Muelleria

34: 3–9

Published online in advance of the print edition, 4 August 2015.

ROYAL BOTANIC GARDENS VICTORIA

A new species of *Podolepis* (Asteraceae: Gnaphalieae) from New South Wales

Jeffrey A. Jeanes

Royal Botanic Gardens Victoria, Birdwood Avenue, Melbourne 3004, Victoria, Australia;
e-mail: jeff.jeanes@rbg.vic.gov.au

Introduction

The genus *Podolepis* Labill. is generally regarded as polyphyletic (e.g. Short et al. 1989; Anderberg 1991; Konishi et al. 2000; Jeanes 2015) and in need of revision. The results of molecular work by Konishi et al. (2000) support the reinstatement of both *Panaetia* Cass. and *Siemssenia* Steetz at some level and the removal of *Podolepis kendallii* (F.Muell.) F.Muell. and *Podolepis georgei* Diels (the latter to *Schoenia ayersii* (F.Muell.) J.M.Black; see Wilson 1992). Although a few species are not represented in the data set used by Konishi et al. (2000), it is clear that *Podolepis* s. str. (the clade that includes the type species, *P. rugata* Labill.) includes those species in which the limbs of the ray florets greatly exceed the involucre, and the individual involucral bracts have the claw and lamina discreet (i.e. attached only at the apex of the claw). Also included in this clade are *P. arachnoidea* (Hook.) Druce and *P. neglecta* G.L.Davis.

Podolepis s. str. consists currently of 18 species (Jeanes 2015) confined to Australia and found in all States as well as the Northern Territory and the Australian Capital Territory. For a detailed taxonomic and nomenclatural history of *Podolepis* and for an evaluation of the characters used to distinguish taxa, see Davis (1957). It is clear from the work of Davis (1957) and subsequent taxonomic treatments (e.g. Henderson 1969; Beadle 1980; Cooke 1986; Stanley 1986; Everett 1992; Jeanes 1999, 2015), that the morphology of the intermediate involucral bracts is of importance in the delineation of species in *Podolepis*. This remains true in the present

Abstract

Podolepis omissa Jeanes, a new species endemic to north-eastern New South Wales and closely related to *P. neglecta* G.L.Davis, is described and illustrated. Its distribution, habitat and ecology are discussed.

Key words: taxonomy, morphology, diagnostic features, Asteraceae

ISSN: 0077-1813 (print) · ISSN: 2204-2032 (online)

study, but other characters such as indumentum, leaf morphology and capitulum size and shape often also prove useful. Furthermore, some species are apparently habitat specific.

In a recent paper (Jeanes 2015) I redefined *Podolepis* s. str. using a combination of morphological and molecular data. While researching this paper the name *Podolepis* sp. Warrabah, *J.R. Hosking 1862*, NSW Herbarium (APNI 2014), came to my attention. After an initial consultation with my colleague J.R. Hosking and the subsequent examination of herbarium specimens, it became obvious that this was a discrete taxon previously confused with *P. neglecta* (Fig. 1). Some herbarium specimens were already segregated as *P*. sp. Warrabah (formally described below as *P. omissa* Jeanes), but most could still be found stored as *P. neglecta*, *P. jaceoides* (Sims) Voss or *Podolepis* indeterminate. *Podolepis omissa* is likely to be part of *Podolepis* s. str. based on the long limbs of its ray florets and on its apparent close relationship with *P. neglecta*.

Taxonomy

Podolepis omissa Jeanes, **sp. nov.**

Type: **NEW SOUTH WALES.** Warrabah National Park, 27.iv.2000, *J.R. Hosking 1862* (holotype, MEL 2131971! (Fig. 2), isotypes, TARCH 6097, CANB 539182!, NSW 447127, NE 72206).

Podolepis neglecta sensu G.M. Cunningham et al. (1981) *non* G.L. Davis.

Podolepis neglecta sensu J. Everett (1992) p.p,. non G.L. Davis.

Podolepis sp. Warrabah (*J.R. Hosking 1862*) NSW Herbarium sensu APNI (2014).

Illustrations: Everett (1992) page 264 (as *P. neglecta*); J.R. Hosking unpublished image (see Fig. 3 this paper).

