

# Triodia epactia

## Name

*Triodia epactia* S.W.L.Jacobs

## Citation

*Nuytsia* 8: 220–221 (1992)

## Derivation

*epactia* — the Latinised form of the Greek adjective *epaktios*, coastal, in reference to a maritime habitat (named when it was only known from subcoastal areas).

## Common name

Humpback Spinifex

## Synonyms

None

## Diagnostic features

Foliage copiously resinous; leaf sheaths glabrous on surfaces and margins; leaf blades epistomatous (soft-type); spikelets with 3–17 florets; lower glume (3–)4–11 mm long, ovate to broadly lanceolate, L:W 1.8–3.8; lemma lobes (1.2–)1.5–5 mm long, not awned; lemma body strongly indurated and differentiated from membranous lobes at upper margins, often with a slight 'hump' in profile at the change in texture; palea indurated, glabrous, winged; distribution across most of north-west Australia, but absent from the eastern Hamersley range south of the Fortescue River and east of Wittenoom.

## Habitat

Occurs on most substrates, but particularly extensive on sandy plains and dunes, including coastal sands. Also occurs on loam and clay flats, and rocky hills of ironstone, chert and limestone.

## Distribution and frequency

Widespread in north-western Australia. Common throughout most of the Pilbara and surrounds, however it is absent from the eastern Hamersley Range and Little Sandy Desert, where it is replaced by *T.*

*pungens*. In the south-east Pilbara, *T. epactia* only occurs west of Wittenoom and Karijini National Park, and east of Wittenoom it only occurs on the north side of the Fortescue River bed.

## Similar species

*Triodia epactia* belongs to the Soft group, sharing epistomatous (soft-type) leaf blades. Several other species with epistomatous (soft-type) leaves and resinous foliage occur in the Pilbara.

*Triodia avenoides*, *T. basitricha*, *T. melvillei*, *T. schinzii* can be distinguished by having narrowly lanceolate glumes (L:W>5) (ovate to oblong or broadly lanceolate with L:W<4 in *T. epactia*), and prominently awned lemmas.

*Triodia veniciae* has hairy leaf sheath surfaces and narrowly lanceolate glumes (L:W 5–7). Only *Triodia biflora* and *T. pungens* share epistomatous (soft-type) leaves, resinous foliage and ovate to broadly lanceolate glumes.

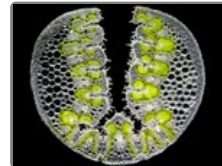
*Triodia biflora* has only 2 fertile florets per spikelet, (and a third minute, vestigial one on a long stalk), and glabrous lemmas that lack lobes or have only minute lobes (*T. epactia* has 4-many florets per spikelet, usually hairy lemmas and



*T. epactia* spikelet.



*T. epactia* habitat.



*T. epactia* leaf section.



*T. epactia* inflorescence.



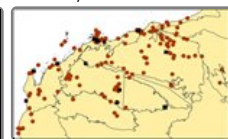
*T. epactia* glumes.



*T. epactia* lemmas.



*T. epactia* paleas.



*T. epactia* map.



*T. epactia* (right) and *T. pungens* (left) spikelet comparison; note difference in lobe length and angle.

distinct lemma lobes >2 mm long).

*Triodia pungens* is extremely similar to *T. epactia*, and the two taxa may be better treated at subspecies rank — see under *T. pungens* for discussion on the taxonomic difficulties of applying this name to Pilbara forms. Other than by their non-overlapping but complementary distribution (see below under *Identification without florets*), the two species can only be distinguished by the following features:

*T. epactia*: Lemma lobes (1.2–)1.5–5 mm long, from anthesis (flower opening) the lobes distinctly ascending-spreading, divergent from each other and the spikelet outline; margin of lateral lemma lobes prominently winged laterally; body of lemma conspicuously indurated, thicker and more yellow than  $\pm$  membranous lobes,  $\pm$  bitextured, fully mature lemmas in profile having a distinct ‘hump’ in outline due to the abrupt change in lemma thickness.

*T. pungens*: Lemma lobes short, 0.6–1.5 mm long, appressed to the next lemma or almost so, and not or scarcely diverging from each other even in age; margin of lateral lemma lobes not winged or prominently winged laterally; body of lemma indurated, but grading more gradually into membranous margins, not or only weakly bitextured (or sometimes more strongly bitextured), in profile the outline smoothly curved and lacking a distinct ‘hump’.

### Conservation status

Not considered at risk.

### Identification without florets

*Triodia epactia*, *T. biflora* and *T. pungens* are only three Pilbara species that have both resinous foliage and ovate to broadly lanceolate glumes (L:W4) (most other species with resinous foliage have narrowly lanceolate glumes and L:W $\geq$ 5).

*Triodia biflora* has glumes 2.5–3.5 mm long [(3–)4–11 mm long in *T. epactia*], larger inflorescences with more widely spaced spikelets, is only found in gorges, below cliffs or ridges on hills, and is extremely rare within the distribution of *T. epactia* (see below).

Without florets, *T. epactia* can only be distinguished from *T. pungens* using distribution; the two species have complementary distributions, but never approach more than about 10 km from each other. Although *T. epactia* occurs throughout most of the Pilbara and surrounds, it is absent from the eastern Hamersley Range and Little Sandy Desert. *Triodia epactia* is replaced by *T. pungens* from Karijini National Park and Wittenoom east, and south of the Fortescue River bed along the Fortescue Valley.

### Variation

*Triodia epactia* is very variable in the number of florets per spikelet, in the length of the lemma lobes, the width of the lateral lobe wing, and glume shape. Burbidge (1946a) noted eight forms in the north Pilbara, based on floret number, hummock size, resin production, stolon production, substrate and palatability to stock. However there appears to be no clear distinction between these variants, and they are often variable within a single population. In rare extreme cases the lemma lobes appear shortly awned.

### Notes

The species concept used here is the same as Lazarides (1997), Lazarides *et al.* (2005) and *Ausgrass* (Sharp & Simon, 2002; Simon & Alonso, 2014), and the descriptions there are accurate, however maps presented therein are inaccurate since they incorporated many sterile specimens of *T. pungens* misclassified under *T. epactia*.

The species limits and non-Pilbara distribution of *Triodia epactia* remain uncertain. *Triodia pungens* together with *T. epactia* appears to be a polyphyletic species complex (see multiple positions of *T. epactia* and *T. pungens* in trees in Toon *et al.* 2015). The Pilbara form of ‘*T. pungens*’ appears to be much closer to *T. epactia* than true *T. pungens* of arid north Queensland and the Northern Territory. Further genetic and morphological studies are needed.

Plants show variable resprouting behavior, sometimes resprouting and sometimes not (Rice & Westoby 1999; MB obs.), possibly due to fire intensity and subsequent rainfall.