

Aerangis Name Game

Clarification of *Aerangis fuscata*, *monantha* and *punctata*

BY BRENDA OVIATT AND BILL NERISON

WITH THIS ARTICLE, we hope to clarify the confusion between three special *Aerangis* species from Madagascar and the multiple names they have been known by over the years. Sometimes name changes can be frustrating (especially for those of us who have been at this for a while). Neither of us openly accept the term rupicolous cattleyas. To us, they will always be rupicolous laelias. We feel the same about *Vanda falcata*. In our hearts, they will remain neofinetias. There are, however, some important name changes that **MUST** be clarified and adhered to by **EVERYONE**; they are changes that mean the difference between correct and incorrect identification of the species and whether you are able to acquire the plant you really want. As we have been doing research on the names of these species, it seems that there are three distinct areas where the confusion has occurred: First with **taxonomists**, secondly with **written errors** (accidental or not) and finally in the **commercial trade** with mislabeling. Combinations of errors between the three have occurred as well.

TAXONOMISTS In addition to confusion that arises with transfers of species between genera, some errors in early publications were made by simply confusing the description of a species with the name of another. More serious errors have been made in describing and publishing information about plants sent across the world.

WRITTEN ERRORS Once in printed form, an incorrect name (especially when accompanied by a beautiful photograph) can spread systemically, and some mistakes can be difficult to correct. This type of error is common on the internet. Other simple errors are still able to cause confusion, i.e., when a key says "leaves finely black spotted" when in fact it should read "leaves spotted silver-white."

THE COMMERCIAL TRADE Businesses can turn mistakes into money-makers both intentionally and unintentionally. We have purchased more than our share of incorrectly labeled orchids, and every business that discovers an error has their own way of handling it. Sadly, honesty is not always profitable.

COMBINATION

Isobyl la Croix describes the history regarding *Aerangis monantha*: Rudolph Schlechter described *Aergs. monantha* in 1925 from a plant collected by Perrrier de la Bâthie. However, there has been considerable confusion over the name of this little species. In 1883, H.G. Reichenbach described a plant sent to him by Hugh Low as *Aeranthes curnowianus*. The French botanist Achille Finet transferred it to *Rhaphidorhynchus*, a genus he had established for species now assigned to *Aerangis* and *Microcoelia*. That plant was in fact, an *Angraecum* species. In *Flore de Madagascar* (la Croix, 2014) Schlechter's species was called *Aerangis curnowiana* (with *Rhaphidorhynchus curnowianus* and *Aeranthes curnowianus* as synonyms) and this name was used for many years for plants in cultivation. To add to the confusion, the species called *Aergs. monantha* in *Flore de Madagascar* is actually *Aerangis fuscata*. Confusing? Most certainly.



- [1] *Aerangis fuscata* flowers. The species is found from sea level up to about 7,000 feet (0–2,350 m) in northeastern and eastern Madagascar. Grower: Bill Nerison.
- [2] *Aerangis fuscata* (lower) and *Aerangis spiculata* (upper). Seen side-by-side there is no confusing the two. Both plants are blooming size. Grower: Bill Nerison.
- [3] *Aerangis spiculata* is found in northern Madagascar and the Comoro Islands at elevations ranging from sea level to about 3,300 feet (0–1,000 m). Grower: Bill Nerison.

