

**NEW SPECIES OF BULBOPHYLLUM, SECTIONS MACROBULBON,  
SESTOCHILUS AND VESICISEPALUM (ORCHIDACEAE)**

J. J. VERMEULEN

Rijksherbarium / Hortus Botanicus, Leiden, The Netherlands

SUMMARY

Nine new species of the genus *Bulbophyllum* are described. One of these belongs to section *Macrobulbon*, six others to section *Sestochilus*, and two to section *Vesicisepalum*.

***Bulbophyllum orthosepalum* J.J. Vermeulen, *spec. nov.* (sect. *Macrobulbon*) –  
Fig. 3**

*Bulbophyllum orthosepalum* J.J. Vermeulen, *B. cruento* simile, propter absentiam callorum papillosorum labelli dimidio differt. — Typus: *Jongejan cult. 414* (L).

*Plant* (not seen, reported to be identical to *B. phalaenopsis* but slightly smaller). *Inflorescence* usually single, c. 10 cm, c. 3-flowered. *Peduncle* c. 0.8 cm; the longest bract c. 12 mm. *Rhachis* c. 0.3 cm. *Floral bracts* approx. circular, 17–19 mm, tip acuminate. *Pedicel and ovary* c. 25 mm, with the node approx. at the same level as the floral bract. *Flowers* scattered, open simultaneously, hardly opening. *Median sepal* elliptic, c. 44 by 40 mm, index c. 1.1, tip acuminate; thick; glabrous. *Lateral sepals* connate from base to tip along their lower margins, oblique, obovate, c. 45 by 23 mm, index c. 1.9; otherwise as the median sepal. *Petals* ovate, c. 20 by 16 mm, index 1.2–1.3, tip acuminate; margins finely erose-papillose; thick; adaxially finely papillose towards the margins in the top part; abaxially glabrous. *Lip* moderately curved, general outline ovate, c. 1.4 by 0.9 mm, index 1.5–1.6 (not spread), tip acute; thick but rather soft; glabrous; adaxially moderately concave and with 2 distinct, rounded, converging ridges close to the base which continue as 2 inconspicuous, parallel ridges up to halfway the lip, top half approx. flat; abaxially with a distinct, retuse median ridge. *Column* from ovary to the tip of the stelia c. 0.9 mm; stigma not protruding at its base, narrowly rectangular; column foot without accessories. *Stelidia* triangular, c. 0.3 mm; tip acute; with a small, deltoid, subacute tooth along the upper margin and a large, triangular, acute tooth along the lower margin. *Anther* abaxially with a conical ridge towards its tip; front margin not protruding. *Pollinia* 4; the inner pair more than half as long as the outer pair. *Stipes* absent.

Colours – Flowers cream-coloured, but heavily mottled with purple.

Distribution – Papua New Guinea: Central Province, Efogi, *Jongejan cult. 414* (L).

Notes – 1. *Bulbophyllum flecherianum* Hort. and *B. phalaenopsis* J.J. Smith differ in having lateral sepals which are hairy abaxially. *Bulbophyllum macrobulbon* Schltr. has distinctly recurved lateral sepals. *Bulbophyllum cruentum* Garay, Hamer

& Sigerist has two distinct, short, papillose swellings halfway the lip, and is much smaller vegetatively.

2. The name refers to the almost straight lateral sepals.

**Bulbophyllum adelphidium** J.J. Vermeulen, *spec. nov.* (sect. *Sestochilus*) — Fig. 4

*Bulbophyllum adelphidium* J.J. Vermeulen, *B. lasiantho* simile, propter inflorescentiam brevem densam, absentiam sinus claro inter stelidiorum marginem inferiorem et alae marginem frontalem huius marginis inferioris differt. — Typus: *de Wilde & de Wilde-Duyffes 13015* (L).

*Rhizome* creeping, 5–10 mm diam. *Roots* present along the entire rhizome. *Pseudobulbs* cylindrical, 15–25 cm apart, 6–11 by 1.3–2 cm, moderately flattened. *Petiole* 50–100 mm. *Leaf blade* elliptic to obovate, 31–47 by 7–14 cm, index 3.3–4.4, tip acute. *Inflorescence* usually single, 9–17 cm, 18–30-flowered. *Peduncle* 5–10 cm; bracts 4–7, the longest 8–18 mm. *Rhachis* arching, 4–6 cm. *Floral bracts* triangular, 9–15 mm, tip acuminate. *Pedicel and ovary* 11–16 mm, with the node approx. at the same level as the floral bract. *Flowers* scattered, many open simultaneously, moderately opening. *Median sepal* ovate, 12–13 by 5–6 mm, index 2.2–2.4, tip acuminate; margins glabrous; thick; adaxially glabrous, abaxially densely covered with short, sinuose hairs. *Lateral sepals* oblique, triangular, 10–13 by 5–7 mm, index 1.7–2.4; otherwise as the median sepal. *Petals* oblique, ovate to elliptic, 9–10 by 3–3.5 mm, index 2.7–3, tip acuminate; rather thin; with 3 veins; glabrous. *Lip* somewhat curved, general outline ovate, 4.5–7 by 2.5–4.5 mm, index 1.6–1.8 (not spread), tip obtuse; very thick; glabrous; adaxially somewhat concave near the base, with a distinct median furrow, with 2 distinct, rounded ridges which diverge towards the tip of the lip; abaxially with an inconspicuous, retuse median ridge. *Column* from ovary to the tip of the stelidia 3–4 mm; stigma not protruding at its base, subrectangular; column foot without accessories. *Stelidia* triangular, 1.3–1.8 mm; tip acuminate; upper margin often somewhat erose; with a distinct, symmetrical rounded wing along the lower margin. *Anther* abaxially with a ridge towards its tip; front margin not protruding. *Pollinia* 4; the inner pair more than half as long as the outer pair. *Stipes* absent.

