

Unraveling a Rainbow

4. Our Modern Pink Hybrids

The overall bright, shocking pinks almost approaching red which we are coming to accept as commonplace in modern hybrid vandas do not exist as such in nature. *Vanda* species certainly display these colors — but not in the rich depth and variety found in current hybrids. These pinks are extremely complex hybrids which combine color and pattern from species far removed in ways which intensify the effects of each. This is perhaps more remarkable because pink color in vandas is recessive to blue, yellow and brown. This recessiveness and the sheer complexity of modern pink hybrids explain why they are so spectacular when successful and also why in many grexes so few individual clones succeed.

Consider an example of what we would hope for in a pink *Vanda* — *Vanda* Rung Roeng ‘Mister F’, HCC/AOS. This award winner, a hybrid of *Vanda* Piyaporn and *Vanda* Gordon Dillon, vibrates with rich color. On close examination, this richness is richly complex as well. There are five or more distinct color patterns making up the total effect in this clone. First, note that the lateral sepals are darkest, bearing an almost solid mask of color. Some of this color reveals a reticulate or tessellated pattern, which also can be discerned on the petals and dorsal sepals. Next, note the rich band of dark color at the base of the sepals and petals surrounding the column. Toward the ends of the sepals and petals, the color is darkest, although it fades at the very edges. The petals and dorsal sepal are heavily spot-

Creating *Vanda* Hybrids



ted and streaked with darker color, which coalesces in places to produce an almost solid effect. Finally, notice that the lighter areas of the flower between the spots are all overlaid with a rosy suffusion.

Flowers such as *Vanda* Rung Roeng ‘Mister F’ combine all the color patterns contributed by the four species that together have produced modern pink vandas. Without genes from *Vanda sanderiana*, *Vanda coerulea*, *Vanda tricolor* and *Vanda luzonica*, the rich complexity of *Vanda* Rung Roeng ‘Mister F’ and other modern hybrids could not have come to be.

The *Vanda sanderiana* masking is an obvious contribution to many pinks, even though its own mask is chocolate brown. *Vanda sanderiana* is able (perhaps through crossover?) to transmit its masked pattern without this color in both pinks and blues, usually as an overall intensification of color in the lateral sepals. This is a major contribution because the lateral sepals of vandas are the largest of its flower parts.

The tessellated pattern of pink color in *Vanda* Rung Roeng ‘Mister F’ is the heritage of *Vanda coerulea* in one of its recessive modes. Such tessellated patterns in basically concolor pink flowers create some of

¹Motes Orchids, 25318 S.W. 162nd Avenue, Homestead, Florida 33031.



Two contrasting examples of modern pink strap-leaf *Vanda* hybrids. Left: **Vanda Rung Roeng** (Piyaporn \times Gordon Dillon) 'Mister F', HCC/AOS (79 pts. in 1986), grown by Lee Fister Jr. of Centerville, Ohio, and photographed by Adrian R. Teaf. Right: **Vanda Sumon Sophonsiri** (Deva \times Gordon Dillon) 'Triton's Treasure', AM/AOS (80 pts. in 1985), grown by Robert D. Smith of Key West, Florida.

the most attractive of modern vandas.

Vanda Sumon Sophonsiri 'Triton's Treasure', AM/AOS illustrates this beautifully. The vibrant pink is as clearly tessellated as in *Vanda coerulea*, which contributed this pattern to the flower. Pink forms of *Vanda coerulea* are known to occur in nature and one of the unfailing results of selfing or sibling-crossing primary *Vanda coerulea* hybrids is the production of a significant number of pinks of essentially the same type as *Vanda coerulea*. (For an illustration of a pink form of *Vanda coerulea* see 'Orchidgrove', CHM/AOS on page 951 of the September 1988 *AOS Bulletin*.) Pink tessellation is a recessive characteristic which has come to be more consistently stable as an influence in modern pink breeding lines.

