

HORTI SELBYANI

A NATURALIST FINDS HIS WAY FROM SWEDEN TO SELBY GARDENS

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I am definitely getting cross-eyed! My watch tells me it is three in the morning. My eyes beg me to quit. The illustration will never be perfect, no matter how much I keep adding to it, so why bother. Reluctantly I decide to go home. Another fulfilling day is over, and already I look forward to the next. Selby Gardens does this to me. I find myself working long days and nights, 7 days a week, often without pay, and I still want to do more. I cannot help it, I am proud to be associated with this incredible institution. Rubbing my weary eyes, I ask, how did I ever get here?

IT BEGAN WITH SNAKES

A boy was born in a small town in Sweden, a happy boy who gazed at the world with wondering eyes and an endless desire to learn. Fortunate to be raised in a family with sensible folk who shared a great love for the outdoor life, he was exposed to the wonders of nature before he could walk. He rapidly developed a fascination for things that moved and eagerly reached for everything that was not fast enough to get away (FIGURE 1).

At the age of three, he came tripping along a trail in the forest and saw a snake in the grass. At least that is what he thought it was; and since grownups are afraid of snakes, it had to be something terrible. Panicking, he froze in his tracks and started to scream. Alarmed by the noise, his grandfather came running but upon discovering the cause of the screams, he calmly sat down and poked at the “snake.” “This,” he said, “is really nothing to be afraid of. See! It’s only the tail of a glass lizard, who dropped it to escape from enemies.” The boy calmed down and felt a little foolish.

The following year, he and his older brother were playing in the forest when they discovered a huge ant pile. The brother, who had some previous experience, kept his distance, but the younger boy, remembering the “snake” incident, approached the pile to learn more. He decided that ants were actually friendly animals and, to prove his point, climbed on top of the

ant pile and dug a hole in the pine needles, much to his brother’s surprise. He then calmly sat down in the hole and began to fill it again. The startled ants soon devised a strategy to rid themselves of the intruder. Suddenly the forest was very noisy, and the boys’ folks came running. This painful experience taught the young naturalist another side of the wonders of nature.

When he was five years old, his mother enrolled him in a local kindergarten. Though skeptical at first, his eyes were about to be opened to a new dimension of natural wonders. An immense jigsaw puzzle of a lush Amazonian rain forest filled with exotic plants and animals captured his imagination. After completing the puzzle a hundred or so times, he could assemble it blindfolded and knew that he would go there one day.

At age ten, the boy came trekking down a trail in the forest and did spot a snake. It was a poisonous “huggorm” (*Vipera berus*) curled up in the grass. He again froze in his tracks but this time did not panic. He just stared at the reptile by his feet. The snake stared back and began to flick its tongue. They were both exceedingly aware of each other, but neither moved. The snake probably wanted to crawl away but was afraid to expose its vulnerable body. The boy knew he should scream, run, kill the snake, or something, but he just stood there. Slowly curiosity won over fear. On shaky legs, he ran to fetch a box and returned with it in a tight grip to find the snake still there. With a pounding heart, he maneuvered the snake into the box and closed the lid. Exalted and shaking, he realized that he had caught himself one angry poisonous snake and thought, “Great! What am I going to do with it?”

This was the beginning of a lifelong love of snakes, and these reptiles ended up everywhere: in backpacks, in the basement, in boxes under his bed, in bed (by mistake), under the bathtub, and many other places where snakes are not supposed to be, much to his family’s dismay.

PURSUING THE DREAM

When the boy was a teenager, his brother left home to try his luck elsewhere. No longer hav-



FIGURE 1. The artist as a young naturalist.

ing to share a room, the boy controlled a space he could transform. Retaining his dream to visit a rain forest and look for snakes but still too young to do so, he invited the forest to come to him. His room turned into a mysterious “rain forest” with peeling wallpaper and moldy woodwork. One day his father commented that the only thing missing to turn the place into a complete jungle was a luscious orchid lurking somewhere in a corner. The boy felt something click and tracks shifting position. If that was what it took, then he had to include an orchid in his world! As readers know, there is no such thing as “one” orchid in a collection.