Perennial herb 30–70(–130) cm tall. *Stems* 1–several, erect, often sparingly branched, variously woolly or glabrescent. *Leaves* covered sparsely to densely with flattened elongate to coiled, multicellular hairs, sometimes glabrescent, margins recurved to ±flat, entire; basal leaves several in a sparse rosette, oblanceolate, 5–10 cm long and 5–10 mm wide, petiolate, base amplexicaul, often withering early; cauline leaves alternate, sessile, stem-clasping, usually linear to linear-oblanceolate, mostly 1–10(–18) cm long and 2–10(–18) mm wide, apex acuminate. *Capitulescences* simple or paniculiform. *Peduncles* 1–10 cm long, with several scarious scale leaves below the involucre passing into the leafy stem. *Capitula* 1–several, hemispherical, mostly 10–20 mm diam., 10–12 mm long. *Involucral bracts* multiseriate, with slender linear claws, unequal (outermost shortest, intermediate longest); claw stiff, glandular, shiny, straw-coloured, with an elongate central depressed green section on the stereome, most prominent towards the apex; lamina scarious; intermediate bracts 5–8 mm long, claw c. 1 mm wide at the narrowest point, lamina ovate to triangular, to c. 3 mm wide, extending to c. 4 mm beyond apex of claw, base attenuate and continuous with upper margins of claw, apex acuminate. *Florets* bright yellow; ray florets female, 35–50, lamina linear, 10–20 mm long, 3(–4)-toothed, teeth to 2 mm long, to c. 1 mm wide; disc florets bisexual, c. 10 mm long, numerous. *Cypselas* c. 2 mm long, c. 1 mm wide, papillose; pappus bristles 15–30, barbellate, shortly connate at base, 6–8 mm long. (Fig. 4)

Selected specimens examined: **NEW SOUTH WALES.** Warrumbungle National Park, Wambelong Camp area. 15.v.1980, *J.H. Willis s.n.* (MEL 575040); Grounds of "Wagon Wheel" Motel, southern edge of Coonabarabran, 12.xii.1998, *B.J. Lepschi 4126 & J.R. Connors* (MEL 2253130, CANB 626730, NSW, US); 31 km SW of Uralla on the New England Highway, 4.ii.1996, *M. Ito 96002, T. Nishino & Y. Kita* (MEL 2030350, NSW, TI); Forbes region. 1.4 km from N entrance gate to Mandagery State Forest, E side of track, 14.xii.1990, *S.M. Prober s.n.* (CANB 00492321); 6 miles [9.7 km] north of Bundarra G.P.O. on Inverell road, 9.iii.1954, *R.W. Jessup & M. Gray 572* (CANB 97675); Burbie Creek, Warrumbungle Range, 29 km W of Coonabarabran, 6.xii.1973, *H. Streimann s.n.* (CBG 53893, NSW); 18 km from Uralla on Kingstown road, 7.xii.1989, *D.L. Jones 5549 & C.H. Broers* (CBG 8914078); 14.4 km W of Baldersleigh, between Armidale and Bundarra, 28.xii.2008, *A.R. Bean 28415* (BRI AQ820428).

Distribution and habitat: Endemic to New South Wales where it is distributed in the Brigalow Belt South, Nandewar, New England Tablelands, NSW South Western Slopes and Sydney Basin Regions (sensu IBRA7, Commonwealth of Australia 2012). Reports of this species from the Hillston-Cobar, Enngonia and Paroo River areas of western New South Wales (Cunningham et al. 1981 as *Podolepis neglecta*) appear to be unsupported by voucher specimens and require further investigation. Found mostly on sandy soils, but also on skeletal soils in volcanic areas (J.R. Hosking pers.

Figure 1. Isotype of *Podolepis neglecta* (MEL 222581)

Figure 2. Holotype of *Podolepis omissa* (MEL 2131971)

Figure 3. Photograph of flowering capitulum of *Podolepis omissa* (courtesy John Hosking)

comm.) over basalt or granite substrates. Habitat varies from shrubland to grassy woodland under *Eucalyptus* L'Hér. (often *Eucalyptus microcarpa* (Maiden) Maiden or *Eucalyptus alba* Reinw. ex Blume) species or mixed *Eucalyptus*/*Callitris* Vent. species. (Fig. 5)

Conservation status: Reasonably common, widespread and represented in conservation reserves and thus neither endangered nor threatened.

