

What Are Bromeliads?

Bromeliads are members of a plant family known as Bromeliaceae (bro-meh-lee-AH-say-eye). The family contains over 3000 described species in approximately 56 genera. The most well known bromeliad is the pineapple. The family contains a wide range of plants including some very un-pineapple like members such as Spanish Moss (which is neither Spanish nor a moss). Other members resemble aloes or yuccas while still others look like green, leafy grasses.

In general they are inexpensive, easy to grow, require very little care, and reward the grower with brilliant, long lasting blooms and ornamental foliage. They come in a wide range of sizes from tiny miniatures to giants. They can be grown indoors in cooler climates and can also be used outdoors where temperatures stay above freezing.

Bromeliad History

Bromeliads entered recorded history some 500 years ago when Columbus introduced the pineapple (*Ananas comosus*) to Spain upon return from his second voyage to the New World in 1493. On that voyage he found it being cultivated by the Carib Indians in the West Indies. Within 50 years this tropical fruit was being cultivated in India and other Old World countries.

It took some time for additional bromeliads to enter cultivation. It wasn't until 1776 that another bromeliad (*Guzmania lingulata*) was brought to Europe. *Aechmea fasciata* followed in 1828 and *Vriesea splendens* in 1840.

Within the last hundred years, bromeliads have become more widely used as ornamental plants. Originally only found in royal botanical gardens or the private greenhouses of wealthy Europeans, their popularity has spread to the masses. Today bromeliads are more available to the enthusiast than ever before. New species are still being discovered and plant breeders are developing ever more stunning hybrids to choose from.

Uses for Bromeliads

Although the pineapple is the only member of the family cultivated for food, several species including Caroa (*Neoglaziovia variegata*) are cultivated as a source of fiber. Pineapple stems are a source of the protein-digesting enzyme bromelain used as a meat tenderizer. Because fresh pineapple also contains bromelain, it cannot be used in gelatin molds since the enzyme breaks down the congealing proteins. Spanish Moss (*Tillandsia usneoides*) contains a tough, wiry core that was once used as a material for stuffing upholstery.

Where they Grow

Bromeliads are a Neotropical family which means they grow virtually exclusively in the New World tropics (and subtropics). Most come from South America with the greatest number of species found in Brazil. They range from Chile and Argentina in South America through Central America and the Caribbean reaching their northern limit around Virginia in the southeastern United States. A single species (*Pitcairnia feliciana*) is found in western Africa. Bromeliads' altitude range is from sea level to over 14,000 feet. They can be found in a wide variety of habitats from hot, dry deserts to moist rainforests to cool mountainous regions.

They are found in a variety of growing situations: **Terrestrial** species are found growing in the ground (the way we expect most plants to grow). They may be found growing in bright sun along sandy beaches to the shady understory of a forest among the leaf litter and debris. **Saxicolous** species are found growing on rocks. They may grow on hard rocky outcrops where their roots may penetrate cracks and fissures to locate moisture or organic nutrients or sometimes they are found growing tenuously on sheer cliff faces. **Epiphytic** species are found growing on other plants, usually trees, shrubs or cactus but sometimes they can be found on telephone poles or even on the telephone lines themselves. This capability to take their nutrition and moisture from the atmosphere has earned these bromeliads the name "Air Plants".

How They Grow

All bromeliads are composed of a spiral arrangement of leaves sometimes called a "rosette". The number of degrees between successive leaves varies from species to species with a few having a 180 degree separation between leaves. This causes the plant to grow in a flattened configuration with its leaves lined up in a single plane. The bases of the leaves in the rosette may overlap tightly to form a water reservoir. This central cup also collects whatever leaf litter and insects happen to land in it. The more ancestral terrestrial bromeliads do not have this water storage capability and rely primarily on their roots for water and nutrient absorption. Tank bromeliads (as the water storing species are often called) rely less heavily on their roots for nourishment and are more often found as epiphytes. The roots of epiphytic species harden off after growing to form holdfasts as strong as wire that help attach the plant to its host. Even though bromeliads are commonly called parasitos in Spanish-speaking countries, these epiphytes do not take sustenance from their host but merely use it for support. In some species, the bases of the leaves form small chambers as they overlap and these protected spaces are often home to ants. In exchange for shelter, the ants' waste may provide the bromeliad with extra fertilizer.

All bromeliads share a common characteristic: tiny scales on their leaves called trichomes. These scales serve as a very efficient absorption system. In species found in desert regions where the air is hot and dry and the sun beats down relentlessly, these scales also help the plant to reduce water loss and shield the plants from the solar radiation. These plants are so covered with scales that they appear silvery-white and feel fuzzy. On many species (especially in more humid areas), the scales are smaller and less noticeable. Sometimes the scales can form patterns and banding on the leaves that add to the plant's beauty.

With few exceptions, the flower stalk is produced from the center of the rosette. The stalk (or scape as it is called), may be long with

the flowers held far away from the plant (either erect or hanging pendently) or the scape may be short with the flowers nestled in the rosette. The scape may produce a single flower or many individual flowers and may have colorful leaf-like appendages called scape bracts that serve to attract pollinators and delight bromeliad enthusiasts. With rare exceptions, bromeliads only flower a single time - once the plant stops producing leaves and produces its flower, it will not start making leaves again. It will, however, vegetatively produce new plantlets called "offsets" or "pups". These plants will feed off the "mother" plant until they are large enough to set roots of their own and survive as a separate plant. The mother may sometimes survive a generation or two before finally dying off. Pups are usually produced near the base of the plant - inside the sheath of a leaf. Sometimes, however, pups may be produced on long stolons or atop the inflorescence (flower spike) of the mother plant. The green, leafy top of a pineapple is in fact a pup that may be removed and planted to start a new plant.

Send comments, corrections and suggestions to: webmaster@bsi.org

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