A new species of Anigozanthos Labill. from the Murchison River sandheaths of Western Australia

By S. D. Hopper*

Abstract

Anigozanthos kalbarriensis sp. nov. is described and illustrated. It is related to *A. humilis* Lindl., *A. bicolor* Endl. and *A. gabrielae* Domin.

Anigozanthos kalbarriensis Hopper sp. nov. (Figure 1).

Ab *A. humile* Lindl. lobis perianthii reflexis, ovariis semper rubris, staminibus 2 externis ex 4 centralibus dissitis, florescentia seriori, differt; ab *A. bicolore* Endl. et *A. gabrielae* Domin staminibus in perianthio in paribus 3 separatis insertis, differt.

Type: ± 1·5 km north of Lake Culcurdoo (north of Murchison River mouth), Western Australia— ± 114°09′E, 27°24′S, 29 Aug. 1969, *A. S. George* 9604. "In sand with *Acacia* scrub; flowers red and green outside, green inside." Holo: PERTH; iso: CANB, PERTH.

Herb with short rhizome, the leaves and scapes ephemeral. *Roots* thin, wiry. *Rhizome* horizontal, a few centimetres below ground level, covered with broad, glabrous blue-black bracts (leaf bases). *Lowest leaves* several, broadly linear, carinate in lower $\frac{1}{2}$–$\frac{2}{3}$, curved as in *A. humilis* Lindl., with ensheathing bases, acuminate, to 12 cm long, 3–10 mm wide, usually glabrous, but sometimes with tomentose margins. *Intermediate leaves* similar but less curved. *Leaves on scape* broadly linear, carinate, glabrous or sparsely tomentose, the margins usually tomentose, the lowest leaves up to 10 cm long, upper ones shorter. *Scapes* several, unbranched, 10–20 cm high, bearing single terminal racemes. *Stems* densely tomentose-hirsute above ground, with red branched hairs. *Racemes* of 3 to 20 flowers, densely tomentose-hirsute, red throughout except for perianths, which may be yellow suffused with red, green suffused with red, pale green or golden yellow, giving flowers a two-tone coloration. *Pedicels* at anthesis 2–4 mm long, each subtended by a subulate bract; bracts to 15 mm long on lowest pedicel, shorter above, tomentose abaxially, hirsute adaxially. *Perianth* 2·5–4·5 cm long, 1–2 cm wide when flattened, glabrous within. *Perianth tube* split on lower (anterior) side to within 2–10 mm of the ovary; *lobes* subulate, reflexed as in *A. bicolor* Endl., closely stellate-tomentose within, central (apical) lobes straight and 6–10 mm long, outer (lateral) lobes falcate and 8–14 mm long, all 2–4·5 mm broad at the base. *Stamens* inserted at three levels, the central and second upper pairs near the base of perianth lobes, 2·5–3·5 and 2–3 cm above the ovary respectively; the outer (lateral) pair low in the perianth, 1·3–2·2 cm above the ovary; filaments equal in length to anthers, 1·5–3·5 mm long. *Style* equal to or half the length of the perianth; *stigma* small. *Ovary* always red on the outside, 3-celled; *ovules* 15–30 per locule. *Fruit* hirsute, the hairs white, dehiscence loculicidal. *Seeds* pyramidal, 0·5–1·0 mm long, black, with shallow furrows on the surface.

Distribution: Western Australia—Murchison River sandheaths, within 40 km of the town of Kalbarri.

