

## ON THE IDENTITY OF THE GENERA CUPULISSA RAF. AND PLATOLARIA RAF.

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*Platolaria* Raf. Sylva Tellur. 78. 1838, with a single species, *P. flavescens* Raf., was based entirely on *Bignonia orbiculata* Jacq. = *Anemopaegma orbiculatum* (Jacq.) DC. The record here is clear, but manifestly *Platolaria* Raf. (1838) has priority over *Anemopaegma* Mart. (1845). A synonym of *Anemopaegma orbiculatum* (Jacq.) DC. is *Pithecoctenium panamense* Benth. Bot. Voy. Sulph. 129. 1844.

The case of *Cupulissa* Raf. Flora Tellur. 2: 57. 1836 [1837], currently placed as a synonym of *Bignonia* Linn., was not so clear. Because it became desirable to place *Cupulissa* Raf., in connection with the preparation of a comprehensive Index Rafinesquianus by the senior author, an inordinate amount of time was devoted to this case, with much correspondence regarding the matter. The difficulty was that no botanist had made a critical study as to the generic position of *Bignonia grandifolia* Jacq., which manifestly does not belong in *Bignonia* as that genus is currently restricted. The species is now shown to belong in *Anemopaegma* Mart., and thus we have still another generic name, *Cupulissa* Raf., to account for, earlier than both *Platolaria* Raf. and *Anemopaegma* Mart. On the basis of strict priority *Cupulissa* Raf. takes precedence over the other two proposed names for this particular genus.

Several excellent coloured plates of *Bignonia grandifolia* Jacq. have been published, all apparently based on material derived from the plant first cultivated in Vienna toward the end of the eighteenth century. Probably the chief reason why Jacquin's striking species was not disposed of earlier was that it remained unrepresented in most European and American herbaria until very recently and again because its fruits were, and still are, unknown. As a matter of fact the species, said to have come from Carácas, and originally described from a living specimen in conservatory cultivation in Vienna before 1798, was not actually re-collected in Venezuela or elsewhere until 1937, approximately 140 years after it was first described and illustrated. This, in view of the distinctly spectacular nature of the species, with its abundance of large, bright yellow flowers, is all the more surprising. The explanation is that apparently the species is of somewhat local occurrence, and that it grows in regions which have not, until very recently, been intensively explored from a botanical standpoint. Probably the indication of the type locality as "Caracas" has confused the issue, for the species does not grow in the immediate vicinity of the city of Carácas, although it is now known from one modern collection in Venezuela.



From an examination of the original description and the several coloured plates it was evident that some group in the vicinity of *Anemopaegma* Mart. was represented, but from the data available, and with no specimens for study, the senior author could not be certain as to the genus actually represented. Attempts to match Jacquin's species in the extensive collections at the Muséum d'histoire naturelle, Paris (Dr. Pichon), at the New York Botanical Garden (Dr. Moldenke), at the Missouri Botanical Garden (Dr. Seibert), at the Gray Herbarium and the Arnold Arboretum failed, and the first attempts at the U. S. National Herbarium and at the Chicago Natural History Museum were fruitless. An examination of the material in the herbaria in and near London by the junior author failed to locate any specimen in the Lindley Herbarium (Dr. Gilbert-Carter), at the British Museum (Dr. George Taylor), and at Kew, other than one specimen in the latter herbarium placed under the unidentified specimens of *Anemopaegma*. This was labelled in Sir William Hooker's handwriting "*Bignonia grandifolia* Bot. Mag. Hort. Eblan. [Dublin]." The specimen was clearly taken from the plant on which the Botanical Magazine plate was based. Some years ago the junior author had written on the sheet "cf. *Anemopaegma*." A critical re-examination of the specimen showed clearly that it agrees with *Bignonia grandifolia* Jacq. and that *Anemopaegma* Mart. is the genus represented. An opened calyx shows the characteristic disk and ovary perfectly. The leaflets agree very well with those of Jacquin's plate, as do the pseudostipules, the tendril, the calyx, the long linear bracts, and the stamens. The curious "warts" or "raised points" on the branchlets, petioles, and peduncle are actually raised lenticels, and are fewer and less conspicuous on the Botanical Magazine specimen than as shown in Jacquin's illustration; in the latter it is suspected that the number and eminence was exaggerated. We have seen nothing exactly like them in any other described species of *Anemopaegma*. The apparent discrepancy in the calyx-margin as shown in the several plates is of no significance; in fact, some of the calyces of the Botanical Magazine material are split and irregularly lacerate exactly as shown in Jacquin's plate. Neither is there any significance in the fact that the inflorescences as shown in the Botanical Magazine, based on the Dublin specimen, and in the Botanical Register (based on a specimen grown by Mr. Catley at Barnet) exhibit no 3-flowered cymes in the lower parts. The junior author's first report after having attentively examined three coloured plates (Jacquin's original, Botanical Register, and Botanical Magazine), and descriptions, and considering the several genera suggested as possibilities, includes the statement:

