

TAXONOMIC NOTES ON GLENNIEA (SAPINDACEAE)

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SUMMARY

1. The genus *Crossonephelis* Baill. (1874) is reduced to *Glenniea* Hook. f. (1862). The necessary new combinations have been made.
2. *Crossonephelis (Lepisanthes) palawanicus* (Radlk.) Leenh. is reduced to *Glenniea (Cnemidiscus) thorelii* (Pierre) Leenh.
3. *Melanodiscus* sp. nov. Dale & Greenway, formerly placed under *Crossonephelis africanus* Leenh., appears to represent a different genus, probably new, possibly near *Eriocoelum* of the *Cupanieae*.

GLENNIEA

Glenniea Hook. f. in B. & H., Gen. Pl. 1 (1862) 404; Radlk., Pfl. R. Heft 98 (1932) 858. — T y p e: *Sapindus unijugus* Thw. (= *Glenniea unijuga* Radlk.).
Crossonephelis Baill., Adansonia 11 (1874) 245; Leenh., Blumea 21 (1973) 91. — T y p e: *C. pervillei* Baill. (= *Glenniea pervillei* Leenh.).
Melanodiscus Radlk. in Durand, Ind. Gen. (1888) 75. — T y p e: *M. africanus* Radlk. (= *Glenniea africana* Leenh.).
Cnemidiscus Pierre, Fl. For. Coch. (1894) t. 320 A, text. — *Nephelium* sect. *Cnemidiscus* Pierre ex Lecomte, Fl. Gén. 1.-C. 1 (1912) 1052. — T y p e: *C. thorelii* Pierre (= *Glenniea thorelii* Leenh.).
Hedyachras Radlk., Bot. Jahrb. 56 (1920) 258. — T y p e: *H. philippinensis* Radlk. (= *Glenniea philippinensis* Leenh.).

When I published my revision of *Crossonephelis* (Leenhouts, 1973) I did not feel fully satisfied with it. There was a wide geographical gap in the genus between Madagascar and Indo-China, and the two species which in my opinion were most primitive, *C. pervillei* and *palawanicus*, were at both sides of that gap. I supposed that there might have been a link between the two parts south of the present Indian continent, and that the link could have been more primitive than any of the other species. Of course, Ceylon was the main place to look for that 'missing link', but on the basis of Radlkofer's descriptions I could not find any genus or misplaced species that filled up the gap. During a visit to the herbarium at Paris, in October 1974, I came across some collections of *Glenniea unijuga* and realized immediately that this might be very close to or identical with *Crossonephelis*. On further analysis it appeared that there are only three differences with *Crossonephelis* in the circumscription I had given to that genus, viz. the presence of 5 very reduced petals, the higher number of stamens (8), and the 3-merous pistil. All three characters probably represent a slightly more primitive condition than found in *Crossonephelis*. As a whole, however, the resemblance is so great that I do not hesitate to combine these genera. Conspicuous common characters are e.g. the only slightly connate sepals, the broad and flat disk, and the sigmoid filaments in ♂ flower buds.

The following additions to my former description of *Crossonephelis* are necessary: *Calyx lobes* slightly imbricate in bud, not recurved after flowering, nearly equal (the outermost one slightly narrower when compared with the innermost one). *Petals* 5, shorter than calyx, unguiculate, from broadly triangular, blunt at apex, and with a laterally adnate and nearly as high, 2-lobed scale, to shortly and widely funnelshaped, elliptic from above; both blade and scale woolly-ciliate and on both sides thin-woolly; the scale erect and without a crest. *Stamens* (5—)8 (Thwaites, En. Pl. Zeyl., 1858: 58, under *Nephelium fuscatum*, gives 8—10, which is repeated by several later authors but not by Radlkofer; I also doubt this high number). *Pistil* 3-merous, thin-hairy; stigma grooved rather than lobed.

The generic name, though derived from the personal name Glenie, was originally published as *Glenniea*. Trimen (Fl. Ceyl., 1893: 305) considered this a typographical error and corrected it to *Gleniea*. In this he was followed by nearly all later authors, including Radlkofer. I have re-instated the original spelling, however, as this was used (hence not corrected!) in later publications under the responsibility of the author (Flora British India, Index Kewensis). I suppose that the doubling of the 'n' was done intentionally because of the pronunciation.

I refrain from constructing a new key to the species. *G. unijuga* is well-distinguishable from the other species on the flower characters mentioned above and is the only species of this genus in Ceylon.

1. *Glenniea adamii* (Fouilloy) Leenh., nov. comb.

Crossonephelis adamii Fouilloy, Adansonia II, 12 (1973) 551, pl. 1; Leenh., Blumea 21 (1973) 94.

2. *Glenniea africana* (Radlk.) Leenh., nov. comb.

Melanodiscus africanus Radlk. in Durand, Ind. Gen. (1888) 75. — *Crossonephelis africanus* Leenh., Blumea 21 (1973) 95.

Mr. J. B. Gillett, Nairobi, brought to my attention that the specimen *Chapman 2105* was erroneously cited by me as originating from Tanzania, Southern Province. Actually, it was collected in Malawi as is already clear from the precise locality given.

