Fire

The many uses of mesembs.

by Shirley Pierce,
Bolus Herbarium, University of Cape Town

Iceplant is the term that North Americans use to describe vygies or mesembs. In South Africa, the name iceplant refers specifically to Mesembryanthemum crystallinum, a common inhabitant of Namakuland. Its local name is braksaal, which also includes some of its close relatives. M. crystallinum is an annual or biennial with wide, undulate, succulent leaves (somewhat like thick lettuce leaves) covered in crystal-clear, glittering papillae (surface cells capable of engorging with water - a characteristic of many mesembs). The glistening leaves have a hoary or icy appearance - hence the name iceplant. The sparkles have also been interpreted as droplets of dew - hence the mesemb genus Drostanthemum, meaning dew flowers.

In California, popular iceplants include a variety of species of Lampranthus, Delosperma, Aptenia, Cephalophyllum, Malopeora and particularly, Carpobrotus. Almost all of these species originate from South Africa and have been favoured by Californian gardeners and landscapers for their brilliantly coloured flowers, easy propagation, rapid growth, hardiness and their effectiveness in stabilizing sand. In fact, South African vygies have been introduced far and wide across the world for these very properties. In the case of Carpobrotus edulis, it has been so successful that it has come to be regarded as an aggressive invader in many parts.

Vygies or mesembs are all members of the family Mesembryanthemaceae and almost all are native to southern Africa, with a few species growing in east Africa. There have been claims of species native to the Mediterranean zones of North Africa, and also in Australia and Chile. Until detailed studies have been done their true origins will remain uncertain.

In South Africa, species of Carpobrotus have long been sought after for their tasty fruits. This genus is the only mesemb with soft fruits; all seven species produce edible fruits. This knowledge would have been passed from the original Khoikhoi and Bushman inhabitants of the Cape to the early European settlers. Given that most Cape fynbos plants are inedible, Carpobrotus plants must have been a highly prized delicacy.

Leaves of the plants are also noteworthy for their medicinal qualities. No doubt this information was also gleaned from the indigenous people of the Cape. As early as 1685, the attributes of Carpobrotus were noted by the European settlers to the Cape. Early European plant collectors travelling the world in search of horticultural wonders were drawn to their extraordinary succulent leaves and almost iridescent flowers.

The high regard for Carpobrotus is reflected in the fact that it is one of the few plants in South Africa which has its vernacular name recorded in the early literature - t'gaankum, gaukum or goena vy. At the Bolus Herbarium, which specializes in the Mesembryanthemaceae, we have had several queries regarding the various names for Carpobrotus. As with all common names, there has been a great deal of confusion over the years. The reference book, Common names of South African plants by C. A. Smith et al. (Dept of Agricultural Technical Services, 1966. Botanical Survey Memoir 35) sheds some light on the problem. According to this source, the name syruvy refers to Carpobrotus acinaciformis and C. muti. In this species the fruits have numerous tiny seeds embedded in a sticky juice which has a pleasantly sourish taste. The fruits are picked
The home owner claimed that he had established iceplants all around his house as a fire repellent and this barrier had saved his home.

Carpobrotus edulis is described as ghaukum or hotnotsvy. As it is a rare example of a surviving vernacular name, it is fitting that the name ghaukum be more widely used and that the old Dutch name of hotnotsvy fall away. The name ghaukum is used in the eastern Cape to describe the delicious jam made from the fruits of C. deliciousus. Ghaukum, thus, also refers to this species. I have tried to make ghaukum jam but have failed in removing the skin successfully after soaking. Perhaps some reader will share with me the art of making ghaukum jam!

Early settlers ate the sugar-coated fruits as preserves. The leaves have a strong astringent taste and were sometimes used as poultices for sores, and the juice for dysentery, or as a gargle for sore throats, or a lotion for burns and scalds.

The other well-known use of Carpobrotus leaf sap is in the treatment of bluebottle stings.

Readers may wonder why this article is entitled 'Fire and Ice'. It appears that Californians use our iceplants or mesembis in a rather novel way. As we have seen in the media, California, like the south-western Cape, is prone to devastating summer fires. With the last spate of fires which swept through California, a number of houses were saved from incineration by groundcover plantings of iceplants. It was reported that on one hillside, where more than 150 houses were burnt down, one lone house survived, untouched by the fire. The home owner claimed that he had established iceplants all around his...
house as a fire repellent and this barrier had saved his home.

So effective are these plants in deterring fire that the Californian Fire Department officials endorse succulents as effective aids against fires. In a pamphlet issued by the Department they specifically encourage the use of iceplants. Since their proven effectiveness in protecting homes in the last great fire in California, they have been widely publicized. Nurseries have also been promoting the use of iceplants in ‘firescaping’ their properties, and nursery owners are anticipating a strong demand from the public for a wide range of iceplants.

In South Africa, people living in fire-prone environments would do well to ‘firescape’ their properties using mesembs. The wonderful potential of these plants as fire-barriers is far from being fully exploited in their home country. An added bonus is that they are easy to propagate, hardy, frugal with water, and on top of all this, bear attractive flowers. Casual observations suggest that C. edulis, though a fast grower, tends to become senescent or moribund. In contrast, C. deliciosus grows more slowly, but, unlike C. edulis, is able to grow over or straddle other low shrubs. Both are good stabilizers, especially on sand, but are not reliable on steep, very unstable slopes, being too shallow-rooted.

Acknowledgments
The Telegraph, London, and Phil Rundel, University of California, LA. Water-colour illustration: Boulos Herbarium, University of Cape Town.

Further reading
For those of you with an interest in Carpobrotus - how to identify them easily, where they grow, etc., you may be pleased to know of a recent publication in which each of the 7 species is beautifully illustrated in full colour with directions for easy identification. The book is entitled, The South African species of Carpobrotus by W. Wisura and H.F. Glen, Contributions of the Bolus Herbarium, 15. (The illustration by M. M. Page reproduced here is from this book). For more information: tel. (021) 650 3773.

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Veld & Flora December 1994