FLORIDA COUNCIL
of
BROMELIAD SOCIETIES INC.
Newsletter

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VOLUME XII - ISSUE I

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CATCHING UP - STAYING EVEN

== For some time we have been hearing from society members who say they do not receive their Newsletter. Consider this: If you have given the postoffice orders not to deliver third class (junk) mail, then you will not receive this Newsletter.

== Reprinted elsewhere in this issue is a news story carried some months ago in the Orlando Sentinel regarding the opening of the new USDA Animal & Plant Inspection station at Orlando International Airport. I have just recently talked with Mr. Moore and he says that ribbon-cutting ceremonies are planned for about August 1, 1992. An entomologist has already been hired and there will be a plant pathologist added to the staff shortly.

== As you will note on the financial report printed in this issue, Florida donations to the Weevil Fund have been most generous. Just this week $238.00 has been added to the total. Many of the checks I receive are made out directly to the "Weevil Fund". The bank, so far, has accepted the checks, but the proper way to make them is to Florida Council of Bromeliad Societies (just FCBS will do) and then in the "for" space write "Weevil Fund". Totals in the general fund and the Weevil Fund are kept separately, but we are trying to avoid the expense of a separate bank account.

== At the January meeting of the Florida Council at Bob Steigers house in New Port Richey, 1992 officers were installed. They are: Chairman, from Sarasota, Jane Dahlin; Vice Chairman from Florida West Coast TBA; Secretary from West Pasco Bromeliad Society, Gwen Carnegie, and Carol Johnson (your editor) is the permanent Treasurer. Tom Wolfe, outgoing Chairman, was presented a placque in appreciation for his 1991 service.

== Florida Council voted in January to sell the Foster tape for $25.00 each. The Treasurer will take advance orders, but the tape will not be available for pickup or mailing before the 1992 World Bromeliad Conference. All are to be released at the same time. Orders from outside Florida are welcome, and the price includes mailing expense.

== If you have plants which you plan to treat for blooming at World Conference time, allow at least 70 days between treatment and bloom. Be sure to treat only mature plants. Good luck.

== Effective July 1, there will be new and more stringent regulations effecting shipment of plants from Florida to California. Anyone who would like a copy of the new regulations, please send me (at cover address):
1. A stamped self addressed envelope and
2. A loose 29 cent stamp. This will reimburse me for the cost of copying the three pages (both sides).

== THE IDES OF MARCH. On March 15, 1992, Ella Kelley, a member of the Seminole Bromeliad Society, will celebrate her 104th birthday. Ella lives at 451 S. Amelia Ave; Deland, Fl. 32724 and loves to receive cards and letters.

Dear friend and bromeliad pioneer Dr. Morris Dexter of Belleair has been very ill and in the hospital. He is at home recuperating now, but keep him in your thoughts. I am sure he would be pleased to hear from all his friends.

Airport to build station for foliage inspection

By Suzy Hagstrom
OF THE SENTINEL STAFF 6-20-91

Central Florida's nurseries and other importers had cause to celebrate Wednesday when Orlando International Airport won final approval to build a plant inspection station and a refrigerated warehouse.

The station will be a convenience for foliage growers in Orange, Lake and Volusia counties, who now must pick up their imported plants in Miami, said Bill Moore, an official with the U.S. Department of Agriculture in Orlando.

Nurseries and greenhouses will save a considerable amount in transportation costs, Moore said.

The $7.1 million complex, about 28,000 square feet, will be the largest facility of its kind in the nation, Moore said. It will be the 16th site for inspection of imported plants and cuttings.

At a board meeting Wednesday, the Greater Orlando Aviation Authority awarded a $5.79 million construction contract to Whaton-Smith Inc. in Orlando. The new air-cargo facility is expected to open in a year.

Moore said he has been awaiting construction of a plant inspection warehouse since 1988, when he arrived in Orlando. The project has been delayed several times since 1989 because it required approval from airlines, which are financing its construction.

The Orlando inspection site is expected to handle about 40 percent of the plants now imported through Miami, Moore said. Last year, the Miami facility processed about 332 million plants, or 80 percent of all those imported into the United States. Moore and his coworkers would have inspected nearly 133 million of those plants had there been a station here, he

Please see **AIRPORT, C-6**

Staff screens plants for pests, diseases

AIRPORT from C-1

estimated.

