Speaker Segment

By Kara Ramsey

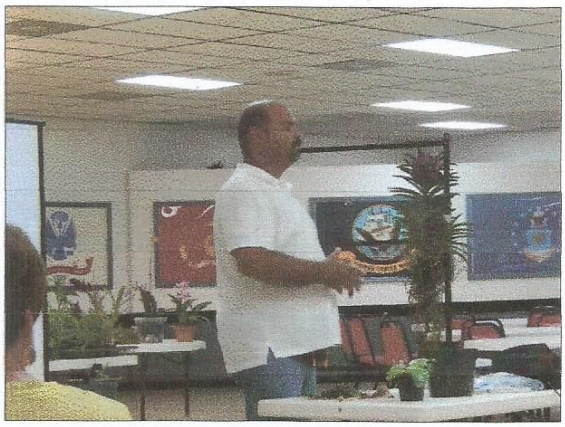
Our speaker for this month was Phil Hamilton of Bredren Orchids from Apopka, Florida. Phil has been immersed in orchids his whole life. He grew up in Jamaica handling orchids at his parent's nursery where they specialize in Broughtonia species orchids and hybrids. He started growing and collecting his own orchids around 6 years of age, with the Phalaenopsis orchids always being his favorite. He came to the states for college where he attended the University of Florida and studied in their environmental programs. After his schooling he spent 10-11 years working for some of the large potted plant orchid growers in the surrounding Apopka area. He eventually started his own nursery and is here to speak with us today on his love of Phalaenopsis orchids and his area of specialization in growing and hybridizing novelty Phals.

The Phalaenopsis orchids are a genus consisting of approximately 60 species of orchids within the Vanda family. The genus Phalaenopsis was established in 1825 by Dutch botanist Karl Ludwig Blume when he described the type species, Phal. amabilis. The generic name was derived from the Greek "phaluna", referring to moth and "opsis", meaning resembling – due to the resemblance of the flowers to flying white moths that had been seen in jungle habitats. These orchids are native to Southeast Asia, the Himalayan Mountains, Philippines, and Northern Australia. In their native habitats these orchids are epiphytes found growing on the trunks of trees protected from the direct rays of the sun by the dense tree canopy. They have a monopodial growth habit, meaning new growth originates from a single point upward along the main stem. In the wild these orchids are observed attached to trees growing in an upside down position (with the crown of the plant facing downward). Th is is because these orchids do not like to have water settle on their leaves for any prolonged period of time, and by orientating themselves in this fashion any droplets of water that collect in excess simply run off the leaves of the plant. This is an important fact to keep in mind as we discuss bacterial and fungal diseases later on.

Phalaenopsis orchids, with the exception of some species, are easy to grow and a good beginner plant for someone who is new to growing orchids. They prefer shady, low light conditions (600-1,200 foot candles) but are capable of tolerating higher light levels at cooler temperatures. These orchids prefer maximum daytime temperatures of 75-85°F and night time lows of 60-75°F. They are capable of withstanding more extreme night time temperatures of 50°F for the standard Phals and 55°F for novelty Phals. They do not like to have their growing medium dry out completely. Instead they prefer to be kept evenly moist at all times but not sopping wet. The frequency with which you water your plants will ultimately depend upon your growing medium. Typically during the summer months you should strive to water Phals once or twice a week. Phil recommends applying a balanced fertilizer with micronutrients (such as Better-Gro Orchids Plus 20-20-20) to plants with every other wa tering. He suggest applying fertilizer to plants at a rate of ¼ to ½ teaspoon per gallon. Applying small amounts of fertilizer to plants on a consistent basis will give you your maximum growth rates and flowering potential. Blooming for the standard Phals occurs once a year during the winter time (January-March) with flowers typically lasting 2-3 months. The current research shows that plants need maximum daytime temperatures below 78°F for a period of 2-4 weeks

in order to initiate bloom spikes. From the time the spike begins to form to when the first flower opens is roughly a 3 month period. The novelty type Phals bloom throughout the warm summer months (typically May-October). Most of the novelty Phals bloom on indeterminate spikes, which means they produce flowers in succession and can keep blooming on the same spike over a long period of time. These plants can keep flowering on the same spike for more than a year, therefore, never cut the flower spike unless it has turned brown and is starting to fade. Additionally several of the novelty Phals are fragrant.

