo. See Corner, Gard. Bull. Straits Settl. 10: 319. 1939; Airy Shaw, Kew Bull. 1949: 165. 1949; Merr. Jour. Arnold Arb. 32: 180. 1951.

M. petiolata Jack, op. cit. 43; reimpr. Hook. op. cit. 86; III. 226; IV. 130; V. 243. Penang = *Elaeocarpus petiolatus* (Jack) Wall. List no. 2673. 1829; A. Gray, Bot. Wilkes U. S. Expl. Exped. 1: 203. 1854. The Wallich List entry is merely "2673 *Elaeocarpus* (Monoceros) petiolata Jack — Hb. 1824 Penang 1822," so there is a possibility of a quibble as to whether or not this constitutes publication under *Elaeocarpus*. Malay Peninsula, Sumatra.

MORINDA Linnaeus.

M. polysperma Jack, Mal. Misc. 1 (5): 14. 1820; reimpr. Roxb. Fl. Ind. 2: 204. 1824; reimpr. Hook. Bot. Misc. 2: 68. 1830; III. 20; IV. 20; V. 229. Singapore = *Lucinaea polysperma* (Jack) K. Schum. (*L. morindae* DC. Prodr. 4: 368 (1830). Jack suggested that his new species of *Morinda* might represent a separate genus. It is the sole basis of the genus *Lucinaea* DC., described ten years later. Malay Peninsula, Sumatra, Borneo.

M. tetramera Jack, op. cit. 13; reimpr. Roxb. op. cit. 203; reimpr. Hook. op. cit. 67; III. 19; IV. 19; V. 229. Native of the Malay Islands (probably Penang or Singapore) = *Morinda umbellata* Linn. *sensu lat.* India and Ceylon to southern China, through Malaysia and the Philippines to northeastern Australia (as a collective species).

MURRAYA Koenig ex Linnaeus, Mant. 2: 558. 1771 (*Murraea*); Murr. Syst. ed. 13, 331. 1774, nom. conserv. (*Chalcas* Linn., 1767).

M. paniculata (Linn.) Jack, Mal. Misc. 1 (5): 31. 1820; reimpr. Hook. Bot. Misc. 2: 79. 1830; III. 191; IV. 95; V. 238 (*Chalcas paniculata* Linn.). Jack's description was apparently based on material from Penang or Singapore, he citing *Chalcas paniculata* Lour. (which is *Chalcas paniculata* Linn.) and *Camunium* Rumph. Herb. Amb. 5: 26. pl. 17. 1747, which also represents the Linnaean species. A common, variable, and widely distributed Malaysian species.

MYRMECODIA Jack, Trans. Linn. Soc. 14: 122. 1823; reimpr. Calc. Jour. Nat. Hist. 4: 20. 1843; IV. 20.

M. tuberosa Jack, op. cit. 123; reimpr. ll.cc. Pulu Nias, off the west coast of Sumatra. See Beccari, Malesia 2: 99. pl. 13, 14. 1884. Malay Peninsula, Java, Borneo.

NEPENTHES Linnaeus; Jack [App. Descr. Mal. Pl. 20, 1820]; reimpr. Jack ex Hook. Comp. Bot. Mag. 1: 269. 1836; III. 362; IV. 222.

N. ampullaria Jack [App. Descr. Mal. Pl. 23 1820]; reimpr. Jack ex Hook. op. cit. 271; III. 366; IV. 222. Singapore and on Bintang Island. See Danser, Bull. Jard. Bot. Buitenz. III. 9: 265-270. 1938. Malay Peninsula, Sumatra, Borneo, New Guinea, very many collections. Bintang (Bintan) Island is in the Rhio Archipelago, southeast of Singapore. There are two sheets from

Jack in the type collection in the herbarium of the British Museum (Natural History).

- N. distillatoria** sensu Jack [App. Descr. Mal. Pl. 23. 1820]; reimpr. Jack ex Hook. l.c.; III. 368; IV. 224, non Linn. Singapore, Malacca = *N. gracilis* Korth. Malay Peninsula, Sumatra, Borneo, Celebes; see Danser, op. cit. 290 for details. The Linnaean species is confined to Ceylon. At the British Museum are two fragmentary specimens from Jack, one labeled "mixed with *distillatoria*," which is *N. albomarginata* Lobb, the other (sterile) *N. gracilis* Korth.
- N. phyllamphora** Willd.; Jack [App. Descr. Mal. Pl. 23. 1820]; reimpr. Jack ex Hook. l.c.; III. 367; IV. 223. West coast of Sumatra at Bencoolen = *N. mirabilis* (Lour.) Druce, Rep. British Exch. Club 1916: 637. 1917 (July); Merr. Interpret. Herb. Amb. 242. 1917 (August). Southeastern China and Indo-China through the Malay Peninsula to Sumatra, Borneo, Java, Mindanao, Celebes, and the Moluccas to Palau, New Guinea, and northeastern Australia.
- N. rafflesiana** Jack [App. Descr. Mal. Pl. 21. 1820]; reimpr. Jack ex Hook. op. cit. 270; III. 364; IV. 220. Singapore. See Danser, op. cit. 357-361. Malay Peninsula, Sumatra, Borneo, very many collections. There are two Jack sheets in the type collection, British Museum (Nat. Hist.) herbarium, inscribed "No. 3 *Nepenthes* si nova sit *Rafflesiana* from Singapore. Dr. Jack." These Jack Singapore *Nepenthes* specimens were manifestly sent by him to Robert Brown in London, supplementing a larger lot sent to him from Penang previous to Jack's departure for Singapore. The highest number noted in this sending of Singapore plants is four.

NEPHELIUM Linnaeus.

- N. lappaceum** Linn. Mant. 2: 566. 1771; Jack, Mal. Misc. 1 (1): 10. 1820; reimpr. Hook. Bot. Misc. 1: 279. 1830; III. 183; IV. 87; V. 214. "Frequent throughout the Malay countries and islands." Jack correctly interpreted the rambutan, which is the Linnaean species. It is one of the better of the cultivated fruit trees of Malaysia.

***NEUROPTERIS** Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 216. 1916, *nom.* = *Neuropeltis* Wall.

OCTAS Jack, Mal. Misc. 2 (7): 64. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 219. 1836; III. 340; IV. 196; V. 278 = *Ilex* Linn.; see Hallier f. Rec. Trav. Bot. Néerl. 15: 66. 1918.

- O. spicata** Jack, l.c.; reimpr. ll.cc. West coast of Sumatra at Tapanuly = *Ilex spicata* Blume, Bijdr. 1149. 1826. Jack and Blume independently selected the same specific name, for Blume's binomial in *Ilex* was not based on Jack's earlier one. Jack's ample and lucid description agrees entirely with the characters of Blume's species, this being, in *Ilex*, an unusually sharply defined one. Malay Peninsula, Sumatra, Java, Borneo, New Guinea, many individual collections available.

OPHIORRHIZA Linnaeus.

- O. heterophylla** Jack, Mal. Misc. 2 (7): 85. 1822; reimpr. Roxb. Fl. Ind. 2: 546. 1824; reimpr. Hook. Comp. Bot. Mag. 1: 255. 1836; III. 17; IV. 17; V. 289. Sumatra, inland, probably from near Bencoolen. Known only from Jack's description.

