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Unraveling a Rainbow
2. A Reappraisal of Vanda sanderiana

Creating Vanda Hybrids

When, you might ask, is a *Vanda* not a *Vanda*? Perhaps when it is *Vanda sanderiana*. First described by H. G. Reichenbach the younger in 1882, this species was referred to the genus *Vanda*. In 1914, Rudolf Schlechter created a separate genus for it, *Euanthe*. Reichenbach himself had second thoughts and later placed his *Vanda sanderiana* in the genus *Esmeralda*. Among modern taxonomists, Phillip Cribb of England's Royal Botanic Gardens at Kew follows Schlechter and Eric Christenson of the Marie Selby Botanical Gardens cleaves to Reichenbach's first analysis.

The botanical argument centers on the structure of the lip. All undisputed species of *Vanda* have a three-lobed lip with a definite spur. *Vanda/Euanthe sanderiana* has a two-lobed lip and lacks a spur. Such botanical minutiae might not spur orchidists into a nomenclature change for hybrids from *Vanda* to *Vandanthe*, a change as massive as the shift from *Cypripedium* to *Paphiopedilum* and affecting numerous hybrid genera as well. But it should alert us to the possibility that *Vanda sanderiana* and its progeny could well be seen differently from cultural, genetic and aesthetic points of view.

Horticulturally, *Vanda sanderiana* differs from the other *Vanda* species in several ways. The plant, although superficially similar to other vandas, differs in two significant regards. First, the strap leaves of *Vanda sanderiana* are thinner and more brittle, making them more easily broken. The leaves also are set more closely together on the stem, with little space between. Leaves of most other *Vanda* species are set farther apart. This factor makes *Vanda sanderiana* more compact and less quickly propagated vegetatively.

Related to this compact growth is a second difference. *Vanda sanderiana* produces roots much less frequently. These roots are borne lower on the plant, another factor limiting vegetative propagation. Leaves, roots and the overall habit of *Vanda sanderiana* allow experienced growers to separate it readily from the other strap-leaf *Vanda* species.

Other horticultural qualities also separate *Vanda sanderiana* from other vandas. While not alone among strap-leaf species in its strong habit of blooming a single time in the fall to winter, *Vanda sanderiana* is markedly different in this from the other large-flowered *Vanda* species, which nearly all bloom more than once a year. Indeed, one of the surest signs of the hybrid nature in many "*Vanda sanderiana*" plants in cultivation is their habit of blooming more frequently. The closest vandas to *Vanda sanderiana* in having a single, definite bloom season are the small-flowered species group

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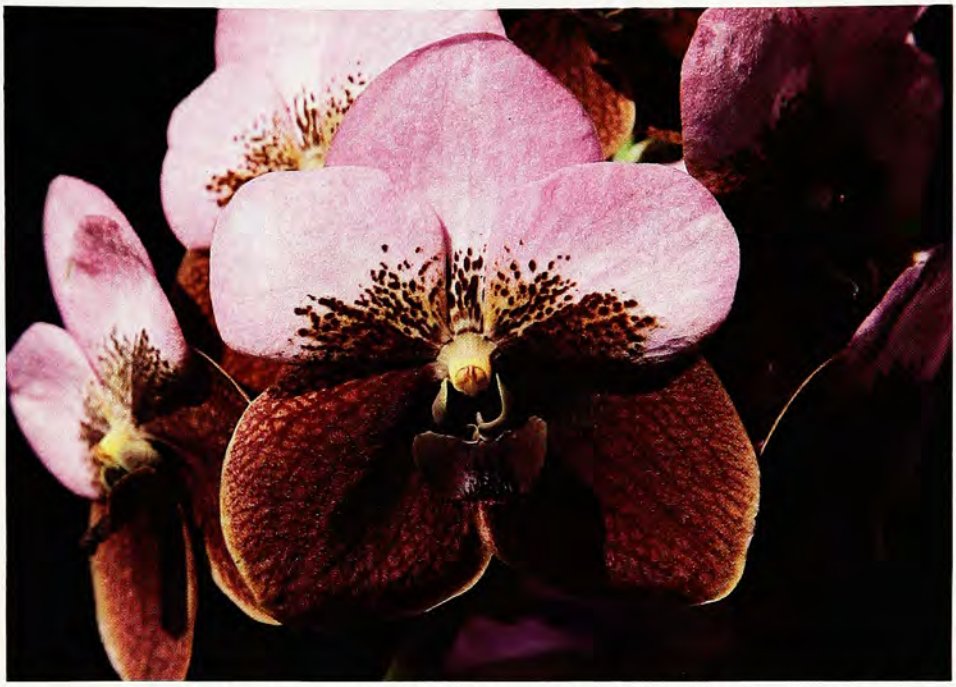


