

ICONES ORCHIDACEARUM

Fascicle 17(1)
THE GENUS EPIDENDRUM
Part 13
“Species New & Old in Epidendrum”

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ICONES ORCHIDACEARUM

Fascicle 17(1), plates 1701 to 1756

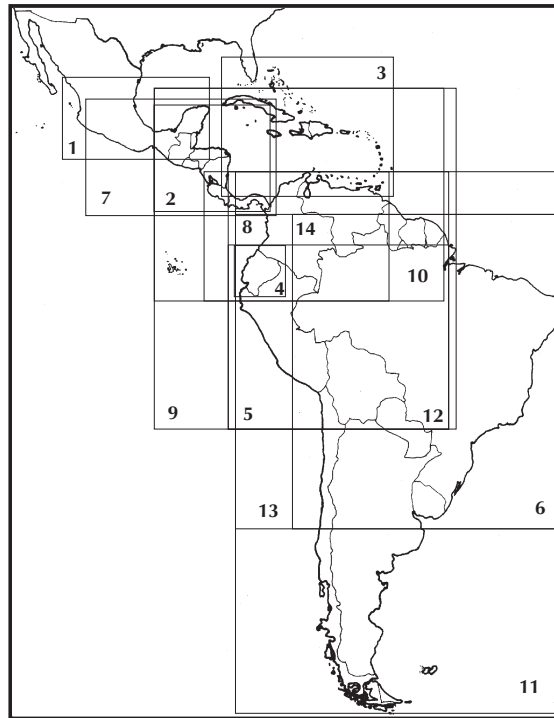
THE GENUS EPIDENDRUM Part 13

“Species New & Old in Epidendrum”

Reference Map

TROPICAL AMERICA

(numbers refer to the portions of the map used in individual plates)



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Foreword

We are dedicating this issue to Robert Louis Dressler (1927-2019) who passed away last week at his home in Paraiso de Cartago, Costa Rica, and has been my mentor and inspiration as a botanist for nearly the past 50 years and set the standards for our work at the AMO Herbarium. A biography written by his wife, Kerry Radcliffe Dressler is appended.

It has been ten months since the last issue of *Icones* appeared, and thanks to the collaboration of numerous botanists and amateurs throughout the Neotropics, we can present another addition to *The Genus Epidendrum*, in this case, part 13.

Of the 56 species included, 40 are new to science. They correspond to Peru 18, Ecuador 17, Colombia 9, Martinique 2, Granada 1 and Haiti 1; some are found in several countries. A couple of other species have been recently described in scientific journals and are here illustrated.

Do check Appendix 1, for corrections to earlier volumes of *Icones*.

Of special interest are the new species of Martinique thanks to the collaboration of Louison Charly and Pierre Courtinard, who have helped us untangle the variation of the *Epidendrum secundum* complex with the description of a new species which is responsible for the hybrid swarm produced when crossed back and forth with *Epidendrum secundum*. In addition, it turns out that *Epidendrum* × *elongatum*, said to have come from Caracas, is part of that swarm, and thus we are changing it to hybrid status. The plate published by Jacquin in 1792 coincides perfectly with photographs supplied by Pierre. Other names are also considered to be part of the hybrid swarm and thus become synonyms.

Fortunately, more and more collaborators are able to prepare photographic series of the plants they collect, and we can thus present many of the species with Lankester Composite Digital Plates (LCDP). Adam Karremans has helped us prepare better plates and has promoted the technique in several Orchid Conferences held in Andean countries. With this technique in a couple of hours a good photographic series can be taken and then the plate prepared. We do not always have all the views we would like, but with these images, and digital publication, making our publication available freely to anybody through the internet, more people are taking interest in identifying their material and sharing it.

We are now also working on digital interactive keys, with Dallwitz' DDescription Language for TAXonomy (DELTA) version 30th September 2016 system, whereby species are described through a matrix of over 200 characters and several character states, thus permitting the identification of species even if key characters are not available as happens with traditional binary keys. A key to the species of the *Epidendrum macrostachyum* group is in the process of being uploaded to our site: www.herbarioamo.org. We hope that orchid enthusiasts will try and use it to identify their live or pressed material, and give us feed-back to ameliorate the process. We tried to use the system many years back, but home computers did not have the computing power to deal with some 200 characters with up to six or more-character states.

Unfortunately, Andreas Kay a German nature photographer living in Ecuador since 2011 passed away on October 8, 2019 in Puyo, Ecuador. We are publishing a photograph by Andreas of *Epidendrum orbicordichilum*, a new species, in this volume. A gallery of his photographs is online at <https://andreaskay.org/gallery.html>

Eric Hágsater
October 2019
Mexico City

Dallwitz, M. J., Paine, T. A. and Zurcher, E. J., 1999 onwards. User's guide to the DELTA System: a general system for processing taxonomic descriptions. delta-inkey.com

Robert Louis Dressler (1927 – 2019) A Biologist for All Seasons

By Kerry Radcliffe Dressler



Bob Dressler and a *Sobralia* somewhere in Costa Rica, 2014.

Robert Louis Dressler was born on the 2nd of June 1927 during the Great American Depression in rural Taney County, Missouri. Taney County is in the Ozark Mountains, home of the hillbillies, a fiercely independent but very poor people. His father, Myrl, was an Electrician who also farmed 30+ acres of rocky ground to put food on the family table. Chickens and goats were his pets and early photos show him with his pet goats at his side. From the age of 4 he would wander around the farm following the goats. He was born curious and this set the stage for his love of nature for the rest of his life.

In November of 1937, Myrl was cutting wood when he hit a knot and the saw kicked back and cut his hand. Four days later he was dead of a pulmonary embolism leaving his heavily pregnant wife, 10-year-old Bob and 3-year-old Margaret to struggle on without him. Rachel Catherine Quigley Dressler, known as Katie to her friends, found that running a hardscrabble farm with two small children and an infant was impossible, so she moved the family to Inglewood, California to start a new life closer to her own family. Katie passed away at the age of 93.

Bob found himself at the age of 10 the man of the family. He did well in school but was always quiet and serious in nature. He rode his bicycle all over Inglewood, which was still rural in those days. As a teenager, he discovered a small private zoo owned by the famed herpetologist, Grace Olive Wiley. Grace's zoo became his escape, and he spent every spare hour helping her clean and feed her extensive snake and lizard collection. He already felt at home handling snakes and family photos show him with small snakes when he was young and still living in Missouri. The older he became, the larger his pet snakes were. Mrs. Wiley had a definite influence on his teenage years and his love of all things Herpetological during his later life, but we have to wonder if his Mother was aware of his extracurricular activities.

Robert graduated from Gardena High School in the Los Angeles City High School District in January of 1945 and was promptly drafted by the U.S. Army in the final months of World War II. The war ended shortly after his enlistment and the Army trained him in accounting to work at mustering out the soldiers coming home from overseas. During this time the word was passed around that anyone who had been accepted into a university program could muster out quickly. Robert immediately took a weekend pass and returned to Los Angeles where he applied and was accepted into the University of Southern California then returned to base to finalize his Army career.

Robert had registered for a course in zoology his first semester at USC but the professor teaching the course wasn't very interesting and he regretted his choice immediately. The second semester he enrolled in a botany course and never looked back. His major professor in botany was Louis C. Wheeler who worked in *Euphorbiaceae* and encouraged Robert's collection of Euphorbs for the university's herbarium. Bob had studied Spanish in high school and had been raised with Mexican neighbors. By the time he finished high school he was already fairly fluent in the language and he and another university student, Claude Jobe spent every chance they could collecting in California and Baja California where his language skills were in frequent use. During this time, he wrote *The Pre-Colombian Cultivated Plants of Mexico* mostly from written material. Dr. Rollins, a friend of Dr. Wheeler's who taught at Harvard, was impressed by this work and Harvard University published it in the Botanical Museum Leaflets 16(6) of 1953. In 1951 Robert left USC with a Bachelor of Arts Degree in Botany, Cum Laude and membership in the Phi Beta Kappa Honor Society.

With his degree from USC and the encouragement of Dr. Wheeler, Robert was given a scholarship to Harvard University for his doctoral studies. His major professor at Harvard was Reed C. Rollins, who was one of the founders of the International Association for Plant Taxonomy (IAPT) and the Organization for Tropical Studies (OTS). Dr. Rollins financed several field trips Robert took to Mexico to make collections for the Gray Herbarium at Harvard and he began his taxonomic study of orchids during this time. Robert has a photo taken in the early 1950s on one of his first expeditions into Chiapas and the Laguna Ocotal and Lacandón forest of southern Mexico in his usual pose of covered in mud and holding a blooming orchid in his hand. He received his Doctor of Philosophy in Biology from Harvard in 1957 with the dissertation: *The Genus Pedilanthus (Euphorbiaceae)*. During this time he also worked as a botanist at the Gray Herbarium of Harvard University. While at Harvard, he attended meetings of the American Orchid Society which was based in Boston at Harvard University at the time. There he met Mariano Ospina Hernandez, son of a Colombian President who shared his love of orchids. Robert visited Mariano and his wife Helena at their home in Medellín and they collaborated on his first book: *Orquídeas de Las Americas*, published in Colombia in 1974.



Bob in 1954 in Laguna Ocotal Grande, Chiapas México.

In 1958 Robert left Harvard and joined the Missouri Botanical Gardens as a taxonomist and editor of the *Annals of the Missouri Botanical Gardens*, where he stayed until 1963. He was also an instructor in the Henry Shaw School of Botany at Washington University, St. Louis, Missouri teaching Plant Geography and General Plant Biology and was appointed Assistant Professor there from 1961 – 1963. Over the many years to come Bob collaborated with MBOT, working with many Botanists there including Tom Croat, James Duke, William Stern, Al Gentry, Barry Hammel, Helen Kennedy, the list goes on and on. Bob was an Editor and contributor for the Orchid sections of two *Flora* for MBOT.

Another of his frequent companions in fieldwork was Dr. Calaway (Cal) H. Dodson. Bob and Cal collaborated on numerous projects over the years. In 1960 they began working on a classification of the *Maxillaria* of the Americas and together they developed a system of scents they used to attract the bees that pollinate many orchids. On a collecting trip to the Republic of Panamá in 1963, they met Dr. Martin Moynihan who had been appointed the Resident Naturalist for the Smithsonian Institute's Tropical Field Station in the Panamanian Canal Area in 1957. Martin's focus was on primate behavior and he was essentially the only scientist on staff at the Field Station on Barro Colorado Island which is located in Lake Gatun in part of the waters that make up the Panama Canal. Martin mentioned he was looking for staff scientists and Robert returned to Missouri with visions of living in the tropics on a more permanent basis. He wrote to Dr. Moynihan in April of 1963, was hired in May of that year and arrived on the first of August as Dr. Moynihan's first addition to what became known as the Smithsonian Tropical Research Institute (STRI).

Martin was putting together the budget for the Field Station in 1964-65 and he wrote Robert for his requirements for equipment and expenses during his first year's work in Panamá. Robert's return letter indicates the basic needs of a tropical taxonomist of this period:

"I don't believe I will be a great drain on the budget this year, I have my own machete and typewriter, and my other material needs will not be very great. I believe that there is already a good dissecting microscope there, and I think I'll get myself a pair of field glasses before I go. I will need some good plant press cardboard (say 500). The Turtox price is \$7.00/100, but we can probably get them at a lower price than that. I believe there are some good blotters there already and I have some of my own. I will also want a batch of plain newspaper stock. Old newspapers will do, of course, but blank paper is a little better. I've never purchased it myself, but I'm sure the Turtox price of %1.25/100 is ridiculous. I can scout around for it in the Zone after I get there. 35 or 40 dollars should be enough to allow for this item. I will rig up a dryer, but that will only need some light bulbs, a small fan and some cheap lumber. I'm sure there will be various and sundry small items, but nothing large that I can think of, so that \$50.00 or \$75.00 of "misc" should certainly cover any further things that I'll need this first year." (Letter to M. Moynihan dated June 3, 1963)

Dr. Moynihan's return letter dated June 12, 1963 showed his surprise when he said:

"You certainly don't seem to need much in the way of equipment. Hardly up to Civil Service standards! Are you sure that you don't want something expensive in fiscal year 1965?"

Bob lived on Barro Colorado Island for the first two years. This was a perfect place to set up Cal's scents and start his collection of the orchid bees and their pollinia. The Tropical Field Station was renamed the Smithsonian Tropical Research Institute (STRI) and soon became an important destination for biologists, universities, students, in short, anyone interested in fieldwork in the tropics.

The Smithsonian provided the infrastructure and its treaties with the Government of Panama allowed scientists from around the world to visit and work in relative comfort. Scholarships were offered for outstanding students both undergraduates and postdocs. Weekly talks over lunch were given by the growing number of permanent staff scientists as well as visiting scientists and students reporting on their research in progress.

It was an exciting place to be and a vast amount of fieldwork has been produced over the years. During this period STRI added two marine stations one on either side of the canal, offices and a library on Ancon Hill in the old Canal Zone and eventually the large new Tivoli office building and library on the site of the old Tivoli Hotel at the bottom of Ancon Hill between the Canal Zone and Panama City.

Part of Bob's job description was to escort visitors in the field. He never lost his love of field work and spent every spare moment out of the office exploring Panamá. Whenever he could get access into a new area perhaps where trees were being logged such as the mining camp on Cerro Colorado, or the dam being constructed in Fortuna, Chiriquí Province, Bob and a few visiting friends would head out in his old green jeep to see what they could rescue from the fallen trees. He always carried rope, a shovel, and extra food and often needed the winch on the front of the jeep and chains for the wheels to get out of mud or across a small river. Heavy rain, a frequent occurrence in Panamá at sea level, often meant a small stream that you drove through in the morning might be a raging torrent on your return.

Norris Williams first met Bob in Panamá in 1965 while taking Owen Sexton's course in Tropical Ecology from Washington University. He became interested in the orchid bees he saw coming in to two gongoras Bob had setup and asked where he could learn more about the bees. Bob recommended Cal Dodson. Cal couldn't help Norris immediately as he was in Peru that year on a Fulbright Scholarship, so Norris finished a master's degree at the University of Alabama then applied for a pre-doctoral internship with Bob at STRI in Panamá. He was the first of a host of students that moved into Bob's office, left for their doctorates then returned with their own students. After completing his PhD, Norris would bring groups of students on field trips and Bob would take them all over Panamá. These students, in turn, came back to STRI for pre or postdoctoral grants and then left for careers around the world. Among them were: Jim Ackerman, Alec Pridgeon, John Atwood, Jim Folsom, Mark Whitten and Helen Kennedy.

Bob was like a spider at the center of his web. Everyone came to him eventually. Meanwhile all these students became collaborators in his work and were people with whom he could share his ideas. In between fieldwork he was publishing new species and forming his ideas on the classification of the orchids in publications in Mexico and Colombia, collaborating with Glenn Pollard who lived and studied orchids in Mexico and Mariano Ospina who was doing the same in Colombia.

Robert shared his ideas on classification of the orchids at the 7th World Orchid Conference in Colombia in 1972. Followed in 1974 by the publishing of two books which he co-authored: *The Genus Encyclia in Mexico* with Glenn Pollard, edited by Eric Hágsater, published by the Asociación Mexicana de Orquideología, and *Orquídeas de las Americas* with Mariano Ospina published in Bogota, Colombia.



Guillermo Misast, Father Pedro Ortiz Valdivieso, S.J.t, Bob† and Eric Hágsater, 1983, Colombia

Robert had lived a relatively solitary life after leaving Harvard until 1975 when he met Kerry Radcliffe in the library at his Ancon office. Kerry was identifying butterflies for Gordon Small, her calculus professor from the Canal Zone College. She was in the process of divorcing her first husband who was stationed in Panamá with the US Air Force and enrolled in the College to hopefully finish a degree in mathematics in order to support her two small children, Summer age 6 and Jay age 5. Gordon had encouraged her to help him with his collecting and introduced her to the tropical forests. For a girl raised in a small town north of Boston it was a real eye opener. Kerry fell in love with all things tropical.

Gordon introduced Kerry to Bob and asked if they could accompany him to any new areas he was making trips to. Their first trip was to the Rio Guánche. They parked and then crossed a wide shallow stream before starting to climb the hills on the other side. Gordon stayed by the cars to collect his butterflies and Kerry was encouraged to follow Bob because Gordon didn't want to offend Bob by ignoring him. Bob needed to cover a larger area looking for new plants while Gordon was happier remaining near a flowering bush to see what butterflies would come to him. Bob was a walker. The only thing Kerry got to see that morning was Bob's back as he walked out of sight up a hill or over rocks. She arrived where Bob had stopped for lunch just as he finished eating and took off down the trail back to the cars. Kerry was more than ready to head back as it had started to rain heavily and followed Bob back to the "shallow" stream which was now a raging torrent as water rushed from the upper reaches of the river towards the ocean.

Obviously, there was no way to cross and they had to wait for the water level to drop so they spent an hour or so just talking and waiting. Surprisingly, the avid botanist and soon to be divorcee found they had a common love of the natural world and had many other things in common. That quiet time together sparked a friendship that only ended with Bob's death 44 years later. They started going into the field regularly, and if Gordon wasn't available, Bob and Kerry went alone or with any visiting scientists or students. Kerry with a collecting net for butterflies. Bob soon proposed the idea that if Kerry would take photos for him, he could concentrate on looking for plants. He'd loan her his old Voightlander camera and pay the film and developing if she would learn how to take the photos.

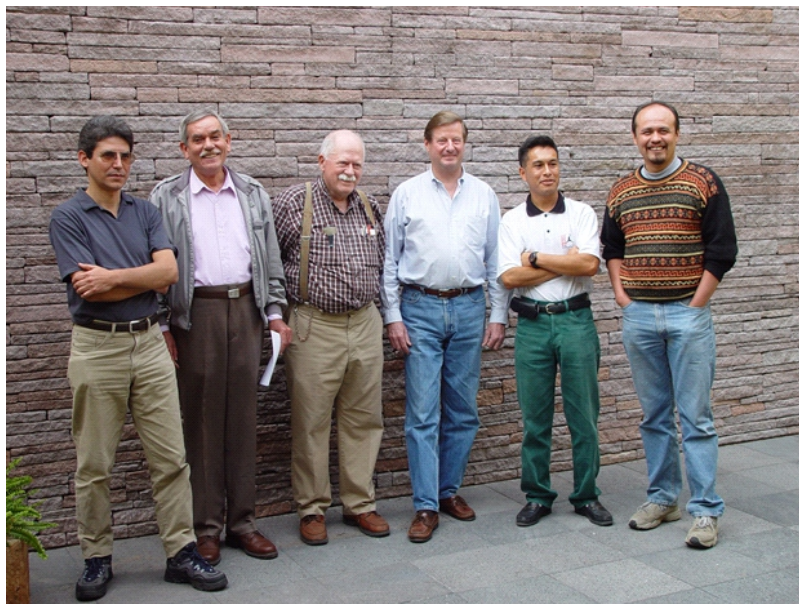
Kerry, being more technologically oriented, got a few books and started learning all she could about photography. At first only a few photos on a roll were useable but with practice this improved and Kerry went on to learn other areas of photography such as film development and using the enlarger. She began using STRI's darkroom equipment and making slides for Bob's presentations. Eventually she claimed the Ancon darkroom and introduced color Cibachrome printing and enjoyed helping students solve photographic problems for their research projects.

From 1975 on, Bob and Kerry would spend a good deal of time in the field with visitors like Carl and Jane Luer, Norris and his students, visiting scientists from Europe and whoever the Missouri Botanical Gardens had sent down to live in Panamá that year to collect for them. These Pre or Post Doc students would each spend a year living in a small mobile home, collecting as many different plants as possible and pressing them for shipment back to Missouri. A number of these students have gone on to successful careers in Botany such as Jim Folsom, Sandy Knapp and Barry Hammel just to name a few.

When Kerry's divorce became final, she had to leave Panamá as she was no longer sponsored by the US Military. When she went to his office to return his camera and told him she was leaving, his reply was "why not stay here with me. You're a good field companion and photographer and we get along well" Kerry was not looking for another entanglement and said "No thank you rather forcefully". Bob was insistent and on 2nd thought she reconsidered and said she would think about his offer. Perhaps he was asking for a date not a lifelong commitment, but he got both. Bob and Kerry were married 14 months later on his 50th birthday, June 2, 1977, at Marie Selby Botanical Gardens with Carl and Jane Luer as Best Man and Matron of Honor.

Bob and Kerry soon became tired of the traffic and living in Panama City and eventually found a double-wide mobile home that they could purchase and move into an overgrown area of Curundú that the US Army had once built barracks on. The Smithsonian rented several lots and Mike and Barbara Robinson installed their own mobile home across the street. Bob Silberglied and Annette Aiello added more STRI personnel to the area. The quiet and having an area for a garden and no close neighbors made this area perfect. Mike and Barbara were like having grandparents across the street for Summer and Jay, and if Bob and Kerry were overdue on a day collecting trip, they could count on the Robinsons to look after the children when they returned home from school.

During the next 8 years before retiring from STRI, Bob circumnavigated the globe twice while attending World Orchid or Botanical Conferences and solidifying his thoughts on classification of the orchids. Kerry went along as photographer. Bob was also invited by Dr. Arturo Gomez Pompa to teach a course on Orchids at his Institute in Xalapa, Mexico. Kerry, Summer and Jay fell in love with Mexico and its varied foods while living in an apartment above a great Mexican restaurant, La Fogata Norteña. Bob made this a special time in their lives by sharing his love of Mexico and many friends there.



Gerardo Salazar, Roberto González Tamayo, Bob, Eric Hágsater, Rodolfo Solano and Miguel A. Soto,
at the inauguration of the Herbario AMO, 2002, Mexico City.

On his many trips to Mexico, Bob traveled extensively with Eric Hágsater and Norris Williams, discovering numerous New species including a new *Poinsettia* (Euphorbiaceae). Through the years Bob and Eric would meet and make field trips to Guatemala, Costa Rica, Panamá, Colombia and Ecuador. In addition to publishing new species, they eventually published *The Orchids of Mexico* in 2005, co-authored with Miguel Soto, Gerardo Salazar, Rolando Jiménez and Marco López, all of the team of the Herbario AMO in Mexico City. A second printing of the Spanish version was published in 2015. Through their joint field trips, Bob promoted a strong working group around the Herbario AMO, with many papers published in *Orquídea* (México City) and *Icones Orchidacearum*.

Bob had close ties to the people of Panamá. He worked with the University of Panamá and the head of its herbarium, Dr. Mireya Correa. He was a member of most of the country's orchid societies and co-founded the Panama City society with Walter Maduro. Walter and his son Andres were well to do Panamanians who were leaders in the orchid community in Panamá. Walter had a beautiful country home in El Valle de Antón in Coclé Province and Bob and Kerry would often make the weekend trek from Panama City to the weekend market there. Guaymí Indians would come to the market from their homes in the mountains bringing orchids to sell. This was a great source of scarce or unknown species of orchids for Walter and Bob.

Walter's son Andres bought property above Cerro Punta at about 2000 meters and perfect for growing orchids. Andres' farm was named Finca Dracula after his favorite genera of orchids and his extensive collections brought many Botanists to work with them. Bob named five species after Andres including *Cyrtorchilum maduroi*, *Oncidium maduroi*, *Sobralia maduroi*, *Stanhopea maduroi* and *Telipogon maduroi*. Andres, Bob and Kerry were close friends for many years until Andres' death and spent a great deal of time working together in Panamá.

Bob used his talks at the 1976 World Orchid Conference in Frankfurt, Germany and the 1981 13th International Botanical Congress Orchid Symposium in Sydney, Australia as excuses for two extended trips that circumnavigated the globe. He finally met Dr. Wilhelm Barthlott in Frankfurt with whom he'd been corresponding and sending orchid seeds to see more of his work on scanning electron microphotography of the seeds. He and Kerry looked for and photographed Old World orchids like *Neuwiedia* and *Apostasia* in Malaysia and Australia. The trip in 1976 and the trip to Australia, New Guinea and New Caledonia in 1981 produced not only hundreds of photographic slides but friends Bob would collaborate with in the future.

Everywhere he went he incorporated his findings into what became his first major book on the classification of the orchids. Many of the photographs taken on these trips were used in the volume which was printed and released by Harvard University Press in 1981, *The Orchids Natural History and Classification* which has become a classic in orchid literature.

In 1984 Dora Emilia de Retana, the Director of the Lankester Botanical Gardens in Cartago, Costa Rica, asked Bob to come up from Panamá and present a short course on classification of the orchids at the Universidad de Costa Rica in San Jose. Bob and Kerry had been regular visitors to Costa Rica, collecting and collaborating with Costa Rican botanists like Raphael Lucas Rodriguez since Bob began working there in the early 1960s. He often attended local orchid shows as a guest judge and Dora Emilia had heard a presentation he had given and was excited at the prospect of him teaching a full semester in Costa Rica. Bob spent one half of a sabbatical year in Costa Rica with his family and collected and photographed many Costa Rican species. The local orchid societies were always ready for a field trip and between those and his official course trips he covered much of the country. The idea of a field guild to the two countries he knew so well was already taking form and after retiring from STRI would lead to his book: *Field Guide to the Orchids of Costa Rica and Panama*, published by Cornell University Press in 1993.

Bob took the second half of his sabbatical year in Florida at the herbarium of the University of Florida in Gainesville in early 1985. Norris Williams was Keeper of the Herbarium and told Bob about a project looking for a botanist to produce a book on the wetland species of plants in Florida. It was time for a break from Panamá, so the family moved to Gainesville, Florida and with Bob as botanist and Kerry as photographer they covered every wet spot in the state and neighboring states of Georgia and Alabama. This was a completely different direction for him but he loved the challenge.

Bob retired from STRI in 1986 and moved to Florida by the end of 1985. He continued working at the University of Florida as an Associate Curator of the herbarium and finished the *Identification Manual for Wetland Species of Florida* which was published in 1987. Missouri Botanical Gardens then put him on staff again as a curator working as editor on the orchid treatments for two floras: *Manual de la Flora de Costa Rica* and *Flora Mesoamericana* from 2004 until 2006. He worked on these in the herbarium of the University of Florida as well as with frequent contact with his collaborators throughout Latin America.

Orchids were never far from his mind, and he was already planning his *Field Guide to the Orchids of Costa Rica and Panama* and his book on the many changes in classification: *Phylogeny and Classification of the Orchid Family*, both of which were published in 1993. Taxonomy and classification were becoming more a laboratory and mathematical problem rather than a visual one that could be studied with a dissecting microscope. Now a scanning electron microscope was essential as well as more expensive laboratory equipment. It is interesting to note that Bob's ideas on classification were in many respects validated. Even the internet acknowledged his classification as it was the officially accepted classification of Wikipedia unknown to Bob who never used a computer for anything other than email and typing manuscripts. Bob always maintained an open and curious mind to the new developments in classification and rather than his classification remaining static, he incorporated ideas and work from the various working groups in places like the Jodrell Laboratory at the Royal Botanic Gardens, Kew, England and Norris Williams Laboratory at the University of Florida.

Another person who has been a great collaborator and friend is the displaced Italian, Franco Pupulin. Franco says he first met Bob in Xalapa, Mexico at the 5th Simposio Latinoamericano de Diversidad y Conservación de Orquídeas in 1993. They have had a great friendship that continued with Franco's move to Costa Rica. Bob and Kerry met with him frequently on trips to Costa Rica over the years and he was instrumental in Bob accepting his last official position with Lankester Gardens in 2005. Jorge Warner was a student of Dora Emilia de Retana and followed her as the next Director of Lankester Botanical Gardens. He was a student when he attended Bob's Orchid course during 1984 at the Universidad de Costa Rica. He and Franco Pupulin and Carlos Ossenbach approached Bob to come back to Costa Rica as Scientific Coordinator of the investigators at Lankester Gardens. Franco was already there and was spurring enthusiasm for building Lankester's position as an important research station in Latin America and later the world. Bob's bags were packed before he sent his acceptance letter and he and Kerry left for Costa Rica in March of 2005. He spent his last years working at Lankester with an emphasis on the Sobralias. He and Kerry bought a small "Tico" home just around the corner from Lankester and eventually both became naturalized citizens. Before his retirement in 2015 he was Director of Lankester for about 6 months while the Gardens waited for the arrival of Dr. Mario Blanco, a doctoral student of Norris Williams and native Costa Rican to arrive and take over the Director's position. Bob had been diagnosed with Alzheimer's Disease in 2014, but he stayed on staff because the University of Costa Rica had passed a new regulation that Directors of the various University units had to hold a Doctorate degree and no one else at Lankester had one at that time. Mario was the perfect fit for the Director's position but wasn't ready to return to Costa Rica yet, so Bob took the job to keep the position open. Since then two of Franco and Bob's protégées have finished Doctorate degrees, Dr. Adam Karremans, the current Director of the gardens, and Dr. Diego Bogarin and Bob's last master's student, Melania Fernandez Campos is currently working toward her's under Dr. Jyotsna Sharma in Texas. With the addition of Bob Dressler to their staff, Lankester has grown into a highly respected institution known around the world. His last years there from 2005 until 2015 were very productive and he published 49 articles and named a total of 37 new sobralias with the students and staff of Lankester frequently as co-authors.

Bob's retirement at the age of 88 was due more to his memory loss from advancing Alzheimer's Disease rather than from his advanced age. He remained healthy and ready to go into the field at a moment's notice and was treated as a beloved Grandfather by all the personnel at the Gardens. He would visit to share a cup of coffee with students and catch up with their work from time to time, then walk back to his home and garden just around the corner.

Kerry, his wife and companion for so many years posted this announcement of his death on her Facebook page:

I am sorry to report that my husband of 42 years, Robert Dressler, died at 10 PM Tuesday, October 15, 2019 at his home in Paraíso de Cartago, Costa Rica. His life was his work and his work was roaming the tropical forests finding new species of Orchids, Bees and anything else of interest that caught his eye. I will miss his laughter and his Love.

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Genera dedicated to Robert L. Dressler. INPI, 18 October 2019

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Hymenoptera and other Insects dedicated to Robert L. Dressler

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APPENDIX 2: Corrections to earlier volumes of *Icones Orchidacearum*:

Eric Hágsater

EPIDENDRUM AIDA-ALVAREZII Hágsater, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(2): t. 1570.

The correct orthography of the specific epithet is *Epidendrum aida-alvareziae*.

EPIDENDRUM BRICENORUM Damian & Hágsater, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1607.

The correct orthography of the specific epithet is *Epidendrum bricenoorum*.

EPIDENDRUM DOLICHOCAULUM Hágsater & A. Díaz in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1672.

The correct authors citation is Hágsater & **A.G. Díaz**, corresponding to Alex Gustavo Díaz Hernández.

EPIDENDRUM HARDINGII J.S. Moreno, Hágsater & L. Sánchez, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(2): t. 1584.

The correct orthography of the specific epithet is *Epidendrum hardingiae*.

EPIDENDRUM LLATASII Hágsater, A. Díaz et E. Santiago in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1679.

The correct authors citation is Hágsater, **A.G. Díaz** & E. Santiago, corresponding to Alex Gustavo Díaz Hernández.

EPIDENDRUM MAVRODACTYLON Hágsater, Edquén & E. Santiago in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(2): t. 1682.

ACKNOWLEDGMENT: José Dilmer Edquén Oblitas has had various collecting permits, and the wrong one was indicated, it should read: The collector wishes to thank the authorities of the Jefatura del Bosque de Protección Alto Mayo-SERNANP for granting the research permit entitled "Diversidad y distribución de orquídeas en bosque no intervenido, parches o fragmentos y paisajes agro intervenidos en el Bosque de Protección Alto Mayo-2018" and the research authorization and collecting permit N°006-2018-SERNANP-BPAM-JBPAM.

EPIDENDRUM MEGALOPENTADACTYLUM Hágsater & Huayta, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(2): t. 1666.

The correct type citation is:

Type: PERU: Dept. Pasco: Prov. Oxapampa, Distrito Huancabamba; Sector San Daniel, trayecto a la Coop. Navarra, 1750 m, 10°26'51" S 75°25'22" W, colectado 15 febrero 2018, **Rodolfo Vásquez Martínez y Abel Huayta Baltazar 41345A**, Holotype: HOXA!

ACKNOWLEDGMENT: Collected under authorization RJ N° 009-2016-SERNANP-PNYCh.

EPIDENDRUM ORNIS Hágsater, Edquén, E. Santiago & E. Mondragón in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(2): t. 1688.

ACKNOWLEDGMENT: José Dilmer Edquén Oblitas has had various collecting permits, and the wrong one was indicated, it should read: The collector wishes to thank the authorities of the Jefatura del Bosque de Protección Alto Mayo-SERNANP for granting the research permit entitled "Diversidad y distribución de orquídeas en bosque no intervenido, parches o fragmentos y paisajes agro intervenidos en el Bosque de Protección Alto Mayo-2018" and the research authorization and collecting permit N°006-2018-SERNANP-BPAM-JBPAM.

EPIDENDRUM ORHTODONTUM Hágsater & L. Sánchez in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: t. 361

The title name was incorrectly written with the TH inverted: "*Epidendrum orthodontum*".

EPIDENDRUM PLEUROTHALLIPNEVMA Hágsater, Edquén, E. Santiago & E. Mondragón in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(2): t. 1694.

ACKNOWLEDGMENT: José Dilmer Edquén Oblitas has had various collecting permits, and the wrong one was indicated, it should read: The collector wishes to thank the authorities of the Jefatura del Bosque de Protección Alto Mayo-SERNANP for granting the research permit entitled "Diversidad y distribución de orquídeas en bosque no intervenido, parches o fragmentos y paisajes agro intervenidos en el Bosque de Protección Alto Mayo-2018" and the research authorization and collecting permit N°006-2018-SERNANP-BPAM-JBPAM.

EPIDENDRUM RAHUII Hágsater in Hágsater & L. Sánchez in E. Hágsater & L. Sánchez (eds.), The Genus *Epidendrum*, Part 4, **Icon. Orchid.** 7: t. 786

The title name was incorrectly written with the UH inverted: "*Epidendrum rauhii*".

EPIDENDRUM XELIDONOURUM Hágsater & H. Medina, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1666.

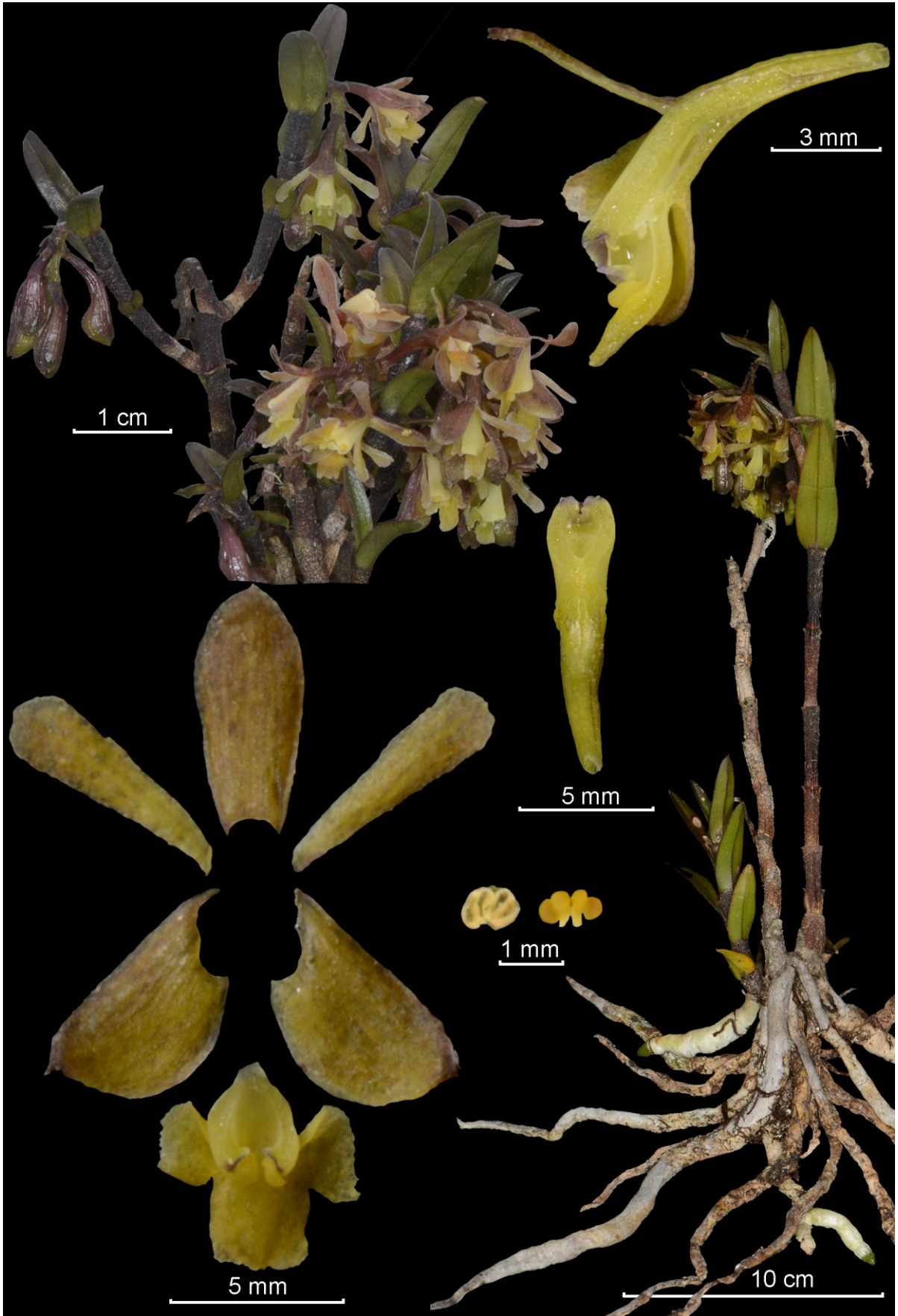
OTHER RECORDS: ECUADOR: Zamora-Chinchi: El Pangui, flowered at Ecuagenera, Gualaceo, flowered 23 X 2016, *Hágsater 14808*, digital images of pretype, AMO! (photo voucher).

The record *Hágsater 14808* should be deleted, the illustration corresponds to the new *Epidendrum tundaycirrhatum* Hágsater & Tobar, and the image did not correspond to the pretype.

EPIDENDRUM YANACHAGAËNSE Hágsater, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 9, **Icon. Orchid.** 13: t. 1400.

The correct type citation is:

Type: PERU: Dept. Pasco: Prov. Oxapampa, Distrito Huancabamba; Sector Santa Barbara, 1 km al E de la Escuela-Zona de amortiguamiento, Parque Nacional Yanachaga-Chemillén, 10°21'48" S 75°39'42" W, 3390-3420 m, 29 January 2005, **Edgardo Ortiz Valencia, Franco Mellado N., Abel Monteagudo Mendoza & Rolando Francis J. 245**. Holotype: MO 6117951! (Illustration voucher) Isotype: HOXA!



EPIDENDRUM ACROLITHOPHILUM Hágsater & E.Santiago

Plate 1701

EPIDENDRUM ACROLITHOPHILUM Hágsater et E.Santiago, sp. nov.

Type: ECUADOR: Loja: Cantón Saraguro, Parroquia Manú, cerca del refugio de Cerro de Arcos, sobre grandes rocas en páramo de alta montaña reforestado de *Pinus* sp., 3538 m, 22 octubre 2018, *Eric Hágsater y Elizabeth Santiago Ayala 16048*. Holotype: QCNE! (LCDP and photo voucher). Isotypes: AMO! MEXU!

Similar to *Epidendrum tenuicaule* F.Lehm. & Kraenzl. but leaves 1.0-2.0 cm long, parallel to the stem, imbricated (vs. 1.5-5.0 cm long, somewhat spreading from the stem, not imbricated), inflorescence 1.5-2.0 cm long, (vs. 2.5-3.7 cm long), flowers 7-12 (vs. flowers 16-20), mid-lobe of lip sub-quadrate (vs. rectangular, longer than broad).

Lithophytic, erect, sub-monopodial, caespitose herb, 10-20 cm tall, with sub-apical branching. **Roots** 3.5 mm in diameter, basal, fleshy, thick, white. **Stems** cane-like, branching above, terete, thin, straight basal stems 10-20 x 0.23-0.35 cm, branches 1.5-3.0 x 0.25-0.3 cm, short, produced from the upper internodes of the basal stems, and themselves short branched, covered at the base by some foliar sheaths. **Leaves** 10-15, distributed throughout the stems in young plants, 2-5 persistent along the apical half of the branches, articulate, coriaceous, parallel to the stems, imbricating; sheaths 8-13 mm long, tubular, rugose, black-red when young, reddish brown when leaves fall, becoming scarious with age; blade 1.0-2.3 x 0.2-0.7 cm, narrowly lanceolate, apex acute, minutely apiculate, margin crenate, spreading. **Spathe** lacking. **Inflorescence** 1.5-2.0 cm long, apical, racemose, arching-nutant, densely few-flowered; peduncle 3 mm long, terete, thin, without bracts; rachis 1.2-1.7 mm long, hidden by the flowers. **Flowers** 7-12, resupinate, simultaneous, ovary and dorsal surface of sepals brown, inner surface yellow-brown, petals and lip yellow, column yellow to yellowish brown with the apex tinged purple; fragrance none noted. **Floral bracts** 3 mm long, half as long as the ovary, triangular-lanceolate, acuminate, embracing. **Ovary** 6 mm long, terete, thin, not inflated, longitudinally sulcate. **Sepals** 6.8-7.0 x 3.7-4.0 mm, obovate, 3-veined, margin entire, spreading; dorsal sepal free, spreading apex rounded; lateral sepals obliquely united to the column, partly spreading, oblique, apex obtuse, shortly apiculate. **Petals** 6.7 x 2.0 mm, free, spreading, linear-cuneate, apex rounded, 1-veined, margin erose, spreading. **Lip** 5.5 x 5.5 mm, united to the column, 3-lobed, base cordate; bicallose, the calli thin, divaricate; disc provided with 3 ribs, the mid-rib evident and elongate reaching the apical sinus of the mid-lobe, the lateral pair low and short; lateral lobes 1.5 x 2.7 mm, dolabriform, margin crenate; mid-lobe 2.7 x 2.7 mm, sub-quadrate, apex truncate, apical margin crenate, spreading. **Column** 5 mm long, straight. **Clinandrium-hood** short, margin entire. **Anther** ca. 1 x 1 mm, reniform, 4-celled. **Pollinia** 4, lentil-shaped, inner pair somewhat smaller, caudicles soft and granulose, shorter than the pollinia. **Rostellum** apical, slit. **Nectary** shallow, without penetrating the pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Azuay: km 8, road Cuenca to Molleturo, ca. 2800 m, 21 VII 1985, *Dodson 15936*, AMES! MO! QCNE! (illustration AMO!) MO! QCA! Cantón: Santa Isabel, Parroquia Shaglli: Santa Isabel-Shaglli-Huertas-Hornillas-La Cebada, entre La Cebada y Hornillas, en el puerto, sobre grandes rocas entre líquenes, 3487 m, 25 IV 2018, *Hágsater 15878*, QCNE! (sterile, digital images of live plant AMO!) Zorrogucho [Surocucho], 3450 m, 16 III 1984, *Luer 9519*, SEL! Las Cajas, above Mihuir [Río Migüir], 2700-2900 m, 26 IV 1985, *Harling 24618*, GB! QCA! **PERU: Piura:** Huancabamba: environs of Talaneo, Las Huaringas, 3500 m, 20 II 1981, *Wade Davis 701*, F! SEL!

OTHER RECORDS: PERU: Cajamarca: Without locality data, *Ocupa Horna s.n.*, digital photo, AMO!

DISTRIBUTION AND ECOLOGY: Known presently from various localities at the summit of the Cordillera Occidental in the provinces of Azuay and Loja/El Oro in southern Ecuador and neighboring Piura and Cajamarca in Peru, summit of the cordillera in páramo, growing on large boulders with lichens, at 2700-3500 m altitude under very windy, cold, wet conditions. Flowering in October to July.

RECOGNITION: *Epidendrum acrolithophilum* belongs to the Cardiophyllum Group, Cuniculatum Subgroup, which is characterized by the sub-monopodial, branching habit, adpressed leaf-sheaths, acute leaves, and 3-lobed lip. The new species is recognized by the short, compact, bushy plants to 20 cm tall, leaves 1.0-2.3 x 0.2-0.7 cm, lanceolate and nearly parallel to the stems, inflorescence 1.5-2.0 cm long, 7-12 flowers yellowish brown with the lip yellow, sepals 6.8-7.0 mm long, lip 5.5 x 5.5 mm, 3-lobed, the lateral lobes dolabriform, and mid-lobe sub-quadrate. *Epidendrum tenuicaule* Lindl. is also bushy with branching stems to 50 cm tall, leaves 1.5-5.0 x 0.2-0.5 cm, narrowly lanceolate, somewhat spreading from the stems, inflorescence 2.5-3.7 cm long, 16-20 flowers greenish yellow, lip 3.8 x 5.0 mm, mid lobe rectangular, longer than broad. *Epidendrum scabrum* Ruiz & Pavón has very tall monopodial stems, much larger, wider leaves, to 13 mm wide, with a relatively large, somewhat paniculate, arching-nutant, many-flowered inflorescence 6.5 cm long, flowers yellow, sepals 10 x 2.8 mm, and lip 4.7 x 5.8 mm. *Epidendrum scabrum* var. *parviflorum* Cogn. has leaves 2.5-3.0 cm long, lanceolate, nearly parallel to the stem, 16 flowers, color not known, sepals 5-6 mm long, lip 3 x 4 mm, the mid-lobe trapezoid, minutely apiculate.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek, *akros* summit, *lithos* stone, and *philo-* loving, in reference to the ecological adaptation of this species which is found on large boulders on the summit of the Cordillera, exposed to cold, wet, foggy conditions.

