

Bromeliad Weevils

Sally Scalera

Calling all bromeliad lovers! There is an important new pest of bromeliads that every bromeliad enthusiast should be aware of to help stop its spread. Over the past few years bromeliads have become very popular because of their large colorful leaves and blooms. Of course, the pineapple is a bromeliad too and many enjoy its fruit.

Florida though, has many native bromeliads that may not be as showy as those seen in the garden centers but they are still wonderful. Many grow on tree branches and are referred to as airplants. They take in nutrients from the air and the decomposing matter that collect in the water they store between their leaves. Bromeliads do not harm the trees they grow on. They also have important roles in the environment such as providing a home for certain animals.

The new pest that is attacking the bromeliads is a weevil whose scientific name is *Metamasius callizona*. This new pest actually has two common names and they are the Mexican bromeliad weevil or the "Evil Weevil". It entered Florida in a shipment of bromeliads from Mexico. By the time it was discovered in a Broward County nursery in 1989, it had already become established on native bromeliads in the area. Since it arrived in the state, the weevil has been found in 18 counties and is approaching areas in the Everglades that house populations of Florida's rarest bromeliads. The weevil's destruction has caused two species of *Tillandsia* to be listed as endangered in Florida. It threatens several more already endangered or threatened species (it is now present in the Fakahatchee Strand). The weevil is devastating bromeliad populations in state and county parks and attacking cultivated bromeliads in south Florida.

It has already been found in two locations in south Brevard County so it is already up here! All four life stages (egg, larval, pupal and adult) can be present in the same plant. Adult females, which primarily feed on leaves but have been seen to feed on flowers, cut slits in the leaves close to their feeding sites, into which they lay individual eggs. Newly emerged larvae begin to consume leaf tissue as they move down to the base of the stem. They tunnel into the growing stem tissue, producing large holes in the base that may cause the plant to dislodge from its support structure on the tree. Larval damage is generally confined to the base of the plant but can also reach up the flower stalk. Several weevils may successfully develop on the same host plant, provided there is sufficient plant tissue. However, larger larvae will attack smaller ones upon encountering them. The weevil usually pupates in the center of the plant's stem, within a cocoon it constructs from shredded plant material. Damage is often accompanied by the production of a light brown, gelatinous material, which may be the plant's defensive reaction. This gel can be seen covering entrance holes to the weevil's mines. Other symptoms of weevil damage include adult feeding marks on leaves, browning of leaves and decomposition of the base of the central leaves, which can easily be pulled out when larval mining is significant.

Where infestations of *M. callizona* occur in ornamental bromeliads grown in nurseries, a reduced concentration of an insecticide labeled for beetle adults and grubs (such as Sevin) is recommended, applied as a spray or a dip every two to three months to prevent infestations.

In natural areas, where the pest is threatening native populations of bromeliads, chemical control is not feasible, in part because the epiphytic growth habit of the host plants makes them inaccessible from the ground. More importantly, many of the populations affected by the pest are found in state and county parks, where use of chemical pesticides is not acceptable because of possible effects on non-target organisms. Biological control offers the most likely success in management of the weevil. A parasitic fly (*Lixophaga* sp.) from Honduras has been discovered attacking a closely related bromeliad weevil. When imported to a quarantine facility in Florida, it was found capable of parasitizing the Mexican bromeliad weevil. The fly cannot be released from quarantine until tests show that it will not harm other organisms in Florida. The Florida Council of Bromeliad Societies (FCBS) has been supporting the work of Dr. Howard Frank at the University of Florida, who has been developing a biological control program for the weevil.

So, if you like to swap or trade bromeliads stop the spread of this weevil and treat any bromeliads BEFORE you give them to someone else OR bring them to your yard! Remember, it is much easier to keep a new pest away then it is to get rid of it once it has become established.

(Any trade names mentioned in this article are provided solely for informational purposes. The mention of product names does not constitute endorsement.)

For more information, visit the following Web sites;

Save Florida's Native Bromeliads:

<http://savebromeliads.ifas.ufl.edu>

Weevils That Eat Bromeliads:

<http://bromeliadbiota.ifas.ufl.edu/wvbrom.htm>

Florida Council of Bromeliad Societies:

<http://fcbs.org>