

## *Stylidium candelabrum* (Stylidiaceae), a new species from the Northern Territory, Australia

The new species of triggerplant (Stylidiaceae) described here is endemic to the Northern Territory. It belongs in *Stylidium* subgenus *Andersonia* (R. Br.) Mildbr., which is characterized by having a linear hypanthium, the walls of the mature capsule recurved, the septum erect and persistent, and numerous seeds. This subgenus occurs in regions of tropical northern Australia and extends into south-east Asia (Mildbraed 1908).

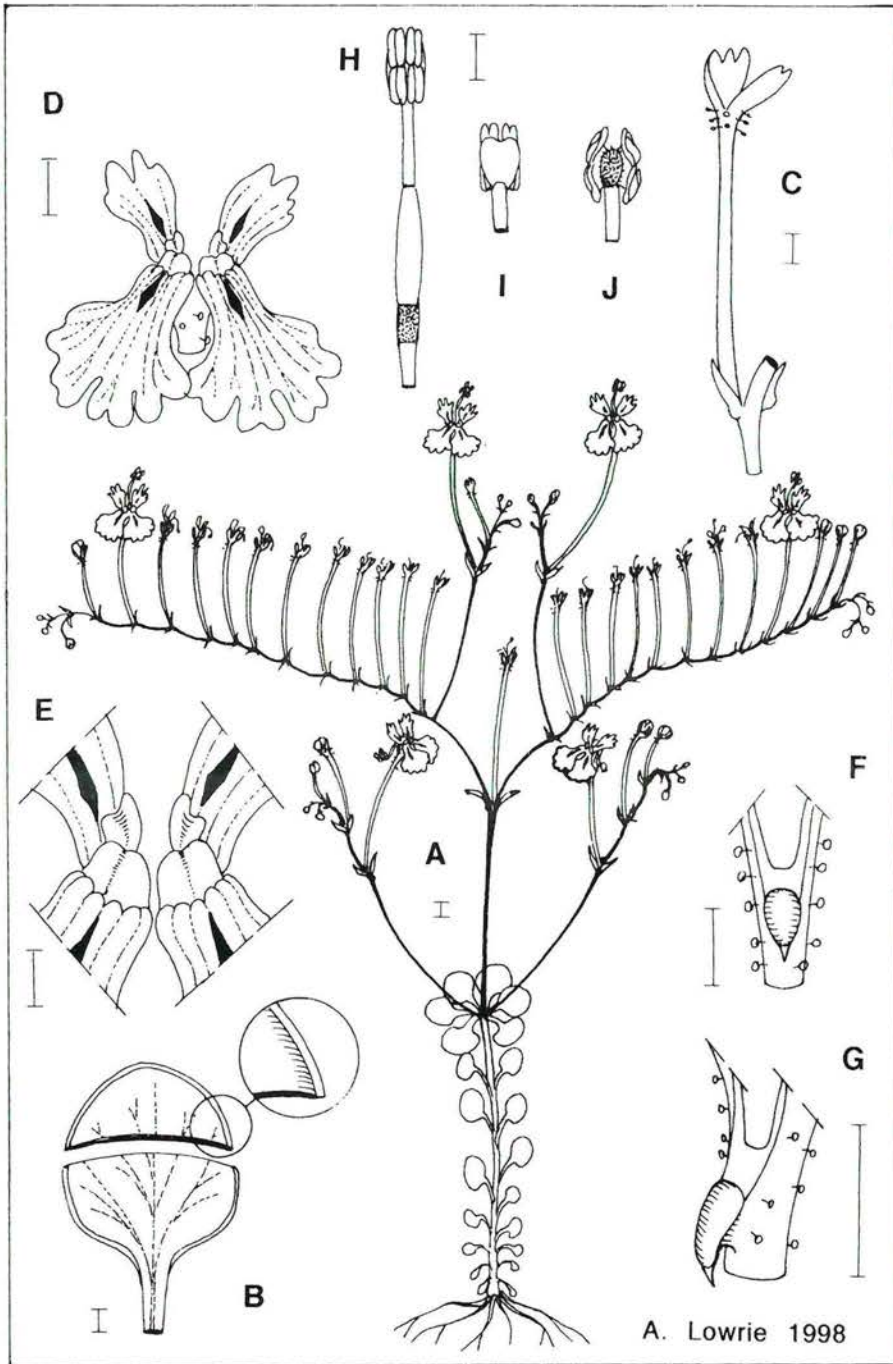
### Taxonomy

*Stylidium candelabrum* Lowrie & Kenneally, *sp. nov.*

A speciebus tropicis bene distincta, foliis obovato-spathulatis, secus caulem erectum dispersis et in rosula terminali positis, inflorescentiis scorpioideis cymosis multifloribus e rosula exorientibus, floribus parvis, lobis corollae verticaliter binatis, apicibus petaliorum multilobis, sepalis in grege duorum et trium fere ad apicem connatis calycem bilobum formantibus.

*Typus:* Headwaters Katherine River, Arnhemland, 13° 47' 24" S, 133° 05' 18" E, Northern Territory, Australia, 11 July 1996, C.P. Mangion 245 & C. Dunlop (*holo:* DNA D0130045; *iso:* PERTH).

Erect annual herb 8–30 cm (mostly 12–20 cm) high including inflorescence; stem reddish, 2.5–5 cm long, *c.* 1 mm diam., with leaves scattered along an erect stem and in a terminal rosette. *Leaves* green, obovate-spathulate, lamina with marginal hyaline, 6.5–7 mm long, 6–7 mm wide, petioles 0.5–0.8 mm wide at the base, dilated to 1.5–2 mm wide at the base of the lamina, flat in section, glabrous. *Inflorescence* a multi-flowered scorpioid cyme arising from the terminal rosette, 6–20 cm long, sparsely glandular throughout. *Bracts* and *bracteoles* lanceolate, 1–2 mm long, 0.15–0.4 mm wide, sparsely glandular at base. *Pedicels* sessile. *Hypanthium* linear, usually 10–12.5 mm long but up to 20 mm long in some specimens, 0.3–0.4 mm diam. at anthesis, glandular just below the sepals. *Calyx* 1.5–2 mm long, 2-lobed, glabrous; lobe of 3 sepals connate to within *c.