

Bromeliad Culture Brochure

Furnished by the Bromeliad Society International



Bromeliaceae Plant Family Description

Bromeliads (bro-meile-ads) belong to the plant family, Bromeliaceae, which encompasses over 2700 species plus thousands of hybrids. With one exception all are native to the Americas. They grow from the southern part of the United States throughout the Americas to Chile and Argentina in South America. Spanish moss and ball moss are bromeliads found across a very wide range, but the pineapple is the most familiar bromeliad.

In nature many bromeliads grow on trees as epiphytes or air plants. Their roots are used mainly for support. They are not parasites. While many bromeliads grow on trees, many others grow in the ground, on rocks and on cliff faces. They are remarkably versatile, and form one of the most adaptable plant families in the world. They have a tremendous ability to survive, and can offer infinite variety, challenge, exciting plant forms and color combinations.

Bromeliads are divided into groups called genera. Different genera and species require varying amounts of light, water and humidity; however, the majority of the plants in each genus (singular for genera) often have the same general cultural requirements. In cultivation, the most commonly found genera are **Aechmea**, **Billbergia**, **Cryptanthus**, **Dyckia**, **Guzmania**, **Hechtia**, **Neoregelia**, **Nidularium**, **Orthophytum**, **Tillandsia** and **Vriesea**. Many make good house plants if given a reasonable amount of care.



Potting For ease of growing, displaying and handling, most bromeliads can be potted, as opposed to mounted on wood or other material. However, most gray leafed tillandsias will grow more easily if mounted. Bromeliads will grow in almost any medium that drains well, does not pack down, provides stability while the rooting system develops, and has a slightly acid to neutral pH. Potting mixes vary according to availability of materials and certain grower preferences. Some materials used either alone or in combination include perlite, coarse builders sand, tree fern fiber, small gravel, and red wood, pine, cypress, or fir bark. The potting mix must drain rapidly. Orchid bark is satisfactory, and bromeliads complement orchid collections. Cryptanthus and dyckias grow well in African violet soil without any additive. Dyckias also do well in cactus soil. African violet growers find cryptanthus good companion plants under fluorescent lights. Cactus fanciers grow dyckias and hechtias easily in their collections. A few good potting rules to follow are:

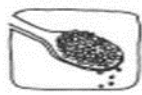
- Plant just to the base of the leaves to prevent possible rotting. Don't pot a bromeliad too deeply.
- Use the right size pot. Don't use a pot that is too large or which increases overwatering. Four, 5 and 6 inch pots are all used. A pot that is too small is preferable to one that is too large.
- Don't allow the plant to rock back and forth, or wiggle. This damages the tender, developing roots. Stake the plant, if necessary, until the roots are well developed.
- Use a fast-draining potting mix. Water should run right through the mix. Then empty the saucer.
- Use a pot with drainage holes in the bottom or sides.



Watering The roots of most potted bromeliads like to be moist, but never soggy. Keep the central cup, if there is one, filled with fresh water. Don't allow the water to get too old or stagnant, or the plant may rot. The water should be at room temperature, and should be poured into the center of the plant, the cup, and allowed to run through the leaves into the soil, so that the roots are moistened. Watering once a week is often sufficient. Mist the plant every few days if the humidity is 50 to 60%, or daily, if the humidity is lower. Soft leafed plants require more water and humidity than stiff leafed ones. Most vrieseas, guzmanias, and nidulariums like high humidity. Mounted plants need frequent misting unless the humidity is high, and do better with a weekly dousing in a sink, tub or bucket to thoroughly soak them.



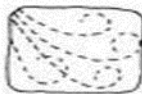
Light Bright, diffused light is best for most bromeliads. Hard, spiny, thick leafed plants, as well as those with gray-green, gray or silvery leaves, can take bright light for extended periods of time. Soft, thin leafed plants and those with purplish (discolor) foliage do well in a spot with lower light intensity, but no bromeliad likes a dark environment. Nidulariums require the least amount of light and gray leafed tillandsias the most. The intense translucent red seen in many neoregelias usually cannot be held, if grown solely in the house. The other genera mentioned fall somewhere in between these two in light requirements. Symptoms of too little light are dark green, often soft, drooping leaves that are longer than normal. Symptoms of too much light are yellowed leaves, markings that are faded and bleached out, a leathery, stressed look to the foliage, and in extreme cases, sunburn spots and holes.



Fertilizing Opinions vary as to whether one should fertilize, and if so, at what strength and frequency. This really depends on the amount and intensity of the light the plants are grown in, and on the genus. Many growers do not fertilize neoregelias, or stiff leafed aechmeas as they look better when grown in a slightly stressed condition. Most growers refrain from fertilizing during periods of very slow growth, often caused by low light levels and lower temperatures present in winter. There is a consensus that guzmanias and vrieseas require fertilization to obtain large colorful bloom spikes. The strength of the fertilizer used should not exceed 1/4 to 1/3 of the recommended dosage, if fertilizer is applied once a month. If fertilizing more frequently, dilute the fertilizer even more. Slow release pellets such as Osmocote, 14-14-14 or Magamp, 7-40-6, can be added on top of the soil at a dosage of about 1/4 teaspoon for a 5 inch pot every 3 to 4 months, but never place fertilizer pellets in the cup. Most plants do well if sprayed with a dilute solution of fertilizer from time to time.



