JUNE 2014

Diablo View Orchid Society

www.DVOS.org a 501 (c) (3) corporation

DVOS will meet the second Friday of this month at the
Contra Costa Water District boardroom 7:30-10:00 pm
1331 Concord Ave. Concord, CA.

At Our Next Meeting:

Ed Nazzal (see P. 3)

Our June meeting will be on Friday June 13 (Our usual Thursday meeting day is unavailable this month)

Speaker's Dinner before our next meeting at 5:30 pm:

Sichuan Fortune House,
41 Woodsworth Lane,
Pleasant Hill

Bra. nodosa

Board Meeting:

June 19 at 7:30 pm
at the home of Kathy Barrett

At Our Next Meeting June 13

Ed Nazzal

will talk to us about *Kitchen Seed Germination*

Ed, a retired chemist, has been growing orchids since 1984. His primary interests are in Paphs and Phrags and cool growing orchids. Ed has a small greenhouse where he grows mostly species and primary Paphs and Phrags hybrids. He also grows a large variety of cool growing orchids outdoors. Ed is also very interested in native orchid species of the Bay area and California. Ed is also interested in orchid seed germination, has made few hybrids and developed a technique for orchid seed germination without the use of sophisticated lab equipment.

Orchid Seed Germination in Your Kitchen - A Low Tech Approach

In nature orchids seeds are only germinated with the help of a fungus, this happens very rarely and therefore orchids has evolved to produce huge number of seeds to increase the odds that some will germinate. In 1922 Lewis Knudson developed a process to germinate large percentage of mature orchid seeds. Since orchids seeds lack any source of energy for the growing embryo, Knudson provided the energy source by adding of energy for the growing embryo,

Knudson provided the energy source by adding sugar to the growing media. Unfortunately that will encourage the growth of all kinds of undesirable organisms and inhibit or completely prevent the germination of the orchid seeds. Therefore it is critical to do all the preparations of the media and the sawing of the seed in strictly sterile conditions. This process typically requires the use of sophisticated and expensive laboratory equipments. Ed has developed a process where orchid seed germination can be achieved using common equipment found in every household. This way orchid seeds can be successfully germinated by the hobbyist.

trichoglottis pysilla

Epi Wedding Valle 'Yukima'

AT OUR MAY MEETING: *-Brad Piini*

Damon Collinsworth from California Carnivores

Pitchers and catchers!! Sounded like a talk on baseball if you didn't know you were at an orchid meeting. Damon Collingsworth, an expert on carnivorous plants, was our DVOS May lecturer. The pitchers were carnivorous pitcher plants. The catchers were Venus Flytraps. These and many other carnivorous plants were on display and described by Damon in what was a fascinating lecture.

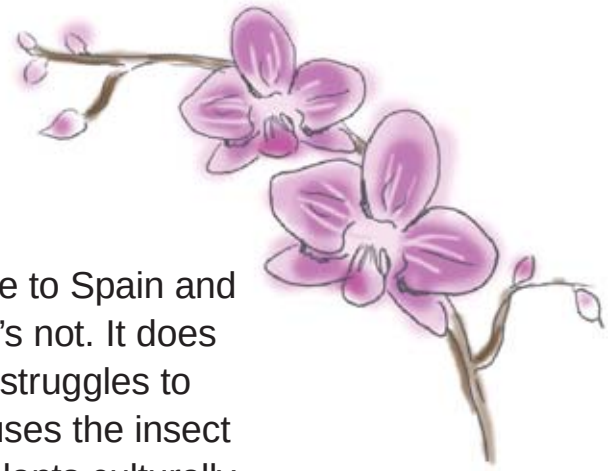
Damon reviewed a table full of different carnivorous plants that he had brought from his business, California Carnivores. With each one he revealed the specific mechanisms that the plant has adapted for trapping insects. There are four basic requirements for a plant to be considered a carnivore. First, it must be able to lure the insects in with a pattern and nectar. The second trait is it must have a modified leaf that can trap the prey either with a sticky substance or a mechanical closing. Thirdly, the plant needs to be able to digest the insect after it has trapped it. And lastly, it needs to be able to absorb the nutrients from the digested insect through the leaf since its roots provide no source of nutrients to the plant. The roots only allow for water uptake to the plant.

Carnivorous plants are evolutionary relics untouched by the past ice ages. Today they prefer to live in open savannahs with hot sun and pure water. The first plant to be discussed by Damon was the Venus Flytrap. It is found in only one place on earth. That is in an area with a 100 mile radius located in North Carolina. It lives in hot, grassy, wet, open savannahs with cold winters. The soil, like that for all carnivore plants, has no nutrients. Damon recommends that if you are going to grow these plants at home you can use a mix of four parts peat moss to one part perlite or one part peat moss to one part sand. And always remember to keep your plants in 2 to 3 inches of standing water. With the Venus Fly Trap each leaf can only close up to three times due to the energy required to close the trap. After that the leaf will turn black

and die. The trap can only be sprung with live insects triggering special sensors on the inside of the trap. This causes the cells on the outside of the trap to suddenly grow 20%. This sudden growth causes the trap to shut suddenly. The movement of a live insect, struggling in the trap seems to trigger the digestive enzymes used to dissolve the insect. Dead insects will not work. If the flytrap is triggered and closes with a small insect that is not worth the energy to digest, it does have an escape way. This small opening allows a small ant or gnat to escape the closed trap. The idea is that it would take more energy for the plant to digest a very small insect than it could get back in nutrients. The trap needs a bigger meal for it to be energy efficient.

