

GREATER LAS VEGAS ORCHID SOCIETY

THE ORCHID COLUMN

SUNDAY, APRIL 2, 2006



Carol Siegel, Newsletter
Editor

DON'T FORGET SUNDAY STARTS DAYLIGHT SAVINGS TIME!!

I think that, someday, when we look back at the best days of our lives, many of us will remember the joyous Sundays that we spent together at our orchid club meetings. Our March Sunday was one of those very special days. The room was so filled with orchids that I had to walk between the flowers to get to the front of the room to start the meeting. How delightful!

Our speaker, Doug Conkin, led an animated discussion on integrated pest management. Sparks flew as members defended their favorite methods and mixes, proving once again that there is no RIGHT way, just the right way for YOU. Experiment and do what works for you in your situation. Doug stressed good culture, observation, quarantine, and an intelligent and cautious approach to killing the critters without killing yourself. Doug promised to send me the handout for our NEXT newsletter. The club will sell horticultural oil at the April meeting since interest was expressed in Fred Schechter's great anti-pest mix - a pint of rubbing alcohol with a couple of tablespoons of horticultural oil.

I received a call from a young lady, Lisa Peterson, who was lucky enough to receive a live orchid arrangement in a glass container for Valentine's Day. She wondered how she could repot them since the container had no drainage. I invited her to the meeting, and Doug was kind enough to demonstrate how to

repot them—causing more lively debate and discussion. How fun!

I distributed rubber gloves to everyone to remind members to wear gloves when repotting plants or using chemicals. Remember to change gloves after you repot a plant to avoid the spread of disease. Also, remember that gloves protect YOU from pathogens in the potting mix and from chemicals in and around your plants. You can buy gloves real cheap at Costco - 3 boxes of 100 latex gloves for under \$10.

The food was glorious thanks to our food angels, our Board, Clarice, Eileen, Diana and me. We thank Carolyn Proper, Sharon Proehl, Marilyn Short and Cathy Loftfield in advance for the food for April.

We welcomed Virginia McPeak, Dianne and Ed Perry-Brown, Petr Lom, Gary Cole, Rigo Velasquez, and Lisa Marie Peterson as guests and Joel and Linda Davidson and Birgitta Fathie as new members. We are pleased to have you! We missed Roberta Schechter who is recovering after being hospitalized. We love you! We wish Clarice Dean's mother a speedy recovery after her recent hospitalization.

We thank Tony B. and the nice people at the Mirage, Treasure Island, and Wynn who donate their spent orchids to our raffle. We save these orchids from the garbage, and the money we make on the raffle allows us to provide an excellent educational program and to donate money for conservation. Thank you!

We had lots of orchids for sale as our friend Daniel Vong carted in his blooming beauties, and Mike Levin and Fred Schechter sold their special orchids. Mike Levin and our speaker did a great show and tell.

THOSE DUES ARE DUE

Thanks to all those who have paid 2006 dues. (\$25 for individuals, \$40 for couples), Look on your newsletter envelope. If there is an (05) highlighted in yellow after your name, we have no record of '06 payment. You can pay at the meeting or send it to me made out to GLVOS: Carol Siegel 8601 Robinson Ridge Drive, Las Vegas, NV 89117.

UPCOMING EVENTS

The Nevada Garden Club Spring Show will be held on **Saturday, April 1st from 11:30-4:30**. We need your blooming orchids and your help for our display on the stage of the Garden Club Building. So far **Diana, Eileen, Clarice and Dennis Dean, Steve Ninemire**, and I have volunteered to help. Talented artist **Shelly North** has been kind enough to get us some props for our display. We will be putting together the display on Friday, March 31st after 4 pm. If you cannot make it, you can leave plants off at my house, and I will bring them down for you. (254-4168). The good news is that we can leave the display up until Sunday so that all the members can enjoy it at our meeting. You can take back your plants after the meeting. We thank **Tex and Gidget Severance** for judging the show at 8:30 am and **Miles Hoffman and Steve Ninemire** for serving as clerks. We thank **Sharon and Uwe Proehl** for serving as ambassadors from 11:30-2, and **Bill Whaley and Myra Glassman** for serving from 2-4:30. The club will provide information for you to distribute to prospective members.