REFERENCES: Cogniaux, M., 1898, *Epidendrum scabrum* var. *parviflorum*, in *Martius Fl. Bras.* 3(5): 107. Santiago, E., & E. Hágsater, 2006, *Epidendrum scabrum* in *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 886. Santiago, E., & E. Hágsater, 2006, *Epidendrum tenuicaule* in *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 892.



Authors: E. Hágsater & E. Santiago

LCDP: E. Hágsater & A. Cisneros

Photo: E. Hágsater

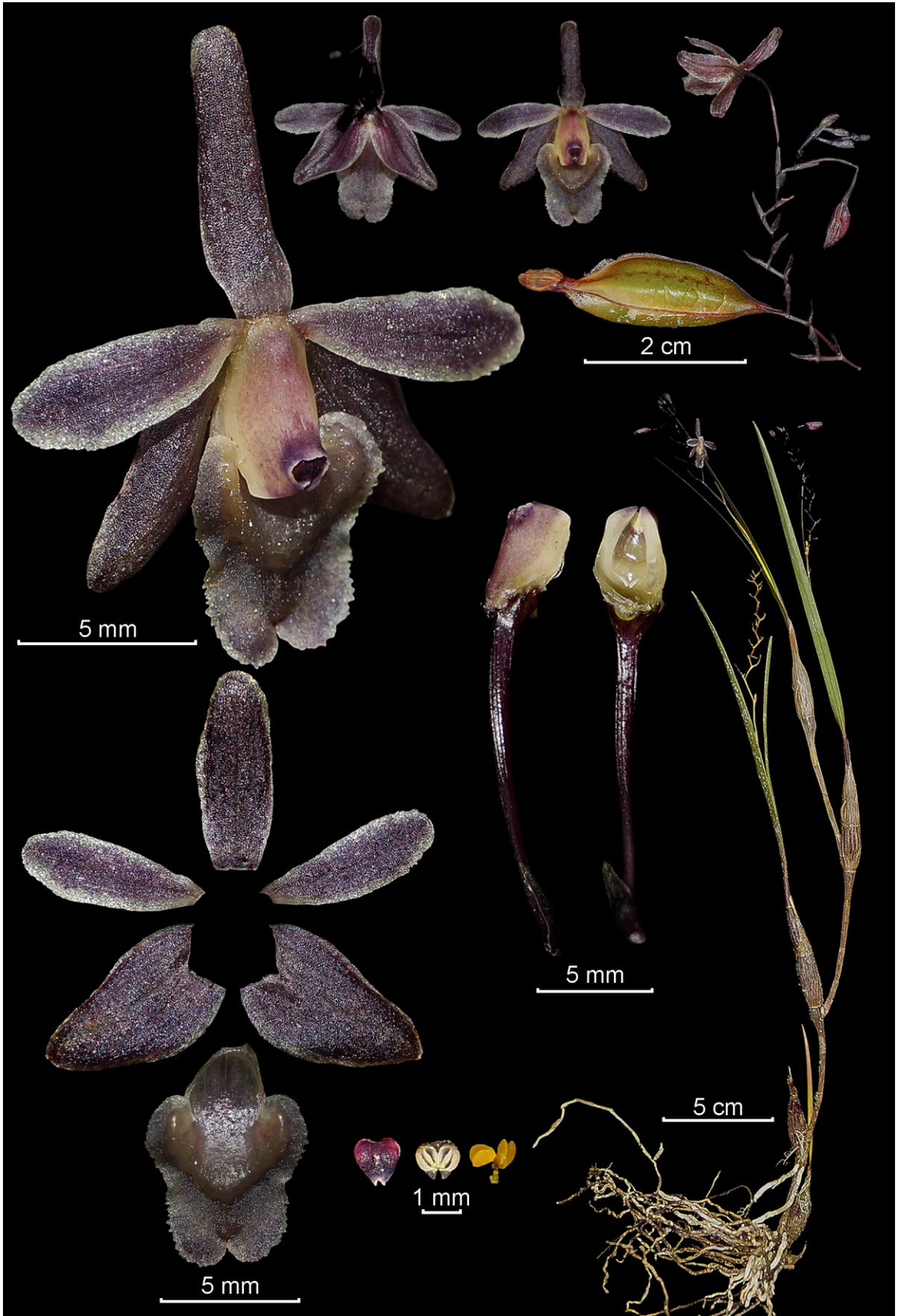
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1701



EPIDENDRUM ALBOMARGINATUM Rchb.f.

Plate 1702

EPIDENDRUM ALBOMARGINATUM Rchb.f., *Linnaea* 41: 113, 1877.

Type: [PERU: Piura: Huancabamba?] "Guacabamba", 8000 ft, **Gustav Wallis 364**. Holotype: W 52198! copy of illustration, **Gustav Wallis 364**, W 34770! Synonym: *Epidendrum nitidum* L.O.Williams, Bot. Mus. Leaf. 9: 8, 1940. Type: ECUADOR: Loja; above Loja, 2600 m, 8 July 1939, **Charles William Penland & Robert H. Summers 1141**. Holotype: AMES 55404! [illustration AMO! (Santiago & Hágsater, 2009) plant directly drawn from specimen, lip and sepal from sketch on specimen, not from Gordon W. Dillon's illustration published by Williams (1940).]

Epiphytic, sympodial, scandent, erect **herb**, 20-40 cm tall. **Roots** 1-2 mm in diameter, thin, produced only from the base of the primordial stem. **Stems** 4.5-7.0 x 0.2-0.3 cm, cane-like in the lower half, terete, thin slightly above the middle and forming a fusiform pseudobulb, 3.0-4.5 x 0.4-0.8 cm, covered by 5-7 tubular, non-foliar sheaths, somewhat tinged purple, becoming fibrous with age, 0.5-1.5 cm long, each stem originating from the base of the previous pseudobulb, forming large chains of stems. **Leaves** 2, 3.0-10.5 x 0.15-0.4 cm, apical, articulate, coriaceous, linear to linear-lanceolate, base conduplicate, apex acute, apiculate; sheaths 6 mm long, tubular, reddish brown. **Spathe** lacking. **Inflorescence** 4.5-10.5 cm long, apical from the mature stem, racemose to pluri-racemose, producing new racemes from a sub-apical internode of the peduncle in succession, laxly few-flowered, asynchronous; peduncle 3.0-5.7 cm long, terete, thin (but not filiform), erect, straight, green; rachis 1.5-5.0 cm long, terete, thin, zigzag, dark wine-red. **Floral bracts** 3-5 mm long, less than half the length of the ovary, narrowly triangular, acuminate, embracing, very dark wine-red with the margin whitish red, deciduous in old inflorescences. **Ovary** 7-14 mm long, terete, thin, unornamented, dark wine-red, longitudinally furrowed. **Flowers** 7-30, successive, up to 4 may be open simultaneously, resupinate, dark wine-red with margins white, column creamy yellow tinged wine-red, lip olive-green or dark wine-red, disc of the lip creamy yellow when flowers mature; fragrance not registered. **Sepals** margins entire, somewhat revolute; dorsal sepal 7.0 x 3.5 mm, free, slightly reflexed, oblong-elliptic, apex rounded, 5-veined; lateral sepals 7.5 x 4.5 mm, obliquely adnate to basal half of column, partly spreading, base connate, ovate, oblique, apex narrowly rounded, 5-6-veined. **Petals** 7.0 x 2.5 mm, free, spreading, obovate-oblancoate, apex rounded, margin entire at basal half, apical half crenulate, spreading. **Lip** 6.0 x 6.0 mm, united only to the basal 2/3 of the column and forming a large cavity; lip slightly 3-lobed, base shallowly cordate, margin dentate; ecallose, disc concave, surrounded by a semi-circular fleshy thickened ridge and continued apically into a narrow mid-rib ending in the apical sinus; lateral lobes 1.6-2.0 x 3.0-4.0 mm, hemi-elliptic, rounded; mid-lobe 3.0 x 4.5 mm, sub-quadrate, apex bi-lobed, the lobes rounded with a deep narrow sinus in the middle. **Column** 4-5 mm long, straight, thick, mostly free from the column, apex truncate. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** very short and narrow, at the base of the column, narrow; stigmatic cavity very large reaching nearly the base of the column. **Anther** ovoid, apex bidentate, 4-celled, wine-red. **Pollinia** 4, semi-obovoid, laterally compressed, similar in size; caudicles soft and granulose, about as long as the pollinia. **Nectary** very short, behind the lateral lobes of the stigmatic cavity, apparently without penetrating the pedicellate ovary. **Capsule** 42 mm long; pedicel 11 mm long, thin, terete; body 25 x 10 mm, ellipsoid, light green with narrow wine-red lines and spots; apical neck 6 mm long.

OTHER SPECIMENS: ECUADOR: Loja: W slopes of the E Andes near Loja, 2300-2400 m, X 1892, *Lehmann 8175*, K! PERU: Amazonas: Prov. Bongará: Dist. Granada: Comunidad campesina de Diosán, margen derecho del Río Imaza, 2785 m, 22 X 2018, *Edquén 1600*, HURP! (LCDP and photo voucher).

OTHER RECORDS: PERU: Amazonas: Leimebamba-Chachapoyas, 2800 m, *Salas Guerrero s.n.* digital images received 9 II 2015, AMO!

DISTRIBUTION AND ECOLOGY: Known from southern Ecuador, near Loja, and northern Peru: Piura and Amazonas; epiphytic on *Clethra cf. fimbriata* Kunth, on both sides of Cordillera Oriental of the Andes at 2300-2785 m altitude. Flowering from July to October.

RECOGNITION: *Epidendrum albomarginatum* belongs to the Albomarginatum Group which is characterized by the monopodial, vertical, scandent, zigzag habit, stems cane-like below, somewhat thickened along the apical middle-half or third to form a fusiform pseudobulb, the new stem originating just below the thickened part of the previous stem, apically bifoliate, leaves linear-lanceolate to linear-oblong, racemose to paniculate inflorescence, the rachis zigzag, successive pale-translucent flowers with the lateral sepals obliquely united to the base of the column. The species is recognized by the thin stems, cane-like below, fusiform above, leaves linear to linear-lanceolate, 3-10.5 cm long, racemose to pluri-racemose inflorescence, peduncle 3.0-5.7 cm long, rachis strongly zigzag, flowers dark wine-red, margins white, lip olive-green with disk sometimes turning creamy yellow; lip slightly 3-lobed with the margin sub-lacerate-crenate. *Epidendrum francisci* Chocce, Hágsater & M.E. Acuña has a paniculate inflorescence with the peduncle up to 2 cm long, rachis slightly zigzag, leaves linear oblong, 5.5-6 cm long, flowers pale lilac, the basal half of the column green, the apex dark lilac, the lip entire, cordiform, bicallose, with the margin entire. *Epidendrum subliberum* C.Schweinf. is vegetatively similar, but the racemose inflorescence has a straight rachis, small, simultaneous flowers (sepals 3-4 mm long), lip is deeply 3-lobed, entirely free from the column and perpendicular to it in natural position.

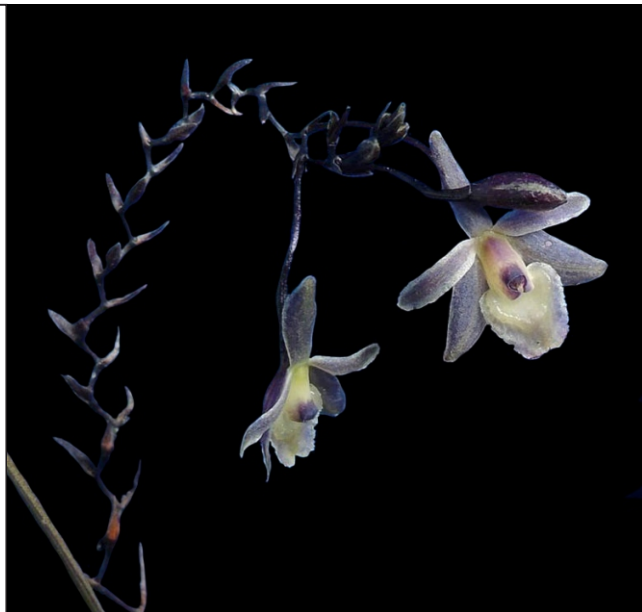
NOTE: The illustration prepared by Gordon W. Dillon and published by Williams (1940) as *Epidendrum nitidum* shows the disc of the lip concave, surrounded by a thickened rim, and this corresponds well with the photograph of Marcos Salas. The plate here published is somewhat different, in that the disc of the lip shows two widely separate, thickened, elongated, parallel calli, with a fleshy thickened, wide channel that ends in widely triangular platform, and continues into a narrow mid-rib ending in the apical sinus. Though Dillon's illustration may be subject to interpretation, as is our earlier illustration, the photographs are enlightening.

CONSERVATION STATUS: DD. Data deficient. The forests west of Loja have been heavily deforested and we have no record of any recent collection. The collections from Peru by Edquén and Salas are very recent.

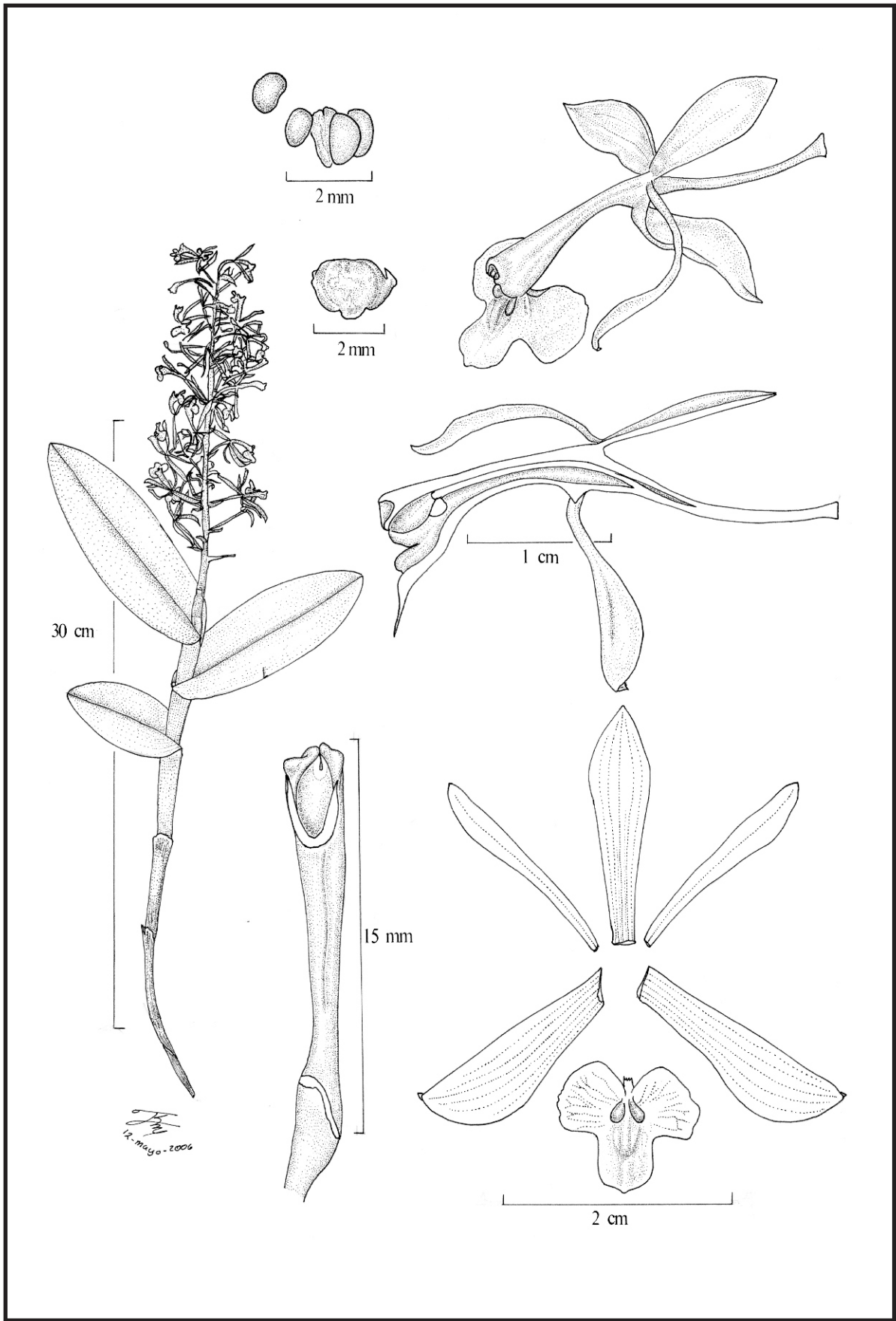
ETYMOLOGY: From the Latin: *albus*, white, and *margo*, margin, in reference to the pale, translucent margins of the tepals.

ACKNOWLEDGMENT: Collection made by Edquén under project "Efecto de la fragmentación de hábitats de bosque alto andino en diversidad de Orchidaceae y Bromeliaceae del anexo de Diosán, Distrito de Granadas, Amazonas" emitido bajo la resolución de Dirección General (RDG) N° 137-2018-SERFOR/DCGSPFFS; correspondiéndole el Código de Autorización N° AUT-IFL-2018-025.

REFERENCES: Santiago, E., & E. Hágsater, 2009, *Epidendrum albomarginatum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1201. Chocce, M., E. Hágsater & M. E. Acuña, 2009, *Epidendrum francisci*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1244. Williams, L.O., 1940, *Orchid Studies*, XIII; New or interesting orchids from Ecuador and Colombia, *Bot. Mus. Leaf.* 9(1): 1-26.



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EPIDENDRUM AMPLIRACEMUM C.Schweinf.

EPIDENDRUM AMPLIRACEMUM C.Schweinf., Amer. Orch. Soc. Bull. 21: 682. 1952.

Type: PERU: Huánuco: Carpish Pass, 84 km from Tingo María on highway to Lima, ca. 2750 m, 19 November 1949, **Harry Ardell Allard 21002**. Holotype: US! (illustration voucher).

Sympodial, caespitose, **herb**, ca. 40 cm tall including the inflorescence. **Roots** basal. **Stems** 20 x 0.4-1.0 cm, simple, cane-like, laterally compressed, erect, straight; the basal half covered by sheaths 3.8-4.5 x 0.4-0.7 cm, non-foliar, tubular, scarious. **Leaves** 3, erect-spreading, alternate, articulate, coriaceous, unequal in size the basal one smaller; sheaths 25-40 mm long, tubular, minutely striated; blade 6.7-13.3 x 3.0-4.4 cm, elliptic, apex obtuse, margin entire, spreading. **Spathes** 1, 13 x 5 mm, tubular, small, somewhat ancipitose, obtuse. **Inflorescence** 20 cm long, apical, racemose, erect, many-flowered, sub-dense; peduncle 3.8 cm long, laterally compressed, erect, straight; rachis 16.2 cm long, straight. **Floral bracts** 5-10 mm long, shorter than the ovary, linear-triangular, acuminate, embracing. **Flowers** ca. 30, simultaneous, resupinate, somewhat fleshy, color and fragrance not registered. **Ovary** 17-20 mm long, terete, thin, slightly dilated behind the perianth. **Sepals** 17-18 x 5.3-5.6 mm, free, 5-veined, margin entire, revolute; dorsal sepals slightly reflexed, oblanceolate, sub-acute; lateral sepals sub-spreading, oblong-oblanceolate, oblique, sub-acute, minutely apiculate. **Petals** 18 x 2.5 mm, spreading, free, linear-oblanceolate, obtuse, 3-veined, oblique, margin entire, somewhat revolute. **Lip** 10.5 x 12.4 mm, united to the column, 3-lobed, somewhat convex, base cordate; bicallose, the calli small, proximate, sub-globose, slightly divaricate; disc with 3 thin ribs, the mid-rib elongate, reaching the apical sinus; lateral lobes 4.8 x 6.0 mm, dolabriform, margin slightly erose; mid-lobe 4.4 x 4.8 mm, sub-quadrate, apex truncate, minutely apiculate, margin entire. **Column** 15 mm long; slightly arched, basal half thin, gradually widens towards the apex. **Clinandrium-hood** prominent (but without surpassing the body of the column), margin entire. **Anther** obreniform, 4-celled. **Pollinia** 4, obovoid; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/3 the length of the stigmatic cavity. **Nectary** shallow, barely penetrating behind the perianth, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known only from a single collection from Central Peru near Huánuco, growing at ca. 2750 m altitude. Flowering in November.

RECOGNITION: *Epidendrum ampliracemum* belongs to the Ampliracemum Group which is characterized by the simple, cane-like, few-leaved stems, with a single, tubular, tight spathaceous bract at the base of a racemose, simple, erect inflorescence, and the flowers resupinate. The species is recognized by the 40 cm tall plants, stems with 3 elliptic leaves 6.7-13.3 x 3.0-4.4 cm, inflorescence densely many-flowered (20 cm long), sepals 17-18 mm long, margin revolute, dorsal slightly reflexed, petals linear-oblanceolate, oblique, and lip 3-lobed, calli small, proximate, sub-globose, slightly divaricate, lateral lobes dolabriform, mid-lobe sun-quadrate, apex minutely apiculate. *Epidendrum chalmersii* Hágsater & Ric.Fernández has elliptic leaves 5.0-9.5 x 2.2-2.8 cm long, smaller flowers, sepals 11.5-13.0 mm long, petals narrowly oblanceolate, lip 3-lobed, lateral lobes ovate-elliptic, mid-lobe rectangular-oblong, apex emarginate and bilobed. *Epidendrum aquilalatum* Hágsater & E.Santiago has leaves 5.8-8.0 x 2.8-3.5 cm, apex rounded, minutely bilobed, inflorescence 16.5 cm long, sub-dense, petals 18 x 1.7 cm, linear-oblanceolate, sub-falcate, acute, and the lip when spread is bird-like, the lateral lobes wing-like, obliquely semi-ovate, and basal half of mid-lobe sub-quadrate forming an isthmus, apical half strongly dilated forming a pair of semi-orbicular, strongly divaricate lobes and ending in a prominent apiculus. *Epidendrum brevicallousum* Hágsater & E. Santiago has tall plants (58 cm high), with 3 leaves 4.5-8.0 x 1.5-2.7 cm, elliptic, apically rounded, inflorescence 30 cm long, petals 14.8 x 3.4 mm, sub-spathulate, apex rounded, lip with sub-globose, widely separate, small calli, and mid-lobe quadrate with the apex truncate and emarginate.

CONSERVATION STATUS: DD. Data deficient. Known from a single collection in an area which has been thoroughly collected in the last 75 years.

ETYMOLOGY: From the Latin *ampli-* wide, extended, and *racemosus*, spike-like, in reference to the inflorescence which is a wide raceme.

REFERENCES: Hágsater, E. & R. Fernández, 2013, *Epidendrum chalmersii* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14, t.1416. Hágsater, E., & E. Santiago, 2019, *Epidendrum aquilalatum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1); t. 1705. Hágsater, E., & E. Santiago, 2019, *Epidendrum brevicallousum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1); t. 1708.



Authors: E. Santiago & E. Hágsater

Illustrator: R. Jiménez M.

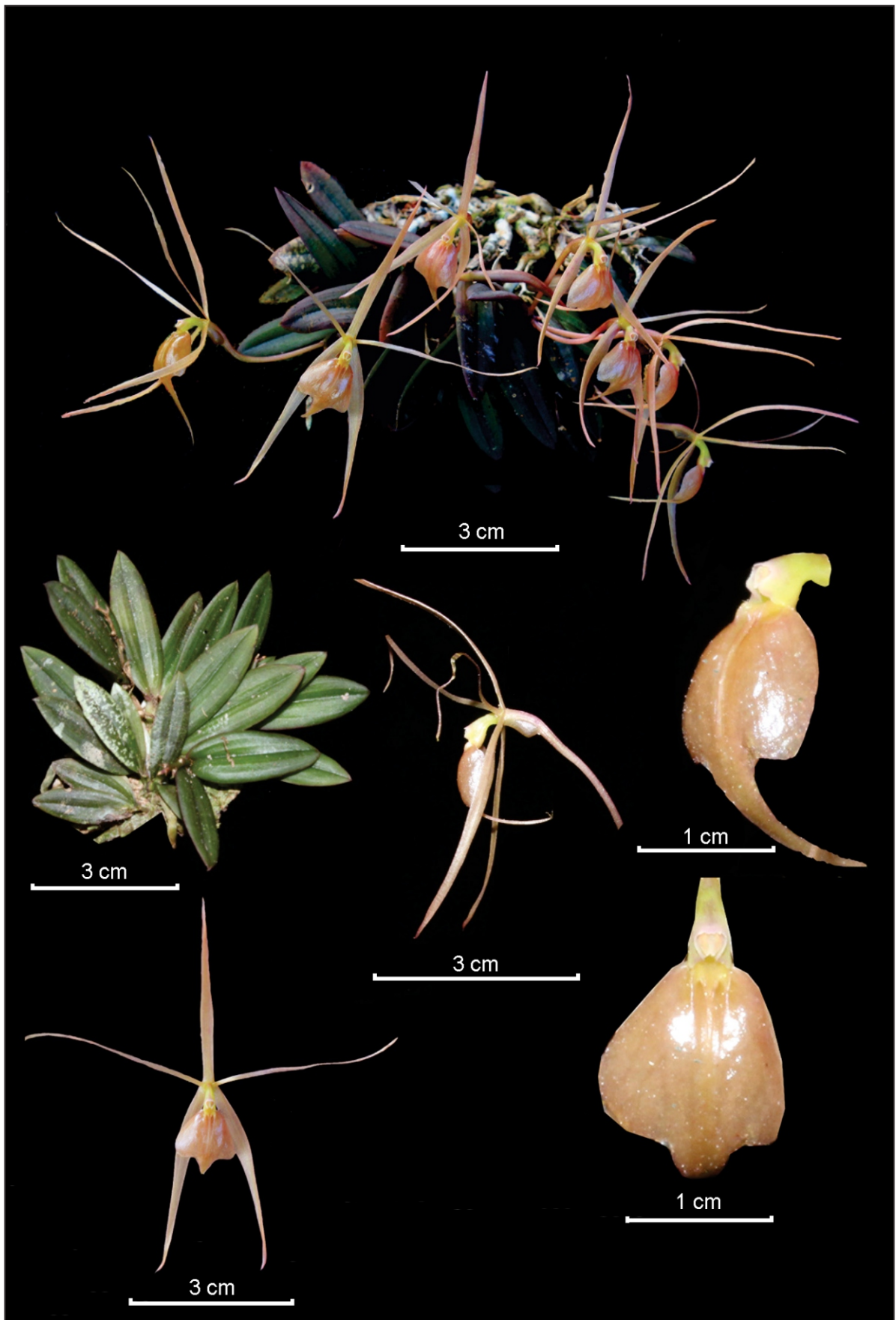
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1703



EPIDENDRUM APAHUENSE Mansf.

Plate 1704

EPIDENDRUM APUAHUENSE Mansf., Repert. Spec. Nov. Regni Veg. 28: 93. 1930.

TYPE: BRAZIL. Amazonas: Rio Negro, Apuaú, May 1930, **G. Hübner 355** (Holotype: B, destroyed). NEOTYPE* (Designated by Klein *et al.* 2019): BRAZIL. Amazonas: São Sebastião do Uatumã, Reserva de Desenvolvimento Sustentável do Uatumã, Igapó forest on the Uatumã River, 2°31'13"S, 58°52'68"W, 12 m, 11 May 2017, **Layon Oreste Demarchi 912**. Neotype: INPA! Isonotypes: NY! RB! (LCDP vouchers). Nomenclatural synonyms: *Encyclia apuahuensis* (Mansf.) Pabst, Orquídea (Rio de Janeiro) 29: 164. 1967. *Prosthechea apuahuensis* (Mansf.) Van den Berg, Lindleyana 16: 143. 2001.

Epiphytic sub-caespitose, sympodial, creeping herb ca. 5–7 cm tall including the flowers. **Stems** 0.2–0.5 x 0.20–0.32 cm, pseudobulbous, ovoid to obovoid, concealed by 3–4, close-fitting sheaths; sheaths 0.6–1.1 cm long, brown, membranaceous, margin entire, the apex acute. **Leaves** 2–3 per pseudobulb, 1.2–3.9 x 0.28–1.30 cm, at the apex of the pseudobulbs, elliptical to narrowly obovate, fleshy, dark green, the underside sometimes reddish green, margin entire, the apex acute to minutely 3-lobed. **Spathes** lacking. **Inflorescence** apical, peduncle 0.5–2.0 cm long, rachis 0.4–1.5 cm long. **Floral bracts** 0.1–0.25 cm long, ovate. **Flowers** 2–4, resupinate, ochre, light pink with veins of the lip reddish, or fully white. **Pedicellate ovary** 1.7–3.9 cm long, cuniculus ventrally inflated forming a nectary, 0.4–0.5 cm long. **Sepals** dorsal sepal 2.0–3.8 x 0.2–0.4 cm, narrowly elliptical, 5-veined, apex acuminate, margin entire; lateral sepals 2.0–3.4 x 0.2–0.4 cm, narrowly lanceolate, sub-falcate, 5-veined, apex acuminate, margin entire. **Petals** 2.2–4.0 x 0.1–0.2 cm, linear, 3-veined, apex acuminate, margin entire. **Lip** clawed, claw adnate to the column, blade 1.5–2.5 x 1.0–1.5 cm, entire, ovate-lanceolate to distinctly 3-lobed, base of the disk with a pair of ovoid calli, and three longitudinal keels; lateral lobes 0.8–0.9 x 0.3–0.4 cm, sub-obovate, margin entire; mid-lobe 1.2–1.4 x 0.3–0.4 cm, narrowly lanceolate, reflexed, apex acuminate, margin entire. **Column** 0.6–0.8 x 0.25–0.35 cm, terete, curved. **Clinandrium-hood** reduced, margin entire. **Anther** apical, sub-orbiculate, clinandrium slightly erose. **Pollinia** 4. **Nectary**: prominent, thick, penetrating 1/4–1/8 of the pedicellate ovary and forming a ventral vesicle. **Capsule** not seen.

OTHER SPECIMENS: BRAZIL: Amazonas: São Sebastião do Uatumã, Reserva de Desenvolvimento Sustentável do Uatumã, 2°18'46"S, 59°01'93"W, 15 VI 2017, **Klein 156**, (sterile) INPA! *ibid.*, 15 VI 2017, **Klein 234**, (sterile) INPA! **VENEZUELA. Amazonas:** Autana, Río Autana, s.d., **Dunsterville 1125** (AMES, drawing), Maroa, s.d., **Romero 3622**, TFAV, (illustration in Romero-González *et al.* 2010), Santa Rosa de Ucata, 23 X 1989, **Romero & E. Melgueiro 2218**, AMES, VEN.

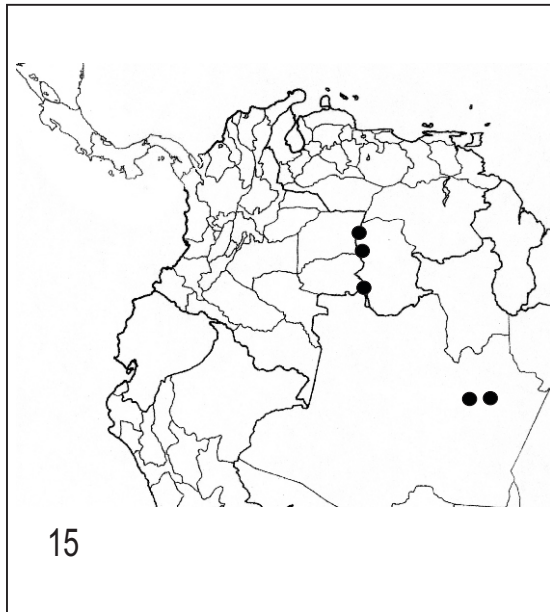
DISTRIBUTION AND ECOLOGY: *Epidendrum apuahuense* is known from northern Brazil (state of Amazonas) to southern Venezuela, expected in neighboring Colombia. The populations described by Romero-González *et al.* (2010) have been reported in open environments, growing on small trees in white-sand soil areas. Romero reports plants, apparently being autogamous, produce deformed flowers (the lip not bilaterally symmetric). The new population we found is located in the Reserva de Desenvolvimento Sustentável do Uatumã in the state of Amazonas, Brazil.

***NOTES:** The holotype, *G. Hübner 355*, was unfortunately destroyed during WWII, and the other specimen cited in the protologue, *G. Hübner 322*, was also destroyed. No duplicates or illustration are known. Therefore, a neotype was chosen for the name (*Demarchi 912*). The neotype (INPA) was collected about 200 km from the original type locality (Rio Negro, Apuaú), and isoneotypes are distributed in two herbaria (NY, and RB).

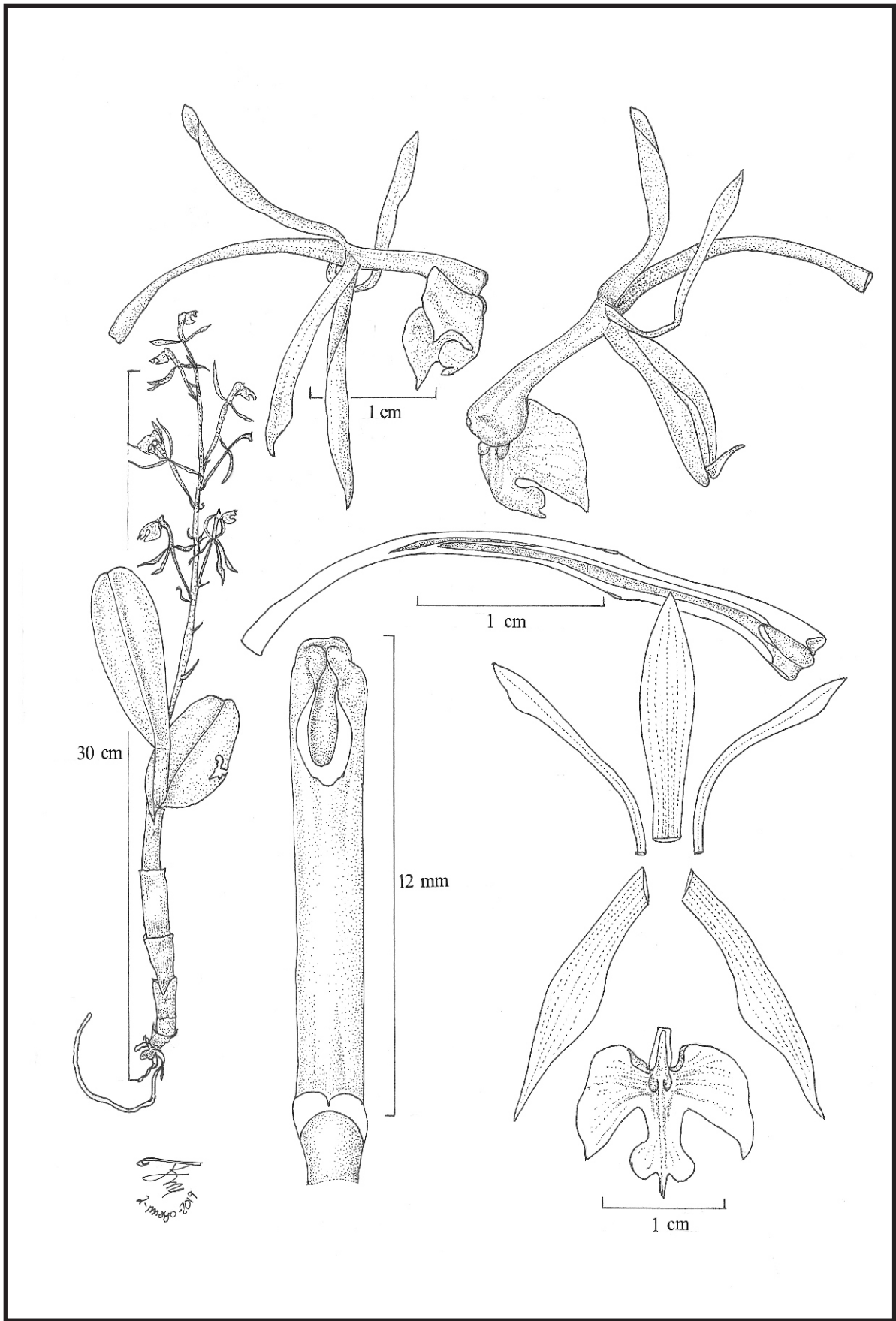
CONSERVATION STATUS: Although the species has a wide EOO (197,697.742 km²), its AOO is very small (24,000 km²). *Epidendrum apuahuense* occurs mainly in white-sand ecosystems, fragile environments generally under threat (Adeney *et al.* 2016). However, in Reserva de Desenvolvimento Sustentável do Uatumã, where we found a new population, the areas of campinaranas are relatively well protected because of their isolation compared to the flooded forests. The main threat to this species is the Balbina hydroelectric power plant. Currently, the flood pulse of the Uatumã River is regulated by the Balbina dam, and this mega enterprise has caused massive plant community mortality downstream of the hydroelectric dam (Assahira *et al.* 2017), with the current plant community. *Epidendrum apuahuense* may have experienced population reductions in this habitat. Other local threats to the species are fire, logging, and cattle raising along the Uatumã River. The other populations are not known to us, but probably suffer similar threats. So, according to the recommendations of IUCN (2017), based on the criteria A1d and B2b, we unofficially consider this species Endangered (EN).

MORPHOLOGICAL AFFINITIES: *Epidendrum apuahuense* can be morphologically compared to species with pseudobulbs and star-shaped flowers as described by Hágsater (1985), which are more similar to *E. hagsateri* Christenson ("Falcatum group" sensu Hágsater & Sánchez 2010) and *E. volutum* Lindl. & Paxton ("Coilostylis group" sensu Hágsater & Sánchez 2008). These two species have a reflexed lip, a feature also present in *E. apuahuense*, but it can be easily distinguished from both species by its vegetative portion with much shorter leaves (up to 3.9 cm long vs. 5–21 cm long) and shorter pseudobulbs (up to 0.3 cm long vs. 4–15 cm long). The flowers are also useful to distinguish the species, and *E. apuahuense* can be recognized by its ventrally inflated cuniculus forming a nectary (vs. not inflated). Distribution is also a useful feature for distinguishing among species. *Epidendrum volutum* is known from Costa Rica and Panama, *E. hagsateri* is known only from Mexico, and *E. apuahuense* grows in the Amazon Basin. A phylogenetic reconstruction was performed using nuclear (ITS rDNA) and plastid (matK exon, rpl32-trnL spacer, trnL intron, and trnL-trnF spacer) datasets, aiming to clarify the generic placement of this taxon. Our results strongly support keeping *E. apuahuense* under *Epidendrum* (Klein *et al.* 2019).

ETYMOLOGY: In reference to the Rio Apuaú, an affluent of the Rio Negro, across from Novo Airão, where the original type collection was made.



REFERENCES: Adeney, J.M., N.L. Christensen, A. Vicentini, & M. Cohn-Haft, 2016, White-sand ecosystems in Amazonia, **Biotropica** 48: 7–23. Assahira, C., M.T.F. Piedade, S.E. Trumbore, F. Wittmann, B.B.L. Cintra, E.S. Batista, A. F. Resende & J. Schöngart, 2017, Tree mortality of a flood-adapted species in response of hydrographic changes caused by an Amazonian river dam. *Forest Ecology and Management* 396: 113–123. Hágsater, E., 1985, Towards an understanding of the genus *Epidendrum*, pp. 195–201, in K.W. Tan. (ed.), **Proceedings of the Eleventh World Orchid Conference**, Miami, Florida. Hágsater, E., & L. Sánchez S. 2004. The Genus *Epidendrum*, Part 4. A Fourth Century of New Species in *Epidendrum*, **Icon. Orchid.** 7. Hágsater, E., & L. Sánchez S., 2008, The Genus *Epidendrum*, Part 7. Species New and Old in *Epidendrum*. **Icon. Orchid.** 11. Hágsater, E. and L. Sánchez S., 2010, The genus *Epidendrum*, Part 9. Species new and old in *Epidendrum*. **Icon. Orchid.** 13. Hágsater, E., & M.A. Soto-Arenas, 2005, *Epidendrum*. pp. 236–251 in A.M. Pridgeon, P.J. Cribb, M.W. Chase, and F.N. Rasmussen (eds.), **Genera Orchidacearum: Epidendroideae** (part one), vol. 4. Oxford, UK: Oxford University Press. Klein, V.P., E.M. Pessoa, L.O. Demarchi, M. Sader, & M.T.F. Piedade, 2019, *Encyclia, Epidendrum, or Prosthechea?* Clarifying the Phylogenetic Position of a Rare Amazonian Orchid (Laeliinae-Epidendroideae-Orchidaceae), **Syst. Bot.** 44(2): pp. 297–309. Romero-González, G.A., C. Gómez, & G. Carnevali Fernández-Concha, 2010, Novelities in the orchid flora of Venezuela III – *Epidendrum*. **Harvard Pap. Bot.** 15: 165–170.



EPIDENDRUM AQUILALATUM Hágsater & E.Santiago

Plate 1705

EPIDENDRUM AQUILALATUM Hágsater et E.Santiago, *sp. nov.*

Type: PERU: Pasco: Prov. Oxapampa, Dist. Huancabamba, Zona de amortiguamiento Parque Nacional Yanachaga-Chemillén, borde del río Chillcatambo, 1800 m, 16 July 2008, **Abel Monteagudo Mendoza, Antonio Peña, José Luis Mateo, José R. Ayerbe & Rigoberto Rivera 16664**. Holotype: USM! (illustration voucher) Isotype: MO. Flowers in spirit AMO!

Similar to *Epidendrum albifloroides* D.E.Benn. & Christenson in every way, but the lateral lobes of the lip acute (vs. rounded), mid-lobe basal half sub-quadrate forming an isthmus, apical half strongly dolabriform dilated forming a pair of semi-orbicular, strongly divaricate lobes and ending in a prominent apiculus (vs. mid-lobe linear-oblong with apiculate apex), and calli small, sub-globose, parallel (vs. calli large, divaricate).

Epiphytic, sympodial, caespitose **herb**, 32 cm tall including the inflorescence. **Roots** ca. 2 mm in diameter, basal, thin. **Stems** 13 x 0.8-1.2 cm, simple, cane-like, laterally compressed, erect, straight; the basal half covered by sheaths 1.2-2.8 x 0.7-1.2 cm, non-foliar, tubular, scarious. **Leaves** 2, sub-erect, alternate, articulate, coriaceous, unequal in size (lower one smaller); sheaths 2.0-2.8 cm long, tubular, minutely striated; blade 5.8-8.0 x 2.8-3.5 cm, elliptic, apex rounded, unequally bilobed, margin entire, spreading. **Spathe** not seen. **Inflorescence** 16.5 cm long, apical, racemose, erect, sub-densely many-flowered; peduncle 3.5 cm long, laterally compressed, erect, straight; rachis 13 cm long, straight. **Floral bracts** 4-10 mm long, shorter than the ovary, linear-triangular, acuminate, embracing. **Flowers** ca. 25, simultaneous, resupinate, somewhat fleshy, cream colored, fragrance not registered. **Ovary** 18-23 mm long, terete, thin, slightly dilated behind the perianth. **Sepals** 18-19 x 4.2-4.3 mm, free, 5-veined, margin entire, revolute; dorsal sepals slightly reflexed, oblanceolate, acute; lateral sepals sub-spreading, narrowly oblanceolate, oblique, acuminate. **Petals** 18 x 1.7 mm, spreading, free, linear-oblanceolate, subfalcate, acute, 1-veined, oblique, margin entire, somewhat revolute. **Lip** 10.7 x 14 mm, united to the column, deeply 3-lobed, the whole spread lip appearing bird-like, the lateral lobes revolute, base deeply cordate, margin entire; bicallose, the calli small, sub-globose, parallel; disc with 3 narrow ribs, the mid-rib elongate, reaching the apex and forming the apiculus; lateral lobes 5.3 x 8.2 mm, obliquely semi-ovate, acute, the inner margin straight, the outer margin rounded; mid-lobe 6.4 x 5 mm, basal half sub-quadrate forming an isthmus, apical half strongly dolabriform dilated forming a pair of semi-orbicular, strongly divaricate lobes and ending in a prominent apiculus. **Column** 12 mm long, straight, the basal 2/3 thin, gradually widened at the apex. **Clinandrium-hood** prominent (but not surpassing the body of the column), margin entire. **Anther** not seen. **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/3 the length of the stigmatic cavity. **Nectary** deep, penetrating about half of the pedicellate ovary. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Currently known only from the eastern slope of the Andes in central Peru, Pasco, epiphytic in montane forest, at 1800 m altitude. Flowering in July.

