

## ***Tetragonia coronata*, a new species of Aizoaceae from Western Australia**

B.L. Rye and M.E. Trudgen

Western Australian Herbarium, Department of Conservation and Land Management,  
PO Box 104, Como, Western Australia 6152

### **Abstract**

Rye, B.L. and Trudgen, M.E. *Tetragonia coronata*, a new species of Aizoaceae from Western Australia. Nuytsia 10 (3): 459-462 (1996). A new species, *Tetragonia coronata* Rye & Trudgen, is described and illustrated. It is restricted to a small area in the vicinity of Hamelin Station, near Shark Bay and is the rarest of the seven species of *Tetragonia* native to Western Australia.

### **Introduction**

The new species described here was first collected in 1970 by T.E.H. (Ted) Aplin. In 1991, it was placed on the Priority Flora List of the Western Australian Department of Conservation and Land Management under the phrase name *Tetragonia* sp. *Hamelin* (M.E. Trudgen 8000), after being recognized as a separate taxon during the preparation of a flora list for the Shark Bay World Heritage Area (Trudgen & Keighery 1995).

It was independently recognized as a new species by Max Gray (pers. comm.), who is currently naming another new *Tetragonia* species from inland Australia. These two new taxa will bring the total number of *Tetragonia* species recorded for Western Australia to seven native and one introduced species, three of which are endemic. A further two introduced species occur in other states of Australia but no additional native species. Previously-named species are described in Prescott (1984).

### **Taxonomy**

***Tetragonia coronata* Rye & Trudgen, sp. nov.**

A *Tetragonia cristata* floris 5-meris et fructo cornuto, a *T. tetragonoides* fructo grandiore cum acuminis papillorum longioribus statim dignoscenda.

*Typus*: S of Overlander Roadhouse [precise locality withheld] on Great Northern Highway, Western Australia, September 1989, M.E. Trudgen 8000 (*holo*: PERTH 01617117; *iso*: CANB, MEL).



*Annual herb* with decumbent branches and sometimes also an erect central stem 0.05-0.2 m long, somewhat succulent; indumentum of hair-like papillae, inconspicuous on the stems and petioles but very dense and fairly conspicuous on the flowers and fruits; papillae simple, spreading, flexible, compressed, narrowly triangular, clear-translucent, 0.3-0.8 mm long on the vegetative parts. *Stems* rather densely hairy at first but becoming sparsely hairy, the lower stems terete and up to 3 mm wide. *Petioles* more or less absent or up to 25 mm long, densely hairy. *Leaf blades* ovate or broadly ovate with a long-attenuate base, 30-100 x 15-50 mm, acute or obtuse, the margins flat, with papillae along the main veins and a dense pattern of circular impressions in between, often also with some papillae scattered over the surface, pale green or greyish green, with 2 or 3 prominent incurved lateral veins on each side of midvein. *Inflorescence* of solitary axillary flowers, each branch usually bearing 1-5 flowers or fruits spaced 10-40 mm apart. *Pedicels* 2-5 mm long. *Flowers* yellow. *Floral tube* c. 2 mm long at anthesis, enlarging to 7-12 mm in fruit, glabrous inside. *Sepals* (4)5, ovate to broadly ovate, often unequal, 1.3-2 mm long, glabrous inside. *Stamens* more than twice as many as sepals; filament c. 1.5 mm long; anther c. 0.5 mm long. *Ovary* inferior, with short papillae on base and large ones at summit. *Styles* c. 7, c. 1.3 mm long. *Fruit* a diclesium, multicellular, greatly thickened and woody, obovoid or broadly obovoid and horned, 14-23 mm long including the horns, usually 10-15 mm wide, densely and conspicuously papillose; papillae mostly patent to reflexed, c. 1 mm long; horns 7-10, in a circle surrounding the truncate apex of fruit body, usually very unequal, most fairly straight and vertical but some curved or spreading, laterally compressed, triangular to broadly ovate-acuminate, the larger ones 4-9 mm long. *Seeds* 1 per cell, c. 4 x 1.5 mm, pale brown. (Figure 1A-C)

*Other specimens examined.* WESTERN AUSTRALIA (precise localities withheld, all PERTH): Great Northern Highway, 2/7/1970, T.E.H. Aplin 3180; N of Billabong Roadhouse, 15/7/1992, G.J. Keighery 12814; Hamelin Station, 4/8/1984, A. Holm H2.

