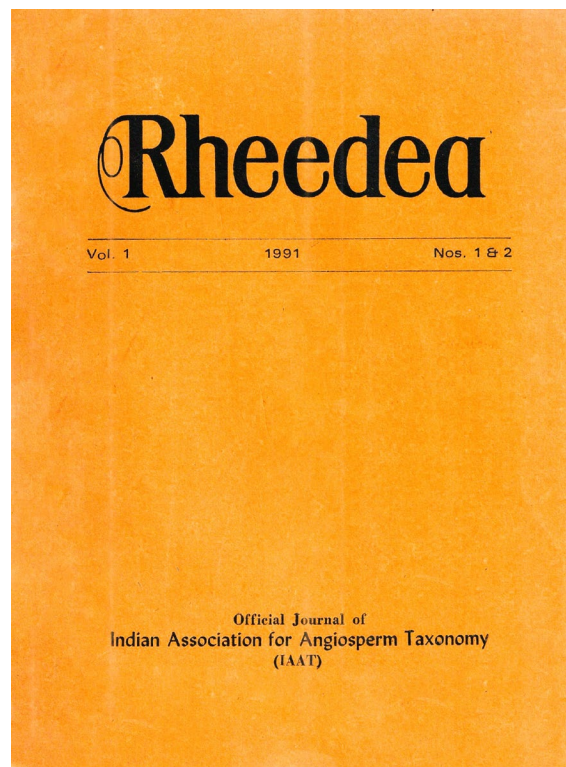




## New species of *Bulbophyllum*, sections *Trachyrhachis*, *Ischnopus* and *Macrouris* from New Guinea (Orchidaceae)

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New species of *Bulbophyllum*, sections *Trachyrhachis*,  
*Ischnopus* and *Macrouris* from New Guinea  
(Orchidaceae)

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Summary

New taxa of *Bulbophyllum* (Orchidaceae) belonging to the sections *Trachyrhachis*, *Ischnopus*, and *Macrouris* are described. All originate from New Guinea.

While revising the sections *Trachyrhachis*, *Ischnopus* and *Macrouris* of the genus *Bulbophyllum* (Orchidaceae) a number of species were found to be new. These species are described here. The complete revision will be published in the periodical *Orchid Monographs*.

Sect. *Trachyrhachis* Schltr.

*Bulbophyllum parabates* J. J. Vermeulen, *sp. nov.*, ab omnibus speciebus sectione *Trachyrhachis* pede columnae alato differt. - Typus: LAE 67880 (*Benjamin*) (Holo L. iso AMES, CANB, K. LAE not seen). Fig. 1

*Rhizome* creeping, 0.8-1.6 mm diam. *Roots* spreading. *Pseudobulbs* orbicular to ovoid, 2.5-4.5 cm apart, 0.15-0.2 × 0.12-0.18 cm, hardly to moderately flattened. *Petiole* 0.5-1.5 mm long. *Leaf blade* elliptic, 1.2-1.8 × 0.7-1.4 cm, index 1-2, tip rounded. *Inflorescence* usually single, 7-13 cm, up to 35-flowered. *Peduncle* 5-10 cm; bracts 5, the longest 2.5-3.5 mm. *Rhachis* nodding, up to 4.5 cm. *Floral bracts* triangular, 3.5-5 mm, tip acuminate, abaxially with a distinct median keel,

surface somewhat papillose. *Pedice* and *ovary* 3.5-5 mm, with the articulation 0.5-2 mm from the floral bract. *Flowers* scattered, 1 open at the time, moderately wide opening. *Median sepal* ovate, c. 3.2 × 1.3 mm, index 2.5, tip a straight, subulate projection c. 0.7 mm long, ending in a thickened, papillose knob; approx. glabrous, thin, abaxially with distinct, erose median keel. *Lateral sepal* connate over 1/2-2/3 of their length, obliquely ovate to elliptic c. 3.5 × 1.3 mm, index c. 2.8, abaxially with an inconspicuous, somewhat erose keel near the base, otherwise as the median sepal. *Petals* ovate, c. 1 × 0.6 mm, index c. 1.6, tip obtuse, margins coarsely erose-denticulate, very thin, surface glabrous. *Lip* 3-lobed, median lobe curved at the base, general outline elliptic - obovate, c. 2 × 0.8 mm, index c. 2.5 (not spread), tip rounded, thick, margins coarsely papillose-vesiculate, adaxially concave and with 3 parallel, short ridges near the base, which in front are clasped between 2 more ridges which in front converge and then continue as a single median ridge and in the back protrude as lobes, surface papillose to-

wards the margins, abaxially approx. without a median ridge, surface papillose towards the margins, basal lobes triangular to ovate, tip obtuse, margins somewhat erose - papillose, thin, surface approx. glabrous. *Column* from ovary to the tip of the *stelidia* c. 0.8 mm, stigma protruding at its base, obovate to elliptic, column-foot with distinct, approx. acute lateral wings close to the attachment of the lip. *Stelidia* inconspicuous, rounded, with a distinct, obtuse, tooth along the lower margin. *Anther* abaxially with a ridge towards its base, front margin not protruding.

