A Review of the New Botanical Names Published in Safford's "Useful Plants of Guam"[1]

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"The Useful Plants of the Island of Guam", by William Edwin Safford, published by the Smithsonian Institution (Contributions from the U. S. National Herbarium, U. S. National Museum, vol. IX, pp. 1–416, pl. 1–69, 1 map) in 1905, is one of the few botanical works dealing with Guam, and is still a basic document in the field. Besides the botanical information, it is particularly interesting for the wealth of collated historical, ethnological, and other data, which makes up the first half of the book. The second half is an alphabetized list of plant names, in which scientific and common names (English, Guamanian, Filipino, Panamanian, and Samoan) occur.

The chief drawbacks of the book are its synoptical character (although Safford did some collecting himself, many records are based on earlier authors), the alphabetical arrangement, which is not as useful as it might seem, and most importantly, the outdated scientific nomenclature employed.

Safford states (p. 171) that all new names and all material included under the heading "References" are the work of W. F. Wight of the U. S. Department of Agriculture; a few paragraphs were written by Frederick V. Coville, and one by William R. Maxon, both of the U. S. National Herbarium. At the time the book was published, many American botanists followed the "American Code" of botanical nomenclature, a system no longer employed. Botanists now follow the International Code of Botanical Nomenclature, the most recent edition of which is that of 1961. Under the "American Code", a number of practices, particularly those concerned with the typification of species and genera, and the usage of the tautonyms (such as *"Abrus abrus"*) were authorized, only to be altered after the more or less universal adoption in later years of the Intenational Code.

Despite the fact that the book follows a nomenclatural Code no longer followed, some of the alterations in names are still valid, and though E. D. Merrill has reviewed the work in his Enumeration of the Plants of Guam (Philipp. J. Sci. Bot. 9: 17–155. 1914) and his Additions to the Flora of Guam (ibid. 15: 539–544. 1919), some of the names and combinations proposed are still commonly overlooked.

The following list takes up all the names proposed in Safford's work in

[1] For much helpful advice and bibliographic information needed for this paper I am much indebted to Dr. F. R. Fosberg.

alphabetical order as they appear. If the name is presently considered invalid or illegitimate, or is a synonym, it appears in italics; currently accepted names are in bold-face type.

Abrus abrus (L.) Wight ex Saff., 172.

Glycine abrus L., Sp. Pl. 2: 753. 1753.

This is correctly known as **Abrus precatorius** L., Syst. ed. 12, 472. 1767.

Acacia scorpioides (L.) Wight ex Saff., 173 (footnote).

Mimosa scorpioides L., Sp. Pl. 1: 521. 1753.

M. arabica Lam. Encyc. 1: 19.1783.

Acacia arabica (Lam.) Willd. Sp. Pl. ed. 4, 2: 1085. 1805.

If Index Kewensis is correct in equating these species, *A. scorpioides* will have to displace the more familiar *A. arabica.*

Ambulia indica (L.) Wight ex Saff., 181.

Hottonia indica L., Syst. ed. 10, 919. 1759.

Limnophila gratioloides R. Br., Prodr. 442. 1810.

Limnophila R. Br. l.c. nom. cons. is the proper generic name; this species is **Limnophila indica** (L.) Druce, Rep. Bot. Exch. Cl. Brit. Is. 3: 420. 1913 [1914]. Merrill made the same combination superfluously in Philipp. J. Sci. Bot. 9: 140. 1914.

Caladium colocasia (L.) Wight ex Staff., 208.

Arum colocasia L., Sp. Pl. 2: 965. 1753.

Colocasia antiquorum Schott. in Schott. & Endl. Meletem. 1: 18. 1832.

The cultivated taro is now commonly known as **Colocasia esculenta** (L.) Schott. var. **antiquorum** (Schott.) Hubb. & Rehd.

Canangium odoratum (Lam.) Wigh etx Staff., 210.

Uvaria odorata Lam. Encyc. 2: 595. 1783.

Cananga (A. DC.) Hook. & Thoms. nom. cons. (conserved against *Cananga* Aublet, 1775). The species is properly known as **Cananga odorata** (Lam.) Hook. & Thoms., Fl. Ind. 1: 130. 1855.