*Distribution.* Occurs in the vicinity of Hamelin Station, in the Eremaean Botanical Province of Western Australia, just outside the far north of the South-west Botanical Province. (Figure 1D)

*Habitat.* Recorded in reddish sandy soils or loam, sometimes associated with calcrete outcrops, on flat but not particularly low-lying ground, in vegetation dominated by *Acacia*. The vegetation type where the species occurs appears to be part of the Talisker System described in Beard (1976), with a predominance of *Bowgada* (*Acacia ramulosa* W.V. Fitzg.) scrub.

*Phenology.* Flowers and fruits have been collected in the period from June to September, most specimens having flower buds at the apex of the shoots and progressing through mature flowers and young fruits to full-sized fruits towards the base. The mature fruits are extremely hard and, as in other members of the genus, show no signs of dehiscence, but are well equipped with horns and papillae for dispersal by animal vectors.

*Conservation status.* Conservation Codes for Western Australian Flora: Priority 1. This species is known from four locations, all on pastoral stations, with a range of about 55 km.

*Etymology.* From the Latin *coronatus* - crowned, referring to the crown-like summit to the fruits.

*Affinities.* Of the seven native *Tetragonia* species in Australia, *T. coronata* has the largest fruits and has mostly 5-merous flowers whereas other species have all or mostly 4-merous flowers. It was included under *Tetragonia tetragonoides* (Pallas) Kuntze by Prescott (1984) but she saw only one specimen, which she labelled as doubtful. Other specimens have been considered similar to *T. cristata* C.A. Gardner ex A. Prescott, which has fruits nearly as large and with similar indumentum but



