

COLLECTOR'S ITEM

Angraecum infundibulare

NOT a miniature

by Brenda Oviatt and Bill Nerison
Photographs by Brenda Oviatt



Shown actual size, *Angraecum infundibulare* has the largest flower of any mainland African orchid and gave us reason to name our clone 'Big Sky Brobdingnagian'. Grower: Botanica Ltd. Photograph by Brenda Oviatt.

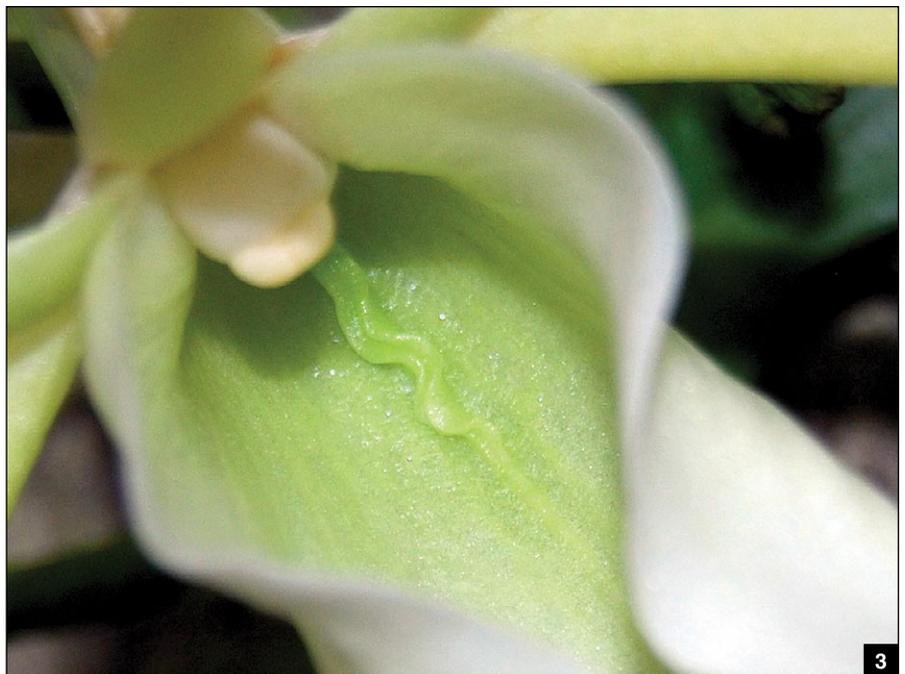
IN OUR EXPERIENCE, *Angraecum infundibulare* is one of the most often mislabeled angraecums around. We have purchased many of them, all from different sources, and only one has bloomed true to its label. The others have been *Angraecum eichlerianum*, *Angraecum birrimense*, or perhaps even hybrids. Once you see the real thing, there is simply no mistaking it for anything else. To say that this flower is spectacular is an understatement. *Angraecum infundibulare* has the largest flower of any mainland African orchid. Though the flowers are exceedingly large, they are not as fleshy and substantial as an *Angraecum sesquipedale*, but are quite long lasting — typically 3–4 weeks. Disappointingly, we were unable to locate a photo of *Angcm. infundibulare* in situ. It is considered a vining species and it is likely that because the plant becomes hidden in the foliage of the trees it grows in and perhaps the flowers cannot be seen well and are not often photographed.



Brenda Oviatt and
Bill Nerison

So, try to imagine this plant, in full bloom, as it has scrambled 33 feet (10 m) up into a tree. Now imagine that dusk is approaching, and each of its flowers is beginning to release fragrance

