Conostephium magnum (Epacridaceae), a new species from Western Australia

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Abstract

Cranfield, R.J. *Conostephium magnum* (Epacridaceae), a new species from Western Australia. *Nuytsia* 15(1): 21–25 (2002). A new species of Epacridaceae endemic to the South West Botanical Province of Western Australia, *Conostephium magnum* Cranfield, is described, illustrated and mapped. It is related to *C. minus* Lindl. and *C. pendulum* Benth.

Introduction

Conostephium Benth. (Epacridaceae), is a small genus endemic to the south-west of Western Australia. A specimen collected in 1995 during a field survey was identified as *Conostephium pendulum* Benth. but was considered not to be typical. Further field studies in 1996 confirmed the distinctiveness of the new taxon, as several characters separating it from *C. pendulum* were observed where both occurred at the same location. Detailed examination of PERTH herbarium specimens combined with field observations led to the conclusion that this taxon is a new species, which is described here.

Earlier determinations of collections of this new species placed it within the *Conostephium pendulum* complex and in some instances as a variant of *C. minus* Lindl., to which it keys out in Blackall & Grieve (1965). Descriptions of the two closely related species *C. minus* and *C. pendulum* are given in Wheeler (1987). Following recognition that the new taxon was a distinct species it was placed it under the informal name *Conostephium* sp. Badgingarra (*E.A. Griffin* 6814).

Taxonomy

Diagnostic characters for the three named species of the *Conostephium pendulum* complex are given in Table 1. *Conostephium magnum* tends to be a larger plant than both the other species listed. The short pedicels and hairy ovary of *C. magnum* separate it from *C. pendulum*. Although *C. minus* has a similar pedicel length and ovary indumentum to *C. magnum*, it is readily distinguished by its smaller leaves and flowers, especially by its shorter corolla lobes.

Table 1. Characters distinguishing the recognised species of the *Conostephium pendulum* complex.

Character	***C. magnum***	***C. pendulum***	***C. minus***
height (m)	0.4–2	0.15–1	0.15–0.75
leaf			
petiole length (mm)	1–1.7	0.5–3	0.5–1
blade length (mm)	11–28	10–38	4–15
width (mm)	2–4	3–8	2–3
flower			
pedicel length (mm)	1.5–3	3.5–10	1.5–3
flower length (mm)	11–14	5–16	8–9
flower width (mm)	3–4	3–5	2–3
corolla lobe length (mm)	1–2	0.5–1.5	0.2–0.5
ovary	hairy	glabrous	hairy

As it is presently delimited, *Conostephium pendulum* appears to include several atypical entities that relate to distribution patterns and ecological factors. Consequently the measurements presented for this taxon in Table 1 encompass a wide variation, often much greater than the variation in the other two species. More study of *C. pendulum sens. lat.* is needed to resolve the problems remaining in this species complex.

Despite their overlapping distributions and similar habitats, *Conostephium magnum* and *C. minus* are not known to coexist at any localities. *C. pendulum* does coexist with *C. magnum* at a few localities but no intermediates have been observed. The flowering times of these three species are similar, with *C. pendulum* flowering from early March to October, *C. magnum* in July–September and *C minus* in August–October. Despite this overlap, the peak flowering time for each of the three species appears to be different, with *Conostephium pendulum* peaking in June, *C. magnum* in August and *C. minus* in September.

Conostephium magnum Cranfield, *sp. nov*.

Conostephium penduli et *C. minori* affinis; differt a priore ovario hispidulo, a posteriore statura altiore et foliis majoribus.

Typus: c. 3.5 km north of road into Tiwest Cooljarloo mine site, west of Brand Highway, 30°37'S, 115°27'E, Western Australia, 14 September 1993, *S. J. Patrick* 1566 (*holo:* PERTH 03553558; *iso:* CANB).

