Grevillea parallelinervis (Proteaceae), a New Species from South Australia

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Abstract

Carrick, J. *Grevillea parallelinervis* (Proteaceae), a new species from South Australia. *Contrib. Herb. Aust.* 15: 1–7, 1976. A new species from the Gawler Ranges, South Australia, is described and figured, and its relationships are indicated.

Grevillea parallelinervis Carrick, sp. nov.

Frutex effusus, confertus, usque ad 2 m altus et plus quam 1 m diametro; ramuli juveniles cano-tomentosi, glabrescentes; folia rigida, suberecta, angusto-linearia (2.5-)3-5(-7) cm longa, 1-1.5 mm lata, apice breviter abrupteque mucronata, basi in petiolum brevissimum contracta, margine recurva, pagina inferiore bisulcata, pagina superiore scabridiuscula, ab basi usque ad apicem quintupliparallelinervia, juvenilia pilis filiformis appressis canis dense tecta, fere glabrescentia; inflorescentia axillaris, racemosa, tomentosa, valde recurva, 4–5 cm longa; flores 20–30, binatim, pedicellis 4–5 mm longis; perianthium circa 8 mm longum, extus tomentosum, vivide rubrum, apice luteum, intus ad faucem barbatum; glans hippocrepiformis, valde obliqua; ovarium plus minusve ovoideum, circa 2 mm longum, glabrum, gynophoro brevi; stylus circa 3 mm longus, crassus, sub stigmate dilatatus, perianthium non superans; stigma laterale, cochleariforme; fructus suberectus, aliquantum fusiformis, circa 15 mm longus et 5 mm latus, stylum persistentem ferens.

Typus: *B. J. Copley* 2051, *c.* 7 km W. of Yardea Homestead, Gawler Ranges, northern Eyre Peninsula, South Australia, on bluff north of road, 31.viii.1968 (AD 96850096, holotypus, Fig. 1; CANB, K, isotypi).

Intricate spreading shrub up to 2 m high and more than 1 m across, the young shoots densely whitish-grey, becoming glabrous. Leaves entire, narrow-linear, 2.5–7 cm long, *c.* 1.5 mm broad, rigid, almost erect, shortly and abruptly mucronate, contracted at the base into a very short petiole, shallowly grooved above, deeply two-channelled below because of the recurved margins, midrib and veins prominent above, parallel from base to apex and finely scabrid, young leaves densely covered with filiform, closely appressed, centrally attached, whitish-grey hairs, becoming almost glabrous, scattered hairs remaining only in the grooves above and below. Inflorescence axillary, racemose, about 5 cm long, peduncle about 5 mm long, strongly recurved, rachis, pedicel and perianth outside densely covered with short, appressed, centrally attached, greyish hairs. Flowers 20-30, in pairs, on pedicels about 5 mm long; perianth about

