

New Species of Papuan *Agrostophyllum* 1

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ABSTRACT: Six new species of *Agrostophyllum* Blume from New Guinea are described and illustrated. The new taxa are *A. atrobrunneum*, *A. beleense*, *A. crassilabium*, *A. daymanense*, *A. habbemense* and *A. isuaravum*.

Key Words: New Guinea, *Agrostophyllum*, new species.

The genus *Agrostophyllum* comprises just over 100 species distributed from Nepal to Samoa. More than half (56) of the species are known to occur on the island of New Guinea with at least 48 of these believed to be endemic. Schlechter (1912) divided the genus into four sections based on habit and inflorescence characters. All the species described here belong to Section *Agrostophyllum*, a group that houses the majority (44) of Papuan taxa.

A brief comment is required on the name *A. leucocephalum* Schltr., published in 1905. This species is putatively related to three of the new taxa described here and it is one of the most commonly collected montane members of the genus in Papua New Guinea. Previously (Ormerod 2010) I used the later name *A. graminifolium* Schltr. for this plant but have since found after a comparison of isotypes that the two are conspecific. One further complication is that Schlechter (1912) misapplied the name *A. leucocephalum* to a still undescribed species (related to *A. milneanum*, described in Part 2).

***Agrostophyllum atrobrunneum* Ormerod, sp. nov.**

Type: Indonesia – Papua Prov., 15 km S of Bernhard Camp, Idenburg River, 1800 m, January 1939, L.J. Brass 12072 (Holotype: AMES!; Isotype: BRI!).

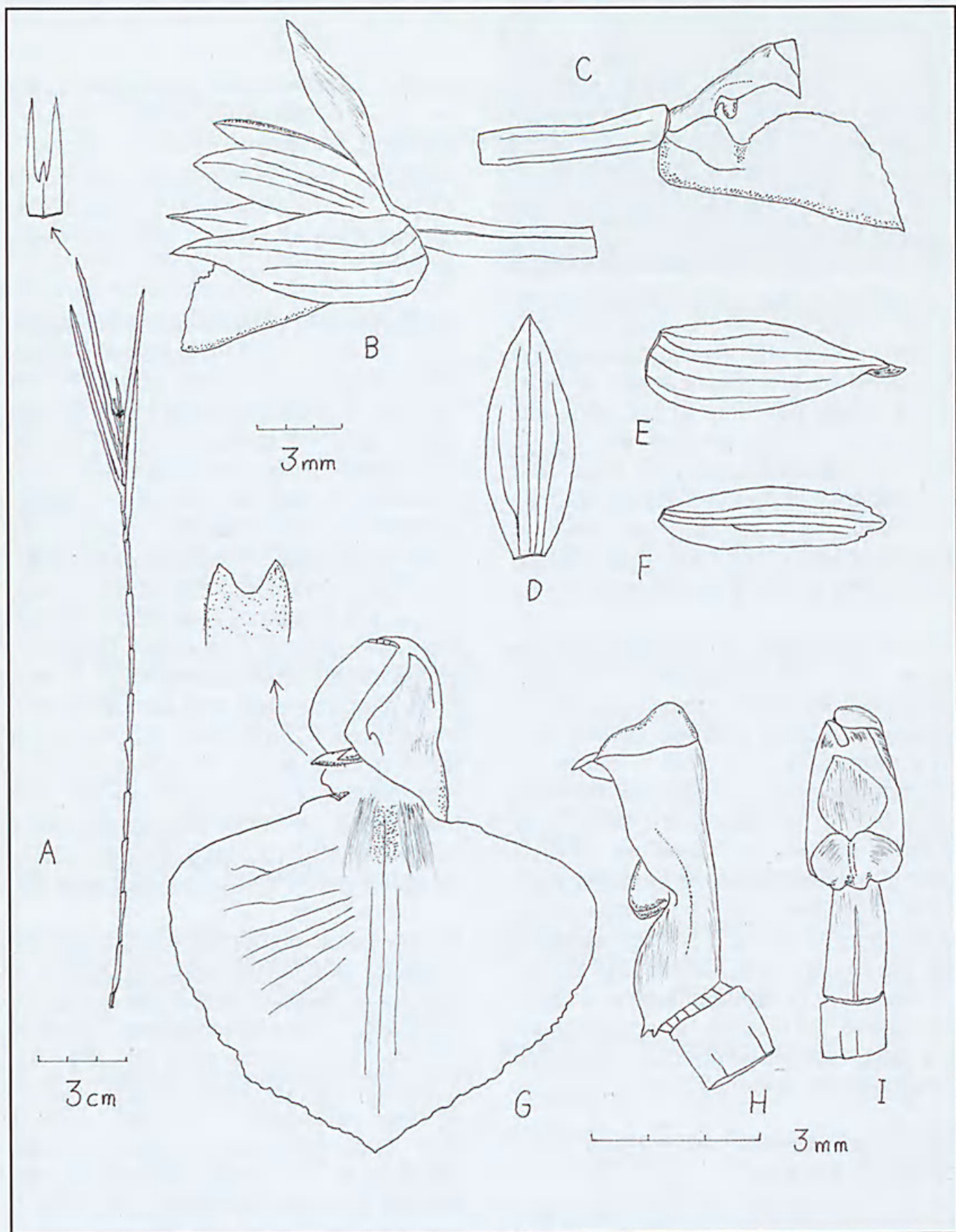
Affinis A. uniflorum Schltr. sed caule 4-7(vs. subdensifoliatis) foliatis et vaginis foliis stipulatis (non estipulatis) differt.