Flowering period: Most months of the year, but most flowering herbarium specimens were collected in summer and autumn. Flowering is probably rain dependent.

Diagnostic notes: *Podolepis omissa* is readily distinguished from *P. neglecta* by its intermediate involucral bracts which are shorter and have laminas with acuminate rather than acute to obtuse apices. These distinctions were consistent and unambiguous in the many herbarium specimens examined during this study. The two species are apparently never sympatric and inhabit discrete biogeographical regions. The generally broader lower cauline leaves and slightly larger capitula of *P. neglecta* are also useful features for differentiating the two species, but may be due to the more mesic habitats and more nutrient-rich soils that *P. neglecta* frequents.

Etymology: From the Latin *omissa* = omitted, left out, disregarded or neglected. Until recently this species has been overlooked and included in *Podolepis neglecta*, itself a species overlooked for many years until its first description in 1957.

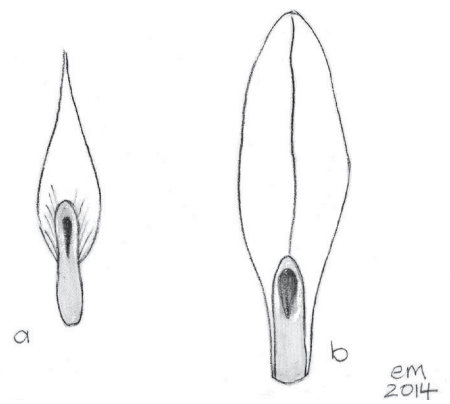

Figure 4. Intermediate involucral bracts ×5 **a.** *Podolepis omissa*; **b.** *P. neglecta*

Table 1. A summary of the diagnostic characters, habitat and distributional information of *P. omissa* and *P. neglecta*. Length and width measurements are abbreviated as L and W respectively.

	Podolepis omissa	***Podolepis neglecta***
Lower cauline leaf size	50–100(–180) mm L × 2–10(–18) mm W	50–200 mm L × 10–40 mm W
Capitulum diameter	10–20 mm	15–25 mm
Capitulum colour on drying	straw-coloured	golden brown
Claw of intermediate involucral bracts	with scarious margins in upper third	with scarious margins throughout
Lamina of intermediate involucral bracts	ovate to triangular	oblong
Intermediate involucral bract length	5–8 mm	9–12(–14) mm
Apex of intermediate involucral bract laminas	acuminate	acute to obtuse
Habitat	shrubland, dry Eucalyptus or mixed Eucalyptus/Callitris woodlands	wet sclerophyll forests and woodlands, rarely rainforest edges
Distribution	western slopes and plains of north-eastern New South Wales	tablelands and coastal areas of north-eastern New South Wales and south-eastern Queensland

