

# Ceropegia linearis subsp. woodii

[Go to Plants of the Week Advanced Search](#)

***Ceropegia linearis* E.Mey. subsp. *woodii* (Schltr.)  
H.Huber.**

**Family:** Apocynaceae

**Common names:** string of hearts, necklace vine, rosary vine, Wood's ceropegia, hanging milkwort, Jacob's beard, little pitchers, chain of hearts, collar of hearts, hearts entangled, hearts-on-a-string, sweetheart vine, heart vine (Eng.); halssnoer-ranker (Afr.); isidakwa, uvemvane samatshe, uvemvane lwamatshe (Zul.)

[View other plants in this family.](#)

[QR code link](#)

[View other plants in this genus](#)

This dainty little *Ceropegia*, sometimes also known as *Ceropegia woodii*, is globally probably one of the most widely cultivated of all the species of this genus. With its small pinkish flowers and aerial tubers formed at the nodes along stems, it is an easy to grow and excellently rewarding ornamental houseplant. It makes for an effective subject as trailing hanging pots or baskets and is an excellent indoor plant that grows well in half shade with average water, is evergreen and tender to frost.



Figure 1. Close-up of *Ceropegia linearis* subsp. *woodii* flower and leaf. (Photo M. Koekemoer)

### Description

*Ceropegia linearis* subsp. *woodii* is a perennial, evergreen, succulent climber or prostrate trailer, with slender, prostrate stems arising from tubers. Tuber with a hard, grey and woody base, usually wrinkled that grows up to 25–50 mm in diameter.