Epiphytic herb. Roots terete, pubescent, 0.5-1.0 mm thick. Rhizome terete, branching, appearing ascendant, to 13 cm long. Stems subterete, up to 2.5 cm apart, laxly 4-7 leaved in upper half or near apex, rarely throughout, 16.2-28.0 cm long, 0.10-0.15 cm thick. Leaves erect, linear, apex equally to inequally long bicuspidate, medially mucronate, thin, 35-70 mm long, 1.5-2.5 mm wide, cusps 1-3 mm long, mucro to 0.75 mm long; leaf sheaths dark brown (fungus?, yellow-green on isotype), 13-18 mm long, at apices each side with a slender, thin stipule 1-2 mm long. Inflorescence terminal, composed of a few sheaths and bracts, 1-2 flowered, to 20 mm long, ca. 3 mm wide. Pedicellate ovary subterete, ca. 6 mm long. Flowers white, lip with a yellow spot at base of epichile.

Dorsal sepal oblong-lanceolate, acute, 4 veined, one lateral vein branched, 7.8 mm long, 3 mm wide. Lateral sepals obliquely elliptic-lanceolate, acute, midvein dorsally carinate apically, 8.3 mm long, 3.2 mm wide. Petals oblong-ligulate, subacute, 3 veined, 7.2-7.3 mm long, 1.95 mm wide. Labellum trilobed, 8 mm long; hypochile with broadly rounded sidelobes, ca. 2.0-2.1 mm long, ca. 1 mm wide dorsally, 2 mm wide laterally; ligula subquadrate, apex bidentate, papillose-pubescent; epichile broadly ovate-reniform, subacute, 5.8-

6.0 mm long, 6.9 mm wide. Column
3.75 mm long.

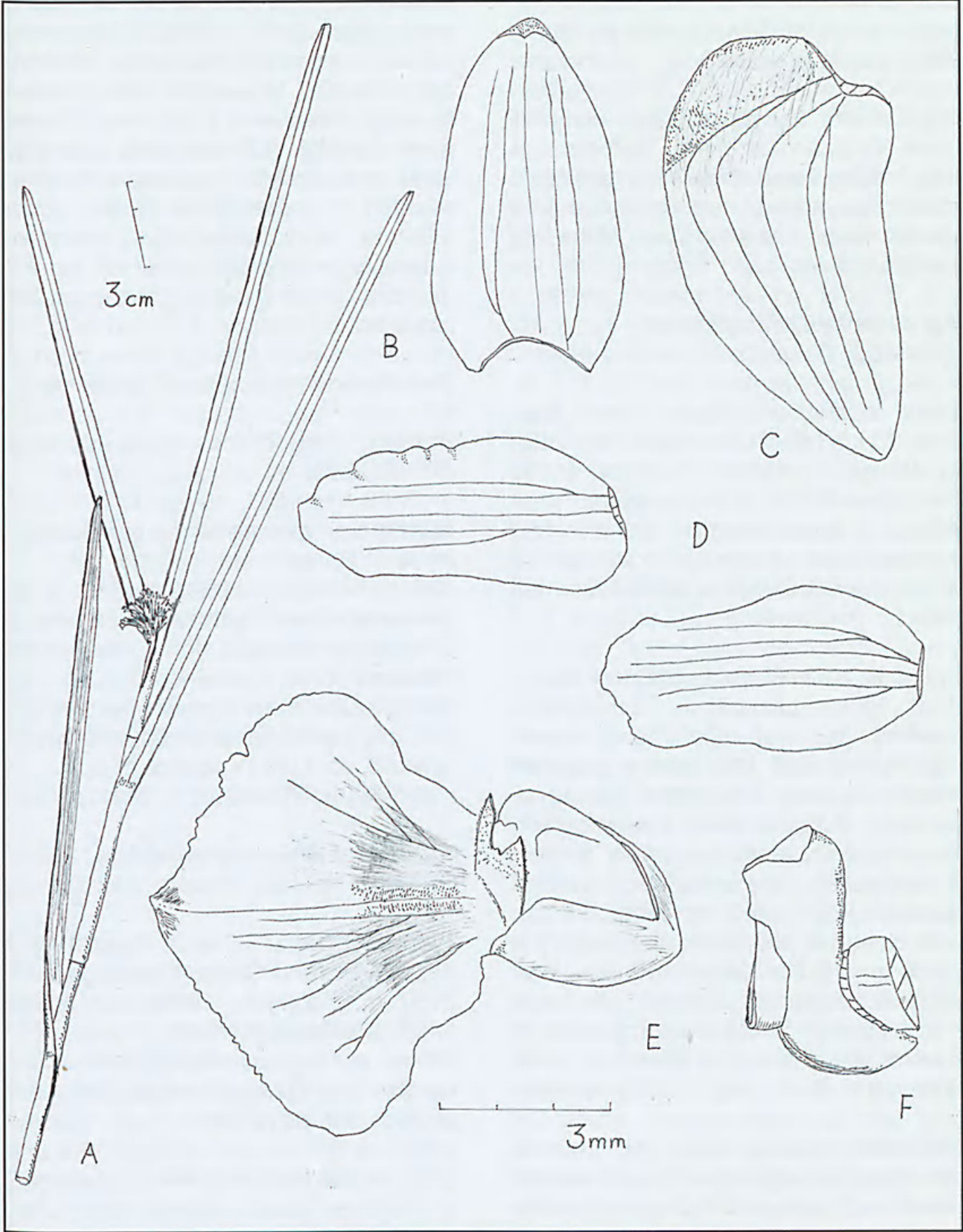
Distribution: Indonesia (Papua Prov.).
Habitat: Common low clump epiphyte
in mossy forest, 1800 m.



