



Research Article

Accepted names, relevant synonyms and typifications of Roxburgh names in Euphorbiaceae, s. l. with reference to Icones at Calcutta

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Abstract: This paper deals with the accepted names, relevant synonyms and typifications of the 92 unpublished Flora Indica drawings drawn by local Indian artists for William Roxburgh in the Calcutta herbarium (CAL) belonging to the family Euphorbiaceae, s. l., including Phyllanthaceae and Putranjivaceae. These drawings represent 33 genera and 79 species. Lectotypes are designated here for 18 accepted names (or their basionyms/ replaced names) and 16 synonyms. A new name, *Macaranga williamroxburghii* Chakrab. has been applied replacing the illegitimate name *Urtica involoucrata* Roxb.

Key words: Icones Roxburghianae; Euphorbiaceae; Phyllanthaceae; Putranjivaceae; nomenclature; typifications; new name.

Introduction

William Roxburgh (1751–1815) was among one of the first Botanists who gave a definite shape to Indian Botany. He was born in Underwood, Ayrshire, Scotland and studied medicine at the University of Edinburgh. He joined the East India Company's Madras Medical Service as an Assistant Surgeon on 28 May 1776. After his promotion to the rank of Surgeon in 1780, Roxburgh was stationed at Samalkot and he worked at the Coromandel Coast up to 1793 and during this period he also met Johann Gerhard König (pupil of Linnaeus), a doctor and a botanist. They went on several expeditions together for collecting plants. In 1789 he was appointed as Natural Historian of East Indian Company. Roxburgh moved to Calcutta as the Superintendent of the East India Company's Botanic Garden, the present A. J. C. Bose Indian Botanical Garden at Shibpur, Howrah, near Calcutta (Kolkata). Working here, he started getting world-wide recognition as a botanist. He was instrumental in introducing many plant species to India and simultaneously he sent many plants to Kew, UK. Soon after his arrival in India he began making descriptions of the native plants, and throughout his career he continued methodically describing all the plants

that were available to him. At the same time that he wrote his description, he nearly always had life-size drawings of the plants (or specimen thereof) made by Indian artists. In all he described about 2600 species and had drawings made of more than 2500 of them (Sealy, 1956). His voluminous work, '*Flora Indica*' was published after his death. Roxburgh left for England from Calcutta in 1813 at the age of 62 spending some 37 years in India. He died at Edinburgh in 1815.

As already mentioned by Sealy (1956) and Forman (1997), Roxburgh left copies of his manuscripts and drawings with William Carey, a missionary and botanist who first arranged the printing of '*Hortus Bengalensis*' in 1814, containing a list of some 3500 species growing in the Botanic Garden at Calcutta, of which over 1500 were Roxburgh's new species and genera; the second part is a list of about 450 species, mostly new, which were included in the manuscript, '*Flora Indica*' but not yet introduced into the Botanic Garden. A selection of 300 of Roxburgh's drawings and descriptions was published as '*Plants of the Coast of Coromandel*' in London with the support of the East India

Company under the direction of Sir Joseph Banks. The publication appeared in 12 parts from 1795 to 1820. The first volume of the first edition of Roxburgh's '*Flora Indica*' was published in 1820, followed by the second volume in 1824. Roxburgh's descriptions in this edition were enriched by the invaluable notes and additions of Dr. Wallich identifiable by the initials 'N.W.' in the text. The second edition of '*Flora Indica*' was published in 1832; Roxburgh's sons were unable to obtain permission to use Wallich's notes and descriptions, and so the editor William Carey omitted them from the reprint. As a result, the 1832 edition was published in three volumes containing Roxburgh's manuscripts much as he had left it, and representing Roxburgh's complete Botanical work in India, except the Cryptogams. As regards the '*Flora Indica*' drawings, their importance in interpreting Roxburgh's names was explained by Sealy (1956). The '*Flora Indica*' manuscript in Kew is bound in three volumes containing 2579 numbered descriptions, not arranged in any systematic sequence. At the time of writing each description, Roxburgh almost always had a life-size watercolour drawings with dissections made by one of his team of Indian artists, and the number of the corresponding description was added to the drawing followed by the name of the species, not always the name finally used in '*Flora Indica*' (Forman, 1997). More than one copy of each drawing was made; the drawings at Kew often bear Roxburgh's handwriting, sometimes on the reverse side in pencil, giving the name of the plant depicted, thus proving his personal involvement with the drawings. There is therefore a very close link between Roxburgh's descriptions and drawings. There are many instances where a Roxburgh drawing is far superior to a corresponding specimen, for the purpose of interpreting the name of the species in question, and therefore the drawing would be far preferable to serve as the type (Forman, 1997). Of the 2579 numbered descriptions in Roxburgh's manuscript, 2512 are represented by numbered drawings at Kew (Sealy, 1956). Of equal importance to the Kew set are the 2595 drawings at Calcutta, fully listed by Sanjappa *et al.* (1994). These drawings at Calcutta also bear

Roxburgh number as well as his handwriting in pencil. Each drawing sheet at Calcutta measures about 45 × 30 cm, mounted on thicker sheets of the same or slightly larger size (Sanjappa *et al.* 1994). Each drawing represents almost always the natural size of a single species. Later, A. T. Gage, Superintendent of Calcutta Botanic Garden (1906–1923) got the Roxburgh's drawings arranged according to the sequence of families, genera and species as in J. D. Hooker's '*The Flora of British India*' and got them bound in 35 volumes. Each plate or drawing bears the name of the species with two numbers on either side by an unknown hand but they are written faintly on the face and in ink on the verso in Roxburgh's hand. These numbers and names were rewritten (by an unknown hand) on the face of the drawing before they were mounted on thick sheets. The original numbers and names can still be read by holding the sheet against bright light (Sanjappa *et al.* 1994).

The present investigation is a part of the project initiated by the Botanical Survey of India on the interpretation of the unpublished drawings by William Roxburgh in the library of Calcutta herbarium (CAL). There are 92 such drawings at CAL belonging to the Euphorbiaceae, s. l., including Phyllanthaceae and Putranjivaceae and as per the present studies they represent 33 genera and 79 species (one species with two varieties). It is hoped that this presentation will be helpful in assigning the correct recognized names to the unpublished '*Flora Indica*' drawings of the Euphorbiaceae, s. l. preserved at CAL as well as K. The typifications will be helpful in correct application of these names. Lectotypes are designated here for 18 accepted names (or their basionyms/ replaced names) and 16 synonyms. A new name, *Macaranga williamroxburghii* Chakrab. has been proposed here replacing the illegitimate name *Urtica involoucrata* Roxb.

Materials and Methods

The present research is based on the analysis of literature and examination of specimens preserved in several herbaria: A, BM, BR, B-W, C, CAL, G, E, FR, HAL, K, L, LD, LINN, LIV, MO, MPU and P. Except for CAL, the relevant

specimens in all other herbaria and drawings (at K) were examined through digital images. The ICN articles cited throughout the text follow the Shenzhen Code (Turland *et al.*, 2018), with one exception that a personal communication to Dr. John McNeill made in 2017 requesting clarification of the Art. 7.10 of Melbourne Code (McNeill *et al.*, 2012) (Art. 7.11 of Shenzhen Code), in effect that time. The list of Forman (1997) was always consulted for the possible Roxburgh type specimens or drawings. The publications of Sealy (1956) and Sanjappa *et al.* (1994) were consulted at every step for the corresponding drawing numbers at CAL and K. The names on the drawings are given first for each entry in alphabetical order with their numbers in brackets followed by the accepted names, relevant synonyms and typifications. References to the publications of Roxburgh, especially *Hortus Bengalensis* (1814) and *Flora Indica*, edited by W. Carey (1832a, b) are cited in all cases, if available. Distribution of each species is also indicated. For each holotype, the isotypes, if available, are cited. Similarly, for a lectotype, isolectotypes, the remaining syntypes, if available, have been cited. However, in case of uncited original materials, which are not syntypes, I have cited them as “remaining original material”.

Nomenclature and typifications

(2099) *Acalypha chinensis*

Acalypha australis L., Sp. Pl. 2: 1004. 1953; Airy Shaw in Kew Bull. 35: 584. 1980. Type citation: “Habit in America meridionali”.

Type (lectotype, designated by Airy Shaw, 1980): Herb. Linn. No. 1139.5 (LINN-HL1139-5!).

= *Acalypha chinensis* Roxb., Fl. Ind. 3: 677. 1832. Type citation: “A native of China. From Canton it was sent to the Botanic garden, where it blossoms and ripens its seed during the rains; and perishes at the approach of the cool weather in December.”

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 2099 (CAL!). Remaining original material: Icones Roxburghianae, No. 2099 (K!).

Distribution: Native to China, Taiwan, Laos, Vietnam, Japan, Korea and Philippines; introduced into India, Turkey, Tadzhikistan, Ukraine, Russia, Australia (New South Wales,

Queensland), Bulgaria, Italy, North America (New York); naturalized in India, Russia, Australia and parts of Europe.

(271/2) *Acalypha ciliata*

Acalypha ciliata Forssk., Fl. Aegypt. -Arab. 162. 1775; Roxb., Hort. Bengal. 69. 1814; Fl. Ind. 3: 676. 1832; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 65. 1986. Type citation: “Yemen in montibus inferioribus ad Taes inter fegetes.”

Type (lectotype, designated by Radcliffe-Smith, 1986): Yemen, Apr. 1763, Forsskal 902 (C10001553!; isolectotype BM000951486!).

Distribution: Tropical Africa, Southern Arabia, Pakistan, India, Sri Lanka, Nepal and Bangladesh.

(2557, 2550 on drawing) *Acalypha conferta*

Acalypha brachystachya Hornem., Enum. Pl. Hort. Hafn. 1: 1807; Hort. Bot. Hafn. 2: 909. 1815; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 62. 1986. Type citation: “Hort. Hafn.”

Type (lectotype, designated by Radcliffe-Smith, 1986): Specimen cultivated in Copenhagen Botanic Garden in 1806 from seed sent from China, Herb. Hornemann (C10011083!).

= *Acalypha conferta* Roxb. [Hort. Bengal. 69. 1814, nom. nud.] Fl. Ind. 3: 677. 1832. Type citation: “A native of China, from thence introduced into the Botanic garden, where it grows, flowers freely, and ripens its seed during the hot season.”

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 2557 (No. 2550 on drawing) (CAL!). Remaining original material: Icones Roxburghianae, No. 2557 (No. 2550 on drawing) (K!).

Distribution: Central and East Tropical Africa, Pakistan, Sri Lanka, India, Nepal, China, Taiwan, Thailand and Malesia (Sumatra, Java and Lesser Sunda Isl.).

Note: As clarified by Sagun *et al.* (2010: 35), *Acalypha supera*, often associated here, is an imperfectly known species. Seeds of *A. conferta* were brought to Calcutta Botanic Garden from China through Mr. W. Kerr in 1800.

(271/1) *Acalypha indica*

Acalypha indica L., Sp. Pl. 2: 1003. 1753; Roxb., Fl. Ind. 3: 675. 1832; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 65. 1986. Type citation: “Habitat in Indiis ad fimeta.”

Type (lectotype, designated by Radcliffe-Smith, 1986): Sri Lanka, Herb. Hermann 3: 2, No. 341 (BM000621792!); isolectotypes Herb. Hermann 1: 4, No. 341 (BM000621236!, BM000 621237!); Herb. Hermann 2: 84, No. 341 (BM000621782!).

Distribution: Palaeotropical; introduced in the Neotropics.

Note: As explained by Sagun *et al.* (2010: 45), the lectotypification by Radcliffe-Smith (1986: 65) is acceptable rather than that of Coode (1982: 78) which represents *Acalypha lanceolata* Willd., in accordance with Art. 9.14 of the ICN.

(2411) *Adelia castanicaarpa*

Chaetocarpus castanocarpus (Roxb.) Thwaites, Enum. Pl. Zeyl. 275. 1861; van Welzen in Rheede 4: 98. 1994. – *Adelia castanicaarpa* Roxb., Fl. Ind. 3: 848. 1832. Type citation: “A large timber tree, a native of Silhet and Chittagong.”

Type (lectotype, designated by van Welzen, 1994): [unpubl. icon] Icones Roxburghianae, No. 2411 (K!). Remaining original material: Icones Roxburghianae, No. 2411 (CAL!).

Distribution: Sri Lanka, India, Bangladesh, Myanmar, China, Cambodia, Vietnam, Thailand, Malaysia, Sumatra and Borneo.

Note: van Welzen (1994: 98) cited the type of *Adelia castanicaarpa* as: “Type: Icones Roxburghianae (K, holo), India, Bengal, Boolkokra.” Thus, van Welzen definitely accepted the Roxburgh’s drawing (presumably No. 2411) in the Kew herbarium as the type, satisfying Art. 7.11 and 9.22 of the ICN, and it should be treated as an effective lectotypification.

(121) *Adelia neriifolia*

Homonoia riparia Lour., Fl. Cochinch. 2: 637. 1790; van Welzen in Blumea 43: 138. 1998. Type citation: “Habitat spontanea ripus fluminum in Cochinchina.”

Type (holotype): Vietnam, *Louriero s.n.* [222] (BM000020442!).

= *Adelia neriifolia* B. Heyne ex Roth, Nov. Pl. Sp. 375. 1821. Type citation: “Novae et elegantis hujus speciei feminieum specimen ex India orientali benevole communicavit Veneratiis. BENJ. HEYNE sub hoc nominae.”

Type (lectotype, designated by van Welzen, 1998): India [orientalis], Assam, Benjamin Heyne

in Wallich 7953 B (K000247052!; isolectotypes BM000020436, *p.p.* [left hand side specimen]!, BR0000013320683!, K001128615!).

= *Adelia neriifolia* Roxb., Fl. Ind. 3: 849. 1832, *nom. illeg.* Type citation: “A native of Coromandel, where it flowers during the hot season.”

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 121 (CAL!). Remaining original material: Icones Roxburghianae, No. 121 (K!).

Distribution: Sri Lanka, India, Bangladesh, Myanmar, China, Taiwan, Cambodia, Laos, Vietnam, Thailand and throughout Malesia.

Notes: van Welzen (1998: 138) cited the type of *Adelia neriifolia* B. Heyne ex Roth as: “Type: Wallich 7953B (*Hb. Heyne*) (K, holo; iso in BM, K), India orientalis.”, thus lectotypifying the name effectively. Roxburgh (1832b) described *Adelia neriifolia* separately and the lectotype designated here is an excellent drawing. There is a specimen at LINN (LINN-HS1566-2!), collected from “Ind. or.” by Buchannan in 1800 bearing annotation “*Adelia neriifolia* R.” but I am not sure whether this is handwriting of Roxburgh.

(988) *Aleurites triloba*, (1914) *Ricinus dicoccus*

Aleurites moluccanus (L.) Willd., Sp. Pl., ed. 4, 4(1): 590. 1805; Fawcett & Rendle, Fl. Jamaica 4: 315. 1920; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 53. 1986. – *Jatropha moluccana* L., Sp. Pl. 2: 1006. 1753. Type citation: “Habitat in Moluccis, Zeylona.”

Type (first-step lectotype, designated by Fawcett & Rendle, 1920): “Herb. Hermann in Herb. Mus. Brit.” (BM). Second-step lectotype (designated by Radcliffe-Smith, 1986): Sri Lanka, Herb. Hermann 3: 27, No. 348 (BM000621904!); isolectotype Herb. Hermann 4: 8, No. 348 (BM000628047!).

