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RESEARCH ARTICLE

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Redefinition of *Ficus schwarzii* and two new species of *Ficus* (*Moraceae*)

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Key words

Ficus
Malesia
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new species

Abstract *Ficus schwarzii* as defined by Corner proved to be too heterogeneous and has to be split up into at least two entities, the Sulawesi one still heterogeneous and the other widespread one to be described as a new species, *F. rosulata*. Re-examination of herbarium material led to the discovery of a new species: *F. kalimantana*.

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INTRODUCTION

As can be expected for a large and intricate genus like *Ficus*, the taxonomic finish for the Malesian region is not reached by the publication of Flora Malesiana 17, 2 (Berg & Corner 2005) as already evident from supplementary and mostly corrective papers by Berg (2007a, b, 2008) and Berg & Chantarasuwan (2007). These studies are mostly triggered by examination of additional herbarium material, like that recently collected by Culmsee in the framework of the project of the Collaborative Research Centre SFB 552 at the University of Göttingen in Sulawesi. Attempts to identify these collections led to a re-consideration of the delimitation of *F. schwarzii* Koord., which, in the concept developed by Corner (1933, 1939, 1960) and adopted in the Flora Malesiana treatment (Berg & Corner 2005), is a species ranging from Myanmar to Sulawesi. Most collections made outside Sulawesi had initially been identified as *F. miquelii* King by Corner (1933: 34, t 18–19, 1939: 286, 1960: 52). It was in late stage of the revisional work that Corner adopted the name *F. schwarzii* for this material (Corner 1960). Notes on the sheets as "hairy styles!" (in contrast to the common state in the species) and "close to *F. menadana* Miq.", currently synonym of *F. congesta* Roxb., as well as a published note (Corner 1960) indicate that the situation with regard to the material and species in Sulawesi was not quite clear to him. The material from Sulawesi shares with that from elsewhere the exfoliating epidermis of the fig receptacle and its warty lenticellate surface, but differs in the structure of the ostiole, which is flat and thus does not consist of a rosette of upper ostiolar and apical bracts pointing upwards, the not clearly scalariform tertiary venation, the short fig-bearing branchlets, and the frequently hairy styles of the long-styled pistillate flowers. Collections from Sulawesi have been made at altitudes up to 2 000 m (in mountain forest), whereas those from elsewhere are made at altitudes up to 900 m.

The material from Sulawesi is not homogeneous and needs further investigation based on additional material to be collected and borrowed; results will be published separately. On the other hand, the material from outside Sulawesi is quite uniform, except for a single collection treated below. The majority of the collections need to be accommodated under a new species: *F. rosulata*. Among the collections from Borneo identified as *F. schwarzii*, one of the collections is so distinct that another new species can be established: *F. kalimantana*.

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1. *Ficus kalimantana* C.C. Berg, *sp. nov* — Fig. 1

Fico rosulatae similis, petiole breviore epidermide persistenti, pedunculo breviore, fico receptaculo minore bracteis lateralibus differt. — Typus: *A.C. Church et al. 2807* (holo BO; iso A, L), Indonesia, W Kalimantan, Serawai, S of Nanga, Sungai Jelundung, 120 m, 30 Oct. 1995.

Tree up to 6 m tall. *Leafy twigs* 1–3 mm thick, brown strigillose, below the scars of the stipules (warty) lenticels, without nodal waxy glands; internodes hollow; periderm flaking off; often with minute abortive axillary buds (also below the leaves). *Leaves* distichous or occasionally subopposite; lamina oblong to subobovate (or obovate), 2.5–9 by 1–3 cm, slightly asymmetric, chartaceous to subcoriaceous, apex ± abruptly acuminate to subcaudate, base cuneate to obtuse, margin entire; upper surface sparsely brown strigillose mainly on the midrib, smooth, lower surface ± sparsely strigillose on the main veins, smooth, cystoliths only beneath; lateral veins 5–7 pairs, none branched or furcate away from the margin, tertiary venation predominantly scalariform; waxy glands absent; petiole 0.2–0.5 cm long, brownish strigillose, the epidermis persistent; stipules 0.5–1 cm long, sparsely brown strigillose at the base and on the keel or glabrous, caducous. *Figs* cauliflorous on branched (or unbranched) up to 13 cm long branchlets with short internodes and terminally c. 3 mm long scale-like persistent stipules, on the trunk; peduncle 0.2–0.4 cm long, the epidermis flaking off; basal bracts 3, verticillate, 1–3 mm long; receptacle subglobose, c. 1 cm diam when dry, glabrous, the epidermis flaking off (at least in dry material), non-stipitate, (faintly) ribbed, with thick, c. 3 mm long lateral bracts, colour at maturity unknown, apex convex, ostiole 4–6 mm, a rosette of upper ostiolar bracts pointing upwards and erect thick apical bracts; internal hairs present, sparse. *Staminate flower* with one stamen. *Style of long-styled flower* not seen.