Colours. Unknown.

Ecology. One record: primary forest at 450 msl. Flowering observed in December.

Distribution. PAPUA NEW GUINEA. Milne Bay Prov., Mt. Rumabutu [LAE 67880 (Benjamin)].

Notes. Well characterized within sect. *Trachyrhachis* by the distinct lateral wings on the column-foot. Also characteristic is the high median keel on the lip.

***Bulbophyllum quasimodo*** J. J. Vermeulen. *sp. nov.*, ab omnibus speciebus sectione *Trachyrhachis* labello non auriculato differt. -Typus: *Brac* 7213 (Holo AMES, iso L). Fig. 2

*Rhizome* creeping, 0.6-1.8 mm diam. *Roots* spreading. *Pseudobulbs* discoid to ovoid, 0.1 - 3 cm apart, 0.08-0.3 × 0.1-0.2 cm, not laterally flattened. *Petiole* 1-6 mm long. *Leaf blade* elliptic, 0.9 - 5.3 × 0.4-1.7 cm, index 2.2-3.8, tip obtuse. *Inflorescence* single, or a few together on a short sympodium. 1.5 - 6.5 cm, up to 20-flowered. *Peduncle* 0.8-2 cm, bracts 2-3, the longest 1.5 - 2.5 mm. *Rhachis* erect or arching, distinctly zig - zag bent,

up to 4.5 cm. *Floral bracts* triangular, 1.5-2.2 mm, tip acute, abaxially with a distinct median keel. *Pedice* and *ovary* 3.5-5 mm, with the articulation 0.8-1 mm from the floral bract. *Flowers* scattered, 1 open at the time, moderately opening. *Median sepal* ovate to elliptic, 2.2-4.5 × 2-2.2 mm, index 1-2.1, tip a straight or curved, subulate projection c. 0.4 - 0.6 mm long, ending in a thickened knob, margins approx. glabrous or slightly erose, thin, surface glabrous; abaxially with a median keel with a lacerate crest. *Lateral sepals* oblique, transversely ovate, 1.8-2.2 × 1.8-2.0 mm, index approx. 1. top part incurved or not, with a globular projection c. 0.2 mm diam., margins somewhat papillose, otherwise as the median sepal. *Petals* oblique, ovate, 1.2-1.5 × 0.7 - 1 mm, index 1.3 - 1.8, tip rounded, thin, glabrous. *Lip* curved towards the tip, general, outline ovate to elliptic, 1.3-1.5 × 0.6-0.9 mm, index 1.6-2.2 (not spread), tip obtuse, margins glabrous or papillose - ciliolate, rather thick but soft, surface glabrous, abaxially concave near the base, convex but furrowed along the median line towards the tip, abaxially with a distinct, retuse median ridge. *Column* from ovary to the tip of the rostellum 0.7 - 1 mm; stigma protruding at its base, elliptic; column-foot with an inconspicuous central tooth close to the attachment of the lip, flanked by two small lateral wings. *Stelidia* rather inconspicuous, deltoid, c. 0.2 mm, tip approx. acute, upper margin somewhat erose. *Anther* abaxially with a ridge towards its base, front margin protruding.

Colours. Flowers pale green or greenish brown.

Ecology. Primary forest, reported along rivers, Alt. 100-2000 msl. Flowering observed in February, July.