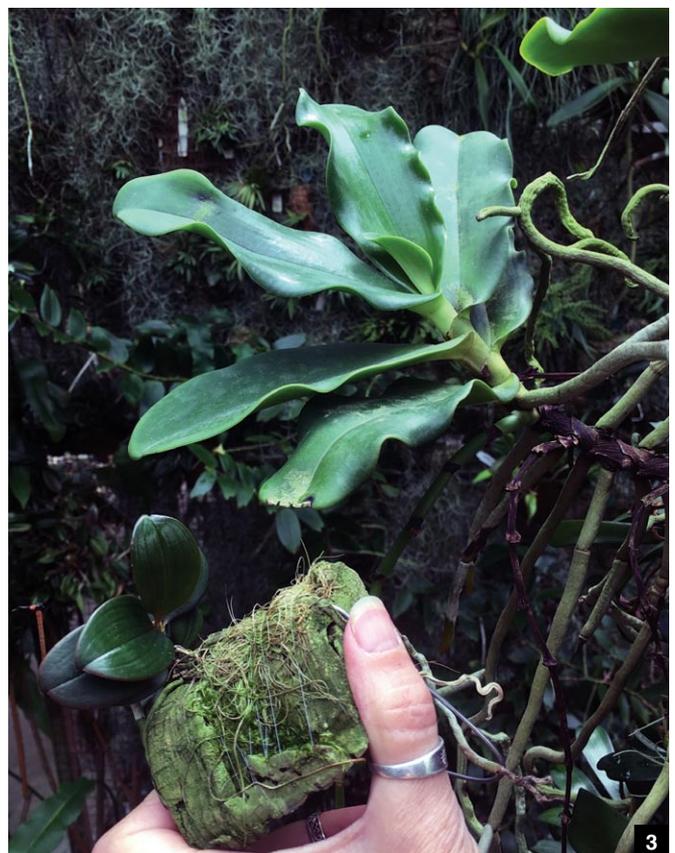
REAL-LIFE EXAMPLE Let's imagine you own a plant labeled *Aerangis fuscata* and you want to know if it is properly identified. The epithet *fuscata* has been incorrectly used for several large-flowering species of *Aerangis*. The most widely available source with this misinformation is *An Introduction to the Cultivated Angraecoid Orchids of Madagascar* by Hillerman and Holst from 1986. Much of the information in the book is of great value, and it showed many people in the orchid world plants they had never seen before, but each species includes the qualifier "Description based on our plants." Even now, plants imported from Madagascar labeled *Aerangis fuscata* are most often actually *Aerangis spiculata*. For many years the commercial trade sold plants labeled in this same manner (we know this from personal experience). The Hillerman and Holst error was likely repeated from an error in a previous publication. Seen side by side, we wonder how could this mistake have occurred. Now, back to your plant; has it bloomed? Are its flowers white? Then it is NOT *Aerangis fuscata*. If it has not bloomed yet, and you are not certain if it is blooming size, it will be a little trickier. A seedling *Aerangis spiculata* looks a bit like a mature *Aerangis fuscata*. Look at the edges of the leaves for a reddish tinge (*fuscata*) or a wavy edge (*spiculata*). Both species have relatively smooth roots with the larger *spiculata* having larger-diameter roots. The growing tips may be an indicator; *fuscata* has bright green growing tips and those of *spiculata* have a bronze tinge. If this does not help, you will need to wait for your plant to grow. As it grows, if a leaf surpasses 3 ½ inches (9 cm) in length, you are unlikely to have a true *Aerangis fuscata* as they are small at maturity.

It can be frustrating (especially to the layman) when the taxonomic descriptions do not have information presented in a consistent manner. One may be described as "dwarf" and "almost stemless" and another as "small with a short woody stem." When you see the plants side by side, they could be described the same way; but each taxonomist may use different descriptors. Add to this confusion the taxonomic descriptions of the same plant by different taxonomists; "lanceolate" vs. "obliquely lanceolate" vs. "narrowly lanceolate, acuminate." In review of our own orchids, it is easy to see that a variation occurs within different plants of a particular species. For example, if one taxonomist were to describe our finest, most robust *Aerangis fuscata* in bloom and another to describe a younger *Aerangis fuscata* which was removed from a tree in Madagascar and shipped halfway across the world with a travel-stressed bloom, it is likely the descriptions of the plants would vary a great deal.

We reviewed a plethora of writing (hard copy and electronic) about these species and compared three of them. Unquestionably, the most complete and up-to-date publication regarding these plants is the book *Aerangis* by Isobyl la Croix (2014). We used it as our base reference, compared it with two other excellent sources and made a chart. We will show and describe the differences in easy-to-understand terminology, though it is important to understand some of the basic taxonomic nomenclature. If you own one of these plants (or think you may), we suggest comparing it to these descriptions and make sure it has a correct identification tag on it.