Carinta Wight ex Staff., 216. (Rubiaceae).

Geophila D. Don, not of Bergeret (Liliaceae; 1803). *Geophila* D. Don has been proposed for conservation. (Fosberg, Taxon 11: 180–181. 1962). *Geocardia* Standley, 1914, is superfluous.

Carinta herbacea (Jacq.) Wight ex Staff., 216.

Psychotria herbacea Jacq., Enum. Pl. Carib. 16. 1760.

Geophila reniformis Don, Prod. Fl. Nep. 136. 1825; this must be the type species; it may not be different from **G. repens** (L.) I. M. Johnston.

Caryophyllus malaccensis (L) . Wight ex Staff., 217.

Eugenia malaccensis L., Sp. Pl. 1: 470. 1753. This is the generally accepted name, unless the genus *Syzygium* is recognized. *Jambosa malaccensis* (L.) DC. Prodr. 3: 286. 1828. 1828, is a synonym. The genus *Caryophyllus* L., 1753, is a strict synonym of *Syzygium* Gaertn. (nom. cons.), which in turn is conserved over

Jambos Adans., 1763, and *Jambosa* Adans. em. A. DC., 1826.

Chaetochloa glauca aurea (Hochst.) Wight ex Staff., 223.

Setaria aurea Hochst., ex A. Br., Flora 24: 276. 1841.

Setaria glauca aurea (Hochst.) K. Schum. in Schum. & Laut. Fl. d. D. Schutzgeb. Stds. 180. 1901.

The Guam plants are now referred to **Setaria lutescens** (Weigel) Hubb., Rhodora 18: 232. 1916. (*Panicum lutescens* Weigel, Obs. Bot. 20. 1772). The type (from Abyssinia) is *S. sphacelata* (Schum.) Stapf & Hubbard.

Citrus aurantium subsp. **saponacea** Saff., 226. (as "Citrus aurantium saponacea, subsp. nov.").

A valid name.

Cladium gaudichaudii Wight ex Saff., 230.

Baumea mariscoides Gaud., Voy. Freyc. Bot. 417. 1828.

Cladium mariscoides F. Vill., in Blanco, Fl. Philipp. ed. 3, 4: Nov. App. 309. 1880; not (Muhl.) Torrey.

Machaerina gaudichaudii (Wight ex Saff.) Koyama, Bot. Mag. Tokyo 69: 64. 1956.

The valid name for this species is **Machaerina mariscoides** (Gaud.) Kern, Acta Bot. Neerl. 8: 266. 1959.

Coelococcus amicarum (Wendl.) Wight ex Saff., 244.

Sagus amicarum Wendl., Bot. Zeit. 36: 115. 1878.

Coelococcus carolinensis Dingl., Bot. Centralbl. 32: 349. 1887.

Metroxylon carolinense (Dingl.) Becc., Denkschr. d. Kaiserl. Akad. Wiss. Math. Naturw. Klasse, Wien, 89: 502. 1914.

Coelococcus amicarum (Wendl.) Warb., Berich, Deutsch. Bot. Ges. 14: 140. 1896 (not accepted by Warburg).

The proper name of the Caroline Islands Ivory-nut palm is **Metroxylon amicarum** (Wendl.) Becc., Ann. Roy. Bot. Gard Calcutta, 12: 187. 1918. For a fuller synonymy see Moore & Fosberg in Gentes Herbarum 8 (6) : 439. 1956.

Cordyline hyacinthoides (L.) Wight ex Saff., 249.

Aloe hyacinthoides L., Sp. Pl. 1: 321. 1753, incl. var. zeylanica.

Aletris hyacinthoides L., Sp. Pl. ed. 2, 1: 456. 1762, incl. var. zeylanica.

Sanseviera zeylanica Willd., Sp. Pl. 159. 1799.

The generic name *Sanseviera* Thunb., 1794, is conserved, the type species being *S. thyrsiflora* Thunb., nom. illegit. (= *S. guineensis* (Jacq.) Willd.) *Cordyline* Comm. ex Juss., 1789, is conserved over *Cordyline* Adans., 1763, and is typified by *C. terminalis* (L.) Kunth. The type of *Cordyline* Adans. is *Aloe hyacinthoides* L. The above species is now known as **Sanseviera guineensis** (Jacq.) Willd., but the name probably should be **S. hyacinthoides.**

Cormigonus mariannensis (Brongn.) Wight ex Staff., 249.