= *Aleurites trilobus* J.R. Forst. & G. Forst., Char. Gen. Pl., ed. 2, 112, t. 56. 1776; Roxb., Fl. Ind. 3: 629. 1832; A.C. Sm., Fl. Vitiensis Nova 2: 549. 1981. Type citation: Type not designated.

Type (lectotype, designated by Smith, 1981): Polynesia, J.R. Forster & J.G.A. Forster *s.n.* [214] (BM001014824!). Remaining original material: Without precise locality, J.R. Forster & J.G.A. Forster *s. n.* [D. N. 131] (fragm. FR0031090!). = *Ricinus dicoccus* Roxb., Fl. Ind. 3: 690. 1832.

Type citation: "Some plants were received into the Botanic garden at Calcutta from Amboyna in 1798. Now, in 1808 they have grown to be small trees, about twenty feet high."

Type (lectotype, designated here): Without locality (presumably India, Hort. Bot. Calcutt.), *Roxburgh s.n.* (BR0000008880321!). Remaining original material: Without locality (presumably India, Hort. Bot. Calcutt.), *Roxburgh s.n.* (BR0000008880291!). *Icones Roxburghianae*, No. 1914 (CAL!, K!).

Distribution: Native of tropical Asia and Oceania, from India and China to Polynesia and New Zealand; widely cultivated in the tropics.

Note: As pointed out by Jarvis (2007), the name *Jatropha moluccana* was first lectotypified by Fawcett & Rendle (1920) who clearly mentioned: "Type in Herb. Hermann in Herb. Mus. Brit." Subsequently Radcliffe-Smith (1986) pinpointed the type to a single specimen: Type: Sri Lanka, Hermann Herbarium, Vol. III, p. 27 (BM, lectotype!). Thus the relectotypification of the name by Stuppy *et al.*, (1999:80) stands superfluous. As regards the name *Aleurites trilobus*, Smith (1981: 548) clearly mentioned: "*Aleurites triloba* is typified by a J. R. & G. Forster collection made in the Society Islands during Cook's second voyage; one of two sheets at BM, labelled "G. Forster's Herbarium" and "360. *Aleurites triloba* may be taken as the lectotype." Here again, Stuppy *et al.*, (1990:80) overlooked this publication and relectotypified the name. Furthermore, Welzen *et al.*, (1999:439) treated *Ricinus dicoccus* (as "*dioicus*") as a synonym of *Melanolepis multiglandulosa* (Reinw. ex Blume) Rchb. & Zoll. (Euphorbiaceae) and lectotypified the name to Rumph. Herb. Amb. 4: t. 64, 1743, which refers to *M. multiglandulosa*. However, this is an odd choice as Roxburgh (1832b) provided detailed description to his plant and the original material is available at BR. Hence, the name *Ricinus dicoccus* has been relectotypified here and accommodated under *Aleurites moluccanus* as a synonym.

(2378) *Alnus dioica*

Aporosa octandra (Buch.-Ham. ex D. Don) A.R. Vickery, in H. Hara *et al.*, Enum. Fl. Pl. Nepal 3: 193. 1982; Chakrab. & M. Gangop. in J. Econ. Taxon. Bot. 17: 166. 1993. – *Myrica? octandra*

Buch.-Ham. ex D. Don, Prodr. Fl. Nepal. 56. 1825. Type citation: "Hab. ad Hethaura Nepalensium. *Hamilton.*"

Type (holotype): Nepal, Ettaura, 2 Apr. 1802, *Buchanan-Hamilton s.n.* (BM000521992!).

= *Alnus dioica* Roxb., Fl. Ind. 3: 580. 1832. Type citation: "Kokra the vernacular name at Silhet, where the tree is indigenous, and grows to be of considerable size."

Type (lectotype, designated by Chakrabarty & Gangopadhyay, 1993): [unpubl. icon] *Icones Roxburghianae*, No. 2378 (CAL!). Remaining original material: *Icones Roxburghianae*, No. 2378 (K!).

Distribution: Pakistan, India, Nepal, Bhutan, Bangladesh, Myanmar, China, Laos, Cambodia, Vietnam, Thailand and Malesia (Java, Sumatra, Borneo and Celebes).

(1698) *Andrachne trifoliata*

Bischofia javanica Blume, Bijdr. Fl. Ned. Ind. 1168. 1826 [1827]; van Welzen in Blumea 61: 273. 2016. Type citation: "in sylvis montanis Provinciarum Javae occidentalis."

Type (lectotype, designated by van Welzen, 2016): Java, *No collector [Blume] s.n.* (L0448126!).

= *Andrachne trifoliata* Roxb. [Hort. Bengal. 70, nom. nud.] Fl. Ind. 3: 728. 1832. Type citation: "A large tree of quick growth; a native of various parts of India."

Type (lectotype, designated by van Welzen, 2016): [unpubl. icon] *Icones Roxburghianae*, No. 1698 (CAL!).

Note: As pointed out by van Welzen (2016: 275), Forman (1997) did not include *Andrachne trifoliata* in his list of possible Roxburgh type specimens or drawings. Sealy (1956: 308) also mentioned that there is no corresponding drawing in Kew. However, Sanjappa *et al.* (1994) mentioned that the drawing No. 1698 is available at CAL and on this basis van Welzen (2016) designated the drawing at CAL as the lectotype of the name. Although he had not examined the drawing in CAL or its image (The Note that he wrote on p. 274 makes clear that he was assuming the labelling of the illustration at CAL was correct, despite Forman not having recognized its potential as original material), there is no rule in the *Code* preventing this designation as an effective lectotypification (Dr.

John McNeill, personal communication).

Distribution: India, Nepal, Bhutan, Bangladesh, Myanmar, Ryukyu Islands, Taiwan, Laos, Vietnam, China, Thailand, throughout Malesia to Polynesia.

(1297) *Antidesma paniculata*, (108) *Antidesma pubescens*

Antidesma ghaesembilla Gaertn., Fruct. Sem. Pl. 1: 189, t. 39, f. 5. 1788 (as *ghesaembilla*); Philcox in Dassan. & Clayton, Rev. Handb. Fl. Ceylon 11: 276. 1997; Petra Hoffm., *Antidesma* Malesia Thailand 124. 2006. Type citation: “*Ghaesembilla zeylon*.”

Type (lectotype, designated by Philcox, 1997): [icon] Gaertner, Fruct. Sem. Pl. 1: 189, t. 39, f. 5. 1788.

= *Antidesma pubescens* Roxb., Pl. Coromandel 2: 35, t. 167. 1802; Fl. Ind. 3: 770. 1832. Type citation: “Pollarie of the Telingas. This also is a large tree, a native of the same places with *Stilago diandra*, and flowers at the same time.”

Type (lectotype, designated by Hoffmann, 2006): [unpubl. icon] Icones Roxburghianae, No. 108 (K!). Remaining original material: Icones Roxburghianae, No. 108 (CAL!). [icon] Roxb., Pl. Coromandel 2: 35, t. 167. 1802.

= *Antidesma paniculatum* Roxb. ex Willd., Sp. Pl., ed. 4, 4(2): 764. 1806; Roxb., Fl. Ind. 3: 770. 1832. Type citation: “Habitat in India orientali.”

Type (holotype): India, *Roxburgh s.n.* (B-W18350-010!).

Distribution: Sri Lanka, India, Pakistan, Nepal, Bhutan, Bangladesh, Myanmar, China, Laos, Cambodia, Vietnam, Thailand, through Malesia to Northern Australia.

(unnumbered) *Bradleia hirsuta*

Glochidion zeylanicum (Gaertn.) A. Juss., Euphorb. Gen. 107, t. 3. 1824 var. *tomentosum* (Dalzell) Trimen, Syst. Cat. Fl. Pl. Ceylon 79. 1885 & Handb. Fl. Ceylon 4: 29. 1898; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 253. 2018. – *Glochidion tomentosum* Dalzell, Hooker’s J. Bot. Kew Gard. Misc. 3: 38. 1851.

Type citation: “Crescit in Canara.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): India, Bombay, *Dalzell s.n.* (K000246366!). Remaining original material: India, Bombay, *Dalzell s.n.* (CAL, herbarium accession number 403302!).

= *Bradleia hirsuta* Roxb. [Hort. Bengal. 104. 1814, *nom. nud.*] Fl. Ind. 3: 699. 1832. – *Glochidion hirsutum* (Roxb.) Voigt, Hort. Suburb. Calcutt. 153. 1845. Type citation: “A native of Prince of Wales’ Island.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): India, [?] Hort. Bot. Calcutt., *Roxburgh in Wallich* 7861 B (K001081195!). Remaining original material: Icones Roxburghianae, unnumbered (CAL!); Icones Roxburghianae, No. 2559 (No. 2552 on drawing) (K!).

Distribution: India, Sri Lanka, Bhutan, Bangladesh, Myanmar, Thailand, China (Hainan & Yunnan), Hongkong and Taiwan.

Note: While the drawing in CAL is unnumbered, that at K is uncoloured and bears the number 2559 (2552 on drawing by error).

(2398) *Bradleia lanceolaria*

Glochidion lanceolarium (Roxb.) Voigt, Hort. Suburb. Calcutt. 153. 1845; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 229. 2018. – *Bradleia lanceolaria* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 697. 1832. Type citation: “Angooti, the vernacular name in Silhet, where it is indigenous, and grows to be a large, useful timber tree.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): Bangladesh, *Roxburgh* 2523 (BM000951386!). Remaining original material: Bangladesh [?], *Roxburgh* 2525 (BM000951387!). Icones Roxburghianae, No. 2398 (CAL!, K!).

Distribution: India, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, Cambodia, Laos, Vietnam and China.

(1699) *Bradleia multilocularis*

Glochidion multiloculare (Roxb. ex Willd.) Voigt, Hort. Suburb. Calcutt. 152. 1845 – *Agyneia multilocularis* Roxb. ex Willd., Ges. Naturf. Freunde Berlin Neue Schriften 4: 206. 1803; *Sp. Pl.*, ed. 4, 4 (1) : 569. 1805. – *Bradleia multiloculare* (Roxb. ex Willd.) Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 696. 1832 (as *multilocularis*). – *Phyllanthus multilocularis* (Roxb. ex Willd.) Müll. Arg. in Flora 48: 370. 1865. Type citation: “Madras, in horto Andersoniano”

Type (holotype): India, *Roxburgh [in Rottler] s.n.* (B-W17938-010!).

Distribution: India, Nepal, Bhutan, Bangladesh and Myanmar.

(471) *Bradleia nitida*

Glochidion zeylanicum (Gaertn.) A. Juss., Euphorb. Gen. 107, t. 3. 1824; Chakrab. & M. Gangop. in J. Econ. Taxon. Bot. 19: 226. 1995 var. *zeylanicum* – *Bradleia zeylanica* Gaertn., Fruct. Sem. Pl. 2: 128, t. 109. 1790. Type citation: “*Gunu* – *Kierille*. Zeylon.”

Type (lectotype, designated by Chakrabarty & Gangopadhyay, 1995): [icon] Gaertner, Fruct. Sem. Pl. 2: t. 109. 1790.

= *Bradleia nitida* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 699. 1832. – *Glochidion nitidum* (Roxb.) Voigt, Hort. Suburb. Calcutt. 153. 1845. Type citation: “A small tree or large shrub, a native of the moist vallies amongst the Circar mountains.”

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 471 (CAL!). Remaining original material: Icones Roxburghianae, No. 471 (K!).

Distribution: India, Sri Lanka, Bangladesh, Myanmar, Thailand and throughout Malesia to N Australia.

Note: Chakrabarty & Gangopadhyay (1995) inadvertently designated a lectotype of *Bradleia nitida* to a specimen collected by an unknown collector from the Calcutta Botanic Garden, housed in Kew (K001081199!). However, there is no definite evidence (such as handwriting of Roxburgh) that this specimen was used by Roxburgh for describing the species and therefore another lectotype is designated here.

(1700) *Bradleia pinnata*

Glochidion obscurum (Roxb. ex Willd.) Blume, Bijdr. Fl. Ned. Ind. 585. 1826. – *Phyllanthus obscurus* Roxb. ex Willd., Sp. Pl., ed. 4, 4(1): 581. 1805. – *Bradleia pinnata* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 700. 1832, *nom. superfl.* Type citation: “Habitat in India orientali.”

Type (lectotype, designated here): India, *Roxburgh s.n.* (B-W17971-020!). Remaining original material: India, *Roxburgh s.n.* (B-W17971-010!).

Distribution: Vietnam, Cambodia, Thailand, Malaysia, Java, Sumatra, Borneo and Celebes.

Note: Of the two specimens in B-W, the lectotype is a far better and more complete specimen than

the other. Roxburgh (1814: 69) referred to *Phyllanthus obscurus* in the footnote under *Bradleia pinnata* and therefore this is a superfluous name.

(2145) *Bridelia crenulata*, (113) *Cluytia spinosa*

Bridelia retusa (L.) A. Juss., Euphorb. Gen. 109, t. 7, f. 22. 1824; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 5. 1986; S.Dressler in Blumea 41: 289. 1996; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 118. 2018. – *Clutia retusa* L., Sp. Pl. 2: 1042. 1753. Type citation: “Habitat in India.”

Type (first-step lectotype, designated by Radcliffe-Smith, 1986): Sri Lanka, Herb. Hermann 2: 71 (BM). Second step lectotype (designated by Chakrabarty & Balakrishnan, 2018): Sri Lanka, Herb. Hermann 2: 71, No. 367 (BM000621752!; isoelectotype BM000621751!).

= *Clutia spinosa* Roxb., Pl. Coromandel 2: 38, t. 172. 1802 (as *Cluytia*). – *Bridelia spinosa* (Roxb.) Willd., Sp. Pl., ed. 4, 4(2): 979. 1806; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 734. 1832. Type citation: “This species is a tree considerably larger than any of the former.”

Type (lectotype, designated by Dressler, 1996: 289–290) : India, *Roxburgh s.n.* (BR0000006999056 !). Remaining original material: India, *Roxburgh s.n.* (BM000019312!). [icon] Roxb., Pl. Coromandel 2: 38. t. 172. 1802.

= *Bridelia crenulata* Roxb. [Hort. Bengal. 70. 1814, *nom. nud.*] Fl. Ind. 3: 734. 1832 (as *Briedelia*). Type citation: “A large timber tree, a native of the mountainous countries near the mouth of the river Megna, from thence sent by Stephen Harris, Esq. to the Botanic garden, where after twelve years, it blossomed in May and the seed ripened in October.”

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 2145 (CAL!). Remaining original material: Icones Roxburghianae, No. 2145 (K!).

Distribution: Pakistan, India, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, China, Laos, Cambodia, Vietnam, Thailand and Sumatra.

Note: The name *Clutia retusa* was lectotypified three times by different authors differently.