The other color attributes noted in *Vanda* Rung Roeng 'Mister F', barring of the sepals and petals around the column and at their ends, spotting and the overlay of rosy color, owe their genesis to *Vanda tricolor* var. *suavis* and *Vanda luzonica*.

The influence of *Vanda tricolor* in producing the dark purple, heavily marked flowers that we associate with *Vanda* Kassem's Delight were treated at length in the previous article on blues. You might think

of pinks of the type of *Vanda* Rung Roeng as in essence the same type of flowers as these purples in another color. Indeed, breeding for dark purples almost always produces significant numbers of clones in which the recessive pink color manifests itself. In part, this is the influence of the pink phases of *Vanda tricolor*, as is evident in the multitude of spots.

However, in these pink shades, *Vanda luzonica* is even more evident. *Vanda luzonica*, which once was considered a variety of *Vanda tricolor*, differs from *Vanda tricolor* var. *suavis* in several respects. While both are pale flowers marked with bright pink, the color of *Vanda tricolor* var. *suavis* is in spots or dots, whereas that of *Vanda luzonica* is in bars or streaks. The distribution of color also differs. *Vanda luzonica* concentrates its color at the margins of the flower, frequently carrying color to the very ends of the sepals and petals, and has a distinct ring of solid color at the base of the sepals and petals. The spots of *Vanda tricolor* are concentrated toward the middle of the sepals and petals and the color fades at the edges into the pale picotte which most modern dark purples and many dark pinks have inherited. The lip shapes also differ. That of *Vanda luzonica* is shorter and con-



Some building blocks for modern pink strap-leaf *Vanda* hybrids (clockwise from top left): ***Vanda Diane Ogawa*** (*Hilo Blue* × *sanderiana*) ‘*Ponte Vedra*’, AMIAOS (80 pts. in 1970), grown by Mrs. Marie Miller of Jacksonville, Florida, and photographed by Lewis Ellsworth; ***Vanda Bill Sutton*** (*Manila* × *sanderiana*) ‘*Margaret*’, HCC/AOS (76 pts. in 1958), grown by Mr. & Mrs. Clyde Harris of West Palm Beach, Florida; ***Vanda Gordon Dillon*** (*Madame Rattana* × *Bangkok Blue*) ‘*Nike*’, AMIAOS (81 pts. in 1981), grown by Ernie Barham of Miami, Florida, and photographed by Richard C. Steele; ***Vanda luzonica*** ‘*Evelyn*’, AMIAOS (85 pts. in 1980), grown by Tom Ritter of Orlando, Florida, and photographed by Bob Wands.

color magenta, whereas that of *Vanda tricolor* is longer and with a distinctly lighter patch toward the tip.

When *Vanda tricolor* and *Vanda luzon-*

ica are crossed, the resulting hybrid, *Vanda Boschii*, carries both patterns. The plant awarded as *Vanda luzonica* ‘*Fuchs*’, HCC/AOS reveals both species’ color pat-



Two important pink hybrids from Thai breeding lines: Left, **Vanda Deva** (Crimson Glory \times Thospol) 'Robert', AM/AOS (84 pts. in 1983), grown by R. F. Orchids of Homestead, Florida, and photographed by Charles Knapp. Right, **Vanda Lenavat** (Joan Rothsand \times sanderiana), photographed by Charles Marden Fitch at the 9th World Orchid Conference Show in Bangkok, Thailand, in 1978.

terns, making an exceptionally beautiful flower but almost certainly not pure *Vanda luzonica*. A further confusion is the new identity of the recently awarded *Vanda Boschii* 'Nishida Orchids' (see page 715, July 1988 *AOS Bulletin*), which appears to be nearly identical to *Vanda luzonica* 'Evelyn', AM/AOS. Ironically, my note on this subject in the first article of this series fell victim to an editing error.