RECOGNITION: *Epidendrum aquilalatum* belongs to the Ampliracemum Group which is characterized by the simple, cane-like, few-leaved stems, with a single, tubular, tight spathaceous bract at the base of a racemose, simple, erect inflorescence, the flowers resupinate. The new species is recognized by the elliptic leaves 5.8-8.0 x 2.8-3.5 cm, apically rounded and unequally bilobed, lateral sepals 19 mm long, acuminate, petals linear-oblanceolate and subfalcate, the whole spread lip appearing bird-like, the lateral lobes revolute, base deeply cordate, margin entire; lateral lobes obliquely semi-ovate, acute, the inner margin straight, the outer margin rounded; basal half of mid-lobe sub-quadrate forming an isthmus, apical half strongly dilated forming a pair of semi-orbicular, strongly divaricate lobes and ending in a prominent apiculus. *Epidendrum albifloroides* D.E.Benn. & Christenson is similar in every way, but has leaves 8.0 x 2.4 cm, lateral sepals 18 mm long, apex acute, petals 14 mm long, linear-oblanceolate, straight; lateral lobes of lip obliquely ovate, apex rounded, mid-lobe linear-oblong with apiculate apex, calli large, divaricate. *Epidendrum ampliracemum* has larger leaves 6.7-13.3 x 3.0-4.4 cm, inflorescence densely many-flowered (20 cm long), sepals 17-18 mm long, sub-acute, margin revolute, dorsal slightly reflexed, petals linear-oblanceolate, 1-veined, oblique, lip 3-lobed, lateral lobes dolabriform, mid-lobe sub-quadrate, apex minutely apiculate. *Epidendrum chalmersii* Hágsater & Ric.Fernández has smaller flowers, sepals 11.5-13 mm long, petals narrowly oblanceolate, 1-veined, lip 3-lobed, lateral lobes ovate-elliptic, mid-lobe rectangular-oblong, apex emarginate and bilobed. *Epidendrum brevicallousum* Hágsater & E.Santiago has leaves 4.5-8.0 x 1.5-2.7 cm, elliptic, apically rounded, not bilobed, lateral sepals 15-16 mm long, apex obtuse, petals sub-spathulate, and lip with lateral lobes obliquely dolabriform, corners rounded and mid-lobe quadrate, apex emarginate.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *aquila*, eagle, and *alatus*, winged, in reference to the lip when spread where the lateral lobes obliquely semi-ovate, with the inner margin straight, and the outer margin rounded, and which resemble the wings of an eagle and distinguishes this species from similar ones which have dolabriform lateral lobes.

REFERENCES: Bennett, D.E., & E.A. Christenson, 1998, *Epidendrum albifloroides* in E.A. Christenson (ed.) *Icon. Orchid. Peruv.* Pt.3: t. 445. Hágsater, E. & R. Fernández, 2013, *Epidendrum chalmersii* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 10, *Icon. Orchid.* 14; t. 1416. Hágsater, E., & E. Santiago, 2019, *Epidendrum brevicallousum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1); t. 1708. E. Santiago & E. Hágsater, 2019, *Epidendrum ampliracemum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1); t. 1703.



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Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1705



EPIDENDRUM AZUAYENSE Hágsater & E.Santiago

Plate 1706

EPIDENDRUM AZUAYENSE Hágsater et E.Santiago, sp. nov.

Type: ECUADOR: Azuay; carretera Cuenca-Loja, 2a desviación a San Miguel de Jima, 3362 m, 14 octubre 2018, **Eric Hágsater & Elizabeth Santiago Ayala 15944**. Holotype: QCNE! Isotype: AMO! (LCDP vouchers).

Similar to *Epidendrum cuencanum* Schltr. but leaves smaller 1.0-5.0 x 0.8-1.5 cm, oblong-elliptic (vs. leaves widely elliptic, 7.0-9.0 x 3.2-4.3 cm); inflorescence 2-flowered, flowers orange, column green (vs. inflorescence 3-5-flowered, greenish white), petals 12-13 x 5.0-6.0 mm, oblanceolate, oblique (vs. 20 x 2 mm, linear), lip widely cordiform, apex obtuse (vs. lip cordiform, apex acute).

Terrestrial or straggling amongst bushes forming large masses, sympodial, scandent, **herb**, up to 70 cm long. **Roots** 1.5 mm in diameter, scarce along the lower internodes of each successive stem, fleshy, thin, white. **Stems** 6.0-16.0 x 0.25-0.5 cm, simple, cane-like, produced from a middle internode of the previous stem, terete at the base, somewhat laterally compressed towards the apex; base covered by non-foliar sheaths 1.7-2.3 cm long, scarious, becoming fibrous. **Leaves** 2-7[10], distributed throughout the stems, articulate, alternate, spreading, fleshy-coriaceous; sheaths 1.0-2.7 cm long, tubular, laterally compressed somewhat infundibuliform in dry specimens, longitudinally striated; blade 1.0-5.0 x 0.8-1.5 cm, oblong-elliptic, apex unequally bilobed, margin entire. **Spathes** 1-2, 10 x 5 mm, tubular at base, conduplicate at the apex (narrowly obovate when spread), apex obtuse, blackish brown when in flower, membranous, margin entire. **Inflorescence** ca. 5.5 cm long including the flowers, apical, 2-flowered, erect; peduncle 1.5-2.0 cm long, laterally compressed, totally hidden by the spathe, provided in the middle with a bract 6-10 mm long, rachis 5-10 mm long. **Floral bracts** 4-8 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 2, simultaneous, non-resupinate, erect, segments fleshy, rigid, orange colored, the column green; fragrance none. **Ovary** 26-30 mm long, terete, thin at base, slightly inflated ventrally along less than the apical half, pale green. **Sepals** narrowly elliptic, acute, 5-veined, the veins short-branched; dorsal sepal 13-18 x 5 mm, free, spreading, margin entire, spreading; lateral sepals 14-17 x 6 mm, obliquely united to the base of the column, partly spreading, oblique, minutely apiculate, margin slightly crenulate towards the apex, spreading. **Petals** 12-16 x 5.0-6.0 mm, free, spreading, oblanceolate, acute, slightly oblique, 3-veined, the lateral veins short-branched, margin minutely crenulate, spreading. **Lip** 8-9 x 11 mm, united to the column, entire, widely cordiform, base slightly cordate, apex obtuse, margin entire, spreading; bicallose, the calli thin, laminar; disc with a low mid-rib that disappears before reaching the apex of the lip. **Column** 8 mm long, thick, straight. **Clinandrium-hood** short, margin entire. **Anther** spherical, 4-celled. **Pollinia** 4, unequal in size and shape, somewhat bean-shaped, laterally compressed, caudicles very short. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating nearly half of the pedicellate ovary, forming an elongate, narrow vesicle, unornamented. **Capsule** ellipsoid, 8 mm long, pedicel 10 mm long, body 5.5 x 2.1 cm, apical neck 15 mm long.

OTHER SPECIMENS: ECUADOR: Azuay: Carretera San Joaquín-Soldados km 14, 2850 m, 18 VII 2000, *Alvarez 2728*, LOJA! MO! NY! Girón: Gañadel, 3250 m, 26 XI 1955, *Asplund 17856*, AMES! Surucucho, 3000-3200 m, 11 VIII 1978, *Boeke 2620*, AAU! QCA! SEL! Las Cajas, near laguna Llaviuco, 3100-3200 m, 12 IX 1983, *Boysen 45095*, AAU! QCA! Páramo de Tinajillas, S of Cuenca, 10000-10500 ft, 7 III 1945, *Camp E-2100*, AMES, NY! (illustration, AMO!) S! 18-20 km W of Cuenca, 16 VII 1945, 9800-10300 ft *Camp E-4179*, AMES! QCNE! S! Laguna Surucucho, 20 km W of Cuenca, 3000 m, 1 I 1958, *Dodson 286*, SEL! Road from Cuenca to Loja taking the Gima detour, 3200 m, 23 VII 1985, *Dodson 16006*, MO! Desviación de carretera Cuenca-Loja hacia Jima, 3200 m, 26 IV 2018, *Hágsater 15880*, QCNE x2! (photo voucher) Sayausi, ca. 3000 m, 1 IV 1968, *Harling 7932*, AMES! GB! Sayausid, ca. 3100-3300 m, 16 IV 1968, *Harling 8342*, GB! Cumbe, ca. 3000 m, 22-24 IV 1968, *Harling 8728*, GB! QCA! 7 km SE of Jima, 3100 m, 27 IV 1985, *Harling 24680*, GB! QCA! Environs of San José de Raranga, 3100 m, 24 III 1993, *Harling 27276*, MO! NY! QCA! Carretera a Quinoas, Surucucho, 3000-3200 m, 11 VIII 1978, *Jaramillo 509*, AAU! QCA! QCNE! Area Nacional Recreacional Cajas, sector Llaviuco, 3300, 7/11/1991, *Leon 2501*, QCA! 30 km S of Cuenca on road to Loja, 3100 m, 15 VIII 1997, *Lewis 3468*, LOJA! 0-2 km W of Laguna Llaviuco, ca. 10 km WNW of Sayausi, 3200 m, 14 VI 1979, *Løjtnant 14737*, AAU! GB! 10 km NW of Cuenca, Part of Cajas, ca. 3000 m, 24 XI 1981, *Madsen 36715*, AAU! Patacocha, 7-8 km by trail S of (above) Hda. Tarqui at Irquins on the main Cuenca-Machala road, 3050-3100 m, 29 I 1988, *Molau 2762*, AAU! GB! QCA! Río Machangara, NW Cuenca, 3000-3100 m, 18 IX 1967, *Sparre 18661*, S! Ibid. *Sparre 18662*, S! Gualaceo, Zhidmad, sector San José, Loma de Verde, Area de Bosque Vegetación Protectora Aguarrongo, 3127 m, 10 I 2002, *Suin 1106*, AMO! Cumbe, San Francisco, 3083 m, 29 III 2006, *Verdugo 716*, HA! **Cañar:** pass on road Azogues-Taday, 3100 m, 30 III 1985, *Harling 23425*, AMES! GB! QCA! **Tungurahua:** Mt. Tungurahua, 2900 m, VII 1984, *Hirtz 1843*, MO! Road Pataté to Leito to Llanganates Range, 3000 m, 12 Iv 1985, *Hirtz 2500*, MO!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the highlands in the Province of Azuay and Cañar, Ecuador, terrestrial or straggling in bushes at 2850-3700 m altitude. Flowering from August to April.

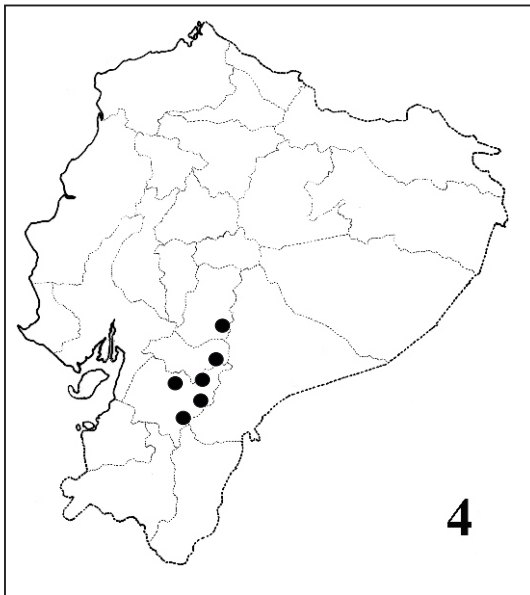
RECOGNITION: *Epidendrum azuayense* belongs to the Geminiflorum Group, recognized by having a single, sympodial, scandent, straggling habit, a semi-ovate spathe, erect stems with 3-10 coriaceous leaves, few non-resupinate flowers, and a lip with laminar calli, disc flat. The new species is recognized by the oblong-elliptic leaves 1.0-5.0 x 0.8-1.5 cm; 2-flowered inflorescence, flowers orange, column green, sepals 13-18 x 5-6 mm; petals 12-16 x 5.0-6.0 mm, oblanceolate and slightly oblique, lip widely cordiform, obtuse. *Epidendrum cuencanum* has widely elliptic leaves 7.0-9.0 x 3.2-4.3 cm, inflorescence 3-5-flowered, greenish white; column pale green; sepals 21.5 x 6.3 mm; petals 20 x 2.0 mm, linear, and lip is cordiform, apex acute. *Epidendrum geminiflorum* Kunth is vegetatively similar, also 2[3]-flowered, but the flowers are green to yellowish green, sepals and petals acuminate, lip 3-lobed, apically acuminate, lateral lobes semi-orbicular, small. *Epidendrum philocremnum* Hágsater & Dodson has similar leaves in size and shape, but the flowers are green, sepals 12-15 x 3.0-5.4 mm, petals 12-14 x 2.3-2.5 mm, oblong, and lip clearly 3-lobed with the mid-lobe triangular. *Epidendrum geminiochraceum* Hágsater, E.Santiago & Medina Tr. has plants to 35 cm tall, leaves 5.0-8.5 x 1.2-2.0 cm, oblong, 2-4 flowers fleshy, orange to ochre-orange, sepals acuminate, longitudinally somewhat convex, dorsal sepals 22 x 6.5, petals 18.5 x 4 mm, lanceolate, lip 16-17 x 15-16 mm, clearly 3-lobed, apex acuminate. *Epidendrum geminiflorum* Kunth is generally 2-flowered (rarely 3-flowered), flowers green or greenish-yellow, sepals 14-18[21] mm long, acute and apiculate, with the margin revolute, petals 14.4-16.0[19] mm long, narrowly lanceolate, lip canalliculate down the center in natural position, the margins then spreading, especially the lateral lobes, which are smaller than the mid-lobe.

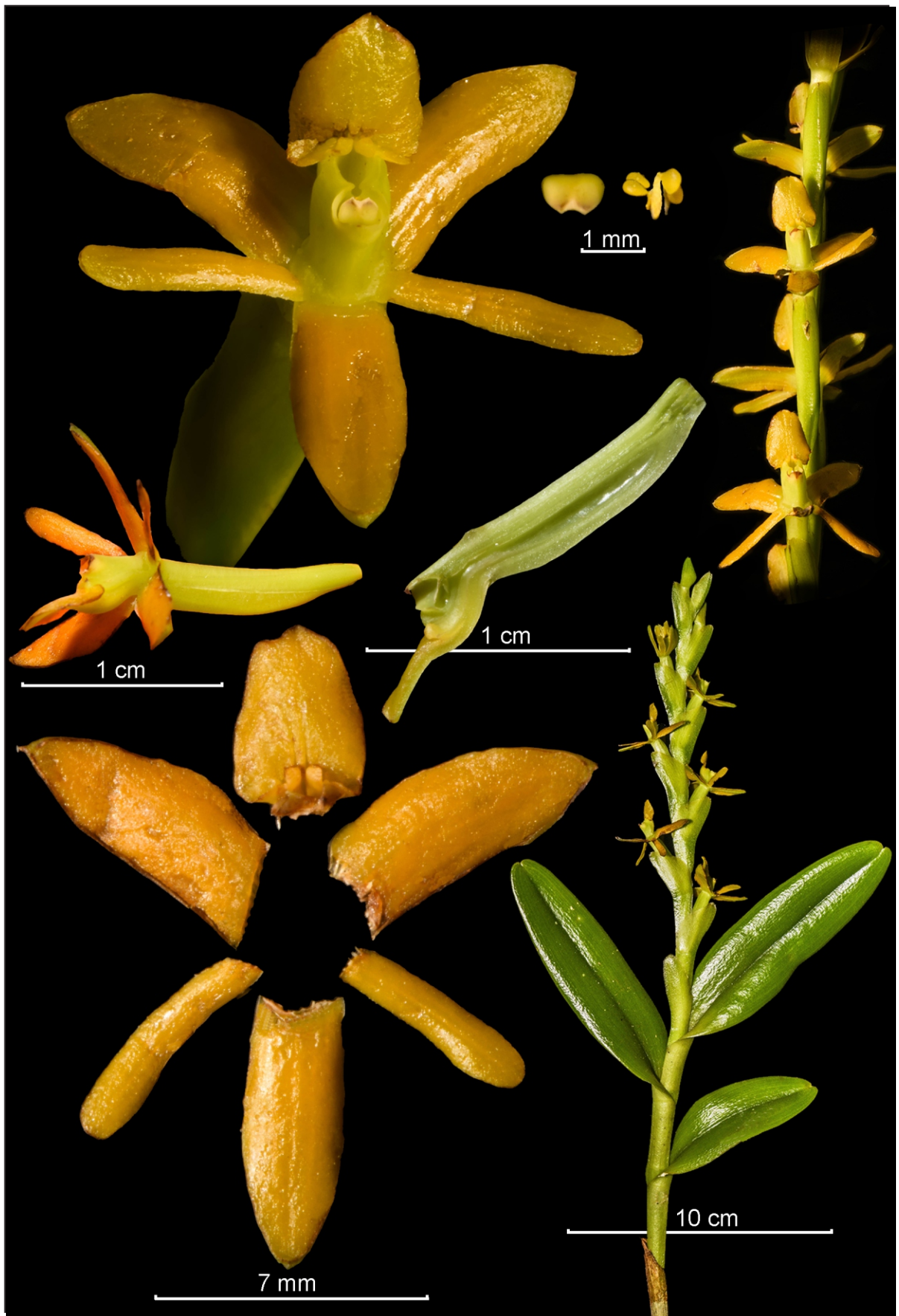
CONSERVATION STATUS: LC. Less Concern. Common in the Provinces of Azuay, Cañar and Tungurahua in central Ecuador.

ETYMOLOGY: In reference to the Province of Azuay in Ecuador, where the species has been collected and is common.

ACKNOWLEDGMENT: Collections by Hágsater made under framework contract "Diversidad Genética del Ecuador" MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. "Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales".

REFERENCES: Hágsater, E. & C.H. Dodson, 2001, *Epidendrum philocremnum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: t. 470. Hágsater, E., & E. Santiago, 2019, *Epidendrum geminiochraceum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1725. Santiago, E., & E. Hágsater, 2019, *Epidendrum cuencanum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1716. Santiago, E., & E. Hágsater, 2019, *Epidendrum geminiflorum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 17(1): t. 1724.





EPIDENDRUM BEATRICIS Hágsater & Uribe Vélez

Plate 1707

EPIDENDRUM BEATRICIS Hágsater et Uribe Vélez, sp. nov.

Type: COLOMBIA: Valle del Cauca: Municipio Dagua: Cañón del Río Dagua, 1530 m, exhibida en Exposición Nacional de Orquídeas, Popayán, 27 marzo 2018, *Olga Beatriz Escobar* sub *Eric Hágsater* 15636. Holotype: HPUJ! (LCDP voucher)

Similar to *Epidendrum cardiophorum* Schltr. but the floral segments yellow-green to ochre (vs. green), sepals 5-veined (vs. 7-veined), petals 1.2 mm wide, 3-veined (vs. 2-3 mm wide, 5-veined), lip sub-rectangular-ovoid, base truncate, apex obtuse (vs. ovate-cordate to sub-orbicular, cordate at the base, apex rounded, emarginate), column straight, clinandrium-hood straight to slightly upturned (vs. column slightly arching at the apex, clinandrium hood downward), and nectary thin, deep (vs. deep, inflated above the middle).

Epiphytic, sympodial, sub-caespitose, creeping herb, ca 18 cm tall. **Roots** 1-2 mm in diameter, thin, white, scarce from the creeping rhizome. **Stems** ca. >8 x 0.4-0.5 cm (the erect part, above the rhizome), simple, cane-like, the lower 4-6 internodes rhizomatous, ca. 2-5 cm long, terete at base, somewhat laterally compressed above, sub-erect-reclining, straight; base covered by 2 sheaths 2.8 x 0.4-0.5 cm, non-foliar, becoming scarious. **Leaves** 2-4, distributed along the apical half of the stem, alternate, articulate, sub-erect, twisted near base so the blade is nearly on the same plane as the stem, coriaceous, green, concolor; sheath 1.2-2.2 x 0.4-0.5 cm, tubular, minutely striated; blade 4.3-6.5 x 1.4-1.8 cm, narrowly oblong-elliptic, apex bilobed, margin entire, spreading. **Spathe** lacking. **Inflorescence** 6-10 cm long, apical, distichous, simple, erect, flowering only once; peduncle 2.2 cm long, erect, straight, laterally compressed, provided with a single bract 1.7 cm long, similar to the floral bracts, tubular at base, conduplicate, apex rounded. **Floral bracts** 11.0-12.5 x 5-6 mm, (not spread), amplexicaul, conduplicate, not imbricated, similar in size and shape, slightly shorter than the ovary, ovate-elliptic, when spread, dorsally carinate, apex obtuse. **Flowers** 3-8, distichous, the lip always facing the rachis, opening in successive, eventually all open at the same time, ochre turning orange with age, column green; without fragrance. **Ovary** 10 mm long, terete, thin at base, dilated along the apical ¼, shallowly furrowed. **Sepals** 6-7 x 2.8-3.0 mm, spreading, free, somewhat fleshy, unornamented, oblong-elliptic, obtuse, with a low dorsal keel and minutely apiculate; 5-veined; dorsal sepal with margin entire, spreading; lateral sepals slightly oblique, margin entire, slightly revolute. **Petals** 6 x 1.2 mm, spreading, free, linear-oblong, apex rounded, 3-veined, margin entire, spreading. **Lip** 4.5 x 3.2 mm, united to the column, entire, sub-rectangular-ovoid, base truncate, apex obtuse, margin entire, involute at base, spreading thereafter; bicallose, calli small, globose, disc with 3 very short, low ribs. **Column** 3.5 mm long, straight, thick. **Clinandrium-hood** prominent, flush with the apex of the column, margin entire. **Anther** 4-celled, reniform, apex bidentate, with a low dorsal mid-rib. **Pollinia** 4, obovoid, laterally compressed, sub-equal; caudicles soft and granulose, longer than the pollinia; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating ¼ of the ovary, thin, not inflated above the middle. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Valle del Cauca: Dagua, bei Naranjo, am Rio Dagua, Dagua, 3000 ft, 3 V 1878, *Lehmann* 53780, W 62229! Rio Dagua bei Cali, 400-1000 m, 1 V 1885, *Lehmann* 4177, G x5!

OTHER RECORDS: ECUADOR: El Oro: entre Piñas y Zaruma, 1100 m, *Tobar s.n.*, Digital image, AMO! (photo voucher).

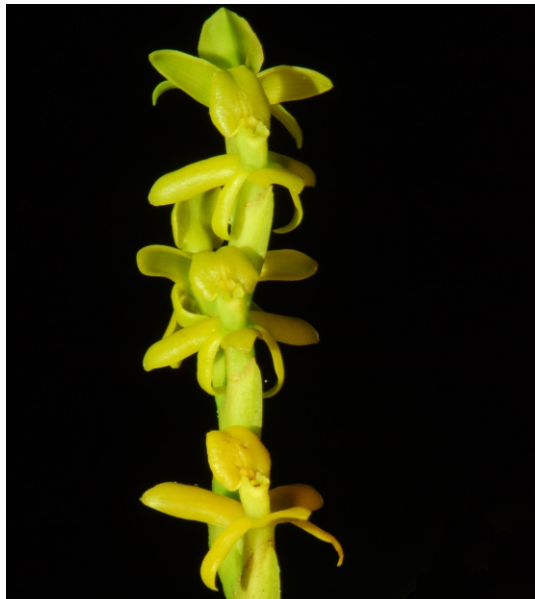
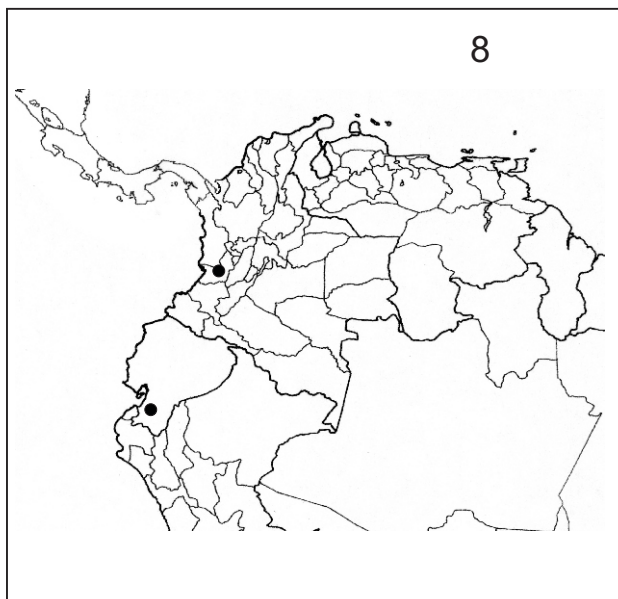
DISTRIBUTION AND ECOLOGY: Apparently widespread along the Pacific slope of the Cordillera Occidental in southern Colombia and Ecuador, at 1000-1500 m altitude. Flowering in April-May.

RECOGNITION: *Epidendrum beatrix* belongs to the Spathiger group which is recognized by sympodial plants and distichous inflorescence, and the rigidum sub-group which is characterized by the non-secund, mostly small flowers (lip <12 mm long). The species is recognized by the yellow-green to ochre flowers, the narrower petals, 1.2 mm wide, 3-veined, lip sub-rectangular-ovoid, small globose calli, the straight column with the clinandrium hood straight or slightly upwards. It is very similar to *Epidendrum cardiophorum* Schltr., the common species from Mesoamerica, and is also found in the basin of the Cauca River, and at low altitude along the Pacific coast of Colombia and Ecuador, and which always has green flowers, a straight, sub-erect inflorescence, and 7-8 mm long sepals, petals 2-3 mm wide, 5-veined, spreading, nearly reflexed, lip ovate-cordate to sub-orbicular, cordate at the base, apex rounded, short, triangular-ovate floral bracts (7-11 mm long) which do not totally cover the ovary, and entire clinandrium-hood which is slightly arching downwards. *Epidendrum rigidum* Sw. usually has an arching inflorescence, small flowers, sepals 4-7 mm long, the sepals and petals only partly spreading, the large (7-22 mm long) floral bracts covering the whole of the ovary, and the prominent, erose to deeply dentate clinandrium-hood where the rostellum is nearer to the base of the column and the anther sunken, the calli are pyramid-shaped. *Epidendrum angustisegmentum* (L.O. Williams) Hágsater from the Caribbean coast of western Panama and Costa Rica, has smaller plants (the stems 10-15 cm tall), shorter, wider leaves, and larger flowers (sepals 9-10 mm long) and ovate, 15-20 mm long bracts. *Epidendrum nitens* Rchb.f. is easily recognized by the floral bracts which are divergent from the rachis, ovate and rounded, the sepals and petals only partly spreading, and the pandurate lip.

CONSERVATION STATUS: DD. Data deficient. Apparently somewhat widespread, but difficult to distinguish from *Epidendrum cardiophorum* in herbarium material.

ETYMOLOGY: In honor of Mrs. Olga Beatriz Escobar in Cali, who cultivated the plant and exhibited it at the National Orchid Exposition in Popayán, Cauca in March, 2018, and shared the type material.

REFERENCES: Dietrich, H., 2007, *Epidendrum rigidum* in W. Greuter & R. Rankin (eds.), *Orchidaceae-I*, in *Fl. Rep. Cuba, Ser. A. Pl. Vasc.*, 12: 54-55 (only illustration). Hágsater, E., 1999, *Epidendrum angustisegmentum* in E. Hágsater & J. García Cruz (eds.), *The Genus Epidendrum*, Part 2, *Icon. Orchid.* 3: t. 308. Jiménez M., R., & E. Hágsater, 2010, *Epidendrum cardiophorum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 13: t. 1311. Jiménez M., R., & E. Hágsater, 2010, *Epidendrum nitens* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 13: t. 1361.



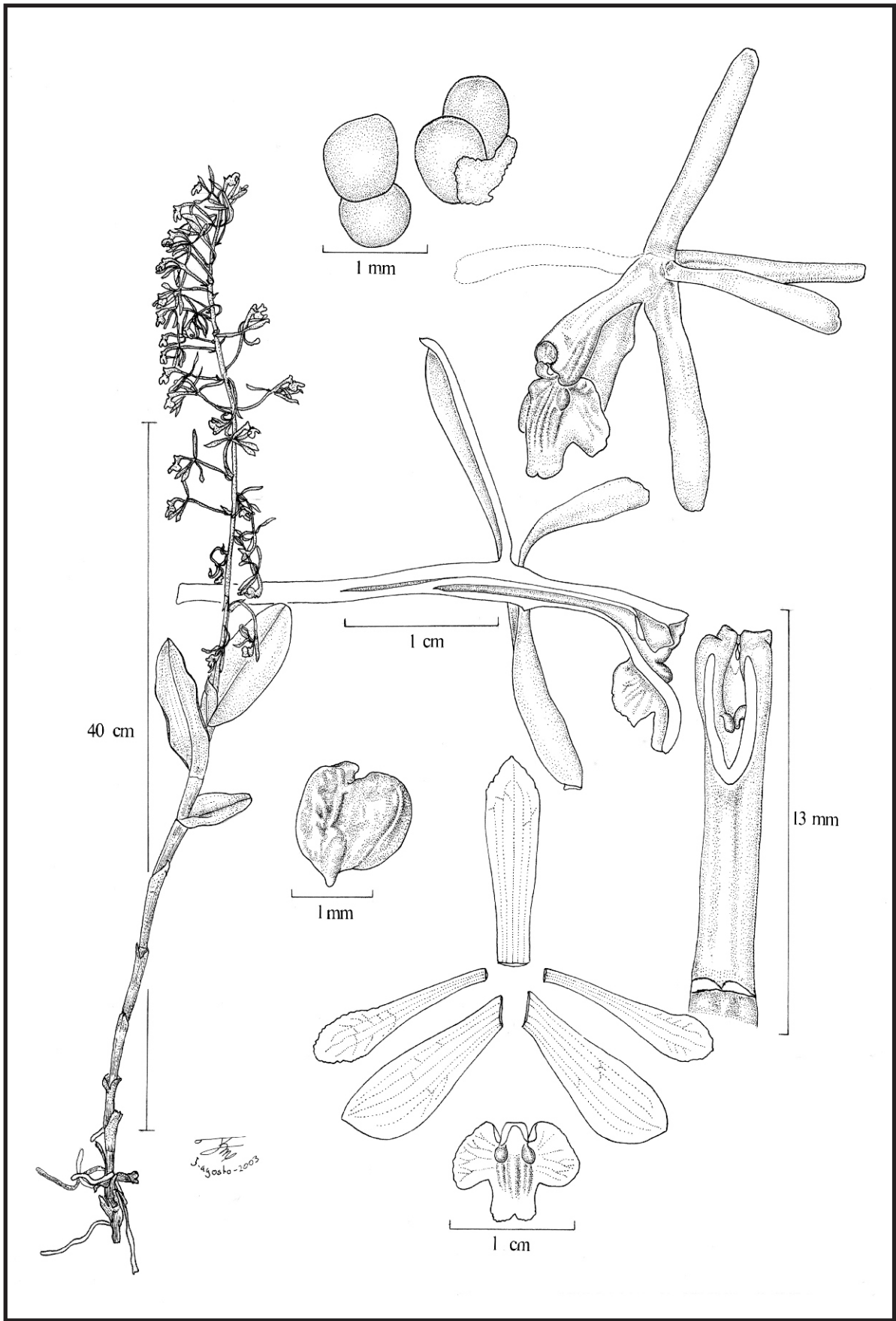
Authors: E. Hágsater & C. Uribe V. LCDP: C. Uribe V. & R. Jiménez M.

Photo: F. Tobar Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1707



EPIDENDRUM BREVICALLOSUM Hagsater & E.Santiago

Plate 1708

EPIDENDRUM BREVICALLOSUM Hágsater et E.Santiago, sp. nov.

Type: PERU: CUZCO: Prov. Urubamba: km 88 camino Cuzco a Machu Picchu, 2400 m, 31 October 2000, **Moises Quispe & Carmen R. Soto 17**. Holotype AMO! (illustration voucher).

Similar to *Epidendrum chalmersii* Hágsater & E.Santiago, but plants to 58 cm tall (vs. 20-30 cm tall), inflorescence 30 cm long (vs. inflorescence 6.0-7.5 cm long), leaves apically rounded (vs. leaves apically sub-obtuse), sepals 15-16 mm long (vs. sepals 11.5-13.0 mm long), petals sub-spathulate, apex rounded (vs. petals narrowly oblanceolate, apex obtuse), and lip with a pair of small, parallel calli, mid-lobe quadrate (vs. lip with prominent, divergent calli, mid-lobe of lip rectangular-oblong, wider at base).

Lithophytic, sympodial, caespitose **herb**, to 58 cm tall. **Roots** 1.3-1.5 mm in diameter, basal, fleshy, thin. **Stems** 28 x 0.35-0.8 cm, simple, cane-like, laterally compressed, erect, straight; basal half covered by sheaths 2.5-4.5 x 0.35-0.8 cm, non-foliar, tubular at base, infundibuliform at the apex, scarious. **Leaves** 3, erect-spreading, alternate, articulate, coriaceous, unequal in size (the basal one smaller); sheaths 2.5-3.0 cm long, tubular, minutely striated; blade 4.5-8.0 x 1.5-2.7 cm, elliptic, apex rounded, margin entire, slightly revolute. Spathe 1, 22 x 5 mm, tubular, small, somewhat ancipitose, obtuse. **Inflorescence** 30 cm long, apical, racemose, erect, sub-densely many-flowered; peduncle 6 cm long, laterally compressed, erect, straight; rachis 22 cm long, straight. **Floral bracts** 4-9 mm long, shorter than the ovary, linear-triangular, acuminate, embracing. **Flowers** 27, simultaneous, resupinate, somewhat fleshy, tepals greenish cream colored with slight purple suffusion, lip creamy white. **Ovary** 19-25 mm long, terete, thin, slightly dilated behind the perianth. **Sepals** 15-16 x 4.1-5.1 mm, free, 5-veined, margin entire, revolute; dorsal sepal slightly reflexed, oblanceolate, obtuse; lateral sepals sub-spreading, oblanceolate-spathulate, slightly oblique, obtuse. **Petals** 14.8 x 3.4 mm, spreading, free, sub-spathulate, 3-veined, apex rounded, margin entire, revolute. **Lip** 7.5 x 10 mm, united to the column, 3-lobed, somewhat convex, base cordate, margins minutely erose; bicallose, calli small, sub-globose, parallel, widely separated; disc with 3 thin ribs which disappear at the middle of the mid-lobe; lateral lobes 3.4 x 5 mm, obliquely dolabriform, corners rounded. **Column** 13 mm long, straight, basal half thin, gradually widened towards the apex. **Clinandrium-hood** prominent (without surpassing the apex of the column), margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentic-shaped; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, half as long as the stigmatic cavity. **Nectary** shallow, barely penetrating behind the perianth, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

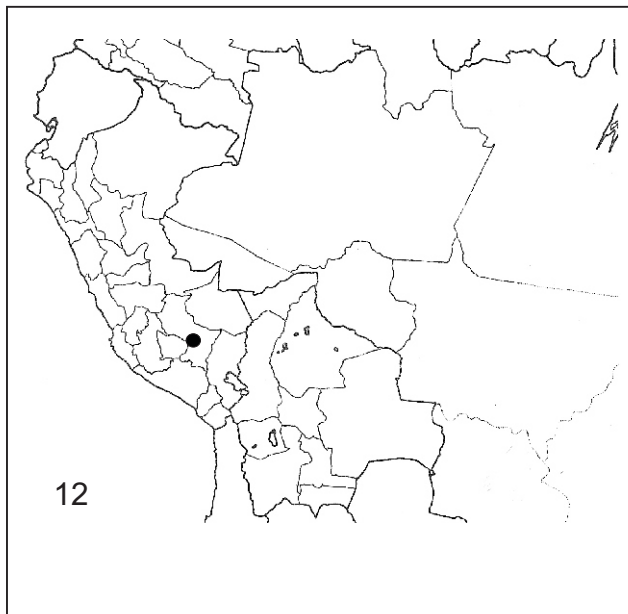
DISTRIBUTION AND ECOLOGY: Known presently from southern Peru, Cuzco, along the Urubamba river; lithophytic at 2400 m. Flowering in October.

RECOGNITION: *Epidendrum brevicallousum* belongs to the Ampliracemum Group which is characterized by the simple, cane-like, few-leaved stems with a single, tubular, tight spathaceous bract at the base of a racemose, simple, erect inflorescence; the flowers resupinate. The new species is recognized by the tall plants (58 cm high), with 3 leaves 4.5-8.0 x 1.5-2.7 cm, elliptic, apically rounded, inflorescence 30 cm long, petals 14.8 x 3.4 mm, sub-spathulate, apex rounded; lip with sub-globose, widely separated small calli, and mid-lobe quadrate with the apex truncate and emarginate. *Epidendrum chalmersii* also from Cuzco, at 3050 m altitude, has smaller plants (20-30 cm tall, inflorescence 6.0-7.5 cm long, petals 12 x 2.3 mm, narrowly lanceolate, obtuse, and lip with prominent slightly divergent calli, mid-lobe rectangular-oblong, wider at base. *Epidendrum ampliracemum* C.Schweinf. has similarly sized plants, (ca. 40 cm tall), leaves 6.7-13.3 x 3.0-4.4 cm, elliptic, apex obtuse, petals linear-oblanceolate, obtuse and oblique, lip 3-lobed, calli small, proximate, sub-globose, slightly divergent, mid-lobe of lip sub-quadrate, apex truncate and minutely apiculate. *Epidendrum aquilalatum* Hágsater & E.Santiago has plants 32 cm tall, 2 leaves 5.8-8.0 x 2.8-3.5 cm, elliptic, apically rounded, inflorescence 16.6 cm long, petals 18 x 1.7 cm, linear-oblanceolate, falcate, acute, and the lip when spread is bird-like, the lateral lobes wing-like, obliquely semi-ovate, and basal half of mid-lobe sub-quadrate forming an isthmus, apical half strongly dilated forming a pair of semi-orbicular, strongly divaricate lobes and ending in a prominent apiculus.

CONSERVATION STATUS: DD. Data deficient. At present known only from the type.

ETYMOLOGY: From the Latin *brevis*, short, and *callosum*, with callosities, in reference to the short calli that distinguishes this species from the closely related *Epidendrum ampliracemum* which has large divergent, prominent calli.

REFERENCES: Collantes, B., & C. Soto, 2007, *Epidendrum chalmersii* in **Orchids in Inkaterra Machu Picchu Pueblo Hotel**, p. 113. Hágsater, E., & R. Fernández, 2013, *Epidendrum chalmersii* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: t. 1416. Santiago, E., & E. Hágsater, 2019, *Epidendrum ampliracemum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1703. Hágsater, E., & E. Santiago, 2019, *Epidendrum aquilalatum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1705.



Authors: E. Hágsater & E. Santiago

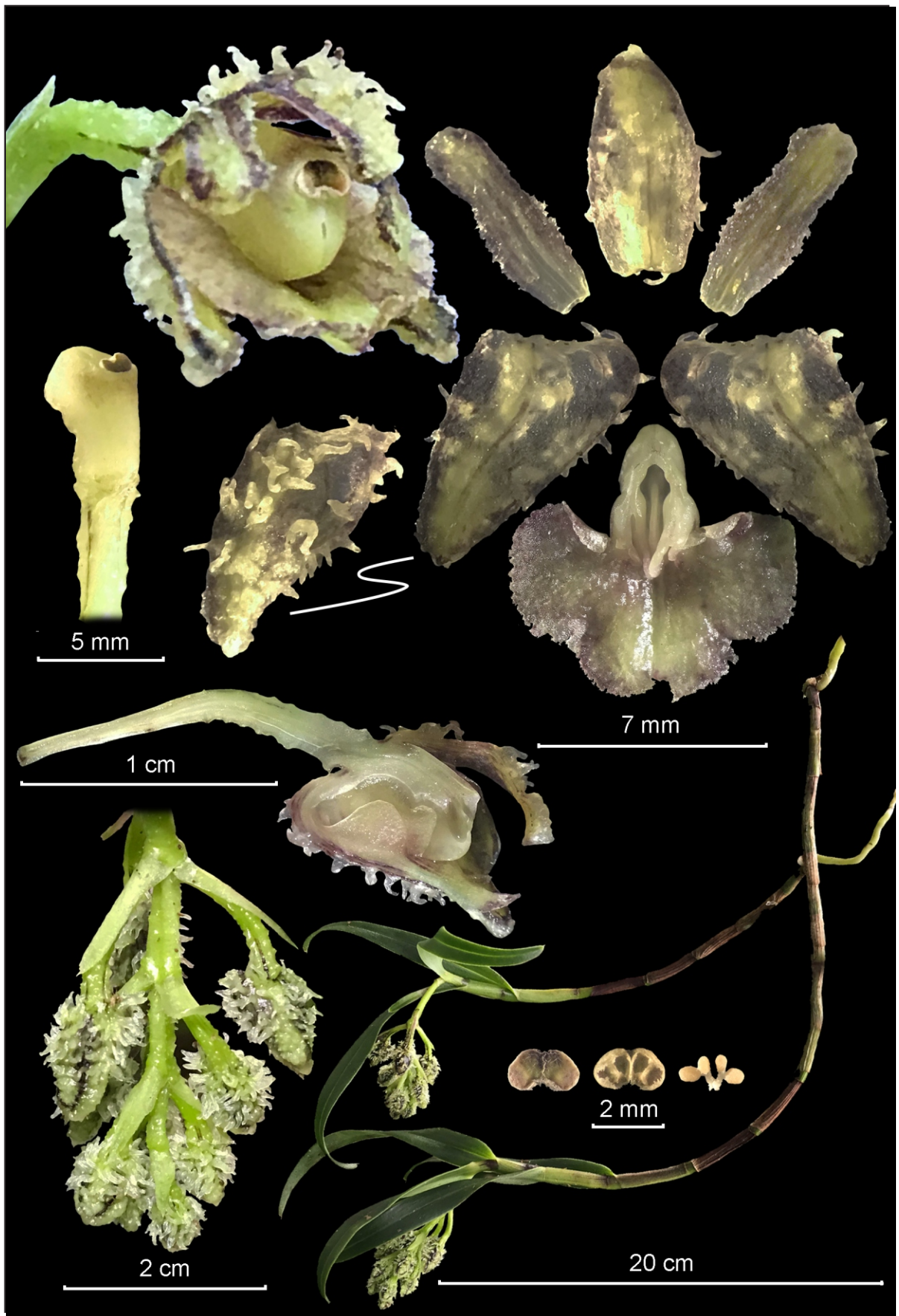
Illustrator: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1708



EPIDENDRUM CAMILAE Collantes & Hågsater

EPIDENDRUM CAMILAE Collantes et Hągsater, sp. nov.

Tipo: PERU: Cusco: Prov. Urubamba: Dist. Machu Picchu: Santuario Histórico de Machu Picchu, Quebrada Torontoy, ca. 2910 m, 29 noviembre 2018, **Julio Gustavo Ochoa Estrada, Benjamín Collantes Meza, Feliciano Incahuamán y Julián Lupinta 149**. Holotype: USM (illustration voucher, digital image AMO!). Isotype: CUZ (digital image AMO!).

Similar to *Epidendrum astetei* Hągsater, Collantes & Mormontoy, leaves similar but longer to 8 cm long (vs. leaves to 5.8 cm long), inflorescence densely many-flowered but smaller, petals oblong, sub-pandurate (vs. petals lanceolate-oblong), lip 3-lobed, united to 2/3 of the column, basally narrowly saccate, with 2 pairs of lateral ribs, laminar and transversely oblong, mid-rib laminar outline like a bell-shaped curve, free portion of lip flat, 3-lobed, ecallose, margin erose, formed by lateral lobes dolabriform, semi-orbicular, mid-lobe transversely reniform, forming two shallow, curved lobules, apex emarginate (vs. lip nearly totally united to the column, 3-lobed, basally sac-like; disc with two pairs of blade-like ribs, the inner pair well developed, sigmoid-folded, with the anterior borders visible below the apex of the column as a pair of folded calli, with a prominent hemi-cordate mid-rib hidden in between the inner sides of the inner pair; the basal pair smaller in size, sigmoid, transversely sub-rectangular, sub-retuse).