The next plant introduced by Damon was the sticky Sundew plant, of which there are approximately 200 species. The Sundew plant is the evolutionary parent of the Venus Flytrap. Both the Sundew and the Venus Flytrap have hairs and a sticky substance called mucilage. The Sundew plant uses the sticky substance exclusively to the trap insects. If a Sundew plant catches a large insect a nearby leaf will sometimes come over and lay down on top of the insect to further ensnare the insect and help the other leaf contain its prey.

The next class of carnivores discussed was Butterworts. These plants have leaves with tiny glandular hairs that dissolve the prey in a pool of acid. These plants obtained their name when it was discovered that their leaves contain an enzyme that works like Rennet. It will cause milk to curdle and is used the form cheese, hence the name Butterwort. These are one of the few carnivorous plants that need to experience a dry season during the winter. All Butterworts need to dry out during the cold. An indoor windowsill is an ideal location since they are only hardy down to 40 degrees Fahrenheit. You will not be able to grow them outside in the Bay Area. These plants are



particularly easy to propagate and can be started from a leaf cutting, just like an African violet.

The next plant Damon displayed was the Dewy Pine plant which is native to Spain and Portugal. This plant looks like it should be related to The Sundew plants, but it's not. It does have sticky leaves that act as a glue. This glue actually covers the insect as it struggles to free itself. In the process the insect is covered in this gluey substance and causes the insect to suffocate since insects can only breathe through their exoskeleton. These plants culturally prefer to be dried out when they are in the mature state or until the first bloom. These plants like it hot and dry. Sacramento or Arizona is an ideal location for this plant to grow. These plants are propagated from seeds only.

Next was the Bladderwort plant. These plants are rootless and leafless. They do have a modified leave that is like a tiny balloon with a trapdoor. This is all contained underground and under water. The trap door on the balloon can suddenly open to let in microscopic Daphnia. Once inside, these Daphnia are trapped and will be digested by the Bladderwort plant.

Next on display were the American pitcher plants. There are eight different species of American pitcher plants. These plants are characterized by having a creeping rhizome like an iris. They also have a rain lid to keep the water from filling up the pitcher. They produce sweet nectar on the lip and underside of the collar. This nectar is special and causes an insect to get drunk and fall inside the pitcher. The pitcher narrows as the insect descends inside of it, making it difficult for an insect to spread its wings and try and fly out. The pitcher plants also have windows in the hood of the plant to make an insect believe that the way out is towards the back of the plant, which only proves to be futile. These pitcher plants all flower first then

start to produce pitchers after the flowering phase. These need to be cut back to the ground in February. This allows for new growth to form in the springtime.

Lastly, Damon brought out the Tropical Pitcher plant which looks like a green leafy plant with large cups or pitchers. These plants are native to Southeast Asia. These pitchers are filled with digestive fluid, which lures insects and small animals inside these pitchers with smell and then proceed to digest them. These plants have two different types of pitchers to catch different insects. They have bottomed pitchers near the ground to catch crawling insects and upper pitchers to catch flying insects. These pitchers all have rain lids to keep the rain water out.

I want to thank Damon for a fantastic lecture on a very interesting topic. It was a wonderful tour of the exotic world of carnivorous plants.

Aloha from DVOS member Pauline Brault living on the Big Island of Hawaii

After almost 10 years of orchid growing on the big island of Hawaii, still specializing in cattleyas, I was finally able to get my web site up of my orchids. I am now growing orchids for approx. 30 years and cattleyas are still my favorites.

Some of the photography of my orchids was done by members of our Hilo orchid society who have very good cameras. However, most of the pictures on this site, I took with my humble Canon Powershot camera which is a point and shoot type and which I always use when I travel. I have now specialized growing cattleya species with C. warscewiczii being my favorite (see opening page of my site). I also grow some very special hybrids and some I crossed myself. I grow orchids in a larger greenhouse than I had in Antioch, Ca. which is 40 x 50' and they grow into specimen size easily in this warm climate. I am located in a large sub division named Hawaiian Paradise Park and I live approx. 1.5 miles from the lagoon where the climate is very warm getting into the 90's in the summer months.