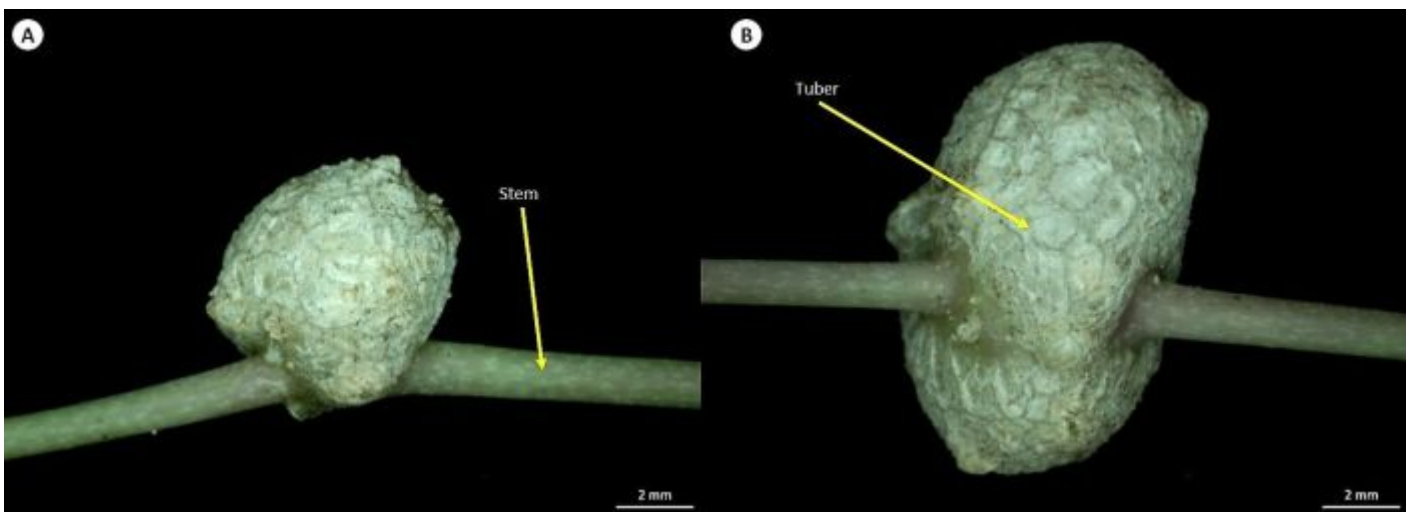
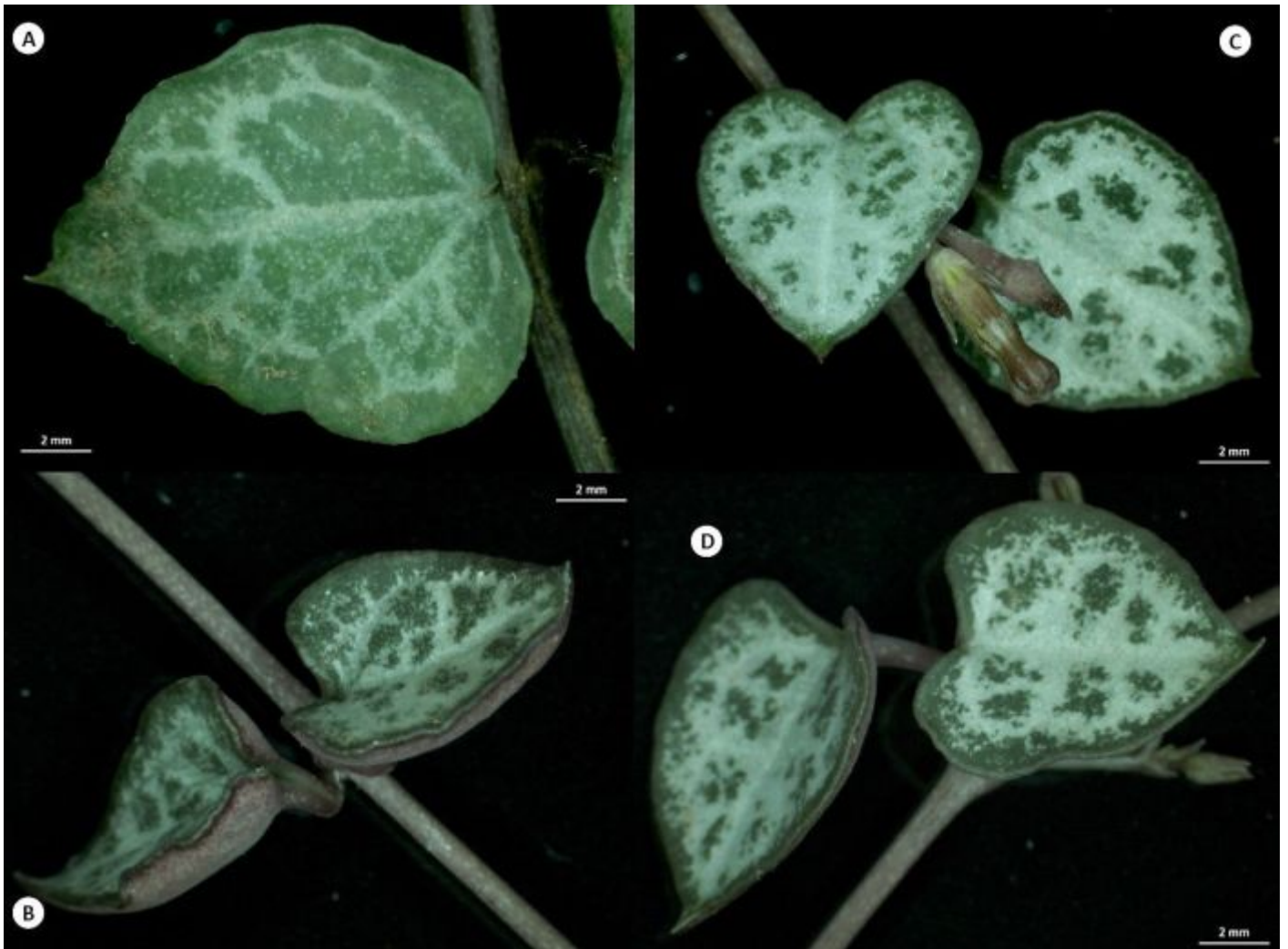


Figure 2. Stems with warty potato-like aerial tubers developing at the nodes. (Photos S.P. Bester)

From the tuber grows thin, pinkish stems 0.25–1.0(–3) m long. Leaves opposite, fleshy, ovate-lanceolate or heart-shaped (orbicular with a cordate base), 6–18 mm in diameter, sometimes whitish to silver along the veins, with short petioles

internodes  $\pm$  30–80 mm long. The leaves are dark green marbled with silvery white on the upper surface and purple underside.



