



Dockrillia 'Blue'



Dockrillia fuliginosa

Two threatened new species of *Specularantha* (Orchidaceae) from south-eastern Australia.

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Abstract

Specularantha ventricosa and *S. glyphida* from south-eastern Australia, both localized endemics and highly threatened, are described as new.

Key Words

Orchidaceae, *Specularantha ventricosa*, *Specularantha glyphida*, new species, threatened flora, New South Wales, Australian flora.

Introduction

A revision of *Specularantha* is nearly complete but the only known populations of one species, described below as *S. ventricosa*, are threatened by proposed residential developments and its conservation may be aided by urgent description of the species (John Briggs pers. comm.). Another rare species which has many similarities with *S. ventricosa* and can be considered to be a sister taxon, is included in the paper. Both species are described here as new.

Materials and Methods

Descriptions of taxa were made from fresh specimens. Dried specimens of *Specularantha* were examined from the following herbaria; AD, BRI, CANB, CBG, HO, MEL and NSW. Unless otherwise indicated, all types of *Specularantha* relevant to this study (or photographs thereof), and collections cited, have been seen by me.

Taxonomy

1. *Specularantha ventricosa* D.L.Jones, *sp. nov.*; affinis *S. parviflorae* (R.Br.) D.L.Jones & M.A.Clem., sed floribus multo angustioribus, nitidis; apice galeam claro castaneo; synsepalo latissimo basi, angustanti distaliter, sinu profunde inciso; labello late oblongo-elliptico, rufuscenti et albo, differt. Quoque *S. glyphidae* D.L.Jones, sed labello majore, extus visibili, differt.

Type: New South Wales. Nebraska Road,

off Waterpark Road, St Georges Basin, 23 April 2004, D.L.Jones 19070 & B.E.Jones (holo CANB 661325; iso NSW).

Description: Glabrous, tuberous, terrestrial herb. Plants 8-30 cm tall, not elongating in fruit. Rosettes just emerging at anthesis, 1-2, borne on lateral growths from the base of the scape or on sterile plants. Rosette leaves spreading, 4-9 per rosette; lamina ovate to sagittate, 3-12 mm long, 3-6 mm wide, dull green; margins entire; apex acute to apiculate; petioles 3-8 mm long, very slender, narrowly winged. Scape slender, wiry, 1-6-flowered. Sterile bracts closely sheathing or spreading and foliose, 3-5, ovate-lanceolate, 5-12 mm long, 2-5 mm wide, acuminate. Fertile bracts closely sheathing, ovate, 3-6 mm long, 2-4 mm wide, acuminate. Flowers well spaced, 1-3 open at once, 10-13 mm long, 4.5-5.5 mm wide, green and white towards the base, bright red-brown distally, somewhat shiny, swollen at the base and narrowing distally; galea strongly inflated at base, erect before curving forwards in a semi-circle; petals longer than the dorsal sepal, smooth (non-scabrous). Dorsal sepal broadly ovate-lanceolate when flattened, 13-16 mm long, 5-8 mm wide, inflated at the base then tapered to apex, boldly striped, acute to apiculate, smooth. Lateral sepals erect, closely embracing the galea; sinus curved smoothly inwards, the area below bulging when viewed from the side, deeply notched at the centre, margins sloping obliquely upwards; conjoined part 6-8 mm long, 5-7 mm wide, narrowed to 2 mm wide at the base; free points erect, 2.5-3.5 mm long, linear-tapered, just reaching above the top of the galea. Petals broadly oblong, 10-13 mm long, 2.5-3 mm

wide, strongly falcate, dark brown striped with white, acute; flange c. 1 mm across, broadly deltate, obtuse. *Labellum* erect, the tip visible through sinus in the set position, curved forwards near apex, dark red-brown and white. *Labellum lamina* broadly oblong-elliptical, 4.5-5 mm long, 2-2.3 mm wide, obtuse; basal appendage decurved, c. 1.3 mm long, broadest at the base; apex trifid, erect. *Callus* a raised, central, dark red brown ridge c. 0.3 mm across. *Column* 6-8 mm long, curved away from the ovary at 50° at the base then erect, red brown and white. *Column wings* c. 2.4 mm long; basal lobe broadly deltate, c. 1 mm long, c. 0.7 mm wide, brown, at an angle 50°; apex broadly obtuse; inner margins adorned sparsely with short, white cilia; mid-section c. 1 mm long, brown; apical lobe obliquely erect or curved, filiform, c. 0.7 mm long, acute. *Anther* c. 1.3 mm long, obtuse. *Pollinia* linear, c. 1.2 mm long, yellow, mealy. *Stigma* situated below the middle, broadly cordate, c. 2.2 mm long, c. 2.2 mm wide, prominently raised. *Capsules* erect, obovoid to ellipsoid, 9-12 mm long, 3-4 mm wide. **Fig. 1.**