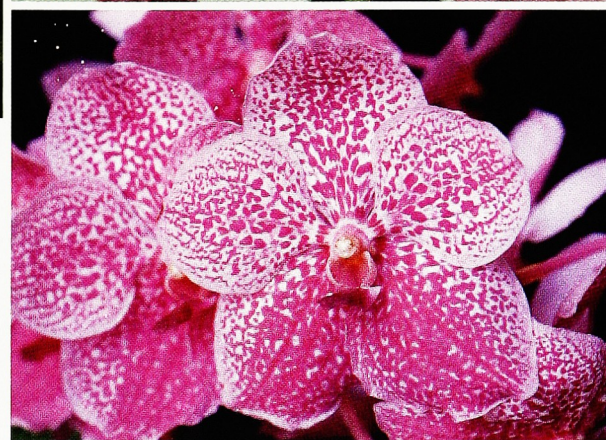
The contribution of intense color and distinctive patterns by *Vanda luzonica* exemplifies again the profound effects that can be achieved through selective breeding and Mendelian segregation. Numerically and theoretically, *Vanda luzonica* represents only $\frac{1}{64}$ of the parentage of *Vanda Rung Roeng*. Yet its qualities are clearly discernible six generations removed from the species. *Vanda Rung Roeng* received its *Vanda luzonica* genes from its *Vanda Gordon Dillon* parent. This line of breeding began in the 1940s with *Vanda Manila* (*sanderiana* \times *luzonica*), which was registered by the Rapella Orchid Co. of Hawthorne, California, in 1943 but later was remade in both Hawaii and Singapore. *Vanda Manila* was a hit because the *Vanda luzonica* parent produced rich, bright pink colors and longer

inflorescences with more flowers. *Vanda luzonica* is capable of carrying up to 20 flowers per inflorescence.

Crossed back to *Vanda sanderiana*, *Vanda Manila* begat the esteemed *Vanda Bill Sutton*, a very bright pink, full-formed *Vanda sanderiana* type. This, in turn, when bred to *Vanda coerulea*, produced the successful *Vanda Hilo Blue*. The excellent pink *Vanda Diane Ogawa* resulted from crossing *Vanda Hilo Blue* again to *Vanda sanderiana*. *Vanda Bangkok Blue*, a parent of *Vanda Gordon Dillon*, resulted from crossing the *Vanda luzonica*-influenced *Vanda Diane Ogawa* back to *Vanda coerulea*.

The bright pink forms of *Vanda Gordon Dillon* owe much of their intensity to the influence of *Vanda luzonica* carried through from several generations of Hawaiian breeding and two generations of Thai breeding. These breeding lines through *Vanda Bill Sutton* and *Vanda Diane Ogawa* are important. But they pale beside the influence of *Vanda luzonica* created in Thai breeding lines.

Modern pink hybrids gained much more from *Vanda luzonica* through the work of Phairot Lenavat, who, in 1969, registered *Vanda Lenavat* (Joan Rothsand \times *sander-*



Delight-ful pink vandas: Above, **Vanda Kasem's Delight** (Sun Tan × Thospol) 'Nova', AMIAOS (80 pts. in 1983), grown and photographed by Gary Atkins of Gadsden, Alabama. Top right, **Vanda Fuchs Delight** (Kasem's Delight × Gordon Dillon) 'Kilauea', AMIAOS (80 pts. in 1986), grown by Sheldon Takajo of Hilo, Hawaii. Right, **Vanda Grape Delight** (Haad Song-Khla × Kasem's Delight) 'Lauralin', HCCIAOS (78 pts. in 1986), grown by Lauralin Orchids of Mocksville, North Carolina.

iana). *Vanda* Joan Rothsand (registered by Lenavat in 1964) is a secondary *Vanda luzonica* hybrid resulting from the crossing of *Vanda* Joan Swearingen with *Vanda* Onomea. Lenavat's objective probably was to produce fuller-formed flowers of the intense violet type of *Vanda* Joan Swearingen (*luzonica* × Rothschildiana), which was, itself, an early attempt to produce fuller-formed flowers of the vivid but open-formed *Vanda* Flammerolle (*coerulea* × *luzonica*) type. Although *Vanda* Joan Rothsand has influenced dark purple breeding — *Vanda* Varai Sun (Joan Rothsand × Sarojini) being a notable example — the interesting and slightly ironic result of this line of breeding is to produce the parents of the very finest pinks.