Agrostophyllum atrobrunneum - A. stem (leaf tip arrowed); B. flower; C. flower minus tepals; D. dosal sepal; E. lateral sepal; F. petal; G. labellum (ligula arrowed); H, I column, lateral sepal and ventral views. A, B-F and G, H, I to respective scales. Drawn from holotype.

Etymology: From the Latin *ater*, dark and *brunneus*, brown in reference to the dark brown colour (probably due

to a fungus) of the leaf sheaths on the holotype (yellow-green on the isotype). This species is most similar to *A.*



Agrostophyllum beleense - A. stem, upper half; B. dosal sepal; C. lateral sepal; D. petals; E.labellum F. column. A and B-F to respective scales. Drawn from holotype.

uniflorum Schltr. but differs from it in having stems with much fewer (4-7, rarely more) leaves, leaf sheaths that have a short slender stipule (vs. estipulate) and flowers with an entire (not trilobulate) epichile.

Members of the *A. uniflorum* complex have very similar floral features but they can be separated using vegetative characters such as leaf tip shape, leaf sheath shape and shape/size of the leaf sheath stipules.

Agrostophyllum beleense

Ormerod, *sp. nov.*

Type: Indonesia – Papua Prov., Bele river, 18 km NE of Lake Habbema, 2400 m, November 1938, *L.J. Brass* 11461 (Holotype: AMES!; Isotype: BRI!).

Affinis A. leucocephalum Schltr. *sed epichilo labello integris (non trilobulatis) et late rhombicis (non late trapeziformis) differt.*

Epiphytic herb. Roots terete, to 1 mm thick. Stems caespitose, complanate, covered by leaf sheaths in lower half, upper half with partly exposed internodes, laxly 5-7 leaved, ca. 32-34 cm long, 0.35 cm wide. Leaves erect, linear-ligulate, apex inequally acutely to subacutely bidentate, shortly broad apiculate, 17.7-20.5 cm long, 0.6 cm wide; leaf sheaths black-margined, 5-9 cm long, stipules deltate to lanceolate, acute to subacute, 1.0-1.5 mm long. Inflorescence terminal, composed of several sheaths and bracts, 6 or more flowered, to 2 cm long, 1.5-2.0 cm wide.

Pedicellate ovary subterete, 6.0-6.5 mm long. Flowers white, lip (at epichile base?) with yellow. Dorsal sepal ovate, apex obtuse, shortly cucullate, 3 veined, lateral veins branched, 5.1 mm long, 3.2 mm wide. Lateral sepals obliquely ovate, acute to obtuse, 3 veined, lateral

veins branched, midvein low carinate externally, 7-8 mm long, 3.9-4.3 mm wide. Petals irregularly oblong to oblong-elliptic, obtuse, 3 veined, lateral veins branched, 5.0-5.1 mm long, 2.3-2.7 mm wide. Labellum trilobed, 8.9 mm long; hypochile with obtuse-truncate sidelobes, 3 mm long, 2 mm wide dorsally, 1.5 mm wide laterally; ligula subquadrate, acutely bidentate, minutely papillose-pubescent, ca. 1.9 mm tall; epichile widely rhombic, subacute, entire, fleshy apically, ca. 5.9 mm long, 7 mm wide. Column erect, 2.2 mm tall.

Distribution: Indonesia (Papua Prov.).

Habitat: Large clumps on mossy butts of trees, 2400 m.

Etymology: Named for the type locality, the Bele River.

This species is closely related to *A. leucocephalum* Schltr., resembling it in habit and most floral characters. However *A. beleense* may be distinguished from the latter by its entire (not trilobulate) labellum epichile which spreads from the hypochile at about 45 (not 60-90) degrees.

Agrostophyllum crassilabium

Ormerod, *sp. nov.*

Type: Indonesia – Papua Prov., 18 km SW of Bernhard Camp, Idenburg River, 2150 m, February 1939, *L.J. Brass* 12691 (Holotype: AMES!).

Affinis A. leucocephalum Schltr. *sed epichilo labello integris (non trilobulatis) et crassissimus differt.*

Epiphytic herb. Roots terete, pubescent, to 1.5 mm thick. Stems caespitose, terete basally, slightly compressed above, clothed with leaf sheaths, apex 3(-5?) leaved, 33.7 cm long, 0.20-0.35 cm thick. Leaves erect, linear-ligulate,

apex acute to minutely acutely obliquely inequally bidentate, 21.2-23.3 cm long, 0.55-0.68 cm wide; leaf sheaths black margined, 3.5-4.0 cm long, 0.50-0.55 cm wide, stipules deltate, obtuse, to 0.3 cm long. Inflorescence terminal, composed of several bracts and sheaths, 5 or more flowered, 2 cm long and wide. Pedicellate ovary triquetrous but with rounded ribs, possibly laxly furfuraceous, ca. 12 mm long. Flowers externally laxly furfuraceous, very pale yellow, lip white. Dorsal sepal ovate-elliptic, acute, midvein lightly carinate in upper half, 4-5 veined, 5.3 mm long, 3.3 mm wide. Lateral sepals obliquely ovate-elliptic, acute, midvein narrowly carinate, 4-5 veined, 7 mm long, 3.4 mm wide. Petals irregularly oblong-lanceolate, subacute, 3 veined, 5 mm long, 1.8 mm wide. Labellum trilobed, 7 mm long; hypochile with low, almost straight edged truncate sidelobes, ca. 2 mm long, 1.8 mm wide laterally; ligula subquadrate, apex recurved, trilobulate, papillose-pubescent; epichile suborbicular, margin irregular, obtuse, very fleshy, ca. 5 mm long, 5.5 mm wide. Column 3 mm long.