O. tomentosa Jack in Roxb. Fl. Ind. 2: 246. 1824. Penang and Sumatra; see

King, Jour. As. Soc. Beng. 72 (2): 176. 1903 (Mater. Fl. Mal. Pen. 4: 66) for a more ample description. Malay Peninsula, Penang, Sumatra.

*PATISNA Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 196, 218, 255, 1916, *nom.* = *Urophyllum* Wall. See p. 248.

P. *glabra Jack ex Burkill, l.c. *nom.* = *Urophyllum glabrum* Wall.

PERONEMA Jack, Mal. Misc. 2 (7): 46. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 152. 1835; III. 41; IV. 41; V. 269.

P. canescens Jack, op. cit. 47; reimpr. ll.cc. Sumatra. A monotypic genus. Malay Peninsula, Sumatra, Borneo, Java.

PETROCARYA Schreber (1789) = *Parinari* Aublet¹⁶ (1775) (*Parinarium* Jussieu, 1789).

P. excelsa Jack, Mal. Misc. 2 (7): 66. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 220. 1836; III. 164; IV. 68; V. 279. No locality cited but probably from the west coast of Sumatra = *Parinari jackiana* Benth. (1849), as *Parinarium*. A species apparently known only from Jack's description.

P. sumatrana Jack, op. cit. 67; reimpr. Hook. op. cit. 221; III. 165; IV. 69; V. 280 [Sumatra] = *Parinari sumatrana* (Jack) Benth. in Hook. Niger Fl. 335. 1849, as *Parinarium*. For a very full description based wholly on Sumatra specimens see Blume, Mus. Bot. Lugd.-Bat. 2: 97. 1856 (*P. costatum* Blume ex Miq. Fl. Ind. Bat. 1 (1): 254. 1855). Malay Peninsula, Sumatra, Borneo, and Java.

PHALERIA Jack, Mal. Misc. 2 (7): 59. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 156. 1835; III. 353; IV. 209; V. 276 (*Drymispermum* Reinw., 1828).

P. capitata Jack, l.c.; reimpr. Hook. l.c.; III. 354; IV. 209; V. 276. Sumatra. This is the type of the genus, *Drimyspermum phaleria* Meisn. in DC. Prodr. 14: 604. 1867, being a synonym. I have no Sumatra specimens which I can definitely refer to Jack's species. See Koorders & Valetton, Meded. Dep. Landb. 18: 41. 1914 (Bijdr. Boomsoort. Java 13: 41) for a detailed description based largely on Java material.

PHYTEUMA Linnaeus.

P. begonifolium Roxb. Hort. Beng. 85. 1814, *nom.*; Roxb. ex Jack Malay Misc. 1 (1): 5. 1820; reimpr. Hook. Bot. Misc. 1: 276. *pl.* 57. 1830; III. 34; IV. 34; V. 212; Roxb. Fl. Ind. 2: 108. 1824 (descr. Jack reimpr. 109). Penang = *Pentaphragma begonifolium* Wall. List no. 1313. 1829, "*Pentaphragma begonifolium* Wall. *Phyteuma* Roxb. Penang. 1822;" G. Don, Gen. Syst. 3: 731. 1834. A well-understood species of the Malay Peninsula occurring also in Sumatra, Siam, and Mergui. Jack strongly suggested that Roxburgh's generic designation was erroneous and that a new genus might be represented, which proved to be the case.

PIERARDIA Roxburgh, Hort. Beng. 28. 1814, *nom. nud.*; Roxb. ex Jack, Trans. Linn. Soc. 14: 119. 1823, descr.; reimpr. Calc. Jour. Nat. Hist. 4: 186. 1843; IV. 90; Roxb. Fl. Ind. ed. 2, 2: 254. 1832 = *Baccaurea* Loureiro (1790).

P. dulcis Jack, Trans. Linn. Soc. 14: 120. 1823, reimpr. III. 186; IV. 90. Sumatra, at Bencoolen, where Jack says it was known as *bua choopa*, and was

¹⁶ The original *Parinari* Aublet (1775) must be accepted unless the Latinized form *Parinarium* Juss. (1789) be officially conserved.

abundant. J. J. Smith, Meded. Dep. Landbouw 10: 21. 1910 (Koord. & Val. Bijdr. Boomsoort. Java 12: 21) states that it is cultivated in Java, but no more complete description than the original one of Jack seems to have been published. This is apparently a planted fruit tree, and perhaps the practical non-existence of herbarium material is but a reflection of the often repeated statement that botanists (and often collectors) never bother to prepare specimens from cultivated plants. Jack expressed the opinion that Marsden's excellent figure of *rambeh* (Hist. Sumatra pl. 6; in ed. 3, 1811 it is pl. 8) was but a variety of his taxon. He noted that at the time (1819–22) the real *rambeh* occurred in the Malay Peninsula, but not in Bencoolen, while *choopa* was abundant at Bencoolen but was not found in the Peninsula.

PITTOSPORUM Banks.

P. serrulatum Jack ex Roxb. Fl. Ind. ed. 2, 2: 401. 1824, "*Pittosporea serrulata*;" *P. ? serrulatum* Jack ex Griff, Calc. Jour. Nat. Hist. 4: 195. 1843, reimpr. IV. 99. Penang = *Rinorea lanceolata* (Roxb.) O. Kuntze (*Vareca lanceolata* Roxb.; *Celastrus pauciflora* Wall.; *Pentaloba lanceolata* Wall.; *Alsodeia lanceolata* Oudem.). A species still known only from Penang.

POSOQUERIA Aublet.

*P. *anisophylla* Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 196, 220. 1916, *nom. nud.* Penang, Sumatra = *Gardenia anisophylla* Jack ex Roxb. supra, p. 226 = *Randia anisophylla* (Jack) Hook. f.

PSILOBIUM Jack, Mal. Misc. 2 (7): 84. 1822; reimpr. Roxb. Fl. Ind. 2: 320. 1824; reimpr. Hook. Comp. Bot. Mag. 1: 255. 1836; III. 27; IV. 27; V. 289 = *Acranthera* Arnott ex Meissner (1838).¹⁷

P. nutans Jack, op. cit. 84; reimpr. ll.cc. West coast of Sumatra, inland from Bencoolen. A species known from Jack's description, as yet not safely associated with any described species of *Acranthera*; Bremekamp suggests a species of his subgenus *Androtropis* (R. Br.) Bremek. It may well be that *Brooks 6681* from the vicinity of Bencoolen (not seen) really represents Jack's species, as Ridley thought, Kew Bull. 1925: 84. 1925; see Bremekamp, Jour. Arnold Arb. 28: 263. 1947.

P. tomentosum Jack, Mal. Misc. 2 (7): iii. 1822; reimpr. Roxb. Fl. Ind. 2: 321. 1824; Calc. Jour. Nat. Hist. 4: 28. 1843; IV. 28; V. 295. West coast of Sumatra at Kataun. As yet not associated with any described species of *Acranthera*. In any case Jack's specific name is preoccupied in that genus by the different *A. tomentosa* R. Br.

PSYCHOTRIA Linnaeus.

