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A new species of *Hypoxis* (Hypoxidaceae) from saline wetland margins in Western Australia

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Abstract

Lyons, M.N. and Keighery, G.J. A new species of *Hypoxis* (Hypoxidaceae) from saline wetland margins in Western Australia. *Nuytsia* 16(2): 317–320 (2007). A new species, *Hypoxis salina* Lyons & Keighery, is described and illustrated. The species is confined to the margins of naturally saline wetlands in the Mallee Bioregion of southern Western Australia.

Introduction

The Western Australian Department of Environment and Conservation (formerly CALM) undertook a regional biological survey of the Agricultural zone of Western Australia as part of the Western Australian Salinity Action Plan (Government of Western Australia, 2000). During the survey many species and species complexes were noted that required further taxonomic study. This paper forms part of a continuing series publishing the results of these studies.

Hypoxis was revised for Australia by Henderson (1987), where he accepted ten endemic species. Six of these were in section *Hypoxis* and are largely tropical in distribution and four were in section *Ianthe*, which is largely temperate in distribution. All members of section *Ianthe* occur in southern Western Australia and two are endemic to this region.

The new species of *Hypoxis* belongs to section *Ianthe*, being completely glabrous with the anthers attached near their base, at the base of the connective.

Taxonomy

Key to species of *Hypoxis* section *Ianthe* (after Henderson, 1987, p. 180).

- | | |
|--|------------------------|
| 1. Plants completely glabrous | Sect II. IANTHE |
| 8. Bracteoles 2 per axis, never sheathing, filiform, to 1.8 cm long,
with 1 nerve or nerve absent | H. glabella |
| 8. Bracteoles usually 1 per axis and sheathing, 1–7 cm long,
with more than 1 nerve | 9 |

9. Stigmatic lobes usually longer than stylar column;
bracteoles 1.5–7 cm long, perianth lobes 4, 5 or 6 **10**
10. Mature capsule obovoid–ellipsoidal, less than 3.5 times
as long as wide, stigmatic lobes usually longer than
stylar column, perianth lobes 6 **H. vaginata** var. **vaginata**
10. Mature capsule linear, more than 4 times as long as wide,
stigmatic lobes usually longer than stylar column,
perianth lobes 4, 5 or 6 **H. occidentalis**
9. Stigmatic lobes much shorter than stylar column;
bracteoles 5–70 mm long, perianth lobes 6 **11**
11. Ovary linear, more than 4 times as long as wide **H. gardneri**
11. Ovary obovoid–ellipsoidal **12**
12. Ovary obovoid, c. 1 mm long, bracteole 5 mm long **H. salina**
12. Ovary obovoid–ellipsoid, 8–14 mm long,
bracteole 10–70 mm long (S.E. Australia) **H. vaginata** var. **brevistigmata**

Hypoxis salina M.Lyons & Keighery, *sp. nov.*

Affinis *Hypoxidi vaginatae* sed lobis stigmaticis valde brevioribus quam columnam styli, et ovario obovoideo, 1 mm longo; plantis herbaceis, 2–4 cm altis; foliis linearibus, teretibus-semiteretibus, 25–35 mm longis, pedunculo unifloro, unibracteato; lobis perianthio 7 mm longis.

Typus: Chinocup Nature Reserve, 33° 30' S, 118° 23' E, 27 Oct. 2006, *M.N. & S.D. Lyons* 4890 (*holo*: PERTH07575793; *iso*: CANB, MEL).

Perennial *herb* 2–4 cm high, from a condensed corm, 7–9 mm long, 5–9 mm wide, tunic densely fibrous. Roots fleshy, white and often sand binding. *Leaves* usually two or single, erect with a pronounced bend at the base, slightly bilaterally flattened but appearing terete, glabrous, green but normally reddish, <1 mm wide, 25–35 mm long, soft and succulent, apex acute. 0.5–1.0 mm wide, 8–17 mm long. *Inflorescence* a solitary flower, flowering axis 20–25 mm long, 10–14 mm above bracteole, usually reddish in colour. *Bracteole* singular, stem clasping, scarious, c. 5 mm long. *Perianth* lobes, smooth, bright yellow inside, pale yellow outside. *Sepals* narrowly obovate, 7 mm long, c. 4 mm wide. *Petals* obovate, 6–7 mm long, 2–3 mm wide, apex acute. *Stamens*, yellow, 2–4 mm long, filaments alternately short and long, anthers c. 2 mm long, shortly lobed at base. *Style* ± clavate, 3–3.5 mm long, including the narrowly triangular lobes, 1–1.5 mm long. *Ovary* obovoid, c. 1 mm long. *Capsule* ± obovoid–ellipsoidal, 3–4 mm long by c. 2 mm wide. *Seeds* round, less than 1 mm wide, black, surface papillate, shiny. (Figure 1)

Other specimens examined. WESTERN AUSTRALIA (all PERTH): Chinocup, 11 Oct. 1999, *R. Cugley* 89; Chinocup, 8 Oct. 1999, *M.N. Lyons* 2850; Chinocup, 18 Oct. 2000, *M.N. Lyons* 2851.

Distribution. Recorded from the Mallee Bioregion (Thackway & Cresswell 1995).

Habitat. Occurs within braided saline drainage lines and on the margins of salt lakes on seasonally wet sandy soils in *Melaleuca thyooides* shrubland.