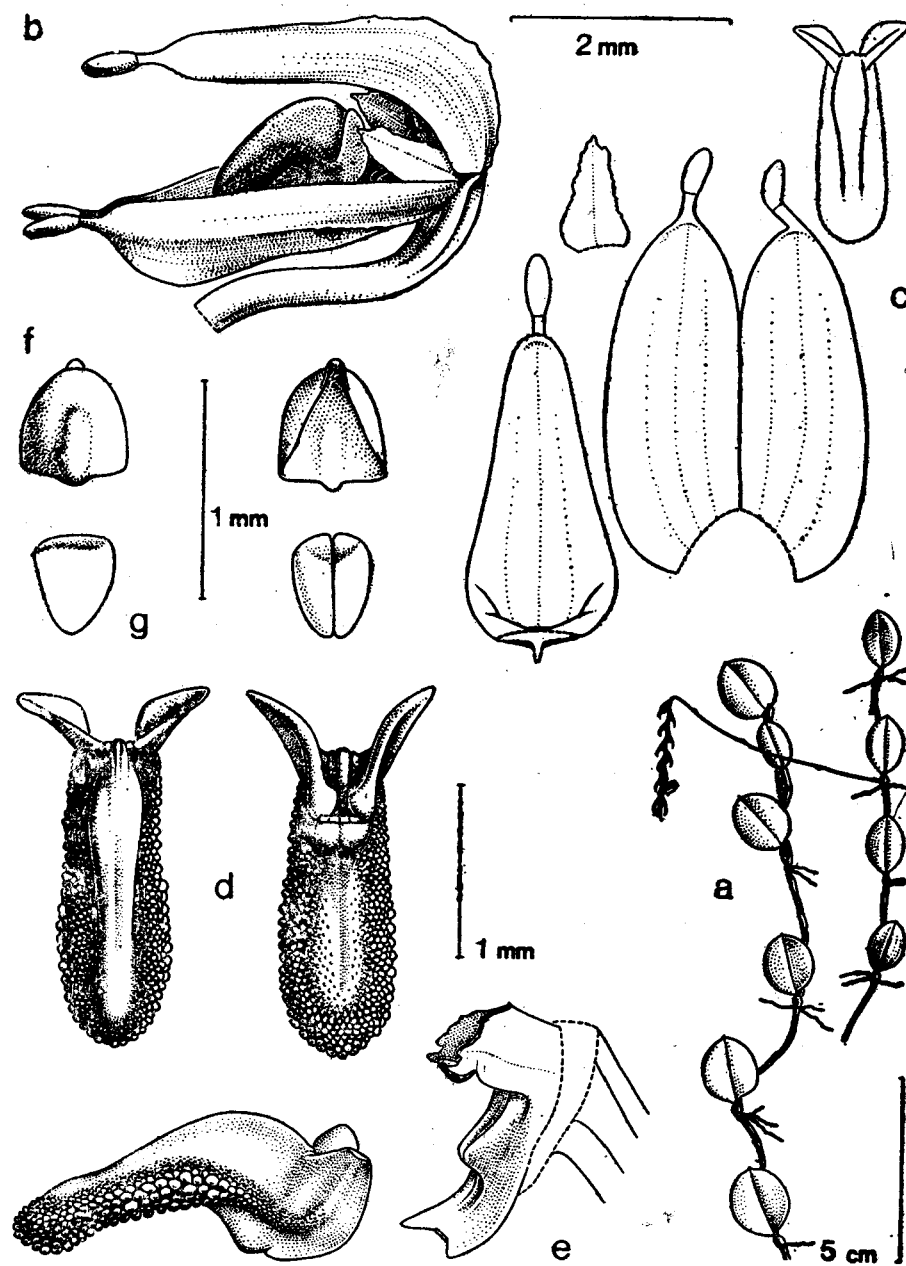


Fig. 1. *Bulbophyllum parabates* J. J. Vermeulen. a-whole plant; b-flower; c-flower analysis, from left to right: median sepal, petal, lateral sepal, lip; d-lip left: adaxially, right: abaxially; e-column and lip, lateral view; f-anther, left: abaxially, right: adaxially; g-pollinia, left: single, right: a pair. All drawn from the type specimen.

