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A new species of *Tribonanthes* (Haemodoraceae) from saline wetland margins in Western Australia

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Abstract

Lyons M.N. and Keighery, G.J. A new species of *Tribonanthes* (Haemodoraceae) from saline wetland margins in Western Australia. *Nuytsia* 16(1):77–80 (2006). A new species, *Tribonanthes minor*, is described and illustrated. The new species is confined to the sandy margins of primary saline lake systems in southern Western Australia.

Introduction

The paleodrainage systems of the south-west of Western Australia contain a complex array of plant habitats associated with chains of naturally saline wetlands. Current detailed studies by the Western Australian Department of Environment and Conservation (DEC), as part of the biological survey of the South-West Agricultural Zone, have confirmed the high botanical values of these areas and shown that the paleodrainage systems contain a vascular flora of over 750 species, many of which are endemic. There are many undescribed and often newly collected species in this group. This distinctive new endemic was collected during part of this survey and is considered at risk from hydrological change.

The genus *Tribonanthes* Endl. is a small genus in the Haemodoraaceae (subfamily *Conostylidoideae*, tribe *Tribonantheae*) comprising six species, all of which are endemic to Western Australia. It is distinguished from other genera in the *Conostylidoideae* by having wholly enclosed anthers and a conical corolla tube with minute erect corolla lobes.

Taxonomy

Key to species of *Tribonanthes* (after Macfarlane, 1987, p. 131).

- 1. Perianth lobes strongly reflexed
 - 2. Inflorescence 3–7 flowered **T. brachypetala**
 - 2. Inflorescence a single flower **T. minor**
- 1. Perianth lobes spreading or erect
 - 3. Perianth lobes glabrous except ciliate margins, lobes erect at anthesis **T. purpurea**
 - 3. Perianth lobes sparsely hairy to wooly hairy, lobes spreading at anthesis

- 4. Flowers 2–7 per inflorescence
- 5. Filament appendage about level with or much exceeding anther tip; longest flower bearing branch of inflorescence 2–15 mm long from axil to flower base; perianth lobe length: maximum width ratio usually less than 3 **T. australis**
- 5. Filament appendage usually shorter than anther tip; longest flower bearing branch of inflorescence 11–60 mm long from axil to flower base; perianth lobe length: maximum width ratio usually more than 3 **T. longipetala**
- 4. Flowers solitary
- 6. Flower partially enclosed by 2 broad bracts; perianth lobes 4.5–6.5 mm long **T. violacea**
- 6. Flower not partially enclosed by 2 bracts; perianth lobes 8.5–14 mm long **T. longipetala**

Tribonanthes minor M. Lyons & Keighery, *sp. nov.*

Ab *Tribonanthe violacea* differt a lobiis perianthii reflexus et subroseus–purpureis. Inflorescentia uniflorus, unibractearus, ovatus, roseus–purpureis.

Typus: Chinocup Nature Reserve, near Lake Chinocup, 3 kilometres south of intersection of Chinocup and Tees Rd, 33° 30' S, 118° 23' E, 18 Oct. 2000, *M.N. Lyons* 2734 (*holo*: PERTH 07245890; *iso*: CANB).

Herb annually renewed from a white ovoid tuber, 6–7 mm wide covered by numerous old tunics, 15–25 mm below surface. *Plant* 3–4 cm tall, consisting of a single scape with 10–14 mm below main leaf on soil surface. *Scape* glabrous between leaf and inflorescence bract, c. 4 mm, then woolly hairy above bract for 10–13 mm. *Leaf* green, glabrous, 20–45 mm long, spreading to erect. *Inflorescence bract* stem clasping, red–purplish, glabrous, free section, c. 4 mm long, spreading. *Inflorescence* a solitary flower, white woolly hairy outside, subtended by a single ovate, pinkish–purple bract with an acute apex, 4–5 mm long. *Flowers* not noticeably fragrant. *Ovary* 4–5 mm long. *Perianth lobes* strongly reflexed, 1–1.5 mm long, less than 1 mm wide, narrowly ovate–elliptic, woolly hairy outside, red–purplish, glabrous inside. *Filament appendage* large, fleshy, not deeply grooved on back, exceeding anthers. (Figure 1)

Other specimens examined. WESTERN AUSTRALIA: Western side of Lake King, 24 Oct. 2000, *M.N. Lyons* 2735 (PERTH), Chinocup Nature Reserve, near Lake Chinocup, 19 Oct. 1999, *M.N. Lyons* 2929 (PERTH).

Distribution and habitat. Known from scattered locations within the Avon and Mallee Bioregions of south-west Western Australia (Thackway & Cresswell 1995). Occurs on seasonally wet, low sandy rises, at the margins of saline lakes.

Flowering period. Flowers from August to September. Nearly mature capsules present in October, old capsules in December.

Conservation status. Occurs at very low elevations on the margins of naturally saline lakes. Habitat is threatened by the increased risk of flooding associated with changes in catchment hydrology following agricultural clearing. Conservation Codes for Western Australian Flora: Priority Three.

