

# *Tylecodon paniculatus* subsp. *glaucus*, a new subspecies from southern Namibia and the northern Richtersveld (RSA)

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Fig. 1. *Tylecodon paniculatus* subsp. *glaucus* in habitat on Spitskop, north of Rosh Pinah (southern Namibia).

## Abstract

*Tylecodon paniculatus* subsp. *glaucus* is described from southern Namibia and the northern Richtersveld. It differs from subsp. *paniculatus* mainly in its distinctly glaucous adult leaves, more slender stems and more visible leaf scars.

## Introduction

*Tylecodon paniculatus* is the largest and most impressive of all *Tylecodon* species and also the most widespread (Toelken, 1985; van Jaarsveld & Koutnik, 2004). Belonging to the Crassulaceae, it is one of more or less 50 species endemic to the semi-arid winter rainfall region of South

Africa. *Tylecodon paniculatus* can grow to almost 3 m high with a thickset stem. It is found from Willowmore and Graaff-Reinet in the Eastern Cape in the east to southern Namibia in the north, more or less throughout the winter rainfall region (summers long and dry). There is also a record from the Auas Mountains near Windhoek. However, the Auas Mountains receive mainly summer rainfall and have been visited on several occasions, well explored, and most of the high peaks climbed, without any sign of the plant. The situation might refer to a different Auas Mountain to the south. The habitat of *Tylecodon paniculatus* is

mostly the Succulent Karoo Biome, and the plants have a winter growing cycle, becoming deciduous during spring. This species has a paniculate inflorescence (hence its name) which appears during late spring. When its conspicuous red tubular flowers appear during midsummer, the plants are leafless. *T. paniculatus* is usually locally abundant throughout its habitat and, due to its large thickset growth, is very conspicuous especially during summer when in full flower. In parts of the Succulent Karoo the plants are often associated with 'heuweltjies' or active termite mounds. These 'heuweltjies' are prominent throughout the

**Table 1:** Comparison of *Tylecodon paniculatus* subspecies

Taxon	Leaf	Colour	Corolla	Squamae
<i>T. paniculatus</i> subsp. <i>glaucus</i>	linear obovate to obovate, 60 (75)–80 × 15–25 mm,	Glaucous, bluish-green	Tube 8–9 mm in diameter	1.5 mm high, 1 mm wide
<i>T. paniculatus</i> subsp. <i>paniculatus</i>	60–120 × 30–100, obovate	Green	Tube 7 mm in diameter	1.5 mm high, 1.8–3 mm wide

Succulent Karoo region; the termites harvesting the surrounding vegetation and causing soil disturbances. This recycling process often partially removes the vegetation; the spaces so produced are then occupied by pioneer species such as *T. paniculatus* subsp. *paniculatus*. The green patches of *T. paniculatus* and other pioneers are usually clearly visible from a distance (Fig. 5). Typically *T. paniculatus* plants are thickset, large robust succulent plants to 2.5 m tall bearing green (sometimes shiny) obovate leaves. The plants often prefer southern and eastern slopes where the succulent stems are somewhat shaded. The leaves are very variable in size and shape, according to the availability of light, water and nutrients. This is clearly shown in cultivation. In the Botanical Society Conservatory, *T. paniculatus* are used throughout the Succulent Karoo section. After feeding with an organic fertiliser (Bounceback, manufactured from chicken manure) its leaves become very large, up to 230 × 85–115 mm (Fig. 4).

In the northern Richtersveld and

southern Namibia (lower southern outliers of the Hunsberg), *T. paniculatus* plants tend to be taller, with more slender stems and distinctly glaucous leaves (Figs 1–2). The leaves are also slightly smaller and narrower, and the stem is covered with grayish bark, in contrast to the yellow peeling bark so typical in the subsp. *paniculatus*. The stem also bears numerous leaf scars which are far more prominent than in the typical subsp. *paniculatus*. This distinct blue-green to grey-leaved form was observed by the author at Oena, in the Richtersveld National Park (see Fig. 102, p 97 in van Jaarsveld & Koutnik, 2004) and also several sites in the winter rainfall southern Namibia. Because of the consistency of this distinctive form, it was decided to give it formal status. This grey-leaved subspecies occurs prominently on the lower southern outliers and ridges of the Hunsberg (which includes the Hohenzollern Mountain, Aalwynberg, Konsertinaberg, Kuamsibberg, Sonberg and Lorelei to the west). It is also commonly found on Spitskop (north of

Rosh Pinah). It is a very attractive and ornamental plant, and is well-protected within the limits of the newly established Ai-Ais-Richtersveld Trans-Frontier Park.

