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M.A. Clements

Prasophyllum caricetum

A new species from south-eastern New South Wales

From the Editor...

The genus *Prasophyllum* dominates this issue, with an important paper by David Jones that includes line drawings and descriptions of ten new species.

Greg Steenbeeke has developed a terrific site for the "Orchid Species of the Far North Coast of New South Wales". This is attached to the ANOS website, and can be accessed at www.anos.org.au/ne_nsw_species/index.html

I recently advised ANOS Council of my intention to stand down as Editor of *The Orchadian*, taking effect at the end of Volume 13. Thereby I would have completed six years, 24 issues and over 1000 pages on Australasian orchids as Editor. This will enable me to fully concentrate on the *Australian Orchid Review* plus other projects I am working on. Essentially, a new Editor will be required within 18 months time. Please contact ANOS Council if you wish to be considered for this important position.

Speaking of ANOS Council, the Annual General Meeting of the Society will be held at the Gosford R.S.L. Club, 26 Pacific Highway, West Gosford at 10am on Saturday, 5th August 2000. Hosted by ANOS Central Coast Group. Morning tea will be served from 10am and lunch will be available at the club.

The next ANOS Conference and Show to be held in Melbourne is only a few months off. Will you be there? Don't forget the AOC Conference, which will be held after this in Burnie, Tasmania.

I am now running short of suitable material for this journal. The situation is quite frankly the most critical in my time as Editor. Without articles we may be left without a magazine on Australasian orchids.

David P. Banks
 Editor, *The Orchadian*
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D.L. Jones

Prasophyllum bagoensis

Bago State Forest, NSW



D.L. Jones

Prasophyllum bagoensis

Bago State Forest, NSW



M.A. Clements

Prasophyllum caricetum

Hain's Swamp, NSW



E. Foster

Prasophyllum fosteri

from near Shelford, Victoria

Ten New Species of *Prasophyllum* R.Br. (Orchidaceae) from South-eastern Australia

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Abstract

Prasophyllum bagoensis, *P. caricetum*, *P. caudiculum*, *P. fosteri*, *P. murfetii*, *P. niphopedium*, *P. pallens*, *P. retroflexum*, *P. solstitium* and *P. wilkinsoniorum* are described as new and illustrated.

Key Words

Prasophyllum bagoensis, *P. caricetum*, *P. caudiculum*, *P. fosteri*, *P. murfetii*, *P. niphopedium*, *P. pallens*, *P. retroflexum*, *P. solstitium* and *P. wilkinsoniorum*, new species, Australian flora.

Introduction

Prasophyllum R. Br., a predominantly Australian genus of orchids with a few outliers in New Zealand, consists of about 80 species (Clements 1989). This genus, which is well adapted to a range of habitats in eastern Australia, has, in my opinion and on the basis of old herbarium records, undoubtedly suffered significant reduction of natural populations and probable extinctions with the clearing or alienation of native vegetation, particularly swamps, grassland and grassy forests.

Prasophyllum is a problematical genus for field workers because of general similarity between many taxa and the difficulty of defining unique characters which can be used as a ready means of identification. Similar difficulties are encountered with many other complex plant genera (for example *Carex* and *Juncus*), and the problems are compounded where workers are unfamiliar with the characters or character states necessary for identification to species level.

The overall concept of *Prasophyllum* held by orchidologists is one of a generally adapted genus rather than one that is highly evolved and specialised. For example, it is well known that its non-specialised pollination system involving spikes of colourful fragrant flowers with nectar as a reward attracts a wide range of pollination vectors (Jones 1972, 1988, Bates & Weber 1990). Such a system, although highly successful, is much less evolved than the highly specialised syndrome of pseudocopulation involving a 1:1 relationship between an orchid species and an insect vector (Bower 1992, 1996).

The extensive distribution patterns of some species such as *P. elatum* R.Br. (distributed from Queensland south to Tasmania and west to Western Australia), suggests that limited specialization has occurred within the genus, with species able to grow satisfactorily in a wide range of climates, habitats and soil types. Historically many authors have treated a number of other species as being very widespread, whereas modern studies have shown them to be much more restricted. For example *P. rogersii* Rupp has been recorded from New South Wales (Rupp 1943, Bernhardt & Rowe 1993), Victoria (Willis 1970, Bates 1994), Tasmania (Curtis 1979) and New Zealand (Moore & Edgar 1970), but currently is considered to be a narrow endemic restricted to the Barrington Tops in northern New South Wales. *Prasophyllum patens* R.Br. has been accorded a similar wide distribution including Queensland (Stanley & Ross 1989), New South Wales (Rupp 1943, Bernhardt & Rowe 1993), Victoria (Willis 1970, Bates 1994), South Australia (Black 1922, Bates & Weber 1990) and New Zealand (Moore & Edgar 1970), but recent studies indicate it is probably confined to central New South Wales.

The concept of limited specialization in *Prasophyllum* is further undermined by a detailed study of the genus in Tasmania (Jones 1998). The results of this study show that a number of species have a high degree of habitat specificity indicating that, at least in eastern Australia, some species have adapted to fill specific narrow ecological niches. Three recently described species from the mainland, *P. litorale* R.Bates (Bates 1990), *P. suaveolens* D.L.Jones

& R. Bates (Jones 1994b) and *P. canaliculatum* D.L. Jones (Jones 1997), are also highly habitat specific. These studies suggest that more detailed taxonomic and ecological research is required to resolve some of the taxonomic problems that still occur in *Prasophyllum* in mainland Australia and New Zealand.

Prasophyllum is the subject of continuing detailed studies which, it is hoped, will lead to a better understanding of the taxonomy and phylogeny of the genus. Progress has been made with the resolution of various complexes (Bates 1989a, Jones 1996a, Jones & Clements 1996) and the description of selected new species (Bates 1989b, 1990, Jones 1991, 1994a, 1996b, 1997). A review of Tasmanian species has clarified the taxonomy of the genus in that state (Jones 1998), and it is hoped that similar treatments in mainland southeastern Australia will be prepared. In the meantime continuing studies have revealed a number of new species, ten of which are described here. It is interesting to note that all of these new species have either a restricted distribution, fitting the notion of narrow endemism, or else they are small relict populations surviving in remnant pockets of native vegetation.

Methods

All types or photographs of types of taxa relevant to this study have been examined. Measurements given in the description are from living plants.

Taxonomy

1. *Prasophyllum bagoensis* D.L. Jones, sp. nov.,

P. correctem D.L. Jones affinis, sed sepalo dorsali valde retroflexo; petalis linear-oblongis, marginibus distalis crenulatis; labello multo minore, oblique erecto, leviter sigmoideo-curvato, lamina late ovato-lanceolata marginibus irregulariter crenulatis; callo multo brevior flexu labelli leviter excedente et lamina sua longitudine antherae et appendicum columnae circiter aequante, differt.

Typus: Australia. New South Wales: Bago State Forest, 6 Jan. 2000, *P. Branwhite* 129 (holo CANB, iso NSW).

Illustration: None found.

Slender tuberous terrestrial *herb* growing singly or in loose groups. *Tubers* not seen. *Leaf* erect, 20-35 cm long, 3-4 mm wide, terete, dark green, base 2-3 mm diam., reddish to purple; free lamina suberect, 7-12 cm long, usually withered at anthesis. *Inflorescence* a moderately dense to dense spike 5-9 cm long. *Floral bracts* ovate, 3-4 mm long, c. 2 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30 to the rachis, obovoid, 3-4 mm long, c. 2.5 mm wide, bright green, shiny. *Flowers* 15 - c.30, 8-11 mm across, pale tawny green, opening very widely, fragrant, sessile. *Dorsal sepal* narrowly ovate-lanceolate, 6-7.5 mm long, 3-3.5 mm wide, deflexed, often twisted distally, with 3 indistinct darker veins, apex subacute to apiculate. *Lateral sepals* free throughout, linear-lanceolate, 6.5-7.5 mm long, 1.8-2 mm wide, falcate, erect or shallowly recurved, parallel or slightly divergent, base not gibbous, distal margins involute, apex entire. *Petals* upswept, widely spreading, linear, 6.5-7.5 mm long, 1.3-1.5 mm wide, distal margins slightly crenulate, apex subacute. *Labellum* very shortly stalked, erect, in a shallow sigmoid curve, distal half slightly recurved, the tip just projecting through the lateral sepals; basal claw almost vestigial, c. 0.3 mm long, c. 0.7 mm wide; lamina broadly ovate-lanceolate in outline when flattened, 5.5-6 mm long, 4-4.5 mm wide, constricted in the distal half, base not gibbous, proximal margins distally irregular, distal margins irregular and crenulate. *Callus* ovate-oblong, 3-3.7 mm long, 2-2.5 mm wide, constricted in the distal half, raised, fleshy, green, shallowly channelled centrally, margins entire, extending two-thirds of the distance to the labellum apex. *Column* porrect from the end of the ovary, c. 2 mm long, c. 2.4 mm wide, fully exposed by the wide expansion of the tepals; appendages oblong-obovate, c. 1.6 mm long, c. 0.8 mm wide, straight, pale green, nearly parallel, apex truncate to broadly emarginate, about as long as the stigmatic plate. *Anther* ovate, c. 1.6 mm long, c. 1.4 mm wide, brownish. *Pollinarium* c. 2 mm long; viscidium ovate, c. 0.3 mm long, white; hamulus vestigial; pollinia c. 1.6 mm long, yellow, sectile. *Stigma* quadrate, c. 1 mm long, c. 1.2 mm wide, the rostellum slightly higher than the appendages. *Capsules* obovoid, 4-5 mm long, c. 3 mm wide, shiny, pale green. **Fig. 1.**

Distribution and Ecology

Currently known only from the Bago State Forest in south-eastern New South Wales but possibly overlooked and more widespread. It grows in grassy forest in shallow clay loam. Altitude: c. 1000 m.

Flowering period: December and January.

Recognition

P. bagoensis is a slender species with tawny green flowers which have a strongly retroflexed dorsal sepal; linear-oblong petals with the distal

margins crenulate; and, an obliquely erect labellum which bends in a shallow sigmoid curve and with a short, thick, smooth callus.

Notes

Prasophyllum bagoensis has similarities with *P. correctum* D.L.Jones, especially in the gaping flowers in which the segments spread so widely as to completely expose the column. *Prasophyllum correctum* can be distinguished by its light reddish brown flowers which have a deflexed dorsal sepal; linear petals with entire margins; a much larger, obliquely erect shallowly recurved labellum, the lamina broadly ovate-lanceolate with entire or slightly crenulate margins; much longer labellum callus extending nearly to the labellum apex; and, the anther and column appendages much shorter than the callus plate.

Prasophyllum bagoensis also superficially resembles *P. lindleyanum* but that species has bright green flowers and a conspicuous white labellum bent in a strong sigmoid curve and a papillate callus.

Conservation Status

Apparently of restricted distribution but poorly known and not conserved; suggest 1KV according to Briggs & Leigh (1996).

Etymology

From the Bago State Forest.

Other Specimens examined

None found.

2. *Prasophyllum caricetum* D.L.Jones, sp. nov.,

P. dosseno R.Bates & D.L.Jones affinis, sed petalis obtusis, marginibus undulato-crispatis; marginibus labelli valde undulato-crispatis; callo labelli apice valde emarginato, papillato; et columna longiore, angustiore, appendicibus anguste oblongis, obtusis, quam rostellum brevior, differt.

Typus: Australia. New South Wales: Hain's swamp, c. 8.5 km E. of Cathcart, S. side of Mt Darragh Road, 8 Feb. 2000, *D.L.Jones 17153* & *K.J.FitzGerald* (holo CANB, iso AD, BRI, MEL, NSW).

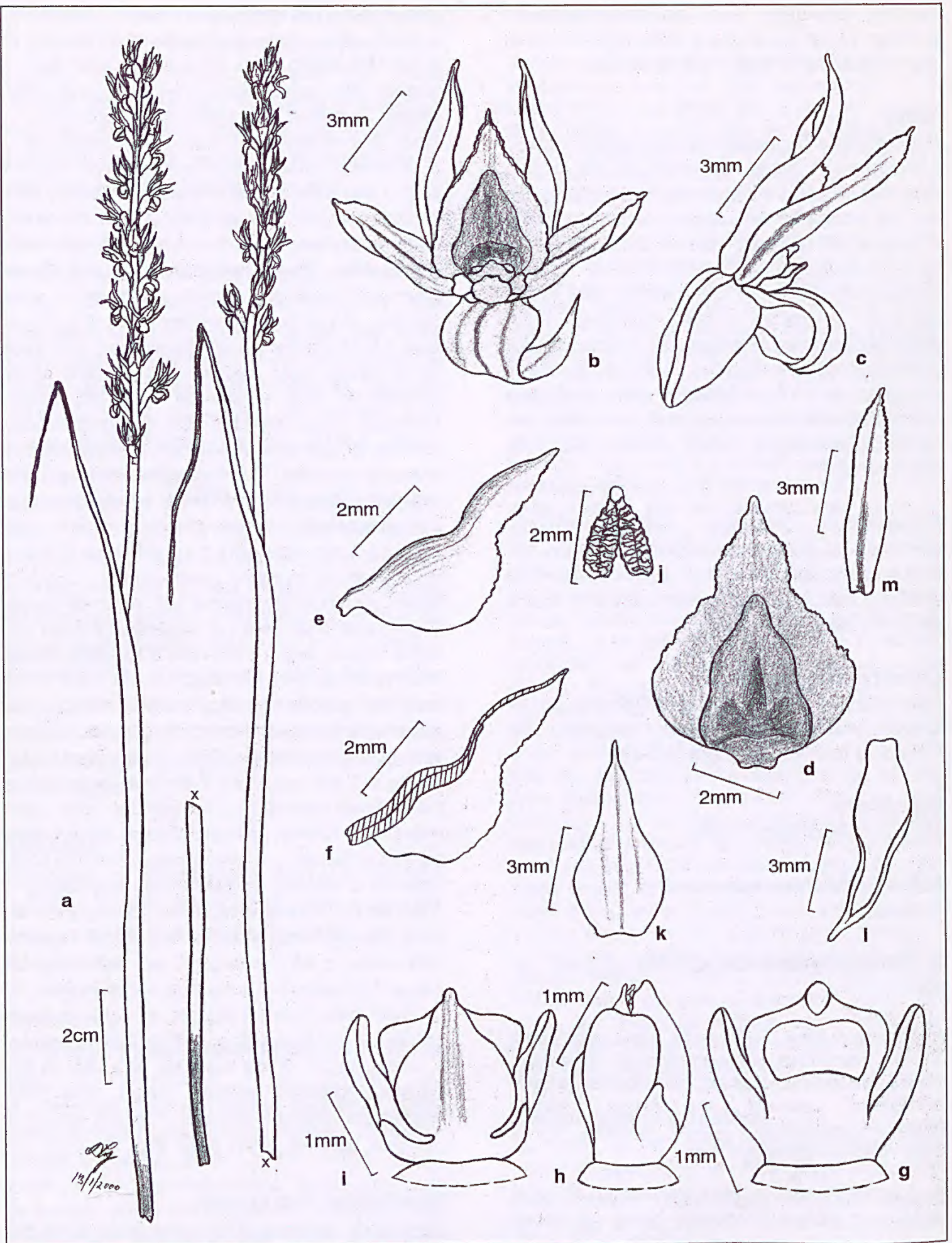
Illustration: None found.

Tuberous terrestrial *herb* growing singly or in small,

loose groups. *Tubers* oblong to ovoid, c. 15 mm long, c. 10 mm diam., fleshy. *Leaf* terete, 20-35 cm long, 4-8 mm wide, bright-green, shiny, base c. 3 mm across, whitish; free lamina erect, 10-25 cm long, often distally withered at anthesis. *Inflorescence* a moderately dense spike 7-12 cm long, consisting of c. 5-25 flowers. *Floral bracts* more or less ovate, c. 3 mm long, 3 mm wide, closely embracing the ovary; apex obtusely apiculate. *Ovaries* at about 30 to the rachis, narrowly obovoid, 2.5-4 mm long, 2-3 mm wide, green, shiny. *Flowers* subsessile, 8-15 mm across, green with white and purplish petals and a white labellum. *Dorsal sepal* ovate-lanceolate, 7.5-12 mm long, 3.5-4.5 mm wide, obliquely decurved, with three darker stripes; apex long-acuminate. *Lateral sepals* connate to free, parallel to divergent, linear-lanceolate, 7.5-12 mm long, 1.5-2 mm wide, strongly gibbous, straight or slightly falcate, obliquely erect to shallowly recurved; distal margins involute; apex bidentate, often recurved. *Petals* widely spreading, linear-lanceolate to linear-oblong, 8-13 mm long, 1.5-3 mm wide, with a purplish central stripe; distal margins irregular; apex obtuse. *Labellum* sessile, porrect in the proximal half, recurved sharply in the distal half; apex not projecting through the lateral sepals; *lamina* ovate-oblong to elliptic-oblong when flattened, 8-14 mm long, 4-6 mm wide, white; base not gibbous; proximal margins entire; distal margins crenulate and strongly undulate/crispate; apex obtuse to apiculate. *Callus* more or less ovate-oblong, 4-5 mm long, 2.3-2.8 mm wide, green with a darker green central area towards the base; apex emarginate, slightly papillate. *Column* porrect from the end of the ovary, c. 5 mm long, c. 3.5 mm wide, brownish to purplish; appendages narrowly oblong, c. 3 mm long, c. 1.2 mm wide, slightly falcate, greenish; apex obtuse. *Anther* about as long as the stigmatic plate, ovate, c. 2.5 mm long, c. 2 mm wide, brownish purple. *Pollinarium* c. 3.5 mm long; viscidium ovate, c. 0.4 mm long; hamulus ligulate, c. 1.2 mm long; pollinia c. 2 mm long, yellow, sectile. *Stigma* quadrate, c. 2 mm long, c. 2 mm wide, set very high on the column; rostellum slightly longer than the appendages. *Capsules* obovoid, 7-10 mm long, 4-6 mm wide, suberect, green, shiny. **Fig. 2.**

Distribution and Ecology

Apparently confined to montane areas of south-eastern New South Wales between Cathcart and Majors Creek. It grows in swamps dominated by sedges and restionaceous plants with scattered shrubs of *Epacris paludosa*. Soils are brown to black peaty loams. Altitude: c. 700 – 800 m. Flowering period: late December to February.

