The highly ornamental flower heads, ripe berries and foliage of the southern African members of the genus *Scadoxus*, combined with their ease of cultivation and their tolerance to varying amounts of shade, places them among South Africa’s most rewarding bulbous plants for both garden and container cultivation. *Scadoxus* species, which were previously included under the genus *Haemanthus*, differ from the latter mainly in not having a true bulb but a rhizomatous rootstock, and their numerous thin-textured leaves have a distinct midrib which is lacking in *Haemanthus*. *Scadoxus* consists of nine species, of which only three occur in southern Africa, namely *Scadoxus membranaceus*, *S. multiflorus* and *S. puniceus*. 
Scadoxus membranaceus is an entirely evergreen, low-growing species found in coastal forest in the Eastern Cape and KwaZulu-Natal. It is a very variable plant as regards inflorescence and leaf size, and is easily distinguished from the other species in that the leaves are not produced on a pseudostem, but arise directly from the rhizomatous rootstock. Its height varies between 150-400 mm depending on the form and it is an autumn-flowering species with the leaf stalks always attractively marked with deep brownish-purple spots. The flowers are enclosed by four conspicuous, greenish-brown bracts.

Scadoxus puniceus is the most well known of the species, and it is a deciduous, summer-growing plant which is completely dormant during the winter months. It is extremely variable across its distribution range, which extends from the southern and Eastern Cape to the Free State, through KwaZulu-Natal to Swaziland, Mpumalanga, Gauteng, North West Province, Northern Province and further north into tropical Africa. Plant height varies from 0.5-1 m and its soft, fleshy leaves are borne alternately on an attractively spotted, distinct pseudostem. It occurs in both shade and full sun. The forms of this species that occur in the northern and eastern parts of South Africa flower in spring or early summer, just as the new leaves begin to develop, whereas those from the southern parts flower in early autumn, towards the end of the growing period.

Scadoxus multiflorus is a deciduous, summer-growing species that consists of three subspecies, namely subsp. multiflorus, subsp. katharinae and subsp. longitubus. The leaves and pseudostem of subsp. multiflorus resemble those of S. puniceus, but the spherical flower head of subsp. multiflorus is unmistakable, and it occurs in dappled shade from KwaZulu-Natal north into tropical Africa, its height ranging from 0.5-1 m. Scadoxus multiflorus subsp. katharinae is arguably the most spectacular member of the genus and it commemorates the English botanical artist and plant collector, Katharine Saunders, who arrived in Natal in the mid 1850s. Its pseudostem may be plain green or attractively marked with dark purple spots, and it is a robust plant often growing to well over 1 m. It occurs mainly in coastal swamp forest in the north-eastern parts of the Eastern Cape and KwaZulu-Natal, and northwards into southern tropical Africa. Flower colour varies from pinkish-orange to reddish-orange (the reddish-orange form of this subspecies most commonly

There are three species of Scadoxus that occur in southern Africa:
Top and facing page Scadoxus membranaceus from the Eastern Cape.
Centre Scadoxus puniceus.
Right Scadoxus multiflorus subsp. multiflorus from the Northern Province.
Far right Scadoxus multiflorus subsp. katharinae (pinkish-orange form from KwaZulu-Natal).
Photos: Graham Duncan.

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grown at Kirstenbosch hails from Inhaca Island, Mozambique). S. multiflorus subsp. longitubus is confined to tropical Africa, as are most of the remaining six species, including the spectacular S. pole-evansii from Zimbabwe (see Veld & Flora 86(3), page 129). The genus is also represented on the Arabian Peninsula.

Cultivation
The southern African species of Scadoxus are easily cultivated, provided that the following requirements are borne in mind: the growing medium must be well drained and contain plenty of well decomposed organic matter, and depending on the species being cultivated, plants need varying levels of shade. Furthermore, plants require protection from frost and must also be protected from attack by lily borer during the summer months. The rhizomatous rootstocks should be planted with the necks at or just above ground level, and during the winter-resting period, the growing medium should be allowed to dry out but the perennial fleshy roots should always be kept covered with soil to prevent them from drying out.

The extremely variable S. puniceus is the most sun-tolerant of the three southern African species, and it thrives on a few hours of morning sun, followed by full afternoon shade. However, plants of this species will often thrive even if they are exposed to some afternoon sun, but in such circumstances, the leaf margins will soon turn brown. The S. puniceus plants that are established in the permanent bulb planting in the Kay Bergh Bulb House inside the Botanical Society Conservatory at Kirstenbosch flower exceptionally well each spring, and tolerate irregular watering during their winter dormant period. S. puniceus does not thrive outdoors in areas receiving heavy winter rainfall, such as in the southern suburbs of the Cape Peninsula. The roots tend to rot under these conditions, and plants are best grown in containers, under cover, and allowed a dry period during winter. Likewise, the deciduous, summer-growing S. multiflorus subsp. multiflorus does not do well outdoors in high winter rainfall areas of the Western Cape, and should be grown in containers. Conversely, both S. membranaceus and S. multiflorus subsp. katharinae do very well outdoors in the high winter rainfall areas of the Western Cape, and even thrive in heavy shade.