Shrub 0.4–2 m high; branchlets clustered at ends of branches. *Leaves* alternate, scattered, erect, glabrous; petiole 1–1.7 x 0.4–0.6 mm; lamina oblanceolate, often inrolled, 11–28 x 2–4 mm, concolorous, with numerous prominent veins on abaxial surface, apex acute to obtuse. *Inflorescence* of solitary axillary flowers on previous year's regrowth. *Pedicels* pendulous, 1.5–3 mm long, hispid, with a series of bracts and bracteoles grading into the sepals, the uppermost part shed with the flower; bracts 4–6, occurring below the abscission point, sessile, imbricate, ovate, apex obtuse, the basal ones 0.5–0.6 mm long and fringed, the 2 upper ones up to 2 mm long and ciliate. *Bracteoles* 3–5, above the

abscission point, sessile, imbricate, narrowly ovate, 6–8 x *c.* 3 mm, cream to white with a pink apex, ciliate. *Sepals* 3–5, imbricate, narrowly ovate, 7–9 x 2.5–3.5 mm, white to cream, apex obtuse, glabrous. *Corolla* usually pink to purple, sometimes white; tube narrowly urceolate, 12–13 x 2–2.5 mm, glabrous to hirsute; lobes 5, erect to spreading, linear, 1–2 mm long, acute. *Stamens* 5, enclosed in corolla tube, attached in the middle; anther narrowly triangular, 1–1.5 x 0.25–0.5 mm. *Ovary* ovoid, lobed, *c.* 1.5 x 1.5 mm, hispid on the upper 1/3, 5-locular; ovules ellipsoid, *c.* 0.25 mm long. *Style* 12–14 mm long, kinked above the ovary. *Fruit* globose, *c.* 6 x 5 mm, hispid on the upper part; seeds not seen. (Figure 1).

Selected specimens examined. WESTERN AUSTRALIA: 11.2 km S of Eneabba turn off Brand Highway, 29 Aug. 1985, *M.E. Ballingall* 1964 (PERTH); Conservation Park 41986 on Brand Highway, N of Cataby, 27 Nov. 1996, *E. Bennett* & *D. Woodman* 271102 (PERTH); 6.5 km S of Eneabba, 31 Aug. 1993, *R.J. Cranfield* & *D. Kabay* 8815 (PERTH); 6.5 km W of Brand Highway, Jurien Bay turn off, 2 July 1992, *R.J. Cranfield* & *P.J. Spencer* 8290 (PERTH); 2 km E of Catamouri Hill, 18 June 1996, *R. Davis* 1359 (PERTH); W margin of Badgingarra National Park on Biddy Creek Rd, 14 Oct. 1978, *J. Dodd* 24 (PERTH); Briera Rd, S of Gingin, 7 Aug. 1970, *A.S. George* 10115 (PERTH); intersection of Brand Highway and Waddi Rd, S of Badgingarra, 28 Sep. 1992, *E.A. Griffin* 6813 (PERTH); 17.8 km N of intersection of Brand Highway and Coorow–Greenhead road, 9 Sep. 1985, *N. Hoyle* 105 (PERTH); 10.6 km N of Cataby Road House, 10 Sep. 1981, *R. Spjut* & *C. Edson* 7036 (PERTH).

Distribution. Extends from Eneabba south to Cataby, with an isolated record further south near Gingin, in the Irwin Botanical District of the South West Botanical Province of Western Australia. (Figure 2)

Habitat. Open woodland over white to grey sand sometimes associated with lateritic gravels.

Flowering period. July to September.

Conservation status. Not known to be under any immediate threat but, due to its restricted occurrence, may be worth monitoring.

Etymology. The specific epithet is from the Lain word *magnus* for large, referring to the height of this species.

Notes. The degree of leaf inrolling, originally thought to be a stress factor, appears to occur in varying degrees independently of any obvious influences. This inrolling is part of the general facies of *Conostephium magnum*, and is one of the characters by which the species can be recognised. However on its own it is insufficient to identify *C. magnum*, so it is unreliable as a field character. Where both *C. magnum* and *C. pendulum* occur in the same locality, the former can normally be distinguished by the greater height of mature plants, while juvenile plants of the latter are distinguished by their wider and shorter leaves.

