Creating an Awareness

The Orchid Alliance Project — Bridging Art and Science

TEXT BY RON MCHATTON, PHD/PAINTINGS BY PATRICIA LASPINO

Elegance

This portrait was inspired by *Epidendrum pseudepidendrum*, one of the most striking and perhaps finest species in the genus. Native to Costa Rica and Panama, this warm-growing plant can reach up to 5 feet (1.5 m) tall. The astonishing, long-lasting, leathery flowers are pollinated by butterflies. Oil on canvas. 48 × 36 inches (120 × 90 cm). 2008.

Siren

Psychopsis (syn. *Oncidium*) *papilio,* the butterfly orchid, was the inspiration for this work the artist has entitled *Siren*. In Greek mythology, sirens enchanted their prey with beautiful songs. Like the sirens that lured seafarers to their watery fate, the seductive orchid beckons its pollinators with striking markings, shapes and scents to entice. The large flowers are produced sequentially almost throughout the year at the ends of long thin inflorescences. Pollinated by a species of South American butterfly, the flowers resemble the female of the species and the male butterflies effect pollination while attempting to mate with it (pseudocopulation). The production of individual flowers hovering well above the foliage further enhances the butterfly mimicry. Oil on canvas. 48 × 72 inches (120 × 180 cm). 2006.

THE ORCHID ALLIANCE PROJECT — Bridging Art and Science is an important endeavor that has national and international significance in the art and science worlds. Artist Patricia Laspino and her company, Evolution Art Group LLC (www.evolutionartgroup.com) designed the project to build a bridge between art and science using orchid art as a floral metaphor. Its purpose is to stimulate awareness and conversations about evolution, biodiversity and conservation through combining historical art processes and contemporary technologies. Laspino considers orchids to be an environmental indicator, "the canary in the mine" or the flagship plant family that draws attention and support of the general public, while in the process gets things accomplished for the broader ecosystem in which they occur.

FLORAL FASCINATION For centuries, the Orchidaceae has been among the most popular of plant families, with thousands of species and hybrids cultivated the world over for the diversity, beauty and intricacy of their flowers. While literature and artistic references to orchids can be traced back at least 2,500 years (the earliest written records dating from the time of Confucius, about 500 BC), their intricate relationships to the world's ecology has begun to be fully understood only recently. Orchids display a delicately balanced interdependence with the other plants, animals and insects that coexist within their habitats. Orchid seed, lacking an endosperm (the seed coat that nourishes the developing embryo), is critically dependent on nonpathological mycorhizal fungi for the nutrients necessary for germination. Without these beneficial fungi, orchid seeds do not germinate *in situ*.

This relationship is so carefully balanced that a specific mycorhizal fungus species may infect a specific orchid species and the two may coexist

Ghost Orchid Sentinel

Florida's ghost orchid, *Dendrophylax* (syn. *Polyrrhiza*) *lindenii*, depicted here by Laspino, is a good example of our collaborative effort. *Dendrophylax lindenii* is one of a small group of orchids that no longer depend on leaves for photosynthesis; plants, when not in flower, consist of only a tangled mass of gray-green roots. Native to isolated, swampy habitats in southern Florida and at least Cuba, *Dlax. lindenii,* is considered an endangered plant in Florida and fully protected by Florida and Federal statutes. The 1½ × 3½-inch (3.75 × 8.75-cm) flowers are produced sequentially during the summer. Since the roots of this orchid blend so well with its host tree, the flower often seems to be floating in midair, hence its common name. Powerfully fragrant at night, this species is pollinated by the giant sphinx moth, *Cocytius antaeus*. Oil on canvas. 36 × 60 inches (90 × 150 cm). 2008.

on only one tree species. In addition, orchid pollen is aggregated into masses (or pollinia) making wind distribution impossible. This has led to intricate dependence on insects and birds to effect pollination. In many cases, the relationship is so specific that a single insect species pollinates a specific orchid species and is completely ineffective at pollinating a closely related species in flower in the same habitat and at the same time. The epitome of this specificity is the group of orchids that attract their pollinators using insect sex pheromones. In these orchids, the flower may even resemble the female insect. These complex interdependencies make orchids extremely susceptible to the effects of climate change, deforestation and the global spread of pesticides. The loss of an insect pollinator may spell doom for the orchid that depends on it for pollination.

Habitat destruction through deforestation or development has obvious consequences but even climate change may have a dramatic effect on orchid populations as wet habitats dry up and seasonally dry habitats become more uniformly moist. To quote the author of *Ecology of Orchids*, "conservation should not be accepted as meaning saving a particular plant or bird or scenic site. Rather, conservation is best thought of as a management of natural ecosystems in such a way that they benefit man not only now but in the future."

