

NOTES ON THE GENUS *GHINIA* (*Verbenaceae*)

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Time does not now permit me to prepare the detailed monograph of this genus that was originally planned, but it has seemed worthwhile, nevertheless, to place on record the bibliographic and various other notes assembled by my wife and myself over the past 51 years. Full explanation of the herbarium acronyms employed herein and in all my papers on the other 59 genera so far treated by me in this series of papers published in this journal since 1932 will be found in *PHYTOLOGIA MEMOIRS* 2: 463--469 (1980).

GHINIA Schreb., Gen. 19. 1789 [not *Ghinia* Bub., 1901]

Synonymy: *Kempferia* Houst. ex L., Gen. Pl., ed. 1, 334 & [394], in syn. 1737. *Tamonea* Aubl., Hist. Pl. Guian. Fr. 2: 659--660, pl. 268. 1775 [not *Tamonea* Aubl., Hist. Pl. Guian. Fr. 1: 441, pl. 175. 1775]. *Kaempferia* Houst., Reliq. 3: pl. 2. 1781 [not *Kaempferia* Spreng., 1973]. *Leptocarpus* Willd. ex Link in Spreng., Jahrb. Gew. 1 (3): 51. 1820 [not *Leptocarpus* R. Br., 1810]. *Tamonia* Aubl. ex Kunth, Syn. Pl. 2: 65. 1823; Schlecht. & Cham., Linnaea 5: 99. 1830. *Kämpferia* Houst. ex Reichenb., Consp. Reg. Veg. 1: 117, in syn. 1828. *Ghinia* Willd. ex Reichenb., Consp. Reg. Veg. 1: 117, in syn. 1828. *Leptocarpus* Link ex Bartling, Ord. Nat. Pl. 180. 1830. *Ischnia* P.DC. ex Meisn., Pl. Vasc. Gen. 1: 298. 1839. *Tamonia* Kunth apud Meisn., Pl. Vasc. Gen. 2: 200, in syn. 1840. *Kaempferia* Houst. ex Spach, Hist. Nat. Veg. 9: 227, in syn. 1840 [not *Kaempferia* L., 1753]. *Maceria* P.DC. ex Meisn., Pl. Vasc. Gen. 2 [Comm.]: 206, in syn. 1840. *Ghinia* Swartz ex Spach, Hist. Nat. Veg. 9: 227, in syn. 1840. *Ischnia* P.DC. ex Walp., Repert. Bot. Syst. 6: 520. 1847. *Tamona* Aubl. ex A.DC., Prodr. 11: 736, sphalm. 1847. *Ghina* Schreb. apud Wittstein, Etymolog.-bot. Hanswörterb. 387, sphalm. 1852. *Tamone* Schnitzl., Iconogr. Fam. Nat. 2: 137 Verbenac. [2], sphalm. 1856. *Ischnia* Walp. ex Pfeiffer, Syn. Bot. 227, in syn. 1870. *Guinea* Schreb. ex Briq. in Engl. & Prantl, Nat. Pflanzenfam. 4 (3a): 148, in syn. 1895. *Tomonea* Aubl. ex Mold., Prelim. Alph. List Inv. Names 43, in syn. 1940. *Maceria* Sessé & Moc. ex Mold., Prelim. Alph. List Inv. Names 32, in syn. 1940. *Chinia* Reko, Bol. Soc. Bot. Mex. 4: 35, sphalm. 1946. *Chinia* Schreb. apud Pittier, Cat. Fl. Venez. 2: 329 & 331, sphalm. 1947. *Leptocarpus* "Willd. ex Link" apud Angely, Cat. Estat. Gen. Bot. Fan. 17: 4, in syn. 1956. *Ischnia* "P.DC. ex Meisn." apud Angely, Cat. Estat. Gen. Bot. Fan. 17: 4, in syn. 1956. *Maceria* "P.DC. ex Meisn." apud Angely, Cat. Estat. Gen. Bot. Fan. 17: 4, in syn. 1956. *Ischnia* "P.DC. ex Angely, Cat. Estat. Gen. Bot. Fan. 17: 4, in syn. 1956. *Ischnia* "Walp. ex Pfeiffer" apud Angely, Cat. Estat. Gen. Bot. Fan. 17: 4, in syn. 1956. *Guinea* "Schreb. ex Briq." apud Angely, Cat. Estat. Gen. Bot. Fan. 17: 4, in syn. 1956. *Kempferia* Adans. apud

Airy Shaw in J. C. Willis, *Gen. Flow. Pl.*, ed. 7, 597, in syn. 1966.

