

**FAIKA AND PARAKIBARA: TWO NEW GENERA OF MONIMIACEAE  
FROM MALESIA**

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SUMMARY

Two new genera of the Monimiaceae (Mollinedieae), *Faika* from Irian Jaya and *Parakibara* from Halmahera, are described, each with a single species, and their characters are compared with those of other members of the tribe.

Tribe Mollinedieae of the family Monimiaceae is characterized by the upper part of the female receptacle becoming detached as a calyptra after pollination. This tribe is well represented in the Malesian and the adjacent East Australian region. The great majority of the species fall into the next four genera: *Kibara*, *Wilkiea*, *Steganothera* and *Matthaea*. These genera form two pairs characterized by the presence or absence of swollen glands within the ostiole of the female receptacle (hyperstigma, Endress, 1980). A hyperstigma is present in *Kibara* and *Wilkiea*, but is absent in *Steganothera* and *Matthaea*. All these four genera can be recognized by the nature of their androecia, as indicated in table 1.

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Table 1. Some characters of the gynoecium and androecium of the principal Malesian genera of the Mollinedieae.

Genus	Hyperstigma present	Anthers dehisce by slit	Stamens
<i>Kibara</i>	+	+	outer large in 2 decussate pairs and up to 4 smaller inner
<i>Wilkiea</i>	+	+	inserted irregularly over inner surface of receptacle
<i>Steganothera</i>	-	+	2 decussate pairs
<i>Matthaea</i>	-	-	2 decussate pairs

*Steganthera salomonensis* and a few species of *Kibara* with reduced androecia do not fit completely into the definitions in table 1, as has been discussed in accounts of these genera (Philipson, 1984, 1985). However, when the nature of the female receptacle is taken into account, the species can be allocated to their appropriate genus without difficulty.

In addition, a number of species occur which are so distinct that they cannot be accommodated in any of these four genera without their definitions being extended beyond reasonable limits. Four of these have already been described as monotypic genera. Two occur in Queensland, namely *Austromatthaea* and *Tetrasynandra* (possibly not monotypic), and two in New Guinea, namely *Kairoa* and *Lauterbachia*. The characteristics of *Austromatthaea* and *Kairoa* have already been discussed (Philipson, 1980). *Tetrasynandra* differs from *Steganthera* in the obtuse not subulate stigma and in the cohesion of its four stamens into a central column; its anthers open by single slits, not as stated by Perkins (1925) by two horizontal slits (Endress, 1980; Foreman, pers. comm.). *Lauterbachia* has not been collected since its original discovery in 1899, and the specimens cannot be located. Only female receptacles were found, and the interpretation of these requires confirmation.

Two further species are now proposed as new genera, both monotypic. One, *Faika*, is from Irian Jaya and the other, *Parakibara*, from Halmahera in the Moluccas (fig. 1).