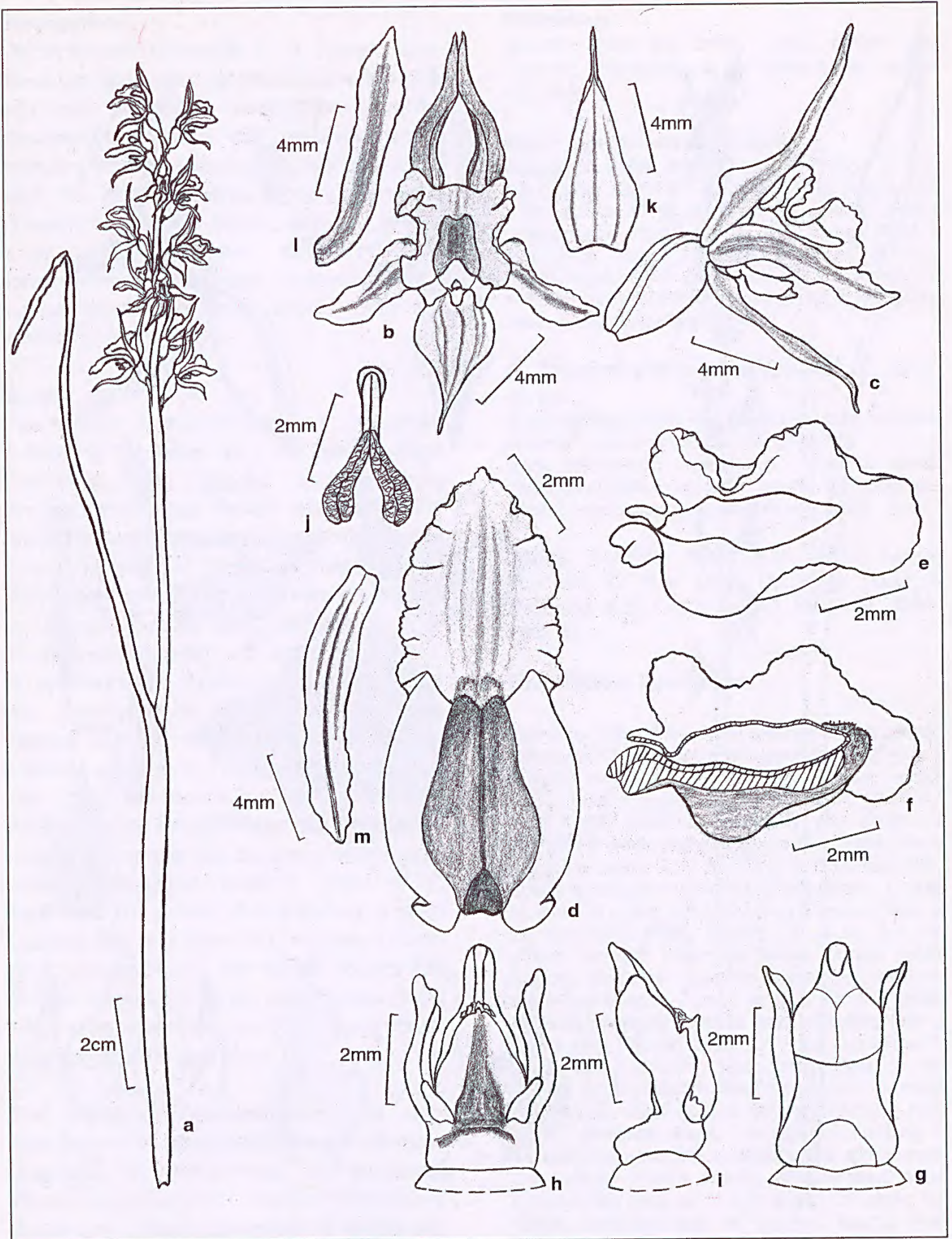


***Prasophyllum bagoensis*, Bago State Forest – NSW.**

(*P. Branwhite* 129) drawn from the type collection, **Fig. 1.**

a. flowering plants; **b.** flower from front; **c.** flower from side; **d.** labellum from above, flattened out; **e.** labellum from side; **f.** longitudinal section of labellum; **g.** column from front; **h.** column from rear; **i.** column from side; **j.** pollinarium; **k.** dorsal sepal; **l.** lateral sepal; **m.** petal.

Drawing 13/1/2000 by D.L. Jones. ©

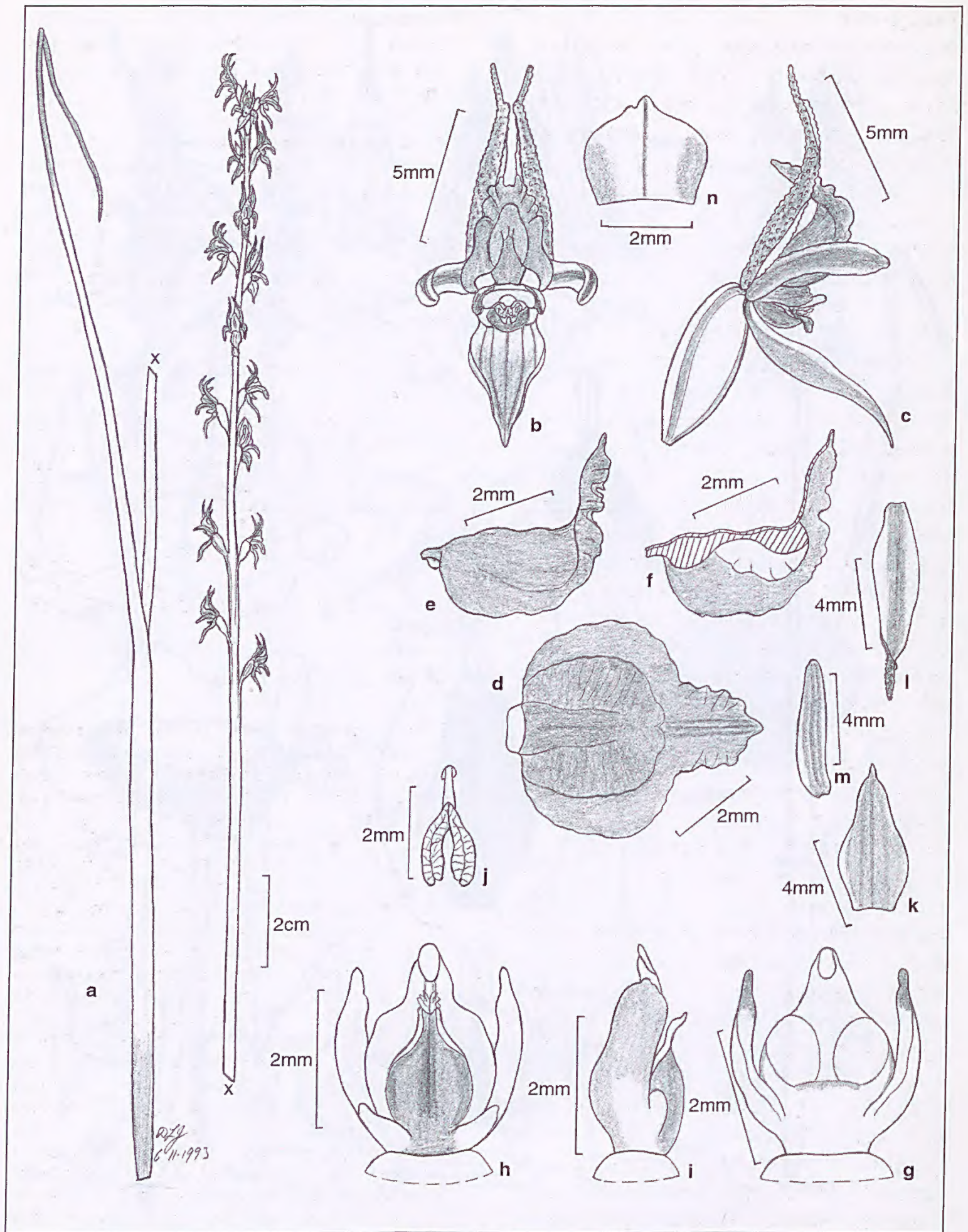


***Prasopphyllum caricetum*, Hain's Swamp, east of Cathcart - NSW.**

(D.L. Jones 17116) drawn from the type collection, Fig. 2.

a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from rear; i. column from side; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal.

Drawing 13/2/2000 by D.L. Jones. ©



***Prasopphyllum caudiculum*, Guyra-Ebor Road - NSW.**

(D.L. Jones 14606), Fig. 3.

a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from rear; i. column from side; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal; n. floral bract.

Drawing 6/11/1993 by D.L. Jones. ©

Recognition

Prasophyllum caricetum is a robust late-flowering species of montane swamps which has large, moderately crowded, mainly white flowers; blunt petals with undulate-crispate margins; labellum with a strongly gibbous base and the distal margins strongly undulate-crispate; labellum callus with a deeply emarginate, papillate apex; and, a relatively long narrow column with narrowly oblong, obtuse appendages much shorter than the rostellum.

Notes

This species is most similar to *P. dossenum* R.Bates & D.L.Jones from the New England Tableland, both species having large, predominantly white flowers with the lateral sepals having a pronounced gibbosity at the base. *Prasophyllum dossenum* however, has even larger flowers than *P. caricetum*, arranged in a densely crowded spike; distinctive linear to linear-lanceolate petals with entire margins and an apiculate apex; shorter non-attenuate tips on the lateral sepals; the labellum base less gibbous and the distal labellum margins less undulate-crispate. In *P. dossenum* the apex of the smooth labellum callus can be entire or emarginate and almost merges into the labellum lamina, contrasting with the prominently raised, deeply emarginate, papillate callus of *P. caricetum*. The column of *P. dossenum* is much squatter than the drawn out, narrower column of *P. caricetum* and the former species has broader irregularly truncate column appendages which contrast with the narrowly oblong obtuse appendages of *P. caricetum*.

The habitat of these two species is quite different with *P. dossenum* growing in montane grassland on well-drained, well-structured brown clay loams and *P. caricetum* occurring in in montane swamps dominated by sedges and restionaceous plants.

Conservation Status

Of restricted distribution and not conserved; suggest 2V by the criteria of Briggs & Leigh (1996).

Etymology

Derived from the Latin, *carex*, sedge and *-setum*, community, in reference to its sedge-rich habitat.

Other Specimens examined

New South Wales. Majors Creek cemetery, 27 Oct. 1992, Jones 11084 & S.R.Jones (CANB); *ibid*, 3 Dec. 1994, Jones 13748 & B.E.Jones (CANB); Hain's swamp, E. of Cathcart, N. side of Mt Darragh Road, 8 Feb. 2000, Jones 17158 & FitzGerald (CANB); Tantawangalo State Forest, swamp, corner of Tin Mine Rd and Tantawangalo Mountain Rd, 8 Feb. 2000, Jones 17161 & FitzGerald (CANB)

3. *Prasophyllum caudiculum* D.L.Jones, sp. nov.,

P. rogersii Rupp affinis, sed floribus pluribus; sepalibus lateralibus verrucosis ad papillatis, apicibus longis bidentatis; marginibus distalibus labelli undulato-crispatis; et callo labelli late oblongo-elliptico, paulo ultra flexo laminae terminanti, differt.

Typus: Australia. New South Wales: Guyra-Ebor Rd, 27 Nov. 1996, D.L.Jones 15016 & M.Garratt (holo CANB, iso AD, BRI, MEL, NSW, PERTH).

Illustration: None found.

Tuberous terrestrial *herb* growing as scattered individuals. *Tubers* not seen. *Leaf* erect, 30-45 cm long, 3-7 mm wide, terete, bright green, base 2-4 mm diam., reddish-purple; free lamina erect, 10-25 cm long, mostly withered at anthesis. *Inflorescence* a moderately dense spike 10-20 cm long. *Floral bracts* irregularly ovate, 1.5-2 mm long, c. 2.5-3 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30 to the rachis, obovoid, 4.5-6 mm long, c. 2.5 mm wide, green. *Flowers* 10 - c.35, 6-7 mm across, greenish brown to reddish brown, lightly fragrant, sessile to subsessile. *Dorsal sepal* narrowly ovate-lanceolate, 6-7 mm long, 3-3.5 mm wide, deflexed, shallowly concave, apex apiculate, with 3 darker veins. *Lateral sepals* free, linear-lanceolate, 8-9 mm long, 1.5-2 mm wide, erect, more or less parallel, recurved distally, base not gibbous, verrucose to papillate, distal margins strongly involute, apex strongly bidentate. *Petals* linear, 5.5-6.5 mm long, c. 1.3 mm wide, porrect to incurved, entire, apex obtuse. *Labellum* very shortly stalked, obliquely erect in the proximal half, recurved at right angles just above the middle, distal half erect or recurved, the tip often protruding through the lateral sepals; basal claw vestigial; lamina broadly elliptic-oblong, 5-6 mm long, 4.5-5 mm wide, dark reddish brown, base not gibbous, proximal margins widely flared, incurved, entire, suddenly contracted just above the middle to a short, tail-like mid-lobe with undulate-crenate margins, apex obtusely apiculate. *Callus* a broad, elliptic-oblong, fleshy plate extending just beyond the

bend in the lamina, c. 3 mm long, c. 3 mm wide, green, shiny, with a broad shallow median channel. *Column* porrect from the end of the ovary, c. 3 mm long, c. 2.6 mm wide; appendages oblong, c. 2.3 mm long, c. 0.8 mm wide, nearly straight, parallel to incurved, apex obtuse, longer than the stigmatic plate. *Anther* ovate, c. 1.8 mm long, c. 1.2 mm wide, dark brownish purple. *Pollinarium* c. 2.5 mm long; viscidium ovate, c. 0.3 mm long; hamulus narrowly ligulate, c. 0.8 mm long; pollinia c. 1.8 mm long, yellow, sectile. *Stigma* quadrate, c. 1 mm long, c. 1.8 mm wide, the rostellum higher than the appendages. *Capsules* obovoid, 6-9 mm long, 4-5 mm wide, green to brownish. **Fig. 3.**

Distribution and Ecology

Restricted to the New England Tableland of northern New South Wales where known only from two sites, one near Ben Lomond and the other to the east of Guyra. In both sites the species grows in grassland dominated by *Themeda triandra* on red-brown basaltic loams. The species flowers in the absence of fire, however flowering plants are much more readily located on burnt ground. Altitude: c. 800 - 900 m.

Flowering period: October to early December.

Recognition

Prasophyllum caudiculum is a tall, robust species with greenish-brown to reddish-brown flowers; papillate-verrucose lateral sepals which have prominently bidentate tips; the labellum, when flattened, contracts suddenly above the middle with the apical portion extending as a short tail-like mid-lobe with undulate-crenate margins; and, callus broadly oblong-elliptic, extending just beyond the bend in the lamina.

Notes

This species is probably most closely related to *P. rogersii* which is endemic to the Barrington Tops. *Prasophyllum rogersii* is shorter growing with fewer flowers which are mainly dark brown with orange tonings; its lateral sepals are thicker and smooth or slightly roughened distally with very shortly bidentate tips; the labellum is nearly smooth with slightly irregular margins; and, the callus tapers distally ending in a narrow, tail-like portion and extends nearly to the apex of the labellum.

The main colony of this species, which occurs near Guyra, consists of about 100 plants and a small colony of about 20 plants occurs on the

railway reserve near Ben Lomond. At the Guyra site the species grows in the same general area as *P. solstitium* but that species grows in heavy black soil close to a small stream. *Prasophyllum caudiculum* grows well away from any drainage lines, occurring on well-drained red-brown loam. *Prasophyllum caudiculum* finishes flowering just as the inflorescences of *P. solstitium* are emerging from the leaves.

Conservation Status

Of restricted occurrence and not known to be conserved; suggest 2E according to Briggs & Leigh (1996).

Etymology

From the Latin *caudiculum*, a little tail, in reference to the narrow labellum mid-lobe.

Other Specimens Examined

New South Wales: Railway Reserve NE. of Ben Lomond, 6 Dec. 1989, Jones 5513 & Broers (CANB); E. of Guyra towards Ebor, 5 Nov. 1995, Metcalfe (Jones 14606) (CANB); *ibid*, 27 Nov. 1996, Jones 15025 & Garratt (CANB); *ibid*, 1 Dec. 1999, D.L.Jones 17094 & M.Garratt (CANB).

4. *Prasophyllum fosteri* D.L.Jones, sp. nov.,

P. fusco R.Br. affinis, sed planta brevior crescenti et floribus paucioribus; sepalis lateralibus oblique erectis apicibus integris obtusis; labello oblique erecto, late ovato, leviter praeter mediatate abrupte contracto quum ad apicem; et callo ad basim late canaliculato et fere apici labelli prolongato, differt.

Typus: Australia. Victoria: Mt Mercer – Shelford Road, 7 Oct. 1998, D.L.Jones 15809, M.Garratt & E.Foster (holo CANB, iso MEL).

Tuberous terrestrial *herb* growing as scattered individuals. *Tubers* not seen. *Leaf* erect, 10-28 cm long, 3-7 mm wide, terete, dark green, base 2-4 mm diam., green to reddish-purple, free lamina erect, 8-15 cm long, mostly withered at anthesis. *Inflorescence* a sparse to moderately dense spike 6-12 cm long. *Floral bracts* irregularly ovate, 1.5-2 mm long, c. 2-2.5 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30 to the rachis, obovoid, 4.5-5.5 mm long, c. 2 mm wide, green. *Flowers* 10 - c.25, 5-7 mm across, greenish to reddish brown, lightly fragrant, sessile to subsessile. *Dorsal sepal* narrowly ovate-lanceolate, 7-8 mm long, 3-3.5 mm wide, deflexed, shallowly concave to flat, often recurved

distally, apex apiculate, with 3 indistinct darker veins. *Lateral sepals* free, linear-lanceolate, 7-8.5 mm long, 2-2.5 mm wide, erect, more or less parallel, shallowly recurved distally, base not gibbous, distal margins strongly involute, apex entire. *Petals* linear to linear-obovate, upswept, 6-7 mm long, c. 1.6 mm wide, porrect to incurved, entire, apex obtuse. *Labellum* very shortly stalked, obliquely erect in the proximal half, recurved at right angles just above the middle, distal half erect or recurved, the tip sometimes protruding through the lateral sepals; basal claw c. 0.4 mm long, c. 1.2 mm wide; lamina broadly ovate, 5-6 mm long, 4.5-5 mm wide, green to reddish brown, base not gibbous, proximal margins widely flared, incurved, entire, suddenly contracted just above the middle and tapered sharply to the apex, distal margins irregularly crenulate, apex obtusely apiculate. *Callus* a broad oblong fleshy plate with a short apical tail-like portion, c. 4.5 mm long, c. 3 mm wide, green, shiny, with a broad shallow median channel. *Column* porrect from the end of the ovary, c. 3 mm long, c. 3 mm wide; appendages ovate-elliptic, c. 2 mm long, c. 0.8 mm wide, nearly straight, divergent, apex obtuse, slightly longer than the stigmatic plate. *Anther* ovate, c. 1.6 mm long, c. 1.6 mm wide, dark brown. *Pollinarium* c. 2.6 mm long; viscidium ovate, c. 0.3 mm long; hamulus narrowly ligulate, c. 0.5 mm long; pollinia c. 1.8 mm long, yellow, sectile. *Stigma* quadrate, c. 1 mm long, c. 1.8 mm wide, the rostellum higher than the appendages. *Capsules* obovoid, 5-7 mm long, 4-5 mm wide, green to brownish. **Fig. 4.**

Distribution and Ecology

Currently known only from the vicinity of the type locality in western Victoria where it grows in grassland on red-brown basaltic loam. Altitude: c. 430 m.

