

***Xanthorrhoea acanthostachya* (Xanthorrhoeaceae), a new species of the Perth Region, Western Australia**

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Abstract

Bedford D. J. *Xanthorrhoea acanthostachya* (Xanthorrhoeaceae), a new species of the Perth Region, Western Australia. Nuytsia 5(2): 317-321 (1984). *Xanthorrhoea acanthostachya* is described and illustrated. It is distinguished from other *Xanthorrhoea* species in Western Australia by the combination of very elongated, prominent clusterbracts and subulate floral bracts and from *X. australis*, its nearest relative, by its scape length to spike length ratio and leaf colour. Very few examples of the species are known.

***Xanthorrhoea acanthostachya* Bedford, sp. nov. (Figures 1-3)**

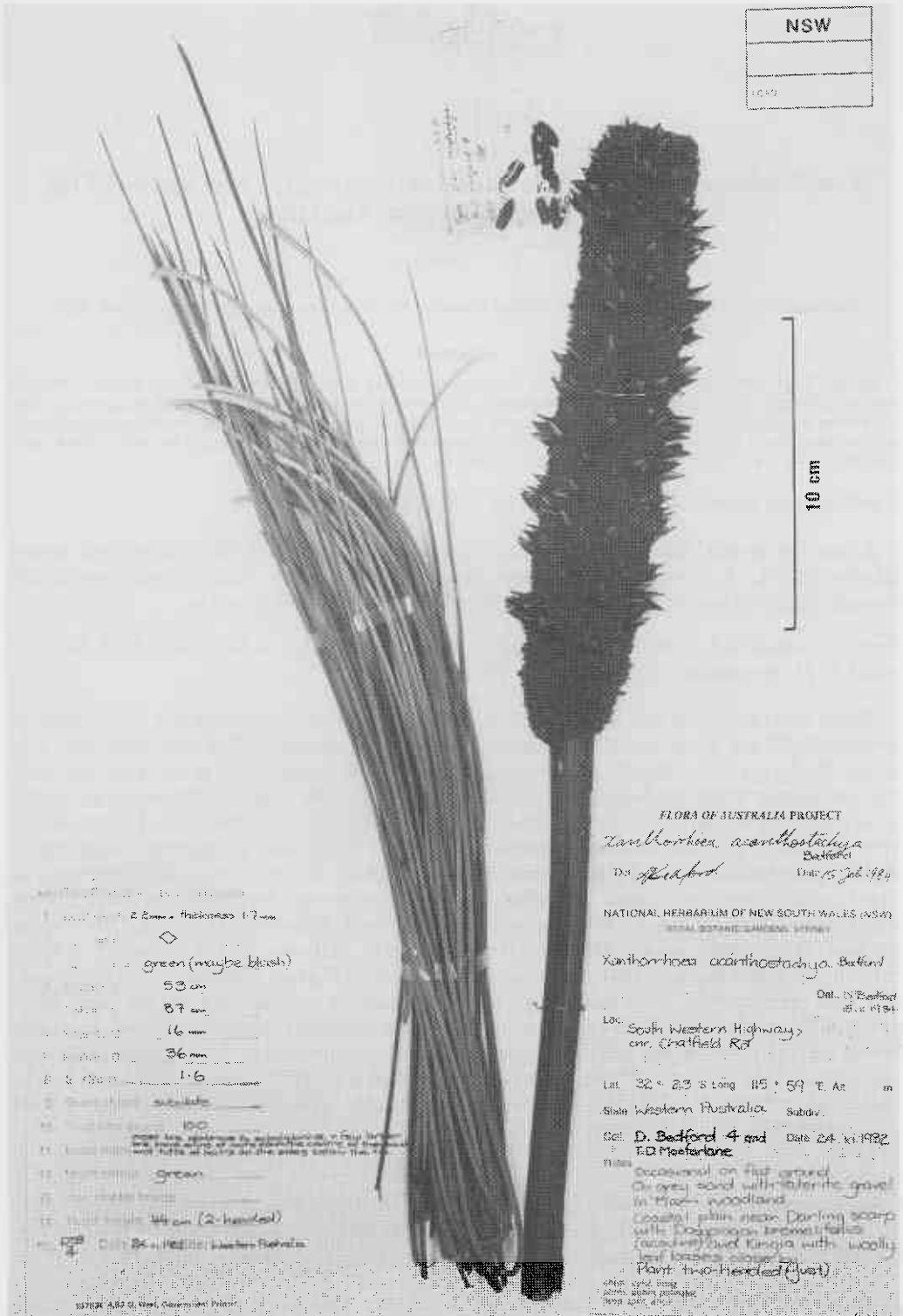
X. australis similis, sed scapo plus minusve spicam aequanti et foliis viridibus vel minus glaucis differt. A speciebus Australiae Occidentalis bracteis fasciculorum conspicuis elongatissimus ad maturitatem et bracteis floralibus subulatis distinguenda.