Habitat change and forest destruction aren't new. What is, however, is their alarming acceleration in relatively recent times and it's this accelerated rate that makes adaptation so difficult. About 10,000 years ago, an estimated 24 million square miles (62 million sq km) of the earth's surface was covered with forests. Today, less than 14 million square miles (36 million sq km) remain. The balance has given way to cultivated land in North America, Europe, the European part of what used to be the Soviet Union, India, parts of South and Central America, and China and the pace is increasing. For instance, between 1990 and 2005, 1.6 percent of Central American forest and woodland habitat was lost to deforestation. In the following five years between 2000 and 2005, 6.5 percent of additional habitat was lost. In Ecuador alone, 21.5 percent of the forest and woodland habitat was lost in a 15-year period from 1990 to 2005.

Brazil alone accounts for 27 percent of the deforestation between 2000 and 2005 with Indonesia running a distant second at 17 pecent. According to the United Nation's Food and Agriculture Organization, the remaining 74 countries lying in the tropics account for only 56 percent taken as a group. The population of monarch butterflies appears to be steadily declining and deforestation may be putting the annual monarch butterfly migration at risk. More than half of the 217 square mile (562 million sq km) Monarch Biosphere Reserve in Mexico has been destroyed by illegal logging, driven by the high price of timber.

DEFINING THE PROJECT Conservation is a complex subject driven by a number of emotional factors that often lead to environmental, political and economic instability, but awareness of the issues and concerns is central to any sustainable effort. We need to exercise any and all avenues that lead to educating the public and reach out in ways that we have not done before. The watchword of the Orchid Alliance Project is "Awareness." Awareness and education form the threads that are carefully interwoven throughout the project that seeks to increase awareness of conservation issues by carefully interweaving the use of rare and endangered species into the art world.

The American Orchid Society envisions the Orchid Alliance Project as a significant and important part of its outreach efforts and has recently endorsed the collaborative project. The AOS has granted the OAP the right to use its name and branding in support of this project. The selected participants of the OAP are carefully chosen to collaborate because of their expertise in their respected fields, their business and social objectives and their leadership positions.

The OAP will span five years, during which, Laspino will create a body of artwork consisting of original paintings and drawings depicting endangered or rare orchid species. The project hinges on three repeating phases that take place over a timeline of a year and then repeat annually for the next five years. Each year for five years, Laspino will create a new collection of artworks for exhibition. By the second exhibition year, additional prominent orchid artists will be chosen and incorporated into the exhibitions and events. As the project continues

Swirling Nymphs

Few of the 130,000 or more orchid hybrids are ever made more than once and fewer still stand the test of time. *Paphiopedilum* Saint Swithin, the inspiration for *Swirling Nymphs*, is one of these rare hybrids. The cross (*philippinense* × *rothschildianum*) was originally registered in 1901 and has been remade many times. *Paphiopeidlum philippinense* is widely distributed throughout the Philippines but uncommon anywhere in its range while *Paph. rothschildianum,* often called the king of orchids, is found only in three sites on the lower slopes around Mount Kinabalu, Borneo. Oil on canvas. 30 × 40 inches (75 × 100 cm). 2008.

Further Reading

CITES — www.cites.org

FAO — The UN's Food and Agriculture Organization — www.fao.org

The Song of the Dodo: Island Biodiversity in an Age of Extinction, David Quammen, Touchstone, New York, 1996.

Orchids and their Conservation, Harold Koopowitz, Timber Press, Inc., Portland, 2001. — *Ron McHatton, PhD.*

Dancing Diva

Prosthechea (syn. *Encyclia*) *cochleata* was the inspiration for the work shown above. Long known in the botanical world, the species was first described as *Helleborine cochleato flore* in 1703. Endangered in Florida, this showy orchid is usually found there on trees 3 to 6 feet (.9 to 1.8 m) above the high-water mark in a swamp where there is always standing water. The water of the swamp provides thermal mass to protect this and other delicate orchids from cold weather that occasionally strikes southern Florida. Oil on canvas. 20 × 36 inches (50 × 90 cm). 2006.

Mountain Pride

Of the more than 175 species of *Disa*, the vast majority are native to tropical and South Africa. Called the pride of Table Mountain, *Disa uniflora*, the inspiration for the work above, is by far the most striking and important species and parent of hybrids in the genus. Flowering occurs over a long period from December to March and mature plants can carry an inflorescence up to 3 feet (.9 m) tall. *Disa* plants are exceptionally intolerant of poor water quality and have a fairly narrow range of cultural conditions making them singularly susceptible to habitat loss as global climate changes. Oil on panel. 24 × 28 inches (60 × 70 cm). 2008.

to grow, it will be broadened to include other media, including photography and historical botanical illustrations. Strategically designed to educate, elicit awareness from art critics, curators, artists, collectors, galleries, museums and educational institutions, the project will travel to prominent fine art galleries, museums, academic and botanical institutions across the United States and abroad. A portion of the proceeds from the sale of project artwork will be donated to the AOS and used to further our conservation efforts.