Distribution and ecology: Known only from two sites in south-eastern NSW, the type locality in St Georges Basin and another at Sussex Inlet, both localities south of Nowra and only about 8 km apart. Further searching is required to determine if the species is more widespread than this. It grows in open areas within tall forest dominated by *Corymbia gummifera*, *Eucalyptus pilularis* and *E. piperita* with a dense, heathy understorey. The soil at the type site is a moisture-retentive grey silty loam. Plants also colonise disturbed sites such as road verges. Flowering is enhanced by good autumn rains and probably also in the second and third years after a burn. Alt. c. 30-40 m. Flowering; March to May.

Recognition: Characterised by late summer-winter flowering period; rosettes appearing late in anthesis or after anthesis; dull green rosette leaves (to 12 x 6 mm);

tall wiry scape; sheathing or foliose sterile bracts; 1-6-flowered inflorescence; well-spaced, plump, shiny flowers, 10-13 x 4.5-5.5 mm, green and white towards the base, bright red-brown distally, widest at the base and narrowing distally; smooth (non-scabrous) dorsal sepal; sinus curved inwards, deeply vee-ed when viewed from the front, the area below bulging when viewed from the side; linear free points just reaching above the top of the galea; and, a broadly oblong-elliptical, dark red-brown and white labellum, 4.5-5 x 2-2.3 mm, the tip visible from the exterior in the set position.

Similar species: A very distinctive species with obscure relationships. *Speculantha glyphida* from the vicinity of Tallong has similarly sized and similarly coloured flowers also with a smooth (non-scabrous) dorsal sepal, but its labellum is smaller and does not protrude through the sinus in the set position. Most other species with similar flowers can be readily distinguished from *S. ventricosa* by the distinctly scabrous dorsal sepal, flat or horizontal sinus and the labellum not visible from the exterior of the flower in any position.

Conservation status: Highly restricted, poorly known and not conserved; the only known sites are threatened by urbanization; suggest Critically Endangered (IUCN 2001).

Etymology: The Latin *ventricosus*, potbellied, bulging, in reference to the flower shape when viewed from the front.

Other specimens: NEW SOUTH WALES: Nebraska Road, off Waterpark Road, St Georges Basin, 29 Apr. 2000, *D.L.Jones* 17190 (CANB); *ibid*, 16 Apr. 2005, *D.L.Jones* 19207 & *G.Brockman* (CANB).

2. *Speculantha glyphida* D.L.Jones, *sp. nov.*; affinis *S. parviflorae* (R.Br.) D.L.Jones & M.A.Clem., sed floribus multo majoribus, atrobunneis versus apicem; sinu profundo; punctis liberis sepalinis

lateralis linearibus, galea super prominenti; labello majore, atrobrunneo et albo, differt. Quoque *S. ventricosae* D.L.Jones sed floribus atratiore, synsepalo latissimo prope basem; labello apice extus visibili, differt.

Type: New South Wales. Tallong Park Reserve, 14 March 2001, *D.L.Jones 17840* & *R.G.Tunstall* (holo CANB).

Description: Glabrous, tuberous, terrestrial herb. Plants 8-35 cm tall, not elongating in fruit. Rosettes absent at anthesis, 1-2, borne on lateral growths from the base of the scape or on sterile plants. Rosette leaves spreading, 3-6 per rosette; lamina ovate to sagittate, 3-12 mm long, 3-6 mm wide, dull green; margins entire; apex acute to apiculate; petioles 3-8 mm long, very slender, narrowly winged. Scape slender, relatively sturdy, wiry, 1-7-flowered. Sterile bracts closely sheathing, 3-5, ovate-lanceolate, 5-12 mm long, 2-4 mm wide, acuminate. Fertile bracts closely sheathing, ovate, 3-10 mm long, 2-4 mm wide, acuminate. Pedicels 1-4 mm long, slender. Ovaries obovoid, 7-10 mm long, smooth. Flowers moderately crowded, 1-3 open at once, 10-13 mm long, 4.5-5 mm wide, green and white towards the base, dark brown to blackish brown distally, somewhat shiny, swollen towards the middle; galea inflated at base, erect before curving forwards in an elongate semi-circle; dorsal sepal and petals of similar length, smooth (non-scabrous). Dorsal sepal ovate-lanceolate when flattened, 16-18 mm long, 5-8 mm wide, inflated at the base then tapered to apex, boldly striped, acute to apiculate, smooth. Lateral sepals erect, closely embracing the galea; sinus curved smoothly inwards, the area below bulging when viewed from the side, deeply notched at the centre, margins sloping obliquely upwards; conjoined part 7-9 mm long, 5-7 mm wide, narrowed to 2 mm wide at the base; free points erect, 2-2.5 mm long, linear-tapered, just reaching above the top of the galea. Petals broadly oblong, 10-13 mm long, 2.5-3 mm wide,