The Easter Show at the Cal, April 14-16th will be held once again at the Ohana Room at

the California Hotel. This event, sponsored by our friends at the Torrance Cymbidium Society, features AOS judging and display awards and an orchid display by the club. We will be putting together our display on Thursday afternoon, April 13 after 4 PM. You can win an AOS award!! **Diana Smith and Mike Levin** have won it in the past!! Thanks to **Mile Levin, Tex and Gidget Severance** for serving as AOS judges and to **Marilyn Short and Aaron Schave** for volunteering to be clerks. **Bill Whaley and Tony Billitere** will serve as ambassadors Friday from 1-5. On Saturday, we need ambassadors from 10-1:30. **Melissa Knight** has volunteered to work from 1:30-5. On Sunday, **Diana Smith and Cathy Loftfield** will meet and greet the people from 10-3. Stop down and see the show. There are no vendors, but there are gorgeous cymbidium displays, our gorgeous display, and flower arrangements and corsages to buy for Easter at reasonable prices made by our friends at the Torrance Cymbidium Society.

SPRING IS IN THE AIR!

There are lots of things starting to bloom in our growing areas. The latest ORCHIDS magazine reminds us to remember to: 1. STOCK UP Look through your supplies and buy plastic pots, fertilizer, orchid medium, stakes, Phyan, razor blades. A good place for supplies? Cal West Tropical OrchidSupply (www.calwesttropical.com),

2. REPOT This is the season to repot intermediate and warm growers. There will be lots of new growths and roots. Those who have potted in our AUSSIE GOLD will be delighted to find that most of the plants will NOT need repotting since the mix does not break down. Just repot plants that have outgrown their containers. If you use bark, soak the mix overnight to prevent the dry

bark from desiccating your orchid. If you use coconut chunks, you must do this **THREE** times, changing the water to remove salts. Remember to remove dead roots and shrivelled back bulbs leaving at least three or four good pseudobulbs. Put the oldest pseudobulb against the side of the pot to allow for new growth and secure with a rhizome clip or bamboo stick pushed through holes you have made on the side of the pot with a drill. Many recommend reduced watering of newly potted orchids, although I only do this for plants which have had many roots removed. Plants in Aussie Gold usually have great roots, and so I just water normally.

3. WATERING AND FERTILIZING

Longer days stimulate growth and plants may need more water and fertilizer. Many fertilize with a high-nitrogen fertilizer (high first number on the container) from now until early summer. Thoroughly water your plant and drain completely. Don't let your plants sit in water to avoid root rot. Misting open flowers may cause Botrytis (fungal) spots on the flowers.

4. **SPIKES** The ORCHIDS article cautions against allowing phalaenopsis to bloom a second time by cutting old spikes down to the third node on the stem. Although most of us do this (I do!), the author says that this stresses the plant. HMMMM.

5. **AILMENTS** Bugs find new growth irresistible. Be vigilant and check your beauties daily for signs of the cottony scale, aphids, mealy bugs, and other beasties and be ready with your alcohol and oil, soap, or pesticide for spot treatment to prevent the BIG invasion.

6. **KEEP RECORDS** Make sure to record when you repotted your plant and in what. Make notes on what is doing well, how many spikes, flowers and bugs you have had.

You can PRE-ORDER ORCHIDS from our April speaker by going to www.parksideorchids.com, ordering, and then writing "Bring to Las Vegas meeting" in the comments box. You won't have to pay shipping! Look especially under "Tom's Specials"—Get ready to faint from joy.

OUR APRIL SPEAKER—"THE 2005 TAWAIN INTERNATIONAL ORCHID SHOW" WITH GORGEOUS SLIDES!

John F. Salventi, Ph. D.

Prior to involvement in the orchid profession John Salventi was a health-care professional with more than 20 years of hospital management experience at the Lehigh Valley Hospital. Orchid growing began as "hobby" with two hundred orchids in a bow-window. The passion (addiction) continued and resulted in construction of an 8x16 foot lean-to greenhouse in 1986 which was quickly filled. A free standing 28X32 foot greenhouse was constructed and the seeds that resulted in Parkside Orchid Nursery were sown. Parkside has grown to be one of the largest orchid nurseries in the northeastern United States with five greenhouses, spanning over 14,000 square feet of growing space.

Maintaining an interesting and varied inventory for the serious grower requires both John and Tom to travel extensively to secure plants directly from the growers. These include frequent trips to South America, Central America, Hawaii and Asia. Parkside Orchid Nursery, Inc. Mission Statement: Parkside Orchid Nursery is committed to providing the highest quality orchid plants, the support services necessary to assist the orchidist in successfully growing and enjoying their plants and ongoing educational programs to enhance understanding and knowledge about orchids, their culture and conservation.

