

Patersonia argyrea, a new species of Iridaceae from the Gairdner Range, Western Australia

D. A. Cooke

State Herbarium, Botanic Gardens, North Terrace, Adelaide, South Australia 5000

Abstract

Cooke, D. A. *Patersonia argyrea*, a new species of Iridaceae from the Gairdner Range, Western Australia. Nuytsia 5(1): 155-158 (1984). *Patersonia argyrea* D. A. Cooke is described and illustrated; a hybrid origin of this species is suggested.

Introduction

Specimens of a *Patersonia* from heaths in the Gairdner Range have been referred formerly to *P. rudis*, a species occurring in jarrah forests of the Darling Range. A review of the genus for the "Flora of Australia" has shown that this material represents a distinct species, which is described formally here.

Patersonia argyrea D. A. Cooke, sp. nov. (Figure 1)

Herba perennis indumento candido. Folia linearia sublaxa 3.5-5 mm lata, in sectione biconvexa, sulcis profundis papillois vel villosis, marginibus villosis. Scapus foliis paulo brevior omnino villosus. Spathae ellipticae cymbiformes c. 5 cm longae leviter striatae atrocastaneae sparsim sericeae, marginibus scarioso-hyalinis ad 3 mm latis. Hypanthium glabrum. Ovarium pubescens. (Descriptio typi).

Typus: Mt Lesueur, 16 October 1946, C. A. Gardner 8455 (holo: PERTH).

Tufted evergreen perennial herb with white indumentum. Rhizome short, woody, subterranean. Leaves basal, 6-10 per shoot, equitant, linear-ensiform, rather lax, 20-42 cm long, 2-5.2 mm wide, biconvex, striate with deep grooves containing papillae or hairs; margins and bases villous to pubescent. Scape erect, shorter than leaves, 21-35 cm long, terete, completely villous. Spathe bracts elliptic, cymbiform, 3.5-5.2 cm long, prominently veined, dark chestnut-brown, sparsely sericeous, with scarious-hyaline margins 2-3 mm wide. Inner bracts of inflorescence slightly exserted, brown with hyaline margins. Flowers several, violet. Hypanthial tube 2-3.5 cm long, glabrous. Ovary pubescent. Capsule and seeds not seen.

Other specimens examined. WESTERN AUSTRALIA: Hill N of Mt Benia, E of Jurien, 23 September 1979, E. A. Griffin 2343 (PERTH); slope of Mt Lesueur, 4 November 1962, R. D. Royce 7731 (PERTH).

Habitat and distribution. Apparently restricted to heath on sandy soils in the Mt Lesueur—Mt Benia area.

Etymology. The epithet (Lat. *argyreus*, silvery) refers to the shining white vestiture of the foliage, which gives the plant a silvery-grey appearance.