Distribution: Indonesia (Papua Prov.).

Habitat: Clumped on branches of taller trees in mossy forest, 2150 m.

Etymology: From the Latin *crassus*, thick and *labium*, lip in reference to the fleshy labellum.

This species seems to be related to *A. leucocephalum* Schltr. but the leaves are close together apically (not spaced apically and exposing the internodes) and the labellum has an entire, fleshy (vs. trilobulate, thinner) epichile.

Agrostophyllum *daymanense*
Ormerod, *sp. nov.*

Type: Papua New Guinea – Milne Bay

Prov., Maneau Range, N slopes of Mt. Dayman, 2150 m, L.J. Brass 22960 (Holotype: AMES!).

Affinis A. pelorioides Schltr. *sed caulibus longioribus* (52.5 vs. 30 cm), *foliis brevioribus* (ad 20 vs. 28 cm) *et ovario brevioribus* (6.5 vs. 8 mm) *differt.*

Epiphytic herb. Roots terete, pubescent. Stems caespitose, compressed, laxly 11-leaved, with leaves more widely spaced in upper 19.5 cm and thus exposing internodes for 2.5-6.5 cm, lower 35 cm completely covered by complanate leaf sheaths, 52.5 cm long, ca. 0.5 cm thick. Leaves linear-ligulate, apex shortly bidentate with a broad apiculus, 10-20 cm long, 1.00-1.15 cm wide; leaf sheaths compressed, black margined, exposed part 5-7 cm long, 0.5-0.8 cm wide laterally, stipules deltate, to 1 mm long. Inflorescence terminal, composed of numerous bracts and sheaths, many flowered, ca. 2.5 cm long, 2 cm wide. Pedicellate ovary clavate, 6.5 mm long. Flowers white.

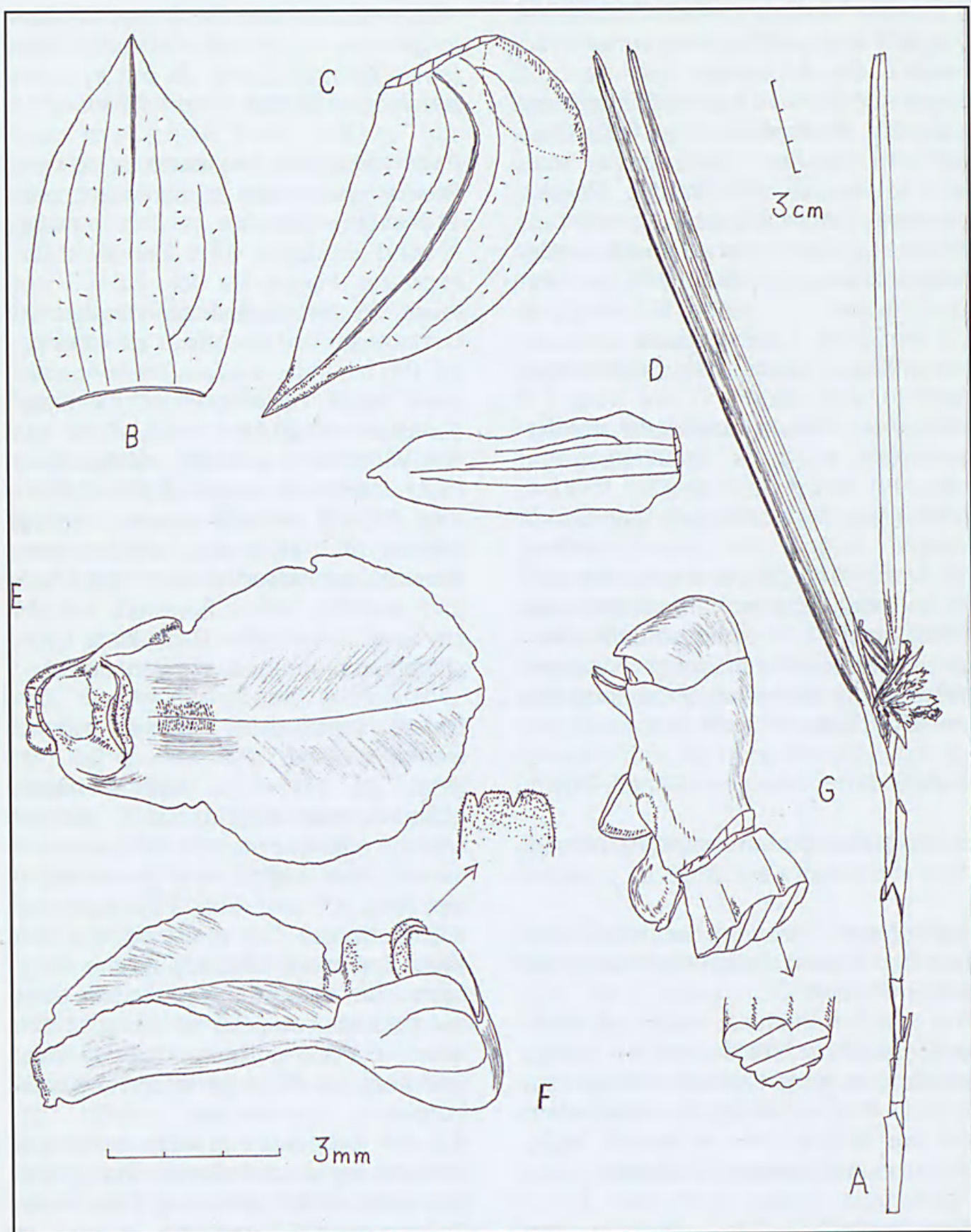
Dorsal sepal ovate, acute, midvein weakly carinate, 4-5 veined, 5.9 mm long, 3.8 mm wide. Lateral sepals obliquely ovate-elliptic, acute, midvein weakly carinate in apical quarter, 3 veined, one lateral vein branched, 8 mm long, 4.5 mm wide. Petals oblong-elliptic, obtuse, 5.5 mm long, 2.5 mm wide. Labellum trilobed, 8 mm long; hypochile spurred-saccate, sidelobes rounded truncate, 3.5 mm long, 2 mm wide dorsally; ligula subquadrate, bidentate, papillose-pubescent; epichile trilobulate, transversely elliptic, ca. 4.5 mm long, 6.3 mm wide, midlobule transversely oblong-elliptic, emarginate-bilobulate, ca. 0.9 mm long, 3 mm wide. Column stout, 2.7 mm long.