Following the newsletter is a new article I have written on FRAGRANT ORCHIDS, a subject I find just fascinating. There is also a poem by Sue Fordyce, printed with her kind permission, on Insecticidal Mania. Stay well, and keep blooming! Love Carol



SPIRANTHES DILUVIALIS,
FOUND ONLY IN NEVADA

ALL THE PEOPLE WHO MAKE IT HAPPEN:

CAROL SIEGEL- PRESIDENT
CLARICE DEAN -VICE-PRESIDENT
EILEEN MCKYTON- SECRETARY
DIANA SMITH-TREASURER
AND

Dan Mumau, Michael Lawless, Marsha Hawley
- Membership Hospitality Chairmen
Eileen McKyton and Dan Hawley- Welcome
Desk
Lillian Patterson- Photographer and
Historian
Dan Mumau, Mike Lawless, and Tony
Billitere- Raffle Chairmen
Marsha Hawley- Fund Raising Chairlady
Phyllis Bond, Leslie Doyle, Shelly North and
Eileen McKyton- Special Events Chairmen
Jeri Lee and Terry Wilsey- Nevada State
Garden Club Representative
Alex McKyton -Building Chairmen and

Webmaster
Tex Severance and Mike Levin- Show and
Tell Gurus
Tex and Gidget Severance- Judging
Chairmen
Scotty Nogaim- Election Chairman, Raffle
Lady
Terry Wilsey- Club Travel Agent
Extraordinaire
Steve Ninemire Library Chairman Clarice
Dean, Assistant Librarian
Clarice Dean- Trip Chairman

Shelly North-Classy Club Apparel Chairlady
Daniel Vong-Favorite Member
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COMING ATTRACTIONS

Our meetings are held at the Nevada Garden Club Building at Twin Lakes and Washington between Valley View and Rancho at the western edge of Lorenzi Park. The meeting starts at 2, but I open the building at 1.

April 1, 2006	Nevada Garden Club Show in our building
April 2, 2006	John Salventi, Parkside Orchids, "2005 Taiwan International Orchid Show"
April 14-16, 2006	Easter Show at the Cal
May 7, 2006	Harry Phillips, Andy's Orchids, "Tiny Treasures" (the Pleurothallidinae)
June 4, 2006	Jim Comstock "3-D Orchid Photos"
July 9, 2006	Barbecue in Mt. Charleston (a change in month)
August 6, 2006	Eric Christensen "The Orchids of Peru"
September 10, 2006	Marni Turkel, "How to Grow Orchids"
October 1, 2006	Milke Glikbarg, Orchids of Los Osos "Multifloral Papahs"
November 5, 2006	Bill Bergstrom, "The Orchids of Mexico"
December 3, 2006	Seventh Annual Holiday Party
January 7, 2007	Steve Frowine, "Orchids for Dummies"
February 4, 2007	Jason Fischer, Topic to be Announced
May 6, 2006	Glen Decker, "European Orchid Growing"-"The Spectacular Phrag Kovachii" (a double-header)
June 3, 2007	Fred Clarke, Sunset Orchids, "The Exciting World of Bulbophyllum

INSECTICIDAL MANIA

SUSAN FORDYCE

My first orchids were a treasure
so I went out and bought myself some more.
Six months later they were everywhere!
Enough to open up a store!

I brewed them fertilizer tea
and potted them just so—
I bathed their leaves with lemon juice
and urged my precious plants to grow.

With horror I noticed some withered leaves
and a nasty spot or two—
and the next day it was even worse!
What was I to do??

I searched around in the junk drawer
for my magnifying glass ...
what I found upon my orchids
nearly knocked me on my—(well I nearly passed
out!).

What seemed like small round space ships
had landed upon my favorite Phal—
and zillions of aliens were pouring out
(I learned later I had scale)!

Crawling out from the mother ship
With glee upon their pasty faces—
they had suntan oil and lawn chairs,
And what looked like beer in cases!

I was in shock, and looked for comfort to an
epidendrum I adore,
to my horror there were aphids dancing on her buds
and more were hatching by the score!
THIS WAS WAR!

I ran to find the alcohol
just like the books had said.
I sprayed them with a liberal dose
'til I knew that they were dead.

