

NEW MALESIAN SPECIES OF VISCACEAE

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SUMMARY

Three new Malesian species of Viscaceae are described. *Ginalloa flagellaris* Barlow is distinguished as a species from New Guinea and New Britain, previously included within *G. arnottiana* Korthals. *Viscum exile* Barlow is recognized as a new species endemic to Celebes, related to *V. ovalifolium*. *Viscum scurruloideum* Barlow is named as a new species endemic to Java, equivalent to the taxon described as *Ginalloa falcata* by Danser.

INTRODUCTION

This paper is presented as a precursor to a treatment of the family Viscaceae for *Flora Malesiana*. In the Malesian region the family comprises 4 genera and 26 species. The work of a previous student of the family, B.H. Danser, provides a sound basis for delineation of the genera and also, in most cases, for species circumscription, and further detailed monographic treatment of them is hardly necessary.

A study of the extensive material which has accumulated since Danser's work, however, requires description of three new species. One of these is new to science; another involves segregation at species level of New Guinean material poorly known to Danser; and the third involves transfer to another genus of a species which Danser described in the absence of flowers or fruits.

Specimen label data have been accumulated in computer files, and lists of specimens examined can be provided on request. Reference copies relevant to the family treatment for *Flora Malesiana* and to the species described below have been lodged at the Australian National Herbarium.

TAXONOMY

1. *Ginalloa flagellaris* Barlow, *spec. nov.* — Fig. 1

Species nova *G. arnottianae* Danser similis, sed foliis grandioribus paucioribus non undulatis, inflorescentiis longioribus, segmentis inflorescentiarum longioribus, fructibus albis, bracteolis dense fimbriatis differt. — Holotypus: *Womersley & Whitmore NGF19070* (LAE), New Guinea, Morobe, Wau, near Dengalu, 7° 10' S, 146° 45' E, 3500 ft (1050 m), on *Garcinia*, 19.i.1964; isotypus L.

[*Ginalloa arnottiana* auct. non Korthals; Danser, *Blumea* 3 (1938) 54.]



Fig. 1. *Ginalloa flagellaris* (Womersley & Whitmore NGF19070). a. Portion of plant, $\times 0.5$; b. inflorescence node with two triads, $\times 4$.

Plant slender to moderately robust, pendulous, to 0.6 m long, glabrous. *Stems* with rudimentary leaves on all branches; internodes terete, 20–60 mm long, 1–3 mm in diameter, striate or longitudinally wrinkled. *Leaves* mostly rudimentary or sometimes rudimentary and normally developed in successive pairs; normally developed leaves

often falling early, narrowly to broadly elliptic, attenuate or cuneate at the base to an indistinct petiole 5–10 mm long, attenuate to acuminate and acute at the apex, 5-nerved, with veins visible on both sides, 80–160 mm long, 25–60 mm wide; rudimentary leaves 0.8–1.5 mm high, forming a boat-shaped collar encircling the stem. *Inflorescences* commonly terminal, often in threes, also axillary, often branching near the base, often not strongly differentiated from vegetative stems, 80–200 mm long, a spike of 15–25 decussate pairs of triads with the central flowers female and the lateral flowers female or male; internodes 8–15(–20) mm long; bracteal cupule c. 1 mm long, spreading; bracteoles densely fimbriate, forming a tuft of white hairs surrounding the flowers. *Male flowers* somewhat flattened, c. 1 mm long, 3-merous; tepals triangular, valvate; anthers disc-shaped, 2-loculate, opening by slits, on a short filament. *Female flowers* cylindric or narrowly ellipsoid, at anthesis c. 1.5 mm long, 3-merous; tepals triangular; stigma small, nipple-shaped. *Fruit* ellipsoid, smooth, white, crowned by the persistent tepals.

Distribution — *Ginalloa flagellaris* is endemic to New Guinea and New Britain (11 collections seen). — Fig. 2.

Habitat & Ecology — Recorded in rain forests at elevations from 400 to 1860 m. A commonly recorded host is *Garcinia*; others include *Antidesma*, *Castanopsis*, and *Vavaea*.

Notes — The new species appears to be most closely related to *G. arnottiana*, from which it is possibly derived. It is distinct from *G. arnottiana* in several characters, including larger and fewer normally developed leaves not undulate at the margins, longer inflorescences and inflorescence segments, and especially the white fruits. *Ginalloa flagellaris* is also distinct in its densely fimbriate bracteoles, forming a tuft of white hairs surrounding the flowers.

