

GESNERIACEAE

NOTES ON THE GENUS *STREPTOCARPUS*

Within the genus *Streptocarpus* the rosulate species comprising the *rexii* aggregate *sensu* Hilliard & Burt (1971) include *S. rexii* (Hook.) Lindl., *S. primulifolius* Gandoger, *S. cyaneus* S. Moore and *S. parviflorus* Hook. f. A new species recently discovered in the eastern Transvaal is included within the aggregate. In addition *S. caeruleus* subsp. *longiflorus* is raised to specific status.

Streptocarpus fasciatus T. Edwards & C. Kunhardt, sp. nov. *S. cyaneo* affinis sed corolla leviter dorsiventraliter compressa et sine taenia flava in fauce.

TYPE. — South Africa, eastern Transvaal, 25 km from Nelspruit on the Komatipoort Rd, C. Kunhardt & J. Kluge s.n. (NU, holo.; E, PRE, iso.).

Robust rosulate perennial. *Leaves* oblong, reaching 290 × 100 mm, lamina slightly decurrent, pilose, margins crenate; petiole up to 20 mm. *Inflorescence* up to 12-flowered; peduncle to 300 mm tall, pilose. *Sepals* narrowly deltoid, 6.5 × 1.5 mm, pilose, tips red-brown. *Corolla* 70–76 mm long; tube 50 mm long, lower half linear, 5 mm broad, upper half expanding and slightly dorsiventrally compressed, 20 × 11 mm at the throat, pilose externally and inside along corolla roof; limb bilabiate, upper lobes 12 × 14–15 mm, rounded, with a medial violet streak in each; lower lip 22–24 mm long, violet-streaked, lobes 15–16 × 15 mm (Figure 11). *Stamens* arising from waist of corolla; filaments 9–10 mm long, white, glabrous basally but with stalked glandular trichomes near connective; anthers 3 × 1 mm, pale mauve, connectives deep violet; posterior staminode

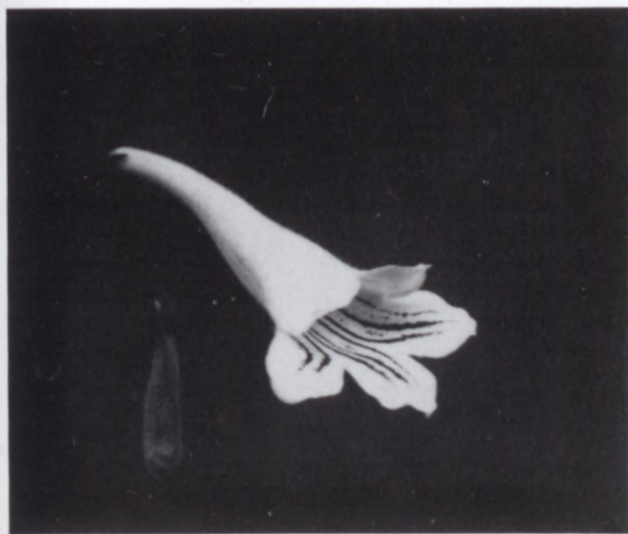


FIGURE 11. — *S. fasciatus*, flowering plant, $\times 0.4$.

minute, within a dorsal channel, lateral staminodes 2 mm long. *Pollen* prolate, $20-23 \times 10-12 \mu\text{m}$, tricolporate, poles apocolpoid, exine minutely scabrate. *Ovary* ± 24 mm long, with dense appressed filiform trichomes; style 12 mm long, dorsiventrally compressed, with stalked glandular trichomes; stigma bifid, white, peripherally papillate. *Fruit* $100-120 \times 2$ mm.

In *S. cyaneus* the occurrence of a yellow bar in the throat is remarkably constant despite variation in the ground colour and dimensions of the corolla. This yellow bar is entirely lacking in *S. fasciatus* which is at the eastern limit of *S. cyaneus*. Nearby populations of *S. cyaneus* have short corolla tubes with a pink ground colour and 2-4 flowers per inflorescence.

S. cyaneus is a notoriously difficult species to define. This is due partly to the inclusion of diverse forms within the species and possibly due to introgression with *S. parviflorus* in the north. Hilliard & Burt (1971) recognise a degree of geographic patterning in the variation but state that there is seldom correlation of several characters over a wide area. As a consequence they reduced *S. polackii* B.L. Burt and *S. junodii* Beauv. to synonymy. *S. fasciatus* does not conform to these previously recognised entities.

