

***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)**

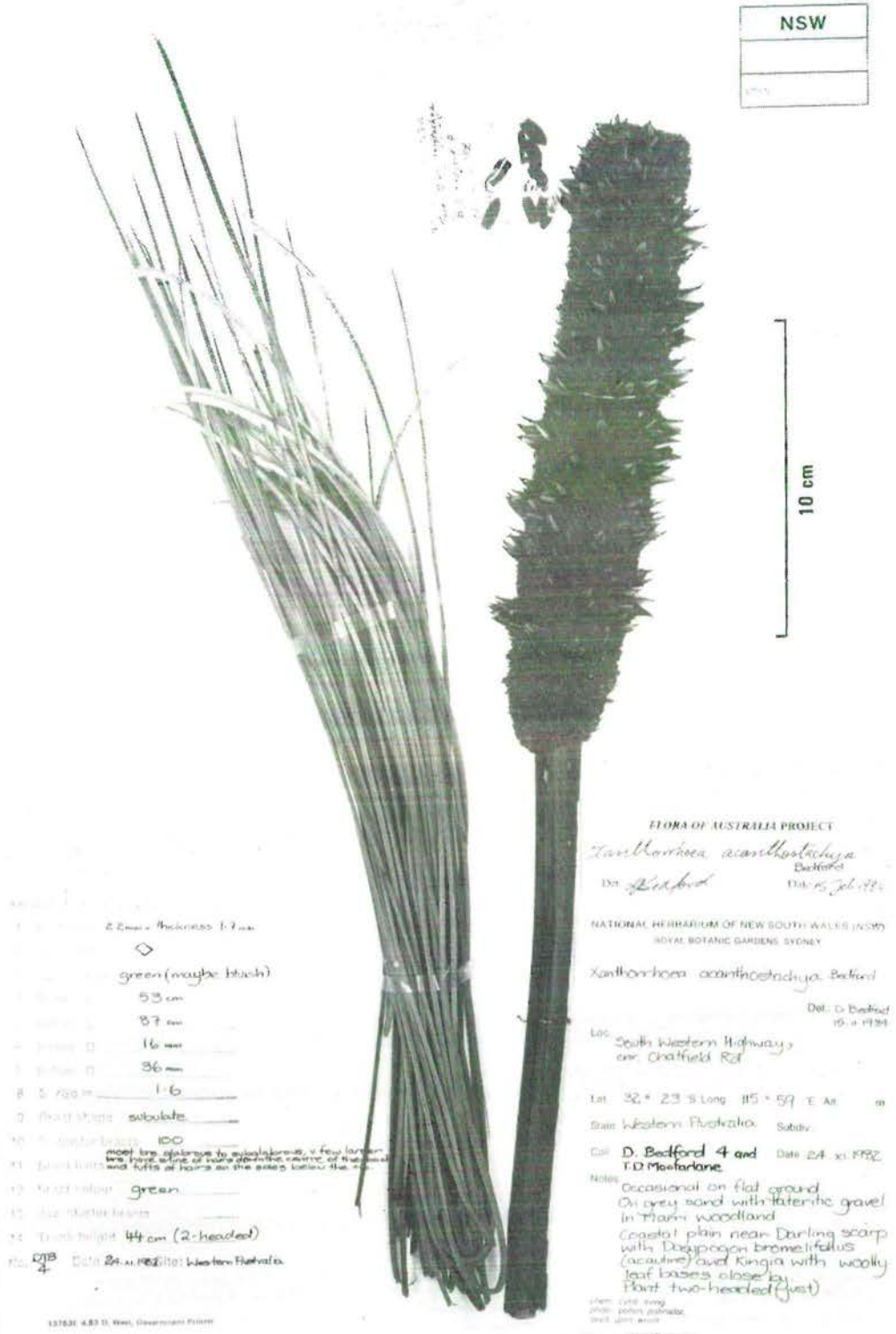
*X. australis similis*, sed scapo plus minusve spicam aequanti et foliis viridibus vel minus glaucis differt. A speciebus Australiae Occidentalis bracteis fasciculorum conspicuis elongatissimus ad maturitatem et bracteis floralibus subulatis distinguenda.

*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).



