

NEW GENERA AND SPECIES OF AUSTRALIAN INULEAE (ASTERACEAE)

by

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ABSTRACT

Short, P. S. New genera and species of Australian Inuleae (Asteraceae). *Muelleria* 7(1): 103–116 (1989). — Five new genera, *Dielitzia* Short, *Feldstonia* Short, *Fitzwillia* Short, *Lemooria* Short and *Sondottia* Short are described. All but *Sondottia* are monotypic. A new species of *Dithyrostegia* A. Gray is described. New species and new combinations are: *Dielitzia tysonii* Short, *Dithyrostegia gracilis* Short, *Feldstonia nitens* Short, *Fitzwillia axilliflora* (W.V. Fitzg. ex Ewart & J. White) Short, *Lemooria burkittii* (Benth.) Short, *Sondottia connata* (W.V. Fitzg.) Short and *S. glabrata* Short.

INTRODUCTION

In a revision of *Angianthus* Wendl. (*sensu* Bentham 1867) I (Short 1983) excluded three species from *Angianthus s. str.*, viz. *A. axilliflorus* W.V. Fitzg. ex Ewart & J. White, *A. connatus* W.V. Fitzg. and *A. burkittii* (Benth.) J.M. Black. At the time I suggested that they may represent monotypic genera or have affinities with other genera which had not been examined. Subsequent investigations have failed to reveal such affinities. Thus, in this paper, each is formally referred to a new genus. Several further taxa, of which I have known for some years, are also described.

Collections from all major Australian herbaria have been examined.

TAXONOMY

Dielitzia Short, gen. nov.

Herba annua, caespitosa, glomerulis foliis circumcinctis; glomeruli sessiles vel in axibus brevibus, tomentosus majores. *Folia* sessilia, integra, infima opposita, superne alterna, sublinearia, tomentosa. *Glomeruli* late ellipsoidei usque oblatis; bracteae glomerulos subtendentes involucrem conspicuum glomerulis aequilongum facientes, cartilagineae; receptaculum cupulatum, nudum. *Capitula* c. 4–15. *Bracteae intra capitulum* biseritatae; bracteae exteriores 1–4, setaceae, longo-plumosae; bracteae interiores (2)3–4, hyalinae, marmoratae, apicibus pilis rectis subrigidis praeditis. *Flosculi* 1 in quoque capitulo, tubulare, hermaphroditi. *Corolla* 4 vel 5-lobata. *Styli* rami truncati, apicibus papillatis. *Stamina* 4 vel 5; antherae ad basim caudatae, ad apicem appendicibus sterilibus. *Cypselae* subobovoidae, papillatae; carpodium absens. *Pappus* setaceus.

Typus: *D. tysonii* Short

Annual herb, tufted, of 1–20 compound heads surrounded by leaves, the compound heads sessile or terminating short, tomentose major axes. *Leaves* sessile, entire, ± linear, at least the lowermost opposite, the upper alternate, tomentose. *Compound heads* broadly ellipsoid to obloid; bracts subtending the compound heads forming a conspicuous involucre the length of the head, the bracts mainly cartilaginous. *General receptacle* cup-like, naked. *Capitula* c. 4–15 per compound head. *Capitular* bracts in 2 rows; outer bracts 1–4, bristle-like, long-plumose; inner bracts (2)3–4, ± hyaline, with brown or blackish marbling, apices with straight, ± rigid hairs $\frac{2}{3}$ – $\frac{1}{2}$ the total length of the bracts. *Florets* 1 per capitulum, bisexual. *Corolla* 4 or 5 lobed. *Style* branches truncate; apices papillate. *Stamens* 4 or 5; anthers caudate, each with a sterile apical appendage; filament collar straight in outline and not thicker than the filament. *Cypselas* ± obovoid, minutely papillate; carpodium absent. *Pappus* setaceus.

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DISTRIBUTION (Fig. 1):

Monotypic. Restricted to inland Western Australia between latitudes *c.* 24° S. and 29° S. and longitudes *c.* 115° E. and 123° E.

ETYMOLOGY:

The generic name is an anagram derived from the surnames and commemorating botanists F. L. E. Diels (1874–1945) and E. G. Pritzel (1875–1946).