Vanda Lenavat, by almost any criteria, is

the most successful parent of pink vandas. Although only one clone of this hybrid has received recognition from the American Orchid Society, 30 grexes winning awards from the AOS have *Vanda* Lenavat as a parent or an ancestor. These 30 hybrids have, to date, garnered 51 quality awards.

The happy combination of *Vanda luzonica*, *Vanda coerulea* and *Vanda sanderiana* in *Vanda* Lenavat has contributed to such fine masked *Vanda sanderiana*-type pinks as *Vanda* Arnothai, *Vanda* Bhimayothin and *Vanda* Boonchoo (as noted in the article on *Vanda sanderiana* influence) as well as blues and purples, such as *Vanda* Kasem's Delight, *Vanda* Motes Indigo and some strains of *Vanda* Fuchs Delight discussed in last month's article.

Of course, its greatest contribution is to

A Different Opinion On *Vanda sanderiana*

Martin Motes' article on *Vanda sanderiana* (*AOS Bulletin*, August 1988, pages 854-865) provides much useful information about *Vanda* hybridization. But it also leaves the reader with some impressions that, if really intended by the author, should not be left unchallenged.

It may be that certain early hybrids with little or no *Vanda sanderiana* in their background bloomed earlier and more frequently than those with significant amounts of *Vanda sanderiana*. But that is not the important point. Many — perhaps most — of those non-*Vanda sanderiana* hybrids had little else to commend them. That is why they have mostly dropped out of sight.

Vanda sanderiana added many fine qualities, as Dr. Motes notes, which is why the hybridists from 1950 onward increasingly “*sanderiana*-ized” vandas, as he says. But he fails to state that such “*sanderiana*-ization” has been almost only with respect to *flower shape*. As far as color, markings, frequency and age of blooming are concerned, hybridists have persistently been doing just the opposite — namely, trying to distill and intensify not only the most desirable genes of *Vanda sanderiana* but also those of improved forms of *Vanda coerulea*, especially, along with those of other *Vanda* species, notably *Vanda tricolor*, *Vanda luzonica* and *Vanda dearei*. Frequency and ease of blooming, contrary to what Dr. Motes says, have never been neglected nor has progress been slackened.

By constant recombinations of genes and not by substantially changing ancestral proportions, hybridists have produced vandas that have the best characteristics of their non-*Vanda sanderiana* ancestors. The influence of the desirable genes has become far more dominant than the percentages of original inputs of non-*Vanda sanderiana* species would suggest. That is why today's vandas — with no diminution of “percentages of *Vanda sanderiana* blood” (if I may use this unscientific term) — have far brighter, larger, rounder flowers, striking non-*Vanda sanderiana* colors and markings and bloom earlier and more often than earlier hybrids having ostensibly the same ancestral makeup. Ratios of species' input tell very little about the distribution of genes after many generations of highly selective line breeding.

So long as current standards for evaluating vandas prevail, breeders are likely to continue along current lines, except for those hardy souls who like novelty for novelty's sake. Why? Because unless the quantum leaps forward that have occurred in the quality of *Vanda coerulea* can be achieved in some of the other *Vanda* species (and there is no evidence that is happening), breeders would merely be infusing more genes that produce undesirable flower shapes and sizes characteristic of those species. The gene pool used by hybridists of today's “*sanderiana*-ized” complex hybrids already have powerful concentrations of the desirable genes they have sought. Today's vandas offer an enormous variety of colors, hues and markings. And they are amazingly easy to grow and bloom.

