

The Ceropegias of the Makatini Flats

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The Makatini Flats are situated in northern Natal and cover an area of 400 000 hectares. The area lies between the Lebombo mountains in the west, the Indian Ocean in the east, Mozambique in the north and the Mkuze River in the south.

The climate in this area is subtropical and is influenced by the Indian Ocean. The high humidity and maritime climate are a direct result of the large water mass on the eastern side. Temperatures in this region are mild in winter with a low risk of frost whilst in summer, temperatures can reach the upper 30's and lower 40's. The rainfall decreases from the coast (1 100 mm per annum) to a low of around 600 mm in the middle of the area, increasing again to a rainfall of 900 mm on the Lebombo mountains.

The veld types encountered in this region include coastal forest, grasslands and thornveld in the eastern portion and lowveld in most of the other western area. Zululand thornveld is encountered near the Ubombo mountains. The soils vary from sands at the coast and inland to heavier soils along the Pongola River.

The Ceropegias encountered in the area will be discussed individually as to habitat, soil type and scarcity.

Ceropegia carnosa E. Mey

At the top of the Lebombo mountains, beneath small stunted bushes, growing in humic leaf litter, this stemmed ceropegia with reddish brown flowers will be at home. The roots of plants are succulent fusiform and a whole mass of thin stems with oval-shaped leaves will be found beneath these bushes. The stems grow upwards into the bushes with flowers being produced at the nodes. During winter, the leaves will abort and the stems will overwinter till rains arrive in spring.

Ceropegia nilotica Kotschy

This species which grows from a perennial fusiform rootstock grows in



Fig. 1. *Ceropegia carnosa*

the Lebombo mountains near Jozini as a creeper among the shrub vegetation. The plants are locally common in patches of brown loamy soils and can reach 2-3 m in height. From observations made, a wide variation in colour is found in the flowers, with corolla lobes being green through to black. The seed pods are heavily parasitised by a small black wasp and at certain times, few viable seeds are produced. The rainfall in this area would be around 700 mm per annum.

On the heavy clay soils along the Pongola River, this species is also commonly found. The plant prefers to clamber up Acacia shrubs where the



Fig. 2. *Ceropegia nilotica*

flowers are attractively exposed. The rainfall here will vary from 600-700 mm.

Ceropegia rendallii N.E. Br.

This plant frequents the heavy dark clay soils along the Pongola River and is found growing together with *C. nilotica*. It grows either as a creeper up to 3 m tall in lowveld trees or as a dwarf ± 10 cm tall among *Euphorbia speciosa* and a species of *Pterodiscus* on the Balamhlanga pan. The canopy of the flower is interesting in that many plants have a reflexed canopy which is unusual. Plants are also encountered in the leaf litter beneath the Tamboti trees (*Spirostachya africana*) where they also remain dwarfed. These plants also die back to the perennial form during the dry winter months.

Ceropegia cimiciodora Oberm.

This unusual rope-like plant with much reduced leaves and thin roots looks more like a snake than a ceropegia. The form which grows in Makatini differs from that in Venda in that the outside of the flower is uniformly brownish yellow and the inside almost a canary yellow. The Venda form is mottled outside and is reddish purple patterned with white and black on the inside. The flowers of the Makatini form are larger (up to 100%) whilst the seed pods of the Makatini form are reflexed or in a single plane, whilst in the Venda form they are V-shaped.

These plants also have a juvenile form and later adopt a climbing mode of growth. *C. sandersonii* and *C. cimiciodora* have been observed growing up trees within 3 m of one another. A potential natural hybrid could also be possible between these two as their flowers are also of a similar size, but possibly two different species of fly visit the respective species for pollination. The plants are not as common as the other ceropegia species, but they also blend in better with the surrounding vegetation and are thus more difficult to spot.



Fig. 3. *Ceropegia sandersonii*

***Ceropegia sandersonii* Decne. ex Hook. f.**

Plants of this species are also encountered growing together with *C. nilotica*, *C. rendallii* and also with the next species *C. cimiciodora* in the clay Rensburg and Bonheim soils. This species, being a climber with fusiform roots, is found clambering up the lowveld trees on the turf soils where flowers are produced at a height of 2-4 m above ground level. What is interesting in this species is the juvenile phase of this plant, which remains prostrate until sufficient plant material has become accumulated and the plant will then exhibit an upward climbing habit. Large mats of juvenile plants will be found beneath the trees which will in time become mature and climb upwards.

In Dyer (1983) a form of *C. nilotica* is illustrated as being the old *C. grandis*. This form is actually a hybrid between *C. sandersonii* and *C. nilotica*. All the seeds obtained from a capsule of *C. sandersonii* developed into plants having flowers identical to those of *C. grandis*. As the two species grow in such close proximity to one another, hybridisation by the minute flies would be possible. The flowers are of similar size and could thus be pollinated by identical flies.

