Aloe cremnophila – a cliff-dwelling Somali endemic

Colin C. Walker c.walker702@btinternet.com

Introduction

The most recent survey of Somali aloes was by Lavranos (1995). He recognised 32 species for that country, one having uncertain status. Since then *Aloe elegantissima, A. heybensis, A. kahinii* (= *A. luntii* in Lavranos, 1995), *A. lindenii, A. miskatana, A. orlandi* and *A. rubrodonta* have been described as new species, whilst the tree species, *Aloe eminens*, has been transferred to a new genus to become *Aloidendron eminens*. The current total of true aloes in Somalia therefore stands at 37 species.

Diversity of aloes in Somalia is high with 84% of the species being endemic. These range from the very small and stemless *A. orlandi* to the 4 m tall shrubby *A. gracilicaulis*. Many of the Somali aloes are attractive and small-growing thus highly collectable. Notable amongst these species are those related to *Aloe somaliensis* having mottled or spotted, glossy leaves, namely *Aloe elegantissima, A. hemmingii, A. jucunda* and *A. peckii*. Another attractive, small-growing but unspotted Somali species is *Aloe cremnophila.*

My plant of *A. cremnophila* is a propagation of *ISI 1450*, originally distributed in 1984, which in turn was propagated from the type collection *Reynolds 8450B* that was used to describe the species (Reynolds, 1961). The plant was first collected by Peter Bally in October 1956 on cliff faces of the Daloh Escarpment at 1,970 m, about 20 km north of Erigavo, Somalia. It is currently known from no other location (Carter *et al*., 2011), so the species could be described as a narrow endemic with a very restricted distribution.

In cultivation

My plant was obtained as a single stem in 2009 from Brian McDonough of the BCSS Glasgow branch. As you can see (fig. 1) it has grown

Fig. 1. *Aloe cremnophila* in a 40 cm diameter pan.

well and in more than a decade in my care has produced a clump of at least 30 branches and is now growing in a 40 cm diameter pan which readily accommodates the sprawling branches. Over the years several cuttings have been removed from this stock plant. As a young plant it can be displayed attractively in a smaller hanging pot. The branches could be described as being procumbent rather than pendulous, with the oldest and longest stem being about 20 cm long. Its leaves are up to 16 cm long, are uniformly dull, grey-green in colour, without spots but with small sharp teeth up to 2 mm long on the leaf margins.

I would describe my plant as being reasonably large and it flowered for the first time in 2014 but only produced a single flower spike. It is now (December 2019 to January 2020) flowering for only the third time (figs. 2 & 3) but again only a single spike has been produced despite the smaller plant having 12 branches. The inflorescence is unbranched, just over 45 cm long, with a densely arranged raceme, long floral bracts up 15 mm long and flowers about 26 mm long, salmon pink at the base fading to creamy-yellow with green striations at the mouth. Note though that Reynolds (1961) described the flowers as being "scarlet, turning yellowish-green at mouth". The flowers on my plant have never been "scarlet" but my recollection is that the last time it flowered they were pinker than the most recent flowers.

Reynolds (1961) said that "Of several plants cultivated in my garden at Bryanston, Johannesburg, only one stem produced an inflorescence". Similarly, my plant has been a reluctant flowerer and in 10 years it has only produced three flower spikes. Brian confirms that his plant has never flowered in his care. From this I think it is safe to conclude that this species is indeed a rather shy flowerer.

Fig. 2. Part of a smaller flowering clump of *A. cremnophila* in a 30 cm diameter pan.

Relationships and habitat

When Reynolds (1961) first described *A. cremnophila*, he said that his new species "appears to be nearest to *A. tororoana* Reynolds (from Tororo Rock in Uganda near the Kenya border) but differs in having slender stems, unspotted leaves, larger racemes, larger bracts as long as the 10–12 mm. pedicels, while the whole plant is pendent on cliff faces".