Distribution: Papua New Guinea.

Habitat: Low epiphyte in mossy forest, 2150 m.

Etymology: Named for the type locality, Mt. Dayman.

This species seems to approach *A. pelorioides* Schltr. but appears to differ



Agrostophyllum crassilabium - A. stem, B. dosal sepal; C. lateral sepal; D. petal; E. F. labellum (ligula arrowed); G. column. (ovary x-section arrowed). A and B-F to respective scales. Drawn from holotype.

in having longer (52.5 vs. 30 cm) stems, shorter (to 20 vs. 28 cm) leaves and a shorter (6.5 vs. 8 mm) pedicellate ovary.

Agrostophyllum habbemense

Ormerod, *sp. nov.*

Type: Indonesia – Papua Prov., 9 km NE of Lake Habbema, 2800 m, October 1938, *L.J. Brass 10599* (Holotype: AMES!; Isotype: BRI!).

Caule laxe foliatis, ad 44.7 cm longis, foliis anguste ligulatis, bidentatis, 47-70 mm longis, 2.5-3.0 mm latis, inflorescentiis 1-2 floris, tepala 8.1-10.5 mm longis, sepala 4.10-4.75 mm latis, petala 2.85 mm latis, labello trilobatis, 10.5 mm longis, epichilo subtrilobatis, subtrapeziformis, 7.5 mm longis, 8.9 mm latis, midlobula transverse oblongis, 3.0-3.3 mm longis, 6 mm latis.

Epiphytic herb. Roots terete, pubescent, 0.8-2.0 mm thick. Stems caespitose, covered with complanate sheaths, laxly foliose, 21.0-44.7 cm long, 0.25-0.35 cm thick. Leaves linear-ligulate, apex inequally bidentate, mucro short, 25-30 mm apart, 47-70 mm long, 2.5-3.0 mm wide, teeth of apex 1.0-2.5 mm long; leaf sheaths relatively long, oblique, often not black margined, turning yellowish to grey when old, persistent, exposed part 36-40 mm long, stipules deltate, acute to bidentate, 0.20-0.35 mm long. Inflorescence terminal, composed of bracts and sheaths, 1-2 flowered, ca. 15-18 mm long, 6-7 mm wide. Pedicellate ovary terete, 13 mm long. Flowers white, lip with a yellow patch at base of epichile. Dorsal sepal ovate-elliptic, subacute, 9.9 mm long, 4.1 mm wide. Lateral sepals obliquely ovate-elliptic, dorsally carinate apically, ca. 10.5 mm long, 4.75 mm wide. Petals irregularly oblong, subacute, 3 veined, 8.1 mm long, 2.85 mm wide. Labellum trilobed, 10.5 mm long; hypochile with

low oblique sidelobes, medially with a small callus, ca. 3 mm long, 1.8 mm wide dorsally, 2.2 mm wide laterally; ligula subquadrate, shortly bidentate with an obtuse mucro, papillose-pubescent, raising ca. 1 mm above sidelobes; epichile subtrapeziform, broadly apiculate, ca. 7.5 mm long, 8.9 mm wide, midlobule transversely oblong, 3.0-3.3 mm long, 6 mm wide. Column ca. 4 mm long.

Distribution: Indonesia (Papua Prov.).

Habitat: Low epiphyte in forest of valley bottom, 2800 m.

Etymology: Named after Lake Habbema, which is near the type locality. This species seems to lack close relatives. It may be recognised by its laxly leafy stems with flattened sheaths, short (to 70 mm long), narrow leaves, short leaf sheath stipules, 1-2 flowered inflorescences, relatively large flowers and a subtrapeziform labellum epichile with a transversely oblong midlobule.