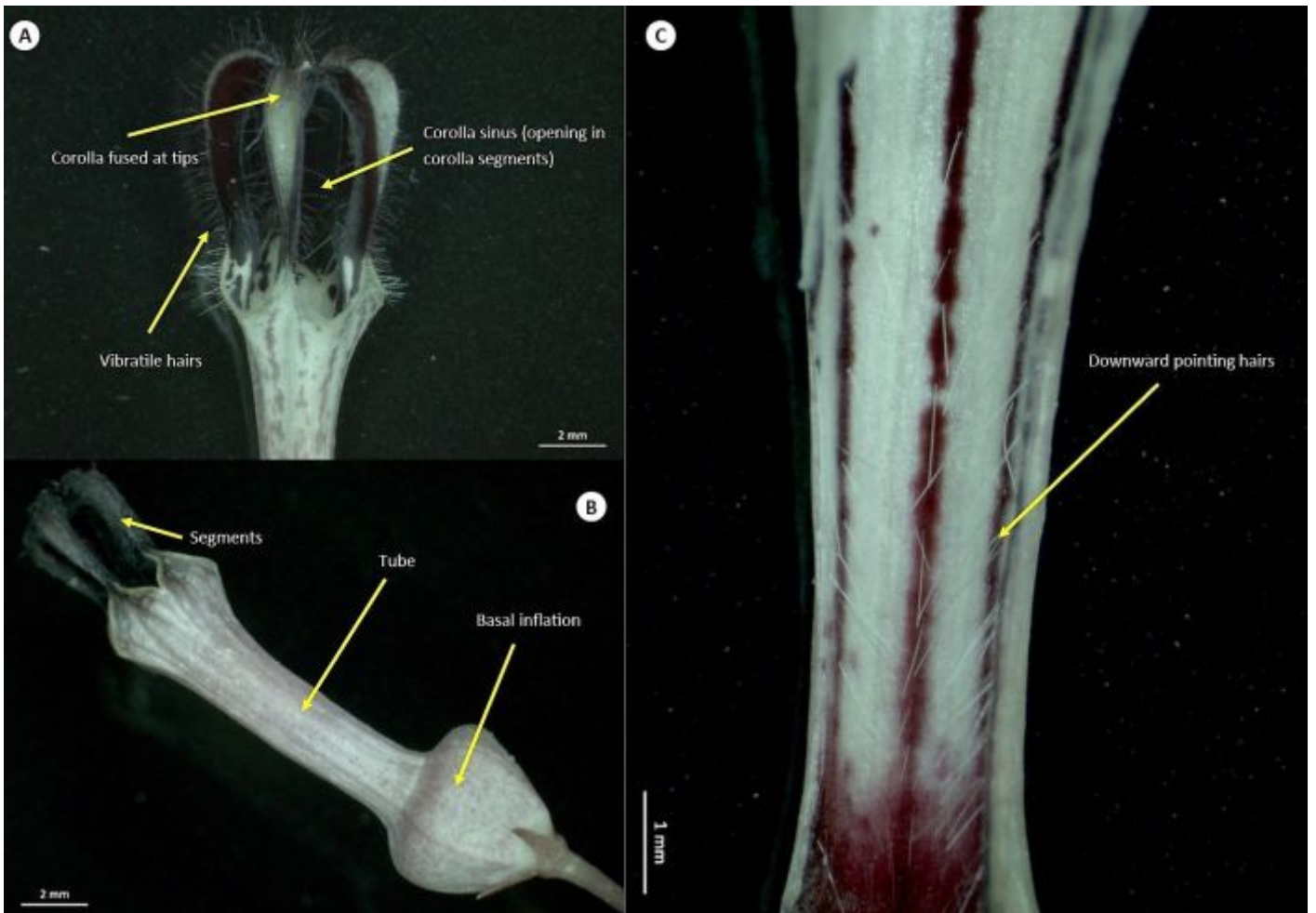
**Figure 3.** Leaves of *Ceropegia linearis* subsp. *woodii*. A, ovate blade with cordate base; B, heart-shaped leaves; C, leaves are succulent and opposite at the nodes; D, leaves getting dappled light develop marbled surfaces. (Photos S.P. Bes

The inflorescences (cymes) are 1–4-flowered and are produced in succession; the pedicels 3–10 mm long. At various lengths along the stem, aerial tuberous growths are produced. Flowers have an 18–25 mm long tube (straight or sometimes slightly curved) with dark, longitudinal stripes, with an inflated globose base  $\pm$  4 mm in diameter. The lobes are spoon-shaped, 6–8  $\times$  3.0–4.5 mm, fused at the tips to form cage-like structures, forming a white canopy; the margins contain purplish hairs inside.