When he began his search for tropical orchids in the backwoods of Sweden, he found them to be scarce indeed. The few he encountered in plant nurseries had a tendency to die rapidly for unknown reasons. Caught between frustration and curiosity, he set out to learn more about these evasive plants. He joined the Swedish Orchid Society and got his hands on an orchid catalog from Floricultura in Holland. This led to his importing of plants from all over the world. He had a great time despite not having a clue about how the plants were to survive in his care. He became a rapid learner, since the best lessons seem to come from bad experiences.

In 1978, the young man took his first journey in an airplane to the Ninth World Orchid Conference in Bangkok, Thailand, thanks to an education loan and an unsuspecting college. He had achieved his childhood dream of seeing the rain forest. While swimming in the river Kwai and admiring the orchids and other strange plants growing high up on overhanging tree limbs, he determined that this was to be his life. At the conference, a charming man talked about a new botanical garden in a place called Sarasota. His name was Kiat Tan, Assistant Director

at Selby Gardens, and he had a great sense of humor. He showed slides of greenhouses under construction, strange tropical plants, and a lot of good-natured camaraderie among the staff. Tan mentioned that the Marie Selby Botanical Gardens focused on epiphytic plants, particularly orchids and bromeliads, but also aroids, gesneriads (FIGURE 2), and ferns, and the young man from Sweden was intrigued.

Back home, he began to work part-time for the Park Service in the city of Borlänge as a landscaper, but in the summers, so that his winters could be free for travel. A favorite destination was the Andes of Ecuador, home of beautiful orchid species, particularly *masdevallias* and *odontoglossums*. After several trips, he had assembled a nice collection of anonymous plants. Cultivation was difficult enough, but identification of the species was downright impossible; and he decided to do something about it.

At the end of a particularly dreary day digging ditches for the Park Service, he had had enough. Rain was pouring down, the dirt was uncooperative, and he faced an endless Swedish winter, which always made him gloomy. After a hot shower and with a cup of tea in his hands, he pondered what to do with his life. Where would he most like to settle? Then he remembered the Kiat Tan lecture about a botanical garden in a subtropical place that specialized in orchids. He located Sarasota on a map, and what he saw was inspiring. Sarasota was a city in Florida, a state famous for sunshine and reptile-infested swamps, just the place for him and not too far from South America.

Needing a job that could be performed anywhere in the world, he decided on drawing orchids. He then wrote a letter to Calaway Dodson, executive director of the Marie Selby Botanical Gardens, and presented himself as a keen orchid student and botanical illustrator with field experience. The “field experience” was exaggerated, and the “illustrator” part was not exactly true either, although he had always enjoyed drawing. One day a letter arrived from Florida, in which Dr. Dodson expressed interest in his work and requested samples. The young man from Sweden had asked for it and now had to deliver. The simple pencil drawings he sent were handed over to Carlyle Luer, an orchid researcher instrumental in the founding of the Gardens. The artwork of the budding botanical illustrator must have passed muster, for he received a second letter with an invitation to stop by on his next trip to South America.

It was early 1981, and he was equally excited about the future and dissatisfied with the present. To pursue his study of orchids, he would change