Moore, officer in charge of the Animal and Plant Health Inspection Service for the USDA, now has a staff of 12, including an entomologist, or insect specialist. The number of additional inspectors to be hired would depend on the amount of imports to Orlando, he said. "We consider ourselves the first line of defense for keeping agricultural pests and diseases out of this country."

The refrigerated warehouse, to be connected to the plant inspection station, will be used for cut flowers, fresh produce, seafood and other perishables, Moore said. If such items are imports, they would require inspection by the Agriculture Department.

Orlando's plant inspection station will be one of the few to be linked to a refrigerated warehouse, Moore said. The complex is expected to be profitable its first year and generate revenue to the aviation authority by its third year of operation.

"There's great potential for air-cargo shipments here," Moore said.

MOUNTING BROMELIADS

by

Arthur Hyland

Many bromeliads grow on trees or rocks. I feel that an excellent method of growing and displaying the plants is in mounted form. I have found that mounted plants will follow their normal life and reproductive cycles with great beauty being grown as saxicoles or epiphytes. There are several factors to consider when mounting and I am going to discuss them individually in the following text. I am sure that others of you have methods of your own which are perfectly satisfactory. This works for me.

I. PLANT SELECTION

It is necessary that you select epiphytic or saxicolous species if they are to establish themselves permanently on the material to which they are to be attached. This precludes the use of Cryptanthus, Dyckia, Bromelia, Ananas and other terrestrial genera. These can be grown by creating large holes in the substrate to simulate pot culture, but I do not consider this as mounting. Select plants that are immature and can grow to maturity after they are mounted. A full grown plant will probably be too heavy to become naturalized and grow to the substrate. I have had much success with unrooted Neoregelia pups. Never select a plant which has set a flower bud. It will never root to the mount. Do not select plants of genera with differing requirements for mounting on the same piece.

II. SELECTION OF MOUNTING MATERIAL

For rock mountings, select a material which is rough and porous. Ascertain that the chosen rocks are non-toxic. Copper is toxic to bromeliads. Rocks with crevices or depressions are best. I have had stoloniferous plants root onto concrete I was using as a tree base. Wood substrate should be chosen on the basis of decay resistance. To my knowledge, the only toxic wood in my area is camphor. Wood shape and form is a matter of personal choice. I generally prefer root-wood because, to me, it is rather beautifully contorted and has an interesting texture. The wood should not be painted or sealed. The plants need roughness to adhere successfully. I prefer cedar, buttonwood, mangrove root, pine liter-knot, cypress or swamp bay. I never cut down a tree. I prefer wood which has been dead long enough to have all the sap-wood eroded away. I have found no difference between growing of salt water or fresh water driftwoods.

III. PREPARATION OF SUBSTRATE

All materials should be washed before use. I use a 20:1 water to liquid chlorine bleach solution. Bark should be removed from areas of wood to which plants will be attached. This is followed by a spraying with Dursban at label recommendation. I feel sure that other insecticides will be equally effective. At one time, I also sprayed with Benomyl fungicide but have stopped and had no fungus problems. Use imagination with woods and rocks at this time. Cut them, attach the pieces together with screws or dowels, mount them in a cement base, leave them alone; just end

up with something you think will simulate nature's artistry and beauty.

IV. PREPARATION OF PLANTS

This is an important step as it will determine the viability of the mounted plants. In pot culture, most roots modify to become feeder roots. In fifty percent or more of the cases, these plants will never develop the natural epiphytic "hangin' in there" roots and in six months to a year will have to be replaced. Prune away nearly all of the root system. Don't worry, new roots will develop and grow the plant to the mounting substrate creating the basis for a new colony. There are exceptions to this which I will mention here. They are the more atmospheric Tillandsias whose roots will attach to the substrate and Vrieseas which normally have small root systems. The latter, I trim only enough to create a more manageable bulk for attaching and the former not at all. I feel that Vriesea roots never become feeders. Do any grooming that the plants need at this time.

V. MOUNTING

Now comes the fun and easy part. Determine the plant layout for the piece of material to which you are mounting. For vertical pieces, mount from the top down. For horizontal pieces mount from the center out. Good artistic practice suggests we use odd numbers of plants in mounting. I am not sure this is important since the plants will multiply and, in the future, you will have odd or even amounts at various time. If it looks good to you, do it!

In order to actually fasten the plants to rocks, you may place the side of the caudex which was rooted next to the substrate. If there is an indentation or crevice, wedge the plant in with dampened sphagnum. If this cannot be done, tie the plant securely with monofilament line. This may be removed once the plant has attached itself to the material.