## Description

*Tylecodon paniculatus* subsp. *glaucus* subsp. nov. a ssp. *paniculatus* foliis glaucis, linearibus-obovatis ad obovatis, 60(75)–80 × 15–25 mm, cicatricibus foliorum delapsarum prominentis distincta. TYPE. Kuamsibberg, 2717 (Ai-Ais): Lower south-east facing sandstone slope, (CC), van Jaarsveld & Swanepoel 21098 (WIND, holo.).

Single-stemmed, thickset, deciduous, dwarf trees up to 2.5 m tall. **Stem:** densely branched above, with a rounded to slender crown. **Bark:** grayish-green, peeling. **Leaves:** glaucous, linear obovate to obovate, 60 (75)–80 × 15–25 mm, the apices obtuse, base cuneate. Juvenile leaves obovate, green. **Inflorescence** and **flowers** as for *T. paniculatus* subsp. *paniculatus*. However, the corolla tube tends to be narrower (about 7 mm in diameter) slightly tapering to throat. **Squamae:** 1.5 mm high and 1 mm broad, yellowish green.

## Adaptation to a hostile environment

*Tylecodon paniculatus* is easily grown. Its soft fleshy stems (hence the name “butterboom”, or “butter tree”) are part of a strategy of passive resistance, but utilise the ‘abuse’ as an effective opportunity of vegetative regeneration by its branches. It thus has an effective vegetative backup, with its fragile and brittle branches rooting where they fall on the ground. The “kerkei” (*Crassula ovata*) from the summer rainfall regions also follows this same strategy in the Albany Thicket region of the Eastern Cape. The leaf and stem sap has an alkaloid which is toxic to mammals, but not to tortoises, and is thus avoided by most mammals. However, it is not without enemies. A large snout beetle also preys on this species, especially where the plants are very common. The beetle lays its eggs near



Fig. 2. Close-up of the leaves of *Tylecodon paniculatus* subsp. *glaucus* on the Kuamsibberg.

the base of the stem. The young caterpillars rapidly find their way into the stem, often causing rotting and eventual collapse of the plant.

### Growing *Tylecodon paniculatus*

*Tylecodon paniculatus* (both subspecies) thrives well in cultivation but in summer rainfall regions should be sheltered from summer rain and is best kept in a greenhouse under controlled conditions. Plants do well in dappled shade, as its succulent stem needs protection from prolonged solar radiation. It is very adaptable in cultivation and responds well to organic fertilisers. In shady regions the leaves can become very large and shiny. The subsp. *glaucus* is adapted to a dry, exposed sunny position. In South Africa and Namibia it is best grown in Succulent Karoo gardens. Soil should be well-drained, sandy and slightly acidic. It can easily be propagated from cuttings or seed. Cuttings are best planted during the autumn, and seed should be sown in autumn or winter months. Plants adapt well to containers and their size is dependent on the available growth space. In small containers *T. paniculatus* will remain dwarfed.

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Fig. 3. The juvenile leaves of *T. paniculatus* subsp. *glaucus* are green when young, often hairy (Hohenzollern Mountain).



Fig. 4. *T. paniculatus* subsp. *paniculatus* leaves in the Botanical Society Conservatory. The size of leaves is highly variable, depending on the availability of light, water and nutrients. These leaves are about 230 mm long.



Fig. 5. On the Blinkberg, in the Western Cape, the green patches on the 'heuweltjies' represent groups of *Tylecodon paniculatus* plants.