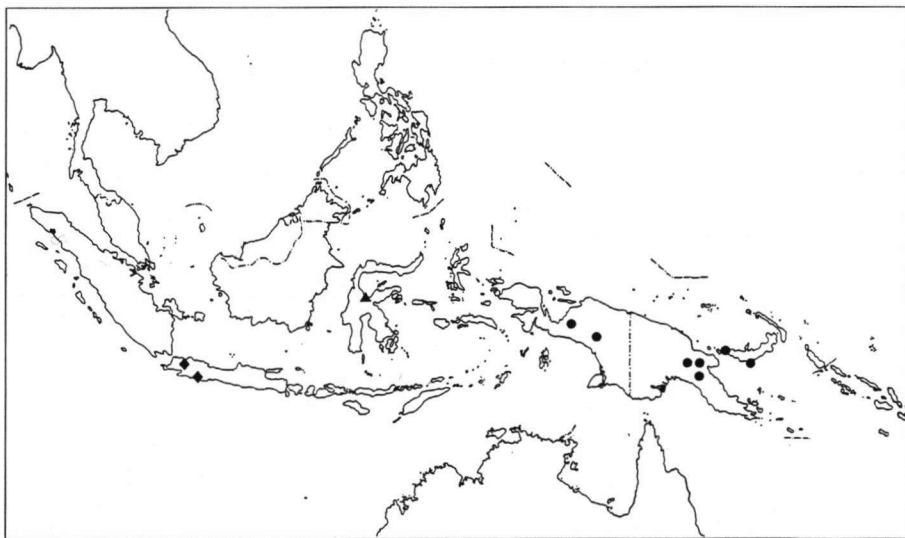


Fig. 2. Distribution of Viscaceae species. Symbols show recorded occurrence in 1° grid cells. ● = *Ginalloa flagellaris* Barlow; ▲ = *Viscum exile* Barlow; ◆ = *Viscum scurruloideum* Barlow.