falcate, dark brown striped with white, acute; flange c. 1 mm across, broadly deltate, obtuse. Labellum erect, the tip not visible through sinus in any position, curved forwards near the apex, dark brown and white. Labellum lamina narrowly obovate-elliptical, 4.5-5.5 mm long, 1.8-2.2 mm wide, subacute; basal appendage decurved, c. 1.5 mm long, broadest at the base; apex trifid, erect. Callus a raised, central, dark red brown ridge c. 0.3 mm across. Column 6-7.5 mm long, curved away from the ovary at 50° at the base then erect, brown and white. Column wings c. 2 mm long; basal lobe broadly deltate, c. 0.6 mm long, c. 0.6 mm wide, brown, at an angle of 80°; apex broadly obtuse; inner margins adorned sparsely with short, white cilia; mid-section c. 1.2 mm long, brown; apical lobe obliquely erect, filiform, c. 0.8 mm long, acute. Anther c. 1.2 mm long, obtuse. Pollinia linear, c. 1.2 mm long, yellow, mealy. Stigma situated below the middle, obovate-cordate, c. 2.8 mm long, c. 1.5 mm wide, prominently raised. Capsules erect, obovoid to ellipsoid, 9-12 mm long, 3-4 mm wide, on pedicels to 7 mm long.

Fig. 2.

Distribution and ecology: Known only from the vicinity of the type locality in Tallong, but probably more widespread than this. It grows in open areas of heathy forest dominated by *Kunzea parvifolia*, on or near sheets of sandstone and sandstone outcrops. The surrounding forest is relatively stunted and sparse with a sparse to relatively dense understorey. The soil ranges from a grey sandy loam to stony skeletal loam. Alt. c. 650 m. Flowering; February to April.

Recognition: Characterized by summer-autumn flowering period; rosettes appearing late in anthesis or after anthesis; dull green rosette leaves (to 12 x 6 mm); tall, sturdy scape; sheathing sterile bracts; 1-7-flowered inflorescence; moderately crowded, boldly striped, plump flowers, 10-13 x 4.5-5 mm, green and white towards the base, dark brown to blackish brown

distally, somewhat shiny, swollen towards the middle; smooth (non-scabrous) dorsal sepal; sinus curved inwards, deeply vee-ed when viewed from the front, the area below bulging prominently when viewed from the side; filiform free points that extend above the top of the galea; and, a narrowly obovate-elliptical, dark brown and white labellum, 4.5-5.5 x 1.8-2.2 mm, the tip not visible from the exterior in any position.

Similar species: *Speculantha ventricosa* from St Georges Basin has similarly sized but lighter coloured flowers also with a smooth (non-scabrous) dorsal sepal, but its flowers are broadest at the base and narrow distally and its broadly elliptical labellum protrudes above the sinus in the set position. Most other species with similar flowers can be readily distinguished from *S. glyphida* by the distinctly scabrous dorsal sepal and a flat or horizontal sinus.

Notes: This species was brought to my attention by the late Ron Tunstall. *Speculantha glyphida* grows sympatrically with *S. parviflora* but natural hybrids are unknown. The flowers have a strong semen-like scent.

Conservation status: Highly restricted, poorly known and not conserved; the only known site is in a reserve of uncertain status; much of the natural habitat around Tallong has been alienated by development in the last 10-15 years; similar habitat exists east of the known population, but the species has not been located there after limited searching by the author; suggest 2EK by the criteria of Briggs & Leigh (1996).

Etymology: The Greek *glyphidos*, notched or grooved like that on an arrow, in reference to the distinctly notched sinus when viewed from the front.

