

Orchideeën



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Fragrant
Phalaenopsis

Breeding for fragrance in *Phalaenopsis*

Why and how Floricultura took the challenge

Text: Gab van Winkel, photos: Floricultura

A black tulip, a true-blue *Cattleya*, a poppy-red *Phalaenopsis* – those are the usual dreams of flower breeders. But a fragrant *Phalaenopsis*?

“In flower breeding, fragrance is underestimated,” says Marc Eijsackers, marketing manager of Floricultura, a world-wide leading orchid breeder from the Netherlands with several branches overseas.

“Colour, shape, longevity, size and number of flowers, such properties of a new hybrid are easily presented in a catalogue. But how to present fragrance to our customers?” Yet, Floricultura took the challenge to breed for fragrance in *Phalaenopsis* with its AromorA series. Why and how did they do this?

Why breed for fragrance?

“Fragrance may be difficult to present in an orchid catalogue, but fragrance is a prime emotion for people. Fragrance seduces, creates new memories or brings back memories of happy times. That is what we want to achieve with our AromorA series,” says Marc.

At present, Floricultura has six different fragrant *Phalaenopsis* hybrids in its AromorA series. “We



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believe that fragrant orchids add another dimension to the marketing mix in the value chain. For our customers – growers of orchids – it adds value and a way to stand out in the crowd. The series name AromorA is a positive connotation of ‘aroma’ and ‘amore’ – a pleasant fragrance that you love.”

Floricultura has begun to introduce series of special hybrids three years ago. The very first was Lingua, a series of big lip *Phalaenopsis* varieties. “Instead of entering the market with one big undifferentiated assortment of *Phalaenopsis*, we think series or segments will contribute to a better positioning of special orchid varieties.”

The varieties Secret Fragrance and Goodnight Kiss are being produced in limited volumes only (first commercial release early 2023), but are not sold exclusively to one or two growers. “Everyone should be able to add this variety to his assortment,” says Marc.

How to breed for fragrance?

“Obviously, breeding for fragrance starts with selecting fragrant *Phalaenopsis* parents,” says master breeder Hans de Jong from Floricultura. “Most *Phalaenopsis* species used for breeding in the past, like *P. amabilis* from Indonesia, are not or slightly fragrant. So, we had to ‘start



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- 1 Sunset Love has a sophisticated bouquet and amazing colours
- 2 Saffron Star is orientally coloured with hints of yellow ochre. It bears a mysterious aroma
- 3 Love Potion is also new in the AromorA series. It features radiant colours, beautiful compact spikes and leaves, and has an adorable fragrance
- 4 Dusty Belle stands out with a very strong fragrance, multiple spikes and a bushy appearance
- 5 Goodnight Kiss is new in the AromorA series with its stunning kind of orange colour and exquisite bouquet

from scratch’ and try how fragrant *Phalaenopsis* parents could contribute fragrance to our stock of nice-looking hybrids.”

“Developing fragrant orchids takes just as much time as with regular hybrids, about eight years. You have to look for scent in botanical species, for example *P. violacea*, *P. amboinensis* or hybrids from these species. If you make hybrids with them, you often also take their negative properties along. So, the trick is to put a good parent in return.”

“Fragrant flowers often have a shorter longevity because production of fragrance costs energy. If you manage to retain the scent, you can continue hybridising, but as said, that will take about eight years. Of course, it is possible to develop new hybrids with the already existing good varieties, but each further crossing can make the share of fragrance less, because you are further away from the original scented orchid.”

Acknowledgements

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Fragrant *Phalaenopsis* species

Text: Gab van Winkel, **photos:** Alma Compernelle unless indicated otherwise

As presently understood, the genus *Phalaenopsis* contains 86 species, which occur from south Japan, through China, the Himalayas and Southeast Asia, Taiwan, the Philippines and Indonesia, to north Australia. About twenty of these species have fragrant flowers. Could those fragrant species contribute to a breeding programme for fragrance in *Phalaenopsis*?