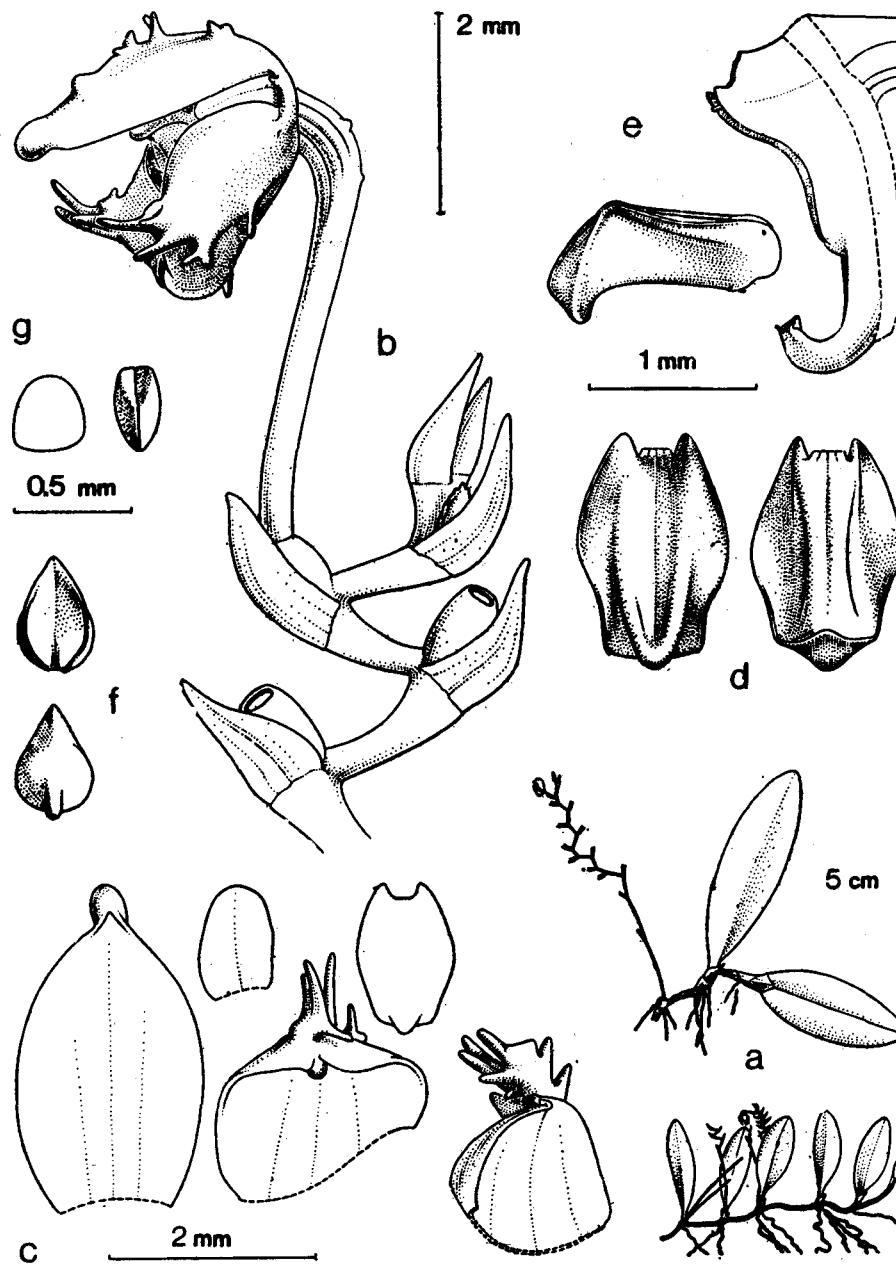


Fig. 2. *Bulbophyllum quasimodo* J. J. Vermeulen. a - whole plants; b - top of inflorescence; c - flower analysis, from left to right: median sepal, petal, lateral sepal, lip; d - lip, left: adaxially, right: abaxially; e - colum and lip, lateral view; f - anther, above: adaxially, below: abaxially; g - pollinia, left: single, right: a pair. All drawn from the type specimen, except a, upper plant from Dagny Bergman 41.

Distribution. INDONESIA. Irian Jaya. Central Mts., Swart Valley (*Dagny Bergman 41*). Palmer R. (*Brass 7213*). PAPUA NEW GUINEA. Sepik Prov., Bliiri R. (*Derbyshire & Hoogland 8330*).

Notes. 1-Within sect. *Trachyrhachis*, this species is characterized by its lip without any trace of lobes near the base.

2-The name alludes to Quasimodo, Victor Hugo's ugly humpbacked leprechaun.

sect. *Ischnopus* Schltr.

**Bulbophyllum grammopoma** J. J. Vermeulen, *sp. nov.*, ab omnibus speciebus sectione *Ischnopus* stelidiis subulatis et sepalis lateralibus connatis different. - Typus: *Jongejan 1578* (L), Fig. 3

*Rhizome* creeping, 1.5-4 mm diam, all rhizome scales slightly shorter to longer than the internodes. *Roots* in tufts below each pseudobulb. *Pseudobulbs* ovoid, 0.8-2.5 cm apart, 0.8-2 × 0.4-1.5 cm, not flattened. *Petiole* 8-15 mm long. *Leaf blade* elliptic, 6.5-11 × 0.3-1.5 cm, index 6-22, tip obtuse to acute. *Inflorescence* 11.5-30 cm, 7-28-flowered. *Peduncle* 7.8-23 cm, bracts 3-4, the longest 4-9 mm. *Rhachis* erect or arching, 3.8-7 cm. *Floral bracts* elliptic, 2.5-4 mm, tip acute. *Pedical* and *ovary* 4.5 - 9mm, with the articulation c. 1 mm from the floral bract, ovary glabrous. *Flowers* open simultaneously, moderately opening. *Median sepal* elliptic, 5.5-9 × 3.6-6.5 mm, index 1.2 - 1.8, tip acuminate, margins glabrous or slightly erose, rather thin, surface glabrous. *Lateral sepals* connate or with the lower margins (partly) touching, oblique, ovate, 16-21 × 2-4 mm, index 4.4-8, tip acute, glabrous, otherwise as the median sepal. *Petals* oblique,

ovate to elliptic, 2-4 × 1.5-3.2 mm, index 1.2 - 1.4, tip rounded to acute, margins glabrous or slightly erose, rather thin, surface glabrous. *Lip* curved, general outline ovate, 2.2-3.8 × 1.3-2.2mm, index 1.5-2 (not spread), tip obtuse to acute, thick, glabrous, adaxially concave towards the base, with an inconspicuous median ridge, with 2 other ridges converging in front in the basal half, abaxially with a distinct, retuse median ridge. *Column* from ovary to the tip of the stelidia 1.5-3 mm; stigma with a distinct tooth at its base, subtriangular; column-foot without accessories. *Stelidia* subulate, 0.6 - 1.2 mm, tip acute. *Anther* abaxially with a ridge towards its base, front margin not protruding. *Pollinia*. 2.