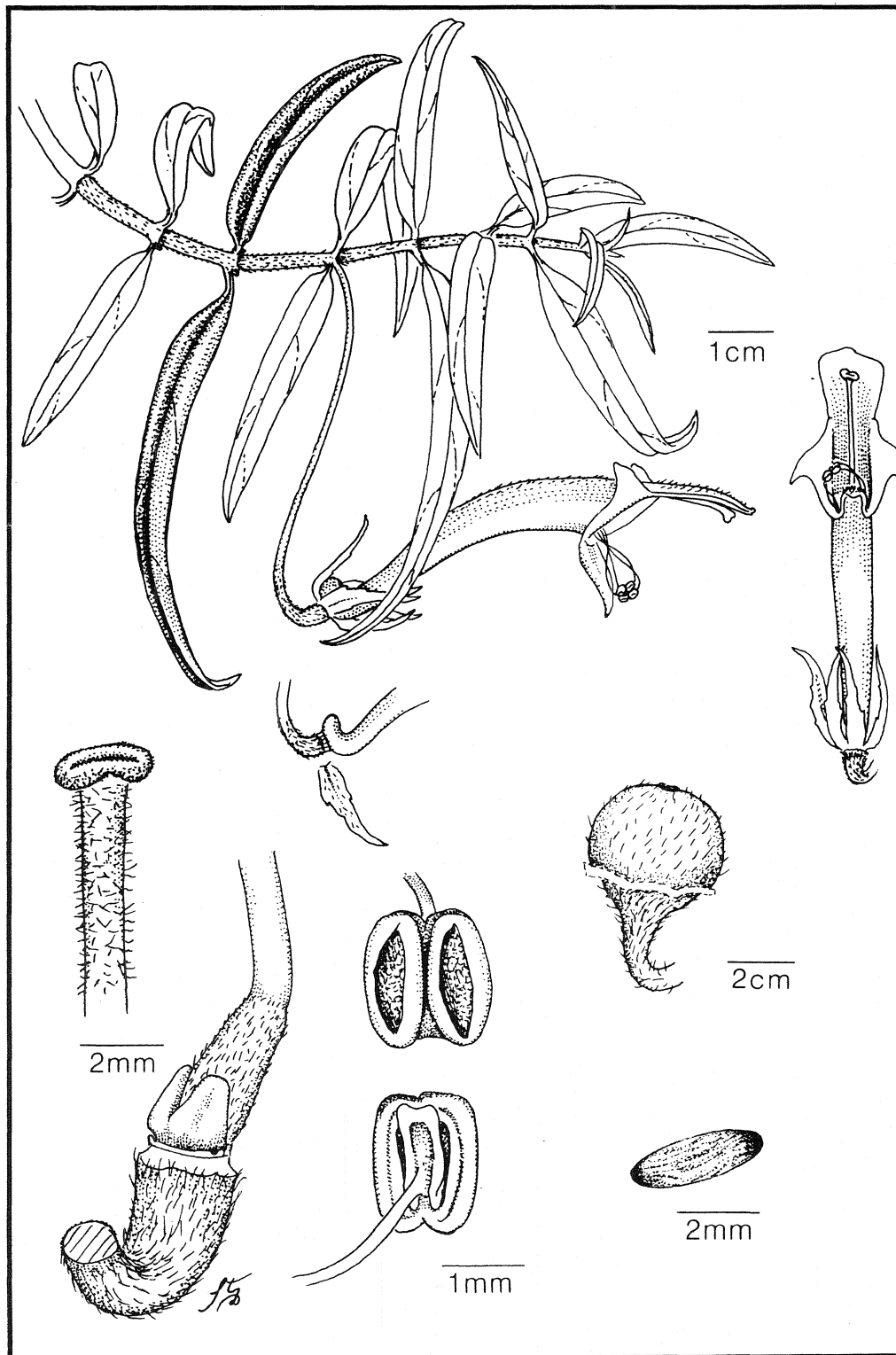


FIGURE 2. *Columnea filipendula* Wiehler.

jobs altogether. He chose to become an artist, because he could paint just as well in Sarasota as in Borlänge. Watercolors seemed more practical than oils, so he bought some paint, brushes, and paper to try it out. The result was good enough to make up his mind. A friend at the botanical garden in Stockholm arranged an exhibit of his art in the Cafeteria Gallery. He had six months to prepare, and it was time to start painting.

The show received mixed reviews. On the plus side, several paintings sold before the show opened. On the downside were the gallery owner's complaint about not getting part of the pre-show sales and critiques such as, "People who can't paint shouldn't."

SELBY GARDENS: LOVE AT FIRST SIGHT

The "artist" arrived at the Sarasota bus station on a warm and magical night in November 1981 and was met by Dr. Luer. The next morning he was introduced to Selby Gardens, and it was love at first sight. Looking back over 24 years, he understands better now the magic of that moment. It was the result of the joy he first experienced in the forests of his homeland. That joy became a love for nature and for the mysterious ways of life in whatever form. That love developed into concern, when he traveled and saw destruction of the environment and especially of the forests. His travels led him to Marie Selby Botanical Gardens, which provided him the opportunity to do something about his concerns.