The American Orchid Society's role in the project will be to guide the selection of orchids and to lend educational expertise both as the subjects are being developed and with educational materials designed to supplement gallery and museum exhibitions.

Shown here is a sampling of Laspino's paintings of orchids, each one capturing the spirit of the species. In the future, the artist will render portraits of other species in this remarkable family of flowering plants; a selection of new subjects is on pages 604 and 605. From *Dendrobium cruentum* to *Peristeria elata*, other possible species currently selected for inclusion in the project offer new opportunities for the artist to capture nature's brilliance with oils on canvas and panel.

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Artist Profile: Patricia Laspino

PATRICIA Laspino is recognized as one of America's foremost orchid artists. She is an accomplished painter whose art career spans more than three decades. She uses the universal language of flowers to break down barriers, open doors and communicate with people visually on many levels, some subliminal. She says, "My intention is to create art and collaborative events, uniting others with similar goals to further the long term stewardship of the natural world. My dream is that the artwork becomes a catalyst for change, stimulating new ways of thinking about cultural and environmental issues."

As a child, she spent most of her time exploring the forests, stony creeks and meadows of the Cuyahoga River Valley. Her Ohio home back yard bordered a jewel in the Emerald Necklace, one of nine protected reserves in a chain of forested parks covering 33,000 acres (133 sq km) from Cleveland to Akron. Here she developed a deep respect for the natural world and was encouraged by her mother, who also possessed a voracious love of flowers. Later, her studies in art primarily led her to natural subjects like landscapes. Her scientific academics led her back again to the art of nature and its geometries, patterns and intriguing designs. She says, "It was this paradox that compelled me to choose a path where my skills in the crafting of art would serve a higher natural purpose — a purpose that might reconcile my scientific and artistic character."

Laspino considers herself an "artist/scientist" and her work exhibits a strong fidelity to nature. She received her Bachelor of Arts Degree from Bowling Green State University in Ohio in 1977. Here she majored in fine art and concentrated her fields of study and studio specialization on painting, drawing and sculpture. After completing preparatory coursework in biological illustration with the B.G.S.U. College of Arts and Sciences, she also received an academic degree in biology, with focused study on botany and horticulture. She later went on to master her skills in biological illustration doing postgraduate work with the Guild of Natural Science Illustrators at the Smithsonian Institution in Washington, DC. Laspino lists several artists as being influential in her work. She admires the artist, Georgia O'Keefe, and her view that, "the moods and qualities of nature and the revelations of great art are equally difficult to define; we can grasp them only in the depths of our perceptive spirit." Other artists who influence her work are Cassat, Matisse, DaVinci and Titian.

As did the Old Masters, Laspino uses light vibrating through 60 to 70 layers of glazed color to animate and illuminate her painted surfaces from within. In her own distinctive interpretive style, Laspino brushes layers of transparent oil glaze over fossilized floral impressions, creating richly colored backgrounds animated by natural repetitive patterns. Her unique layering process begins by sculpturing organic forms and shapes onto the groundwork of her canvases. She sculpts intuitively through the white on white medium, sometimes working with trowels, knives and other tools; sometimes pressing in actual orchids and botanical materials to achieve repetition and movement.

When dry, the surfaces are sanded by hand to make the impressions advance or recede; this step is often executed by touch and not sight. Laspino then begins to brush on and build up her colorful abstract backgrounds, one transparent glaze layer on top of another. Unlike most artists whose colors are mixed on their palette, Laspino's colors are created by stacking transparent layers of oil paint. The top layer of perceived color is a network of as many as 70 different layers. By working masterfully in this meticulous manner, she is able to use light in cooperation with paint to achieve vibrancy, luminosity, and drama. The resulting compositions are a rhythmic dance of intense color, texture and light. They often change during the daylight hours as a result of absorbing the available light. These backgrounds are complete abstract paintings in and of themselves, their interwoven organic shapes appearing like ghostly fossils. It is upon these botanical tapestries the artist paints the diverse architecture of the orchid — what she considers an icon of evolution.

"I am constantly amazed and delighted by the unending parade of available orchid subjects. With more than 25,000 naturally occurring orchid species and more being discovered every day, along with 130,000 or more hybrid orchids I'll never run short on interesting subjects to paint," she says.

Laspino's orchid paintings are an implication of the supporting layers and systems below the surface just outside the field of vision. The artist states, "As an archeologist brushes away the millennial dust from delicate bones, I brush the substance of floral color like a skin onto the underlying web of living structures." Although her paintings begin as spontaneous abstract compositions, she is tenacious and deliberate when it comes to the overlaying orchid composition.

