

Unraveling a Rainbow

5. The Golden Heritage of *Vanda dearei*

Like the Conquistadores, *Vanda* hybridists have long been in pursuit of El Dorado, the golden one. Yellow was an obvious goal in *Vanda* breeding because several *Vanda* species are predominantly yellow. Hybrids in the yellow tones were quickly and easily produced in the 1940s and '50s but their perfection has yet to be achieved. As if some grudging leprechaun guarded this particular rainbow's end, yellow vandas have yet to be bred consistently to the clarity of color, perfection of form or length of stem of the modern blues and pinks.

Although early hybridists trifled briefly with other species (*Vanda merrillii*, *Vanda insignis* and *Vanda denisoniana*, for example), *Vanda dearei* quickly became the focus of hybridists' attention. As the species most prominent in yellow breeding lines, it has contributed the most — positively and negatively — to modern yellows.

Vanda dearei was chosen by the early hybridists because it is the largest-flowered and most concolor of the yellow species. Clones of *Vanda dearei* range from clear yellow to mustard-colored to tan. The species is extremely dominant in transmitting its color, which can appear strongly in hybrids four, five and even more generations removed.

Other qualities also made *Vanda dearei* attractive. It flowers exceptionally freely. Well-grown plants will bloom three or four times per year. The flowers are exceptional also in their heavy substance and good keeping quality, characteristics which also

Creating *Vanda* Hybrids



are transmitted to its progeny. An added virtue is the delicious fragrance, which can flood a greenhouse or patio. Only *Vanda scandens* among *Vanda* species exceeds *Vanda dearei* in this marvelous characteristic, which is preserved in its primary hybrids but, alas, unlike its color, usually not beyond that in its breeding lines.

Unfortunately, the ability of *Vanda dearei* to dominate its progeny for many generations holds true for its faults as well as its virtues. The open form of *Vanda dearei* flowers has been particularly difficult to overcome. Advanced hybrid yellows bred from this species all produce petals which are not as full as those in other color types. Indeed, some recently awarded hybrids still show slight windowing.

The other major negative for these hybrids on the judges' score cards results from the *Vanda dearei* flowering habit. It carries its few (5-8) flowers laxly on short lateral stems which crowd them among its leaves. This sparse, short-spiked habit has yet to be completely overcome in even the most modern hybrids.

Vegetatively, *Vanda dearei* is the largest of all *Vanda* species. Its hybrids also tend to

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Producing flowers that range from clear yellow to tan, Vanda dearei from Borneo is a major source of yellow colors in our modern strap-leaf Vanda hybrids. However, it produces a small number of flowers on very large plants and lacks cold tolerance. The specimen shown here was grown by Motes Orchids and photographed by Rita Feild.

be longer- and broader-leaved than other vandas. Even fifth- and sixth-generation hybrids usually can be distinguished from other vandas by an experienced eye.

The origin of *Vanda dearei* in lowland Indonesia has conferred on it an intolerance for cold which it bequeaths to its progeny. In Florida, the cold-burned leaves of the yellow hybrids are always the first to reveal that a winter draft exists in the greenhouse.

The size of *Vanda dearei* and its intolerance to cold make it less desirable as a progenitor of hybrids for the temperate zone than for the tropics, where these qualities are unnoticed and unimportant.

With its virtues and its faults, *Vanda dearei* is virtually the sole source of yellow-colored *Vanda* hybrids. Although *Vanda Memoria T. Iwasaki* and its hybrid, *Vanda Memoria G. Tanaka*, have had some influence on modern yellows, we could best describe yellow breeding as beginning with *Vanda Ellen Noa* (*sanderiana* × *dearei*), which was registered by J. K. Noa of Honolulu, Hawaii, in 1946. Logically, *Vanda Ellen Noa* produced yellows of fuller shape and greater size. Thus, it was an immediate

success. It is typically intermediate between its parents, with rather open, creamy yellow flowers with some *Vanda sanderiana*-like markings in the lateral sepals. Most clones of *Vanda Ellen Noa* are free-flowering and fragrant.