*Colours* — Peduncle and pedicel purplish red. Sepals and petals cream-coloured, (pale) brownish green or pale pinkish purple, sometimes with fine purple spots adaxially. Lip purplish adaxially, much paler abaxially.

*Ecology* — Epiphyte, on tree trunks and branches near the forest floor, in primary forest. Flowers strongly fetid. Altitude 1400–1700 m asl. Flowering observed in June, July.

*Distribution* — Indonesia: Sumatra, Aceh, G. Leuser area, *de Vogel 1500* (CANB, L), *de Wilde & de Wilde-Duyffes 13015* (L), *13388* (L), *13741* (L). Without locality: *Jongejan cult. 89* (L).

*Note* — Like *Bulbophyllum lasianthum* Lindley in many aspects, but with a much shorter inflorescence, a denser raceme as well as smaller flowers (hence the name: the Greek ‘adelphidion’, meaning ‘little brother’). In *B. lasianthum* the stelidia are separated from the wing along their lower margin by a deep sinus; this is not the case in *B. adelphidium*.

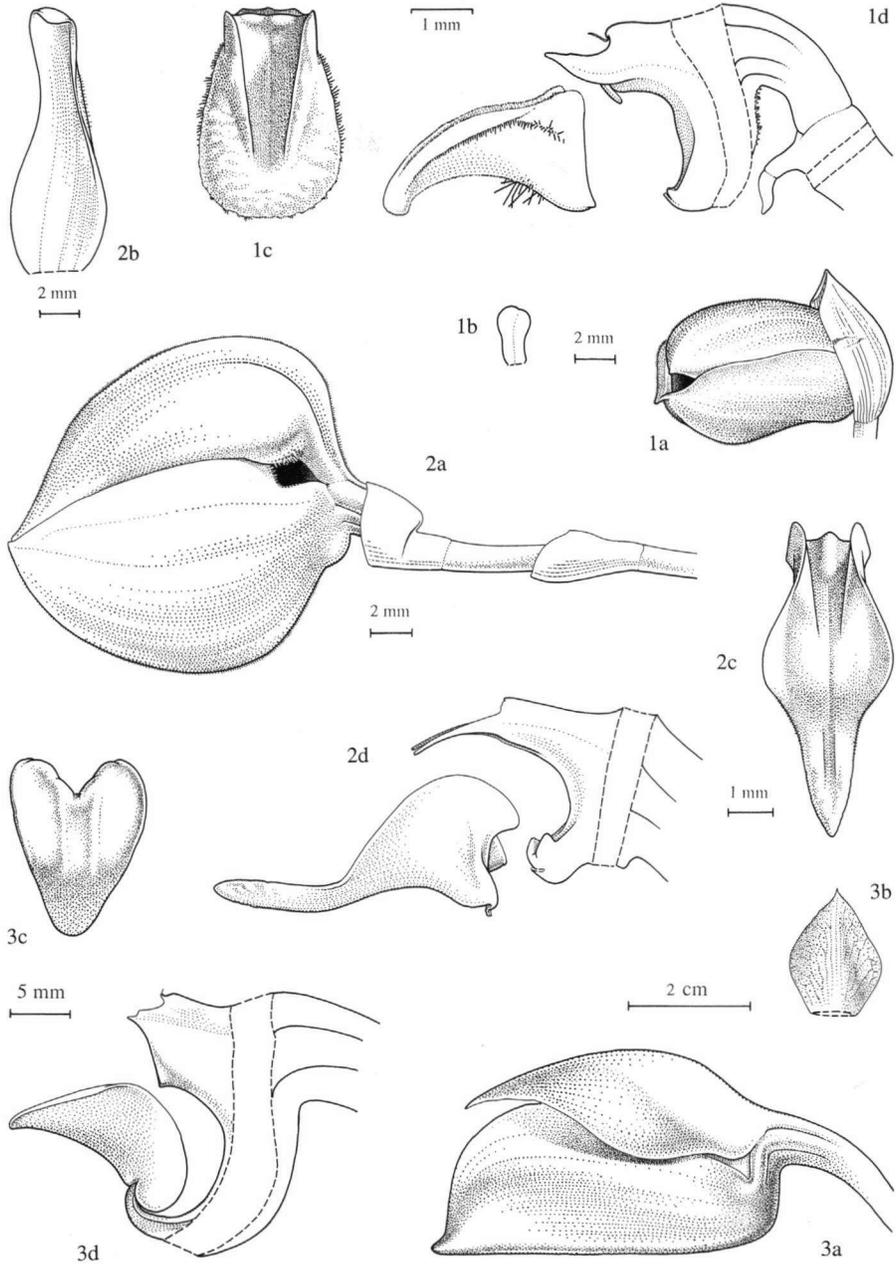
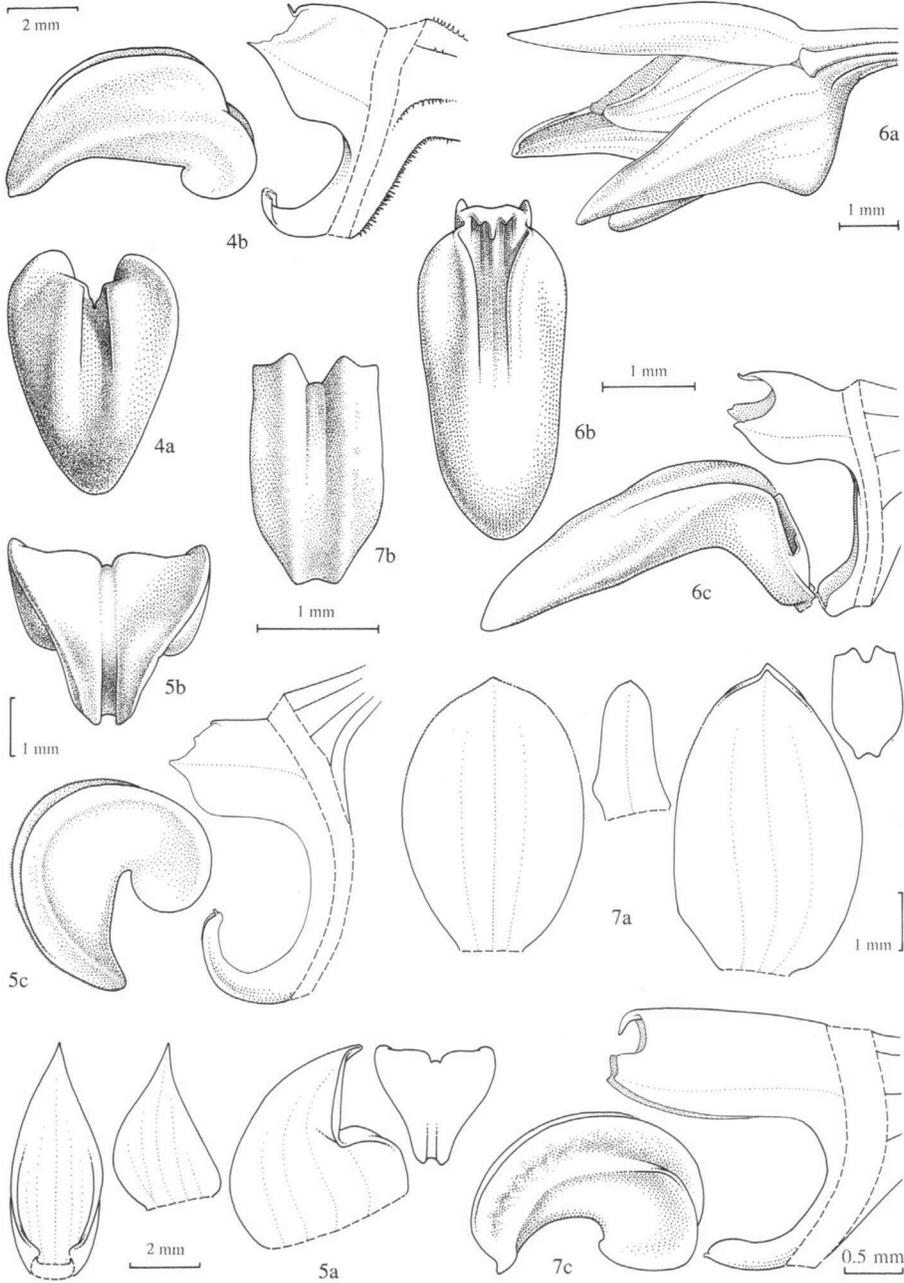


Fig. 1. *Bulbophyllum ustusfortiter* J.J. Vermeulen. a. Flower; b. petal; c. lip, adaxial side; d. column and lip, lateral view (*Leiden cult. 31721*). — Fig. 2. *B. caputgnomonis* J.J. Vermeulen. a. Flower; b. petal; c. lip, adaxial side; d. column and lip, lateral view (*Jongejan cult. 3055*). — Fig. 3. *B. orthosepalum* J.J. Vermeulen. a. Flower; b. petal; c. lip, adaxial side; d. column and lip, lateral view (*Jongejan cult. 414*).