to attract its nocturnal pollinator. It has a strong, sweet, pleasant fragrance. At an orchid show recently, our small plant with its single flower became fragrant as show setup ran into the evening. One attendee likened it to lily of the valley. It seems more complex to us, but it is good to know that no one found it overpowering or unpleasant. Brenda suggested to a group of AOS judges once that many of the angraecoids really should be judged at night because of their amazing fragrance. It might be interesting if fragrance were a consideration in judging. Another lovely feature of an *Angcm. infundibulare* flower is the patterning on the funnel portion of its spur or nectary. It is especially striking when illuminated from behind. Although superb at nighttime, some of its intricate detail might be missed — so we suggest seeing it both during the day and after dark. Its spur can be 4–8 inches (10–20 cm) long, making this another distinguishing feature. Though we have not personally checked this species (it should be on our to-do list), many angraecoids have nectar in their spur as a “sweet treat” for their pollinator — unlike some orchids that trick their pollinators. The nectar is much



like honey. This adaptation of shape suits the proboscis of a visiting moth, pleases the pollinator and ensures reproduction by seed in nature.

Angraecum infundibulare has been recorded growing in Nigeria, Central African Republic, Cameroon, Congo, Gulf of Guinea Islands, Rwanda, Zaire, Ethiopia, Kenya and Uganda (at elevations ranging from sea level to 4,430 feet (1,350 m). It is noted as being found in forests, usually in hot and humid areas. It was first described in 1862 by John Lindley (1799–1865). The species name he chose for it is a derivation of the Latin *infundibulum*, the funnel-shaped organ or extension of the hypothalamus connecting the pituitary

- [1] The natural spread of this flower measured over 7 inches (18 cm) in height and width — not including the recurved point of the lip (apiculus). Grower: Botanica Ltd.
- [2] The patterning of the funnel of *Angraecum infundibulare* is especially visible with light shining from behind. Grower: Botanica Ltd.
- [3] *Angraecum infundibulare* has an interesting raised squiggly callus on its lip. Grower: Botanica Ltd.

gland to the base of the brain. It is quite a *smart* name to have chosen. *Angraecum infundibulare* has three homotypic synonyms: *Angorchis infundubularis* (1891), *Mystacidium infundibulare* (1897) and *Eichlerangraecum infundibulare* (2013). Of these, we find the name *Eichlerangraecum* from 2013 interesting because, as we mentioned, several of the plants we have purchased over the years as *Angcm. infundibulare* have actually been *Angcm. eichlerianum*. It is an interesting combination of a species and genus name to have chosen for this plant.

Angraecum infundibulare, along with all angraecoids, is a monopodial epiphytic orchid belonging to the *Vanda* tribe (Vandaeae) — vandaceous orchids being the most highly evolved within the Orchidaceae. Within the genus *Angraecum*, it falls in the section *Arachnangraecum* and often we include this type of information in a sidebar for those interested in the taxonomy of the species. We are not including that here, because every source we checked on this section has differing information; it seems to be in a state of flux. The key features of the *Angraecum* in this section are a single-flowered inflorescence and primarily large flowers (relative to plant size) with white lips. In every description of the section *Arachnangraecum* there seem to be disputes of members mentioning “this species should be placed in the section...” or, “this species was recently transferred from the section...” Although there is no question that *Angcm. infundibulare* fits here, an up-to-date list of the others proved challenging, but there are between 17 and 19 species in the section *Arachnangraecum* with the addition of possible subspecies and varieties. The other most recognizable species in this section are *Angraecum germinyanum* and *Angraecum scottianum*, along with *Angcm. eichlerianum* and *Angcm. birrimense*.

Two hybrids have been registered using *Angcm. infundibulare*, certainly made in an effort to increase flower size on their co-parent: *Plectrelgraecum* Taylor Made registered in 1988, which is *Plectrelminthus caudatus* × *Angcm. infundibulare*, and *Angranthes* Luna registered in 1986, being *Angcm. infundibulare* × *Aeranthes ramosa*. Each hybrid has received one AOS award (*Plgcm.* Taylor Made ‘Memoria Mary Jo’, AM/AOS and *Angth.* Luna ‘Magnifico’, HCC/AOS, noted by the judges for its desirable growth habit and floriferousness). The species *Angcm. infundibulare* has been awarded three



times, the best award being an Award of Merit given for a plant with three flowers and three buds on six inflorescences — it must have been a beautiful sight! At the show we mentioned earlier, we had the judges look at our plant. They noted that the flower was notably larger than any previously awarded; however, it lacked perfect symmetry. It made us wish we had paid more attention to it as it opened; it had a root blocking one of the petals and had we paid better attention as the flower

