Endless Carnivorous Plants in Cape Town, South Africa

Fernando Rivadavia • Rua Inacio Pedroso 230 • Sao Paulo, S.P. 05612-050 • Brazil • frl@mtecnetsp.com.br

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From late August to early October 1997, I travelled around southern Africa in search of adventures and carnivorous plants. In Africa, just about everything that could have happened did happen, both good and bad. I was robbed almost as soon as I arrived in Johannesburg (all my money, documents, new camera, etc.), spent two weeks with Eric Green in Cape Town during which I saw endless carnivorous plants all around southwestern South Africa (including the magnificent *Drosera cistiflora* and *D. pauciflora*, with amazingly large flowers which come in practically all colors), gave a talk to the South African Carnivorous Plant Society, saw beautiful carnivorous plants in the Pretoria/Johannesburg area, all the while taking in the amazing adventures, sights, and sounds that Africa presents. This is an account of the carnivorous plants I saw during the time spent with Eric Green and family, as I recovered from the scary experience of the robbery in Johannesburg.

Eric did a great job of helping me forget my troubles, taking me all around to see the best carnivorous plant locations he knows, showing me some of the most beautiful *Drosera* species known. I also discovered that the Cape Town region has some of the most beautiful scenery in the world, with magnificent sandstone highlands and escarpments spread all around. I was amazed at how the local fynbos vegetation was similar to the Brazilian "campo rupestre" vegetation on the mountains back home. The plant species may be different, but the general aspect is very similar—short bushy plants and lots of grasses. The geology is apparently identical: sandstone highlands with lots of seepages and streams, the water tainted reddish-black with tannic acid, and sandy soil often blackenned by organic matter and ashes from previous years' fires. Even the climate is very similar, although Cape Town's winter is slightly longer. The main difference with Brazil is that the rainy and dry seasons are reversed—in Cape Town the winter is the rainy season and summer is the dry season.

My introduction to carnivorous plants in Africa was at Eric's house, where I drooled over his fantastic collection. Simply amazing! I saw *D. cistiflora* in flower for the first time (Figure 1) — but this was only a taste of what we would later see in the wild. I had never before seen many of the other South African species he had in his collection, nor so many mature, flowering *Heliamphora* species. Another first for me, a total knockout, was his giant and fully mature seventeen-year-old *Nepenthes rajah*! I did not even know there were any of that size in cultivation!

It was interesting that the lowland carnivorous plant habitats I saw in the Cape Town area were very similar to the carnivorous plant habitats I remember from Western Australia! The most common plants in the African habitats were *D. cistiflora*, *D. pauciflora*, *D. zeyheri*, and *D. trinervia*, members of section *Ptycnostigma*. Just like those in Western Australia, these species go dormant during the summer dry season. Instead of surviving the dry season as corms, they rely simply on thickened roots which store water and carbohydrates.

Drosera from the section *Ptycnostigma* also occur in the highlands, in habitats which apparently dry out faster than the habitats occupied by other *Drosera* species. This reminds me of the Brazilian species *D. hirtella*, *D. colombiana*, and *D. montana* var. *montana*, which also grow in relatively dry habitats, and how they survive the dry season as dormant roots.

The first places Eric took me to see wild carnivorous plants was the Silvermine Nature Reserve and then Red Hill near Simonstown, both near Cape Town. We saw *D.*

cuneifolia, *D. glabripes*, *D. hilaris*, *D. ramentacea*, *D. aliciae*, *D. zeyheri*, *D. admirabilis* (?), *D. cistiflora*, and *D. trinervia*. Nine *Drosera* species in only a few hours! I still have not gotten over the giant flowers of *D. cistiflora* and *D. pauciflora*—up to seven centimeters in diameter! And what amazingly beautiful colors too! They varied from white to purple to red to pink to light-yellow. My favorite was the *D. cistiflora* with deep-red petals. I noticed that the *D. cistiflora* still had their flowers open around four or five pm at one site. I wonder if this is common for the sect. *Ptycnostigma* species? I also noticed that *D. pauciflora* has large tentacles on the tips of its leaves like *D. burmannii*, and like the fast-moving tentacles of *D. burmannii*, these bend over in a few seconds when stimulated.

