



CLIMBERS' FRIENDS AND RELATIVES

Cliffortia - an intriguing member of the rose family.

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The genus *Cliffortia* is among the top ten largest genera in the Cape Flora and South Africa's foremost member of the rose family, yet it is one of the most poorly known. Humbled by the grandeur of the proteas, appearing like an erica that has not started to flower, the most usual comment from people with even the slightest bit of knowledge of the group is, 'Climbers' friend, yes I have heard of them, they are always prickly aren't they?' It is true that the one species that most people have heard about, *Cliffortia ruscifolia*, is prickly. Called 'climbers' friend' because of its deep tap root that grows between cracks in the rocks, there are still a few of the more senior Mountain Club members who can remember making a belay from one of these plants. There are also those who claim that it has saved their lives when they have slipped and had to hold on for dear life, though the curses for this common plant are often greater than the thanks. Although climbers' friend is relatively well known, the other 120 or so species of *Cliffortia* are rarely as sharply indicating of their presence to the hiker and hence are walked past without acknowledgement.

This unfortunate state of affairs is probably exacerbated by the size and inconspicuousness of the flowers. Cliffortias are wind-pollinated, hence they have no need of large showy petals to attract insects, but merely rely upon hanging their stamens out to the elements and letting the pollen be taken wherever the wind blows. Yet, to those that can look beyond a plant's obvious showiness, cliffortias hold a wealth of delights and intrigue. The lack of diversity in its flowers makes it all the more remarkable for its diversity as a whole. In terms of growth form it has a far greater range of structure than the protea family: from trees to almost herbaceous groundcover or tangled thickets.

Above left *Cliffortia dregeana* is probably the prickliest of all the cliffortias, however most species are not spiny. Above right Unusually for wind-pollinated plants, the female flowers of several cliffortias are tucked away at the base of the leaves. Here presumably the leaves of *Cliffortia ilicifolia* create the right eddies that allow the pollen to drop on to the stigma.
Photos: C. Whitehouse.

And although the majority of leaves could be said to be 'ericoid', the 600-odd species of *Erica* do not come close to matching the range of shapes that *Cliffortia* boasts: from holly-shaped to grass-like or occasionally so finely divided that they appear feathery. With so much diversity in the genus it is not surprising therefore that I once received the comment from a botanist that *Cliffortia* was the name you gave to a plant from the fynbos when you could not recognize it! (And before I am accused of a Cape bias, there are also several *Cliffortia* species that grow in the Drakensberg and Highveld, even into Zimbabwe and beyond reaching its furthest distribution on the slopes of Mt. Kenya.)

Despite the small size of the flowers, a little effort in searching for them makes confirmation that you have found a cliffortia easy. The female flowers can come in two sorts: either a long thin red stigma that protrudes beyond the leaves (my wife describes them as 'miniature bottlebrushes' because of their resemblance to *Callistemon* flowers) or a short stubby brush-like whitish stigma towards the base of the leaves (the latter are often overlooked so that the plant appears not to be flowering or to have only male flowers). The male flowers are even more uniform: having three or four largish (when compared to the female flowers!) petals (really sepals, the true petals having been lost) with a few to many dangling stamens of a reddish or yellowish colour. There are a couple of genera with which you could confuse a flowering cliffortia, in particular *Anthospermum* in the coffee family, Rubiaceae. But a careful examination of the bush will reveal if the branches and leaves come out opposite one another, in which case it is a member of the Rubiaceae, or alternate up the stem, in which case you have a real live *Cliffortia*. As one gets one's eye in one can start to recognize non-flowering cliffortias by the distinctive peeling flaky reddish brown bark - so much so that one can even recognize their burnt skeletons after a fire.

Even with this knowledge at hand, the most eminent of botanists can become unstuck. One of the weirdest of cliffortias is *C. graminea*. 'Graminea' alludes to its grassy nature and it does not lie. The plant grows in damp seeps and sprawls amongst the vegetation, but it is its leaves that are the true deceiver appearing so similar to grass that I have seen the two mixed up in a wildflower show - only the most astute of botanists would be able to correctly distinguish it without flowers. Nor is it a particularly rare species, growing in low damp areas all along the southern coastal plains. Another of the 'grassy' species is even more widespread. *C. strobilifera* can be found growing beside almost any stream from Namaqualand to the Soutpansberg. It has similar grass-like leaves but is more upright and shrubby in habit so is not so likely to deceive. It was one of the first species of *Cliffortia* to be written about in the 1600s, and was named because of the little cone-like growths that it produces ('*strobilifera*' means cone-bearing). Indeed it was originally described as a cedar! These growths are in fact galling, a feature commonly found on many species of *Cliffortia*, including *C. ruscifolia*, but it is not known yet what exactly causes them: possibly a fungal infection or a small insect.

