

An introduction to a series of papers describing new species from the Wongan Hills and surrounding district

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Eight undescribed plant species which have come to light as a result of botanical studies of the Wongan Hills and surrounding district (Kenneally, 1977a), are described and illustrated in a series of papers in the present issue of Nuytsia.

As all of these species are geographically quite restricted (Table 1) and are either vulnerable or endangered (Rye, 1980), they are being published now in order to provide names for the purposes of flora protection.

Table 1. Rare and Geographically Restricted Species occurring within 20 km of Wongan Hills Townsite (modified from Rye, 1980).

Species	Approx. Range (km)	Endemic to Wongan Hills Range	Classification			
			VR	R	VGR	GR
* <i>Acacia botrydion</i> Maslin	15	+	—	—	+	—
<i>A. denticulosa</i> F. Muell.	150	—	—	—	—	+
<i>A. dura</i> Benth.	30	—	—	—	+	—
<i>A. semicircularis</i> Maiden and Blakely	9	+	—	+	+	—
<i>A. sp. aff. obovata</i> Benth. (Maslin 4550)	T	+	+	—	+	—
* <i>A. pharangites</i> Maslin	T	+	+	—	+	—
<i>Boronia ericifolia</i> Benth.	90	—	—	—	—	+
<i>Calytrix stowardii</i> S. Moore	T	?	+	—	+	—
<i>Clematis sp. aff. microphylla</i> DC. (Kenneally 5361)	9	+	—	—	+	—
* <i>Conostylis wonganensis</i> S. D. Hopper	40	—	—	+	+	—
<i>Daviesia euphorbioides</i> Benth.	1	—	+	—	+	—
* <i>D. spiralis</i> Crisp	5	+	—	?	+	—
<i>Dryandra comosa</i> Meisn.	11	+	—	—	+	—
<i>D. pulchella</i> Meisn.	8	+	—	—	+	—
<i>Eremophila sargentii</i> (S. Moore) Chinnock	70	—	—	—	—	+
* <i>E. ternifolia</i> Chinnock	T	+	+	—	+	—
* <i>Eriostemon wonganensis</i> Paul G. Wilson	T	+	+	—	+	—
<i>Eucalyptus caesia</i> Benth.	300	—	—	+	—	—
<i>Gastrolobium glaucum</i> C. A. Gardner	T	—	+	—	+	—
<i>G. hamulosum</i> Meisn.	110	—	—	+	—	+
<i>Melaleuca websteri</i> S. Moore	80	—	—	—	—	+
* <i>Microcorys eremophiloides</i> Kenneally	7	+	—	+	+	—
* <i>Rhagodia acicularis</i> Paul G. Wilson	T	+	—	+	+	—
<i>Stylidium coroniforme</i> R. Erickson and Willis	T	+	+	—	+	—
<i>Tetratheca retrorsa</i> J. Thompson	220	—	—	?	#	—
<i>Wurmbea humilis</i> Macfarlane	T	—	+	—	+	—

* Species described as new in this issue of Nuytsia
Species known only from two widely separated areas
T Species known only from type locality (or a single locality)
VR Very Rare—having less than a few hundred reproductively mature plants in natural populations
R Rare—less than a few thousand reproductively mature plants in natural populations
VGR Very Geographically Restricted—having a maximum geographical range of less than 50 km
GR Geographically Restricted—maximum geographical range less than 160 km

Because some of the new species are endemic to the range of hills known as the Wongan Hills it becomes necessary to define what is meant by *The Wongan Hills* and *The Wongan Hills District*.

The Wongan Hills are a range of flat-topped hills lying 12 km to the north-west of the township of Wongan Hills. Located in the Wongan-Ballidu Shire, 143 km (air distance) north-east of Perth, Western Australia, Wongan Hills is the centre of a large wheat and sheep farming district. Since the discovery and naming of the hills by Surveyor-General J. S. Roe in November 1836, only one attempt has been made to define their boundary: in an account of the natural history of the area (Kenneally, 1977b), aerial photographs were used to distinguish the lateritised area associated with the hills. However, a more precise delineation of *The Wongan Hills* and the surrounding area, now termed *The Wongan Hills District*, is presented in this paper.

A method has now been devised for delineating the outcropping lateritised area on the basis of the contour line of best fit. This was aided by the availability of a recent Department of Defence map, completed by the Army in 1977. The Department of Lands and Surveys also provided valuable advice and assistance.