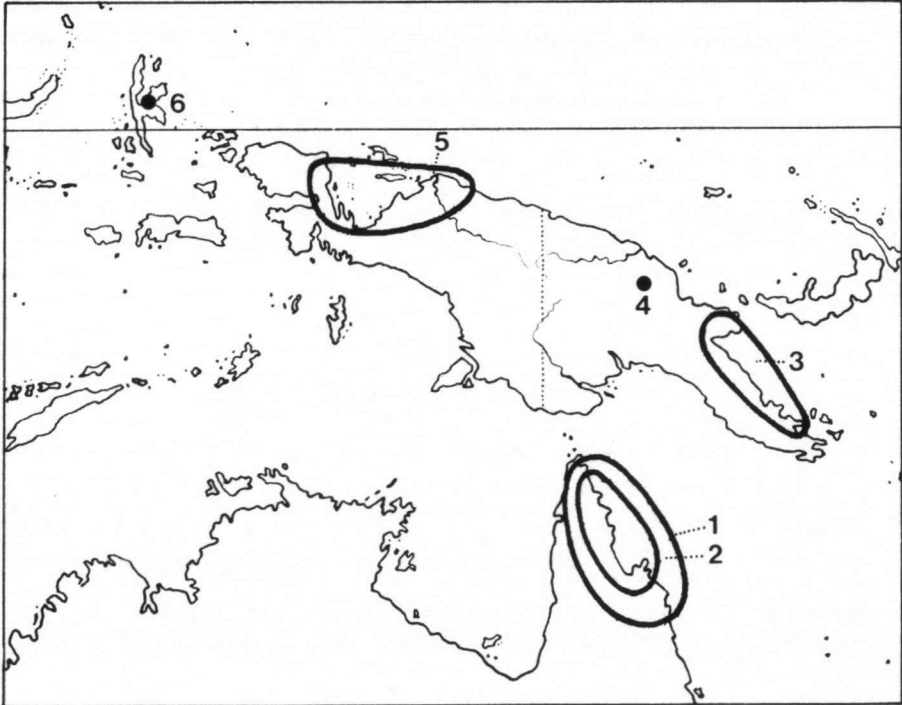


Fig. 1. Range of distribution of six monotypic genera of Mollinedieae. 1. *Tetrasynandra*; 2. *Austromatthaea*; 3. *Kairoa*; 4. *Lauterbachia*; 5. *Faika*; 6. *Parakibara*.

In *Faika*, the female receptacle has swollen glands (hyperstigma) within the ostiole and the upper portion becomes detached as a circumscissile calyptra. The male flowers contain numerous stamens distributed irregularly over the inner surface of the receptacle (fig. 2). In this respect it approaches *Wilkiea* and *Kairoa*. However, the anthers opening by two vertical slits and with their locules well separated by the connective are too unlike those of *Wilkiea* to allow this species to be placed in that genus. The presence of a hyperstigma in the female receptacle is incompatible with *Kairoa*. The male flowers are similar to those of some species of the very variable Central and South American genus *Mollinedia*, but the prominent glands within the ostiole of the female flower and the very long subulate style do not conform to that genus.

The second new genus proposed, *Parakibara*, is known from a single collection which bears male flowers only. It is, therefore, unknown whether the upper part of the receptacle abscisses after pollination, but the characters of the stamens leave no doubt that this plant is closely related to *Kibara* and must be placed in the Mollinedieae. The male receptacle is much larger than that of any known species of *Kibara* and accommodates a considerable number of large stamens (fig. 3). The stamens have an erect strap-shaped filament bearing anthers with a single slit, and are arranged in a decussate manner, that is, in four vertical rows. In the example dissected, nine pairs of stamens were present. This number is much greater than in any species of *Kibara* (4 pairs), and the regularity of their arrangement excludes the assignment of this species to *Wilkiea*.

#### FAIKA Philipson, *gen. nov.*

Flores masculi ovoidei; tepala 6; stamina per receptaculum dispersa, c. 24, antherae per duas rimas longitudinales dehiscentes. Flores feminei turbinata, superiore parte receptaculi calyptrata; carpella numerosa, stylis subulatis. Achenia in receptaculo villosa sessilia. — T y p u s : *Steganthera villosa* Kaneh. & Hatus.

Flowers dioecious. Receptacle of male flower ovoid, with a large ostiole surrounded by 3 decussate pairs of tepals. Stamens c. 24, inserted over the inner surface of the receptacle, anthers opening by two vertical slits, filament short. Receptacle of female flower turbinata, with c. 5 decussate pairs of tepals (the inner swollen and glandular) and with 2–3 pairs of bracts at its base or on the lower outer surface, the upper part abscissing as a calyptra after anthesis, inner surface setulose. Carpels numerous, sessile, with a long subulate stipe and stigma. A small tree with opposite, entire or obscurely dentate, villose leaves. Flowers solitary in the leaf axils.

Distribution. Irian Jaya: Vogelkop Peninsula to the Cyclops Mts.

Ecology. Understorey in primary rain forest.

