



## The first records of *Polygala westii* (Polygalaceae) for South Africa (North-West Province) and a key to the southern African *Polygala* species in the Section *Tetrasepalae*.

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### Abstract

The first record of *Polygala westii* (Polygalaceae) from the North-West Province (South Africa) is reported on here. The species is very rare and has previously only been collected in two separate gatherings. This species is characterised by having bracts and bracteoles caducous, the anterior sepals connate at least as much as half of their length and seeds pubescent and carunculate. It grows in a habitat that are severely impacted by agriculture and mining. A preliminary assessment of its conservation status is given. A key to the South African species in the subsection (*Tetrasepalae*) to which *P. westii* belong is provided. The aim of this paper is to highlight the species in order to stimulate the lookout for more material of this species.

**Key Words:** *Polygala westii*, North-West Province, South Africa, key, *Tetrasepalae*, new country record

### Introduction

The genus *Polygala* Linnaeus (1753: 701) is a cosmopolitan genus (absent in New Zealand and Antarctic and introduced in Polynesia and Greenland) with  $\pm 750$  species (Paiva *et al.* 2013). In southern Africa there are 80–90 taxa (Brekenkamp 2000, 2003; Siebert *et al.* 2010; Paiva *et al.* 2013) of which  $\pm 65\%$  are endemic.

*Polygala westii* Excell (1957: 13), like all the South African species, belong to subgenus *Polygala*. It is further placed in the section *Tetrasepalae* (Chodat 1893: 336) Paiva and the subsection *Tetrasepalae* (Paiva 1998: 288), of which the main features are having bracts and bracteoles caducous, the anterior sepals connate at least as much as half of their length and seeds pubescent and carunculate. At first it was believed to represent a new taxon, but critical examination of the type scans (JStor 2013a, 2013b, Flora of Zimbabwe online 2013) revealed that it is conspecific with this very rare and seldom collected species albeit its disjunct distribution.

### Taxonomic treatment

Until now *Polygala westii* (Figure 1) has only been known from two very disjunct gatherings  $\pm 1,100$  km apart. The type originates from the Matobo district in Zimbabwe and was collected by O. West on 26 February 1948 and described by A.W. Excell. In March 1956 a second gathering, this time from Odjinga in Namibia, was collected by O.H. Volk (WIND 2009). The first records for South Africa come from the North-West Province close to Brits and Rustenburg respectively (Figure 2). These were collected at the end of January and early in February and were already in fruit although plants still carried numerous flowers. The plants from these new locations are somewhat smaller in all features than those from Namibia and Zimbabwe and hence an expanded description is presented here. The new locations are  $\pm 500$  km SSW from the Zimbabwean and  $\pm 900$  km ESE from the Namibia localities respectively.

### Key to the southern African *Polygala* species in the Section *Tetrasepalae*:

- 1a Fertile stamens 6..... *P. kalaxariensis*  
1b Fertile stamens 8.....2
- 2a Wing sepals caducous in fruit (in *P. schinziana* not always).....3  
2b Wing sepals persistent in fruit .....4
- 3a Subshrubs; wing sepals 6–8 × 4 mm; apical lobes of the capsule acute..... *P. marensis*  
3b Perennial herb, spreading from a woody rootstock; wing sepals 4–5 × 2.5 mm; apical lobes of the capsule rounded.....*P. schinziana*
- 4a Racemes lateral; flowers green-whitish, purple or lilac-pinkish.....5  
4b Racemes terminal, sometimes with a few lateral additional ones; flowers blue or violet.....6
- 5a Perennial herbs; capsule (3–3.5 mm wide) emarginated-apiculate and as broad as the wing sepals (3–3.5 mm wide).....*P. woodii*  
5b Annual herbs; capsule (3.5–4.5 mm wide) emarginated and clearly broader than the wing sepals (2–2.75 mm wide)..... *P. westii*
- 6a Erect annual or perennial herbs or shrublets; wing sepals 4.5–5 × 2.5–3 mm, usually 3-nerved from the base, not much anastomosed ..... *P. producta*  
6b Decumbent perennial herbs or subshrubs; wing sepals 4.5–9 × 3–5 mm, usually 5-nerved from the base, much anastomosed .....7
- 7a Only terminal racemes; usually stems and leaves sparsely adpressed-pubescent at least when young; wing-sepals 4.5–7.5 × 3–4.5 mm, leaves isomorphic, revolute, usually uncinata, pubescent.....*P. uncinata*  
7b Racemes terminal and lateral; stems glabrous or glabrescent; wing-sepals 6–9 × 3.5–5 mm; leaves not revolute, often heteromorphic, the ones near the base suborbicular and the upper ones linear-lanceolate or linear-elliptic, usually rounded at apex, exceptionally acute, mucronate, glabrous.....8
- 8a Perennial herbs, 20–50 cm tall; racemes 5–15 cm long, terminal, exceptionally a few lateral, many-flowered (20 or more flowers); flower bud rounded and obtuse at the apex; wing-sepals elliptic, 6–8 × 3.5–4 mm, larger or as large as the capsule, nerves not very anastomosed, rounded at the apex, sterile branch of the stigma much longer than the fertile one..... *P. rehmannii*  
8b Perennial herb, spreading from a woody rootstock, with annual stems 10–20 cm tall; racemes 3.5–5 cm long, terminal and lateral, sometimes mainly lateral; pauciflorous (up to 10 flowers); flower bud acute and apiculate at the apex; wing-sepals ovate, 7–9 × 4.5–5 mm, much larger than the capsule, much anastomosed, apiculate at the apex; sterile branch of the stigma shorter than the fertile one..... *P. gracilentia*

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