

# LOBELIAS IN SOUTH AFRICA

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The Lobeliaceae occurs mainly in the tropics and subtropics, and includes about thirty genera and 1200 species. In South Africa the family is herbaceous, sometimes partly

woody, and comprises the four genera *Lobelia*, *Wimmerella* (the only South African endemic), *Grammatotheca* and *Monopsis*. (Taxonomically these four genera are separated by differing structures of the corolla and the shape of the capsule and stigmatic lobes.)

In all four genera, the leaves are alternate, simple and without stipules, and often contain a watery or milky sap. The flowers are irregular, bisexual and are borne singly or in racemes, umbels or spikes. The blue, red or violet flowers attract pollen carriers - a variety of aphids, bees and butterflies - and some of the large flowered species are pollinated by birds. Petals, sepals and stamens are in fives. The petals are fused, forming a one- or two-lipped corolla, consisting of spreading lobes and a split or unsplit tube. The petals are inserted on a two-chambered inferior ovary and the stamens are attached to the base of the corolla. The filaments are fused for at least half their length and the anthers are fused into a tube around the style. The anthers

are often tipped with a tuft of short hair. The style is simple with as many stigmas as carpels. The fruit is a dehiscent capsule. Plants flower mainly from spring to autumn.

slopes, sand dunes, sandy flats, shady damp coastal mountain slopes and forest floors. Lobelias are easily recognizable by their two-lipped corolla with the tube split on the upper side. The upper

lip consists of two often smaller and erect lobes and the lower lip of three spreading lobes. In addition the corolla structure, the stigmatic lobes are short and round to oval.

A very popular genus among gardeners, *Lobelia* is one of the loveliest of the finer flowering plants. They make excellent edging plants in flowerbeds or along garden paths, and look exceptionally good in rockeries where they can be grown as compact plants or trailing. They are extensively grown in containers and hanging baskets. *Lobelia erinus* has been cultivated since the seventeenth century and is commonly grown in flowerbeds, whereas *Lobelia pteropoda* is used in hanging baskets.



*Lobelia coronopifolia*. Photo: J. Manning.

## **Lobelia**

This is the largest of the South African genera, consisting of about sixty-nine species that occur throughout most of South Africa. There are blue, purple, pink and white flowering annuals, perennial herbs and small shrubs that grow in a variety of habitats from sheltered to exposed rocky

## **Monopsis**

The fourteen species of annual and perennial herbs that belong to the genus *Monopsis* are also fairly widespread in South Africa. Their spreading habit makes them popular as groundcovers and, as in the case of *Monopsis unidentata*, in hanging baskets. Their mainly yellow and purple

flowers differ from *Lobelia* in that the flowers are completely twisted upside down. The tube of the two-lipped corolla is split on the lower side, with the upper lip consisting of three lobes and the lower lip of two lobes. The stigmatic lobes are elongated and thread-like. The typical *Monopsis* corolla structure is not so obvious in the purple flowers of *Monopsis debilis*, which has almost regular flowers. *Monopsis decipens* (butterfly monopsis) and *Monopsis zeyheri* are also exceptions; both share a corolla structure similar to that of *Lobelia*.

### **Grammatotheca**

The single species of *Grammatotheca* occurs in the Western Cape, the Eastern Cape and KwaZulu-Natal. The blue-flowering *Grammatotheca bergiana* is a creeping herb that prefers damp areas. Apart from its specialized habitat, sessile flowers and linear capsules, the flower structure resembles that of *Lobelia* and perhaps this genus should be included in the genus *Lobelia*. You can find a good illustration of this little known plant on page 44 of Mary Maytham Kidd's book *Cape Peninsula* (the Botanical Society's South African Wild Flower Guide 3).

### **Wimmerella**

Until recently this genus was known as *Laurentia*, and comprises ten herbaceous species with blue or white flowers. It occurs in the Eastern Cape and Western Cape, where it grows in damp areas at elevations ranging from sea-level to 1800 m. It is either poorly collected or some species must be extinct or near extinction, as our herbarium collection has specimens for only four of the ten species. (An illustration of *W. secunda* appears on page 184 of Mary Maytham Kidd's book *Cape Peninsula*.)

The two-lipped corolla consists of a three lobed lower lip and a two-lobed upper lip, but unlike the *Lobelia*, *Monopsis*, and *Grammatotheca*, the corolla tube is not split down the one side. ♡



*Monopsis lutea*. Photo: J. Manning.

## CLASSIFYING BELLFLOWERS

The Campanulaceae or bellflower family with its regular and irregular flower shaped members has always been the subject of dispute and uncertainty. Some taxonomists prefer to consider the Campanulaceae as one complex, variable family with several subfamilies, while others prefer to divide the family into several smaller families. New evidence from morphology and DNA sequence data has contributed to the current recognition of five subfamilies within the Campanulaceae: Campanuloideae, Lobelioideae, Cyphioideae, Cyphocarpoideae and Nemacladiodeae. Only the Campanuloideae, Lobelioideae and Cyphioideae are represented in South Africa, the other two subfamilies occurring in Chile, south-western United States and north-western Mexico.

For the purposes of this article, we consider the Campanulaceae in the strict sense, that is, not recognizing subfamilies, but instead recognizing the families Campanulaceae (see *Veld & Flora* 85(4) December 1999, p 80), Lobeliaceae and Cyphiaceae.