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Erect annual herbs with a woody base or suffrutescent with slender, rigid, tetragonal, striate-sulcate, divaricate stems and branches; leaves small, deciduous, decussate-opposite, sessile or subsessile to distinctly petiolate, marginally entire or dentate to incised-serrate or even subpinnatifid, the larger ones often subplicate-penninerved; inflorescence spicate or racemiform, centripetal, axillary and terminal, indeterminate, generally rather few-flowered, solitary, slender, often unilateral; flowers rather small, sessile or short-pedicellate, mostly remote, solitary in the axil of a very small inconspicuous prophyllum, borne alternately on a slender, angular, often rigid, sulcate rachis, complete, perfect, hypogynous; calyx gamosepalous, tubular or cylindrical-tubular during anthesis, in fruit accrescent and campanulate, the rim subtruncate, 5-costate-plicate with elevated ribs which are prolonged into short, acute or subulate, subequal, tooth-like apiculations, membranous between the costae; corolla gamopetalous, usually subinfundibular and somewhat hypocrateriform during full anthesis, somewhat zygomorphic, mostly blue, lilac, or purplish, rarely whitish, the tube slender, cylindrical, somewhat ampliate apically, subequaling the calyx, the limb oblique, spreading during anthesis, obtusely and unequally 4- or 5-lobed or -fid, the lobes entire or apically emarginate, the 2 lateral (posterior) lobes slightly smaller and shorter, the anterior lobe much enlarged and erect, the lowermost lobe deflexed; stamens 4, didynamous, inserted at about or below the middle of the corolla-tube, included; filaments very short, filiform; anthers ovate, dorsifixed, with 2 parallel thecae which dehisce longitudinally; connective on the 2 anterior (superior) stamens prolonged into a short, thick or club-shaped, glanduliferous appendage not present on the inferior pair of stamens; pistil compound, bicarpellary, each carpel 2-celled and 2-ovulate; style terminal, solitary, included, usually about equaling the lower pair of stamens; stigma oblong, rather thickened, sublaterally or unilaterally oblique; ovary superior, situated on a basal disk, compound, almost completely 4-celled, the cells 1-ovulate; ovules anatropous, for the major part laterally attached near the base of the cell to the carpellary margin; fruit drupeaceous, mostly dry and hard, globose to subtruncate or turbinate, mostly scarcely exerted from the accrescent, cyathiform, membranous, semi-velate fruiting-calyx, apically obtuse to truncate or shortly 4-lobed, 4-knobbed, 4-cornute, or 4-spinose, the exocarp very thin, somewhat fleshy, the endocarp hard, bony, 4-celled, rugose-areolate in drying, with a single central lumen; seeds solitary in each cell, erect, exalbuminous; cotyledons 2, flattish, thick, applicate; radicle very short.

Type species: *Tamonea spicata* Aubl. [*Ghinia spicata* (Aubl.) Mold.]

This small and very distinctive tropical American genus of about ten species and varieties was named in honor of Lucas China (1500--1556), professor of medicine and botany at Padua, Colonia, and Pisa, founder of the Padua and Pisa botanical gardens.

Tamonea Aubl. is obviously the oldest scientific name for the genus, but is rejected because it is a later homonym of *Tamonea* Aubl. in the *Melastomataceae*. The verbenaceous *Tamonea* was published by Aublet on pages 659--660, pl. 268, in volume 2 of his *Histoire des Plantes de la Guiane Française* (1775), while the melastomataceous *Tamonea* was published by him on page 440 of volume 1 of the same work. The work, according to Stafleu (1967) was published in 72 parts between June and September of 1775. Aublet himself realized his mistake in using the name twice in different senses and applied to plants in quite separate plant families, and, unfortunately, decided to retain it for the verbenaceous plant. He, therefore, "corrected" the name to *Fothergilla* [an invalid homonym of the *Fothergilla* of Linnaeus in the *Hamamelidaceae*] in such copies of volume 1 as were still within his reach. Apparently, however, he was not able to delete the name from all copies since copies exist now in some libraries without his deletion (correction) having been made, so it seems obvious that some uncorrected copies of volume 1 had already been distributed among subscribers and/or colleagues, thus effectively and validly publishing the generic name *Tamonea* for the melastome group. Regardless of Aublet's later attempt to "cancel out" the earlier publication by substituting "*Fothergilla*" for it and maintain the name for the verbenaceous group, under the present Code of Botanical Nomenclature he was not justified in so doing. Without formal conservation, the later homonym must be rejected, even though *Miconia* Ruiz & Pav. (1794) has since officially been conserved over the melastomataceous *Tamonea* of Aublet (1775) and in spite of the assertion by Green (1935) that "The name *Tamonea* Aubl. (*Verbenaceae*) stands without con- vation."

The earlier *Tamonea* is now accepted by Wurdack, internationally recognized authority on the *Melastomataceae*, as the valid name for a rather primitive group of species which he classifies in the genus *Miconia* as Section *Tamonea* (Aubl.) Cogn. [or *Tamonea* Cogn. according to some experts on the interpretation of the present international Code]. It is certainly very possible, given the very large number and diversity of species that now comprise the genus *Miconia*, that sooner or later the Section *Tamonea* will be elevated to generic rank. In that case, according to Dr. Rupert Barneby, also a recognized expert on the Code, *Tamonea* would be available as the valid name for the new genus, since it is rejected only from use for the genus *Miconia* as such, a rejection which would not at all preclude its use for a genus segregated from *Miconia* and containing Aublet's original type species.

A rather similar case where a name published in only some copies of a work is yet regarded as validly published, is seen in the case of *Eriocaulon aquaticum* (J. Hill) Druce, the presently accepted by the European plant previously known as *E. septangulare* With. It has been shown that some (few) copies of Hill's Herbarium Britannicum, volume 1 (1769) exist with an additional plate illustrating a new genus, *Cespa* Hill, with a single species, *C. aquatica*. Some other copies exist with actually 4 additional pages of text. The fact that these pages, and this plate, do not exist in all copies of the work seems to indicate that they were not printed soon enough to include in all copies, yet the fact that they are in some copies validates Hill's genus and species [cfr. Dandy, *Watsonia* 7: 168--169. 1969].