* 0.6 mm of the apex; lobe of 2 sepals connate to within *c.* 0.7 mm of the apex. *Corolla* white and pink with red marks near the base of each lobe, abaxial surface bearing a few scattered red capped glands, lobes vertically paired; anterior lobes white, pink near the base, obovate, *c.* 2 mm long, *c.* 1.3 mm wide, with crenate, dentate or irregularly crenate-dentate apices *c.* 4-lobed, posterior lobes pink, broadly obovate, *c.* 3 mm long, *c.* 3 mm wide, with crenate, dentate or irregularly crenate-dentate apices *c.* 8-lobed. *Throat* bearing 4 appendages (2 pairs) at base of the corolla lobes; each anterior appendage joined to a posterior appendage and arranged (when viewed from the adaxial surface) to appear as 2 separate lobes; anterior appendage attached at the base and along part of its side to the inside margin of the anterior corolla lobe, *c.* 0.4 mm long, *c.* 0.3 mm wide; posterior appendage *c.* 0.5 mm long, *c.* 0.5 mm wide, attached to the base of the posterior corolla lobe. *Labellum* positioned *c.* 0.3 mm below the the sinus of the anterior corolla lobes; boss ovate, convex, *c.* 1.7 mm long, *c.* 0.5 mm wide, smooth; apical point short, glabrous. *Gynostemium* 6.5–7 mm long, geniculate *c.* 1.5 mm below the anthers, the sensitive torosus *c.* 0.5 mm long, positioned *c.* 1 mm above the base, glabrous. *Capsule* linear, similar in length to that at anthesis. *Seeds* rusty brown, ± ellipsoid, 0.2–0.25 mm long, 0.1–0.15 diam., ± smooth. (Figure 1)



*Styloidium candelabrum* A - habit of flowering plant; B - leaf, enlarged section right; C - hypanthium and sepals; D - corolla; E - throat appendages; F - labellum, showing its position on the corolla tube below the sinus; G - oblique view of the gynostemium; H - adaxial view of gynostemium; I - abaxial view of gynostemium tip; J - adaxial view of gynostemium tip with stigma grown out centre. Scale bar for all = 1 mm. Drawn from C.P. Mangion 245 & C. Dunlop (A, B) and L.A. Craven 2464 spirit material, CANB (C-J).

