

# The Desert Rose, *Adenium obesum*: nursery production.

prepared by John McLaughlin\* and Joe Garofalo\*

Perhaps because of the common name, many nurserymen and gardeners think desert rose is difficult to grow in a warm, wet climate like that of South Florida. Desert rose is, however, quite commonly cultivated in humid, tropical areas like India, The Philippines, and Thailand. If a few simple precautions are taken, desert rose grows into a spectacular low maintenance shrub, contributing both its distinctive form and an abundance of exceptionally showy flowers.

## CLASSIFICATION.

The plant we know as the “desert rose” is usually referred to as *Adenium obesum*, but the full Latin name is *A. obesum var obesum*. In older literature desert rose is referred to as *A. arabicum*.

The genus *Adenium* includes only one species, which is divided into several sub-species or botanical varieties. Some authors, however, recognize separate species. All are native to semi-arid climates. The name *Adenium* is derived from the Arabic name for the plant, *Oddaajn*, which means Aden, the former name of Yemen.

*Adenium* is in the dogbane family, Apocynaceae, which includes mostly tropical species, such as *Beaumontia*, *Carissa*, *Allamanda*, *Mandevillea*, *Nerium*, *Plumeria*, and *Tabernaemontana*, which are widely used in warm climates. Most of these plants produce varying amounts of milky sap, which can cause skin irritation or, as with desert rose, more serious internal poisoning.

## ORIGIN.

*A. obesum* is found in sub-Saharan Africa from The Sudan into Kenya and westward to Senegal, and south to Natal and Swaziland. A few occur in Yemen, on the SW corner of the Arabian peninsular. In their native environment the plants are variable in appearance and floral display, but are usually slow

growing and long lived, surviving for hundreds of years. In areas where they are indigenous, Winters are dry and cold enough to induce a dormant period including an associated loss of foliage.

## DESCRIPTION.

**STEMS AND LEAVES.** *Adeniums* are pachycaul (with thickened stems), succulent shrubs or trees, with a distinct swollen base (often called a caudex), much of which can be underground. Above ground the caudex can be almost globose to conical, narrowing before dividing into numerous irregularly spaced branches. (In mature specimens, a definite caudex is often no longer discernible.) Branches are smooth, grayish-green to brown, with small, terminal, spirally-arranged, glossy green leaves. In South Florida, plants tend to lose many (but not all) of their leaves in Winter, especially during extended dry, cool weather, but they never go completely dormant.

**FLOWERS.** As with many members of the Apocynaceae (e.g., oleander and frangipani), flowers are salverform (tubular at base, with flared lips), and range in color from deep purplish-red, through pink to white. The many cvs come in various color blends, shapes and sizes (up to 3"). A few have the added bonus of an attractive fragrance. Small, terminal clusters (corymbs) of flowers are produced during most of the year, though in some cvs flowering is more restricted. In Florida, desert rose is at its showiest during the drier months of the year, from late Winter to early Summer, and can be at times almost totally covered in blooms.

**FRUIT.** The fruit, termed a follicle, splits along one side as it dries, releasing seeds bearing a pappus (tuft of hairs which aids in dispersal) at each end. Seed production is not reliable, since pollination often is not successful, due to male or female sterility, which is common in plants in cultivation.

**CULTIVARS.** Several cvs of desert rose are available, including ‘Singapore’, with large rose-pink

flowers, and ‘Grumbley’s White’, with white flowers. Growers in Thailand have produced hundreds of new cvs which are gradually being introduced to the US. Many of these retain their Thai names and can be expensive. They are available from only a few U.S. mail-order nurseries. The closely related *A. swazicum* and *A. somalense* are also available.

## PROPAGATION.

**SEEDS.** As stated above, propagation from seed is not reliable because of pollination problems. For those developing new varieties, hand pollination using compatible plants is necessary to ensure the production of viable seed. If fresh, viable seed is available, and if it is planted promptly, germination rates are high. First remove the pappus, then dust the seeds in fungicide labeled for seed treatment, and sow them in a sterile, free-draining medium. Mixes containing soil and a high percentage of sharp sand can also be used, but they must be pasteurized and preferably sterilized. Germination occurs within a week at 85°F. About a month after germination seedlings should be ready for transplanting. They should have at least 6 true leaves when they are transplanted. Seedlings should be watered as needed and given regular applications of fertilizer. Plants grown from seeds will often flower within one year. Seeds are available from wholesale sources.

**CUTTINGS.** The easiest method of propagation is cuttings. Tip cuttings, preferably leafless, of about 5” long are dipped into rooting hormone with fungicide and rooted in a 1:3 mix of Canadian peat:perlite kept just damp. Rooting can be speeded up with misting and bottom heat. Inspect cuttings for new leaves and discard any that wilt.

**GRAFTING.** Cleft grafting requires more skill, but is more reliable, therefore preferable for valuable hybrids. Cut a 5" scion, then trim 3/4” from either side of the cut end to form a wedge. Rootstock and scion should be the same size. Cut the rootstock 3”

above the caudex, then make a vertical 3/4” cut across the cut surface, into which the scion is inserted so that the cambial layers of scion and rootstock are in contact. Wrap with grafting tape.