- [4] Illustration of *Angraecum infundibulare* from Curtis's Botanical Magazine in 1907, which nicely captures the quality of the large, gracefully hanging flowers.
- [5] A cutting of *Angraecum infundibulare* quickly produces side growths with more roots. Grower: Botanica Ltd.
- [6] The new growths, roots and inflorescences all form opposite a leaf on the stem. Grower: Botanica Ltd.

was opening, perhaps it would have received an award.

It is interesting to note how many people have seen our plants (*Angcm. eichlerianum* and *Angcm. birrimense*, too) and asked, “Is that *Vanilla*?” Although there is some similarity in their vining growth habits and both have distichous leaves, the angraecums branch more readily and their leaves are very different. The leaves of the angraecums are unequally and obtusely bilobed, whereas those of *Vanilla* (e.g.) *planifolia* are acute to subacuminate or greatly simplified — leaves with two lobes at the end versus pointed leaves.

CULTURE We have located parts of our *Angcm. infundibulare* all over the greenhouse; initially to ensure we had at least one piece in the perfect location. We have found them to be quite adaptable and willing to grow in every spot, though we now keep the majority in the location of optimal blooming, which is on the east side of our greenhouse near the outside wall. Though this species is commonly described as warm or hot growing, ours get a cool nighttime temperature of 53 F (11.7 C). Their maximum summer daytime high reaches 96 F (35.5 C). This location, with its inherent cooling during the nights and in the winter, seems to give the plant a natural dormancy. Do keep in mind that these described conditions are in our Montana greenhouse, and on the other side of the greenhouse wall it can drop well below 0 F (-18 C). On a sunny September day, we took light readings of the area where we grow our plants. Outside in the bright sun, we registered 10,040 foot-candles. We keep white woven shade cloth covering our greenhouse into early autumn, and where the majority of the plants grow the reading through that shade cloth was 1,450 foot-candles. Though these plants can be grown in much higher (and even lower) light levels, we have found that they thrive and bloom very well in this location. More light is not necessarily better for this species.

Angraecum infundibulare produces aerial roots all along its long rambling stem as it grows, to attach to the tree it grows upon. In our greenhouse, the roots can grow out and attach to the cedar supports of our screens. We recommend that whether you are growing one in a home or a greenhouse, that you provide some sort of support for it to climb on; much like the tree acts as the support in nature. A tree fern or moss pole works perfectly as the stem can be tied up until the roots can enter the pole. It can



easily be “house trained” given adequate humidity. We have mounted a few on cork plaques, but they rapidly outgrow the mount and require additional means of support. *Angraecum infundibulare* naturally branches, each branch producing a root system of its own. Without some sort of support, they become a sprawling mass...though this is an interesting look if you have the space for it. We propagate ours by cuttings (we are also working to produce them from seed), and though top-cuttings are initially the prettiest, the lower stem portion begins to branch soon after the top-cut is made, and quite often will get 3–4 side growths at once. These new growths, roots, and inflorescences all emerge from the stem just opposite a leaf. We make cuttings when the roots are in

active growth, put the stem and as many roots as possible into a 4-inch (10-cm) plastic pot with a wire support attached to it, fill the pot with Orchidata (Power+ ½ to ¾ inch [12–18 mm]), use ties or clips to secure the stem to the wire support and then place them in the same growing environment as the parent plant. The roots in the pot often continue to grow, but it seems to us that the aerial roots are the ones bringing in the majority of nutrients for the plant, so when watering, make sure to moisten them with fertilized water. We use reverse-osmosis water with half-strength fertilizer, and periodically flush with pure water. We rotate fertilizer formulas and always provide micronutrients. We recommend watering early in the day, especially because the

leaves will get wet as the aerial roots are watered. Additionally, the plant can benefit from watering the foliage with fertilized water as some nutrients are taken in by the stomata of the leaves (particularly the undersides).