As has been alluded to earlier, female flowers are often hard to spot tucked away towards the base of the leaves. Male flowers although always evident if present, leave no sign once they have finished flowering (whereas the seed produced by the female flowers can



Above *Cliffortia atrata* is one of the numerous needle-leaved species and is probably the commonest one found on the Cape Peninsula, where it occurs from the sandy flats around the Cape of Good Hope to the upper plateau of Table Mountain. Below The tangled mass of *Cliffortia graminea* is almost indistinguishable from a grass...until the tell-tale flowers are seen. Photos: C. Whitehouse.





The true climbers' friend, *Cliffortia ruscifolia*, is confined to the Cape Floristic Region from Namaqualand to Humansdorp.
Photo: C. Whitehouse.

often stay on the plant for up to a year). This combination can mean that often only a single sex can be seen at a time, and is especially true of the female flowers, which can often appear completely stranded without a male in sight! This peculiar state of affairs has often led to one of the common myths about cliffortias that they are 'dioecious', that is that they have separate male and female plants. Recent studies of cliffortias do not support this hypothesis and it appears that the majority, if not all, is 'monoecious' (having separate male and female flowers together on the same plant). It is likely that the plants produce one sex first followed by the other and hence can deceive the observer in to thinking that they produce just a single type of flower.

But this is an oversimplification of the problem, for there are indeed many species where a male flower is very rarely recorded and indeed a few where the male flowers are still unknown. For example, though the true climbers' friend, *C. ruscifolia*, is ubiquitous on the Cape Peninsula, it has never once had male flowers collected there (though they have been found across the Cape Flats). As a result of these observations, it has often been suggested that many species of *Cliffortia* are like their Northern Hemisphere relatives, such as the blackberry, and reproduce 'apomictically' (without the need for pollen). The fact that many cliffortias are able to reproduce whether they are pollinated or not therefore may be one of the big reasons for their amazing diversity in the Cape Flora, as odd forms can persist in low numbers.

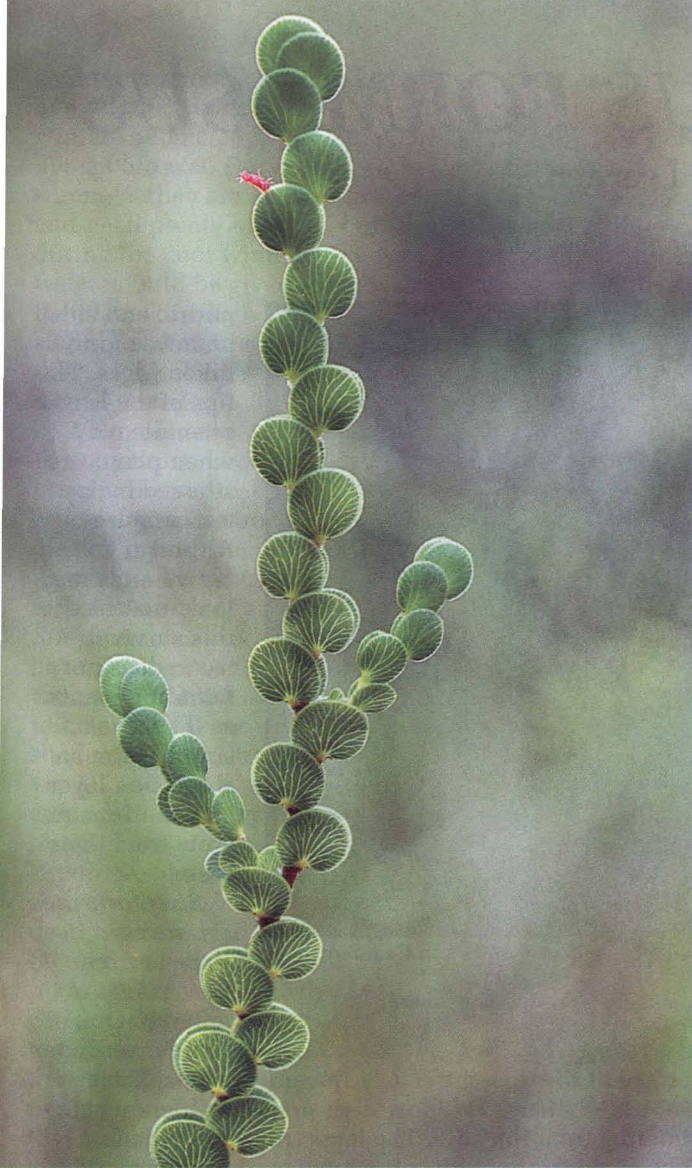
But there is another feature of cliffortias that may increase their potential to persist and that is their ability to spread underground by their roots. As a result of this cliffortias are often very patchy in their distribution. One can come across a large area where the species is abundant, even dominant, and then suddenly it stops and not a single plant can be found. In these cases, it is likely that the patch originated from just a single plant that has spread underground and all the plants that can be seen will be genetically identical. Once again odd forms can persist and even spread without needing to reproduce sexually.