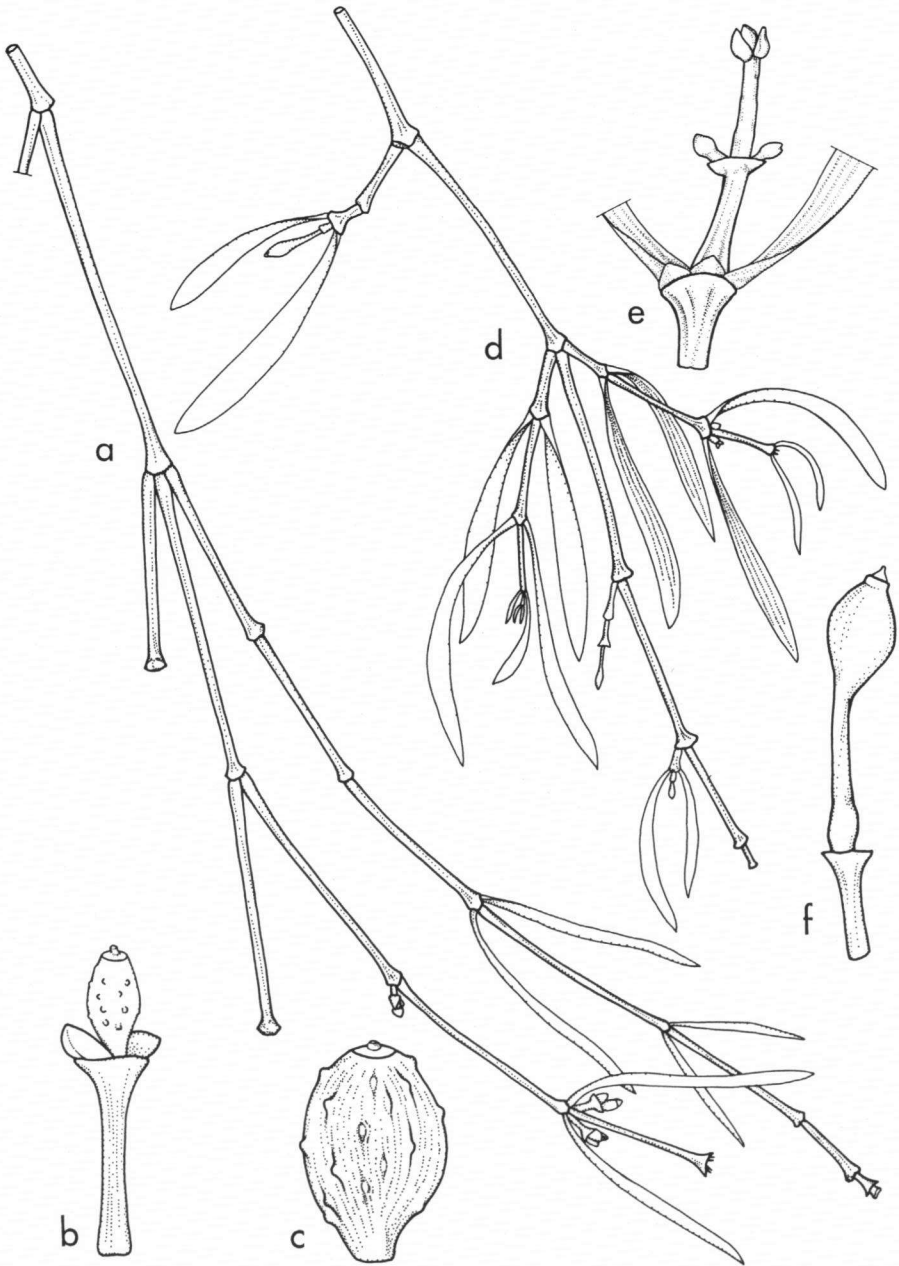


Fig. 3. New species of *Viscum*. — *V. exile* (Eyma 3721). a. Portion of plant, $\times 0.5$; b. inflorescence with young fruit, $\times 8$; c. immature fruit, $\times 6$. — *V. scurruloideum* (Hildebrand s.n., 25.i. 1938). d. Portion of plant, $\times 0.5$; e. inflorescence, $\times 5$; f. fruiting inflorescence, $\times 5$.

Danser [Blumea 3 (1938) 54] only saw one collection of *Ginalloa* from New Guinea, after he had completed his revision of Malesian Viscaceae, and referred it to *G. arnottiana*, although he noted the distinctive white fruits.

Ginalloa flagellaris geographically replaces *G. arnottiana*, which is widespread in Malesia. A single collection from the Solomon Islands is also referred to *G. arnottiana*, although it has the densely fimbriate bracteoles otherwise diagnostic of *G. flagellaris*. This may be a result of introgression. The new species may have differentiated within the range of *G. arnottiana* in response to local selection pressures in the New Guinea region, eventually completely replacing its progenitor in this area.

A specimen bearing several normally developed leaves has been chosen as type, in order to fully illustrate the characters of the species. Plants are often leafless or nearly so, especially in New Britain. This appears to involve the development of very few normal leaves on some plants, and also their very early fall. In some cases the persisting normal leaves are at upper nodes, and it is possible that in individual plants a leafy stage may be regained after a period of leaflessness.

The specific epithet (Latin *flagellaris*, 'whip-like') alludes to the very long thong-like inflorescences.

2. *Viscum exile* Barlow, *spec. nov.* — Fig. 3a–c

Species nova *V. ovalifolio* DC. similis, sed caulibus exilibus pendulis, foliis linearibus mox caducis differt. — Holotypus: *Eyma* 3721 (L), Celebes, Menado, Poso, between Biyouac I and Borone, 8. ix. 1938.

Plant slender, pendulous, glabrous, monoecious. *Stem* internodes terete, longitudinally ridged, 25–80 mm long, 0.5–1 mm in diameter. *Leaves* normally developed or rudimentary, the normal ones apparently caducous; lamina in normal leaves flat, linear, attenuate at the base to an indistinct petiole 1–2 mm long, attenuate and acute at the apex, 35–50 mm long, 1–2 mm wide in the middle, without visible venation; rudimentary leaves occasional, bract-like, spreading, narrow, acute, c. 1 mm long. *Inflorescence* axillary, a pedunculate cymule of 3 flowers subtended by a bracteal cupule c. 0.5 mm long, with the middle flower female and the lateral flowers male; peduncle 2–4 mm long. *Male flowers* flattened, c. 0.8 mm long, 4-merous. *Female flowers* cylindrical, at anthesis c. 1.5 mm long, 4-merous. *Fruit* globose, contracted at the base to a stipe c. 0.5 mm long, tuberculate, green.