At Selby Gardens, he learned that existence on this beautiful blue planet depends on plants. The air we breathe, food we eat, fiber for our clothes, and many medicines come directly or indirectly from plants. Learning about nature, he found, meant understanding life. Plants are at once our capital, life's savings, and retirement fund, ensuring that we survive as long as the sun may shine. The value of biodiversity—that richness of life forms—lies in the options it offers for solving life's problems. He learned that all organisms depend on other life forms for survival and that we are part of a single unit determining the conditions for life to exist on this planet, a unit in which plants play a leading role. Some 8 million species of fauna and 250,000 species of flora share space with us in a daily struggle for life. Add an innumerable number of bacteria, fungi, viruses, and life forms that we have yet to discover, and it adds up to mind-boggling biodiversity. Despite our limited knowledge of other life forms, we are dependent on them. To lose a single one is to pluck away a nut or a bolt in the structure of nature, without

having a clue to its role, where it fits, or how its loss will affect us. Forester and wilderness advocate Aldo Leopold said it well: "The first rule of successful tinkering is to save all the pieces."

QUILLABAMBA: A CASE STUDY

Today the artist, now trained in orchid taxonomy, continues to study nature in his travels to rain forests. On a recent journey to southern Peru, he found the peaceful town of Quillabamba experiencing health problems linked to contaminated water. The frequent landslides that destroy local roads and settlements are contaminating the water supply. The major cause of the landslides is deforestation of the surrounding mountains. Primary forests on the slopes once held the soil and absorbed and purified the water. With the forests gone, there is nothing to prevent rain from flushing contaminants into the rivers and plains below with disastrous results. Quillabamba's problems are not unique to the region. They are a sad reality for millions of people around the globe.

Botanists at Cusco University near Quillabamba and a water management company are sponsoring a project to protect a large area of primary forest as a reliable source of clean water. To do so, they must convince local people not to cut down the trees. It is easier said than done. The botanists are challenging millennia-old traditions of slash-and-burn agriculture and charcoal production.

The jungle near Quillabamba is just one example of how vital but poorly understood the world's primary forests and their rich variety of life forms are. Take, for example, orchids. Approximately 10% of all plant species belong to Orchidaceae, making it the largest plant family. Relatively little is known about orchids in general and in particular about the species in the Quillabamba area. The numbers of orchid species growing in these forests are many, some are new to science, and most are threatened by loss of habitat.

Plentiful and yet evasive and enigmatic at once, orchids can serve as an indicator of biodiversity in tropical forests (FIGURE 3). Botanists are seeking answers to questions such as how did orchids evolve? How long have they been around? What do they need to survive? How will they evolve from here? How are they linked to other organisms in their environment? How are they linked to us? Recalling that the botanists at Cusco University did not have the specialized training or resources to identify the orchids in the Quillabamba region, the artist realized that the scientists at Selby Gardens do. It is their specialty. He returned to Sarasota ready to

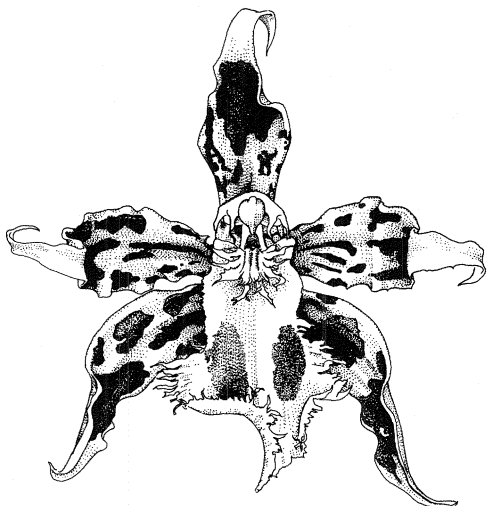


FIGURE 3. *Odontoglossum hallii* Lindl.

propose a joint venture orchid identification project by Selby Gardens and Cusco University. A major obstacle, however, is the Peruvian plant authority (INRENA), which, following the regulations of the U.N. treaty, CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), make it difficult for scientific orchid specimens to be sent abroad for identification.