Radcliffe-Smith (1986:5) first designated a lectotype to specimens in the Hermann Herbarium in BM (Vol. 2, fol. 7). Although Radcliffe-Smith did not mention the respective *Flora Zeylanica* number (No. 367 in this case), he

clearly used the term “holotype” (correctable to “lectotype” as per Art. 9.10 of ICN) and cited it in the Hermann herbarium in BM, and this is sufficient to identify the species unambiguously. As Herb. Hermann 2: 7, No. 367 contains two specimens, with separate barcodes, this designation by Radcliffe-Smith constitutes first-step lectotypification (Art. 9.17 of ICN). The subsequent designation by Dressler therefore (1996: 289–290) stands superfluous. Finally, Chakrabarty & Balakrishnan (2018a) designated a second-step lectotype, which is acceptable, again as per Art. 9.17. Jarvis (2007, 2016) mentioned that the name was lectotypified by Radcliffe-Smith in Kew. Bull. 41: 6. 1986. This is puzzling as no such publication by Radcliffe-Smith exists. As regards the name *Bridelia crenulata*, Balakrishnan (1961: 39) designated a lectotype to a collection of Wallich (Wallich 7880), collected from Calcutta Botanic Garden (“*Hort Calc.*”), deposited in CAL. Later, Dressler (1996: 290) also indicated the same collection (Wallich 7880) in BM, G-DC, K and K-W as the type. Forman (1997) did not include this name. Thus, in absence of any evidence that the Wallich’s collection represents the original material of *B. crenulata* and in absence of any other original specimen not traceable in spite of best efforts, the name has been relectotypified here with the excellent Roxburgh drawing at CAL.

(110) *Cluytia collina*

Cleistanthus collinus (Roxb.) Hook.f., Fl. Brit. India 5: 274. 1887; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 137. 2018. – *Clutia collina* Roxb., Pl. Coromandel 2: 37, t. 169. 1802 (as *Cluytia*) & Fl. Ind. 3: 732. 1832. Type citation: “This is a small tree, a native of the hilly parts of the Circars; flowers during the hot season; seed ripe in December and January.”

Type (lectotype, designated by Chakrabarty & Balakrishnan 2018): India, *Roxburgh s.n.* (BR0000006999810!). Remaining original material : India, *Roxburgh s.n.* (BM000951432!, BR0000006999131!). [icon] Roxburgh, Pl. Coromandel 2: 37, t. 169. 1802.

Distribution: India and Sri Lanka.

(112) *Cluytia montana*

Bridelia montana (Roxb.) Willd., Sp. Pl., ed. 4, 4(2): 978. 1806; Roxb., Fl. Ind. 3: 735. 1832;

Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 113. 2018. – *Clutia montana* Roxb., Pl. Coromandel 2: 38, t. 171. 1802 (as *Cluytia*). Type citation: “On the interior mountains it grows to a tree, but on the lower lands it is only found of small size.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): India, *Roxburgh s.n.* (BM000019317!). Remaining original material: [icon] Roxb., Pl. Coromandel 2: 38, t. 171. 1802.

Distribution: India – endemic.

(2400) *Cluytia oblongifolia*

Cleistanthus oblongifolius (Roxb.) Müll.Arg. in DC., Prodr. 15(2): 506. 1966, p.p., quad. var. genuinus, excl. var. scaber; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 145. 2018. – *Clutia oblongifolia* Roxb., Fl. Ind. 3: 730. 1832 (as *Cluytia*). Type citation: “A middling sized tree, a native of the forests of Silhet, where it is called Dookesa.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): [unpubl. icon] Icones Roxburghianae, No. 2400 (CAL!). Remaining original material: Icones Roxburghianae, No. 2400 (K!). **Figure 1.**

Distribution: Bangladesh – endemic.

(111) *Cluytia patula*

Cleistanthus patulus (Roxb.) Müll.Arg. in DC., Prodr. 15(2): 505. 1866; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 148. 2018. – *Clutia patula* Roxb., Pl. Coromandel 2: 37, t. 170. 1802 (as *Cluytia*). Type citation: “This is a small tree, a native of the hilly parts of the Circars; flowers during the hot season; seed ripe in December and January.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): [icon] Roxburgh, Pl. Coromandel 2: 37, t. 170. 1802.

Distribution: Sri Lanka and South India.

(114) *Cluytia scandens*

Bridelia stipularis (L.) Blume, Bijdr. Fl. Ned. Ind. 597. 1826; S. Dressler in Blumea 41: 293. 1996. – *Clutia stipularis* L., Syst. Nat., ed. 12, 2: 663. 1767 & Mant. Pl. 127. 1767. Type citation: “Habitat in India Kattuko-kelang. Kleinhoff.”

Type (lectotype, designated by Dressler, 1996: 294): *Kleynhoff*, Herb. Linn. No. 1206.13 (LINN-HL1206-13!).

= *Clutia scandens* Roxb., Pl. Coromandel 2: 39, t. 173. 1802 (as *Cluytia*) – *Bridelia scandens* (Roxb.) Willd., Sp. Pl., ed. 4, 4(2): 979. 1806; Roxb., Fl.

Ind. 3: 736. 1832. Type citation: “A large woody climbing species, common on banks of rivers and watercourses.”

Type (lectotype, designated by Dressler, 1996: 294): India, *Roxburgh s.n.* (BR0000006999681!). Remaining original material: India [East India], *Roxburgh s.n.* (K000246297!). India, *Roxburgh s.n.* (BM000019310!, BM000833617!, MO-2195589!). India, *Roxburgh [in Wallich]* 7878A (K001128166!). [icon] *Roxburgh*, Pl. Coromandel, 2: 39, t. 173. 1802.

Distribution: India (including Andaman Islands), Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, S China, Taiwan, Malay Peninsula, W Malesia, Philippines to Lesser Sunda Islands.

(2401) *Cluytia semperflorens*

Trigonostemon semperflorens (Roxb.) Müll.Arg. in DC., Prodr. 15(2): 1110. 1866; N.P. Balakr. & Chakrab. in Candollea 46: 628. 1991. – *Clutia semperflorens* Roxb., Fl. Ind. 3: 730. 1832 (as *Cluytia*). Type citation: “a native of Silhet, where it is in flower and seed the whole year round.”

Type (lectotype, designated by Balakrishnan & Chakrabarty, 1991): [unpubl. icon] Icones Roxburghianae, No. 2401 (CAL!). Remaining original material: Icones Roxburghianae, No. 2401 (K!). **Figure 2.**

Distribution: NE India and Bangladesh.

(1687) *Croton aromaticum*, (1997) *Croton drupaceum*

Croton caudatus Geiseler, *Croton*. Monogr. 73. 1807; Chakrab. & N.P. Balakr. in Bull. Bot. Surv. India 34: 37. 1997. Type citation: “India orientali.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 1997): India, *Rottler s.n.* (C10011161!).

= *Croton drupaceus* Roxb. [Hort. Bengal. 69. 1814, nom. nud.] Fl. Ind. 3: 683. 1832 (as *drupaceum*). Type citation: “A native of the country about Dacca.”

Type (lectotype, designated here): Without locality [presumably India, Hort. Bot. Calcutt.], *Roxburgh s.n.* (BM000951447!). Remaining original material: India, Hort. Bot. Calcutt., *Buchanan*

Hamilton in Wallich 7720 A (fragm. E00314204!). Bangladesh, Sylhet, *Wallich* 7720 C (BM000951448!, K0011277729!). Icones Roxburghianae, No. 1997 (CAL!, K!).

Distribution: Pakistan, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, S China, Thailand, Malaysia, Sumatra, Java, Borneo, Philippines, Celebes and Lesser Sunda Islands.

Note: Roxburgh (1814, 1832) never treated the species *Croton aromaticus* L. but his drawing No. 1997 (both at K and CAL) is marked as “*Croton aromaticum*”. Sealy (1956) and Sanjappa *et al.* (1994) clarified that this is referable to *C. drupaceus* instead, a synonym of *C. caudatus* and I agree with that. Moreover, there is no record of cultivation of the South Indian and Ceylonese species *C. aromaticus* in the Calcutta Botanic Garden. Chakrabarty & Balakrishnan (1997: 38) cited the type of *Croton drupaceus* as: “Type: H.B.C. (A native of country about Dacca), *Roxburgh s.n.* (BM - left hand side specimen) (*Roxburgh*, Fl. Ind. Icon. No. 1997, CAL).” As they cited two original materials, this was not an effective lectotypification. The specimens *Wallich* 7720 A at E and *Wallich* 7720 C at K bear handwriting of Roxburgh.

(2558, 2561 on drawing) *Croton bicolor*

Croton argyratus Blume, Bijdr. Fl. Ned. Ind. 602. 1826 (as *argyratum*); Chakrab. & N.P. Balakr. in Bull. Bot. Surv. India 34: 22. 1997; Esser & Veldkamp in Fl. Males. Bull. 14: 169. 2008. Type citation: “in sylvis montium calcareorum Provinciarum occidentaliu Javae”.

Type (lectotype, designated by Esser & Veldkamp, 2008): Indonesia, Java, *No collector [Blume] s.n.* (L0233566!). Remaining original material: Indonesia, Java, *Blume* 1339 (L0233769!); *ibid.*, *Blume* 1499 (L0233768!).

= *Croton bicolor* Roxb. [Hort. Bengal. 69. 1814, nom. nud.] Fl. Ind. 3: 680. 1832. Type citation: “A native of Sumatra. Flowering time in the Botanic garden March and April.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 1997): [unpubl. icon] Icones Roxburghianae, No. 2558 (No. 2561 on drawing) (CAL!). Remaining original material: Icones Roxburghianae, No. 2558 (No. 2551 on drawing) (K!).

Distribution: India (Andaman & Nicobar Islands), Myanmar, Vietnam, Thailand, Malaysia, Java, Sumatra, Borneo, Lesser Sunda Islands, Celebes, Moluccas, Bali and Philippines.

(1295) *Croton oblongifolium*

Croton persimilis Müll.Arg., *Linnaea* 34: 116. 1865. Chakrab. & N.P. Balakr. in J. Econ. Taxon. Bot. 40: 39. 2016. Type citation: "In Ceylonia (Walker! Thwait. n. 2114!), in Indiae orientalis prov. Khasia (Hook. et Thorns. Wall. n. 7718. D.! 7735, C. pr. p.!)."

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2016): Sri Lanka, *Thwaites s.n.*, CP [Ceylon Plants] 2114 (G00312052!; isoelectotypes CAL0000023646!, G00434428!, K000260046!). Syntype: India, Meghalaya, Khasi Hills, *J.D. Hooker & T. Thomson s.n.* (G00312054!).

= *Croton oblongifolius* Roxb. [Hort. Bengal. 104. 1814, *nom. nud.*] Fl. Ind. 3: 685. 1832, *nom. illeg.*, *non* Delile, 1813. – *Croton roxburghii* N.P. Balakr. in Bull. Bot. Surv. India 3: 39. 1862, *nom. illeg.*, *non* Wall., 1840. – *Croton virbalaie* M.R. Almeida, Fl. Maharashtra 4B: 300. 2003 (as *virbalaie*). Type citation: "A small tree, common in forests about Calcutta."

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2016): India, *Roxburgh s.n.* (BM000754910!).

Remaining original material: India, *Roxburgh s.n.* (A00106968!, BR0000006993900!, K000246823!).

Icones Roxburghianae, No. 1295 (CAL!, K!).

Distribution: Sri Lanka, India, Nepal, Bhutan, Bangladesh, Myanmar, SW China, Cambodia, Laos, Vietnam and Thailand.

Note: See Chakrabarty & Balakrishnan (2018b) for full explanation of nomenclature.

(451) *Croton plicatum*

Chrozophora rottleri (Geiseler) A. Juss. ex Spreng., Syst. Veg., ed. 16, 3: 850. 1826; van Welzen in Blumea 44: 419. 1999. – *Croton rottleri* Geiseler, Croton. Monogr. 54. 1807. Type citation: "India Orientali."

Type (lectotype, designated by van Welzen, 1999): India, Tranquebar, *J.P. Rottler s.n.* [Herb. Vahl] (C10011144!).

Croton plicatus auct. *non* Vahl, Symb. Bot. 1: 78. 1790 [= *Chrozophora plicata* (Vahl) A. Juss. ex Spreng., Syst. Veg., ed. 16, 3: 850. 1826]: *sensu* Roxb., Fl. Ind. 3: 681. 1832 (as *plicatum*).

Distribution: Afghanistan, India (including Andaman Islands), Sri Lanka, Pakistan, Bangladesh, Myanmar and Thailand; introduced in Java.

(452) *Croton polyandrum*

Baliospermum solanifolium (Burm.) Suresh in Nicolson *et al.*, Interpret. Van Rheedee's Hort. Malab. 106. 1988. – *Croton solanifolius* Burm., Fl. Malab. 6. 1769 (as *solanifolium*). Type citation: "Naga danti; Tom. 10, Tab. 76".

Type (lectotype, designated here): [icon] Rheede, Hort. Malab. 10: 151, t. 76. 1690.

= *Jatropha montana* Willd., Sp. Pl., ed. 4, 4(1): 563. 1805. – *Baliospermum montanum* (Willd.) Müll.Arg. in DC., Prodr. 15(2): 1125. 1866. – *Croton polyandrus* Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 682. 1832 (as *polyandrum*), *non* Spreng., 1821. Type citation: "Habitat in India orientali."

Type (holotype): India, *Klein s.n.* (B-W17927-010!).

Distribution: Pakistan, India, Sri Lanka, Bhutan, Nepal, Bangladesh, Myanmar, China, Thailand, Cambodia, Laos, Vietnam, Sumatra, Java, Moluccas and Lesser Sunda Islands.

Note: Roxburgh (1832) proposed a new name, *Croton polyandrus*, replacing *Jatropha montana* Willd., as the epithet '*montanus*' was preoccupied under *Croton* (*C. montanus* Willd.).

(990) *Croton tiglium*

Croton tiglium L., Sp. Pl. 2: 1004. 1753; Roxb., Fl. Ind. 3: 682. 1832; Chakrab. & N.P. Balakr. in Bull. Bot. Surv. India 34: 72. 1997; Philcox in Dassan. & Clayton, Rev. Handb. Fl. Ceylon 11: 94. 1997. Type citation: "Habitat in India."

Type (first-step lectotype, designated by Chakrabarty & Balakrishnan, 1997): Sri Lanka, Herb. Hermann 2: 6, No. 343 (BM, photo!). Second-step lectotype (designated by Philcox, 1997): Sri Lanka, Herb. Hermann. 2: 6, No. 343 (BM000621512!); isoelectotypes Herb. Hermann 2: 76, No. 343 (BM000621766!); Herb. Hermann 3: 6, No. 343 (BM000621811!); Herb. Hermann. 4: 10, No. 343 (BM000628053!). Remaining original material: [icon] Burman, Thes. Zeylan. 200, t. 90. 1737.

Distribution: Sri Lanka, India, Bhutan, Bangladesh, Myanmar, China, Vietnam, Taiwan, Thailand, Japan and throughout Malesia.

(1686) *Croton variegatum*

Codiaeum variegatum (L.) A.Juss., Euphorb. Gen. 80, 111, pl. 9, f. 30. 1824; Merr., Interpr. Herb. Amboin. 325. 1917. – *Croton variegatus* L., Sp. Pl. 2: 1199. 1753 (as *variegatum*); Roxb., Fl. Ind. 3: 678. 1832. Type citation: "Habitat in India."

Type (lectotype, designated by Merrill, 1917): [icon] "*Codiaeum medium Chrysosticon*" in Rumphius, Herb. Amboin. 4: 65, t. 25. 1743.

Distribution: Native of Malesia, now under cultivation throughout tropical and subtropical regions of the World.