Dr. David L. Grove
5 The Knoll
Armonk, New York 10504

Vanda Frank Coronado (right) is another successful modern pink hybrid bred from Vanda Kasem's Delight, this time crossed with Vanda Robert Smith. The hybridizer is R. F. Orchids. The illustrated cultivar, 'Brandi', AM/AOS (80 pts. in 1986), was grown by Wade Okamoto of Pahoehoe, Hawaii, and was photographed by Richard K. Otaki.



the pink breeding lines of such modern hybrids as *Vanda Deva*, *Vanda Sumon Sophonsiri*, *Vanda Yen Jitt*, *Vanda Kasem's Delight* and some strains of *Vanda Fuchs Delight*.

The *Vanda luzonica*-dominated influence of *Vanda Lenavat* on pink hybrids is most graphically and pronouncedly successful in the lines emanating from *Vanda Thospol* (*Lenavat* × *Rothschildiana*). In addition to being the parent of the highly regarded *Vanda Yen Jitt*, *Vanda Thospol* was a parent of *Vanda Deva*, which was registered by Charungraks Devahasdin in 1979. *Vanda Deva* can produce dark, spotted purples, as in the clone 'Orchidgrove', AM/AOS. But the beautiful clone 'Robert', AM/AOS illustrates the intensity of pink/red color resulting when the *Vanda luzonica* influence predominates. No doubt, the wonderful richness of its raspberry red-purple color ultimately originating in *Vanda luzonica* garnered this clone recognition as Grand Champion at the 11th World Orchid Conference in Miami in 1984.

This marvelous coloration also can appear in *Vanda Deva* progeny. An excellent example of this is *Vanda Sumon Sophonsiri* 'Triton's Treasure', AM/AOS, in which the rich crimson pink of *Vanda Deva* is presented in a clear pattern of tessellations. The combined influence of color from *Vanda luzonica* and patterning from *Vanda coerulea* make this clone especially attractive.

Of even more significance than *Vanda Deva* in modern breeding lines is *Vanda Kasem's Delight* (*Thospol* × *Sun Tan*), which lately has proved itself an even more successful parent of pinks. The transmission of *Vanda tricolor* genes through *Vanda*

Kasem's Delight to the purple and dark blue breeding lines discussed in last month's article also has a parallel in the pink forms of *Vanda tricolor* relative to modern pinks. However, in its pink progeny, *Vanda Kasem's Delight* tends to manifest more if its *Vanda luzonica* ancestry, particularly when paired with hybrids that share *Vanda luzonica* in their backgrounds.

Vanda Fuchs Delight (*Kasem's Delight* × *Gordon Dillon*) comes to mind first when thinking of *Vanda Kasem's Delight* hybrids. Of the numerous strains of this hybrid originating in Thailand, many were bred with blue/purple clones of both parents and many were bred with pinks. *Vanda Fuchs Delight* 'Motes Jubilation', AM/AOS exemplifies the best of these new hybrids. I am jubilant about this clone because I think it is easily the finest pink *Vanda* I have ever seen. The flowers at first bloom, when it received its award last winter, were not only exceptionally large but incredibly full-formed — so full-formed that not only did the petals overlap the sepals but the sepals themselves overlapped one another to the extent that even with the petals removed, the flower shows less "windowing" than some awarded pinks of a previous generation. 'Motes Jubilation' holds its numerous flowers well on an erect in-



Other beautiful pink strap-leaf Vanda hybrids (clockwise from top left): **Vanda Madame Somboon** (Varavan × Joan Rothsand) 'Sheldon', AMIAOS (82 pts. in 1976), grown by Sheldon Takasaki of Hakalau, Hawaii; **Vanda Judy Miyamoto** (Mabelmae Kamahale × Rothschildiana) 'Lore', AMIAOS (82 pts. in 1978), grown by Helmut Paul of Keeaau, Hawaii; **Vanda Nancy Rodillas** (Mabelmae Kamahale × Jennie Hashimoto) 'Best of Show', HCCIAOS (79 pts. in 1980), grown by Charles Rodillas of Hilo, Hawaii; **Vanda Woodridge** (Madame Somboon × Sun Tan) 'Tropic 1', HCCIAOS (76 pts. in 1984), grown by Muses' Tropic 1 Orchids, Inc. of Haines City, Florida.

florescence. The color is bright *Vanda luzonica* pink, clearly pronounced in definite tessellations. This clone, fuller in form and larger in size than the best *Vanda sanderiana*, remarkably carries the color and patterning of two of its distinct *Vanda* ancestors, a remarkable testimony to the power of selective breeding.