Agrostophyllum isuaravum Ormerod, *sp. nov.*

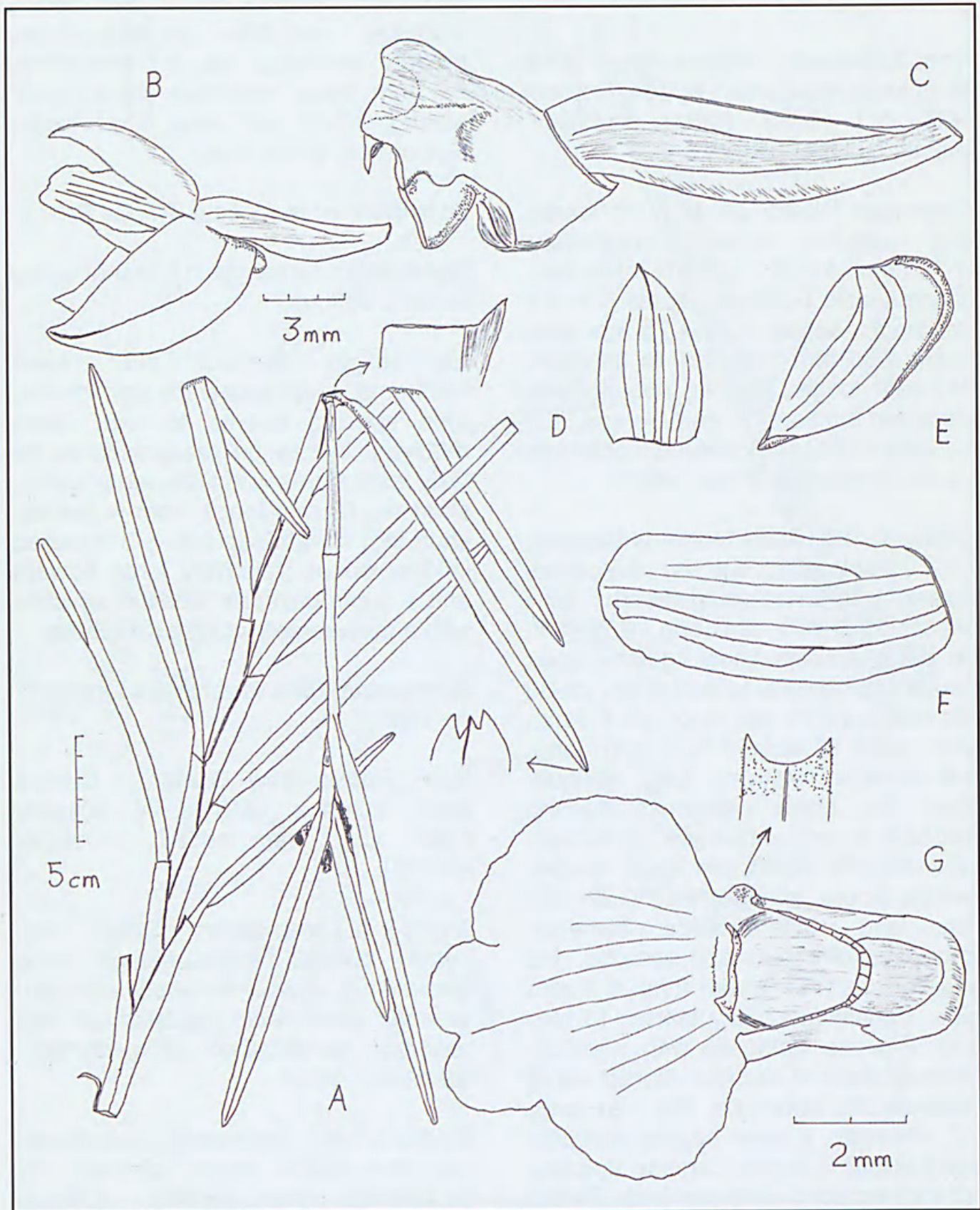
Type: Papua New Guinea – Central Prov., Isuarava, 1370 m, 26 February 1936, *C.E. Carr 10583* (Holotype: AMES!).

Affinis A. papuanum Schltr. sed *petalis floribus ovato-oblongis (non lanceolatis), hypochilo labello retrorso-saccatis (non recto-saccatis) et aliis columna humilideltatis (non dentato-flabellatis) differt.*

Epiphytic herb. Roots terete, pubescent, 1.2 mm thick. Stem covered by complanate leaf sheaths, sublaxly 11-leaved, 27 cm long, to 7 cm wide across sheaths. Leaves oblong to elliptic, minutely obtusely equally bilobed, base

contracted, thinly coriaceous, 3.4-12.0 cm long, 2.3-3.6 cm wide; leaf sheaths oblong, complanate, obliquely truncate-rounded, often black-margined, 4-6 cm long, 1.5-2.0 cm wide. Inflorescence