Other specimens: NEW SOUTH WALES: Crown land near Santa Sabina College, Tallong, 14 Mar. 2001, *D.L.Jones 17850* & *R.G.Tunstall* (CANB); Tallong Park

Reserve, 14 Mar. 2001, *D.L.Jones 17839* & *R.G.Tunstall* (CANB).

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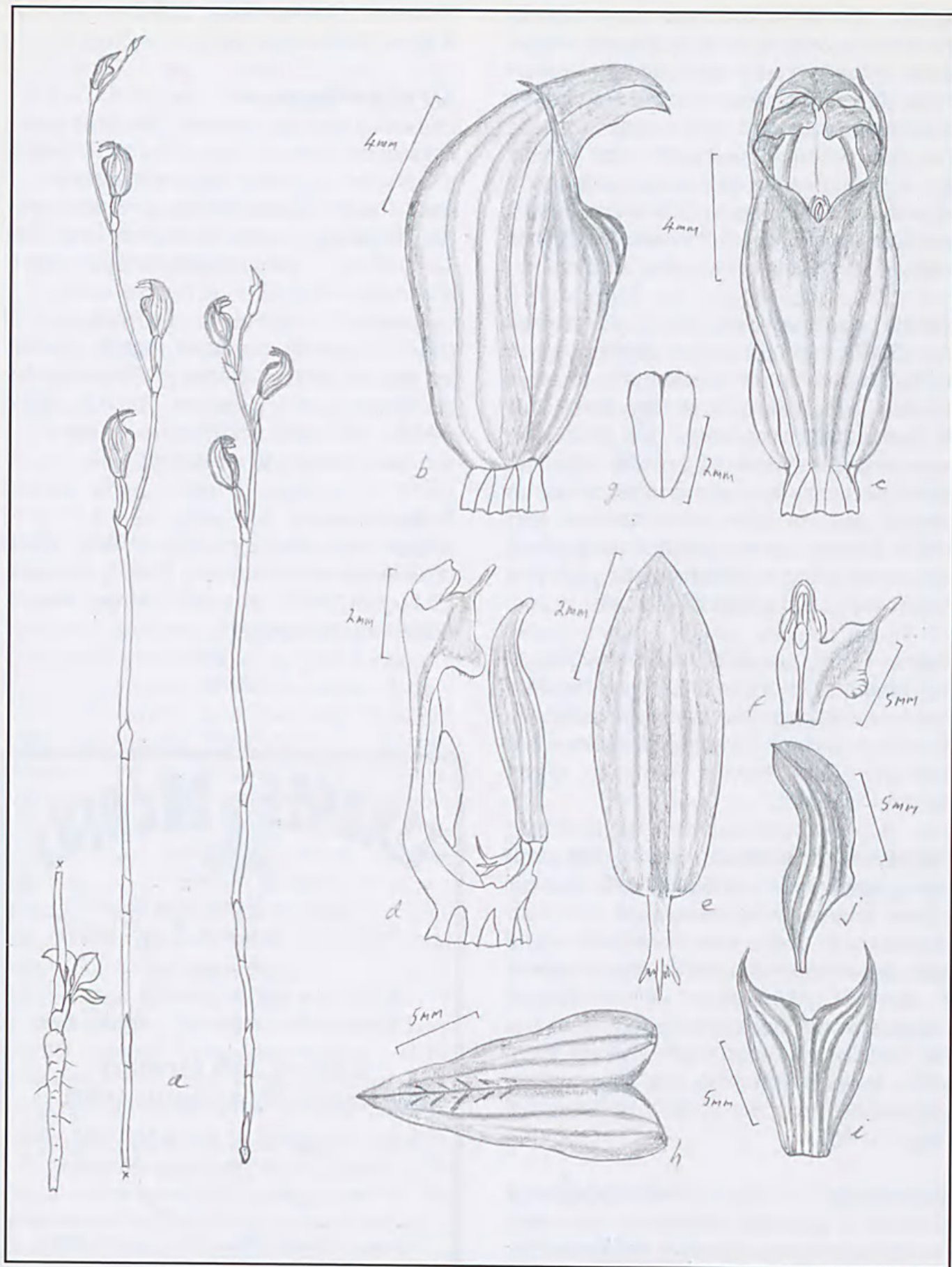


Fig. 1. *Specularantha ventricosa*, St Georges Basin, DLJ 17190. a. flowering plants and rosette; b. flower from side; c. flower from front; d. column and labellum from side; e. labellum from above, flattened; f. column apex, anterior view, one wing removed; g. stigma; h. pollinium; i. dorsal sepal; j. synsepalum; k. petal.