Although quite open and rather nondescript by modern standards, *Vanda Ellen Noa* was considered a very fine thing in the late 1940s and '50s. Remade with a modern, perhaps polyploid *Vanda sanderiana*, its vigor and fragrance might even commend it to contemporary tastes.

What *Vanda Ellen Noa* lacked most significantly was shape. It was, therefore, immediately backcrossed to *Vanda sanderiana* to produce *Vanda Eisenhower*, made by the Kodama Orchid Nursery of Honolulu, Hawaii, and registered by Mrs. Yasu Fujinaga of Honolulu in 1953. *Vanda Eisenhower* was immensely successful. Fourteen American Orchid Society awards were lavished on this hybrid in the 1950s and '60s.

As a grex, *Vanda Eisenhower* improved on the shape of *Vanda Ellen Noa*, as was to be expected from a doubling of the *Vanda sanderiana* genes. Perhaps more surprising

was the continued color influence of the *Vanda dearei* grandparent. Most clones of *Vanda* Eisenhower range in color from yellow to tan, bringing the color tone of *Vanda* Ellen Noa forward with little diminution. Most clones did take on more of the *Vanda sandieriana* masking and, in the context of the rapidly improving strains of *Vanda sandieriana* being developed, appeared with their full but still open shape like a fairly good *Vanda sandieriana* of a previous generation but in a new color form.

One notable exception is the famous clone 'Buckskin', AM/AOS, which, as its cultivar epithet implies, is overall a uniform soft tan.

This Mendelian segregation of almost pure *Vanda dearei* color in advanced hybrids is a quality that Thai breeders have exploited to produce consistent strains of concolor yellows. Modern yellows divide into these two classes, the *Vanda dearei*-dominated concolors and *Vanda sandieriana*-masked types.



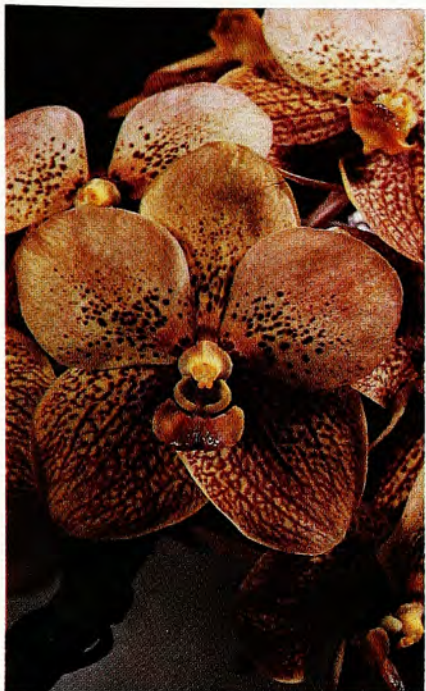
Breeders in Hawaii and Florida continued to pursue the masked types. *Vanda* Eisenhower, the result of backcrossing *Vanda* Eisenhower to *Vanda sandieriana*, was registered by Jones & Scully, Inc. of Miami, Florida, in 1962. Eight clones of this hybrid have received AOS awards. While some are virtually indistinguishable from *Vanda sandieriana*, many of these third-generation hybrids preserve yellows and tawny shades from their *Vanda dearei* ancestor in large, full-formed flowers.

The results from crossing *Vanda* Eisenhower with the *Vanda sandieriana*-like *Vanda* Ohuohu (Clara Shipman Fisher × *sandieriana*) produced *Vanda* Kaumana, registered by Takeji Ogawa of Hilo, Hawaii, in 1960. It is exemplary of brown-toned, tessellated *Vanda sandieriana* types popular in Hawaii in the 1960s and '70s.