(1557) *Euphorbia antiquorum*

Euphorbia antiquorum L., Sp. Pl. 1: 450. 1753; Roxb., Fl. Ind. 2: 468. 1832; Wijnands, Bot. Commelins 97. 1983. Type citation: "Habitat in India."

Type (lectotype, designated by Wijnands, 1983): Herb. Clifford: 196, *Euphorbia* 1 (BM000628669!).

Distribution: Pakistan, India (including Andaman & Nicobar Islands), Sri Lanka, Bangladesh, Myanmar, China, Vietnam, Thailand, Malaysia and Indonesia (Java).

(654) *Euphorbia dracunculoides*

Euphorbia dracunculoides Lam., Encycl. 2: 428. 1788; Roxb., Hort. Bengal. 36. 1814 & Fl. Ind. 2: 474. 1832; Radcl.-Sm. in Bosser *et al.*, Fl. Mascar. 160:99. 1982. Type citation: "*Tithymalus foliis linearibus*. Cette plante a été trouvée à l'Isle de France par M. Commerson."

Type (lectotype, designated by Radcliffe-Smith, 1982): Mauritius, Commerson 545 (P-LA, P00381890!). Syntypes: Mauritius, Bourbon Island, Commerson s.n. (MPU014448!, P04831984!, P04831987!).

Distribution: India, Bangladesh, China, Pakistan, Afghanistan, Arabia, Egypt to Africa.

1066 & 1972) *Euphorbia ligularia*

Euphorbia neriifolia L., Sp. Pl. 1: 451. 1753; Radcl.-Sm. in Bosser *et al.*, Fl. Mascar. 160: 93. 1982. Type citation: "Habitat in India."

Type (lectotype, designated by Radcliffe-Smith, 1982): Herb. Linn. No. 630.1 (LINN-HL630-1!).

= *Euphorbia ligularia* Roxb. [Hort. Bengal. 36. 1814, *nom. nud.*] ex Buch.-Ham. in Trans. Linn. Soc. London 14: 285. 1824; Roxb., Fl. Ind. 2: 465.

1832. Type citation: "Habitat in sylvis et ad templa Bengalae orientalis."

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. [1666 &] 1972 (CAL!). Remaining original material: Icones Roxburghianae, No. [1666 &] 1972 (K!).

Distribution: Western Tropical Asia, S & SE Asia, China, Myanmar to Indonesia.

Note: Both Sealy (1956) and Sanjappa *et al.* (1994) indicated the drawing numbers 1066 & 1972 as belonging to *Euphorbia ligularia*. In Kew, however, the drawing is of a leafy twig annotated with the number "1066" at the bottom, while in CAL, the drawing is represented by a leafy twig and another floriferous branchlet and sketches of the flowers. Here, the number "1066" is written at the top and "1066 & 1972" at the bottom right hand corner. Thus the numbers 1066 & 1972 are to be considered as an integrated part of the said drawing. Binojkumar & Balakrishnan (2010, pp. 310–313) were possibly confused with the drawing number/s, typification as well as the identity as they cited the type as (p. 312): "Type: Icones Roxburghianae, illus. no. 1972 (epitypes in K, CAL!)" and mentioned further (p. 313): "Roxburgh indicates the spiral nature of the branches, but his illustration No. 1066 (in CAL!) is exactly similar to the young branch of *E. royleana* Boiss., although illustration No. 1972 (CAL, K!) is similar to *E. neriifolia*. The present study considers No. 1972 of Roxburgh's Icones as lectotype of *E. ligularia*."

(1065 & 1971) *Euphorbia neriifolia*

Euphorbia nivulia Buch.-Ham. in Trans. Linn. Soc. London 14: 286. 1824; Wijnands, Bot. Commelins 101. 1983. Type citation: "Habitat ubique in Indiae sepibus."

Type (lectotype, designated by Wijnands, 1983): [icon] *Ela-calli* Rheede, Hort. Malab. 2: 83, t. 43. 1679.

Euphorbia neriifolia auct. non L., Sp. Pl. 1: 451. 1753: *sensu* Roxburgh, Hort. Bengal. 36: 1814; Fl. Ind. 2: 467. 1832.

Distribution: Pakistan, India, Sri Lanka, Bangladesh and Myanmar.

Note: Binojkumar & Balakrishnan (2010: 315) clarified that *Euphorbia neriifolia sensu* Roxb. (1814, 1832a) is a misapplied name for *E. nivulia*.

(1977) *Euphorbia parviflora*

Euphorbia indica Lam., Encycl. 2: 423. 1788; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 96. 1986. Type citation: "*Tithymalus Indicus annuus dulcis. Indes orientales, & nous a été communiqué par M. Sonnerat.*"

Type (lectotype, designated by Radcliffe-Smith, 1986): India [de l'Inde], Sonnerat s.n. (P-LA, P00381863!).

Euphorbia parviflora auct. non L., Syst. Nat., ed. 10, 2: 1047. 1759; *sensu* Roxb., Hort. Bengal. 36. 1814 & Fl. Ind. 2: 472. 1832.

Distribution: Asia and Africa.

Note: Binojkumar & Balakrishnan (2010: 168–169) clarified that *Euphorbia parviflora sensu* Roxb. (1814, 1832a) belongs to *E. indica*.

(1248) *Euphorbia peltata*

Euphorbia peltata Roxb. [Hort. Bengal. 36. 1814, *nom. nud.*] Fl. Ind. 2: 474. 1832. Type citation: "A native of the interior parts of the Coast of Coromandel; seeds brought from thence to the Company's Botanic garden at Calcutta, grew and have continued sowing themselves, and producing plants every cold season without care."

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 1248 (CAL!). Remaining original material: Icones Roxburghianae, No. 1248 (K!). Figure 3.

Distribution: India (Coromandel coast) – endemic.

Note: According to Binojkumar & Balakrishnan (2010: 269–271) the species has never been recollected after the type.

(1976) *Euphorbia thymifolia*

Euphorbia thymifolia L., Sp. Pl. 1: 454. 1753; Roxb., Hort. Bengal. 36. 1814 & Fl. Ind. 2: 473. 1832; L.C. Wheeler in Rhodora 43: 253. 1941. Type citation: "Habitat in India."

Type (lectotype, designated by Wheeler, 1941): Herb. Linn. No. 630.10 (LINN-HL630-10!).

Distribution: Pantropical; Asia, Australia, Africa and America.

(1975) *Euphorbia tirucalli*

Euphorbia tirucalli L., Sp. Pl. 1: 452. 1753; Roxb., Hort. Bengal. 36. 1814 & Fl. Ind. 2: 470. 1832; L.C. Leach in Kirkia 9: 70. 1973.

Type citation: "Habitat in India."

Type (lectotype, designated by Leach, 1973): [icon] "*Tithymalus indicus frutescens*" in Commelin, Hort. Med. Amstelod. Pl. Rar. 1: 27, t. 14. 1697.

Distribution: Probably indigenous from tropical Africa to India; probably introduced into and naturalized in many other countries including China, Indo-China, South-east Asia and Malesia.

(1558 & 1973) *Euphorbia trigona*

Euphorbia lacei Craib in Bull. Misc. Inform. Kew 1911: 456. 1911; Esser & Chayamarit in Harvard Pap. Bot. 6: 262. 2001. Type citation: "Lakon, Hooey Meh Tan, 600 m., Kerr, 1018. Distr. Burma, Hantawaddy, Yoma Reserve, *Lace*, 2920."

Type (first-step lectotype, designated by Esser & Chayamarit, 2001): Thailand, Northern: Lamphun, Mae Tha (originally "Lakon, Hooey Meh Tan"), 600 m, 25 Feb. 1910, Kerr 1018 (K). Second-step lectotype (designated here): Thailand, Northern: Lamphun, Mae Tha (originally "Lakon, Hooey Meh Tan"), 600 m, 25 Feb. 1910, Kerr 1018 (K001080173!, isolectotypes BM000951577!, K001080174!). Syntypes: Myanmar, Hauntawaddy District, South Hlaing Yoma Reserve, 6 Feb. 1906, *Lace* 2920 (E00314208!, K000246251!).

= *Euphorbia trigona* Roxb. [Hort. Bengal. 36. 1814, *nom. nud.*] Fl. Ind. 2: 468. 1832, *nom. illeg., non* Mill., 1768. Type citation: "This pretty species of *Euphorbia* was brought from the Molucca Islands to the Botanic garden at Calcutta in 1798, where it thrives well, and blossoms in February, March, and April."

Type (lectotype, designated by Esser & Chayamarit, 2001): [unpubl. icon] Icones Roxburghianae, No. 1558 (K!). Remaining original material: Icones Roxburghianae, No. 1558 [& 1973] (CAL!).

Distribution: Myanmar, Thailand, Laos, Java, Borneo, Philippines and Lesser Sunda Islands.

Note: The drawing numbers 1558 and 1973 cited by Sealy (1956) and Sanjappa *et al.* (1994) are integrated numbers, representing a single drawing both in Kew and Calcutta. While the former contains a leafy twig, the latter, in addition to a leafy twig, also contains a flowering branchlet and drawings of flowers (the same page also contains another drawing, numbered as 1974, dealt separately).

(1974) *Euphorbia sessiliflora*

Euphorbia sessiliflora Roxb. [Hort. Bengal. 36. 1814, *nom. nud.*] Fl. Ind. 2: 471. 1832; Esser & Chaya marit in Harvard Pap. Bot. 6: 265. 2001. Type citation: "This pretty little species was brought from Pegue by the Rev. Mr. Felix Carey to this garden, where it blossoms freely during the month of February, at which time it is perfectly destitute of leaves; like the rest it is abundantly lactescent."

Type (lectotype, designated by Esser & Chaya marit, 2001): [unpubl. icon] Icones Roxburghianae, No. 1974 (lectotype K!). Remaining original material: Icones Roxburghianae, No. 1974 (CAL!).

= *Euphorbia kerrii* Craib in Bull. Misc. Inform. Kew 1911: 455. 1911. Type citation: "Near Lakon, in deciduous bamboo jungle, 300 m., Kerr, 974. Lao name, Chidi Dooan."

Type (first-step lectotype, designated by Esser & Chayamarit, 2001): Thailand, Northern, Lamphum/ Chiangmai ("Lakon"), 300 m, 15 Feb. 1919, Kerr 974 (K). Second-step lectotype (designated here): Thailand, Northern, Lamphum/ Chiangmai ("Lakon"), 300 m, 15 Feb. 1919, Kerr 974 (K001080171!; isolectotypes A00047922!, BM000951576!, K001080170!, TCD – *n. v.*).

Distribution: Nepal, China, Laos, Vietnam, Myanmar and Thailand.

(1702) *Excoecaria agallocha*

Excoecaria agallocha L., Syst. Nat., ed. 10, 2: 1288. 1759 & Sp. Pl., ed. 2, 2: 1451. 1763; Roxb., Fl. Ind. 3: 756. 1832; Merr., Interpr. Herb. Amboin. 327. 1917. Type citation: "Habitat in Amboina."

Type (lectotype, designated by Merrill, 1917): [icon] "*Arbor Excaecans*" in Rumphius, Herb. Amboin. 2: 237, t. 79. 1741.

Distribution: India, Sri Lanka, Bangladesh, Myanmar, China, Cambodia, Vietnam, Ryu-Kyu Islands, throughout Malesia to N Australia and the Pacific Islands.

(999) *Gelonium bifarium*

Suregada bifaria (Roxb. ex Willd.) Baill., Hist. Pl. 5: 120. 1874; Ramana *et al.* in Phytotaxa 221: 183. 2015. – *Gelonium bifarium* Roxb. [Hort. Bengal. 73. 1814, *nom. nud.*] ex Willd., Sp. Pl., ed. 4, 4(2): 831. 1806. Type citation: "Habitat in India orientali."

Type (lectotype, designated by Ramana *et al.*, 2015): India, Roxburgh *s.n.* (B-W18501-020!). Remaining original material: India, Roxburgh *s.n.* (B-W10501-010!).

Distribution: India (Andaman & Nicobar Islands), throughout Malesia to N Australia (Chakrabarty & Balakrishnan 2015: 365).

(124) *Gelonium fasciculatum* (as *glabrum* on drawing)

Suregada multiflora (A. Juss.) Baill., Étude Euphorb. 396. 1858. – *Gelonium multiflorum* A. Juss., Euphorb. Gen. 111, t. 10, f. 31A. 1824. Type citation: Type not designated.

Type (lectotype, designated here): [icon] in A. Juss., Euphorb. Gen. 111, t. 10, f. 31A. 1824.

= *Gelonium fasciculatum* Roxb. [Hort. Bengal. 73. 1814, *nom. nud.* (as *fasciculatum*)] Fl. Ind. 3: 832. 1832. Type citation: "This is rather a small tree, a native of the Circar mountains and Bengal."

Type (lectotype, designated here): Without locality (presumably India), *No collector s.n.* [7891] (K001128695!). Remaining original material: Icones Roxburghianae, No. 124 (CAL!, K!).

Distribution: India, Bangladesh, Myanmar, China, Laos, Vietnam, Thailand, Malaysia, Sumatra, Celebes and Lesser Sunda Islands.

Note: According to Ramana *et al.* (2015: 181), "*Gelonium multiflorum* was described by Jussieu (1824) based on collections of Roxburgh from the Coromandel Coast." However, there appears to be no evidence in favour of this statement. There is no material in the Jussieu Herbarium in Paris (P-JU), nor in the general herbarium (P) which can be pinpointed as the type. On the otherhand there is a specimen in the Kew herbarium (K000247065!) preserved as the 'type' of *Suregada multiflora*. This specimen was collected by an unknown collector from 'Coromandel' and was received from the Paris herbarium ("Ex herbario musei Parisiensis"). In absence of any evidence and as the type was not designated by Jussieu (1824), his original drawing is designated here as the lectotype of *Gelonium multiflorum*. The lectotype of *G. fasciculatum* bears identification by Roxburgh in his own handwriting.

(1998) *Gelonium lanceolatum*

Suregada lanceolata (Willd.) Kuntze, Revis. Gen. Pl. 2: 619. 1891. – *Gelonium lanceolatum* Willd., Sp.

Pl., ed. 4, 4(2): 832. 1806; Roxb., Hort. Bengal. 73. 1814 & Fl. Ind. 3: 831. 1832. Type citation: "Habitat in India orientali, D. Klein."

Type (holotype): India, Klein 782 (B-W18502-010!).

= *Gelonium angustifolium* Müll.Arg. in DC., Prodr. 15(2): 1128. 1866, *tantum quoad* vars. *ellipticum et lanceolatum*, excl. var. *spathulato*. – *Suregada angustifolia* (Müll.Arg.) Airy Shaw in Kew Bull. 23: 128. 1969. Type citation: "In insula Ceylonia (Thwait. n. 2101!, 696 pr. p.), et in Malabar (Johnstone! in Hook. et. Thoms. hb. Ind. orient.; in Ceylonia (Thwait. n. 252!, 696 pr. p.)."

Type (first-step lectotype, designated by Airy Shaw, 1969): Sri Lanka, Adams Peak, March 1846, Thwaites CP [Ceylon Plants] 252 (K). Second-step lectotype (designated here): Sri Lanka, Thwaites CP [Ceylon Plants] 252 (K000247072!; isolectotypes G00319624!, K000247073!). Syntypes: India, Cochin, Johnston s.n. (K000247071!); Sri Lanka, Thwaites CP [Ceylon Plants] 696 (G00319623!, G00319625!, K000247068!); Sri Lanka, Thwaites CP [Ceylon Plants] 2101 (G00319622!).