Furthermore, Mr. Gillett commented on my treatment of *Melanodiscus sp. nov.* Dale & Greenway, Kenya Trees and Shrubs (1961) 515. I had included it in the synonymy of *Crossonephelis africanus*, basing myself exclusively on the description; Mr. Gillett was of the opinion that it represented a different genus. Analysis of 3 of the collections cited, viz. *Dale 3820*, *Eggeling 6733*, and *Gillman 1070* (all from K) revealed that they neither belong to *Glenniea*, nor to *Haplocoelum* (under which name they were later placed in the herbarium), but possibly represent a new genus of the *Cupanieae*, nearest to *Eriocoelum*.

3. *Glenniea penangensis* (Ridl.) Leenh., nov. comb.

Tristira penangensis Ridl., J. Str. Br. R. As. Soc. 82 (1920) 181. — *Crossonephelis penangensis* Leenh., Blumea 21 (1973) 98.

4. *Glenniea pervillei* (Baill.) Leenh., nov. comb.

Crossonephelis pervillei Baill., Adansonia 11 (1874) 245; Leenh., Blumea 21 (1973) 99.

5. *Glenniea philippinensis* (Radlk.) Leenh., nov. comb.

Hedyachras philippinensis Radlk., Bot. Jahrb. 56 (1920) 258. — *Crossonephelis philippinensis* Leenh., Blumea 21 (1973) 100.

6. *Glenniea thorelii* (Pierre) Leenh., nov. comb.

Cnemidiscus thorelii Pierre, Fl. For. Coch. (1894) t. 320 A, text. — *Crossonephelis thorelii* Leenh., Blumea 21 (1973) 101.

Lepisanthes palawanicus Radlk., Elm. Leaf. Philip. Bot. 5 (1913) 1604. — *Crossonephelis palawanicus* Leenh., Blumea 21 (1973) 97.

During my visit to the herbarium at Paris I found not only some more sheets of the type collection of *Cnemidiscus thorelii*, but also a second collection, *Poilane 6645*, from Nha-trang Prov., S. Vietnam. The latter collection is in fruit. With this additional material the differences between *thorelii* and *palawanicus*, in 1973 still kept separate by me, though hesitatingly and mainly by want of sufficient evidence, disappeared completely.

Before, the two species were already combined by Gagnepain (Fl. Gén. I.-C. Suppl. 1, 1950: 976).

Palynologically, the present species is now composed of three clearly distinct populations (cf. J. Muller, *Blumea* 21, 1973: 105—117). These populations are also geographically separated but morphologically hardly different. Possibly, more material may finally enable a subdivision into 3 subspecies.

7. *Glenniea unijuga* (Thw.) Radlk.— Fig. 1.

Sapindus unijugus Thw., En. Pl. Zeyl. (1858) 56. — *G. zeylanica* Thw., op. cit. (1864) 408, *nom. illeg.* — *G. unijuga* Radlk., Sitz. Ber. K. Bayer. Ak. Wiss. M.-Ph. Kl. Münch. 8 (1878) 300, 304, 366; Pfl. R. Heft 98 (1932) 859. — *G. zeylanica* var. *unijuga* Thw. ex Trim., Ceylon Br. J. R. As. Soc. 9 (1885) 20, *nom. illeg.* — *G. unijuga* Radlk. f. *genuina* Radlk. in E. & P., Nat. Pfl. Fam. 3, 5 (1895) 325, *nom. illeg.* — T y p e: *Thwaites CP 2465* (iso in P).

Nephelium fuscatum Thw., En. Pl. Zeyl. (1858) 58. — *G. zeylanica* Thw. var. *fuscata* Thw. ex Trim., Ceylon Br. J. R. As. Soc. 9 (1885) 20, *nom. illeg.* — *G. unijuga* Radlk. f. *fuscata* Radlk. in E. & P., Nat. Pfl. Fam. 3, 5 (1895) 325. — T y p e: *Thwaites CP 2577* (iso in P).

For the description may be mainly referred to Radlkofer (1932); some additions are: Tree, possibly dioecious. *Indument* velutinous, hairs solitary or sometimes in twos, restricted to the terminal buds, the young twigs, the inflorescences, and the flowers. *Leaves* sometimes infoliate; petiole semiterete to dorsiventrally flattened, 0.7—6.5 cm long; petioles flat above, up to 5 mm long; leaflets opposite to alternate, pergamentaceous to coriaceous, base equalsided or sometimes oblique, apex often slightly emarginate, midrib above flat to prominulous and rounded, beneath angular, nerves 1—2 cm distant, angle to midrib 60—70°, curved to nearly straight, intercalated veins many, variably developed. *Inflorescences* also axillary, up to 25 cm long; pedicels 2 mm long. *Calyx lobes* slightly imbricate in bud, nearly equal (outermost one slightly narrower than innermost one), the free lobes 2 × 1.5—2 mm. *Petals* broadly deltoid to shortly and widely funnelshaped, ca. 1 × 1.3—2 mm. *Stamens* (5—)8, filament 3 mm long, anther 0.6 mm long, laterally dehiscent. *Ovary* 1.2 mm high, style 1 mm.