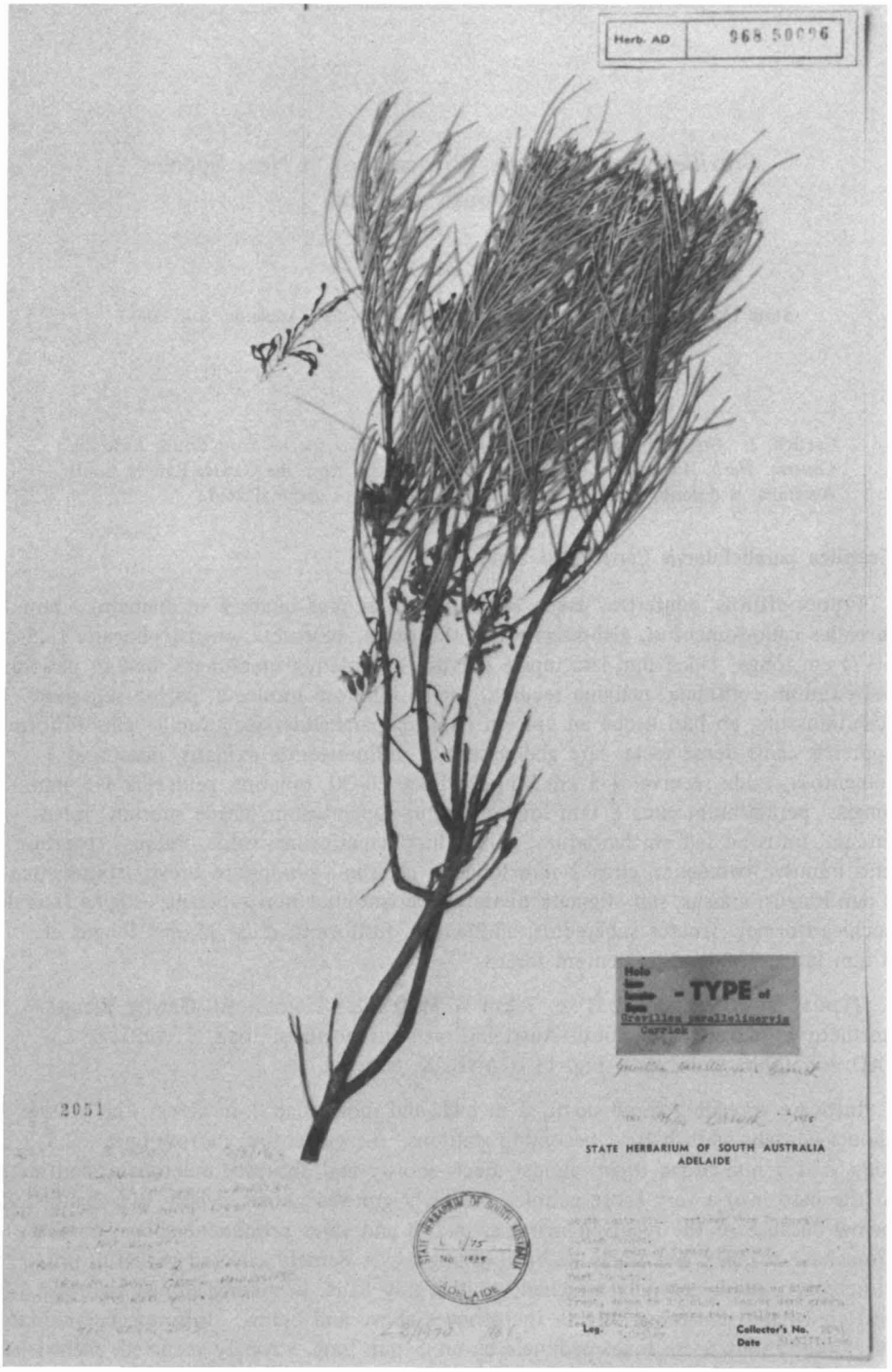

Fig. 1. Holotype of *Grevillea parallelinervis* Carrick.