NSW

10 cm

2.5 mm thickness 1.7 mm  
 green (maybe black)  
 53 cm  
 87 cm  
 16 mm  
 36 mm  
 1.6  
 subulate  
 100  
 most are glabrous to subglabrous, a few lanate  
 and tufts of hairs at base of the culm, and  
 and tufts of hairs on the sides below the culm  
 green  
 44 cm (2-headed)  
 24.11.1982  
 Western Australia

FLORA OF AUSTRALIA PROJECT  
*Xanthorrhoea acanthostachya*  
 Bedford  
 Dr. Bedford Date 15.10.1982  
 NATIONAL HERBARIUM OF NEW SOUTH WALES (NSW)  
 ROYAL BOTANIC GARDENS, SYDNEY  
*Xanthorrhoea acanthostachya* Bedford  
 Det. D. Bedford 15.11.1984  
 Loc. South Western Highway, nr. Chaffield Rd  
 Lat. 32° 23' S Long. 115° 59' E Alt. m  
 State Western Australia Subdiv.  
 Coll. D. Bedford 4 and Date 24.11.1982  
 T.D. Macfarlane  
 Notes Occasional on flat ground  
 on grey sand with lateritic gravel  
 in Marsh woodland  
 Coastal plain near Darling scarp  
 with *Drosera bromeliifolia*  
 (caudex) and *Kingia* with woolly  
 leaf bases close by  
 Plant two-headed (just)  
 stem: culm long  
 sheath: brown, subulate  
 leaf: long, acute

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

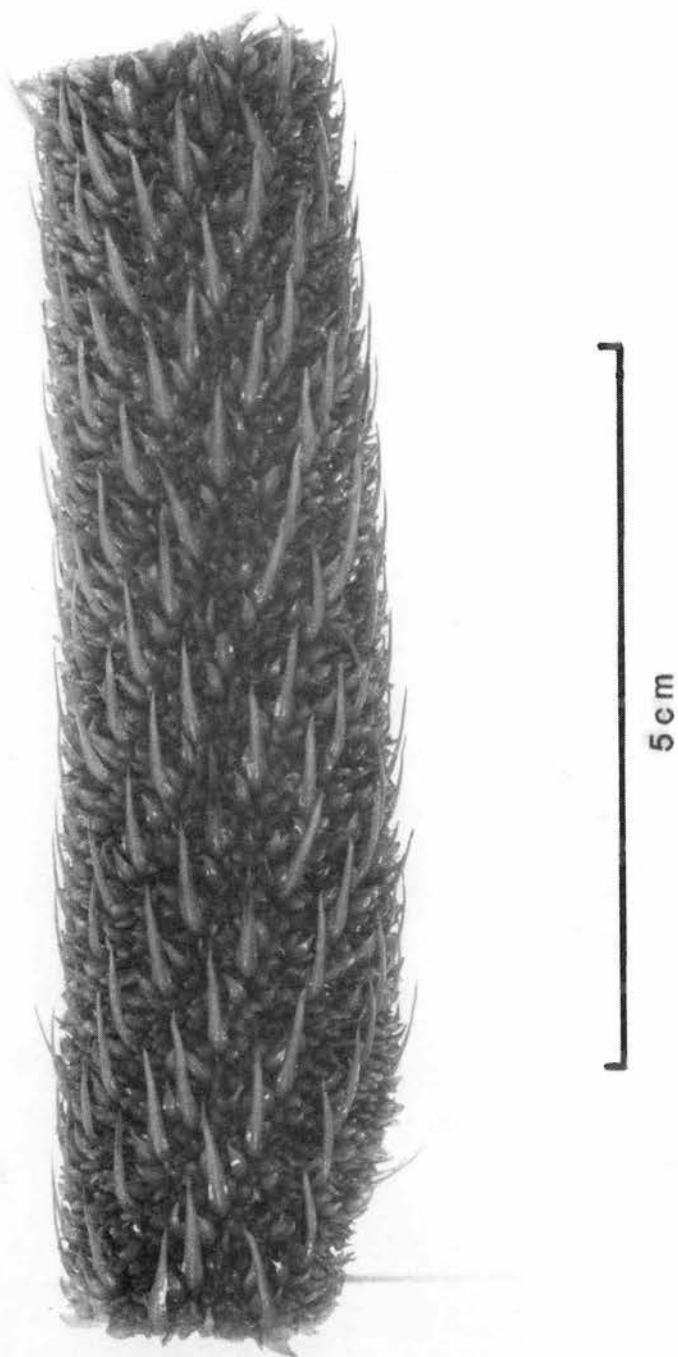


Figure 2. *Xanthorrhoea acanthostachya*, close-up view of immature spike, showing very prominent cluster-bracts. K. M. Allan s.n., 5 miles E of Mogumber, W. Austral., 25 Aug. 1970.

