

***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 papillosis 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 scarioso-hyaline margins 2-3 mm wide. *Inner bracts* of inflorescence slightly exerted, 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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