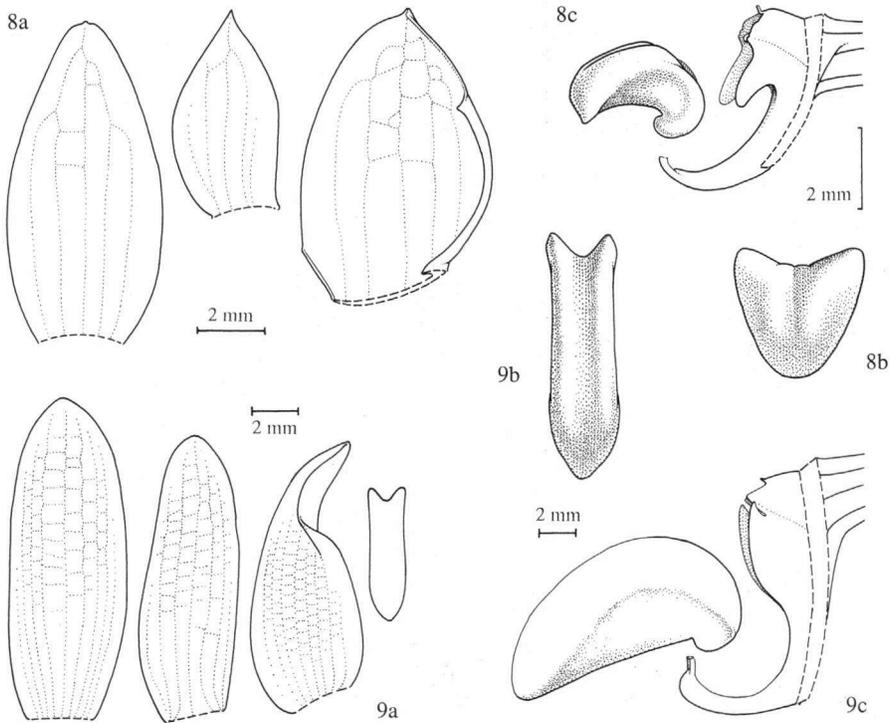


Fig. 8. *Bulbophyllum hoyifolium* J.J. Vermeulen. a. Flower analysis, from left to right: median sepal, petal, lateral sepal; b. lip, adaxial side; c. column and lip, lateral view (*Leiden cult.* 31865). — Fig. 9. *B. piestoglossum* J.J. Vermeulen. a. Flower analysis, from left to right: median sepal, petal, lateral sepal, lip; b. lip, adaxial side; c. column and lip, lateral view (*Sulit PNH* 5362).

***Bulbophyllum anaclastum* J.J. Vermeulen, *spec. nov.* (sect. *Sestochilus*)** — Fig. 5

*Bulbophyllum anaclastum* J.J. Vermeulen, *B. unifloro* simile, propter inflorescentiam racemosam, alarum rotundarum ad stelidiorum marginem inferiorem differt. — Typus: *Carr SFN* 27902 (L; iso AMES, LAE, SING).

*Rhizome* creeping, 3–6 mm diam. *Roots* present along the entire rhizome. *Pseudobulbs* cylindrical, slightly widened towards the top, 9–20 cm apart, 4–14 by 0.8–1.2 cm, somewhat flattened. *Petiole* 30–50 mm. *Leaf blade* elliptic, 11–23 by 5.5–

Fig. 4. *Bulbophyllum adelphidium* J.J. Vermeulen. a. Lip, adaxial side; b. column and lip, lateral view (*W.J.J.O. de Wilde c.s.* 13015). — Fig. 5. *B. anaclastum* J.J. Vermeulen. a. Flower analysis, from left to right: median sepal, petal, lateral sepal, lip; b. lip, adaxial side; c. column and lip, lateral view (*Carr SFN* 27902). — Fig. 6. *B. phreatiopse* J.J. Vermeulen. a. Flower; b. lip, adaxial side; c. column and lip, lateral view (*Hoogland & Craven* 10899). — Fig. 7. *B. univenum* J.J. Vermeulen. a. Flower analysis, from left to right: median sepal, petal, lateral sepal, lip; b. lip, adaxial side; c. column and lip, lateral view (*Meyer* 11173).

11.5 cm, index 2.2–3.2, tip acute. *Inflorescence* usually single, 5–10 cm, 7–15-flowered. *Peduncle* 1–5 cm; bracts 7–10, the longest 11–18 mm. *Rhachis* erect, 1–2.5 cm. *Floral bracts* ovate, 8–12 mm, tip acuminate. *Pedicel and ovary* 12–24 mm, with the node approx. at the same level as the floral bract. *Flowers* scattered, many open simultaneously, moderately opening. *Median sepal* ovate, 12–17 by 5.5–9 mm, index 1.6–2.8, tip acute; rather thin; glabrous. *Lateral sepals* oblique, subtriangular, 10–15 by 10–12 mm, index 1–1.3, otherwise as the median sepal. *Petals* oblique, ovate, 8–9 by 5–6 mm, index 1.5–1.8, tip acuminate, with 3–4 veins, otherwise as the median sepal. *Lip* distinctly curved, general outline subtriangular, 5–7 by 5–7 mm, index c. 1 (not spread), tip obtuse; margins glabrous; thick; adaxially slightly concave near the base, with an inconspicuous median furrow, surface finely pubescent; abaxially with a distinct, retuse median ridge, surface glabrous. *Column* from ovary to the tip of the stelia 3–4 mm; stigma not protruding at its base, obovate; column foot without accessories. *Stelidia* triangular, c. 1 mm; tip acute; somewhat erose along the upper margin; with a distinct, rounded wing the lower margin. *Anther* abaxially with a ridge towards its tip; front margin slightly protruding. *Pollinia* 4; the inner pair more than half as long as the outer pair. *Stipes* absent.