Epiphytic, pendulous, monopodial, branching **herb**, 22.30 cm long. **Roots** 2 mm in diameter, basal, from the main stem. **Stem** 10-18 x 0.4-0.5 cm, new stems generated from a middle internode of the previous stem, stems cane-like, terete, thin, straight. **Leaves** 8-13, distributed throughout the stem, only 2-6 present towards the apex of the stem at flowering, distichous, articulate, sub-coriaceous; bracts 1.3-1.8 cm long, tubular, striated; blade 0.8-8.0 x 0.2-0.6 cm, linear-lanceolate, apex sub-obtuse to sub-acute, conspicuously minutely apiculate. **Spathes** lacking. **Inflorescence** apical, racemose, short, densely many-flowered, pendulous; peduncle 25-30 x 1 mm. **Floral bract** 3-10 mm long, covering 2/3 of the ovary, the basal ones longer, shorter towards the apex, narrowly triangular, embracing, margin scarcely papillose, the papillae conical. **Flowers** 7-10, at anthesis successive from the base of the inflorescence, the apical flowers still small buds, flower 1.0 x 1.2 mm, resupinate, sepals and petals pale green, purple towards the margins with the margin pale green, lateral lobes of lip pale green, lip mid-lobe pale green, the margin suffused pale green to pale purple, column pale green, dorsally towards the apex pale purple, anther pale green, with the center dark purple, ovary pale green; fragrance a combination of vanilla and urine. **Ovary** 13 x 1.9 mm, terete, arcuate, thin at base, slightly thickened towards the apex, not inflated, ornate with small to sub-conical pustules. **Sepals** 3, partly spreading, dorsally prominently conically to sub-conically uncinata, margin entire, **dorsal sepal** 7.1 x 3.4 mm, oblong-elliptic, obtuse, 3-veined; **lateral sepals** 9.0 x 5.4 mm, oblique, transversely hemi-cordate, 4-5 veined, wider at the base than the dorsal sepal, the apical upper margin minutely papillate. **Petals** 6.8 x 2.6 mm, spreading, oblong, sub-pandurate, apex rounded, 3-veined, margin minutely erose-digitate. **Lip** 5.9 x 8.9 mm (free portion), 2/3 united to the column, basally narrowly saccate with the column, with a pair of prominent laminar winged ribs attached to the sides, the outer rib small, the inner wing of each pair prominent, transversely oblong, sub-quadrate, and with a prominent laminar mid-rib at the bottom of the sac, 3.4 x 1.7 mm, outline like a bell-shaped curve; free portion of lip flat, 3-lobed, ecallose, many-veined with anastomosis, margin erose, formed by lateral lobes 4.0 x 2.8 mm, dolabriform, hemi-elliptic, margin irregular, the posterior margin involute; mid-lobe 2.3 x 5.1 mm, transversely reniform, forming two shallow, curved lobules, apex emarginate. **Column** 5.0 x 2.2 mm, dorsally straight, with a pair of apical, laterally widely rounded lobes, sub-oblique, the apical margin touching each other leaving a very small aperture beneath the anther and rostellum. **Clinandrium-hood** short, margin entire. **Anther** transversely reniform, 4-celled. **Pollinia** 4, sub-equal, the inner pair widely obovoid, the outer pair obovoid. **Nectary** widely rounded, saccate at the base of the lip without penetrating the ovary, with the prominent mid-rib of the lip facing the column. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known only from a single collection from southern Peru, on the upper slopes of the Cordillera of the Andes in the province of Urubamba, in the Santuario Histórico de Machu Picchu; epiphytic on *Polylepis pauta* Hieron, at around 2910 m altitude. Flowering in cultivation in December, in nature probably in December-January.

RECOGNITION: *Epidendrum camilae* belongs to the Diotonea Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose ribs, the column completely to obliquely united to the lip. The new species has leaves to 8 cm long, sepals dorsally prominently conically to sub-conically uncinata, lip 3-lobed, base narrowly saccate with the column, within the column with a pair of prominent laminar winged ribs attached to the sides, and with a prominent laminar mid-rib at the bottom of the sac, outline like a bell-shaped curve, all this hidden by the column; free portion of lip flat, 3-lobed, ecallose, margin erose, formed by lateral lobes dolabriform, semi-orbicular, mid-lobe transversely reniform, forming two shallow, curved lobules, apex emarginate. *Epidendrum astetei* Hągsater, Collantes & Mormontoy is very similar but has shorter leaves, to 5.8 cm long, also has prominently uncinata sepals, lip nearly totally united to the column, 3-lobed, basally sac-like; disc with two pairs of blade-like ribs, the inner pair well developed, sigmoid-folded, with the anterior borders visible below the apex of the column as a pair of folded calli, with a prominent hemi-cordate mid-rib hidden in between the inner sides of the inner pair; the basal pair smaller in size, sigmoid, transversely sub-rectangular, sub-retuse. *Epidendrum trachypentatropis* Hągsater & E. Santiago has small reddish flowers, dorsally muricate sepals 5.5-5.7 mm long, and the sack-like lip nearly totally united to the column, with 5 prominent, unequal, flat, laminar keels hidden below the column. *Epidendrum trachysepalum* Hągsater has up to 9-11, pale pink to yellowish brown flowers with wine-red veins, the sepals are strongly muricate, the lip totally free from the column and is adorned with 3 thin, ribs at the base of the lip, the lateral pair is "U" shaped, and the mid-rib only appears on the disc, so on the disc it appears to be 5-ribbed.

CONSERVATION STATUS: DD. Data deficient. Presently known from a single collection.

ETYMOLOGY: In honor of Camila Meza Yllpa (1930-), born in the district of Yauri, Espinar, Cuzco, mother of the first author, for her support in a lifetime dedicated to nature and its biodiversity.

ACKNOWLEDGMENTS: We thank José Koechlin, President of the Board of Directors of Inkaterre, José Bastante, Director of the Parque Arqueológico de Machu Picchu, and Biol. Julio Gustavo Ochoa, as well as the park guards Feliciano Incahuamán and Julián Lupinta, who made this discovery possible.

REFERENCE: Hągsater, E., B. Collantes & R. Mormontoy, 2013, *Epidendrum astetei*, in E. Hągsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 10, **Icon. Orchid.** 14: t. 1409. Hągsater, E., E. Santiago, 2010, *Epidendrum trachypentatropis*, in E. Hągsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 9, **Icon. Orchid.** 13: t. 1394. Hągsater, E., 2010, *Epidendrum trachysepalum*, in E. Hągsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 9, **Icon. Orchid.** 13: t. 1395.



Authors: B. Collantes & E. Hągsater

LCDP: B. Collantes & A. Cisneros

Photo: B. Collantes

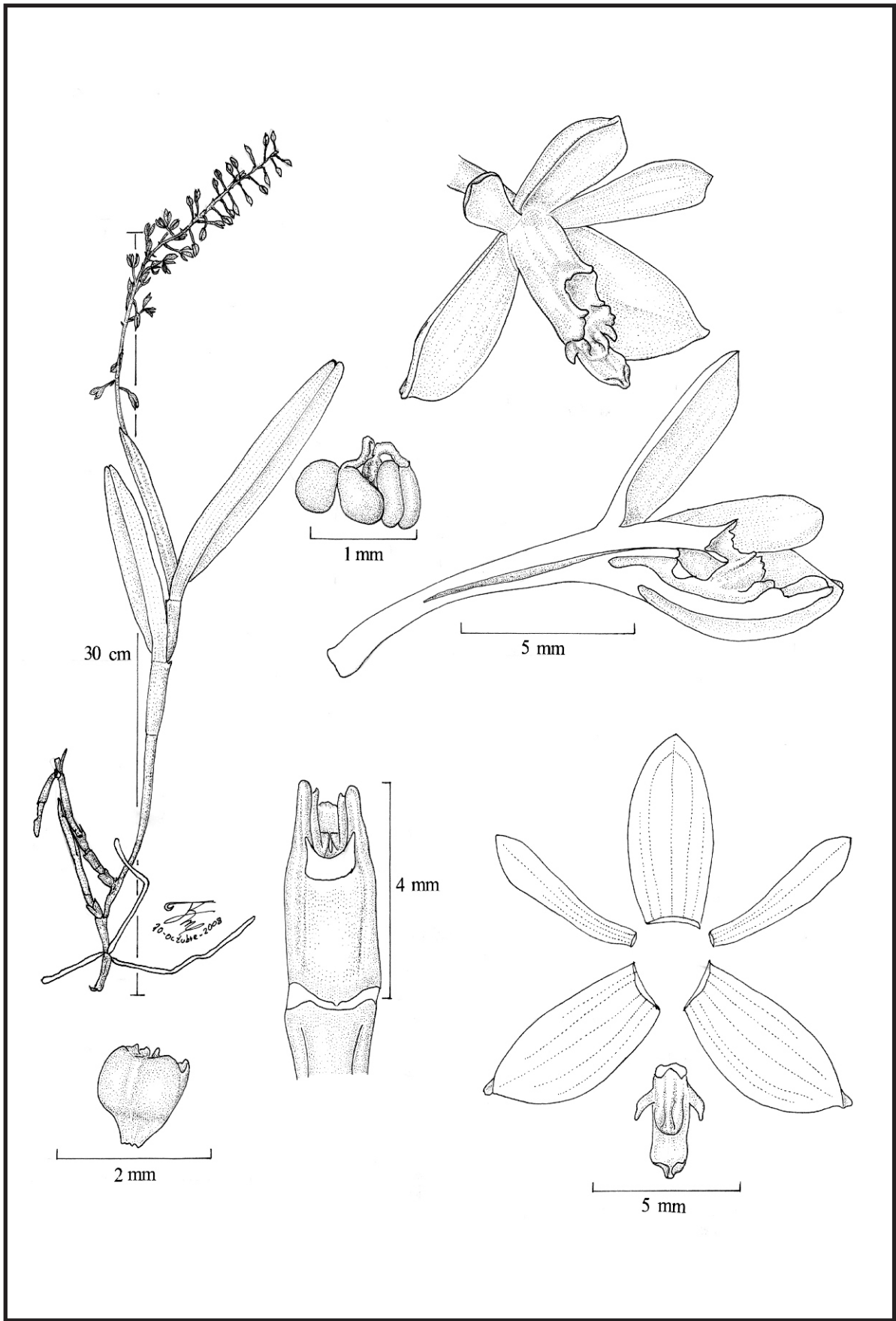
Editors: E. Hągsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1709



EPIDENDRUM CARANQUII Hágsater & Salas-Guerr.

EPIDENDRUM CARANQUII Hágsater et Salas Guerr., sp. nov.

Type: ECUADOR: Morona Santiago: El Pangui: Tundayme: Cordillera del Cóndor, cerca del destacamento militar Cóndor Mirador, en la Frontera Ecuador-Perú, 1800 m, 15 XII 2000, **Galo Pavón & Jorge Caranqui 339**. Holotype: QCNE! (illustration voucher).
Isotype: MO!

Similar to *Epidendrum ancistrum* Hágsater & Dodson but leaves are narrower, 1.4-1.7 cm wide (vs. leaves 2.5-3.5 cm wide), flowers brown and yellow, column white (vs. green mottled with red-brown), sepals lanceolate-elliptic (vs. sepals ovate-elliptic), lip 3.5 x 1.2 mm, long and narrow (vs. 3.1-3.5 x 2.6-3.0 mm, nearly as wide as it is long).

Epiphytic, sympodial, creeping **herb**, 30-34 cm tall, including the inflorescence. **Roots** 1-2 mm in diameter, from the base of the basal stem, simple, thin. **Stems** 5.7-12.5 x 0.5-0.6 cm, erect, cane-like, thin, straight, terete at the base, laterally compress towards the apex, produced for the lower internodes of the previous stem, covered with non-foliar sheaths at the base. **Leaves** 1-4 per stem, distributed along the apical 1/2 of the stem, erect, straight, base conduplicate; foliar sheaths 2.8 x 0.8 cm, striated, rugose; blade 7.8-11.6 x 1.4-1.7 cm, unequal, coriaceous, oblong-lanceolate, bilobate at the apex. **Spathes** 7.1 x 1.4 cm, lanceolate, acute, ancipitose, covering almost all the peduncle. **Inflorescence** 17.8 cm long, apical, racemose, elongate, slightly laterally compressed, not ancipitose, lax-flowered; peduncle 8.5 cm long, rachis 11.4 cm, arching. **Floral bracts** ca 0.1 cm long, much shorter than the ovary, triangular, acute, the apical ones shorter, embracing. **Flowers** 16-38, opening in succession, eventually all open at once, non-resupinate; buds and flowers brown, sepals brown, yellow towards the base and apex, petals yellow, lip yellow with brown overlay, column white, with wine-red dots at the apex, anther pale yellow; no fragrance registered. **Ovary** 8 mm long, not inflated, smooth, terete. **Sepals** 6.0-6.4 x 2.8-3.0 mm, free, spreading, fleshy, 5-veined, lanceolate-elliptic, acute, margins entire; lateral sepals with an apical dorsal keel. **Petals** 5.7 x 1.1 mm, free, spreading, oblanceolate, acute, fleshy, 3-veined, margin entire. **Lip** 3.5 x 1.2 mm, united to the column, 3-lobed, oblong in general form, longer than wide; lateral lobes 1.1 x 0.4 mm, reduced, sub-triangular, falcate, hook-like, apex acute, margin entire; mid-lobe 2.4 x 1.2 mm, oblong to rectangular, apical margin involute in natural position, base cuneate; bicallose, 2 parallel calli, elongate laminar, high, with a drop-shaped hump in between and protruding beyond the calli. **Column** 4 mm long, short, thick, with a pair of lateral fleshy, redounded wings, margin undulate. **Clinandrium-hood** short, margin undulate. **Anther** cordiform, 4-celled. **Pollinia** 4, obovate, slightly laterally compressed; caudicles short, soft and granulose, viscidium semi-liquid. **Rostrum** sub-apical, slit. **Lateral lobes of the stigma** 1/3 de length of the stigmatic cavity, prominent. **Nectary** very short and narrow, without penetrating the pedicel. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: PERU: Amazonas: Prov. Chachapoyas: Dist. Leimebamba: Cordillera de Yasgolga, 2879 m, Marcos Salas 120, received 27 I 2017, LCDP, AMO! (Photo voucher)

DISTRIBUTION AND ECOLOGY: Known from Ecuador, on the Cordillera del Cóndor, as well as neighboring Peru south in the Department of Amazonas in the Cordillera de Yasgolga. Epiphytic on old trees on sandstone of Andean Tepui, at 1800-2900 m altitude, flowering in December and January.

RECOGNITION: *Epidendrum caranquii* belongs to the Mancum Group which is characterized by the sympodial growth, narrow spatheaceous bract with parallel sides, erect raceme with non-resupinate flowers and a generally reduced, fleshy lips. The new species is recognized by 1-4 lanceolate-oblong leaves 7.8-11.6 x 1.4-1.7 cm, the sepals brown, yellow towards the base and apex, petals yellow, lip yellow with brown overlay, column white, with wine-red dots at the apex, with lanceolate-elliptic sepals and lanceolate petals, 3-lobed lip, three times longer than wide, 3.5 x 1.2 mm, with an oblong mid-lobe and reduced lateral lobes, bicallose lip, the calli elongate, laminar, high, with a drop-shaped hump in between. *Epidendrum ancistrum* with wide, ovate-elliptic leaves, 5-11 x 2.5-3.5 cm, with sepals and petals green, marked and mottled with red-brown, lip and column cream-colored with red dots, the lip bicallose, with lateral lobes falcate, the mid-lobe trapezoid to sub-quadrate and with a reduced clinandrium. *Epidendrum condorensis* Hágsater & L. Sánchez has 2 proportionately wider leaves, 5.0-8.0 x 1.0-2.0 cm, lip as wide as it is long, 3.3-3.4 x 3.0-3.1 mm, sepals are brown, petals and lip green. *Epidendrum mancum* Lindl. has 2-3 ovate-elliptic leaves 2-6 x 1.3-2.7 cm, and the entire lip 4.8-5.0 x 2.4-3.5 mm, without any lateral lobes.

CONSERVATION STATUS: DD. Data deficient. The species appears to be rather widespread along the Andean tepuis east of the Cordillera Oriental of the Andes, which had been relatively untouched, but are now under pressure from large mining activity, the locality near Tundayme has been totally razed.

ETYMOLOGY: in honor of Jorge Marcelo Caranqui Aldaz (1972-), director of the CHEP herbarium of the Escuela Superior Politécnica de Chimborazo, Riobamba, Ecuador, who collected the type. He specializes in inventories of wet tropical and montane forests.

REFERENCES: Hágsater, E., & C.H. Dodson ex L. Sánchez S., 2004, *Epidendrum condorensis*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, **Icon. Orchid.** 7: t. 728. Hágsater, E., & C.H. Dodson, 2009, *Epidendrum ancistrum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: t. 1204. Sánchez S., L., & E. Hágsater, 2009, *Epidendrum mancum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: t. 1262.



Authors: E. Hágsater & M. Salas G.

Illustrator: R. Jiménez M.

Photo: M. Salas G.

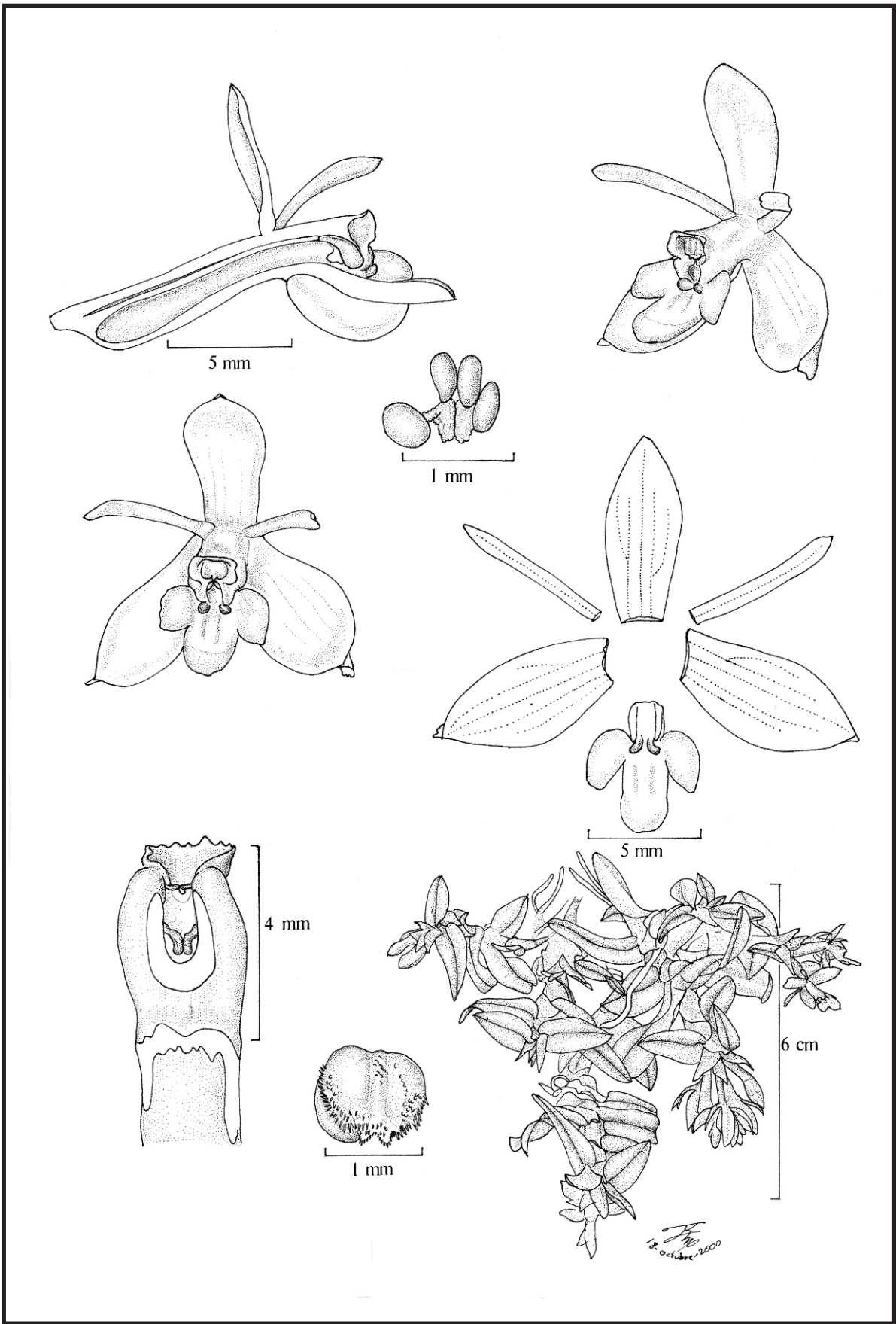
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1710



EPIDENDRUM CHLORONANUM Hágsater & Cisneros

Plate 1711

EPIDENDRUM CHLORONANUM Hágsater et Cisneros, sp. nov.

Type: ECUADOR: Azuay: Cuenca: Parroquia San Joaquín: Soldados, Parque Nacional El Cajas, 2000 m, col. 8 septiembre 1999, pressed 18 octubre 2000, *José Portilla sub Eric Hágsater 12278*. Holotype: AMO 23545! (illustration and photo voucher). A-3397 (spirit)!

Similar to *Epidendrum leuconanum* Hágsater & L.Valenz. but inflorescence up to 4 flowered, sessile (vs. up to 10 flowered, short raceme sessile), flowers larger, greenish brown, lip and column light green, anther purple (vs. pale greenish white) sepals 8.0 mm long and petals 7.0 mm long (vs. sepals 5.5 mm long and petals 3.0 mm long), mid-lobe of lip rectangular, 3.0 mm long (vs. narrowly triangular, revolute at the apex, 2.0 mm long) and lateral-lobes of lip about 3/4 the length of mid-lobe (vs. about 1/3 the length of the mid-lobe).

Epiphytic, sympodial, sub-caespitose **herb**, ca. 4.4-10 cm long including the inflorescence, pendent, branched, new stems produced from the base of the previous stem in older plants. **Roots** 0.9 mm in diameter, basal, simple. **Stems** ca. 4.4-9.2 x 0.6-0.7 cm, new stems horizontal to pendulous, produced from the base of the previous stem in older plants, laterally compressed, ancipitose, thicker towards the apex, completely covered by evanescent, imbricating, foliaceous sheaths. **Leaves** 6-11, articulate, unequal, progressively larger towards the apex, evenly distributed throughout the stems, succulent; sheaths 3.0-7.0 x 4.0 mm, tubular, strongly laterally compressed, ancipitose; blade 1.2-2.1 x 0.4-0.6 cm, ovate-lanceolate, acute, twisted so as to be on the same plane as the stem, spreading. **Inflorescence** 1.7-2.0 cm long, apical, sessile, 2-4-flowered; peduncle reduced. **Flowers** 2-4, simultaneous, resupinate, greenish brown, lip and column light green, anther purple; fragrance none registered. **Floral bracts** 6.0-7.0 mm long, decreasing, ovate-triangular, acute. **Ovary** 9.0 mm long, thin, inflated throughout from near base, forming an elongate ventral vesicle, terete, glabrous. **Sepals** 8.0-9.0 x 3.0-4.0 mm, spreading, acute, margin entire, spreading; dorsal sepal ovate-lanceolate, 3-veined; lateral sepals elliptic, 4-veined with a dorsal keel, laterally compressed, margin erose, aristate. **Petals** 7.0 x 0.8 mm, linear-lanceolate, acute, 1-veined, partly spreading, margin entire, spreading. **Lip** 4.0 x 5.0 mm, united to the column, 3-lobed, base cordate, fleshy, margin entire; bicallose, the calli basal, small, semi-globose, elongate, somewhat divaricate; lateral lobes 2.7 x 2.0 mm, obliquely semi-ovate, about 3/4 the length of the triangular, obtuse; mid-lobe 3.0 x 2.0 mm, rectangular, apex rounded to acute, margin entire, spreading disc glabrous. **Column** 4.4 mm, nearly straight. **Clinandrium-hood** prominent, funnel shaped, surpassing the body, covering the anther completely, margin entire, dentate. **Anther** semi-orbicular, spiculate, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles granulate, slightly longer than the pollinia; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** long, over half as long as the stigmatic cavity. **Nectary** very deep, penetrating the whole pedicel, wide throughout, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known only from the type, from southern Ecuador from the Parque Nacional El Cajas, 2000 m, in the Azuay. Epiphytic, flowering in October.

RECOGNITION: *Epidendrum chloronanum* belongs to the Nanum Group, which is characterized by the *Dichaea*-like horizontal or pendulous stems, the inflorescence produced by pairs of opposite flowers without spatheaceous bracts, but with prominent floral bracts. The new species is recognized by the flowers greenish brown, lip and column light green, anther purple larger floral segments (ca. 7.0-9.0 mm long), ovary inflated ventrally from the base, lip 3-lobed with a rectangular, acute mid-lobe, and the lateral lobes of the lip semi-ovate, about 3/4 of the length of the mid-lobe. *Epidendrum leuconanum* has apical and axillary, short, racemose, sessile inflorescences, a short peduncle (1.5 cm long) all covered with bracts, a rachis about 2.8 cm long, pale greenish white flowers, a straight column with a prominent, 3-lobed, dentate clinandrium-hood. *Epidendrum tingo-mariae* Hágsater has a short racemose inflorescence (15 mm long), ovary not inflated, a short nectary that does not penetrate behind the perianth, short sepals and petals (4.5 mm long and 3.5 mm long, respectively), and lip 3-lobed with a sub-triangular mid-lobe and lateral lobes about 1/3 of the length of the mid-lobe. *Epidendrum vesicinatum* Hágsater & L.Valenz. is easily distinguished by smaller lateral lobes of the lip, a lanceolate mid-lobe, an inflated pedicellate ovary just behind the perianth forming a rounded vesicle. *Epidendrum integrinum* Hágsater, from the Cordillera del Cóndor in Ecuador, has large, caespitose plants (about ca. 6-30 cm long), widely lanceolate leaves, with cream-greenish tone flowers and a small sub-entire lip, 4.0 x 2.5 mm, mid-lobe triangular (longer than wide) lateral lobes much reduced, hemi-orbicular and rounded. *Epidendrum bonitense* Hágsater & Dodson has long plants (10-30 cm), stems horizontal to pendulous, flowers glaucous green with a faint purple tinge, ovary 12 mm long, long sepals and petals (12 mm and 10 mm, respectively), a 3-lobed lip (5 mm long), mid-lobe sub-rectangular, and 2 prominent, globose calli.

CONSERVATION STATUS: DD. Data deficient. Known only from type.

ETYMOLOGY: From the Greek *χλωρος*, green, and *ναυος* dwarf, in reference to the green flowers of this species of the *Epidendrum nanum* group.

REFERENCES: Hágsater, E., 1999, *Epidendrum tingo-mariae*, E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 2, *Icon. Orchid.* 3: t. 388. Hágsater, E., 2019, *Epidendrum integrinum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1), t. 1729. Hágsater, E., & C.H. Dodson, 1993, *Epidendrum bonitense* in E. Hágsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part 1, *Icon. Orchid.* 2: t. 113. Hágsater, E., & L. Valenzuela, 2019, *Epidendrum leuconanum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1), t. 1732. Hágsater, E., & L. Valenzuela, 2019, *Epidendrum vesicinatum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1), t. 1755.



Authors: E. Hágsater & A. Cisneros

Illustrator: R. Jiménez M.

Photo: R. Jiménez M.

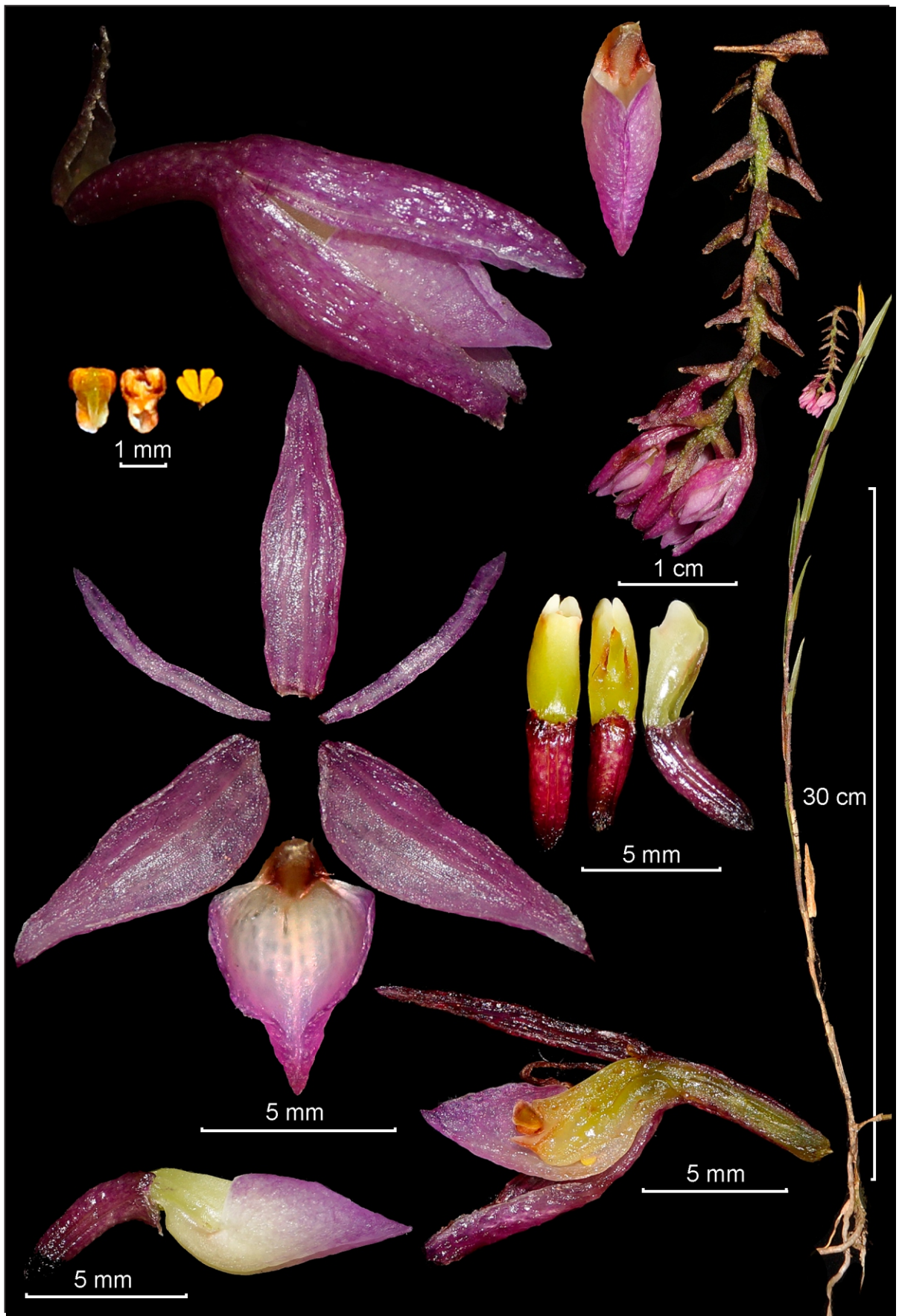
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1711



EPIDENDRUMCHOCCEI M.E.Acuña, Hágsater & E.Santiago

Plate 1712

EPIDENDRUM CHOCCEI M.E.Acuña, Hágsater & E.Santiago, Phytotaxa 394(1): 98-104. 2019.

Type: PERU: San Martín: Prov. Rioja, Distrito: Pardo Miguel Naranjos: Bosque de Protección Alto Mayo, Tepuí andino de arenisca sedimentaria en parches arbustivos, 3343 m, 6 de junio 2017, **Margoth Elizabeth Acuña Tarazona, José Dilmer Edquen Oblitas & R. Espinal 2129**. Holotype: USM! Isotype: AMO! (LCDP & Photo voucher)*.

Terrestrial, sympodial, sub-caespitose, decumbent, flexuous **herb**, 45 cm tall. **Roots** 1 mm in diameter, fleshy, thin, basal, scarce. **Stems** 35-41 × 0.15-0.20 cm, cane-like, terete, scarcely branching above, branches 22-30 × 0.15-0.20 cm, the first 3-4 internodes covered by leafless sheaths 5-20 × 1.5-2.0 mm. **Leaves** 17-19 on primary stem, distributed throughout, erect, parallel to the stem, at flowering the upper half present; 13-15 leaves on the branches; sheath 20-21 × 0.15-0.20 mm, tubular, rugose; blade 27-40 × 3-6 mm, narrowly lanceolate, acute, coriaceous, margin finely crenulate, spreading when fresh, margin strongly revolute when dry. **Spathes** lacking. **Inflorescence** 6-10 cm, apical, racemose to paniculate, arching-nutant, can produce new racemes even when the previous raceme is still in flower; peduncle 11 × 2 mm, short, thin but not thread-like, with a large flat bract near the middle, 11 × 2 mm. **Floral bracts** 5-8 × 3 mm, progressively shorter, triangular, acuminate, shorter than the ovary, embracing. **Ovary** 4-5 mm long, thick, forming a wide 45-90° arch with the column, not inflated, minutely pustulate. **Flowers** 19 per raceme, successive developing together with the rachis, 2-4 open at once, deep pink (fuchsia), the lip always turned towards the rachis, fleshy, disc of the lip white, column white at apex, green towards the base; without fragrance. **Sepals** partly open, 3-veined, dorsal surface slightly pustulate, the margin therefore slightly undulate; **dorsal sepal** 8.3 × 2 mm, narrowly lanceolate-elliptic, acuminate; **lateral sepals** 8.3 × 2.3 mm, semiovalate-lanceolate, oblique, with the upper margin nearly straight, dorsally carinate towards the apex, the keel minutely serrate towards the apex. **Petals** 6-7 × 0.7 mm, partly spreading, slightly curved, linear-oblong, acute, 1-veined, dorsal surface slightly pustulate, margin slightly undulate. **Lip** 5.5 × 6.0 mm, united to the column, entire, widely ovate-acuminate, the sides rounded, base truncate, apex acuminate, it can be spread without tearing, longitudinally in-rolled in natural position, embracing the apex of the column covering it; ecallose, without keels, glabrous. **Column** 4 mm long, straight, thick, with a rounded wing at each side at the apex. **Clinandrium** reduced, entire. **Anther** ovoid, fleshy, 4-celled. **Pollinia** 4, obovate, laterally compressed, the inner side of each pair flat, sub-equal; caudicles granulose, as long as the pollinia; viscidium semi-liquid. **Nectary** without penetrating behind the perianth. **Rostrum** apical, slit. **Capsule** ellipsoid, perianth persistent; pedicel 2 mm long, body 12 × 8 mm, apical neck 2 mm.

OTHER SPECIMENS: PERU: Cusco: Marcapata, Community of Union Arasa, Cullebrayoc Trail, 3742-3776 m, 24 IV 2011, *Wells 906*, HOXA! **Junín:** comunidad campesina Marancocha. Zona de amortiguamiento del Bosque de Protección Pui Pui, 3280 m, 24 X 2014, *Valenzuela 28763*, HOXA! **MO: Pasco:** Prov. Oxapampa, Distr. Huancabamba, Parque Nacional Yanachaga Chemillén, sector Abra Yanachaga, 3100 m, 21 IV 2011, *Briceño 1315*, HOXA! **USM** Ibid. cordillera Yanachaga, 3360 m, 26 IV 2007, *Monteagudo 13883*, HOXA! Lanturachi, sector Santa Barbara, 3383 m, 10 X 2003, *Perea 652*, HOXA! Sector de Grapanazú, Parque Nacional Yanachaga Chemillén, La Colmena, Trocha Erica, 3517 m, 28 V 2012, *Valenzuela 21326*, HOXA! **San Martín:** Prov.: Rioja. Distrito: Pardo Miguel Naranjos; Bosque de Protección Alto Mayo: Andean tepui with sedimentary rock and shrub patches, 3297 m, 1 VII 2016, *Acuña 1402*, MOL! Andean tepui with sedimentary rock and shrub patches, 3214 m, 9 IV 2016, *Acuña 1491*, USM!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently is known from of the north-eastern Peru, as well as Oxapampa in central Peru, where it grows both in elfin forest and Andean tepui vegetation (Neill *et al.* 2014) from 2850 to 3776 m elevation. Several fertile and sterile individuals were observed in shrub patches growing as terrestrial and occasionally as epiphytes. Flowering throughout the year.

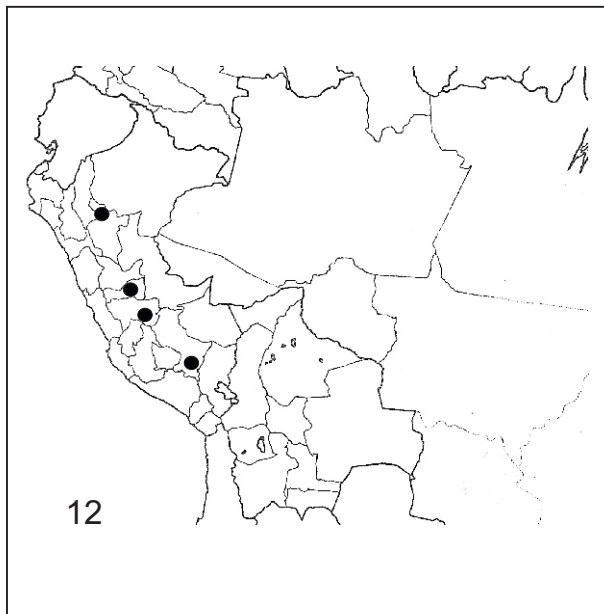
RECOGNITION: *Epidendrum choccei* belongs to the Frutex Group recognized by the caespitose habit, usually simple stems, lanceolate leaves, lacking spathes, nutant racemes, widely cordiform to reniform lip and Leptanthum Subgroup which is characterized by the thin stems, scarcely branched when mature, leaves short, linear-lanceolate to lanceolate oblong, nearly parallel to the stem, inflorescence arching-nutant, apical and lateral in mature stems, racemose to paniculate, few-flowered. The species is recognized by the narrowly lanceolate leaves flat, 27-40 × 3-6 mm, parallel to the stem, flowers fuchsia-rose colored, disc of the lip white, sepals 8.3 × 2.0-2.3 mm, narrowly elliptic to semiovalate-lanceolate, acuminate, lip 5.5 × 6.0 mm, widely ovate the base truncate, apex acuminate. *Epidendrum podocarpense* Hágsater & E.Santiago is vegetatively similar, but the leaves larger, flat, 35-55 × 6-8 mm, flowers fuchsia, with the disc of the lip white, sepals 8.0-8.3 × 3.0-4.0 mm, elliptic to narrowly elliptic, acute, lip 6 × 9 mm, widely cordiform, base cordate, apex rounded. *Epidendrum leptanthum* Hágsater is vegetatively similar, leaves are 26-80 × 4-7 mm, flowers greenish white, dorsally tinged reddish brown, sepals are oblong to ovate-oblong, acute, lip 6 × 7 mm, widely cordiform, base cordate and apex acute. *Epidendrum effusipetalum* Hágsater, Edquén & E.Santiago has leaves 32-45 × 6-8 mm, flowers greenish yellow, sepals tinged brown, sepals 8.5-10.5 × 4.8-5.0 mm, triangular-lanceolate to triangular ovate, obtuse to acute, lip 6.5 × 7 mm, ovate cordiform, apex rounded.

CONSERVATION STATUS: DD. Data deficient.

***NOTES:** In the original publication in Phytotaxa, under the plate, Figure 1, is cited as prepared from the "Holotype; *Acuña 1448*", evidently a mistake, as the holotype is *Acuña 2129*. This paper cites additional specimens which had not been seen at time of the original publication and widens the range of distribution. The description, however, has not been modified to include other specimens.

ETYMOLOGY: The name honors botanist Miguel Chocce Peña (1977-2017), for his contributions to the knowledge of the orchid flora of Peru. He described 12 new orchid species and co-authored several papers with the authors. Miguel, also participated in the creation of five private conservation areas in Amazonas, all with a high diversity of orchids.

REFERENCES: Hágsater, E., J. D. Edquén & E. Santiago, 2018, *Epidendrum effusipetalum* in The Genus *Epidendrum*, Part 12, Icon. Orchid. 16(2): pl. 1673. Hágsater, E., 2018, *Epidendrum leptanthum* in The Genus *Epidendrum*, Part 12, Icon. Orchid. 16(2): pl. 1677. Hágsater, E. & E. Santiago, 2018, *Epidendrum podocarpense* in The Genus *Epidendrum*, Part 12, Icon. Orchid. 16(2): pl. 1696.

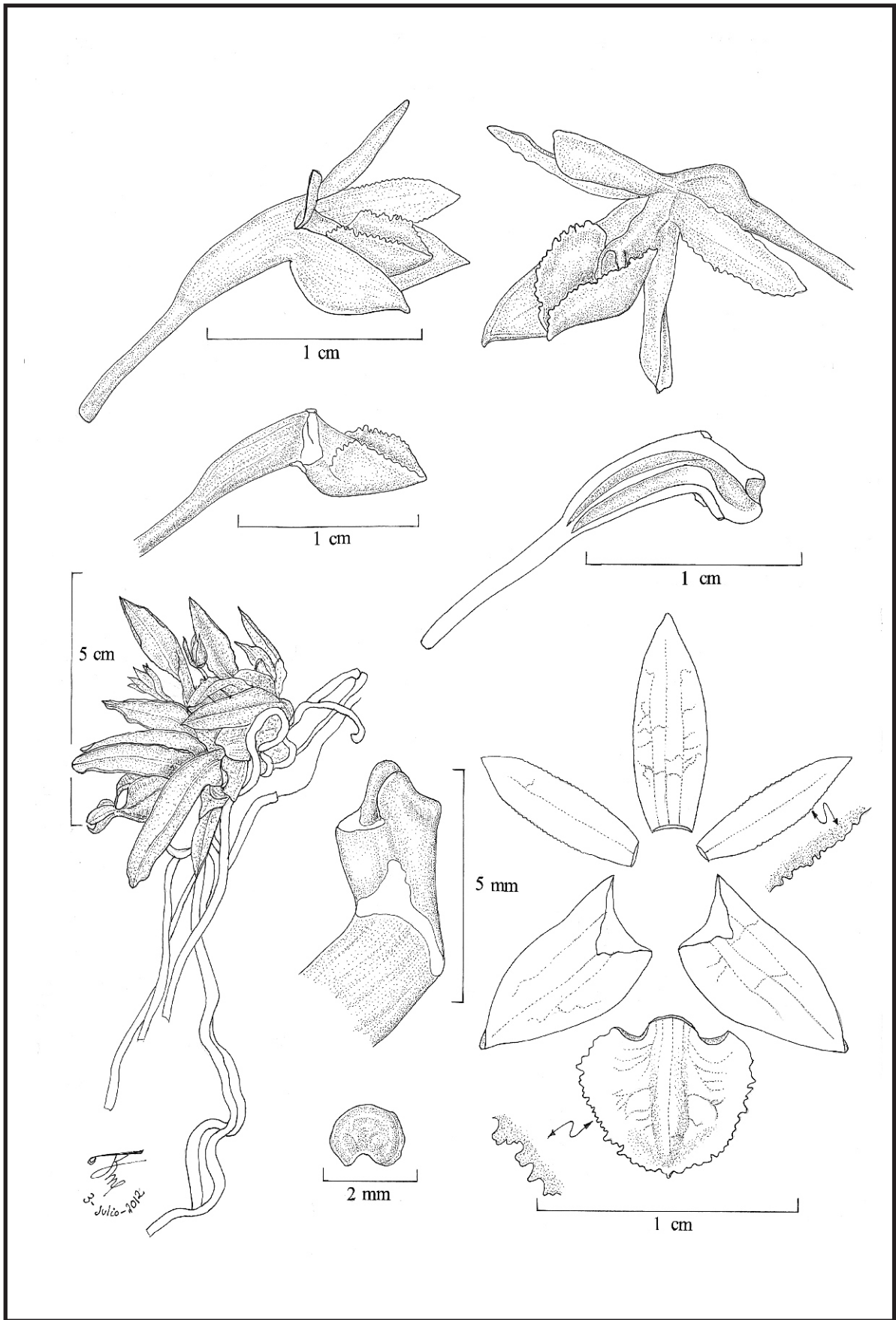


Authors: M. E. Acuña, E. Hágsater & E. Santiago LCDP: J. D. Edquén & A. Cisneros Photo: J. D. Edquén Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019. Plate 1712



EPIDENDRUM CITROSERPENS Hágsater, Cisneros & J.Duarte

Plate 1713

EPIDENDRUM CITROSERPENS Hágsater, Cisneros et J. Duarte, *sp. nov.*

Type: COLOMBIA: Dept. Meta: Mun. Guamal: Páramo de Sumapaz, Hoya El Nevado, Laguna La Guitarra y alrededores, al NW de la Laguna. Flores verde amarillas. 3400 m, 10 January 1973, **Antoine M. Cleef 7587**. Holotype: COL! Isotype: SEL! (illustration voucher) U!

Similar to *Epidendrum serpens* Lindl. but 2-leaved (vs. 2-3-leaved), 2-3 flowered, flowers greenish yellow (vs. violet flowers), sepals 7.0 x 2.0-3.0 mm (vs. sepals 5.5 x 2.0 mm), and lip sub-orbicular, short apiculate (vs. sub-orbicular-ovate, acute lip).

Epiphytic, erect, caespitose, sympodial **herb**, ca. 5 cm tall. **Roots** 1.0-1.5 mm in diameter, fleshy, white. **Stems** 1.5-2.0 x 0.3-0.5 cm, thickened into an ovoid pseudobulb, short, covered by non-foliar sheaths 0.5-1.0 x 0.3-0.8 cm, somewhat striated when dry. **Leaves** 2.3-6.5 x 0.7-1.4 cm, 2 leaved at the apex of pseudobulb, oblanceolate, acute, fleshy, sub-coriaceous, green, margin erose, slightly revolute. **Inflorescence** apical, sessile, sub-umbellate, racemose with up to 2-3 flowers, much shorter than the leaf; peduncle reduced, 1.5 mm long, terete. **Flowers** 2-3, simultaneous, non-resupinate, greenish yellow; fragrance not registered. **Floral bracts** 0.7 x 0.4 mm, shorter than the ovary, ovate, acute, embracing. **Ovary** 1.6 cm long, terete, thin at the base, very thick along the apical half, smooth. **Sepals** 7.0 x 2.0-3.0 mm partly spreading, free, fleshy, acute, glabrous, 3-veined, margins entire, spreading; dorsal sepal lanceolate; lateral sepals oblong-lanceolate with a low dorsal keel at the apex. **Petals** 6.0 x 1.0 mm, spreading, free, oblong-lanceolate, acute, 1-veined, margins erose. **Lip** 6.0 x 6.0 mm, united to the column, sub-orbicular, apex short-apiculate, concave in natural position, margin dentate especially towards the sides; ecallose, disc with a wide, thickened keel, thickened. **Column** 4.5-5.0 mm, very short, thick, slightly arcuate upwards at the apex, forming nearly a right angle with the ovary. **Clinandrium-hood** reduced, margin entire. **Anther** sub-reniform. **Pollinia** not seen. **Rostellum** not seen. **Lateral lobes of the stigma** not seen. **Nectary** shallow, penetrating 1/2 the ovary, unornamented. **Capsule** 2.5-2.8 cm long; spheroid, pedicel 1.2 cm long, body 1.2 x 1.3 cm, apical neck 3.0 mm long.