Cormigonus Raf., 1820, was taken up by Wight to replace *Bikkia* Reinw., of 1825, but the latter is now a nom. cons., and the correct name of the species

remains **Bikkia mariannensis** Brongn., Bull. Soc. Bot. France, 13: 42. 1866.

Eleocharis plantaginoidea (Rottb.) Wight ex Saff., 268.

Scirpus plantagineus Retz., Obs. 5: 14. 1789.

Eleocharis plantaginea R. Br., Prod. 224. 1810.

This species is now called **Eleocharis dulcis** (Burm. f.) Trin. ex Henschel.

Ipomoea choisiana Wight ex Saff., 298.

Convolvulus denticulatus Desrouss. in Lam. Encyc. 3: 540. 1789.

Ipomoea denticulata (Descr.) Choisy, Mem. Soc. Phys. Genev. 6: 467. 1833; not of R. Br. 1810.

The correct name of this species is **Ipomoea littoralis** Bl. According to Fosberg, *I. gracilis* R. Br. is a local North Australian species, leaving I. littoralis as probably the oldest name for this species.

Lobelia Koenigii (Vahl) Wight ex Saff., 310.

Scaevola Koenigii Vahl, Symb. Bot. 3: 36. 1794.

The unusually complicated taxonomic and nomenclatural situation in regard to this species has been the subject of several papers by Fosberg and St. John in recent issues of Taxon. The correct name appears to be **Scaevola Taccada** (Gaertn.) Roxb. (see St. John, Taxon 9: 200–208. 1960; Fosberg, Taxon 10: 225–226. 1961; 11: 181. 1962), although *S. sericea* Vahl is better typified and preferable.

Menthaceae L. F. Ward ex Saff., 324.

Labiatae B. Juss. Hort. Trianon. 1759.

Lamiaceae Lindl. 1836.

Nepetaceae Horan. 1843.

Salviaceae Drude, 1879.

This name was proposed because Labiatae "has not the proper termination", but the earlier and correctly formed alternative names, though mentioned, were ignored. *Menthaceae* does not appear in Gould, Family Names of the Plant Kindom, Internat. Pl. Index, I. 1962, nor in Bullock's list of family names, in Taxon 7: 1–35, 1958.

Ochrocarpos obovalis (Miq.) Safford, 335.

Calysaccion obovale Miq., Fl. Ind. Bat. Suppl. 1: 500. 1860.

This species is now known as **Mammea odorata** (Raf.) Kostermanns; for the full and complex synonymy, see Kostermanns, Djawatan Kehutanan Indonesia, "Additional Notes on Mimosaceae: The General Mammea L. and Ochrocarpos Thou.", 13. 1956. The basionym is *Lolanara odorata* Raf., Fl. Tellur. 2: 34. 1837. Miquel's species is not mentioned in the synonymy given by Kostermann,s but seems clearly the same. See also Merrill, J. Arn. Arb. 26: 94. 1945.

Phaseolus lunatus inamoenus (L.) Wight ex Saff., 350.

P. inamoenus L., Sp. Pl. 2: 724. 1753.

P. macrocarpus Moench, Meth. 1: 155. 1794.

An invalid combination, not ranked. The correct name is apparently

P. lunatus L.

Phyllaurea variegata (L.) Wight ex Saff., 352.

Croton variegatum L., Sp. Pl. 2: 1199. 1753.

Phyllaurea codiaeum Lour., Fl. Cochinch. 2: 575. 1790.

Codiaeum variegatum (L.) Blume, Bijdr. 606. 1825. This is the current accepted name of the common and highly varied plants generally called crotons. Codiaeum Juss. (1824) is conserved over *Phyllaurea* Lour. (1790).

Phymatodes phymatodes (L.) Maxon ex Saff., 353.

Polypodium phymatodes L., Mant. 306. 1771.

Polypodium scolopendria Burm., Fl. Ind. 232. 1769.