Colours – Sepals yellow, with purple veins, or entirely brownish.

Ecology – Epiphyte in primary forest. Altitude 1700–1900 m asl. Flowering June, Aug.

Distribution – Malaysia: Sabah, West Coast Zone: Mt Kinabalu, *Aban Gibot SAN 76693* (SAN), *Carr SFN 27902* (AMES, L, LAE, SING), *Clemens 29821* (BM).

Notes – 1. Much like *Bulbophyllum uniflorum* (Blume) Hassk., which occurs in the same area. It differs in having a racemose, dense, somewhat elongated inflorescence, a lip which is finely pubescent adaxially, and broadly rounded wings (not deltoid to triangular teeth) along the lower margins of the stelia.

2. The name refers to the strongly curved lip: the Greek ‘anaklastos’, meaning ‘bent backwards.’

***Bulbophyllum hoyifolium* J.J. Vermeulen, spec. nov. (sect. *Sestochilus*) – Fig. 8**

*Bulbophyllum hoyifolium* J.J. Vermeulen, *B. guttato* et *B. nabawanensi* simile, propter rhizomata pseudo-bulbosque tenuissimos, dentem ad sepalorum inferiorum marginem inferiorem differt. — Typus: *Leiden cult. 31865* (L).

*Rhizome* creeping, 0.7–1.5 mm diam. *Roots* present along the entire rhizome. *Pseudobulbs* cylindrical, 2.5–15 cm apart, 1–2 by 0.1–0.2 cm, hardly flattened. *Petiole* 2–8 mm. *Leaf blade* ovate to elliptic, 4.3–9 by 1.2–4 cm, index 2.2–5, tip acuminate. *Inflorescence* usually single, 5–8 cm, 1-flowered. *Peduncle* 3.4–6.5 cm; bracts 3–4, the longest 3–5 mm. *Floral bracts* tubular, 3.5–4 mm, tip acuminate. *Pedicel and ovary* 8–18 mm, with the node c. 0.6 mm from the floral bract. *Flowers* moderately opening. *Median sepal* ovate, 8–9 by 4.5–4.8 mm, index 1.7–1.9, tip apiculate; rather thin; glabrous. *Lateral sepals* oblique, 8–8.3 by 5.8–6 mm, index 1.3–1.4, with a tooth along the lower margin; otherwise as the median sepal. *Petals* oblique, elliptic, 5.5–5.8 by 2.2–3 mm, index 1.9–2.5, tip acute to acuminate; with 3 veins; otherwise as the median sepal. *Lip* curved, general outline subtriangular,

3.2–3.8 by 2.2–3.5 mm, index 1–1.5 (not spread), tip rounded; thick; glabrous; adaxially slightly concave near the base, convex towards the tip; abaxially with an inconspicuous, retuse median ridge. *Column* from ovary to the tip of the stelia 1–2 mm; stigma not protruding at its base, obovate; column foot without accessories. *Stelidia* small, deltoid, tip erose to subacute; with a distinct, triangular, rounded to obtuse tooth along the lower margin. *Anther* abaxially with a ridge towards its tip; front margin somewhat protruding. *Pollinia* 4; the inner pair more than half as long as the outer pair. *Stipes* absent.

Colours – Median sepal and petals pale green, the petals stained with some purple near the base. Lateral sepals pure white, basal half with purple stains and veins. Lip white, heavily suffused with purple towards the base, less so towards the tip. Column whitish.

Ecology – Epiphyte in primary forest, usually near forest floor. Altitude 850–1000 m asl. Flowering observed in Nov.

Distribution – Papua New Guinea: Southern Highlands Province, Nipa District, Mt Teragabu, *Reeve 1105* (LAE); Lake Kutubu, *Reeve 1097* (E, L, LAE), *Leiden cult. 31865* (L).

Notes – 1. Similar to *Bulbophyllum guttatum* Schltr. from New Guinea, as well as to *B. nabawanense* J.J. Wood, ined., from Borneo. It differs from both in having a very slender growth habit, as well as in having a tooth along the lower margin of the lateral sepals.

2. In general aspect the plant looks somewhat like species of the genus *Hoya* (Asclepiadaceae); hence the name.

***Bulbophyllum phreatiopse* J.J. Vermeulen, *spec. nov.* (sect. *Sestochilus*) – Fig. 6**

*Bulbophyllum phreatiopse* J.J. Vermeulen, in sectione *Sestochilo* carina mediana labelli basi distinguendum. — Typus: *Hoogland & Craven 10899* (L; iso AMES, LAE).

