

Atriplex eremitis (Chenopodiaceae), a new species from northern Western Australia

Raymond J. Cranfield

Western Australian Herbarium, Science Division, Department of Environment and Conservation,
Brain Street, Manjimup, Western Australia 6258

Abstract

Cranfield, R.J. *Atriplex eremitis* (Chenopodiaceae), a new species from northern Western Australia. *Nyctisia* 18: 49–52 (2008). A new saltbush species from the Pilbara region of Western Australia, *Atriplex eremitis* Cranfield, is described and mapped. Comparisons are made to the presumed closest species, *A. cinerea* Poir. and *A. amnicola* Paul G. Wilson, and an amendment to the key to *Atriplex* species in *Flora of Australia* is provided.

Introduction

The new taxon described here is known only from a localised population occurring in an area of semi-saline soil on the pastoral property, De Grey Station in the Pilbara region of Western Australia. It was considered an undescribed species in 1997 after examination of material collected during a survey (Van Vreeswyk *et al.* 2004) of the pastoral lease and was given the phrase name *Atriplex* sp. De Grey (A.A. Mitchell PRP1940).

Atriplex has been covered relatively recently in the *Flora of Australia* (Wilson 1984), from which it appears that its closest relatives are in the sect. *Dialyxex* Moq.

Taxonomy

Diagnostic characters of the closely related species of *Atriplex* separate *A. eremitis* from the others, principally on bracteole size and the presence or absence of a stipe (Table 1). The leaves of *A. cinerea* Poir. are much larger and are densely clustered whereas those of *A. eremitis* Cranfield are considerably smaller and are sparsely clustered. There is a difference in the distribution ranges of the two species, with *A. cinerea* a southern coastal species. Another species that has a similar northern distribution as *A. eremitis* but differs in having leaves that are occasionally hastate at the base is *A. amnicola* Paul G. Wilson. The leaves of the latter are also very densely clustered and the fruits are stipitate, a character shared with *A. cinerea*. *Atriplex eremitis* differs from both species in having much smaller fruiting bracteoles (Table 1).

Table 1. Characters distinguishing *A. eremitis* from related *Atriplex* species.

Character	<i>A. eremitis</i>	<i>A. cinerea</i>	<i>A. amnicola</i>
Leaf			
Outline	entire	entire	entire-hastate
Length (mm)	4–16	25–40	10–25
Lamina shape	elliptic-oblong	elliptic-ovate	elliptic-oblong
Lamina base	attenuate	rounded	cuneate-hastate
Fruiting bracteole			
Attachment	sessile	stipitate-sessile	sessile
Length (mm)	1.5–2	6–10	6–10
Width (mm)	1.5–2	6–10	4–6

Atriplex eremitis* Cranfield, *sp. nov.

Atriplex cinerea Poir. affinis sed statura parviore, bracteolis sessilibus 1.5–2 mm longis, et foliis sparsis differt.

Typus: De Grey Station [precise locality withheld for conservation reasons], 28 August 1997, A.A. Mitchell PRP1940 (*holo:* PERTH 04867610).

Erect, open sub-shrub to 30 cm high, monoecious or dioecious. Branches slender, smooth, with pale, buff- coloured bark. Leaves widely spaced along branches; lamina thin, narrowly elliptic to oblong, obtuse, attenuate at base, 4–16 × 2–6 mm, vesiculate with a grey scurfy appearance on both surfaces. Male flowers in glomerules *c.* 2 mm diameter, forming a short panicle. Female flowers in axillary clusters without associated male glomerules or occasionally the basal portion of an interrupted spike subtending male glomerules. Fruiting bracteoles 1/3 united, sessile, scurfy, rhomboid to deltoid, 1.5–2 × 1.5–2 mm, with 3 obtuse lobes. Seed circular, *c.* 1 mm diameter; testa faintly reticulate, cream to brown; radicle lateral, erect.

Distribution. Known only from the type locality on De Grey Station, Western Australia (Figure 1). This locality is a coastal portion of the Eremaean Botanical Province (Beard 1980) and is within the Pilbara Bioregion (Thackway & Cresswell 1995).

Habitat. Tussock grassland associated with *Eragrostis xerophila* Domin and the introduced *Cenchrus ciliaris* L. occurring as a component of a sub-unit of the Anna land system composed of level sand plains and a mosaic of saline plains (Van Vreeswyk 2004).

Flowering time. The only collection of this species was flowering in August.

Conservation status. Recently listed as Priority One under Department of Environment and Conservation (DEC) Conservation Codes for Western Australian Flora. Additional surveys are required to determine whether this species warrants endangered status.

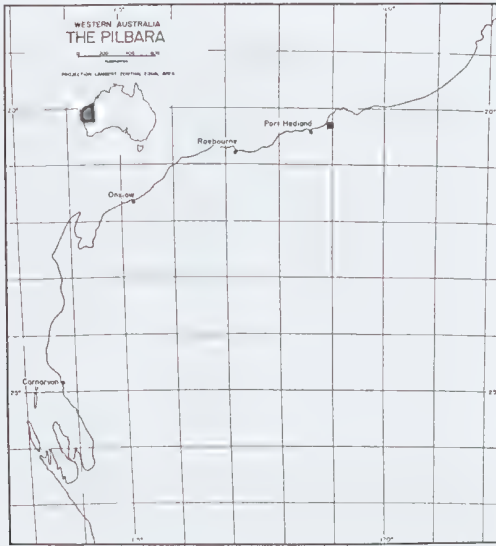


Figure 1. Distribution of *Atriplex eremitis* (■) in Western Australia.

Etymology. From the Greek *eremia* (desert, solitude) referring to the desert location and reclusive nature of this species.

Notes. Although considered to be essentially dioecious, there is a degree of uncertainty as to whether this species is instead monoecious. Both male and female flowers were found on the material examined but the presence of male flowers was more obvious. It has been noted on several other monoecious species that occasional female flowers can occur on predominantly male plants and that this collection may not have sampled a female plant. Additional collections of this species can be expected to resolve this issue.

Amendments to the key to *Atriplex* species in *Flora of Australia*

For *Atriplex eremitis* the key for sect.V *Dialysex* (p. 90) should be altered to read from couplet 12:

- 12: Plant dioecious; leaves scurfy or scaly on both surfaces
 - 12a Leaves 25–40 mm long, bracteole 6–10mm long.....**A. cinerea**
 - 12a:Leaves 4–16 mm long, bracteoles 1.5–2 mm long **A. eremitis**

Acknowledgements

I wish to thank P.G. Wilson for his Latin diagnosis and advice and T. Macfarlane for comments and guidance.

References

- Beard, J.S. (1980). A new phytogeographic map of Western Australia. *Western Australian Herbarium Research Notes* 3: 37–58.
- Thackway, R. & Cresswell, I.D. (1995). *An Interim Biogeographic Regionalisation for Australia (IBRA), Version 4*. (Australian Nature Conservation Agency: Canberra.)
- Van Vreeswyk, A.M.L., Payne, A.L., Leighton, K.A. & Hennig, P. (2004). *An inventory and condition survey of the Pilbara region, Western Australia*. Technical Bulletin 92 (Department of Agriculture: South Perth.)
- Wilson, P.G. (1984). Chenopodiaceae. In: George, A.S. (ed) *Flora of Australia*. Vol. 4, pp. 84–132. (Australian Government Publishing Service: Canberra.)