The specific epithet *fasciatus* refers to the well-defined longitudinal stripes which mark the corolla lobes. Plants are very floriferous with individual peduncles often supporting 12 flowers, a feature shared with *S. parviflorus*. Corolla size approaches the upper limits found in *S. cyaneus* whereas the slight dorsiventral compression of the corolla is reminiscent of the situation found in *S. gardenii* Hook.

S. fasciatus has only been recorded from an enclave of woodland in the Crocodile River Gorge. The specimen illustrated was found growing in association with *S. polevansii* Verdoorn under the protection of granite boulders. Flowers are produced from late summer into autumn while in *S. cyaneus* the main flowering period is spring to summer. The discovery of the species is recounted by Kunhardt (1991).

***Streptocarpus caeruleus* Hilliard & Burt** in *Streptocarpus*, an African plant study: 387 (1971). Type. — N. Transvaal, Blaauwberg, cult. R.B.G. Edinburgh (e seminibus R. Story 6512), C. 3824 (E, holo.; NU! iso.).

TRANSVAAL. — 2329 (Pietersburg): Blouberg, middle buttress, (-AA), Stirton, Edwards & Venter 12646 (NU); Soutpansberg, Farm Lejuma, (-AB), Hilliard 4760 (NU).

For discussion see *S. longiflorus*.

***Streptocarpus longiflorus* (Hilliard & Burt) T. Edwards**, stat. nov. Type. — N. Transvaal, Blaauwberg, cult. in R.B.G. Edinburgh (e seminibus Burt 2918 ex hort. C. Thompson) C. 4895 (E, holo.; NU! iso.).

Streptocarpus caeruleus Hilliard & Burt subsp. *longiflorus* Hilliard & Burt: 388 (1971).

Rosulate perennial. *Leaves* 5-10, oblong, reaching 300×70 mm, lamina slightly decurrent, pilose, margins crenate. *Inflorescence* 5-15(-20)-flowered; peduncle to 200 mm tall, pilose. *Sepals* narrowly deltoid, $3.5-4.0 \times 1.5$ mm, pilose, red-brown. *Corolla* 38-47 mm long; tube 26-32 mm long, lower half linear, 5 mm broad, upper half expanding, 15-18 mm at the throat, pilose externally and inside along corolla roof; limb bilabiate, upper lobes $8-10 \times 10-12$ mm, rounded; lower lip 15-18 mm long, lobes $8-10 \times 10-12$ mm. *Stamens* arising from waist of corolla; filaments 9-13 mm long, white, glabrous basally but with stalked glandular trichomes near connective; anthers 2×1 mm, pale mauve, connectives deep violet; posterior staminode minute, within a dorsal channel, lateral staminodes 2 mm long. *Pollen* prolate, $24-29 \times 10-12 \mu\text{m}$, tricolporate, poles apocolpoid, exine minutely scabrate. *Ovary* ± 20 mm long, with dense appressed filiform trichomes; style 18 mm long, dorsiventrally compressed, with stalked glandular trichomes; stigma bifid, white, peripherally papillate. *Fruit* $90-110 \times 3$ mm, pendulous when mature.

TRANSVAAL. — 2329 (Pietersburg): Blouberg, upper slopes, Edwards, Stirton & Venter 979 (NU).

Plants of *S. caeruleus* are weakly rosulate, seldom comprising more than four leaves, the corolla is short (18mm) and mauve with two yellow spots flanking the lower medial lobe (Figure 12B), the fruits are held erect and seldom exceed 50 mm in length. In contrast, plants of *S. longiflorus* have rosettes of up to 10 leaves, their corollas are 38-47 mm long and have a y-shaped yellow bar in the throat (Figure 12A), and the pendulous capsules are 90-100 mm long.

Burt (1962: 42) suggested that the long and short-flowered plants of 'this species' may represent floral dimorphism. This idea was rejected (Hilliard & Burt 1971) due to the intermediate flowers produced by F1 hybrids. To accommodate this genetic distinction Hilliard & Burt (*l.c.*) placed the taxa together under *S. caeruleus* but distinguished two subspecies *S. caeruleus* subsp. *caeruleus* and *S. caeruleus* subsp. *longiflorus*. On a recent trip to the Blaauwberg (Blouberg) mixed populations of these taxa were frequently encountered but no hybrids were seen. Different breeding systems were apparent in cultivated specimens. The type subspecies is predominately autogamous and good seed set occurs in the absence of pollinators. There is little spatial separation between the anthers

