



Polygala retiefiana (Polygalaceae), a new species described from South Africa

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Abstract

A new species of *Polygala* (Polygalaceae), *P. retiefiana*, is described from the KwaZulu-Natal and Free State provinces of South Africa. It is endemic to the country.

Key words: plant taxonomy, biodiversity, Polygalaceae, *Polygala retiefiana*, endemic, South Africa

With the order Polygalales no longer accepted, the Polygalaceae belong now to the order Fabales, the circumscription of which (Chase *et al.* 1993) includes four families: Fabaceae, Polygalaceae, Quillajaceae and Saurianaceae. These families have as common characteristic the monosymmetric flowers (Tucker 2003) where one of the petals, or two united petals, form a keel (carina) which covers the androecium and gynoecium. This group of plants with papilionaceous or pseudo-papilionaceous flowers is well-characterised both molecularly (APG III 2009) and ontogenically (Bello *et al.* 2010). Interfamilial relationships and patterns of floral evolution were also found between these four families (Bello *et al.* 2012).

The Polygalaceae include c. 1300 species in 17–25 genera, depending on the classification followed, as several genera have been recently segregated (Pastore *et al.* 2010, Abbott, 2011, Pastore 2012, Pastore & Abbott 2012). They have a cosmopolitan distribution but are absent from the Arctic and Antarctic regions. *Polygala* Linnaeus (1753: 701) is a cosmopolitan genus with about 750 species, widespread mainly in tropical and subtropical regions. The genus is divided into several subgenera, but with the exception of three species from northwestern Africa, all African species belong to the subgenus *Polygala*. In Africa, *Polygala* is represented by over 210 species (Paiva 1998) of which c. 80 species occur in southern Africa (Botswana, Lesotho, Namibia, South Africa and Swaziland). Of these, c. 55 species are endemic to the region.

At first sight the flowers of plants of *Polygala* resemble papilionaceous (legume) flowers. However, the similarity is only superficial: in the flowers of species of *Polygala* the wings are comprised of two petaloid sepals, not petals; instead of the standard of the papilionaceous flower, the polygalaceous flower has two petals; and whereas the papilionaceous flower has a keel composed of two petals, *Polygala* flowers have a single, boat-shaped, central, inferior petal, called a carina, with a fimbriate appendage (crest). This peculiar flower morphology has attracted considerable attention to the genus. The first reference to African *Polygala* known in the literature is by Commelin (1697: tab. 46) who illustrated *Polygala arborea myrtifolia* [= *Polygala myrtifolia* Linnaeus (1753: 703)], a South African species introduced and naturalized in many mild-climate regions of the world (Paiva 1998). In spite of interest in the genus, and its high level of endemism in the southern African region, *Polygala* was only partially revised for South Africa by Levyns (1955), for Namibia by Friedrich-Holzhammer & Merxmüller (1968) and for Botswana by Exell (1960), but a complete revision is still lacking.