CAPE VIOLETS MAY HELP THE FAMILY TREE

A delicate violet that is endemic to the Western Cape has posed some intriguing questions about its age and origins. Seeds have been collected and are now sprouting in laboratories in the USA and Sweden.

It all started when Kim Blaxland, a *Viola* expert, visited Hermanus from Philadelphia last summer specially to see our single species of violaceae, *Viola decumbens,* found growing only in well-drained sandy or gravelly soils in the South Western Cape at low elevations.

It is believed to be an ancient species, Kim says, and poses some interesting botanical questions. Where does *Viola decumbens* come from? Why is it geographically separated from other species of violets? How long ago did it become separated?

In violet taxonomy, *Viola decumbens* belongs to the order Xylinosium along with *V. scorpiuriodes* from the Mediterranean region, *V.arborescens* from the sandy coastal area of southern Spain and a fourth Mediterranean species. They are all considered primitive in violet evolution. They all have many tall woody stems arising from a single taproot. Only a few violets have this characteristic, one group of three species in Europe and one single species in South America.

The former are thought to be relict species that survived during glacial periods because they were above the ice sheets on the tops of the mountains. The South American species has been proposed as the ancestor of the Andean rosulate violas and is possibly the earliest surviving Viola species.

Botanists have begun to try to map an evolutionary family tree for the *Viola* family – and that is where our baby 'golf

course'violet will hopefully help the scientists. For several decades chromosome numbers have been counted for many of the species but neither *V. decumbens* nor any of the species in South America has been counted.

New techniques now allow detailed mapping of the arrangement of amino acid bases which make up the chromosomes. Comparisons between the maps of different species will make it possible to draw the family tree.

It may be that *V.decumbens* was separated during the break-up of Gondwanaland!

It may also be that our baby viola was referred to at high botanical levels when the world-wide revision of the Violaceae family was discussed by botanists from around the world in Vienna in July, in conjunction with the International Botanical Congress.
We await a report from our botanist on the spot, Kim.

Kim Blaxland has travelled the world looking for violets: all over North America, 4 500 metre high in China, Japan (as a guest of the Japanese violet society), Northern Cyprus and SW Turkey where she described a new species *V. dirimliensis*. North and central Greece (including a trip up Mt Olympus) followed the French Alps and parts of Italy.

In a steep gorge in Yunnan, looking for the Chinese yellow violet, large rocks descended upon them forcing a hasty retreat from a small earthquake situation. At the other end of the world in South Carolina she found her specimen in a rubbish dump in an industrial site.

In Chile she photographed tarantulas on a mountain slope near Santiago and in Patagonia she shared a clifff face with a rattle snake, but found a long lost *Viola* species. New Zealand and South Africa led to Tasmania this year where leeches climbed up her tripod - and her legs.

Future trips? Juneau Alaska (beware bears), Newfoundland, Vladivostok, Japan, and the Chilean Atacama desert (if there is an El Nino Kim says). In the light of all her adventures, Australian-born Kim may sound "real tough", but she looks a picture of quiet soft-spoken elegance . A violet in disguise.

Geraldine Gardiner
Hermanus Botanical Society

The exquisite wild violet *Viola decumbens* flowering in the Hermanus area at present.