Distribution: Sri Lanka and India.

Note: As per the interpretation of Airy Shaw (1969), *Gelonium angustifolium* var. *ellipticum* and var. *lanceolatum* represent the typical variety while var. *spathulatum* Müll.Arg. (Sri Lanka, Thwaites CP 696, p.p., G00319626!, holotype) is a separate variety. However, the variety *spathulata*, differing only in the spathulate-oblong leaves also appears to be referable here if the extraordinary plasticity in variations exhibited by the species of *Suregada* is taken into consideration and as the other widespread species *G. multiflorum* is not known to occur in Sri Lanka so far.

(5) *Jatropha curcas*

Jatropha curcas L., Sp. Pl. 2: 1006. 1753; Roxb., Fl. Ind. 3: 686. 1832; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 80. 1986. Type citation: "Habitat in America calidiore."

Type (lectotype, designated by Radcliffe-Smith, 1986): Herb. Clifford, 445, *Jatropha* 3 (BM000647406!).

Distribution: Native of tropical America (Brazil), introduced and sometimes under cultivation throughout the tropics of the world.

(1688) *Jatropha glandulifera*

Jatropha glandulifera Roxb. [Hort. Bengal. 69. 1814, nom. nud.] Fl. Ind. 3: 688. 1832. Type citation: "This stout shrub is to be met with in a few gardens about Calcutta, where, in from six or seven years they have grown to be from four to eight feet high; from whence they came I cannot learn; but as the juice is used medicinally, I suspect the plant to be well known, if not indigenous at no great distance."

Type (lectotype, designated here): India, Roxburgh s.n. (BR0000013052072!). Remaining original material: India, East India, Roxburgh s.n. (K000246801!). India, Roxburgh in Wallich 7802 A (K001127935!). Icones Roxburghianae, No. 1688 (CAL!, K!).

Distribution: Sri Lanka, India, Bangladesh and Myanmar.

Note: The specimen at BR is the best specimen among the other available uncited original materials and therefore the same has been designated as the lectotype of the name.

(123 & 2146) *Nageia putranjiva*

Putranjiva roxburghii Wall., Tent. Fl. Nepal. 2: 61. 1826. – *Nageia putranjiva* Roxb. [Hort. Bengal. 71. 1814, nom. nud.] Fl. Ind. 3: 766. 1832, nom. illeg., non Lindl., 1829. Type citation: "A native of the various mountainous countries of Coromandel and Hindoosthan, where it grows to be a large timber tree with an erect straight trunk."

Type (lectotype, designated here): [unpubl. Icon] Icones Roxburghianae, No. 123 [& 2146] (CAL!). Remaining original material: India, Roxburgh s.n. (G00325636!). Icones Roxburghianae, No. 123 [& 2146] (K!). Figure 4.

Distribution: Sri Lanka, India, Pakistan, Nepal, Bangladesh, Myanmar, Thailand, Laos, Vietnam, Cambodia, Malaysia, Java, Moluccas, Lesser Sunda Islands, Celebes and New Guinea.

Note: Forman (1997) did not include *Nageia putranjiva* in his publication. However, the specimen, Roxburgh s.n. (G00325636!) may be regarded as an uncited original material but it is not a good specimen, bearing immature inflorescences. As per Art. 9.12 of the ICN, an uncited original specimen as well a drawing have equal priority in lectotype designation. Hence, the excellent drawing at CAL is designated here as the lectotype of the name

Nageia putranjiva. The corresponding drawings both at CAL and K bear two numbers, 123 and 2146 (Sealy 1956, Sanjappa *et al.* 1994).

(125) *Osyris peltata*

Macaranga peltata (Roxb.) Müll.Arg. in DC., Prodr. 15(2): 1010. 1866; Whitmore, Gen. Macaranga Prodr. 203. 2008. – *Osyris peltata* Roxb. [Hort. Bengal. 71. 1814, *nom. nud.*] Fl. Ind. 3: 755. 1832. Type citation: “A native of the Circar mountains; and of various other mountainous countries.”

Type (first-step lectotype, designated by Whitmore, 2008): India, *Roxburgh s.n.* (BR). Second step lectotype (designated here): India, *Roxburgh s.n.* (BR0000008494009!; isolectotypes BR0000008493989!, BR0000008493996!, BR0000008494016!). Remaining original material: India, *Roxburgh s.n.* (BM000645887!). Icones Roxburgh-ianae No. 125 (CAL!, K!).

Distribution: Sri Lanka, India (including Andaman Islands), Bangladesh, Myanmar and Thailand.

Note: I assume the specimens at BR to be of a single gathering (Art. 8.2) because there is no evidence to prove that they belong to different gatherings, and therefore, a second-step lectotype has been designated here as per Art. 9.17 of the ICN.

(1234) *Pierardia sapida*

Baccaurea ramiflora Lour., Fl. Cochinch. 2: 661. 1790; Haegens in Blumea (Suppl.) 12: 172. 2000; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 103. 2018. Type citation: “Habitat frequens in hortis Cochinchinae.”

Type (lectotype, designated by Haegens, 2000): Vietnam, Hortis Cochinchinae, *Loureiro s.n.* (BM000031252!).

= *Pierardia sapida* Roxb. [Hort. Bengal. 28. 1814, *nom. nud.*] Fl. Ind. 2: 254. 1832. – *Baccaurea sapida* (Roxb.) Müll.Arg. in DC., Prodr. 15(2): 459. 1866. Type citation: “Lutco of the Hindoos, about Tippera, &c. to the eastward of Calcutta, where the tree is indigenous. A few small trees are now in the Company's Botanic garden at Calcutta; they were originally from Tippera”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): India, *Roxburgh s.n.* (BR0000006994082!). Epitype (designated by Chakrabarty & Balakrishnan 2018): India, Hort.

Bot. Calcutt., 1836, Wallich 8072 A (K001128918!; isoepitype K000246748!). Remaining original material: Icones Roxburghianae, No. 1234 (CAL!, K!).

Distribution: India (including Andaman Islands), Bhutan, Bangladesh, Myanmar, China, Cambodia, Laos, Vietnam, Thailand and Malaysia.

Note: While relectotypifying the name *Pierardia sapida*, Chakrabarty & Balakrishnan (2018a: 103) noted: “*Pierardia sapida* Roxb. was lectotypified by Burma?, Wallich 8072 (K), by Haegens (2000). There are two components in Wallich 8072, viz. 8072 A – Hort. Bot. Calcutt. and 8072 B – Koyua, Burma, collected in 1827. None of these sheets bear the annotation by Haegens. However, as he indicated Burma with a question mark, it is presumed that he designated the specimen 8072 B as the lectotype. The other specimen, 8072 A (K001128918!) bears an annotation *Pierardia sapida* but this is not Roxburgh's handwriting and moreover, the date of collection of the duplicate sheet (K000246748!) is written as 1836. There is another component, 8072 C, added later, is Herb. Heyne which was collected in 1808 and 1809. The protologue (1832) gives thus: “Lutco of the Hindoos, about Tippera & c. to the eastward of Calcutta, where the tree is indigenous.” In Hortus Bengalensis (1814): “H. Lutka. Chittagong, Before 1794, S. T. 2, 5.” In absence of any evidence that these were the original materials seen by Roxburgh for describing the species, we are designating a sheet in Herb. BR collected by Roxburgh as the lectotype. However, as this specimen is devoid of flowers and fruits, an epitype is also designated.”

(268) *Phyllanthus cheramella*

Phyllanthus acidus (L.) Skeels in Bull. Bur. Pl. Industr. U.S.D.A. 148: 17. 1909; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 317. 2018. – *Averrhoa acida* L., Sp. Pl. 1: 428. 1753.

Type citation: “Habitat in India.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): [icon] Herb. Hermann 5:306, No. 179? (lectotype BM000621079!). Remaining original material: [icon] in Rheede, Hort. Malab. 3: 57, t. 47, 48. 1682.

= *Phyllanthus longifolius* Jacq., Pl. Rar. Hort. Schoenbr. 2: 36, t. 194. 1797 (as *longifolia*); Roxb.,

Hort. Bengal. 69. 1814; Fl. Ind. 3: 671. 1832. Type citation: "Crescit ad Caracas."

Type (lectotype, designated here): Venezuela, Caracas, [icon.] Jacq., Pl. Rar. Hort. Schoenbr. 2: 36, t. 194. 1797.

Phyllanthus cheramela Roxb. [Hort. Bengal. 104. 1814, *nom. nud.*].

Distribution: Widely cultivated. Probably native to the coastal regions of NE Brazil.

Note: In absence of any specimen, the original drawing of *Phyllanthus longifolius* has been designated here as the lectotype.

(260) *Phyllanthus bacciformis*

Synostemon bacciformis (L.) G.L. Webster in Taxon 9: 26. 1960, in *adnot.* – *Phyllanthus bacciformis* L., Mant. Pl. 294. 1771; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 661. 1832. – *Agyneia bacciformis* (L.) A.Juss., Euphorb. Gen. 24, t. 6. 1824 – *Sauropus bacciformis* (L.) Airy Shaw in Kew Bull. 35: 685. 1980 & Kew Bull., Addit. Ser. 8: 221. 1980; A.J. Scott in Bosser *et al.*, Fl. Mascar. 160: 37. 1982. – *Breynia bacciformis* (L.) Chakrab. & N.P. Balakr. in Bangladesh J. Plant Taxon. 19: 120. 2012. Type citation: "Habitat in Tranquebaria. Koenig."

Type (lectotype, designated by Scott, 1982): India, Koenig s.n. Herb. Linn. No. 1105.6 (LINN-HL1105-6!).

Distribution: Mauritius; India, Sri Lanka, Myanmar, Thailand, China, Vietnam, Malaysia, Borneo, Java, Philippines and Lesser Sunda Islands.

(266) *Phyllanthus gracilis*, (262) *Phyllanthus maderaspatensis*, (1683) *Phyllanthus obcordatus*

Phyllanthus maderaspatensis L., Sp. Pl. 2: 982. 1753; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 654. 1832; Coode in Bosser *et al.*, Fl. Mascar. 160: 26. 1982. Type citation: "Habitat in India."

Type (neotype, designated by Coode, 1982): Without locality (presumably India), 1777, J.G. Koenig s.n. Herb. Linn. No. 1105.12 (LINN!).

= *Phyllanthus obcordatus* Willd., Enum. Pl. Hort. Berol., Suppl. 65. 1814. Type citation: "Habitat in India orientali."

Type (holotype): Germany, Berlin Botanical Garden [Hort. bot. Berol.], No collector s.n. (B-W17954-010!).

= *Phyllanthus obcordatus* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 656. 1832, *nom. illeg.*,

non Willd., 1814. Type citation: "A native of Bengal. Flowering time the close of the rains, and cold season."

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018a: 302): India, Without locality, Roxburgh in Wallich 7906 A (K001128484!). Remaining original material: Icones Roxburghianae, No. 1683 (CAL!, K!).

= *Phyllanthus gracilis* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 655. 1832. Type citation: "A rare, somewhat shrubby plant, growing under the shelter of other bushes, and trees. Teling. Userekee."

Type (lectotype, designated here) : [unpubl. icon] Icones Roxburghianae, No. 266 (CAL!). Remaining original material: Icones Roxburghianae, No. 266 (K!).

Distribution: Tropical Africa to Arabia and eastwards to Pakistan, India, Sri Lanka, Bangladesh, Myanmar, China, Java and Australia.

Note: Neotypification of the name *Phyllanthus maderaspatensis* by Coode (1982) takes precedence over the designation of the same by Radcliffe-Smith (1985: 658).

(254) *Phyllanthus emblica*

Phyllanthus emblica L., Sp. Pl. 2: 982. 1753; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 671. 1832. Type citation: "Habitat in India."

Type (lectotype, designated by Dutta *et al.*, 2012: 371): [icon] "Nelli-Camarum" Rheede, Hort. Malab. 1: 69, t. 38. 1678,

Distribution: Pakistan, India, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, China, Laos, Cambodia, Vietnam, Taiwan, Malaysia, Indonesia (excl. Borneo) and Lesser Sunda Islands.

(1912) *Phyllanthus kirganelia*

Phyllanthus casticum P. Willemet in Ann. Bot. (Usteri) 18: 55. 1796; Coode in Bosser *et al.*, Fl. Mascar. 160: 21. 1982. F. Friedmann, Fl. Seychelles 363. 1994. Type citation: "Habitat frequens in sylvestribus circa Fort-Lewis, aux plaines St. Pierre, &c."

Type (neotype, designated by Friedmann, 1994): Mascarene Islands, Ile de France [Mauritius], Dec. 1847, L.H. Boivin s.n. [1560] (P00121748!).

= *Phyllanthus kirganelia* Willd., Sp. Pl., ed. 4, 4(1): 587. 1805; Roxb., Hort. Bengal. 69. 1814; & Fl.

Ind. 3: 668. 1832. Type citation: "Habitat in Insula Borbonia. Jussieu."

Type (lectotype, designated by Coode, 1982): La Réunion, Commerson s.n. (P-JU - n.v.). Syntype: Bourbon Island, A. de Jussieu s.n. (HAL0118943!).

Distribution: Aldabra, Comoros, Madagascar, Mauritius and Réunion.

Note: Unfortunately, the lectotype of *Phyllanthus kirganelia* at P-JU could not be examined due to limited opportunities. Ralimanana & Hoffmann (2011: 349), unaware of the lectotypification by Coode (1982), redesignated a lectotype of the name *Phyllanthus kirganelia* to a Desfontains collection in B-W (B-W17987-010!). Roxburgh (1832a) mentioned that this is a native of Mauritius and introduced from there into the Botanic Garden at Calcutta by Capt. Tennant in 1802.

(257) *Phyllanthus leucopyrus*

Flueggea leucopyrus Willd., Sp. Pl., ed. 4, 4(2): 757. 1806; G.L. Webster in Allertonia 3: 295. 1984; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 190. 2018. - *Phyllanthus leucopyrus* (Willd.) J. Koenig ex Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 658. 1832. Type citation: "Habitat in India orientali. D. Klein."

Type (first-step lectotype, designated by Webster, 1984): India, Klein 64, 401, 576 (B, photographs in DAV!). Second-step lectotype (designated by Chakrabarty & Balakrishnan, 2018): India, Klein s.n. [64] (B-W18342-010!); isoelectotypes Klein s.n. [401] (B-W18342-020!); Klein s.n. [576] (B-W18342-030!).

Distribution: Arabia, Pakistan, India, Sri Lanka, Bangladesh, Myanmar, China and Africa.

Notes: Radcliffe-Smith (1986: 21) cited the type as: "Holotype: India, Klein in herb. Willd. No. 18342 & 2 isotypes (B-WILLD.); IDC Microfiche No. 7440.30/1334: II. 2-5!" As this statement is not pinpointing a single specimen, this designation also qualifies as first-step lectotypification but it is antedated by that of Webster (1984) by two years.

(259) *Phyllanthus multiflorus*

Phyllanthus reticulatus Poir., Encycl. 5: 298. 1804 (as *reticulata*); Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 32. 1986. Type citation: "Cette plante croît dans les Indes, d'où elle a été communiquée au citoyen Lamarck."

