

TAXONOMIC NOTES ON *PLAGIOGYRIA SCANDENS* METT. AND
P. PYCNOPHYLLA (KUNZE) METT.

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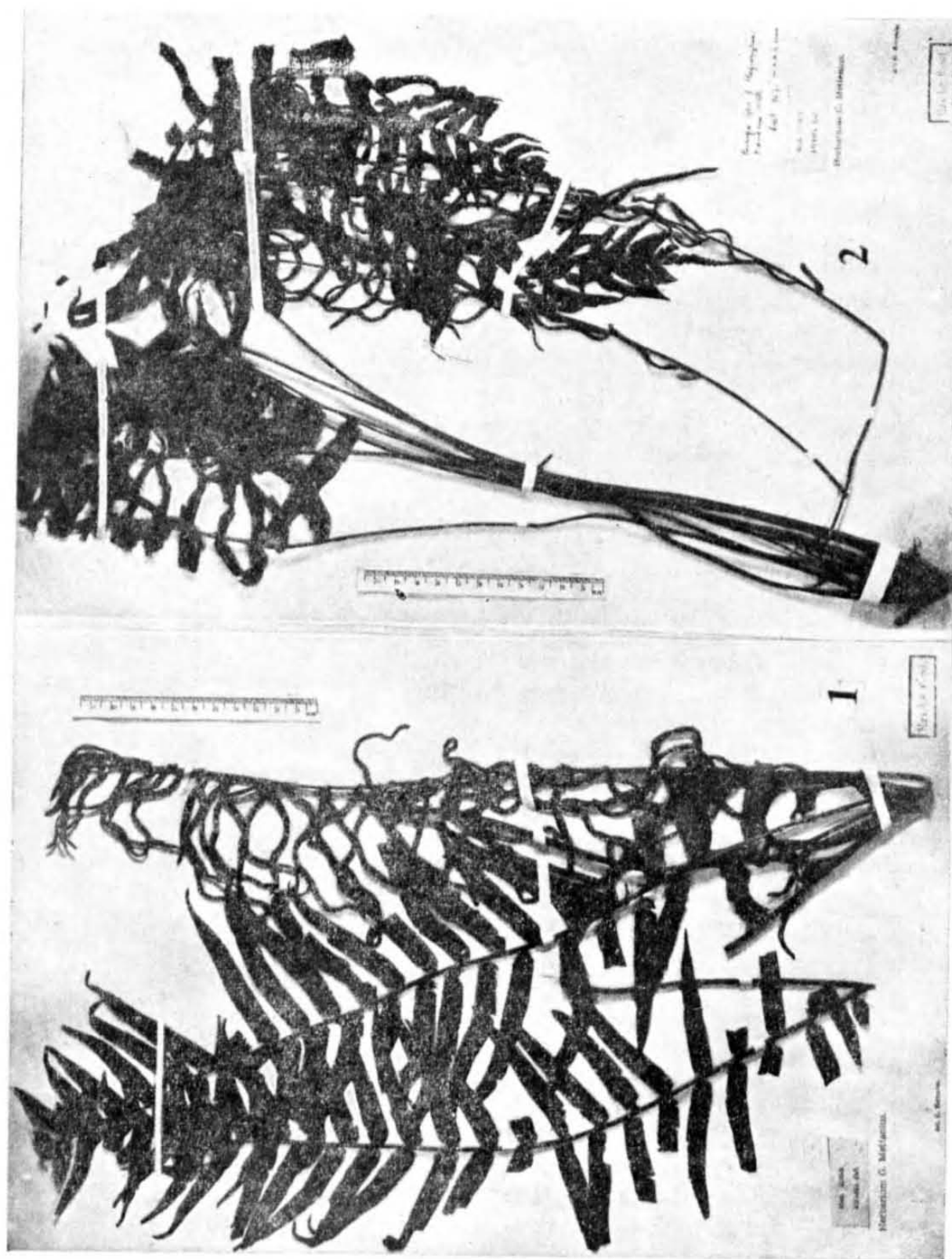
A B S T R A C T

The nomenclature and taxonomy of *Plagiogyria scandens* Mett. and *P. pycnophylla* (Kunze) Mett. have been discussed and *P. communis* Ching is considered a superfluous name for *P. scandens*.