*Rhizome* creeping, 2.5–5 mm diam. *Roots* present along the entire rhizome. *Pseudobulbs* ovoid, 4–19 cm apart, 1.2–1.8 by 0.8–1.2 cm, not laterally flattened. *Petiole* 30–55 mm. *Leaf blade* elliptic, 10–13.5 by 2–3.3 cm, index 4.5–5.5, tip obtuse. *Inflorescence* 27–35 cm, 40–55-flowered. *Peduncle* 18–26 cm, bracts 8–11, the longest 15–25 mm. *Rhachis* erect or arching, 7–13 cm. *Floral bracts* ovate, 2.5–5 mm, tip acute. *Pedicel and ovary* 1.8–3 mm, with the node approx. at the same level as the floral bract; ovary glabrous. *Flowers* many open simultaneously, secund, widely opening. *Median sepal* ovate to elliptic, 4.6–5.2 by 1.8–2 mm, index 2.5–3, tip obtuse to subacute; rather thin; margins and adaxially surface slightly papillose towards the tip. *Lateral sepals* oblique, ovate, 5–5.5 by 2.5–3 mm, index 1.8–2, tip acute; otherwise as the median sepal. *Petals* oblique, ovate, 3–3.8 by 1.2–1.5 mm, index c. 2.5, tip obtuse, rather thin, with 3 veins, margins and adaxially surface papillose towards the tip. *Lip* curved in the basal half, general outline approx. ovate, 3–3.5 by 1–1.5 mm, index 2.3–3 (not spread), tip rounded; thick; approx. glabrous; adaxially towards the base concave and with a median ridge with a tooth on its crest and a furrow along each flank, this median ridge widening to a triangular callus entirely covering the flanking furrows at its very base, in front of this median ridge two more ridges

which converge in front, top part of the lip convex; abaxially with an inconspicuous, retuse median ridge. *Column* from ovary to the tip of the steldia 1.5–1.8 mm; stigma not protruding at its base, orbicular; column foot without accessories. *Steldia* triangular, tip acute; with or without a small, obtuse tooth along the upper margin, close to the tip, and an inconspicuous wing along the lower margin. *Anther* abaxially with a ridge; front margin not or hardly protruding. *Pollinia* 4; the inner pair slightly more than half as long as the outer pair.

Colours — Sepals and petals white. Lip white or orange-yellow.

Ecology — Epiphyte in primary forest. Altitude 1300–1500 m asl. Flowering observed in Oct., Nov.

Distribution — Papua New Guinea: East Sepik District, Mt Hunstein, *Hoogland & Craven 10899* (AMES, L, LAE); Southern Highlands District, Mt Kwabo at junction of Mubi River and Wage River, *Reeve 5772* (K).

Notes — 1. The ridges near the base of the lip, on the adaxial side, are somewhat reminiscent of *Bulbophyllum olivinum* J.J. Smith, of sect. *Macrouris*. However, a number of characteristics indicate that this species is best included in sect. *Sestochilus*: roots sprouting along the entire rhizome, not only below the pseudobulbs; petals with 3 veins; base of stigma not protruding; pollinia 4, with the inner pair more than half as long as the outer pair.

2. Among the species of sect. *Sestochilus* with a racemose inflorescence, *B. phreatiopsis* can be easily distinguished by the median keel at the base of the lip.

3. The name has been chosen because on the label of one specimen it was noted that the inflorescence looks somewhat like a *Phreatia* species.

***Bulbophyllum piestoglossum* J.J. Vermeulen, *spec. nov.* (sect. *Sestochilus*) — Fig. 9.**

*Bulbophyllum piestoglossum* J.J. Vermeulen, in sectione *Sestochilo* labello tenui, dentibus acroscopiis triangularibus ad steldiorum marginem inferiorem distinguendum. — Typus: *Sulit PNH 5362* (L; iso AMES).

*Rhizome* creeping, 3.5–6 mm diam. *Roots* present along the entire rhizome. *Pseudobulbs* ovoid, 5–11 cm apart, 1.8–3 by 1–1.5 cm, hardly flattened. *Petiole* 15–30 mm. *Leaf blade* elliptic, 6–15 by 3–5 cm, index 1.6–2.6, tip obtuse. *Inflorescence* usually single, 13–17 cm, 1-flowered. *Peduncle* 2.2–3 cm; bracts 6–7, the longest c. 15 mm. *Floral bracts* ovate, c. 18 mm, tip acute. *Pedicel and ovary* 100–125 mm, with the node c. 9 mm from the floral bract. *Flowers* widely opening. *Median sepal* elliptic, c. 30 by 12 mm, index c. 2.5, tip obtuse; thin; glabrous. *Lateral sepals* oblique, ovate, c. 27 by 12 mm, index 2.2–2.3; otherwise as the median sepal. *Petals* c. 28 by 10 mm, index c. 2.8; otherwise as the lateral sepal. *Lip* approx. straight, general outline elliptic, c. 14 by 3.5 mm, index c. 4 (not spread), tip obtuse; thick; glabrous; adaxially concave near base, with 2 inconspicuous, parallel ridges over most of its length; abaxially with a distinct, retuse median ridge. *Column* from ovary to tip of the steldia c. 3.5 mm; stigma not protruding at its base, elliptic; column foot without accessories. *Steldia* triangular, c. 1.4 mm, tip acute; with an obliquely forwards directed, triangular, acute tooth along lower margin. *Anther* abaxially with a ridge towards its tip; front margin not protruding. *Pollinia* (not seen) 4 (because 4 theca present in anther).

Colours – Flowers deep pink.