Pink progeny of *Vanda Kasem's Delight* can manifest their *Vanda luzonica* heritage even more definitely in hybrids which also carry *Vanda luzonica* genes from the other side. *Vanda Grape Delight 'Lauralin'*, HCC/AOS (Haad Song-Khla × *Kasem's Delight*) is an excellent example of the type of *Vanda luzonica*-dominated flowers that frequently occur in these breeding lines, with *Vanda Haad Song-Khla* bringing the *Vanda luzonica* background of its *Vanda Diane Ogawa* parent to the fore also. Despite its grex epithet, 'Lauralin' is a white flower heavily marked with bright, clear pink. The markings hint at a tessellated pattern from *Vanda coerulea* and at masking in the lateral sepals from *Vanda sanderiana*. But overall, *Vanda Grape Delight 'Lauralin'* and flowers which resemble it that occur with regularity in these breeding lines may be thought of as large, improved forms of *Vanda luzonica*. Such charming spotted flowers could, with a little conscious effort, become a new and highly desirable standard type of *Vanda*.

Other desirable qualities of *Vanda luzonica* also emerge strongly in complex hybrids. My clone of *Vanda (Kasem's Delight × Pimsai)* [proposed registration: *Vanda Motes Resplendent*] 'Motes Orchids', HCC/AOS, which was recognized this spring, shows its *Vanda luzonica* heritage not only in its spotting and its rich, bright color but also in its numerous flowers. *Vanda luzonica* is second only to *Vanda coerulea* among the large-flowered species in the number of flowers produced per stem. *Vanda Pimsai*, one of the best Thai pinks, has *Vanda luzonica* ancestry from both *Vanda Lenavat* and *Vanda Diane Ogawa*, reinforcing its ability to produce

progeny with numerous flowers. Selection for this quality becomes more important as flowers become more consistent in color and shape.

Another successful example of modern pink vandas bred from *Vanda Kasem's Delight* is *Vanda Frank Coronado 'Brandi'*, AM/AOS. This brilliant raspberry pink flower owes the color pattern of its lateral sepals largely to *Vanda sanderiana* and *Vanda coerulea*. But the intensity and purity of its berry pink comes from its *Vanda luzonica* ancestry. The spotted petals and dorsal sepal also reveal the *Vanda luzonica* influence. Strikingly, the intense lip of this beautiful clone is virtually pure *Vanda luzonica*.

Modern pink vandas are complex hybrids. But at least two types have the potential to become "standard" in the way that white-with-colored-lip and striped phalaenopsis are. The spotted pattern of such flowers as *Vanda Grape Delight 'Lauralin'* and the tessellated concolor pattern of such flowers as *Vanda Sumon Sophonsiri 'Triton's Treasure'* and *Vanda Fuchs Delight 'Motes Jubilation'*, representing the Mendelian segregation of the color of *Vanda luzonica* and *Vanda coerulea*, respectively, doubtless are consistently reproducible and should soon come to be judged as "types" of flowers by AOS judging standards.

The more complex color types, such as *Vanda Rung Roeng 'Mister F'*, which manifest color and pattern from *Vanda sanderiana* and *Vanda tricolor* as well as *Vanda coerulea* and *Vanda luzonica*, are another matter. Doubtless, the crossing of flowers of this type will continue to be part of the orchid folk ways in both Thailand and Florida for years to come. The results, of course, will be mixed, just as they are in *Phalaenopsis* breeding in section *Stauroglottis*. I hope that the best of these will be recognized and cloned. And surely new and significant genetic material will be revealed. In pink *Vanda* breeding, the rainbow's end beckons rosily. ■