In a study of the genus *Plagiogyria* (Kunze) Mett. in India, it was found that Ching (1958) has used a new name *P. communis* Ching for what is obviously an already known species well defined by *P. scandens* Mettenius (1858). It is characterised by the terminal leaflet deeply pinnatifid, lateral pinnae ovate to oblong lanceolate, and lower surface green to greenish-brown. These characters are included by Ching (1958) for his *P. communis*. Accordingly *P. communis* Ching is to be treated as a superfluous name for *P. scandens* Mett. As for *P. scandens* itself, Mettenius (1858) based his description on Griffith's material from Khasia (Khasi hills, Meghalaya), India. The protologue clearly indicates that he had in his mind Griffith's specimen in Kunze Herbarium, in addition to his own. However, it is now known that Kunze Herbarium in Leipzig was destroyed (Stafleu and Cowan, 1979), but Mettenius herbarium at Berlin was fortunately saved. On a request the Curator, Botanisches Museum, Berlin-Dahlem, sent us negatives of Griffith's two specimens from the Mettenius herbarium. Although the specimens do not carry any annotation, as the only two specimens available, they undoubtedly constitute the type material for *P. scandens* Mett. A care-

ful verification of the description with reference to the two photographs lead to the conclusion that it was on one of the specimens that Mettenius had relied upon for the description. This can be noted from his question marks against *truncus* (rhizome) and *apice* (terminal leaflet) and *segmenta inferiore* (basal lateral pinnae). However, Alston who had occasion to examine the second specimen during Sept. 1952 thought that it was "Perhaps type of *Plagiogyria scandens* Mett." Evidently at that time, he had not seen the other sheet. The present opportunity to have examined critically both (albeit from photographs of the respective specimens Figs. 1 & 2) now lead to the conclusion that it is the other sheet, not annotated by Alston which has to be taken as the basis for Mettenius (1858) description. In any case, these two specimens would constitute syntypes.

Returning to Ching's (1958) treatment of *Plagiogyria* (Kunze) Mett., mention should be made of *P. pycnophylla* (Kunze) Mett., a species repeatedly mistaken in numerous recent publications. The specimens cited under these names can be clearly recognised as *P. scandens* Mett. (= *P. communis* Ching). The following key and descriptions are provided to assist in a clear conception of the two species. It may be pointed out that *P. pycnophylla* (Kunze) Mett. is confined to Java and does not occur in India.



Figs. 1-2 : *Plagiogyria scandens* Mett. from the Berlin Herbarium

KEY TO THE SPECIES

- Terminal leaflet deeply pinnatifid, middle pinnae 8-13 × 1.2-1.6 cm, ovate to oblong-lanceolate; lower surface green to greenish brown; margins not reflexed, attenuate-caudate at apex. ... *P. scandens*
- Terminal leaflet simple, similar to the lateral pinnae; middle pinnae 8-11 × 1.0-1.2 cm, narrowly oblong-lanceolate; lower surface reddish brown; margins reflexed, short acuminate at apex. .. *P. pycnophylla*

Plagiogyria scandens Mett. in Abhandl. d. Senckenb. naturf. Ges. 2: 273. t. 4. f. 21. 1858. *P. communis* Ching, Acta, Phytotax. Sinica 7 (2): 147, t. 35. f. 2. 1958; Mehra and Bir, Bull. (N. S.) Punj. Univ. 15 (1 & 2): 104. 1964. *Lomaria pycnophylla sensu* Hook., Sp. Fil. 3: 22, t. 148. 1860, (descr. *pro parte*); *sensu* Hook. et Bak., Syn. Fil. 183. 1867 (*pro parte*); *sensu* Clarke, Ferns N. India 472. 1880 (*non* Kunze, 1848). *Plagiogyria pycnophylla sensu* Bedd., Ferns Brit. Ind. t. 52. 1865; Handb. Ferns Brit. Ind. 129. 1883 (*pro parte*), Copel., Philipp. Journ. Sci. 38: 390. 1929 (*pro parte*); Panigrahi, Bull. Bot. Surv. Ind. 2: 313. 1961; Nayar and Kazmi, Bull. Natn. Bot. Gard. Lucknow 64(4): 28. f. 12. 1962; *sensu* Ito in Hara, Fl. Eastern Himalayas, pteridophyte, 470. 1966; Ito in Hara, Fl. East Himalayas 2nd report, Univ. Mus. Univ. Tokyo Bull. no. 2. 208. 1971 (*non* Mett., 1858).