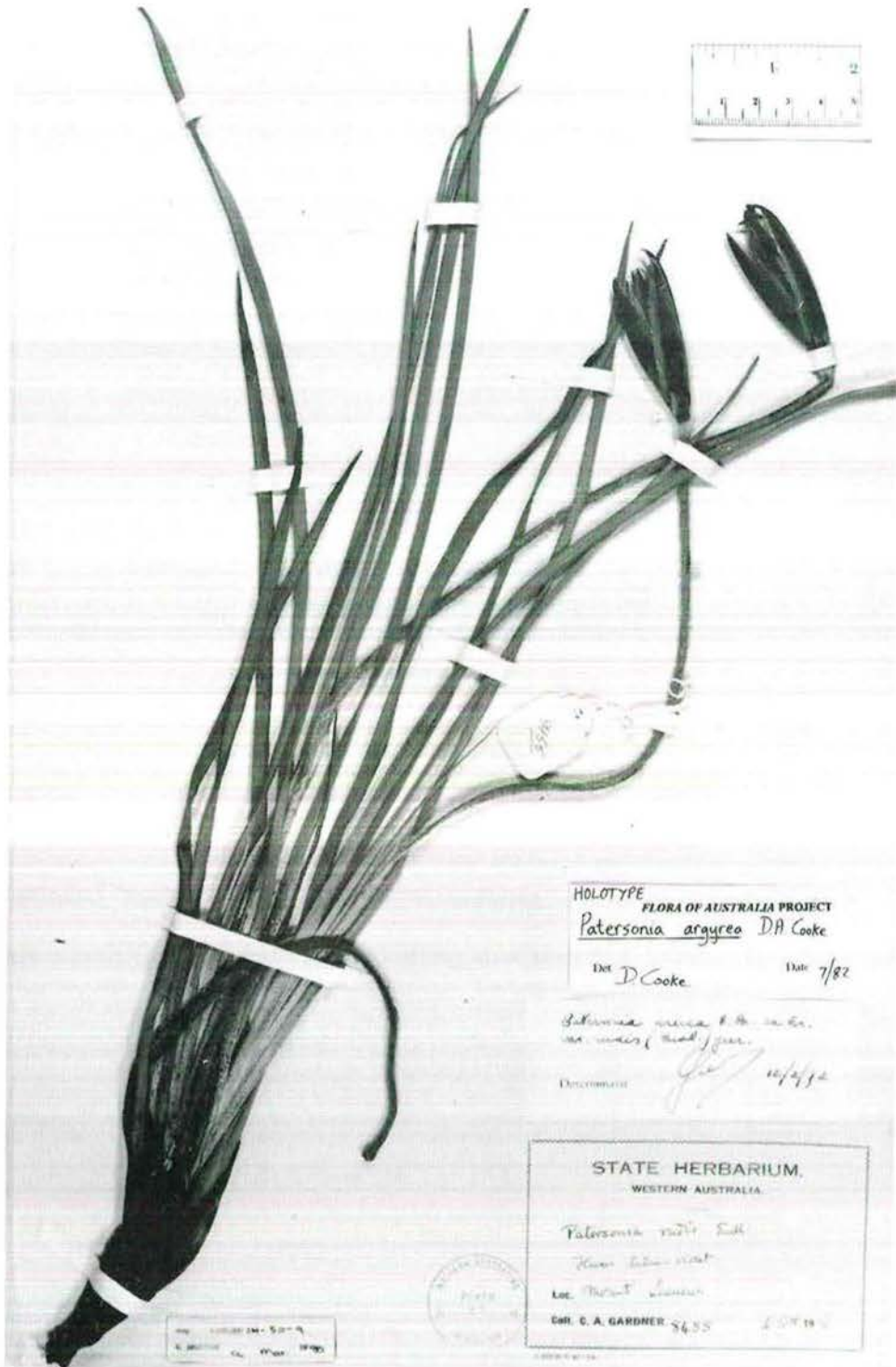


Figure 1. Holotype of *Patersonia argyrea*.

Character compatibility analysis (Cooke unpublished) suggests that *Patersonia argyrea* exhibits an anomalous combination of characters from two distinct clades within the genus. The habit and the well developed indumentum resemble those of *P. rudis* Endl.; the thickened, papillose-grooved leaves and brown spathes with broad hyaline margins suggest an affinity with *P. juncea* Lindley. Comparison of the three species (Table 1) shows that *P. argyrea* lies between *P. rudis* and *P. juncea*.

Table 1. Comparison of *Patersonia argyrea* with *P. rudis* and *P. juncea*. Quantitative characters are expressed as the mean of 5 measurements from each of 5 collections (*P. rudis* and *P. juncea*) or, for each of 3 collections (*P. argyrea*), the mean of 5 measurements for leaf and spathe characters and 2 measurements for scape length, \pm sample standard deviation (S).

| | <i>P. rudis</i> | <i>P. argyrea</i> | <i>P. juncea</i> |
|--------------------------|----------------------|--------------------|--------------------|
| Leaf length (cm) | 45.8 \pm 11.6 | 29.8 \pm 6.5 | 11.3 \pm 3.5 |
| Leaf width (mm) | 6.0 \pm 1.4 | 3.5 \pm 1.0 | 1.0 \pm 0.1 |
| Leaf section | flat | biconvex | terete to biconvex |
| Leaf grooves | absent | present | present |
| Leaf papillae | absent | present | present |
| Leaf margin vestiture | villous | villous | glabrous to pilose |
| Scape length (cm) | 30.0 \pm 5.1 | 25.9 \pm 5.6 | 10.0 \pm 3.7 |
| Scape vestiture | pubescent to villous | villous | glabrous |
| Spathe length (cm) | 5.4 \pm 0.7 | 4.3 \pm 0.8 | 3.6 \pm 0.3 |
| Hyaline margin of spathe | absent or vestigial | 2-3 mm wide | 2-3 mm wide |
| Spathe colour | black | brown | brown |
| Spathe vestiture | sparsely sericeous | sparsely sericeous | glabrous |
| Ovary vestiture | pubescent | pubescent | glabrous |

One hypothesis to explain this combination of characters would be a past hybridization between *P. rudis* and *P. juncea*. This could have occurred by introgression (Anderson 1949) or by hybrid speciation (Grant 1971) with the hybrid occupying a habitat unavailable to either parent species. *P. argyrea* is an established species rather than a recent casual hybrid, occurring within the range of *P. juncea* but 120 km from the present northern limit of the range of *P. rudis*.

Specimens of P. juncea examined. WESTERN AUSTRALIA: Palm Terrace, Forrestfield, 5 Oct. 1978, R. J. Cranfield R156 (PERTH); Wooroloo, Oct. 1907, M. Koch 1737 (NSW, MEL); 2.4 km along Hardie road from Williams-Narrogin road, 3 Jan. 1982, T. D. Macfarlane 745 (PERTH); Watheroo National Park, 5 Oct. 1971, R. D. Royce 9607 (PERTH); between Badgingarra and Jurien Bay, 8 Oct. 1969, D. J. Whibley 3160 (AD, MEL).

Specimens of P. rudis examined. WESTERN AUSTRALIA: Wannamal turnoff, Great Northern Highway, 8 Jan. 1975, H. Demarz 5552 (Kings Park, PERTH); Pickering Brook, 19 Dec. 1978, H. Demarz 7298 (Kings Park, PERTH); Red Hill, Toodyay road, 19 Oct. 1960, A. S. George 1676 (PERTH); Darling Range, 16 Jan. 1840, L. Preiss 2347 (MEL); 70 km S of Moora, 3 Nov. 1974, D. J. Whibley 5001 (AD, PERTH).

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References

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