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A new rare and geographically restricted *Ptilotus* (Amaranthaceae) from the Pilbara Bioregion of Western Australia

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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 elogata 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 ¾ 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)

Specimen examined. WESTERN AUSTRALIA: 50 km SW of Brockman, Aug. 2003, *E. Thoma & A. Joder ET & AJ* 145 (PERTH).

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, screes and the bases of screes. 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*,

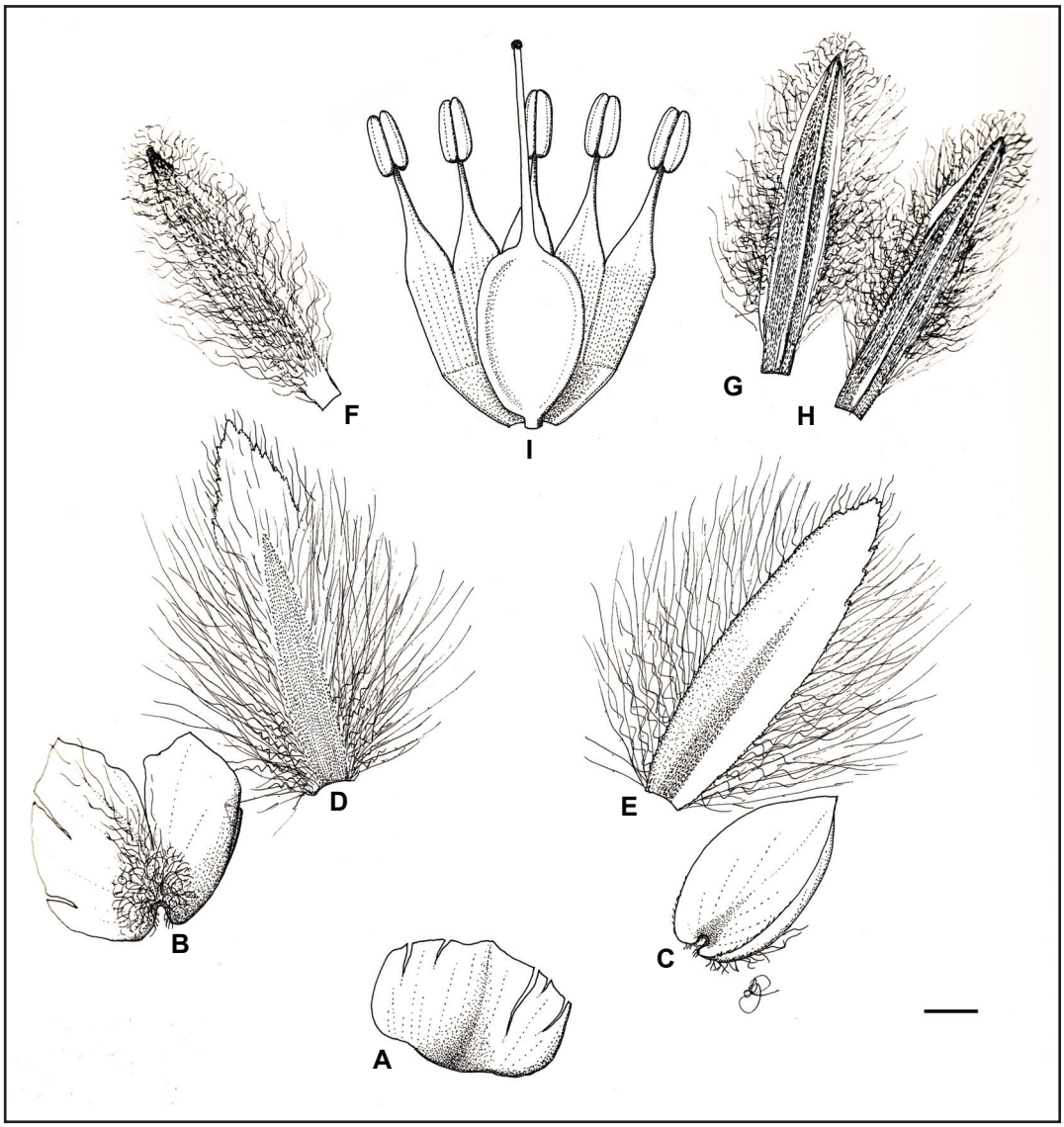

Figure 1. *Ptilotus subspinescens*. A – bract; B - bracteole outer surface; C – bracteole inner surface; D – outer tepal, outer surface; E – outer tepal, inner surface; F – inner tepal, outer surface; G, H – inner tepals, inner surface, showing folded margins; I – foreground ovary, back ground staminal cup and stamens. Line = 1 mm.

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

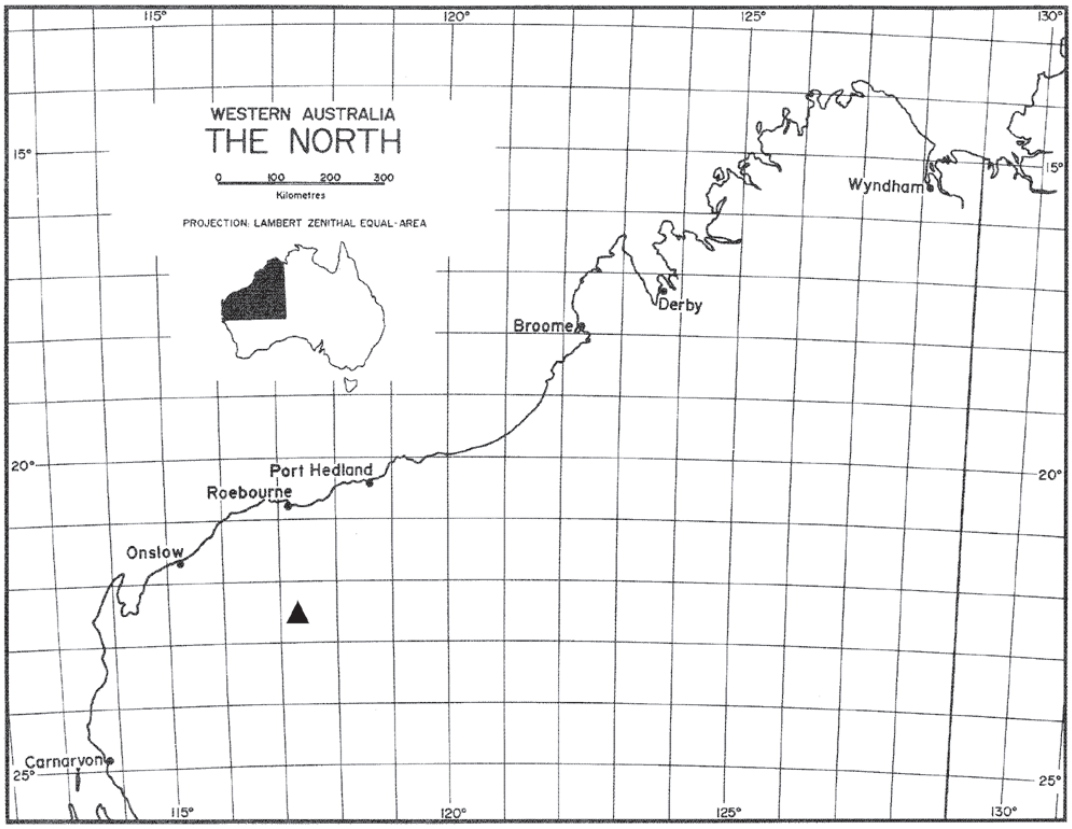

Figure 2. Geographical distribution of *Ptilotus subspinescens* (▲).

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).

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