Contrasting growth habits of some arid-loving southern African aloes

Ivor Crook  ivor.crook@btinternet.com
Les Pearcy  pearcy@btinternet.com
Colin C. Walker  c.walker702@btinternet.com

Introduction
There are several species of stemless and shrubby, clump-forming aloes that grow in the generally flat, arid areas of western South Africa and southern Namibia. Their habitats receive very little rain, so plants survive mainly due to the coastal fogs and condensation from the sudden overnight temperature drop. Despite similarities of habitat, there are some interesting differences between these species.

*Aloe arenicola*
*Aloe arenicola* has a relatively long, roughly 400 km distribution along the low altitude coastal strip stretching north from Lambert’s Bay to Alexander Bay at the mouth of the Orange River (Van Wyk & Smith, 2014). It is quite a distinctive plant making it easy to identify. Mature plants form medium-sized shrubs composed of numerous creeping stems. There are distinct juvenile and adult forms. During the juvenile stage, the leaves are more triangular in shape with thin, creeping stems. Figs. 1 and 2 show plants in the Port Nolloth area in September 2015. Juvenile and adult forms were seen at the same site about 30–40 m apart. From a distance, the two forms look so different that they appear initially to be two different species. The two forms appear differently coloured, the juvenile form having purple leaves whilst the adult form generally has the more usual bluish-green coloured leaves associated with aloes in general. The juvenile form also has an absence of white spots on the upper surface of the leaves.

Textbook pictures of the mature form show flowering clumps of rosettes from about 3–30 rosettes (Reynolds, 1950: Fig. 416; Van Wyk & Smith, 2014: p.125). These photos appear to show no evidence of die-back of the outer

Fig. 1. Mature *A. arenicola* near Port Nolloth, September 2015. (Photo: Ivor Crook).
growing to the east of Upington on the old road that runs parallel with the tarmacked N14 towards Kakamas. They tend to form large rings of rosettes several metres across with a space in the centre where the original rosette would have occurred before dying back. The species is very common and due to its growth form is easily recognised in the field. The Afrikaans name, kraalaalwyn (‘kraal aloe’), is most apt with the ring of rosettes reminiscent of the round cattle enclosures.

Other southern African ‘kraal aloes’:

**Aloe asperifolia**

In addition to the widespread *A. claviflora*, there are five other ‘kraal aloes’ in Namibia and South Africa. Reynolds (1950) grouped these as Series 13 Asperifoliae that includes the following species: *Aloe asperifolia*, *A. pachygaster*, *A. falcata*, *A. viridiflora*, in addition to *A. claviflora*. All these aloes are either stemless or have creeping, rooting procumbent stems with obliquely-erect rosettes. Their leaves are thick with roughed (asperous) surfaces. Of this group of species, *A. asperifolia*, *A. claviflora*, *A. falcata* and *A. pachygaster* are very closely related in terms of their growth habit, but their inflorescences and flowers are very distinct. In contrast, however, *A. viridiflora*, with its larger solitary rosettes, does not fit well with the rest of this group (Reynolds, 1950) as it is not a true ‘kraal aloe’. In addition, *Aloe namibensis* can be added to this group because this species was described twenty years after Reynolds published his magnum opus. Apart from *A. claviflora* and *A. falcata*, all these species are Namibian endemics with very narrow distribution ranges.

Here we focus on just one Namibian species, *A. asperifolia*, because one of us (CCW) has a friend, Janet Haresnape, who photographed this species on his behalf (figs. 5 and 6).

*Aloe asperifolia* has a very limited distribution in western Namibia, where it grows in a narrow range about 50–120 km inland from the coast in the Namib desert from the Kuiseb River to north of the Hoarusib River (Rothmann, 2004). It has the same ‘kraal aloe’ growth form as *A. claviflora* (fig. 5) with dense circular groups of 20–40 rosettes. Its leaf surfaces are rough like sandpaper, hence the name asperifolia meaning ‘rough-leaved’. According to Rothmann (2004) “Plants do not flower every year but may flower from March to April with some even as late as July”. Janet observed just a single specimen in May and the plant had long since finished flowering but was in fruit (fig. 6). Note that in this species
the inflorescences and infructescences are horizontally arranged. According to Carter et al. (2011), the closest relative of *A. asperifolia* is *A. namibensis*, but the latter species has dense, erect inflorescences as opposed to the horizontally-arranged, lax inflorescences of the former species. When not in flower these two species can be easily confused. *Aloe namibensis* is very rare and even more localised than *A. asperifolia*, occurring in a small area just south of the distribution range for the latter species (Rothmann, 2004).

**Plants in Cultivation**

One of us (CCW) has tried to grow plants of *A. arenicola, A. asperifolia, A. claviflora* and *A. pachygaster*, all of which, apart from the first, come from extremely arid environments. As a consequence of this, only the first was relatively easy to grow. In contrast all the ‘kraal aloes’ have proved to be very difficult in cultivation and virtually impossible to grow well. Seedlings of *A. claviflora* (fig. 7) are typical of most aloes in that their juvenile form has distichous leaves, whereas at maturity they develop into typical rosettes.

The most impressive cultivated specimen of *A. claviflora* one of us (CCW) has ever seen was growing outdoors at the Jardin de Cactus on Lanzarote (fig. 8). Note the volcanic lava the plant was growing in, but it was generously irrigated. Note too the typical inflorescence of this species: horizontally orientated with densely-arranged flowers. Individual flowers are ‘club-shaped’, hence the name *claviflora*.

**Acknowledgements**

Janet Haresnape is thanked for the use of her photographs.

**References**


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Fig. 7. Seedling of *A. claviflora*. (Photo: Colin Walker).

Fig. 8. *Aloe claviflora* flowering at the Jardin de Cactus, Lanzarote. (Photo: Colin Walker).