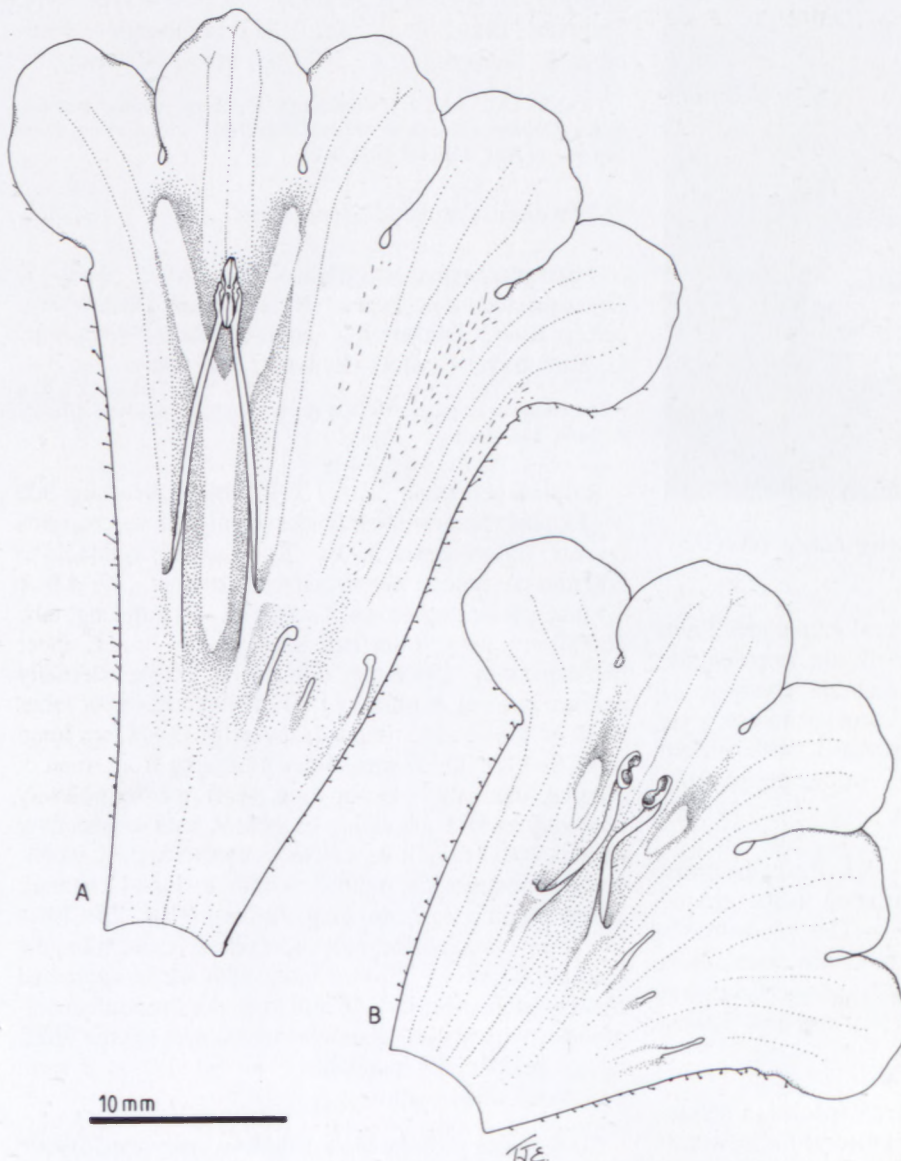


FIGURE 12.— Dissections of the corollas of: A, *S. longiflorus*; B, *S. caeruleus*.

and the stigma. Often the two fused fertile anthers split apart in the bud, thus achieving pollination before anthesis. In *S. longiflorus* the stigma extends about 3 mm above the anthers and seed is seldom set on cultivated plants. Such breeding barriers are rare in *Streptocarpus*. Thus by virtue of their distinctive morphology, distributional overlap, intermediate F1 hybrids and the occurrence of breeding barriers between these taxa, subsp. *longiflorus* is raised to specific status.

S. longiflorus is endemic to the Blaauwberg. Plants are found in more exposed habitats than those occupied by *S. caeruleus*, frequently well above the tree line in the shade of rocks. Bees were seen visiting the flowers, but whether they are effective pollinators was not ascertained. In most aspects *S. longiflorus* resembles *S. cyaneus*, which we consider to be its closest ally. These species are allopatric. The nearest populations of *S. cyaneus* on the Soutpansberg are distinguished by the simple yellow bar on the corolla floor.

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