Among the many beautiful mountain passes I travelled through while exploring South Africa, my favorite was Baines Kloof, which I visited twice. In addition to fantastic views, it houses vast numbers of carnivorous plants. This is the only known location of *D. regia*, the longest-leaved of all *Drosera*. I hiked all around, saw numerous carnivorous plants (including the narrow-leafed form of *D. capensis*, which is not nearly as weedy in the wild as it is in cultivation) and *D. cistiflora* (see Front Cover), but absolutely no *D. regia*. Comparing notes with Eric later, I discovered that I had trampled right through the *D. regia* site, but did not see them. I had been looking for long leaves in an open habitat, but learned from Eric that they actually grew in thick grasses and that the leaves were still not too long because the plants had just recently broken out of dormancy. Oh well, perhaps next time...

Another very interesting place was Hermanus, a bit further south along the coast from Cape Town. Hermanus is a famous whale-watching spot, but unfortunately there were no whales on the day I went. Nevertheless, the carnivorous plants compensated well for their absence. I was alone again, following Eric's instructions and maps. Yet no matter how detailed the instructions, it is usually very difficult to describe how to find a specific natural location (as I discovered with *D. regia*!). Fortunately, I had no problems and found all the carnivorous plants I expected to see and even more!

D. cistiflora with white to light-pink flowers and white-flowered *D. trinervia* were spread all around Hermanus. Another very common species was the beautiful *D. glabripes*, which has reddish spoon-shaped leaves on stems around 10-15 cm high (see Figure 2), reminding me somewhat of *D. chrysolepis* back home. I even found two specimens of the rare hybrid *D.* × *corinthiaca*. Its leaves were very similar to those of *D. glabripes*, but it formed no stem.

Probably the most amazing carnivorous plant in the Hermanus area was *D. slackii*. According to Eric, they were not so large at that time of year, but the color of the plants monopolized my attention. They were entirely colored a beautiful deep pink-red, including the stipules. The shape of the leaves is unique, as is the presence of the numerous, thick dark-red hairs on the underside of the leaves.

I also found what Eric said were *D. curviscapa* and *D. esterhuysenae*, both considered synonymous with *D. aliciae* by Jan Schlauer in his carnivorous plant database. I do not know if the names are correctly applied here, so it would be better for me to describe what I saw. The *D. aliciae* had reddish-green compact rosettes, leaves pressed flat on the ground, and grew in wet to humid areas in the semi-shade of grasses. The *D. curviscapa* (?) grew in drier sandy soil, often semi-shaded by other plants, and bore larger green semi-erect leaves. *D. esterhuysenae* (?) also grew in drier sandy soil, but under full sunlight (Figure 3). Its leaves were an orangish-green color, flat on the ground, and with huge tentacles at the tips, like those of *D. pauciflora* and *D. burmannii*. I do not know if *D. curviscapa* and *D. esterhuysenae* should be considered distinct species, but they surely seemed to be distinct taxa from *D. aliciae* and probably deserve at least subspecific or varietal status.

Another plant seen at Hermanus was *Roridula gorgonias*. Although no longer considered carnivorous, it is nonetheless a very interesting species. The *R. gorgonias* were less than a meter in height, since fires had killed the larger ones a few years back. But there were many plants and it was fantastic to observe those bugs which live on the leaves, crawling around unimpeded by the sticky glands, feeding on the captured insects. At Eric's collection I experimented placing these bugs on *Drosera*, *Drosophyllum*, and *Pinguicula* and found out to my surprise that they could crawl around just as easily on these struc-

turally similar carnivorous plants, although on the first two the bugs became coated with mucilage.

Unexpectedly, I also found what appeared to be a possibly new, "floating" species of *Drosera* at Hermanus, which Eric only knew from Baines Kloof. It was growing in a very wet spot by a stream together with what later proved to be a large-flowered *U. bisquamata*—strangely, the only *Utricularia* I saw while in the Cape Town area. Although very boggy, this site was not flooded, and the floating *D.* sp. were stemless, small rosettes flat on the soil surface. A few months later, my friend Rob Gibson from Australia passed by this site. He believes these small plants are actually *D. admirabilis*.