*Colours*. Pseudobulbs suffused with purple. Leaves dark green. Median sepal and petals white, yellow or pale greenish, with purple veins. Lateral sepals yellow, yellowish green or purple except for the base. Lip and column yellow or greenish.

*Ecology*. Epiphyte in primary forest. Also recorded from open forest, on an exposed tree. Alt. 1600-2100 msl. Flowering observed in January, April.

Distribution. INDONESIA. Irian Jaya. Central Mts., Swart R. (*Dagny Bergman 730*). PAPUA NEW GUINEA. Central Prov., Woitape [*NGF 20336 (Van Royen)*]; Morobe Prov., Kaindi [*NGF 16039 (Van Royen)*]; Eastern Highl. Prov., Okapa [*NGF 9292 (White)*]; Chimbu Prov., Yobomorua (*Reeve 1496*); Western Highl. Prov., Wabag (*Jongejan 1578*), Lakolama (*Reeve 883*), Lake Inim (*Reeve 1302*).

Notes. *B. grammopoma* differs from other species of sect. *Ischnopus*, such as *B. olivinum* J. J. Smith and *B. orbiculare* J. J. Smith by having long, subulate stelidia. It differs from *B. sceliphron* by its

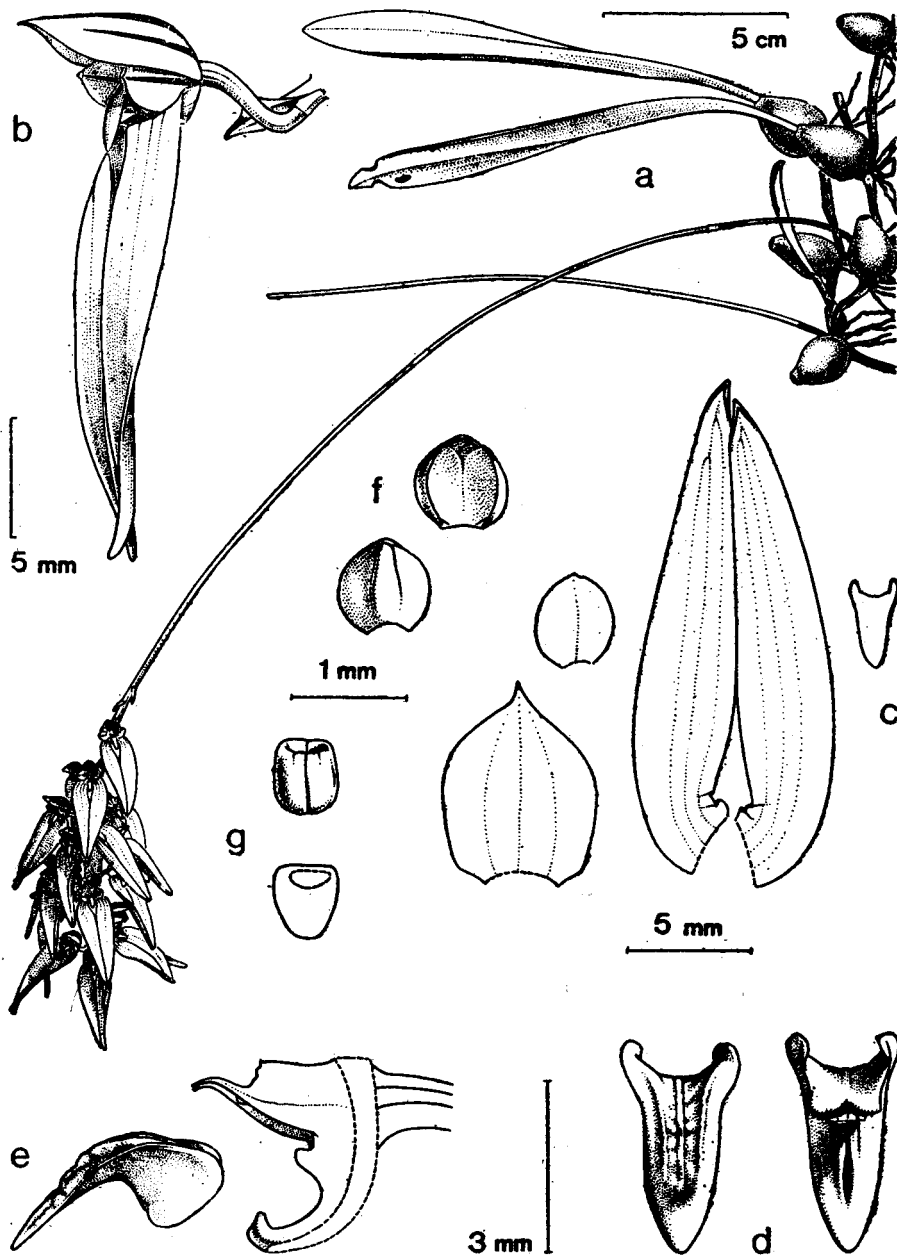


Fig. 3. *Bulbophyllum grammopoma* J. J. Vermeulen. a-whole plant; b-flower; c-flower analysis, from left to right: median sepal, petal, lateral sepal, lip; d - lip, left: adaxially, right: abaxially; e - column and lip, lateral view; f - anther, left: abaxially, right: adaxially, g - pollinia, above: a pair, below: single. All drawn from the type specimen.