We deliberat-ed giving the measurements of the respective parts, and decided to include them for a more complete reference. Please take a moment to notice the wide range possible in some areas and the utter lack of variation in others.

Commonalities: All three species are dwarf or small plants, have flowers with a white lip and long spur and are endemic to Madagascar.



THE PLANTS



Aerangis fuscata (Rchb.f.) Schltr., Orchideen Beschreib. Kult. Zücht.: 598 (1914).

Homotypic synonyms: *Angraecum fuscatum*, *Angorchis fuscata*; heterotypic synonyms: *Rhaphidorhynchus umbonatus*, *Aerangis umbonata*, though knowing the “official” synonyms of this species will not help sort out the confusion with this species! As stated previously, this name has been used extensively when selling *Aergs. spiculata* and also when describing *Aerangis stylosa*; both of which are very different from *Aergs. fuscata*.

The species name *fuscata* means brownish, alluding to the pinkish brown color of the sepals and petals. A healthy plant can carry up to five flowers per inflorescence. Note how the spurs are mostly straight with a slight curve at the apex (tip).



Aerangis monantha Schltr., Repert. Spec. Nov. Regni Veg. Beih. 33: 386 (1925).

This has no “official” synonyms, but has long been sold as, and called, *Aergs. curnowiana*. There is some disagreement on The World Checklist of Selected Plant Families as the original compiler considers it to be *Aergs. fuscata*. There are plants sold as *Aerangis fastuosa* var. *françoisii* that have been identified as *Aergs. monantha*, and *Aergs. fastuosa* subsp. *françoisii* is listed on the Convention on International Trade in Endangered Species of Wild Fauna and Flora Orchid Checklist with *Aergs. fastuosa* as the accepted name. We suspect it may be a plant you will need to bloom to accurately identify should you ever purchase one.

The epithet *monantha* means one-flowered. Even a specimen plant will have few flowers because each short inflorescence carries only one, or occasionally two, flowers. This makes it obviously different compared to the other species we are reviewing. Notice the “sinuous” spurs.



Aerangis punctata J.Stewart, Amer. Orchid Soc. Bull. 55: 1120 (1986).

Though there are no “official” synonyms for this species, it was sold as *Aergs. curnowiana* before it was formally described in 1986. We suspect the ongoing name confusion is, in part, due to this mislabeling. It confounds us that a plant as stunning and unusual as *Aergs. punctata* could ever be confused with another species. Even out of bloom it is unmistakable if you look at its foliage and roots. The photo shows our clone ‘Barbara’ blooming with seven inflorescences and 22 flowers.

GROWTH HABITS



***Aerangis fuscata*:** A “small” plant, described as “stemless” (a young plant) or with a “short woody stem” (the mature plant shown). They actually grow away from their mount while staying firmly attached. It would be uncommon to see a plant with more than seven leaves.



***Aerangis monantha*:** A “dwarf” or “small” plant. Described as “almost stemless,” these tend to send out a new growth rather than lengthening with a stem like the other species discussed here. It is common for a plant to have just two or three leaves, though we have had a healthy specimen hold nine.



***Aerangis punctata*:** Described as “small” or “very small” with a short stem. Like *Aerangis fuscata*, older plants will grow away from their mount while still firmly attached. They are relatively quick to form multiple growths. We have one older plant that has grown nearly 2 inches (5 cm) away from its cork mount; the oldest roots are atrophied but the plant still looks good and has new emerging roots. We view this as a perfect time to remove, clean and reattach the plant.

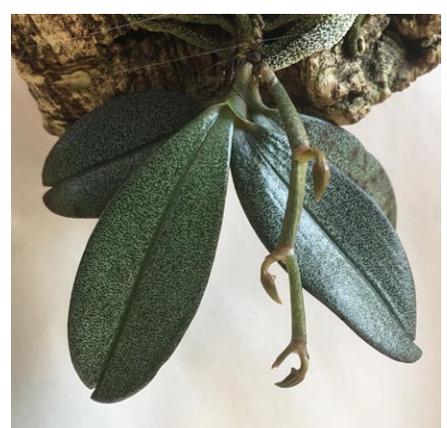
THE LEAVES



The obovate or elliptic green leaves of *Aerangis fuscata* will sometimes have a reddish tinge. Depending on growing location and time of year, our leaves will have a reddish border around the entire leaf. They are unequally bilobed and this detail (exactly how bilobed they are) varies depending on whose description you read. Ours are consistently unequally, bluntly bilobed 0.6–3.5 × 0.4–1.2 inches (1.5–9 × 1–3 cm).