"Ideally, I like to work from life, sketching my subjects to understand their structure and composition, but more importantly their character. My intensive working drawings ultimately allow me the freedom to be expressive when it comes time to paint the final floral portrait," says Laspino. Her intention is to interpretively capture the spirit of each species rather than to render them as botanical illustrations, yet she works diligently to selectively emphasize the evolutionary marvels of each individual species. Her subjects offer an intimate view of orchids, a close-up and personal portrayal of the sublime architecture of the flower. "I paint nature in a larger than life approach to challenge the participant to pause for a moment — to look deeper, beyond even the orchid itself — to make the connection between the earth and us," says Laspino.

Patricia Laspino's paintings are in fine art galleries and public and private collections. Her work hangs in the permanent collection of the Smithsonian Institution's Museum of Natural History, Washington DC, the US House of Representatives and the American Orchid Society. — *Ron McHatton, PhD.*


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WHETHER captured on canvas or panel, Patricia Laspino's magic touch will illuminate the beauty and importance of orchid species facing an uncertain future. Together with scientists, she will select orchids to paint in oils, working to bridge art and science in a medium known to stand the test of time. Among the possible subjects:

[1] *Cyrtochilum* (syn. *Oncidium*) *macranthum*
[2] *Dendrobium cruentum*
[3] *Phalaenopsis violacea*
[4] *Sophronitis* (syn. *Laelia*) *milleri*
[5] *Vanda coerulea*
[6] *Renanthera imschootiana*
[7] *Paphiopedilum rothschildianum*


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Name	CITES Listing[1]	Comments
Aerangis ellisii	Appendix I	Endemic only to Madagascar. Endangered by habitat destruction.
Cyrtochilum (syn. *Oncidium*) *macranthum*	Appendix II	Habitat destroyed by deforestation for charcoal production.
Dendrobium cruentum	Appendix I	Native to Thailand. Endangered by development.
Eulophiella roempleriana	Appendix II	Extremely showy Madagascan endemic. Known now only from two isolated locales on the northern end of the island. Grows only in one species of screw pine (*Pandanus*).
Lycaste skinneri	Appendix II	Recently removed from Appendix I due to artificial propagation efforts.
Paphiopedilum rothschildianum	Appendix I	Known only from three sites on the lower slopes of Mt. Kinabalu, Borneo; now apparently extinct in one site.
Peristeria elata	Appendix I	Known as the holy ghost orchid or dove orchid. State flower of Panama. Threatened by collection and habitat destruction.
Phalaenopsis violacea	Appendix II	Habitat destroyed by urbanization.
Phragmipedium kovachii	Appendix I	Extremely showy new species described only a few years ago. Threatened with over-collection.
Renanthera imschootiana	Appendix I	Rare in its native habitat. Distributed from India through Myanmar to extreme southern China.
Sophronitis (syn. *Laelia*) *jongheana*	Appendix I	No longer found near Itabira in Minas Gerais, Brazil. Rare in a second locale near Diamantina.

What the Future Might Hold


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GREG ALLIKAS 4


GREG ALLIKAS 5


GREG ALLIKAS 6


GREG ALLIKAS 7

Name	CITES Listing[1]	Comments
Sophronitis (syn. *Laelia*) *lobata*	Appendix I	Found now only in inaccessible locations on cliff-faces on the coast of Rio de Janeiro.
Sophronitis (syn. *Laelia*) *milleri*	Appendix II	Habitat destroyed by mining operations.
Vanda coerulea	Appendix II	Recently removed from Appendix I due to artificial propagation efforts.
Vanda luzonica	Appendix II	Habitat destroyed by cataclysmic eruption of Mt. Pinatubo (1991).
Vanda tessellata	Appendix II	Threatened by collection for herbal medicine.
Various European terrestrial orchids used for salep	Appendix II	Tubers used in the production of Turkish ice cream.

[1]Drafted in 1973, CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between the governments of 172 countries. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Today, CITES accords varying degrees of protection to more than 30,000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs. The species covered by CITES are listed in three Appendices, according to the degree of protection they are to be afforded.

Appendix I includes species threatened with extinction. Today the entire genus *Paphiopedilum* and *Phragmipedium* as well as six additional individual orchid species are included in Appendix I. Trade in specimens of these species is permitted only in exceptional circumstances.

Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival and today Appendix II contains all remaining orchid species not listed on Appendix I.

Appendix III contains those species that are protected in at least one country which has asked other CITES countries for assistance in controlling the trade. For further information on CITES please see www.cites.org. — *Ron McHatton, PhD.*