The beauty of modern cultivars of* Vanda sanderiana *is captured in 'Dream City', HCC/AOS (77 pts.), grown by Roy T. Fukumura of Kahului, Hawaii. This handsome species from the Philippine island of Mindanao is in the ancestry of most of today's popular* Vanda *and* Ascocenda *hybrids. But as a parent, it does have its faults . . . .

including *Vanda parviflora, Vanda lilacina,* and *Vanda coerulescens*, which, on occasion, have been placed with the ascocentrums. *Vanda cristata, Vanda pumila* and *Vanda alpina* also share this habit. While *Vanda sanderiana* is not unique, neither is it typical in its flowering habit.

Cultural requirements and temperature tolerance also distinguish *Vanda sanderiana*. As noted in the previous article, *Vanda sanderiana*, coming from a tropical habitat in the Philippines island of Mindanao, requires greater warmth than nearly all the other *Vanda* species and their hybrids. *Vanda sanderiana* and hybrids in which it predominates are the first to react to low temperatures by ceasing growth of roots and leaves. They are also the most likely to suffer severe damage when exposed to temperatures below 50°F or to drafts at temperatures as high as 55°F. The most troublesome among hybrids are the yellows, which also have the warm-loving *Vanda dearei* in their ancestry. This factor, while of little importance to Thai or Hawaiian growers, should influence our thinking in the temperate zones. Some of my finest yellows were severely damaged merely by the air conditioning in the exhibition hall at the 32nd Eastern Orchid Conference show last October.

Perhaps the most important difference between *Vanda sanderiana* and the other vandas is petal shape. This is most significant because it bears on the judging of the flowers. Petals of *Vanda sanderiana* are different from those of other *Vanda* species. In *Vanda sanderiana*, the petals are

Among early cultivars of **Vanda sanderiana** *to win awards from the American Orchid Society was* ***'Terry'***, AM/AOS *(86 pts.), left, which was exhibited by Robert Warne of Honolulu, Hawaii, on September 14, 1953, in Hollywood, California.* ***'Kiliwehi'***, FCC/AOS, *right, was exhibited by Takumi Kono of Hilo, Hawaii, in New York City on September 24, 1952, and received the highest point score ever given for a quality award — 98 points! The photograph of 'Kiliwehi' is by former AOS President Frank J. Lind.*

broad at the base, whereas other *Vanda* species have petals narrowed to a claw. Respect for the characteristics of *Vanda* hybrids without *Vanda sanderiana* in their heritage would lead to greater appreciation and recognition of this distinct category of orchid.

The breeding record of *Vanda sanderiana* provides another example of its distinctness from other vandas. Although *Vanda sanderiana* has been bred to nearly every other conceivable attractive member of the Sarcanthinae, it frequently does so with greater reluctance. And when successful, it usually produces hybrids of less vigor and less fertility than any other *Vanda* species when similarly matched.