**LAYERING.** Air layering has been used to propagate desert rose to a limited extent. Roots form in 6-8 weeks. Results are best during hot, humid weather.

**LINERS.** Liners are available from wholesale sources; this may be a good way to get started.

## PLANTING AND MAINTENANCE.

The main considerations for growing desert rose (stock plants, in the landscape, and in containers) are temperature, light and soil moisture.

**TEMPERATURE.** If it regularly falls below 35-40°F the plants should be grown in containers so they can be moved to a protected site when necessary. At 40°F branch tips will be damaged, however the plant will survive; prolonged exposure below 40°F causes serious damage or death.

**LIGHT.** Desert rose requires full sun; plants grown in shade will flower poorly, become leggy, and are more susceptible to diseases. Some growers choose to expose increasing amounts of the underground part of the caudex as the plant grows. As this is done, it is necessary to protect the newly exposed portions from direct sun, or sunscald may occur.

**DRAINAGE.** Desert rose requires excellent drainage; if it is not provided, the roots rot, resulting in poor growth or death of the plant. Therefore, all steps necessary to provide good drainage should be completed before plants are installed. These steps include: 1) Construct a raised bed in areas that are likely to flood, or where drainage is slow. Use a soil mix that drains freely. 2) Choose a site in full sun and with good air circulation. 3) Avoid areas where automatic sprinklers are used.

To construct a raised bed, you can use crushed rock or

debris from holes dug for other plants to build up a berm (mound with a flat top) 12 – 18” above the surrounding area. Cover with a 2-3” layer of a 3:1 mix of sand:top soil, soak well with water, and allow the mound to settle for a few days. Install the plants no deeper than they were growing in their containers. The backfill must drain freely.

Avoid damaging the roots during planting, since damaged roots are likely to become infected with soil-borne pathogens and rot. Do not use organic mulches around the plants, but river gravel or lava rock are OK. If you have used a raised bed, consider planting a groundcover of plants which also like sunny, well-drained sites, e.g., dwarf cvs of crown-of-thorns, improved purslane cvs or native lantana.

**NUTRITION.** During the first 2–3 yrs young plants make rapid growth if provided with adequate fertilizer, then growth slows down as they mature. Give young plants a full strength complete liquid fertilizer every 2 wks during Spring, then a slow release palm special fertilizer in early Summer and again in early Fall. Liquid fertilizer can be used during the dry Winter months when temperatures stay above 80°F (don’t fertilize below 80°F). For more mature plants, reduce or eliminate the liquid fertilizer, but continue the slow release fertilizer.

**CONTAINERS.** Desert rose can also be grown in any container that permits good drainage. Unglazed ceramic pots are ideal, in that they allow the soil to dry out between waterings. If a clay pot is used it must be wide enough to allow for expansion of the caudex, otherwise the container may crack. A well-drained potting mix should be used, with frequent applications of liquid fertilizer (half strength 20-20-20) until flowering begins. Where Winters are too cold to permit outdoor growing, or in areas with cool, wet Winters, use containers that permit the plant to be moved under cover when necessary.

**PRECAUTIONS DURING SOUTH FLORIDA WINTER.** Desert rose will thrive under South Florida conditions (high rainfall and temperatures above

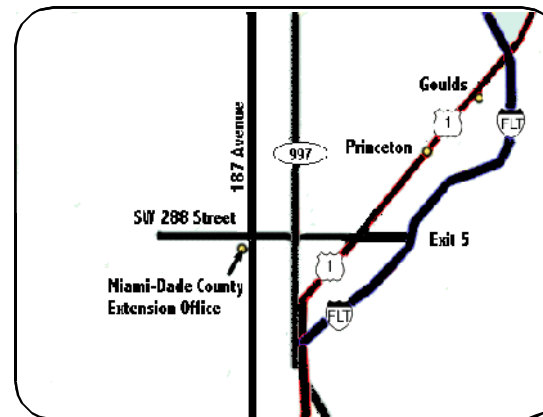
80°F), provided it is grown in a very well-drained soil on a site that does not flood. Root-rot is far more likely during the cooler months. Allow the soil to dry out between waterings and refrain from watering during cool, wet, cloudy weather. Desert rose can be grown outdoors all year, with regular watering restricted to those times when there is an extended period of hot, dry weather, as sometimes occurs in late Spring.

**PESTS AND DISEASES.**

Apart from scales, mealybugs, and occasionally spider mites, there are few insects that are serious problems in South Florida. Diseases are far more limiting, especially the bacterial and fungal root and stem rots. Prevention (following the planting and maintenance guide above) is the best strategy, since there is little that can be done once a plant is infected. Inspect plants for damage after cold weather since this makes them more prone to rots that can spread to healthy parts of the plant. Any cold-damaged branches should be removed as soon as damage can be detected. Look for burned leaves and flaccid stems. Fungal leaf spots are occasional problems, especially during extended periods of wet weather. Contact your county extension office or the Plant Disease Diagnostic Clinic for current management recommendations.

**SELECTED REFERENCES.**

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**In Writing**

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