Please take a special look at the link "Paintings" and you will see that I also have another major hobby which I revived when I moved here. I am trying to sell my paintings for the sake of the children of Zambia whose parents died of AIDS. See article at the bottom of that link.
Please let the members of DVOS know my web site which contains my e:mail address and ask them to contact me if they visit the Big Island and I will give them a great orchid tour as I know most of the orchid nurseries on this island and there are many.
This is my new web site: http://orchidartbypauline.com

Mahalo Pauline

Upcoming Speakers and Events

June 13: DVOS Meeting with Ed Nazzal

June 19: Board meeting
at the home of Kathy Barrett

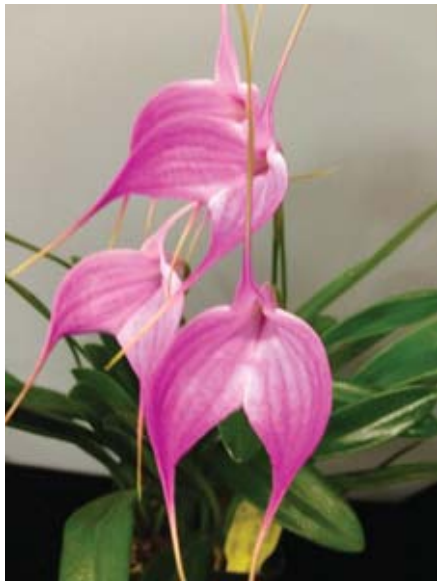
July 10: DVOS Meeting with Anna Chai

Aug 16: DVOS Picnic: This year's theme is *Hooray for Bollywood!*

Oct. 4-5: Pleasant Hill
Art, Jazz & Wine Festival
(DVOS will have a booth)

1% for Orchid Conservation

http://www.orchidconservationcoalition.org



Masd. Bella Donna

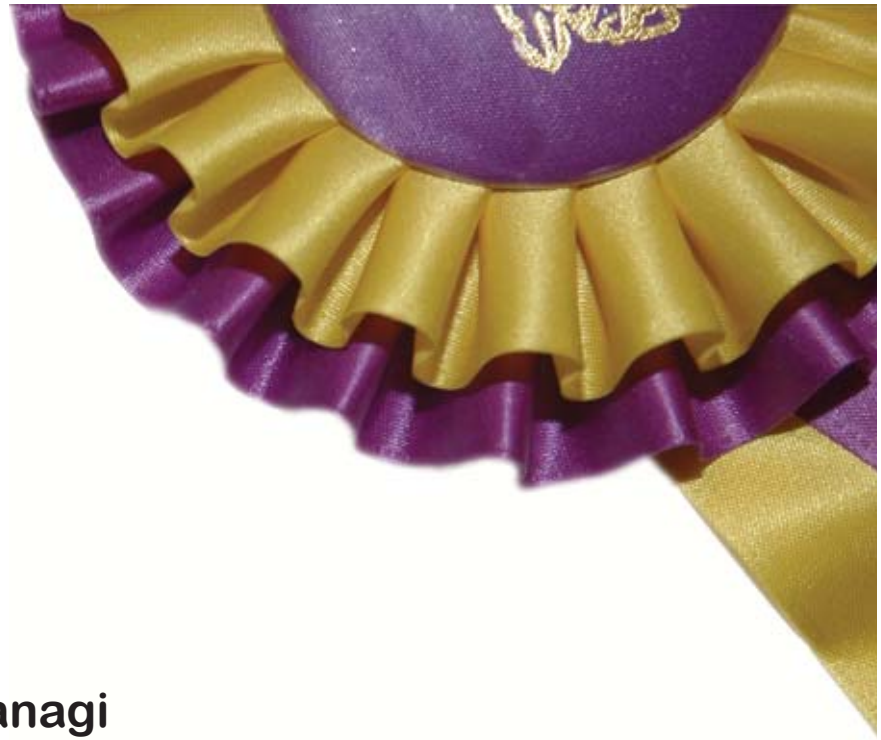
Phal. cornu-cervi

Coel. lawrenceana

Ctt. Chit Chat

Bulb. trachyantham

Awards DVOS April



Novice

1st *Coe. lawrenceana* Jim Wert
2nd *Max.* crysantnum David T
3rd *Epi.* Wedding Valley 'Yukimai'
Marian Trebotich

Intermediate

1st *Ctt.* Chit Chat Phyllis Arthur
2nd *Masd.* Bella Donna Sung Lee
3rd *Phal. cornu-cervi* Miki Ichiyanagi

Advanced

1st *Bulb. trachyanthum* Mark Dillard
2nd *Bulb. sumatranum* Mark Dillard
3rd *B. nodosa* Sung Lee

California Sierra Nevada Judging Center Awards for January can be viewed at: http://www.csnjc.org

Lancer Smith (species/under 6")

Trichoglottis pusilla Mark Dillard

Refreshments for the May Meeting will be provided by:

FOOD:

(Food must be cut into servings)

George McRae
Judith Johnston
Renate Johnson
Irene Desmond
Brad Piini

DRINKS:

Jim Wert

ICE:

SET-UP AND CLEAN-UP:

Brenda Aday

Membership News

courtesy of Ulrike Ahlborn, Membership Chair
membership@dvos.org

General Members $30
Commercial Members $40
Lifetime Members $300

If you are unable to receive the newsletter by email and need a B&W copy mailed to you, there is an additional $10 charge for copying and postage.

New Member/ Renewal application:
www.dvos.org/About/membersh.htm

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Bulb. sumatranum