OTHER SPECIMENS: COLOMBIA: Meta: Guamal: Páramo de Sumapaz, Hoya El Nevado, Laguna La Guitarra y alrededores, Morrena seca, 3450 m, 22 I 1972, **Cleef 882**, COL! U! Páramo de Sumapaz, Hoya El Nevado, Laguna La Guitarra y alrededores, 3450 m, 23 I 1973, **Cleef 8251**, COL! U!

OTHER RECORDS: None seen.

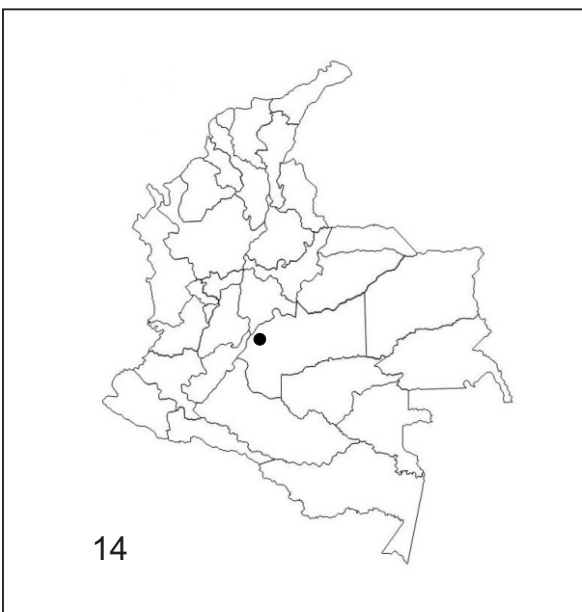
DISTRIBUTION AND ECOLOGY: Known presently only from the Páramo de Sumapaz, on the Cordillera Oriental of the Andes in northern Colombia, at 3400-3450 m altitude, epiphytic in high alpine dwarf forest with *Escallonia* and *Eupatorium tinifolium* Kunth, on trunk of *Escallonia* sp. Flowering in January.

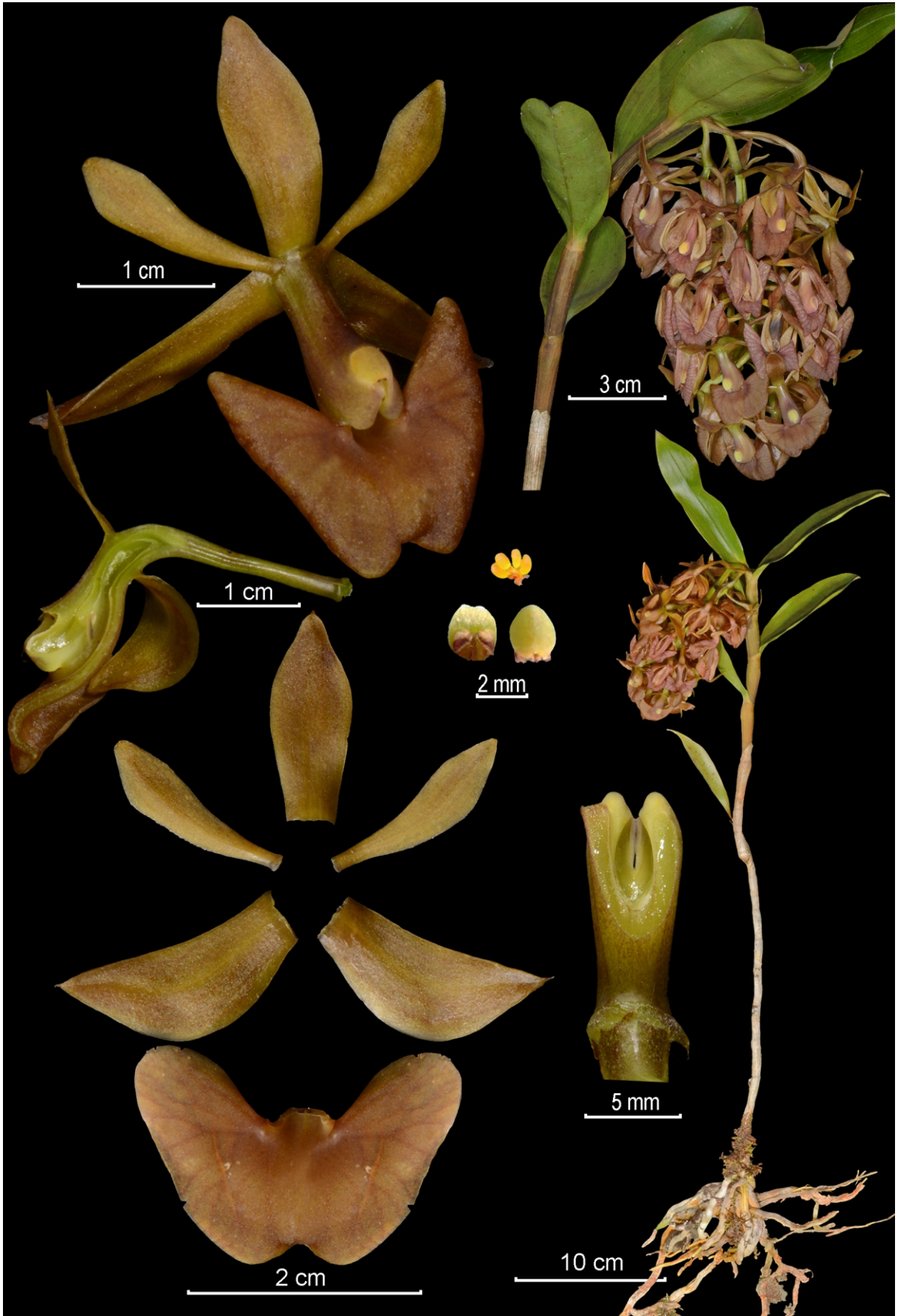
RECOGNITION: *Epidendrum citroserpens* belongs to the Kaloptenix group, Serpens Subgroup characterized by the aggregate, globose pseudobulbs with fleshy-coriaceous leaves, a sessile inflorescence, one or few fleshy, compact, star-shaped flowers, often burgundy red in color, and an entire lip, more or less cordiform. The new species is recognized by 2-leaves per pseudobulb, an inflorescence with 2-3 simultaneous flowers, greenish yellow, lateral sepals have a low dorsal keel at the apex, sub-orbicular lip, short-apiculate, concave in natural position, margin dentate, ecallose, disc with a thickened keel, and 3 thin veins. *Epidendrum ornithidii* Schltr. is pendent with new stems produced sub-apically from previous stem, 6 cm long with a short, decumbent rhizome, 1 leaf per pseudobulb, an apical, sessile inflorescence, densely few-flowered, flowers wine-red, with sepals partly spreading and lip reniform-orbiculate, margin crenulate-dentate, disc 3-keel. *Epidendrum pachycoleum* Hágsater, O. Pérez & E. Santiago has erect plants, 1-2-leaved, aggregate, pseudobulbs, elliptic leaves, the apical one often much reduced, flowers produced in succession, sometimes 2 open at one time, sepals ovate, lateral sepals dorsally pustulate, petals narrowly oblong, lip with a wide, low, central, prominent mid-rib. *Epidendrum serpens* Lindl. also has erect plants, 2-3 leaves per pseudobulb, leaves ovate-lanceolate, violet flowers, linear-lanceolate petals, and the lip sub-rounded-ovate, margin minutely serrulate.

ETYMOLOGY: From the Latin *citrus*, lemon, in reference to yellow colored flowers of this species of the Serpens subgroup which is easily distinguished from other species normally having purple flowers, and *serpens*, snake, due to the long line of alternating, wavy pseudobulbs typical of older plants.

CONSERVATION STATUS: DD. Date deficient. Known presently from two specimens from the Páramo de Sumapaz on the Cordillera Oriental of the Andes in northern Colombia.

REFERENCES: Schlechter, R., 1921, *Epidendrum ornithidii* in **Repert. Spec. Nov. Regni Veg.** 8: 78. Hágsater, E., O. Pérez & E. Santiago, 2013, *Epidendrum pachycoleum* in Hágsater, E. & L. Sánchez S. (eds.) *The Genus Epidendrum Part 10, Icon. Orchid.* 14. t. 1466. Lindley, J., 1844, in *Epidendrum serpens* Lindl. in G. Bentham (ed.) **Pl. Hartw. [Bentham]**, p.149.





EPIDENDRUM COROSHAENSE Hágsater, Edquén & E.Santiago

Plate 1714

EPIDENDRUM COROSHAENSE Hágsater, Edquén et E.Santiago, sp. nov.

Type: PERU: Amazonas: Prov. Bongará: Dist. Corosha, Comunidad Campesina de Beirut, 2015 m, 17 marzo 2019, **José Dilmer Edquén Oblitas, Eric Hágsater (16079), Gerardo A. Salazar, Elizabeth Santiago Ayala & Antonio Goicochea 1677**. Holotype: HURP! (LCDP* voucher).

Similar to *Epidendrum subreniforme* C.Schweinf. but the leaves larger, 6.7-10 x 1.6-2.4 cm, (vs. leaves 2.2-4.6 x 1.0-1.5 cm), inflorescence 13 cm long, racemose to paniculate, densely many-flowered (vs. inflorescence 1.5 cm long, racemose, few-flowered), flowers reddish brown (vs. flowers greenish yellow), petals 16-18 x 3.0-4.5 mm, wider (vs. petals 18.5 x 3.5 mm, narrower), lip 17-19 x 27-28 mm, reniform deeply cordate, formed by a pair of rounded retrorse, divaricate, transversely obovate lobes (vs. lip reniform, 12 x 25.8 mm, slightly retuse).

Epiphytic, sympodial, erect **herb**, 35-40 cm tall. **Roots** 4-6 mm in diameter, basal, from primary stem, simple, thick, white. **Stems** 18.5-22.5 x 0.4-1.0 cm, erect, simple, cane-like, thick, terete, the new stem arising from a middle internode of the previous stem; lower part covered by non-foliar sheaths 1.3-1.9 x 0.65-1.0 cm, brown, turning pale gray. **Leaves** 3-5, aggregate towards the apex of the stems, distichous, base embracing the stem, sub-coriaceous; sheaths 1.0-3.2 x 0.4-1.0 cm, tubular, minutely striated, greenish brown; blade 6.7-10 x 1.6-2.4 cm, elliptic, obtuse, green, concolor, margin entire, spreading. **Spathes** lacking. **Inflorescence** 13 cm long, apical, racemose to paniculate (sometimes producing a short branch from the base of the peduncle), arching-nutant, densely many-flowered; peduncle 1.0 cm long, terete, yellowish green; rachis 9 cm long, totally hidden by the flowers. **Floral bracts** 11 mm long, shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 6-25, simultaneous, resupinate, fleshy, reddish brown, the column green when young, turning reddish brown, anther yellowish green; fragrance absent. **Ovary** 22 mm long, terete, thin at the base, thickened towards the apex, not inflated, striated. **Sepals** 17-20 x 7.0-8.2 mm, spreading, free, margin entire, spreading; dorsal sepal, obovate-oblongate, 3-veined, apex obtuse; lateral sepals broadly hemi-obovate, falcate, minutely apiculate, 5-veined, apex acute. **Petals** 16-18 x 3.0-4.5 mm, free, spreading, oblongate, obtuse, 3-veined, margin entire, spreading. **Lip** 17-19 x 27-28, united to the column, reniform, deeply cordate, formed by a pair of rounded retrorse, divaricate, transversely obovate lobes, lateral margins strongly revolute in natural position, apex emarginate, widely mucronate; disc concave in front of the column, provided with a pair of minute calli at base, semi-spherical, with a low, wide mid-rib, reaching the apical sinus. **Column** 12 mm long, forming a 90° angle with the ovary, base thin, sub-claviform, slightly arcuate upwards. **Clinandrium-hood** reduced, margin entire. **Anther** obovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, about as long as the pollinia; viscidum semi-liquid, translucent. **Lateral lobes of the stigma** short, about 1/4th the length of the stigmatic cavity. **Nectary** penetrating about 1/8th of the pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Amazonas: Prov. Bongará: Dist. Corosha: Comunidad Campesina de Beirut, 2015 m, 17 III 2019, Edquén 1662, HURP!

OTHER RECORDS: PERU: Amazonas: Prov. Bongará, Dist. Corosha: Comunidad Campesina de Beirut, 2015 m, 17 III 2019, Hágsater 16080, digital photos, AMO! (photo voucher). Prov. Chachapoyas: Distr. Molinopampa, Taulia, Comunidad Campesina de Ocol, 2475 m, 3 IV 2017, Salas s.n., digital photos and LCDP, AMO!

DISTRIBUTION AND ECOLOGY: Known presently only from the Department of Amazonas, on the eastern slope of the Andes, epiphytic at 2015-2475 m altitude, on isolated trees in pastures in two sites 56 km distant, separated by a small mountain range, in the upper reaches of the Utcubamba river basin, a branch of the Marañón river. Flowering in March-April.

RECOGNITION: *Epidendrum coroshaense* belongs to the Incomptum group which is characterized by having erect successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy green to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The new species is recognized by the densely flowered inflorescence with reddish-brown flowers, petals 16-18 x 3.0-4.5 mm, oblongate, sepals 17-20 mm long, falcate, lip 17-19 x 27-28 mm, reniform with large, retrorse, divaricate, transversely obovate, rounded lobes. *Epidendrum subreniforme* C.Schweinf. from Huánuco has smaller leaves, 4.6 x 1.5 cm, greenish yellow flowers, petals 18.5 x 3.5 mm, linear-oblongate, sepals 21.5 x 9 mm, and a reniform lip 12 x 25.8 mm, sides somewhat indented, slightly retuse. *Epidendrum subreniforme* C.Schweinf. var. *ramosum* C.Schweinf. from Cuzco has leaves to 6.5 x 1.9 cm, erect inflorescences, flowers are rose-purple and smaller, sepals 15 mm long, and lip 10 x 23 mm, semi-orbicular-reniform, ecallose. *Epidendrum rousseffianae* Collantes & Hágsater, from Cuzco, has similar green flowers, larger, sepals 19-20 mm long, lip 25 x 15 mm, and the plant habit is monopodial, branching above.

*NOTE: Anther and pollinia taken from Marcos Salas LCDP.

CONSERVATION STATUS: DD. Data deficient.

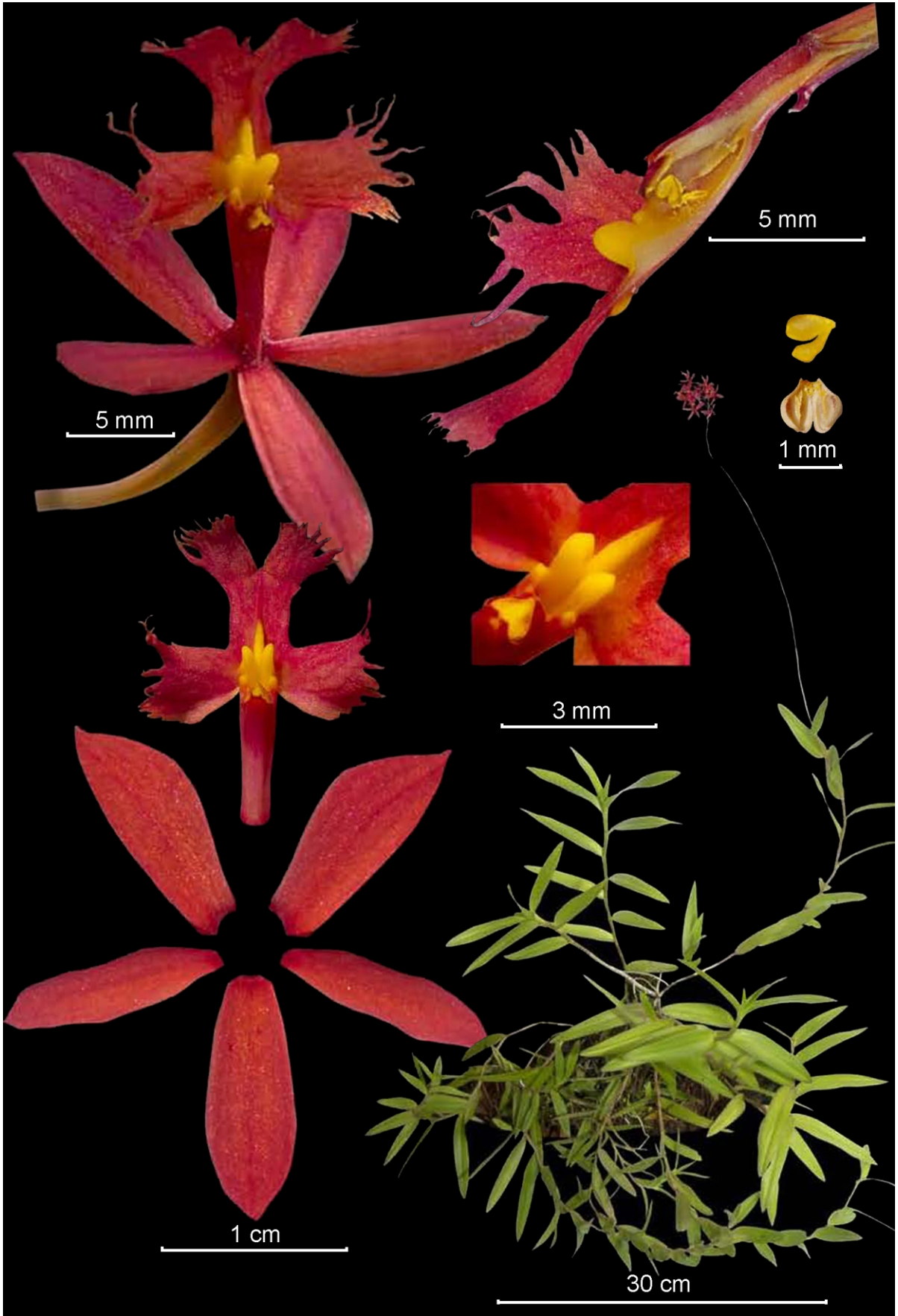
ETYMOLOGY: In reference to the town and district of Corosha in the province of Bongará, on the eastern side of the province of Amazonas, bordering with the province of San Martín, Peru, along the Imaza River. The district is known for the yellow tailed woolly monkey and spectacled bear; the local inhabitants are involved as nature guides and dedicated to the conservation of its wildlife. *Epidendrum francisci* Chocce, Hágsater & M.E.Acuña was named after Don Pancho, Francisco Homero López, a case in point.

ACKNOWLEDGMENT: José Dilmer Edquén Oblitas wishes to thank the authorities of the Jefatura del Bosque de Protección Alto Mayo-SERNANP for granting the research permit entitled "Diversidad y distribución de orquídeas en bosque no intervenido, parches o fragmentos y paisajes agro intervenidos en el Bosque de Protección Alto Mayo-2018" and the research authorization and collecting permit N°006-2018-SERNANP-BPAM-JBPAM.

REFERENCES: Chocce, M., E. Hágsater & M. Acuña, 2009, *Epidendrum francisci* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1244. Collantes, B. & E. Hágsater, 2013, *Epidendrum rousseffianae* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 10, *Icon. Orchid.* 14: pl. 1482. Schweinfurth, C., 1943, *Epidendrum subreniforme* in *Orchidaceae Peruvianae* V, *Bot. Mus. Leaf.* 11(4): 117, t. 9, figs 4-6. Schweinfurth, C., 1953, *Epidendrum subreniforme* var. *ramosum* in *Miscellaneous Notes on Tropical American Orchids*, *Bot. Mus. Leaf.* 16(1): 15.



Authors: E. Hágsater, J. D. Edquén & E. Santiago LCDP: E. Hágsater & A. Cisneros Photo: E. Hágsater Editors: E. Hágsater & E. Santiago



EPIDENDRUM CRYPTOPATERAS Hágsater & Courtinard

Plate 1715

EPIDENDRUM CRYPTOPATERAS Hágsater et Courtinard, *sp. nov.*

Type: MARTINIQUE: Le Gros-Morne, 300 m, col. 17 février 2017, herborisé 17 mai 2019, **Guillaume Viscardi & Pierre Courtinard 816**. Holotype: MTK! (LCDP and photo voucher).

Similar to *Epidendrum x obrienianum* Rolfe but the sepals and petals smaller, 13 x 4 mm (vs. 15-16 x 4-6 mm), calli laminar, parallel, semi-elliptic, erect (vs. calli digitiform, prominent, erect, parallel), lateral apical lobes of column digitiform, short (vs. with a pair of elongate, digitiform side lobes).

Terrestrial, sympodial, caespitose **herb**, ca. 100 cm tall including the inflorescence. **Roots** 1.5-2.5 mm in diameter, fleshy, flexuous, white, from the base of the stems. **Stems** 40-85 x 0.5 cm, simple, cane-like, terete, straight, the basal part covered by several non-foliar sheaths, chartaceous, grayish, imbricated, tubular. **Leaves** 13 or more, distributed along the apical 1/4 of the stem; sheaths 1.0-3.0 x 0.3-0.5 cm, tubular, thin, smooth to slightly striated, purple; blade 6.0-9.5 x 2.0 cm, oblong-elliptic, apex emarginate, coriaceous, green, margin entire. **Inflorescence** 35 cm long, apical from the mature stem, simple to pluri-racemose, erect, producing 1-3 new racemes from the upper nodes of the peduncle; peduncle 29 cm long, elongate, terete, straight, purple, covered by tubular bracts, chartaceous, gray, imbricated, acuminate. **Floral bracts** 2.0-3.0 mm long, much shorter than the ovary, triangular, chartaceous, acuminate, embracing. **Ovary** ca. 20 mm long, green, sometimes purple tinged, thin, terete, not inflated. **Flowers** successive, up to 8 open at a time with floral buds in various stages of development, non-resupinate, bright red, anther, apical lobes of the lip, calli and mid-rib of the lip yellow, anther yellow; fragrance none. **Sepals** 13 x 4.0 mm, spreading, oblong-oblancoate, acute, 5-veined, margin entire, spreading, no dorsal keel; lateral sepals somewhat oblique. **Petals** 13 x 3.0 mm, spreading, oblong-elliptic, obtuse, 5-veined, with the lateral veins branching. **Lip** 11 x 13 mm, united to the column, deeply 3-lobed, base somewhat cordate; bicallose, the calli laminar, parallel, semi-elliptic, erect, with a prominent mid-rib, laminar, progressively narrower towards the apex which reaches the middle of the isthmus; lateral lobes 5.0 x 5.0 mm, oblique, sub-quadrate, posterior margin entire, distal margins deeply laciniate; mid-lobe 7.0 x 9.0 mm, formed by a narrow, quadrate isthmus in the basal half, 4.5 x 4.0 mm, apical half bilobed, the lobes 4.0 x 4.0 mm, divergent, sub-quadrate, the distal margin dentate-laciniate, with a mucro in the apical sinus. **Column** 8.3 mm long, straight, apex somewhat concave when seen from the side, with a pair of elongate, digitiform side lobes, more or less curved upwards, similar to the calli of the lip but shorter. **Clinandrium-hood** short, margin bidentate. **Anther** 1.4 x 1.3 mm, ovoid, apex acute, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles, elongate; viscidium transparent. **Rostellum** apical, slit. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: MARTINIQUE: Le Gros-Morne, 300 m, *Courtinard s.n.*, 5 XII 2013, flowered in cult. 23 II 2019, digital images, AMO!

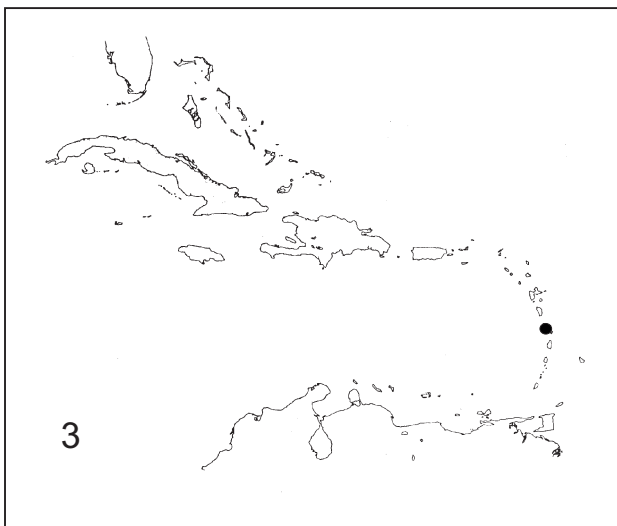
DISTRIBUTION AND ECOLOGY: Known presently from two recent collections from Martinique, thus apparently endemic and very rare. Terrestrial amidst dry leaves among ferns and *Clidemia hirta* (L.) D. Don (Melastomataceae) in a somewhat open wooded space. Flowering in December to September, probably longer in cultivation in Martinique.

RECOGNITION: *Epidendrum cryptopateras* belongs to the Schistochilum Group, Calanthum Subgroup which is characterized by the caespitose habit, erect, simple, cane-like stems, a normally elongate peduncle of the inflorescence, an erect raceme of generally resupinate, showy, colorful flowers, and a lip adorned by two calli and a median narrow keel. The new species is recognized by the terrestrial habit, bright red non-resupinate flowers with the anther, apical lobes of the column, calli and mid-rib of the lip yellow, petals oblong-elliptic, obtuse, lip deeply 3-lobed, base somewhat cordate; lateral lobes sub-quadrate, mid-lobe formed by a narrow isthmus in the basal half, apical half bilobed the lobes divergent, sub-quadrate, the distal margin dentate-laciniate, with a mucro in the apical sinus. At first sight it appears to be the XIX century hybrid *Epidendrum x obrienianum* Rolfe being the same color, and overall shape, but that hybrid has wider sepals and petals, the apex of the column has elongated digitiform lateral lobes, and the calli are wider, not digitiform. *Epidendrum puniceoluteum* F. Pinheiro & F. Barros, from the southern coast of Brazil, is also very similar, but has wider sepals and petals, shorter apical lobes of a thicker and wider column and wider, sub-quadrate calli, and a wider mid-rib. *Epidendrum x elongatum* Jacq. is the natural hybrid between the new species and *Epidendrum secundum* Jacq. and produces all the intermediate shapes and colors from pink with a large white callus to red with yellow calli and mid-rib. *Epidendrum revertianum* (Stehlé) Hágsater, also native to Martinique, has resupinate, white flowers with pale yellow calli and the lip orbicular in general outline, composed of four sub-equal lobes, the laterals more or less at a 45° angle. *Epidendrum cyprisii* Hágsater, Charly & Viscardi, also from Martinique, has resupinate flowers white, with apex of the column, anther, and disc of the lip purple tinged, calli and mid-rib white, petals elliptic-rhombic, obtuse, lip deeply 3-lobed, base deeply cordate; lateral lobes oblique, rhombic, mid-lobe formed by a narrow isthmus in the basal half, apical half obliquely rhombic in outline, bilobed, the lobes divergent, sub-quadrate.

CONSERVATION STATUS: Critically Endangered (CR A1e). This very rare species is threatened with extinction due to its being hybridized in nature and being so rare it has only been photographed and seen a couple of times in recent years. Known only from Martinique. Specimens in the wild have been recently viewed and have difficulty flowering.

ETYMOLOGY: From the Greek *κρυπτω* hide, and *πατεσας*, father, in reference to this rare species which is one of the parents of the common hybrid, *Epidendrum x rubroticum* together with *Epidendrum secundum*.

REFERENCES: Hágsater, E., 2008, *Epidendrum revertianum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: t. 1171. Hágsater, E., 2019, *Epidendrum x elongatum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1719. Hágsater, E., L. Charly & G. Viscardi, 2019, *Epidendrum cyprisii* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1717. Hágsater, E., 2019, *Epidendrum x obrienianum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1745. Pinheiro, F., e F. de Barros, 2006, *Epidendrum puniceoluteum*, uma espécie de Orchidaceae do litoral brasileiro, **Hoehnea** 33(2): 247-250. Sastre, C., 1990, *Epidendrum Bambusiformes* de Guadeloupe et de Martinique (1^ª partie). **Orchidophile (Asnières)** 93: 149-158. Scott, W.H., 1888, *Epidendrum x obrienianum* n. hybr., *Gard. Chron.* 1: 770.



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LCDP: P. Courtinard

Photo: P. Courtinard

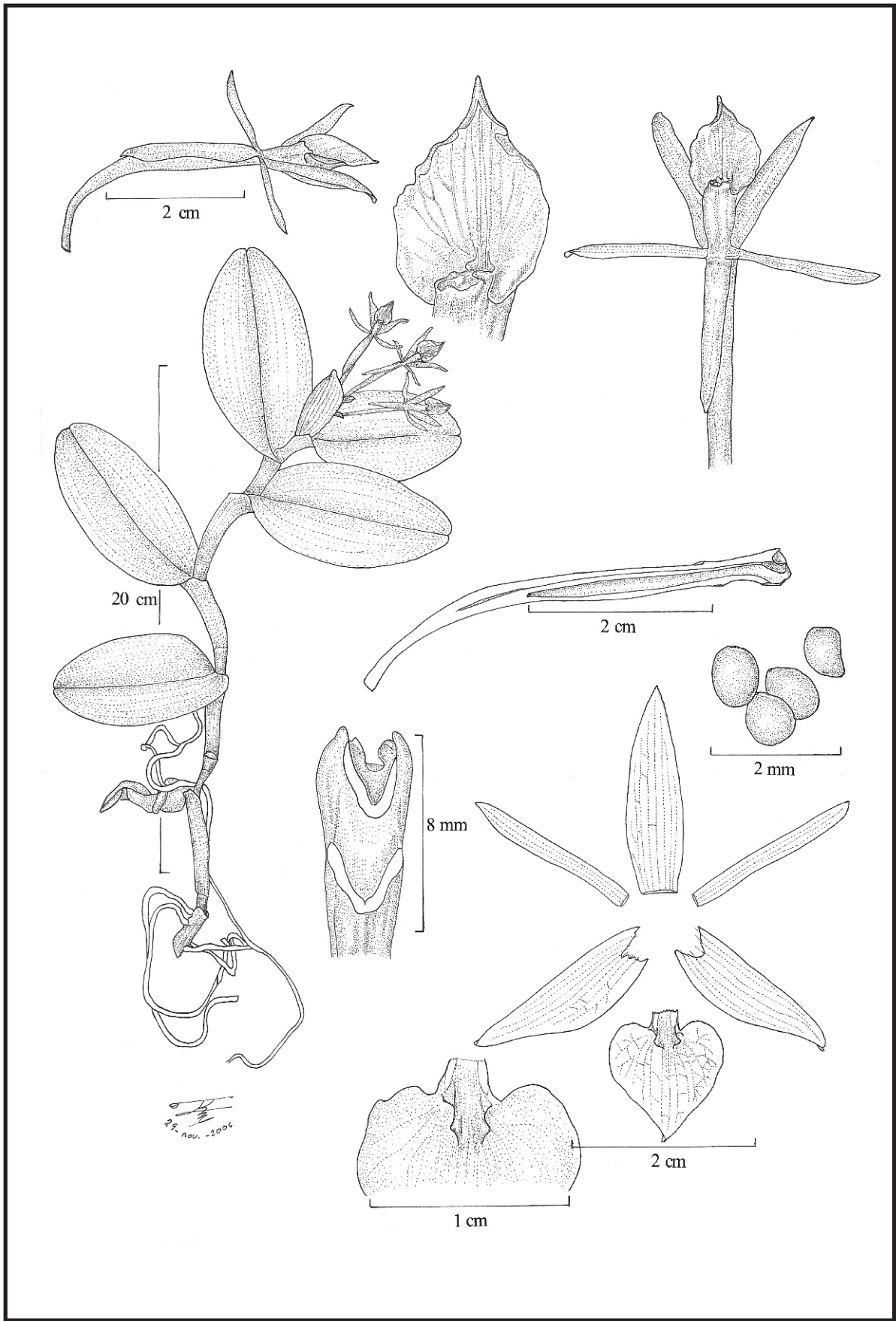
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1715



EPIDENDRUM CUENCANUM Schltr.

Plate 1716

EPIDENDRUM CUENCANUM Schltr., Repert. Spec. Nov. Regni Veg. Beih. 9: 70. 1921.

Type: ECUADOR: Azuay: [Cuenca; Molleturo:] Huahuiducal, on W slopes of the Andes above Naranjal, 1500-2000 m, November 1887, **Friedrich Carl Lehmann 6702**. Holotype: B, destroyed. Lectotype, here designated: US! (illustration voucher). Isolectotypes: AMES! K! LE!

Epiphytic or terrestrial, sympodial, scandent **herb** up to 100 cm long. **Roots** 1 mm in diameter, produced along the rhizomatous part of the stem, scarce, terete, thin, white. **Stems** 17-20 x 0.5-0.9 cm, simple, cane-like, produced from a lower internode of the previous stem, terete at base, somewhat laterally compressed towards the apex; base covered by sheaths 2-3 cm long, tubular, non-foliar, scarious and becoming fibrous with age. **Leaves** 4-5, distributed throughout the upper half of the stem, articulate, alternate, spreading, fleshy-coriaceous; sheaths 1.6-3.5 x 0.5-0.9 cm, tubular, infundibuliform when dry, minutely striated; blade 4.5-9.0 x 1.5-4.3 cm, widely elliptic, apex unequally bilobed, margin entire, spreading. **Spathe** 1, 30 x 2.4 mm (when spread, obovate), tubular at base, conduplicate towards the obtuse apex, membranaceous, margin entire. **Inflorescence** 7 cm long (including flowers), apical, racemose, few-flowered, erect; peduncle 1.4 cm long, totally hidden within the spathe; rachis 10 mm long. **Floral bracts** 5-7 mm long, much shorter than the ovary, narrowly triangular, acute, embracing. **Flowers** 2-5, simultaneous, non-resupinate, erect, fleshy, greenish white; fragrance not registered. **Ovary** 40 mm long, terete, thin at the base, slightly inflated ventrally along the apical half. **Sepals** 21.5 x 6.3 mm, lanceolate, acute, 7-veined, margin entire, slightly revolute; dorsal sepal spreading, to slightly reflexed, free; lateral sepals obliquely united to the base of the column, partly spreading, oblique, minutely apiculate. **Petals** 20 x 2 mm, free, spreading, linear, apex acute, 3-veined, margin entire, spreading. **Lip** 13 x 12.5 mm, united to the column, entire, cordiform, base cordate, apex acute, margin sun-entire, slightly involute at the apex; bicallose, the calli small, laminar, divergent; disc without ribs. **Column** 11 mm long, terete, thin, straight. **Clinandrium-hood** short, margin entire. **Anther** obovate, 4-celled. **Pollinia** 4, lentil-shaped, laterally compressed, caudicles soft and granular; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, the cavity itself occupying about 1/3 of the column. **Nectary** deep, penetrating half of the pedicellate ovary, slightly inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Loja: km 37, carretera Malacatos-Gonzanamá, Purunuma, 2570 m, 21 XI 1995, *Marino 4632*, LOJA!
El Oro: S and SE of Sambotambo, 1800 m, 28 VIII 1943, *Steyermark 54191*, AMES! F!

OTHER RECORDS: ECUADOR: El Oro: Piñas, Portovelo, *Zambrano 1286*, digital image and LCDP, AMO! Piñas, Portovelo, Hort. Zambrano, 23 X 2018, *Hágsater 16053*, digital image (photo voucher).

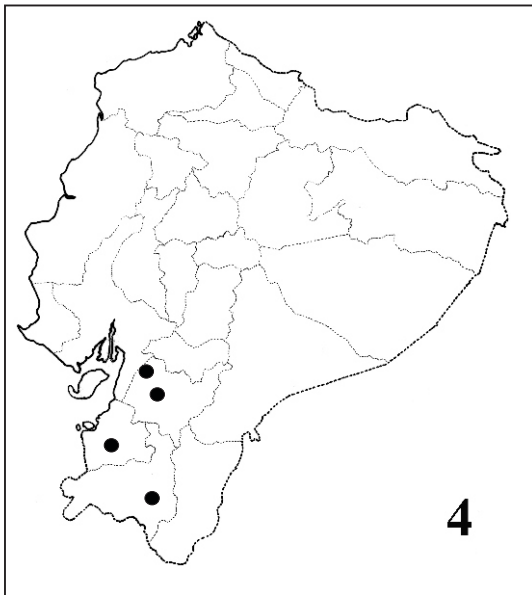
DISTRIBUTION AND ECOLOGY: Known only from southwestern Ecuador, epiphytic and terrestrial, growing at 1000-2570 m altitude. Flowering from August to November.

RECOGNITION: *Epidendrum cuencanum* belongs to the Geminiflorum Group, characterized by single, sympodial, scandent, straggling habit, semi-ovate spathe, the erect stems with 3-10 coriaceous leaves, and few non-resupinate flowers, the lip with laminar calli, disc flat. The species is recognized by the widely 4-5 elliptic leaves 4.5-9.0 x 1.5-4.3 cm, inflorescence 7 cm long including the 3-5, greenish white flowers, sepals 21.5 x 6.3 cm, petals 20 x 2 mm, linear, and the lip 13 x 12.5 mm, cordiform and acute. *Epidendrum azuayense* Hágsater & E. Santiago has leaves 1.0-5.0 x 0.8-1.5 cm, much narrower, oblong-elliptic, inflorescence 5.5 cm long, with 2 orange flowers, column green, sepals 13-18 x 5.0-6.0 mm; petals 12-16 x 5.0-6.0 mm, oblanceolate and oblique, lip 8.0-9.0 x 11.0 mm, widely cordiform and obtuse. *Epidendrum philocremnum* Hágsater & Dodson has leaves 2.0-5.0 x 0.9-1.7 cm, ovate to narrowly elliptic, inflorescence 6-8 cm long, with 2 green, concolor flowers, the lip sometimes tinged purple-brown, sepals 12-15 x 3-5.4 mm, petals 12-14 x 2.3-2.5 mm, oblong, and the lip 3-lobed, mid-lobe triangular. *Epidendrum megagastrium* Lindl. has leaves 3.0-5.0 x 1.8-2.3 cm, elliptic, a 3-flowered inflorescence, sepals 20.5 x 7.6 mm, petals 18.5 x 4.7 mm, oblong-elliptic, and lip 11.4 x 10 mm, narrowly cordiform, obtuse. *Epidendrum stevensonii* Hágsater & Dodson has leaves 2-9 x 1.2-3.2 cm, narrowly elliptic, inflorescence 2.8-3.4 cm, flowers pale green, sepals 20 x 5 mm, petals 18 x 3 mm, linear-lanceolate, lip 15 x 12 mm, spade-like.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the city of Cuenca, capital of the Province of Azuay, near where the type was collected.

REFERENCES: Hágsater, E. & C. H. Dodson, 2001, *Epidendrum philocremnum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum* part 3, **Icon. Orchid.** 4: t. 470. Hágsater, E. & C. H. Dodson, 2001, *Epidendrum stevensonii*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum* part 3, **Icon. Orchid.** 4: t. 488. Hágsater, E., & E. Santiago, 2019, *Epidendrum azuayense* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum* part 13, **Icon. Orchid.** 17(1): t. 1706.



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Illustrator: R. Jiménez M.

Photo: E. Hágsater

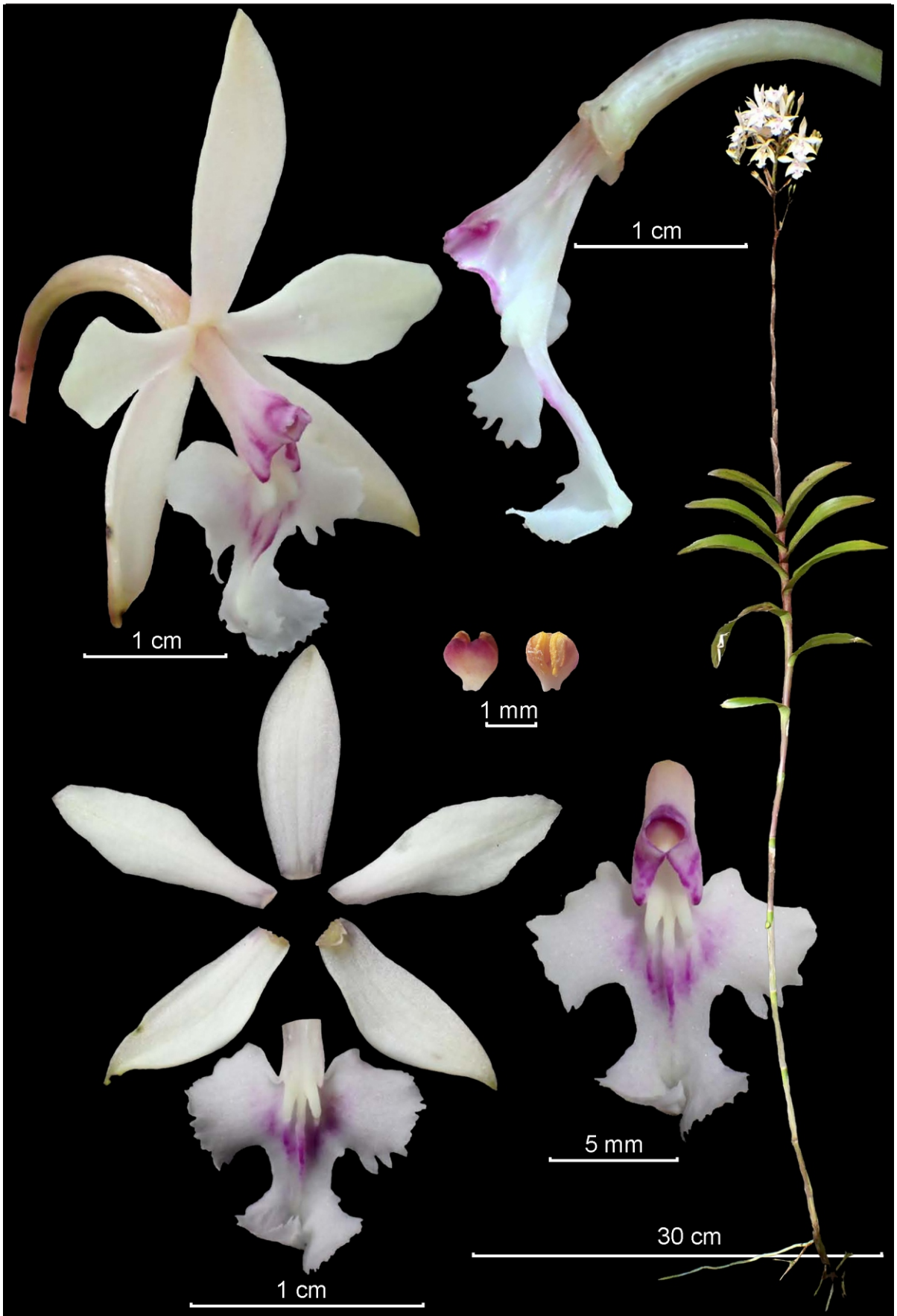
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1716



EPIDENDRUM CYPARISII Hágsater, Charly & Viscardi

Plate 1717

EPIDENDRUM CYPARISII Hágsater, Charly et Viscardi, sp. nov.

Type: MARTINIQUE: St. Pierre: Montagne Pelée, 830-950 m, 23 mars 2019, **Guillaume Viscardi & Louison Charly 797**. Holotype: MTK! Isotypes: GUAD! P! (LCDP and photo voucher)

Similar to *Epidendrum revertianum* (Stehlé) Hágsater, but the flowers white, apex of the column, anther and disc of the lip purple tinged, calli and mid-rib white (vs. white with yellow calli), lip base deeply cordate; lateral lobes oblique, rhombic, mid-lobe formed by a narrow isthmus in the basal half, apical half obliquely rhombic in outline, bilobed, the lobes divergent, sub-quadrate (vs. lip overall orbicular in outline, base truncate, margin lacinate; lateral lobes transversely rectangular, oblique; mid-lobe flabellate, with a deep narrow sinus).

