Darwinia capitellata (Myrtaceae), a new species from south-western Australia

B. L. Rye

Western Australian Herbarium, George St, South Perth, Western Australia 6151

Abstract

Rye, B. L. *Darwinia capitellata* (Myrtaceae), a new species from south-western Australia. Nuytsia 4(3): 423-426 (1983). A new species, *Darwinia capitellata* Rye, is described. It differs from its closest relative, *D. diosmoides* (DC.) Benth., in bracteole shape and texture, distribution of oil glands, arrangement of flower heads, chromosome number and geographical distribution.

Introduction

This paper provides a formal taxonomic description of *Darwinia capitellata*, whose closest relative is *D. diosmoides*. The existence of the new species was first noticed when its chromosome number (n = 12) was found to differ from those of *D. diosmoides* (n = 7, 14). The chromosome numbers of both species were reported in Rye (1979), where *D. capitellata* was referred to as '*D.* sp. aff. *diosmoides*'. A morphometric and anatomical study of the two species (Rye 1983) showed that they could be distinguished by their foliar morphology, in particular the bracteoles, but not by their floral morphology or leaf anatomy. In the latter paper *D. capitellata* was referred to as the 'northern variant' of the *D. diosmoides* complex. That paper should be consulted for details of the scientific names that have been applied to the species complex, illustrations of the geographical distributions of the species and a discussion of the origin of their chromosome numbers.

Like many other members of the genus, *D. capitellata* and *D. diosmoides* produce head-like condensed racemes. For simplicity, these inflorescences are referred to here as 'heads'. Using the terminology of Briggs and Johnson (1979), the heads are capitulum-like racemiform conflorescences made up of uniflorescences. The uniflorescences are pedunculate monads (referred to here as pedicellate flowers) with 2 prophylls (bracteoles) and no anthopodium (meaning that the flowers are sessile within the bracteoles).

Measurements for the description of *D. capitellata* were obtained from all the Western Australian Herbarium (PERTH) herbarium specimens (cited at the end of the description) and from fresh material collected at Paynes Find. No specimens from other herbaria were examined.

New species description

Darwinia capitellata Rye, sp. nov. (Figure 1)

D. diosmoidi (DC.) Benth. affinis a qua habitu multiramoso, caule glandulis oleiferis prominentibus ornato, bracteolis multo magis scariosis, capitulis florum laxe corymboideis, chromosomatum numero differt.

Figure 1: Holotype of *Darwinia capitellata* Rye.

Typus. Near Paynes Find, Western Australia, November 1951, *C. A. Gardner* 11999 (holo: PERTH; iso: K, CANB, NSW, MEL).

Related to *Darwinia diosmoides* (DC.) Benth. but differs in the more branched habit, prominent oil glands on the youngest stems, more scarious bracteoles, corymb-like arrangement of the flower-heads and chromosome number.

Bushy much-branched *shrub* to 1 m high. *Youngest stems* pale, with prominent oil glands. *Leaves* aggregated towards the stem apices, shortly petiolate on prominent leaf bases, widely spreading to appressed; *laminae* triquetrous to plano-convex, 2.5-4.5 x 0.5-1 mm, dotted with prominent oil glands. *Flowers* in head-like condensed racemes, which are associated into a corymb-like arrangement, the terminal head of the corymb typically with more flowers than the lower heads, which are usually 4-8-flowered. *Pedicels* 0.5-1 mm long, prominently 5-ribbed, papillate. *Bracteoles* 2.3-4.0 x 0.5-1 mm, scarious, with a narrow pale brown midrib. *Floral tube* obconic, usually 2-2.5 mm long, papillate above the ovary; *ovary portion* 1-1.5 mm long, prominently rugose with horizontal protrusions. *Sepals* 0.3-0.7 mm long, rounded. *Petals* white, ovate, 1.8-2.3 mm long. *Stamens* mostly 0.4-0.7 mm long. *Staminodes* narrowly triangular or triangular, 0.2-0.35 mm long. *Ovules* 2. *Style* 4-6 mm long; *substigmatic hairs* forming a band 0.5-1 mm long. *Seeds* solitary, c. 1 mm long. *Haploid chromosome number* = 12 (Rye 1979).

Other specimens examined. WESTERN AUSTRALIA (all PERTH): East of Tardun [c. 28°50′S, 115°50′E], *J. S. Beard* 6696; Bullardoo Station [27°51′S, 115°40′E], *J. S. Beard* 6865; South of Coolcalalaya [c. 27°35′S, 115°03′E], *J. S. Beard* 7148; Paynes Find [29°28′S, 116°18′E], *H. Demarz* 2763; Pindar [28°28′S, 115°47′E], *C. A. Gardner* 7777; Perenjori [29°28′S, 116°18′E], October 1945, *C. A. Gardner* s.n.; Morawa [29°13′S, 116°01′E], December 1962, *C. A. Gardner* s.n.; East of Sandstone [c. 27°60′S, 119°45′E], 26 October 1963, *C. A. Gardner* s.n.; Kalbarri National Park [27°34′S, 114°26′E], *R. J. Hnatiuk* 780366; Pindar, 20 September 1968, *M. E. Phillips* s.n.; Paynes Find, *B. L. Powell* 73012; North of Mount Magnet [27°58′S, 117°50′E], *B. L. Powell* 74045; North of Morawa [c. 29°10′S, 116°00′E], 16 November 1958, *L. Steenbolm & F. Lullfitz* s.n.; Unknown locality, *E. Wittwer* 1596.

Distribution. Western Australia, from Kalbarri National Park south to Perenjori and east to the Sandstone area (Rye 1983, Figure 1), a range of over 500 kilometres.

Habitat. Mostly recorded in sandy soils, sometimes associated with *Acacia* thickets. At Mount Magnet the species occurred on a breakaway.

Flowering period. August-November.

Derivation of name. From the Latin diminutive of capitulum, referring to the small flower heads.

Discussion

Darwinia capitellata apparently differs from all other members of the genus in its possession of well developed compound inflorescences (superconflorescences). At first glance, the corymb-like compound inflorescences appear the same as the heads (conflorescences) of other species, such as *D. diosmoides.* In *D. diosmoides,* the heads are usually solitary, terminating leafy shoots; when, very rarely, 2 or 3 heads arise close together, they do not appear to merge into a corymb as in *D. capitellata.*

23972—(12

Darwinia diosmoides also differs from *D. capitellata* in its lack of obvious oil glands on the stems. Its bracteoles tend to be much more leaf-like than in *D. capitellata,* with thick fleshy midribs and narrow scarious margins.

Acknowledgements

I am grateful to Professor K. H. Rechinger for providing the Latin diagnosis and Mr P. G. Wilson for constructive criticism of the manuscript.

References

Briggs, B. G. & Johnson, L.A.S. (1979). Evolution in the Myrtaceae—evidence from inflorescence structure. Proc. Linn. Soc. New South Wales 102: 157-256.

Rye, B. L. (1979). Chromosome number variation in the Myrtaceae and its taxonomic implications. Austral. J. Bot. 27: 547-573.

Rye, B. L. (1983). A morphometric and anatomical study of the *Darwinia diosmoides* complex (Myrtaceae) in south-western Australia. Nuytsia 4: 411-421.