On wood, I use a different approach. After locating the plant's position, I drill a hole to either side of where the caudex will lie with a 1/8 inch drill bit. I prefer a six inch long bit because of the thickness of some of the materials I use. Stove pipe wire is a soft black iron material which is non-toxic and will rust away in six months or so. I cut a piece of this wire long enough to make a loop through the two holes to fit around the caudex of the plant to be mounted with enough extending through the back of the wood to twist off for a tight hold. Before pulling tight, place a small wad of damp sphagnum moss over the caudex beneath the wire loop. This is really for aesthetics. I do not think the plant really cares. Be sure the rooted side of the caudex is next to the wood. After tightening, the plant should feel secure when you grasp it to move it. If not, take another turn on the wire. Small rooted or rootless Tillandsias can simply be glued to the substrate and either laid down with the plant facing upward or hung up using strips of old panty hose for support until the plant has rooted on.

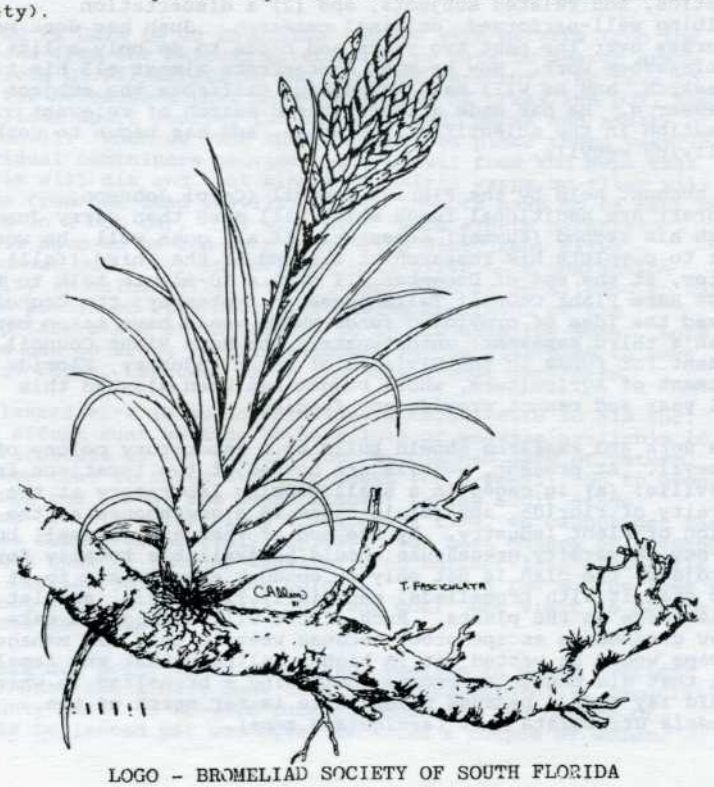
At this time it is really not important which way the plant crown faces. It will exhibit negative geotropism and raise its crown so that it can function. On a bet, I mounted one facing down, and it finally turned its crown upward. It took four and a half months. I won, but it took a lot of watering.

VI. TIME OF YEAR FOR MOUNTING

I only mount during the long photoperiod portion of the year. In central Florida these times are from after February full moon and until the October full moon. I will generally start mounting in March and continue on to the end of June or July. Once the plants have been attached to the substrate, it is necessary to ensure high humidity for a period of four to six weeks so the roots will grow and fasten themselves to the rock or wood. This can be done by daily misting or watering. This step cannot be omitted. You can mount up to the end of August but it gets chancy. The growth rate slows immensely during the short photoperiod days. Perhaps the short days can be overcome by growing under lights. I haven't tried it.

Mounting is easy. It is fun and a beautiful way to raise bromeliads. I like to define mounted bromeliads as permanently planted portable gardens. From here on, treat them as any other plants grown in pots or your landscape. Provide the needs of the various genera and you will have years of pleasure from each mounted piece.

(Ed. Note: Mr. Hyland is president of the Seminole Bromeliad Society).



LOGO - BROMELIAD SOCIETY OF SOUTH FLORIDA

From Dr, Howard Frank

NEWS ABOUT *METAMASIUS CALLIZONA*

The November-December 1991 issue of Journal of the Bromeliad Society shows that the weevil is now in four Florida counties: West Palm, Broward, Dade, and Lee. It probably is only a question of time before its populations spread to all counties with native *Tillandsia utriculata* and *T. fasciculata*.