My colleague Mr. J. Muller informed me that the *pollen grains* of this species are characterized by small size, long colpi, uniform wall thickness, and densely and finely striate sculpture. The striate pattern is meridionally oriented, the ridges anastomose frequently in one plane. This pollentype is also characteristic for *G. africana* and *unijugata*, from which it differs only in being 100% tricolporate. It differs more from the other species of *Glenniea*. (Sample taken from *Thwaites CP 3676*.)

Notes. Apart from the three collections cited by Radlkofer (*Thwaites CP 2465*, *2577*, and *3676*) the description is based upon *A. Hladik 810*, *1045*, and *1046*, all from Polonnaruwa (all in P).

The two forms still distinguished by Radlkofer (1932) will have to be reconsidered when more material is known; the differences seem to be very slight only.

The name *Glenniea zeylanica* Thw. (and accordingly the names of its two varieties) is illegitimate as it was based upon *Sapindus unijugus* and *Nephelium fuscatum*; one of these epithets should have been used. Radlkofer's f. *genuina* is illegitimate according to Art. 24 (Code, 1972).

8. *Glenniea unijugata* (Pellegr.) Leenh., *nov. comb.*

Melanodiscus unijugatus Pellegr. in Aubréville & Pellegr., Bull. Soc. Bot. Fr. 85 (1938) 293. — *Crossonephelis unijugatus* Leenh., *Blumea* 21 (1973) 102.

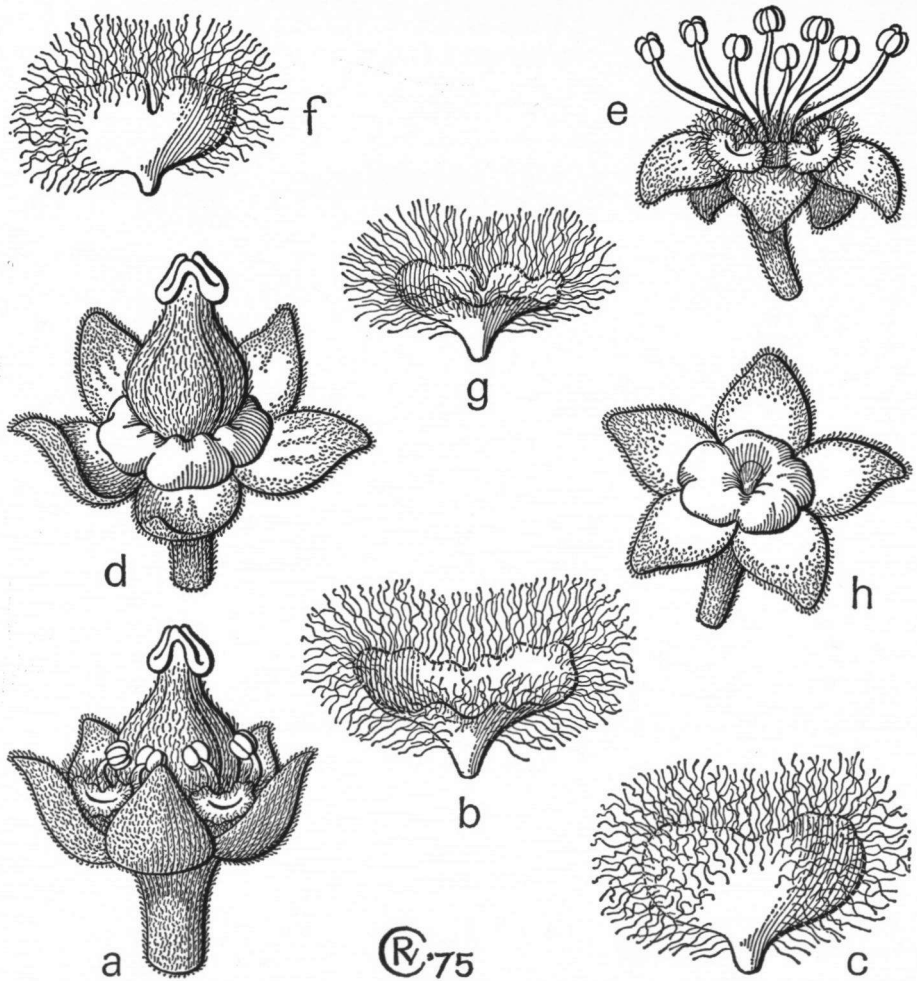


Fig. 1. *Glenniea unijuga* Radlk. — a. ♀ flower; b, c. ditto, petal from inside and outside resp.; d. ♀ flower, petals and staminodes removed; e. ♂ flower; f, g. ditto, petal from outside and inside resp.; h. ♂ flower, petals and stamens removed. (a, d, e, h: $\times 8$; b, c, f, g: $\times 16$; a—d from *Thwaites CP 3676*, e—h from *Hladik 1045*).

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