

STREPTOCARPUS – FLOWERING POT PLANT – PROPAGATION AND CULTURE

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Abstract. In the last years in Romania and throughout the world we assist at diversification of floral plants assortment by introducing new species and cultivars. For this goal, at the University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Floriculture Department we diversified and enriched the collection for indoor plants with a pot species, which decorates by flowers, *Streptocarpus x hybridus*. In this work are presented the main morphological and biological characteristics, propagation by seeds and vegetative propagation, growth requirements, the main diseases and pests of this species, in order to recommend it for indoor culture.

Key words: Streptocarpus, pot plant, species, propagation, culture

INTRODUCTION

Researching activity for diversification of floral assortment by introducing new species is one of the main objectives of Floral Department of the University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca.

In this purpose, we present a new floral pot plant *Streptocarpus*, which is very few known and uncultivated yet in Romania but which has a great future.

Common names: Cape primrose, streptocarpus

Scientific name: *Streptocarpus x hybridus* Voss. (Huxley and co, 1992)

Origin: Both *Streptocarpus rexii* and *Streptocarpus johannis* are perennials native to the humid tropical areas of South Africa (Kimmins, 1992).

Family and related taxa: *Gesneriaceae*. *Streptocarpus x hybridus* is the result of numerous species being hybridized over the years. *Streptocarpus rexii* Lindl. and *Streptocarpus johannis* Britten. are probably the major contributing species to the currently available hybrids. The genus contains approximately 132 species. The following species are the most important: *S. silvaticus*, *S. caulescens*, *S. gardenii*, *S. formosus*, *S. rexii*, *S. roseoalbus*, *S. wendlandii*, *S. floribundus*, *S. candidus*, *S. fasciatus* etc. These species include numerous cultivars that have been developed through breeding (Table 1).

Table 1

Streptocarpus cultivars

Cultivars	Flower colour	Cultivars	Flower colour
Constant Nymph	Blue	Louise	Dark blue
Blue Nymph	Light blue	Helen	Blue
Cobalt Nymph	Deep intense blue (tetraploid)	Sonia	Cerise
Mini Nymph	Blue	Margaret	Blue violet
Netta Nymph	Deep blue, dark blue venation	Conny	Blue
Purple Nymph	Deep purple	Diana	Deep cerise, white throat
Maassen's White	White, yellow throat	Fiona	Pink

Cultivars	Flower colour	Cultivars	Flower colour
Albatros	White (tetraploid)	Karen	Magenta pink
Snow White	White	Marie	Dusty purple
Tina	Pink	Olga	Bold cerise
Paula	Blue		



Fig. 1 Streptocarpus

The plants have compact rosette growth, leaves are hairy and oblong. The leaves were originally 30 to 35 cm long but modern cultivars have 15-20 cm long leaves.

The inflorescence is a cyme with up to six flowers, which are held upright on a peduncle. The funnel-formed corolla is five lobed and rounded. Flowers come in numerous shades of blue, white, or violet and bicour (Bailey and Bailey, 1976).

Interestingly, new leaves and flowers form from the older leaves, which continue to grow even after fully expanded (Figure 1).

PROPAGATION

Propagation of streptocarpus is actually very easy, in fact in many ways easier than the propagation of *African violets* and many other houseplants. Propagating *Streptocarpus* can be done in a variety of ways: seeds, leaves, division and *in vitro*.

F₁ seed is used in commercial propagation (Royle, 1979). Seeds are sown in a soil mix consisting of 2 part loam, 2 parts coarse sand, and 1 ½ part peat moss with 21⁰C temperature. The seeds don't need to be covered.

Germination occurs within 2 weeks under interrupted mist, in light or dark conditions. When seedlings are 30 days old, we can begin fertilization with 100 ppm N.

Propagation of plants by leaf cuttings is the usual way of multiplying plants. In this way, the plants can be propagated fairly quickly and prolifically. Below are presented the step-by-step instructions for the vegetative propagation:

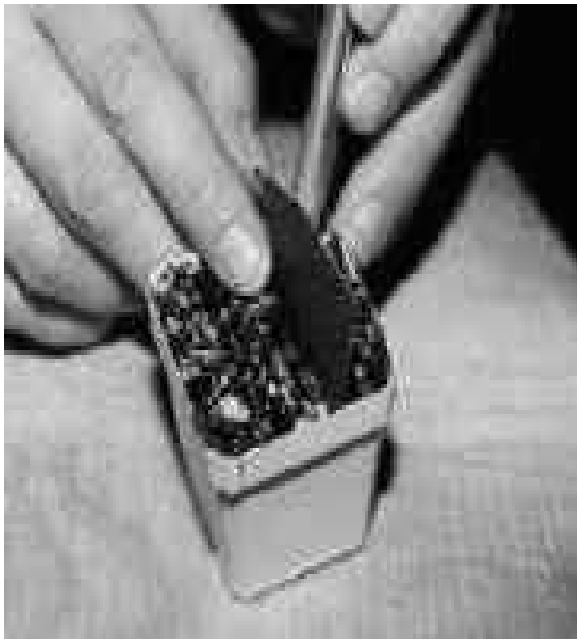
Step 1: Cut off a section of a leaf. Using scissors cut off a section of a healthy leaf. It's best to use a leaf that's mature, but not too old. Leaves that show a lot of veining are best. Cut about a 5-6 cm section, since this size will fit nicely into the 5-6 cm square pots we use.