P. malayana Jack, Mal. Misc. 1 (1): 3. 1820; reimpr. Hook. Bot. Misc. 1: 275. 1830 (excl. syn. *P. aurantiaca* Wall.); III. 26; IV. 26; V. 228. Penang. (*P. stipulacea* Wall. ex Roxb. Fl. Ind. 2: 164. 1824). As explained by me in *Webbia* 7: 321–324. 1950, what Jack actually described in 1820 was the species Wallich characterized four years later as *P. stipulacea* Wall. *Psychotria malayana* has been given a very wide range in Malaya by modern authors, but what is so named in all herbaria and described in all texts is not at all

¹⁷ Bremekamp, Jour. Arnold Arb. 28: 261–265. 1947, has shown that *Psilobium* Jack (1822), hitherto not properly understood, is the same as the later *Acranthera* Arnott ex Meissner (1838). As there are now 35 *Acranthera* species, he suggested that the latter name be conserved against that of Jack.

the species Jack characterized. This misinterpretation was due to Wallich's original error in reducing *P. malayana* Jack to *P. aurantiaca* Wall., which was unfortunately accepted by subsequent authors. The species is known from many parts of the Malay Peninsula and apparently occurs in Sumatra.

PTERNANDRA Jack, Mal. Misc. 2 (7): 60. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 157. 1835; III. 309; IV. 165; V. 276.

P. capitellata Jack, Mal. Misc. 2 (7): iii. 1822; reimpr. Calc. Jour. Nat. Hist. 4: 310. 1843; IV. 166; V. 295. West coast of Sumatra at Moco Moco; see Bakhuizen van den Brink, f., Rec. Trav. Bot. Néerl. 40: 326. 1943, who followed King in making this a variety of *P. coerulescens* Jack. Malay Peninsula, Sumatra, Lingga, Borneo, and fide Mansfeld, New Guinea.

P. coerulescens Jack, Mal. Misc. 2 (7): 61. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 157. 1835; III. 309; IV. 165; V. 277. Penang. See Bakhuizen van den Brink f., Rec. Trav. Bot. Néerl. 40: 324. 1943. Burma and the Andaman Islands to Indo-China, the Malay Peninsula, Sumatra, Lingga, and Borneo.

P. echinata Jack, Mal. Misc. 2 (7): iii. 1822; reimpr. Calc. Jour. Nat. Hist. 4: 310. 1843; IV. 166; V. 295. West coast of Sumatra at Kataun = *Kibessia echinata* (Jack) Cogn. in Pl. Monog. Phan. 7: 1108. 1891. This may or may not be the same as *Kibessia azurea* (Blume) DC. of Sumatra and Java. King in 1900 followed Cogniaux. Jack's very inadequate description is merely "pedunculis axillaribus terminalibusque, calycibus ovarisque echinatis. A large tree found at Kataun. The leaves are 3-nerved in all species." In a footnote Griffith in his 1843 reproduction of Jack's descriptions indicates Kataun as being in Malacca, but it is a town on the coast north of Bencoolen, Sumatra, the modern Dutch spelling being Ketaoen. I suspect, but can scarcely prove, that this is *Kibessia azurea* (Blume) DC. as interpreted by Bakhuizen van den Brink f. in 1943, this binomial dating from 1826, four years later than that of Jack.

PYRRHANTHUS Jack, Mal. Misc. 2 (7): 57. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 156. 1835; III. 337; IV. 193; V. 274 = *Lumnitzera* Willd. (1803).

P. *flammeus Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 205. 1916, *nom.* = seq.

P. littoreus Jack, l.c.; reimpr. Hook. l.c.; III. 337; IV. 193; V. 275. Sumatra, Malay Peninsula = *Lumnitzera littorea* (Jack) Voigt (*L. coccinea* Wight & Arn.). Common within the influence of salt water. India through Malaysia to tropical Australia and Polynesia.

QUERCUS Linnaeus.

Q. racemosa Jack, Mal. Misc. 2 (7): 86. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 255. 1836; III. 370; IV. 226; V. 289, non Lam. (1785). Sumatra. Currently reduced to *Quercus spicata* Sm. = *Lithocarpus spicata* Rehd. & Wils. as that species is now interpreted, and it perhaps belongs here. In any case Jack's specific name is an invalid one. Smith's species, *sensu latiore*, ranges from the Himalayan region eastward to southern China and southward to Sumatra, Borneo, and Java.

Q. urceolaris Jack, l.c.; reimpr. Hook. op. cit. 255; III. 371; IV. 227; V. 290. Sumatra = *Lithocarpus urceolaris* (Jack) comb. nov. (*Quercus oligoneura* Korth., 1844; *Q. eichleri* Wenzig, 1886; *Synaedrys eichleri* Koidz., 1916; *Pasania eichleri* Gamble, 1914; *Lithocarpus eichleri*, A. Camus, 1931, et Les

Chênes 3: 71. *pl.* 395. 1948). King mentioned Miquel's suggestion that this might be the same as *Quercus lamponga* Miq., but the descriptions do not agree. I find, however, that in all essentials the descriptions of *Q. urceolaris* Jack and *Q. eichleri* Wenzig do agree. All types involved were from Sumatra. The species occurs also in the Malay Peninsula and Borneo.

RAFFLESIA Jack [App. Descr. Mal. Pl. 1. 1820]; Jack ex Hook. Comp. Bot. Mag. 1: 259. *pl.* 14. 1836; III. 260; IV. 216 = *Rafflesia* R. Brown (1821).

R. *elephantina Marsden ex Jack in Burkill, Jour. Straits Br. Roy. As. Soc. 73: 203. 1916, *nom.* Sumatra = seq.

R. titan Jack [App. Descr. Mal. Pl. 1. 1820]; Jack ex Hook. l.c.; III. 260; IV. 216. Interior of Sumatra, particularly in the forests of Passumman Ulu Manna = *Rafflesia arnoldi* R. Br. (1821). A remarkable species known only from Sumatra. Jack's description was withdrawn because of R. Brown's treatment of the taxon in 1821, both descriptions having been based on the same collection, which was made by Sir Stamford Raffles.

RAUWOLFIA Linnaeus.

R. sumatrana Jack, Mal. Misc. 1 (5): 22. 1820; Roxb. Fl. Ind. 2: 543, 1824; reimpr. Hook. Bot. Misc. 2: 73. 1830; III. 31; IV. 31; V. 233. Sumatra, frequent near Bencoolen. A valid species amply described by King & Gamble, Jour. As. Soc. Beng. 74 (2): 424. 1907 (Mater. Fl. Mal. Pen. 4: 634). Also in the Malay Peninsula; and to be compared is the Philippine-Borneo *R. samarensis* Merr.

RHIZOPHORA Linnaeus.

R. *caryophylloides Jack, Mal. Misc. 1 (5): 34. 1820; reimpr. Hook. Bot. Misc. 2: 80. 1830; III. 334; IV. 190; V. 239. Singapore, Penang = *R. caryophylloides* Burm. f. Fl. Ind. 109. 1768 = *Bruguiera cylindrica* (Linn.) Blume. In tidal forests throughout the Indo-Malaysian region. Jack, in proposing his new binomial in 1820, overlooked Burman's earlier use of the same name in 1768 to represent the same species. *Mangium caryophylloides* Rumph. (1743), cited by both, provided the specific name.

RHODAMNIA Jack, Mal. Misc. 2 (7): 48. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 153. 1835; III. 307; IV. 163; V. 270.