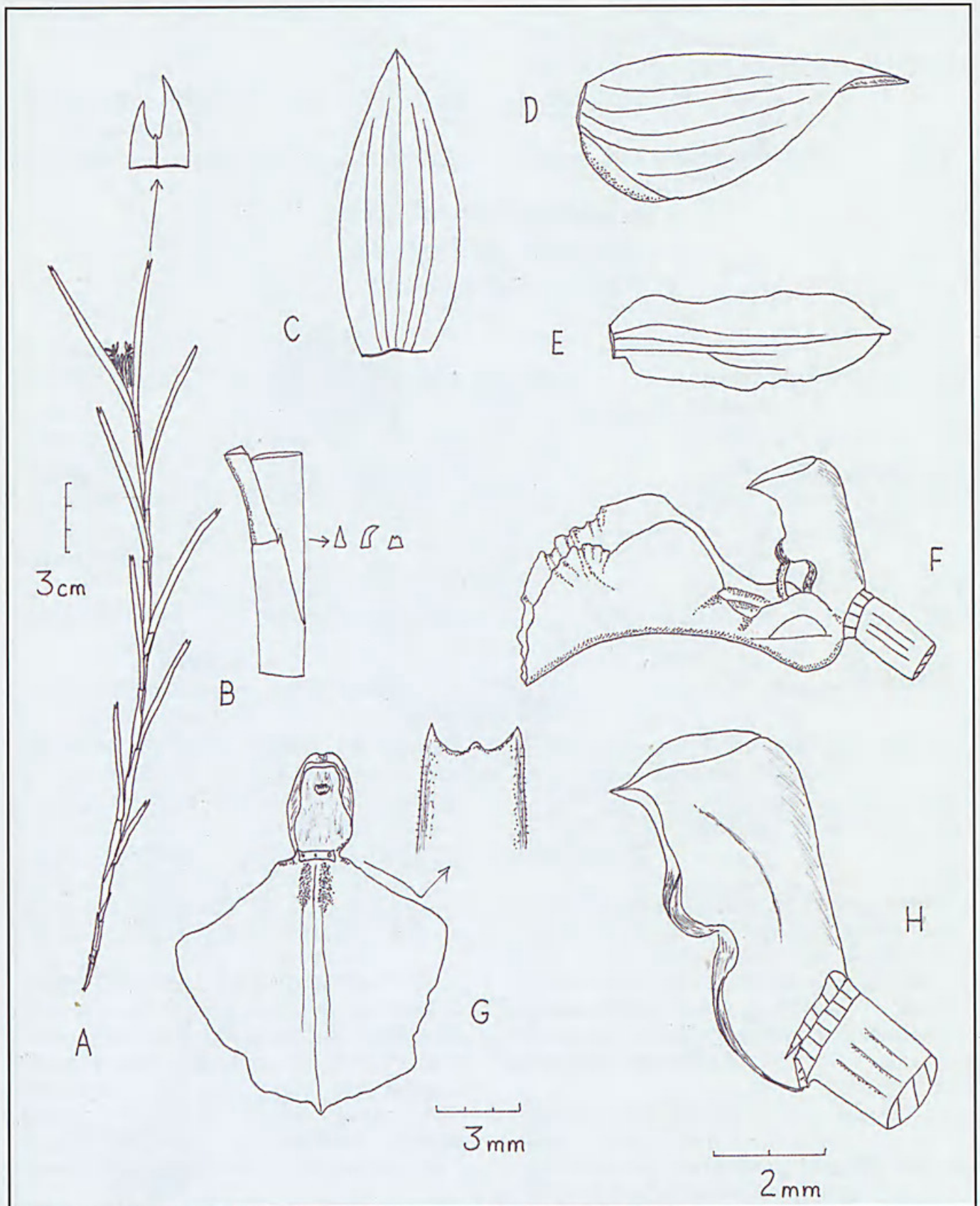
terminal, semiglobose, densely many-flowered, with numerous bracts and sheaths, ca. 3.4 cm wide. Pedicellate ovary 6-ribbed, 5 mm long. Flowers with pale yellowish sepals, petals and



Agrostophyllum daymanense - A. stem (stipule and leaf tip arrowed); B. flower; C. column and ovary; D. dosal sepal; E. lateral sepal; F. petal; G. labellum (ligula arrowed); A,BDE and CFG. to respective scales. Drawn from holotype.

lip white, column pale yellow, anther cap pale brown. Dorsal sepal ovate-elliptic, subacute, weakly carinate near apex, 3 veined, 4.3 mm long, 2.3 mm wide. Lateral sepals obliquely ovate-

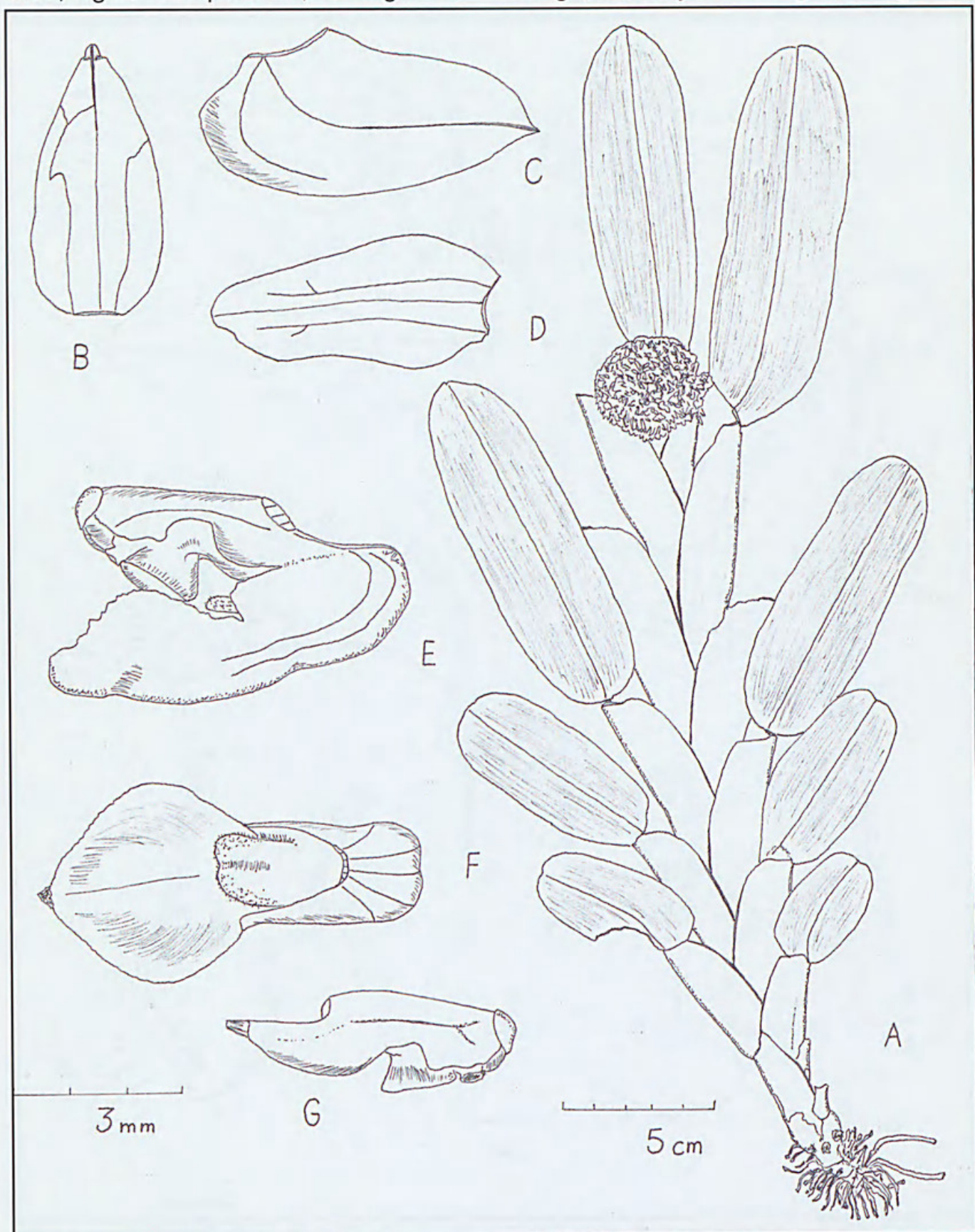
elliptic, acute, shortly connate basally, weakly carinate near apex, lower basal margin shallowly saccate, 5.7 mm long, 2.9 mm wide. Petals ovate-oblong, obtuse, 3 veined, 4.5 mm long, 2 mm