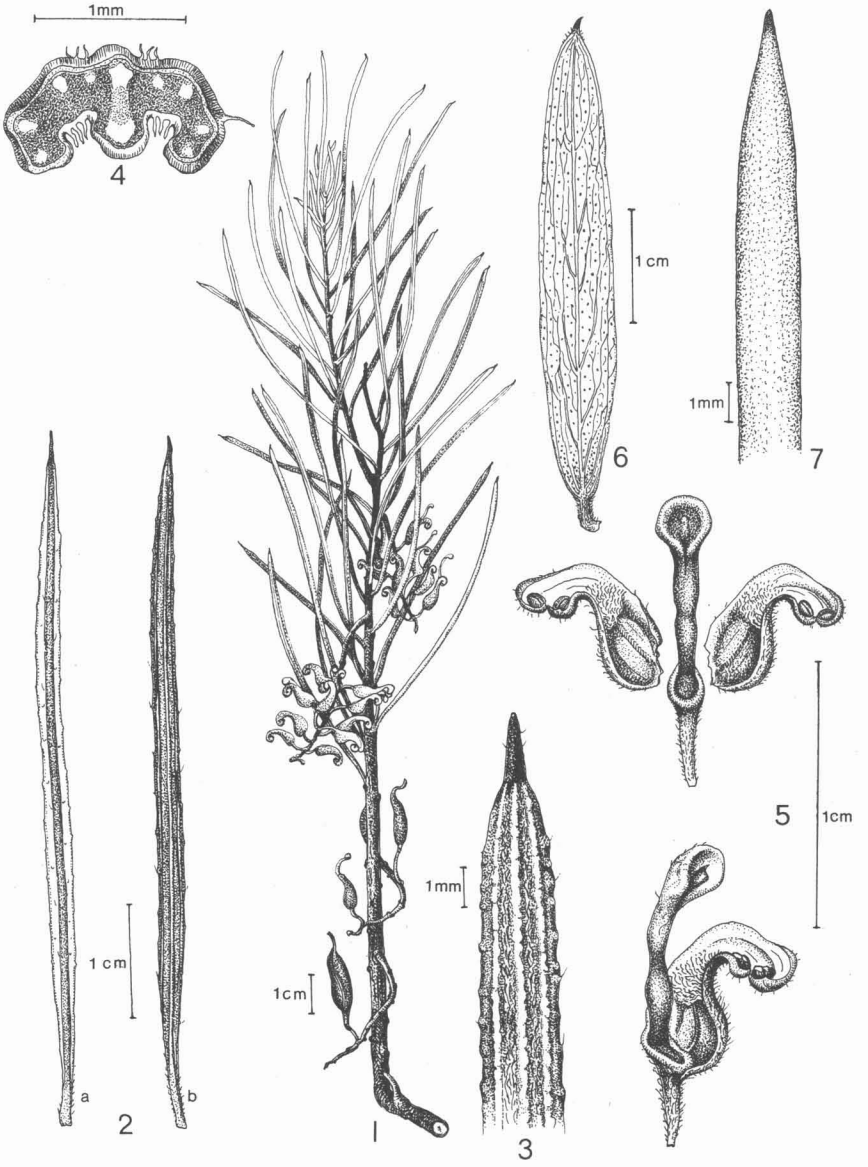

Fig. 2. 1–5, *Grevillea parallelinervis* Carrick. 1, branchlet with flowers and fruits; 2, lower (*a*) and upper (*b*) surfaces of leaf; 3, leaf tip; 4, transverse section of leaf; 5, details of flower; 6, *G. aspera* R.Br., leaf showing upper surface. 7, *G. umbellifera* J. M. Black, leaf tip.

8 mm long, bright red with a yellowish tip, bearded at the throat inside, lobes recurved; gland horseshoe-shaped, very oblique; ovary more or less ovoid, about 2 mm long, glabrous, on a short gynophore; style about 3 mm long, thick, dilated under the stigmatic disc, not exceeding the perianth; stigma lateral, about 3 mm broad, concave, with a few hairs on the back. Fruit almost straight, more or less erect, oblong- or ellipsoid-fusiform, about 15 mm long and 5 mm across, crowned by the persistent style and stigma (Fig. 2).