Vanda Kaumana, in turn, when crossed with *Vanda sandieriana* yields *Vanda* Kaumanasand, registered by T. Orchids of Thailand in 1980. The clone 'Pumpkin Pie', AM/AOS remarkably preserves all of the tawny color of *Vanda dearei* in a flower as large and full as any *Vanda sandieriana* type ever seen.

The most successful hybrid of these types, however, is doubtless *Vanda* Hilo Queen (Eisenhower × Jennie Hashimoto), registered by Masaya Miyao of Hilo, Hawaii, in 1963. Ten clones of this grex have received AOS award recognition, hardly surprising in a grex resulting from the crossing of the most successful second-generation hybrids in pink and yellow. *Vanda* Hilo Queen also has proved highly successful as a parent of *Vanda* Ratchada, *Vanda* Papaaloo Queen, *Vanda* Hilo Sand,

Perhaps the most successful early Vanda dearei hybrid was Vanda Ellen Noa (× Vanda sandieriana), shown here in the cultivar 'No. 2 Charlene', AM/AOS (81 pts., 1956), grown by Nakagawa Orchid Nursery of Hilo, Hawaii.



Vanda Eisenhower
(Ellen Noa × *sanderiana*)

Clockwise from top left:

'Y. Kondo', AM/AOS (81 pts., 1958)

Grower: Allen H. Kondo, Honolulu, Hawaii

'Apogee', AM/AOS (87 pts., 1957)

*Grower: R. H. Gore Orchids,
Fort Lauderdale, Florida*

'Tomiyasu', HCC/AOS-ODC (76 pts., 1957)

Grower: T. Tomiyasu, Honolulu, Hawaii

'Buckskin', AM/AOS (81 pts., 1956)

Grower: George Cutler, San Francisco, California



Crossing Vanda Eisenhower once more back onto Vanda sandieriana resulted in Vanda Eisensander. Some clones are essentially Vanda sandieriana in yellow rather than pink. One such cultivar is 'Ruben', HCCIAOS (79 pts., 1972), grown by Ruben in Orchids of Miami, Florida.



Vanda Kaumana crossed with *Vanda sanderiana* resulted in *Vanda Kaumanasand*, which produced the intriguingly colored cultivar 'Pumpkin Pie', *AMIAOS* (81 pts., 1983). The plant was grown by Dr. Martin Motes of Homestead, Florida, and was photographed by Charles Knapp.

Vanda Lore Paul and *Vanda* Mary's Dimity, clones of which all have earned one or more AOS awards.

Most of these successful progeny are pinks but the wonderful shape and long, strong flower stems of *Vanda* Hilo Queen have much still to offer to yellow breeding, although in a sense they represent the nearly complete "sanderiana-ization" of a yellow line.

While yellow breeding in Florida and Hawaii was proceeding in this predictably linear direction, in Thailand hybrids were being produced which would form the basis of the best modern yellows in both the *Vanda sanderiana*-masked and the concolor types. One of the seminal hybrids was *Vanda* Memoria Madame Pranerm (Wai-puna × Eisenhower), which, as described in previous articles, had such profound influence on modern pinks and purples.

Just as the presence of the *Vanda dearei* genes help to make *Vanda* Memoria Madame Pranerm a superlative parent for dark pinks and purples, the presence of *Vanda coerulea* genes through *Vanda* Rothschildiana helped to make it a superlative parent of yellows. When combined with *Vanda* Tubtimtepya (*sanderiana* × Gertrude Miyamoto), a hybrid strongly influenced by *Vanda dearei* with a *Vanda tricolor* ancestor, the result was *Vanda* Thananchai, registered by Thananchai Sunthonwan of Thailand in 1968. *Vanda* Thananchai has been the most successful parent of yellow hybrids to date.

On paper, the genetic make-up of *Vanda* Thananchai is little different from that of *Vanda* Eisenhower. *Vanda* Thananchai theoretically is roughly $\frac{3}{4}$ *Vanda sanderiana* and $\frac{1}{4}$ *Vanda dearei*, with a dash of *Vanda coerulea* and a hint of *Vanda tricolor*.