They were dead—DEAD DRUNK alright!
And dancing a clumsy polka—
I heard their tiny little voices
singing La Vida Loca!

I went out and bought a haz mat suit
and an alien gas mask thing.
I'd show those cooties who was boss!
I'd stop their partying!
I saturated them with lethal doses

Of the very latest brew—
I would annihilate the buggers,
Along with their posse, and their crew!

... When I awoke from my poisoned stupor
and got back up on wobbly knees,
I could hear their little voices chuckling
As the toxic fog faded in the breeze.

I had come to a crucial crossroads
As I contemplated my sorry state—
I had an epiphany right there and then
As I packed my plants in crates.

My neighbors just down the street
had orchids too, I thought—
and they were on vacation
Could I?...or could I not??

I tiptoed stealthily through the dead of night,
My plants upon a squeaky wagon.
Finally I would free my precious plants from pests!
I would slay the proverbial dragon!

I broke into his greenhouse,
And set my plants right next to his—
I felt so diabolical
This was such a nasty biz

You'd have thought it was a free trip to
Disneyworld,
the way the nasty pests jumped ship!
They headed for greener pastures
(namely a big 'ol *Cattleya* lip)!

I crept away in shame and sorrow—
My morals in sad decay,
but I had saved my pock marked orchids
From certain death that day.

Well, my plants are all pest free (for now),
and they still earn my deep devotion,
but I have VIDEO SURVEILLANCE in my
greenhouse
lest you entertain the same cruel notion!

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The Amazing World of Orchid Fragrance

Carol Siegel

We are born into a world of smells. As author Diane Ackerman writes, Inhaling and exhaling, we smell odors. Smells coat us, swirl around us, enter our bodies, emanate from us. We live in a constant wash of them.

Amazingly, at conception, sperm find their way to the egg by sensing its smell. After birth, within thirty minutes of contact with our mother, we learn her smell and prefer it above all others. Whole industries have been built on our noses. In the United States alone, annual retail sales of fragrance topped 6 billion dollars in the year 2000. Shopping malls pipe perfumes into the air to increase sales, and smell alone is the greatest factor in laundry soap choices. Smell is so important therapists say that if a woman doesn't like her husband's scent, marriage therapy has little chance of success.

Yet for all that, we have a remarkably poor sense of smell. 75% of orchids are fragrant, yet we miss much of what they are producing. Most insects, on the other hand, have an exquisite sense of smell. A bee can smell an orchid from four miles away and can triangulate on its location by scent alone. Most people can identify only about a dozen floral smells when blindfolded, yet a bee must sort out and remember hundreds of flower fragrances, often from a good distance. There is a famous story of Natalie Wolford who handled *Notylia* orchids. Although she could smell nothing, bees were attracted to her hands for five days after she touched the orchids. Her hands were fragrant. She just didn't know it! As we evolved, our eyes became more important and mutations collected in our olfactory genes. But not to worry... Orchids aren't putting on the "smell show" for us, anyway. Their scent is an intriguing advertisement to get pollinators to come their way, a "look-what-I have-for-you" strategy that has been spectacularly successful.

WHAT IS ORCHID SCENT?

Orchid fragrance is a chemical messenger between the plant and its pollinator produced in an orchid structure called the "osmophore." The fragrance can consist of over 100 volatile chemicals whose molecules leave the orchid and travel into the air. They are stored as essential oils in many parts of flowers, leaves, and even roots. Many types of fragrant chemicals are found in orchid fragrance including monoterpenes, aromatic substances derived from benzene like vanillin, nitrogen compounds like aminoids and

amines, carbohydrates, methyl esters, and derivatives of fatty acids. Steven Frowine quotes Roy Genders who in his 1977 book, SCENTED FLORA OF THE WORLD, summed up orchid fragrance:

Scent is the oxidation of essential oils of flowers and leaves. In flowers the essential oil is in the epidermal cells of the petals, or in the sepals or bracts, and the oil is usually present in the upper surface of the petal.

The fragrance triggers an irresistible and often inborn response in the pollinator. The innate instincts stimulated means the insect has to land, or copulate, or swarm, or eat in response. For example, *Cymbidium pumilum*, *C. floribundum*, and *C. suavissimum* produce a fragrance identical to substances from the pheromone-producing glands of the Japanese honeybee which, in nature, signal other bees to forage and swarm in response to a food source. Even notoriously lazy drones start to swarm and forage. The orchid's fragrance tricks the Japanese honeybees into instinctively swarming and foraging around the orchids, behavior that can lead to pollination. Western honeybees produce different pheromones and just ignore this flower. The color is not important, and it doesn't matter if the cymbidium is alba or not. Just the fragrance does the trick.