Flowering period: late September and October.

Recognition

Prasophyllum fosteri is a short growing (to c. 30 cm tall), sturdy species with a relatively few-flowered (10-25 flowers) spike of greenish to reddish flowers which have straight, obliquely erect lateral sepals with entire, blunt tips; an obliquely erect labellum with the apex sharply recurved at about 90; the labellum, when flattened, is broadly ovate and contracts suddenly just above the middle and tapers to the apex; the smooth, raised callus is broadly channelled at the base and extends nearly to the labellum apex.

Notes

Prasophyllum fosteri has a generally similar appearance to plants of *P. frenchii* but the two are morphologically distinct. The most obvious distinctive features of *P. fosteri* are its very open flowers and smooth labellum callus, whereas the flowers of *P. frenchii* remain very compact with a strongly cupped appearance and the labellum callus ends in a distinctly horseshoe-shaped verrucose structure.

Prasophyllum frenchii is much more robust than *P. fosteri*, with plants to 60 cm tall and up to 60 flowers in the inflorescence. The flowers have strongly recurved lateral sepals with attenuate, strongly bidentate tips; a porrect labellum deeply concave at the base, with strongly recurved margins and a short, sharply recurved tip which often reflexes back at more than 90; the labellum margins, when flattened, contract in suddenly above the middle with the apex extending as a short tail-like mid-lobe; and, the callus has two prominent basal ridges with a deep central channel and ends in a strongly raised horseshoe-shaped verrucose structure on the labellum mid-lobe.

Prasophyllum fosteri has not been located at any sites other than the type locality despite searches by Everett Foster and others. In common with other rare orchid taxa from the general region, such as *Pterostylis basaltica* D.L.Jones, *Prasophyllum suaveolens* D.L.Jones & R.Bates and *Thelymitra gregaria* D.L.Jones & M.A.Clem., the natural populations of *P. fosteri* have probably suffered drastically from the massive clearing and conversion of the original native vegetation for agricultural pursuits.

Conservation Status

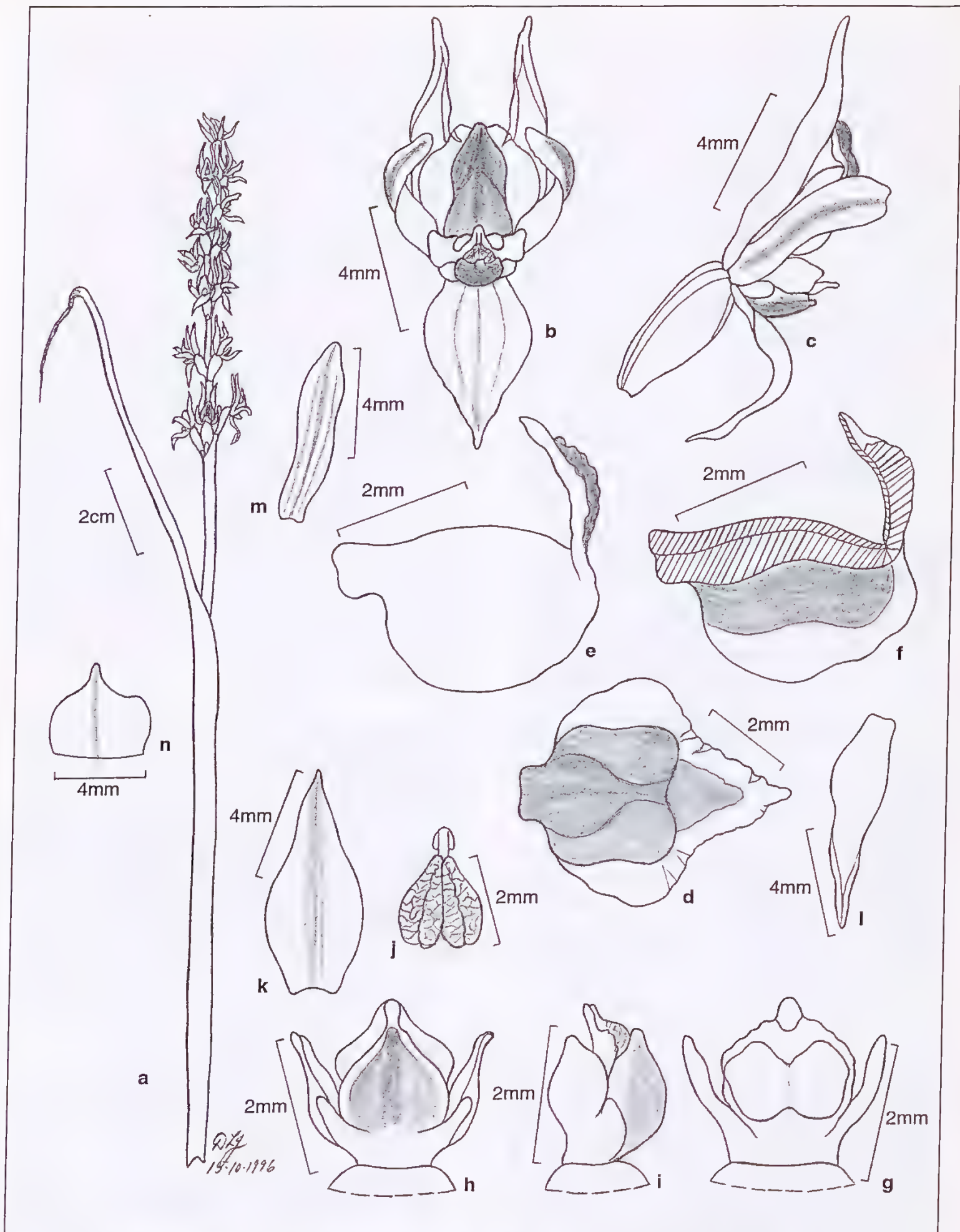
Known only from the type locality and not conserved; suggest 2E according to Briggs & Leigh (1996).

Etymology

Named after Everett Foster, retired textile chemist and devoted orchid enthusiast and conservationist.

Other Specimens Examined

Victoria. Mt Mercer Road, near Shelford, 19 Oct. 1995, Foster (Jones 14554) (CANB); Mt Mercer – Shelford Road, 15 Oct. 1996, Foster s.n. (CANB).

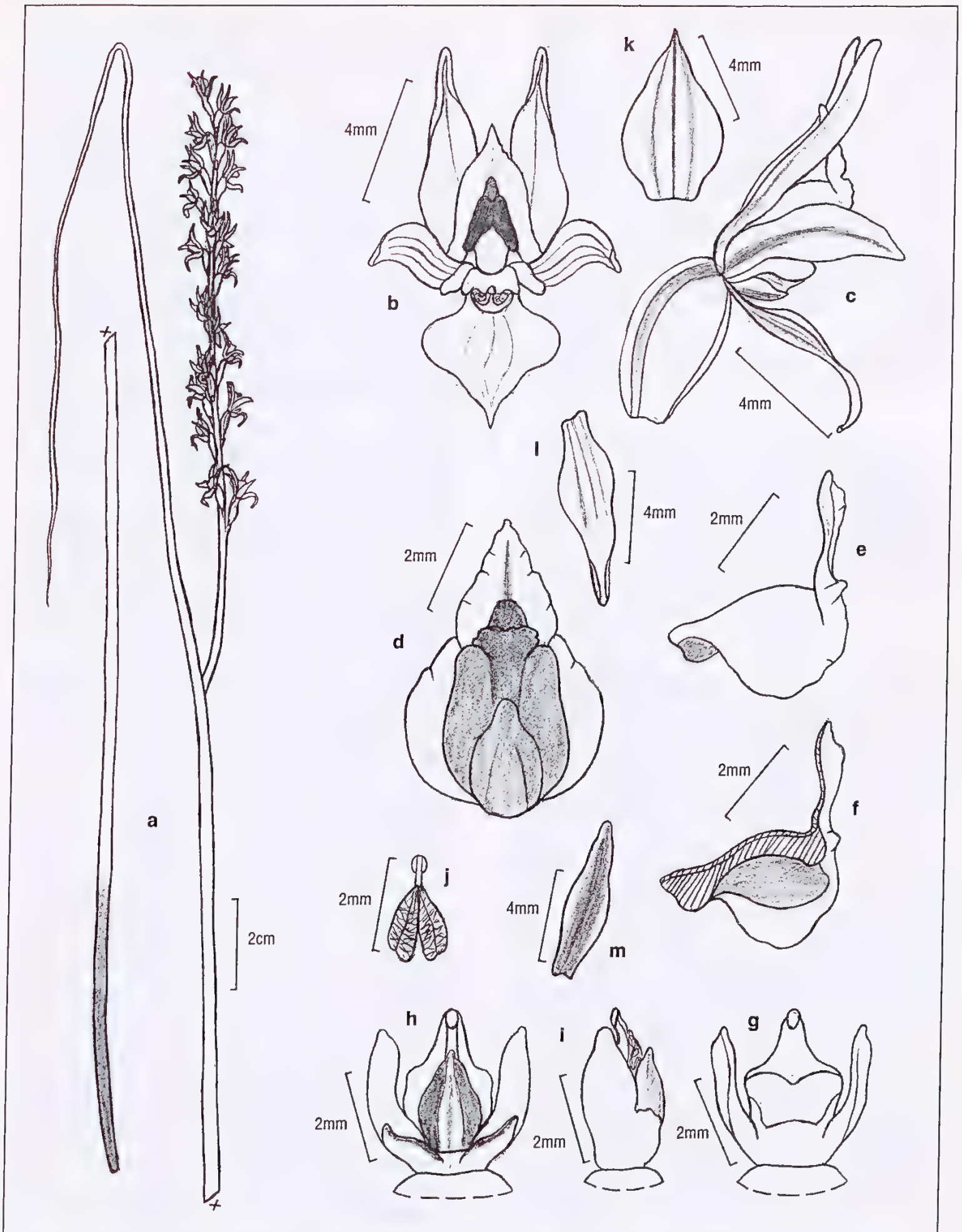


***Prasopphyllum fosteri*, Mt. Mercer-Shelford Road - Vic.**

(E. Foster), Fig. 4.

a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from rear; i. column from side; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal; n. floral bract.

Drawing 15/10/1996 by D.L. Jones. ©



***Prasophyllum murfetii*, Parawa Swamp – South Australia.**

(D.E. Murfet 2340), Fig. 5.

a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from rear; i. column from side; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal.

Drawing 13/12/1995 by D.L. Jones. ©

5. *Prasophyllum murfetii* D.L.Jones, sp. nov.,

P. frenchii F.Muell. affinis, sed habitu elatiore, sepalibus lateralibus rectis, oblique erectis, apicibus integris obtusis; labello late ovato-lanceolato marginibus non constrictis; et callo labelli laevi, apice lato, incrassato, sulcato, differt.

Typus: Australia. South Australia: Hammond Road Swamp, Hindmarsh Tiers, 31 Dec. 1995, D.E.Murfet 2343c & R.L.Taplin (holo CANB, iso AD).

Illustration: Plate 133, Bates & Weber (1990) – as *P. frenchii*.

Tuberous terrestrial herb growing as scattered individuals. *Tubers* not seen. *Leaf* erect, 10-60 cm long, 3-6 mm wide, terete, dark green, base 2-3 mm diam., reddish-purple; free lamina erect, 15-30 cm long, withered towards the apex at anthesis. *Inflorescence* a moderately dense to dense spike 6-12 cm long. Floral bracts irregularly ovate, 1.5-2 mm long, c. 2-2.5 mm wide, closely embracing the ovary, apex apiculate. Ovaries at about 30 to the rachis, obovoid, 5-6 mm long, c. 3 mm wide, green. *Flowers* 15 - c.35, 6-8 mm across, greenish brown or whitish, light pink or bright pink, lightly fragrant, sessile to subsessile. *Dorsal sepal* ovate-lanceolate, 6.5-8 mm long, 3.5-4.5 mm wide, deflexed, shallowly concave to flat, often recurved distally, apex apiculate, with 3 indistinct darker veins. *Lateral sepals* free, linear-lanceolate, 7.5-9 mm long, 2-2.5 mm wide, obliquely erect, more or less parallel, shallowly recurved distally, base not gibbous, distal margins strongly involute, apex entire. *Petals* linear-lanceolate, porrect, 6-7 mm long, c. 1.8 mm wide, slightly incurved, entire, apex obtuse. *Labellum* sessile, obliquely erect in the proximal half, recurved at right angles just above the middle, distal half erect or recurved, the tip sometimes protruding through the lateral sepals; lamina broadly ovate-lanceolate, 5.5-6.5 mm long, 4-4.5 mm wide, whitish to bright pink, base not gibbous, proximal margins flared, incurved, entire, tapered from just below the middle to the apex, distal margins irregularly undulate-crenulate, apex obtusely apiculate. *Callus* broadly oblong, extending two-thirds of the distance to the labellum apex, fleshy, c. 5 mm long, c. 2.8 mm wide, green to yellowish, shiny, broadly channelled basally, expanded distally from the bend in the labellum lamina into an ovate, raised, grooved apex. *Column* porrect from the end of the ovary, c. 3 mm long, c. 3.5 mm wide; appendages ovate-elliptic, c. 3 mm long, c. 1.2 mm wide, straight, slightly divergent, apex obtuse, longer than the

stigmatic plate. *Anther* ovate, c. 2 mm long, c. 1.5 mm wide, purplish brown. *Pollinarium* c. 2.3 mm long; viscidium ovate, c. 0.3 mm long; hamulus narrowly ligulate, c. 0.6 mm long; pollinia c. 1.6 mm long, yellow, sectile. *Stigma* quadrate, c. 1.3 mm long, c. 2 mm wide, the rostellum higher than the appendages. *Capsules* obovoid, 5-7 mm long, 4-5 mm wide, green to brownish. **Fig. 5.**

Distribution and Ecology

Apparently endemic to the Fleurieu Peninsula swampland, a threatened habitat found in the Southern Lofty Region of South Australia. The orchid grows in low-lying wet sites, particularly around the margins of permanent swamps (D.Murfet pers. comm., Bates & Weber 1990). Soils are brown to blackish peaty loams. Altitude: c. 100 - 300 m.

Flowering period: November and December.

Recognition

Prasophyllum murfetii is a tall growing (to c. 60 cm tall), sturdy species with spikes of whitish, light pink or bright pink flowers which have straight, obliquely erect lateral sepals with entire, blunt tips; an obliquely erect labellum with the apex sharply recurved at about 90; the labellum when flattened is broadly ovate-lanceolate and tapers evenly from just below the middle to the apex; the smooth, raised callus is broadly channelled at the base with a broad thickened grooved apex.

Notes

Prasophyllum murfetii has been included in *P. frenchii* but the latter species can be immediately distinguished by its compact, strongly cupped flowers with the labellum callus ending in a distinctly horseshoe-shaped verrucose structure. *Prasophyllum frenchii* can also be distinguished by the strongly recurved lateral sepals with attenuate, strongly bidentate tips; a porrect labellum which is deeply concave at the base with strongly recurved margins and a short, sharply recurved tip which often reflexes back at more than 90; the labellum, when flattened, contracts sharply above the middle with the apex extending as a short tail-like mid-lobe; and, the callus has two prominent basal ridges with a deep central channel and ends in a strongly raised horseshoe-shaped verrucose structure on the labellum mid-lobe.

Conservation Status

This species has been significantly reduced in numbers by clearing of habitat and the drainage of swamps; the remaining populations are of

sporadic occurrence, relatively small and threatened by further habitat destruction; suggest 2V by the criteria of Briggs & Leigh (1996).

Etymology

Named after Denzel E. Murfet, part-time botanical collector and ecologist who has contributed numerous orchid specimens to AD and CANB.

Other Specimen examined

South Australia. Parawa Swamp, 10 Dec. 1995, *D.E.Murfet 2340* (CANB).

6. *Prasophyllum niphopedium* D.L.Jones, sp. nov.,

P. rogersii Rupp affinis, sed floribus confertis pallide viridibus, labello roseo; labello ovato-lanceolato marginibus non constrictis; et callo labelli ultra flexo laminae in labrum elevatum terminanti, differt.

Typus: Australia. Victoria: The Playgrounds, near Cobberas No. 1, 24 Jan. 2000, *D.L.Jones 17139* & *K.J.FitzGerald* (holo CANB, iso MEL).

Illustration: Page 249, Backhouse & Jeanes (1995) – as *P. rogersii*.

Tuberous terrestrial *herb* growing in loose groups. *Tubers* not seen. *Leaf* erect, 15-35 cm long, 3-5 mm wide, terete, bright green, base 2-3 mm diam., whitish or brownish; free lamina erect, 8-15 cm long, mostly withered at anthesis. *Inflorescence* a moderately dense spike 7-12 cm long. *Floral bracts* irregularly ovate, 1.5-2 mm long, c. 2 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30 to the rachis, obovoid, 3.5-5 mm long, c. 3 mm wide, green. *Flowers* 5 - c.20, 8-11 mm across, greenish with pinkish to reddish markings, lightly fragrant, sessile to subsessile. *Dorsal sepal* ovate-lanceolate, 5.5-6.5 mm long, 4.5-5 mm wide, deflexed, shallowly concave, apex apiculate, with 3-5 darker veins. *Lateral sepals* free or partially united, often brownish, linear-lanceolate to lanceolate, 7.5-8 mm long, c. 2.5 mm wide, obliquely erect, base not gibbous, distal margins strongly involute, apex bidentate. *Petals* linear to linear-elliptic, 5.5-6 mm long, c. 1.8 mm wide, porrect to incurved, entire, apex obtusely apiculate. *Labellum* very shortly stalked, porrect in the proximal half, recurved at right angles near the middle, distal half erect or slightly recurved; basal claw c. 0.2 mm long, 0.6 mm wide; lamina broadly ovate to broadly ovate-cordate, 5-6 mm long, 4-4.5 mm wide, whitish to pinkish, base not gibbous,

proximal margins widely flared, entire, distal margins slightly crenulate, often recurved, apex obtusely apiculate. *Callus* a broad, ovate-oblong, fleshy plate, c. 3.5 mm long, c. 2.5 mm wide, green, shiny, with a broad shallow median channel. *Column* porrect from the end of the ovary, c. 2.6 mm long, c. 2.6 mm wide; appendages oblong-lanceolate, c. 1.6 mm long, c. 0.6 mm wide, nearly straight, parallel, apex obtuse, slightly longer than the stigmatic plate. *Anther* ovate, c. 1.6 mm long, c. 1.5 mm wide, dark brownish purple. *Pollinarium* c. 3 mm long; viscidium ovate, c. 0.3 mm long; hamulus narrowly ligulate, c. 1 mm long; pollinia c. 2 mm long, yellow, sectile. *Stigma* quadrate, c. 1 mm long, c. 1.8 mm wide, the rostellum about as high as the appendages. *Capsules* not seen.