*Other specimens examined.* NORTHERN TERRITORY: Tin Camp Creek, Oenpelli, 15 Apr. 1993, *K. Brennan* 2262 (OSS); Tin Camp Creek, 6 km WSW [of] Myra Falls, Oenpelli, 9 Mar. 1994, *K. Brennan* 2695 (OSS); Little Nourlangie Rock, 19 Feb. 1995, *K. Brennan* 3006 (OSS); Baroalba Creek, Mt Brockman massif, Cahill, 29 Mar. 1995, *K. Brennan* 3093 (OSS); Sandstone plateau, 12° 40' S, 133° 15' E [c. 45 km east of Jabiru], 2 March 1973, *L.A. Craven* 2464 (DNA, PERTH, CANB, spirit material CANB only); Kakadu National Park, 7 km NNE of Jabiru, 12° 35' 51" S, 132° 59' 30" E, 25 Apr. 1995, *J.L. Egan* 4795 & *S. Knox*, (DNA); near Little Nourlangie Rock at turn off to Koongarra, Kakadu, 12° 49' 35" S, 132° 47' 57" E, 11 Apr. 1990, *A. Lowrie* 60-B (PERTH); 21 May 1999, *A. Lowrie* 2315 (PERTH, DNA, MEL); W branch of Coopers Creek, Nabarlek, 12° 20' S, 133° 19' E, 20 Apr. 1979, *M.O. Rankin* 2039 (DNA, CANB, BRI, NSW, K).

*Distribution.* Known from Nourlangie, Mt Brockman, Oenpelli and Nabarlek regions in Kakadu National Park, and from the headwaters of the Katherine River c. 120 km south of Mt Brockman south-east of Jabiru.

*Habitat.* Recorded in grassy woodland on crest of schist hill (*K. Brennan* 2695); in shallow sand deposits on sandstone (*K. Brennan* 3093); in damp sand beside seasonal stream on sandstone outcrop (*K. Brennan* 3006); in rock crevices on sandstone pavement beside creek (*C.P. Mangion* 245 & *C. Dunlop*); in sand above creek (*J.L. Egan* 4795 & *S. Knox*); and in quartz-laterite alluvium (*A. Lowrie* 60-B, *A. Lowrie* 2315).

*Phenology.* Flowering specimens have been collected from February to July.

*Conservation status.* Known from a number of locations in Kakadu National Park and currently not under threat.

*Etymology.* The epithet *candelabrum*, refers to the inflorescence being arranged similarly to that of a candelabrum (large branched candlestick).

*Affinities.* The closest relative to *Stylidium candelabrum* is considered to be *S. uliginosum* Swartz. Both species have very small flowers with vertically-paired corolla lobes and similarly shaped leaves. *S. candelabrum* differs from *S. uliginosum* by having its leaves scattered along an erect stem terminating in a rosette, with scorpioid cymose inflorescences arising from the terminal rosette, calyx 2-lobed, the lobes of 2 or 3 sepals connate to just below the apex, and throat appendages 4.

### Acknowledgements

We would like to thank Kym Brennan for the opportunity to study and determine his Northern Territory Stylidiaceae collections housed at OSS (Office of the Supervising Scientist for the Alligator Rivers Region) and for his many informative personal communications regarding the biology of this species in the field, Clyde Dunlop for arranging for Kevin Kenneally to examine *Stylidium* specimens at DNA and for expediting the loan of relevant material applicable to this species, Brendan Lepschi for facilitating the loan of the spirit material of this species housed at CANB which was used to illustrate this species – especially the finer parts of the corolla, Paul Wilson for his assistance with the Latin diagnosis, Alan Burbidge and Barbara Rye for their comments, and the staff of the Western Australian Herbarium.

### Reference

Mildbraed, J. (1908). Stylidiaceae. In: Engler, A. (ed.) "Das Pflanzenreich." Vol. IV, 278 (35), pp. 1-98 (Engelmann: Leipzig.)

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