Distribution — *Viscum exile* is known only through the type specimen from northern Celebes. — Fig. 2.

Habitat — Habitat details and hosts are unknown.

Notes — The new species appears to be most closely related to the polymorphic and widespread *V. ovalifolium*, with which it is apparently sympatric. It is similar to some forms of *V. ovalifolium* in having a pedunculate inflorescence and shortly stipitate fruit, and in common with this species has distinctly tuberculate fruits. However, it differs strikingly in its very slender, pendulous habit, in its linear leaves which apparently are soon caducous, and in its inflorescences solitary in the axils. Because the leaves fall early, and the few remaining ones are hardly wider than the green

stems, the plant appears leafless. The plant thus has a facies sharply distinct from *V. ovalifolium*, and a genetic identity worthy of specific rank.

The specific epithet (Latin *exilis*, 'weak, slender') alludes to the slender pendulous stems.

3. *Viscum scurruloideum* Barlow, *spec. nov.* — Fig. 3d–f

Species nova *V. ovalifolio* DC. similis, sed foliis angustis falcatis, stipitibus fructuum longis differt. — Holotypus: *Hildebrand s.n.* (L 951.166-931), Java: Western, Preanger, on *Castanopsis javanica*, 25.i.1938; isotypus L.

Ginalloa falcata Danser, Bull. Jard. Bot. Buitenzorg III, 11 (1931) 451; Backer & Bakh. f., Flora of Java 2 (1965) 75. — Type: *Backer 10846* (L), Java, Batavia, Nirmala, 19.xii.1913.

Plant slender, probably pendulous, glabrous, monoecious. *Stem* internodes terete below, flattened upwards, longitudinally ridged, 25–60 mm long, 1–1.5 mm wide below, widened to 1.5–2 mm above. *Leaves* normally developed; lamina linear, falcate, gradually attenuate at the base to an indistinct petiole 2–5 mm long, attenuate and finally acute to rounded at apex, curvined with 3 veins raised on both sides, 40–75 mm long, 3–5 mm wide. *Inflorescences* terminal and axillary, a pedunculate cymule of 3 flowers subtended by a bracteal cupule c. 0.5 mm long, with the middle flower female and the lateral flowers female or male; peduncle 2–4 mm long. *Male flowers* flattened, c. 1 mm long, 4-merous. *Female flowers* cylindric, at anthesis c. 4 mm long including a stipe c. 2.5 mm long, 4-merous. *Fruit* ellipsoid, on a distinct, slender stipe c. 5 mm long, smooth.

Distribution — Endemic to Java (2 collections seen). — Fig. 2.

Habitat & Ecology — Recorded from uplands at 1100 and c. 1500 m altitude. Habitat details are poorly known; the only recorded host is *Castanopsis javanica* and the habitat is once recorded as trees surrounding the administration office at Malabar.

Notes — The new species appears to belong to the species group which includes the polymorphic and widespread *V. ovalifolium*, with which it is apparently sympatric. It differs sharply from *V. ovalifolium* in its smooth fruits with a very long stipe, and in the linear, falcate leaves.

Danser, in Bull. Jard. Bot. Buitenzorg III, 11 (1931) 451, described *Ginalloa falcata* as a new species, from a specimen which lacked flowers or fruits. He confidently placed the species in *Ginalloa* on the basis of its general habit. Re-examination of this specimen clearly shows that it is conspecific with that cited above as type of *V. scurruloideum*. The inflorescence structure, and fruit lacking persistent tepals at maturity, clearly show that the species is a *Viscum* and not a *Ginalloa*. Because the epithet *falcata* is preoccupied in *Viscum*, a new name is necessary. This also allows the Hildebrand collection, which bears flowers and fruits, to be chosen as a more suitable type.

According to a note by Van Steenis on the isotype sheet, it had already been recognized by G. Hambali in 1980 that *Ginalloa falcata* should be transferred to *Viscum*. Hambali apparently referred the specimens to *V. multinerve* Hayata, but the latter species belongs in the *V. orientale* species group, in which the inflorescences are enlarged by development of adventitious flowers. The specimens cited above do not

belong with *V. multinerve*, nor with any other species of *Viscum*, and are thus accorded species status in that genus.

The specific epithet alludes to the resemblance of the conspicuously stipitate fruits to those of *Scurrula* species (Loranthaceae).

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