Terrestrial, sympodial, caespitose **herb**, 57-92 cm tall including the inflorescence. **Roots** 1.5-2.5 mm in diameter, fleshy, flexuous, white, from the base of the stems. **Stems** 23-57 x 0.5-0.8 cm, simple, cane-like, terete, straight, the basal part covered by several non-foliar sheaths, chartaceous, gray, imbricated, tubular. **Leaves** 8 or more, distributed along the apical 1/4 of the stem; sheaths 1.0-3.0 x 0.3-0.5 cm, tubular, thin, smooth to slightly striated, purple; blade 6.0-9.5 x 1.5-3.0 cm, oblong-elliptic, apex emarginate, coriaceous, green, margin entire. **Inflorescence** 24-32 cm long, apical from the mature stem, simple to pluri-racemose, erect, producing 1-4 new racemes from the upper nodes of the peduncle; peduncle 17-20 cm long, elongate, terete, straight, purple, covered by 8 tubular bracts, chartaceous, grayish, imbricated, acuminate. **Floral bracts** 4-5 mm x 1-2 mm, much shorter than the ovary, triangular, chartaceous, acuminate, embracing. **Ovary** ca. 20 mm long, green, sometimes purple tinged, thin, terete, longitudinally sulcate, not inflated. **Flowers** successive, 5-12 open at a time with floral buds in various stages of development, resupinate, white, apex of the column, anther and disc of the lip purple tinged, calli and mid-rib white; fragrance none. **Sepals** 11-15 x 3.7-4.5 mm, spreading, elliptic, acute, 5-veined, margin entire, without dorsal keel; lateral sepals somewhat oblique. **Petals** 11-15 x 4.0-5.0 mm, spreading, elliptic-rhombic, obtuse, 5-veined, lateral veins branching. **Lip** 11 x 11 mm, united to the column, deeply 3-lobed, base deeply cordate; bicallose, the calli laminar, hemi-elliptic, slightly divergent, a prominent mid-rib, laminar, progressively narrower towards the apex which reaches the middle of the isthmus; lateral lobes 4.0 x 6.0 mm, oblique, rhombic, posterior margin entire, distal margins erose and lacinate; mid-lobe 6.0 x 6.0 mm, formed by a narrow isthmus in the basal half, apical half obliquely rhombic in outline, bilobed, the lobes divergent, sub-quadrate, the distal margin erose, with a mucro in the apical sinus. **Column** 7 mm long, straight, apex somewhat concave when seen from the side. **Clinandrium-hood** short, margin erose. **Anther** 1.4 x 1.3 mm, ovoid, apex truncate, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles, elongate; viscidium transparent. **Rostellum** apical, slit. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from a single locality on the slopes of the Montagne Pelée in Martinique, terrestrial in degraded volcanic sand with some humus, amongst low vegetation dominated by ferns, *Lycopodium* and *Pitcairnia* at 830-950 m altitude. Flowering in March-April.

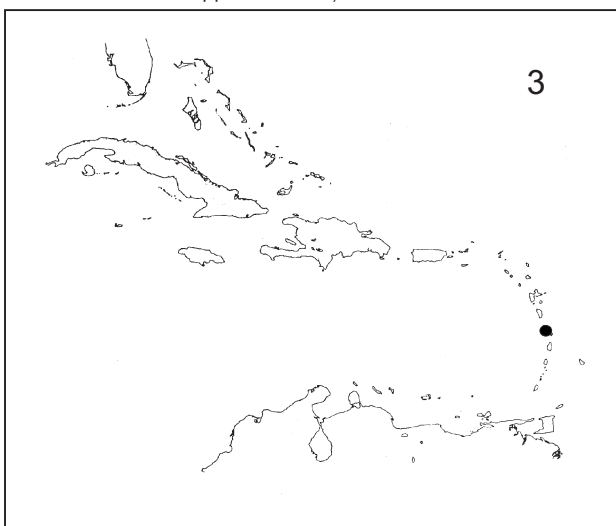
RECOGNITION: *Epidendrum cyparisii* belongs to the Schistochilum Group, Calanthum Subgroup which is characterized by the caespitose habit, erect, simple, cane-like stems, normally elongate peduncle of the inflorescence, erect raceme of resupinate, showy, colorful flowers, with the lip adorned by two calli and a median, narrow keel. The new species is recognized by the terrestrial habit, resupinate flowers white, with apex of the column, anther and disc of the lip purple tinged, calli and mid-rib white, petals elliptic-rhombic, obtuse, lip deeply 3-lobed, base deeply cordate; lateral lobes oblique, rhombic, mid-lobe formed by a narrow isthmus in the basal half, apical half obliquely rhombic in outline, bilobed, the lobes divergent, sub-quadrate. *Epidendrum revertianum* is also terrestrial (reported rarely epiphytic), sub-erect with compact leaves and the white flowers, petals 3-veined; the lip orbicular in general outline, composed of four subequal lobes, the laterals more or less at a 45° angle. It closely resembles *E. calanthum* Rchb.f. & Warsz., a widespread species of continental South America with smaller flowers, usually purple tinged but often with pure-white albino forms. *Epidendrum* × *elongatum* Jacq. is the most widespread plant of this group in Martinique and is the natural hybrid between *Epidendrum secundum* Jacq. and *Epidendrum cryptopateras* Hágsater & Courtinard; it has non-resupinate flowers which vary from bright pink to deep red, the callus anywhere from a large white, pluri-tuberculate callus to two narrow, yellow calli with a yellow mid-rib on reddish or pink flowers, the lip is always 3-lobed, but the shape can be anywhere between the shape of the two parents.

ETYMOLOGY: In honor of Louis-Auguste Cyparis, (Ludger Sylbaris, 1874-1929) one of the two survivors of the commune of St. Pierre, destroyed by the eruption of Mt. Pelée on May 8, 1902, destroying the town of St. Pierre and its 30,000 inhabitants. He survived thanks to his being imprisoned in an underground cell due to a brawl the night before, which protected him from the enormous pyroclastic cloud though he suffered horrible burns in his back, hands, arms and legs (Morgan, 2003).

CONSERVATION STATUS: **EN**. Endangered. The species is known from a very small population and is threatened by possible overcollection as well as hurricanes which have increased due to climate change and the eruption risk linked to the volcanic activity of the Montagne Pelée.

ACKNOWLEDGMENT: Collections were made under Arrête N°201710-006, issued on 18 October 2017 in favor of Guillaume Viscardi, at Fort-de France.

REFERENCES: Hágsater, E., 2008, *Epidendrum revertianum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: t. 1171. Hágsater, E., & P. Courtinard, 2019, *Epidendrum cryptopateras* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1715. Hágsater, E., 2019, *Epidendrum* × *elongatum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1719. Morgan, P., 2003, Fire Mountain: How One Man Survived the World's Worst Volcanic Disaster. 272 pp. Bloomsbury.



Authors: E. Hágsater, L. Charly & G. Viscardi

LCDP: L. Charly

Photo: L. Charly

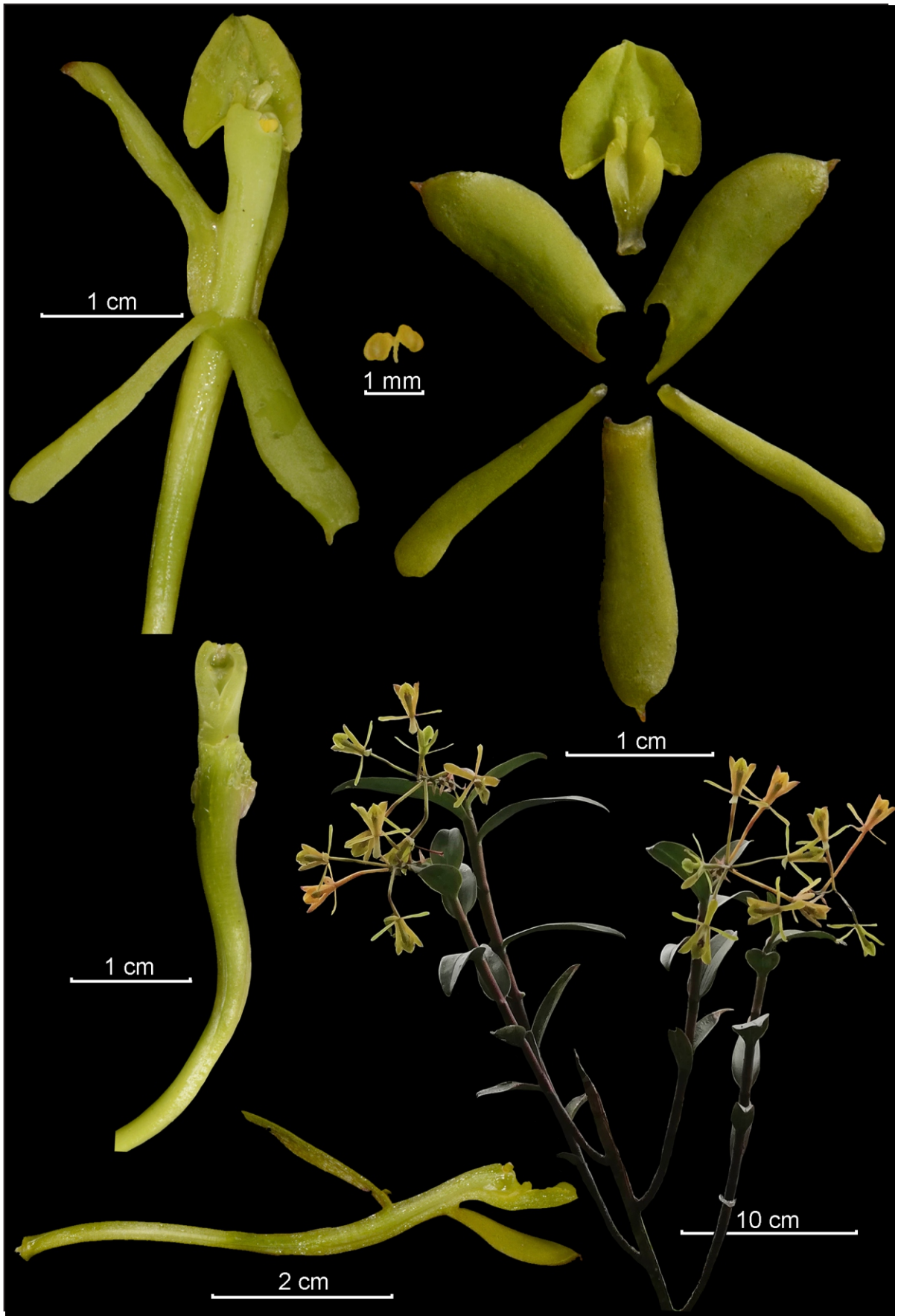
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1717



EPIDENDRUM DEORSUS Hágsater & E.Santiago

EPIDENDRUM DEORSUS Hágsater et E.Santiago, sp. nov.

Type: PERU: Pasco: Prov. Oxapampa: Distr. Oxapampa: Subida al Bosque Sho'llet, km 9,900, 2253 m, 26 marzo 2019, **Delsy M. Trujillo Chávez, Eric Hágsater, Gerardo A. Salazar, Elizabeth Santiago Ayala & Federico Rizo Patrón 632**. Holotype: HOXA! (LCDP & photo voucher.) Isotype: USM!

Similar to *Epidendrum elatum* C.Schweinf. but the leaves oblong-elliptic (vs. leaves ovate-oblong to elliptic-lanceolate), inflorescence 7-9 cm long (vs. inflorescence to 14 cm long), lip entire, cordiform, with a single, prominent mid-rib on the disc (vs. lip deeply 3-lobed, disc with 3 narrow ribs, lateral lobes of the lip dolabriform with radiating thickened veins).

Terrestrial, erect, monopodial, branching **herb**, to 200 cm tall. **Roots** basal from the primary stem, fleshy, thick. **Stems** cane-like, branching sub-apically, terete, erect, straight; the primary stem 1.70 x 0.6-1.2 cm, branches 20-40 x 0.3-1.0 cm, base covered by sheaths 1.8-4.3 x 0.3-1.2 cm, tubular, non-foliar. **Leaves** numerous and larger on the primary stem, 8-10 on the branches, distributed throughout the stems, alternate, articulate, sub-coriaceous, green, concolor, spreading; sheaths 1.8-5.0 x 0.3-1.2 cm, tubular, minutely striated, rugose, tinged reddish brown; blade 2.6-13 x 2.0-3.0 cm; oblong-elliptic, obtuse, margin entire, spreading. **Inflorescence** 7-9 cm long, apical, racemose, slightly arching-nutant; peduncle 1.2-1.5 cm long, terete; rachis 6.0-7.5 cm long. **Spathe** lacking. **Floral bracts** 5-9 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 17-20, simultaneous, non-resupinate, spreading horizontally with the lip always facing downwards, fleshy, green, turning ochre-yellow with age. **Ovary** 40 mm long, terete, thin at base, gradually thickened towards the perianth, minutely striated and slightly arched along the apical half. **Sepals** 21 x 6 mm, oblanceolate, obtuse, with a low dorsal keel, thus mucronate, slightly convex, margin crenulate, spreading; dorsal sepal spreading, free; lateral sepals sub-parallel to the column, obliquely fused to the basal half of the column, oblique. **Petals** 19 x 3 mm, free, spreading to slightly reflexed, linear-oblanceolate, apex rounded, margin entire, spreading. **Lip** 10 x 10 mm, united to the column, entire, cordiform, base cordate, margin papillose, slightly involute at base; bicallose, the calli small, sub-globose, divergent; disc provided with a single mid-rib, wide, elongate and reaching the apical sinus. **Column** 14 mm long, straight, thin. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, 1/2 the length of the stigmatic cavity. **Nectary** penetrating 1/2 the pedicellate ovary, smooth, not inflated. **Capsule** not seen.

OTHER SPECIMENS: PERU: Pasco: Oxapampa: Distr. Huancabamba, Zona de amortiguamiento del Parque Nacional Yanachaga-Chemillen, 2250 m, *Monteagudo 14401*, HOXA! Distr. Oxapampa, Zona de amortiguamiento del Parque Nacional Yanachaga-Chemillen, sector Chacos, 2220 m, *Monteagudo 15031*, HOXA! Ibid. 2471 m, *Monteagudo 28919*, HOXA! Distr. Chontabamba; La Suiza Nueva, 2100 m, 21 III 2008, *Rojas 5428*, HOXA! MO, USM. La Suiza Nueva, 2210 m, 6 V 2005, *van der Werff 19783*, HOXA! MO! carretera Oxapampa-Villa Rica, 2300 m, *Vásquez 32333*, HOXA!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the central wet forests of Peru, in the municipality of Oxapampa, at 2100-2471 m altitude, terrestrial on roadside banks with other orchids and in low montane forest and meadows with *Xyris* sp., Eriocaulaceae and *Trichomanes lucens* Sw. Flowering from September to May.

CONSERVATION STATUS: DD. Data deficient. Though presently known from a couple of localities, the species probably has a wider range and is found in protected National Park of Yanachaga-Chemillen.

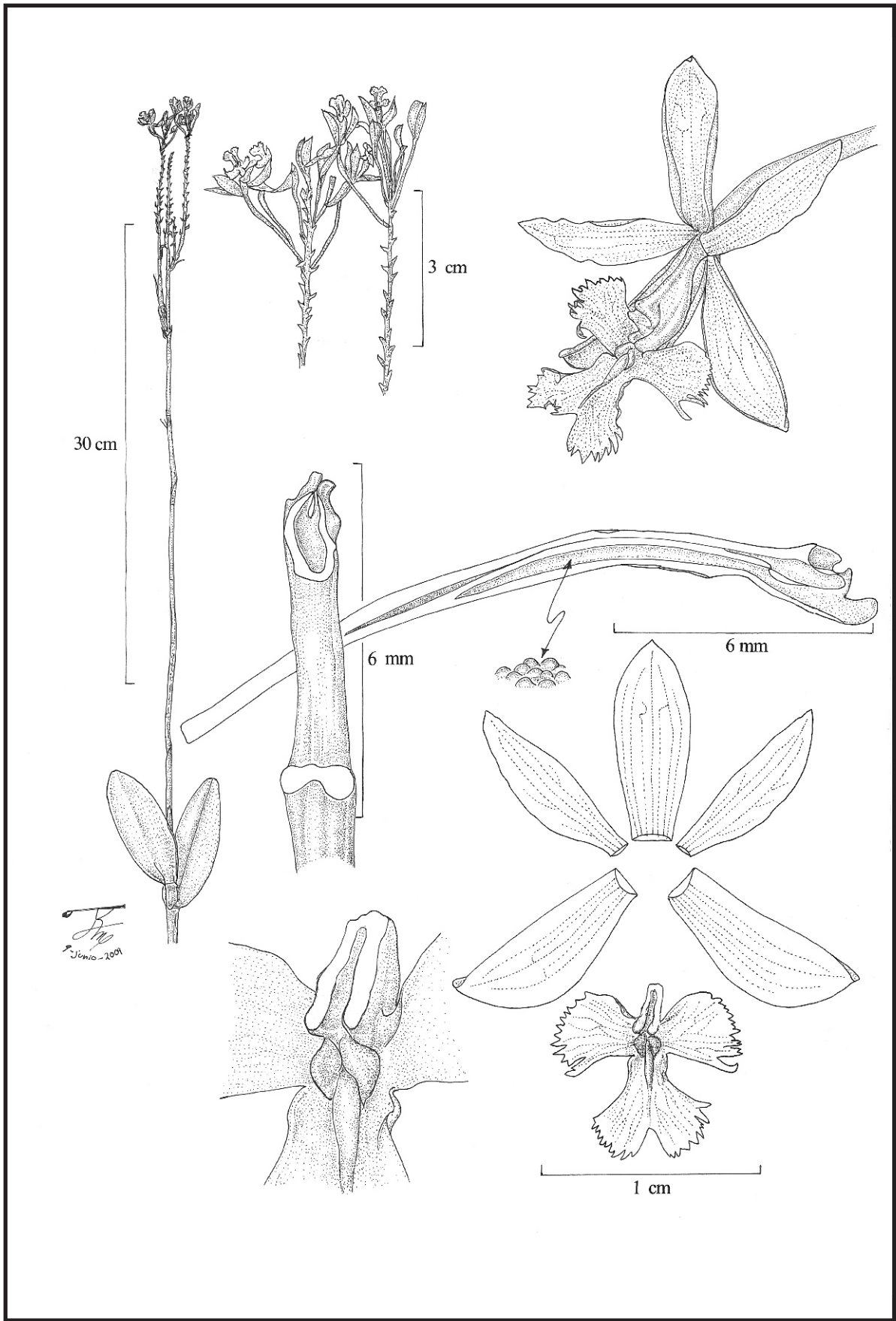
RECOGNITION: *Epidendrum deorsus* belongs to the Andean Group, Vernixium Subgroup which is characterized by the monopodial, sub-apical branching habit, erect inflorescences, lax, non-resupinate flowers, and the lip entire to 3-lobed. The new species is recognized by the ovate-elliptic leaves, short inflorescence, the non-resupinate, horizontally spreading flowers on an ovary 40 mm long, the lip always facing downwards, sepals 21 mm long, and especially by the entire, cordiform lip 10 x 10 mm, with a single wide, thickened mid-rib that reaches the apex of the lip. *Epidendrum elatum* C.Schweinf. widespread from Bolivia to Colombia has ovate-oblong to elliptic-lanceolate leaves, flowers non-resupinate but upright, but a lip deeply 3-lobed, disc with 3 narrow ribs, lateral lobes of the lip dolabriform with radiating thickened veins. *Epidendrum citrochlorinum* Hágsater & Dodson from Ecuador has shorter ovaries, 22 mm long, smaller flowers, sepals 14.5-15.5 mm long, an entire, reniform, cordate lip 8.8 x 14.5 mm. *Epidendrum chaoticum* Hágsater & E.Santiago has the ovary 30 mm long, successive flowers non-resupinate, erect, sepals 20 mm long, lip 12 x 10 mm, sub-quadrate, calli narrow, elongate, curved, surrounded by 6 short thickened radiating veins.

ETYMOLOGY: From the Latin *deorsus*, downward, below; in reference to the non-resupinate flowers with the lip always facing downwards, which are characteristic of this species.

ACKNOWLEDGMENT: Collections made under project "Relaciones entre las plantas y sus polinizadores con síndrome floral de perfumes" issued under the Resolución de Dirección General N° 096-2015-SERFOR/DGGSPFFS.

REFERENCES: Hágsater, E., & E. Santiago, 2004, *Epidendrum elatum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 4, **Icon. Orchid.** 7: t. 725. Hágsater, E., & C. H. Dodson, 2009, *Epidendrum citrochlorinum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: t. 1240. Hágsater, E., & E. Santiago, 2009, *Epidendrum chaoticum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: t. 1219.





EPIDENDRUM × ELONGATUM Jacq.

EPIDENDRUM × ELONGATUM Jacq., *Collectanea* 3: 260: CCCLXXXVIII. 1791, pro sp.; *Icon. Pl. rar.* 3(10): 17, t. 604. 1792.

Neotype*: here designated: “*Epidendrum Rohrii*”, **Herbar Jacquin Fils.** W! (illustration voucher). Hybrid parents: *Epidendrum cryptopateras* Hágsater & Courtinard × *Epidendrum secundum* Jacq.

Synonyms: *Epidendrum × rubroticum* Hágsater, *Orquidea* (Mexico City) 13(1-2): 216. 1993. Replaced synonym: *Epidendrum calanthum* Rchb.f. & Warsz. var. *rubrum* Stehlé, *Fl. Descript. Antilles Franc.* 1: 140. 1939. Lectotype designated by Sastre (1990): Martinique: Montagne Pelée, pentes volcaniques élevées, 1300 m, 13 Juillet 1936, **Henri Stehlé 1005**, NY! Isolectotype AMES 13763! *Epidendrum elongatum* Jacq. subsp. *rubrum* (Stehlé) Sastre, *Orchidophile* (Asnières) 93: 153. 1990.

Terrestrial, sympodial, caespitose **herb**, ca. 100 cm tall including the inflorescence. **Roots** fleshy, flexuous, white, from the base of the stems as well as from base of keikis. **Stems** simple, cane-like, terete, straight, the basal part covered by several non-foliar sheaths, chartaceous, gray, imbricated, tubular. **Leaves** ca. 22, distributed throughout the stem; sheaths tubular, thin, smooth to slightly striated, purple; blade 6.0-9.5 x 2.0-3.0 cm, oblong-elliptic to elliptic-lanceolate, apex acute to rounded, emarginate; coriaceous, green, margin entire. **Inflorescence** 35-50 cm long, apical from the mature stem, simple to pluri-racemose, erect, producing 1-3 new racemes from the upper nodes of the peduncle, after flowering producing keikis; peduncle 29-34 cm long, elongate, terete, straight, purple, covered by tubular bracts, chartaceous, gray, imbricated, acuminate. **Floral bracts** 2.0-3.0 mm long, much shorter than the ovary, triangular, chartaceous, acuminate, embracing. **Ovary** 16-20 mm long, green, sometimes purple tinged, thin, terete, not inflated. **Flowers** successive, up to 8 open at a time with floral buds in various stages of development, non-resupinate, lilac, becoming orange when pollinia are removed or flower fades, with yellow calli and mid-rib; fragrance none. **Sepals** 8.9-9.1 x 3.4 mm, spreading, oblong-oblancoate, acute, 5-7-veined, margin entire, spreading, no dorsal keel; lateral sepals somewhat oblique. **Petals** 8.5 x 2.3-2.5 mm, spreading, oblong-elliptic, obtuse, 3-veined with the lateral veins branching. **Lip** 7.4 x 8.7 mm, united to the column, deeply 3-lobed, base somewhat cordate; bicallose, the calli laminar, parallel, semi-elliptic, erect, with a prominent mid-rib, laminar, progressively narrower towards the apex reaching the middle of the isthmus; lateral lobes 2.5 x 3.6 mm, oblique, sub-quadrate, proximal margin entire, distal margins deeply lacinate; mid-lobe 3.4 x 3.1 mm, formed by a narrow, quadrate isthmus in the basal half, 1.2-1.4 x 1.9 mm, apical half bilobed, the lobes 2.5-2.7 x 2.5-2.7 mm, divergent, sub-quadrate, the distal margin dentate-lacinate, with a mucro in the apical sinus. **Column** 8.3 mm long, straight, apex somewhat concave when seen from the side, with a pair of elongate, digitiform side lobes, more or less curved upwards, similar to the calli of the lip but shorter. **Clinandrium-hood** short. **Anther** not seen. **Pollinia** not seen. **Rostellum** not seen. **Nectary** penetrating 1/3 of the pedicellate ovary, narrow, papillose. **Capsule** not seen.

OTHER SPECIMENS: The following specimens could not be studied in detail as to their calli but are suspected to be the hybrid based on the frequency of the hybrid that dominates the populations. **GRENADA:** Fedon's Camp, 8 X 1945, *Beard 1283*, US! **GUADELOUPE:** savanes de Bouillante, 3 IV 1899, *Père Duss 3991*, NY! **MARTINIQUE:** W side of Mt. Pelée, N of St. Pierre, 19 VII 1939, *Egler 39-115*, NY! Montagne Pelée, 1100 m, 13 VIII 1936, *Privault 184*, P! L'Ajoupa-Bouillon et Morne Coco, 1 1868, *Hahn 94*, AMES! K! G! (pro parte, plant on left) P! Saint-Pierre, XI 1867, *Hahn 99*, AMES! BM! G! Morne Rouge, vieux oranger sur Morne Balisier, 600 m, 17 VII 1986, *Hágsater 8736*, AMO! Matouba route de la Grande Découverte, 400-900 m, 1892, *Père Duss 3360*, NY! Along rim of crater, Mt. Pelée, 1220 m, 8 XII 1960, *Proctor 21761*, AMES! Coulée Rivière Blanche, SSW of Mt. Pelée, 175-450 m, 11 XII 1960, *Proctor 21793*, AMES! *Ibid.* *Proctor 21794*, AMES! Montagne Pelée, Ostseite, Aufstieg von 1er Refuge, 850-900 m, 29 I 1970, *Renz 10483*, RENZ! Aufstieg um La Morne Rouge au Montagne Pelée, Morne Calebasse, 600-700 m, 29 I 1970, *Renz 10487*, RENZ! Gros Morne, 3 V 1934, *Rodriguez 3621*, AMES! P! L'Ajoupa-Bouillon, 300 m, *Stehlé 2144*, AMES! L'Ajoupa-Bouillon, 300 m, 7 IX 1937, *Stehlé 2171*, AMES! Hauteur de la Goyave, 350 m, 1 VI 1936, *Stehlé 2894*, NY! Bois de Monsé, hauteur de Balata, 700 m, 15 VII 1937, *Stehlé 3552* P! **SAINT VINCENT:** Mountains above Chateaubelair River, 400-750 m, 23 IV 1947, *Morton 5321*, US!

OTHER RECORDS: MARTINIQUE: *Montagne Pelée*, 2019, 1039 m, *L. Charly s.n.*, digital image, AMO! (Photo voucher). Caldeira, deuxième cratère de Montagne Pelée, Morne Macouba, 1243 m, *L. Charly*, digital images AMO! *Montagne Pelée, P. Courtinard s.n.*, digital image, AMO!

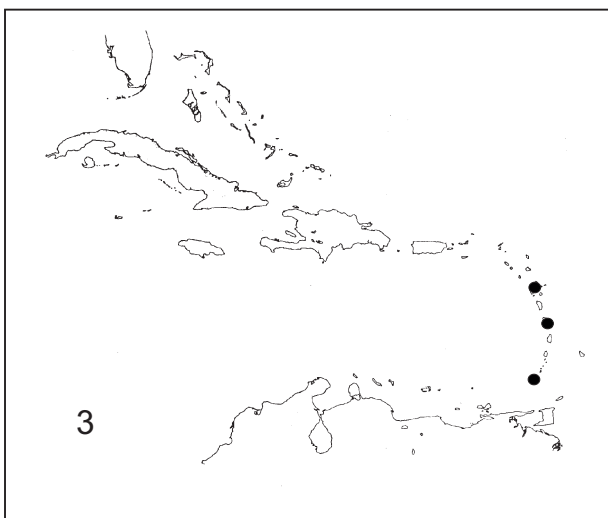
DISTRIBUTION AND ECOLOGY: Endemic to Martinique and Guadeloupe, epiphytic, frequently on citrus trees at 300-700 m altitude and terrestrial amongst mosses above that, as high as 1250 m.

***NOTE:** Regarding the typification, the illustration (1792: t. 604) is not mentioned in the protologue (1791: 260) and cannot be considered as an original material for a lectotypification. A specimen labelled as “*Epidendrum rohrii*, Herbar. Jacquin Fil.” was located at W and an illustration prepared and published herewith. Although the specimen agrees adequately with the description given in the protologue, the sheet lacks the date of collection. Therefore, we do not know for certainty whether the specimen is part of the protologue or not. Since the W specimen agrees with protologue and since its date of collection is uncertain, we herewith designate it as a neotype. Of course, there is a possibility that the W specimen might be proved to be an original material used by Jacquin for his description, and in that situation, our usage of the term neotype would be corrected to lectotype (see *Shenzhen Code Art.* 9.10). Though Jacquin (1791: 260) cites Caracas as the origin of his plant cultivated in his greenhouse (Schönbrunn Palace, Vienna, Austria) and the plate published (1792: t. 604) coincides with some specimens photographed by Charly, and here included. I have not seen anything like it from around Caracas. Thus, I conclude that the citation of Caracas is a greenhouse labelling mistake.

RECOGNITION: *Epidendrum × elongatum* belongs to the Schistochilum group, which is characterized by the caespitose habit, erect, simple, cane-like stems, the normally elongate peduncle of the inflorescence, an erect raceme of resupinate or non-resupinate, showy, colorful flowers, and a lip adorned by two calli and a median narrow keel or a pluri-tuberculate complicated callus. This natural hybrid is the natural cross between *Epidendrum secundum* Jacq. and *Epidendrum cryptopateras* Hágsater & Courtinard, which has crossed back and forth so as to form a hybrid swarm with all the intermediate forms. The type is very close to *Epidendrum cryptopateras*, when compared to most other specimens, but has the non-resupinate lilac flowers of *E. secundum* and the calli are closer to *E. cryptopateras*. Most of the plants found today in Martinique correspond to this hybrid swarm, and the parents are very rare. As in all species of this group, the flowers when pollinated or fading, or just losing their pollinarium, changes color from lilac to reddish orange, thus the original illustration shows young lilac colored flowers which age and turn orange as can be seen in the photograph by Louison Charly here reproduced. The solitary flower illustrated is such a fading flower.

ETYMOLOGY: From the Latin *elongatus*, elongated, in reference to the very long peduncle of the inflorescence, common to most species of this group within *Epidendrum*.

REFERENCES: Hágsater, E., & P. Courtinard, 2019, *Epidendrum cryptopateras* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1715. Jacquin, N., 1760, *Epidendrum secundum*, in *Enum. Syst. Pl.* 29. Sastre, C., 1990, *Epidendrum Bambusiformes de Guadeloupe et de Martinique* (1^{re} partie), *Orchidophile* (Asnières): 93: 149-158.



Author: E. Hágsater

Illustrator: R. Jiménez M.



Photo: L. Charly

Editors: E. Hágsater & E. Santiago



Icon. Pl. Rar. 3(10): 17, t. 604. 1792.

EPIDENDRUM × ELONGATUM Jacq.

Plate 1719

THE GENUS EPIDENDRUM PART 13

ICONES ORCHIDACEARUM 17(1). 2019



EPIDENDRUM FALSIGARAYI Hágsater & Karremans

Plate 1720

EPIDENDRUM FALSIGARAYI Hágsater et Karremans, sp. nov.

Type: ECUADOR: Imbabura: timberline vegetation on Hacienda Yura Cruz, 10 km N of Ibarra, 3700-3800 m, 0°22'N 78°05'W, 25 May 1973, **Luritz Broder Holm Nielsen, Stig Jeppesen, Bernt Løjtant & Benjamin Øllgaard 6477**, Holotype AAU! Illustration of flower by Løjtant, published as *Epidendrum garayi* Løjtant (1977).

Similar to *Epidendrum garayi* Løjtant but the flower brick-red, petals and margin of lip wine-red (vs. greenish purple), sepals 12.0-12.3 x 6.0-6.3 mm, ovate (vs. sepals 10-12 x 3.0-4.0 mm, oblong-lanceolate, lateral sepals falcate), petals 8.6 x 4.4 mm, triangular-ovate, acute (vs. petals 10.5-11.5 x 2.5-3.0 mm, lanceolate, shortly acuminate, falcate), and lip widely cordiform (vs. lip cordiform).

Epiphytic, sympodial, branching, pendulous **herb**, to ca. 40 cm long, with successive sub-apical growths, forming long chains of short stems, sometimes branching from a middle internode. **Roots** 1 mm in diameter, terete, thin, white, generally produced from the basal stems only. **Stems** to 50 x 2.5 mm, simple, cane-like, terete, thin, pendent, formed by 3-5 internodes, short, secund, facing the same direction, the internodes covered by infundibuliform, acute, non-foliar sheaths to 12 mm long. **Leaves** 3-4(-6), aggregate at the apex of the apical internode, sub-pendent, coriaceous, articulate, similar in size and shape; sheaths 2-3 mm long, tubular, minutely striated when dry; blade to 25-50 x 3-5 mm, linear-lanceolate, acuminate, margin serrulate towards the apex, spreading. **Spathes** lacking. **Inflorescence** apical, sessile, 1-flowered, flowering only once. **Floral bracts** 5 mm long, much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Flowers** 1, non-resupinate, facing downward, brick-red, the petals and margin of the lip, petals and margin of lip wine-red; fragrance not registered. **Ovary** 17 mm long, terete, thin, not inflated, longitudinally striated along the apical half just behind the perianth. **Sepals** free, partly spreading, ovate, acuminate, 5-veined, margin entire, spreading; dorsal sepal 12.0 x 6.0 mm, the lateral sepals 12.3 x 6.3 mm, slightly oblique. **Petals** 8.6 x 4.4 mm, free, partly spreading, triangular-ovate, acute, 3-veined, margin entire, spreading. **Lip** 7.3 x 9.6 mm, united to the column, entire, widely cordiform, base cordate, apex apiculate, concave, margin entire, spreading, the lip concave in natural position; ecallose; disc glabrous, with 3 parallel thickened ribs along the apical half of the lip, the mid-rib nearly reaching the apex. **Column** 5 mm long, forming a 120° angle with the ovary, thick, straight, apex with a pair of wide, rounded lateral wings. **Anther** spherical, 4-celled. **Pollinia** ovoid, red, caudicles soft and granulose, nearly as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** short, about half as long as the stigmatic cavity. **Nectary** very short, barely penetrating the ovary, wide, unornamented. **Capsule** 30 x 13 mm, pedicel 7 mm long, thin, body 26 x 13 mm, ellipsoid, apical neck thick, very short.

OTHER SPECIMENS: COLOMBIA: Cauca: Parque Nacional Puracé, Quebrada La Esperanza, 3300 m, 31 VIII 1972, *Sánchez 368*, CUVCI! **Nariño:** San Juan de Pasto: 3 km E de la población de Dolores, 3000 m, 3 VIII 1991, *Ramírez 1044*, PSO! Southeast of Ipiales toward La Victoria, 3000-3200 m, 22 II 1978, *Luer 2726*, SEL! **ECUADOR: Carchi:** Motúfar: Parroquia González Suárez, Loma Breñaña, entre el río Minas y la quebrada Central, 3100 m, 18 VIII 2010, *Cerón 68576*, QAP! Huaca: Parroquia Mariscal Sucre. Estación Biológica Guandera, 3530 m, 16 IX 1999, *Mites 199*, QCNE! Carrera Julio Andrade La Bonita cerca de Cerro Mirador, 3400 m, 20 V 2003, *Tobar 583*, AMO! (digital images of live plant, AMO!) **Sucumbios:** El Mirador, Playón de San Francisco-Julio Andrade, km 12, 3200-3400 m, 11 VII 1991, *Dodson 18779*, QCNE! Road Tulcán-Carmelo-Santa Barbara, *Hirtz 2447*, 2650-3200 m, 6 IV 1985, MO x2! digital image, AMO! Road Tulcán-Carmelo-Santa Barbara, *Hirtz 2467*, 2650-3200 m, 6 IV 1985, MO!

OTHER RECORDS: COLOMBIA: Cauca: Puracé: Sector Crucero, Resguardo Indígena Puracé, Pilimbamba (Puente Tierra), 28 III 2018, *Hágsater 15641*, digital image, sterile, AMO! **ECUADOR: Sucumbios:** Playón de San Francisco, XI 2017, *A. Karremans s.n., R. Jenny, R. Lok & S. Vieira-Uribe* (LCDP voucher). **Pichincha:** Quito: San Miguel de Nono, Reserva Ecológica Yanacocha, 3500m, 13 VIII 2018, *Celis s.n.*, (digital images, AMO!) Ecuador, *Gary Yong*, digital image, AMO! (Photo voucher).

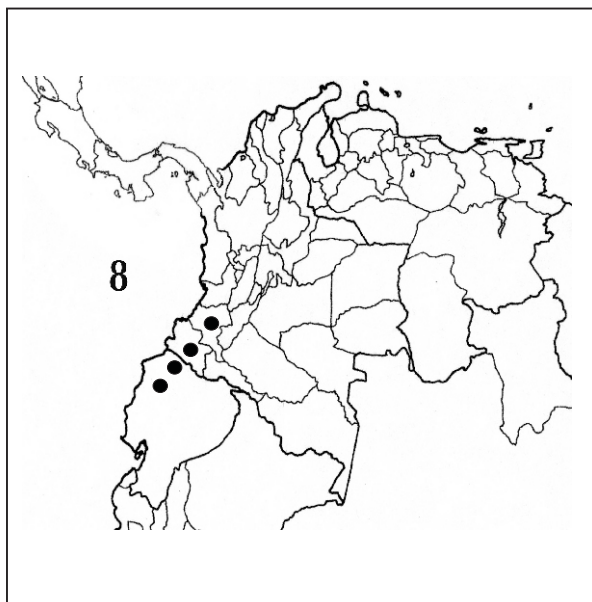
DISTRIBUTION AND ECOLOGY: Common in northern Ecuador and southern Colombia, from Quito to Popayán, in subpáramo andean wet forest and cloud forest on *Clusia flaviflora* Engl., *Weinmannia pinnata* L. and páramo on short trees and on frailejones, *Espeletia* sp. Flowering May to November.

RECOGNITION: *Epidendrum falsigarayi* belongs to the Kalopternix Group, Garayi Subgroup which is recognized by pendent chain of stems, arising each from a sub-apical internode of the previous stem, each with 1-3 linear-lanceolate leaves [in the primary stem there are up to 6 leaves in a fan], inflorescence apical, flowering only once, 1-2 flowered, the flowers non-resupinate, green to red or yellow, the lip cordiform. The species is recognized by the 3-6 leaved stem segments, leaves 2.5-5.0 x 0.3-0.5 mm long, 1 brick-red flower, ovate, acuminate sepals 12.0-12.3 mm long, triangular ovate, acute petals, 8.6 x 4.4 mm, and a widely cordiform, apiculate lip 7.3 x 9.6 mm. *Epidendrum wolfii* Hágsater & E. Santiago has short, bifoliate, cane-like stems, 2, linear-lanceolate leaves 1.1-2.7 cm long, sessile, two-flowered inflorescences, successive and opposite, pink, immaculate flowers, the lip is widely cordiform with the apex obtuse, the disc with a single evident, low, wide rib running down the middle. *Epidendrum carmelense* Hágsater & Dodson forms pseudobulbs at the end of the unifoliate stems, leaves are 3.5-8.5 cm long, with 1-2 greenish to ochre flowers with red dots, the lip is reniform without any ribs. *Epidendrum garayi* Løjtant has 2-4-leaved stems, the leaves linear-lanceolate, up to 5 cm long, flowers purplish green, the lip cordiform with the apex acuminate, the disc has 3 thickened veins running nearly the entire length of the lip. *Epidendrum palalabrum* Hágsater has acuminate, non-foliar, a single leaf 5.0-8.7 x 0.6-0.8 cm, sepals 13-14 x 3.7-4.0 mm, lanceolate, acuminate, 3-veined, petals 11.7 x 2.5 mm, lanceolate, acuminate and lip 11 x 7.4 mm, shovel-shaped, base truncate, basal half quadrate, apical half triangular, apex acuminate.

CONSERVATION STATUS: DD. Data deficient. The species seems to be relatively common and widespread in the areas where it has been collected, and where not many orchids thrive. It is found in protected areas.

ETYMOLOGY: From the Latin *falsus*, false, and Garay in honor of Leslie A. Garay, in reference to this species having been incorrectly illustrated by Løjtant (1977) as *Epidendrum garayi* and thus is the false-garayi.

REFERENCES: Hágsater, E., & C.H. Dodson, 1993, *Epidendrum carmelense* in E. Hágsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part. 1, **Icon. Orchid.** 2: t. 120. Hágsater, E., 2019, *Epidendrum garayi* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part. 13, **Icon. Orchid.** 17(1): t. 1722. Hágsater, E., 2019, *Epidendrum palalabrum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part. 13, **Icon. Orchid.** 17(1): t. 1747. Hágsater, E., & E. Santiago, 2013, *Epidendrum wolfii* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part. 10, **Icon. Orchid.** 14: t. 1496. Løjtant, B., 1977, Notes on the genus *Epidendrum* (Orchidaceae) in Ecuador, **Bot. Not.** 130: 321-328.



Authors: E. Hágsater & A. Karremans

LCDP: A. Karremans

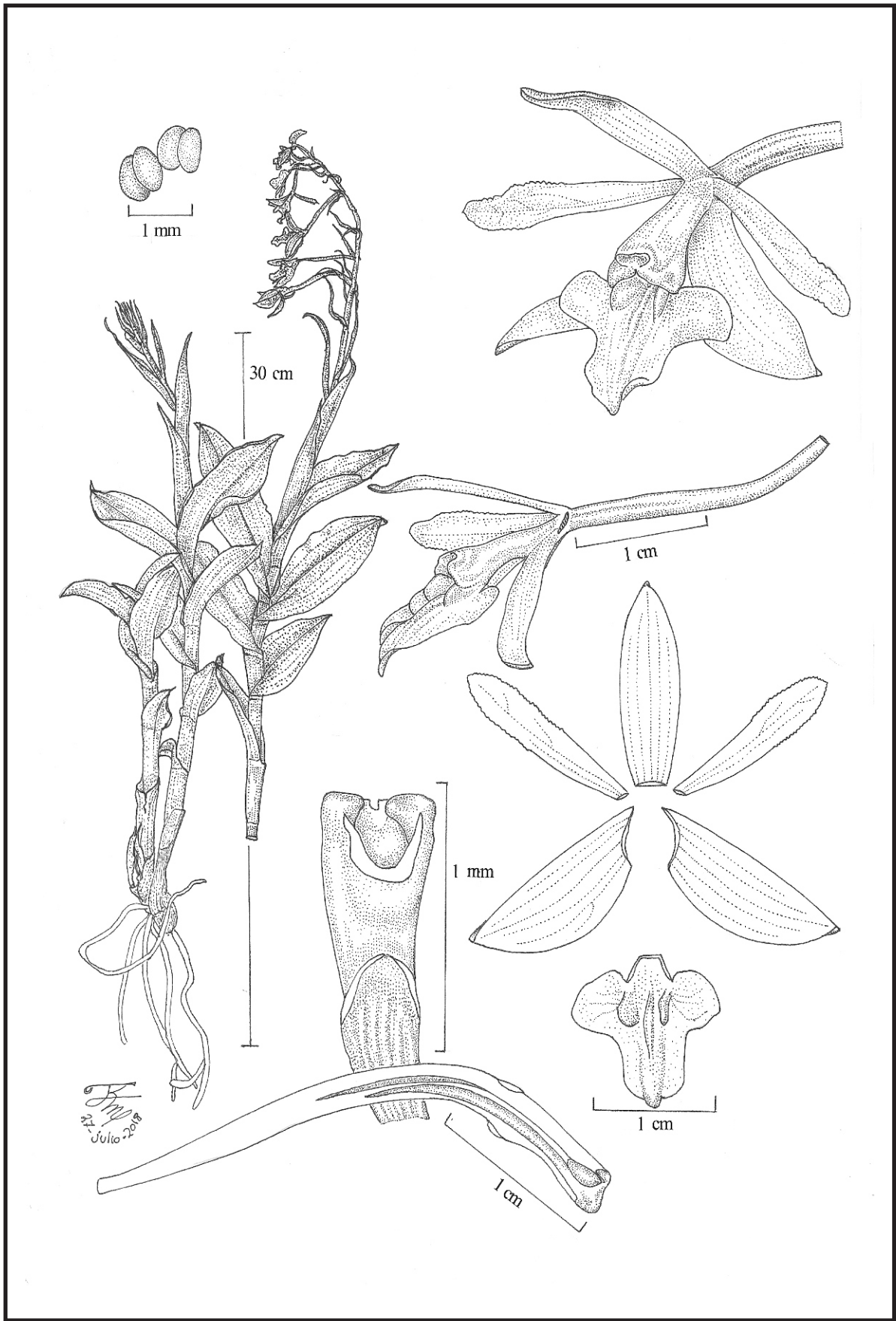
Photo: G. Yong

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1720



EPIDENDRUM FRUTICETORUM Schltr.

Plate 1721

EPIDENDRUM FRUTICETORUM Schltr., Repert. Spec. Nov. Regni Veg., Beih. 8: 72. 1921.

TYPE: ECUADOR: Chimborazo: [Pichincha:] Pifi [Pifo], 2600 m, B, destroyed. Lectotype (designated by Dodson & Hagsater, 1999): *Aloysius Mille S.J.* 42, QPLS!

