

New species of *Triodia* and *Plectrachne* (Poaceae) from the Kimberley

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Abstract

Jacobs, S.W.L. New species of *Triodia* and *Plectrachne* (Poaceae) from the Kimberley. Nuytsia 8 (2): 219-223 (1992). Two new species of *Triodia*, *T. burbidgeana* and *T. epactia*, and two new species of *Plectrachne*, *P. caroliniana* and *P. bunglensis*, are described. The two *Triodia* species are related to *T. pungens*, *P. caroliniana* to *P. schinzii*, and *P. bunglensis* to *P. bynoei*. All are being described for the forthcoming "Flora of the Kimberley Region".

Introduction

While preparing Flora treatments of the genera *Monodia* S.W.L. Jacobs, *Triodia* R. Br. and *Plectrachne* Henr. for the forthcoming "Flora of the Kimberley Region" it became clear that at least five taxa present did not have names. One of these, a species of *Triodia*, is being described by Bryan Simon. Of the four described here I have examined populations of three in the field.

Descriptions were based on specimens from PERTH, NSW, and SYD, and from field examination.

Triodia

Triodia burbidgeana S.W.L. Jacobs, sp. nov.

T. pungenti affinis sed lobis lemmatis minutis, habitu laxiore, differt.

Typus: Pool above Big Mertens Falls, Mitchell Plateau, 14° 49' S, 125° 42' E, Western Australia, 31 May 1988, S.W.L. Jacobs 5812 & P.G. Wilson (holo: NSW).

Resinous *perennial* forming loose hummocks with culms to 1.5 m tall. *Sheaths* to 8 mm wide, ± loose, persistent, glabrous; orifice with straight hairs to 5 mm long but these usually matted with resin; blade to 50 cm long. *Inflorescence* paniculate, ± open, to 40 cm long. *Spikelets* 4-7-flowered, 4-8 mm long, pedicellate; pedicels from shorter than the spikelet to 3-4 times the length. *Glumes* ovate, mostly obtuse, often with an apical notch, subequal, 3.5-4.5 mm long; lower 5-nerved; upper 3-nerved. *Lemmas* 3-4 mm long, glabrous except along the margins, nerves in 3 groups of 3; lobes 3, minute, subequal. *Palea* slightly shorter than to subequal to the lemma. *Caryopsis* not seen.

Other specimens examined. WESTERN AUSTRALIA: Surveyors Pool, Mitchell Plateau, *J.S. Beard* 8239 (PERTH); near Solea Falls, Drysdale River, *A.S. George* 13750 (PERTH); Surveyors Falls, Mitchell Plateau, *A.S. George* 13137 (PERTH); Carlia Creek, base of Carson Escarpment, *A.S. George* 13835, 13923 (PERTH); Morgan Falls, 15° 02' S, 126° 40' E, *A.S. George* 14070 (PERTH); Cracticus Falls, 14° 47' S, 127° 05' E, *K.F. Kenneally* 4176 (PERTH); Lake Argyle, *K.F. Kenneally* 7528 (PERTH).

Distribution. Found throughout the Gardner District of the Northern Botanical Province.

Habitat. Stony ranges and gorges.

Flowering period. Mainly during or shortly after the Wet.

Conservation status. Preserved in Drysdale River National Park and common on the Mitchell Plateau. Since its habitat is not under undue pressure from grazing, it is reasonably secure under present management regimes.

Etymology. Named in honour of Nancy Tyson Burbidge who, amongst her numerous contributions to Australian systematic botany, provided much of our knowledge on the genus *Triodia*.

Notes. This is *Triodia* sp. B of the "Flora of the Kimberley Region". Related to *T. pungens* but differing in the minute lemma lobes, more open habit, and rocky habitat.

Triodia epactia S.W.L. Jacobs, sp. nov.

T. pungenti affinis sed inflorescentia angustiore densioreque, foliis glaucis, habitatione (in thiniis calcareis), differt.

Typus: Behind beach, southern end of 80 Mile Beach, near turnoff, Western Australia, 3 August 1970, *R.C. Carolin* 7581 (holo: NSW; iso: SYD).