Ghinia has in the past been accepted as the valid name for the genus by Swartz (1800), Britton & Wilson (1925), Standley (1924), Barkley (1965), Liogier (1957, 1965), Angely (1956, 1960), León & Alain (1974), López-Palacios (1977), and, of course, by myself in all my previous publications. Airy Shaw, in his 1966 work, accepts the name on pages 476, 680, and 1099, but not on pages 582, 595, and 597. In his 1973 work he definitely accepts it (pages 488, 698, & 1129) and rejects *Tamonea*.

Sherardia Vaill., sometimes included in the synonymy of *Ghinia*, actually belongs to that of *Stachytarpheta* Vahl. *Tamonea* Aubl. is given as a valid genus in the *Labiatae*, Section *Verbeneae*, by Reichenbach (1828), with *Kämpferia* Houst., *Leptocarpus* Willd., and *Ghinia* Willd. as synonyms. The *Ghinia* of Bubani, Fl. Pyren. 3: 158 (1901) is a synonym of *Cardamine* L. in the *Brassicaceae*.

It is perhaps worth noting here that the Meisner (1840) reference listed by me in the bibliography (above), is sometimes incorrectly cited as "1839" or as page "206" (instead of p. 200). The Swartz (1788) plate reference is sometimes cited as in volume 3 since it has been bound in that volume in some libraries [e.g., at the New York Botanical Garden], but it apparently was originally published with and bound in volume 2. The Walpers (1847) reference is sometimes erroneously cited to page "52" [instead of p. 520]. The Angely (1971) reference is often cited by the erroneous titlepage date of "1970". The genus *Kempferia* is credited to Adanson by Airy Shaw (1966), but in Adanson's work (1763) it is plainly credited to Houstoun. Similarly, he credits *Ischnia* to Meisner, but Meisner plainly credits it to DeCandolle. The Endlicher reference (1838) is often cited by the titlepage date of "1836-1856", but the page here involved was issued in 1838. Similarly, the Schnitzlein (1856) reference is often cited as "1843-1870", but the page involving the present genus was issued in 1856.

It is particularly interesting to note that the prestigious "Index Kewensis" [Supplement 6, 1926] mistakenly places no less than five binomials in the melastomataceous *Tamonea* in the verbenaceous *Tamonea*! This kind of mistake occurs quite frequently in the case of homonymous genera in works of lesser repute and is one of the reasons why I always try to include in my lists of excluded species the binomials published in homonymous genera.

Sweet (1830) lists "tamonea" as the recommended popular name for this genus as cultivated in English gardens, while Poiret (1823) uses "tamonee" as the vernacular French name. The German popular name is "Traubennuss".

Junell (1934) discusses the generic pistil morphology [on the basis of *G. curassavica* var. *yucatanensis* Mold.] as follows: "Die mittleren Partien der Fruchtblätter sind nur im oberen Teil des Fruchtknotens mit den Fruchtblatträndern verwachsen. Die Samenanlagen besitzen wie bei den vorhergehenden Gattungen eine nach unten gerichtete Mikropyle. Sie besitzen jedoch keine basale Befestigung, sondern sind am grössten Teil ihrer Länge entlang mit dem Fruchtblattrand verbunden. Man kann somit von keinem Funikulus sprechen. Das Leitbündel der Samenanlage reicht hoch im Fruchtblattrand hinauf, bevor es in den chalazalen Teil der Samenanlage abbiegt. Wie aus den Schnitten a und b ersichtlich, setzt von den Plazentagefässbündeln eine kleine Abzweigung gerade nach oben beiderseits der medianen Fruchtknotenöhle fort. Aus der Schnittreihe ist ersichtlich, dass die Sietenwandungen dieser medianen Höhle mit leitendem Gewebe bekleidet sind. Die Pollenschläuche scheinen somit bis hinab zum Grunde dieser Höhle zu gehen, bevor sie zu eine der Samenanlagen abbiegen. Die Frucht ist nach Briquet eine viersamige Steinfrucht mit fleischigem Exokarp. Diese Angabe ist irreführend. Nach Herbarmaterial zu urteilen scheint die Frucht sehr wenig saftig zu sein. Das Endokarp zerfällt nicht."

Erdtman (1952) describes the pollen of the genus, again on the basis of *G. curassavica* var. *yucatanensis*, as "3-colpor(oid)ate, prolate (76 x 55 μ). Nexine thinner than the \pm compact extranexinous part of the exine which is traversed by fine \pm radial lines. Grains very different from those in *Verbena*, more similar to the grains in *Chascanum*".

The genus *Ghinia* is native to tropical America from Mexico and the West Indies to Brazil, northern Argentina, and Bolivia. It was regarded by Schauer (1847) as related to *Priva* Adans. and *Casselia* Nees & Mart., but is placed by Briquet (1895) in the Tribe *Euverbeneae* Briq. with *Verbena* [Dorst.] L., *Stylodon* Raf., *Hierobotana* Briq., *Junellia* Mold., and *Urbania* R. A. Phil.