R. cinerea Jack, l.c.; reimpr. ll.cc. West coast of Sumatra, frequent. *Rhodamnia* Jack is a small genus, its limits well understood, and probably Jack's specific name should be retained for the common Malaysian form (Malay Peninsula, Sumatra, Borneo, Java). Corner, Gard. Bull. Straits Settl. 10: 272. 1939, took exception to my acceptance of *Myrtus trinervia* Lour. (1790) as a synonym for this species [*R. trinervia* (Sm.) Bl.], because Loureiro definitely described the inflorescences as racemose; yet *Clemens* 3689, from what must be the type locality, has racemes 2.5 cm. in length. Yet in other characters this closely approximates our rich series of Sumatran specimens. The oldest valid name for this is *Rhodamnia dumetorum* (Lour.) Merr. & Perry, Jour. Arnold Arb. 19: 195. 1938, of which *R. siamensis* Craib is a synonym. But Corner overlooked C. T. White's conclusions, Blumea, Suppl. 1: 215. 1937, that the Australian form is specifically distinct from the Malayan one. As Smith's species was based wholly on Australian specimens, *Rhodamnia trinervia* (Sm.) Blume is not the proper name for the species that Jack

characterized; for this common form with axillary solitary or fascicled flowers, Jack's specific name is the earliest available one. The group is in need of a critical revision.

RHODODENDRON Linnaeus.

R. malayanum Jack, Mal. Misc. 2 (7): 17. 1822; reimpr. Hook. Jour. Bot. 1: 369. 1834; III. 36; IV. 36; V. 254. Gunong Bunko or Sugarloaf Mountain inland from Bencoolen, Sumatra. This is a well-understood species extending from the Malay Peninsula and Sumatra to Borneo, Java, Ceram, and, including *R. apoanum* Stein, the Philippines.

RHOPALA Schreber (1789) = *Roupala* Aublet (1775).

R. attenuata Jack, Mal. Misc. 1 (5): 10. 1820; reimpr. Hook. Bot. Misc. 2: 65. 1830; III. 352; IV. 208; V. 227. Penang = *Helicia attenuata* (Jack) Blume. Malay Peninsula, Sumatra, and possibly Java. This is correctly interpreted by the British botanists concerned with the flora of the Malay Peninsula; many collections available.

R. moluccana sensu Jack, Mal. Misc. 1 (5): 10. 1820; reimpr. Hook. Bot. Misc. 2: 65. 1830; III. 352; IV. 208; V. 227, non *R. Br.* Penang (in a garden) = *Helicia petiolaris* Benn. The Jack collection forms a part of Wallich List no. 1041, Bennett's binomial being strictly a new one for Jack's misinterpretation of *R. Brown's* Moluccan species. Known only from the Malay Peninsula.

R. ovata Jack, op. cit. 2 (7): 95. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 259. 1836; Calc. Jour. Nat. Hist. 4: 353. 1843; IV. 209; V. 294. West coast of Sumatra at Tapanuly = *Helicia ovata* (Jack) Benn. Known only from Jack's description. The large (25 by 15 cm.) entire sessile or subsessile leaves should render identification a simple matter once material is available from the west coast of Sumatra.

RONDELETIA Linnaeus.

R. corymbosa Jack, Mal. Misc. 1 (1): 4. 1820; reimpr. Hook. Bot. Misc. 1: 276. 1830; III. 16; IV. 16; V. 211. Penang = *Greenea corymbosa* (Jack) K. Schum. (*G. jackii* Wight & Arn., 1834; *Rondeletia spicata* Wall. ex Roxb. 1824). Indo-China to the Malay Peninsula and Sumatra.

ROTTLERA Roxburgh (1798) = *Mallotus* Loureiro (1790).

R. alba Roxb. Hort. Beng. 73. 1814, *nom. nud.*; Roxb. ex Jack, Mal. Misc. 1 (1): 26. 1820, *descr.*; reimpr. Hook. Bot. Misc. 1: 290. 1830; III. 227; IV. 131; V. 222; Roxb. Fl. Ind. ed. 2, 3: 829. 1832. Penang, Sumatra = *Mallotus albus* (Roxb.) Muell.-Arg. (sed non *M. albus* sensu Pax & Hoffm., 1914) (*Mallotus macrostachys* (Miq.) Muell.-Arg.). Pax and Hoffmann misinterpreted Roxburgh's species in 1914, limiting it to India, Ceylon, and Chittagong. They apparently overlooked the fact that *Rottlera alba* Roxb. was based wholly on Penang (Prince of Wales' Island) specimens from a plant cultivated at Calcutta. The Roxburgh description is a very inadequate one; but that supplied by Jack in 1820 is excellent and validates the Roxburgh binomial twelve years in advance of Roxburgh's similar action; Jack's material was from Penang and Sumatra, and his Penang specimen was apparently named at Calcutta. *Mallotus macrostachys* (Miq.) Muell.-Arg., type from Sumatra, is in all respects this misunderstood *Mallotus albus*

(Roxb.) Muell.-Arg.¹⁸ Malay Peninsula, Sumatra, Borneo, many collections.

SAGUS Gaertner (1788) = *Metroxylon* Rottboell (1783).

S. laevis Jack [App. Descr. Mal. Pl. 9. 1820]; reimpr. Jack ex Hook. Comp. Bot. Mag. 1: 266. 1836; III. 13; IV. 13. Sumatra, Malacca (planted) = *Metroxylon sagus* Rottb. (1783). This smooth form is widely distributed in Malaysia, extending from the Malay Peninsula and Sumatra to New Guinea, usually planted. It is the source of sago, and man is probably responsible for much of its present geographic distribution.

SALACIA Linnaeus; Jack, Mal. Misc. 2 (7): 92. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 258. 1836; III. 101; IV. 197; V. 293. A general discussion, no new names involved. There is a specimen named by Jack in the Rijksherbarium, Leiden, under an unpublished binomial; the species is in the *S. prinoides* (Willd.) DC. group. See *Johnia sumatrana* Jack above.

SAPINDUS Linnaeus.

S. rubiginosus Roxb. Pl. Coromand. 1: 44. pl. 62. 1795; Jack, Mal. Misc. 1 (1): 11. 1820; reimpr. Hook. Bot. Misc. 1: 280. 1830; III. 184; IV. 88; V. 214. Penang = *Erioglossum rubiginosum* (Roxb.) Blume. India southward through Malaysia to New Guinea and tropical Australia.

SONERILA Roxburgh.

S. erecta Jack, Mal. Misc. 1 (5): 7. 1820; reimpr. Hook. Bot. Misc. 2: 63. 1830; III. 331; IV. 187; V. 225. Penang. Undoubtedly represented by *Wallich 4092* and other collections from Penang. Malay Peninsula and reported from as far north as eastern Bengal.

S. heterophylla Jack, op. cit. 2 (7): 16. 1822; reimpr. Hook. Jour. Bot. 1: 368. 1834; III. 333; IV. 189; V. 254 (*Sonerila pauciflora* Blume, Cat. Gew. Buitenz. 42. 1823). West coast of Sumatra at Tapanuly. A duplicate of the original Jack collection is in the Delessert herbarium at Geneva. Represented by various collections from Sumatra and Java.