Taken as a whole, there is abundant horticultural evidence to treat *Vanda sanderiana* as a separate entity from the other strap-leaf vandas. Of course, it was some of these same distinctions that led to its predominance in hybridization since the late 1940s. As with every truly desirable species parent, *Vanda sanderiana* has several very positive qualities. First, of course, is size. Only *Vanda coerulea* can rival it. Good wild-collected clones of *Vanda sanderiana* have produced flowers that measure 4½"-5" across and clones appearing in cultivation have been even larger. Because most other *Vanda* species are considerably smaller, the size of *Vanda sanderiana* was a major factor in its frequent choice as a parent.

Shape was equally important — if not more so. *Vanda sanderiana* has a much fuller shape than any other *Vanda* species. Its sepals are exceptionally broad and full. And even more important to breeders, its petals have an entirely different shape. The broad petals of *Vanda sanderiana* were correctly seen by early breeders as offering an opportunity to close the "windows" caused by the characterically narrowed basal portions of the petals in other *Vanda* species.

Moreover, *Vanda sanderiana* is not only fuller but flatter. Other *Vanda* species generally have fairly flat sepals but the petals can twist and turn in remarkable ways. Some reflex and may twirl from 90 degrees to even 180 degrees. More or less flat forms can be found in superior clones. But they are the exception. This accounts for the importance of the flat form of *Vanda sanderiana* in breeding.

The inflorescence of *Vanda sanderiana* has two desirable qualities which commend it to breeders. First, it carries its flowers on

Among modern cultivars of **Vanda sanderiana** *to win awards from the American Orchid Society is* ***'Triton's Treasure',*** HCC/AOS *(79 pts.), left, which was grown by Robert D. Smith of Key West, Florida, and was photographed by Bob Smith.* ***'Eastwind',*** HCC/AOS *(79 pts.), right, is one of the "alba" forms, which may prove very useful in future* Vanda *breeding programs. It was grown by Thomas L. O'Brien of Toms River, New Jersey, and was photographed by Charles Marden Fitch.*

an erect stem, which, in the best clones, tops the foliage. While several other *Vanda* species possess this valuable characteristic (*Vanda coerulea* even more so), *Vanda luzonica, Vanda dearei* and *Vanda denisoniana* do not and modern pinks and yellows would flower almost unseen if the influence of *Vanda sanderiana* did not lift up their heads.

The second highly desirable quality of the *Vanda sanderiana* inflorescence is the even, symmetrical arrangement of the flowers on the stem. At its best, *Vanda sanderiana* is capable of displaying its flowers in a uniformly arranged, nearly cylindrical head. By contrast, most other *Vanda* species have a much more lax arrangement. Indeed, the hybrids benefit from the fact that *Vanda sanderiana* is, if anything, too crowded with its flowers.

Vanda sanderiana, while attractive, is not a show stopper. Most unimproved forms are pale pink and are heavily masked with chocolate brown reticulations on the lateral sepals. While the color of *Vanda sanderiana* flowers may be uninspired, the pattern of color is very attractive. The two-toned effect of the marked lateral sepals is heightened in hybrids and is particularly pleasing in yellow and bright pink forms. This pattern of color frequently persists in hybrids, while the rather insipid base color is dominated by the color of the other *Vanda* species.

Vanda sanderiana appears to possess several genes for the transmission of color. Darker forms seem to manifest a full set of strong color genes, while the alba forms apparently approach absolute zero. In *Vanda sanderiana "alba"*, the normally pink parts of the flower are white and all of the normally brown parts are bright apple green. When bred to colored flowers, these "*albas*" display the *Vanda sanderiana* propensity for incomplete color dominance and produce flowers of a lighter shade of the colored parent. This quality of *Vanda sanderiana "alba"* will be reckoned exceedingly valuable should American orchidists again come to appreciate pastel shades, as they did in the 1950s and as Japanese orchidists and the general public do today. The path to pure white vandas also lies through *Vanda sanderiana "alba"* — but that is a subject to be treated later in this series.