The oblong to elliptic green leaves of *Aerangis monantha* will sometimes have a reddish margin. They are bilobed at the apex with rounded lobes. What we have noticed with our plants, not mentioned in descriptions, is the slight texture on the surface of the leaves and the ability to see their venation with just a bit of backlight; 1–2.4 × 0.6 inches (2.5–6 × 1.5 cm).



The oblong or oblong-elliptic leaves of *Aerangis punctata* are acutely bilobed at the apex. Some almost appear to have had a thin “slice” removed from their leaf-tip. In Latin, *punctatus* means pricked or spotted and refers to the silver or white dots on the leaves. From a distance, the leaves appear grey-green. The dots occur on the bottom sides of the leaves as well the tops although they are not quite as noticeable since the undersides are a lighter green. Its common name is the dotted *Aerangis*, 0.8–1.4 × 0.25–0.47 inches (2–3.5 × 0.6–1.2 cm).

THE ROOTS



The roots of *Aerangis fuscata* are smooth, "fairly stout" and have bright green growing tips.



Though not as verrucose as the roots of *Aerangis punctata*, these *Aerangis monantha* roots are unmistakable. Even in flask, their rough-surfaced roots have distinct bronze-colored growing tips. They are quite "stout" on a mature plant.



Aerangis punctata roots are conspicuously verrucose with bright green growing tips; the roots flatten against their substrate as they grow.

THE FLOWERS



The front view of this *Aerangis fuscata* flower is telling: where the lip forms the mouth of the spur, there is a clear circular opening, as if you are looking into a slender funnel. The sepals and petals are pinkish brown or yellow to green and the white lip is noticeably longer as it projects forward.

Flower: 1.2–2 inches (3–5 cm) across.

Lip: 0.8–1.6 × 0.3–0.5 inches (20–40 × 7–12 mm); projecting ovate-lanceolate, acuminate.

Dorsal sepal: 0.7–1.3 × 0.1–0.2 inches (18–32 × 3–5 mm); ligulate-lanceolate obliquely lanceolate, acute, arched over the column.

Lateral sepals: 0.8–1.4 × 0.1–0.2 inches (20–36 × 2.5–4 mm); obliquely lanceolate, acute.

Petals: 0.7–1.2 × 0.1–0.2 inches (17–30 × 3–5 mm); narrowly lanceolate, acuminate, somewhat reflexed.



The sepals and petals of *Aerangis monantha* are greenish or pinkish; the lip is white. The noteworthy feature to distinguish this plant is its rostellum. It is very long and projects down across the mouth of the stigma and spur opening.

Flower: 1.6–2 inches (4–5 cm) across.

Lip: 0.8–1 × 0.4 inches (20–24 × 10 mm); ovate or obovate, acuminate.

Sepals and petals: 0.8–1 × 0.3 inches (20–24 × 6 mm); lanceolate, acute, spreading, petals sometimes smaller.



We have noticed more color variation in *Aerangis punctata* than the others discussed here. Sometimes there will be two colors on one flower (especially noticeable on the lateral sepals). The sepals and petals can range from buff yellow to greenish or brownish. We have also seen them described as "white flushed pink."

Flower: up to 1.6 inches (4 cm) across.

Lip: 0.6–0.9 × 0.3–0.4 inches (16–22 × 7–9 mm); widest at the middle.

Sepals: 0.6–0.8 × 0.1–0.2 inches (14–20 × 3–4 mm); narrowly lanceolate, acuminate.

Petals: 0.5–0.6 × 0.1 inches (12–16 × 2–3 mm); ligulate-lanceolate, similar to sepals but smaller.

