Davis, R.W. A new rare and geographically restricted *Ptilotus* (Amaranthaceae) from the Pilbara Bioregion of Western Australia

*Nuytsia* 16(2): 265–268 (2007)

All enquiries and manuscripts should be directed to:

The Editor – *Nuytsia*
Western Australian Herbarium
Dept of Environment and Conservation
Locked Bag 104 Bentley Delivery Centre
Western Australia 6983

Telephone: +61 8 9334 0500
Facsimile: +61 8 9334 0515
Email: nuytsia@dec.wa.gov.au
Web: science.dec.wa.gov.au/nuytsia/

All material in this journal is copyright and may not be reproduced except with the written permission of the publishers.

© Copyright Department of Environment and Conservation
A new rare and geographically restricted *Ptilotus* (Amaranthaceae) from the Pilbara Bioregion of Western Australia

Robert W. Davis

Western Australian Herbarium, Department of Environment and Conservation
Locked Bag 104, Bentley Delivery Centre, Western Australia, 6983

Abstract

Davis, R.W. A new rare and geographically restricted *Ptilotus* (Amaranthaceae) from the Pilbara Bioregion of Western Australia. *Nuytsia* 16(2): 265–268 (2007). A distinctive, rare and geographically restricted species, *Ptilotus subspinescens* R.W. Davis (Amaranthaceae), is described from the Pilbara Bioregion of Western Australia. *Ptilotus subspinescens* is only known from several small populations adjacent to the Brockman mine site, 100 km west-south-west of Wittenoom.

Introduction

*Ptilotus* R.Br. is a predominately Australian endemic genus with one species occurring on the islands to the north of Australia. There are roughly 170 taxa Australia wide. Approximately 90% are found in Western Australia and over a third of these species occur in the Pilbara Bioregion.

A recently discovered species from this bioregion is described here as *Ptilotus subspinescens* R.W. Davis, as part of a continuing study on the genus (Davis 2004). This distinctive new species is almost leafless and has short, tangled, lateral, blue-green branches which are slightly spinescent.

Materials and Methods

This study is based on the examination of herbarium material housed at PERTH.

All measurements were taken from dried specimens except for the staminal cup which was measured from reconstituted material. Hairs were examined using a compound microscope.
Taxonomy

Ptilotus subspinescens R.W. Davis, sp. nov.

A Ptiloto aphyllo similis sed ramulis lateralibus supspinescentibus, foliis minutis, et cupula staminum elongata appendiculis carentibus differt.

Typus: 59km WNW of Tom Price, Western Australia, 8 Oct. 2004, E Thoma s.n. (holo: PERTH 07275218; iso: CANB, K).

Compact shrub to 80 cm high. Stems blue–green, terete, glabrous, branching at 40 to 70 degrees and tangled, subspinescent. Leaves opposite or alternate, glabrous, shortly petiolate, linear, 2–3.5 mm long, 0.4–0.8 mm wide. Spikes terminal, sometimes solitary mostly in loose panicles, hemispherical to ovoid in outline, 5–11 mm long, 7–10 mm wide; 4–12 flowers per spike. Bracts broadly ovate, 1.4–1.7 mm long, light brown, margins flared, translucent, glabrous or with sparse septate hairs at base. Bracteoles broadly ovate to orbicular, tending to split at the apex, 2.5–2.8 mm long, hairs sparse, septate mostly near midrib. Outer tepals pink, elliptical, concave, shorter than the inner tepals, 6–7.2 mm long, apex serrated, attenuate, slightly hooded; outer surface densely villous on margins and lower half, medial section glabrous with septate hairs which are long at the base, becoming shorter and sparser towards apex; inner surface glabrous. Inner tepals pink, narrowly elliptic, slightly longer than outer tepals, 6.2–7.5 mm long; apex attenuate, slightly hooded, the margins folded inwards; outer surface densely villous on margins and lower half with septate hairs which are long at the base, becoming shorter and sparser towards apex; inner surface glabrous but appearing hairy due to folded margins. Staminal cup elongated, 2.5–2.8 mm long. Stamens 5, equal, extending to % of tepals length, filaments brown, broadly dilated towards staminal cup. Stipe short, compressed to terete, 0.1–0.3 mm long. Ovary ovoid in outline, 1–1.2 mm long, laterally compressed, glabrous. Style straight, 4–4.5 mm long, extending beyond tepal apex at maturity, inserted centrally to ovary. Seed circular in outline, dull, light brown. (Figure 1)


Distribution and habitat. Ptilotus subspinescens is only known from the region around the Brockman mine site, which is situated 100 kilometres west-south-west of Wittenoom in the Pilbara Bioregion of Western Australia. The currently known populations occur in a roughly triangular area c. 105 km from north to south by c. 50 km wide along its southern side, but only cover an area of about 238 hectares within this larger area. While only two collections have been lodged at PERTH the population status of the species has been investigated by M. Maier (pers. comm.) who has found that there are several populations in the areas of the Brockman mine. There are currently 13 known populations, with the largest of these containing 300–500 plants with an estimated total of 1300 plants from all 13 sites. Only one of the 13 populations is not confined within mining leases. (Figure 2)

The new species has a restricted habitat, preferring gentle rocky slopes, scree and the bases of scree. While such habitat is common in the Pilbara Bioregion, Ptilotus subspinescens is only known from a few locations.

Conservation status. Conservation Code for Western Australian Flora: Priority Three. Given the number of populations, low total plant numbers and restricted distribution of Ptilotus subspinescens,
a Priority Three rating appears justified. Further surveys are required to fully ascertain the range of *P. subspinescens* and the size of its populations.

**Etymology.** From the Latin words sub (somewhat) and spina (a thorn), in reference to the short, slightly pungent lateral branches.

**Notes.** *Ptilotus aphyllus* is the species that is most similar in gross form to *P. subspinescens*, with both being small almost leafless shrubs. *Ptilotus subspinescens* differs from *P. aphyllus* in its compact rather than open branching habit, rounded rather than angled stems, smaller bracts and bracteoles, entire tepal
apices, and in the absence pseudostaminodes. The two species also differ in habitat preference. *Ptilotus subspinescens* grows on rocky slopes and scree slopes, while *P. aphyllus* grows on red sand.

*Ptilotus subspinescens* was previously known by the phrase name *Ptilotus sp.* Brockman (E. Thoma & A. Joder ET & AJ 145) (Western Australian Herbarium 2007).

**Acknowledgments**

Special thanks to Malcolm Trudgen for taxonomic advice and Paul Wilson for the Latin description, Lorraine Cobb for her botanical drawings and Mike Hislop for his botanical advice. ABRS made available the unpublished draft key for the Flora of Australia (Benl, unpubl.). Emil Thoma, Michala Maier for providing field survey information.

**References**