Note. In 1940 the Japanese botanists Kanehira and Hatusima collected a shrub south of Manokwari which they described as *Steganthera villosa*. Their specimens bore clusters of achenes but no flowers. Since generic differences in the Mollinedieae relate to floral characters the generic identity of this plant was not firmly based. In 1961 Van Royen and Sleumer made two collections of the same species in the

Cyclops Mts and fortunately one of these bore male flowers and the other female flowers. The name is derived from the river Faika, where specimens were collected by Van Royen and Sleumer.

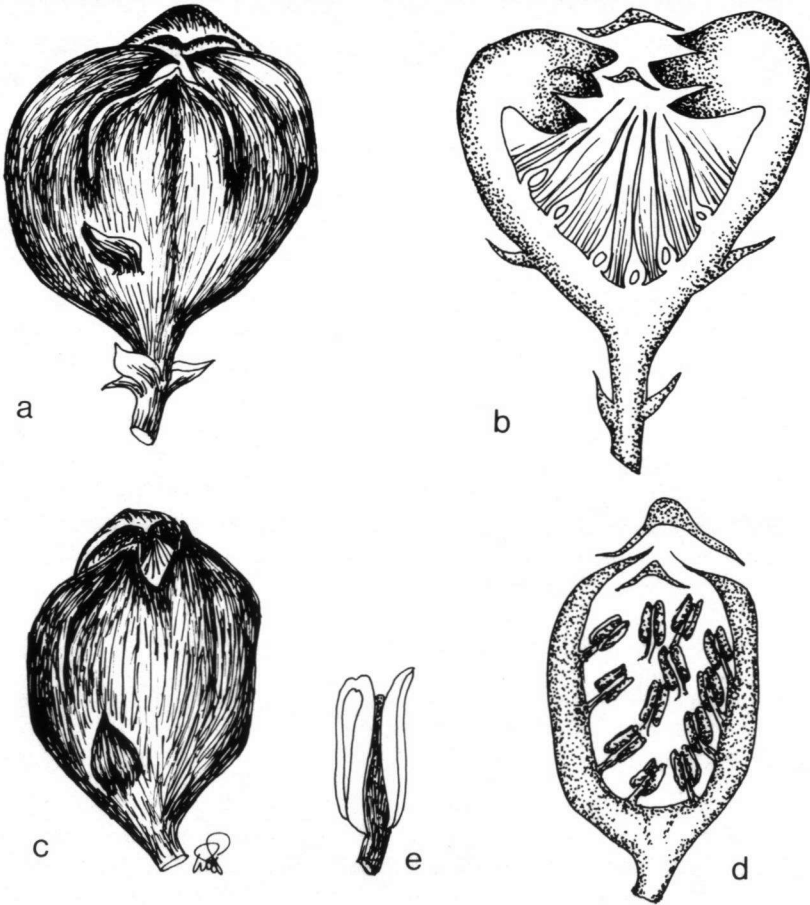


Fig. 2. *Faika villosa* Philipson. a. Female flower,  $\times 6\frac{1}{2}$ ; b. same in section; c. male flower,  $\times 6\frac{1}{2}$ ; d. same in section; e. stamen,  $\times 20$  (a, b van Royen & Sleumer 6082; c, d van Royen & Sleumer 5729) (For figure of leafy shoot, see Bot. Mag. Tokyo 56, 1942, 259).

*Faika villosa* (Kaneh. & Hatus.) Philipson, *comb. nov.* – Fig. 2.

*Steganthera villosa* Kaneh. & Hatus., Bot. Mag. Tokyo 56 (1942) 259.