Fig. 6.

Distribution and Ecology

Endemic to higher parts of the Eastern Highlands in north-eastern Victoria where it grows in low herffield on subalpine plains and meadows, often near streams. Soils are moisture-retentive brown to black clay loams. Altitude: 1200 – 1600 m.

Flowering period: January and February.

Recognition

Prasophyllum niphopedium is a sturdy species with a crowded inflorescence of greenish flowers tinted with light red to pink tones; a labellum which tapers evenly from the base to the apex and the labellum callus ending beyond the bend in the lamina as a broad raised flange.

Notes

This species has been included in *P. rogersii* for many years and although the individual flowers of each share a number of similarities the plant habit, flower arrangement and colour are very dissimilar. The new species is readily distinguished from *P. rogersii* by its crowded greenish flowers with pastel tints of light red to pink. By contrast the flowers of *P. rogersii* are well spaced and in tones of dark brown to orange-brown. The labellum of *P. niphopedium* tapers evenly from the base to the apex and the callus ends beyond the bend in the lamina as a broad, raised flange. By contrast the labellum of *P. rogersii* is constricted just above the middle ending in a short, tail-like mid-lobe and the callus tapers to a narrow tail-like structure with a blunt apex.

Conservation Status

To quote from Backhouse & Jeanes (1995) "All known sites are within the Alpine National Park

but because of the low number of plants it is probably vulnerable. Habitat disturbance in the form of grazing and pugging of the soil by horses and cattle is very evident at most sites, and off-road motorized vehicles are a problem at one site".

The effects of cattle in the Alpine National Park are particularly severe on this species because these animals congregate on the open subalpine herbfields where the orchid grows. On a recent visit to the Playgrounds near Mt Cobberas I saw severe damage caused to this species by the grazing, trampling and pugging of cattle; suggest 2Ect by criteria of Briggs & Leigh (1996) (Backhouse & Jeanes (1995) suggest 2VCt).

Etymology

Derived from the Greek *niphos*, snow, and *pedion*, open country, plain, in reference to the high country plains where this species grows.

Other Specimen Examined

Victoria: Stockyard Ck, Wulgulmerang, 7 Feb. 1990, *Branwhite* (CANB).

7. *Prasophyllum pallens* D.L.Jones, sp. nov.,

P. fusco R.Br. affinis, sed floribus viridulis albis; tepalis apicibus acuminato-attenuatis; marginibus labelli irregulare crenulatis; callo non alato, apice labelli fere tenus; et hamulo multo brevior, differt.

Typus: Australia. New South Wales: Mount Banks, Blue Mountains, 27 Nov. 1999, *D.L.Jones 17064* & *B.E.Jones* (holo CANB, iso MEL, NSW).

Illustration: Plate 102, Bishop (1996) – as *P. fuscum*.

Slender tuberous terrestrial *herb* growing singly or in loose groups. *Tubers* ellipsoid, 8-12 mm long, 7-10 mm across. *Leaf* erect, 20-40 cm long, 3-4 mm wide, terete, dark green, base 2-3 mm diam., purplish; free lamina erect, 10-15 cm long, partly withered at anthesis. *Inflorescence* a moderately dense to dense spike 6-10 cm long. *Floral bracts* ovate-elliptic, 2-2.5 mm long, c. 3 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30 to the rachis, narrowly obovoid, 3.5-5.5 mm long, c. 2.5 mm wide, bright green, shiny. *Flowers* 15 - c.30, 8-11 mm across, pale tawny green to greenish white, strongly musty scented, sessile to subsessile. *Dorsal sepal* narrowly ovate-lanceolate, 9.5-11 mm long, 2.5-3 mm

wide; deflexed, flat to shallowly concave, with 3 indistinct darker veins, apex attenuate. *Lateral sepals* free throughout, linear-lanceolate, 9.5-11 mm long, 2.3-2.5 mm wide, nearly straight, erect, recurved distally, parallel, the tips often divergent, base not gibbous, distal margins involute, apex entire, attenuate. *Petals* porrect, incurved, linear, 8.5-9 mm long, 1.3-1.5 mm wide, margins entire, apex acuminate-attenuate. *Labellum* obscurely stalked, porrect in the proximal half, distal half recurved at about 90, the tip not projecting through the lateral sepals; basal claw almost vestigial; lamina ovate-lanceolate in outline when flattened, 10-12 mm long, 5.5-6 mm wide, base not gibbous, proximal margins elliptic, distally irregular, constricted just above the middle, distal margins irregularly crenulate, apex acuminate-attenuate. *Callus* ovate-oblong, 9-10 mm long, 4-4.5 mm wide, broadest above the base then more or less oblong, raised, fleshy, green, shallowly and broadly channelled proximally, proximal margins entire, distal surface ruminant, extending nearly to the labellum apex. *Column* porrect from the end of the ovary, c. 3.5 mm long, c. 4 mm wide, nearly fully exposed by the wide expansion of the tepals; appendages narrowly linear, c. 3.2 mm long, c. 0.5 mm wide, curved, pale green, divergent, apex obtuse, slightly shorter than the stigmatic plate. *Anther* ovate, c. 2 mm long, c. 1.8 mm wide, brownish purple. *Pollinarium* c. 1.6 mm long; viscidium ovate, c. 0.3 mm long, white; hamulus c. 0.3 mm long; pollinia c. 1.2 mm long, yellow, sectile. *Stigma* quadrate, c. 1 mm long, c. 1.8 mm wide, the rostellum higher than the appendages. *Capsules* obovoid, 4-6 mm long, c. 3 mm wide, shiny, pale green. **Fig. 7.**

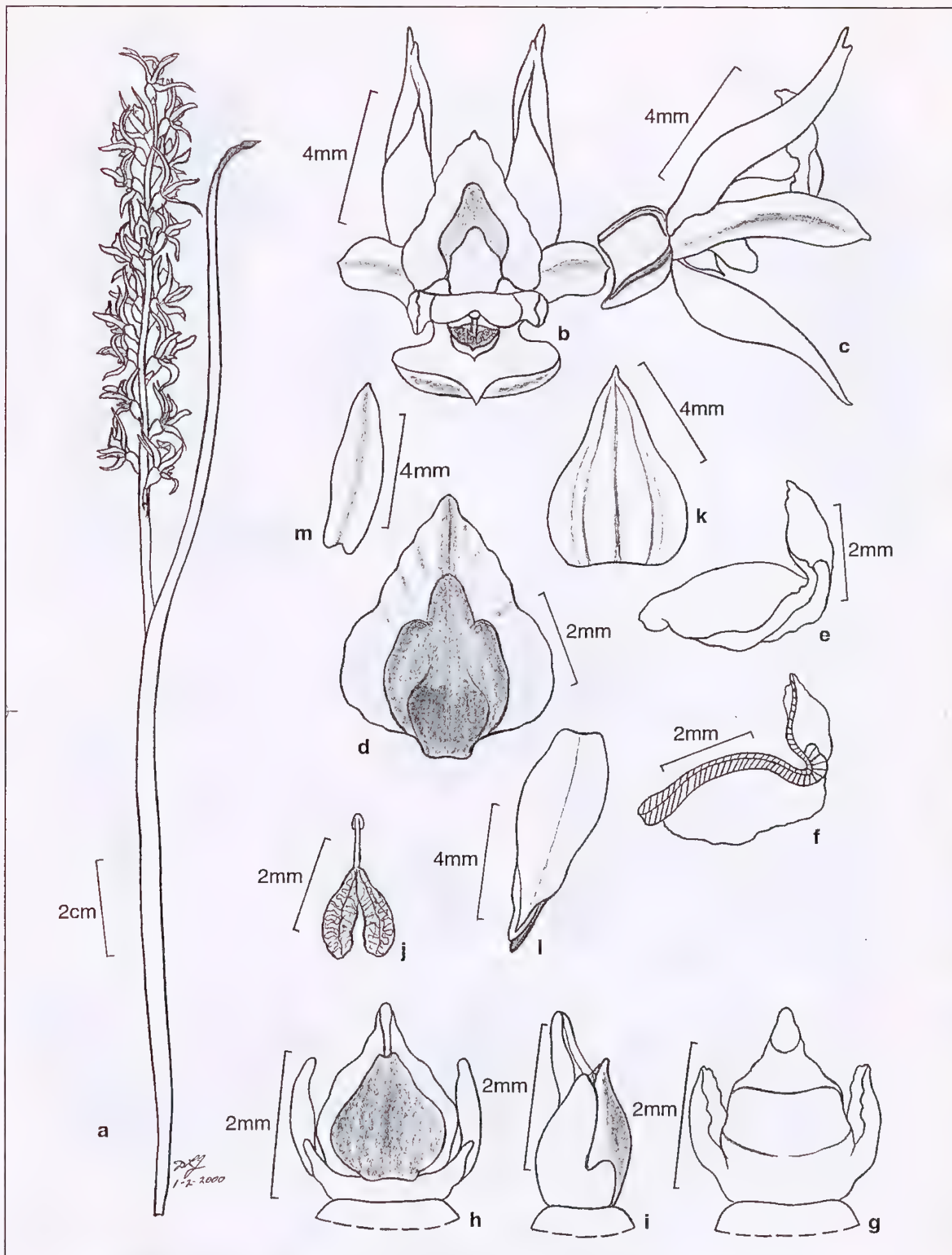
Distribution and Ecology

Apparently confined to the higher parts of the Blue Mountains, New South Wales, particularly around Blackheath and Mount Banks. It grows in dense low heath in moist to wet shallow sandy soils over sandstone. Altitude: 1000 - 1100 m.

Flowering period: November and December.

Recognition

Prasophyllum pallens is a slender species with a rather untidy inflorescence of pale tawny green to greenish white, musty-scented flowers which have acuminate-attenuate tips to the sepals and petals; a narrow labellum with irregularly crenulate margins; callus extending nearly to the labellum apex; and, a short hamulus (c. 0.3 mm long) on the pollinarium.

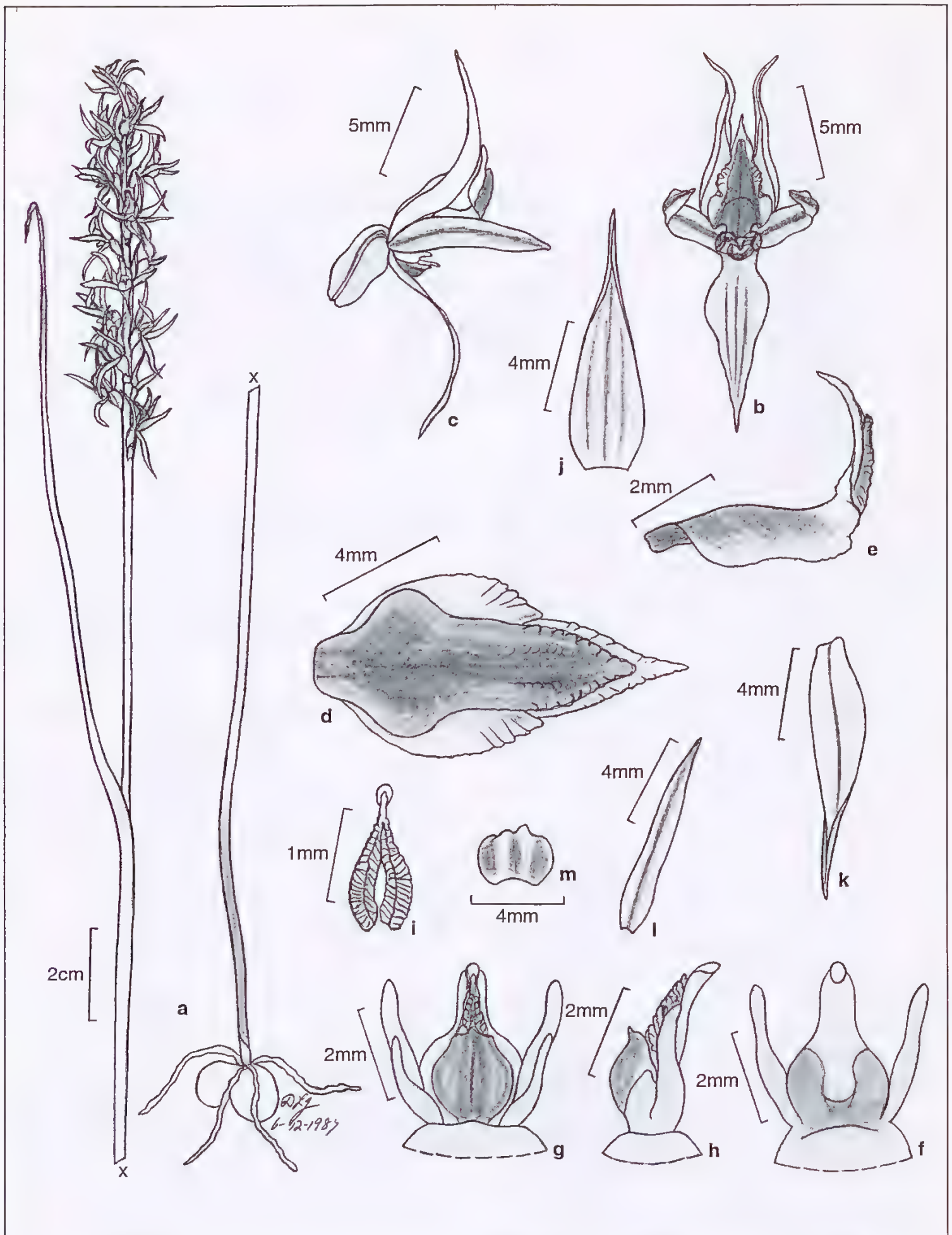


***Prasophyllum niphopedium*, The Playgrounds - Vic.**

(D.L. Jones 17139) drawn from the type collection, Fig. 6.

a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from rear; i. column from side; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal.

Drawing 1/2/2000 by D.L. Jones. ©

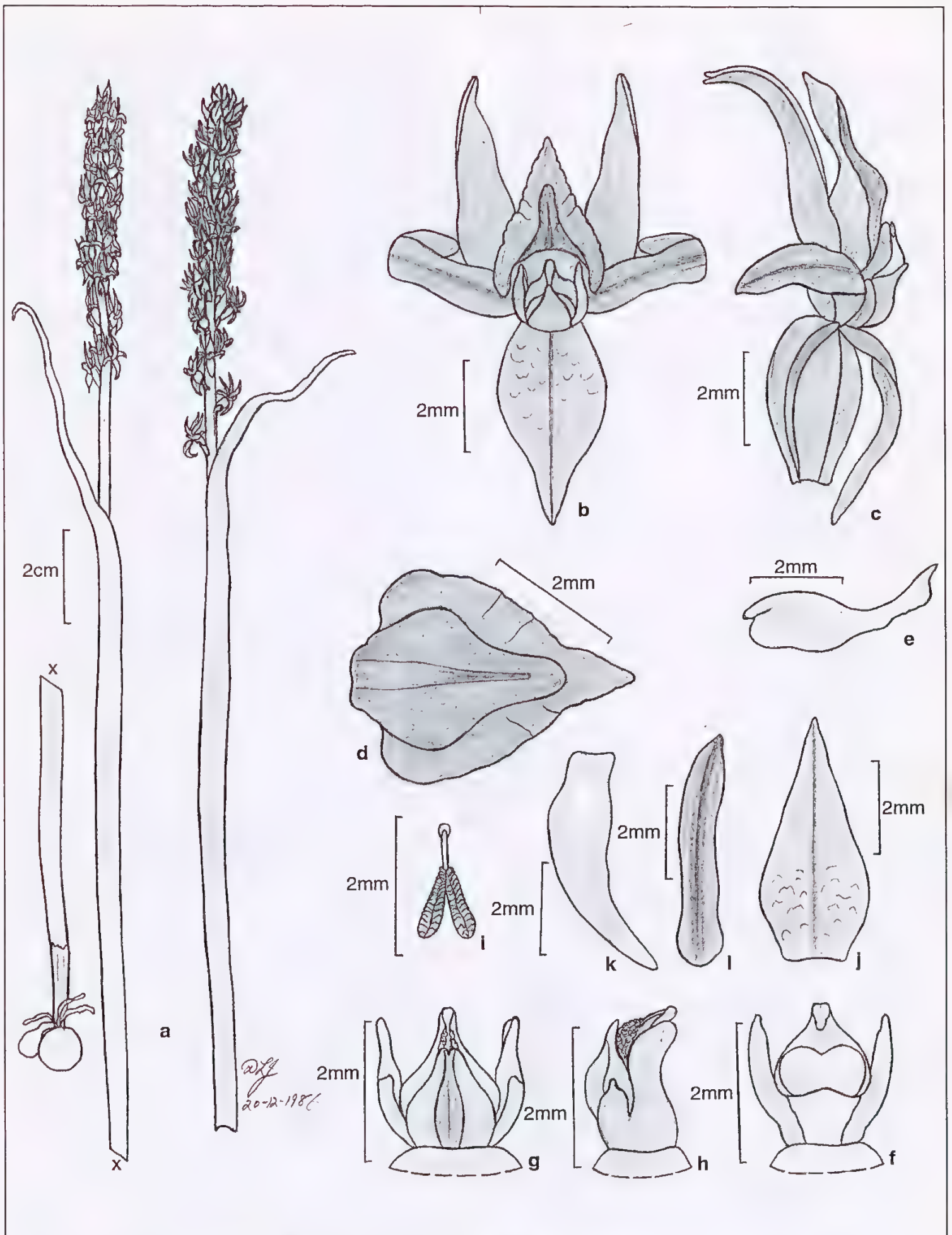


***Prasophyllum pallens*, Mt. Banks, Blue Mountains - NSW.**

(D.L. Jones s.n.), Fig. 7.