The separation of sepals from bracteoles in *Conostephium* species is often difficult to determine as they appear to form a continuous sequence and both are coloured. Perhaps the best distinction between them in *C. magnum* is that the bracteoles have ciliate margins and the sepals are glabrous. The outer bracteoles can also be distinguished by having the apex highly coloured, although this feature may not be so obvious in the inner bracteoles. There is some difference in size between the outer and inner bracteoles with the latter almost as large as the sepals (Figure 1E).

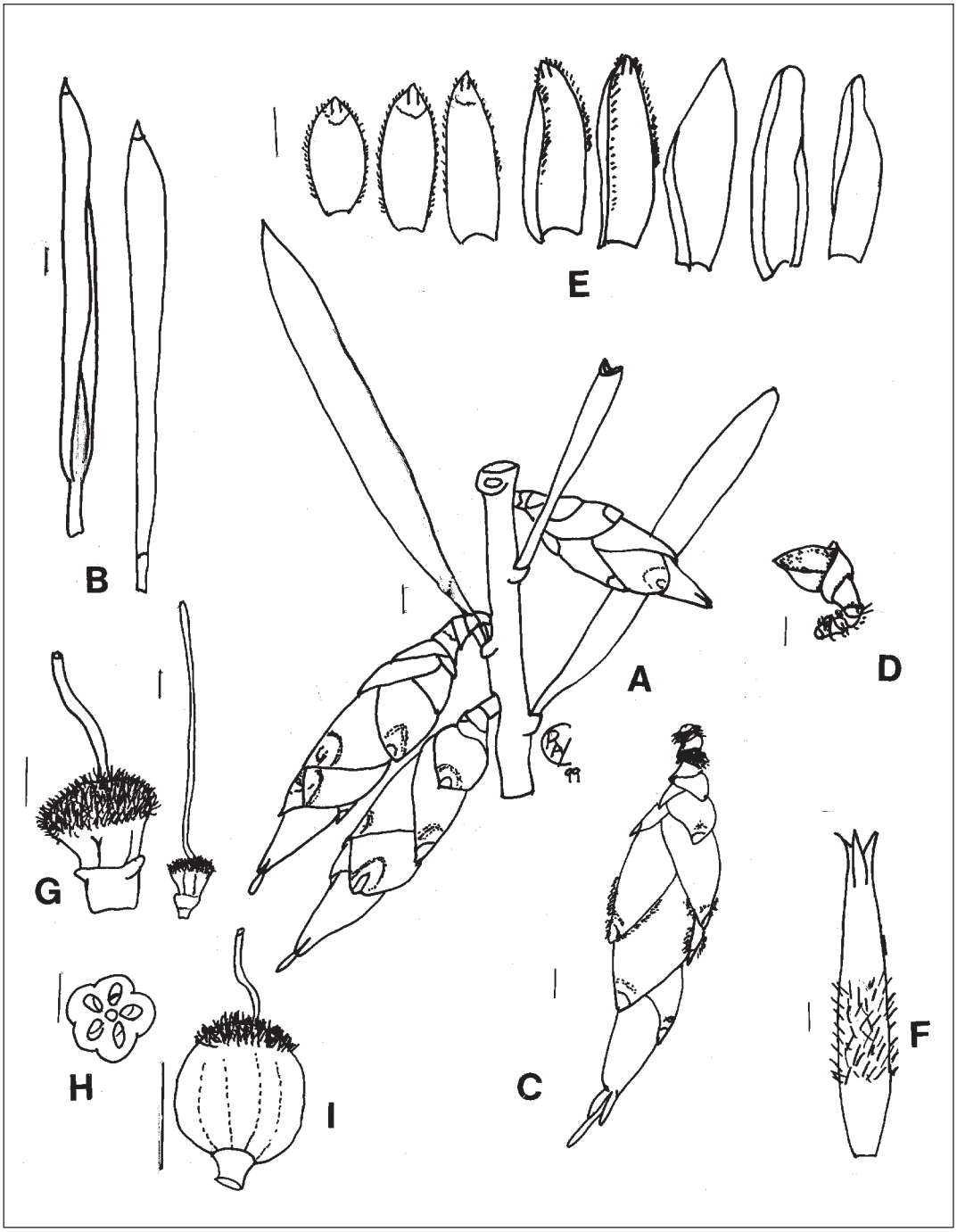

Figure 1. *Conostephium magnum*, scale bars = 1 mm. A – portion of flowering stem, B – two views of leaf, C – flower and subtending bracts, D – pedicel and