

BROMELIAD SOCIETY OF SAN FRANCISCO



January 2008

NEWSLETTER

Our next meeting will be held on **Thursday, January 17, 2008** at 7:30 PM
Recreation Room, San Francisco County Fair Building, 9th Avenue at Lincoln Way, Golden Gate Park,
San Francisco

January Program

Bromeliads for Bay Area Gardens

Our society's display at the Cow Palace last Spring was such a success that the California Horticultural Society invited us to provide a show for them. **David Feix** and **Dan Arcos** assembled a PowerPoint presentation that was very successful when shown. Dan will reprise slide show at this month's meeting. Since most of us did not make the Cal Hort Meeting, you should attend our meeting this month.



Here is **Dan Arcos**, our speaker this month, at one of our annual garden tours. I believe he is sitting with Barret Bassick's wife (the Bassicks have since moved to Florida).

January Refreshments

Roger Lane will provide refreshments this month.

December Meeting

Our holiday potluck dinner and party was a great success. Thanks for bringing in great food items and wonderful gifts to share. We wish to also thank **Leena Dugger**, **Dorothy Dewing**, and **Marilyn Moyer** for the planning and ensuring the party went off without a hitch.

Introduction to Epiphytic Bromeliads in Chiapas

This article is taken from the December 2003 Orlandiana, newsletter of the Bromeliad Society of Central Florida.

Tropical forests are not just trees!

One of the most striking features of tropical and subtropical forests is the abundance of plants to be found growing on tree trunks and branches. These plants, known as epiphytes, are an important component of the biodiversity of such forests. As well as adding directly to the floristic richness of the area, epiphytes provide food and shelter for a vast number of insect species. Tank forming bromeliads make miniature aquariums in the canopy, used by insects, tree frogs and salamanders as breeding sites. Humming birds and other nectar feeders are attracted to epiphyte flowers. Fruit eating mammals and birds also find food provided by epiphytic plants. In addition, epiphytes have been shown to play an important role in nutrient cycles in some tropical ecosystems.

Bromeliads are very special epiphytes

Many epiphytic plants are restricted to growing in accumulations of organic matter in the tree crowns in order to obtain their nutrients; some are even parasitic on their host trees. Bromeliads, in contrast, use their roots mainly to anchor themselves in the canopy. Their leaves are able to absorb water and nutrients directly through scales (trichomes) on their surface. Larger bromeliads tend to have concentrations of these trichomes at the base of the leaves. The overlapping leaf sheaths form an effective tank in which to trap and store water. Smaller species (often known as air plants) capture water and nutrients whenever

their leaves go through a cycle of wetting and drying out.

In the highland forests of Chiapas bromeliads are the most abundant and conspicuous epiphytes sometimes covering almost all the available space on the branches and trunks of trees. Areas of low-lying land naturally isolate populations of highland species. As a result, several species are endemic to Chiapas. Even within species there may be considerable genetic variation between populations making conservation of fragmented forests especially important.

Why are bromeliads threatened in Chiapas?

As the population of Chiapas grows, so does the demand for land for cultivation, timber, and fuel wood. The resulting deforestation is an obvious threat to epiphytes. However, in the densely populated highlands, bromeliads are also threatened by a more subtle effect. The natural vegetation of these areas is mixed pine-oak forest. Although bromeliads may be found growing on pine trees they only do so on very moist slopes or areas with an abundance of oaks. The spreading crowns and rough bark of oak trees make them much more susceptible to colonization. Unfortunately, the highland forest is changing. Pines are preferred as timber trees and regenerate much more readily in areas that have been subjected to burning – a common management practice in the area. Pines now dominate much of the forested area in the highlands and sadly such woodland almost totally lacks bromeliads.

The inflorescences of some attractive highland species such as *Tillandsia eizii* and *T. ponderosa* have been collected for centuries to adorn churches, houses, and graves. As the fragments of forest, which still contain bromeliads, shrink in size, this collection becomes a serious threat.

How can bromeliads be protected from extinction?