Along with its many virtues, *Vanda sanderiana* also transmits some of its faults to its progeny. Chief among these is its ex-

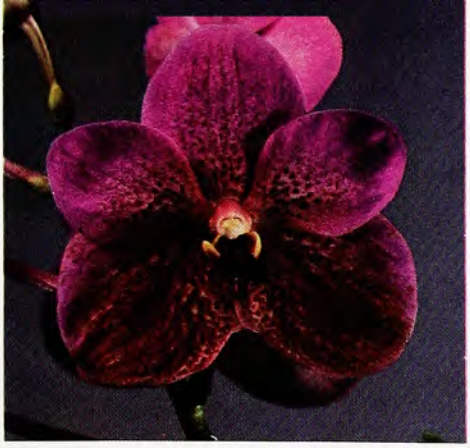
tremely strong tendency to bloom only once a year (in the autumn). Primary hybrids with other vandas usually take on the free-flowering habit of the other parent or involve long-day species which, when crossed to the short-day *Vanda sanderiana*, produce free-flowering indeterminate hybrids. Secondary hybrids crossed back to *Vanda sanderiana* still manifest the frequency of flowering that was a large factor in the initial appreciation of *Vanda* hybrids. As hybrids become more completely *Vanda sanderiana* in their make up, frequency of flowering falls off.

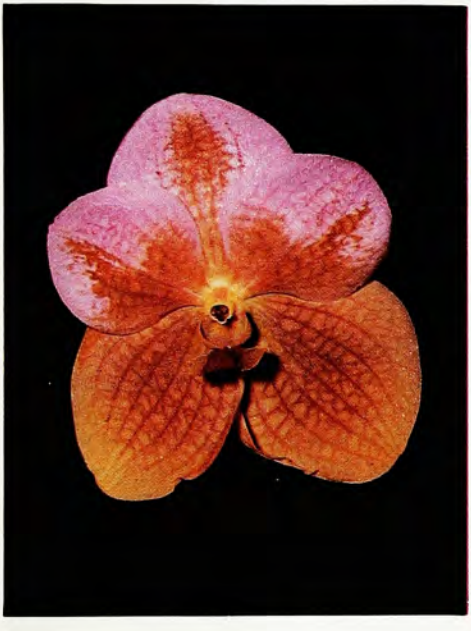
Many clones of complex hybrids bloom like *Vanda sanderiana* – just once a year. Unfortunately, vandas which bloom infrequently have, understandably, more strength and usually produce larger, finer and more numerous flowers. Many awarded clones manifest this tendency (as purchasers of mericlones know – to their chagrin). Judges judge what they see and infrequent blooming is a totally invisible quality. Therefore, as breeders selected for the fine qualities of *Vanda sanderiana*, they inadvertently were selecting for one of its negative traits as well. The solution to this lies in the reintroduction of other *Vanda* genes to modern breeding programs and the conscious selection of more free-flowering clones.

The slow growth rate and slow arrival at maturity of *Vanda sanderiana* are also factors met in complex hybrids. An important attraction of the early *Vanda* hybrids (with less *Vanda sanderiana* in their ancestry), in addition to their free-flowering qualities, was the rapidity with which they could be brought to bloom (4-4½ years). Compared to cattleyas, this seemed rapid.

Today, vandas often have the reputation of being among the slowest orchids to mature, requiring up to six, seven or even eight years to bloom as seedlings the size of young palms. This is the effect of the predominance of *Vanda sanderiana* in many modern hybrids. It is not uncommon to see *Vanda* seedlings entered in shows "Flowering For the First Time" – and topping two feet! These shy late bloomers are exceptionally large and strong plants and frequently produce their best-ever blooms on this first flowering. This quality becomes self-perpetuating as such plants receive awards and trophies, encouraging their use in breeding and, thus, reinforcing late blooming in breeding lines. Reintroduction of other *Vanda* genes will permit vandas once more to bloom in four years on plants 5"-6" high. One of my hybrids, *Vanda* Motes Nutmeg, resulted from breeding a shy-blooming *Vanda* Queen Kaumana to the spring-blooming *Vanda bensonii*. It produced