S. moluccana Roxb. Fl. Ind. 1: 182. 1820, ed. 2, 1: 178. 1832; Roxb. ex Jack, Mal. Misc. 1 (2): 7. 1820; reimpr. Hook. Bot. Misc. 2: 64. 1830; III. 332; IV. 188; V. 226. Penang. Of this *Sonerila begoniaefolia* Blume, Flora 14: 490. 1831, is a synonym, as is *S. paradoxa* Naud. (1851). Roxburgh's description is very short and unsatisfactory, but that of Jack is excellent in all respects. The original author's statement that the species was a native of the Moluccas has confused the issue, for Roxburgh used the term "Moluccas" to cover other parts of the Malay Archipelago. It is certain that his type actually came from Penang; Jack's specimen was undoubtedly named at Calcutta, or by comparison with the description in his copy of Roxburgh's manuscript. Some have surmised that Roxburgh intended to write "malaccana" instead of "moluccana," but this is an unnecessary assumption. The latest to discuss the case was Bakhuizen van den Brink f., Rec. Trav. Bot. Néerl. 40: 254. 1843,

¹⁸ For *Mallotus albus* sensu Pax & Hoffm. Pflanzenreich 63 (IV. 147. VII): 168. 1914, non Muell.-Arg., the proper name is apparently *M. tetracoccus* [Roxb.] Kurz, For. Fl. Brit. Burma 2: 382. 1877, provided one is permitted at a later date, to add what manifestly was its intended name-bringing synonym, *Rottlera tetracocca* Roxb. Fl. Ind. ed. 2, 3: 826. 1832. This was Alston's selection, Trimen, Handb. Fl. Ceyl. 6: 267. 1931, followed by Croizat, Jour. Arnold Arb. 21: 503. 1940. Its type was a Silhet specimen, and Roxburgh's description is an ample one.

who preferred to retain Blume's name of 1831; but it is apparent from his references that he did not see Jack's excellent description of 1820. Malay Peninsula, Sumatra, Banka, Java. I accept Roxburgh's earlier name with confidence and reduce Blume's later one as a synonym of it. The species does not occur in the Moluccas.

SPHALANTHUS Jack, Mal. Misc. 2 (7): 55. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 155. 1835; III. 339; IV. 195; V. 274 = *Quisqualis* Linnaeus.

S. confertus Jack, l.c.; reimpr. ll.cc. Sumatra, without definite locality = *Quisqualis conferta* (Jack) Exell, Jour. Bot. 69: 122. 1931 (*Q. densiflora* Wall. List no. 4011. 1831, *nom.*; Miq. Fl. Ind. Bat. 1 (1): 611. 1955, *descr.*; *Sphalanthus diversifolius* Jack ex Steud. Nomencl. ed. 2, 2: 621. 1841, *nom.*). A specimen of the original Jack collection is in the Delessert herbarium at Geneva. Malay Peninsula, Sumatra.

SPHENODESME Jack, Mal. Misc. 1 (1): 19. 1820; reimpr. Hook. Bot. Misc. 1: 285. 1830; III. 43; IV. 43; V. 219.

S. pentandra Jack, l.c.; reimpr. ll.cc. Penang. The type of the genus, the species extending from Assam to southern China, southward through Burma and Indo-China to the Malay Peninsula and Borneo. *Sphenodesme* Jack was a new name for *Roscoea* Roxb. *nom. nud.* (1814), non Smith (1804), and *S. pentandra* Jack is supposedly the same as *Roscoea pentandra* Roxb., *nom. nud.* (1814); but the first published descriptions are those of Jack.

STAGMARIA Jack [App. Descr. Mal. Pl. 12. 1820]; Jack ex G. Don, Gen. Syst. 2: 76. 1832; Hook. Comp. Bot. Mag. 1: 267. 1836; reimpr. III. 175; IV. 79 = *Gluta* Linnaeus.

S. verniciflua Jack, l.c.; reimpr. ll.cc.; G. Don l.c. Sumatra at Natal on the west coast = *Gluta benghas* Linn. Siam to the Malay Peninsula, Sumatra, Java, and Borneo. Engler changed the spelling of the specific name to *renghas*, as this is one of the Malay names of the species, and one may assume that Linnaeus adopted the spelling *benghas* through some kind of an error.

STERCULIA Linnaeus.

S. angustifolia Roxb. Hort. Beng. 50. 1814, *nom. nud.*; Roxb. ex Jack, Mal. Misc. 1 (1): 21. 1820; reimpr. Hook. Bot. Misc. 1: 287. 1830; III. 223; IV. 127; V. 220; Roxb. Fl. Ind. ed. 2, 3: 148. 1832. Penang = *S. rubiginosa* Vent. Hort. Malm. 2: sub *pl.* 91. 1804 (*S. jackiana* Wall. List no. 1134. 1829, et in Hook. Bot. Misc. 1: 287. 1830). Roxburgh's *nomen nudum* of 1814 and his very imperfect description of 1832 were based on specimens taken from a tree cultivated in the Calcutta Garden labeled as having come from Nepal. King in 1891 stated that Roxburgh's excellent colored drawing at Calcutta is unlike any *Sterculia* known from any part of the outer Himalayan region or the plain at its base. He concluded that Roxburgh's statement as to Nepal was due to a mislabeled tree. He retained *Sterculia angustifolia* Roxb., so well described by Jack, as a valid species allied to *S. rubiginosa* Vent., but separated by certain style characters which I have not been able to check. Ridley, however, Fl. Mal. Pen. 1: 371. fig. 27. 1922, reduced *S. angustifolia* Roxb. ex Jack to *S. rubiginosa* Vent. In any case the Jack description validated Roxburgh's *nomen nudum* of 1814, and the species must be interpreted from this and from Penang specimens. Burma to Indo-China through the Malay Peninsula to Sumatra, Java, and Borneo.

S. coccinea Jack, Mal. Misc. 1 (1): 20. 1820; reimpr. Hook. Bot. Misc. 1: 286. 1830; III. 222; IV. 126; V. 219, non Roxb. (1832). Penang (*S. laevis* Wall. List no. 1138. 1829; Hook. Bot. Misc. 1: 287. 1830, in obs.). Wallich definitely published *Sterculia laevis* in 1829 as a new name for *S. coccinea*, as described by Jack, but not *S. coccinea* Roxb. Hort. Beng. 50. 1814, *nom. nud.* (Fl. Ind. ed. 2, 3: 151. 1832, *descr.*). But Jack's excellent description of 1820 antedates that of Roxburgh by twelve years. Adelbert in Backer, Beknopte Fl. Java IV. B (II) Sterc. 22, 1944, correctly interpreted Jack's species. Burma and Siam, the Malay Peninsula, Sumatra, Borneo, and Java.

It is *Sterculia coccinea* Roxb. 1814, *nom. nud.*, Fl. Ind. ed. 2, 3: 151. 1832, that needs to be renamed, and for this species, its type from India, I propose the name *Sterculia indica*, *nom. nov.* I have not been able to locate any other actually published name for this widely distributed species, which extends from Sikkim, Bhotan, and Assam to Burma and Indo-China (but is not as yet recorded from Siam). *Sterculia bracteata* Gagnep. of Indo-China is apparently a closely allied species.

STROPHANTHUS De Candolle.

S. *plicatus Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 218. 1916, *nom. nud.* Sumatra at Bencoolen, and Penang = *Scleranthera dubia* (Sims) Pichon, Not. Syst. 14: 90. 1951. Synonyms are *Cameraria dubia* Sims (1814), *Wrightia dubia* Spreng. (1825), and *Strophanthus jackianus* Wall. List no. 1643. 1828, *nom. nud.*, Wall. ex G. Don, Gen. Syst. 4: 85. 1838, *descr.* Some modern authors place the species in *Wrightia*, others in *Strophanthus*. I believe Pichon is correct in proposing the new generic name *Scleranthera* to take this Jack species and an allied, perhaps even an identical one, of Siam and Indo-China. The species is closer to *Wrightia* than to *Strophanthus*, but I am convinced that it cannot properly be referred to either of these genera. Malay Peninsula and Sumatra.