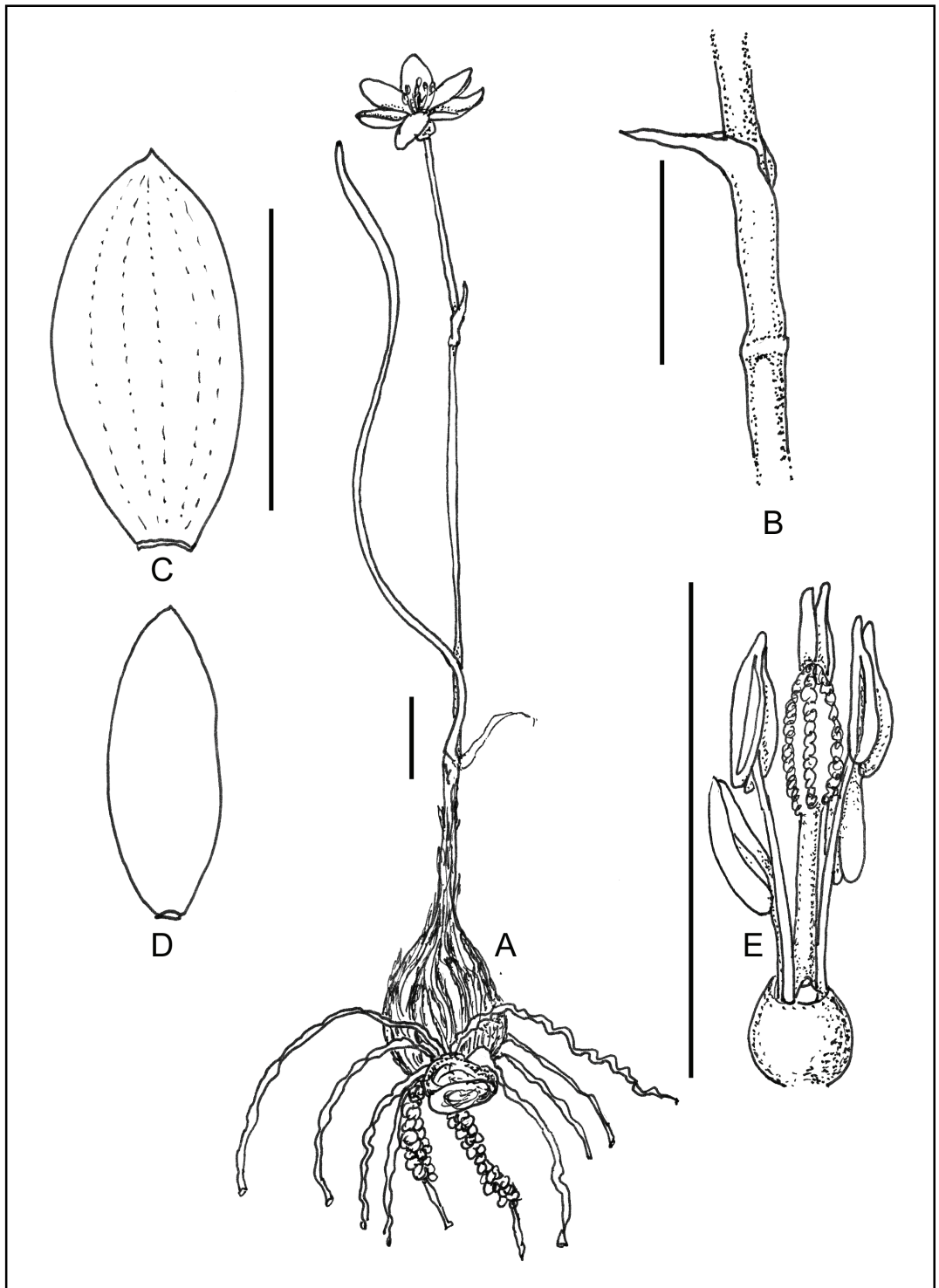


Figure 1. A–E. *Hypoxis salina*. A – whole plant; B – bracteole; C – petal; D – sepal; E – stamens and style (front stamen removed). Drawn from M.N. & S.D. Lyons 4890 (PERTH 07575793); scale bar = 5mm.

Flowering period. Flowering in spring, from August to October . Mature fruits and seeds are found in November.

Conservation status. Localised. Represented in at least one nature reserve but under threat from rising saline groundwaters. Conservation Codes for Western Australian Flora: Priority One.

Etymology. From the Greek *salina* – salt, referring to the preferred habitat of this species.

Affinities. This species has a single bracteole which keys this species to a group of related Western Australian taxa (*Hypoxis gardneri* R.J.F.Hend., *H. occidentalis* Benth. and *H. vaginata* Schltdl. var. *vaginata*). The ovoid ovary places this species closest to *Hypoxis vaginata*, as the other members of the complex have a linear ovary. *Hypoxis vaginata* is a taller more robust plant with flattened leaves and stigmatic lobes longer than or equal to the stylar column. The ovary is longer being obovoid–ellipsoidal in shape.

However, on gross morphology the species appears to be part of a species complex related to *Hypoxis glabella* R.Br., which includes this taxon and another unnamed species – ‘*H. sp.* Beaufort (V. Crowley DKN 629)’. It differs from *Hypoxis glabella* in being smaller, having terete leaves, a single bracteole and the flowers above the leaves. From ‘*H. sp.* Beaufort (V. Crowley DKN 629)’ it differs in the single bracteole, smaller flowers, and the sepaline tepals not brown outside.

Note. This species was previously referred to by the phrase name ‘*Hypoxis sp.* Chinocup (R. Cugley 89)’.

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