Temperature Most bromeliads will be comfortable where you are. Generally, they prosper at temperatures between 50 and 90 F (11 to 36 C). They are not winter hardy except in tropical regions. They prefer temperatures below 90 F (36 C), but many tolerate heat if there is good air circulation. Guzmanias and soft-leafed Tillandsias are the least tolerant of hot temperatures and make excellent plants for cooler growing conditions.



Humidity and Air Circulation Humidity and good air circulation are essential. Humidity can be increased in the house by humidifiers, grouping plants together, misting frequently, and setting the pot on rocks in a plant saucer, with water kept below pot level in the saucer. Plastic saucers are best, because clay ones absorb moisture, and may mar surfaces. Nidulariums, vrieseas, and guzmanias require higher humidity. Mounted bromeliads require good air circulation. Bromeliads in nature are often found in areas with prominent wind currents. Invest in a fan to move the air if you grow bromeliads in an enclosed space.



Artificial Light Many bromeliads grow successfully under artificial lights. Fluorescent tubes are better than incandescent bulbs because a broader spectrum of light rays can be achieved with more intense light and less heat. Two to 4 tubes are best, depending on the plant's requirements. There are special tubes for plants, although a combination of a warm white and a cool white is quite effective. The closer to the tubes, the more light emitted. Smaller plants can be boosted to the lights by setting them on a pedestal, or an inverted pot. Even a desk lamp can be used with success. Cryptanthus grow well under lights with African violets.

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Insects and Disease Bromeliads are relatively pest free. If mealy bugs or scale are present, use Orthene (Acephate), Cygon 2-E (Dimethoate at 1 tsp. to the gallon), or 25% wettable Malathion powder (avoid oil based) in a spray, or mix a solution and dip the plant. Be sure not to leave any insecticide in the cup. The plant should be thoroughly watered the day before treatment. Use of spreader stickers or oil base sprays is not recommended. Fungus, while not a common problem, can be controlled by using Banrot or Benomyl (1 1/2 tsp. per gallon), or Captan. When using chemicals, if possible treat outside. If you must treat inside, always provide adequate ventilation and wear protective clothing to prevent contact with skin. Wear a long sleeved shirt, protect hands with rubber gloves and shower immediately after finishing.



Blooming Most cultivated bromeliads bloom only once in their lifetime. Plants mature and bloom at different ages, depending on species and growing conditions. To encourage blooming of mature plants, try Peter's 10-30-20 fertilizer diluted to half strength. Some blooms, notably the billbergias, last only a few days, while others stay attractive for many months. Those plants that require lower light levels are easier to bring into bloom in the house than those requiring higher light levels. Many bromeliads have such beautiful foliage that their bloom is regarded as a bonus, rather than an essential. A strong change in growing conditions, such as light or excessive dryness, may trigger a mature plant to bloom. There are chemicals that force bloom, but these are usually tricky to regulate, and often interfere with pup development. It is usually best to be patient, and allow nature to take its course.



Offshoots, Offsets, or Pups After a plant has bloomed, it will very slowly die over the next year or two, but it will replace itself with new plants called pups, offsets, or offshoots. Most pups grow off the side of the mother plant at the base. Remove these pups when they are about 1/3 to 1/2 the size of the mother plant. Use a sharp knife or clippers, and cut as close as possible to the mother plant without injuring it. Some offsets are attached by stolons that are often very woody. Some kind of serrated knife or a small saw is helpful. If the pup has a long woody stolon, detach a large part before potting. The top can be twisted (not cut) directly out of the top of a super-market pineapple, hardened for a week or two, and then potted successfully. Some plants like cryptanthus, orthophytums, and some tillandsias, have pups further up on the mother plant. Their attachment is so fragile that they can be easily

plucked off. Remove any brown leaves before potting and dip in a rooting fungicide such as Rootone. The mother plant will continue to produce pups until it dies. Some pups are difficult to root. In such cases, place the pup in a plastic pot tall enough to support the pup. Place a small amount of peat moss at the bottom of the pot and place the rootless pup atop that. Don't put any other mix in the pot. Water as you would the other plants in the collection. Roots usually will appear readily. Offsets will usually mature in 1 to 3 years depending on the genus and growing conditions.



Mounted Plants Bromeliads such as aechmeas, billbergias and tillandsias can be mounted to grow as epiphytes (air plants). Gray leafed tillandsias are drier growing and prefer mounting. Various types of wood, roots, tree fern slabs, rocks and cork are good materials for mounting. Driftwood that has been in sea water should be soaked for several days to leach out salts before attaching plants. Use plastic coated wire (never bare wire), staples, various glues, or narrow strips of nylon stockings to tie or secure plants. Be careful not to damage the base of the plant. Some tillandsias will never show root attachment even after years of growth.

Mounted plants depend on their leaves to absorb needed moisture and food. Water the entire plant thoroughly at least twice a week, and douse them thoroughly in a tub or sink weekly. Don't allow water to sit in the leaf axils of fuzzy or gray leafed tillandsias. Shake the water off, if necessary. Fertilize mounted plants sparingly with a dilute liquid fertilizer.