A list of excluded taxa, including those of homonymous genera follows:

- Ghinia alpina* (Willd.) Bub., Fl. Pyren. 3: 158. 1901 = *Cardamine alpina* Willd., *Brassicaceae*
Ghinia amara (L.) Bub., Fl. Pyren. 3: 163. 1901 = *Cardamine amara* L., *Brassicaceae*
Ghinia hirsuta (L.) Bub., Fl. Pyren. 3: 162--163. 1901 = *Cardamine hirsuta* L., *Brassicaceae*
Ghinia impatiens (L.) Bub., Fl. Pyren. 3: 160--161. 1901 = *Cardamine impatiens* L., *Brassicaceae*
Ghinia pratensis (L.) Bub., Fl. Pyren. 3: 163--165. 1901. = *Cardamine pratensis* L., *Brassicaceae*
Ghinia raphanifolia (Pourr.) Bub., Fl. Pyren. 3: 165--166. 1901 = *Cardamine latifolia* Vahl, *Brassicaceae*
Ghinia resedifolia (L.) Bub., Fl. Pyren. 3: 160. 1901 = *Cardamine resedifolia* L., *Brassicaceae*

- Ghinia sylvatica* (Link) Bub., Fl. Pyren. 3: 161--162. 1901 = *Cardamine hirsuta* L., *Brassicaceae*
- Leptocarpus aristatus* R. Br., Prodr. Fl. Nov. Holl., imp. 1, 250. 1810 -- in the *Restionaceae*
- Leptocarpus aristatus* F. Muell., Fragm. 8: 91. 1874 = *L. erianthus* Benth., *Restionaceae*
- Leptocarpus brownii* Hook. f., Fl. Tasm. 2: 73, pl. 136. 1858 -- in the *Restionaceae*
- Leptocarpus burchellii* Mast., Journ. Linn. Soc. Lond. Bot. 10: 222. 1869 -- in the *Restionaceae*
- Leptocarpus canus* Nees, Ann. Mag. Nat. Hist., ser. 1, 6: 50. 1841 -- in the *Restionaceae*
- Leptocarpus chilensis* Mast. in P. DC., Monog. Phan. 1: 341. 1878 -- in the *Restionaceae*
- Leptocarpus ciliaris* Nees in Lehm., Pl. Preiss. 2: 64. 1846 = *L. canus* Nees, *Restionaceae*
- Leptocarpus coangustatus* Nees in Lehm., Pl. Preiss. 2: 64. 1846 -- in the *Restionaceae*
- Leptocarpus desertus* F. Muell., Fragm. 8: 93. 1874 = *L. spathaceus* R. Br., *Restionaceae*
- Leptocarpus dichotomus* Heynh., Nom. 1: 455. 1840 = *Thamnochortus umbellatus* Kunth, *Restionaceae*
- Leptocarpus disjunctus* Mast., Journ. Linn. Soc. Lond. Bot. 17: 344. 1879 -- in the *Restionaceae*
- Leptocarpus distachyos* R. Br., Prodr. Fl. Nov. Holl., imp. 1, 250. 1810 = *Thamnochortus umbellatus* Kunth, *Restionaceae*
- Leptocarpus elatior* R. Br., Prodr. Fl. Nov. Holl., imp. 1, 250. 1810 -- in the *Restionaceae*
- Leptocarpus erianthus* Benth., Fl. Austral. 7: 235. 1878 -- in the *Restionaceae*
- Leptocarpus glaucus* Nees in Lehm., Pl. Preiss. 2: 64. 1846 = *Lepyrodia glauca* F. Muell., *Restionaceae*
- Leptocarpus imbricatus* R. Br., Prodr. Fl. Nov. Holl., imp. 1, 250. 1810 = *Thamnochortus imbricatus* Kunth, *Restionaceae*
- Leptocarpus imbricatus* Sieber ex Kunth, Enum. Pl. 3: 400. 1841 = *Restio bifidus* Thunb., *Restionaceae*
- Leptocarpus incurvatus* Mast., Journ. Linn. Soc. Lond. Bot. 10: 223. 1869 -- in the *Restionaceae*
- Leptocarpus modestus* Mast., Journ. Linn. Soc. Lond. Bot. 10: 225. 1869 -- in the *Restionaceae*
- Leptocarpus neglectus* Mast., Journ. Linn. Soc. Lond. Bot. 10: 225. 1869 -- in the *Restionaceae*
- Leptocarpus oxylepis* Mast., Journ. Linn. Soc. Lond. Bot. 10: 223. 1869 -- in the *Restionaceae*
- Leptocarpus paniculatus* Mast., Journ. Linn. Soc. Lond. Bot. 10: 221. 1869 -- in the *Restionaceae*
- Leptocarpus peronatus* Mast., Journ. Linn. Soc. Lond. Bot. 10: 224. 1869 -- in the *Restionaceae*
- Leptocarpus ramosus* R. Br., Prodr. Fl. Nov. Holl., imp. 1, 250. 1810 -- in the *Restionaceae*
- Leptocarpus scariosus* R. Br., Prodr. Fl. Nov. Holl., imp. 1, 250. 1810 -- in the *Restionaceae*