- a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. column from front; g. column from rear; h. column from side; i. pollinarium; j. dorsal sepal; k. lateral sepal; l. petal; m. floral bract

Drawing 6/12/1987 by D.L. Jones. ©

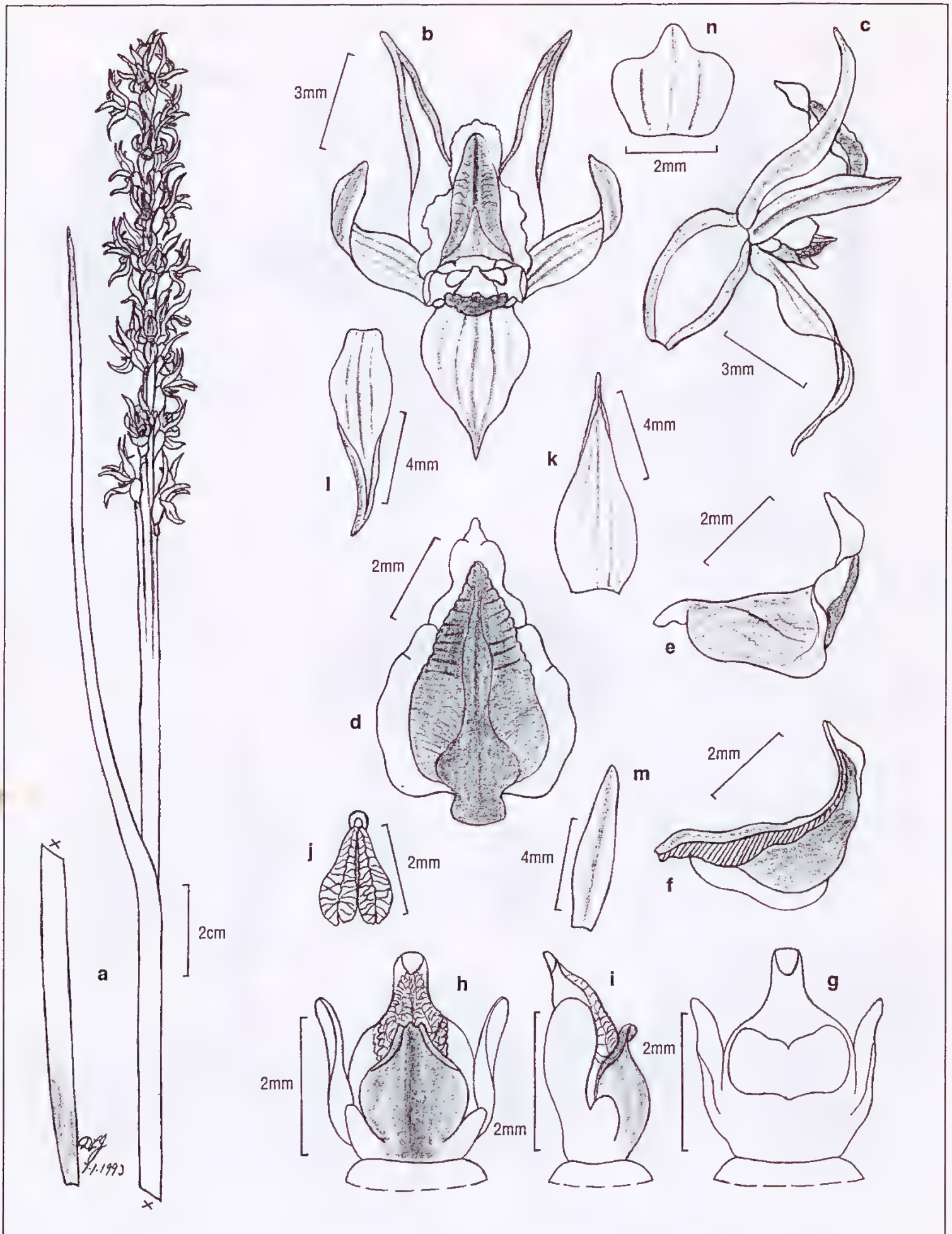


***Prasophyllum retroflexum*, Kiandra - NSW.**

(M.A. Clements 4400), Fig. 8.

- a. flowering plants; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. column from front; g. column from rear; h. column from side; i. pollinarium; j. dorsal sepal; k. lateral sepal; l. petal.

Drawing 20/12/1986 by D.L. Jones. ©



***Prasophyllum solstitium*, Guyra-Ebor Road - NSW.**

(D.L. Jones 12789) drawn from the type collection, Fig. 9.

a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from rear; i. column from side; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal; n. floral bract.

Drawing 1/1/1993 by D.L. Jones. ©

Notes

Confusion has existed as to the identity of *Prasophyllum pallens*, *P. fuscum* and *P. uroglossum* Rupp. Bernhardt & Rowe (1993) and Bishop (1996) followed R.J.Bates in equating *P. pallens* with *P. fuscum* (see Bishop 1996) and treating *P. uroglossum* as a distinct entity. However, examination of a reconstituted flower of the type of *P. fuscum* clearly shows that it is distinct from *P. pallens* and identical with *P. uroglossum* Rupp, the latter then becoming a taxonomic synonym of *P. fuscum*. The reasons behind this confusion by modern workers between *P. pallens* and *P. fuscum* are difficult to fathom since during the period when Robert Brown collected around Sydney (1802, 1803-04), access to the Blue Mountains was very limited, this range proving a formidable barrier to westward movement which was not crossed until 1813. Brown however, had ready access to the lowland swampy areas around Sydney (*P. fuscum* was collected by Brown in October 1803 from "moist meadows towards the George's River" (Clements 1989). *Prasophyllum pallens* does not occur in the lowland parts of the Hawkesbury Sandstone. Additionally the type of *P. fuscum* was collected in October whereas *P. pallens* flowers in November and December.

Prasophyllum fuscum can be distinguished from *P. pallens* by its sweetly scented brownish to reddish-brown flowers; labellum with entire margins and, when flattened, contracted inwards suddenly just above the middle to a tail-like mid-lobe; a short labellum callus with raised wing-like margins which ends just beyond the bend in the labellum; and, a pollinarium with a hamulus about 1 mm long.

The habitat of each species is very different with *P. fuscum* growing on the margins of swamps at moderate altitudes (c. 500 - 700 m) and contrasting with the very different montane heathy habitat of *P. pallens*.

In general appearance *P. pallens* is most similar to *P. sylvestre* R.Bates & D.L.Jones from lowland near-coastal areas of south-eastern New South Wales and far-eastern Victoria. That species however, has sweetly scented, extremely narrow flowers which often have pink tints, (especially in the labellum), blunter tepals, and a sharply recurved labellum which is suddenly

contacted in the distal two-thirds.

The note by Bishop (1996) that dried specimens of this species turn very dark upon drying is not substantiated by any of the collections at CANB.

The flowers of *P. pallens* have a rather unpleasant musty fragrance which is very noticeable in warm to hot weather. Flowering is erratic from year to year and is strongly promoted by summer fires.

Conservation Status

Of restricted distribution and conserved in the Blue Mountains National Park; suggest 2R by criteria of Briggs & Leigh (1996).

Etymology

The Latin *pallens*, pale, in reference to the pale-coloured flowers so distinctively different from those of *P. fuscum*.

Other Specimens Examined

New South Wales: Blackheath, 10 Dec. 1992, Bishop 247/0-6 (CANB); track to Mount Banks, Blue Mountains National Park, 2 Dec. 1984, Clements 3603 (CANB).

8. *Prasophyllum retroflexum* D.L.Jones, sp. nov.,

P. morganiem Nicholls affinis, sed floribus pleraque pallidis viridibus et roseis, 10–40 spica sparso usque moderate denso, majoribus (6-8 mm latis); sepalis lateralibus parallelis vel parum divergentibus, non-papillatis; petalis linearibus; labello ovato-lanceolato, callo laevigato valde elevato, differt.

Typus: Australia. New South Wales: c. 3 km along Tantangara Dam Road from junction with Adaminaby-Tumut Road, 16 Dec. 1989, D.L.Jones 5573, B.E.Jones & T.D.Jones (holo CANB, iso MEL, NSW).

Illustrations: Page 244, Backhouse & Jeanes (1995); plate 93, Bishop (1996) – both as *P. morganii*.

Slender tuberous terrestrial *herb* growing singly or in loose groups, occasionally in tufts. *Tubers* globose, 0.8-1.2 cm wide. Leaf erect, 20-40 cm long, 3-6 mm wide, terete, dark green, base 2-3 mm diam., reddish to purple; free lamina suberect, 4-15 cm long, usually withered at anthesis. *Inflorescence* a moderately

dense to dense, cylindrical spike 5-8 cm long. *Floral bracts* ovate, 3-4 mm long, c. 2 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30 to the rachis, obovoid, 3-4 mm long, c. 2 mm wide, bright green, shiny. *Flowers* 10-c. 40; 6-8 mm across, predominantly pale greenish with pink tonings, sometimes slightly darker, opening very widely, lemon-scented, sessile to subsessile. *Dorsal sepal* narrowly ovate-lanceolate, 5-6 mm long, 2.5-3 mm wide, deflexed, with 3 indistinct darker veins, apex subacute to acuminate. *Lateral sepals* free throughout, linear-lanceolate, 5-6 mm long, 1.1-1.4 mm wide, falcate, erect or recurved, parallel or slightly divergent, base not gibbous, distal margins slightly involute, apex entire. *Petals* widely spreading, the tips strongly recurved, linear, 5-6 mm long, 0.8-1 mm wide, apex subacute to obtuse. *Labellum* very shortly stalked, erect, distal half recurved, the tip not projecting through the lateral sepals; basal claw almost vestigial, c. 0.4 mm long, c. 1 mm wide; lamina broadly ovate-lanceolate in outline when flattened, 4-4.5 mm long, 3-3.5 mm wide, pinkish to mauve, slightly constricted in the distal third, base not gibbous, proximal margins entire, distal margins slightly crenulate. *Callus* ovate-oblong, 2.8-3.2 mm long, 1.7-2 mm wide, constricted in the distal third, raised, fleshy, green, channelled centrally, margins entire, extending nearly to the labellum apex. *Column* porrect from the end of the ovary, c. 2 mm long, c. 2.2 mm wide, fully exposed by the wide expansion of the tepals; appendages linear-oblong, c. 1.8 mm long, c. 0.5 mm wide, curved distally, pale green, parallel, apex obtuse, about as long as the stigmatic plate. *Anther* ovate, c. 1.5 mm long, c. 1.4 mm wide, greenish pink. *Pollinarium* c. 1.8 mm long; viscidium ovate, c. 0.2 mm long, white; hamulus c. 0.5 mm long; pollinia c. 1 mm long, yellow, sectile. *Stigma* quadrate, c. 1.2 mm long, c. 1.3 mm wide, the rostellum slightly higher than the appendages. *Capsules* obovoid, 4-5 mm long, c. 3 mm wide, shiny, green. **Fig. 8.**

Distribution and Ecology

Apparently restricted to the Kiandra – Tantangara - Yarrangobilly region of the Snowy Mountains in Kosciuszko National Park, south-eastern New South Wales, where it grows on gentle slopes and plains covered with subalpine herbfield vegetation. Soils are mainly well-structured brown loams. Altitude: 1200 - 1400 m. Flowering period: November and December.

Recognition

Prasophyllum retroflexum is a slender species which can be recognised by its relatively small (6-8 mm wide), widely opening, lemon-scented,

pink-tinged, pale green flowers crowded in a cylindrical spike of 10-40 flowers; parallel or slightly divergent, non-papillate lateral sepals; strongly recurved linear petals; and, erect ovate-lanceolate labellum with a strongly raised, smooth callus.

Notes

Prasophyllum retroflexum has been confused by modern workers with *P. morganii* Nicholls (see for example Clements 1989, Bernhardt & Rowe 1993, Bates 1994, Backhouse & Jeanes 1995, Bishop 1996). The reason for the linkage of these two species is unclear as they are distinctly different in a number of significant morphological characters.

Prasophyllum morganii is readily distinguished by the very dense inflorescence bearing 50-80 flowers; flowers heavily suffused with dark purple; strongly falcate, papillate lateral sepals curving upward and inward over the labellum; spreading petals with retroflexed tips; small, broadly ovate labellum with irregularly crenulate margins; and, distally raised papillate labellum callus extending nearly to the labellum apex.

Prasophyllum retroflexum was erroneously recorded from Victoria, apparently based on a misidentification by R.J.Bates (J.Jeanes pers. comm.).

The flowers of this species, which produce abundant nectar from the labellum callus, have a strong citrus fragrance and are predominantly pollinated by a prominently banded species of ichneumon wasp. This insect feeds actively on the labellum nectar and in so doing picks up the orchid pollinaria on the side of the head near the mouthparts.

Conservation Status

Of restricted occurrence growing in relatively small-scattered populations all within Kosciuszko National Park; suggest 2RCt according to Briggs & Leigh (1996).

Etymology

From the Latin *retroflexum*, bent backwards, in reference to the attitude of the petals.

Other Specimens Examined

New South Wales. Kiandra, Old Goldfields, 12 Jan. 1992, *Branwhite (Broers 258)* (CANB); Kiandra, 14 Dec. 1986, *Clements 4400* (CANB); c. 3 km along

Tantangara Dam Road, SW of Adaminaby, 3 Dec. 1988, *Jones 3438* (CANB); c. 3 km E. of Kiandra, beside Tumut Road, 16 Dec. 1989, *Jones 5576*, *Jones & Jones* (CANB); Tantangara Dam Road, 5 Dec. 1991, *Branwhite (Jones 8622)* (CANB); Eucumbene River, E. of Kiandra, 2 Jan. 1992, *Tunstall (Jones 8666)* (CANB); c. 1 km W. of Rocky Creek crossing, N. side of Snowy Mtns highway, 3 Jan. 1993, *Jones 11104 & Jones* (CANB); c. 4 km along Tantangara Dam Road, 3 Jan. 1993, *Jones 11098 & Jones* (CANB); Kiandra, hill behind cemetery, 12 Dec. 1997, *Jones 15650 & Jones* (CANB).

9. *Prasophyllum solstitium* D.L.Jones, sp. nov.,

P. fusco R.Br. affinis, sed florescentia serotiniore; sepalibus lateralibus obtusis; labello ovato-lanceolato apice brevior, obtusior; callo labelli majore, ruminato, paene ad apicem extenso; alis columnae brevioribus; et hamulo pollinarii vestigiali, differt.

Typus: Australia. New South Wales: Guyra-Ebor Rd, 30 Dec. 1993, *D.L.Jones 12789 & B.E.Jones* (holo CANB, iso AD, BRI, MEL, NSW, PERTH).

Illustrations: Plates 104 & 105, Bishop (1996).

Tuberous terrestrial *herb* growing in loose groups or tufts of many crowded plants. *Tubers* not seen. *Leaf* erect, 15-40 cm long, 3-6 mm wide, terete, bright green, base 2-3 mm diam., purplish; free lamina erect, 10-20 cm long, mostly withered at anthesis. *Inflorescence* a moderately dense spike 7-15 cm long. *Floral bracts* irregularly ovate, 2-2.5 mm long, c. 2.5 mm wide, closely embracing the ovary, apex obtusely apiculate. *Ovaries* at about 30 to the rachis, obovoid, 3.5-5 mm long, c. 3 mm wide, green. *Flowers* 10 - c.35, 8-10 mm across, greenish pink to purplish red, strongly fragrant, sessile to subsessile. *Dorsal sepal* narrowly ovate-lanceolate, 8.5-10 mm long, 3-4 mm wide, deflexed or recurved distally, shallowly concave to flat, apex apiculate, with 3-5 darker veins. *Lateral sepals* free, linear-lanceolate to lanceolate, 8.5-10 mm long, 2.5-3 mm wide, obliquely erect, distally recurved, base shallowly gibbous, distal margins strongly involute, apex entire. *Petals* linear to narrowly linear-lanceolate, 6.5-7.5 mm long, c. 1.8 mm wide, porrect to slightly upswept, incurved, entire, apex obtuse. *Labellum* very shortly stalked, porrect in the proximal half, recurved nearly at right angles near the middle, distal half erect or shallowly recurved; basal claw c. 0.5 mm long, 1.2 mm wide; lamina broadly ovate-lanceolate, 5-6 mm long, 4-4.5 mm wide, whitish, pinkish, reddish or purplish, base not gibbous, proximal margins widely flared, recurved, entire, distal

margins undulate-crenate, apex apiculate. *Callus* a broadly ovate-lanceolate fleshy plate, c. 5 mm long, c. 3 mm wide, green, shiny, distally, ruminant-convolute, with a narrow median channel. *Column* porrect from the end of the ovary, c. 3 mm long, c. 2.8 mm wide; appendages oblong-obovate, c. 2.4 mm long, c. 0.8 mm wide, nearly straight, slightly divergent, apex broadly obtuse, slightly longer than the stigmatic plate. *Anther* ovate, c. 2 mm long, c. 1.6 mm wide, dark purple. *Pollinarium* c. 2.5 mm long; viscidium ovate, c. 0.3 mm long; hamulus almost vestigial, c. 0.2 mm long; pollinia c. 2 mm long, yellow, sectile. *Stigma* quadrate, c. 1 mm long, c. 1.8 mm wide, the rostellum higher than the appendages. *Capsules* obovoid, 6-8 mm long, 3-4 mm wide, green to purplish. **Fig. 9.**

Distribution and Ecology

Restricted to the New England Tableland of northern New South Wales where known only from the type locality to the east of Guyra. The species grows in grassland dominated by *Themeda triandra* and *Bothriochloa* sp. in heavy black basaltic loam on flat areas near a small stream. Plants flower in the absence of fire. Altitude: 800 – 900 m.

Flowering period: December and January

Recognition

Prasophyllum solstitium is a slender species with strongly fragrant, greenish pink to purplish-red flowers; relatively short, broadly ovate-lanceolate labellum with undulate-crenate distal margins; callus extending nearly to the labellum apex; oblong-obovate column appendages shorter than the rostellum; and, pollinarium with a very short (c. 0.2 mm long) hamulus.

Notes

Prasophyllum fuscum can be distinguished from *P. solstitium* by its sweetly scented brownish to reddish-brown flowers; labellum with entire margins and, when flattened, contracted inwards suddenly just above the middle to a tail-like mid-lobe; short labellum callus with raised wing-like margins which ends just beyond the bend in the labellum; linear column appendages slightly longer than the rostellum; and, a pollinarium with a hamulus about 1 mm long.

The only known colony of *P. solstitium* consists of about 100 plants. The species grows in the same general area as *P. caudicum* which occurs on well-drained, red-brown loam well away from any drainage lines, whereas *P.*

solstitium grows in heavy black soil close to a small stream. *Prasophyllum caudiculum* finishes flowering just as the inflorescences of *P. solstitium* are emerging from the leaves.

Conservation Status

Known only from the type locality and not known to be conserved; suggest 2E according to Briggs & Leigh (1996).

Etymology

Derived from the Latin *solstitium*, summer solstice, the time of the year when this species flowers; also chosen to emphasis that this species flowers later than its congener, *P. caudiculum*.

Other Specimens Examined

New South Wales. Guyra-Ebor Road, 28 Dec. 1996, Tunstall (ORG 539) (CANB); ibid, 28 Dec. 1996, Tunstall (ORG 543) CANB).

10. *Prasophyllum wilkinsoniorum*

D.L.Jones, sp. nov.,

P. pyriforme E.Coleman affinis, sed floribus majore badis; labello late elliptico, lobis lateralis laxis contractis abrupte ad apicem, et medilobo brevi erecto caudiformi; callo labelli quadrato, distale canalem angustum contracto; et anthera quam lamina stigmatico multo brevior, differt.