Terrestrial or epiphytic, sympodial, caespitose **herb**, 16.6-30 cm tall. **Roots** 2-3 mm in diameter, basal, fleshy, thick. **Stems** 10-15 x 0.2-0.4 cm, approximate, simple, cane-like, laterally compressed towards the apex, straight. **Leaves** 4-6, alternate, articulate, sub-coriaceous, smooth, base conduplicate; sheaths 2.5-4.0 x 0.6-1.0 cm, tubular, laterally compressed; blade 2.4-8.9 x 1.5-2.8 cm, divaricate, ligulate-elliptic, somewhat obtuse to acute, margin entire, spreading. **Spathes** 2-3, 4.5-10.4 x 0.4-0.9 cm, conduplicate, acute, imbricated, covering most of the peduncle. **Inflorescence** 12.9-19.6 cm long, apical, from mature growth, racemose, recurvate, peduncle 3-8 cm, terete, producing new racemes from the peduncle with time; rachis 6-11.4 cm long, with alternate bracts, triangular, tubular below, conduplicate, acute. **Floral bracts** 7-20 x 1-3 mm, larger at the base of the rachis, progressively shorter, lanceolate, sub-deltoid, acuminate, embracing. **Flowers** 7-11, resupinate, green somewhat flushed with ochre, lip brown, calli reddish, fleshy; fragrance not registered. **Ovary** 7-20 mm, unornamented, terete, somewhat inflated towards the apex. **Sepals** free, partly spreading, margin entire, spreading, 3-5-veined; dorsal sepal 13-15 x 2-4 mm, oblong-lanceolate, acute, 3-veined, veins carinate; lateral sepals 12-14 x 3-4 mm, oblong-lanceolate, acuminate. **Petals** 12-14 x 2 mm, free, partly spreading, oblanceolate, margin dentate towards the apex, spreading, apex rounded to sub-acute, 1-veined. **Lip** 7.5-8 x 6.5-8 mm, united to the column, 3-lobed, base semi-cordate, margin entire; bicallose, calli prominent, fleshy, divergent, with 3 low, fleshy mid-ribs running to the apical sinus of the lip; lateral lobes 2-3 x 3-4 mm, obliquely sub-triangular, the basal margin semi-orbicular, apex acute; mid-lobe 4-5 x 3-4 mm, sub-rectangular, sub-acuminate. **Column** 8-9 mm, sub-erect. **Clinandrium-hood** short, surpassing the body of the column, margin sub-undulate. **Anther** obovate, 4-celled, unornamented. **Pollinia** not seen. **Rostellum** not seen. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Nariño: San Juan de Pasto, South slope of Volcán Doña Juana, cordillera Oriental, 3000 m, 16 XII 1944, Ewan 16620, US! (illustration voucher). ECUADOR: Without locality, Sodiro s.n., QPLS x3! Azuay: Girón, La Asunción, 3-5 km N of Chumblín (E of San Fernando), along trail to Cristal, 2900 m, 14 XI 1988, Harling 25874, QCA! Imbabura: Arriba de Apuela, al Oeste de Otavalo, en bosque de neblina, epífita, 2500 m, 14 X 1999, Luer, AMO! SEL!

OTHER RECORDS: ECUADOR: Pichincha: Cantón Quito, camino desde Otavalo hacia San José de Minas pasando el Puerto, Tobar s.n., digital image, AMO (photo voucher).

DISTRIBUTION AND ECOLOGY: The species ranges from Ecuador and Colombia, at 2600-3150 m altitude. Flowering between November and July.

RECOGNITION: *Epidendrum fruticetorum* belongs to the Philippii group characterized by the sympodial, caespitose habit, apical, erect, racemose to paniculate inflorescence, with a somewhat elongate peduncle, covered by several spathe-like bracts, successive non-resupinate flowers, the 3-lobed lip formed by 4 semi-orbicular lobes, as the mid-lobe is itself more or less bilobed at the apex, the outer margins of the lip more or less denticulate. The species is recognized by the stems covered by striated sheaths, becoming fibrous with time, with 4-6 leaves distributed throughout the stem, conduplicate and ligulate, elliptic, acute, inflorescence recurvate, long, peduncle short, from which new racemes are produced, with 2-3, long spathes, covering the whole peduncle, imbricated, with bracts progressively shorter, flowers medium sized, sepals 12-16 mm long, petals linear-oblanceolate, lip 3-lobed, bicallose, with 3 ribs running nearly the entire length, lateral lobes smaller than the mid-lobe, obliquely sub-triangular, the basal margin semi-orbicular, apex acute, margin entire, mid-lobe rectangular, about twice as long as broad, apex triangular and apiculate. *Epidendrum trulliforme* Garay & Dunsterv. has relatively tall plants, 25-60 cm tall, leaves distributed along the apical 1/3-1/2 of the stem, inflorescence arching, with a single spathe covering the whole peduncle, floral segments spreading, lip 3-lobed, base sub-cuneate, lateral lobes short and rounded, revolute, mid-lobe with two ribs reaching the middle of the disc. *Epidendrum freireanum* Hagsater & E. Santiago has 3-4 leaves distributed along the apical half of the stem, a single spathe ca. 5 cm long, ancipitose, not covering the whole peduncle, floral bracts much shorter, not covering the ovary which is short and thick, petals linear-oblanceolate, lip 3-lobed, margins erose, mid-lobe emarginate and appearing two-lobed with a wide, low mid-rib. *Epidendrum odontospathum* Rchb.f. has wide, laterally compressed stem, wide, apically bilobed leaves, the inflorescence with several large, conduplicate bracts, spaced on an ancipitose peduncle, with branches produced from each bract and flowers green, orange-yellow to brown. *Epidendrum trilobochilum* Hagsater & Dodson has a longer ovary (13-35 mm), sepals elliptic, lateral sepals slightly connate at the base of the column, petals narrowly oblanceolate with apex obtuse, the a 3-lobate lip with a cordate base, wider than longer (9 x 16 mm), lateral lobes sub-orbicular, obtuse, with the apical margin somewhat straight.

NOTES: This species was wrongly identified by Bennett & Christenson (1995) as *E. odontospathum*, and this error led Hagsater and Dodson to often label other specimens under *E. fruticetorum*. Eric F. Rodríguez *et al.* (2014), cited a specimen Calla *et al.* 02, at HUT, identified by the first author as an addition to the flora of Peru, under *E. fruticetorum*, but this identification is wrong for the reasons mentioned before, and corresponds to *Epidendrum freireanum* Hagsater & E. Santiago; it was not cited in the original publication.

CONSERVATION STATUS: DD. Data deficient. Widespread, and found at higher altitudes, in some cases in National Parks.

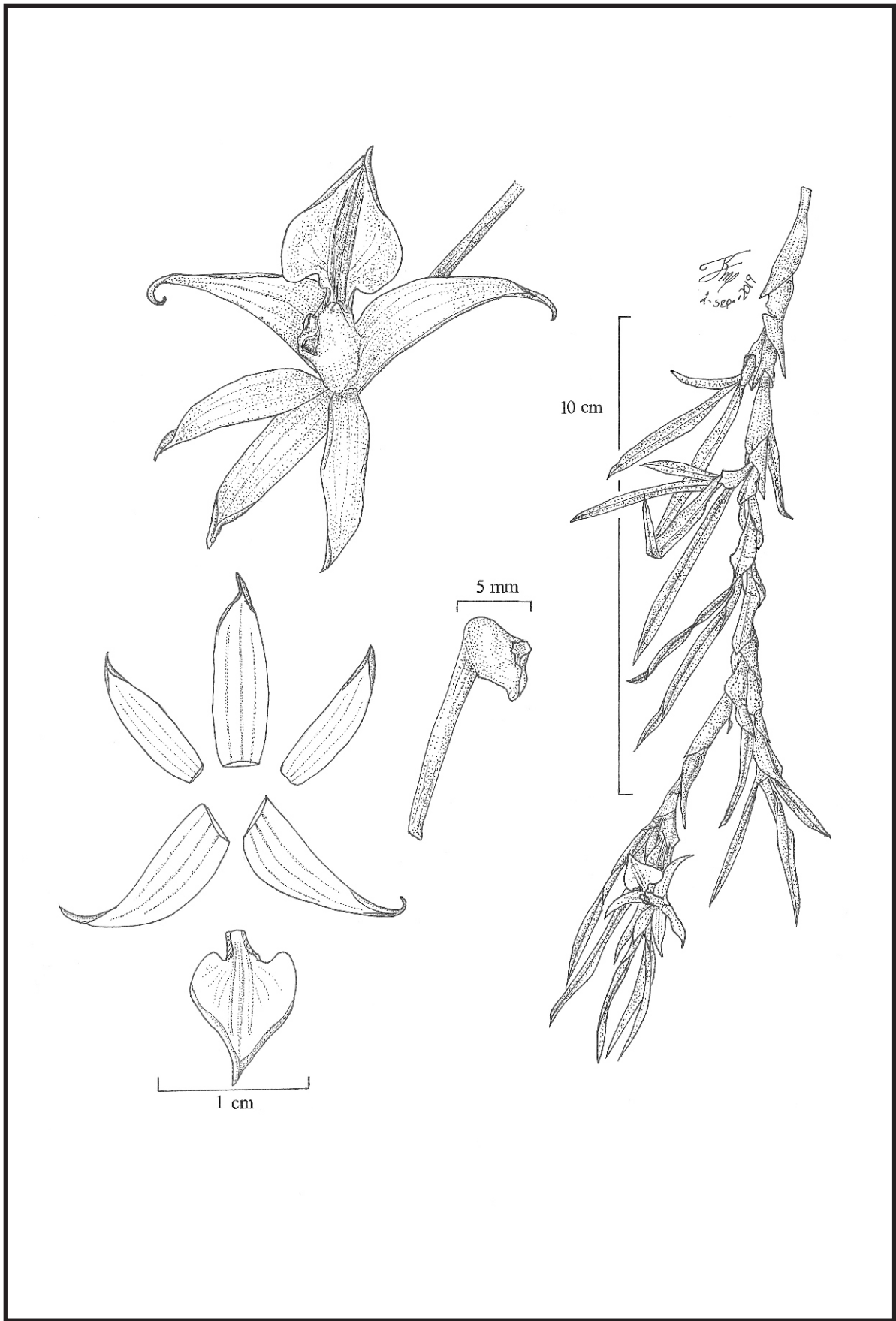
ETYMOLOGY: from the Latin *fruticetum*, a place full of bushes; in reference to the vegetation where the type was found growing among bushes.

REFERENCES: Bennett Jr., D. E., & E. A. Christenson, 1995, *Epidendrum odontospathum*, **Icon. Orchid. Peruvianum** 247. Garay, L. A., & G. C. K. Dunsterville, 1976, *Epidendrum trulliforme* in **Venez. Orchid. Ill.** 6: 148. Hagsater, E., & C. H. Dodson, 2001, *Epidendrum trilobochilum* in E. Hagsater & L. Sánchez S. (eds.), **The Genus Epidendrum**, Part 3, **Icon. Orchid.** 4: t. 494. Hagsater, E., & E. Santiago, 2018, *Epidendrum freireanum*, in E. Hagsater & E. Santiago (eds.), **The Genus Epidendrum**, Part 12, **Icon. Orchid.** 16(1): t. 1619. Rodríguez R., E. F., E. Alvítez I., L. Pollack V., M. Morillo H., K. Monzón L., C. Ramírez O., K. Burgos I. y B. L. Alaya, 2014, Nuevas adiciones para la flora orquídeológica de la región La Libertad, Perú, **Sagasteguiana** 2(2): 165-180. Santiago, E., & E. Hagsater, 2018, *Epidendrum odontospathum*, in E. Hagsater & E. Santiago (eds.), **The Genus Epidendrum**, Part 12, **Icon. Orchid.** 16(1): t. 1648.



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Photo: D. F. Tobar S. Editors: E. Hagsater & E. Santiago
ICONES ORCHIDACEARUM 17(1). 2019. Plate 1721



EPIDENDRUM GARAYI Løjtnant

EPIDENDRUM GARAYI Løjtnant, Bot. Not. 130: 325. 1977.

Replaced synonym: *Pleuranthium cardiochilum* Garay, Arch. Jard. Bot. Rio de Janeiro 12: 181. 1953. Type: ECUADOR: [Chimborazo:] Ost Kordillere von Riobamba, ca. 3000 m, **August Rimbach 801**. Holotype S! (photo voucher) Isotype: AMES! (illustration voucher).

Epiphytic, sympodial, pendulous, branching herb to 60 cm long. **Roots** 0.5-1.0 mm in diameter, from the basal stems only, flexuous, glabrous. **Stems** 30-57 x 2.5 mm, formed by up to 5 nodes, the lower nodes totally covered by imbricating sheaths 8-18 mm long, grey, laxly infundibuliform, obliquely acute, dorsally carinate. **Leaves** 2-4 per stem from the apical internode, 17-50 x 2-4 mm, one from the apex, the others from imbricating foliar sheaths, pendent, linear-lanceolate, acuminate, dorsally carinate-cuspidate, coriaceous. **Inflorescence** apparently 1-flowered, sessile, from the apex of the stem. **Floral bract** 7 mm long, ovate-triangular, shorter than the ovary. **Ovary** 17.5-18.0 mm long, terete, thin, not inflated, striated along the apical half. **Flower** pendent, facing downwards, dirty purple-green according to collector; fragrance not registered. **Sepals** spreading, free, acuminate; dorsal sepal 11.0-12.5 x 3-4 mm, oblong-lanceolate, aristate, 3-veined, lateral sepals 12 x 3.8 mm, lanceolate, falcate, aristate, 3-veined, mid-vein carinate. **Petals** 10.5-11.5 x 2.5-3.0 mm, shorter than the sepals, falcate-lanceolate, 3-veined, slightly oblique, shortly acuminate. **Lip** 8.3-9.5 x 7.0-7.5 mm, united to the column, cordiform, dilated, apex acuminate, aristate; disc with 3 veins, carinate throughout its length, ecallose. **Column** 4-5 mm long, terete, straight, forming a 90° angle with the ovary. **Rostellum** not seen. **Anther** not seen, **Pollinia** not seen. **Clinandrium-hood** reduced, margin crenate. **Capsule** 35 x 15 mm, ellipsoid, pedicel 10 mm long, body 23 x 15 mm, apical neck 2 mm long.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, from the upper reaches of the Andes, east of Riobamba, epiphytic in Andean montane forest. Flowering in July.

RECOGNITION: *Epidendrum garayi* belongs to the Kalopternix Group, Garayi Subgroup which is recognized by pendent chain of stems, arising each from a sub-apical internode of the previous stem, each with 1-3 linear-lanceolate leaves [in the primary stem there are up to 6 leaves in a fan], inflorescence apical, flowering only once, 1-2 flowered, the flowers non-resupinate, greenish to red or yellow, de lip cordiform, ecallose. The species is recognized by having 2-4-leaved stems, the leaves linear-lanceolate, 1.7-5.0 x 0.2-0.4 cm, flowers dirty purplish green, sepals 10-12 x 3.0-4.0 mm, oblong-lanceolate, aristate, petals 10.5-11.5 x 2.5-3.0 mm, falcate-lanceolate, acuminate, and lip cordiform with the apex acuminate. *Epidendrum falsigarayi* Hágsater & Karremans has 3-6 leaves per stem, leaves 2.5-5.0 x 0.3-0.5 cm, 1 brick-red flower, sepals 12.0-12.3 x 6.0-6.3 mm, ovate, acuminate, petals, 8.6 x 4.4 mm, triangular ovate, acute, and lip 7.3 x 9.6 mm, widely cordiform, apiculate. *Epidendrum wolfii* Hágsater & E. Santiago has short, bifoliate, cane-like stems, bearing 2, linear-lanceolate leaves 1.1-2.7 cm long, a sessile, two-flowered inflorescence, successive and opposite, pink, immaculate flowers, the lip widely cordiform with the apex obtuse, the disc with a single evident, low, wide rib running down the middle. *Epidendrum carmelense* Hágsater & Dodson forms unifoliate pseudobulbs at the end of the stems, the leaves are 3.5-8.5 cm long, with 1-2 greenish to ochre flowers with minute reddish dots, the lip is reniform, apically rounded, without any ribs. *Epidendrum palabrum* Hágsater has acuminate, non-foliar bracts, a single leaf 5.0-8.7 x 0.6-0.8 cm, sepals 13-14 x 3.7-4.0 mm, lanceolate, acuminate, 3-veined, petals 11.7 x 2.5 mm, lanceolate, acuminate, and lip 9.1 x 7.4 mm, shovel-shaped, base truncate, basal half quadrate, apical half triangular, apex acuminate.

NOTE: This species has been misunderstood since Løjtnant (1977) published a note and illustrated it with a different species, which is now published in this volume under the name *Epidendrum falsigarayi* Hágsater & Karremans, and which is well known from Quito to Popayan in southern Colombia.

ETYMOLOGY: In honor of Leslie Andrew Garay (1924-2016), an American botanist, born in Hungary, from where he emigrated to Canada after World War II, and then to the United States. He succeeded Charles Schweinfurth as the curator of the Oakes Ames Herbarium of Harvard University in 1958; he retired in 1986. He described many orchid species from the neotropics, including this one.

CONSERVATION STATUS: **DD.** Data deficient, known only from the type.

REFERENCES: Hágsater, E., & C.H. Dodson, 1993, *Epidendrum carmelense* in E. Hágsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part. 1, **Icon. Orchid.** 2: t. 120. Hágsater, E., & A. Karremans, 2019, *Epidendrum falsigarayi* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part. 13, **Icon. Orchid.** 17(1): t. 1720. Hágsater, E., & E. Santiago, 2013, *Epidendrum wolfii* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part. 10, **Icon. Orchid.** 14: t. 1496. Løjtnant, B., 1977, Notes on the genus *Epidendrum* (Orchidaceae) in Ecuador, **Bot. Not.** 130: 321-328.

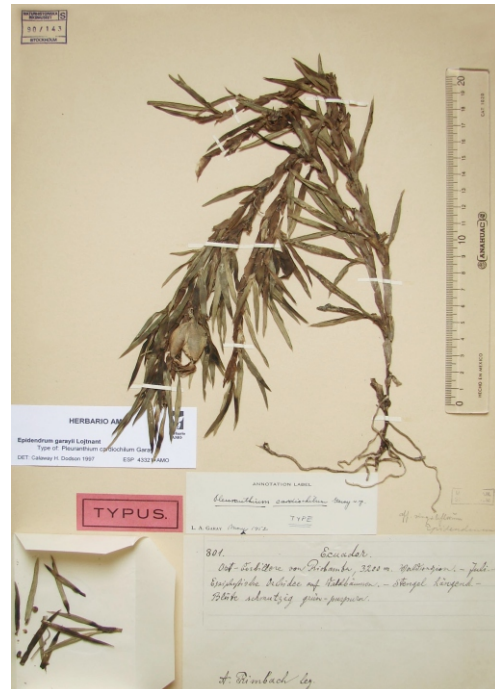


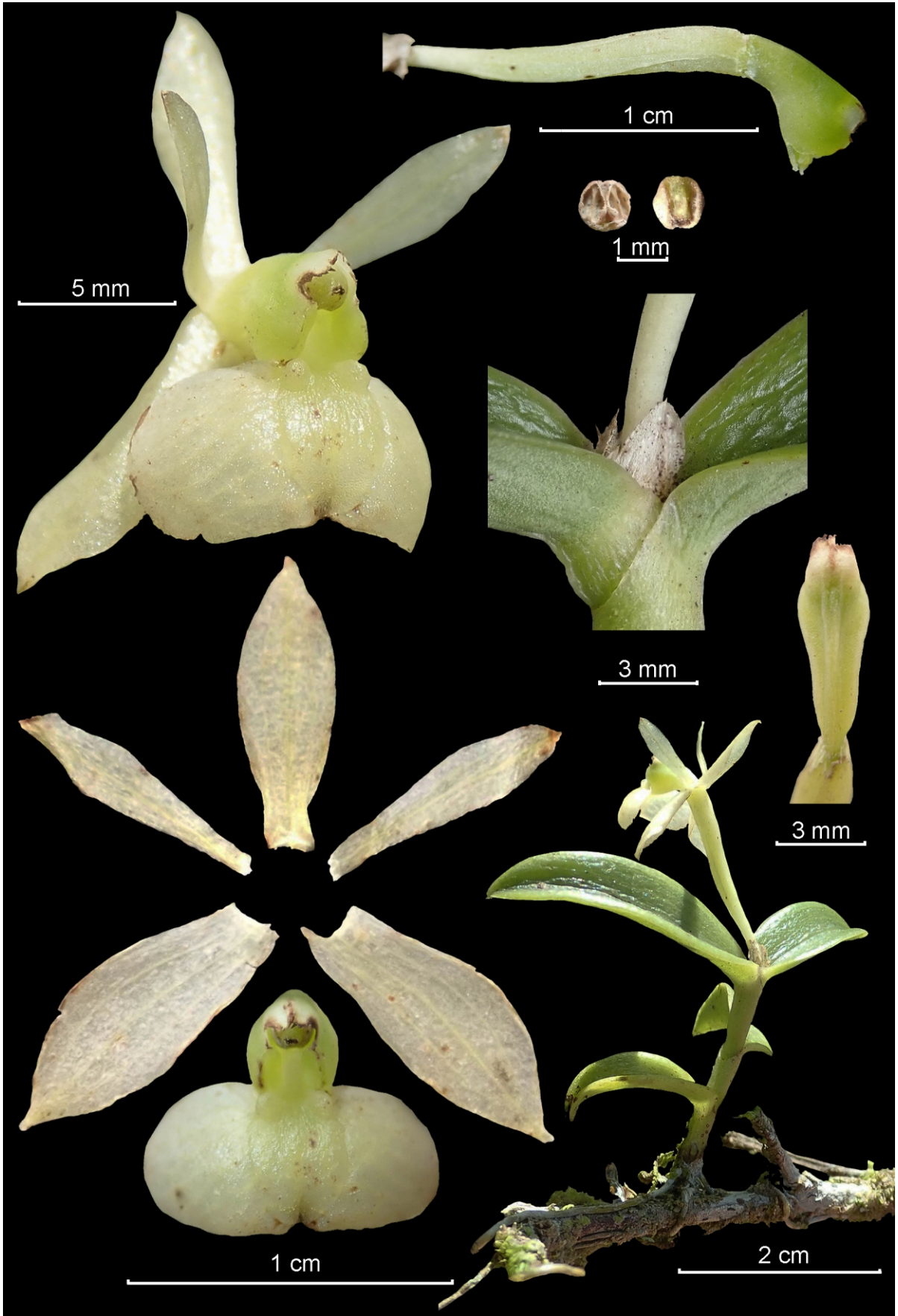
Author: E. Hágsater

Illustrator: R. Jimenez M.

Photo: Holotype S

Editors: E. Hágsater & E. Santiago





EPIDENDRUM GELISII Hágsater

Plate 1723

EPIDENDRUM GELISII Hágsater, sp. nov.

Type: ECUADOR: Pichincha: San Miguel de los Bancos; cerca de Mindo, Río Nambilla, 1300 m, 24 octubre 2018, prensado 4 diciembre 2018, *Eric Hágsater, Elizabeth Santiago & Rudy Gelis 16069*, Holotype: QCNE! (LCDP & photo voucher).

Similar to *Epidendrum scharfii* Hágsater & Dodson but plant smaller, single flowers produced in succession (vs. 3-4 simultaneous flowers), very pale green, nearly white (vs. pale green but never white), smaller flowers, sepals 8.8-10 mm long, 3-veined (vs. sepals 12-14 mm long, 5-veined), lip transversely elliptic, convex, (vs. reniform, base cordate), clinandrium hood somewhat incumbent, margin minutely dentate (vs. clinandrium prominent, erose-dentate).

Epiphytic, sympodial, caespitose **herb**, 6 cm tall including the flower. **Roots** 1.0-1.5 mm in diameter, basal, fleshy, thin. **Stem** 2.5 x 0.4-0.8 cm, simple, cane-like, terete. **Leaves** 2-4, equally distributed throughout the stem; sheath 0.2-0.8 cm long, tubular, smooth; blade 1.7-3.2 x 0.6-0.8 cm, oblong-elliptic, apex narrowly bilobed to retuse, sub-coriaceous, margin entire, spreading. **Inflorescence** apical from the mature stem, sessile, producing single flowers in succession. **Flowers** few in succession, one at a time, resupinate, very pale green, nearly white, column somewhat darker; fragrance not registered. **Floral bracts** ca. 2.0 x 2.0 mm, much shorter than the ovary, semi-ovate, apex obtuse, apiculate. **Ovary** 15 x 2.0 mm, terete. **Sepals** glabrous, free, narrowly elliptic, acute, 3-veined, margins entire, slightly revolute; dorsal sepal 8.8 x 2.9 mm, spreading; lateral sepals 10.0 x 3.8 mm, oblique, spreading with a low dorsal apical keel. **Petals** 8.5 x 2.0 mm, partly spreading, narrowly oblanceolate-elliptic, acute, margin entire, 1-veined. **Lip** 4.6 x 9.0 mm, united to the column, entire, convex, transversely elliptic, base truncate, apex slightly emarginate, lateral margins entire; bicallose, the calli small, sub-globose, disc provided with 3 parallel, very low, wide ribs, reaching the emarginate apex. **Column** 6.4 mm long, slightly arched, short, apically truncate. **Clinandrium-hood** prominent, surpassing the apex of the body of the column, emarginate, somewhat involute at the apex, covering part of the anther, margin minutely dentate. **Anther** 4-celled, sub-spherical. **Pollinia** 4, sub-equal, semi-obovoid: caudicles soft and granulose, longer than the pollinia; viscidium viscous, translucent. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, ½ as long as the stigmatic cavity. **Nectary** apparently penetrating about ½ of the ovary, not inflated. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from a single site in northern Ecuador, on *Psidium guajava* L. The species may have been overlooked as a young seedling by collectors, the locality had been visited by the first author with Calaway Dodson in 1986.

RECOGNITION: *Epidendrum gelisii* belongs to the Difforme group which is characterized by the caespitose, sympodial plants, fleshy light green to glaucous leaves, apical inflorescence without any spathe, sessile, rarely with a short peduncle, one-flowered to corymbose, fleshy, and flowers green to yellowish-green, rarely white. The new species is recognized by the single, successive, small flowers, sepals 8.8-10.0 mm long, petals 1-veined, lip transversely elliptic, emarginate, somewhat thickened by 3 central low, wide, parallel ribs, clinandrium hood thin, incumbent, its margin minutely dentate, ovary without forming a vesicle behind the perianth. *Epidendrum scharfii* has 3-4 simultaneous flowers, pale green, never white, sepals 12-14 mm long, petals 3-veined, lip reniform, base cordate, clinandrium-hood prominent, margin erose-dentate. The Amazonian *E. angustatum* (T.Hashim.) Dodson has 3-4 simultaneous flowers, pale green, fragrant, sepals 10-14.5 mm long, 5-veined, petals 3-veined, lip transversely reniform, base cordate, without ribs, clinandrium-hood prominent, margin dentate.

NOTE: The species appears to be a twig epiphyte, flowering very young, from a single stem. No larger plants were seen in the vicinity. *Epidendrum scharfii* has also been collected in the same locality.

CONSERVATION STATUS: DD. Data deficient.

ETIMOLOGY: In honor of Rudy Gelis was born in Florida in 1972. He earned a degree in biology at Berea College, Kentucky then traveled to Latin America for a year when awarded a Watson Fellowship in 1997. The past 20 years he has been in Ecuador, studying birds, guiding birders and naturalists. His latest project: documenting orchid diversity in Ecuador using macro photography, reaching out to orchid specialists for their specialized knowledge, and sharing this documentation via iNaturalist and Facebook.

ACKNOWLEDGMENT: Collections by Hágsater made under framework contract "Diversidad Genética del Ecuador" MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. "Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales".

REFERENCES: Hágsater, E., & C. H. Dodson, 1993, *Epidendrum scharfii* in Hágsater, E. & G. A. Salazar, (eds.), *The Genus Epidendrum*, Part 1, *Icon. Orchid.* 2: t. 185. Sánchez, L., & Hágsater, E. 2015, *Epidendrum angustatum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(1): t. 1502.



Author: E. Hágsater

LCDP: R. Gelis & A. Cisneros

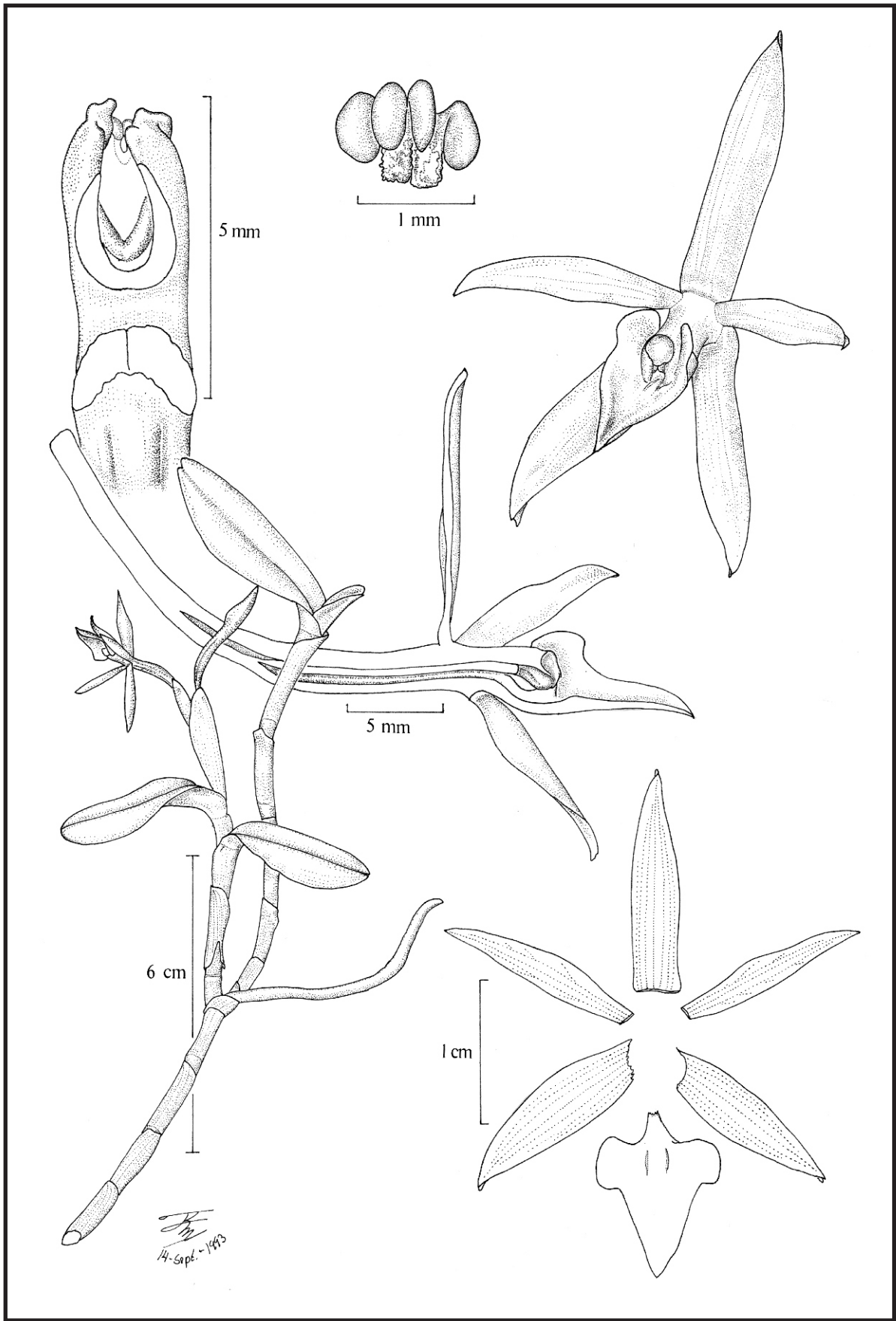
Photo: R. Gelis

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1723



EPIDENDRUM GEMINIFLORUM Kunth

EPIDENDRUM GEMINIFLORUM Kunth, Nov. Gen. Sp. [H.B.K.] 1: 354, 1816.

Type: COLOMBIA: [Nariño: Mun. La Cruz de Mayo:] Crescit in montosis, opacatis Provinciae Popayanensis, inter flumen Mayo et pagum La Cruz, alt. 1040 hex., **Aimé Jacques Alexander Bonpland & Alexander von Humboldt 2103** Holotype: P 00669671!

Epiphytic, sympodial, scandent herb 20-50 cm tall. **Roots** 1-2 mm in diameter; basal, produced from the base of each new stem, fleshy, thick, white. **Stems** 15-22 x 0.4-0.6 cm, simple, cane-like, produced from a middle internode of the previous stem, base terete, somewhat laterally compressed towards the apex; base covered by sheaths 0.8-1.7 cm long, non-foliar, tubular, obtuse, scarious when dry. **Leaves** 2-4, aggregate towards the apex of the stems, alternate, articulate, coriaceous but flexible; sheath 0.6-2.0 x 0.4-0.6 cm, tubular, somewhat infundibuliform towards the apex when dry, minutely striated; blade 2.7-9.0 x 1.2-2.6 cm, oblong, obtuse, slightly bilobed, margin entire, spreading. **Spathes** 2.3-4.0 cm long, [12], narrowly obovate-oblong, obtuse, conduplicate, pale green when young, brown as it ages. **Inflorescence** 4.5-8.0 cm long (including the flowers), apical, erect, 2-flowered (rarely 3-flowered); peduncle 1.5-2.4 cm long, totally hidden within the spathe, rachis very short, terete, thin. **Floral bracts** 3-4 mm long, much shorter than the ovary, linear-triangular, acute, embracing. **Ovary** 25-40 mm long, terete, thin, slightly curved, not inflated, furrowed. **Flowers** [23], simultaneously, non-resupinate, green to greenish yellow, occasionally turning ochre yellow when mature; without fragrance. **Sepals** 14-18 [21] x 3.5-4.5 mm, glabrous, oblong, margin revolute in natural position, oblong-elliptic when spread, apex acute, minutely apiculate, 7-veined, margin entire; dorsal sepals free, spreading, lateral sepals obliquely united to the base of column, partly spreading. **Petals** 14.4-16.0 [19] x 2.7-3.3 mm, free, spreading, narrowly lanceolate, acute, 3-veined, the lateral veins branching, margin entire, spreading. **Lip** 10-13 [16] x 8-12 mm, united to the column, 3-lobed, base sub-cordate, canaliculate down the center in natural position, the margins then spreading, especially the lateral lobes, margin entire, spreading; bicolorous, the calli laminar, thin, short, parallel; disc without ribs; lateral lobes 3.3-4.0 x 3.3-4.0 mm, sub-orbicular to hemi-elliptic, generally smaller than the mid-lobe; mid-lobe 5.0-5.3 x 5.0-6.0 mm, triangular to widely triangular, sub-acute. **Column** 5-7 mm long, straight. **Clinandrium-hood** short, margin entire. **Anther** spherical, 4-celled. **Pollinia** 4, lentil-shaped, similar in size and shape; caudicles soft and granulose, as long as the pollinia; viscidium semi-liquid. **Lateral lobes of the stigma** prominent, half as long as the stigmatic cavity. **Nectary** penetrating half the pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Without locality data, pressed cult. 10 X 1997, Colomboyquides sub Hagsater 11554, AMO! CUVCI! VALLE! Ibid. Escobar 5102, AMO! (slide and spirit) Without locality data, Moritz 1075, W 4356! Antioquia: Jardín, Reserva "El Centello", 2420-2540 m, 16 I 2014, Buitrago 263, JAUM! Abejorral, 2457 m, 14 XI 2013, Castro 158, JBB! Parque Nacional Natural "Las Orquídeas" 1250 m, 30 V 1988, Cogollo 3095, JAUM! El Retiro, pressed cult. 21 II 2000, Colomboyquides sub Hagsater 11642, AMO! Ibid. pressed cult. 21 II 2000, Colomboyquides sub Hagsater 11642, AMO! x2! Road Vereda to La Meseta, 2100 m, 16 IX 1984, Dodson 15313, MO! Enviogado: Vda. Arenales, sector La Cascada, 1900 m, 7 IX 2013, Dominguez 223, JAUM! Cerro de Frontino, 1800 m, 23 X 1884, Lehmann 4145, Gx2! Quebrada Los Naranjos, 23 X 1996, Giraldo 1163, JAUM! Reserva Natural Mesenia-Paramillo, 2690 m, 21 IX 2012, MEDELL! Ibíd. Vélez 56, MEDELL! Vda. Yaramalito, quebrada Los Vallados 1 V 1996, Saldarriaga 159, JAUM! Ibid. Saldarriaga 179, JAUM! At departamental border, km 15 of road Salgar-El Dauró (Chocó), 2280 m, 29 IX 1987, Zarucchi 5930, MO! SEL! Boyacá: Mun. Duitama, corregimiento El Carmen vereda Santa Elena, 2480 m, 10 XI 1993, Betancur 4257, COL! Cañon del Río Pómeica, km 23, Barabosa-Tunja, entre Moniquiray y Arcabuca, 2400 m, 17 III 1996, Hagsater 11496, AMO! (spirit) Ibid. pressed cult. 31 X 1997, Hagsater 11497, AMO! VALLE! Cauca: Popayán, 17 IV 1876, Andree 2792, K! Popayán, Hartweg 1427, G! Kx2! Cundinamarca: W of Facatáiva, 2500 m, 10 IX 1961, Garay 186, COL! Alban, 2100 m, 26 IX 1947, Haught 6209, US! Entre Sibabá y Fusagasugá, 2350-2480 m, 1 V 1963, Huertas 5627, COL! between Bogotá & Fusagasugá, 2800 m, 22 IV 1982, Luer 7514, SEL! Mun. Madrid, autopista Bogotá-Medellín, 2650 m, 23 XI 1961, Murillo 521, COL! Laguna de Catimica, Santanderico, ca. 2050 m, 30 III 1968, Orot Valdivieso 66, HPUJ! (slide of watercolor, AMO!) Río Bogotá, arriba del Salto, El Charquito, 30 IX 1956, Ospina-Hernández 3, AMES! COL! Honda, Los Alpes, 2300 m, 11 1939, Renz 3152, RENZx2! near Bogotá, 10 VII 1915, Tracey 33, K! Sur de Santanderico, ca. 2000 m, 4 XI 1956, Uribe 2818, AMES! COL! Sur de Santanderico, cerca de la Laguna de Catimica, 1900 m, 13 IX 1958, Uribe 3201, COL! Mun. Mesitas, abajo de Salto de Tequendama, 2100 m, 31 X 1965, Uribe 5448, COL! Distrito Capital: Bogotá, Karl s.n., W 4356! Bogotá, Schultz 125, US! Nariño: Pasto, El Encano, 11 XI 1988, 2800 m, Benavides 9920, COL! Pasto, Corregimiento Cabrera, 22 VII 2005, Farfán 1539, FMB! Carretera de Pasto a Mocoa, El Encanto y Dolores, 2850-5200 m, 26 VII 1948, García-Barriga 13034, AMES! 7 km above Ricaurte, 1750 m, 26 XI 1981, Gentry 35031, COL! Pasto, 9000 ft, 13 VI 1978, Lehmann s.n., W 69298! Carretera de La Victoria-San Jorge, 2100 m, 23 VI 1962, Mora 2151, PSO! Corregimiento Cabrera, Mun. Ricaurte, Reserva Natural La Planada, 1800 m, 3 VIII 1992, Paz 357, PSO! Pasto, 2800-3000, 13 I 1881, Lehmann 193, LE! Norte de Santander: Carretera de Cachira a Salazar, 3156 m, 9 V 2013, Marin 5454, FMB! Quindío: Mun. Filandia, Vereda Cruces, VI 2005, Vargas 16050, COL! Risaralda: Mun. Pereira, Parque Regional Ucumari, 2150 m, 11 VI 1989, Bernal 1572, COL! Mun. Pueblo Rico, Vereda Monte Bello, ca. 1500 m, 1 X 2006, Arevalo 692, COL! Mun. Pereira, Parque Regional Ucumari, 2300 m, 14 VI 1989, Bernal 1670, COL! Valle del Cauca: Cordillera Occidental, filo de la cordillera sobre Las Brisas, monte El Tabor, 1970-2100 m, 19 X 1946, Cuatrecasas 22292, US! VALLE! El Cairo, Serranía de los Paraguas, 2080 m, 9 XI 1997, Silverstone-Sopkin 7992, AMO! CTES! VALLE! Mun. Cali, PNN Farallones de Cali, Corregimiento Los Andes, Predio El Danubio, Camino desde la cabaña del Danubio-Sendero Los Carpátos, 2132 m, 9 IV 2019, Reina-Rodríguez 2966, CUVCI! Santander: W of Vélez, road to Landazuri, 2400 m, 4-5 V 1984, Luer 10105, MO! Tolima: Ibagué, Cuenca del Río Toche, 2320 m, 4 VII 1985, Sánchez 329, FMB! ECUADOR: Carchi: El Mirador, 12 km al S de Playaón de San Francisco, 4 km de la desviación en el puente, 3360 m, 9 VII 1990, pressed cult. 12 XII 1991, Hagsater 11723, AMO! En las afueras de Maldonado hacia Tulcán, arriba de pequeña hidroeléctrica, 1410 m, 30 IV 1993, Hagsater 11294, AMO! (spirit, AMO) km 8.3 al E de Maldonado hacia Tulcán, 2035 m, 30 IV 1993, Hagsater 11314, AMO! Ibid. pressed cult. 14 XII 1993, Hagsater 11314, AMO x3! Ibid. pressed cult. 6 II 1994, Hagsater 11314, AMO! Ibid. pressed cult. 16 XII 1996, Hagsater 11314, AMO x14! km 8.3 al E de Maldonado hacia Tulcán, 2035 m, 30 IV 1993, pressed cult. 8 X 1993, Hagsater 11320, AMO! (Illustration voucher) Ibid. pressed cult. 24 III 1997, Hagsater 11320, AMO x3! En las afueras de Maldonado hacia Tulcán, 1410 m, 1 V 1993, Hagsater 11329, AMO x2! road Tulcán-Maldonado, western slopes of Cordillera Occidental, 2900-3100 m, 2 III 1974, Harling 12398, AMES! GB! ca. 5 km east of Santa Bárbara, 2700 m, 4 III 1974, Harling 12451, GB! Parroquia Calacali, Pulumahua-La Iberia, 2000 m, 1 I 1984, Hirtz 1484, AMO x3! Maldonado-Tulcan, km 8-15, 2000-2200 m, 1 XI 1985, Luther 924, SEL! km 6, Santo Domingo-Quito old road, 1500 m, 8 IV 1984, Thurston 7-3323, AMO! Pichincha: Guarumal, ca. 2100 m, 28 X 1955, Aglund 18226, S! km 29 on road from Quito to Santo Domingo de los Colorados, 2900 m, 22 X 1961, Dodson 1034, SEL! at km 86 Quito to Santo Domingo, 1400 m, 1 II 1963, Dodson 2212, SEL! Quito-Chiriboga-Santo Domingo, 1800 m, 9 II 1992, Croat 72029, MO! Vicinity of Bellavista, along old road from main Tandayapa-Mindo road, to Nanegalito-San Miguel de los Bancos road, 2248 m, 5 IX 2007, Croat 98308, QCNE! Parroquia Nono, Cerro Guarumos, Derecho de Vía del Oleoducto de cruces pados OCB 2772 m, 11 XI 2001, Mites 479, MO! Road from Quito to Puerto Quito, between Nono and Tandayapa, about km 42 from Quito, 7100 ft, 5 XI 1974, Plozman 4436, Q! Napo: Cosanga, km 112 Quito-Tena, 1850 m, 17 VI 1983, Dodson 14011, SEL! km 92 Quito to Baeza, 1850 m, 30 VI 1985, Dodson 15889, QCNE! km 68 road from Quito to Baeza, 2700 m, 29 V 1986, Dodson 16422, MO! QCNE! Near Papallacta on road Quito to Baeza, 2900 m, 30 IV 1987, Dodson 17071, MO! QCNE! 2 km arriba de Selva Alegre, 1940 m, 6 XII 1986, pressed cult. 1 XII 1988, Hagsater 8984, AMO! Quito-Baeza road, between Papallacta and Cuyuja, 2850 m, 26 III 1979, Lofnandt 11373, AAU! GB! QCA! Píro-Baeza-El Chaco, 2100-3000 m, 14 IV 1984, Thurston 7-4029 and Dodson 124257, Quito-Baeza road, 2600-2900 m, 20 IV 1991, Yanes 147, QCA! QCNE! Sumbucios: km 49.8 desviación de la carretera Tulcán-Ibarra hacia La Bonita, después de Santa Bárbara, 8 VII 1990, Hagsater 10599, AMO! Ibid. pressed cult. 8 X 1993, Hagsater 10599, AMO x2! Ibid. pressed cult. 4 XII 1994, Hagsater 10599, AMO x2! Tungurahua: Jct along road from Baños to Riobamba, 2300 m, 15 II 1963, Dodson 2262, SEL! Volcán Tungurahua, 8000 ft, 1877, Lehmann 65, W! Ibid., 5000-7000 ft, Lehmann 86, W! VENEZUELA: Distrito Federal: Cerro de Naiguata, 2650 m, 20 II 1952, Vareschi 468, VEN! Mérida: Without locality data, 6500 ft, 1 V 1846, Funck & Schlim 1048, G! Ibid. Linden 647, (mixed collection, the specimen on the right side of the type of *Epidendrum prutescens* Rchb.f.) AMES! Dist. Libertador, cerca de Prado Verde, arriba de El Arado, 2450-2490 m, 22 V 1993, Meier 3755, VEN! La Carbonera, 2300 m, 25 IV 1949, Renz 5230, RENZ! La Carbonera & Chorotal, 2100 m, 26 III 1949, Renz 5377, RENZ! Táchira: Las Delicias, 1800 m, 9 IV 1951, Renz 7439, RENZx2!

