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Lanceleafed sundew (*Drosera adelae*)

The sundews comprise the most cosmopolitan group of carnivorous plants on Earth, matched in variety and habitats only by the triggerplants. Found on every continent except Antarctica, sundews are mostly found in bogs and fens throughout the world. Many have extremely wide ranges, with a wide range of particular survival strategies, but all have in common leaves covered with mobile hairs, called tentacles, that secrete mucilage at the ends. When a prey animal lands on the leaves, presumably to drink dew remaining on the leaves, the mucilage helps hold it fast. As it struggles, surrounding tentacles gradually move to grasp the prey animal and force it down to the leaf's surface. The prey soon suffocates from the mucilage, and the leaf surface secretes digestive juices, which dissolves the prey and transfers nutrients to the leaf. While most prey items are insects, sundews also catch spiders and other arthropods, and have been known to snag small frogs.

The lanceleafed sundew is native to the northernmost parts of Queensland, Australia. Unlike most other sundews, *D. adelae* prefers much lower light levels than most sundews, and doesn't go into summer or winter dormancy like many of its relatives.

Care and Feeding

D. adelae is generally found in typical carnivorous plant habitat, with highly sandy and peaty soil and very soft water. As such, the best soil mix is a 50/50 blend of milled sphagnum moss and sand. Make sure that the moss is actually sphagnum, not "green moss" or "horticulture moss" or any sphagnum moss with added fertilizers, and check the sand for alkalinity by dribbling a few drops of vinegar on the sand. If the sand hisses or sizzles, the sand is far too alkaline. The Texas Triffid Ranch uses silica sand specifically intended for swimming pool filters, and this may be a good option if other suitable sand is unavailable.

Many carnivores go into a temporary dormancy or "sulking" period when moved, shipped, or repotted, and *D. adelae* is a particularly dramatic sulker. After being repotted or set into new conditions, the leaves tend to look ragged and limp, and the plant will stop producing mucilage for several days. Just let it get acclimated to its new conditions, and it will usually bounce back. Even if the parent plant doesn't, new shoots will rapidly grow from the parent's roots, and the new plantlets will soon take over the parent's space.

Water quality is a point of discussion among carnivorous plant enthusiasts, as overly hard water can injure or kill most carnivores. The Texas Triffid Ranch only uses rainwater or distilled water, as the municipal water in Dallas is fatal to most carnivores in a matter of hours, and continued use of such low-salt water is very highly recommended. Do not use water run through a water softener, as it still has enough table salt dissolved in it to injure or kill plants, and the same goes for bottled water unless it specifically reads "Distilled" on the label. Contrary to popular myth, while boiling tap water will kill bacteria and help remove chlorine, it will NOT remove salts, and may in fact concentrate them. Lanceleafed sundews like plenty of moisture, so water regularly but not so that the plant remains in standing water.

Lanceleafed sundews grow and thrive under lower levels than such standard varieties as Venus flytraps or pitcher plants. Unlike most sundews, *D. adelae* cannot tolerate direct sun without a long period of acclimatization; even when it has the chance to adapt, long periods of direct sun will cause the plant to die off without warning, with new plants sprouting from the tops of the old. A standard 30-watt compact fluorescent light in a desk lamp will offer plenty of light for growth and maintenance. (If using fluorescent fixtures to light any carnivorous plant, switch out the fixtures every six months to a year, depending upon the brand, to guarantee a high level of light reaching the plants.) A good sign that a *D. adelae* is getting sufficient light is when the leaves are green but the tips of the tentacles turn red. If the leaves go brassy, this is usually a sign of the plant receiving far too much light.

A note on temperature: research at the Texas Triffid Ranch notes that lanceleafed sundews cannot tolerate temperatures above 90 degrees Fahrenheit (32.22 degrees Celsius) for any extended period of time. If *D. adelae* is kept in a terrarium being exposed to direct sun, make sure that the terrarium is vented to allow heat to escape. While the lanceleafed sundew is tolerant of cooler temperatures, it does not require a dormancy period as with other sundews, and should be brought inside if outdoor temperatures go below 50 degrees F. (10 degrees C.).

Unlike many carnivores, *D. adelae* is very intolerant of lower humidity, and will go into shock or even die if kept in low-humidity conditions for an extended time. Never keep a *D. adelae* outside or on a windowsill when humidity drops below 60 percent, and do not keep an exposed plant near fans, air conditioning or heat vents, or other circumstances where it could dry out. Contrary to popular opinion, sundews require sufficient light instead of sufficient humidity to produce mucilage on their tentacles, but higher humidity levels will prevent the mucilage from evaporating and drying out.

Never, EVER fertilize a lanceleafed sundew with standard or organic fertilizers under any circumstances, as this will kill the plant. Instead, always feed the sundew live or freshly dead prey. Many carnivorous plant enthusiasts gather ants or other small insects and sprinkle them on the leaves; others leave the tops of the plant's containers open for a time to catch fungus gnats, mosquitoes, and other flying insects. If these are unavailable or otherwise undesired, many pet shops and biological supply houses sell vials of wingless fruit flies, which may be sprinkled like salt from a salt shaker onto the plant. Although lanceleafed sundews are enthusiastic eaters, try not to feed the plant more than once per week, as undigested prey may grow mold that can kill the leaf or sometimes the whole plant.

Finally, *D. adaelae* will signal that it is in optimal conditions by reproducing by shoots coming from its roots: the roots are long and fibrous and stretch as much as 12 inches (30.48 centimeters) from the base of the plant, so sometimes shoots will emerge in unexpected places. When kept in clear containers, *D. adaelae* is renowned for sprouting shoots belowground in areas where the roots have access to light, and this may be discouraged by wrapping the base of the container with dark paper or cloth to the soil line. If kept with sufficient light and prey, one small sundew may fill a 10-gallon fishtank with progeny within a year.

As well as vegetative propagation, *D. adaelae* also reproduces by seed, usually by producing a long scape of bright red flowers. These flowers usually emerge by April in the Northern Hemisphere, and flowering is dependent upon the amount of light it receives, with approximately 12 hours, no more and no less, of natural or artificial light. Whether *D. adaelae* flowers are self-fertile is unknown, but the color of the flowers will attract hummingbirds and bees willing to make the attempt.

Resources

The Savage Garden: Cultivating Carnivorous Plants, D'Amato, Peter, Ten Speed Press, 1998. 314 pp., ISBN 0898159156.

Growing Carnivorous Plants, Rice, Barry A. Timber Press, 2006. 224 pp., ISBN 0881928070

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