HOPE FOR SURVIVAL *Angraecum infundibulare* has not yet been assessed as such by the IUCN Red List of Threatened Species (International Union for Conservation of Nature). There is little information available as to its status in situ. We have concerns regarding the great number of plants that we have acquired over the years that have been incorrectly labeled. This is one of those plants it is good to purchase when in bloom, to be certain of identity. We know from experience that the world is not perfect. Sometimes we assume the orchids we have purchased are correctly labeled but they are not. Know how to read a label (to know if it is a species or a hybrid) and do your best to verify it is correct when it blooms. We encourage everyone to share pollen, seed and accurate information!

Further Reading

Kew World Checklist. <http://www.theplantlist.org>. Accessed October 25, 2016.

la Croix, I. 1997. *African Orchids in the Wild and in Cultivation*, Timber Press, Portland, OR.

Stewart, J., J. Hermans, and B. Campbell. 2006. *Angraecoid Orchids Species from the African Region*. Timber

Press, Portland, OR.

<http://www.florflores.com/angraecum-infundibulare/>. Accessed October 25, 2016.

<http://www.africanorchids.dk/>. Accessed October 25, 2016.

[https://commons.wikimedia.org/wiki/File:Angraecum_infundibulare_Curtis%27_133_\(Ser._4_no._3\)_pl._8153_\(1907\).jpg](https://commons.wikimedia.org/wiki/File:Angraecum_infundibulare_Curtis%27_133_(Ser._4_no._3)_pl._8153_(1907).jpg)

Acknowledgments

We continue to benefit from our personal communication with Isobyl la Croix and learn new things from her each time we are in contact. As always, our appreciation goes to Julian Shaw, the orchid hybrid registrar at The Royal Horticultural Society and Marion Allen of the AOS Rocky Mountain judging center for their continued research on each species we write about.

— *Brenda Oviatt is an artist and Bill Nerison is an architect. They live on the Clark Fork River in Missoula, Montana (a corner of paradise) with their daughter Marisa, son Tristan and an assortment of animals. They've been growing orchids together for 32 years and in that time have grown in many settings. For the last 12 years, their orchid growing has focused on the ex situ propagation of endangered angraecoids and the education of hobbyists and growers (website: botanicaltd.com).*

FEBRUARY 24-26, 2017



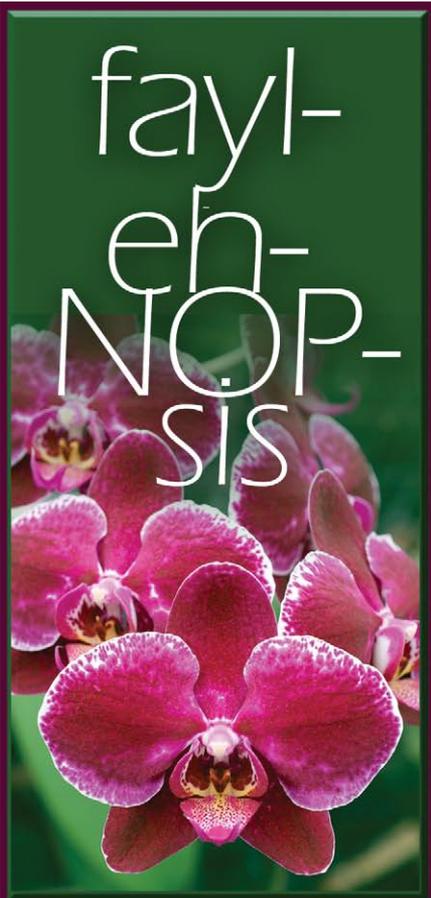
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