Scadoxus are excellent subjects for mass planting under both deciduous and evergreen trees, and all three species are exceptionally good subjects for containers. Large terracotta or plastic containers with a diameter of 30-35 cm are recommended, and these need not be deep enough subjects for a shady verandah. As the roots of Scadoxus spread out horizontally, the evergreen S. membranaceus and the deciduous S. multiflorus subsp. katharinae are particularly useful as indoor plants provided they receive good light but no direct sunlight, or as subjects for a shady verandah. Bear in mind that S. multiflorus subsp. katharinae undergoes a short dormant period from midwinter until early summer, when the new leaf shoots develop.

Once established, Scadoxus species like to remain undisturbed for at least five years, after which thick clumps can be divided. Be sure not to cultivate the soil too close to the plants so as not to damage the brittle fleshy roots. Scadoxus species are not at all tolerant of frost, and are only recommended for outdoor cultivation in mild climates, preferably where winter temperatures do not drop below freezing. In very cold parts of the Northern Hemisphere, they are best grown in the cool greenhouse. All Scadoxus species are gross feeders, and mature plants benefit from applications of liquid feeds of seaweed extract like Seagro and Kelpak throughout the summer-growing period, as well as to granular fertilizer like 3:1:5, applied in spring and late summer.

Propagation
Scadoxus species are usually propagated by seed and by offsets. Seeds are best sown as soon as they are ripe, and are harvested from berries which have turned a bright red or orange colour. Remove the outer pulpy layer surrounding the seeds from each berry by washing them in a bowl of water. Sow the seeds in deep seed trays, just beneath the surface, by lightly pressing them into a sowing medium such as equal parts of coarse river-sand and finely milled bark or finely sifted compost. Space each seed about 2 cm apart to allow adequate growth area for each seedling, and place the trays in a well-shaded spot and keep moist by watering well with a fine rose once a week. Germination usually takes place within four to eight weeks, and seedlings benefit from applications of liquid feeds of seaweed extract like Seagro and Kelpak, as well as to Supranure, which contains a growth stimulant, applied every three to four weeks after germination.

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Seedlings of some forms of \emph{S. puniceus} do not produce any leaves during their first season of growth, but instead direct all their energy into producing the small rootstock. Leaves of such forms will be produced during the second season of growth. Allow \emph{Scadoxus} seedlings to remain in their seed trays for two years, after which they can be potted-up individually into black plastic bags in spring at the beginning of their third year, and allowed a further year of growth. At the beginning of their fourth year, they can be planted out into the garden or into permanent pots.

Well-grown specimens of \emph{S. multiflorus} subsp. \emph{katharinae} and dwarf forms of \emph{S. membranaceus} often produce their first flowers during their third season of growth, but generally, \emph{Scadoxus} species can be expected to flower for the first time during their fourth season, if well grown. Propagation by offsets is the best method of increasing stocks of superior forms of \emph{Scadoxus} which will be exactly true to type. Offsets form slowly, particularly with \emph{S. puniceus}, and are best removed from the mother plant in early spring, as new vegetative growth begins to develop. Remove offsets which are large enough with a sharp knife, ensuring that each offset has a good supply of healthy roots of its own, and treat the cut areas on both the mother plant and the offset with a fungicide like Captab 500. Re-plant the offsets in pots in a medium of equal parts of coarse river-sand and finely milled bark, and keep damp. Allow the offsets to establish themselves for a year, after which they can be planted out into the garden or into permanent pots in spring.

**Pest and disease control**

Like most other southern African members of the family Amaryllidaceae, the soft, fleshy leaves of \emph{Scadoxus}, particularly \emph{S. puniceus}, are very susceptible to attack by lily borer (also known as amaryllis caterpillar) mainly during the summer growing period. The night­flying moth lays its eggs on the undersides of the foliage, and the voracious caterpillars bore into the leaf tissue, rapidly destroying large areas if left unchecked. The relatively thicker leaves of \emph{S. membranaceus} and \emph{S. multiflorus} appear to be less prone to this devastating pest. Preventative spraying with a carbaryl-or cyper­methrin-based insecticide such as Carbaryl or Ripcord, respectively, is recommended once a month during the summer months. All \emph{Scadoxus} species are also susceptible to ‘red blotch’ fungal disease, commonly encountered in species and hybrids of the south American amaryllid genus \emph{Hippeastrum}, caused by the fungus \emph{Stagnospora curtisii}. \emph{Scadoxus multiflorus} subsp. \emph{katharinae} is particularly prone to this disease, which can eventually cause the death of the plant, and is seen as dark red blotches, most noticeable on the rootstock and at the tips of the roots and to a lesser extent, on the leaves. Heavily infected plants are best destroyed, but \emph{Scadoxus} plants can cope with mild infections for many years. Some authorities recommend treating this disease with Dithane M45 as a full cover spray, but at Kirstenbosch this measure has not proved successful. Slugs and snails are very partial to the foliage of all \emph{Scadoxus} species.

**Availability**

Plants of \emph{Scadoxus multiflorus} subsp. \emph{katharinae} and \emph{S. puniceus} are available periodically in summer from the Botanical Society’s Garden Centre at Kirstenbosch. The Croft Wild Bulb Nursery in the Eastern Cape has plants of \emph{S. puniceus} and seeds of \emph{S. multiflorus} subsp. \emph{katharinae} available by mail order in July and August, and seeds of \emph{S. puniceus} from December to February. Other nurseries that stock \emph{Scadoxus} species are Cape Flora Nursery and Random Harvest Nursery (see classified advertisements). Plants of \emph{Scadoxus membranaceus} as well as the other two species are also available periodically from Future Landscapes at P.O. Box 592, Port Edward, 4295.

Further reading