THE SCENT OF ORCHIDS

Different parts of the orchid are odorous. In *Disa lugens*, only petals are odorous. In Antelope dendrobium, only the horns have odor. In *Maxillaria rufescens*, parts of the lips around the food hairs have smell. Often the same flower from different regions will have a different smell. For example, only the form from New Guinea of *Phalaenopsis amabilis* has a strong, sweet smell. The quality and quantity of the scent released is greatly dependent on the maturity of the flower, the time of day, and the weather. "Day smellers" reach their peak when it is warm in the middle of the day. If it is cold or gloomy, there is less smell. If it is very humid, scent lingers longer. Many orchids are most fragrant a few days after they open. Still air makes it easier to smell them than gusty days. After rain, there is a diluted smell, and healthy plants have greater smell.

WHAT TRIGGERS ORCHID SMELL?

Flowers give off fragrance without any visible external stimulation. A butterfly landing on an orchid does not cause the orchid to smell more- or less. Each orchid has a biological clock, and the fragrance is programmed to

be released at a certain time, responding to light intensity and the day-night cycle. A striking example, *Angraecum sesquipedalae*, the Star of Bethlehem from Madagascar, is completely without scent during the day. At night, it emits a strong scent like lily, gardenia, and sweet tobacco flower, which lasts until morning. The fragrance changes over the nights and is strongest on the fourth day. In the perfume trade, this is known as "white-floral" fragrance and is reproduced in many commercial perfumes.

Darwin, in his famous orchid pollination book of 1862, predicted that this creamy-white flower with a fourteen-inch nectary would be pollinated by a night moth with a 14-inch tongue. He was the laughing stock of England. Forty years later, the moth was found, and they called it *Xanthopan morgani predicta*, because Darwin predicted it. Just as we put on perfume before a date at night, so moth-pollinated orchids exude perfume at night when their pollinator is around. The fragrance advertises the presence of nectar in the long nectary as well as the presence of the flower itself in the dark.

Night-scented, moth-pollinated orchids, like *Angraecum* and *Aerangis*, are common in the African genera. In the Americas, they are restricted largely to Brassavola and Epidendrum, and quite rare in the Indo-Australian flowers. Brassavola nodosa, the Lady of the Night orchid, emits a delicious aroma of lemon and gardenia for its moth pollinator. Ken Slump, in his recent article in ORCHIDS magazine, says that he knows a man who sleeps with *Brassavola nodosa* on his night table so he can enjoy its marvelous fragrance all night long.

WHAT DO ORCHIDS SMELL LIKE?

With over 35,000 different species and countless hybrids, orchids produce every kind of fragrance imaginable, from delightful to disgusting.

Phalaenopsis violacea from the jungles of Southeast Asia perfumes the humid morning air with an overpowering violet smell. *Lycaste aromatica* smells like cinnamon, and *Paphiopedilum malipoense* like raspberries. Some *Catasetum* orchids smell disturbingly like coal tar although *Catasetum integerrimum* from Central America smells strongly of licorice. *Maxillaria tenuifolia* smells like coconut cream pie, while Vanilla plants have no smell at all until after they are cured. Some orchids smell like dirty feet, and many a botanist has taken countless showers thinking it were he and not the orchid with the problem.

THE TRICKSTERS

Fully one-third of all orchids give absolutely nothing, evolving astounding deceptions of form and fragrance to entice unsuspecting insects. Brilliant deceivers, they often promise food or sex but deliver little or nothing.

Dracula vampira, a magnificently odd 12-inch flower, deludes unsuspecting fungus flies with a drop-dead imitation of a fungus. The smell produced in the large, mushroom-like lip is identical to real "mushroom smell," 1-octen-3-ol, which persuades the fungus gnat to deposit its eggs so its larvae can feed off the fungal tissue. The *Dracula* is often pollinated in the process, but the poor larvae get nothing to eat. It really IS a jungle out there.