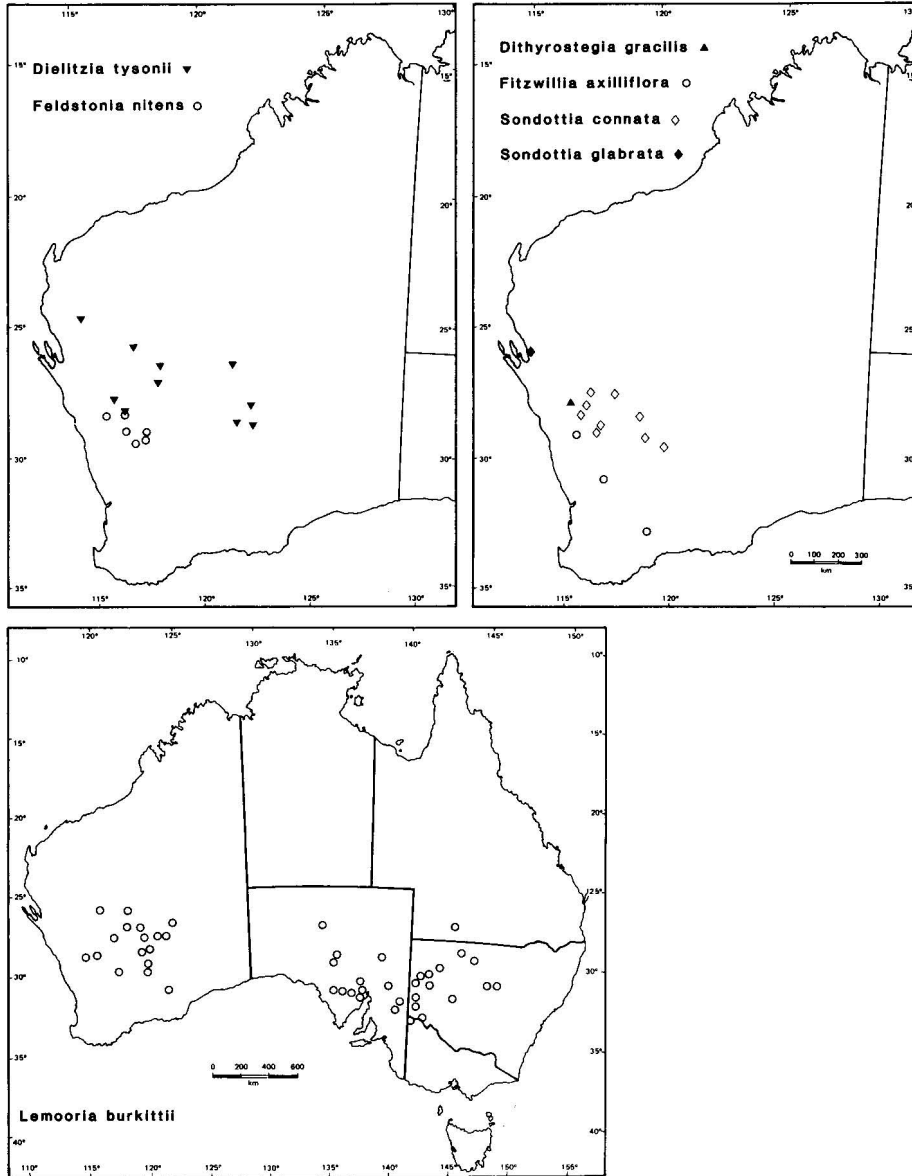


Fig. 1. Distribution of *Dielitzia tysonii*, *Feldstonia nitens*, *Dithyrostegia gracilis*, *Fitzwillia axilliflora*, *Sondottia connata*, *S. glabrata* and *Lemooria burkittii*.

NOTES:

With the exception of *Isoetopsis* the habit alone readily distinguishes this taxon from all other Australian Asteraceae. The cartilaginous bracts of the general involucre, the cup-like general receptacle and the structure of the capitular bracts (particularly the marbled, inner bracts) are features unique to the genus.