Fragrant or not fragrant?

Flowers are, of course, fragrant not to please us but to attract their pollinator. That pollinator – a bee, butterfly or moth – may experience and appreciate quite different fragrances than we, humans do. But, as we have only our own nose, ‘fragrant’ is here defined as: fragrant to us.

As said, about twenty *Phalaenopsis* species are reported as ‘strongly’ fragrant, although literature often gives contradictory information. Rarely, the exact fragrance of a flower is described. Fresh, like lemon? Spicy, like cinnamon or cloves? Sweet, like honey? Like in flower breeding, botany suffers from a lack of appreciation for fragrance. As an excuse, I must admit: herbarium

flowers, from which most orchid species were originally described, don’t reveal their original fragrance. But there is more to complicate the fragrance issue. Some *Phalaenopsis* species differ in fragrancy depending on their origin: a fragrant species from one island may be not fragrant on the next island. Fragrancy often depends on the time of the day: bees are active in the morning, moths operate at dusk – the flower ‘invests’ in fragrance only at the right moment. And, finally, botanists differ in the sensitivity of their noses...

Try it yourself!

With about twenty fragrant *Phalaenopsis* species, there is room for breeding fragrant hybrids. Most fragrant species belong to the section *Polychilos*, with *P. violacea* as the strongest fragrant species of the whole genus. So far, *P. violacea* has been used mainly to transmit strong colour to its progeny. Existing hybrids with that background may be fragrant already.

Several species from the section *Aphyllae* are fragrant too, but they have small flowers. Coming from the Himalayas, they require a cool,



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dry winter in which they may even shed their leaves, as the section name *Aphyllae* implies. Are these the properties you would like to introduce in your breeding line? In conclusion: yes, breeding for fragrance in *Phalaenopsis* has potential, as Floricultura has shown. But breeding for fragrance still holds many secrets ... and many prospects! Just try! And if you are successful in breeding a pleasantly fragrant and beautiful *Phalaenopsis*, contact Floricultura!

Further reading

Orchid Digest, The Phalaenopsis Issue, Vol. 83-4, 2019.

Book (in French) by David Lafarge: *Phalaenopsis. Une orchidée méconnue*, Naturalia 2019, 224 pages.

Website by Bernard Lagrelle: <http://bernard.lagrelle.pagesperso-orange.fr/> - in French, partly in English and Spanish.

About the author

Gab van Winkel is editor of *Orchideeën*, the bimonthly magazine of the Netherlands Orchid Society.

- 1 *Phalaenopsis amabilis* (here pictured is the subsp. *rosenstromii* from New Guinea and neighbouring areas) stands at the basis of very many *Phalaenopsis* hybrids. It is mostly not or only slightly fragrant, and so are its hybrids
- 2 *Phalaenopsis violacea* 'Norton Strain' from the section *Polychilos* transmits not only its vibrant near-blue colour but also a strong, spicy fragrance to its offspring. Roland Schollaert, grower of this species and husband of photographer Alma Compernelle, describes its fragrance as 'addictive'. "Every time I enter our greenhouse when this species blooms, I HAVE to go and smell it."
- 3 *Phalaenopsis bellina* is another example from the section *Polychilos* with strong fragrance. But with its recurved petals, it poses a challenge in a breeding programme
- 4 *Phalaenopsis venosa* from the section *Polychilos* is fragrant too, but quite unpleasantly so. It has been used often to create yellow-coloured hybrids
- 5 *Phalaenopsis amboinensis* is a very fragrant species from the section *Polychilos*, used by Floricultura to introduce fragrance in *Phalaenopsis* hybrids
- 6 *Phalaenopsis honghenensis* is from the section *Aphyllae*. Like other species of this section, its flowers are fragrant, but quite small. Also, coming from the mountains in Yunnan, China, its cultural needs differ from the real tropical *Phalaenopsis* species
- 7 *Phalaenopsis (Sedirea) japonica* is from the small section *Hygrochilus* and has small, pleasantly fragrant flowers