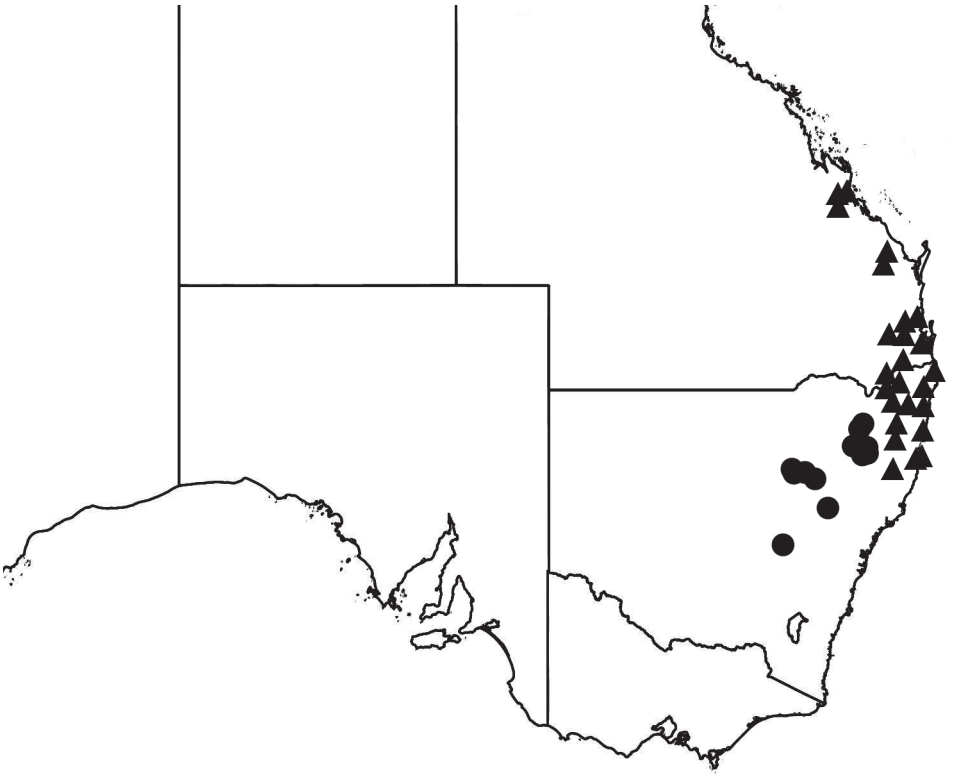

Figure 5. Distribution of *Podolepis omissa* (●) and *P. neglecta* (▲)

Acknowledgements

My thanks go to Enid Mayfield for the line drawings and to John Hosking (TARCH) for sharing his considerable knowledge of the new species and for the use of one of his photographs. I am also grateful to Rita Macheda (MEL), Pina Milne (MEL) and Angharad Johnson (MEL) for digital scans of specimens. I'm indebted to the directors, collection managers and curatorial staff at AD, BRI, CANB, and MEL for access to specimens.

References

Anderberg, A.A. (1991). *Taxonomy and phylogeny of the tribe Gnaphalieae (Asteraceae)*, Opera Botanica **104**, 120–121. Council for Nordic Publications in Botany: Copenhagen.

APNI (2014). *Australian Plant Name Index*, IBIS database. Centre for Plant Biodiversity Research, Canberra. Accessed May 2014. <http://www.anbg.gov.au/cgi-bin/apni>

Beadle, N.C.W. (1980). *Students flora of north eastern New South Wales.* Part IV. University of New England Printery: Armidale.

Commonwealth of Australia (2012). Interim Biogeographic Regionalisation for Australia, Version 7. Accessed 4 July 2014. <http://www.environment.gov.au/system/files/pages/5b3d2d31-2355-4b60-820c-e370572b2520/files/bioregions-new.pdf>

Cooke, D.A. (1986). '*Podolepis*', in J.P. Jessop and H.R. Toelken (eds), *Flora of South Australia* **3**, 1568–1573. South Australian Government Printing Division: Adelaide.

Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. and Leigh, J.H. (1981). *Plants of western New South Wales*. New South Wales Government Printing Office: Sydney.

Davis, G.L. (1957). Revision of the genus *Podolepis* Labill. *The Proceedings of the Linnean Society of New South Wales* **81**, 245–286.

Everett, J. (1992). '*Podolepis*', in G.J. Harden (ed.), *Flora of New South Wales* **3**, 262–265. New South Wales University Press: Kensington.

Henderson, R.J.F. (1969). *Podolepis monticola*, a new species of Compositae from Queensland. *Contributions from the Queensland Herbarium* **2**, 1–9.

Jeanes, J.A. (1999). '*Podolepis*', in N.G. Walsh and T.J. Entwisle (eds), *Flora of Victoria* **4**, 777–782. Inkata Press: Melbourne.

Jeanes, J.A. (2015). Studies in *Podolepis* (Asteraceae: Gnaphalieae). *Muelleria* **33**, 21–59.

Konishi, N., Watanabe, K. and Kosuge, K. (2000). Molecular systematics of Australian *Podolepis* (Asteraceae: Gnaphalieae): evidence from DNA sequences of the nuclear ITS region and the chloroplast *matK* gene. *Australian Systematic Botany* **13**, 709–727.

Short, P.S., Wilson, K.E. and Nailon, J. (1989). Notes on the fruit anatomy of Australian members of the Inuleae (Compositae). *Muelleria* **7**, 74–77.

Stanley, T.D. (1986). '*Podolepis*', in T.D. Stanley and E.M. Ross (eds), *Flora of South-eastern Queensland* **2**, 547–549. Queensland Department of Primary Industries: Brisbane.

Wilson, P.G. (1992). The *Lawrencella* complex (Asteraceae: Gnaphalieae: Angianthinae) of Australia. *Nuytsia* **8**, 361–377.