A shrub or small tree to 3 m high, shoots densely villose. *Leaves* opposite; petiole c. 5–6 mm long, villose; blade oblong-elliptic, 240–440  $\times$  65–130 mm, chartaceous, base cordate, apex apiculate, acute, bristly along the veins and on both surfaces, but

the upper surface becoming  $\pm$  glabrous, except for the midrib; the midrib, lateral veins and reticulation prominently raised on the lower surface, impressed on the upper surface. *Inflorescence* axillary, flowers solitary,  $\pm$  sessile. *Male flowers* obovoid, c. 5.5 mm long, glabrous, 1–2 small triangular bracts usually near the base; tepals 6, triangular; stamens numerous (c. 24) distributed irregularly over the inner surface of the receptacle, filament terete, connective separating the two anthers, each locule opening by a vertical slit, anthers c. 1 mm long. *Female flowers* turbinate, c. 7  $\times$  8 mm, glabrous, with 2–3 pairs of small deltoid bracts at or above the base, tepals c. 5 decussate pairs, the inner 3 pairs swollen and glandular, the inner surface setulose; carpels numerous, c. 3 mm long, sessile, with a long subulate style and stigma. *Infructescence* to c. 30 mm diam., woody, setulose, margin revolute; achenes ovoid, c. 15  $\times$  10 mm, sessile, hirsute.

*Distribution*. Irian Jaya: Vogelkop Peninsula, 6 miles south of Manokwari, *Kanehira & Hatusima 13150*; Wandammen Peninsula, *Mayr 334*; town of Sukarnapura (Hollandia), *Kostermans & Soegeng 328*; Cyclops Mts, Faika River, *van Royen & Sleumer 5729*, between Ifar and Ormoe, *van Royen & Sleumer 6082*.

*Ecology*. Undergrowth in primary rain forest, between 100–1250 m altitude.

*Note*. The villose stems and leaves are conspicuous. The older branches are smooth with pale grey-brown bark. The male flowers are yellowish, the female flowers orange, and the ripe achenes black.

#### PARAKIBARA Philipson, *gen. nov.*

Flores masculi obovoidei; tepala 4; stamina c. 18 (9 pari decussata), antherae per rimam singularem dehiscentes. Flores feminei ignoti. – *T y p u s* : *Parakibara clavigera* Philipson.

Receptacle of male flower obovoid, tepals 4. Stamens c. 18, in decussate pairs, inserted towards the base of the receptacle, anthers opening by a single slit. Female flowers and fruits unknown. A small tree (?) with opposite irregularly dentate leaves, glabrous at maturity. Flowers in axillary fascicles.

*Distribution*. Moluccas: Halmahera.

#### *Parakibara clavigera* Philipson, *spec. nov.* – Fig. 3.

Folia oblongo-elliptica, c. 180  $\times$  80 mm, chartacea, basi cuneata, apice obtusa vel breve apiculata, margine irregulariter dentata. Inflorescentiae axillares, fasciculatae. Flores masculi ovoidei, c. 9.5  $\times$  6 mm, tepala 4, obtusa. Stamina c. 3 mm longa, c. 18, quadriparia, erecta; filamenta 2 mm longa, perberula; anthera deltata, per rimam unicum dehiscentem. Flores feminei et fructus ignoti. – *T y p u s* : *Taylor 2835A* (BO), Moluccas, Halmahera, Pasir Putih, 22 May 1979.

A small tree (?), shoots glabrous when mature. *Leaves* opposite; petiole 10–12 mm long, blade oblong-elliptic, c. 180  $\times$  80 mm, stiffly chartaceous, base broadly cuneate, apex obtuse or shortly apiculate, margin irregularly dentate in the upper part, midrib and lateral veins prominent. ? Monoecious. *Inflorescence* axillary, a condensed cyme forming a fascicle of a few flowers arising from a short peduncle;