IN PROFILE



From the side, it is easier to see that the lip of *Aerangis fuscata* projects forward, as does the rostellum. There is also an interesting “droplet” that hangs down; a small extension of the rostellum or the viscidium.



While easy to see from the front of the flower, the long rostellum of *Aerangis monantha* is even more noticeable from the side.



The rostellum of *Aerangis punctata* is quite long and narrow and the anther cap has a small “beak” on it that is most noticeable from the side.

AND THE SPURS



The slender spur of *Aerangis fuscata* is 3 ½–5 ½ inches (9–13 cm) when the flower is fully open. We have never seen one in a tight coil like the other species shown here. It lengthens as the bud grows and is nearly straight, with a slight curve at the apex.



The lip of *Aerangis monantha* is widest at the mouth of the spur, which begins in a tight coil next to the flower bud as it forms. As the flower opens, the spur becomes loosely coiled and extends to 5 ½ inch (13 cm) long.



The spurs of *Aerangis punctata* form in tight coils next to the flower buds and gradually loosen or relax as the flowers open. They tend to hang in perfect semicircles and can be up to 5 ½ inch (13 cm) long.

CULTURE

Assuming you have one of these three species (and not a mislabeled plant), the culture is quite similar for them. They prefer moderate shade and high humidity. Based on descriptions and native locale, *Aergs. punctata* should prefer cooler conditions; but we have not found that to be the case in our growing environment. We have all three species located in areas that have the most consistent temperatures (less change diurnally) and in areas that stay at least 60 F (15.5 C) even when it drops below 0 F (-17.7 C) outside.

As we write this, it is just after lunchtime. It is a very warm July day. At 1:00 pm our light meter reads 9,620 footcandles on the patio in front of the greenhouse. We have white shade cloth on the greenhouse, and inside have two passion vines (*Pas-siflora*) that are threatening to take over the place. We planted them to create “natural” shade in the brightest corner of our greenhouse and they are exceeding expectations. We

need to do some major trimming as our shaded areas are becoming TOO shady. We have these three species located in different areas right now, though they have been rotated and grown in several locations. The light readings at their current locations read between 90 and 680 footcandles; lower than ideal, but they are doing better than when we tried to grow them in too much light — and the passion vines are easy to trim.

We grow all three species on cork plaques with small coconut fiber pads over the roots, surrounded by Spanish moss (*Tillandsia usneoides*). Though we have not grown them potted, Tropical Orchid Farm in Hawaii (drastically different conditions than Montana) grows beautiful *Aergs. punctata* in net pots within plastic pots with no additional media.

Unlike some of the *Aerangis*, these do not require a hard dormancy. Growing at 46.8°N latitude we get much shorter, cooler days than someone growing in Florida, for example. That difference alone requires us to cut back on water

during our winter months. We have found these species (along with most other *Aerangis*, some *Phalaenopsis* and both *Eurychone* species) to be very susceptible to brown spotting and rot if moisture is allowed to sit on the leaves too long. Air movement can mean the difference between life and death at certain times of the year. We feel that reverse osmosis (RO) or rain water is essential to grow these optimally. We use RO water because our well water contains approximately 250 ppm of total dissolved salts (TDS) and the pH can be as high as 8.0 during some times of the year. Technically we would want our TDS to be 50 or less and the pH closer to 7.0. A small collection of orchids can be cared for with distilled water that has nutrients added back. Try to test the water you use on your plants and remove some of the guesswork in growing. We use ½-strength fertilizer and periodically “flush” with clean water. We rotate fertilizer formulas and always provide micronutrients.

FINAL THOUGHTS Of these three species, *Aergs. punctata* is the most widely available in the commercial trade. This lack of commercialism is NOT for want of demand. We are pleased to have *Aergs. monantha* growing well in flasks right now. But, despite our efforts, we have had no luck reproducing *Aergs. fuscata*; we repeatedly get seed capsules full of seed without any visible embryos. We are waiting for one capsule now and will keep trying! It is important that these rare species be reproduced ex situ to take pressure off native populations AND to make them widely available to growers around the world. They are exquisite orchids.