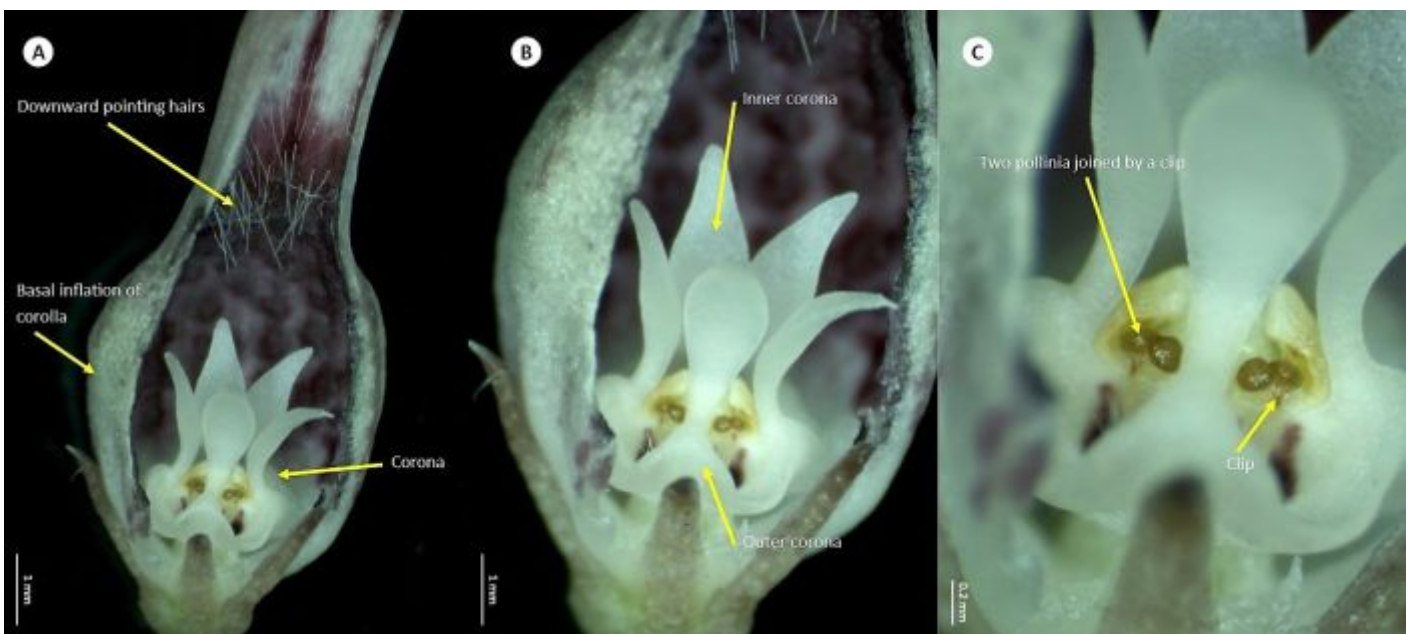
**Figure 4.** Pendulant stems with leaves and flowers, in habitat. (Photo Mervyn Lötter)

In the swollen base of the tube, the gynostegium (fused anthers and pistils) with corona lobes, are found where the pollen is situated that is transferred via the pollinator to another flower, to facilitate pollination. Fruit narrow spindle-shaped follicles, 50–70 × 3 mm.



**Figure 5.** Floral parts of *Ceropegia linearis* subsp. *woodii*. A, apical portion showing the lobes with hairs on their margin and the tips fused to form a cage-like structure with open sinuses (or windows) that are entry points to the tube. B, a flower showing the basal inflation that houses the gynostegium, the tube and the lobes. C, dissected part of the tube showing the maroon longitudinal striping and downwards-directed hairs that guide a pollinator to the basal inflation. (Photos S.P. Bester)

In cultivation, flowers may appear sporadically throughout the year, but wild plants have not been recorded in flower June and September. They usually flower in summer to autumn (mainly December–April).