Distribution

SOUTH AUSTRALIA: Western Gawler Ranges: *J. Carrick* 2439, Mt St Mungo, *c.* 40 km NW. of Yardea Homestead, 2.ix.1969 (AD). *J. B. Cleland s.n.*, Yardea, 23.viii.1928 (AD). *B. J. Copley* 2051, 7 km W. of Yardea Homestead, on bluff north of road, 31.viii.1968, fl. (AD holotype); 2052, 2053, *ibid.* (AD); 2333, *ibid.*, from the same plant specimen as 2051, 12.x.1968, fr. (AD); 2737, *c.* 5 km S. of Hiltaba Homestead, 1.viii.1969 (AD). *E. N. S. Jackson* 2017, Mt Wallaby, *c.* 3 km WNW. of Koondoolka Homestead, 24.ix.1972 (AD). *E. Newman s.n.*, Hiltaba Homestead, ix.1962 (AD). *D. Scholes* 24, 25, *c.* 48 km E. of Wirrulla, *c.* 55 km NNE. of Streaky Bay, 10.vi.1967 (AD). *A. G. Spooner* 2363, *c.* 8 km N. of Hiltaba Homestead, 4.ix.1972 (AD). *D. E. Symon* 8171A, 2 km NW. of Dancing Bob Dam, *c.* 17 km WNW. of Yardea Homestead, 5.x.1972 (ADW); 8191, 6 km NW. of Pine Lodge, *c.* 19 km WSW. of Yardea Homestead, 6.x.1972 (ADW); 8218, Koondoolka Homestead, *c.* 25 km NW. of Hiltaba Homestead, 10.x.1972 (ADW); 8297, Mt Wallaby, *c.* 3 km WNW. of Koondoolka Homestead, 10.x.1972 (ADW). *J. Z. Weber* 3045, Hills NE. of Koondoolka Homestead, 23.ix.1972 (AD). (Fig. 3.)

Relationships

G. parallelinervis appears to be closely related to *G. aspera* R.Br., which occurs throughout Eyre Peninsula, including the Gawler Ranges, and also in the northern Flinders Ranges. *G. aspera* has similar flowers and fruits, but differs in the leaves which are spreading, lanceolate to elliptic, with reticulate venation above and a less prominent midrib below. (Fig. 2.) The proper affinities of the new species can be assessed only in a complete revision of the large genus *Grevillea*, when the taxonomic significance of the individual characters are properly investigated.

Of the South Australian species, *G. umbellifera* J. M. Black resembles *G. parallelinervis* in the shape of the leaves and the glabrous ovary. It is known only from a few collections at one locality, Koonibba, which is about 30 km W. of Ceduna and about 120 km W. of Koondoolka Homestead, the most westerly locality for the new species. It differs in having smooth, glabrous leaves without raised veins above, an umbellate inflorescence, globose ovary and fruit, no hypogynous gland and a style not dilated under the stigmatic disc.

The following modification to the key for the South Australian species of *Grevillea* in J. M. Black, Flora of South Australia, edn 2 (1948) 268, is suggested:

A. Leaves divided or lobed ...
A. Leaves usually entire. Gynophore free from the perianth (except *G. umbellifera*)
D. Leaves narrow–linear, doubly grooved below (except *G. nematophylla*), sometimes divided
E. Ovary villous (*G. pterosperma, G. juncifolia*)
E. Ovary glabrous. Leaves undivided (in *G. umbellifera* very rarely bi- or tri-partite)
E′. Flowers small, in racemes. Perianth tube 3–4 mm long
F. Leaves 6–25 cm long, erect; racemes long (*G. stenobotrya, G. nematophylla*)
F. Leaves 2–3 cm long, spreading; racemes short (*G. halmaturina*)
E′. Flowers larger. Perianth tube 6–10 mm long
Flowers in umbels. Perianth tube about 10 mm long. Leaves smooth, glabrous, without raised veins above. Style not dilated below the stigmatic disc ..... *G. umbellifera*

Flowers in racemes. Perianth tube about 7 mm long. Leaves with centrifixed hairs when young, becoming almost glabrous, midrib and veins prominent above. Style dilated below the stigmatic disc ..... *G. parallelinervis*