Horticultural potential

Although cliffortias are never going to win first prize at the Rose Show, there is plenty of horticultural potential. One of the major problems with fynbos gardens is that often there is so little variation in the form of the leaves, after all fynbos does imply that the bushes will have 'fine leaves'! The most commonly cultivated *Cliffortia* is *C. ferruginea* (often sold incorrectly as *C. elegans*, *C. ericioides* or as the variety 'Sandy Bay'). This species has broad glossy dark green leaves, with contrasting reddish brown stems, it generally sprawls and provides good groundcover, but will scramble up bushes if not restrained! It is easy to grow, but prefers damp sandy soils - its natural habitat. A closely related species is *C. odorata*. It has even broader leaves, which are not so



Cliffortia odorata sprawling across a small stream near Montagu. It can often form dense thickets such as at the top of Skeleton Gorge on Table Mountain. Photo: C. Whitehouse.



glossy, and forms dense tangled thickets (such as at the top of Skeleton Gorge on Table Mountain). It loves damper areas and will even tolerate a bit of shade. (Incidentally this species was named by Linnaeus from dried specimens and maybe those specimens were a bit odorous, but unfortunately there is nothing aromatic about the plant.)

Kirstenbosch also grow in their rockery *C. obcordata*, with small greyish rounded leaves that are flattened against the stem. It would provide a nice foil for the green needle-leaves of an *Erica* or similar plant but I have not seen it offered for sale by them. It is particularly suited to coastal gardens being able to tolerate wind and spray (it grows naturally just a few hundred metres north of Cape Point) though it will become more prostrate in those sort of habitats. *C. strobilifera* also grows in Kirstenbosch beside some of the streams. It would probably require constant moisture around its roots to grow well. The 'beauty' of the genus is *C. pulchella* with its small circular leaves that are pressed against the stem - bright green but with paler venation that lets the light shine through. It is one of the species that spread clonally and so should be easy to propagate but I have not seen it as yet in cultivation. The two species that could produce a 'show' are *C. alata* and *C. burgersii*. They have bright red to pink winged fruits, looking not dissimilar to *Dodonaea*, the sand olive, but both these species are very narrow endemics - one to the Langeberg around Garcia's Pass

and the other to De Hoop Nature Reserve and therefore they may be too difficult to cultivate.

This is just a hint of some of the range of shapes, sizes and forms to be found within *Cliffortia*. Next time you are out wandering in the fynbos and you see a bush that looks like an *Erica* without any flowers, a tall spindly shrub or maybe an odd-shaped leaf, stop and take a closer look and see if you can detect any tell-tale flowers. And as you discover the delights of *Cliffortia*, start to ponder how it is that the apparently random selection of wind-pollination can drive such incredible diversity. ♡

Left *Cliffortia pulchella* is probably the prettiest of all the cliffortias, but it unfortunately has not yet been introduced into cultivation.

Right *Cliffortia crenata* showing both female and male flowers on the same branch. In most species however, only one sex is present at a time.

Photos: C. Whitehouse.

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