Further Facts on Discoverer of *Vanda sanderiana*

When the story of the discovery of *Vanda sanderiana* by Carl Roebelin was published in the August *American Orchid Society Bulletin* (see "Romance of the Waling-Waling," pages 866-871), it prompted AOS member Clyde Harris of Lake Worth, Florida, to bring to the editor's attention an item from the January 1978 issue of *Principes*, the journal of the International Palm Society, of which Harris is also a member. The item, an excerpt from a letter from Roebelin's niece, Anne Roebelen (note differing spelling), to Sten Bergman, dealt specifically with the Pygmy Date Palm, the scientific name of which, *Phoenix roebelenii*, honors Carl Roebelin. But the letter also provides some interesting further facts about this discoverer of *Vanda sanderiana*.

The excerpt from Anne Roebelen's letter is reproduced below with the permission of Dr. Natalie W. Uhl, current editor of *Principes*:

"I am delighted to know of your interest in the *Phoenix roebelenii* palm which my uncle, Carl Roebelen, found in Laos on the banks of the Mekong River, Indochina, on the 22nd parallel in the spring of 1889.

"Carl Roebelen was born January 1855 in Geislingen, Germany. After finishing his education, he served his apprenticeship at the summer castle in the King's Garden, Friedrichshafen, Germany and at the Koenigsgarten, Stuttgart, Germany. From there he went to London and was employed by Frederick Sander, the well-known orchid king of St. Albans.

"Sander sent him on many expeditions to the Far East in search of rare orchids. When a regular mail service was established between London and the Philippines, among other employees of Sander, he was chosen to go to the Philippines in search of rare orchids. On one of these trips, while going through the mountains, he discovered the famous *Vanda sanderiana*, from which many hybrids have been made.

"After several years with Sander, he became a freelance collector and made his home in Bangkok, Siam (now Thailand) and married a Siamese woman. They had one son, whom he educated in Switzerland.

"Carl Roebelen never traveled alone, always taking natives with him. On one occasion, they went by foot for 22 days to the northern section of Siam and crossed the Mekong River to Laos, where he discovered the palm. He dug up two plants and with a shipment of newly found orchids went to London. One of these palms he sold at the market to Sander and the other one he gave to the Royal Botanic Gardens at Kew. Here the palm was compared with many other palms and it was verified by James O'Brien that it was a new palm. It was named *Phoenix roebelenii*.

"Carl Roebelen went for the seeds of *Phoenix roebelenii* annually, having to be there at the right time when they were ripe; otherwise the monkeys would eat the seeds and sometimes a flood would wash them away. He sent them all over the world. He sent some to the USA and my father distributed them.

"In 1914 when World War I was declared, Siam entered the war against Germany. He being a German citizen, his holdings were taken from him and he was interned in India as a prisoner of war for the duration. After the Armistice was signed, he returned to Germany but he was not happy there. He returned to Bangkok and resumed his regular expeditions.

"In December 1927, while going to Laos in search of *Phoenix roebelenii* seeds, he contracted cholera and died. He was buried in the jungle by the natives he had with him."



Vanda Hilo Queen resulted from crossing *Vanda Eisenhower* and *Vanda Jennie Hashimoto*. Among its award-winning yellow cultivars was 'Bloom's Ideal', *AM/AOS* (81 pts., 1973), grown by Bloom's Nursery of Fort Lauderdale, Florida, and photographed by Richard C. Steele. Once again, the plant appears to be essentially a yellow *Vanda sanderiana*.

What a difference those spicy species made and what a difference there is between a sixth-generation hybrid of highly mixed parentage like *Vanda Thananchai* and a line-bred third-generation hybrid like *Vanda Eisenhower*.

Vanda Thananchai has been the most successful breeder of modern yellows. More than 30 AOS award-winning clones trace their ancestry to this grex. It is the parent of such successful concolors as *Vanda Amphai* and *Vanda Rasri* and of such masked types as *Vanda Ferdinand*, *Vanda Thananchaisand* and *Vanda Southeast Beauty* (the last named having received 10 AOS awards).