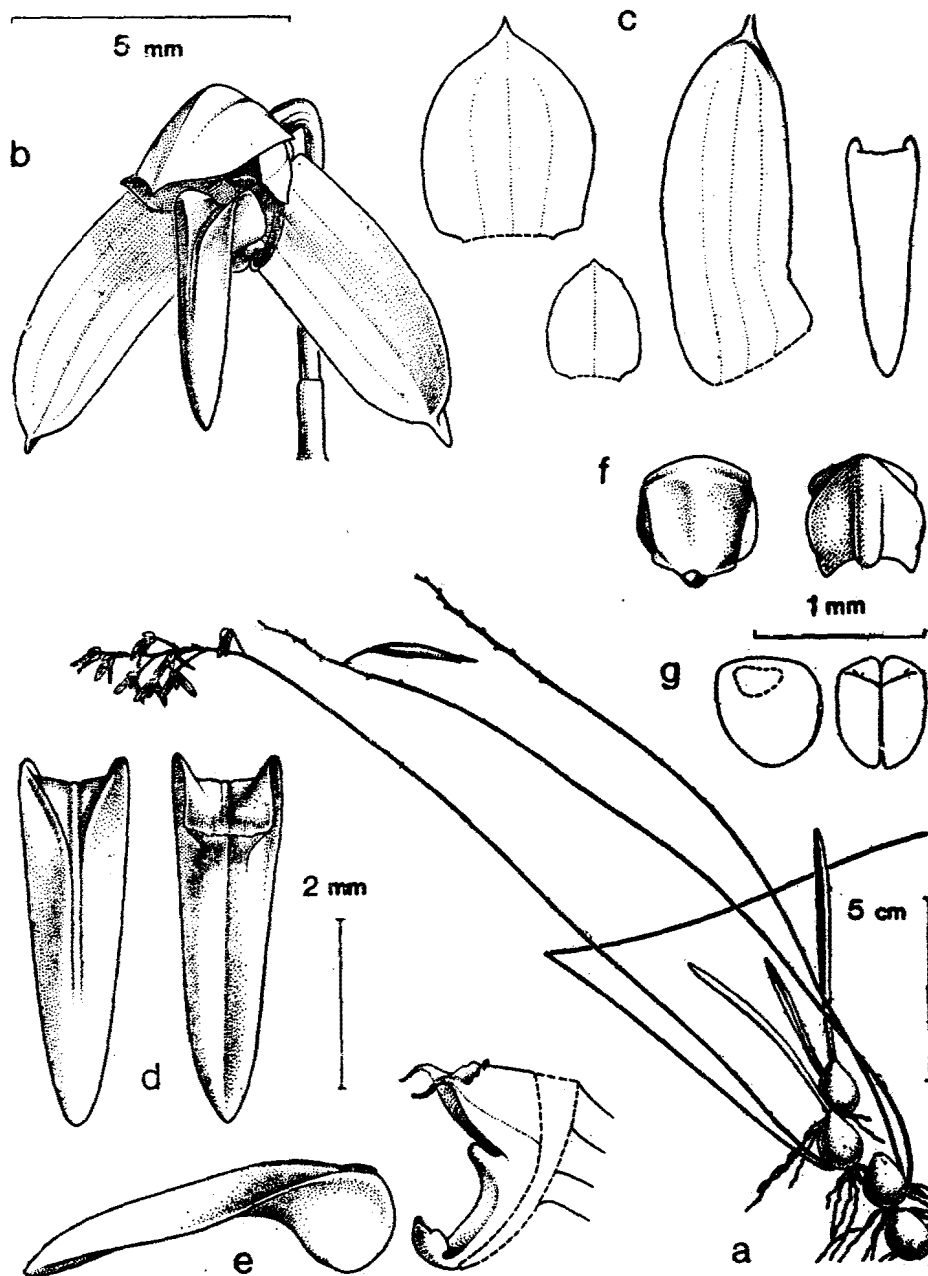


Fig. 4. *Bulbophyllum sceliphron* J. J. Vermeulen. a - whole plant, b - flower, c - flower analysis from left to right: median sepal, petal, lateral sepal, lip, d - lip, left: adaxially, right: abaxially, e - column and lip, lateral view, f - anther, left: adaxially, right: abaxially, g - pollinia. left: single, right: a pair. All drawn from the type specimen.



flat (not subulate) leaves as well as the connate (not spreading) lateral sepals.