D. Leaves broad–linear or lanceolate ...

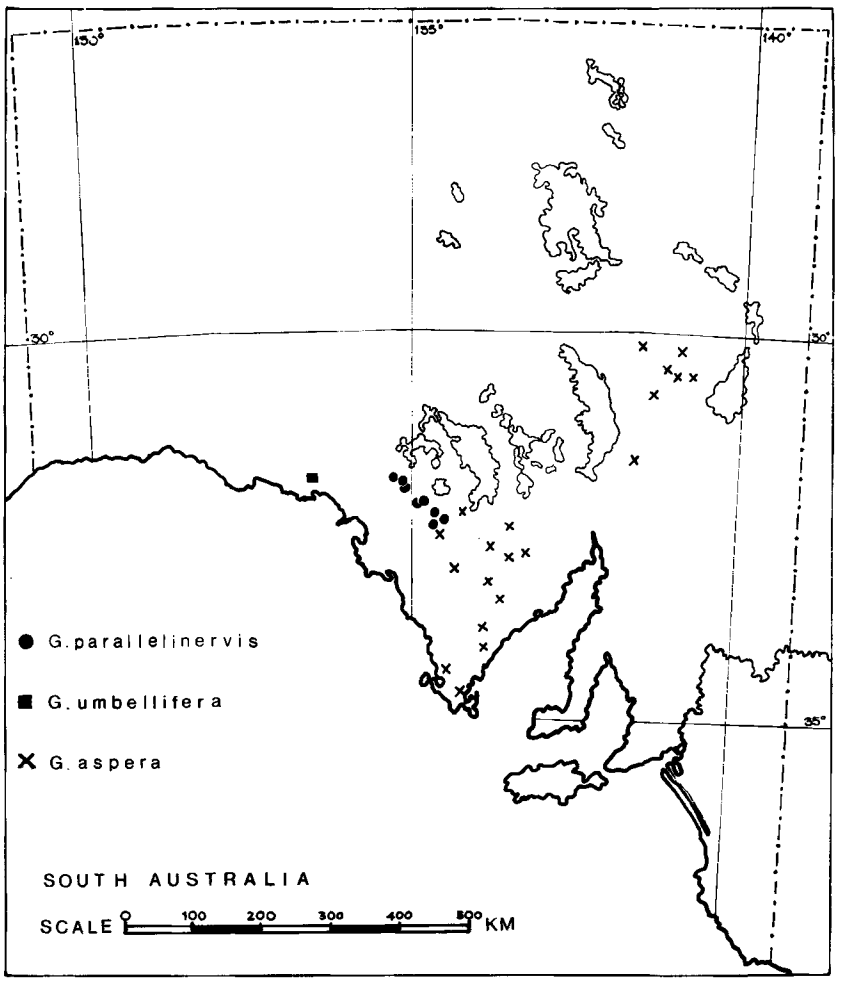

Fig. 3. Map showing distribution of *Grevillea parallelinervis* Carrick, *G. umbellifera* J. M. Black and *G. aspera* R.Br.

There are three Western Australian species which resemble *G. parallelinervis* in having similar leaves and a glabrous ovary. *G. jamesoniana* W. V. Fitzg., from the Coolgardie district, differs in having smooth leaves, flowers in an umbel, a glabrous and large perianth (up to 2.5 cm), a semi-annular hypogynous gland, a slender style and an orbicular stigmatic disc. *G. oncogyne* Diels, also from the Coolgardie district, has smooth leaves, erect racemes, a half-saucer-shaped hypogynous gland, a tuberculate ovary, a very long style (over 3 cm) and a clavate stigmatic disc. *G. stenophylla* W. V. Fitzg., from the Austin district, differs in having racemes forming erect terminal panicles, a white perianth, a semi-annular hypogynous gland, a slender style and an orbicular stigmatic disc.