Ecology – Altitude c. 800 m asl. Flowering Apr., June, July.

Distribution – Philippines: Luzon, Mt Maquiling, *Sulit PNH 5362* (AMES, L), *Elmer 17608* (L).

Note – Among the species of sect. *Sestochilus* this species is well characterized by its narrow lip (hence the name: the Greek ‘piestos’, ‘narrow’ and ‘glossa’, tongue) as well as by its forwards pointing, triangular teeth along the lower margins of the stelidia.

***Bulbophyllum univenum* J.J. Vermeulen, *spec. nov.* (sect. *Sestochilus*) – Fig. 7**

*Bulbophyllum univenum* J.J. Vermeulen, a *B. pachyphyllo* in pseudobulbis cylindricis, labelli carinis longioribus differt. — Typus: *Meijer 11173* (BO).

*Rhizome* creeping, 2.5–3 mm diam. *Roots* present below the pseudobulbs only. *Pseudobulbs* cylindrical, 3–5 cm apart, 2.5–3.5 by 0.6 cm. *Petiole* c. 20 mm. *Leaf blade* elliptic to obovate, c. 11 by 2.1–3.4 cm, index 3.2–5.2, tip acuminate. *Inflorescence* usually single, c. 32 cm, c. 35-flowered. *Peduncle* c. 27 cm; bracts 7, the longest c. 10 mm. *Rhachis* nodding, 4.5 cm. *Floral bracts* triangular, c. 1.5 mm, tip acute. *Pedicel and ovary* c. 5 mm, with the node c. 1 mm from the floral bract. *Flowers* scattered, moderately opening. *Median sepal* elliptic, c. 4.5 by 3.5 mm, index 1.2–1.3, tip apiculate; margins finely papillose; rather thin; surface glabrous. *Lateral sepals* oblique, ovate, c. 5.3 by 3.5 mm, index c. 1.5; otherwise as the median sepal. *Petals* oblique, subtriangular, c. 2.2 by 1.3 mm, index c. 1.7, tip obtuse; rather thin; with 1 vein; glabrous. *Lip* curved, general outline elliptic, c. 1.8 by 1.2 mm, index c. 1.5 (not spread), tip obtuse; thick but soft; glabrous; adaxially concave near the base, with 2 parallel ridges over most of its length; abaxially with a retuse median ridge. *Column* from ovary to the tip of the stelidia c. 2 mm; stigma not protruding at its base, elliptic; column foot without accessories. *Stelidia* triangular, c. 0.3 mm; tip acute; with a deltoid, subacute tooth along the upper margin. *Anther* abaxially with a ridge towards its tip; front margin not protruding. *Pollinia* (not seen) 4 (because 4 theca present in anther).

Colours – Flowers reddish.

Ecology – Found as a terrestrial in forest on ultrabasic rock. Flowering observed in July.

Distribution – Indonesia: Sulawesi, Central part, near Lake Matano, *Meijer 11173* (BO).

Notes – 1. In *Bulbophyllum univenum*, the set: ‘pseudobulbs cylindrical, leaves thin, with reticulate venation, base of stigma not protruding from the face of the column, pollinia 4’ would justify inclusion in sect. *Sestochilus*, whereas the set ‘roots below pseudobulbs only, node between peduncle and pedicel not coinciding with the subtending bract, petals with one vein’ rather point towards sect. *Macrouris*. Because the character ‘leaves thin with reticulate venation’, an adaption to living in deep shade close to the forest floor, is a unique character in sect. *Sestochilus*, and because the portion of the rachis between the node and its bract is fused to the rest of the rachis (not free, as in sect. *Macrouris*), inclusion in sect. *Sestochilus* is preferred. Petals with one vein occur in a few species of this section.

2. Within section *Sestochilus*, *B. univenum* is rather similar to *B. pachyphyllum* J.J. Smith from Java. This species differs in having ovoid pseudobulbs, much shorter keels on the lip and longer stelidia.

3. The name refers to the petals with a single vein only.

***Bulbophyllum caputgnomonis* J.J. Vermeulen, spec. nov. (sect. *Vesicisepalum*)**

Fig. 2

*Bulbophyllum caputgnomonis* J.J. Vermeulen, a *B. folliculifero* in rhizomate repenti, floribus lumine parvo inter sepalos medianos lateralesque differt. — Typus: *Jongejan cult. 3055* (L).