Eric also took me to a place in the Cedarberg Mountains, a few hours north from Cape Town, where he showed me numerous *Drosera* species. We also saw blooming *Roridula dentata* reaching almost two meters in height, and at one site it formed a very dense and large stand. The most interesting carnivorous plant that day was probably *D. alba*, which grew by the thousands on thin layers of mosses over bare rocks in very wet spots along streams. In the dry season these sites become bone-dry according to Eric, and like other section *Ptycnostigma* species, *D. alba* survives as dormant roots. The most curious characteristic of this species is its dimorphic leaves, a characteristic also observed in *D. cistiflora*. The first leaves to appear in the wet season form a small rosette similar to that of *D. trinervia* or *D. aliciae*, although of a deep wine-red color. Then suddenly the leaves begin growing erect and string-shaped, like a young *D. filiformis*. The flowers are small and white.

At the Cedarberg Mountains, Eric also showed me a possibly new variety of *D. cistiflora* which he attributes to Günter Eitz. These plants have very short stems, and the basal rosettes are made of long, semi-erect leaves similar to those of *D. adelae*, instead of the usual flat rosettes with shorter *D. trinervia* or *D. aliciae*-like leaves. The flowers are also a unique lilac color, with the edges darker than the center. Nevertheless, I suspect all these differences may be due to ecological factors. This *D. cistiflora* is very similar to the local form of *D. cistiflora*, which is also short-stemmed.

To top off that day, we found a single unique specimen which seemed to belong to the *D. cistiflora*-complex. It had a small rosette with tongue-shaped leaves below a few younger, narrower, longer leaves. But what caught our attention the most was its flower, which was a dark pink-red, a color which Eric claimed to have never seen among South African *Drosera*. I think it was possibly just a genetic or ecological freak, emblematic of how variable *D. cistiflora* can be, but Eric thinks it might be something new.

The *D. cistiflora*-complex is truly absurd in its variability. The differences observed in leaf size and shape, stem length, flower size and color, all show that this is a taxon undergoing heavy speciation. Maybe a million years from now it will be several different species, but at the moment all I could see was one huge gradient with no clear boundaries, and no possibility of dividing it into discrete subspecies or varieties. The only taxon in the *D. cistiflora*-complex which possibly deserves distinction is *D. zeyheri*. This is considered by some taxonomists to be no more than a stemless form of *D. cistiflora*. I saw *D. zeyheri* at two or more sites in the Cape Town area and it appeared to me to be a valid species, easily distinguishable from *D. cistiflora*, although it does sometimes have one to three leaves on the flower scape.

I still find it hard to believe that in only two weeks I saw approximately fifteen *Drosera* species! I guess the only other place in the world where this is possible is Western Australia. But even more amazing than the number of species was their tremendous abundance and incredible beauty. I really do not know how to thank Eric and his family for the fantastic time I had with them in Cape Town, for showing me all around, and especially for having helped me get over the robbery in Johannesburg and all the troubles I had in obtaining a new passport, visas, plane ticket, credit card, money, etc. Thank you Eric!

(*The editors thank Robert Gibson for the use of his photograph of* Drosera esterhuysenae *from the Highlands. Fernando tells us the plants in the photograph look much like the ones he saw in Hermanus.*)

Figure 1: *Drosera pauciflora* with a flower 7 cm in diameter, Darling South Africa.

Figure 2: *Drosera glabripes* at Hermanus.

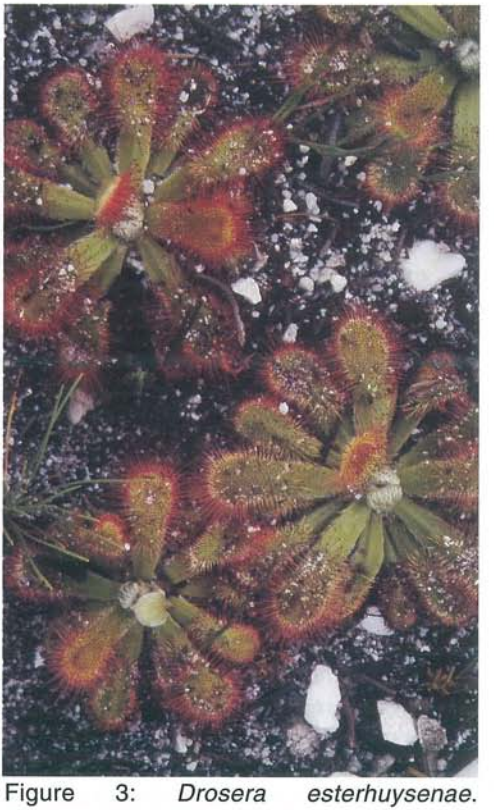

Figure 3: *Drosera esterhuysenae*. Photograph by Robert Gibson.

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