Microsorium scolopendria (Burm.) Copel., Univ. Calif. Publ. Bot. 16: 112. 1929.

Phymatodes scolopendria (Burm.) Ching, Centr. Inst. Bot. Nat. Acad. Peiping 2: 63. 1933.

Maxon's combination is invalid because it is a tautonym; but Burmann's publication is at any rate earlier. It should be noted that, if Copeland's broader interpretation of *Microsorium* be followed, the generic name was originally spelled *Microsorum* by Link (not *Microsorium*), as has recently been pointed out by Sledge. I here follow Holttum in distinguishing Phymatodes from Microsorum.

Rhynchospora corymbosa (L.) Wight ex Saff., 366.

Scirpus corymbosus L., Cent. Pl. 2. 1756; Amoen. Acad. 4: 303. 1756.

Rhynchospora aurea Vahl, Enum. Pl. 2: 229. 1806.

Rhynchospora corymbosa (L.) Britton, Trans. N. Y. Acad. Sci. 11: 84. 1892.

Since Britton had already made the combination, that of Wight was superfluous.

Sapota zapotilla (Jacq.) Coville ex Saff., 370.

Achras zapota zapotilla Jacq., Sel. Stirp. Am. Hist. 57. 1763.

Achras sapota L. Sp. Pl. ed. 2, 1: 470. 1762; not A. zapota L. of ed. 1, 2: 1190. 1753.

(Sapota Miller, Gard. Dict. ed. 7. 1759).

Manikara zapodilla (Jacq.) Gilly, Trop. Woods 73: 20. 1943.

Coville states that this genus is typified by the above species (Miller did not provide a binomial) because it is the first in order of listing. *Achras* L. (type, *A. zapota* L.), based on *Sapota* Plum., was altered by Linnaeus, the species name changed to *A. mammosa* L.; *A. sapota* L. of 1762 is a synonym of *Sapota zapotilla*.

Schychowskya interrupta (L.) Wight ex Saff., 371.

Fleurya interrupta L., Sp. Pl. 2: 985. 1753.

Fleurya interrupta (L.) Gaud., Bot. Freyc. Voy. 493. 1826.

Wight stated that since "the type species of *Fleurya* belongs to the earlier genus Urticastrum, ... the name *Fleurya* must therefore be abandoned." Fleurya is now considered correct, and *Urticastrum,* while equated with the near genus

Laportea, is a nomen rejiciendum while *Laportea* has been conserved.

Schykowskya was also taken up by Endlicher (*S. ruderalis* (Forst.) Endl., Ann. Wien. Mus. 1: 187. t. 13. 1836; based on Urtica ruderalis Forst., Prodr. 66. 1786.) This species is now **Fleurya ruderalis** (Forst.) Gaud., Bot. Freyc. Voy. 497. 1826.

Stemmodontia biflora (L.) Wight ex Saff., 377.

Verbesina biflora L., Sp. Pl. ed. 2, 2: 1272. 1763.

Wedelia biflora (L.) DC., ex Wight, Contrib. 18. 1834.

Stemmodontia canescens (Gaud.) Wight ex Saff., 377.

Verbesina canescens Gaud., Bot. Freyc. Voy. 463. 1826.

Wedelia chamissonis Less., Linnaea 6: 161. 1831.

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Wedelia biflora var. **canescens** (Gaud.) Fosberg, Phytologia 5: 291, 1955.

Wedelia canescens (Gaud.) Merr., Philipp. J. Sci. Bot. 9: 155. 1914.

Wedelia argentea (Gaud) . Merr., l.c.

Wollastonia canescens DC., Prodr. 5: 547. 1836.

Verbesina argentea Gaud., l.c.

"The Marianas plant seems to differ constantly, though slightly, from the widespread Pacific var. *biflora* in being more pubescent and having smaller achenes." (Fosberg).

Taetsia terminalis (L.) Wight ex Saff., 382.

Asparagus terminalis L., Sp. Pl. ed. 2, 1: 450. 1762.

Dracaena terminalis L., Syst. ed. 12. 246. 1767.

Cordyline terminalis (L.) Kunth, Abh. Acad. Berlin 20. 1820.

Taetsia fruticosa (L.) Merr., Interpret. Herb. Amb. 137. 1917.