Distribution — Only known from the type locality.

Habit — Lowland forest.

Note — This species resembles *F. rosulata* in the rosette of ostiolar and apical bracts, the exfoliating epidermis of the fig receptacle, which in contrast to *F. rosulata* and related spe-

Fig. 1 *Ficus kalimantana* C.C.Berg. Leafy twig and fig-bearing branchlet (*A.C. Church et al. 2807*, L), Indonesia, W Kalimantan, Serawai, S of Nanga, Sungai Jelundung.

cies bears lateral bracts. Moreover, both the peduncle and the petiole are shorter, the epidermis of the petiole is persistent, and the number of lateral veins smaller.

2. *Ficus rosulata* C.C.Berg, *sp. nov*.

Fico schwarzii similis bracteis ostiolaribus distalibus et apicalibus in rosula, venatione tertiaria scalariforme, ramulis ficiferis postremo 10 cm longiore differt. — Typus: *De Wilde & De Wilde-Duyfjes 19546* (holo BO; iso L), Indonesia, Sumatra, Atjeh, Gunung Leuser Nature Reserves, Sikundur Forest Reserve, c. 75 km WNW of Medan, Besitang River, 4 Aug. 1979.

Tree up to 20 m tall. *Leafy twigs* 1–3 mm thick, brown strigillose, with nodal waxy glands; internodes hollow; periderm flaking off; often with minute abortive axillary buds (also below the leaves). *Leaves* distichous or occasionally subopposite; lamina oblong to subobovate (or obovate), 6–15(–27) by 2–6(–9.5) cm, often ± asymmetric, chartaceous to subcoriaceous, apex ± abruptly acuminate to subcaudate, base cuneate to obtuse, margin entire, sometimes faintly denticulate towards the apex; upper surface sparsely brown strigillose on the midrib, smooth, lower surface ± sparsely strigillose on the veins, smooth, cystoliths only beneath; lateral veins 6–12 pairs, rarely branched or furcate away from the margin, tertiary venation scalariform; waxy glands mostly absent, sometimes small ones present in the axils of some of the lateral veins in the middle of the lamina beneath; petiole 0.5–2.5 cm long, brownish strigillose, the epidermis flaking off; stipules 0.5–1.5 cm long, brown strigillose or glabrous, caducous. *Figs* cauliflorous on branched (or unbranched) up to 60 cm long branchlets with short internodes, on the trunk; peduncle 1–3 cm long, the epidermis flaking off; basal bracts 3, verticillate, 1–2 mm long; receptacle subglobose to subpyriform to depressed-globose, 1.2–2(–2.5) cm diam when dry, 2–3.5 cm diam when fresh, glabrous, the epidermis flaking off (at least in dry material), (faintly) ribbed, without lateral bracts, at maturity yellow or brownish, apex flat to slightly concave, ostiole (3–)4–8 mm diam, the upper ostiolar bracts, pointing upwards and forming a rosette together with surrounding erect apical bracts; internal hairs absent. *Style of long-styled pistillate flower* glabrous.

Distribution — Lower Myanmar, Thailand, and Malesia: Sumatra, Malay Peninsula, Borneo (incl. Anambas & Natoena Islands).

Habitat — Forest, often along streams, at altitudes of up to 900 m.

Note — This species also differs from *F. schwarzii* in the absence of hairs on the inner surface of the receptacle and on the style of the long-styled pistillate flower.

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REFERENCES

Berg CC. 2007a. Precursory taxonomic studies on Ficus (Moraceae) for the Flora of Thailand. Thai Forest Bulletin. Botany 35: 4–28, t. 1–4.

Berg CC. 2007b. Two New Guinean Ficus species (Moraceae): one new and the other with an emended description. Blumea 52: 291–294.

Berg CC. 2008. Ficus glandulifera and allied species (Moraceae), including a new one from Borneo and Celebes. Blumea 53: 319–323.

Berg CC, Chantarasuwan B. 2007. A study on the taxonomy of some stoloniflorous species of Ficus subsection Sycocarpus (Moraceae) in Thailand and Malesia. Blumea 52: 313–326, t. 1.

Berg CC, Corner EJH. 2005. Ficus. Flora Malesiana Series I, vol. 17, part 2. Leiden.

Corner EJH. 1933. A revision of the Malayan species of Ficus: Covellia and Neomorphe. Journal of the Malayan Branch of the Royal Asiatic Society 11: 1–65.

Corner EJH. 1939. Notes on the systematy and distribution of Malayan Phanerogams. Gardens' Bulletin Singapore 10: 239–329.

Corner EJH. 1960. Taxonomic notes on Ficus Linn., Asia and Australasia VI. Subg. Ficus sect. Sycocarpus. Gardens' Bulletin Singapore 18: 36–69.