The long, brittle, strap-like leaves of Vanda sanderiana *can be seen in the cultivar 'Christy Lee', AM-CCM/AOS (84 pts., 87 pts.), grown by William E. Morlock. The awards were granted in Winter Haven, Florida, on November 21, 1964.*





Vanda Onomea *resulted from crossing the primary hybrid* Vanda *Rothschildiana* (sanderiana × coerulea) *back onto* Vanda sanderiana. *The grex has won numerous awards, including (clockwise from top left):* ***'Lil',*** **HCC/AOS** *(79 pts in 1982), grown by Mr. and Mrs. Henry J. Severin and photographed by Beauford B. Fisher;* ***'Norm's Supreme',*** **AM/AOS** *(80 pts. in 1977), grown by Bill Normoyle; and* ***'Hilo',*** **AM/AOS** *(84 pts. in 1958), grown by T. Ogawa Orchids.*

flowers in just over four years and blooms regularly three or four times per year.

Fortunately, this is now happening in Thai breeding programs, too. Many modern grexes showing a strong *Vanda tricolor* influence in the flowers display such a precocious blooming habit that in some cases the flowering stem almost overwhelms the plant.

Late-blooming and shy-blooming strains of complex hybrids are also the most cold-sensitive. These plants are the most frequently damaged by sudden temperature drops in Florida or are most severely set back by prolonged exposure to temperatures lower than the desirable minimum of 50°F. Complex yellow hybrids with the equally cold-sensitive *Vanda dearei* in their background are particularly vulnerable because they often lack any redeeming influence of *Vanda coerulea*. Most modern vandas have been developed in areas where cold tolerance is not a factor. For all of the continental United States, unfortunately, it is. Not only do many Northern growers attempt to grow their vandas too cold but frequently the vandas they are attempting to grow are too cold-sensitive.

It is clear that *Vanda sanderiana* has brought much of the best and some of the

Vanda Jennie Hashimoto *resulted from crossing* Vanda *Onomea back once more onto* Vanda sanderiana. *Like all its ancestors, this grex, too, has won nunmerous awards, among them:* ***'Dawn Nishimura',*** **AM/AOS** *(82 pts. in 1955), left, grown by Hawaii Vanda Nursery of Hilo, Hawaii; and* ***'Gail',*** **AM/AOS** *(82 pts. in 1958), right, grown by Nakagawa Orchid Nursery, also of Hilo, Hawaii.*

worst qualities to modern *Vanda* hybrids. The hybridists of the 1950s, '60s and '70s were much more concerned with the virtues of *Vanda sanderiana* and they did their work in truly tropical regions where its faults were either minimized or nonexistent. In Hawaii or Thailand, vandas can be grown more quickly, with no fear of cold damage and in spacious tropical shade houses without regard to their large size as a problem. Under these circumstances, hybridists from 1950 on increasingly "*sanderiana*-ized" vandas.

The parents of many recent quality *Vanda* hybrids are such highly "*sanderiana*-ized" hybrids. Two grexes of this type that have had very great success are *Vanda* Jennie Hashimoto and *Vanda* Mabelmae Kamahele. Each is a hybrid with only a single non-*Vanda sanderiana* ancestor and for all practical purposes, each is virtually indistinguishable in most clones from *Vanda sanderiana*. Both are exemplary of the selected and enhanced form in which *Vanda sanderiana* has entered modern breeding lines.

Vanda Jennie Hashimoto, registered by E. Y. Hashimoto in 1954, has the blue *Vanda* Rothschildiana as a grandparent. This primary hybrid backcrossed to *Vanda sanderiana* produces *Vanda* Onomea (G. Tani, 1948). *Vanda* Onomea clones typically come in shades of blue and pink, depending on how the recessive *Vanda sanderiana* genes combine with themselves or with the dominant *Vanda coerulea* color genes. Pink phenotypes manifesting the recessive quality are also pink genotypes. When these clones are bred back to *Vanda sanderiana*, the resulting *Vanda* Jennie Hashimoto is virtually pure *Vanda sanderiana* for the single quality selected. Although *Vanda coerulea* also contains pink genes, the oversimplification presented here is useful in understanding the process of heredity underlying modern *Vanda* hybrids.