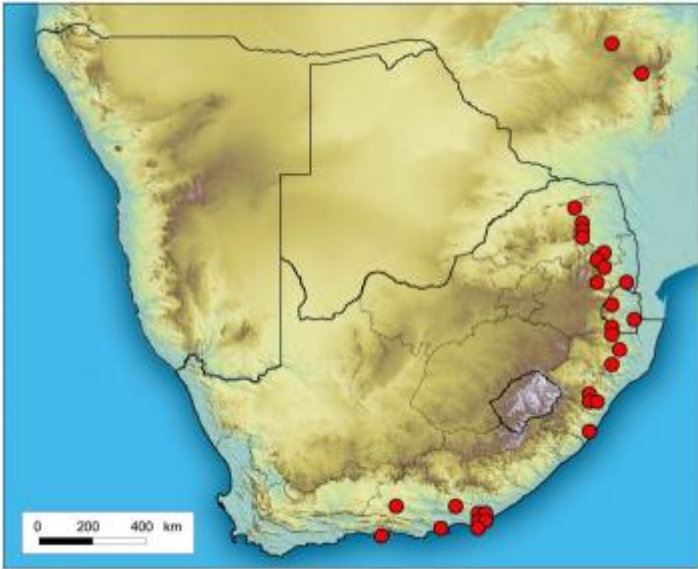


**Figure 6.** The basal inflation of the corolla in *Ceropegia linearis* subsp. *woodii*. A, showing the position of the gynostegium and again the downward-directed hairs. B, close-up of the gynostegium showing the inner and outer corona lobes that

secrete nectar to keep possible pollinators alive while temporarily caught in the 'trap'-flower. C, close-up of gynosteg showing the pollinaria that are attached by a clip which usually catch the proboscis or feet or antenna of a pollinator which means it is removed from this particular flower and deposited on another flower in subsequent visits. (Photogr S.P. Bester)

### Conservation Status

The current conservation status is Least Concern (LC) (Foden & Potter 2005). This taxon was not selected in any one of four screening processes for highlighting potential taxa of conservation concern for detailed assessment and was given an automated status of Least Concern. The Threatened Species Programme is currently systematically completing assessments for all taxa with an automated status.



**Figure 7.** Known distribution of *Ceropegia linearis* subsp. *woodii* based on distribution records at the National Herbarium (PRE).

### Distribution and habitat

Found in the Limpopo, Mpumalanga, KwaZulu-Natal, Western and Eastern Cape Provinces of South Africa. This species is also native to Mozambique, Eswatini and Zimbabwe.



**Figure 8.** Various plants of *Ceropegia linearis* subsp. *woodii* in habitat in rocky patches with shallow soils in ledges within indigenous forests. (Photos Judd Kirkel)

Plants are found growing naturally mostly on rocky ledges within forests from 100–1180 m above sea level. The tuber is usually embedded in cracks with a thin layer of soil on these cliff edges. It may also be found in open or closed wood

outcrops and ledges in forests and rarely in grassland. The soils are usually rich in humus, loam or sandy soils that are rocky or gravelly. Plants are usually found in shaded places. The natural habitat is in frost-free areas with relative high rainfall (600–1 000 mm per annum), with average maximum temperature of about 26°C and average minimum temperature of 16°C. Typically, many species of *Ceropegia* grow and climb naturally among bushes which provide shade and humidity to the base, whereas the vegetative growth is in the light.



**Figure 9.** *Ceropegia linearis* subsp. *woodii* in habitat. A, aerial tubers pressed against the soil surface eventually root (the connection of the stem between these tubers here depicted). (Photo A Graham Grieve) B, Flowering stems with a single flower amongst humic-rich soils and leaf litter on the forest floor. (Photo B Judd Kirkel)

Subspecies *linearis* has a restricted distribution on the coastal areas of southern KwaZulu-Natal from about Port Shearwater to just across the border to the Eastern Cape, in a narrow zone along the coast of the former Transkei. Subspecies *woodii* has a much wider distribution from the mountainous regions of the northern parts of Limpopo Province, through Mpumalanga, the KwaZulu-Natal midlands, southwards and sporadically in the Eastern Cape.

