A new herbaceous species of *Pluchea* (Asteraceae: Plucheinae) from central Australia

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**Abstract**

*Pluchea macdonnellensis* Albr. & A.R. Bean is described and illustrated, with notes on distribution, habitat and relationships with other species of *Pluchea*.

**Key words:** *Pluchea macdonnellensis*, *Pluchea dentex*, Australian flora, Northern Territory flora, South Australian flora

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**Introduction**

Hunger (1996, 1997) published on the taxonomy of the genus *Pluchea* Cass. in Australia. She described a new species, *Pluchea dunlopii* Hunger, and reinstated *P. ferdinandi-muelleri* Domin, and, in the latter paper, a revision for the continent, enumerated seven species.

A renewed examination of the genus in Australia has been prompted by the imminent publication of the relevant volume of the *Flora of Australia*, resulting in the recognition of further species. Five have so far been published (Bean 2011; Bean 2013). This paper formally describes a further species that was recognised by the first author as being distinct from *P. dentex* R.Br. ex Benth. nearly 20 years ago.

**Materials and methods**

This paper is based on a study of herbarium specimens at DNA, NT, AD, MEL and NSW (including an isotype of *Pluchea dentex*) and examination of *Pluchea* populations in the field. Measurements of capitula and florets were made from fresh material, spirit material or rehydrated herbarium specimens, while leaves, bracts and achenes were measured from dried specimens. Capitulum length was measured from the base of the involucre to the apex of the anthers of the disc florets. Capitulum width was measured at the widest point of the involucre. Peduncle length was measured from the base of a mature capitulum (that had shed achenes) down to the next branch. Data relating to achenes are based on those that have developed from the outer filiform florets.
Taxonomy

*Pluchea macdonnellensis* Albr. & A.R. Bean sp. nov.


**Type:** NORTHERN TERRITORY. Ormiston Pound, 5 km due W of Mt Giles, 6.vi.2010, D.E. Albrecht 13465 (holo: DNA, iso: BRI, CANB, MEL, AD).

Perennial (holo: DNA, iso: BRI, CANB, MEL, AD).


**Distribution and habitat:** With the exception of one record, all collections have been made within or on the edge of the MacDonnell Ranges bioregion of arid Northern Territory (Fig. 2). A single collection was made in the Tomkinson Range (far north-western South Australia) in 2001 following exceptional rains; however, there is a remote possibility that the locality is incorrect. The occurrence of *Pluchea macdonnellensis*
A new herbaceous species of *Pluchea*

**Figure 1.** *Pluchea macdonnellensis*: a. middle to upper portion of flowering plant, ×1; b. lower leaf showing rare marginal teeth, ×3; c. typical leaf, ×3; d. flowering capitulum, note that number of emergent styles visible is not indicative of the number of disc florets, ×5; e. achene of filiform female floret, ×17. A–E drawn from cultivated material originating from *Horsfall 280*. 
in north-western South Australia is intriguing given that the species has not been found in adjacent areas of far south-western Northern Territory despite extensive searches.

The taxon is restricted to gravelly or rocky (rarely sandy) creek beds and small drainage lines, and the gravelly or rocky slopes of foothills. Most populations occur on gneiss, schist or granite geology, rarely extending onto nearby quartzite. Commonly associated species include *Eucalyptus camaldulensis* subsp. *arida* Brooker & M.W.McDonald, *Melaleuca glomerata* F.Mueller, *Gossypium sturtianum* J.H.Willis, *Themeda triandra* Forssk. and *Triodia brizoides* N.T.Burb. *Pluchea macdonnellensis* commonly occurs with *P. rubelliflora* (F.Muell.) B.L.Rob. and occasionally with *P. ferdinandi-muelleri* or *P. dunlopii*.

**Phenology:** Flowering specimens have been collected most months of the year and, like many other herbaceous arid zone species, flowering is linked to rainfall events.

**Notes:** *Pluchea macdonnellensis* is closely allied to the variable *Pluchea dentex*. The two taxa are readily separated on leaf morphology. In *P. dentex* the leaf margins are regularly toothed or pinnatifid on most or all leaves of a plant, whilst in *P. macdonnellensis* all leaves are entire or a few lower leaves may have few marginal teeth. Additional overlapping characters may be useful in distinguishing the two taxa including the number of disc florets within each head ((30–)35–100 in *P. macdonnellensis*, cf. 9–40 in *P. dentex*), the length of the shortest peduncle (30–100 mm long in *P. macdonnellensis*, cf. 3–34 mm long in *P. dentex*) and the presence of non-glandular hairs on the corolla lobes of disc florets (present or absent in *P. dentex*, cf. absent in *P. macdonnellensis*). The leaves of *Pluchea macdonnellensis* and *P. dentex* have somewhat different odours but as yet no phytochemical analyses have been carried out.

*Pluchea dentex* is a widely distributed taxon in arid Northern Territory occurring along sandy, gravelly or rocky drainage lines across a range of geologies. *Pluchea macdonnellensis* on the other hand occurs on a narrower range of geologies and appears equally adapted to gravelly or rocky slopes of foothills as it does to drainage lines. Although *Pluchea macdonnellensis* and *P. dentex* occur within the same region they have not been seen growing together.

Specimens of this taxon do not appear to have been seen by Hunger (1997) when she was revising the
Australian members of *Pluchea*. Using her treatment, *Pluchea macdonnellensis* will key to *P. dentex*.

**Conservation status:** This taxon is currently listed as DD (data deficient) under the 2010 review of schedule 2 of the *Territory Parks and Wildlife Conservation Act 2000*. Further survey work in north-western South Australia would help to resolve the uncertainty concerning the occurrence and conservation status of the species in South Australia.

**Etymology:** The specific epithet refers to the geographic distribution of the species, which is virtually confined to the MacDonnell Ranges bioregion.

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**References**