Hummock-forming resinous *perennial* with culms to c. 1 m tall. *Sheaths* 4-6 mm wide, ± loose, persistent, glabrous; orifice with a few short hairs though these mostly matted with resin; ligule c. 1 mm long, membranous, ciliate with short hairs; blade glaucous, to c. 30 cm long, becoming curved with age. *Inflorescence* narrow, to c. 30 cm long, the spikelets arranged racemosely and densely along alternate or whorled lateral branches usually less than 2.5 cm long. *Spikelets* shortly pedicellate, 5-8-flowered, to 10 mm long. *Glumes* ovate to elliptic, acute, 3-nerved, subequal, 2.5-4 mm long. *Lemmas* c. 4 mm long, hairy along the margins and the midrib especially towards the base, callus hairy, nerves 3 or in 3 groups; lobes 3, subequal, 1-1.5 mm long. *Palea* extending c. half way up the lobes. *Caryopsis* not seen.

Other specimens examined. WESTERN AUSTRALIA: 'Anna Plains' Station, *N.T. Burbidge* 1454 (PERTH); 'Wallal Downs' Station, 80 Mile Beach, *N.T. Burbidge* 1494a (PERTH); Cape Keraudren, *R.D. Royce* 1952 (PERTH).

Distribution. Restricted to the 80 Mile Beach of the Dampier District in the Northern Botanical Province.

Habitat. Calcareous coastal sand dunes.

Flowering period. Apparently flowering in response to rain.

Conservation status. Of restricted habitat and distribution; apparently not threatened by current land management practices.

Etymology. Named for its maritime habitat, the latinised form of the Greek adjective *epaktios* meaning "coastal".

Notes. This is *Triodia* sp. C of the "Flora of the Kimberley Region". Closely related to *T. pungens* but differing in the more contracted inflorescence, the glaucous foliage, and the calcareous dune habitat.

The key below summarises the distinctions between the new species and *T. pungens*.

1. Lemma lobes <1 mm long *T. burbridgeana*
- 1.* Lemma lobes >1 mm long 2
2. Leaves glaucous; inflorescence tight and compact though sometimes interrupted, spikelets racemose and loosely or compactly secund along alternate lateral branches or alternate clusters of lateral branches *T. epactia*
- 2.* Leaves bright green; inflorescence open and loose, spikelets not conspicuously racemose or secund along alternate lateral branches *T. pungens*

Plectrachne

Plectrachne caroliniana S.W.L. Jacobs, sp. nov.

P. schinzii affinis sed aristas glumisque brevioribus, lemmatibus glabris plerumque longioribus, differt.

Typus: Drysdale River, 50 miles [80 km] NNW of 'Gibb River' Homestead, Western Australia, 30 August 1954, *M. Lazarides* 4816 (holo: NSW; iso: PERTH(2), CANB).

Hummock-forming resinous *perennial* with culms to c. 1.5 m tall, frequently much branched at the base. *Sheaths* 2-5 mm wide, smooth, persistent, margins glabrous; orifice with straight hairs to 4 mm long; ligule a row of hairs to 4 mm long; blade to c. 40 cm long but often much shorter, with stomatal grooves not distributed uniformly over the abaxial surface, more or less pungent-pointed, glabrous, longer older leaves may be curved. *Inflorescence* panicle, open, to 25 cm long, the branches more or less erect except at anthesis. *Spikelets* shortly to distinctly pedicellate, 12-20 mm long (including awns), 3-5-flowered, lowest 1-3 fertile. *Glumes* linear-lanceolate, subequal, long-acute, translucent, 3-5-nerved, 9-12 mm long. *Lemmas* thickened below, the entire portion 5-7 mm long, usually sparsely hairy; lobes 3, each tapering gradually into an awn, lobe + awn 9-10 mm long, the central usually a few mm longer than the laterals; callus 1-2 mm long. *Palea* as long as entire portion of lemma, bitextured, chartaceous below, membranous above. *Caryopsis* not seen.

Other specimens examined. WESTERN AUSTRALIA: 158 miles [250 km] from Broome on Great Northern Highway towards Fitzroy Crossing, *R.C. Carolin* 7475 (SYD); Cape Leveque to One Arm Point Track, *K.F. Kennelly* 10656 (PERTH).

Distribution. Recorded from near the Drysdale River in the west of the Gardner District, and to the south of the Kimberley in the Dampier District, both in the Northern Botanical Province.

Habitat. Sandy soils.

Flowering period. Flowering during the Wet.

Conservation status. Does not appear particularly common from the collections but has been confused with both *P. schinzii* and *P. pungens*, two widespread and common species. Status unknown.

Etymology. Named in honour of Roger C. Carolin, for his contributions to, and beneficial influence on, Australian plant systematics.

Notes. This is *Plectrachne* sp. A of the "Flora of the Kimberley Region". Similar to *P. schinzii* but differing in having shorter awns and glumes, and lemmas glabrous and generally longer.