Typus: Australia. New South Wales: Tantawangalo, 23 Dec. 1999, *D.L.Jones 17099* & *J.Wilkinson* (holo CANB, iso AD, BRI, MEL and NSW).

Illustration: None found.

Tuberous terrestrial *herb* growing in loose groups. *Tubers* not seen. *Leaf* erect, 30-40 cm long, 4-8 mm wide, terete, bright green, base 4-5 mm diam., white to reddish; free lamina erect, 12-20 cm long, usually partly withered at anthesis. *Inflorescence* a moderately dense spike 8-15 cm long. *Floral bracts* irregularly obovate, 2-3 mm long, c. 3 mm wide, closely embracing the ovary, apex apiculate. *Ovaries* at about 30 to the rachis, obovoid, 5-6 mm long, c. 3 mm wide, brownish. *Flowers* 15-45, 12-15 mm across, dark greenish brown to dark brownish red, fragrant, sessile. *Dorsal sepal* ovate-lanceolate, 8-11 mm long, 3.5-4.5 mm wide, deflexed to decurved, apex long-acuminate, with 3 darker veins. *Lateral sepals* free, linear-lanceolate, 8-11 mm long, c. 2 mm wide, erect with recurved tips, base slightly gibbous, distal margins involute, apex prominently bidentate, with a

prominent terete extension 1-1.5 mm long. *Petals* linear-lanceolate, 8.5-11.5 mm long, c. 2 mm wide, widely spreading, margins pale, apex acute. *Labellum* stalked, obliquely erect, apex recurved at right angles to the basal part; basal claw c. 1 mm long, 1 mm wide; lamina broadly ovate-lanceolate, 7.5-8.5 mm long, 4.5-5.5 mm wide, greenish to greenish pink, suddenly constricted just above the middle and tapered in the distal two-thirds, base not gibbous, margins widely flared, irregular, apex apiculate to acute. *Callus* a broad plate, c. 6.5 mm long, c. 3 mm wide, extending nearly to the labellum apex, green to brown, with a shallow median channel, lateral margins raised above the lamina. *Column* porrect from the end of the ovary, c. 3.5 mm long, c. 3.8 mm wide; appendages oblong-lanceolate, c. 3 mm long, c. 1 mm wide, nearly straight, divergent, apex obtuse or emarginate, slightly longer than the stigmatic plate. *Anther* ovate, c. 2 mm long, c. 1.8 mm wide, dark brownish purple. *Pollinarium* c. 2.5 mm long; viscidium ovate, c. 0.4 mm long; hamulus vestigial; pollinia c. 2 mm long, yellow, sectile. *Stigma* quadrate, c. 2 mm long, c. 2.2 mm wide, the rostellum about as high as the appendages. *Capsules* not seen. **Fig. 10.**

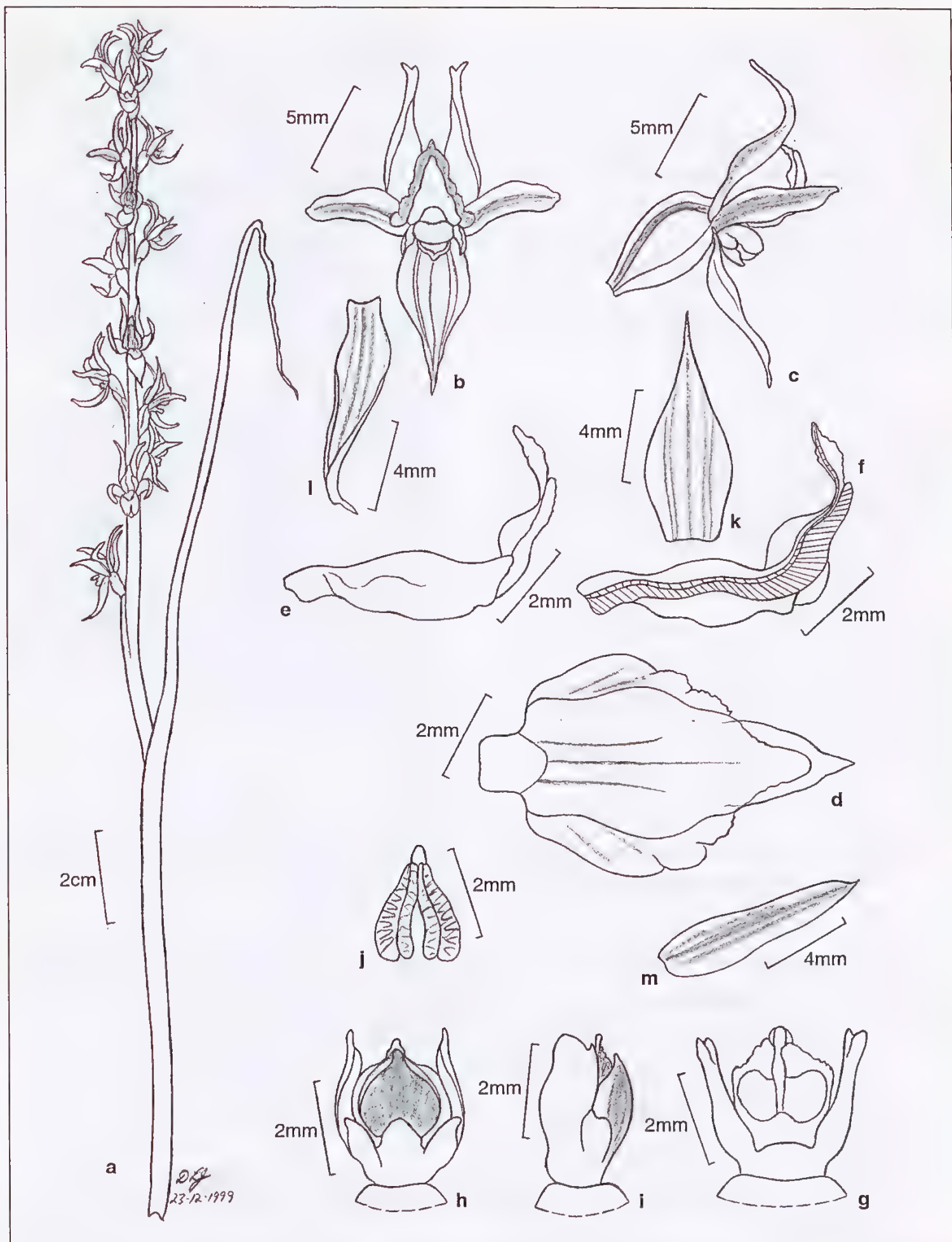
Distribution and Ecology

Known only from montane areas in south-eastern New South Wales between Cathcart and Tantawangalo. At the type locality this species grows in a low, flat, treeless plain (probably a frost hollow), surrounded by tall forest dominated by *Eucalyptus pauciflora* Sieber ex Spreng. At other sites it grows among low shrubs, grassy flats and in montane swamps dominated by sedges and restionaceous plants. Soils range from well-structured brown basaltic loams to brown or black peaty loams. Altitude: c. 900 - 1000 m.

Flowering period: late December and January.

Recognition

Prasophyllum wilkinsoniorum is robust species with large greenish-brown to reddish-brown flowers arranged in an untidy spike; widely spreading petals; broadly ovate-lanceolate labellum with widely flared lateral lobes which taper inwards suddenly at the apex passing into a short, erect tail-like mid-lobe; broad, quadrate callus which contracts distally into a narrow channel and extends nearly to the labellum apex; and, pollinarium with a vestigial hamulus.



***Prasopphyllum wilkinsoniorum*, Tantawangalo - NSW.**

(D.L. Jones 17099) drawn from the type collection, Fig. 10.

a. flowering plant; b. flower from front; c. flower from side; d. labellum from above, flattened out; e. labellum from side; f. longitudinal section of labellum; g. column from front; h. column from rear; i. column from side; j. pollinarium; k. dorsal sepal; l. lateral sepal; m. petal.

Drawing 23/12/1999 by D.L. Jones. ©

Similar Species

Prasophyllum wilkinsoniorum is a distinctive species with unclear affinities. Its closest congener would appear to be *P. pyriforme* E. Coleman which occurs in the coastal lowlands and near-coastal ranges of southern and eastern Victoria and Flinders Island in Bass Strait. This species has greenish flowers with pink to brownish tonings; porrect, often incurved petals; ovate-lanceolate labellum with the margins beyond the bend often constricted; narrow callus which extends nearly to the labellum apex; and, pollinarium with a hamulus c. 0.4 mm long.

Notes

Prasophyllum wilkinsoniorum was discovered by Rainer Rehwinkel in December 1999, with the first of the plants in early flower. Most colonies observed were threatened by the feeding activities of feral pigs.

Conservation Status

Of limited occurrence but poorly known and conserved in the Southeast Forests National Park; suggest 2VC by criteria of Briggs & Leigh (1996).

Literature Cited

- Backhouse, G. & Jeanes, J. (1995). *The Orchids of Victoria*. (Miegunyah Press, Carlton).
- Bates, R.J. (1989a). *Prasophyllum calcicola*, *P. macrostachyum* and *P. ringens* (Orchidaceae): three similar species from eastern and southern Australia, *J. Adel. Bot. Gard.* 11(2): 179-187.
- Bates, R. (1989b). *Prasophyllum fecundum* and *P. occultans* (Orchidaceae): two new species endemic to South Australia, *J. Adel. Bot. Gard.* 11(2): 189-194.
- Bates, R.J. (1990). *Prasophyllum litorale*, a new species of Orchidaceae from south-west Victoria and adjacent South Australia, *J. Adel. Bot. Gard.* 13: 59-62.
- Bates, R.J. (1994). *Prasophyllum* R.Br., in Walsh, N.G. and Entwisle, T.J. (1994). *Flora of Victoria*. Vol. 2. (Inkata Press, Melbourne).
- Bates, R.J. & Weber, J.Z. (1990). *Orchids of South Australia*. (Government Printer, Adelaide).
- Bernhardt, P. & Rowe, R.R. (1993). *Prasophyllum*, in G.J.Harden (ed.), *Flora of New South Wales* vol. 4: 155-163.
- Bishop, T. (1996). *Field Guide to the Orchids of New South Wales and Victoria*. (University of New South Wales Press, Sydney).

Etymology

Named after Bob and June Wilkinson, long-time farmers on the Monaro with strong conservation values. They purchased the block of land where this new *Prasophyllum* grows purely for conservation purposes.

Other Specimens Examined

New South Wales: Tantawangalo, 20 Dec. 1999, R.Rehwinkel (ORG 2895) (CANB); *ibid*, 7 Jan. 2000, Jones 17102 & FitzGerald (CANB); N. end of Nunnock Swamp, Southeast Forests National Park, 7 Jan. 2000, Jones 17107 & FitzGerald (CANB); Hain's Swamp, Mt Darragh Road, E. of Cathart, 7 Jan. 2000, Jones 17112 & FitzGerald (CANB).

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- Black, J.M. (1922). *Flora of South Australia*. (Government Printer, Adelaide).
- Bower, C.C. (1992). The use of pollinators in the taxonomy of sexually deceptive orchids in the subtribe Caladeniinae (Orchidaceae). *The Orchadian* 10: 331-338.
- Bower, C.C. (1996). Demonstration of pollinator-mediated reproductive isolation in sexually deceptive species of *Chiloglottis* (Orchidaceae: Caladeniinae). *Australian Journal of Botany* 44: 15-33.
- Briggs, J.D and Leigh, J.H. (1996). *Rare or Threatened Australian Plants*, Revised Edition, CSIRO and Australian Nature Conservation Agency.
- Curtis, W.M. (1979). *The Student's Flora of Tasmania*. Part 4A. (Government Printer, Hobart).
- Clements, M.A. (1989). Catalogue of Australian Orchidaceae, *Austral. Orch. Res.* 1: 1-160.
- Jones, D.L. (1972). The pollination of *Prasophyllum alpinum* R. Br. *Vic. Nat.* 89: 260-263.
- Jones, D.L. (1988). *Australian Native Orchids*. (Reed Books, Sydney).
- Jones, D.L. (1991). New Taxa of Australian Orchidaceae, *Austral. Orch. Res.* 2: 1-208.
- Jones, D.L. (1994a). A New Name for the Australian Orchid *Prasophyllum chasmogamum* R.Bates & D.L.Jones, *Novon* 2: 106-108.
- Jones, D.L. (1994b). New species of Orchidaceae from south-eastern Australia, *Muelleria* 8(2): 184-185.
- Jones, D.L. (1996a). Resolution of the *Prasophyllum alpinum* R.Br. (Orchidaceae) complex in mainland south-eastern Australia, Tasmania and New Zealand, *Muelleria* 9: 51-62.
- Jones, D.L. (1996b). *Prasophyllum odoratissimum*, a new species of Orchidaceae from Australia, *The Orchadian* 12(2): 53-55.
- Jones, D.L. (1997). *Prasophyllum canaliculatum*, an endangered new species of Orchidaceae from southern New South Wales, *The Orchadian* 12(3): 125-127.
- Jones, D.L. (1998). Contributions to Tasmanian Orchidaceae – 6: A Taxonomic Review of *Prasophyllum* R.Br. in Tasmania. *Australian Orchid Research* 3: 94-134.
- Jones, D.L. & Clements, M.A. (1996). A reassessment of *Prasophyllum gracile* and *P. macrostachyum* (Orchidaceae), with the description of *P. paulinae*, a new species from south-west Western Australia, *Nuytsia* 10(3): 409-418.
- Moore, L. & Edgar, E. (1970). *Flora of New Zealand*, vol. 2 (Government Printer, Wellington).
- Rupp, H.M.R. (1943). *The Orchids of New South Wales* (Australian Medical Publishing Coy, Sydney).
- Stanley, T.D. & Ross, E.M. (1989). *Flora of South-eastern Queensland*. Vol. 3. (Queensland Department of Primary Industries).
- Willis, J.H. (1970). *A Handbook to Plants in Victoria*. Vol. 1 (2nd edition). (Melbourne University Press, Carlton).



Where Do Aphids Go In Winter ?

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Fortunately for us they all die of cold, especially in frosty weather. But if that's so, how can aphids return in spring? Because the crafty devils make sure they lay a good supply of eggs in nooks and crannies before they die, that's why. These eggs, which unlike their parents, are unaffected by the cold, remain dormant until the warmer days of spring arrive. I came across this information, written by the late Crosbie Morrison, in an old gardening book (*ca.* 1945) recently.

When the eggs hatch, all the young aphids are wingless and female. After a few days they begin to bear live young, with no intervention or assistance from male aphids (there *are* none at this stage!). The rate of reproduction is incredible - it has been calculated that if all survived, the progeny of a single aphid after ten generations would weigh more than the entire population of China! Now, there's an interesting piece of trivia for you to talk about at your next dinner party!

Fortunately for us and other inhabitants of the world, aphids have many enemies, as well as being susceptible to pneumonia. Birds and a variety of other insects eat them. Ladybirds, in particular, are particularly fond of aphids and can eat 30-40 per *hour*! I once speculated that, because aphids breed so prolifically, ladybird predation couldn't provide much control. That was before I found out what greedy little beggars they are. Maybe it's worth buying a batch (flock?) of ladybirds in spring after all.

Aphids are sapsuckers. The aphid drills a hole in the soft new foliage with her beak and then sucks the sap, which is freely available at that stage. She has greater difficulty as the growth ages, because it's harder for her to drill a hole, and there is also less sap in older growth. Many break their beaks and then die of starvation.

As the cooler days of autumn approach, there is a change in the life cycle. Both male and female aphids are born at this time. They are born with wings, presumably to provide greater mobility for their sexual adventures.

These females lay eggs, not live aphids, and so the species is ready to survive another icy winter.

Orchids (and roses) are regularly infested by

aphids (except in winter), which soon reach plague proportions unless control measures are implemented. Some growers squirt aphids off the foliage when watering. But this fails to dislodge them all and the remainder soon breed replacements. It is often argued that 'they don't eat much', but this isn't strictly true - they probably suck sufficient sap to retard the development of the new growths.

More important, however, is the possibility that they can transfer virus from one plant to another - the new virus recently found in native dendrobiums is believed to be transmitted by aphids. Maybe the aphids are wingless during spring and summer, but they can certainly fly about in autumn. Also, if you hang your dendrobiums from vertical wire mesh like I do, the aphids can fall from one plant to a lower one regardless of the season.

Therefore I spray my plants with an insecticide as soon as aphids appear. Almost any insecticide is effective. For small outbreaks I use one of the many pressure pack sprays available at plant nurseries, taking care to hold the can at least 300 mm from the plants (to avoid frost burn). For larger outbreaks I use Orthine, a wettable powder, applied as an aqueous solution; unfortunately it is not available from retail nurseries. Today, many orchid growers use Pirimor - designed specifically to win the war against aphids.



New Australian Native Orchid Hybrid Registrations

New registrations from the Royal Horticultural Society (abridged from *The Orchid Review*)

September 1999 - January 2000 registrations.

The following species appeared for the first time as a parent in registration;

Elythranthera emarginata, *Glossodia major*, *Thelymitra grandiflora*.