Although the general receptacle is described as being glabrous the bristle-like bracts deemed to be the outer capitular bracts could possibly be interpreted as receptacular bracts.

The marbling of the inner bracts is best observed in spirit collections. In herbarium specimens bracts may appear to be more or less uniform in colour.

***Dielitzia tysonii* Short, sp. nov.**

Herba annua, caespitosa, glomerulis 1–20, ab foliis circumcinctis, sessilibus vel in axibus majoribus usque ad 1.5 cm longibus. *Folia* sublinearia, c. 1–8 cm longa, 0.08–0.15 cm lata, ad basim dilatatae, submucronatae, semisucculentae, tomentosae. *Glomeruli* late ellipsoidei usque obloidei, 4–6 mm longi, 3–7 mm diametro; bracteae glomerulos subtendentes c. 8–12, praecipue cartilagineae sed apicibus hyalinis. *Capitula* c. 4–15. *Bracteae intra capitulum* longitudine c. $\frac{2}{3}$ – $\frac{3}{4}$ flosculi aequanti. *Flosculi* 1 in quoque capitulo. *Stamina* 4 vel 5; antherae 0.53–0.64 mm longae; microsporangia 0.35–0.48 mm longa; appendices apicales 0.35–0.48 mm longae; pollinis grana in quaque anthera 28–88. *Cypselae* subobovoidea, 1–1.3 mm longae, 0.5–0.6 mm diametro. *Setae pappi* c. 10, barbellatae, ad bases conjunctae, longitudine c. $\frac{1}{3}$ – $\frac{1}{2}$ corollae aequanti. (Fig. 2).

HOLOTYPE: Western Australia, 17.2 km NE. of Nallan on Yarrabubba road, 23.viii.1986, *Lander 1389, Fuhrer & Short* (MEL 1556923). **ISOTYPE:** AD, CANB, K, PERTH, S.

Annual herb, tufted, of 1–20 compound heads surrounded by leaves, the compound heads \pm sessile or on major axes to 1.5 cm long. *Leaves* \pm linear, c. 1–8 cm long, 0.08–0.15 cm wide, expanded at the base, \pm mucronate, semisucculent, tomentose. *Compound heads* broadly ellipsoid to obloid, 4–6 mm long, 3–7 mm diam.; bracts subtending compound heads c. 8–12, mainly cartilaginous but with hyaline apices. *Capitula* c. 4–15 per compound head. *Capitular bracts* c. $\frac{2}{3}$ – $\frac{3}{4}$ the length of the florets. *Florets* 1 per capitulum. *Stamens* 4 or 5; anthers 0.53–0.64 mm long; microsporangia 0.35–0.48 mm long; apical appendages 0.16–0.25 mm long; pollen grains 28–88 per anther. *Cypselae* \pm obovoid, 1–1.3 mm long, 0.5–0.6 mm diam. *Pappus* bristles c. 10, barbellate, of unequal length, fused at the base, c. $\frac{1}{3}$ – $\frac{1}{2}$ the length of the corolla.

DISTRIBUTION (Fig. 1):

See generic treatment.

ECOLOGY & REPRODUCTIVE BIOLOGY:

Habitat notes suggest a preference for sandy loam to clay soil. Collectors' notes include: 'Growing in open *Acacia* shrubland. Brown sandy loam with gravel. With an array of ephemeral composites including *Gnephosis burkittii*, *Podolepis*, *Cephalip-terum drummondii*, *Isoetopsis graminifolia*, *Brachyscome* & *Calotis*', 'Open *Acacia/Cassia* scrub. Sandy loam covered with ironstone gravel' and 'Growing on saline clay flat'.

Pollen:ovule ratios were determined for 15 plants from *Short 1519*. The values obtained (range = 204–408; \bar{x} = 329.7; S.D. = 56.7; S.E. \bar{x} = 14.64) indicate a high degree of self-pollination (Short 1981).

ETYMOLOGY:

The specific epithet commemorates Isaac Tyson, a pastoralist who collected the plant in 1893.

NOTES:

Dielitzia tysonii has a marked resemblance in habit to *Isoetopsis graminifolia* Turcz. It is readily distinguished in the field from the latter by its hairy, not glabrous, leaves.