Type (lectotype, designated by Radcliffe-Smith, 1986 or perhaps holotype): Without locality, no collector [Herb. Lamarck] (P-LA - P00381823!).

= *Phyllanthus multiflorus* Willd., Sp. Pl., ed. 4, 4(1): 581. 1805; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 664. 1832. Type citation: "Habitat in India orientali. D. Klein."

Type (holotype): India, Klein s.n. (B-W17972-010!).

Distribution: Pakistan, India, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, China, Vietnam, Laos, Cambodia and through - out Malesia to NE Australia; Tropical W Africa.

(261) *Phyllanthus niruri*

Phyllanthus amarus Schumach. & Thonn., Beskr. Guin. Pl. 421. 1827; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 27. 1986; G.L. Webster in Dassan. & Clayton, Rev. Handb. Fl. Ceylon 11: 226. 1997.

Type citation: "Aumaadoati Incolis. Hyppig." by Radcliffe-Smith, 1986): Ghana [Guinea], [Schumacher &] Thonning s. n. [4] (C). Second-step lectotype (designated by Webster, 1997): Ghana [Guinea], [Schumacher &] Thonning s.n. [4] (C10004333!; isoelectotypes C10004330!, C10004331!, C10004332!).

Phyllanthus niruri auct. non L., Sp. Pl. 2: 981. 1753: sensu Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 659. 1832.

Distribution: Apparently native to the New World, but now a ubiquitous pantropical weed.

Note: Radcliffe-Smith (1986) indicated the type as: "Holotype & 3 isotypes: Ghana, Thonning 4(C); fragment of holotype, photos of holotype and an isotype (K)." He further clarified (Radcliffe-Smith 1987: 58): "Type: Ghana [Guinea], Thonning 4 (C, holo!, 3 iso!, IDC microfiche 2203-2/80: III. 2-6!; 2203-3/83: III. 3, 4!" However, this citation does not pinpoint the lectotype out of the four specimens and therefore I assume this is the first-step lectotypification, narrowed by Webster (1997) to a single specimen by putting his annotation on the sheet. The lectotypification by Mitra & Jain (1987) should also be accepted as a first-step lectotype, but antedated by that of Radcliffe-Smith (1986).

(1684) *Phyllanthus patens*, (255) *Phyllanthus turbinatus*

Breynia retusa (Dennst.) Alston in Ann. Roy. Bot. Gard. (Peradeniya) 11: 204. 1929; Chakrab. &

N.P. Balakr., Indo-Burmese Phyllanthaceae 178. 2018. – *Phyllanthus retusus* Dennst., Schlüssel Hortus Malab. Register 31 (*Breynia* sp.). 1818. – *Phyllanthus turbinatus* J. Koenig ex Roxb. [Hort. Bengal. 104. 1814, *nom. nud.*] Fl. Ind. 3: 666. 1832, *nom. illeg., non* Sims, 1816. Type citation: “Hort. mal. t. 43.”

Type (lectotype, designated here): [icon] Perin nirouri, Ma nirouri, Rheede, Hort. Malab. 5: 85, t. 43. 1685.

= *Phyllanthus patens* Roxb., [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 667. 1832. Type citation: “A native of Chittagong, and from thence introduced by Mr. William Roxburgh, Jun. into the Botanic garden, where it is in flower all the year, and a very ornamental shrub it is.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): India, East India, *Roxburgh s.n.* (K000246633!). Remaining original material: Icones Roxburghianae, No. 1684 (CAL!, K!).

Distribution: Sri Lanka, India, Nepal, Bhutan, Bangladesh, Myanmar, China, Laos, Cambodia, Vietnam, Thailand and Malaysia.

Note: Although [icon] Rheede, Hort. Malab. 5:85, t. 43. 1685 is the only original material of *Phyllanthus retusus*, this name still required an effective lectotypification. *Phyllanthus turbinatus* is an illegitimate name, it included the type of *Breynia retusa* (the plate of Rheede), and is therefore a homotypic synonym of *Breynia retusa*.

(265) *Phyllanthus pendulus*

Phyllanthus pendulus Roxb., [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 662. 1832.

Type citation: “A most beautiful, somewhat shrubby, erect species, when young not unlike *Niruri*, a native of the same places, but very rare. Flowering time the latter part of the wet season. Teling. Telia userekee.”

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 265 (CAL!). Remaining original material: Icones Roxburghianae, No. 265 (K!). **Figure 5.**

Distribution: India – endemic.

Note: Possibly never collected after the type; apparently close to *Phyllanthus debilis* Klein ex Willd., differing in the male cymules appearing among tufts of bracts and the leafy branches often elongated and pendulous, up to 25 cm long.

(2098) *Phyllanthus reclinatus*

Breynia racemosa (Blume) Müll.Arg. in DC., Prodr. 15(2): 441. 1866; Welzen *et al.* in Blumea 59: 89. 2014; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 176. 2018. – *Melanthesa racemosa* Blume, Bijdr. Fl. Ned. Ind. 592. 1826. Type citation: “in fruticetis humidis prope Parong Provinciae Buitenzorg.”

Type (lectotype, designated by Esser in Welzen *et al.*, 2014): Indonesia, Java *Blume* 1036 (L, herbarium registration number 903.155-99!). Remaining original material: Indonesia, Java, *Blume s.n.* (A00098581!).

= *Phyllanthus reclinatus* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 669. 1832. Type citation: “a native of Sumatra, and brought from thence to the Botanic garden by Mr. William Roxburgh, in 1803, where it flowers during the rains chiefly.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): India, Hort. Bot. Calcutt., *Roxburgh s.n.* (K001056932!). Remaining original material: India, *Roxburgh s.n.* (BM000560782!). Icones Roxburghianae, No. 2098 (CAL!, K!).

Distribution: India (Nicobar Islands), Myanmar, Thailand, Malaysia, Sumatra, Java, Borneo, Philippines, Celebes, Lesser Sunda Islands and Bismarck Archipelago.

(1911) *Phyllanthus retusus*, (256) *Phyllanthus virosus*

Flueggea virosa (Roxb. ex Willd.) Voigt, Hort. Suburb. Calcutt. 152. 1845; G.L. Webster in Allertonia 3: 287. 1984; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 192. 2018. – *Phyllanthus virosus* Roxb. ex Willd., Sp. Pl., ed. 4, 4(1): 578. 1805; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 659. 1832. – *Securinega virosa* (Roxb. ex Willd.) Baill. in Adansonia 6: 334. 1866. Type citation: “Habitat in India orientali.”

Type (lectotype, designated by Webster, 1984 or perhaps holotype): India, Nandaradah, 23 Oct. 1794, *Klein s.n.* [748] (B-W17964-010!).

= *Phyllanthus retusus* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 657. 1832, *nom. illeg., non* Dennst., 1818. Type citation: “a native of Bengal, in flower and fruit, in all stages, the whole year.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): India, Bengal, *Roxburgh s.n.*

(K000246632!). Remaining original material: India, East India, *Roxburgh s.n.* Herb. Linn. No. 1452.5 (LINN-HS1452-5!). *Icones Roxburghianae*, No. 1911 (CAL!, K!).

Distribution: Widespread in tropical Asia, Africa and Australia (subsp. *melanthesoides*).

(267) *Phyllanthus rhamnoides*

Breynia quadrangularis (J.G. Klein ex Willd.) Chakrab. & N.P. Balakr. in Bangladesh J. Pl. Taxon. 19: 121. 2012 & Indo-Burmese Phyllanthaceae 175. 2018. – *Phyllanthus quadrangularis* J.G. Klein ex Willd., Sp. Pl., ed. 4, 4(1): 585. 1805. – *Sauropus quadrangularis* (J.G. Klein ex Willd.) Müll.Arg. in Linnaea 32: 73. 1863; Chakrab. & M.Gangop. in J. Econ. Taxon. Bot. 20: 534. 1996. Type citation: "Habitat in India orientali."

Type (lectotype, designated by Chakrabarty & Gangopadhyay, 1996 or perhaps holotype): India, J.G. Klein s.n. (B-W17985-010!).

= *Ceratogynum rhamnoides* Wight, Icon. Pl. Ind. Orient. 5(2): 26, t. 1900. 1852. Type citation: "No station is given, the drawing of the plant and the figs. 1, 2 of the analysis were taken from recent specimens, the rest from the dried ones. Roxburgh calls it 'a small shrub a native of cultivated land, among other shrubs along the coast of Coromandel'."

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): [unpubl. icon] *Icones Roxburghianae*, No. 267 (CAL!). Remaining original material: *Icones Roxburghianae*, No. 267 (K!).

Phyllanthus rhamnoides auct. non Willd., Sp. Pl., ed. 4, 4(1): 480. 1805 [= *Breynia vitis-idaea* (Burm.f.) C.E.C. Fisch.]: *sensu* Roxb., Hort. Bengal. 104. 1814 & Fl. Ind. 3: 663. 1832.

Distribution: Sri Lanka and India (Chakrabarty & Balakrishnan 2018a: 174).

Note: The earlier lectotypification of the name *Ceratogynum rhamnoides* by Welzen (2003: 365) is not in accordance with Art. 7.11 of the ICN as he used the phrase "proposed here" instead of "designated here (hic designatus)" or an equivalent (see Note under *Breynia androgyna*).

(263) *Phyllanthus simplex*

Phyllanthus simplex Retz., Observ. Bot. 5: 29.

1788; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 654. 1832. Type citation: "E Tranquebaria mi Sit Honor, KÖNIG."

Type (lectotype, designated by Fischer, 1932: 65): India, Koenig s.n. (LD1742457!). Syntypes: India, Koenig s.n. (C10011341!, C10011342!, C10011343!).

Distribution: Sri Lanka and India to SE Asia, S China and Malesia (in Melanesia intergrading with *P. virgatus* G. Forst.).

Note: Webster (1997: 213), possibly unaware of the publication of Fischer (1932), inadvertently designated another lectotype in the Copenhagen herbarium. Recently Verwijns *et al.*, (2019: 247) applied a wide concept and treated *P. simplex* as well as *P. narayanswamii* Gamble, a South Indian endemic as synonyms of the Pacific species *P. virgatus* G. Forst., though resorting to a narrow concept in maintaining *P. gardnerianus* (Wight) Baill. as a closely allied distinct species. I have, however, followed here the concept of Webster (1986: 94–95, 1997: 213) who considered *P. simplex* as a distinct species differing from *P. virgatus* in the in the larger seeds, longer fruiting pedicels, papillate ovaries and undissected disc of female flowers. In this context, it may be mentioned that recent collections of *P. narayanswamii* are now available (Satish & Rao, 2019: 20) which show that *P. narayanswamii* is different and distinct from *P. simplex* in the relatively broader coriaceous leaves, slightly thickened along margins and the lateral nerves being much stronger and conspicuously raised on the undersurface. In these characters, *P. narayanswamii* approaches closer to *P. gardnerianus* which, however, does not exhibit such strong lateral venation of the leaves and therefore it seems possible that these two species may ultimately be united, at least as varieties, when further gatherings are made available.

(1685) *Phyllanthus strictus*

Breynia androgyna (L.) Chakrab. & N.P. Balakr. in Bangladesh J. Pl. Taxon. 19: 120. 2012. – *Clutia androgyna* L., Syst. Nat., ed. 12, 2: 663. 1767; Mant. Pl. 128. 1767. – *Sauropus androgynus* (L.) Merr. in Bull. Bur. Forest. Philipp. Islands 1: 30. 1903; Chakrab. & M. Gangop. in J. Econ. Taxon. Bot. 20: 519. 1996, *p.p.*; van Welzen in Blumea 48: 340. 2003. Type citation: "Habitat in India."

Type (lectotype, designated by Chakrabarty & Gangopadhyay, 1996): Herb. Linn. No. 1206.14 (LINN-HL1206-14!).

= *Phyllanthus strictus* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 670. 1832. Type citation: "A native of the Malay Islands, to the eastward of the Bay of Bengal."

Type (lectotype, designated by Chakrabarty & Gangopadhyay, 1996): India, *Roxburgh s.n.* (K000 246333!). Remaining original material: Without locality, *Roxburgh s.n.* (BR000000510 51 82!); East India, *Roxburgh s.n.* (LINN-HS1452-9!); Bangla - desh, Sylhet, *Roxburgh in Wallich* 7933 E (BR0000 013336967!). *Icones Roxburghianae*, No. 1685 (CAL!, K!).

Distribution: Sri Lanka, India, Bhutan, Bangladesh, Myanmar, Thailand, China, Laos, Cambodia, Vietnam, Malaysia, Java, Sumatra, Borneo, Celebes, Moluccas, Philippines, Lesser Sunda Islands and New Guinea.

Note: Chakrabarty & Gangopadhyay (1996: 519) cited the type of *Clutia androgyna* as: "Type: India, Cat. No. 1206/14 (LINN: microfiche!)." Thus, they definitely accepted Cat. No. 1206.14 in the Linnaean herbarium as the type, satisfying Art. 7.11 and 9.22 of the ICN. However, Jarvis (2007) overlooked this publication and accepted that the lectotype of the name *C. androgyna* was designated by Welzen (2003: 340). While doing so, Welzen stated: "Lectotype (suggested here): *Hb. Linnaeus* 1206.14 (holo LINN)." At this point I had requested (by email dated 24 June 2017) Dr. John McNeill (Edinburgh) for clarification of Art. 7.10 of the ICN (McNeill *et al.*, 2012, being in effect in 2017) with reference to the verbs "selected here", "suggested here" and "proposed here" used by van Welzen (2003). Eventually, in a personal communication (dated 26 June 2017) Dr. McNeill clarified: "Your question is quite a puzzling one, as much as for why van Welzen used three different verbs in association with his lectotypifications in his paper (van Welzen, P. C. 2003. Revision of the Malesian and Thai species of *Sauropus* (Euphorbiaceae: Phyllanthoideae). *Blumea* 48: 319–391) as to how they should be treated under the Code." "I have looked at the paper and on six occasions van Welzen referred to the type being "selected here". These are on pages 331, 347, 356, 358 (also a "proposed here"), 370, & 372. There is no

doubt but that "selected here" is a clear equivalent of "designated here (*hic designatus*)" and so these are likely to be effective lectotypifications." "As you note, on one occasion (*Clutia androgyna* L. on page 340) van Welzen used "suggested here". To my mind this clearly does not constitute definite acceptance of the type and I would regard this as not an effective lecto typification." "The four cases (on pages 340, 358, 365, 367) in which van Welzen used "proposed here" are more problematical. On balance and in light of the words "definitely accepted" in Art. 7.10, of which the author should have been aware, I would conclude that these four are not effective lectotypifications. The verb "to propose" implies that some other person or persons will either accept or reject the proposal, so there is a lack of finality, but, equally, there is no suggestion of doubt on the part of the proposer, as there certainly is with the verb "suggested". Hence some might argue that these four are acceptable. But, as I said, the prescriptive wording of Art. 7.10 that van welzen has evidently rejected makes me inclined not to accept those typifications that are only "proposed" and not "selected".

(1913) *Phyllanthus tenellus*

Phyllanthus tenellus Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 668. 1832. Type citation: "Introduced from the Mauritius in 1802, by Captain Tennant."