**Bulbophyllum sceliphron** J. J. Vermeulen, *sp. nov.*, ab omnibus speciebus sectione *Ischnopus stelidiis subulatis et sepalis lateralibus divergentibus* differt. -Typus: *Reeve 759* (Holo L, iso K). Fig. 4

*Rhizome* creeping, 1 - 1.8 mm diam., all rhizome scales slightly shorter to longer than the internodes. *Roots* in tufts below each pseudobulb. *Pseudobulbs* ovoid, 0.6-1.5 cm apart, 0.5 - 1.5 × 0.2-1.1 cm, not flattened. *Petiole* 3 - 10 mm long. *Leaf blade* semiterete, 4-6 × 0.2-0.3 cm, index *c.* 20, tip acute. *Inflorescence* 15-24 cm, 8-13-flowered. *Peduncle* 13 - 20 cm; bracts 4-5, the longest 5 - 7 mm, *Rhachis* erect or arching, 2.4-4.5 cm. *Floral bracts* ovate, 1.8-2.5 mm, tip acute. *Pedical* and *ovary* 6-9 mm, with the articulation 1-1.5 mm from the floral bract; ovary glabrous. *Flowers* open simultaneously, widely opening. *Median sepal* elliptic, *c.* 4 × 3 mm, index *c.* 1.3, tip acuminate, rather thin, glabrous. *Lateral sepals* oblique, *c.* 6 × 2.3 mm, index *c.* 2.6, otherwise as the median sepal. *Petals* ovate, *c.* 2.2 × 1.7 mm, index *c.* 1.3, tip (sub) acute, margins erose towards the tip thin, surface glabrous. *Lip* curved at the base, general outline ovate, *c.* 4 × 1.3 mm, index *c.* 3 (not spread), tip obtuse, margins somewhat finely papillose, thick, surface glabrous, adaxially concave near the base, with an inconspicuous median ridge, with 2 distinct ridges converging in front in the basal half, abaxially with an inconspicuous, truncate median ridge. *Column* from ovary to the tip of the stelia *c.* 2 mm; stigma with a distinct tooth at its base, elliptic; column-foot with small wings close to the attachment of the lip. *Stelidia* subulate, *c.*

1 mm, acute. *Anther* abaxially with a ridge towards its base, front margin somewhat protruding. *Pollinia* 2.

**Colours.** Sepals brownish with greenish yellow margins. Petals (greenish) yellow. Lip greenish brown with yellow tip.

**Ecology.** Alt 2000 msl. (1 rec.). Flowering observed in May, October,

**Distribution.** PAPUA NEW GUINEA, Chimbu Prov., Yobomorua (*Reeve 759*).

**Notes.** This species shares the long, subulate stelia with *B. grammopoma*. It is different in having subulate leaves as well as spreading (not connate) lateral sepals.

**Sect. Macrouris** Schltr.

**Bulbophyllum cardiophyllum** J. J. Vermeulen, *sp. nov.*, rhizome pendula bracteis longis, et bracteis inflorescentiae longis insigne. -Typus: *Jongejan 1379* (L). Fig. 5

*Rhizome* hanging down perpendicularly, up to (?) cm long, flattened (?), (?) mm diam.; all rhizome scales longer than the internodes. *Roots* mostly close to the base of the rhizome. *Pseudobulbs* approx. ellipsoid, 0.5-1 cm apart, *c.* 0.7 × 0.3 cm, hardly flattened. *Petiole* *c.* 1.5 mm long. *Leaf blade* ovate, base cordate, *c.* 3.5 × 2.3 cm, index *c.* 1.6, tip acuminate. *Inflorescence* 6-8 cm, 5-7-flowered. *Peduncle* *c.* 4 cm; bracts longest *c.* 8 mm. *Rhachis* arching or pendulous, 1.2 - 2 cm. *Floral bracts* ovate, 5-8 mm, tip acute. *Pedical* and *ovary* 3-4 mm, with the articulation *c.* 0.7 mm from the floral bract. *Flowers* open simultaneously, moderately opening. *Median sepal* ovate to triangular, 18-22 × 2.8 mm, index 6.5-8, tip long acuminate to caudate, thin, glabrous. *Lateral sepals* free, oblique, triangular, 18-23 × 3 mm, index 6-7. 7, otherwise