TABERNAEMONTANA Linnaeus.

T. macrocarpa Jack, Mal. Misc. 2 (7): 80. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 253. 1836; III. 32; IV. 32; V. 286. Sumatra, inland from Bencoolen = *Ervatamia macrocarpa* (Jack) comb. nov. (*Pagiantha macrocarpa* Markgr. Notizbl. Bot. Gart. Berlin 12: 546. 1935). Additional synonyms are: *Orchipeda sumatrana* Miq. Fl. Ind. Bat. Suppl. 553. 1863; Hallier f. Ann. Jard. Bot. Buitenz. 13: 285. 1896, Bull. Herb. Boiss. 6: 615. 1898; *Neuburgia *sumatrana* Boerl. Handl. Fl. Nederl. Ind. 2: 392. 1899; *Tabernaemontana monocarpa* Steud. Nom. ed. 2, 2: 658. 1841, *sphalm*; *Tabernaemontana plumeriaefolia* Elm. Leaflet. Philip. Bot. 1: 333. 1908; *Tabernaemontana plumeriaefolia* Merr. Enum. Philip. Fl. Pl. 3: 326. 1923. Sumatra, Borneo, Philippines, and apparently in the Malay Peninsula and Java. I have seen Miquel's type of *Orchipeda sumatrana*, a Teysmann specimen from Sumatra, and also Achmad 110 from Simaloer Island near Sumatra, while Krukoff 4190 a sterile specimen, may belong here; also from Borneo Hallier 1363, Wood 927, 1802, Clemens 9809, 21210, 26195, Ramos 1304, Haviland & Hose 3501, and Neth. Ind. For. Serv. 16316; and from the Philippines Elmer 7502, 7754, and Bur. Sci. 33826 Ramos & Edano.

I strongly suspect that *T. sphaerocarpa* Blume, Bijdr. 1028. 1826, as described in detail by Koorders & Valeton, Meded. Lands Plant. 11: 103. 1894 (Bijdr. Boomsoort. Java 1: 103), and as well illustrated by them, Atlas Baumart. Java 4: pl. 623, 624. 1916 = *Pagiantha sphaerocarpa* Markgr.

Notizbl. Bot. Gart. Berlin 12: 546. 1935 = *Ervatamia sphaerocarpa* Burkill, Kew Bull. 1935: 317. 1935, may well belong here, and *Tabernaemontana megacarpa* Merr. Philip. Jour. Sci. 4: Bot. 318. 1909 = *Pagiantha megacarpa* Markgr. l.c., of which no specimens are actually available to me at this time, may also represent a form of Jack's species. In view of the discordant elements placed in *Pagiantha*, particularly as to the shape, size, and general characters of the fruits (compare those of *T. pandacqui* Poir. with those of *T. macrocarpa* Jack and *T. sphaerocarpa* Blume, all supposed to belong in *Pagiantha*), I see nothing to be gained by recognizing a distinct genus here. At the Rijksherbarium, Leiden, where I made numerous notes on various species in this difficult group, *Tabernaemontana plumeriaefolia* Elm. had been referred to *Rejoua*, where I believe it does not belong, while *Tabernaemontana sumatrana* Merr. Contr. Arnold Arb. 8: 139. pl. 13. 1934 had been placed with one of Miquel's species. It is not the same as Jack's species but is an *Ervatamia*. *Pseudixora sumatrana* Miq. Fl. Ind. Bot. 2: 209. 1857 = *Randia sumatrana* Miq. Ann. Mus. Bot. Lugd.-Bat. 4: 235. 1869, should be compared. Note the slender elongated corolla tubes, which are very different from those of *T. macrocarpa* Jack.

Under suspicion are various collections from the Malay Peninsula and Java, distributed as representing *Tabernaemontana sphaerocarpa* Blume. Two Johore collections, neither with good flowers, *Corner 20696* and *Ngadiman 34741*, are suspiciously similar to Sumatra specimens which I refer to Jack's species. On the whole, the few flowers I have seen of Java material seem to be more slender than are those of Jack's species as I here interpret it.

Jack described the fruits as being subglobose and as large as citrons. The fruit characters of the various species above reduced conform, as is also the case with the other characters in Jack's distinctly good description. I do not hesitate in accepting what is, in my judgment, the oldest specific name for the form which has large subglobose, not ridged or keeled fruits, large and prominently nerved leaves, and fairly large flowers with relatively thick corolla tubes. Here is a case where it seems to be apparent that an early-named and well-described species has been rather consistently ignored, largely, it is suspected, because there is no extant type of Jack's species. Here it is not at all difficult, now that modern collections from Sumatra are available, to match Jack's original description with some of these collections.

TACCA Linnaeus.

T. cristata Jack, Mal. Misc. 1 (5): 23. 1820; reimpr. Hook. Bot. Misc. 2: 73. 1830; III. 9; IV. 9; V. 234. Singapore and Penang (*T. rafflesiana* Jack ex Wall. List no. 5172. 1832, *nom. nud.*). A characteristic well-known species. Malay Peninsula, Sumatra, Borneo.

TERNSTROEMIA Mutis ex Linnaeus.

T. acuminata Jack, Mal. Misc. 2 (7): 26. 1822; reimpr. Hook. Jour. Bot. 1: 375. 1834; III. 204; IV. 108; V. 259. West coast of Sumatra at Tapanuly = *Saurauia* sp. aff. *S. tristyla* DC. Known only from Jack's description. Jack merely accepted Roxburgh's misinterpretation of the genus.

T. cuspidata Jack, op. cit. 2 (7): 28. 1822; reimpr. Hook. Jour. Bot. 1: 377. 1834; III. 206; IV. 110; V. 260. Sumatra at Salumah, on the west coast = *Saurauia* sp. Like *T. serrata* Jack but with 5-celled ovaries and 5 styles. Known only from Jack's description.

T. pentapetala Jack, Mal. Misc. 1 (5): 40. 1820; reimpr. Hook. Bot. Misc. 2:

84. 1830; III. 204; IV. 108; V. 242. Penang = *Saurauia* sp. Clearly in the group with *S. tristyla* DC. *Cleyera pentapetala* Spreng. Syst. 2: 596. 1825 is a synonym. Known only from Jack's description.

T. rubiginosa Jack, Mal. Misc. 1 (5): 38. 1820; reimpr. Hook. op. cit. 83: III. 203; IV. 107; V. 241. Sumatra = *Saurauia rubiginosa* (Jack) comb. nov. (*Cleyera rubiginosa* Spreng. Syst. 2: 596. 1825; *Saurauia jackiana* Korth. Verh. Nat. Gesch. Bot. 127. 1842, quoad syn. Jack). All Sumatra specimens that I have seen named as representing *Saurauia jackiana* Korth. (Korthals!, *Beccari* 669, *Lörzing* 5689, *Bünnemeyer* 3463), have pedicels up to 1.5 cm. long, somewhat appressed scaly below, but not setose, while the sepals are broadly ovate, coriaceous, glabrous, rugose when dry, up to 1 cm. long. They do not represent the species that Jack described. On the Korthals sheet is an unpublished binomial indicative of his original intention of describing his specimen as a new species. Fortunately there is an extant type of Jack's species in the Rijksherbarium, Leiden. It is a rather poor specimen, but the pedicels are up to 3 cm. long and rather densely setose, as are the sepals. This important specimen was filed under *S. cauliflora* DC., where it does not belong. The leaves are about 15 × 8 cm. with about 14 pairs of nerves. I have not succeeded in matching the Jack type with any other collection.

