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A new species of *Angianthus* (Asteraceae: Asteroideae: Gnaphalieae) from the south-west of Western Australia

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Abstract

Lyons, M.N. & Keighery, G.J. A new species of *Angianthus* (Asteraceae: Asteroideae: Gnaphalieae) from the south-west of Western Australia. *Nuytsia* 25: 125–129 (2015). The new species *Angianthus globuliformis* M.Lyons & Keighery (Asteraceae: Gnaphalieae) is described from gypsum dunes of the Western Australian agricultural zone.

Introduction

Angianthus J.C.Wendl. is confined to Australia and comprises 21 species, of which 18 occur in south-western Western Australia (Council of Heads of Australasian Herbaria 2007–; Western Australian Herbarium 1998–). Since the revision by Short (1983) there has been a large increase in collections and field studies, which has enabled the delimitation of additional taxa (Short 1990; Keighery 2004). The distinctive new species described in the present paper was discovered during the Salinity Action Plan biological survey of the agricultural zone of Western Australia (Keighery *et al*. 2004) and is another example of the diversity of *Angianthus* taxa occurring in naturally saline habitats in Western Australia.

Taxonomy

Angianthus globuliformis M.Lyons & Keighery, *sp. nov.*

Type: Lake Altham, Western Australia [precise locality withheld for conservation reasons], 18 October 2000, *M.N. Lyons* 2623 (*holo*: PERTH 06835414; *iso*: DNA).

Angianthus sp. Altham (M.N. Lyons 2623), Western Australian Herbarium, in *FloraBase*, http://florabase.dpaw.wa.gov.au/ [accessed November 2014].

Annual *herb*; major axes prostrate to decumbent, much-divided, arising from basal nodes, 15–50 mm long, glabrous or sparingly hairy. *Leaves* opposite, linear to linear-lanceolate, soft and succulent, *c.* 1 mm wide, basal leaves 4–7 mm long, stem leaves 4–5 mm long with a few marginal, long, simple, grey hairs; apex mucronate. *Compound heads* ovoid, 3–5 mm wide, 3–5 mm long. *Bracts subtending compound heads c.* 20 in 2 or 3 rows, not exceeding the head; outer bracts leaf-like, subulate, *c.* 3 mm long, <1 mm wide, grey, mucronate; inner bracts oblanceolate to elliptic, *c.* 2–3 mm long, *c.* 1 mm

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wide, grey, mucronate. *General receptacle* a small convex axis. *Capitula* 15–30 per compound head. Capitulum-subtending bracts 1(2), obovate, *c.* 2 mm long, *c.* 2 mm wide, scarious, glabrous. *Capitular bracts* 4; outer concave bracts 2, *c.* 2 mm long, midrib sparsely hairy on back; inner flat bracts 2, obovate, gradually tapering towards base, *c.* 2 mm long, *c.* 1 mm wide, glabrous, with an entire wing-like extension from the adaxial surface. *Florets* 2 per capitulum; corolla 5-lobed, *c.* 1–2 mm long, the tube initially tapering gradually towards the base, becoming swollen at the base as florets mature. *Achenes* obovoid, *c.* 0.8 mm long, *c.* 0.3 mm diam., papillose. *Pappus* absent. (Figure 1)

Other specimens examined. Only known from the type collection.

Distribution and habitat. The type was collected from the margin of a small, saline lake near Lake Altham in the Avon Wheatbelt bioregion of Western Australia where it occurs on low, gypsum-rich dunes under *Tecticornia* succulent shrubland.