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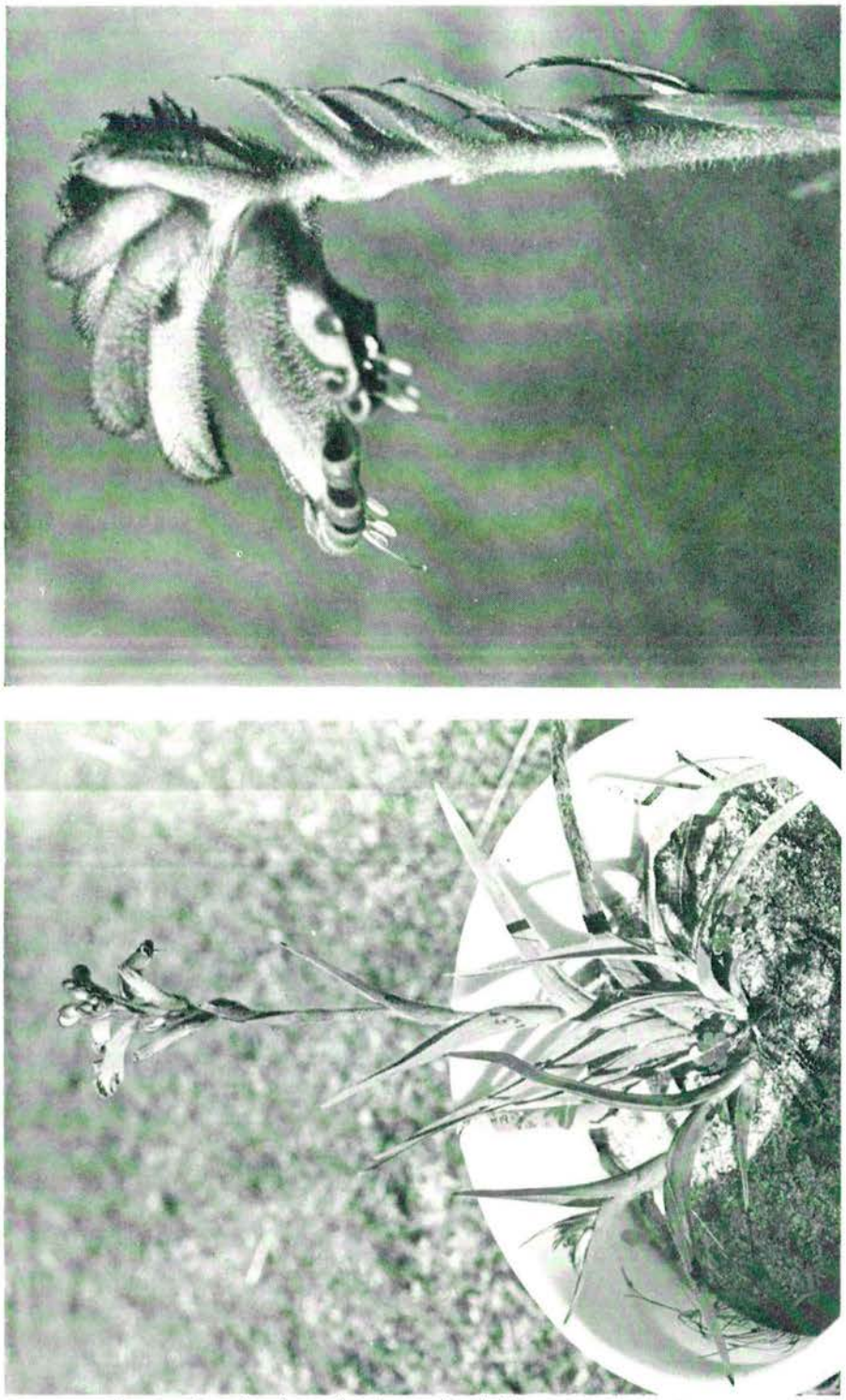

Figure 1. Photographs of a plant of *Anigozanthos kalbarriensis* sp. nov. from a population 3.7 km east of the Hawk's Head turn off on the road in to Kalbarri. Note the resemblance to *A. humilis* Lindl. in vegetative morphology, and the distinctive backward reflexion of the perianth lobes.

Specimens examined: Near Mt. Curious, lower Murchison River, W.A., 29 Aug. 1969, *A. S. George* 9619b (PERTH); 40 km E of Kalbarri, 3·7 km E of T.O. to Hawkshead Lookout, "In low proteaceous heath, winter-wet sandy flats, south side of road, recently burnt", 19 Aug. 1975, *S. D. Hopper* 126 (PERTH).

The new species is allied to *A. humilis* Lindl., from which it differs in having reflexed perianth lobes, consistently red ovaries, outer stamens more distant from the central four, a later flowering season (beginning in August), and a preference for winter-wet depressions in sandplain rather than hill slopes and rises. It is readily distinguished from *A. bicolor* Endl. and *A. gabrielae* Domin in having stamens inserted at three levels in the perianth.

Anigozanthos kalbarriensis appears to be a fire opportunist, occurring in large numbers the first spring after a bushfire and rapidly declining in subsequent years. It has been found in sympatry with *A. humilis* and hybrids at one locality. The two species showed some ecological segregation along soil moisture gradients associated with changes in topography: *A. kalbarriensis* occurred in wetter flats and depressions at the base of elevated rises occupied by *A. humilis*. Hybrids occurred mainly in ecotonal regions between these habitats. Hybrids also had lower pollen fertility than individuals of either parental species.

The variation in perianth colour shown by *A. kalbarriensis* is without parallel in the rest of the genus. The species should provide a rich source of colour variation of use in horticultural hybridization programmes. Present work by the author indicates that *A. kalbarriensis* can be successfully hybridized with all other species of *Anigozanthos* including *A. flavidus* DC., and that these synthetic hybrids can be brought to flower within 6–9 months of sowing under glasshouse conditions.

The specific epithet of the new species is taken from the town of Kalbarri which lies at the mouth of the Murchison River.

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