SEX AND FRAGRANCE

Van der Cingel points out that as time went on, orchids engaged in an arms race with insects, evolving ever more sophisticated tricks to keep pace with an insect's growing ability to detect a fake. The use of fragrance played an important part in fooling pollinators. Most amazing of the tricks that orchids have incorporated into their arsenal is the ability to lure other insects to try to have sex with their flowers. As unbelievable as this is, there are scores of insects that successfully do this, including many *Ophrys* orchids in Europe and at least nine genera of orchids in Australia. "Ophrys" means eyebrow, and these orchids are hairy like a bee and bear an uncanny resemblance to a female bee in need of a little male companionship. In more prudish days, this likeness was thought to simply prevent cows from eating the flowers, and even Darwin couldn't quite bring himself to figure it out. It was Pouyanne in Algeria in 1916 who first made the outrageous statement that *Ophrys speculum* attracts wasps by looking like a female wasp.

These flowers produce a fragrance that is the same as that produced in the Dufour's gland of female wasps and bees that are ready to mate that is detectable even to humans. In *Ophrys sphegodes*, for examples, a blend of 14 compounds have been identified in the fragrance. The exact same 14 chemicals constitute the sex pheromone produced by its pollinator, the solitary bee *Andrena nigroanea* to stimulate mating behavior. Lured by the fragrance, an inexperienced bee or wasp lands and attempts to copulate with the flower. This doesn't quite do the trick for the insects, and he flies away, often with pollinia on his head. Not being Einstein, he falls for the trick again and deposits the pollinia. It is called "pseudocopulation," but it is

WHAT IS THE PURPOSE OF ORCHID FRAGRANCE?

Steven Frowine, in his excellent book, *FRAGRANT ORCHIDS*, says that fragrance is an important tool to insure survival whose sole purpose is to attract a pollinator. Fragrance is associated with liquid nectar and pollen, highly nutritious sugars and proteins wanted by bees, hummingbirds, flies, and butterflies. This lure, sometimes just a deception, attracts pollinators. Others suggest that, as the perfume industry has proven, fragrance is also a very strong sexual attractant, a fact which orchids use to their advantage to trick pollinators. Furthermore, fragrance plays a large part in other deceptions orchids use to get pollinated. Some suggest that fragrance sometimes gives pleasure to the primitive limbic system in insects, causing them to become intoxicated, an experience which they try to repeat. Schiestl and Peakall cite intriguing new research which suggests additionally that orchids also use fragrance to repel herbivores and in antimicrobial activity.

THE STINKERS

It is hard to know what orchids smell like to insects, but to us moth-pollinated orchids and bee-pollinated orchids usually smell delightful. Fly-pollinated orchids, on the other hand, often have a putrid stench reminiscent of urine, feces, or decaying flesh. They are often a reddish-green or yellowish-brown color to attract carrion-feeding insects. Flies don't feed their babies and look for rotting food sources in which to lay their eggs. Since 15% of orchids are pollinated by flies, there are a lot of stinkers out there, many in the *Cirrhopetalum* and *Bulbophyllum* genera. *Cirrhopetalum robustum* from New Guinea overwhelms with its rotten stench. *Bulbophyllum beccari* and *B. fletcherianum* are definitely not orchids to give your girl at the prom. They look so good and smell so bad. You can buy them on e-bay, but be warned! You can't enter the greenhouse when they are in bloom since they stink like a heard of dead elephants.

Some fly and mosquito-pollinated orchids smell like algae or crustaceans such as *Malaxis monophyllos* or *Cirrhopetalum gracillum*. Others smell like wet dogs like *Galeandra greenwoodsiana* or like goats. Whatever weird or kinky smell the pollinator likes, orchids are not above mimicking.

only false for the bee. It is real for the orchid. The bee hasn't scored, but the orchid has.

After the female bee has copulated, she never copulates again. She will reject subsequent suitors by producing a fragrance associated with the production of brood cells that is a "turn-off" to the males. Since this compound identifies females who will not mate, it serves as a cue to discourage male bees. Unbelievably, the *Ophrys* orchids produce the very same fragrance themselves after pollination to discourage further pollinators.

Fragrance itself is so important in pseudocopulation that studies of thynnid wasps and the Australian orchid *Drachea livida* has shown that the wasp will attempt to copulate with the head of a pin if it is coated with the fragrance of the flower even in the absence of the look-alike flower. Thynnid wasp females have no wings and spend their whole lives underground eating beetle grubs. For four days of their lives, they come above ground and waft their irresistible odor. A male thynnid wasp will grasp the wingless beauty, copulate, and fly around with her on a little honeymoon. He feeds his female the best foods and deposits her back on the shrub where he found her. She goes back into the ground and lays her eggs with the food he has given her. That is her sole foray above ground, her only date. The *Drachea livida* looks like a wingless female wasp and has the same fragrance, tricking the male into plying his attentions on it. Ah, the power of perfume.