Today however, with the benefit of further research, the closest relative to this species appears to be *A. jacksonii* from the Ogaden in Ethiopia, which has similar short, erect or procumbent stems which branch from the base to form clumps, whilst the leaves are similar in shape with a rough surface, but are spotted (Walker, 2017). Indeed *A. cremnophila* can be viewed as a more robust version of *A. jacksonii* with unspotted leaves and prominent floral bracts.

In their study of cliff-dwelling aloes from north-eastern Africa, Brandham *et al.* (1994) found another close similarity between *A. cremnophila* and *A. jacksonii* – these species are both rather unusual in being tetraploid with chromosome counts of 2n = 28. In contrast, the majority of other species of *Aloe* are diploid (with 2n = 14). Tetraploid species originate from either the doubling of the diploid chromosome number within a species or a doubling of a diploid interspecies hybrid. Such events are very rare in *Aloe* and which of these alternatives was the origin of *A. cremnophila* is unknown. Brandham *et al.* (1994) go on to speculate that for *A. cremnophila* "the best-known population of the species, on the cliffs of the Daloh Escarpment, north of Erigavo, is perhaps a single clone, a suggestion supported by the very uniform chemistry in the leaves of a number of accessions".

Aloe cremnophila was so named because it is 'cliff-loving' i.e. it is a cremnophyte (a plant that grows on cliffs). However, it is not unique as an obligate cremnophytic *Aloe* (i.e. a plant that will only grow on cliffs). Other species in Africa and Arabia include: *A. inamara, A. mendesii* (Angola); *A. ankoberensis, A. downsiana, A. elkerriana, A. jacksonii, A. pulcherrima, A. tewoldei* (Ethiopia); *A. amicorum, A. doddsiorum, A. tartarensis* (Kenya); *A. corallina, A. huntleyana, A. omavandae, A. pavelkae* (Namibia); *A. collenetteae, A. whitcombei* (Oman); *A. squarrosa* (Socotra); *A. gillettii, A. hildebrandtii* (Somalia); *A. hardyi, A. meyeri* (South Africa); *A. confusa* (Tanzania); *A. tororoana* (Uganda) and *A. abyssicola, A. pendens, A. yemenica* (Yemen).

Fig. 3. Close-up of a flower spike of *A. cremnophila* showing the prominent bracts.

Additionally, further afield and in other groups of succulents, cliff-dwellers are also known. In Mexican Crassulaceae, for example, the two species of the genus *Cremnophila* were separated from *Echeveria* and *Sedum* partly because of their cliff-dwelling habit and most species of the more familiar genus *Pachyphytum* also grow hanging down from precipitous cliffs.

In southern Africa the wide range of species that have been discovered on cliffs were the subject of Ernst van Jaarsveld's PhD. thesis. Rumour has it that these will become the basis of a forthcoming book from this prodigious author, so we eagerly await further revelations on cliff-dwelling succulents in, hopefully, the not too distant future.

References

Brandham, P.E., Carter, S. & Reynolds, T. (1994) A multidisciplinary study of relationships among the cremnophilous aloes of northeastern Africa. *Kew Bull.*, **49**: 415–428

Carter, S., Lavranos, J.J., Newton, L.E. & Walker, C.C. (2011). *Aloes. The definitive guide*. Kew Publishing, Royal Botanic Gardens, Kew/British Cactus & Succulent Society.

Lavranos, J. (1995) *Aloe*. In M. Thulin (ed.) *Flora of Somalia.* Royal Botanic Gardens, Kew, **4**: 35–42, pl.2.

Reynolds, G.W. (1961) A new *Aloe* from Somali Republic. *J. So. Afr. Bot.*, **27**: 77–79, pls. XIII & XIV.

Walker, C.C. (2017) A tale of two Ethiopian aloes: *A. jacksonii* & *A. elkerriana*. *Haworthiad*, **31**: 31–32.