- Leptocarpus schultzii* Benth., Fl. Austral. 7: 237. 1878 -- in the *Restionaceae*
- Leptocarpus setuligerus* F. Muell., Fragm. 8: 97. 1874 = *L. tenax* R. Br., *Restionaceae*
- Leptocarpus simplex* R. Br., Prod. Fl. Nov. Holl., imp. 1, 250. 1810 = *L. brownii* Hook. f., *Restionaceae*
- Leptocarpus simplex* A. Rich., Fl. N. Zēl. 142. 1832 -- in the *Restionaceae*
- Leptocarpus spathaceus* R. Br., Prod. Fl. Nov. Holl., imp. 1, 250. 1810 -- in the *Restionaceae*
- Leptocarpus squarrosus* [Nees in] Sieber ex Kunth, Enum. Pl. 3: 419. 1841 = *Hypolaena lateriflora* Benth, *Restionaceae*
- Leptocarpus tenax* R. Br., Prod. Fl. Nov. Holl., imp. 1, 250. 1810 -- in the *Restionaceae*
- Leptocarpus tenellus* F. Muell., Fragm. 8: 99. 1874 = *L. aristatus* R. Br., *Restionaceae*
- Leptocarpus thamnochortoides* F. Muell., Fragm. 8: 96. 1874 = *L. tenax* R. Br., *Restionaceae*
- Tamonea albicans* (Sw.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia albicans* (Sw.) Triana, *Melastomataceae*
- Tamonea andina* (Naud.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia latifolia* (Don) Naud., *Melastomataceae*
- Tamonea androsaemifolia* Jennings, Ann. Carnegie Mus. 11: 209. 1917 = *Miconia androsaemifolia* Griseb., *Melastomataceae*
- Tamonea arabica* Mirb., ed. 2, 15: 233. 1805 = *Priva adhaerens* (Forsk.) Chiov.
- Tamonea argyrophylla* (DC.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia argyrophylla* DC., *Melastomataceae*
- Tamonea atrata* (Spring) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia atrata* (Spring) Wawra, *Melastomataceae*
- Tamonea aureoides* (Cogn.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia aureoides* Cogn., *Melastomataceae*
- Tamonea ceramicarpa* (DC.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia ceramicarpa* (DC.) Cogn., *Melastomataceae*
- Tamonea ciliata* (L. C. Rich.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia ciliata* (L. C. Rich.) DC., *Melastomataceae*
- Tamonea cubensis* (Griseb.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia cubensis* (Griseb.) Sauv., *Melastomataceae*
- Tamonea delicatula* (A. Rich.) Jennings, Ann. Carnegie Mus. 11: 210. 1917 = *Miconia delicatula* A. Rich., *Melastomataceae*
- Tamonea epiphytica* (Cogn.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia latifolia* (Don) Naud., *Melastomataceae*
- Tamonea fothergilla* (DC.) Cook & Collins, Contrib. U. S. Nat. Herb. 8: 249. 1903 = *Miconia mirabilis* (Aubl.) L. Wms., *Melastomataceae*

- Tamonea fulva* (L. C. Rich.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia chrysophylla* (L. C. Rich.) Urb., *Melastomataceae*
- Tamonea guianensis* Aubl., Pl. Guian. Fr. 1: 440, pl. 175. 1775 = *Miconia mirabilis* (Aubl.) L. Wms., *Melastomataceae*
- Tamonea holosericea* (L.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia holosericea* (L.) DC., *Melastomataceae*
- Tamonea humilis* (Cogn.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia humilis* Cogn., *Melastomataceae*
- Tamonea ibaguensis* (Bonpl.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia ibaguensis* (Bonpl.) Triana, *Melastomataceae*
- Tamonea impetiolaris* (Don) Cook & Collins, Contrib. U. S. Nat. Herb. 8: 249. 1903 = *Miconia impetiolaris* (Sw.) Don ex DC., *Melastomataceae*
- Tamonea jucunda* (DC.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia jucunda* (DC.) Triana, *Melastomataceae*
- Tamonea laevigata* (L.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia laevigata* (L.) DC., *Melastomataceae*
- Tamonea lappulacea* Pers. ex Schau. in A.D.C., Prodr. 11: 529 & 534, in syn. 1847 = *Priva lappulacea* (L.) Pers.
- Tamonea lasiopetala* DC. ex Triana, Trans. Linn. Soc. Lond. 28: 103. 1871 = *Miconia serrulata* (DC.) Naud., *Melastomataceae*
- Tamonea ligustroides* (DC.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia ligustroides* (DC.) Naud., *Melastomataceae*
- Tamonea longifolia* (Aubl.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia longifolia* (Aubl.) DC., *Melastomataceae*
- Tamonea macrophylla* (Don) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia serrulata* (DC.) Naud., *Melastomataceae*
- Tamonea magnifica* (Denis) Voss in Vilm., Blumeng., ed. 3, 1: 320. 1894 = *Miconia calvescens* DC., *Melastomataceae*
- Tamonea media* (D. Don) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia media* (D. Don) Naud., *Melastomataceae*
- Tamonea minutiflora* (Bonpl.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia minutiflora* (Bonpl.) DC., *Melastomataceae*
- Tamonea moënsis* Britton, Mem. Torrey Bot. Club 16: 91. 1920 = *Miconia moënsis* (Britton) Alain, *Melastomataceae*
- Tamonea nervosa* (Smith) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia nervosa* (Smith) Triana, *Melastomataceae*
- Tamonea praecox* Jennings, Ann. Carnegie Mus. 11: 211. 1917 = *Miconia obtusa* (Griseb.) Triana, *Melastomataceae*
- Tamonea prasina* (Sw.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia prasina* (Sw.) DC., *Melastomataceae*
- Tamonea racemosa* (DC.) Cook & Collins, Contrib. U. S. Nat. Herb. 8:

249. 1903 = *Miconia racemosa* (Aubl.) DC., *Melastomataceae*
Tamonea reclinata (Bonpl.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia reclinata* (Bonpl.) Naud., *Melastomataceae*
- Tamonea rubiginosa* (Bonpl.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia rubiginosa* (Bonpl.) DC., *Melastomataceae*
- Tamonea speciosa* (St. Hil. & Naud.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia speciosa* (St. Hil. & Naud.) Naud., *Melastomataceae*
- Tamonea stenostachya* (DC.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia stenostachya* DC., *Melastomataceae*
- Tamonea theaezans* (Bonpl.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia theaezans* (Bonpl.) Cogn., *Melastomataceae*
- Tamonea thomasiana* (DC.) Cook & Collins, Contrib. U. S. Nat. Herb. 8: 249. 1903 = *Miconia thomasiana* DC., *Melastomataceae*
- Tamonea tomentosa* (L. C. Rich.) Krasser in Engl. & Prantl, Nat. Pflanzenfam. 3 (7): 142. 1893 = *Miconia tomentosa* (L. C. Rich.) Don ex DC., *Melastomataceae*
- Tamonea tomentosa* var. *auriculata* Jennings, Ann. Carnegie Mus. 11: 211. 1917 = *Miconia tomentosa* (L. C. Rich.) Don ex DC., *Melastomataceae*
- Tamonea wrightii* Jennings, Ann. Carnegie Mus. 11: 211. 1917 = *Pachyantha wrightii* Griseb., *Melastomataceae*

I am very grateful to my friend and colleague, Dr. John J. Wurdack, for his assistance in the preparation of the above list of melastomataceous taxa.

An artificial key to the taxa of *Ghinia* follows:

1. Fruit distinctly sharp-spinose.
 2. Some leaf-blades subpinnatifid; native to Puerto Rico, Barbuda, and Antigua.....*G. boxiana*.
 - 2a. None of the leaves subpinnatifid; native to Cuba, Hispaniola, Mexico, Central & South America.
 3. Inflorescence mostly many-flowered and elongate.
 4. Leaf-blades rusty-puberulent with distinct short hairs beneath; native to South America.....*G. cardenasi*.
 - 4a. Leaf-blades usually only very minutely and obscurely puberulent.
 5. Mature leaf-blades usually large, to 4 cm. long and 3 cm. wide; mature fruiting-calyx not reaching base of the spines.
 6. Native to the Bahamas, Cuba, and Mexico; pubescence fine, short, appressed.
 7. Leaf-blades apically decidedly acute or acuminate, basally acute or cuneate-attenuate, the marginal teeth sharply acute or acuminate; native to northern & central Mexico and Cuba.....*G. curassavica*.
 - 7a. Leaf-blades apically obtuse, basally truncate or subtruncate; the marginal teeth rather obtuse; native to the Yucatán Peninsula only.....

-*G. curassavica* var. *yucatanensis*.
 6a. Native to Brazil; pubescence longer, coarser, and more spreading.....*G. curassavica* var. *australis*.
 5a. Mature leaf-blades usually small, only to 1.5 cm. long and 0.6 cm. wide; mature fruiting-calyx reaching base of spines.
 8. Corolla 6--7 mm. long; petioles to 7 mm. long; leaf-blades narrowly ovate-lanceolate, apically acute, the venation pinnate.....*G. curassavica* f. *parvifolia*.
 8a. Corolla 15 mm. long; petioles to 1 mm. long; leaf-blades deltoid-ovate, apically obtuse, the venation subflabelliform.....*G. euphrasiifolia*.
 3a. Inflorescence mostly only 1- or 2-flowered; native to Cuba & Hispaniola only.....*G. subbiflora*.
 1a. Fruit merely short-horned or knobbed, muticous.
 9. Leaves sessile or subsessile; fruit 4-horned, the horns short and blunt; South American.....*G. juncea*.
 9a. Leaves distinctly petiolate; fruit only obscurely knobbed; Central & South American.....*G. spicata*.

GHINIA BOXIANA Mold., Known Geogr. Distrib. Verbenac., ed. 1, 77. 1942.

Synonymy: *Ghinia spinosa* Britton & P. Wils. apud Worsdell, Ind. Lond. Suppl. 1: 433. 1941 [not *G. spinosa* Willd., 1797]. *Ghinia verbenacea* Leprieur ex Mold., Alph. List Inv. Names Suppl. 1: 9, in syn. 1947 [not *G. verbenacea* Sw., 1800].