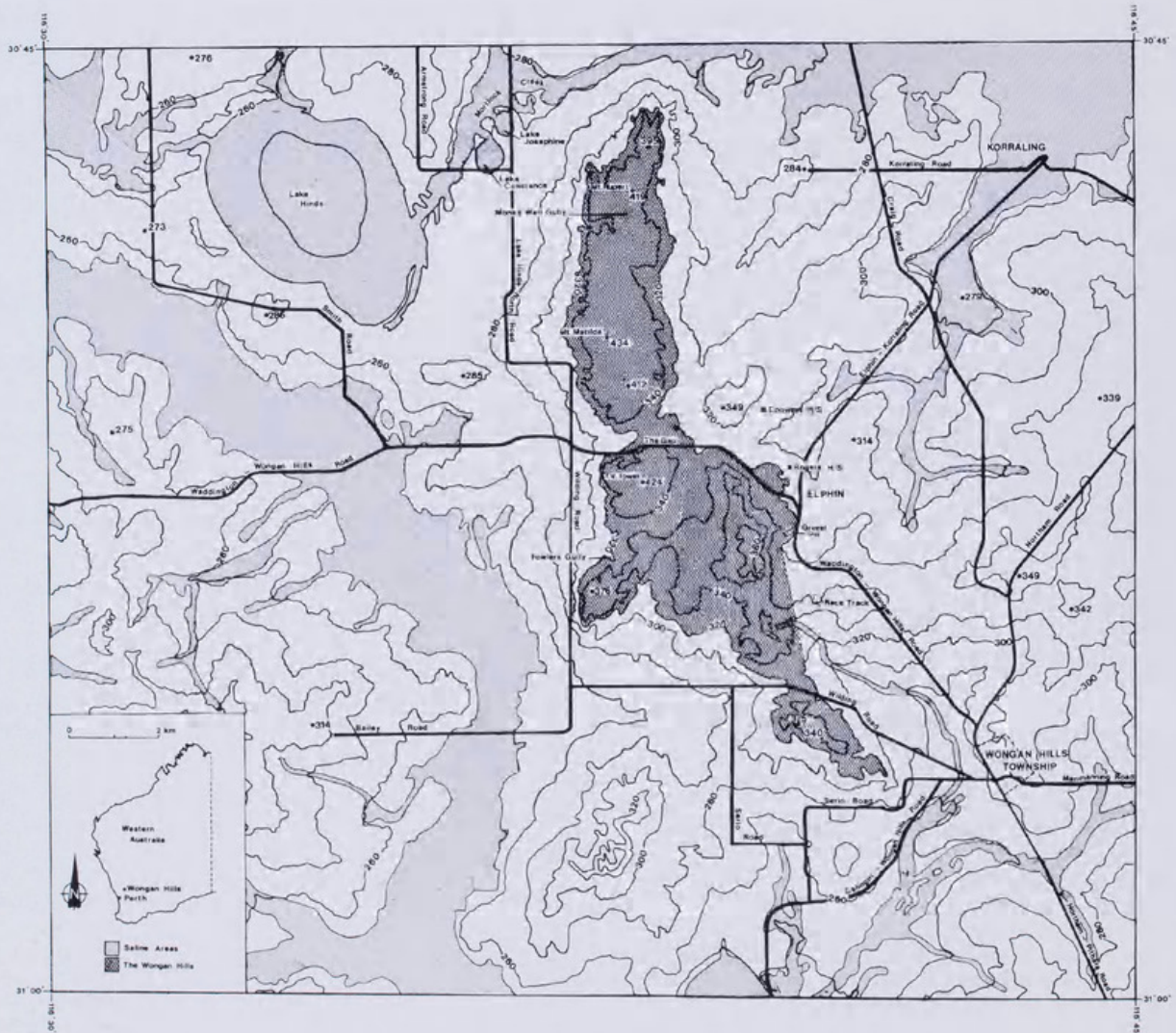


Figure 1. A topographic map delineating the Wongan Hills from the surrounding district.

A 320 m contour line was selected as a line best delineating the outcropping lateritised area from the surrounding sandplain. This accords with Roe's original concept of the Wongan Hills. However on the south-eastern boundary an arbitrary

line joining the 320 m contour line has been incorporated to exclude areas of sandplain which intrude over the laterite. The vegetation in this zone is transitional between sandplain and laterite. *The Wongan Hills* thus defined comprise a series of laterite-capped mesas generally trending north-south, dissected by numerous steep gullies in which exposures of greenstone and granite can be seen (Figure 1). They cover an area of 3 216 ha and are the largest single area of natural vegetation remaining in the northern wheatbelt.

The Wongan Hills District corresponds to the Guangan Vegetation System as defined by Beard (1979, 1980). It occupies all of the area shown in Figure 1 as far west as a line running roughly north and south through Lake Hinds. The District covering some 500 000 ha is characterized to a very large extent by residual sandplain of which yellow sand, often containing gravel, is the most common. The lateritised Wongan Hills support a vegetation system different to that of the Guangan System and thus form an enclave within that System (Beard, 1979).

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