"First of all, even without other evidence, I have no hesitation in referring the plant figured and described by Jacquin as *Bignonia grandifolia* to the genus *Anemopaegma*. The three plates represent one and the same species. Jacquin's species has the characteristic ovary of *Anemopaegma* (ellipsoid or ovoid-ellipsoid, often striate or furrowed, and usually conspicuously contracted into the disk), as well as the large pulvinate disk.



Other characters such as the simple tendril, the absence of gland-fields at the nodes, the calyx, and the glabrous, bright yellow corolla are all characters of species of *Anemopaegma*."

We have been unable to refer the species to any described one now placed in *Anemopaegma*, or for that matter, in any other allied genus. It is believed that had the fruits been known (they are still unknown and hence undescribed) that the species might long since have been transferred to *Anemopaegma*.

With certain definite data available regarding the generic position of the species requests were again sent to the Chicago Natural History Museum and to the U. S. National Herbarium for a re-examination of the unnamed Venezuelan material in *Anemopaegma* and in *Bignonia*. Dr. Steyermark reporting from Chicago, and Mr. Killip, reporting from Washington, are in agreement that *Bignonia grandifolia* Jacq. is actually represented by one modern collection, this being *Pittier 14023* from the Ocumare Valley, Venezuela, May 29, 1937. The senior author has actually examined the Chicago specimen, courteously loaned for the purpose, and agrees with this identification of it.

These new data were transmitted to Dr. Léon Croizat who had recently reported for duty in Carácas. On March 24, 1947, he reported that there are two places in Venezuela known as Ocumare, one Ocumare de la Costa in the State of Aragua, the other, Ocumare del Tuy in the state of Miranda; and that the Pittier collection came from Ocumare de la Costa. The actual place where Dr. Pittier rediscovered the species is about 90 kilometers, air line, or about 140 kilometers by road, from Carácas, on the northern slopes of the coastal cordillera, approximately 600 meters below the pass leading from Maracay to Ocumare; this is the road from Carácas to Puerto Cabello, and, one suspects, the route that Jacquin followed on leaving Carácas on his return to Europe. With the generic identity of Jacquin's striking species now established, and with the Botanical Magazine specimen and one modern collection for examination, the following transfer is made:

**ANEMOPAEGMA** Martius ex de Candolle Prodr. 9: 187. 1845.

*Cupulissa* Rafinesque Flora Tellur. 2: 57. 1836.

*Platolaria* Rafinesque Sylva Tellur. 78. 1837.

***Anemopaegma grandifolium*** (Jacq.) comb. nov.

*Bignonia grandifolia* Jacq. Pl. Hort. Schoenbr. 3: 19, *pl.* 287. 1798; Willd. Sp. Pl. 3: 296. 1801; Poir. in Lam. Encycl. Suppl. 1: 633. 1810; Edwards Bot. Reg. 5: *pl.* 418. 1819; Spreng. Syst. Veg. 2: 830 [*sphalm. grandiflora*]. 1825; Hook. Bot. Mag. 57: *pl.* 3011. 1830; Van Géel Sert. Bot. Cl. xiv. 1830 (the binomial erroneously credited to Willdenow; the coloured plate based on Bot. Reg. *pl.* 418); Reichb. Fl. Exot. 3: 48, *pl.* 213. 1835 (the coloured plate a reproduction of that of Van Géel); DC. Prodr. 9: 159. 1846; Knuth Repert. Sp. Nov. Beih. 43: 638. 1927 (Init. Fl. Venezuel.).