Donations by bromeliad society members directly to the University of Florida Foundation - SHARE account of Howard Frank were enough to carry a graduate student through one semester. Under the university's rules, a one-semester stipend CAN be awarded. Especially thanked are members of the Bromeliad Society of South Florida and the Bromeliad Society of Broward County. Graduate student Juan Correa was awarded the funds at the beginning of the spring semester (the first full week in January).

Two of the requirements toward a PhD in entomology are (1) good grades in assigned graduate-level courses in entomology, statistics, and related subjects, and (2) a dissertation describing well-performed, original research. Juan has done well in courses over the past two years and needs to do only a little more classroom work. Now he must concentrate almost all his time on research, and he will make *Metamasius callizona* the subject of his research. He has made a computerized search of relevant information in the scientific literature, and has begun to work with living weevils.

In an account held by the Florida Council (Carol Johnson, Treasurer) are additional funds which will more than carry Juan through his second (summer) semester. If all goes well, he would expect to complete his research at the end of the third (fall) semester, at the end of December. I gave a 30-minute talk to the Florida Rare Plant Council Tallahassee in September; the Council approved the idea of providing funds which would have taken care of Juan's third semester; unfortunately the Rare Plant Council is dependent for funds on the Division of Plant Industry, Florida Department of Agriculture, whose budget has been slashed this fiscal year and cannot provide any funding.

Juan's work and research should build up a laboratory colony of the weevil. At present, weevils are housed at two locations in Gainesville: (a) in cages in a small rearing laboratory at the University of Florida, and (b) in cages in a greenhouse at the Division of Plant Industry. By the end of February, a small but brand new university greenhouse should be available totally for the project: the plan is not only to conduct experiments in it but to cram it with bromeliads, especially *Tillandsia*, and let weevils loose on the plants. Much effort will be made to make the new greenhouse escape-proof because weevils that did manage to escape would be wasted (it is highly unlikely that any female weevil that did manage to escape would find a bromeliad in which it could lay eggs - because Gainesville is far north of the *Tillandsia utriculata - T. fasciculata* zone).

Why are lots of weevils needed? In part they are needed for experiments and in part they are needed as hosts for any parasites that can be obtained. Juan cannot do his work without a large supply of weevils. Attempts at biological control will fail if lots of weevils are not available to rear parasites in. Although we don't yet know what parasites exist in nature, we need parasites that feed only on eggs, larvae, pupae or adults of this weevil - so if eggs, larvae, pupae and adults are not at hand in large numbers, we cannot maintain a parasite colony.

How are we going to find suitable parasites? In September a small USDA program was announced that would provide travel funds to a few university researchers who needed to explore in other countries for natural enemies (parasites, predators and pathogens of weeds or of pest insects). I submitted a proposal asking for funds so that Dr. Michael Thomas (Division of Plant Industry) and I might spend 3 weeks in Mexico in June 1992 in a concerted effort to find natural enemies for the weevil. I have received notification that the necessary funds WILL be awarded.

What do we have to do in Mexico? Armed with permits from the USDA and from the Mexican government, we have to search areas with lots of *Tillandsia* in the state of Veracruz. We have to look for bromeliads that have fallen out of trees and pull these bromeliads apart looking for eggs, larvae. pupae and adults of the weevil. When we find them, we have to place these weevils in individual containers provided with weevil food and hope that weevils will die and that minute parasitic wasps or flies will emerge from the dead weevils. These insects have to be kept cool - left in a hot car, they will die. Such minute parasitic insects have to be fed on a sugar-rich diet, kept alive throughout our stay, and brought back alive to a quarantine facility in Gainesville. There, they have to be allowed to mate, and be presented with plenty of living specimens of the appropriate stage of the weevil to induce them lay eggs. Lots of things can go wrong in this process, but we will plan to make them go right. Success is in everyone's best interests.

The planned work in Mexico provides a target date to aim for. Every effort must be made to have lots of weevils available in the greenhouse by the end of June, my planned date of return. We now know that it takes about 11 weeks for a weevil egg to grow (through the larval and pupal stages) to the adult stage. Because of this rather long development time, we cannot get the weevils colony to multiply rapidly. Our best chance of meeting the June goal of lots of weevils is to collect lots of weevils in south Florida to add to the colony. If, in a few months time it does not look as if we will meet the goal, the visit to Mexico had best be postponed.

What are our problems in collecting weevils in south Florida? Mike Thomas and I have done this before successfully, especially in county parks in Broward County. However, the number of weevils collected per day never exceeded a couple of dozen.