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# Fanfare in the fynbos



## *Aloe plicatilis*, a unique Western Cape tree aloe

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**W**ith roots tightly wedged between the rocks, stout stems held high, each flaunting an open fan of slender blue-green leaves, the Fan Aloe is dressed to impress. Averaging heights of up to 2.5 m, these splendid succulents show off their grandeur by booking a room with a view. At lofty heights between the boulders, they find refuge from both fire and ploughs. Not only do they boast displays of fantastic fan-shaped foliage, but once a year they bedeck themselves in a cavalcade of floral finery. In the wake of a cold, inclement winter, the warmth of spring provokes an eruption of vibrant colour, and the florid fans begin to blush in a blaze of brilliant crimson. This flamboyant display attracts winged visitors, who sip at sugary cocktails from short scarlet straws. The flowers festoon the fynbos for weeks on end, illuminating the landscape and furnishing its participants with sweet nutritious nectar. With summer fast approaching, the party begins to draw to a close. The stars of the show grow weary and their rouge begins to fade. In a ruby rain of wilted petals, the flagging fans bid their friends farewell – until next spring when this floral fantasy begins again!

The Fan Aloe (*Aloe plicatilis*) is one of five tree aloes that occur in South Africa, and is the only one that grows in the Cape Floristic

Region. It is restricted to a small area in the mountainous parts of the south-western Cape, from the Franschhoek Mountains in the south to the Elandsloof and Roodezands Mountains in the north. It has an affinity for well-drained, acidic soils, on steep rocky slopes in areas of high winter rainfall. The Fan Aloe exhibits a highly clumped distribution pattern, with seventeen known populations, many of which are separated by distances of more than 10 km. This attractive aloe has been described as one of the botanical treasures of the fynbos, and its striking appearance has long captivated gardeners and botanists alike. Only three other aloe species display their leaves in a fan-like arrangement, two of which occur in Madagascar, and the third – *Aloe haemanthifolia* – has a limited distribution that coincides almost exactly with that of *Aloe plicatilis*. *Aloe haemanthifolia* is the diminutive, stemless equivalent of its arborescent counterpart, with leaves that are similarly shaped but slightly larger and greener in colour.

Despite its popularity, very little is known about the ecology and population biology of the Fan Aloe. Over the two preceding decades, the Quiver Trees (*Aloe dichotoma* and *Aloe pillansii*) have received much deserved attention from local botanists due

ABOVE: The Fan Aloe appears to burst into flames as it flaunts its vibrant floral display at the end of a cold winter.  
Photo: Stephen Cousins.

to dramatic changes in their population structures. Widespread adult mortality has been observed in *Aloe dichotoma*, and several populations of *Aloe pillansii* tell a similarly sad story. Amid this perplexing pandemonium, *Aloe plicatilis* has gone largely unnoticed, perhaps because it does not appear to be particularly threatened at present... Or does it? Recent trade statistics indicate that since 2005 there has been a major increase in the export of Fan Aloes to other countries, several hundred of which are reported to be of wild origin. This increasing trend in trade, coupled with a general dearth of knowledge on the ecology of the species called for some further investigation.

At the beginning of 2010, a Master's project on *Aloe plicatilis* was launched by the University of the Witwatersrand, the University of Johannesburg and the South African National Biodiversity Institute (SANBI) to investigate the trade in the Fan Aloe and assess the impact this might be having on wild populations, as well as to study the aloe's population structure and its general ecology. There is a marked lack of information on the re-sprouting response of aloes after disturbances, so *Aloe plicatilis* will be used as a test subject to address this issue, and the knowledge gained should lay the foundation



for future studies on re-sprouting in aloes.

All known populations of the species will be surveyed, which includes visiting historical localities where the species was known to exist in the past, but may no longer occur there. Since there is a shortage of long-term monitoring data available for *Aloe plicatilis*, an attempt will be made to use matched photographs to track changes in the various populations. In order to achieve this, historical photographs of the aloes in situ will need to be unearthed, and the precise localities where the pictures were taken, determined. If these exact positions are re-visited, matching present-day photos of the plants can then be taken from the same angle. If the historical and the present-day photos are compared, one can detect changes in the size and abundance of visible individuals in the population.

We know of seventeen localities for the Fan Aloe, three of which we discovered during a pilot study for the project and were not recorded in any of the literature on the species. If any further undiscovered sites are found, they will also be incorporated into the study. The general public is therefore requested to please contact me if they have any information on *Aloe plicatilis* – locality data, historical photographs, evidence of harvesting or any other pertinent information.

We hope that the results of this research will deepen our understanding of aloe ecology and that of *Aloe plicatilis* in particular, and help to shed light on the impact of harvesting on wild plant populations. Ultimately, this will assist in the development of better conservation and management strategies for threatened species and provide insight into the sustainable utilization of natural resources. 🌿

#### READING

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#### GET CONNECTED

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BELOW: In early spring the Fan Aloe erupts in a blaze of exuberant colour with its laxly-flowered, delicate inflorescences extending high into the sky, attracting any thirsty would-be pollinators.

MIDDLE RIGHT: A mature, neatly compact adult Fan Aloe adorned with a flush of flowers and stems blackened by occasional wildfires.

MIDDLE LEFT: A tall, slender, weather-beaten Fan Aloe growing in a harsh rocky environment in the Du Toit's Kloof mountains near Worcester.

BOTTOM RIGHT: An attractive Fan Aloe elegantly draped over the rocks on a hilltop in the Wiesenhof Wildpark near Stellenbosch.

BOTTOM LEFT: A fine clump of *Aloe plicatilis* in full bloom, hugging the steep slopes of the Badsberg Mountains.

Photo: Stephen Cousins.