In *Vanda* Jennie Hashimoto, breeders had a parent that possessed all of the virtues of *Vanda sanderiana* plus heightened color, freer flowering, longer stems and greater vigor from the *Vanda coerulea* genes which remained. Selected clones even allowed for variety in color pattern. It is hardly surprising that *Vanda* Jennie Hashimoto appears in the ancestry of a large portion of modern vandas.

Vanda Mabelmae Kamahele presents a similar sequence by which positive qualities

of *Vanda tricolor* var. *suavis* enhance the other assets of *Vanda sanderiana*. *Vanda* Mabelmae Kamahele (Ohuohu × *sanderiana*, James Harvest, 1952) traces its origin to *Vanda* Tatzeri (*tricolor* var. *sauvis* × *sanderiana*), which Herbert Shipman backcrossed to *Vanda sanderiana* to produce *Vanda* Clara Shipman Fisher (registered in 1940). This crossed once more to *Vanda sanderiana* produces the very important hybrid *Vanda* Ohuohu. *Vanda* Ohuohu crossed again to *Vanda sanderiana* produced *Vanda* Mabelmae Kamahele which, like *Vanda* Jennie Hashimoto, is best thought of as a *Vanda sanderiana* enhanced by the brighter color and freer flowering habit of *Vanda tricolor* var. *suavis*.

The best measure of the success of *Vanda* Jennie Hashimoto and *Vanda* Mabelmae Kamahele is the overwhelming recognition that they and their progeny have received from American Orchid Society judges.

Vanda Jennie Hashimoto itself has received 43 awards. Seventeen grexes of which it is the parent also have received awards, some numerous times. It is an ancestor of 11 additional American Orchid Society awarded grexes.

Vanda Mabelmae Kamahele has enjoyed similar success, receiving 29 American Orchid Society awards itself and parenting an additional 16 grexes which have garnered American Orchid Society awards.

Such hybrids as the highly awarded *Vanda* Alicia Ono, *Vanda* Hilo Queen, *Vanda* Judy Miyamoto, *Vanda* Karen Ogawa and *Vanda* Nancy Rodillas owe their excellent shape and large size to the perfected qualities of *Vanda sanderiana* which were transmitted to them via *Vanda* Jennie Hashimoto and *Vanda* Mabelmae Kamahele.

By the 1960s, Hawaiian breeders could be sure of consistently breeding large, full-formed flowers of the *Vanda sanderiana* type. The chief problem with these hybrids was that as the shape and size improved, color range diminshed. Hybrids of vivid color types resulting from crossing away from the strong *Vanda sanderiana* influence

Among other award-winning cultivars of **Vanda Jennie Hashimoto** *(Onomea* × sanderiana*) are:* ***'Hisae',*** **HCC/AOS** *(77 pts. in 1969), left, grown by Henry Furumizo of Kahului, Hawaii; and* ***'Jablo',*** **AM/AOS** *(86 pts. in 1962), right, grown by Bloom's Nursery of Fort Lauderdale, Florida. Note the strong* Vanda sanderiana *influence in 'Hisae', which is not surprising considering that the grex has only one infusion of* Vanda coerulea *in its* Vanda *Rothschildiana grandparent. Otherwise, it is essentially line-bred* Vanda sanderiana.

***Vanda Mabelmae Kamahele**, another multiple award winner, resulted from crossing* Vanda *Ohuohu with* Vanda sanderiana. *Among its many prize-winning cultivars are:* ***'Monterey Bay'*, AM/AOS** *(83 pts. in 1958), left, grown by T. Ogawa Orchids of Hilo, Hawaii; and* ***'Judy'*, AM/AOS** *(83 pts. in 1957), right, grown by Arvida Orchids of South Miami, Florida.*

were inconsistent in quality. The dilemma of consistent familiarity or unpredictable variability led to a slowing of Hawaiian breeding activity in the late 1960s and '70s.