TIME TO LAND

The Lady's Slipper orchid, *Cypripedium calceolus*, performs another amazing magic trick with fragrance. The flower secretes farnesol, which is in the abdominal gland of some bees. This chemical triggers landing behavior in some bees. Other bees use it to attract females, and it is associated with food. The misleading chemical agent tricks bees into landing on a flower it might not.

THE INTOXICATING ORCHIDS

There are some orchids that are so fragrant that one flower will perfume a whole greenhouse. My friend Doug Conkin throws a party every year to

celebrate the one glorious day that his *Stanhopea* is in bloom. It is that special.

There is a special relationship between some male euglossine bees and many of these superfragrant orchids like *Stanhopea*, *Gongora*, *Cyrtopodium*, *Lycaste*, *Coryanthes*, *Catasetum*, and *Zygopetalum*. The two subtribes that specialize in this are the *Stanhopeinae* and the *Catasetinae*. They produce no necture but are attractive because of the large quantity of intoxicating fragrant oils and liquids which the male bees collect with the pads on the tarsi of their front pair of legs. They are seen to get "drunk," staggering around and losing all motor control. Even when these oils and liquids are placed on a piece of filter paper, the bees fight over it and are seen to get groggy and drunk. It has been suggested that they "like" the feeling and try to repeat it over and over. It has also been suggested that the male bees use these collected chemicals to make an aphrodisiac to attract female bees. The perfume is often very specific, and a flower will attract only one of the 180 species of euglossine bees.

In the case of *Coryanthes speciosa*, the bee lands on the helmet-shaped lip, collects the fragrant substances, and falls, drunk, into the liquid-filled bucket of the flower. Some drown. Others follow a ladder of hairs, which goes past the sexual apparatus, and exit through the back of the flower, a harrowing 45-minute journey. Stunned, he flies away from the flower and avoids the experience for a while. He, however, eventually goes back for more and often pollinates the orchid.

SHORT-LIVED FRAGRANCE

In species like *Catasetum unisex*, the flower emits a strong musky scent two or three days after opening. Male bees scratching at the odor source cause the pollinia to be flung onto the back of the bee. Within half an hour of pollinia being removed or received, half of the fragrance of the flower is gone. Odor stops within 24 hours of pollination, chemicals wilt the petals, and the stigma swells shut. Fragrance production is expensive for the flower and is not willingly spent after pollination has occurred. The party is over, and the seed-production portion of the program goes into full swing.

GROWING ORCHIDS FOR FRAGRANCE

Steven Frowine notes that breeding orchids for fragrance is a new development in orchids- and a welcome one. Some shows now judge for fragrance. The Greater New York Society Show in 1992 was the first United States show to judge for fragrance. The Japanese divide orchids into To-Yo-Ran (Asian Cymbidiums) and Yo-Ran (Western orchids) and use four standards to judge fragrance-intensity, gorgeousness, elegance, and freshness. The difficulty of judging fragrance is highlighted by Frowine who quotes Linet Hamman, director of Van Rooyen Orchids in South Africa:

The science of smelling/sniffing is quite controversial. Some people believe you only need to whiff the air above the flower (called "headspace by perfumers.) Others suggest a waving or sniffing action, while another school believes that you have to stick your nose right into it,

BUYING FRAGRANT ORCHIDS

Steven Frowine further lists several sources for buying fragrant orchids. Below is an abbreviated list. Websites change frequently so be sure to use a search engine if these have changed.

Andy's Orchids www.andysorchids.com 888-632-8991

Big Leaf Orchids www.phalaenopsis.net 972-659-1406

Cal Orchids www.cal-orchid.com 805-967-1312

Countryside Orchids www.4orchids.com/countryside 505-263-8888

Gold Country Orchids www.goldcountryorchids.com 916-645-8600

Hoosier Orchids Company www.hoosierorchid.com 888-291-6269

Norman's Orchids www.orchids.com 909-627-9515

He also has extensive lists of fragrant orchids in his excellent book by the same name which is in our club library.

A FINAL NOTE

Think about devoting a portion of your collection to fragrant orchids. There are literally thousands of fragrant orchids that will add delight to your orchid growing. Try it!

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