Phalaenopsis like most other orchids are not immune to pests. For Phil the pests that he has to deal with the most at his nursery are mealy bugs and thrips. Occasionally during hot, dry periods during summer mites and scale can also become an issue for him. For control of both mealy bugs and scale he suggests using an insecticide such as Bayer Advanced (imidacloprid) or Cygon 2E (dimethoate). Please note that if you are planning to spray with imidacloprid do so in a confined area away from flowers where honey bees are actively foraging for nectar and pollen. Over time this insecticide can cause chronic problems in bees and there is at least some evidence that it may be contributing to colony collapse disorder. When treating for mites it is important to select a product that is specifically labeled as a miticide in order to effectively target and treat for these pests. Phil suggests using Orthene (acephate) because it is inexpensive and labeled as both an insecticide an d miticide. Other good miticides include TetraSan (etoxazole) and Abamectin (avermectin B). To target thrips he suggests using either Othene, Conserve (spinosad), or BotaniGard ES (Beauveria bassiana Strain GHA), which has demonstrated some biological control against thrips. He does not use any insecticidal oils on his plants due to the fact that temperatures inside his greenhouse during summer readily reach 102°F. The application of insecticidal oils to plants must be done carefully during the summer months, and oils should only be applied late in the evening hours or on a very overcast day to avoid damage to plants. First, when applying any pesticide remember to follow all of the labeled instructions regarding preparation and application of the product. Secondly, for most pests it will be necessary treat with more than one application since many pesticides target only one stage of the life cycle (eggs, immatures, or adults). For a particularly bad infestation Phil suggest at least three pesticide applications spaced 7 days apart.



The best line of defense against bacterial and fungal infections in Phalaenopsis orchids is through control of the environment. First and foremost keep the crown of the plants dry – it is best to water plants during the early morning hours rather than at night. It is essential to avoid overcrowding of plants, provide adequate air movement throughout the growing area, remove any plants that show symptoms of disease, reduce watering to diseased plants, and repot plants when media shows signs of breaking down. The most common bacterial infections to afflict Phalaenopsis are Pseudomonas and Erwinia.

Once plants begin to show signs of a bacterial disease it is important to cut and/or remove all of the infected tissue from the plant. The bacterial infections are water born and can often spread rapidly if effective sanitation is not exercised in the growing area. Common fungal infections of Phals include Botrytis, Fusarium wilt, and southern blight or stem rot. Botrytis inf ections typically manifest as small, brown or black necrotic spots occurring on the flowers. This fungal disease strikes more often during cool, damp weather in areas where air circulation is poor and moisture is allowed to sit on the flowers for too long. Over the years it has been Phil's experience that thrip infestations and Botrytis infections seem to go hand-in-hand with one another. Fusarium is a fungal disease often spread through improper hygiene as a result of nonsterile cutting tools. It typically enters the plant through the roots where it affects the plant's vascular system blocking the flow of moisture to the plant. Infected orchids have leaves that are yellow, thin, shriveled or wilted, and plants typically die within a matter of weeks from the disease. Southern blight is caused by the soil born fungus Sclerotium rolfsii that thrives in warm and humid environments. It can cause rapid collapse and rotting of the roots and lower portions of the leaves of orchids. Applications of products such as Physan 20, Kocide 3000 (a copper based fungicide), or even hydrogen peroxide can be used to control bacterial and fungal infections. For fungal infections that affect the root system it is necessary to drench the plant with your fungicide in order to get the chemical into the root zone. For bacterial and fungal infections that are surficial it is only necessary to spray the leaves and roots at the surface of the plant.

Phil gave a demonstration to the club on how he likes to repot his Phalaenopsis. As mentioned before, it is necessary to repot your plants as the medium begins to break down to prevent problems with bacterial and fungal infections. Allowing your plant to soak in water for about 10 minutes will help to dislodge roots attached to the pot and make extraction of the plant from the pot easier. Once out of the pot gently work to remove all of the old potting medium from the root system. Next you want to remove any dead (soft) roots as well as any leaves that are situated below the upper most roots. You want to select a pot that best matches both the leaf span of the plant and the root system. For his plants Phil never pots in anything larger than a 6" size pot. The new potting medium should be damp but not wet. Again, potting medium selection is a matter of preference and is dependent upon your growing conditions and watering habits. If you are using a bark medium it is important to match the size of the bark chip to the size of the pot. For those planning to pot in sphagnum moss he suggests using true New Zealand sphagnum moss, as it is the highest quality moss available on the market. Whether using sphagnum moss or a bark medium you want to lay or add your media to the root mass pushing gently to secure the plant inside the new pot. Remember the roots need oxygen to breathe so you do not want to compact the media. He likes to leave a ½" gap between the top of the medium and the lip of the pot so that the media is not touching the leaves. For a few weeks after the repotting event he likes to use a high phosphorus fertilizer (5-40-17) on his plants in order to promote new root growth.

There is a lot to love with the Phalaenopsis genus and with advances in hybridizing there is truly something for everyone out there. If you enjoy species plants consider Phal. schilleriana, in which a large plant can produce hundreds of showy, pink, fragrant flowers. If miniature orchids are your thing than seek plants that have Phal. equestris ,

in the background. Species like Phal. stuartiana, Phal. manii, and Phal. amboensis are used to give us hybrids with unique barring and spotting on the flowers. Lovely little Phal. violacea produces fragrant flowers in a range of artistic magenta and blue hues. The latest trends are creating hybrids with peloric flowers, fragrant flowers in yellow, orange, and red hues, petticoats, and flower spikes that create flowers with a waterfall profusion effect.