

## *Dorstenia gigas* – Kartab

*By the Friends of Soqatra*

The Soqotran word for the plant is „Kartab“ (plural karitibihin or kiritib) which means 'dried out, withered; stunted'. Islanders note that termites are never attracted to *Dorstenia*.

*Dorstenia gigas* is the largest of a genus of 170 species widespread in tropical and East Africa. *Dorstenia* belongs to the *Moraceae*, which includes Mulberries (*Morus*), and Figs (*Ficus*). Other members of the genus have small fleshy caudexes, tubers or small swollen trunks. The trunks of *D. gigas* can reach 1.2 m tall, making it the largest species in the genus. The flowers of the genus are tiny and grouped in flat or saucer-shaped, fleshy inflorescences called a hypanthodia. When ripe the seeds are released under hydraulic pressure.



Among Soqatra's wealth of unique plants, *Dorstenia gigas* must rank as one of its most remarkable endemics. A good place to see this species is at the top of Muqadrihon Pass near Hadibu, where the plants command attention from perches on the sheer limestone. It may be found elsewhere on Soqatra in similar habitats, generally growing at about 500m elevation, though the surrounding vegetation may vary considerably. It also colonises large limestone boulders (for example at Wadi Zedig on the Dixam Plateau). Opinion is divided as to why the plants are restricted to these habitats, it may be the inaccessibility to grazing goats (although goats only eat the leaves unless they are very hungry) or the combination of water supplied from fissures in the rock substrate and drainage from the near-vertical cliffs.

The main stem is greatly enlarged toward the base and is flask-shaped to nearly spherical, though plants growing in protected, non-vertical habitats may have a proportionately tall, thickened trunk that is not especially swollen basally. This growth form is an adaptation for water storage in a dry climate with unreliable precipitation. From the base of this caudex a robust system of succulent roots anchors the plant in holes in the limestone. The largest specimens are up to 1.2 meters tall, with a trunk nearly one meter through at the base. As with other soft-wooded succulents on Soqatra, there is as yet no reliable way to determine the age of these plants but larger specimens are likely well beyond the century mark. Though the plants appear strong and durable in their cliff-face haunts, in fact the yellowish, minutely flaking epidermis of the whole plant is easily breached with a fingernail. Upon injury the plant bleeds white latex sap.

The plant is used as drought fodder for animals, but it is not as good a food as *Euphorbia arbuscula* and is not used in the central mountains as the goats there are not used to it and are reluctant to eat it. If goats are fed generously on the plant they remain sleek and in milk, and can go for longer without water. It does, however taint the meat of the animals and make the milk bitter.

The bark is used to strap fractures, especially in small livestock. The stem is used to treat mange. It is de-barked and the core chopped finely and added to cold water, stirred and left to steep for some hours after which it is used as a wash for the affected animals.

During the Northeast Monsoon period (October-January), rains and cooler temperatures coax the plants into producing their striking foliage. The leaves, generally clustered toward the branch tips, are semi-glossy and deep green, with intricately branched, sunken veins (rugose venation). Before they fall, individual leaf blades turn bright orange. Flowering commences in the autumn when clusters of greenish flower heads appear at the tips of the stems. Each cluster consists of a receptacle or disk bearing short, blunt lobes around its perimeter and with minute individual flowers in the centre. Thus it is similar to other members of the fig family (Moraceae), though in the case of the figs the receptacle is not open and flat but completely enclosed except for a small opening at the apex. The flowers have been reduced to the most basic function of sexual reproduction and are without petals. Sexual expression is in two phases, first male (stamens are exerted) then female (styles exerted). Observations on cultivated plants indicate that *D. gigas* is self-incompatible, while some *Dorstenias* are self-compatible and may be weedy under certain conditions. In common with the other species of *Dorstenia* distributed in both the Old World and New World tropics, seed dispersal is enhanced by the forceful expelling of individual seeds from the plant.

Until recently, *Dorstenia gigas* was thought to be the only member of its genus to occur on Soqatra. In the late 1990s, Tony Miller discovered a population of a dwarf *Dorstenia* near the Homhil Plateau. This dwarf geophyte was clearly different from *D. gigas* and was described as *D. socotrana*. It bears some resemblance to the East African *D. barnimiana*. Though a large and widespread genus, few succulent dorstenias are to be found outside East Africa and southern Arabia.

*Dorstenia gigas* is a popular and challenging cultivated plant in the succulent collections of Europe and America. It requires well-drained compost and careful watering. At northern latitudes warm glasshouse conditions are also necessary. Plants in cultivation rarely attain the size and growth form of plants in their natural habitat. Propagation is generally by cuttings and this method has meant that propagules from specimens collected in the 1960s are now widespread in cultivation.