When crossed with *Vanda Satta* (whose parent, *Vanda Ohuohu*, has *Vanda tricolor*

in its background), *Vanda Thananchai* also has produced wonderfully red-spotted and mottled yellows, four clones of which have received AOS recognition. *Vanda Satta* combined with the *Vanda Thananchai* parent *Vanda Memoria Madame Pranerm* produced *Vanda Pontip*, another wonderfully spotted hybrid in what should have become an established direction in *Vanda* breeding.

The most consistent success of *Vanda Thananchai* as a parent lies in begetting the concolor yellows of which the Thais are especially fond. Numerous of the most beautiful of these, such as *Vanda Seeprai* (*Aurawan* × *Thananchai*) and *Vanda Seethong* (*Seeprai* × *Thananchai*), have *Vanda Thananchai* as a parent.



Clockwise from top left:

Vanda Gertrude Miyamoto

'Susan', HCC/AOS (77 pts., 1962)
(Memoria G. Tanaka × *sanderiana*)

*Grower: Mr. & Mrs. Harry R. Gisler,
Santa Ana, California*

Vanda Amphai

'Bion', AM/AOS (81 pts., 1977)
(Thananchai × Onomea)

*Grower: Hanes Orchids of Distinction,
San Gabriel, California*

Photographer: Richard Clark

Vanda Sankamphaeng

'Bill', AM/AOS (82 pts., 1981)
(Thananchai × Satta)

*Grower: Mr. & Mrs. William Henderson,
Orlando, Florida*

Photographer: E. Walters

Vanda Kultana Gold

'Orchidglade II', AM/AOS (80 pts., 1982)
(Pong Tong × Rasri)

Grower: Jones & Scully, Inc., Miami, Florida

Vanda Southeast Beauty

'Huelo', AM/AOS (80 pts., 1981)
(Thananchai × Eisenhower)

Grower: Jeffrey Parker, Wailuku, Hawaii





Made by T. Orchids of Thailand and registered by Mrs. George H. Spooner of Hollywood, South Carolina, in 1978, *Vanda Southeast Beauty* is a cross of *Vanda Thananchai* and *Vanda Eisenhower*. The clear yellow cultivar shown here is 'Alice Tanaka', AM/AOS (82 pts., 1986), grown by Mitsuo Tanaka of Hakalau, Hawaii, and photographed by Richard K. Otaki. See facing page for a different-looking clone of this cross.

Perhaps the most successful in itself and in its proven potential as a breeder is *Vanda Rasri* (Pranerm Ornete \times Thananchai), created by Amnuay Sathirasut of Bangyikan Nursery in Bangkok. *Vanda Rasri*, noted for its clarity of yellow color (which in some clones approaches green), set a new standard for concolor yellows. It is the parent of such successful hybrids as *Vanda Charlie Clark* and *Vanda Fuchs Sunshine*.

But, doubtless, the most successful progeny of *Vanda Rasri* is *Vanda Kultana Gold* (Pong Tong \times Rasri), again created by Sathirasut. Clones of this hybrid have received five AOS awards.

These hybrids typically are large and fairly full and uniformly mustard-colored in varying degrees of intensity. Remarkably, this is precisely the color of a typical *Vanda dearei* emerging undiminished at six

generations removed from its source. The color, while pleasant, is hardly arresting.

More pleasant results come from the hybrid of *Vanda Kultana Gold* with *Vanda Seeprai*, registered as *Vanda Motes Butterscotch*. Most of these possess the same flat mustard-colored background. But in some clones, such as 'Butterscotch', AM/AOS, this is marvelously suffused with rose, giving a brighter, more lively effect. (See *Vanda Motes Butterscotch* 'Butterscotch', AM/AOS on the back cover of this issue.)