Agrostophyllum habbemense - A. stem (leaf tip arrowed); B. stem node (stipules arrowed); C. dorsal sepal; D. lateral sepal; E. petal; F. flower minus tepals; G. labellum (ligula arrowed); H. column. A, C-G and H. to respective scales. B not to scale. Drawn from holotype.

wide. Labellum trilobed, ca. 6 mm long; hypochile 3 mm long, retrorse saccate, sac ca. 1 mm long, sidelobes broadly rounded, ca. 1.9 mm long, 1 mm wide; ligula subquadrate, emarginate,

obliquely erect, papillose-pubescent; epichile suborbicular, apiculate, margins irregular dentate, ca. 3 mm long, 4 mm wide. Column with low deltate apical wings, medially with a large substigmatic



Agrostophyllum isuaravum - A. plant; B. dorsal sepal; C. lateral sepal; D. petal; E. epichile; F. labellum; G. column. A and B-G to respective scales. Drawn from holotype.

process, ca. 3 mm long; columnfoot retrorse, ca. 1.3 mm long.

Distribution: Papua New Guinea.

Habitat: Secondary forest, 1370 m.

Etymology: Named after the type locality, Isuarava.

This species resembles *A. papuanum*

Schltr. in habit but differs from it in having flowers with ovate-oblong, obtuse (not lanceolate, acute) petals, a labellum with a retrorsely saccate (not globose, straight-backed) hypochile, and a column with low triangular, entire (not flabellate, dentate) column wings with a vertical (not oblique) base to the substigmatic process.

Literature Cited (see Part 2).

RHS Registrations of Australian Hybrids

March and April 2011

Dendrobium

Brinawa Rose	Brinawa Sunset x Grarose	Down Under N.O. 2011
Chloe Gee	Ronnie Gee x Rutherford Sunspot	Down Under N.O. 2011
Jorja Fox	Peewee x Tie-Dye	Down Under N.O. 2011
Katelin Todd	Tie-Dye x Jaffa	Down Under N.O. 2011
Margaret Robson	Grace Robson x <i>bigibbum</i>	Down Under N.O. 2011

Sarcochilus

Hargitay	Riverdene x Velvet	Down Under N.O. 2011
Leanne	Sharon x Fitzhart	J.Woolf (L.Fagg) 2011

Shows 2011

ANOS (Qld) Kabi Group Inc. Spring Show 27 & 28 August 2011 Lawnton Showgrounds, 757 Gympie Road, Lawnton
Benching: from 2pm Friday 20 August & 7-9am Saturday Open Saturday 9am - 5pm, Open Sunday 8.30am - 2pm
Enquiries: 3285 2047 or 3289 1953
Adults: \$3.00 Children under 12 - free

ANOS CENTRAL COAST GROUP

31st Annual Spring Show to be held in conjunction with the Australian Springtime Flora Festival in the grounds of Mt Penang Parklands, Kariong (entry via Kangaroo Road) - Thursday 8th to Sunday 11th September 2011. Judging to commence from 7.00pm Wednesday 7th September.

10th Annual *Sarcochilus* Show to be held at Penrose Nursery & Aquarium Centre, 224 The Entrance Road (Central

Coast Highway), Erina (entry via Penrose Crescent) - Saturday 15 and Sunday 16 October 2011. Judging to commence 9.00am on the Saturday. NOTE: this is a new venue.

Native Orchid Society of Toowoomba.

Spring Show to be held in September, 16th. - 20th. Daily Times: 9am-4.30pm
Venue: St John's Lutheran Church Hall
Venue Address: Bridge Street, Wilsonton Toowoomba (opposite Airport)
Entry charges - Adult: \$3.

The Geelong ANOS

Annual Show 2011
to be held at , the Geelong Masonic Centre
Regent St. Belmont , Geelong
on Sat, 5th & Sun. 6th November
from 10am - to - 4pm
Melways page 451 H10



Ormerod, Paul. 2011. "New Species of Papuan Agrostophyllum Part 1." *The Orchadian* 16(12), 563–573.

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