Bibliography: Sw., Fl. Ind. Occ. Prod. 1: 94. 1797; Willd. in L., Sp. Pl., ed. 2, 1: 114. 1797; Sw., Fl. Ind. Occ. Prod. 2: 1089--1090. 1800; Sweet, Hort. Brit., ed. 2, 418 (1830) and ed. 3, 552. 1839; Schau. in A.D.C., Prodr. 11: 528 & 529. 1847; Buek, Gen. Spec. Syn. Candoll. 3: 198 & 469. 1858; Griseb., Cat. Pl. Cub. 214. 1866; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 1027 (1893) and imp. 1, 2: 1034. 1895; M. Kunz, Anatom. Untersuch. Verb. 35. 1911; Britton & P. Wils., Scient. Surv. Porto Rico 6: 139. 1925; N. L. Britton, Addisonia 17: 5, pl. 547. 1932; Fedde & Schust., Justs Bot. Jahresber. 58 (2): 329. 1938; Mold., Suppl. List Com. Vern. Names 9. 1940; Wangerin & Krause, Justs Bot. Jahresber. 60 (1): 753. 1941; Worsdell, Ind. Lond. Suppl. 1: 433. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 27, 28, 77, & 93. 1942; Mold., Phytologia 2: 103. 1944; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 1027 (1946) and imp. 2, 2: 1034. 1946; Mold., Alph. List Inv. Names Suppl. 1: 9 & 21. 1947; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 49, 52, & 185. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 100. 1953; Vélez, Herb. Angiosp. Lesser Ant. 117. 1957; Mold., Résumé 54, 60, 295, 353, & 456. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 1027 (1960) and imp. 3, 2: 1034. 1960; Liogier, Rhodora 67: 349. 1965; Mold., Fifth Summ. 1: 105 & 108 (1971) and 2: 520, 639, & 879. 1971; Mold., Phytologia 36: 42 & 47. 1977; Mold., Phytol. Mem. 2: 97, 100, 354, 405, 445, & 548. 1980.

Illustrations: N. L. Britton, Addisonia 17: pl. 547 (in color). 1932.

A shrubby much-branched perennial herb, to about 60 cm. tall; branches slender, finely pubescent and scabrous; leaves decussate-opposite, rather firm; petioles usually very short or absent; leaf-blades herbaceous, some (usually the lower) oblong, 1 cm. long or less, marginally subpinnatifid with mostly obtuse or rounded lobes, sometimes entire or subentire, some (usually the upper ones) linear to lanceolate or narrowly oblong, 1.4--2.5 cm. long, few-toothed or entire; inflorescence racemiform, slender, 2.5--10 cm. long, rather few-flowered, the flowers distant, short-pedicellate, about 5 mm. long; calyx tubular, about 4 mm. long in anthesis; corolla hypocrateriform, purple or lavender to whitish, the limb about 1.2 cm. wide; fruiting-calyx obconic, its teeth about 0.5 mm. long; fruit hard, shiny, glabrous, 2- or 4-horned or 4-spinose, the 2 or 4 horns or spines 2--4 mm. long.

Collectors describe this plant as an herb, to 2 feet tall, and have found it growing on barren hillsides, dry hilltops, limestone hills, and seashores, as well as in thickets, flowering and fruiting in February, March, September, November, and December, also in anthesis in May and June and in fruit in July, so it apparently flowers and fruits throughout the year. Box reports that on Antigua island it grows "among grasses and in open dry country, generally near the sea, infrequent and local", also in "Coarse pastures and rocky hillslopes near the sea". On Barbuda island he reports it "is locally an important constituent of clearings in xerophytic bushlands, broad cattle-tracks, etc., often subdominant with the annual grass *Aristida swartziana*" [or *A. adscensionis* L.]. He cites from Antigua Box 1091, Nicholson 43, and Wulfschlägel s.n.

The only vernacular names for the plant are "cardero" and "coast broom". The corollas are described as "lavender" on Wagner 1667.

The nomenclature of the present taxon is rather complex and has been summarized by me in a letter to Harold E. Box, dated September 21, 1939, in response to a query from him while working at the British Museum (Natural History) in London on his proposed flora on Antigua: "About the *Ghinia*, however.....the situation is very complicated. There are TWO species in the West Indies -- one is found in the Bahamas and Cuba and also in Mexico. The other I have seen only from Porto Rico. Let us call the Cuban and Mexican one 'A' and the Porto Rican one 'B'. Dr. Britton called species A *G. curassavica* (L.) Millsp. and species B *G. spinosa* (Sw.) Britton & P. Wilson. Species A has large, ovate, petiolate, incised-serrate leaves. Species B has small, linear or oblong-lanceolate leaves, entire or few-toothed, or the uppermost ones incised-subpinnatifid (!). Britton based his use of the name '*spinosa*' for species B on the fact that Swartz in 1800 described his *G. verbenacea* as having the uppermost leaves subpinnatifid, but also said the ordinary leaves were ovate, petiolate, and incised-serrate and furthermore his *G. verbenacea* was merely a new name for what he called *Tamonea spinosa* in 1788. True, in 1800, he cites a '*Tamonea verbenacea*' to his Prod. 94, but you will find no such name there on that page or anywhere else in the book. The Index Kewensis cites the name *Tamonea verbenacea* to Swartz's Ind. Occ.

2: 1089, in syn. (1800), which is correct. Your citation, therefore, of this name to Nov. Gen. et Sp. Pl. 94 (1788) is erroneous -- it started in 1800 and was then published only in synonymy and is therefore not validly published under the present international rules. The name that occurs in the 1788 work is *T. spinosa* and that is plainly based on Linnaeus' *Verbena curassavica* and the Hermann and Houstoun synonyms. The illustration in Hermann proves that plant to be our species A and shows how the idea that it came from Curaçao originated, for Hermann says that he bases his name on a cultivated plant, the seeds of which were merely said to have come from Curaçao. I am personally convinced that they came from Vera Cruz, Mexico, where the species is common.