bracts after flower shed, E – bracteoles and sepals, F – corolla, G – gynoecium (with basal part enlarged), H – TS of ovary, I – fruit.

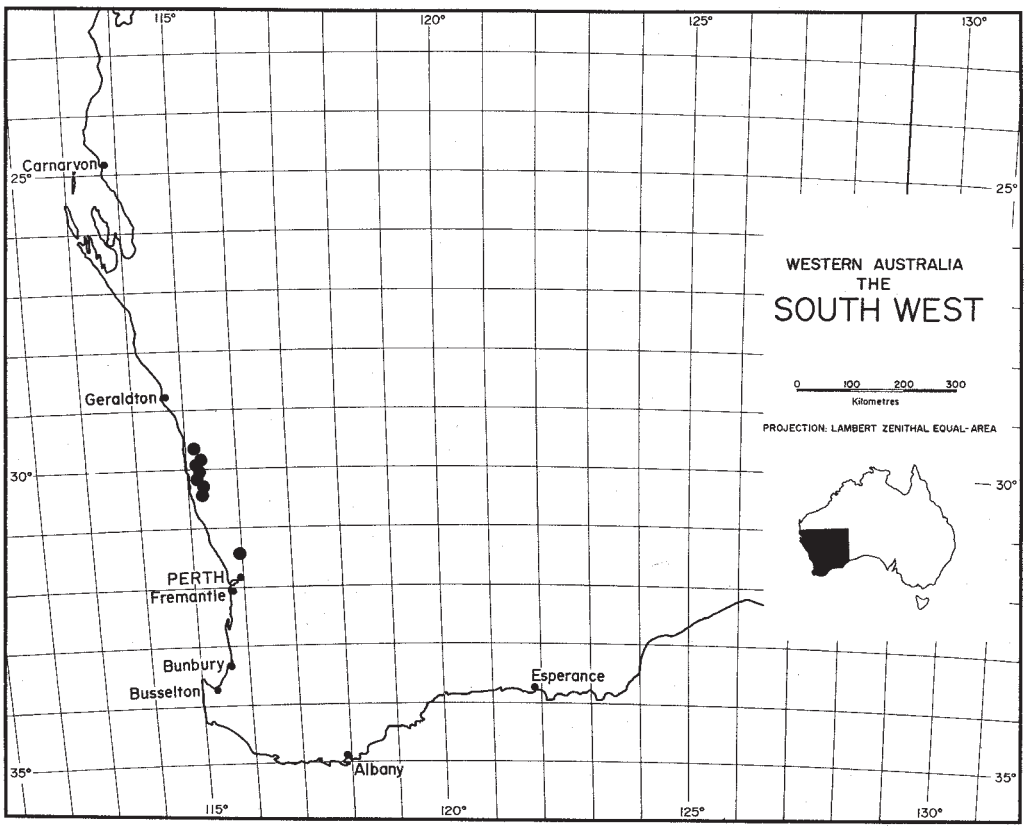

Figure 2. Distribution of *Conostephium magnum*.

The bracts show a clearer differentiation in size, with those lowest on the pedicel *c.* 0.5 mm long and the two just below the abscission point usually 1–2 mm in length. A natural abscission point was noted on the old pedicels, and Figure 1D shows the bracts occurring below this point. The remaining bracts, i.e. those above the abscission point, are all referred to here as bracteoles, although they intergrade with the bracts below.

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References

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