T. serrata Jack, Mal. Misc. 2 (7): 27. 1822; reimpr. Hook. Jour. Bot. 1: 376. 1834; III. 205; IV. 109; V. 259. Pulo Nias, off the west coast of Sumatra = *Saurauia media* Korth. Verh. Nat. Gesch. 125. 1842 (*S. camptodonta* Miq. and *S. inflexidens* Miq., 1862). A species in the group with *S. tristyla* DC., Jack's type which I have seen, being preserved in the Rijksherbarium, Leiden. The synonymy as above indicated is based on unpublished herbarium notes of C. B. Clarke, who actually examined Jack's and Miquel's types. Jack's specific name is invalidated in *Saurauia* by *S. serrata* DC. (1822). Known only from Sumatra.

TETRACERA Linnaeus.

T. arborescens Jack, Mal. Misc. 1 (5): 45. 1820; reimpr. Hook. Bot. Misc. 2: 87. 1830; III. 218; IV. 122; V. 244. West coast of Sumatra, Tapanuly Bay. A Jack specimen is preserved in the Rijksherbarium, Leiden. *Tetracera lucida* Wall. List 6631. 1832, *nom.*, validated by Ridley, Fl. Mal. Pen. 1: 5. 1922, is a synonym, fide Dr. Hoogland (*T. euryandra* sensu Hook. f. Fl. Brit. Ind. 1: 32. 1872, non Vahl). Malay Peninsula, Sumatra. There are doubtless botanical quibblers who might deny the correctness of this interpretation merely because Jack erred in describing this as a tree; it was corrected by him in one of his letters to Nathaniel Wallich; see Jour. Straits Br. Roy. As. Soc. 73: 229. 1916.

TETRANTHERA Jacq. (1797) = *Litsea* Lam. (1791), *nom. conserv.*

T. cordata Jack, Mal. Misc. 2 (7): 34. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 148. 1835; III. 356; IV. 212; V. 263. West coast of Sumatra = *Litsea cordata* (Jack) Hook. f. (*L. cordifolia* Griff.). Malay Peninsula, Sumatra, Borneo.

UROPHYLLUM Wallich in Roxb. Fl. Ind. 2: 184. 1824; reimpr. Calc. Jour. Nat. Hist. 4: 17. 1844; IV. 17. This genus was first named *Patisna* Jack, but never published; see Burkill, Jour. Straits Br. Roy. As. Soc. 73: 196, footnotes 175, 218, 238, 1916. Jack also proposed the alternate name *Wallichia* for it, but Wallich, to whom Jack had extended certain discretionary powers, substituted

his own name, *Urophyllum*, apparently being intrigued by Jack's reference to "those acuminate gentry the Patisnae." I therefore do not accept Griffith's correction of *Urophyllum* Wallich to *Urophyllum* Jack. Wallich did credit the copy to Jack, as also for the two species, but the published names are Wallich's. Burkill's suggestion that the name *Wallichia* Reinwardt (1823), non Roxb. (1819), may have been due to Jack's having mentioned the name to Reinwardt when he visited Buitenzorg in 1821, is probably correct. Blume, in publishing it, apparently thought that Reinwardt originated the name.

- U. glabrum** Wall. op. cit. 186; reimpr. Calc. Jour. Nat. Hist. 4: 18. 1843; IV. 18. Penang = *Urophyllum arboreum* (Reinw. ex Blume) Korth. This was Wallich's own binomial, as he originated the generic name. He copied Jack's specific description. The species is common and widely distributed in the Malay Peninsula and the Sunda Islands; but *Wallichia arborea* Reinw. (1823) = *Urophyllum arboreum* (Reinw.) Korth. was published one year earlier than Jack's species. As I understand the species, some of the synonyms are *Wallichia arborea* Reinw., 1823; *Axanthes arborea* Blume, 1826; *Schwenkfeldia glabra* Spreng., 1827; *Urophyllum repandulum* Miq., 1857, and *Urophyllum hexandrum* O. Kuntze, 1891. Malay Peninsula, Sumatra, Java, Borneo, very many collections. The Philippine form referred here is the allied *U. memecyloides* (Presl) Rolfe.
- U. villosum** Jack ex Wall. in Roxb. op. cit. 185; reimpr. ll.cc. Penang. Two exact synonyms are *Schwenkfeldia malaccensis* Spreng. (1827) and *S. villosa* D. Dietr. (1839); others are *Axanthes tomentosa* Blume ex DC., 1830, and *Urophyllum tomentosum* Miq., type of both from Penang. I know this species only from Penang, Singapore, and various parts of the Malay Peninsula.

UVARIA Linnaeus.

- U. hirsuta** Jack, Mal. Misc. 1 (5): 46. 1820; reimpr. Hook. Bot. Misc. 2: 87. 1830; III. 220; IV. 125; V. 245. Penang. One of the rather strongly characterized species of the genus. Malay Peninsula, Sumatra, Java; the Burma record perhaps doubtful as the species has not been recorded from Siam. The "Molucca" *Uvaria pilosa* Roxb. Fl. Ind. ed. 2, 2: 665. 1832 is a synonym of Jack's species. Its type was undoubtedly from Penang or Sumatra. The strongly marked species does not occur in the Moluccas.

VACCINIUM Linnaeus.

- V. sumatranum** Jack, Mal. Misc. 2 (7): 18. 1822; reimpr. Hook. Jour. Bot. 1: 370. 1834; III. 35; IV. 35; V. 255. Gunong Bunko (Sugarloaf Mountain), northeast of Bencoolen, Sumatra. Apparently not as yet associated with any other described species, but clearly in the group with *V. ellipticum* (Bl.) Miq. and *V. laurifolium* (Bl.) Miq. of Java, and probably the same as one of these.

VERATRUM Linnaeus.

- V. malayanum** Jack, Mal. Misc. 1 (2): 25. 1820; reimpr. Hook. Bot. Misc. 2: 74. 1830; III. 9; IV. 9; V. 234. Penang = *Hanguana malayana* (Jack) Merr. Philip. Jour. Sci. 10: Bot. 3. 1915. Synonyms are *Hanguana kassintu* Blume (1827), *Veratonia malayana* Miq. (1859), and *Susum malayanum* Planch. (1892). Malay Peninsula, Sumatra, Java, Borneo, and Palawan, Mindoro and Mindanao in the Philippines. *Hanguana* Blume dates from 1827, *Susum* Blume from 1830, and *Veratonia* Miq. from 1859.

VITEX Linnaeus.