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

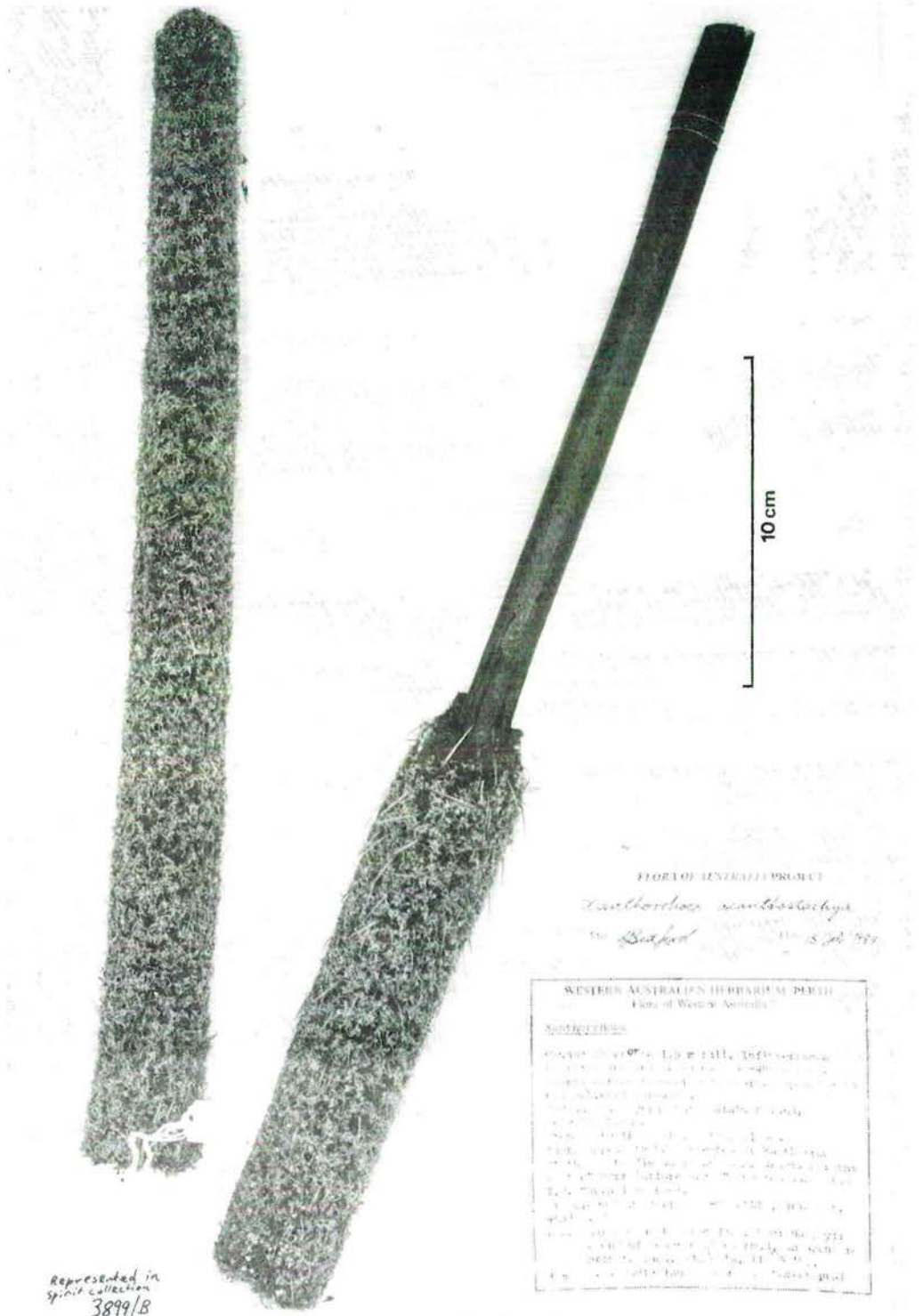


Figure 3. *Xanthorrhoea acanthostachya*, mature flowering spike showing exceptionally long prominent cluster-bracts. T. D. Macfarlane 659, sheet 1.

*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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