"So it seems evident that species A must be called *Ghinia curassavica* (L.) Oken and that the names *Verbena curassavica* L., *Tamonea verbenacea* Sw., *Ghinia verbenacea*, *G. spinosa*, and *Tamonea spinosa* all must be reduced to synonymy under that name. Of course, some of my colleagues would say that if Swartz in 1800 had before him a specimen of species B which he thought to be merely a runt of dwarfed specimen of species A, then that specimen is the type of his *G. verbenacea* and that this name can be used for species B. Personally I do not believe so. If Swartz did have a specimen of species B before him I would say that his application of the name *G. verbenacea* to it was merely a mis-identification, for *G. verbenacea* goes to the plant described in 1788 as *T. spinosa*, which, in turn, is obviously the plant which Linnaeus called *Verbena curassavica*.

"So it is my opinion that species B needs a new name and I propose, with your kind permission, to call it *Ghinia boxiana*."

In his reply Dr. Box says: "I enclose a portion of my duplicate of *Box 1091* (*Ghinia*), which I am sure you will like to see. It is certainly not the 'sp. A', which is represented at the BM by a number of sheets, from various localities in Mexico, but agrees well with *Sintenis 632, 3554 & 3754*, all from Porto Rico. Mr. Alston and I went over all the points you raise and agree with your conclusion. The sp. B is evidently without a published name and I thank you for the compliment you have paid me in proposing my name for it. I think you can safely assume that Grisebach's records refer to this plant so far as Antigua is concerned, and I have personally seen the Nicholson plant (*no. 43*) from Antigua, the *Nicholls s.n.* from Barbuda, which are the same species.

"I am inclined to believe that both of Swartz's locality records are erroneous, and on the face of it, if Curaçao is an error for Mexico (as it almost certainly is) the distribution 'Mexico and Antigua' is just as improbable as 'Curaçao and Antigua'. I think the whole of Swartz's records for *Tamonea verbenacea* (nom. illegit.) and *Ghinia verbenacea* (nom. illegit.) concern the large sp. A, i.e. *G. curassavica* (L.) Millsp. and that his reference to Antigua is an error (not the only error in Swartz, by any means). The BM has a specimen, which I take to be *G. curassavica*, labelled 'Mexico, Vera Cruz, Antigua, Sept. 1912, C. A. Purpus, No. 6138' with the collector's determination

'*Tamonea scabra* Ch. & Schl. forma'. I have met with other cases where the W. I. island of Antigua has been confused in literature with the Mexican town of the same name, and I rather think Swartz must have had a plant before him from the Mexican town of Antigua, for he surely could not have considered these two plants to be the same species if his Antigua plant were sp. B. So much for Swartz's records.

"I have said above that my Antigua and Barbuda plants agree with Sintenis' plants from Puerto Rico, but I would like your confirmation of this after seeing my specimen (which agrees exactly with my own plant from Barbuda and the Nicholson and Nicholls specimens at Kew. It also agrees well with Britton's description in *Addisonia*, xvii: 5, though NOT with the plate 547 in the same work. This picture, however, may not have been drawn from the living plant at all. The flowers illustrated are three times as large as those I am accustomed to see in Antigua and Barbuda, and are of the wrong colour, not pink or purple, but are white or pale lilac with (if I remember rightly) a patch of yellow on the lip, though I cannot be sure of this. Britton's heading 'Native of Porto Rico and Antigua' may be based on Swartz or on Grisebach; if the latter they are OK for sp. B, if the former they are right by coincidence only. "

Britton & Wilson (1925) say that the species inhabits "Rocky thickets and hillsides at lower elevations in dry parts of the southwestern districts of Porto Rico. Antigua." Sweet (1830) calls the plant the "thorny-fruited tamonea" and Loudon (1834) does the same, but these names probably more properly apply to *G. curassavica*. In his 1932 work Britton calls our species "A rare plant, at present definitely known only from the very dry, southwestern parts of Porto Rico, where it grows in rocky thickets at low elevations."

Herbarium material of *G. boxiana* has been widely misidentified and distributed in herbaria as *G. spinosa* (Sw.) Britton & P. Wils., *Tamonea spinosa* Sw., and *T. verbenacea* Sw.

Citations: PUERTO RICO: Britton & Britton 9592 (N, S); Britton, Britton, & Boynton 8301 (N, W--1302107 Britton, Cowell, & Brown 4602 (N, W--791564); A. H. Liogier 10612 (N); F. H. Sargent 157 (W--1558184); Sintenis 632 (Ln--70088, Mu--1514, Pa, S, W--404099, W--1323149), 1815 (Ac), 1875 (Br), 3554 (Ac, Mu--3765, N, S, W--404100), 3754 (Io--75758), 4815 (B, Cm, Po--63883); Spiegelberg s.n. [October 1, 1927] (It); F. L. Stevens 4869 (N); Stevens & Hess 3037 (N); Velez 915 (N); R. J. Wagner 1667 (Me--152780, Ws). LEEWARD ISLANDS: Antigua: Box 1091 (Ca--939077--isotype, Mi--isotype, N--isotype, N--isotype, W--1714026--isotype. Barbuda: Box 694 (W--1713655).

[to be continued]