Convallaria fruticosa Stickm., Herb. Amb. 16. 1754.

Cordyline fruticosa (L. ex Stickm.) Goepp., Nov. Acta Nat. Curios. 25: 53. 1855. This latter is the correct name for the familiar "ti" plant.

Telosma F. V. Coville ex Saff., 384. (Asclepiadaceae).

Pergularia sensu Sm., non L.

Type species: **Telosma odoratissima** (Lour.) Cov. ex Saff. (Based on *Cynanchum odoratissimum* Lour., Fl. Cochinch. 1: 166. 1790; = *Pergularia odoratissima* Sm., Ic. Pict. t. 16. 1790–93)

Coville's name for this genus is valid. The original *Pergularia* of Linnaeus contained two species; one was removed as the genus *Vallaris* Burm. (Apocynaceae), the other was united with *Cynanchum extensum* Jacq. to form the genus Daemia R. Br.

The Guam species is Telosma cordata (L.) Merr. (in cultivation).

Trichoon roxburghii (Kunth) Wight ex Saff., 391.

Trichoon karka (Retz.) Roth, in Roem. Arch. I (3) : 37. 1798; in Catalect. 2; 3. 1800.

Arundo roxburghii Kunth, Rev. Gram. 1: 79. 1829.

Phragmites roxburghii (Kunth) Steudel, Nom. ed. 2, 324. 1841.

Phragmites Karka (Retz.) Trin. ex Steud., Nom. ed. 2, 324. 1840.

Phragmites Trin. (1820) is a later homonym of *Phragmites* Adans. (1763), which latter seems to be *Saccharum* L. **Trichoon karka** (Retz.) Roth is thus the correct name for the Guam reed, or "karrisso".

Vernonia villosa (Blume) Wight ex Saff., 396.

Conyza chinensis Lam. (non L.), Encyc. 2: 83. 1790.

Cyanthillum villosum Blume, Bijdr. 889. 1825.

Vernonia chinensis Less., Linnaea 6: 105, 674. 1831.

Cyanthillium chinense (Lam.) Gleason, Bull. Torrey Bot. Cl. 40: 306. 1913.

Conyza patula Dryand. in Aiton, Hort. Kew. 3: 184. 1789.

Vernonia patula (Dryand.) Merr., Philipp. J. Sci. 3: 439. 1908.

For further synonymy, see Koster, Compositae of the Malay Archipelago, in Blumea 1 (3) : 430. 1935. The correct name is V. patula.

Xiphagrostis F. V. Coville ex Saff., 400.

Coville considered that only *Miscanthus capensis,* "the first species and type of the genus *Miscanthus* (1856)" was the only one correctly in the genus. For the others he erected Xiphagrostis, the type being *X. floridula* (Labill.) Coville ex Saff., based on *Saccharum floridulum* Labill., Sert. Austr. Caled. 13. t. 18. 1824). This is now generally known as **Miscanthus floridulus** (Labill.) Warb. ex Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Sudsee 166. 1901. The problem of the correct generic name cannot yet however be regarded as settled.

Xiphagrostis japonica (Thunb.) Coville ex Saff., 400.

Coville cites as the basionym *Saccharum japonicum* Thunb., Trans. Linn. Soc. 2: 328. 1794, and gives as additional synonyms *Eulalia japonica* Trin., Mem. Acad. Petersb. 6, 2: 333. 1833; and *Miscanthus sinensis* Anders., Oefvers. Svensk. Vet. Akad. Forh. 1855: 166. 1856. (*Miscanthus japonicus* Anders., l.c., is not based on Thunberg's species, but on *Zollinger 28* from "Japonia"). This problem is yet unsolved, but the reference to *Eulalia* is probably unwarranted.

Zygomenes cristata (L.) Wight ex Saff., 404.

Commelina cristata L., Sp. Pl. 1: 42. 1753.

Tradescantia cristata L., Syst. ed. 12, 233. 1767.

Cyanotis cristata (L.) D. Don, Prod. Fl. Nep. 46. 1825.

The last is a nomen conservandum; *Zygomenes* Salisb. (1812) is thirteen years earlier than Cyanotis D. Don (1825), but the latter is valid by conservation.