The unintended consequence, as he saw in Peru, can be environmental degradation. Not only are people removing a handful of random nuts and bolts from the structure of nature, they are thoughtlessly destroying several floors. In the aftermath of recent terrorism attacks, we sadly can relate to the horrendous effects of what happens when key sections are destroyed in a complex structure.

For many centuries, malaria killed untold millions of people, entire armies and cities, for there was no cure. Some say that not until the disease reached South America, possibly via Spanish explorers, was a cure discovered, and not until the early 20th century did scientists trace the cause of this swamp fever. The cause was a microbe living inside a mosquito, and the cure was a substance in the bark of an elusive Andean tree, *Cinchona*, which occurs sporadically along the eastern slopes of the Andes in wet montane forests, just like the ones above Quillabamba.

The landslides, contaminated water, and lack of education observed by the artist make a terrific brew for human misery. World travelers today bring viruses and microbes home with them even to the most "secure" U.S. towns. For many diseases, there is still no cure; yet history

shows clearly that cures often are found in plants, many of which are at risk of extinction.

TODAY AT SELBY GARDENS

The staff and volunteers at Selby Gardens are committed to understanding and conserving tropical plants, particularly orchids and bromeliads, and increasingly gesneriads. That is our mission. The greatest plant diversity, and yet the least understood, is found in the tropics. Expeditions led by Selby Gardens staff travel to unexplored areas to learn more about the Earth's biodiversity "capital" and what remains of it. Vast numbers of plants, many unknown to man, wait to be found and introduced to cultivation. That is what Selby Gardens does. Staff botanists investigate and name the plants that exist on this planet. By studying the role of plants in nature, they work to make the results available to others through programs of research and conservation, horticulture, and education.

On precious bayfront land in the heart of Sarasota, on land bequeathed by Marie Selby for the study and enjoyment of plants, has appeared a botanical garden among the top ten in the nation. Those who lovingly maintain the gardens not only honor Marie Selby's intention but also send a message to the world that there is no more important mission than this.

Those who support the efforts and programs of Selby Gardens become part of an adventure to discover the keys that unlock the mysteries of nature. As a botanical illustrator and orchid scientist, I work at Selby Gardens to give children a vision of hope that they can make a difference and to help people, such as those in Quillabamba, maintain a steady supply of clean water.

ABOUT THE AUTHOR. Stig Dalström, recently named Curator of the Orchid Identification Center at the Marie Selby Botanical Gardens, is an award-winning artist, botanical illustrator, and trained taxonomist. At Selby Gardens, he has served as Manager of the MSBG Museum Shop for five years and as a Research Associate in the Center for Tropical Plant Science and Conservation (formerly the Research and Conservation Department) for 13 years.

His botanical collecting and field studies, primarily of Orchidaceae and Bromeliaceae, have taken him to Bolivia, Colombia, Costa Rica, Ecuador, Peru, Thailand, and Georgia (USA), as well as Florida. He has 22 orchid and bromeliad species named for him and has authored and co-authored official botanical descriptions of 47 species.

A native of Sweden, he received a civil engineering degree at Soltorgsskolan, a Technical

Gymnasium, and completed military service at Jämtlands Läns Fältjägarregemente (Group Officer). After earning a Horticulture and Landscaping degree at Vassboskolan, a Horticultural Gymnasium, he began his botanical career at Gustafsons Blomsterhandel (Garden Center) and the Park Service of Borlänge City.

In 1981 Dalström began work as a freelance artist and botanical illustrator and became a Research Associate of Selby Gardens in 1992. He conducts herbarium studies each year at other major herbaria, such as Kew Gardens in England and the Reichenbach herbarium in Vienna, Austria. The author of more than 30 botanical arti-

cles, he has illustrated numerous botanical books and articles for orchid, bromeliad, and gesneriad periodicals, including *Selbyana*, *Icones Plantarum Tropicarum*, and *Gesneriana*. He also creates posters and other illustrations for botanical conferences.

His artwork is commissioned by orchid societies, botanical gardens, museums, and environmental groups such as Friends of the Earth and the Rainforest Foundation. He has had one-person and joint art exhibits in Brazil, Ecuador, Sweden, and the USA. A popular lecturer, he has made invited presentations at world orchid conferences and orchid societies in Europe, South and Central America, and the USA.