Type (lectotype, designated by Mitra, 1987: 156): [unpubl. icon.] *Icones Roxburghianae*, No. 1913 (CAL!). Remaining original material: *Icones Roxburghianae*, No. 1913 (K!). **Figure 6.**

Distribution: Pantropical weed of African origin; native of Mascarene Islands; introduced into New World; India and Sri Lanka.

Note: The list of Forman (1997) does not contain any information on *Phyllanthus tenellus*. Webster (1957: 54), followed by Coode (1982: 26) designated a specimen *Wallich* 7892 A, *p.p.* (K001128401 [top left-hand side specimen]!) as the lectotype of the name. However, Mitra (1987), while redesignating a lectotype, clearly pointed out that the said specimen was not the original material used for describing the species. It was collected by Buchanan-Hamilton from Calcutta Botanic Garden on 20 December 1814

and that Roxburgh left India in March 1813 and his Flora Indica manuscript and drawings were completed much before he left Calcutta.

Buchanan-Hamilton, who was in-charge of Garden from November 1814 to 23 February 1815, left India 5 days after the death of Roxburgh, carrying with him all his botanical specimens of the 1807-14 period and gave the same to the Court of Directors of the Company on reaching London. The specimens were handed back to him in 1820 for arrangement and the above noted specimen was included under serial no. 2084 in his 'Catalogue of Dried Plants collected, presented to the Museum of the Hon'ble E. India Company' (MSS 1822). Wallich subsequently incorporated the specimen in his catalogue along with other specimens of Buchanan-Hamilton's original set left in the Company's Museum at India House. No doubt the above noted specimen collected by Buchanan-Hamilton appears to be one of the last assemblages of the original population of *P. tenellus* raised in Calcutta Garden in 1802, yet Roxburgh did not have even a chance to see this specimen.

(2396) *Phyllanthus tetrandrus*

Phyllanthus tetrandrus Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 674. 1832; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 295. 2818.

Type citation: "Angrua, the vernacular name in Silhet where it is found, a small ramous shrub, common in the forests of that country; it blossoms in April and May, and the seed ripens in September."

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2018): [unpubl. icon.] Icones Roxburghianae, No. 2396 (CAL!). Remaining original material: Icones Roxburghianae, No. 2396 (K!). **Figure 7.**

Distribution: NE India and Bangladesh.

(264) *Phyllanthus urinaria*

Phyllanthus urinaria L., Sp. Pl. 2: 982. 1753; Roxb., Fl. Ind. 3: 660. 1832; Fawcett & Rendle, Fl. Jamaica 4: 255. 1920; Chakrab. & N.P. Balakr., Indo-Burmese Phyllanthaceae 360. 2810. Type citation: "Habitat in India."

Type (first-step lectotype, designated by Fawcett & Rendle, 1920): "Herb. Hermann 1: 15; 2: 7; 3: 55;

4: 41, No. 332 (BM). Second-step lectotype (designated by Chakrabarty & Balakrishnan, 2018): Herb. Hermann. 1: 15, No. 332 (BM000621280!; isolectotypes BM000-621279!, BM000621281!); Herb. Hermann 2: 7, No. 332 (BM000621519!); Herb. Hermann 3: 55, No. 332 (BM000628008!); Herb. Hermann 4: 41, No. 332 (BM000628188!). *Remaining original material:* [icon] Herb. Hermann 5: 11, No. 332 (BM0005 94796!). [icon] Herb. Hermann 5: 429, No. 332 (BM000621178!).

Distribution: Native of Southern Asia but now widespread in tropical and subtropical region (Webster 1986: 104).

Note: The relectotypified specimen by Coode (1982: 27), Herb. Linn. No. 1105.4 (LINN!) from an unspecified locality appears to be a later addition.

(258) *Phyllanthus vitis-idaea*

Breynia vitis-idaea (Burm.f.) C.E.C. Fisch. in Bull. Misc. Inform. Kew 1932: 65. 1932; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 13. 1986. – *Rhamnus vitis-idaea* Burm.f., Fl. Ind. 61. 1768, *p.p.*, *quoad lectotypus*. – *Phyllanthus vitis-idaea* (Burm.f.) J. Koenig ex Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 665. 1832. Type citation: "Habitat in Zeylona & Java."

Type (lectotype, designated by Radcliffe-Smith, 1986): [icon] Breynia, Exot. Pl. Cent. 8, t. 4. 1678.

Distribution: Pakistan, India (including Andaman Islands), Sri Lanka, Nepal, Bangladesh, Myanmar, China, Cambodia, Taiwan, Vietnam, Ryu-Kyu Islands, Thailand, Malaysia, Sumatra and Philippines.

(1689) *Ricinus mappia*

Macaranga mappia (L.) Müll.Arg. in DC., Prodr. 15(2): 1000. 1866; Merr., Interpr. Herb. Amboin. 319. 1917. – *Ricinus mappia* L., Herb. Amboin. 14. 1754 & Sp. Pl., ed. 2, 2: 1430. 1763; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 690. 1832. Type citation: "Habitat in Ternateis & Moluccis."

Type (lectotype, designated by Merrill, 1917): [icon] "*Folium Mappae*" in Rumphius, Herb. Amboin. 3: 172, t. 108. 1743.

Distribution: Moluccas and Celebes.

(1712) *Rottlera alba*

Mallotus paniculatus (Lam.) Müll.Arg. in Linnaea 34: 189. 1865; P.I. Forst. In Austrobaileya 5: 478. 1999. – *Croton paniculatus* Lam., Encycl.

2: 207. 1786. Type citation: "Cette espèce, que M. Sonnerat nous a communiquée, croît naturellement dans l'Isle de Java; M. de Commerson en a aussi rapporté des échantillons du même pays."

Type (lectotype, designated by Forster, 1999): Indonesia, Java, *Commerson s.n.* [herb. A. Juss.] (P00307056!).

= *Rottlera alba* Roxb. [Hort. Bengal. 73. 1814, *nom. nud.*] ex Jack in Malayan Misc. 1: 26. 1820; Roxb., Fl. Ind. 3: 829. 1832. Type citation: "ROTTLERA ALBA Roxb. Sumatra and Pulo Pinang."

Type (lectotype, designated here): Indonesia, W. Jack s.n. (E00181493!).

Distribution: Bangladesh, Myanmar, China, Taiwan, Thailand, Vietnam and throughout Malesia to E Australia and New Guinea; absent in India.

Note: It may be mentioned that the manuscript name, *Rottlera alba* was validated by Jack (1820) who had a copy of Roxburgh's 'Hortus Bengalen-sis' (Merrill 1952: 212) and Nathaniel Wallich helped him in matching his collections in relation to Roxburgh's names. Roxburgh applied the name to a cultivated plant in Calcutta Botanic Garden obtained from "Pulo Pinang". Sierra & Welzen (2005: 261) designated a lectotype of the name *Rottlera alba* to a collection of Roxburgh from Calcutta Botanic Garden (BR0000008494030!). However, the same has been relectotypified here because an original specimen by Jack is available at E.

(480) *Rottlera dicocca*

Croton aromaticus L., Sp. Pl. 2: 1005. 1753 (as *aromaticum*); Chakrab. & N.P. Balakr. in Bull. Bot. Surv. India 34: 24. 1997. Type citation: "Habitat in Zeylona."

Type (first-step lectotype, designated by Webster, 1993: 39): Herb. Hermann 1: 63, No. 345 (BM). Second-step lectotype (designated here): Herb. Hermann 1: 63, No. 345 (BM000621446!; isolectotypes BM000621447!); Herb. Hermann 4: 21, No. 345 (BM000628095!).

= *Croton laccifer* L., Sp. Pl. 2: 1002. 1753 (as *lacciferum*); Philcox in Dassan. & Clayton, Rev. Handb. Fl. Ceylon 11: 99. 1997. – *Aleurites laccifer* (L.) Willd., Sp. Pl., ed. 4, 4(1): 590. 1805. – *Rottlera dicocca* Roxb., Hort. Bengal. 73. 1814 & Fl. Ind. 3: 829. 1832, *nom. superfl.* Type citation: "Habitat in India".

Type (first-step lectotype, designated by Chakrabarty & Balakrishnan, 1997): Herb. Hermann 2: 54, No. 344; 3: 54, No. 344 et 4: 38, No. 344 (BM: photo!). Second-step lectotype (designated by Philcox 1997): Herb. Hermann 3: 54, No. 344 (BM000628006!); isolectotypes Herb. Hermann 2: 54, No. 344 (BM000621687!); Herb. Hermann 4: 38, No. 344 (BM000628177!).

Distribution: Sri Lanka and peninsular India.

Note: The conclusion of Chakrabarty & Balakrishnan (1997: 24) that *Croton laccifer* is conspecific with *C. aromaticus* is followed here and as the dates of publication of both the species are same, the name *C. aromaticus*, chosen by Geiseler (1807: 21), who first united these species is retained here as the accepted name for the combined species. Jarvis (2007) indicated that Chakrabarty & Balakrishnan designated the first-step lectotype of the name *C. aromaticus* and subsequently Webster (1993) designate the second step lectotype. In this context, it may be mentioned that the said paper by Chakrabarty & Balakrishnan was actually published in 1997. Furthermore, Webster's designation of Herb. Hermann 1: 63, No. 345 should be considered as the first-step lectotype of *C. aromaticus* as there are two specimens mounted on that page with different barcodes, now to be narrowed to a single specimen in a second-step lectotypification as done here (Art. 9.17 of ICN).

(Unnumbered) *Rottlera ferruginea*, (2408) *Rottlera tetracocca*

Mallotus tetracoccus (Roxb.) Kurz in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42(4): 245. 1874. – *Rottlera tetracocca* Roxb. [Hort. Bengal. 73. 1814, *nom. nud.*] Fl. Ind. 3: 826. 1832. Type citation: "Marleya is the vernacular name in the Silhet district, where it grows to be a useful timber tree, of considerable size. It flowers in April and May; and the seeds ripen in August."

Type (lectotype, designated here): [unpubl. icon] Icones Roxburghianae, No. 2408 (CAL!). Remaining original material: Icones Roxburghianae, No. 2408 (K!). **Figure 8.**

= *Rottlera ferruginea* Roxb. [Hort. Bengal. 73. 1814, *nom. nud.*] Fl. Ind. 3: 828. 1832. – *Mallotus ferrugineus* (Roxb.) Müll.Arg. in DC., Prodr. 15(2): 982. 1866. Type citation: "A native of the Malay Islands. The male plant flowers during the hot

season in the Botanic garden at Calcutta."

Type (lectotype, designated here): India, Hort. Bot. Calcutt., June 1815, *No collector [Roxburgh]* 769 (BM000951478!). Remaining original material: Without locality, *Roxburgh s.n.* (BM000951477!). Icones Roxburghianae, Unnumbered (CAL!).

Distribution: Sri Lanka, India, Bangladesh, Myanmar, China and Thailand.

Note: Airy Shaw (1972: 298) correctly interpreted and circumscribed *Mallotus tetracoccus* and added *Rottlera ferruginea* as its synonym. Hence, as per Art. 11.5 of ICN, this treatment is to be followed. There is no drawing of *R. ferruginea* at Kew (Sealy, 1957).

(2407) *Rottlera peltata*

Mallotus roxburghianus Müll.Arg. in Linnaea 34: 186. 1865. – *Rottlera peltata* Roxb. [Hort. Bengal. 73. 1814, *nom. nud.*] Fl. Ind. 3: 828. 1832. Type citation: "Seergoollua, the vernacular name in Silhet, where it grows to be a middling sized tree. It flowers in April and May, and the seed ripens in August."

Type (lectotype, designated here): Without locality, *Roxburgh s.n.* (BM000951480!). Remaining original material: Icones Roxburghianae, No. 2407 (CAL!, K!).

Distribution: India, Bhutan, Bangladesh, Myanmar and China.

Note: Although Forman (1997) did not mention about *Rottlera peltata*, the lectotype at BM is identified by Roxburgh in his own handwriting.

(106) *Rottlera tinctoria*

Mallotus philippensis (Lam.) Müll.Arg. in Linnaea 34: 196. 1865 (as *philippinensis*); Airy Shaw in Kew Bull. 35: 655. 1980; Sierra *et al.* in Blumea 50: 230. 2005. – *Croton philippensis* Lam., Encycl. 2: 206. 1786 (as *philippense*). Type citation: "Cette plante croit dans les Philippines, & nous a ere communiquee par M. Sonnerat."

Type (lectotype, designated by Airy Shaw, 1980): Philippines, *Sonnerat s.n.* (P-LA, P00279571!). = *Rottlera tinctoria* Roxb., Pl. Coromandel 2: 36, t. 168. 1802 & Hort. Bengal. 73. 1814 & Fl. Ind. 3: 827. 1832. Type citation: "Wassunta-gunda of the Telings. It is a native of the inland mountainous parts of the Circars; I never found it anywhere else."

Type (first-step lectotype, designated by Sierra *et al.*, 2005): India, *Roxburgh in Wallich* 7832 A (K). Second-step lectotype (designated here): India, *Roxburgh in Wallich* 7832 A (K001128047!; isolectotype K001128048!). Remaining original material: India, *Roxburgh s.n.* (BR0000008494078!, BR0000008494085!, BR0000008494092!). [icon] Roxb., Pl. Coromandel 2: 36, t. 168. 1802.

Distribution: Pakistan, India (including Andaman Islands), Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, China, Laos, Cambodia, Thailand and throughout Malesia to North Australia.

Note: Sierra *et al.*, (2005) cited the type of *Rottlera tinctoria* as: "Lectotype (selected here): *Wallich Numer. List* 7832A (holo K (photo in L); iso K (photo in L), Icon Ined. 106 (CAL, K), India." This constitutes the first-step lectotype as they did not indicate which specimen out of the two are being designated as the lectotype. Hence Art. 9.17 of the ICN has been applied here to designate a second-step lectotype.

(2397) *Sapium baccatum*

Balakata baccata (Roxb.) Esser in Blumea 44: 155. 1999. – *Sapium baccatum* Roxb. [Hort. Bengal. 69. 1814, *nom. nud.*] Fl. Ind. 3: 694. 1832. Type citation: "Billa the vernacular name in Silhet, where it is indigenous, and grows to be a large and useful timber tree. Flowering time March and April; seed ripe in August."

Type (lectotype, designated here): Bangladesh, Sylhet, *Roxburgh s.n.* (P00716422!). Remaining original material: Bangladesh, Sylhet, *Roxburgh s.n.* (A00055227!). Icones Roxburghianae, No. 2397 (CAL!, K!).

Distribution: India (including Andaman & Nicobar Islands), Nepal, Bhutan, Bangladesh, Myanmar, China, Laos, Cambodia, Vietnam, Thailand, Malaysia, Sumatra and Borneo.

Note: The lectotypification by Esser (1999: 155–156) was not effective as he cited two specimens at two herbaria as well as a drawing.

(1296) *Sapium bengirum*

Shirakiopsis indica (Willd.) Esser in Blumea 44: 185. 1999. – *Sapium indicum* Willd., Sp. Pl., ed. 4, 4(1): 572. 1805; Roxb., Hort. Bengal. 69. 1814 & Fl. Ind. 3: 692. 1832. Type citation: "Habitat in India."

Type (lectotype, designated by Esser, 1999 or perhaps holotype): India, *Buchanan Hamilton [Herb. Roxburgh] s.n.* (B-W17946-010!).