Table 1. Comparison of five similar species with *Grevillea parallelinervis*

	G. parallelinervis	*G. aspera*	*G. umbellifera*	*G. jamesoniana*	*G. oncogyne*	*G. stenophylla*
Leaves	scabrid	scabrid	smooth	smooth	smooth	–
	erect	spreading	erect	–	erect	–
	narrow–linear	lanceolate to elliptic	narrow–linear	linear–terete	narrow–linear	linear–filiform
	3–7 cm × 1.5 mm	3–8 cm × 3–10 mm	5–10 cm × 2 mm	7–12 cm × 2 mm	7–10 cm × 1.5 mm	7.5 cm
Venation	parallel	reticulate	obscure	obscure	obscure	obscure
Inflorescence	raceme, recurved	raceme, recurved	umbel, erect	umbel, erect	raceme, erect	paniculate racemes, erect
Flowers	20–30	20–30	about 15	–	less than 10	many
Perianth	8 mm, red, yellow tip	8 mm, red	10 mm, rose	up to 2.5 cm, scarlet	1 cm, purple	white
Hypogynous gland	oblique horseshoe-shaped	oblique horseshoe-shaped	absent	semi-annular	half-saucer-shaped	semi-annular
Ovary	ovoid	ovoid	globose	–	subglobose, tuberculate	–
Style	3 mm, thick, dilated	3 mm, thick, dilated	9 mm, slender, not dilated	slender	over 3 cm	slender
Stigma	spoon-shaped	spoon-shaped	globose	orbicular	clavate	orbicular
Fruit	subfusiform	'ovoid–oblong'	globose	–	–	–

The table and the comparative notes given above are based on investigation of the specimens and study of the literature quoted below:

G. aspera R.Br., Trans. Linn. Soc. **10** (1810) 172. *Typus*: 'in Novae Hollandiae ora orientali, Flinders Land, in ericetis aridis.' (n.v.).

Specimens examined

B. J. Copley 2758, Gawler Ranges, near Scrubby Peak, *c.* 25 km SW. of Yardea Homestead, 1.viii.1969 (AD). *N. N. Donner* 2062, southern Eyre Peninsula, Marble Range, *c.* 45 km NW. of Port Lincoln, 25.viii.1967 (AD). *Hj. Eichler* 12783, northern Flinders Ranges, Gammon Ranges, *c.* 12 km E. of Owieandana Hut, 19.ix.1956 (AD). *A. E. Orchard* 2166, Gawler Ranges, Yundinna Gorge, *c.* 50 km N. of Minnipa, 15.viii.1969 (AD). *J. Z. Weber* 3356, Gawler Ranges, Mt Double, *c.* 27 km SSE. of Yardea Homestead, 4.x.1972 (AD). *D. J. E. Whibley* 383, Gawler Ranges, *c.* 7 km NW. of Minnipa, 12.x.1958 (AD).

G. umbellifera J. M. Black, Trans. Roy. Soc. S. Australia **71** (1947) 21. *Typus*: *J. B. Cleland s.n.*, Koonibba, near Fowler's Bay, Sept. 1944, Oct. 1946 (2×) (AD 97432614!, syntypes, additional material on AD 97432615!).

All specimens are from the herbarium of J. M. Black, now housed in the State Herbarium of South Australia (AD). They are unnumbered and were collected by J. B. Cleland. Sheet number AD 97432614 has three mounted specimens, one collected in September 1944, and two collected in October 1946. The additional material mounted on sheet number AD 97432615 consists of four sets of drawings associated with fragments, dissections and script relating to the specimens mounted on AD 97432614. A lectotype has not been chosen, as this is considered to be outside the scope of the present paper.

G. jamesoniana W. V. Fitzg., Proc. Linn. Soc. New South Wales **27** (1902) 243. *Typus*: *W. V. Fitzgerald s.n.*, Lakeside, in wet soil, Sept. 1898 (n.v.).

G. oncogyne Diels, Bot. Jahrb. Syst. **35** (1904) 149. *Typus*: *Pritzel* 912, 'in distr. Coolgardie pr. Boorabbin in arenosis', Sept. 1901 (AD 97505500!, isotype).

G. stenophylla W. V. Fitzg., J. W. Austral. Nat. Hist. Soc. **2** (1905) 30. *Typus*: *W. V. Fitzgerald s.n.*, Minginew, Sept. 1903 (n.v.).

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