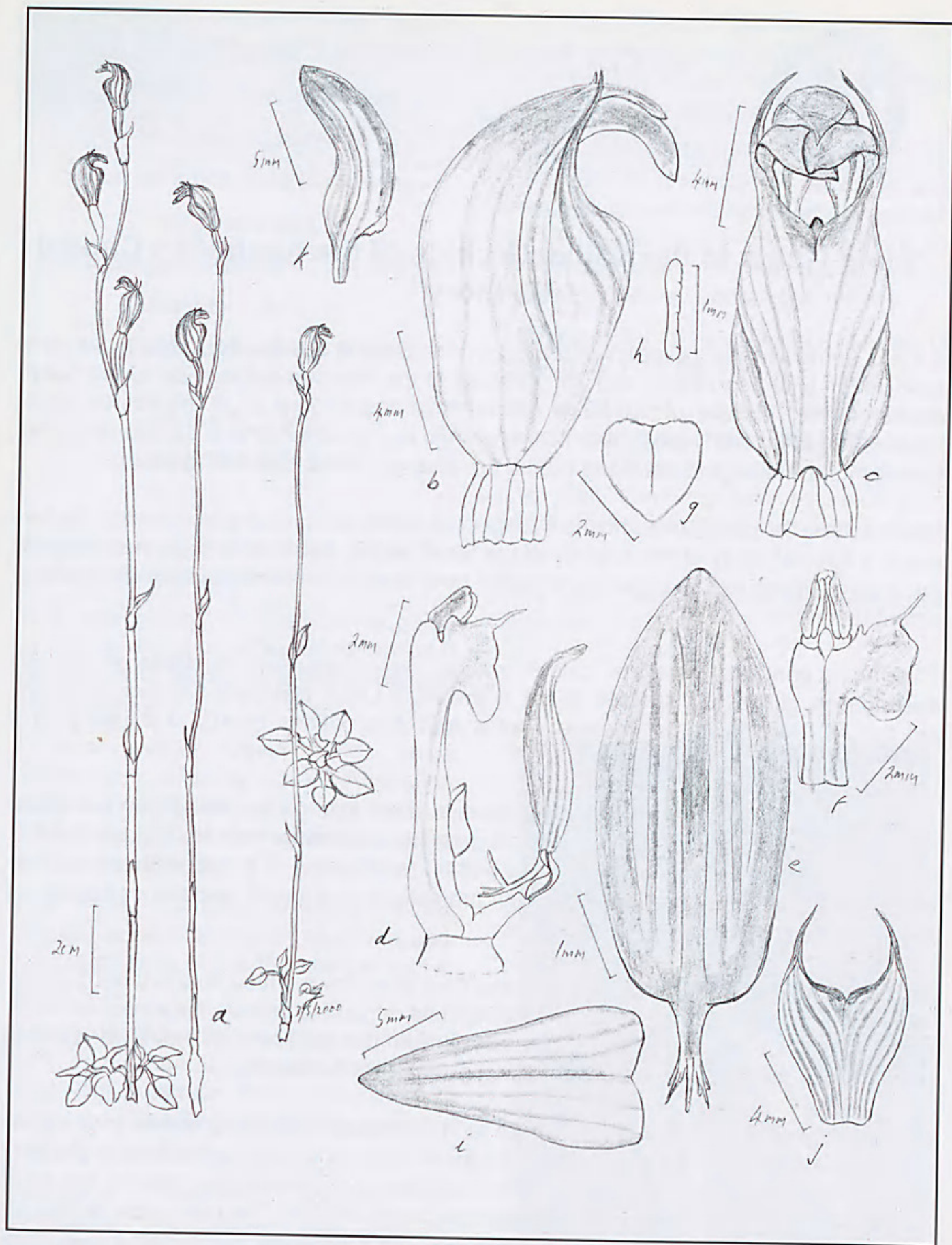


Fig. 2. *Specularantha glyphida*, Tallong, DLJ 17840 (drawn from type). a. flowering plants; b. flower from side; c. flower from front; d. column and labellum from side; e. labellum from above, flattened; f. column apex, anterior view, one wing removed; g. stigma; h. dorsal sepal; i. synsepalum; j. petal.



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