Perhaps more successful in the long haul is the line pursued by Sathirasut in producing *Vanda Seeprai* and *Vanda Seethong*. The latest hybrid to emerge from these lines, *Vanda Phetchaburi Gold* (Kultana Gold \times Seethong), was registered by Supote Sanimthong of Thailand in 1984. It has produced exceptionally fine, full-formed, clear yellow-greens with some con-



From Vanda Rasri and Vanda Bangkhunsri comes Vanda Charlie Clark, registered by R. F. Orchids of Homestead, Florida, in 1984. The illustrated cultivar is 'Brandi', AMAOS (84 pts., 1987), grown by Wade Okamoto of Paho, Hawaii.



A clear yellow *Vanda* is a thing of beauty, as witnessed by these two hybrids. At left is *Vanda Fuchs Sunshine* (*Rasri* × *Pranerm Ornete*) 'Brandi', HCCIAOS (78 pts., 1986), grown by Wade Okamoto of Pahoa, Hawaii. At right is *Vanda Rasri* (*Thananchai* × *Pranerm Ornete*) 'Frank Gorsky', AM/AOS (81 pts., 1977), grown by Frank Gorsky of Bradenton, Florida, and photographed by Thomas Bruce.

sistency. The clarity of these yellow-greens is much more striking than the dull mustard colors of too many recent hybrids.

This excellent color has emerged repeatedly in individual clones of various grexes, such as *Vanda* Charlie Clark 'Brandi', AM/AOS. As parents are selected for this desirable quality, we can hope that more stable lines of finer-colored, truer concolor yellows will emerge, of which perhaps *Vanda* Phetchaburi Gold is a harbinger.

Another exceptionally promising new direction in yellows has developed with the introduction of *Vanda* Rasri Gold (*Thananchaisand* × *Kultana Gold*). Sathirasut again has bred along *Vanda* Thananchai lines to produce fine yellows of the masked type.

Yellows predominated from this cross but numerous albescent forms also have emerged. These resemble *Vanda sander-*

iana var. *alba* in varying degrees of green to pale yellow markings on a pure white background. These *alba* types, unlike the inbred *Vanda sanderiana* var. *alba* clones, often possess great vigor and bloom two to three times per year. Their breeding potential is immense. Because the patterning of green color occurs in various and different places on the flower, these plants possibly have the potential to produce pure white from sibling crossings on the assumption that some few clones will be white in all possible places. I have made such crosses and also have crossed these to *Vanda sanderiana* var. *alba*. Both efforts were designed to intensify and concentrate the superlative qualities of these clones. Bred back to green-yellows of the *Vanda* Phetchaburi Gold type (which might be thought of as exhibiting an "alba" form of *Vanda dearei* color), clear yellows and pale greens to

whites of fine shape could emerge. These albescent *Vanda* Rasri Gold clones, because of the *Vanda sanderiana* quality of incomplete dominance for color, have promise in breeding pastel shades of blues and pinks — should the current swell of popularity for dark colors subside.

Vanda Rasri Gold and *Vanda* Phetchaburi Gold are exciting because in the different ways they overcome, in part, the greatest problem in yellows bred from *Vanda dearei* — the persistent recurrence of the dull mustard brown color in these hybrids.

Another path to yellow vandas which could counteract this drawback exists through the use of *Vanda denisoniana*. Flowers of this species possesses a clear, bright yellow, often verging on green. This color, unfortunately, exists only at one end of the species' spectrum. On close examination, forms that appear clear yellow frequently possess minute spots of reddish brown. In some forms, these spots are quite obvious and in the variety *hebraica* are large and prominent, resembling alphabetic forms. In others, the brown color predominates. This spotting presents great difficulty if what is sought is clear concolor yellow. Many hybrids made from *Vanda*

denisoniana have disappointed because what appeared to be a totally clear form gave heavily marked progeny. However, if a person finds marked flowers attractive, this disadvantage obviously becomes a virtue.