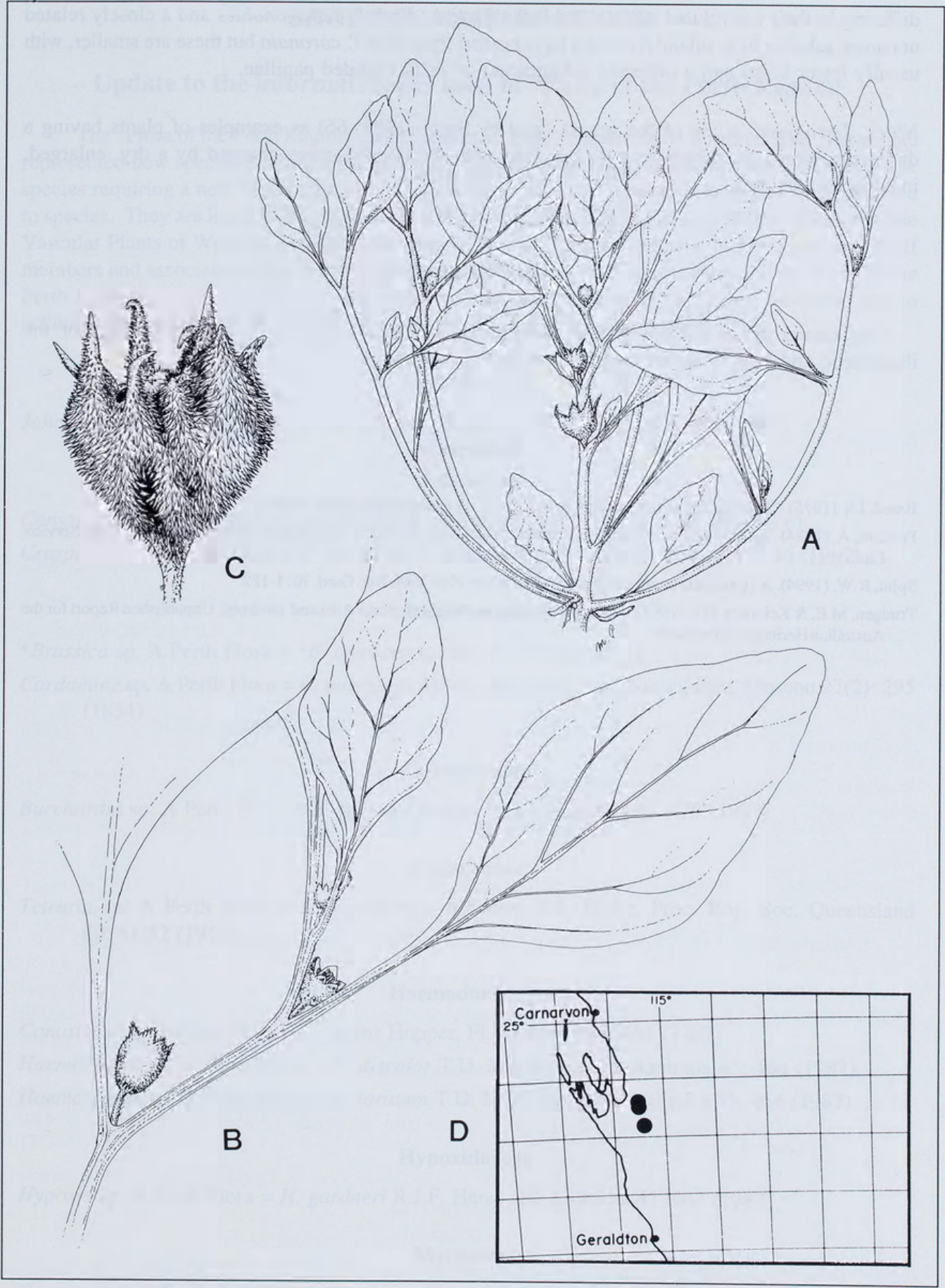


Figure 1. *Tetragonia coronata* A - whole plant with flowers and fruits (x0.5), B - branch bearing a flower bud, mature flower and young fruit (x1), C - mature fruit (x2), D - known distribution of *Tetragonia coronata*. Drawn from T.E.H. Aplin 3180 (A), G.J. Keighery 12814 (B) and A. Holm H2 (C).



differing in their convoluted surface and lack of horns. Both *T. tetragonoides* and a closely related unnamed relative from inland Australia have horned fruits like *T. coronata* but these are smaller, with usually fewer horns and a different indumentum of small rounded papillae.

*Notes.* *Tetragonia* is one of the genera cited by Spjut (1994: 66) as examples of plants having a diclesium, which he defines as a simple fruit with the ripened ovary covered by a dry, enlarged, indehiscent perianth.

### Acknowledgements

Our thanks go to Paul Wilson for preparing the Latin diagnosis, Margaret Pieroni for the illustration and Max Gray for commenting on the manuscript.

### References

- Beard, J.S. (1976). "The Vegetation of the Ajana Area." pp. 33. (Vegmap Publications: Perth.)
- Prescott, A. (1984). *Tetragonia*. In: "Flora of Australia." Vol. 4. pp. 37-42, 51. (Australian Government Publishing Service: Canberra.)
- Spjut, R.W. (1994). A systematic treatment of fruit types. Mem. New York Bot. Gard. 70: 1-182.
- Trudgen, M.E. & Keighery, G.J. (1995). Flora of the Shark Bay World Heritage Area and environs. Unpublished Report for the Australian Heritage Commission.



Rye, B L and Trudgen, M. E. 1996. "Tetragonia coronata, a new species of Aizoaceae from Western Australia." *Nuytsia: journal of the Western Australian Herbarium* 10(3), 459–462. <https://doi.org/10.58828/nuy00243>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/224945>

**DOI:** <https://doi.org/10.58828/nuy00243>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/235170>

#### **Holding Institution**

Western Australian Herbarium

#### **Sponsored by**

Atlas of Living Australia

#### **Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the rights holder.

License: <http://creativecommons.org/licenses/by-nc-sa/4.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.