***Plectrachne bunglensis* S.W.L. Jacobs, sp. nov.**

P. bynoei affinis sed aristas longioribus, lemmatibus plerumque longioribus, inflorescentia contracta, differt.

Typus: Piccaninny Creek Gorge, 15 km SE of Bungle Bungle Outcamp, Bungle Bungle Range, NE Kimberley, 17° 27' S, 128° 25' E, Western Australia, 4 April 1985, *M.I. Blackwell* BB60 (PERTH).

Hummock-forming resinous *perennial* with culms to c. 1.5 m tall. *Sheaths* 2-5 mm wide, with scattered hairs, persistent; orifice and collar pilose with hairs to 3 mm long but these frequently matted with resin; ligule a row of hairs to 3 mm long often matted with resin; blade to c. 40 cm long but often much shorter, with the 'soft' type of anatomy, more or less pungent-pointed, glabrous except sometimes for a few hairs extending up the abaxial surface from the collar. *Inflorescence* dense and narrow, to 30 cm long and 2 cm wide (including awns), the branches erect. *Spikelets* shortly pedicellate, 10-20 mm long (including awns), 3-5-flowered, lowest 1 fertile. *Glumes* linear-lanceolate, subequal, long-acute, translucent, 1-nerved, 5-7 mm long. *Lemmas* not thickened below, the entire portion 2-3 mm long, narrow-ovate, hairy on the midrib and margins, 3-awned, the awns unequal; central awn the longest, to 20 mm long; lateral awns usually unequal, 0-5 mm. *Callus* less than 0.5 mm long, poorly developed. *Palea* subequal to entire portion of lemma, uniform in texture. *Caryopsis* ± cylindrical, 2 mm long, embryo c. 25% the length.

Other specimens examined. WESTERN AUSTRALIA: Piccaninny Creek Gorge, Bungle Bungle Range, *M.I. Blackwell* BB466 (PERTH); between Njitparriya and Dilmariyu, 17° 21' S, 128° 21' E, Bungle Bungle Range, *S.J. Forbes* 2573 (PERTH); 17° 22' S, 128° 22' E, Bungle Bungle Range, *K.F. Kenneally* 9254 (PERTH); Cathedral Gorge, 17° 29' S, 128° 22' E, Bungle Bungle Range, *K.A. Menkhorst* 821 (BRI, DNA).

Distribution. Restricted to the Bungle Bungle Range in the Hall District of the Northern Botanical Province.

Habitat. Sandstone cliffs and gorges.

Flowering period. Flowering and fruiting in response to rain.

Conservation status. Restricted to the Bungle Bungle National Park. Status unknown.

Etymology. Named for the known region of occurrence, the Bungle Bungle Range.

Notes. This is *Plectrachne* sp. *B* of the "Flora of the Kimberley Region". Similar to *P. bynoei* but differing in having longer awns, a usually larger lemma, and a narrow compact inflorescence.

The key below distinguishes the new species from related species.

1. Glumes >9 mm long; basal section of lemma thickened 2
- 1.* Glumes <9 mm long; lemma uniform in texture, sometimes thickened below
in *P. mollis* 4
2. Callus of fertile floret <0.5 mm long; entire part of lemma 2-3 mm long, often
divided to within 1 mm of thickened base *P. pungens*
- 2.* Callus of fertile floret >1 mm long; entire part of lemma 3-4 mm long, usually
with >1 mm undivided above thickened base 3
3. Longest awns 9-10 mm long; glumes 9-12 mm long; entire portion of lemma
glabrous, 5-7 mm long *P. caroliniana*
- 3.* Longest awns >12 mm long; glumes > 12 mm long; entire part of lemma
usually hairy, 4-6 mm long *P. schinzii*
4. Longest (central) awn of lowest lemma >10 mm long; inflorescence dense,
the branches appressed to main axis; only recorded from the
Bungle Bungle Range *P. bunglensis*
- 4.* Longest (central) awn of lowest lemma <10 mm long; inflorescence more
or less open, the branches flexuose 5
5. Leaves mostly 0.5 mm or less in diameter when folded; paleas bitextured,
chartaceous below, membranous above *P. mollis*
- 5.* Leaves mostly 1 mm or more in diameter when folded; palea uniform in texture *P. bynoei*

Acknowledgements

Some of the field work was undertaken during the Kimberley Research Project, Western Australia, 1988. I thank the organisers, the Royal Geographical Society and the Linnaean Society of London, and the sponsors for being able to take part. I also thank Karen Wilson for the Latin diagnoses and comments on the manuscript.