Interest in the breeding of vandas in Thailand began at just this time in the 1960s when Hawaiian breeders were bringing tertiary hybrids of the *Vanda sanderiana* type close to perfection. The vandas with which the Thais began were of this type. The Thais were to continue development of *Vanda sanderiana* types but also were able to explore new avenues. Because of the novelty of vandas in Thailand and a great demand for them, Thai breeders, at least during the '60s and early '70s, found a market for hybrids that Hawaiian growers would have reckoned too inconsistent. Thais frequently bred secondary and tertiary hybrids together and thereby were able to select from a broader pool of the segregates.

Vanda Lenavat (Joan Rothsand × *sanderiana*), registered by Phairot Lenavat in 1969, is the most influential *Vanda sanderiana* hybrid in Thai breeding, occupying a place comparable to *Vanda* Jennie Hashimoto and *Vanda* Mabelmae Kamahele in Hawaiian breeding lines. Like the Hawaiian hybrids, *Vanda* Lenavat in many clones is very similar to pure *Vanda sanderiana*. But unlike the Hawaiian hybrids, it is genetically more diverse and rich. *Vanda* Jennie Hashimoto is 7/8 *Vanda sanderiana* and 1/8 *Vanda coerulea* and *Vanda* Mabelmae Kamahele is 15/16 *Vanda sanderiana* and 1/16 *Vanda tricolor* var. *suavis*. The percentages of *Vanda coerulea* and *Vanda tricolor* are best thought of as potential maximums because these hybrids were the result of selections for the *Vanda sanderiana* qualities across several generations. *Vanda* Lenavat is 3/4 *Vanda sanderiana* but it did not come by this percentage by a repetitive selection for increased *Vanda sanderiana* qualities. Its parent, *Vanda* Joan Rothsand, has as a parent *Vanda* Joan Swearingen (*luzonica* × Rothschildiana), an early hybrid outside the strict *Vanda sanderiana* lines. The other grandparent of *Vanda* Lenavat, *Vanda* Onomea, still bears a heavy influence from its

Among the award-winning offspring of Vanda *Jennie Hashimoto and* Vanda *Mabelmae Kamahele are (clockwise from top left):* **Vanda Hilo Queen** *(Eisenhower × Jennie Hashimoto) 'Eva Hinton',* AM/AOS *(81 pts. in 1983), grown by Dr. John Hinton and photographed by Charles Knapp;* **Vanda Alicia Ono** *(Jennie Hashimoto ×* sanderiana*) 'Lorena',* AM/AOS *(82 pts. in 1968), grown by Mrs. I. S. Smith; and* **Vanda Karen Ogawa** *(Mabelmae Kamahele ×* sanderiana*) 'Deirdre',* HCC/AOS *(76 pts. in 1971), grown by Cheryl Morris.*

Vanda coerulea ancestor. Indeed, *Vanda* Lenavat might be thought of as like *Vanda* Onomea but with a richer potential for pinks thanks to having *Vanda luzonica* in its background.

The breeding success of *Vanda* Lenavat has been outstanding. It is the parent or grandparent or both of 27 grexes that have received American Orchid Society recognition. Because of its complex heritage of

both *Vanda coerulea* and *Vanda luzonica*, it has produced both pinks and blues and will be discussed again in the subsequent treatment of these types. Because many of these are the most successful recent hybrids, i.e., *Vanda* Filipino, *Vanda* Boonchoo, *Vanda* Bhimayothin, *Vanda* Varavuth, *Vanda* Yen Jitt, *Vanda* Deva, *Vanda* Kasem's Delight, *Vanda* Fuchs Delight, and *Vanda* Suwapee, more successes can be expected. At least one tertiary hybrid from it, *Vanda* Motes Indigo (Fuchs Delight × *coerulea*), already has received four American Orchid Society awards.