***Ceropegia distincta* N.E. Br. ssp. *haygarthii* (Schltr.) Huber**

The sandy soils on the eastern side of the turf soils along the Pongola River are home to this *Ceropegia*. The vegetation here is typical lowveld with acacias, strychnos and other trees being abundant. The rainfall in this area is 600-700 mm and the white sands are highly leached.

If one walks among the trees, a creeper with the typical *Ceropegia* leaves and more often than not, the intricate flowers will be observed within smaller trees. As yet I have not come across any other *Ceropegia*s in this sand forest, but who knows, maybe there is another species to be found.

***Ceropegia multiflora* Bak.**

When one travels in an easterly or northerly direction out of the sandy forest, grassed sandy dunes will replace the forest. On these dunes which receive 700-800 mm precipitation per year, a *Ceropegia* was observed growing in the grass in close proximity to two *Brachystelmas*, *B. tenue* and *B. vahrmeyeri*. This turned out to be *C. multiflora* and was fairly common on these dunes. The plants, probably due to the poor soils, are not

as robust as the same species growing near Pretoria and Pietersburg. The flowers thus far have corolla lobes which are free and not connected.

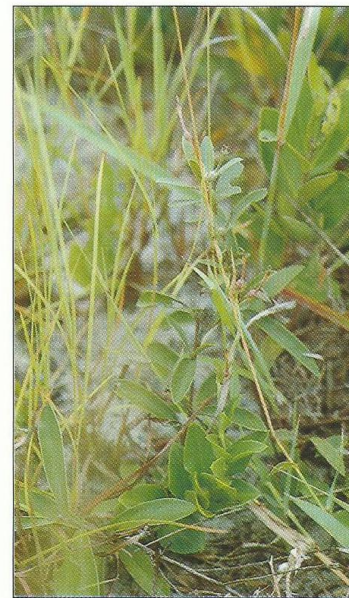


Fig. 4. *Ceropegia multiflora*



Fig. 5. *Ceropegia conrathii*

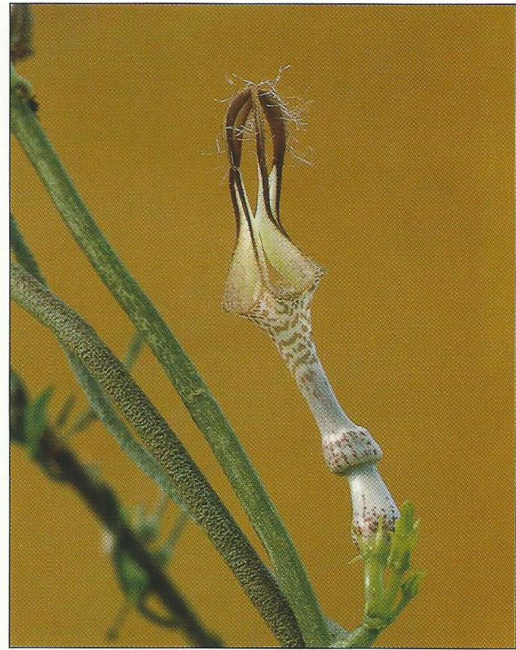


Fig. 6. *Ceropegia arenaria*

***Ceropegia conrathii* Schltr.**

In the lower-lying areas of the grasslands a rarely encountered *Ceropegia* may also be observed. This *Ceropegia*, which does not have a climbing habit, grows only to about 5-6 cm tall and the above-ground parts consist of 6-8 sets of fleshy leaves. Plants flower in early spring, before the leaves appear, and do not require moisture to begin seasonal growth. The flowers are borne in clusters and are darker and larger than those found on plants growing in the Pretoria area.

***Ceropegia arenaria* R.A. Dyer**

In the eastern coastal forest at Sodwana an insignificant creeper with reduced leaves turns out to be a *Ceropegia* species. This plant does not give up the prostrate growth habit and seems to indicate a plant of strange origin. Perhaps it is a natural hybrid of *C. nilotica* and *C. cimiciodora* as the beautiful flowers show an affinity towards these two plants. The stems could also possibly fit into such a hybrid.

As can be seen from the number of species found in this area, I am

almost positive that more and perhaps new species will be found in this sub-tropical environment. Peter Bruyns found a decidua type of *Ceropegia* in the Lebombo mountains whilst Mr S. Ward found *C. stenantha* near the Mozambique border.

Reference

Dyer, R.A. 1983. *Ceropegia, Brachystelma and Riocreuxia in Southern Africa*. Balkema, Rotterdam.

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