Clearly the most effective way to protect bromeliads is to conserve the habitat in which they grow. However, very few areas in Chiapas have been declared reserves, and protection of areas designated for conservation is difficult. Reserves tend to produce little benefit for the local population in an area in which the demand for agricultural land is causing considerable

conflict. Old growth forests are frequently seen as unproductive and are often invaded by small farmers desperate for land on which to grow the subsistence crops of maize and beans. Local communities own many of the forest fragments with healthy populations of bromeliads. These woodlands are needed in order to produce wood for cooking. Oak trees do provide better fuel wood than pines, which are generally used for timber. Unfortunately, production of fuel wood alone may not be sufficient to guarantee that sufficient old trees are preserved in the forest to ensure a thriving population of bromeliads.

Ornamental bromeliads can have considerable economic value. There is a local market for inflorescences and the potential exists to export ornamental plants. If bromeliads are harvested sustainably as a non-timber forest crop their presence in the forest becomes beneficial and provides a strong motive for the preservation of the habitat in which they occur.

Shelf Life of Pesticides

This article by Yday K. Yadov is taken from the October 1985 *Bromeliana*, newsletter of the New York Bromeliad Society.

The bulk of pesticide formulations are a mixture of various substances such as active ingredients, wetting agents, dispersing agents, and solubilizers. Because of these mixtures of complicated chemicals one begins to wonder about their stability or shelf life under normal conditions.

The majority of pesticides available... are formulated as emulsifiable concentrates and **generally have a shelf life of 2 to 3 years** when kept sealed and protected from temperature extremes. Emulsifiable concentrates are concentrated oil solutions...with enough emulsifier (a detergent-like material) added to make the concentrate mix readily with water for spraying. Most wettable powder materials will last for at least 2 years if kept dry under conditions of cool temperatures and low humidity.



Here is the stunning flower spike of *Tillandsia eizii*. This is a relatively large plant with plain green leaves until it comes into flower. It is an easy plant for us to grow in this area but it is not readily available because it is a slow grower and it is monocarpic (does not pup). This photo by Robert Guess is courtesy of the Florida Council of Bromeliad Societies.

In general, wettable powders usually have a longer shelf life than liquid formulations. Wettable powders allow the mixing of the powder with water before spraying. They contain 50 to 75% clay or talc which permit them to sink to the bottom of spray tanks. Spray mix should be agitated constantly for proper mixing. Bags of wettable powder material should not be allowed to get wet and must be kept tightly sealed during storage.

Growers should not buy more material than what they expect to use during the year. Besides

stability it becomes a safety problem when pesticide labels fade or wear off or if bags get holes in them.

Some fungicides such as Lesan break down in the light whereas Benlate becomes unstable and breaks down in the presence of moisture. Therefore, shelf life of these two fungicides can be increased by keeping the bags dry and tightly sealed after each use. As stated on the label, Diazinon AG should be used up within 6 months once the container is open.

Physical changes, such as physical smell, color change, settling out of precipitate material, layers of solvent material visible in the bottle or difficulty in dispersing wettable powder in spray tank are indications of deteriorating stability. Such materials should be discarded.

[This article is your cue to look over all of your pesticides now, and throw out anything you have had for more than two years. Ed.]



Tillandsia ponderosa is another one of the Chiapas beauties. It is also a slow grower and not readily available but this plant does pup. Photo is courtesy of the Florida Council of Bromeliad Societies.

BROMELIAD SOCIETY OF SAN FRANCISCO (BSSF)

The BSSF is a non-profit educational organization promoting the study and cultivation of bromeliads. The BSSF meets monthly on the 3rd Thursday at 7:30 PM in the Recreation room of the San Francisco County Fair Building, 9th Avenue at Lincoln Way, Golden Gate Park, San Francisco. Meetings feature educational lectures and displays of plants. Go to the affiliate section of the BSI webpage for information about our meetings.

The BSSF publishes a monthly newsletter that comes with the membership. Annual dues are single (\$15), dual (\$20). To join the BSSF, mail your name(s), address, telephone number, e-mail address, and check made payable to the BSSF to:

Harold Charns, BSSF Treasurer, 255 States Street, San Francisco, CA 94114-1405.

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OF
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Come to our meeting to see Bromeliads that can be grown outdoors!