= *Sapium bingiricum* Roxb. ex Baill., Étude Euphorb. 513, Atlas pi. 6, f. 10–11. 1858 (as *bingyricum*). Type citation: “*S. bingyricum* Roxb. (herb. Deless.).”

Type (lectotype, designated by Esser, 1999): India, *Roxburgh s.n.* (G00414527!). Remaining original material: India, *[Herb.] Roxburgh s.n.* (BM000951568!, BM000951569!, BR000001305234 8!). India, *Roxburgh in Wallich* 7963 A (K00024711 6!). *Icones Roxburghianae*, No. 1296 (CAL!, K!).

Distribution: Sri Lanka, India (including Andaman Islands), Bangladesh, Myanmar, China, Vietnam, Thailand and Malesia (excl. Philippines) to Solomon Islands.

Note: As explained by Esser (1999: 188), the name *Sapium bingiricum* is possibly a homotypic synonym of *S. indicum*.

(233) *Sapium cordifolium*

Alchornea mollis Müll.Arg. in *Linnaea* 34: 168. 1865; Chakrab. & N.P. Balakr. in *J. Econ. Taxon. Bot.* 40: 38. 2016. – *Stipellaria mollis* Benth. in Hooker’s *J. Bot. Kew Gard. Misc.* 6: 3. 1854, *nom. illeg., non Klotzsch*, 1849. Type citation: “Nepal, *Wallich*.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2016): Nepal, 1821, *Wallich* 7825 (K000246984!; isolectotypes G00325595!, K001128 023!, K001128024!).

= *Sapium cordifolium* Roxb. [*Hort. Bengal.* 104. 1814, *nom. nud.*] *Fl. Ind.* 3: 693. 1832. Type citation: “A small tree, a native of moist values among the Circar mountains.”

Type (lectotype, designated by Chakrabarty & Balakrishnan, 2016): [unpubl. icon] *Icones Roxburghianae*, No. 233 (CAL!). Remaining original material: *Icones Roxburghianae*, No. 233 (K!).

Distribution: India, Nepal, Bhutan and China.

(989) *Sapium sebiferum*

Triadica sebifera (L.) Small, *Florida Trees* 59, 102. 1913. – *Croton sebifer* L., *Sp. Pl.* 2: 1004. 1753 (as *sebiferum*). – *Sapium sebiferum* (L.) Dum. Cours. in *Bot. Cult.* 3: 651. 1802; Roxb., *Hort. Bengal.* 69. 1814 & *Fl. Ind.* 3: 693. 1832; Radcl.-Sm. in Nasir & Ali, *Fl. Pakistan* 172: 85. 1986. Type citation: “Habitat in Chinae humidis. *Osbeck*.”

Type (lectotype, designated by Radcliffe-Smith, 1986): China, *Osbeck* in *Herb. Linn.* No. 1140.9 (LINN-HL1140-9!).

Distribution: Native to China and Taiwan; often cultivated in the warmer regions of the World and sometimes naturalizing.

(107) *Stilago diandra*, (2561, 2564 on drawing) *Stilago lanceolaria*

Antidesma acidum Retz., *Observ. Bot.* 5: 30. 1788 (as *acida*); C.E.C. Fisch. in *Bull. Misc. Inform. Kew* 1932: 65. 1932; Petra Hoffm., *Antidesma Malesia Thailand* 63. 2006. Type citation: “Dedit Amic. KÖNIG.”

Type (lectotype, designated by Fischer, 1932): India, *Koenig s.n.* (LD1740409!).

= *Stilago diandra* Roxb., *Pl. Coromandel* 2: 35, t. 166. 1802 & *Fl. Ind.* 3: 759. 1832. Type citation: “A large tree; a native of the mountainous parts of the Circars; flowers in June.”

Type (lectotype, designated by Hoffmann, 2006): India, *Roxburgh s.n.* (BM – *n.v.*). Remaining original material: India, *Roxburgh s.n.* (BR000000 6993719!, BR0000006994648!). India, *No collector [Roxburgh] s.n.* (E00314313!, E00314314!). [icon] *Roxburgh*, *Pl. Coromandel* 2: 35, t. 166. 1802.

= *Stilago lanceolaria* Roxb. [*Hort. Bengal.* 71. 1814, *nom. nud.*] *Fl. Ind.* 3: 760. 1832. Type citation: “a native of Chittagong. In the Botanic garden it blossoms during the rainy season.”

Type (lectotype, designated by Hoffmann, 2006): [unpubl. icon.] *Icones Roxburghianae*, No. 2561 (No. 2554 on drawing) (K!). Remaining original material: *Icones Roxburghianae*, No. 2561 (No. 2554 on drawing) (CAL!).

Distribution: Pakistan, India, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, China, Cambodia, Laos, Vietnam. Absent in Sri Lanka and Malesia (except Java).

(269) *Tragia cannabina*

Tragia plukenetii Radcl.-Sm. in *Kew Bull.* 37: 688. 1983. – *Croton hastatus* L., *Sp. Pl.* 2: 1005. 1753 (as *hastatum*). Type citation: “Habitat in India.”

Type (lectotype, designated here): [icon] Plukenet, *Phytographia* t. 220, f. 2. 1694.

Tragia cannabina L.f., *Suppl. Pl.* 415. 1782; Roxb., *Fl. Ind.* 3: 575. 1832, *nom. superfl.*

Distribution: Sri Lanka and India; Africa.

Note: As elucidated by Jarvis (2007), the name *Croton hastatus* required a formal lectotypification.

(270) *Tragia involucrata*

Tragia involucrata L., Sp. Pl. 2: 980. 1753; Roxb., Fl. Ind. 3: 576. 1832. Type citation: "Habitat in India."

Type (lectotype, designated here): Sri Lanka, Herb. Hermann 2: 84, No. 340 (BM000621781!); isoelectotypes Herb. Hermann 2: 12, No. 340 (BM000621541!, BM000621542!, BM000621543!); Herb. Hermann 2: 14, No. 340 (BM000621548!, BM000621549!, BM000621550!); Herb. Hermann 3: 14, No. 340 (BM000621843!). Remaining original material: [icon] Herb. Hermann 5: 36, No. 340 (BM000594820!). [icon] Herb. Hermann 5: 420, No. 340 (BM000621169!). [icon] in Burman, Thes. Zeylan. 202, t. 92. 1737. [icon] in Rheede, Hort. Malab. 2: 73, t. 39. 1679.

Distribution: Sri Lanka, India and Bangladesh.

Note: The designated lectotype is the best specimen among the duplicates.

(441) *Tragia mercurialis*

Micrococca mercurialis (L.) Benth. in W.J. Hooker, Niger Fl. 503. 1849; Radcl.-Sm. in Kew Bull. 37: 425. 1982. – *Tragia mercurialis* L., Sp. Pl. 2: 980. 1753; Roxb., Fl. Ind. 3: 576. 1832. – *Claoxylon mercurialis* (L.) Thwaites, Enum. Pl. Zeyl. 271. 1861. – *Microstachys mercurialis* (L.) Dalzell & A. Gibson, Bombay Fl. 227. 1861. Type citation: "Habitat in India."

Type (lectotype, designated by Radcliffe-Smith, 1982): [icon] "*Mercurialis Maderaspatensis tricoccus acetabulis destituta*" in Plukenet, Phytographia: t. 205, f. 4. 1692.

Distribution: Sri Lanka, India, Bangladesh, Myanmar, Thailand and Malaysia; tropical Africa; Arabia.

(1000) *Trewia nudiflora*

Mallotus nudiflorus (L.) Kulzu & Welzen in Kulzu et al. in Blumea 52: 124. 2007. – *Trewia nudiflora* L., Sp. Pl. 2: 1193. 1753; Roxb., Fl. Ind. 3: 837. 1832; Radcl.-Sm. in Nasir & Ali, Fl. Pakistan 172: 57. 1986 (as *Trewia*). Type citation: "Habitat in Malabaricae arenosis."

Type (lectotype, designated by Radcliffe-Smith, 1986): [icon] Rheede, Hort. Malab. 1: 76, t. 42. 1678).

Distribution: Sri Lanka, India, Nepal, Bhutan, Bangladesh, Myanmar, China, Laos, Vietnam, Thailand to Maleisa.

(Unnumbered; 2553 in Kew, 2546 on drawing) *Urtica involucrata*

Macaranga williamroxburghii Chakrab., *nom. nov.* – *Urtica involoucrata* Roxb. [Hort. Bengal. 67. 1814, *nom. nud.*] Fl. Ind. 3: 592. 1832, *nom. illeg.*, non Sims in Bot. Mag. 51: t. 2481. 1824 – *Macaranga involucrata* (Roxb.) Baill., Étude Euphorb. 432. 1858. Type citation: "A native of the Malay Islands. In the Botanic garden it is in blossom the whole year, but no male flowers have been found, nor do the seeds ripen."

Type (lectotype, designated here): Without locality (presumably India, Hort. Bot. Calcutt.), *Roxburgh s.n.* (BM000645881!). Remaining original material: India, Hort. Bot. Calcutt., *Roxburgh s.n.* (BR0000008493972!). India, Hort. Bot. Calcutt., *Roxburgh in Wallich* 4621 A (K001039502!). Icones Roxburghianae, Unnumbered (CAL!) & No. 2553 (2546 on drawing) (K!).

Distribution: Celebes, Moluccas, New Guinea, Bismarck Archipelago, N Australia, Solomon Islands and Vanuatu.

Note: I agree with the previous authors (e.g. Pax & Hoffmann 1914: 374, Airy Shaw 1982: 27, Whitmore 2008: 160) that Baillon (1858: 432) transferred *Urtica involucrata* to *Macranga*, making a new combination because it cannot be proved that he gave a new name replacing Roxburgh's illegitimate name. Forman (1997) indicated the possible type in BR and Wallich Cat. 4621 A at Kew. The lectotype designated here at BM is the best among the available original specimens bearing identification by Roxburgh in his own handwriting and matching well with the short description in the protologue.

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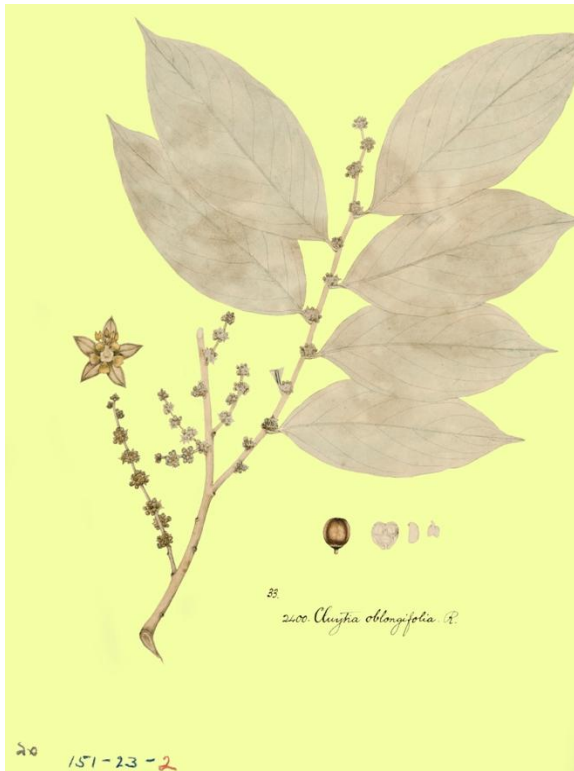


Figure 1. Lectotype of *Clusia oblongifolia* – Icones Roxburghianae, No. 2400 (CAL) (© Director, BSI, Kolkata).



Figure 3. Lectotype of *Euphorbia peltata* – Icones Roxburghianae, No. 1248 (CAL) (© Director, BSI, Kolkata).

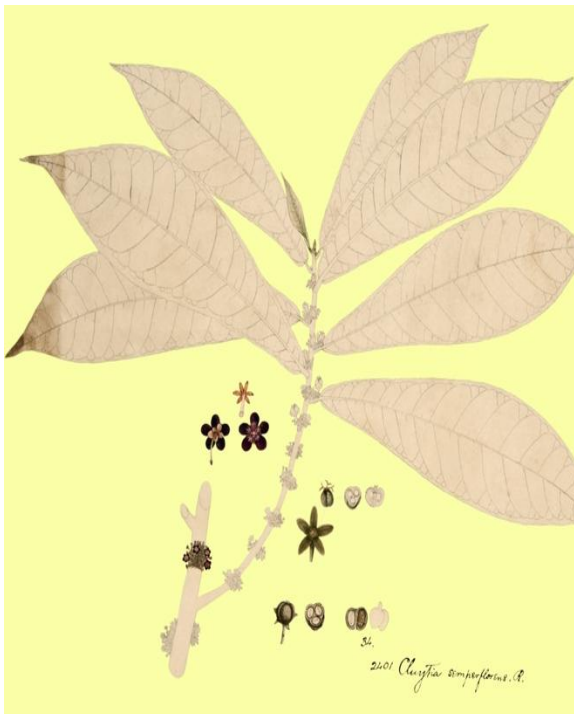


Figure 2. Lectotype of *Clusia semperflorens* – Icones Roxburghianae, No. 2401 (CAL) (© Director, BSI, Kolkata).



Figure 4. Lectotype of *Nageia putranjiva* – Icones Roxburghianae, No. 123 (CAL) (© Director, BSI, Kolkata).



Figure 5. Lectotype of *Phyllanthus pendulus* – Icones Roxburghianae, No. 265 (CAL) (© Director, BSI, Kolkata).



Figure 7. Lectotype of *Phyllanthus tetrandrus* – Icones Roxburghianae, No. 2396 (CAL) (© Director, BSI, Kolkata).

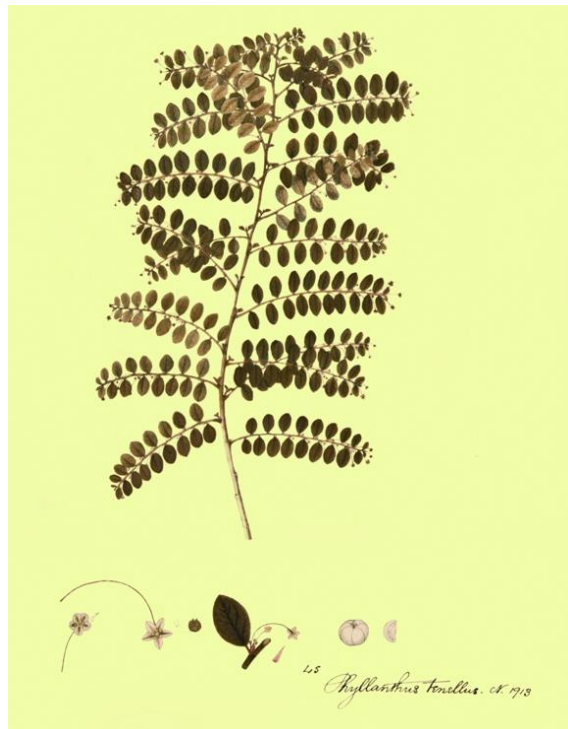


Figure 6. Lectotype of *Phyllanthus tenellus* – Icones Roxburghianae, No. 1913 (CAL) (© Director, BSI, Kolkata).



Figure 8. Lectotype of *Rottlera tetracocca* – Icones Roxburghianae, No. 2408 (CAL) (© Director, BSI, Kolkata).