*Rhizome* creeping, c. 1.5 mm diam. *Pseudobulbs* prostrate on the rhizome, ellipsoid to obovoid, 1–1.2 cm apart, c. 1 by 0.5–0.6 cm, distinctly laterally flattened. *Petiole* at most 0.5 mm. *Leaf blade* ovate, 1.9–2.7 by 1.3–2 cm, index 1.3–1.8, tip obtuse. *Inflorescence* usually single, c. 4 cm, 1-flowered. *Peduncle* 1.2 cm; bracts 2, the longest c. 6 mm. *Floral bracts* ovate, c. 6 mm, tip acute. *Pedicel and ovary* c. 6 mm, with the node 0.5 mm from the floral bract. *Flowers* opening only with a small lumen at each side of the flower, near its base, between the median sepal and the lateral sepals. *Median sepal* adhearent to the upper margins of the lateral sepals except for a small lumen near the base of the flower, ovate, c. 18 by 12 mm, index c. 1.5, tip apiculate; margins glabrous; rather thick; adaxially glabrous; abaxially shortly pubescent. *Lateral sepals* connate along their lower margins from base to tip, oblique, c. 17 by 12 mm, index c. 1.4, tip subacute; otherwise as the median sepal. *Petals* oblique, ovate, c. 14 by 5 mm, index c. 2.8, tip obtuse; margins glabrous; rather thin; adaxially glabrous; abaxially somewhat shortly pubescent. *Lip* slightly curved with the top part slightly incurved, general outline obovate with a drawn-out top part, c. 7 by 3 mm, index c. 2.3 (not spread), tip subacute; margins slightly and very finely papillose c. halfway; thick; surface glabrous; adaxially distinctly concave, with a rounded median ridge, and 2 distinct, convergent ridges in the basal third, slightly concave in the middle third, slightly convex and with a median furrow in the top third; abaxially approx. without a median ridge, surface glabrous. *Column* from ovary to the tip of the stielidia c. 5 mm; stigma not protruding at its base, slitlike; column foot with small, triangular, obtuse lateral wings close to the attachment of the lip. *Stelidia* subulate, c. 2.3 mm; tip acute. *Pollinia* 4; the inner pair more than half as long as the outer pair. *Stipes* absent.

Colours – Flowers cream-coloured, heavily mottled with purple.

Ecology – Epiphyte in forest. Altitude c. 2200 m asl.

Distribution – Papua New Guinea: Eastern Highlands Province, Lufa area, near Hogave, *Jongejan cult. 3055* (L).

Notes – 1. Differs from *Bulbophyllum folliculiferum* J.J. Smith in having a creeping rhizome, flowers with a small lumen at each side of the flower, between the median and the lateral sepals, and much longer petals.

2. The name refers to the shape of the flower: the Latin ‘caput gnomonis’ meaning ‘a gnome’s head.’

***Bulbophyllum ustusfortiter* J.J. Vermeulen, *spec. nov.* (sect. *Vesicisepalum*) – Fig. 1**

*Bulbophyllum ustusfortiter* J.J. Vermeulen, a *B. folliculifero* in rhizomati repenti, flore lumine apicali differt. — Typus: *Leiden cult.* 31721 (L).

*Rhizome* creeping, 3–4 mm diam. *Pseudobulbs* ovoid, close together, 1.6–1.8 by 0.6–0.8 cm, somewhat flattened. *Petiole* 17–20 mm. *Leaf blade* elliptic, 11–16 by 1.6–2 cm, index 6.5–8, tip obtuse, finely cuspidate. *Inflorescences* many together on a short sympodium, 1.3–1.7 cm, 1-flowered. *Peduncle* 0.2–0.3 cm; 1 bract at its base, 7–10 mm long. *Floral bracts* elliptic, c. 10 mm, tip acuminate. *Pedicel and ovary* c. 4 mm, with the node c. 0.2 mm from the floral bract. *Flowers* opening only with a small lumen at the top. *Median sepal* adhearent to the upper margins of the lateral sepals except at the extreme tip, obovate, c. 11 by 7 mm, index 1.5–1.6, tip subacute; margins glabrous; thick; adaxially glabrous; abaxially papillose-pubescent. *Lateral sepals* connate along their lower margins from base to tip, oblique, c. 11.5 by 5.5 mm, index 2–2.1, tip acuminate; otherwise as the median sepal. *Petals* oblique, obovate, c. 3 by 1.8 mm, index 1.6–1.7, tip slightly emarginate; rather thin; glabrous. *Lip* curved, general outline obovate, c. 3 by 2.3 mm, index c. 1.3 (not spread), tip rounded; margins halfway with fine, elongated papillae; thick; adaxially concave towards the base, with a transverse ridge close to the base and with 2 distinct, convergent ridges over most of its length, surface glabrous but somewhat wrinkled towards the margins; abaxially with a distinct, retuse median ridge, with a central patch of elongated papillae in the basal half and a larger central patch of scattered verrucae in the top half. *Column* from ovary to the tip of the steldia c. 2 mm; stigma not protruding at its base, slitlike; column foot not widened, with a slight central swelling. *Steldia* triangular, c. 1 mm; tip acute; with an inconspicuous, subacute tooth along the upper margin. *Anther* abaxially with a wide ridge; front margin somewhat protruding. *Pollinia* 4; the inner pair more than half as long as the outer pair. *Stipes* absent.

Colours – Entire flower very dark purple, at first sight black.

Ecology – Found as an epiphyte in disturbed rain forest. Altitude c. 900 m asl.

Distribution – Papua New Guinea: Southern Highlands Province, near Lake Kutubu, *Leiden cult.* 31721 (L).

Notes – 1. Differs from *Bulbophyllum folliculiferum* J.J. Smith (which occurs in the same area) in having a creeping rhizome, the lumen in the flower situated at the tip of the flower (not in between the lateral sepals) and the much shorter, triangular steldia.

2. The name refers to the very dark flowers: the Latin ‘ustus fortiter’, meaning ‘heavily burnt.’

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