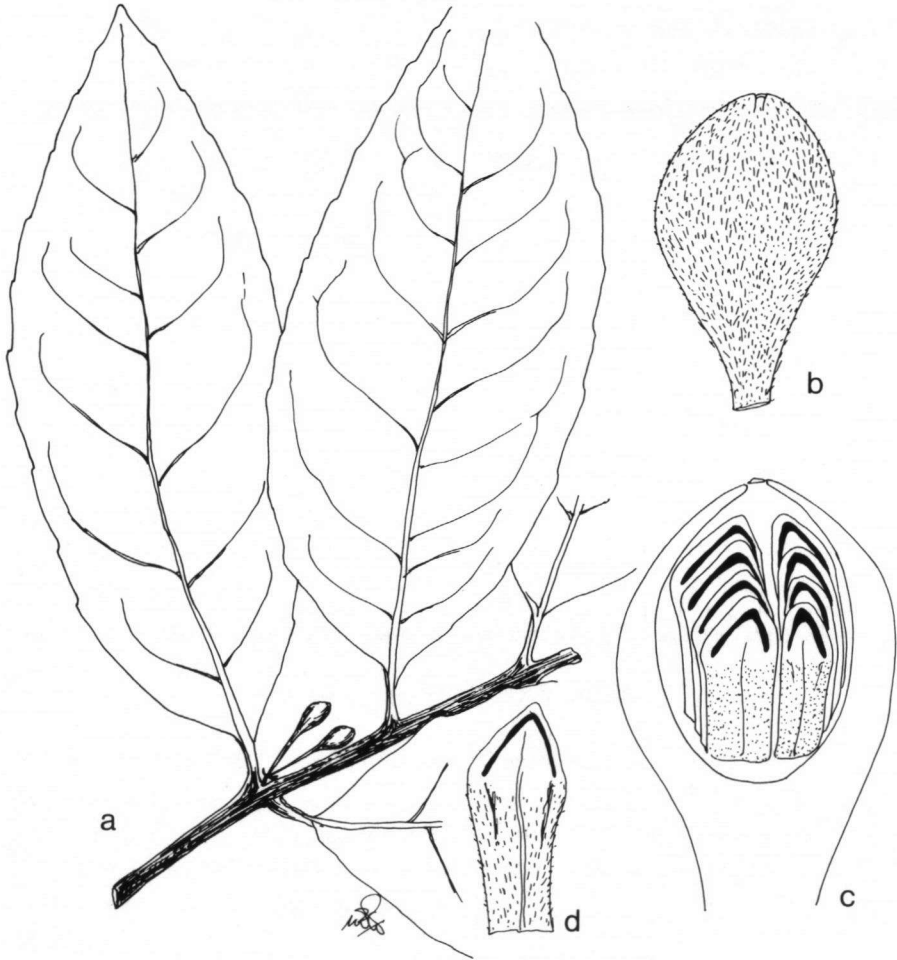


Fig. 3. *Parakibara clavigera* Philipson. a. Leafy shoot with male inflorescence,  $\times 12$ ; b. male flower,  $\times 4$ ; c. same in section,  $\times 5$ ; d. stamen,  $\times 8$  (Taylor 2835A).

peduncle 2–3 mm long, with closely imbricated bracts, sparsely pubescent; pedicel c. 20 mm long, slender below but thickening below the flower, sparingly pubescent. *Male flower* ovoid, c.  $9.5 \times 6$  mm, tepals 4, obtuse; stamens 3 mm long, c. 18 in decussate pairs forming 4 rows inserted on the lower part of the receptacle, filaments broad and fleshy, c. 2 mm long, sparingly pubescent, anthers erect, c. 1 mm long, triangular, opening by a single  $\Lambda$ -shaped split. *Female flower and fruit* not seen.

**Distribution.** Known only from the type.

Ecology. No information.

Vernacular name. O morihuhuku.

Note. The specific epithet refers to the large club-shaped male flowers. The large and numerous anthers are arranged in four regular and closely packed ranks.

#### ACKNOWLEDGEMENT

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#### REFERENCES

- ENDRESS, P. K. 1980. Ontogeny, function and evolution of extreme floral construction in Monimiaceae. *Pl. Syst. Evol.* 134: 79–120.
- PERKINS, J. 1925. Übersicht über die Gattungen der Monimiaceae. Englemann, Leipzig.
- PHILIPSON, W. R. 1980. *Kairoa*, a new genus of Monimiaceae from Papua New Guinea. *Blumea* 26: 367–372.
- 1984. A synopsis of the Malesian species of *Steganthera* (Monimiaceae). *Blumea* 29: 481–497.
- 1985. A synopsis of the Malesian species of *Kibara* (Monimiaceae). *Blumea* 30: 389–415.