Vanda denisoniana possesses other advantages as well, such as a larger, more erect inflorescence which produces more flowers (up to 12) than *Vanda dearei* and presents them better. Although not quite as free-flowering as *Vanda dearei*, *Vanda denisoniana* will flower two or more times a year when grown well. Its primary blooming season in spring makes it an ideal mate to *Vanda sanderiana* types to produce free-flowering hybrids. A strong tendency of its hybrids to bloom at Mother's Day is no disadvantage, either.

The plant size of *Vanda denisoniana* is considerably smaller than that of *Vanda dearei* and hybrids from it tend to be more precocious. A further advantage of *Vanda denisoniana* is its origin in the Arrakan Mountains of Burma at elevations of 2,000-2,500 feet above sea level, thus conferring on its progeny more cold resistance. Smaller size and cold hardiness should make hybrids from *Vanda denisoniana* more attractive to greenhouse-bound growers than hybrids from *Vanda dearei*.

You might suspect that a native species like *Vanda denisoniana* would have been exploited fully by the Thais. Perhaps on the well-known premise of prophets in their



Another avenue to the breeding of yellow vandas involves using *Vanda denisoniana*, a species from Burma and western Thailand. Because it comes from somewhat higher elevations than *Vanda dearei*, its hybrids have greater potential for cold tolerance. Shown here is the cultivar 'Seacloud's 24K', AMIOS (81 pls., 1984), grown by Caroline Boyer of Key West, Florida, and photographed by Bob Smith.

An interesting primary hybrid of *Vanda denisoniana* crossed with *Vanda tessellata* resulted in **Vanda Golden Doubleloon**, registered by R. F. Orchids of Homestead, Florida, in 1982. The cultivar 'Robert' was exhibited by R. F. Orchids in San Antonio, Texas, on August 27, 1983, and received an Award of Merit of 80 points from the AOS. The judges called it a "noteworthy non-sanderiana type hybrid."



own countries or, more likely, because initial results using *Vanda denisoniana* with parents from hybrids bred in the 1950s gave disappointing results, few hybrids from *Vanda denisoniana* were registered in the 1960s and '70s.

With the advent of modern, consistently full-formed hybrids, the prospects for breeding with *Vanda denisoniana* are greatly enhanced. Not only is *Vanda denisoniana* frequently better-shaped than *Vanda dearei* but when crossed to hybrids that are five or six generations removed from the *Vanda sanderiana* cultivars that made the original *Vanda* Ellen Noa clones, the results are spectacular.

An example of this is a hybrid of *Vanda denisoniana* with *Vanda* Kultana Gold which I obtained in some quantity from Thailand. When I received a Highly Commended Certificate from the AOS on one, I obtained permission from the originator, Som Sakdi, and registered this grex as *Vanda* Motes Honeybun. Compared to modern yellow hybrids, these do not dazzle in size or shape. But in comparison to the original *Vanda dearei* primary hybrid, *Vanda* Ellen Noa, they are sensational. The flowers frequently are as large as *Vanda* Ellen Noa and as a group are vastly superior to that grex in shape. The best have petals broad enough to close the "windows" between sepals and petals. While the shape

of these flowers impresses only in comparison to the primary *Vanda dearei* hybrids, their color impresses unequivocally. The awarded clone, 'Golden Dawn', is overall pale gold, uniformly and evenly marked with pointilistic spots of golden brown. Other clones have larger spots on yellow backgrounds but those that are most exciting are several clones which have marvelous clarity of bright yellow, clearer and more undiluted than has ever been seen in hybrid vandas.

It is my hope that these intense true yellows, when bred to the best yellows from the *Vanda dearei* breeding line which are emerging in such hybrids as *Vanda* Phetchaburi Gold and to the best of the full-formed "almost albas" of the *Vanda* Rasri Gold type, will produce a new generation of true pure yellows. Perhaps, at last, orchidists can wring from the mischievous leprechaun the true gold at the end of this rainbow. ■