Typus: Chatfield Rd, South Western Highway, Western Australia, 24 Nov. 1982, D. J. Bedford 4 and T. D. Macfarlane (holo: NSW; iso:PERTH).

Trunk short to 1.5 m tall, crowns 1 to 2. *Leaves* (terminal) in more or less hemispherical crowns, 60-70 cm long, quadrate-rhombic in transverse section, 2-2.25 mm wide and 1.5-2 mm thick, green to slightly glaucous. *Leaf-base* swollen and rigid at the junction with the leaf. Scape 40-50 cm long, 7-16 mm diam. *Spike* usually more or less equal in length to scape, (20)40-50(90) cm long and 20-40 mm diam., prickly in appearance. *Cluster-bracts* very elongated, subulate in shape, dilated at the base, usually very prominent (occasionally slightly prominent), glabrous, rarely subglabrous. *Packing-bracts* (floral bracts) subulate in shape, often twisted or folded, subglabrous to glabrous (except for occasional large bracts, which have a line of hairs along the centre of the back and hairs at the margins below the tip). *Sepals* short, acute, with short beak at the tip, glabrous except for a tuft of hairs in the beak. *Petals* more or less erect at anthesis, sometimes beaked, with an adaxial proboscis, soft and membranous, glabrous except for short hairs in and around the tip, and hairs covering the proboscis. *Fruit* acute at the tip with a persistent long style-base-point, dark brown at maturity. *Seeds* dorsio-ventrally flattened, narrow ovate to ovate (Systematics Association (1962) figures 37-38), triangular in median transverse section, semi-matt black, 11-12 mm long by 4.5-5.5 mm wide, when fully mature. (Terminology as per Lee (1966a and b) and Systematics Association (1962)).

Other specimens examined. WESTERN AUSTRALIA: Harvey Dam Reserve, 13 Nov. 1981, T.D. Macfarlane 659 (PERTH); Keysbrook, Nov. 1900, W.V. Fitzgerald NSW 154569 (NSW); 5 miles E of Mogumber, 25 Aug. 1970, K.M. Allan s.n. (spirit collection only) (PERTH).

Distribution. At present *X. acanthostachya* is known only from four sites in the Perth Region of W.A. as defined by Marchant and Perry (1981).



1. Culm 2.5 mm thickness (1.7 mm)
 2. Culm sheath green (maybe bluish)
 3. Culm length 53 cm
 4. Culm diameter 16 mm
 5. Culm diameter 36 mm
 6. Culm diameter 1.6
 7. Culm diameter 100
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FLORA OF AUSTRALIA PROJECT
Xanthorrhoea acanthostachya
 Bedford
 Det. Bedford
 Date 15 July 1984
 NATIONAL HERBARIUM OF NEW SOUTH WALES (NSW)
 SYDNEY
Xanthorrhoea acanthostachya Bedford
 Det. Bedford
 Date 15 July 1984
 Loc. South Western Highway
 nr. Chatfield Rd
 Lat. 32° 23' S Long. 115° 59' E. Az. m
 State Western Australia Subdiv.
 Col. D. Bedford 4 and
 T.D. Moerland Date 24. vi. 1982
 Notes Occasional on flat ground
 on grey sand with white gravel
 in grass-woodlands
 usually with grass. During scorch
 with 100% grass. In some places
 (especially near Kings) with woolly
 leaf grasses.
 Plant two-headed (just)

Figure 1. *Xanthorrhoea acanthostachya*, holotype specimen in herb. NSW.