### Derivation of name and historical aspects

Linnaeus named the genus to describe the appearance of the flowers as fountains of wax, from the Greek words *ke*, meaning 'wax' and *pege*, meaning 'fountain'. The subspecific epithet is in honour of John Medley Wood (1827–1915), former curator of the Natal Herbarium. *Ceropegia linearis* subsp. *woodii* (= *Ceropegia woodii*) was first described by Rudolph Schlechter from material collected by Medley Wood and Evans in KwaZulu-Natal, in 1881.

The closely related and similar subspecies *Ceropegia linearis* subsp. *linearis* is different to the subspecies *woodii* by having linear leaves and long, narrow and straight segments that form the cage, and are merely connate and do not form a canopy. The subspecies *woodii* has at various times been regarded as a species in its own right (*Ceropegia woodii*) or as a subspecies within *C. linearis*.



**Figure 10.** *Ceropegia linearis* subsp. *linearis*. A, stems with inflorescences – flowers open successively in each inflorescence. B, subspecies *linearis* is distinguished morphologically on the distinctly longer (linear) segments and s tube (the coronas are also markedly different with subsp. *woodii* having much longer inner lobes and in subspecies *linearis* they are broad and somewhat falcate). C, the leaves of subspecies *linearis* are also markedly different, without obvious mottling, venation, shade and are homogeneously coloured. (Photos S.P. Bester)

The genus *Ceropegia* in the strict sense consist of about 170–220 species (depending on the authority followed), distributed throughout Africa, Madagascar, Asia and northern Australia, with  $\pm$  65 species in southern Africa where it is widespread, but particularly rare in the Western Cape Province. *Ceropegia ampliata* and *C. crassifolia* subsp. *crassifolia* have previously been covered in this series. Many of these perennial plants have succulent stems, which may be dwarf vine-like and have fibrous roots, whereas others have tubers and relatively thin stems, along which new tubers may form in some species. Species with fleshy thickened roots, are the most difficult to grow.

### Ecology

The pollination of the tubular flowers has most probably developed because of pollination pressure by the wide range of insects within the Diptera (flies). Almost all *Ceropegia* in the strict sense have specialized trap-flowers with internal structures to temporarily imprison the possible pollinator for some time.

After successful pollination, seeds develop in horn-shaped fruits that are characteristic of the milkweed family, called follicles. A follicle is a pod that arises from a single carpel that splits on the inside along a single suture. The follicles are usually paired, but may be solitary due to abortion of one of the carpels. Each follicle bursts open by a single longitudinal slit and contains stacks of flat seeds. Each seed has a coma of hairs on one side and as soon as the follicle bursts open, these hairs start to spread because of the change in moisture in the air, in their immediate vicinity. This causes the fibers of the coma to spread out and form a parachute-like structure attached to an individual seed. The coma is sensitive to the slightest movement and the lightest breeze will carry the seed off for dispersal.

The possible pollinators (mostly small flies), are attracted by the scent given off by the flowers and the potential pollinators will enter the flowers through the openings at the top of the flower ('windows'). On the inside of the tube there are lobes

hairs, usually facing downwards into the tube. This is responsible for a one-way direction movement of the pollinator to the inflation at the bottom of the tube. The insect is thus prevented from escaping until the hairs wither, and the fly then escape, hopefully with pollinia (a mass of pollen grains that are transferred as a group) attached to its body, to be transferred to the next flower the fly visits.

### Uses

Plants are mainly used in the horticultural industry as effective trailing plants, usually grown in hanging pots or baskets. Stems can alternatively be trained upwards on miniature trellises. Most indoor gardeners let the stems hang over the edge of the container to display the decorative mottled leaves and aerial tubers produced along the stems.

In the wild it is well-known that especially the tubers of *Brachystelma* and *Ceropegia* plants are not only consumed as a survival food and for their water content by man, but also by wild animals like porcupine, baboons, and rodents and insects. Stems and tubers may be eaten raw as a famine food, or to utilize the moisture derived from them.

