

The Lost world

by John Manning, Compton Herbarium,
Kirstenbosch



ABOVE: *Euphorbia hottentota* near Kuboes. Photo: Ernst van Jaarsveld.

Just before the Orange/Gariep River reaches the sea, it traces a northerly loop that cuts through the lunar landscape of the Richtersveld. From the arid flatness of gravel plains rises a tumbled m \acute{e} l \acute{e} e of forbidding mountains, made up from a great variety of rock types from many different geological eras. The result is a deeply dissected landscape of austere beauty. Although not particularly high, rising just under 1 400 m above sea level, the mountains of the Richtersveld are truly awesome in their severity.

This is an arid land with extremes of climate unmatched anywhere on the subcontinent and the sense of wonder engendered by its wild scenery is tempered with a very real apprehension.

Rainfall along the foot of the mountains and along the river seldom exceeds 50 mm a year, although this increases with altitude and some peaks receive up to 300 mm per year. Here, a few remnants of fynbos cling to survival.

Elsewhere, the vegetation is a sparse shrubland dominated by succulents. Moisture-laden fogs from the Atlantic penetrate deeply into the valleys, but seldom beyond the Stinkfontein and Vandersterrberg ranges, which form a north-south lying spine to the whole complex. The eastern Richtersveld Mountains are thus considerably drier than the western ranges. Most of the sparse rain falls in winter, but in some years violent autumn thundershowers deluge isolated parts. In summer,

maximum shade temperatures along the river frequently exceed 40 °C, but in winter it can freeze on the highest peaks. Added to these climatic extremes is an ever-present wind, which often reaches gale force.

The extremes of climate, combined with the varied landscape and the variety of rock types, conspire to create a multitude of microhabitats that harbour the richest diversity of succulent plants on earth. These belong to various families and include the quiver tree *Aloe dichotoma*, daisies like *Senecio corymbiferus*, Bushman's candle *Monsonia crassicaule* and milkweeds like *Sarcostemma viminalis*. The most diverse, however, are the iceplants. With well over thirty genera represented here, some sixty per cent of which are found nowhere else, the Richtersveld is one of the most important centres of diversity for the family. Over thirty different *Conophytum* species grow here alone, among them *C. bilobum*, which is thought to represent the primitive form of this curious genus. The undisputed icon of the Richtersveld, however, is the halfmens *Pachypodium namaquanum*.

The giant quiver tree *Aloe pillansii* is a stately succulent that occurs from the Brandberg in northern Namibia southwards to the Richtersveld. It is a rare species, closely related to the common quiver tree *Aloe dichotoma*, but is easily distinguished by its drooping flower spikes. The continued survival of *Aloe pillansii* in the Richtersveld is threat-

ened by the poor survival of seedlings and young plants. The reasons for this are not completely understood, but one of the contributing causes is overgrazing by itinerant herds of goats whose numbers have increased steadily in recent years.

The floral riches of the Richtersveld are not confined to succulents like the quiver trees or the endemic Gariep carrion flower *Stapelia gariepensis*. A surprising number of geophytes survive the harsh conditions here. Many are members of the amaryllis family. Unlike the spring flowering bulbs of other families, most amaryllids flower in autumn or early winter. Kukumakrankas, *Gethyllis* species, are an exception, producing their fragile flowers in the heat of summer, so that by early winter they are in fragrant fruit. Their seeds are retained beneath the soil through the hot summer, where they are protected from the scorching heat, and their club-shaped fruits only protrude above the surface with the coming of cooler weather. Early settlers used the perfumed kukumakranka fruits to sweeten linen cupboards and flavour brandy. Good early rains trigger the mass flowering of species like the Namaqua snowdrop *Strumaria truncata* and the Malgas lily *Cybistetes longifolia* in autumn, and such displays are a rare treat. The seeds of most amaryllids do not enter a period of dormancy and are unable to withstand prolonged heat and drought. The flowering of these plants towards



the end of the dry season enables their short-lived seeds to germinate with the first winter rains, and has been critical to their success in Namaqualand and the Richtersveld.

One of the most extraordinary places in the Richtersveld is Paradyskloof, a deep gorge that is one of the few places where permanent pools linger through the summers. Its northern walls remain almost perpetually shaded and on their cool slopes grow two remarkable amaryllids, *Cyrtanthus herrei* and *Amaryllis paradisicola*. Isolated from their nearest relatives to the south by the arid length of Namaqualand, these species are relicts of a time when cooler conditions allowed the northwards spread of more temperate vegetation.

Although first collected in 1972, *Amaryllis paradisicola* was only seen in flower in 1995 and named in 1998. Along with the Bokkeveld clivia *Clivia mirabilis*, which was discovered in a similarly isolated valley on the Bokkeveld Escarpment, these two species are among the most remarkable botanical discoveries in recent years. They are truly species from a Lost World. 🌍



Acknowledgments

The text is taken from the book *Southern African wildflowers: Jewels of the veld*, written by John Manning and Colin Paterson-Jones, and published by Struik, 2004.

Thank you to Ernst van Jaarsveld for coming to the rescue at the last minute with these spectacular photographs. (See Ernst's article on the Richtersveld on page 100 of the December 1993 issue of *Veld & Flora*.)

TOP LEFT: *Euphorbia gummifera* (gomnoors) growing in the Rosyntjiesberg. The hard quartzitic, saw-edge peaks make this one of the most beautiful but dangerous mountain ranges. Photo: Ernst van Jaarsveld.

LEFT and BELOW: The halfmens *Pachypodium namaquanum* is the undisputed icon of the Richtersveld. Photo: Ernst van Jaarsveld.