Step 2: Remove the midrib from the leaf. Using a sharp knife or razor, remove and discard the center vein, or midrib, from the leaf section. If the leaf is very large, you may even trim away some of the outer edges to make it smaller.

Step 3: Make a "slot" in the rooting medium. Make a slot or "furrow" in the rooting medium, into which the leaf section can be placed. You may use a ruler to do this. Be sure that your rooting mix is very light and porous, 1:1 (a peat and perlite mix). Use a rooting mix at least as light as this. The mix should be moist.

Step 4: Firmly place the leaf section into rooting mix. Place the leaf section into rooting mix. Place about 0.6 cm deep, and firm in the soil around the leaf edge. Other leaf sections

will be placed into this pot, as can be seen in the next photo. The pot must be labelled with the name of variety being propagated.



Step 4



Step 5

Step 5: *Development of plantlets from leaf cutting.* The photo shows plantlet development at 10 weeks after rooting. Numerous plantlets develop along the bottom edge of the leaf section. The more densely veined leaves usually will produce more plantlets along the edge. Each single leaf is actually a separate plant.

These leaves can be separated and planted in individual pots, but it is better to wait until the leaf produces the maximum number of plantlets possible, usually after about 4 months.

Step 6: *Separate plantlet from "mother" leaf.* When plantlets are large enough to be comfortably handled, they can be removed from the original leaf section. Gently pull out each individual leaf appearing from the base of the rooted leaf section. In a light rooting mix, they can be easily separated.

Step 7: *Potting individual plantlets.* Make a small hole in your regular soil mix (a light, soil less mix is recommended). You can use a pencil to do this. Push the plantlet down into this hole, so that about 1/3 of the plantlet is beneath the soil surface. Firm the soil around the plantlet and lightly water the soil.

If the plantlet has few roots or it seems quite fragile, you might want to put it into a clear, covered container or plastic baggie for the first few weeks.

Plants can be divided to make multiple numbers of plants. Using a sharp knife cut the plant apart between growing crowns, getting as many roots as possible for each plant. Plant these in smaller containers being careful not to over-pot.

In vitro culture of *Streptocarpus* cultivars provide opportunities to obtain unlimited number of plants for commercial crop improvement. Experiments with *in vitro* culture were performed by some researchers using leaf of *Streptocarpus* cut into 1.5-2 cm square pieces which were placed on the basic medium MS (Murashige-Skoog, 1962) which was supplemented with different auxins and cytokinins.



Step 6



Step 7

***STREPTOCARPUS* – GROWTH REQUIREMENTS**

The requirements of *Streptocarpus* plants are as follows:

Temperature is extremely important in *Streptocarpus* culture. Most of cultivars will do poorly if the day temperature exceeds 27°C. Night temperatures of 16°C produce satisfying results.

Light for *Streptocarpus* should be reduced to about 12,9 Klux in order to produce flowers. By having sufficient light, hybrids bloom throughout the year. *Streptocarpus* plants respond to supplemental photosynthetic lighting in the winter at northern latitudes.

Water The growing medium for these plants should be allowed to dry slightly between watering. These plants have a fine root system and can be easily over watered and over fertilized. Medium should be moderately dry prior to being irrigated. 60-70% humidity is recommended.

Nutrition is very important to obtain flowers and a good development of the plant. Balanced fertilizers should be used, one half of the recommended rates every two weeks for vigorous blooming plants. As a constant fertilization program, 75-100 ppm nitrogen and potassium is recommended.

The **Medium** which gives the best results is 1:1:1 combinations of perlite, peat moss, sand, or vermiculite. The mix must be well drained and porous for good root growth. The pH should be adjusted to 5.5 to 6.0.

Pests that are common to the *African violets* are also common to *Streptocarpus*. Pythium species (Crown rot) can be a problem if the plants are overwatered. Botrytis too can produce damage for *Streptocarpus*. Mealy bug and trips are the most serious and difficult-to-control insects attacking *Streptocarpus*. Aphids and whiteflies can also occur.

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REZUMAT

DESCRIEREA SPECIEI STREPTOCARPUS, CULTIVATĂ LA GHIVECI ȘI DECORATIVĂ PRIN FLORI

În ultimii ani, în România are loc o diversificare accentuată a sortimentului de plante floricole, prin introducerea de noi specii și varietăți. Lucrări de testare a unor noi cultivaruri, în vederea îmbogățirii sortimentului se desfășoară și la Universitatea de Științe Agricole și Medicină Veterinară Cluj-Napoca unde, în cadrul disciplinei de Floricultură. S-a îmbogățit colecția de plante de interior cu o specie cultivată la ghivece, decorativă prin flori: *Streptocarpus x hybridus*. În lucrarea de față sunt prezentate principalele caracteristici morfologice și biologice ale acestei specii, cerințele ei față de factorii de mediu, înmulțirea prin semințe și pe cale vegetativă, precum și aspecte legate de principalele boli și dăunători. De asemenea, sunt elaborate unele recomandări pentru cultura de interior a speciei și pentru extinderea acesteia în cultură la scară mai mare.