*Cupulissa grandifolia* Raf. Fl. Tellur. 2: 57. 1836 [1837], based on *Bignonia grandifolia* Jacq.

Messrs. Willdenow, Sprengel, De Candolle, and Knuth, saw no speci-



mens representing the species, accepting it on the authority of Jacquin or of later authors. On the other hand Poiret adds at the end of his description "v.s." indicating that he had seen a specimen. There is no evidence that Van Géel or Reichenbach knew the species in cultivation for their coloured plates are manifestly copied from the one in the Botanical Register. Their statement as to the year of introduction into Europe, 1815, is of course erroneous, and was perhaps suggested by the Botanical Register entry of 1819: "We believe the plant is of very recent introduction." We suggest that the species did not persist in conservatory cultivation in Europe because of its rank growth habit.

With this disposition of *Bignonia grandifolia* Jacq., we now take up the problem of the proper generic name. *Cupulissa* Raf. (1836) has priority followed by *Platolaria* Raf. (1837), and *Anemopaegma* Mart. (1845). With 60 binomials already published in *Anemopaegma* Mart. and because that name has been consistently used since 1845 as the generic one for this group, we unhesitatingly recommend that *Anemopaegma* Mart. ex DC. Prodr. 9: 187. 1845, be added to the list of conserved generic names, and that *Cupulissa* Raf. Flora Tellur. 2: 57. 1836 [1837], and *Platolaria* Raf. Sylva Tellur. 78. 1838, be rejected.

Rafinesque's original descriptions of his two new genera are characteristically short, yet there is no doubt as to exactly what he had in mind. That of *Platolaria* Raf. Sylva Tellur. 78. 1838 is:

"448. PLATOLARIA Raf. diff. Bignonia Siliqua maxima orbiculata plana. *Scandens*, fol. digit. fl. racemosis — Very distinct by mere fruit said to be akin to that of Bign. cerulea, see 458. The flowers are not described."

"449. *Platolaria flavescens* Raf. Bign. orbiculata Jacq. auct. — fol. 5 natis ovatis acum. cirrhosis, racemis axil, sub 10fl. — Carthagera, fl. yellowish."

The description of *Cupulissa* Raf. Flora Tellur. 2: 57. 1836 [1837], is somewhat more ample. The problem here was a proper interpretation of *Bignonia grandifolia* Jacq., which was the sole basis of the proposed new genus.

"203. CUPULISSA Raf (cup split) diff. from Bignonia, cal. cupularis integro latere fisso, Cor. tubulosa campanul. limbo undulato subeq. 5lobo, lob. inf. fisso. filam. basi glandul. hirsutis, didyn. quinto ster. ovar. supra disco glanduloso, stigma bilamel. *Scandens*, fol. conjug. fl. racemosis. — Type *C. grandifolia*, foliolis 2 ovatis undul. cirrhosis verrucosis, racemis multfl. pedic. bibract. flexuosis. — Carracas, large yellow flowers. *Bignonia grandif.* Jacq. hort. 287. Bot. Reg. 418, Bot. Mag. 3011, auctoris. Probably several Bignonias belong here, the real have cal. dent. cor. bilabiate &c."

The above is the Rafinesque record for the two genera. As no other botanist has ever recognized either of them while *Anemopaegma* Mart. is universally accepted, and further because of the large number of species involved, we believe that we are justified in recommending the conservation of Martius' generic name and the rejection of the two earlier Rafinesque

ones. Of the two Rafinesque names *Cupulissa* Raf. is earlier than *Platolaria* Raf. so that if others do not agree with our conclusions, as to the retention of *Anemopaegma* Mart., *Cupulissa* Raf. would be the logical choice.

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