Note: Recommended abbreviation for *Elythranthera* is *Elth.* and *Glossodia* is *Gloss.*

Name	Parentage	Registered by
<i>Calassodia</i> (Calsd.)		
Nossa	<i>Caladenia latifolia</i> x <i>Glossodia major</i>	H. Beyrle
<i>Dendrobium</i>		
Bellinger Beauty	Memoria Reg Sheen x Visheen	N. Mitchell
Bellinger Surprise	Zipalong x Visheen	N. Mitchell
Biddy	Elegant Heart x Jesmond Gem	Down Under N. O.
Burgundy Bride	Burgundy Cream x Rutherford Blushing Bride	Down Under N. O.
Carlingford	Brolga x Visheen	N. Mitchell
Cheryl's Glory	Colonial Surprise x <i>kingianum</i>	I. Klein
Claret	Angellene x Memoria Reg Sheen	N. Mitchell
Coote	Elegant Heart x Zip	Down Under N. O.
Dale Tydd	Brolga x <i>kingianum</i>	N. Mitchell
Dianne Gee	Jesmond Gem x Yondi	Down Under N. O.
Dreamtime	Suzanne x Vivid	J. Walsh (K. Russell)
Enzed Aristocrat	<i>kingianum</i> x Red Squire	D. Burgess
Enzed Elite	Specio- <i>kingianum</i> x Doug Burgess	D. Burgess
Gazette	Angellene x Visheen	N. Mitchell
Gleniffer	Roslyn Harrison x Visheen	N. Mitchell
Golden Treat	Brolga x Ray's Dream	N. Mitchell
Hope Bishop	Graham Hewitt x <i>speciosum</i>	Florafest (I. Klein)
Julie Tydd	Kay's Choice x Ray's Dream	N. Mitchell
Lace River	Elegant Lace x Red River	Down Under N. O.
Lynwong	Lynette Banks x Ellewong	N. Mitchell
Naomi's Pride	Berry x Paula's Pride	G. Leafberg
Rosemary Isabelle	Sarah Jane x Ruppium	P. Farlow
Urlinga Belle	Angellene x Zipalong	N. Mitchell
Victorian Stripe	Victorian Flare x Zip	W. Turville
Vista	Roslyn Harrison x Zipalong	N. Mitchell
Zipper	Zip x Bicentennial Rose	G. Webb (D.U.N.O.)
<i>Elythodia</i> (Eth.)		
Andrea	<i>Glossodia major</i> x <i>Elythranthera emarginata</i>	H. Beyrle
<i>Plectochilus</i>		
Harlequin	<i>Sarco. hartmannii</i> x <i>Plchs.</i> Richard Jost	D. Butler
<i>Sarcochilus</i>		
Victoria	<i>hartmannii</i> x <i>aequalis</i>	D. & L. Brown (O/U)
<i>Sarconopsis</i>		
Noelene Russell	<i>Sarco.</i> Melba x <i>Phal. amabilis</i>	R. Clement (K. Russell)
<i>Thelymitra</i>		
Adelaide Rosella	<i>grandiflora</i> x <i>rubra</i>	H. Beyrle
Ron Heberle	<i>nuda</i> x <i>variegata</i>	H. Beyrle



The Barrington Tops in Mid Summer

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Recently I accompanied ANOS Newcastle Group on a visit to Barrington Tops and in particular the Polblue sphagnum swamps area. I looked forward to this trip as it had been almost twenty years since I had been there in mid-summer, although I had been there often in other seasons during that interval, but not while the little veined double tailed *Diuris venosa* was in flower, which reaches its peak in early January.

On this and previous visits I saw with much dismay, the havoc the shrub Scotch Broom (*Cytisus scoparius*) is causing to the area. This introduced pest has devastated vast areas of this alpine wilderness. The National Parks and Wildlife Service are making some small effort to rid the area of this weed. I feel that unless there is a biological breakthrough or a lot more time and money invested, in particular the area around the Polblue sphagnum swamp, this most beautiful area will be lost to future generations forever.

On arrival at Polblue, our first endeavour was to search among the snow grass for *Diuris venosa* and was glad to be rewarded with several sightings of this small but very pretty orchid. While its habitat has shrunk due to the inroads of the Scotch Broom this orchid appeared to be just as prolific as it was twenty years ago but not so for some of the other orchids of this area.

Diuris venosa is one of the smaller members of the genus *Diuris*. But is a somewhat robust species being about 20 to 40 cm high on a purple to red stem with up to 5 short leaves. Flowers are very fragrant but it is the colour variation off different plants that intrigued me. The flower colours of several different plants within a one-metre radius can be completely different ranging from predominantly white to lilac or purple.

Another orchid I was anxious to see again was the large sickle greenhood *Pterostylis furcata*. When I last saw this orchid at this area I knew it as *Pterostylis falcata* but it has had a name change since that time. This is one orchid that has been affected by the Scotch Broom. An area where a large

colony could be observed alongside a small mountain stream near the roadway has been completely smothered. Although we did find a small colony in flower closer to the sphagnum bogs that the Scotch Broom had not reached.

Diuris abbreviata and the natural hybrid *Diuris (abbreviata x venosa)* were other orchids I would have liked to have seen again but could not find any in the area I had found them previously. I would like to think that it was a little late in the flowering season to find these gems and not the greatly restricted growing area they now have to contend with.

Some other orchids found in flower on the day were *Pterostylis abrupta*, *Pterostylis coccinea*, *Chiloglottis palachila*, *Chiloglottis pluricallata*, *Chiloglottis platyptera*, the potato orchid *Gastrodia procera*, a *Microtis* of the *unifolia* complex, *Thelymitra cyanea* flowering in quite large numbers (it was a very sunny day) and the Parsons Band orchid *Eriochilus cucullatus*. Other orchids that we looked for in and around the sphagnum swamps were *Adenochilus nortonii* and *Corybas* sp. aff. *dilatatus* (Barrington Tops), but I think it was a bit late in the flowering season to find these plants.

Summing up, I feel that the orchids growing in and around the sphagnum bog, while in some small danger, are reasonably safe. However I fear for the long-term survival of the other orchids of the area due to the prolificness and smothering effect of the exotic Scotch Broom.



Book Review

The Orchids of Tasmania

by David Jones, Hans Wapstra, Peter Tonelli and Stephen Harris.

324 pp. 256mm x 186mm, Hardcover. 224 colour plates.

ISBN 0-522-84851-6. AUD\$79.95 www.mup.com.au

Published by Melbourne University Press P.O. Box 278, Carlton South, Victoria 3053 Australia.

To put it simply, *The Orchids of Tasmania* is the most comprehensive work ever published on the orchid flora of this island state. It is the sister volume to the outstanding and acclaimed *The Orchids of Victoria* by Gary Backhouse and Jeffrey Jeanes. This latest opus is in the same style.

It is the work of four dedicated authors, headed by David Jones from the Australian National Botanic Gardens. David is arguably Australia's pre-eminent expert on the Australian flora, and is certainly one of our most prolific contemporary authors. His work is well known to readers of *The Orchadian*. Hans Wapstra is now recognised as one of Tasmania's leading orchid specialists. He is a biologist with the Tasmanian Department of Primary Industries, Water and Environment. Naturalist and photographer Peter Tonelli is the Manager of Parks and Reserves, Kentish-Latrobe Councils in northwest Tasmania. Stephen Harris is the Senior Botanist with the Tasmanian Department of Primary Industries, Water and Environment.

I was instantly impressed with this beautifully illustrated book which describes in detail every known Tasmanian orchid, 195 species in all. With one exception, there is a colour photograph of every species. The exception is the very rare *Prasophyllum perangustum*, which was only rediscovered in 1993. This species only blooms after fire. There is a line drawing of this taxon.

The introductory chapters cover important topics such as Orchidology in Tasmania, Tasmanian Habitats, Conservation and Notes on Tasmanian Orchids.

The body of this book alphabetically covers Tasmania's orchids. For each species there are details about the type collection (location and year) full description, confusing and related species, distribution (which includes a location map), habitat, flowering period (including response to fire) and additional notes on the species under discussion. It is up to date as at February 1999, even though there may be other interesting taxa out there waiting to be discovered.

The quality of the photographs is, as expected, of a very high standard. In most cases they are close up shots to aid identification, all in sharp focus and correctly orientated. The general location of the illustrated plants is also given. In a few cases not all of these were of Tasmanian specimens – due to rarity or possible local extinction, and we therefore have "mainland" examples including *Caladenia australis*, *C. cardiochila*, *C. prolata*, *Calochilus campestris*, *Chiloglottis trilabra*, *C. valida*, *Corybas fordhamii*, *Genoplesium nudiscapum*, *Prasophyllum montanum*, *Pterostylis mutica*, *P. sanguinea*, *P. tunstallii*, *P. uliginosa*, *Thelymitra improcera* and *T. mucida*. I am sure the authors would welcome photographs and information if readers know of Tasmanian examples of these taxa. This work expands upon the full revision of the major genera undertaken by David Jones and published in 1998 as *Australian Orchid Research* Volume 3. There are surprisingly very few duplicated photographs.

Other highlights of the book include numerous line drawings, identification keys based on floral features, a 'leaf key' for identifying non-flowering plants, pointers to instant recognition of each species, notes on taxonomy plus a comprehensive glossary and index. There is also a full checklist of the Tasmanian orchid flora.

The Orchids of Tasmania will be the standard reference on the orchid flora of Tasmania. It is an outstanding volume with a rightful place in the upper echelon of Australian orchid works. It is required reading for persons interested in Australian terrestrial orchids, the flora of Tasmania, Tasmanian orchid growers, naturalists and bushwalkers and those who simply appreciate fine orchid literature.

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Orchid Recovery

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The conservation of the orchid species in New South Wales is a daunting task. The magnitude of the problem has and is being caused by the rapid clearing of land, habitat degradation by human use and habitat alteration by the invasion of exotic plant species. In the past decade ANOS in NSW has made some progress through the efforts of the ANOS Conservation Officer - Alan Dash, ANOS group conservation officers and individual members of ANOS.

Providing protection to NSW orchids has been aided by the development and introduction of environmental legislation. The most relevant to present attempts to protect and preserve orchid species is the *Threatened Species Conservation Act 1995* (TSC Act). Its origins can be traced back to the development of post war environmental international law. In 1972, the *Stockholm Conference* had a significant impact on recognising the need for nations to protect endangered species. From this conference came the *Action Plan* that provided the first comprehensive guide for creating environmental strategies and the model for developing domestic environmental law. The *Rio Conference 1992*, resulted in *The United Nations Convention On Biodiversity 1992* (The Biodiversity Convention) and *Agenda 21 Chapter 15* that provided a detailed guide for protecting wildlife. *The Biodiversity Convention* was the model for the development of the *1992 Endangered Species Act (Commonwealth)* and State legislation such as *The Threatened Species Conservation Act 1995(NSW)*. The aims of these laws are to conserve biological diversity, promote ecologically sustainable development, and to protect threatened species and their habitats. One example was the rare and endangered orchid *Pterostylis gibbosa*. It is listed as rare and endangered in both the Commonwealth and NSW legislation. This affords it protection via *1973 Convention On International Trade In Endangered Species Of Wildlife Fauna And Flora* (A detailed explanation of CITES can be found in the *1st Australasian Native Orchid Society Conference and Show Proceedings*; Cites and its implications - Dr Jane Mowatt, pp163-167) and via NSW legislation, receives funding to create a recovery plan that provides for long term protection. (The Wollemi Pine, *Wollemia nobilis*, was the first species to

have a recovery plan approved, however *Pterostylis gibbosa* was the first plant to provide the model for creating such plans.)

Recovery plans in NSW are prepared by the NSW National Parks and Wildlife Service (NPWS) and are funded from Commonwealth and state government sources. In NSW, the Scientific Committee determines priorities for the preparation of plans, with the highest priority to be given to species, populations and ecological communities that are endangered nationally. To date, 106 orchid species are listed as endangered and 60 species vulnerable under the Commonwealth's *Endangered Species Protection Act 1992*. Of these 18 species are listed as endangered and 15 species are listed as vulnerable under *The Threatened Species Conservation Act 1995(NSW)*. Those listed as threatened then have to compete with all other threatened flora and fauna species to obtain the limited funding available to have recovery plans developed. For example the target for NSW is 144 recovery plans prepared by 2001.

At present the following recovery plans are in the process of being developed for the following NSW orchid species; *Genoplesium plumosum* (Rupp), *Genoplesium rhyoliticum* D.L.Jones & M. A. Clem., *Microtis angusii* D.L. Jones, *Pterostylis gibbosa* R. Br., *Pterostylis* sp. aff. *plumosa* "Botany Bay" (A. Bishop J221/1-13) and *Pterostylis hians* D.L.Jones. In following articles the progress of these recovery plans will be account. *Pterostylis gibbosa* will be the first covered as it began the recovery plan process at both the national and state level.



More on *Bulbophyllum blumei* (Lindl.) J.J. Sm.

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My recent article on *Bulbophyllum blumei* (*The Orchadian* 13 (3): 116–117) has created some interest among some of the better-known botanists and enthusiasts worldwide. I have received letters from Dr. Leslie Garay in the USA and Mr. Paul Ormerod telling me that I got it wrong about the name of this commonly grown species.

Paul Ormerod, in a letter, explains the story this way:

“As a matter of interest *Bulbophyllum blumei* is an illegitimate name. Its basionym *Cirrhopetalum blumei* Lindl. (*Genera and Species of Orchidaceous Plants*, 59, 1830) was based on *Ephippium ciliatum* Blume (1825). Lindley should have adopted the epithet *ciliatum* instead of *blumei*, thus making the name illegitimate under Article 52.1 (International Code of Botanical Nomenclature, 1994). The correct name for the taxon we call *Bulbophyllum blumei* is I believe *Bulbophyllum maxillare* (Lindl.) Rchb. f. based on *Cirrhopetalum maxillare* Lindl., the next available legitimate name”.

Dr. Garay's views are a little different and he writes:

“First of all the type of *Ephippium* is *Ephippium ciliatum* Bl. This remains the type when the genus becomes a mere Section of *Bulbophyllum*. Schlechter's *Bulbophyllum nasica* was not part of the original protologue, hence cannot be used as type!

Cirrhopetalum blumei Lindl. is an illegitimate name because the epithet *ciliatum* WAS available in *Cirrhopetalum* at that time. Consequently J.J. Smith's transfer to *Bulbophyllum* is also illegitimate. Reichenbach already in 1861 took care of this by proposing the new name *Bulbophyllum cuspidilingue*

Rchb. f. for *Ephippium ciliatum*. *Bulbophyllum cuspidilingue* is the correct name for the Javanese plants.

Closely related to *Bulbophyllum cuspidilingue* is *Bulbophyllum maxillare* (Lindl.) Rchb. f. from the Philippines and Borneo. Both these species have long-tapering lateral sepals without any constrictions and distinct caudae or tails. In *Bulbophyllum cuspidilingue* the petals are ciliolate! In *Bulbophyllum maxillare* the petals are glabrous! See Vermeulen's *Orchids of Borneo* Vol. 2 and Seidenfaden's *Notes on Cirrhopetalum* (1973) where it is illustrated as *Bulbophyllum cheiri* (the source of Valmayor's mistake).

The New Guinea and adjacent islands species have a definite constriction in the lateral sepals, which are then extended into long knobby caudae. This is *Bulbophyllum masdevalliaceum* Krzl. Your picture represents this species.

Incidentally, the picture by David Titmuss in *The Orchadian* 11 (9): 424, 1995 as *Bulbophyllum nasica* represents *Bulbophyllum longicaudatum* (J.J. Sm.) J.J. Sm”.

I personally believe that it is important to know what the correct name for a species is, and I thank both Dr. Garay and Mr. Ormerod for informing us all as to what we should label our plants of these species.

Though I often think what a pity a plant can't talk then we wouldn't have all these difficulties with wrong names.



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Riviera Orchids Under New Management

Pat & John Campbell wish to thank
all their customers and the staff of
The Orchadian for their support and
friendship over the last 10 years.

Also to welcome Warren Simpson
of RMB 8510, HILLEND - 3825,
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Warren will be continuing with the
hybridisation of Australian Native
Orchids and is building up a superb
collection to work from, should be
some exciting plants for the future -
we wish him every success
in his new venture.

Deflasking *Sarcochilus dilatatus* and *S. hillii*

Roslyn Capell,
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Combine a weakness for *Sarcochilus*, a successful deflasking record and ready access to certain nurseries' flask catalogues and you can have a really serious problem!

I conquered deflasking the 'mainstream' *Sarcochilus* seedlings a few years ago. By 'mainstream' I mean *Sarcochilus hartmannii* and *S. fitzgeraldii* and hybrids with those species predominating in the breeding: sturdy plants which seem to grow happily in pots if provided with an appropriately coarse medium. When plants of this type are deflasked I give them a bath in Previcur solution, pot into seedling tubes, spray with Envy, place into a plastic mini-greenhouse 'humidicrib', and gradually introduce them to the elements over a two-week period. I have had a high success rate. (One could almost say too high; I have a lot of *Sarcochilus* plants!)

As well as numerous hybrids, my collection contained all the commonly cultivated *Sarcochilus* species: *S. hartmannii*, *S. fitzgeraldii*, *S. olivaceus*, *S. ceciliae*, and *S. falcatus*, all doing reasonably well in their microclimates in my shadehouse.

In March 1999 I sent for a copy of Simpson Orchids' catalogue. It included flasks of *S. dilatatus* and *S. hillii*. These are not commonly available *Sarcochilus* species and the temptation was irresistible. I had read Gerry Walsh's article about *S. dilatatus* on the ANOS website, and read what I could find about *S. hillii*. It seemed that these orchids favour similar conditions, and I decided I should be able to provide a suitable environment for them both. (Mind you, I have at times also formed the view I can provide a suitable environment for the very cold growing crop black currants and the very tropical jackfruit, in the same garden in Sydney where the orchids live, so perhaps my opinion in this regard is not reliable.)

Deflasking these little plants would be different. They really had to be mounted straight away, and not initially potted. I mainly used those pieces of ironbark that certain nurseries sell as

stakes. I used the pieces that are about two feet long. Partly because of the inevitable losses and partly because of limited space I placed three plants onto each mount. I also placed a few on virgin cork mounts. I sprayed the little plants with Envy, and then hung the mounts in the shadehouse. I do not have the facilities to provide humidicrib conditions for several two foot pieces of wood, so they were hung up with the other plants in what would be their permanent position in the shadehouse. However I had successfully deflasked the leafless Thai species *Chiloschista lunifera* in October 1998 in a similar manner, and was optimistic. The *S. dilatatus* were hung about two metres off the ground above a narrow shelf on which pots of the 1997 deflasking of *S. hartmannii* ('Yellow Snow' x 'Red Snow') sit, and the *S. hillii* were hung below the shelf as I understand they prefer more shade.

I misted frequently, and waited.

I expected a high attrition rate. A number of the smaller seedlings of each species died within weeks of deflasking in early April 1999. The rest hung on, doing nothing at all throughout the rest of autumn and into winter. This lack of activity did not worry me though as I consider lack of any change is a good sign with recently deflasked epiphytes. I remembered the *chiloschistas*, their strange mass of thick grey roots sitting on their mounts for three months before showing any sign of activity, but, importantly, not shrivelling. I think the Envy is a big help here.

After about two or three months I saw the first new root growth on both species, and they slowly started growing new leaves. Some plants started to shrivel in the early spring, and died. The remaining plants steadily grew. I watered regularly and fertilized lightly.

They have plenty of air movement and the mounts dry quickly after watering. The plants seem to like their hosts. Some of the *S. dilatatus* roots wandered initially but turned back to their mounts and re-attached. Using the long mounts seems to be a good idea with these species, especially *S. dilatatus*, as they may be small plants but their roots like to roam.

A few more died in the early summer, but these plants had been growing for some time and I attributed these losses more to the infamous Sudden Sarc Death Syndrome than anything I had done or failed to do.

In January 2000 one of each of the *S. dilatatus* and *S. hillii* plants flowered. Nine months out of flask. Not bad!

But then that's one of the attractions with epiphytic "sarcs". With dendrobiums you can

wait years and years for the first flowers, but "sarcs" will reward you much sooner.

We are indeed lucky that people such as Frank Simpson, Michael Harrison, Darryl Smedley, John Woolf and David Butler are taking the trouble to produce flasks of our wonderful native orchid species, so we can grow and enjoy them safe in the knowledge that our pleasure is not at the expense of the remaining wild populations. As a bonus, flask-grown plants tend to be easier to cultivate than wild-collected plants.

