

The World of Orchids

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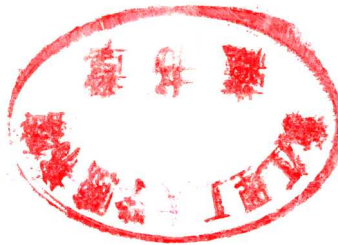


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Michel Viard

Photographs by the Horizon agency



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White vanilla.

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*She had in her hand a bunch of cattleyas, and Swann could see,
beneath the film of lace that covered her head, more of the same flowers fastened
to a swansdown plume. She was wearing, under her cloak,
a flowing gown of black velvet, caught up on one side so as to reveal
a large triangular patch of her white silk skirt, with an 'insertion,'
also of white silk, in the cleft of her low-necked bodice,
in which were fastened a few more cattleyas.*

-Marcel Proust, *Swann's Way*
C. K. Scott-Moncrieff's translation

For Jean-Claude, in remembrance of our arduous journeys in Ecuador

Above left:
Brassolaeliocattleya 'Oasis of Valec.'
Above right:
Brassolaeliocattleya 'Parador x Harlequin.'
Page 4:
Hybrid of *Phalaenopsis*.
Page 5:
Phalaenopsis x 'Lorraine Kenny.'
Cover: Woodcock orchid (*Ophrys scolopax*).

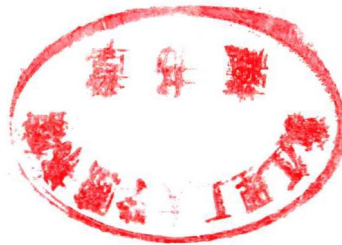


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White vanilla.

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Introduction

Venus, the goddess of love and beauty, was hunting in the company of Adonis, the god of vegetation. Surprised by a storm, they took refuge in the woods, and while the two were nestled against one another, the inevitable happened. By chance, Venus lost a golden slipper during their frolic, and soon after, a mortal discovered it. But as he was about to pick it up, the shoe turned into a flower. And thus the first orchid, the lady's slipper, was born.

Mysterious beings, orchids kept the secret of their growth and reproduction for thousands of years. Feared as much as they were admired, they became the popular subject of many fantastic myths and legends. Some people associated orchids with magical properties both good and evil, while others believed that they were carnivorous parasites born from the couplings of strange animals.

Following the first flowering of a *Cattleya* under glass, Europe and North America were overtaken by "orchidmania." The orchid became the flower of the aristocracy, a symbol of luxury and femininity. Fashionable women wore them in their *corsage* (bodice) for high society evenings. Wealthy, obsessive collectors constructed immense greenhouses to shelter the magnificent flowers, and organized perilous expeditions into the depths of tropical rainforests to make new discoveries.

It was only in the early twentieth century that the darling of the elite finally unveiled its secrets. Once so resistant to cultivation, orchids eventually submitted to manipulations of horticulturists worldwide, and



Above: *Cattleya harrisoniana*.
Facing page: *Cattleya maxima*.

breeders began adding flowers with a wide variety of new forms and colors to their already extraordinarily diverse palette.

Today, the choice is enormous, and orchids have become financially accessible to everyone. Even novice gardeners can grow them thanks to new, easily cultivated hybrids. Novel varieties appear by the thousands each year, and the discovery of wild orchids continues.

However, the ultimate quest has yet to be fulfilled. It still remains to create those hybrids previously attempted without success, such as an entirely white *Paphiopedilum*, a red *Cattleya*, or the famous black orchid.

Orchids: A Family of Modern Plants

Like lilies, irises, and grasses (Poaceae), orchids are considered to be Monocotyledons, or monocots. Monocots are a group of modern plants, comprising more than 55,000 species. The earliest seed plants, the Gymnosperms (plants without flowers), were almost all trees. It was only with the appearance of flowering plants that herbaceous plants came into existence. However, it was with the birth of the monocots that grasses and their relatives assumed a dominant position. These new plants no longer dispensed energy for producing wood, and nature ceased generating new species of trees.

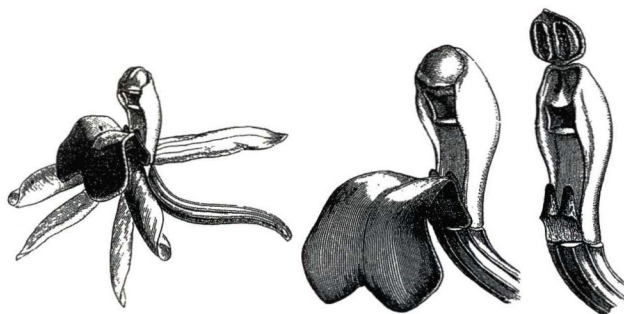
Nature's Most Highly Evolved Plant

In the hierarchy of monocots, orchids, and grasses constitute the final link of plant evolution—where nature has done her best. And yet, the species of these two groups are totally different: plant evolution seems to have followed two grand schemes. The grasses chose simplicity; to propagate themselves, they use the wind. Because of this, they have no need to expend energy developing large, attractive flowers. Grasses have limited coloring and are small, odorless, and typically reduced to one pistil and two or three stamens. The

wind carries their pollen just about everywhere, and the flowers of grasses are often fertilized by grasses of different species or varieties. Within grasses, cross-breeding is quite frequent.

In contrast, orchids opted for extreme sophistication—for them, everything is complex. Their seeds, the smallest of the plant kingdom, only germinate in the presence of microscopic fungi. Their growth is often aerial, with roots that never touch the ground. Their extravagant flowers—a medley of forms, colors,

Facing page, top: *Angraecum sesquipedale* clinging to a tree on the island of Réunion.
Facing page, bottom: *Oncidium*, an orchid from Ecuador.



An orchid flower and labellum.



and scent—are fertilized by numerous species of flies, wasps, ants, butterflies, snails, and even birds and small mammals. Orchids have gradually adapted their appearance over thousands of years to best satisfy the needs of their pollinators. For this reason, certain animals have become essential to the orchid, and today, many orchids and insects form inseparable couples. Nevertheless, this custom-developed method of fertilization accompanies alternative behaviors: many orchids, in the absence of their regularly appointed pollinator, know how to seduce other animal species, and are even capable of self-fertilization.

Plants That Can Live without Soil

The modernity of orchids also derives from their structural makeup. Although some orchids are like the majority of flowering plants—that is, they draw food from the soil up through their roots—most orchids are epiphytes. Apart from a few Bromeliaceae (the bromeliads), orchids are the only family of plants to have developed this vegetation mode. Epiphytes are aerial plants, whose roots, rather than burrowing into soil, collect food by capturing the microorganisms contained in rainwater as it trickles along the root. Suspended in this way from tree branches or cliffs, orchids grow within reach of winged insects and birds. By liberating themselves from the heavily shaded forest floor, orchids were able to win a decisive battle in the constant struggle for space and light in tropical rain forests. Orchids thus colonize all levels of vegetation on up to the forest canopy, where, in full sunlight, they open large flowers visited by hummingbirds.

Tropical rain forest in Amistad National Park, Costa Rica.