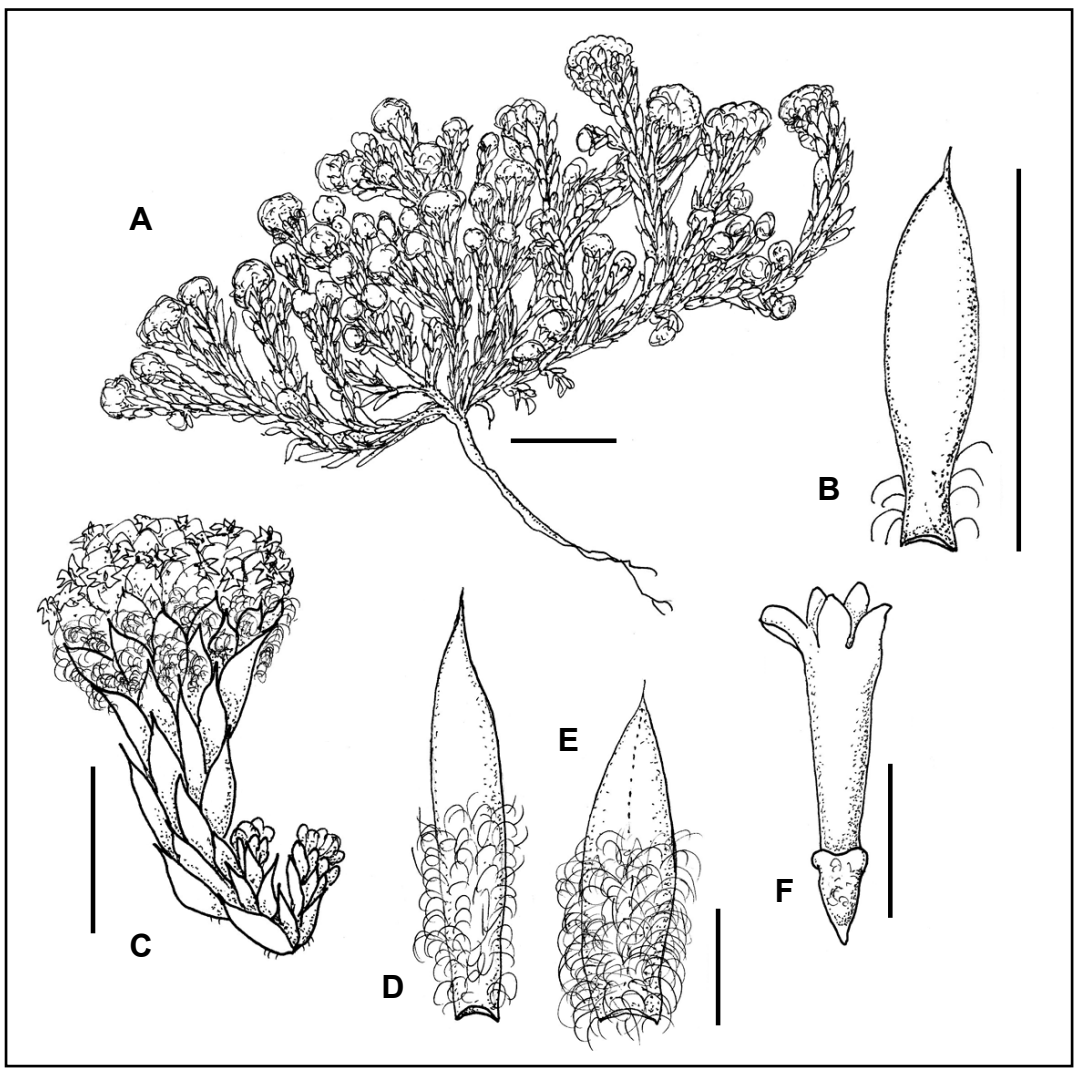

Figure 1. *Angianthus globuliformis*. A – habit; B – leaf; C – inflorescence; D – outer involucral bract; E – second whorl involucral bract; F – young flower. From *M.N. Lyons* 2623. Scale bars = 10 mm (A); 5 mm (B, C), 1 mm (D, E, and F).

Phenology. Flowers in late spring, from October to November (ML pers. obs.).

Conservation status. This species is listed as Priority One under Department of Parks and Wildlife Conservation Codes for Western Australian Flora (Jones 2014), under the name *Angianthus* sp. Altham (M.N. Lyons 2623).

Etymology. The epithet is Latin for button-like. Like several other annual composites, this is a prostrate plant in which the stems and leaves lie on or just below the soil surface (and are the same colour as the soil), while the inflorescences are held on shortly ascending terminal branches near the soil surface and appear from above as a collection of buttons.

Notes. *Angianthus globuliformis* is related to the *A. drummondii* (Turcz.) Benth. complex. It differs from all other species in the genus in having numerous clusters of small, ovoid compound heads and glabrous leaves. The species appears closest to *A. halophilus* Keighery, another species from naturally saline areas in the Avon Wheatbelt with short involucral bracts not exceeding the floral heads; however, *A. halophilus* has bracts and leaves that are covered in a silvery grey pubescence.

Key to species of *Angianthus* (adapted from Short 1983)

1. Perennial shrub; major axes 20–50 cm long ..... **A. cunninghamii**

1: Annual herb; major axes 5–30(44.5) cm long

2. Florets 1 per capitulum; flat capitular bracts absent or rarely 1 per capitulum

3. Pappus a jagged cup ..... **A. uniflorus**

3: Pappus of 2 or 3 scales, each terminating in a barbellate bristle ..... **A. microcephalus**

2: Florets 2 per capitulum; flat capitular bracts 2 per capitulum

4. Pappus absent

5. Midrib of capitular bracts with hairs 1/3 to 1/2 the length of the bract ..... **A. prostratus**

5: Midrib of capitular bracts glabrous or with hairs less than *c.* 1/3 of length of the bract