Right now I am planning how I will rearrange things to fit in the mounts holding the *Sarcochilus spathulatus* plants I hope to be deflasking soon!



Orchids and Rudolf Schlechter

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When considering the orchids of Papua New Guinea one name stands out... "Schlechter". Anybody who has had even a glance at his book, *The Orchidaceae of German New Guinea* cannot but be amazed at its scope, size, detail of species and genera, masses of drawings, maps, and lists of his trips in what was then German New Guinea, now part of Papua New Guinea.

But what of the man himself? When and how did he do all this work? What else did he do? How does his name crop up associated also with orchids of both Africa and America? Fortunately, because he kept such detailed records and was so highly thought of, we have some information that gives an idea of the man and his life.

Friedrich Richard Rudolf Schlechter was born in Berlin on 16th October 1872, the third child of six, of a lithographer, Hugo Schlechter, from whom he inherited both the ability to draw and a love of nature. He left school early, at 15 years, to become an apprentice at the well-known nursery of Mrs. Bluth. Later he became an assistant at the Botanic Garden of the University of Berlin. In 1891 at the age of 19, he decided to go to South Africa, to explore the flora of the Cape. He began working for Dr.H.

Bolus of Capetown and soon began studying the material in the Bolus Herbarium, going on field trips in the vicinity, collecting plant material and meeting other botanists.

Schlechter always kept records of his field trips and the itinerary of his travels and publications begins in November 1891 where he explored and collected in the Capetown region until October 1892. From then, until the end of March 1895, he travelled further into the country, firstly northward along the coastal regions to Durban, then inland to Pretoria, through the Transvaal nearly to the Limpopo river, back to Capetown, then Durban once again. In 1894 and 1895 his first scientific papers on South African Orchidaceae and Asclepiadaceae (Milkweeds) were published. In April 1895 he set off for Europe with his collection of 7,000

plant specimens, half for the Museum of the Zurich Botanical Garden and the duplicates to the Berlin Government Herbarium.

The Berlin-Dahlem Botanical Museum offered to send him back for a more extensive collecting trip. So in January 1896, it was back to South Africa, this time with his brother Max, who undertook to do the drying and packing of the species Rudolph collected, with the help of a servant. The itinerary shows that they collected over a very large range, along many rivers from the Olifant in the east to the Orange flowing to the west. At times they returned to Capetown where he identified his material, described new species and began the revision of an orchid group. After further trips collecting in the region of the Orange River, they went to Port Nolloth on the west coast, from where on October 10 1897, they took a ship back to Capetown.

Back in Capetown, Max decided to settle in South Africa, and Rudolph returned to Germany via Mozambique. Here he spent four months exploring a very different land, with marshes, forests, numerous rivers and a hot humid climate. At this time, rubber was becoming very important and he was invited to join the expedition of a large industrial company to study various latex bearing plants, which might be used to prepare rubber. On this trip he discovered a new *Ficus* species, and saw many epiphytic orchids, mostly of the genus *Angraecum*. Back in Lourenco Marques (Maputo), he prepared a report to the company, then in May 1898, set off for home. During this trip he suffered from several attacks of fevers and dysentery. From these two years in South Africa he was able to publish two papers on the plants of South Africa and Mozambique.

Back in Berlin, Schlechter began working for a PhD, studying chiefly Botany and Geology, at the University of Berlin. His time spent writing scientific publications and other activities exempting him from any entrance exam. These studies were interrupted twice when the Colonial Economic Committee and the scientist, Otto Warburg, were looking for a way to develop a rubber industry in some of the German colonies. He was chosen to lead an expedition to West Africa to study various

species of plants which could produce a rubber-milk going first to Lagos in Nigeria, collecting many seeds of *Kicksia* then taking them to Cameroon at that time one of the German African colonies, for distribution to nurseriesthere. While in West Africa he travelled widely both by foot and by boat on the rivers Kongo, Sanga, and Ngkoko and also explored Togoland. An account of his travels he published as *The West African Rubber Expedition 1899-1900*.

Soon after returning home, he was asked to lead another expedition, this time to German New Guinea and the German colonies in the South Pacific. He was to explore, find the distribution of the gutta-percha trees, and study the Dutch methods of cultivation of several other plants such as the sago palm. On the way to New Guinea he managed to visit Sumatra, Borneo, Java, the Mollucas, Amboina, and Banda. He took thousands of young gutta-percha, and rubber trees and their seeds to the German colonies, and discovered another gutta producing species in German New Guinea. Some of the plants he collected here were sent back to Berlin and to Cameroon. He found time, despite frequent attacks of malaria, to collect other flora as well, especially orchids, his favourites. Before returning home, he visited New Caledonia, where he collected over a thousand plant specimens.

Using his collection from New Caledonia, he worked on an extensive study of the flora of that island, and submitted as his thesis, the *Phytogeography of New Caledonia* for his PhD, which he received in December 1904. For the next few months he was employed at the Botanical Museum, in the identification of their collections of Asclepidaceae and Orchidaceae before making a short trip on behalf of the Colonial Economic Committee to Cameroon to inspect the *Kicksia* plantings, now five years old.

In October 1906 The German Colonial Society together with the Government and the rubber manufacturing industry, under the leadership of the Governor of German New Guinea, financed another expedition to "King Williams Land". The

aim was to find economically viable sources of gutta-percha and rubber, to train the locals to harvest these, and to prepare and distribute the products. With all his experience Schlechter was given responsibility for the organisation. His travels took him to places such as the area around Madang, the Waria and Ramu Valleys, and the Bismark, Torricelli and Finisterre Ranges from where he made extensive collections of orchids. After three years in New Guinea, and with short collecting stops in Sulawesi, Java and Sumatra, he arrived home in late 1909, publishing his report in 1911.

All in all he had been travelling for 18 years, and he now decided to settle down. He married Alexandra Sobennikoff, the daughter of a Russian Tea merchant, (He later named *Dendrobium alexandrae* in her honour, as well as the Angraecoid genus *Sobennikoffia*) and found secure employment as a botanical assistant at the Berlin-Dahlem Museum where he had been a voluntary assistant. He gave his collections to the Museum and became involved with the research and publication on various plant families. It was at this time that he also wrote and illustrated *The Orchidaceae of German New Guinea*, first published in 1914. The War intervened and he was sent to the Front, and later was awarded the Iron Cross Class 2 for Valour.

Back at the Museum, he was promoted and was able to spend much of his time on his study of orchids from many parts of the world, Chinese, Japanese, Madagascan, Central American and Colombian. He described over 1000 new species. In 1915 he had already published a book on the "Description, Culture and Breeding of Orchids" commonly known as "Der Schlechter", which has since undergone a number of editions. It was at this time that he began his work to develop a system of classification based on a combination of the study of the reproductive structures in the flowers and the vegetative organs. This was published posthumously, in 1926, and as Joseph Ardittii says in *Fundamentals of Orchid Biology* made "Schlechter one of the most prolific and influential orchid systematists in history".

His British colleagues are said to have seen him as a tireless worker, a thorough going scientist and a man with a very strong will and persistence despite obstacles. He had an excellent memory (he says, necessary for a botanist), great ambition and self-confidence. He was a very energetic person, who felt he had to describe one new species every day. In New Guinea alone he described 1102 new species. In the list he kept of his publications, over three hundred scientific papers are recorded in addition to numerous books. Unfortunately in his early travels, he had picked up tropical diseases such as malaria, black-water fever and dysentery. Though he continued to work, his health was seriously affected and he died suddenly in November 1925, leaving his wife Alexandra and two school age daughters. Although his large collection in the herbarium of the Berlin-Dahlem museum was destroyed in World War II and the latex industry in New Guinea collapsed, he will always be associated with the orchids of Papua New Guinea and throughout the world, long remembered as a botanist and orchidologist.

References

Rudolph Schlechters Leben und Wirken, von Th. Loesner. Sonderdruck aus "Notizblatt des Bot. Gart. u. Mus. Berlin-Dahlem" Bd.1X Nr. 89 (1926) {This was presented at the memorial meeting of the Botanical Society of the Province of Brandenburg in December 18 1925 and published with Schlechter's Itinerary of his travels and publications.}

Rudolph Schlechter: His Life and Work D.G. Frodin, Dep. of Biology University of Papua New Guinea and published in *Science in New Guinea* 3(2) August 1975.

My thanks to Dr. K. Senghas of the Botanical Gardens of the University of Heidelberg for the copy of the original article, to Dr. K. Robatsch for contacting Dr. Senghas and to Dr. H. Kurzweil, of the Herbarium at Kirstenbosch, Capetown, South Africa for the translation. Thanks also to Darryl Smedley for the copy of the article by D.G. Frodin.



4th Australasian Native Orchid Conference and Show 5-8 October 2000

"Native Orchids - Our Natural Heritage"

Australasian Native Orchid Conferences are held every three years and the next one, to be held in Melbourne, Victoria is only four months away. These are great events so there is every reason to make the effort to attend. The conference organizing committee has been working hard on all aspects of the conference and show and now everything is starting to take shape they are getting very enthusiastic about what should be a wonderful conference and show.

The conference venue Karralyka in Ringwood, with its extensive native garden setting ample parking and proximity to public transport is ideal for all aspects of the conference and show. The speaker program will be held in the large, comfortable, fully equipped theatre and the show area of 450sq m will allow the orchids to be displayed to advantage.

With up to 15 sales stalls it will be a great opportunity to buy plants from many of the premier orchid nurseries. Also on sale will be a variety of orchid books and art & craft items

The speaker program for the Friday and the Saturday has been arranged to provide a good mix of papers each day. 25 excellent speakers are providing 26 papers on topics that include epiphyte and terrestrial orchid cultivation; viruses and hygiene; *Bulbophyllum*, *Dockrillia*, *Sarcochilus*, *Dendrobium*; Orchid conservation programs; Regional orchid floras, Taxonomy, Pollination.

Conceived around the Conference theme "Native Orchids - Our Natural Heritage" the Central display will definitely be a highlight.

Imagine walking through orchids set in grassland, open woodland, heathland, closed woodland, *Casuarina* forest, a rocky outcrop and subtropical rainforest.

Field trips planned include a 3-day trip to the Grampians and a one-day trip to Anglesea area prior to the conference, and a day trip to French Is on the final day. Also on offer is a trip taking in two Yarra Valley wineries and Healesville Sanctuary and for the shopaholics a Shopping tour.

The social program starts with the Official opening of the Conference and Show at the Cocktail party on the Thursday evening. The opening of the central display at this function will enable those attending to wander through the exhibits.

The Conference Dinner on the Saturday evening (a 3-course meal, with silver service, and drinks included) will be held at Fountains restaurant Box Hill. The dinner is an optional extra. Other activities are planned for most nights to allow opportunities to socialise.

The forthcoming conference is an opportunity:

- to meet and mix with orchid enthusiasts from around Australia and overseas
- to increase your knowledge about native orchids and their cultivation
- to see the very best orchids.

It should not to be missed.

More information and Registration forms are available from the Conference web site

www.anos.org.au/conference/index.html

**Or from the conference Secretariat : PO Box 2152 Templestowe Hts Vic 3107
Ph.03 9850 9867**



Notice Of Special And Annual General Meetings, Election Of Council & Advisory Committee Meeting.

The above meetings of the Society will be held at the **Gosford R.S.L. Club, 26 Pacific Highway, West Gosford at 10am on Saturday, 5th August 2000.** Hosted by ANOS Central Coast Group. Morning tea will be served from 10am and lunch will be available at the club.

The Special General Meeting will commence at 10am to vote on the following recommendation from the Advisory Committee.

"That the Society's Rules be amended as follows:

RULE 9.

COUNCIL.

(2) Membership of Council

(a)

DELETE

"Subject in the case of the first members of Council to S.21 of the Act. "

ADD

(iii) after "President's term of office" the word "and".

"(iv) the Society's New South Wales Registrar of Judges, duly elected by the New South Wales Judging Panel set up pursuant to Rule 3 (5);
and

(v) the Society's National Registrar of Judges, duly elected by the ANOS Inc. Judging Panels set up pursuant to Rule 3 (5)."

(b)

ADD

"(vi) the Conservation Officer."

The relevant clause of Rule 9 would then read:

"(2) Membership of Council

(a) Council shall consist of:

(i) the Office Bearers of the Society; and

(ii) seven Councillors, each of whom shall be elected at the Annual General Meeting of the Society pursuant to Rule 9 (3); and

(iii) the Immediate Past President of the Society, so long as he or she remains a member, shall remain a member of Council without holding any office during the succeeding President's term of office; and

(iv) the Society's New South Wales Registrar of Judges, duly elected by the New South Wales Judging Panel set up pursuant to Rule 3 (5); and

(v) the Society's National Registrar of Judges, duly elected by the ANOS Inc. Judging Panels set up pursuant to Rule 3 (5).

(b) The Office Bearers of the Society shall be:

(i) the President;

(ii) the Vice-President;

(iii) the Treasurer;

(iv) the Secretary;

(v) the Editor;

(vi) the Conservation Officer."

RULE 16.

ANNUAL GENERAL MEETING - HOLDING OF
Delete "(1)" and the words "With the exception of the first Annual General Meeting of the Society,"
Delete Clause (2).

This Rule will now read:

"The Society shall, at least once in each calendar year and within the period of six months after the expiration of each financial year of the Society, convene an Annual General Meeting of its members."

Following this vote, the Annual General Meeting (AGM) will be declared open and the Election of Council for 2000-2001 will take place.

The ANOS Advisory Committee Meeting will be held in conjunction with the above, commencing after closure of the AGM.

ANOS Groups and Associated Native Orchid Societies are requested to advise the Secretary the names of their delegates or to nominate representatives to the Advisory Committee Meeting before 29th July 2000.

Nominations For Election To Council

Nominations for election of ANOS Council are called for. These should be signed by a member of the Society, countersigned by the Nominee accepting nomination and lodged with the Secretary no later than 29th July 2000.

The positions to be filled are President, Vice-President, Secretary, Treasurer, Editor plus seven Councillors. In the event that the Society's Rules are amended as above, nominations will be called for the position of Conservation Officer prior to the Election.

Proxy Forms for the Election must follow the format set out in Appendix 1 the Society's Rules.





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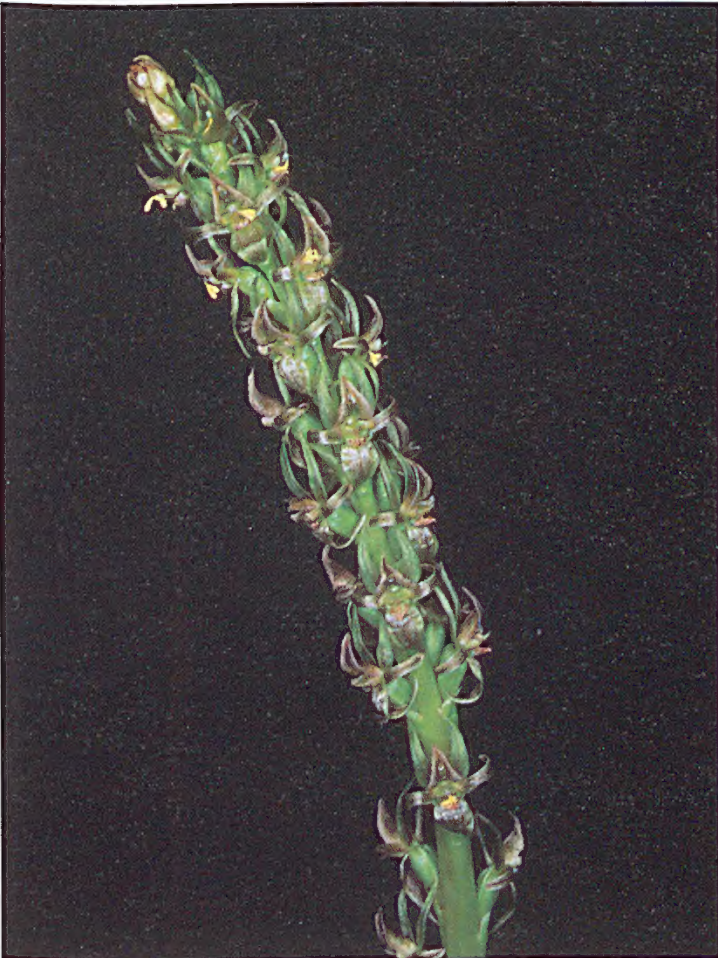
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NEW SOUTH WALES

- **ANOS Central Coast**, P.O. Box 3010 Erina 2250. ☎(02) 4328-5667. Meetings 8pm, 2nd Wed. each month. Temple Kiely Visitors Centre, Department of Agriculture Station, Research Rd., Narara.
- **ANOS Far North Coast**, P.O. Box 949 Ballina 2478. ☎(02) 6686-6303. Meetings 7.30pm, 3rd Fri. each month. C.W.A. Room, River Street, Ballina.
- **ANOS Illawarra**, 13 Eleanor Ave., Oak Flats 2529 ☎(02) 4256-1608. Meetings 7pm, 2nd Tue. each month. Legacy House, Market St., Wollongong.
- **ANOS Macarthur & District**, 28 Crispsparkle Dr., Ambarvale 2560. ☎(02) 9727-4491. Meetings 8pm, 3rd Wed. each month. Narellan Community Hall, Queen St., Narellan.
- **ANOS Mid-North Coast**, P.O. Box 128 Taree 2430. ☎(02) 6553-1012. Meetings 7.30pm, last Fri. each month. (Held at Taree or Wauchope - telephone Secretary for details).
- **ANOS Newcastle**, P.O. Box 273 Kotara Fair 2289. ☎(02) 4942-1362. Meetings 7.30pm, 4th Tues. each month. Warners Bay Community Hall, Crn John & Lake Sts., Warners Bay.
- **ANOS Port Hacking**, P.O. Box 359 Gymea 2227. ☎(02) 9524-9996. Meetings 8pm, 4th Wed. each month. Presbyterian Church Hall, 391/393 Port Hacking Rd. Sth., Caringbah.
- **ANOS Sydney**, 4 Regal Ave., Kings Langley 2147. ☎(02) 9624-1768. Meetings 8pm, 3rd Fri. each month. Senior Citizens Hall, Baulkham Hills Community Centre (off Conie Ave.) Baulkham Hills.
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QUEENSLAND

- **ANOS Kabi**, P.O. Box 424 Aspley 4034. Meetings 7.30pm, 2nd Tue. each month (except Jan.). Bald Hills Memorial Hall, Gympie Rd., Bald Hills.
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D.P. Banks

Prasophyllum* sp. aff. *campestre

A rare undescribed taxon from near Rushworth, Victoria
Photographed *in situ* November 1999, (with thanks to Gary Backhouse for taking me to this site).

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