Etymology. Specific name from the Latin *minor*, meaning smaller, a reference to the very small flowers and perianth lobes of this species.

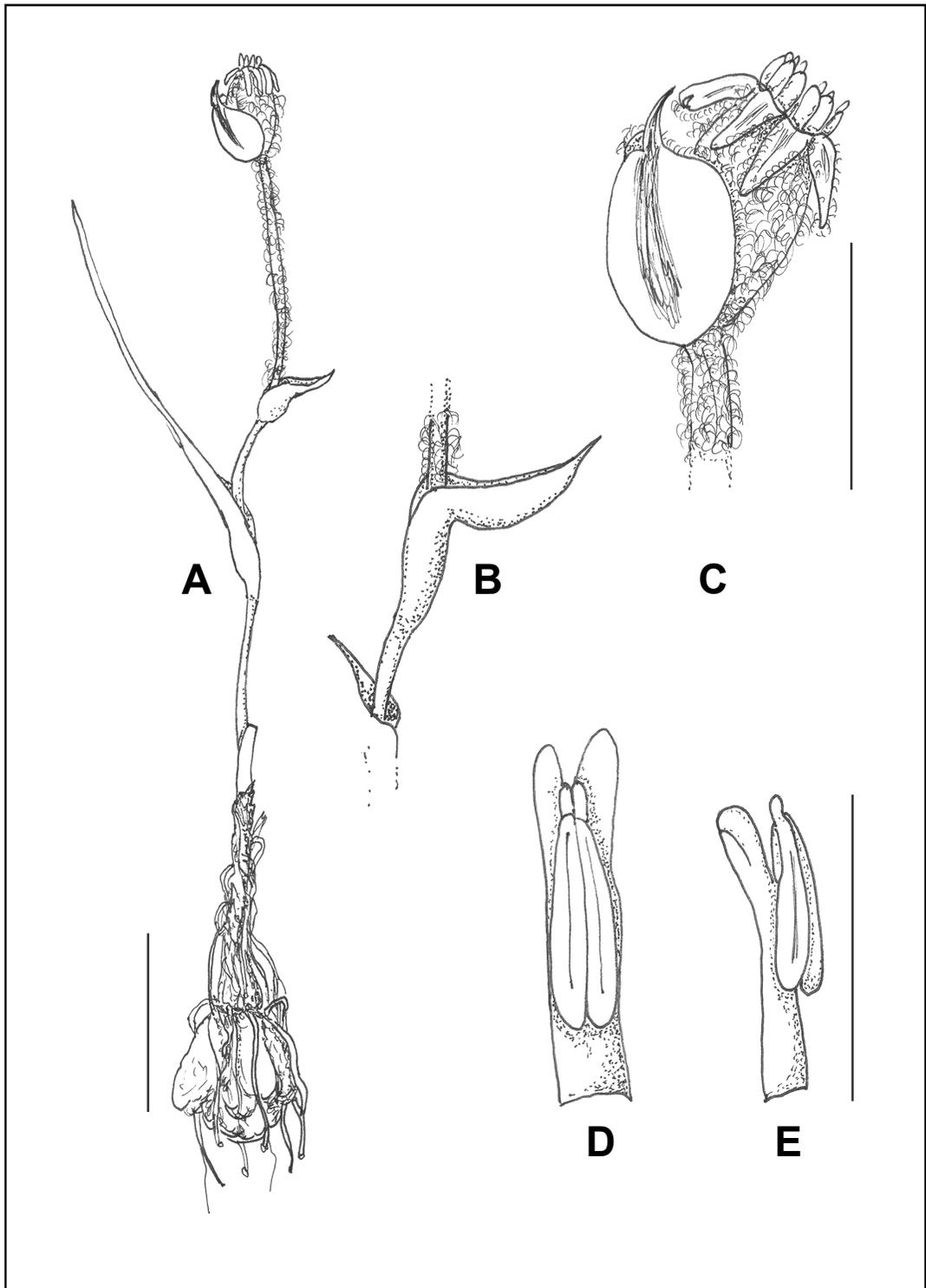


Figure 1. A–E: *Tribonanthes minor*. A – whole plant (scale bar = 1 cm); B – inflorescence bract, C – flower (scale bar = 0.5 cm); D – front view of anther, E – side view of anther (scale bar = 0.2 cm). Drawn from Lyons 2734 (PERTH 07245890).

Affinities. This species resembles *Tribonanthes brachypetala* Lindl. in having reflexed perianth lobes and large conspicuous filament appendages. However, it differs markedly from this species in the very reduced stature of the plants, the small solitary flowers with red–purple perianth lobes and flowers that are not strongly fragrant. In these characteristics it appears most closely related to *Tribonanthes violacea* Endl. However, it differs markedly from this species in having reflexed perianth lobes, a single floral bract and the small perianth lobes, 1–1.5 mm long versus 4.5–6 mm long.

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