6. Bracts subtending compound heads inconspicuous or less than *c.* 1/2 (rarely to *c.* 3/4) the length of the head (if up to *c.* 3/4 then the inner capitular bracts with horn-like basal appendages); compound heads ± ovoid or narrowly ellipsoid to ellipsoid

7. Flat capitular bracts usually abruptly attenuated in the lower 1/3 and with horn-like basal appendages; compound heads ovoid ..... **A. cornutus**

7: Flat capitular bracts gradually tapering towards the base and lacking horn-like basal appendages; compound heads narrowly ellipsoid to ellipsoid

8. Capitulum-subtending bracts with the lamina constricted in the upper part and the midrib ± densely hairy towards the apex ..... **A. milnei**

8: Capitulum-subtending bracts without a constriction in the upper part and the midrib glabrous or sparsely hairy towards the apex ..... **A. milnei***

6: Bracts subtending compound heads *c.* equal to or exceeding the length of head; compound heads broadly ovoid to broadly depressed-ovoid

9. Flat capitular bracts lacking an entire wing-like extension from the adaxial surface of the midrib ..... **A. micropodioides***

9: Flat capitular bracts with an entire wing-like extension from the adaxial surface of the midrib or if absent then florets 3- or 4-lobed

10. Florets 3- or 4-lobed; pollen grains 16–60 per anther ..... **A. preissianus**

10: Florets 4- or 5-lobed; pollen grains *c.* 350–500 per anther

11. Major axes erect ..... **A. halophilus**

11: Major axes prostrate or decumbent (rarely erect in *A. pygmaeus*)

12. Compound heads broadly depressed-ovoid; bracts subtending compound heads 5–10, outer bracts elliptic or ovate ..... **A. pygmaeus**

12: Compound heads ovoid; bracts subtending compound heads *c.* 20, outer bracts subulate ..... **A. globuliformis**

4: Pappus present (readily falling with corolla in *A. platycephalus*)

13. Pappus an oblique jagged scale; achenes obliquely attached to floret ..... **A. phyllocalymmeus**

13: Pappus not an oblique jagged scale; achenes apically attached to floret

14. Bracts subtending the compound heads *c.* equal to or exceeding the length of the head

15. Pappus of jagged scales, each scale terminating in a single smooth or minutely barbellate bristle

16. Pappus of 5 or 6 jagged scales… ..... **A. micropodioides**

16: Pappus of 2 or 3 jagged scales…… ..... **A. newbeyi**

15: Pappus a cup of scales or a small ring

17. Pappus readily falling off with corolla. ..... **A. platycephalus**

17: Pappus ± persistent

18. Flat capitular bracts with a wing-like extension from the adaxial surface of the midrib ..... **A**. **drummondii**

18: Flat capitular bracts lacking a wing-like extension from the adaxial surface of the midrib ..... **A. micropodioides***

14: Bracts subtending the compound heads inconspicuous or less than *c.* 1/4 the length of the head (sometimes reaching *c.* 1/4 the length of the head in *A. brachypappus*)

19. Leaves (at least the upper ones) conduplicate, often incurved at the apex and with a distinct hyaline appendage; pappus of 4–6 bristles, barbellate in lower 1/2, united into a small, slightly toothed ring at the base ..... **A. acrohyalinus**

19: Leaves not conduplicate; pappus not as above

20. Pappus of 2 or 3 jagged scales, each scale terminating in 1 or 2 terminally subplumose bristles extending the length of the corolla ..... **A. tomentosus**

20: Pappus a jagged cup (of ± distinct scales) or a ring

21. Leaves almost glabrous, succulent and cylindrical when fresh ..... **A. glabratus**

21: Leaves conspicuously hairy, usually not succulent

22. Flat capitular bracts tapering gradually to base; compound heads ± narrowly ellipsoid to ellipsoid

23. Pappus a small jagged ring..... **A. milnei***

23: Pappus cup-shaped, jagged, often appearing as 2–4 distinct scales.....**A. cyathifer**

22: Flat capitular bracts abruptly attenuated in lower 1/3 to 1/2; compound heads usually narrowly ovoid to ovoid, sometimes narrowly ellipsoid to ellipsoid

24. Leaves usually oblanceolate, sometimes linear or narrowly elliptic, 1–3(3.2) cm long, 0.1–0.5 cm wide; pappus a jagged cup 0.15–0.7 mm long, often with 1 or 2 bristles extending 1/2–2/3 the length of the floret .....**A. brachypappus**

24: Leaves ± linear, rarely oblanceolate, 0.5–1.5(1.7) cm long, 0.1 cm wide; pappus a jagged ring 0.1–0.3 mm long, often with 1 or 2 bristles extending 1/2–1/3 the length of the floret ..... **A. conocephalus**

Taxa referred to as *A. milnei** and *A. micropodioides** in the above key are regarded by Short (1983) as atypical, requiring further study and possibly representing distinct taxa.

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