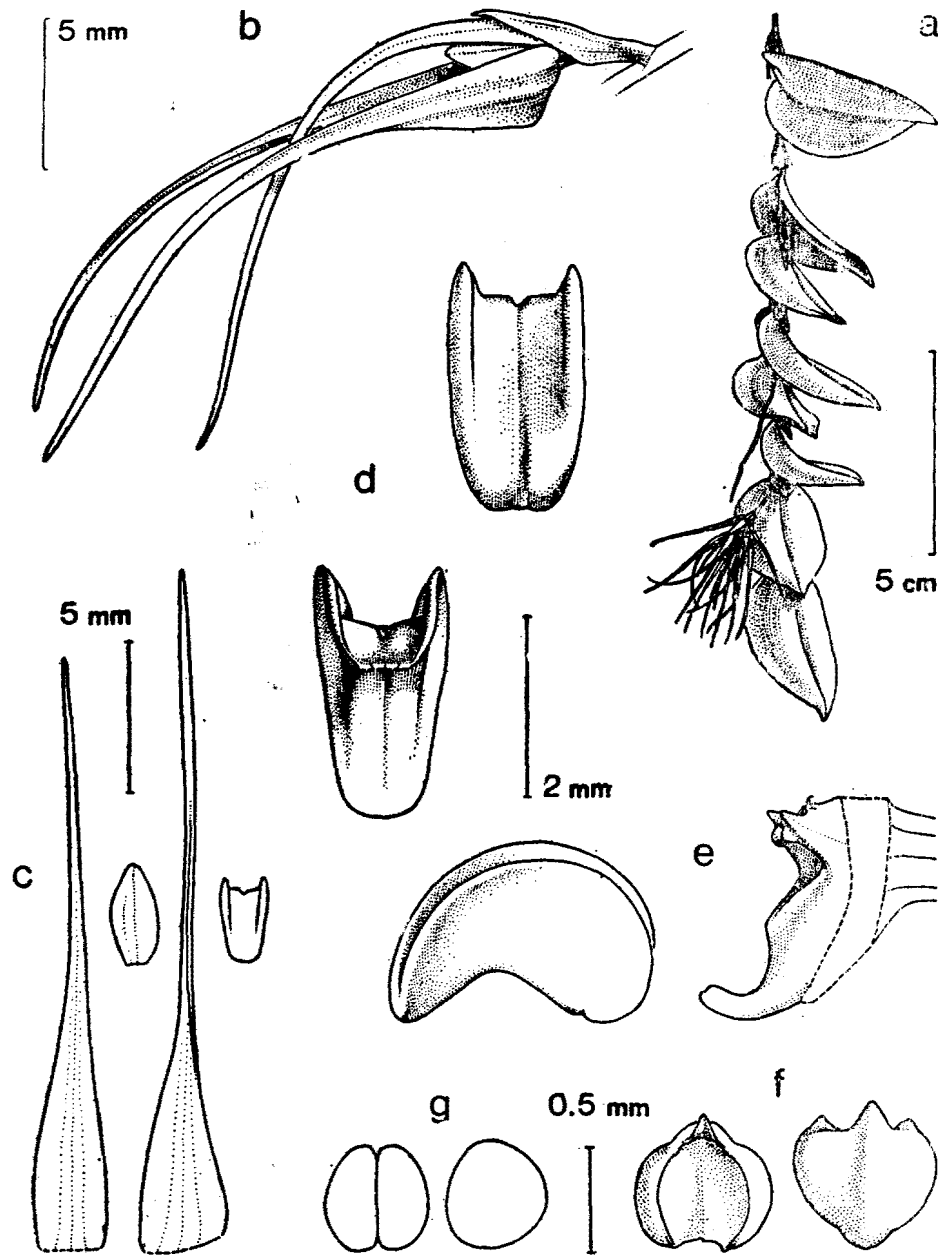


Fig. 5. *Bulbophyllum cardiophyllum* J. J. Vermeulen. a - whole plant, b - flower, c - flower analysis, from left to right: median sepal, petal, lateral sepal, lip, d - lip, above: adaxially, below: abaxially, e - column and lip, lateral view, f - anther, left: adaxially, right: abaxially, g - pollinia, left: a pair right: single. All drawn from the type specimen.

as the median sepal. *Petals* elliptic, c.  $3.3 \times 1.8$  mm, index c. 1.8, tip obtuse, thin, glabrous. *Lip* curved, general outline ovate, c.  $2.7 \times 1.6$  mm, index c. 1.7 (not spread), tip rounded, thick, glabrous, adaxially concave near the base, abaxially with a restuse median ridge. *Column* from ovary to the tip of the stielidia c. 0.7 mm; stigma protruding at its base, obovate; column-foot without accessories. *Stielidia* inconspicuous, triangular, tip acute. *Anther* with an inconspicuous ridge; front margin protruding. *Pollinia* 2.

**Colours.** Leaves slightly suffused with purple. Flowers entirely cream-coloured; lip adaxially with a purple blotch.

**Ecology.** Epiphyte in primary forest along stream. Alt. c. 2300 msl. Flo-

wering period unknown (all from 1 record).

**Distribution.** PAPUA NEW GUINEA. Eastern Highl. Prov., Mataosa (Jongejan 1379).

**Notes.** 1 - Most similar to *B. macrourum* Schltr. and *B. trifilum* J. J. Smith. *B. cardiophyllum* is characterized by the rhizome scales which are all longer than the internodes, as well as by the floral bracts which are distinctly longer than the pedicel plus ovary.

2 - The material available consists of a few leaves and inflorescences only. The description has been supplemented from a photograph.

3 - The name has been derived from the Greek language and refers to the heart - shaped leaves.