Plants are used in traditional Zulu medicine by pounding the stems and leaves and making an infusion of these for treatment, as an emetic, for chest complaints thought to be caused by poisoning.

The tubers of both subspecies of *Ceropegia linearis* are used in grafting stapeliads which are difficult to root.



### Growing *Ceropegia linearis* subsp. *woodii*

Plants are easily grown from seed, stem cuttings or aerial tubers produced along the stems. Use equal parts of a soil potting mixture, coarse sand and perlite as growing medium. Make sure drainage is good. All propagation should be in the time of active growth (summer).

Plants may be propagated easily from seed, if obtainable. Sow seed in spring in a seedling soil mix and cover with a millimeter of fine sand. Keep moist, and seeds will germinate in about 1–2 weeks.

Aerial tubers can be used as anchor. Best is to use a tuber of  $\pm 2$  cm in diameter. Place the tuber on top of  $\pm 2.5$  cm of sand and perlite mixture to prevent rotting and cover with thin layer of fine sand. Place newly potted tubers or stem cuttings in a container with water. Place the cuttings in a position of good light and moderate temperature and wait for roots to form from the stems or nodes. Roots should appear after a few days to weeks, depending on the light and temperature; after the cuttings have rooted, they can be potted.

Plants need ample light, at least 3–4 hours of direct sunlight a day, especially when indoors, less causes the stems to elongate and the leaves to lose their colouration so that they become homogeneously green. Normal room temperature is suitable throughout the year. Water sparingly in the active growing period and only keep potting mixture moist, not too soggy; allow the top two thirds to dry out between watering. Reduce watering further in the dormant phase (winter), do not let the potting mixture dry out fully. A plant can grow for a couple of years in a pot or when more than one tuber is planted in a pot, space them 3.5–5.0 cm apart. It is the ideal hanging plant, with its heart-shaped leaves growing on vines.

Feed mature plants with liquid fertilizer once a month during the active growing season, but the concentration should be half of what is prescribed, in order not to burn the roots or tuber.

Rosary vines prefer warm temperature and bright light, but should not be placed in direct sunlight. When grown indoors the optimum temperature is 25–30°C in summer and preferably not below 15°C in winter. String of hearts is an easy to grow and durable and an excellent house plant. It is regarded as a leaf-succulent vine.

This plant can be grown outdoors in tropical or subtropical climates, but is also an easy indoor plant that can be grown on a sunny window sill. In strong light the leaves will be darkly coloured, with distinctive marbling; if not given enough light they will be a light green colour. Houseplants could be moved outside in summer, but need to be acclimatized gradually to the stronger light, to prevent sunburn. If moved outside, be sure to bring indoors before the first frost. In winter, keep plants in relatively warm conditions, above 15°C. A minimum over-wintering temperature of 10°C is adequate, provided plants are kept relatively dry then.

Too much water can cause the thickened white roots of many *Ceropegia* species or the tubers such as those of *Ceropegia linearis* subsp. *woodii* not only to rot, but make them susceptible to woolly aphid infestation.

## References

- Bester, S.P. 2004-05. *Ceropegia ampliata* (Apocynaceae). PlantZAfrica. <http://pza.sanbi.org/ceropegia-ampliata>
- Bester, S.P. 2019-02. *Ceropegia crassifolia* var. *crassifolia* (Apocynaceae). PlantZAfrica. Online. <http://pza.sanbi.org/ceropegia-crassifolia-var-crassifolia>
- Dyer, R.A. 1980. *Brachystelma*, *Ceropegia* and *Riocreuxia*. In: O.A. Leistner (ed). *Flora of southern Africa 27 Part 4: Botanical Research Institute, Pretoria.*
- Dyer, R.A. 1983. *Ceropegia*, *Brachystelma* and *Riocreuxia* in southern Africa. Balkema, Rotterdam
- Foden, W. & Potter, L. 2005. *Ceropegia linearis* E.Mey. subsp. *woodii* (Schltr.) H.Huber. National Assessment: Red List of South African plants version 2017.1. Accessed on 2019/11/05
- Frandsen, R. 2017. *Succulents of southern Africa*. Honeyguide Publications, Somerset West.
- Germishuizen, G. & Fabian, A. 1997. *Wild flowers of northern South Africa*. Fernwood Press, Vlaeberg, Cape Town.
- Houseplant Central. String of Hearts, how to propagate *Ceropegia woodii*. <https://houseplantcentral.com/chain-of-hearts-how-to-propagate/> Accessed on 5 Nov. 2019.
- Hulme, M.M. 1954. *Wild flowers of Natal*. Shuter & Shooter, Pietermaritzburg.
- Hutchings, A., Scott, A.H., Lewis, G. & Cunningham, A.B. 1996. *Zulu medicinal plants: an inventory*. University of Natal Press, Pietermaritzburg.
- Huxley, A. (ed.). 1981. *Success with house plants*. Reader's Digest. Pleasantville, New York.
- Leistner, O.A. (ed.). 2000. *Seed plants of southern Africa: families and genera*. *Strelitzia* 10. National Botanical Institute, Pretoria.