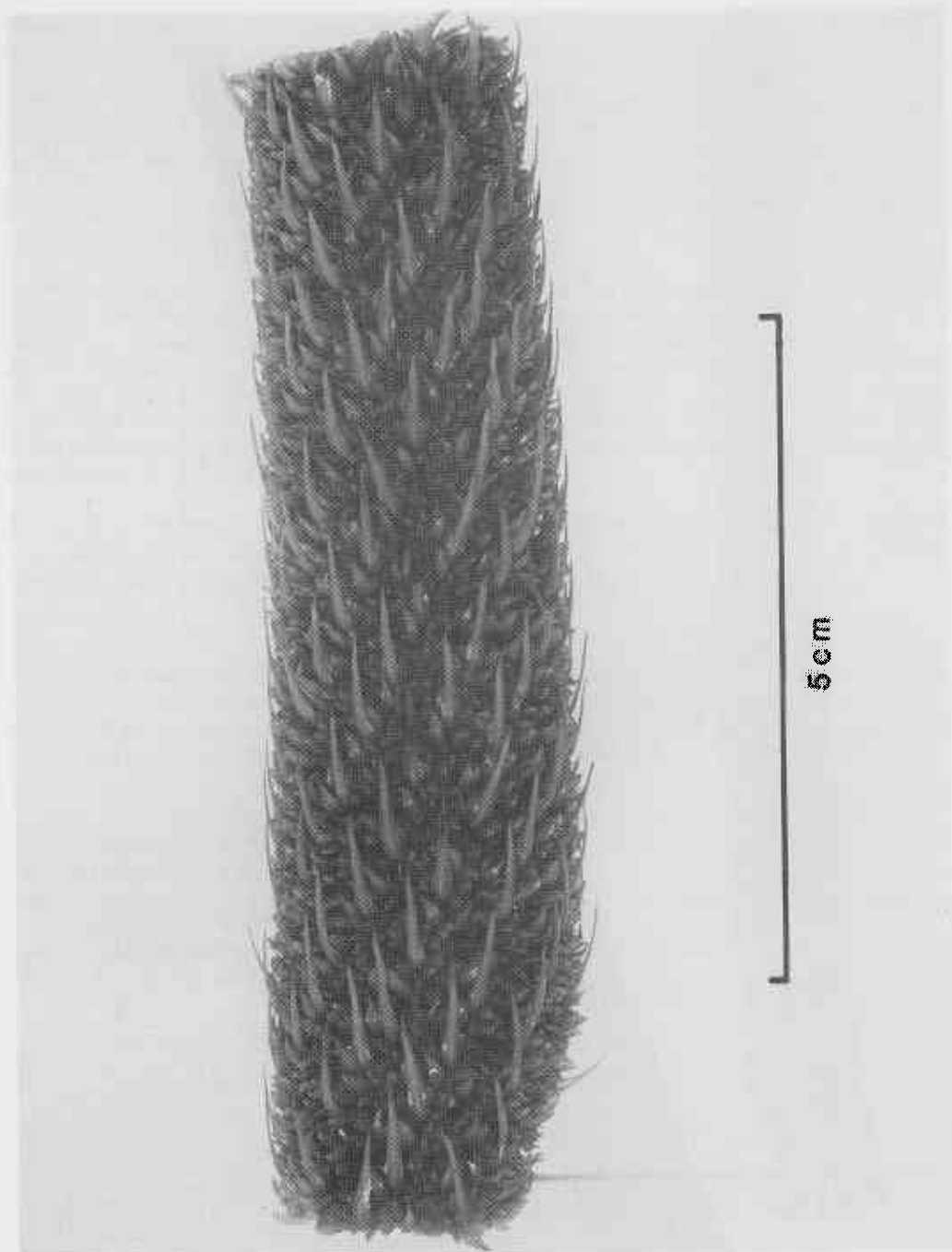


Figure 2. *Xanthorrhoea acanthostachya*, close-up view of immature spike, showing very prominent cluster-bracts. K. M. Allan s.n., 5 miles E of Mogumber, W. Austral., 25 Aug. 1970.

Ecology. The species occurs on the coastal plain in grey sand overlain by lateritic gravel, often with *Dasyogon bromeliifolius* and *Kingia australis*, and on steep slopes in stony lateritic soil in Jarrah (*Eucalyptus marginata*) woodland.



Figure 3. *Xanthorrhoea acanthostachya*, mature flowering spike showing exceptionally long prominent cluster-bracts. T. D. Macfarlane 659, sheet 1.

Flowering period. Young flowering spikes have been collected in August and flowering and recently fruiting spikes have been collected in November.

Affinities. There are no obvious allies of *Xanthorrhoea acanthostachya* in Western Australia, although its leaves are at least superficially similar to those of *X. preissii*. *X. australis* of eastern Australia has similarly shaped bracts and leaf cross-sectional shape, and is therefore probably the most closely allied species. *X. semiplana* of South Australia has similarly shaped floral bracts to *X. acanthostachya* but is a much more massive plant with large broad transverse-rhombic median transverse section leaves.

Xanthorrhoea acanthostachya differs from *X. australis* in (a) scape length to spike length ratio; *X. acanthostachya* has scape length more or less equal to spike length, *X. australis* always has a much shorter scape than spike (less than $\frac{1}{2}$ the length), (b) leaf colour; *X. acanthostachya* has green to slightly glaucous leaves, *X. australis* has very glaucous leaves, (c) sepals; *X. acanthostachya* has short, acute sepals, with a short beak at the tip, without a proboscis in the beak, *X. australis* has subulate shaped sepals with a long narrow beak at the tip, often with a proboscis in the beak, (d) petals; *X. acanthostachya* petals sometimes have a beak, *X. australis* petals never have a beak.

Etymology. The specific epithet is from the Greek *akantha*, meaning a thorn or prickle, and *stakhys*, an ear of grain or a spike, in reference to the distinctly thorny or prickly appearance of the spike due to the prominent cluster-bracts.

Acknowledgements

I wish to thank Dr Terry Macfarlane for help with my field studies on *Xanthorrhoea* in Western Australia, Mrs Karen Wilson for advice with the Latin diagnosis and Ms Anna-louise Quirico for technical assistance. The research and field work were undertaken with the aid of a grant from the Australian Biological Resources Study.

References

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