Rhizome thick, stout, erect; fronds 50-70 cm tufted, erect; stipes 16-23 cm, stramineous to reddish-stramineous, glabrous; aerophores alternate, present throughout the stipe. Lamina 28-42 × 16-25 cm, oblong-lanceolate, pinnate; terminal leaflet deeply pinnatifid; lateral pinnae, 16-30 pairs, alternate, sometimes opposite to sub-opposite, erecto-patent; lower pinnae sometimes shorter than the middle ones, and a few pairs of pinnae in the apical region adnate; membranaceous; middle pinnae 8-13 × 1.2-1.6 cm, ovate to oblong-lanceolate, oblique-truncate at base, attenuate-caudate at apex; aerophores present on the rachis at the base

of insertion of pinnae; lower surface green to greenish-brown; margins serrulate, not reflexed; midrib prominent, not sulcate on the lower surface; venation free; veins moderately close, simple to furcate. Fertile fronds longer than the sterile ones; pinnae 8-12 × 2.0-2.5 mm, spreading and coiled when mature, brown in colour. Spores trilete, 40-45 μm, yellow, verrucoid (Figs. 1-2).

Specimens examined: WEST BENGAL: Darjeeling—West point, 11, 1926, s. l. s. n., Acc. no. 60865 (NBG); Maneybhanjang—Little Ranjit Block, 2100 m, 8.5.1975, Dixit 52883; Simana, 11.5.1975, Dixit 52921; Sonada, 1971 m, 29.9.1974, Dixit 53063. SIKKIM: 3100 m, Herb. Hook. Fil. & Thomson s. n., Acc. no. 9463 (CAL). ASSAM: s. l. s. n., Acc. no. 5666 (ASSAM). MANIPUR: Mao, 2200 m, Feb. 1882, Watt 6150 (CAL). MEGHALAYA: Khasia, 1500 m, Herb. Hook. Fil. & Thomson, s. l., Acc. no. 9446 (CAL); Oct.-Nov. 1959, Nayar 50475 (NBG); Oct. Nov. 1959, Nayar s. n., Acc. no. 57406 (NBG). Mawphlong, 1500 m., 22.4.1960, Panigrahi 21213; Cherrapunji gate, 21.12. 1956, Panigrahi 4981 (ASSAM). CHINA: Yunnan; Hancock, s. n., Acc. no. 9523 (CAL).

Distribution: Eastern India, Upper Burma, China.

Plagiogyria pycnophylla (Kunze) Mett., Abhandl. d. Senckenb. naturf. Ges. 2: 272, t. 15. f. 22. 1858, (*non sensu*) Hooker, 1860; Hooker and Baker, 1868; Bedd. 1865; 1883 (*pro parte*); Clarke, 1880; Rosenburgh, 1908; Copeland, 1929 (*pro parte*). *L. callosa* Fée, Gen. Fil. 70. 1850-52.

Rhizome thick, massive, erect; fronds 45-70 cm, tufted, erect, sub-concolorous; stipes 17-25 cm, reddish-brown, glabrous; aerophores alternate, prominent throughout the stipe; lamina 34-42 × 16-22 cm, oblong lanceolate, pinnate; terminal leaflet simple, similar to the lateral pinnae; pinnae 8-11 × 1.0-1.2 cm, narrowly oblong-lanceolate, sub-falcate; lateral pinnae up to 30 pairs,

alternate to sub-opposite, a few pairs of pinnae in the apical region adnate, coriaceous; base narrow, exciso oblique-truncate; apex short acuminate; aerophores prominent on the rachis at the base of insertion of pinnae; lower surface reddish-brown; margins serrulate, reflexed; midrib prominent and shallowly sulcate on the lower surface; venation free; veins close, mainly furcate. Fertile fronds longer than the sterile ones; pinnae $5-8 \times 2.5-3.0$ mm, ascending, not curved towards the apex, reddish in colour. Spores trilets, 45-48 μ , pale yellow, verrucoid.

Specimens examined: JAVA: Raciborski, Acc. no. 9520, *s. l.*, *s. n.*; Thomas Moore's

Fern Herbarium, Acc. No. 9518 (CAL), *s. l.*, *s. n.*

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