V. arborea Roxb. Hort. Beng. 46. 1814, *nom.*; Roxb. ex Jack, Mal. Misc. 1 (1): 18. 1820; reimpr. Hook. Bot. Misc. 1: 285. 1830; III. 40; IV. 40; V. 218; Roxb. Fl. Ind. ed. 2, 3: 73. 1832. Sumatra = *V. pubescens* Vahl (1794). India to Indo-China southward through the Malay Peninsula to Sumatra, Borneo, Java, the Philippines, Celebes, and Timor. Some botanists have followed Hallier f. in accepting the older *V. latifolia* Lam. as the proper name for this species, but Lamarck's binomial of 1788 is invalidated by the earlier *V. latifolia* Mill. (1768).

VITIS Linnaeus.

V. racemifera Jack, Mal. Misc. 2 (7): 94. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 258. 1836; III. 194; IV. 98; V. 294. Sumatra, no definite locality, but surely from the west coast = *Ampelocissus racemifera* (Jack) Planch. in DC. Monog. Phan. 5: 410. 1883. I feel certain that *Rahmat si Toroës* (Boeea) 107, 1657, 2180, 3875, 7158, 9299, 9548, and *Yates* 706, all from Sumatra, represent Jack's species. Planchon, while recognizing the species and correctly transferring it to *Ampelocissus*, based his description entirely on Jack's excellent one. At the same time he described *A. korthalsii* Planch., type from Sumatra, as new, but expressed the opinion that it might not be distinct from Jack's species. Also to be compared here are the Sumatra collections referred to *A. thyrsoiflora* (Blume) Planch. and *Vitis polystachya* Wall.

WALLICHIA Reinwardt ex Blume = *Urophyllum* Wallich.

W. *glabra Jack ex Burkill, Jour. Straits Br. Roy. As. Soc. 73: 255. 1916, *nom. nud.* = *Urophyllum glabrum* Wall.; see p. 249.

WORMIA Rottboell.

W. excelsa Jack, Mal. Misc. 2 (7): 69. 1822; reimpr. Hook. Comp. Bot. Mag. 1: 221. 1836; III. 219; IV. 123; V. 281. West coast of Sumatra at Bencoolen = *Dillenia excelsa* (Jack) Gilg in Engl. & Prantl, Nat. Pflanzenfam. 3 (6): 123. 1893. Hoogland, in his monograph of *Dillenia* L., Blumea 7: 68. 1952, lists about 20 synonyms, among them *Capellia multiflora* Blume (1825), *Wormia oblonga* Wall. (1855), *W. grandifolia* Miq. (1863), and others. Malay Peninsula, Banka, Sumatra, Java, Borneo, and Balabac in the Philippines.

W. pulchella Jack, op. cit. 70; reimpr. ll.cc. West coast of Sumatra at Natal = *Dillenia pulchella* (Jack) Gilg in Engl. & Prantl, l.c. Malay Peninsula, Riouw and Lingga Archipelagos, Banka, Sumatra, and Borneo. Synonyms after the Hoogland treatment are *Dillenia micrantha* Martelli and *D. parvifolia* Martelli.

ZINGIBER Adanson.

Z. gracile Jack, Mal. Misc. 1 (1): 1. 1820; reimpr. Hook. Bot. Misc. 1: 273. 1830; III. 3; IV. 3; V. 209. Penang. The latest critical consideration of the species is that of Holttum, Guard. Bull. Singapore 13: 63. 1950. Widely distributed in the Malay Peninsula.

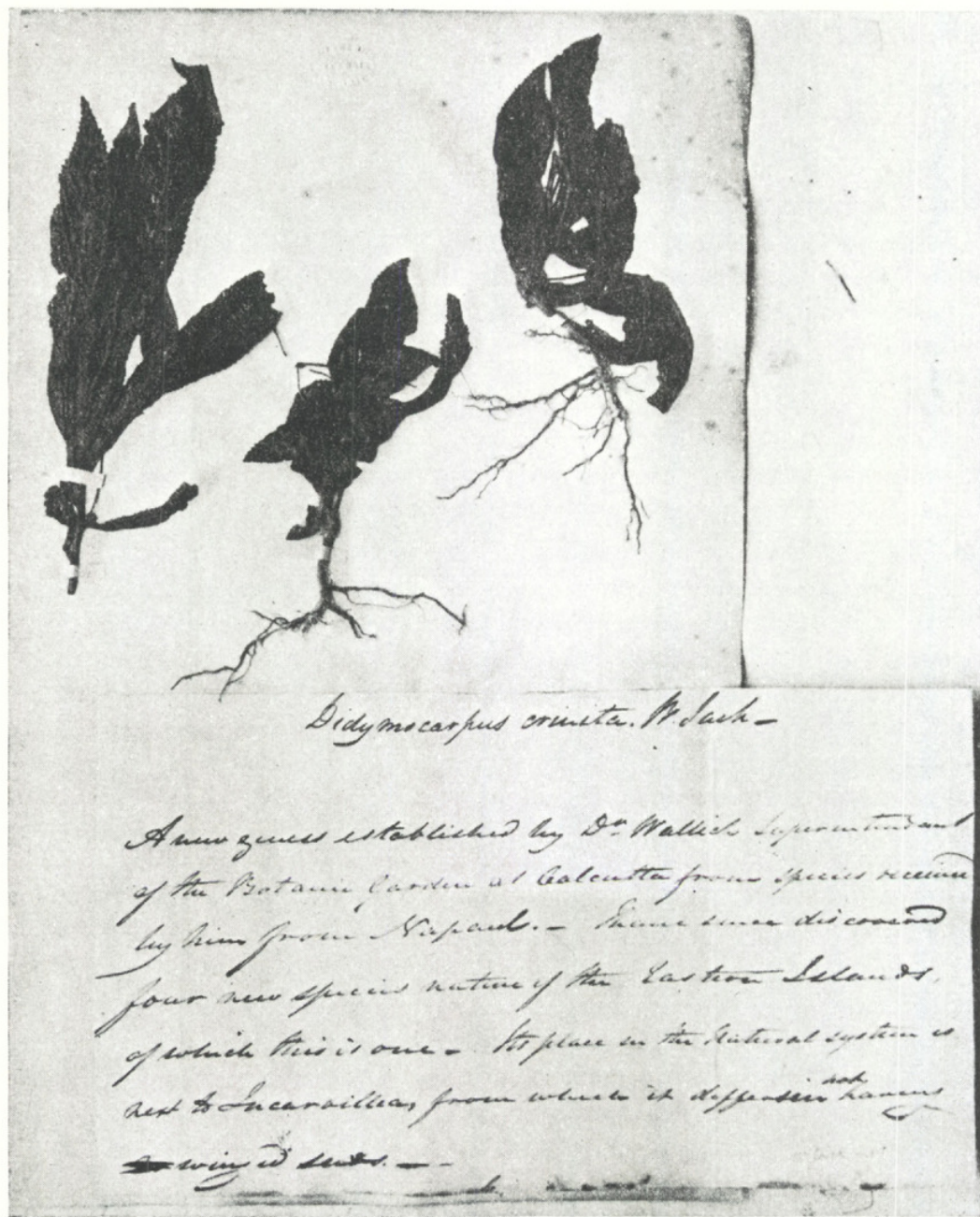


PLATE 1. TYPE COLLECTION OF DIDYMOCARPUS CRINITA JACK, THE LABEL IN WILLIAM JACK'S HANDWRITING (HERB. EDINBURGH)



Merrill, Elmer D. 1952. "William Jack's genera and species of Malaysian plants." *Journal of the Arnold Arboretum* 33(3), 199–251.

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