- Mayr, S. 2010. String of hearts, *Ceropegia woodii*. Master Gardener Program, Division of Extension, University of Wisconsin-Madison. Online. <https://wimastergardener.org/article/string-of-hearts-ceropegia-woodii/>
- Meve, U. 2002. *Ceropegia* in F.Albers & U.Meve (eds), Illustrated handbook of succulent plants. Springer, Berlin.
- Pienaar, K. 1984. The South African what flower is that? Struik, Cape Town.
- Pole-Evans, I.B. 1930. *Ceropegia barbertonensis*. The Flowering Plants of South Africa. Vol. 10: t. 387.
- Pole-Evans, I.B. 1930. *Ceropegia woodii* The Flowering Plants of South Africa. Vol. 10: t. 382.
- Pooley, E. 2005. A field guide to wild flowers KwaZulu-Natal and the eastern regions. The Flora Publications Trust. Durban.
- Smith, G.F., Crouch, N.R. & Figueiredo, E. 2017. Field guide to succulents in southern Africa. Struik Nature, Cape Town.
- World of Succulents, Succulentopedia. *Ceropegia linearis* subsp. *woodii* (String of Hearts). <https://worldofsucculents.com/ceropegia-linearis-subsp-woodii-string-of-hearts-rosary-vine/>. Accessed on 5 Nov. 2019
- World of Succulents, Succulentopedia. *Ceropegia linearis*. <https://worldofsucculents.com/ceropegia-linearis/>. Accessed on 5 Nov. 2019
- World of Succulents, Succulentopedia. How to grow and care for *Ceropegia*. <https://worldofsucculents.com/how-to-grow-and-care-for-ceropegia/>. Accessed on 5 Nov. 2019

Stoffel Petrus Bester

Biosystematics and Collections Division, National Herbarium, Pretoria

December 2019

Acknowledgements: the author sincerely thanks the following people for kindly making their images available for this contribution: Graham Grieve, Judd Kirkel-Welwitch, Marinda Koekemoer, Mervyn Lötter and Cameron McMaster

**Plant Attributes:**

**Plant Type:** Climber,  
Succulent

**SA Distribution:** Eastern  
Cape, KwaZulu-Natal,  
Limpopo, Mpumalanga

**Soil type:** Sandy, Loam

**Flowering season:** Early  
Summer, Late Summer,  
Autumn, Sporadic/All year

**PH:**

**Flower colour:** Purple,  
Pink, Cream

**Aspect:** Shade, Morning  
Sun (Semi Shade),  
Afternoon Sun (Semi  
Shade)

**Gardening skill:** Easy

**Special Features:**



Good potplant



Indoor plant



Medical plant

**Horticultural zones**



- Zone 1 Coastal summer rainfall, frost free
- Zone 2 Coastal winter rainfall, frost free
- Zone 3 Winter rainfall Karoo, light frost
- Zone 4 Summer rainfall Karoo and Highveld, Frost in winter
- Zone 5 Bushveld summer rainfall, Light frost

---

### Rate this article

Article well written and informative

Average: 4.7 (6 votes)

[Login](#) to add your Comment

Not registered yet? [Click here to register.](#)

### Rate this plant

Is this an interesting plant?

Average: 5 (5 votes)

[Back to top](#)