We typically include information about hybrids and awards in our articles. In asking Julian Shaw, the Royal Horticultural Society’s Hybrid Registrar, and Marion Allen (AOS Rocky Mountain Judging Center) our quarterly questions, we realized the potential quandary with these three species: have hybrids been made and awards given using mislabeled plants? Regarding hybrids, there have been very few registered, so while not a problem with these three species, Julian shared this information with us:

“I think it would be fair to say that the identification of the parents used to make a hybrid is the weak link in the system...it is not unusual to have a later correction of one of the parental names.”

One thing you will have noticed is that we attach the word “misapplied” to a name that is in use for an entity to which it does not correctly apply, while we are waiting for the correct identification to be made.

It is an ongoing game of corrections. It seems that AOS awards stand as awarded and retroactive changes are not made. As DNA is charting new names for existing species, it might be that DNA will be used in award and hybrid registration as well. Technology is changing things at an astonishing rate.

For now, we encourage everyone to be diligent about plant identification. Make sure to keep a tag on your orchids and do your best to make sure it is the CORRECT tag.

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Acknowledgements

We would like to thank Isobyl la Croix for her expertise and willingness to share every time we ask her about orchids; we have enjoyed rereading her works for this article. Thanks to Julian Shaw (Registrar; The Royal Horticultural Society); we realize that knowing accurate names is even MORE important than ever.

Acuminate: tapering gradually to a long slender point.

Acute: sharply pointed; converging edges making an angle of less than 90°.

Anther: pollen-bearing part of the stamen.

Apex: the tip; the point farthest from the point of attachment.

Bilobed: divided into two lobes.

Column: the central part of the orchid flower incorporating the style, stamen and stigma.

Dorsal sepal: the intermediate, or odd sepal, usually at the back upper side of the flower.

Elliptic: shaped like a flattened circle, narrowly oblong, symmetrical with regular rounded ends.

Lanceolate: lance- or spear-shaped, tapering to the tip sometimes, and incorrectly, used to mean narrowly elliptic).

Lateral sepals: the pair of sepals arranged at the sides of an orchid flower.

Lip: the unpaired petal of an orchid, usually held on the lower side of the flower.

Ligulate: strap-shaped.

Oblong: length a few times greater than width, with sides almost parallel and ends rounded.

Obovate: reversed ovate; wider at the apical end.

Ovate: egg-shaped in outline and attached by the wider end.

Perianth: the outer parts of an orchid flower, consisting of six tepals usually distinguished as three sepals, two petals and the lip.

Petals: in orchid flowers, two of the three inner members of the perianth; compare sepal.

Rostellum: a projection of the stigma of an orchid separating the fertile part of the stigma from the anther.

Sepals: the three outermost tepals of the perianth in the flower; compare petal.

Spur: a slender, tubular extension of part of a flower (in orchids, the lip), often containing nectar.

Stigma: the sticky area on the column that receives pollen.

Venation: the arrangement of veins in a leaf, bract or flower.

Verrucose: warty.

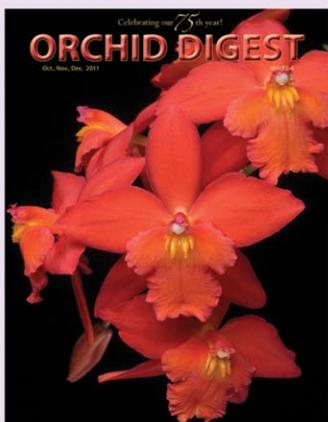
— Brenda Oviatt is an artist and Bill Nerison is an architect. They live on the Clark Fork River in Missoula, Montana (a corner of paradise,) with their daughter Marisa, son Tristan and an assortment of animals. They have been growing orchids together for 33 years and in that time have grown in many settings. For the last 13 years, their orchid growing has focused on the ex-situ propagation of endangered angraecoids and the education of hobbyists and growers ([website botanicaltd.com](http://website.botanicaltd.com)).



Brenda Oviatt and Bill Nerison

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