Many more awarded grexes from *Vanda* Lenavat lines are doubtless in the offing. Most of these hybrids owe their large size and full shapes to the *Vanda sanderiana* influence through *Vanda* Lenavat and to other *Vanda sanderiana* types. Their colors are strongly determined by the *Vanda coerulea, Vanda tricolor, Vanda luzonica* and *Vanda dearei* genes that manifest themselves. These hybrids will be treated in detail according to their color types and genetics in subsequent articles.

Vanda Lenavat *(Joan Rothsand ×* sanderiana*) has been an important hybrid in Thai* Vanda *breeding. Shown here is the cultivar 'Ethyle Knapp',* AM/AOS *(82 pts. in 1979), grown by Mr. and Mrs. Charles Knapp of Miami, Florida.*

Vanda Lenavat, of course, also was bred in the Hawaiian fashion along further *Vanda sanderiana* lines. *Vanda* Filipino (Lenavat × *sanderiana*), registered by Phairot Lenavat, is a strongly colored, large *Vanda sanderiana* type. The clone *Vanda* Filipino 'Dream City' recently received a Highly Commended Certificate from the American Orchid Society.

One of the most successful Thai hybrids of this type is *Vanda* Bhimayothin (Lenavat × Jennie Hashimoto), four clones of which have received American Orchid Society quality awards. The consistency of these hybrids as the percentage of *Vanda sanderiana* in their background increases lends remarkable quality. But like the Hawaiian hybrids that preceded them, lack of variety also occurs.

Large, dark pink flowers with strong chocolate markings will always be appealing, even though many orchidists are relentless in their demand for novelty. Perfected *Vanda sanderiana* types, larger and more strongly colored than any dreamed of by early hybridists, will always be available. Merely average plants of such hybrids as *Vanda* Filipino and *Vanda* Bhimayothin are *Vanda sanderiana* types of a quality that exceeds the very finest awarded clones of the 1950s.

These hybrids and the improved strains of *Vanda sanderiana* now available represent a resource open to hybridists everywhere to remake hybrids involving other *Vanda* species and primary hybrids. Such primary and secondary hybrids would be as vastly improved over the originals as modern *Vanda sanderiana* types are over the original *Vanda sanderiana* cultivars.

Among award-winning grexes to result from Thai breeding lines involving Vanda *Lenavat are (clockwise from top left):* **Vanda Bhimayothin** *(Lenavat × Jennie Hashimoto) 'Peggy',* AM/AOS *(83 pts. in 1979), grown by William T. Hammond and photographed by Edwin S. Boyett Jr.;* **Vanda Kasem's Delight** *(Sun Tan × Thospol) 'Frank Priess',* AM/AOS *(83 pts. in 1985), grown by Robert D. Smith/Laurel Orchids and photographed by Bob Smith; and* **Vanda Filipino** *(Lenavat ×* sanderiana*) 'Dream City',* HCC/AOS *(77 pts. in 1985), grown by Roy T. Fukumura.*

Such hybrids, larger, brighter and fuller than the original primary and secondary hybrids, would not be overwhelmingly colored like *Vanda sanderiana* and would permit access to the qualities of other *Vanda* species in a much-improved form. This would permit the making of complex hybrids of greater vigor and brighter colors.

The success of this approach compared with *Vanda coerulea* is evident in the continued improvement of *Vanda* Rothschildiana (*coerulea* × *sanderiana*) or the highly successful *Vanda* Suwapee (Bhimayothin × *coerulea*). When can we expect to see new strains of *Vanda* Onomea? Or, more hopefully still, new strains of *Vanda* Burgeffii, *Vanda* Manila and *Vanda* Ellen Noa?

Vanda sanderiana by any other name has had a glorious past in *Vanda* breeding. It remains a perpetual beauty in itself and has a yet more glorious future in breeding new generations of *Vanda* hybrids which combine its virtues with those of other *Vanda* species. ■