OTHER RECORDS: Without locality data, Moritz s.n., sketch, W 4354! ECUADOR: Napo: Vía Cosanga-Cucheras km 3, 21 V 2018, Rudy Gelis s.n., digital image, AMO! (photo voucher). COLOMBIA: Antioquia: Alrededores de Medellín, 1900-2500 m, Duque 171, photo, AMO! Vía Colomboyquides, Escobar s.n., digital photo, AMO! Jardín, Cordillera Occidental, 2887 m, Monsalve s.n., digital image, AMO! Cundinamarca: Parque Nacional Chingaza, Mundo Nuevo-La Calera, 2500 m, Galindo s.n., digital image, AMO! Magdalena: Sierra Nevada de Santa Marta, Yepes s.n., digital photo, AMO! Valle del Cauca: Serranía de los Paraguas, García-Revelo s.n., digital image, AMO! Querebral, Para s.n., digital photo, AMO! VENEZUELA: Táchira: North of Las Delicias, 1950 m and variety B, road to Quequeña, 2000 m, Dunsterville 1138, illustration published in Dunsterville & Garay, 1972.

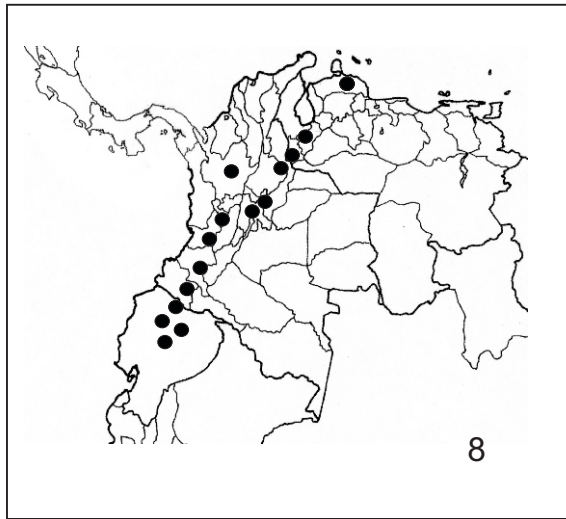
DISTRIBUTION AND ECOLOGY: Common and widespread from northern and western Venezuela; in Colombia from the Sierra Nevada de Santa Marta, western, central and eastern Andes to central Ecuador. Epiphytic at [1250] 1800-3100 m altitude. Flowering from October to July.

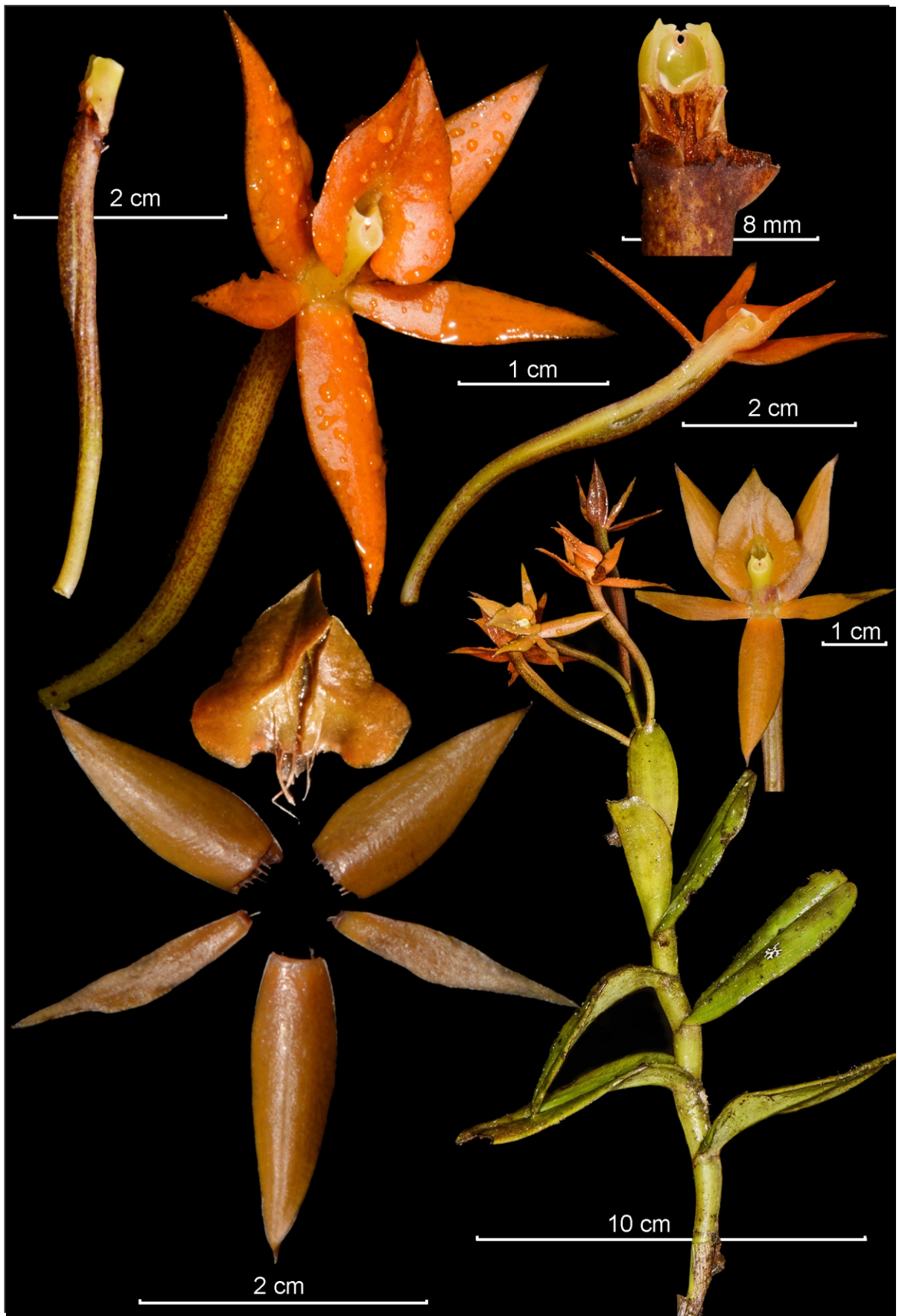
RECOGNITION: *Epidendrum geminiflorum* belongs to the Geminiflorum Group and Subgroup characterized by the sympodial habit, creeping rhizome, unbranched stem, 1-2 spatheaceous bracts and a few-flowered inflorescence, the flowers non-resupinate, the disc of the lip with a pair of laminar calli. The species is recognized by the generally 2-flowered (rarely 3-flowered) inflorescence, flowers green or greenish-yellow, sepals 14-18 [21] mm long, acute and apiculate, with the margin revolute; petals 14.4-16.0 [19] mm long, narrowly lanceolate when spread, lip canaliculate down the center in natural position, the margins then spreading, especially the lateral lobes, which are smaller than the mid-lobe. *Epidendrum cajamarcae* Schltr. though vegetatively indistinguishable has wider sepals, obtuse apex, and the lateral lobes of the lip are nearly as long as the mid-lobe which is triangular-ovate, obtuse. *Epidendrum stevensonii* Hagsater & Dodson has the lip spade-like, the bottom half basically square and the apical half a right-angled triangle, the flowers are relatively numerous, 5-10-flowered. *Epidendrum philocremnum* Hagsater & Dodson has 13 mm long sepals, linear-elliptic petals and the lip three-lobed, the lateral lobes suborbicular; it is found on the eastern side of the Andes, on cliffs and steep roadsides, between Loja and Zamora. *Epidendrum geminiflorum* Hagsater, E. Santiago & Medina Tr. has coriaceous, rigid leaves, inflorescence with up to 6 orange or ochre-orange flowers, sepals 21-23 mm long, longitudinally convex, the mid-lobe of the lip nearly as wide as it is long.

CONSERVATION STATUS: LC. Less Concern. The species is very common and very widespread. The expected extent of occurrence 140,000 km², thus qualifying as Less Concern.

ETYMOLOGY: From the Latin *geminis*, twins, and *filos*, flower, this twin-flowered species, a feature common in this species, though 3 flowers are possible.

REFERENCES: Escobar, R., 1994, *Orquídeas Nativas de Colombia*, 5: 759, fig. 873. Dunsterville, G.C.K. and L.A. Garay, 1972, as *Epidendrum geminiflorum*, in *Venez. Orchid. III*. [Dunsterville & Garay] 5: 88-89. Foldats, E., 1970, *Orchidaceae*, in T. Lasser (ed.) *Fl. Venez.* 1(3): 261-263. Hagsater, E., & C.H. Dodson, 2001, *Epidendrum philocremnum* in E. Hagsater & L. Sanchez S., (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: 470. Hagsater, E., & C.H. Dodson, 2001, *Epidendrum stevensonii* in E. Hagsater & L. Sanchez S., (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: 471. Hagsater, E., & E. Santiago, 2019, *Epidendrum azaayense* in E. Hagsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1): 1706. Schlechter, F.R.R., 1921, *Epidendrum cajamarcae*, *Repert. Spec. Nov. Regni Veg.* 9: 81-82. Guidelines for using the IUCN Red List categories and criteria. Version 14. Standards and Petitions Subcommittee in August 2019. Accessed from <http://www.iucnredlist.org/documents/RedListGuidelines.pdf>.





EPIDENDRUM GEMINIOCHRACEUM Hágsater, E.Santiago & Medina Tr.

Plate 1725

EPIDENDRUM GEMINIOCHRACEUM Hágsater, E.Santiago et Medina Tr., sp. nov.

Type: ECUADOR: Cotopaxi: Sigchos, después de Las Pampas hacia Sigchos, 2881 m, 21 April 2018, *Eric Hágsater, Gerardo A. Salazar, Diego Francisco Tobar Suárez, Itzi Frago Martínez y Mónica Peñañiel 15784*. Holotype: QCNE! Isotype: AMO!

Similar to *Epidendrum geminiflorum* Kunth, but flowers fleshy, rigid, orange to ochre-orange, concolor (vs. slightly fleshy, green or yellowish green turning brown), leaves 3.0-13.0 x 1.2-3.3 cm, narrower, coriaceous, rigid (vs. leaves 3.0-9.0 x 1.4-2.6 cm, sub-coriaceous, flexible), [2]4-6 flowered (vs. 2[3]-flowered), sepals 21-23 mm long (vs. sepals 14-18[21] mm long).

Epiphytic and terrestrial, sympodial, scandent herb, ca. 80 cm long. **Roots** 2-3 mm in diameter, produced from the rhizomatous base of the stem, scarce, terete, thin, white. **Stems** 14-33 x 0.7-0.9 cm, simple, cane-like, produced from the middle of the previous stem, terete at base, somewhat laterally compressed towards the apex; base covered with non-foliar sheaths 2.0-3.7 cm long, tubular, scarious, becoming fibrous with time. **Leaves** 5-10, distributed along the apex of the stems, articulate, alternate, sub-spreading, coriaceous, rigid, green, concolor; sheaths 1.3-3.8 x 0.7-0.9 cm, tubular, minute, longitudinally striated, pale green; blade 3.0-13.0 x 1.2-3.3 cm, oblong, apex unequally bilobed, margin entire. **Spathes** 2, 3.5-6.0 x 2.6-2.8 cm (when spread), tubular at base, conduplicate above, apex obtuse, obovate when spread, margin entire. **Inflorescence** 10-13 cm long (including flowers), apical, erect, racemose; peduncle 5.3-7.0 cm long, totally hidden within the spathe, rachis 1.7-3.5 cm long, much shorter than the ovary, narrowly triangular, acute, embracing. **Flowers** [2] 4-6, simultaneous, non-resupinate, erect, fleshy, rigid, sepals, petals and lip orange to ochre-orange, centrally concolor, dorsally spotted with reddish brown, column greenish yellow, anther cream colored; fragrance not registered. **Ovary** 43-50 mm long, terete, thin at base, slightly inflated ventrally along apical half, furrowed, green, dense and minutely spotted with reddish brown. **Sepals** lanceolate, shortly acuminate, 7-veined, slightly longitudinally convex, fleshy, margin entire, spreading; dorsal sepal 22-23 x 6.5-8.0 mm, spreading, free; lateral sepals 21-22 x 7-8 mm, obliquely united to the base of column, partly spreading, slightly oblique. **Petals** 18.3-19.0 x 4.0-6.0 mm, free, spreading, lanceolate, acuminate, 3-veined, margin entire, spreading. **Lip** 15-17 x 16.0-16.5 mm, united to the column, 3-lobed (tearing when spread), base cordate, margin entire, embracing the apex of the column in natural position, underside with a long narrow furrow in the middle; bicolose, calli thin, laminar, parallel; disc concave with a thin, low mid-rib; lateral lobes 6.0-6.5 x 6.5-8.0 mm, hemi-orbicular; mid-lobe 9.0 x 10.0 mm, widely triangular, shortly acuminate. **Column** 6.5-7.0 mm long, thin, straight. **Chnandriumhood** short, margin entire. **Anther** spherical, 4-celled. **Pollinia** 4, obovate, laterally compressed, pale yellow; caudicles somewhat longer than the pollinia, soft and granulose; viscidium semi-liquid, transparent. **Restellum** apical, slit. **Lateral lobes of the stigma** narrow, half the length of the ovoid stigmatic cavity. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Cauca: Cordillera Central, Vertiente Occidental, cabeceras del Río Palo, 2950-3150 m, 13 XII 1944, *Cuatrecasas 19252*, AMES! VALLE! **Nariño:** a 10 km de la carretera Pasto-Buesaco, 2535 m, 23 II 1979, *Benavides 1716*, PCHO! Mun. Pasto, 3100 m, 22 II 1984, *Benavides 4306*, MO! PCHO! **Putumayo:** Valle de Sibunday, 2.5 km E of Colon, 2200 m, 16 VII 1996, *Bristol 1226*, AMES! COL! US! between La Cocha and Sibunday, 2700 m, 30 VII 1978, *Luer 3149*, SEL! **Quindío:** Without locality data, VIII 1964, *Kapuler 239*, COL! **Tolima:** Cuenca del Río Combeima, Finca El Silencio, 2600 m, *Barbosa 3194*, FMB! **ECUADOR:** Without locality data, *Ames s.n.*, AMES 1442! **Cotopaxi:** Ilinizas, 3050 m, *Cerón 30307*, Q! QAP! km 82 Quevedo-Latacunga, 2650, 3 XI 1984, *Dodson 15423*, MO! Pílaló, km 80 Quevedo-Latacunga, 2500 m, 18 II 1985, *Dodson 15581*, MO! QCA! Sigchos al Río Toachi, camino Sigchos-Latacunga, 2913 m, 22 IV 2018, *Hágsater 15794*, Quevedo-Latacunga, 6 IX 1983, *Hágsater 7665*, AMO! Quevedo-Latacunga, 2000 m, 6 III 1975, *Luer 320*, MO! Sigchos, 3044 m, 21 VI 2003, *Ramos 6370*, QCNE! **El Oro:** Pasando Chilla hacia Guanazán, 2491 m, 14 X 2018, *Hágsater 15939*, QCNE! **Napo:** Papallacta, km 64 Quito-Baeza, 2700 m, 17 VI 1983, *Dodson 13980*, SEL! Along road cut below Papallacta, 2770 m, 15 V 1981, *Kuhn 117*, Q! SEL! **Pichincha:** Reserva Geobotánica Pululhúa, alrededores de Pondoña, 2500-3000 m, 11 I 2000, *Álvarez 2585*, MO! Alluriquín and Aloag, 2500 m, 1 I 1979, *Besse 1341*, SEL! New road, Quito-Santo Domingo, km 18-25, 3 VI 1970, *Brenner 56*, SEL! Reserva Geobotánica Pululhúa, Cerro Pondoña, 2000-2500 m, 26 II 1987, *Cerón 922*, MO! QCA! QCNE! Reserva Geobotánica Pululhúa; Quebrada sobre los tanques de reservorio de agua, 1880-3356 m, 30 I 1987, *Cerón 1937*, QAP! QCA! QCNE! Ilinizas, 3050 m, 20 I 1996, *Cerón 30307*, Q! QAP! km 30 Quito-Santo Domingo, new road, 2900 m, 5 III 1974, *Dodson 5415*, MO! km 60, Quito-Santo Domingo vía Tandapi, 2600 m, 25 X 1984, *Dodson 15379*, QCA! QCNE! MO! Quito-Sto. Domingo km 40, El Paso, 3150 m, 10 XI 1984, *Dodson 15441*, LOJA! MO x3! QCA! QCNE! Quito-Santo Domingo, El Paso, 3150 m, 1 I 1985, *Dodson 15512*, MO! km 40 Quito-Sto. Domingo, El Paso, 3150 m, 1 I 1985, *Dodson 15513*, NY! QCNE! MO! km 40, W slopes of the Cordillera Occidental, above Tandapi, 20-21 km from Aloag on road to Reserva Geobotánica Pululhúa, Camino de acceso al cráter por el sector de Moraspungo, 2600-2900 m, 2 XI 1989, *Cavillanes 146*, QCA! Tandayapa, entre Nono-Mindó, 2200 m, 5 XII 1986, *Hágsater 8872*, AMO! MO! Pululhúa, 2800, X 1983, *Hirtz 1304*, AMO! above Tandapi, 20-21 km from Aloag on road to Santo Domingo, ca. 2650 m, 7 II 1985, *Molau 1158*, GB! Santo Domingo-Quito Road, 82 km north Zaracay Hotel, 8100 ft, 2 VIII 1980, *Sauleda 3930*, AAU! AMES! FLA! MO! SEL! U! Reserva Ecológica Rio Guajalito km 59 de la carretera antigua Quito-Santo Domingo, 1800-2000 m, 4 V 2000, *Tapia 1247*, QCA! **Tungurahua:** NW slopes of Volcán Tungurahua below the refuge, 2850-3150 m, 15 I 1988, *Molau 2484*, GB! in silv. Suband. Vulc. Tungurahua, VIII 1901, *Sodiro s.n.*, Q! Trail along W slope on Río Ulba Canyon above Hda. San Antonio (4 km up Río Ulba from village of Ulba), 2200-2500 m, 3 VI 1985, *Stein 2955*, MO! **Chimborazo:** Road Baños-Puela, ca 2-3 km north of Manzano, 8 V 1969, *Lugo 1322*, AMES! GB! **PERU: Cajamarca:** Parque Nacional de Cutervo, camino a Jaén, 2600 m, 10 VIII 1987, *Díaz 2616*, MO! SEL! USM! E of Celendin, 2850 m, 26 VIII 1980, *Luer 5433*, SEL! **Huánuco:** Honoria, Pachitea, *McK. Bird 1397*, MO! (illustration, AMO). Carpish (Moyobamba), 27 VII 2002, *Trujillo 28*, HURP! **Pasco:** Oxpampá, Parque Nacional Yanachaga Chemillén, Sector Chacos, 2800 m, 3 XII 2004, *Becerra 334*, HOXA! MO! Oxpampá, Parque Nacional Yanachaga Chemillén, Sector San Alberto, camino al Abra Esperanza, 2692 m, 7 XII 2010, *Briceno 471*, iHOXA! Oso Playa 2410 m, 24 IX 2007, *Monteagudo 15328*, AMO! HOXA! Oxpampá, Huancabamba, Sector Grapanazzi, 2400 m, 17 X 2003, *Rojas 1920*, MO! Huancabamba, Oso Playa, 2215 m, 14 X 2009, *Valenzuela 13512*, HOXA! Ibid. 2362 m, 15 X 2009, *Valenzuela 13580*, HOXA! Ibid. 2478 m, 22 X 2009, *Valenzuela 13867*, HOXA! Oso Playa, 2200-2400 m, 20 V 2005, *van der Werf 20321*, HOXA! MO! Parque Nacional Yanachaga-Chemillén, Sector San Daniel, 2200-2500 m, 12 III 2006, *Vásquez 31097*, HOXA! MO! Ibid. 2410 m, 1 IX 2005, *Vilca 246*, MO! **San Martín:** Mariscal Cáceres, E of Gran Pajaté ruins, 2550 m, 15 VIII 1980, *Young 4711*, USM!

OTHER RECORDS: COLOMBIA: Valle del Cauca: Mun. Cerrito, Finca La Samaria, vereda Moral Alto, 10 III 2017, 3160 m, *Giraldo 9153*, digital image, AMO! Tenerife, *Pérez s.n.*, digital image, AMO! (photo voucher) **Putumayo:** Vereda Patoyaco-Tamabioy localizada al oriente de este valle en el camino viejo que desde San Francisco conduce a Mocoa, 1900 m, *Medina 722*, digital images, AMO! **Tolima:** Cajamarca, *Alzate s.n.*, digital photo AMO! Roncesvalles, San José de las Hermosas, camino hacia la Laguna La Cristalina, 3000 m, *Rincón s.n.*, digital image, AMO! **ECUADOR: Azuay:** without locality data, *Merino s.n.*, digital photo, AMO! **Cotopaxi:** Sigchos, después de Las Pampas, pasando el Puerto hacia Sigchos, 2881 m, 21 IV 2018, *Hágsater 15783*, digital photos, AMO! (LCDP voucher). **PERU: Amazonas:** Without locality data, *Salas s.n.*, digital photo, AMO! **Huánuco:** Carpish (Moyobamba), 27 VII 2002, *Trujillo 28*, digital photo and image of illustration, AMO! **Pasco:** Chontabamba-Oxpampá, *Torres-Paucar s.n.*, digital photo, AMO!

DISTRIBUTION AND ECOLOGY: Widespread and common in Colombia, Ecuador and south to central Peru, straggling on bushes and ledges at 2100-3500 m altitude. Flowering throughout the year. It is by far the most common and widespread species of the group.

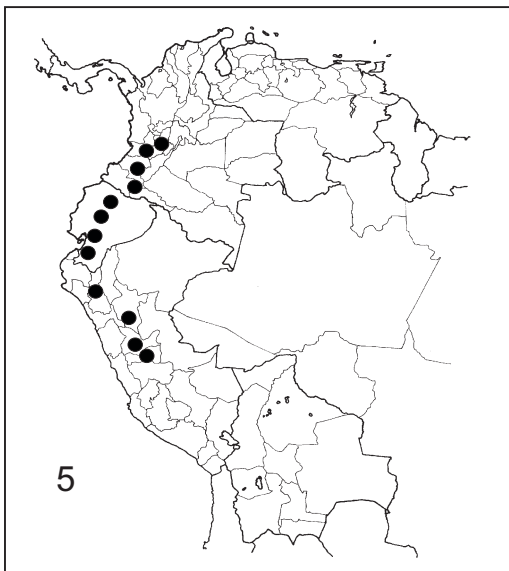
RECOGNITION: *Epidendrum geminiochraceum* belongs to the Geminiflorum Group characterized by having a sympodial, scandent, straggling habit, an unbranched stem, 1-2 spatheous bracts, a few-flowered inflorescence, non-resupinate flowers, more than 2 cm in diameter, and the disc of the lip is not excavated with a pair of laminar calli. The new species is recognized by the relatively tall stems to 33 cm, leaves 3.0-13.0 x 1.2-3.3 cm, oblong, coriaceous and rigid, [2]4-6 flowers fleshy, orange to ochre-orange, sepals 21-23 x 6.5-8.0 mm, acuminate, longitudinally somewhat convex, petals 18.3-19 x 4.0-6.0 mm, lanceolate, lip 15-17 x 16-16.5 mm, clearly 3-lobed, the mid-lobe widely triangular, short-acuminate. *Epidendrum geminiflorum* Kunth is vegetatively similar, leaves 3.0-9.0 x 1.4-2.6 cm, oblong, 2[3] flowers green to greenish yellow, sepals acute, margins revolute, sepals 14-18 [21] x 3.5-4.5 mm, petals 14.4-16 [19] x 2.7-3.3 mm, lanceolate, lip 10-13 [16] x 8-12 mm, 3-lobed, the lateral lobes semi-orbicular, small. *Epidendrum azuayense* Hágsater & E.Santiago has stems 6.0-16 cm tall, oblong-elliptic leaves 1.0-5.0 x 0.8-1.5 cm, 2-flowered inflorescence, flowers orange, column green, sepals 13-18 x 5.0-6.0 mm, oblanceolate petals 12-16 x 5.0-6.0 mm, and lip 8.0-9.0 x 11.0 mm, widely cordiform, apex obtuse. *Epidendrum megagstrum* Lindl. has leaves 3.0-5.0 x 1.8-2.3 cm, elliptic, 3 copper-brown flowers, column pale green, sepals 20.5 x 7.6 mm, flat, ovate-elliptic, acute, petals 18.5 x 4.7 mm, oblong-elliptic, lip 11.4 x 10.0 mm, narrowly cordiform. *Epidendrum orbicordichilum* Hágsater & E.Santiago has leaves 3.7-9.0 x 1.8-3.5 cm, elliptic to narrowly elliptic, 2 sepia-ochre flowers turning bright orange with age, sepals acute, minutely apiculate, petals 17 x 5.4 mm, elliptic, apex sub-acute, lip 14 x 14 mm, entire, orbicular-cordiform.

CONSERVATION STATUS: LC. Less Concern. Widespread and common in Colombia, Ecuador and south to central Peru, at 2000-3100 m altitude, growing among shrubs in low forests and ledges.

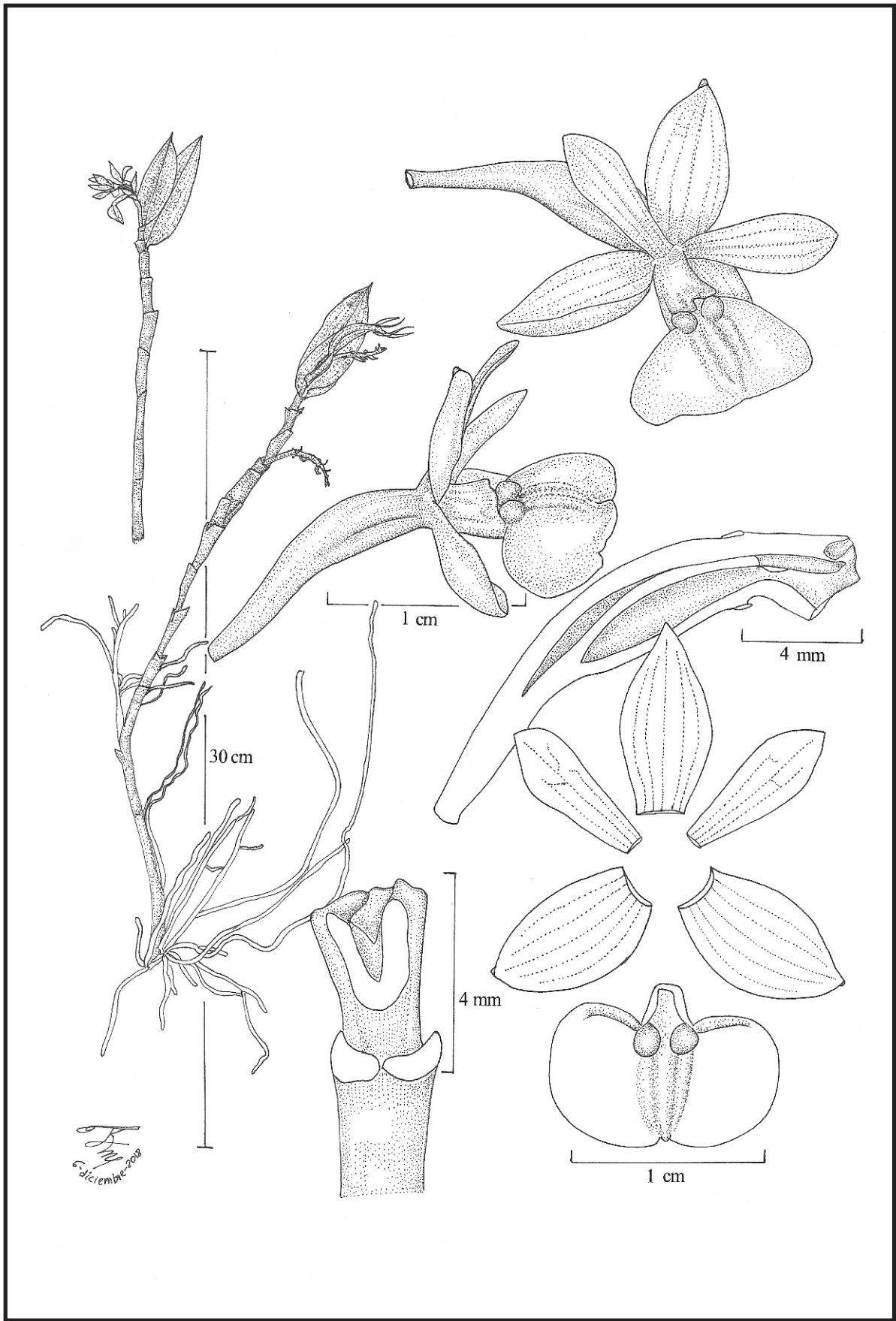
ETYMOLOGY: From the Latin *geminus*, twins, and *ochraceus*, the color ochre, yellowish brown, in reference to the geminiflorum group, and the orange to ochre-orange color of the flowers that are typical of this species and distinguishes it from others of this group.

ACKNOWLEDGMENT: Collections by Hágsater made under framework contract "Diversidad Genética del Ecuador" MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. "Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales".

REFERENCES: Hágsater, E., & E. Santiago, 2019, *Epidendrum azuayense* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1706. Santiago, E., & E. Hágsater, 2019, *Epidendrum geminiflorum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1724. Santiago, E., & E. Hágsater, 2019, *Epidendrum megagstrum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1739. Hágsater, E., & E. Santiago, 2019, *Epidendrum orbicordichilum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1746.



Authors: E. Hágsater, E.Santiago & R. Medina LCDP: E. Hágsater & R. Jiménez M. Photo: O. A. Pérez E. Editors: E. Hágsater & E. Santiago



EPIDENDRUM GRENADENSE Hágsater & E.Santiago

Plate 1726

EPIDENDRUM GRENADENSE Hágsater et E.Santiago, *sp. nov.*

TYPE: Grenada: Grand Etang Forest Reserve: rainforest on ridge NW of Grand Etang, alt. 1900-2300 ft, 8-9 August 1959, *Grady L. Webster, J. Ellis & K. Miller 9513*. Holotype: S! (illustration voucher).

Similar to *Epidendrum jamaicense* Lindl. but the leaves 4.0-5.6 x 1.5-2.0 cm, elliptic (vs. 2.5-11 x 1.0-1.4 cm, narrowly elliptic), sepals 9.3-9.5 x 4.6-5.1 mm, ovate-elliptic, lateral sepals with obtuse apex (vs. 10-15 x 3.0-5.7 mm, elliptic, lateral sepals falcate, apex acuminate), petals 8.3 x 3.0 mm, oblanceolate with obtuse apex (vs. 10-14 x 1.8-2.0 mm, linear, apex acuminate), lip 7 x 11.6 mm, transversally elliptic, apex emarginate minutely apiculate (vs. 9-15 x 10-15 mm, reniform, not apiculate).

Epiphytic, sympodial **herb** to 30 cm tall, where the new stem appears from a sub-apical internode of the previous stem. **Roots** 0.5-3.0 mm in diameter, at base of primary stem, fleshy, thick, white. **Stems** 9-13 x 0.3-0.5 cm, simple, cane-like, terete at base somewhat laterally compressed above, thin, straight, base covered by sheaths 11-24 mm long, tubular, non-foliar, scarious. **Leaves** 2-3, aggregate towards the apex of the stem, alternate, distichous, articulate, sub-coriaceous; sheath 5-15 x 2.0-3.2 mm, tubular, minutely striated; blade 4.0-6.7 x 1.5-2.0 cm, elliptic, acute, margin entire. **Spathes** lacking. **Inflorescence** 3.5-4.5 cm long, apical, racemose, arching, few-flowered; peduncle 1.0-2.0 cm long, thin, ancipitose, apex provided with a bract 5 mm long, widely triangular, apex acute; rachis terete, thin. **Floral bracts** 2-3 mm long, shorter than the ovary, widely triangular, acute, embracing. **Flowers** 10-14, successive, though several can be open at one time, resupinate, yellowish brown; fragrance not registered. **Ovary** 8-12 mm long, ventrally inflated along the apical half, terete. **Sepals** 8.8-9.5 x 4.6-5.1 mm, free, ovate-elliptic, 5-veined, margin entire, spreading; dorsal sepal spreading, elliptic, acute; lateral sepals partly spreading, obtuse, minutely apiculate. **Petals** 8.3 x 3.0 mm, spreading, free, 3-veined, oblanceolate, obtuse, margin entire, spreading. **Lip** 7 x 11.6 mm, united to the column, transversely elliptic, convex, base slightly cordate, apex slightly emarginate and minutely apiculate, margin entire, the apical margin somewhat revolute; bicallose, the calli globose, prominent, disc with 3 parallel ribs, the mid-rib elongate reaching the apical sinus, the lateral pair shorter. **Column** 4 mm long, straight, thick. **Clinandrium-hood** short, margin entire. **Nectary** penetrating 1/2 of the pedicellate ovary, inflated. **Anther** and **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/3 the length of the stigmatic cavity. **Capsule** not seen.

OTHER SPECIMENS: GRENADA: Arimar Mountain, 4 IV 1905, *Broadway s.n.*, NY! Annandale, St. George's (mountains), 1 III 1906, *Broadway s.n.*, AMES! Grenada Botanic Garden, 1 III 1985, *Broadway 6*, K! Grand Etang, 1905, *Cameron s.n.*, AMES 7770!

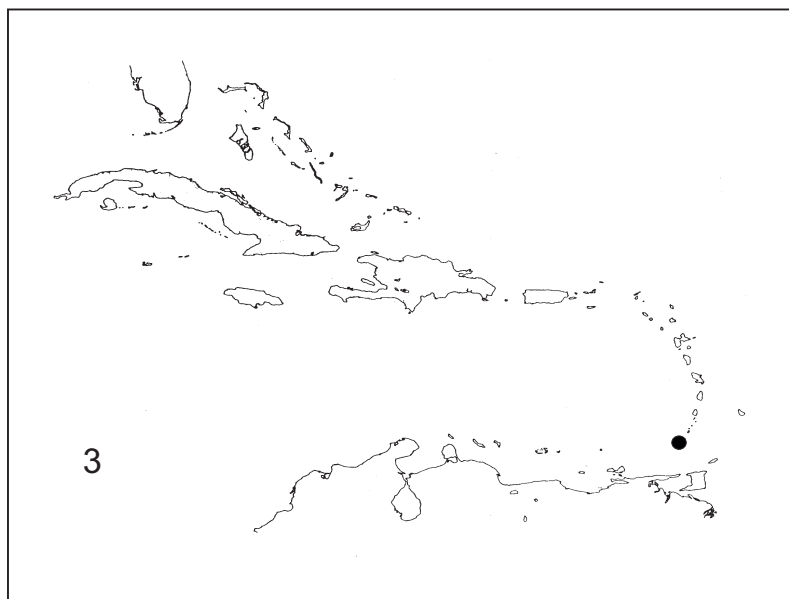
OTHER RECORDS: None seen

DISTRIBUTION AND ECOLOGY: Known presently on from the Caribbean island of Grenada, at 570-690 m altitude; flowering in March-April and August.

RECOGNITION: *Epidendrum grenadense* belongs to the Incomptum Group which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy greenish to violet-green to black flowers with short ovaries, the lip entire to 3-lobed, and the Proligerum Complex, which has the ovary inflated, forming a vesicle behind the perianth. The species is recognized by the elliptic leaves 4.0-5.6 x 1.5-2.0 cm, floral segments obtuse, sepals 9.3-9.5 x 4.6-5.1 mm, ovate-elliptic, petals 8.3 x 3 mm, oblanceolate, and the lip 7 x 11.6 mm, transversely elliptic, emarginate and minutely apiculate, the calli globose, prominent. *Epidendrum jamaicense* has narrowly elliptic leaves 2.5-11 x 1.0-1.4 cm, floral segments acuminate, sepals 10-15 x 3.0-5.7 mm, elliptic, lateral sepals falcate, petals 10-14 x 1.8-2.0 mm, linear, and the lip 9-15 x 10-15 mm, reniform with the apex not apiculate.

CONSERVATION STATUS: Unknown.

ETYMOLOGY: Hágsater, E., 2018, *Epidendrum jamaicense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): t. 1631.



Authors: E. Hágsater & E. Santiago

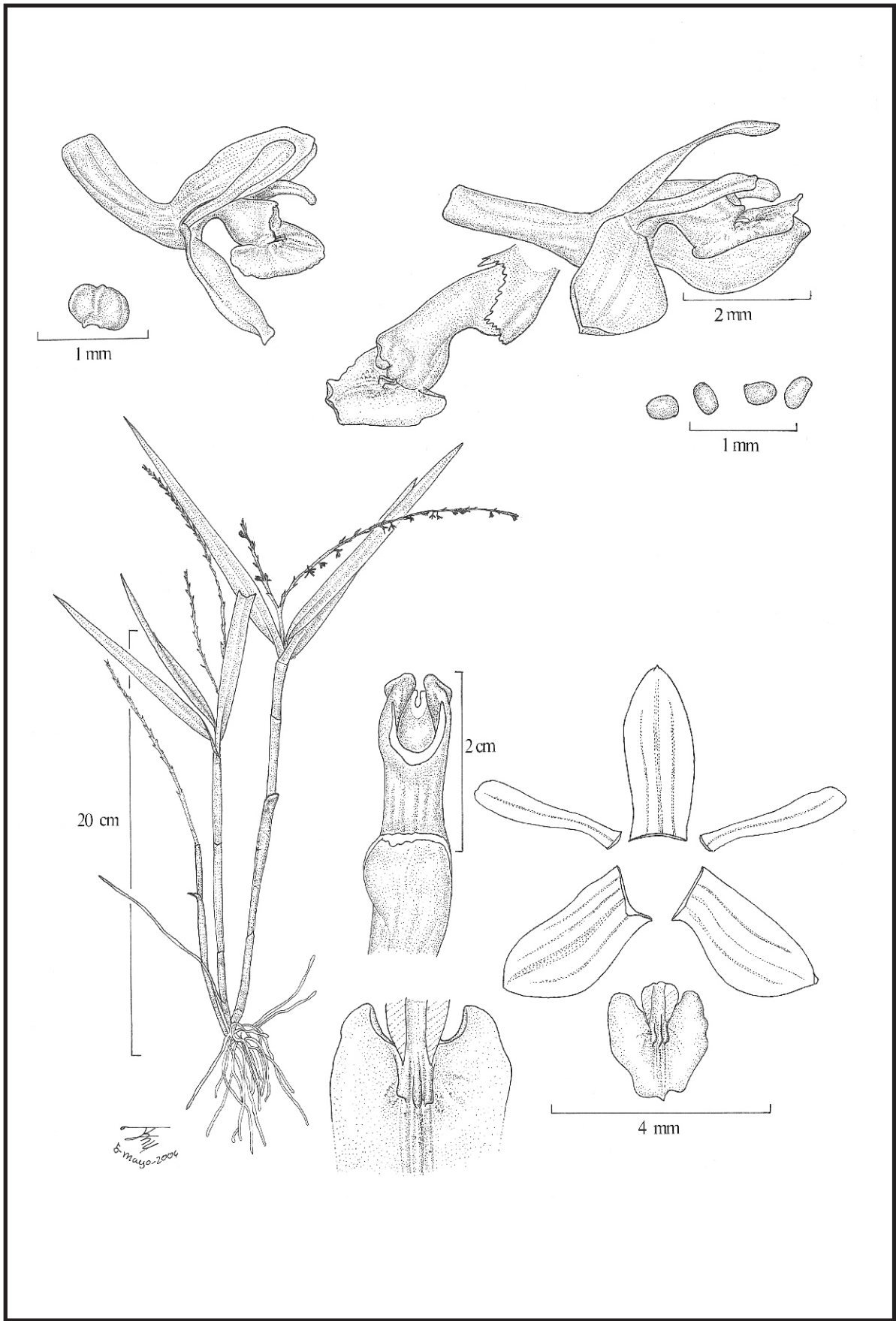
Illustrator: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1726



EPIDENDRUM HOLOCHILUM (Schltr.) Mansf. ex Hágsater

Plate 1727

EPIDENDRUM HOLOCHILUM (Schltr.) Mansf. ex Hágater, comb. nov.

Basionym: *Amblostoma holochilum* Schltr., Repert. Spec. Nov. Regni Veg. 10: 387. 1912. „*Epidendrum holochilum* Mansf. Ined.” Type: Peru: [Junin:] Chanchamayo, an Baumst emmen in Walde, Rio Blanco, ca. 1400 m, 1906, **E. K ohler 5**. Holotype: B. Destroyed, (Photographs CNHM 18360: AMES! NY! SEL!). Neotype (here designated): PERU: Junin: Chanchamayo valley, 1200 m, III 1930, **Carlos Schunke 1313**, F! (Illustration voucher.)

Synonyms: *Epidendrum micranthum* Lindl., J. Bot. (Hooker) 3: 88. 1840. Type: Peru: 1835*, **Mathews 1858**, Lectotype (here designated): ex Herb. Hooker, K! Isolectotypes: E! C! (photo CMNH 24714 AMES!). ex Herb. Benthianum, K! **Mathews 1858**, W 9393! (specimen, 3 branched, 3 leaved) W 5874! (tracing, but it does not correspond to any of the other specimens, having a 4 branched inflorescence and 3 leaves).

Synonyms: *Amblostoma micranthum* Benth., J. Linn. Soc., Bot. 18: 310. 1881.

Non *Epidendrum micranthum* Sw., Prodr. Veg. Ind. Occ. 125. 1788 [= *Stelis micrantha* (Sw.) Sw.], nec *Epidendrum micranthum* Sess e & Moci no [herbarium name] [= *Prosthechea ochracea* (Lindl.) W.E. Higgins].

Epiphytic, sympodial, caespitose, erect **herb** 30-50 cm tall including the inflorescence. **Roots** 0.5-1.0 mm in diameter, basal, simple, thin. **Stems** 9-25 x 0.3-1.0 cm, simple, produced from the base of the previous stem, cane-like, terete, thin, slightly thickened-fusiform, the basal half covered by 2-3 sheaths, appressed, papyraceous, obtuse, the last with a small foliose blade to 1 cm long. **Leaves** 2 to 5, aggregate towards the apex of the stem, alternate, erect-spreading; foliar sheaths to 3 cm long, tubular; blade 5-20 x 0.5-1.3 cm, articulate, narrowly linear-lanceolate, acuminate, sub-coriaceous, margin entire. **Spathe** lacking. **Inflorescence** 8-20 cm long, apical, racemose to panicle with up to 6 branches, sub-erect, slightly longer than the longest leaf, flowering only once; peduncle 0.9-1.3 cm long, short, terete; rachis terete, straight. **Floral bracts** 2-3 mm long, somewhat shorter than the ovary, triangular-lanceolate, acuminate embracing. **Flowers** 20-46, simultaneous, very small, resupinate, pale yellow; fragrance not registered. **Ovary** 2.5-5.0 mm long, terete, slightly inflated ventrally towards the apex. **Sepals** 2.75-3.0 x 1.2 mm, free, oblong-obovate, obtuse, short aristate, 3-veined, margin entire, spreading, dorsal sepals partly spreading, lateral sepals spreading, slightly sigmoid. **Petals** 2.9-0.5 mm, partly spreading, free, linear-oblong, slightly dilated along the apical half, apex obliquely truncate, corners rounded, 1-veined, margin entire, spreading. **Lip** 1.75-2.0 x 1.75-2.0 mm, united to the column, entire, cordiform, fleshy, base deeply cordate, apex truncate, mucronate, margin entire, somewhat revolute; 3-callose, the calli basal, laminar, parallel, prolonged into 3 low, rounded ribs, the mid-rib reaching the apical mucro. **Column** 1.25-4 mm long, slightly to strongly arched, constricted in the middle. **Clinandrium-hood** short, margin fleshy, sinuous-s. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, sub-equal. **Rostellum** sub-apical, slit. **Nectary** prominent, forming a wide cavity at the base of the column and apex of the ovary. **Capsule** not seen.

OTHER SPECIMENS: PERU: Hu nuco: between Hu nuco and Pampayacu, Pampayacu, 17 I 1927, **Kanehira 318**, AMES! **Junin:** 5 km W of La Merced, 1450 m, **Bennett 61-2-46**, SEL! trocha cerca al puente Pan de Az ucar, carretera San Ram on-Tarma, 14 V 1984, **Fern andez 313**, USM! **Junin:** Pichis trail, Yapas, 1350-1600 m, 28 VI 1929, **Killip 25465**, US! Pampayacu, 3600 ft, 12 VII 1922, **McBride 5116**, AMES! [Prov. Chanchamayo: Distr. San Ram on: San Jos e del Utcuyacu, 1900 m, 25 II 1948, **Woytkowski 35378**, AMES (x2)! UC (x2)! **San Mart n:** 400 m, 3 IV 1963, **Moore 6080**, AMES!]

OTHER RECORDS: PERU: Hu nuco: Prov. Leoncio Prado: Tingo Mar a, Parque Nacional Tingo Mar a, 1050 m, 27 II 2017, **D az s.n.**, digital images, AMO! (Photo voucher). Ibid. **L. E. Yupanqui** and **Ocupa Horna**, digital images AMO!

DISTRIBUTION AND ECOLOGY: Known presently only from central and northern Peru, on the eastern slopes of the Andes, in the canyons of the Huallaga, Tarma and Chanchamayo rivers, epiphytic at 1050-1900 m altitude. Flowering from January to July.

RECOGNITION: *Epidendrum holochilum* belongs to the *Amblostoma* Group which is recognized by the slightly fusiform thickened stems and branching inflorescence bearing small flower with an entire lip. The species is recognized by acuminate leaves 5-20 x 0.5-1.3 cm, small pale yellow flowers, sepals 2.75-3.0 x 1.2 mm, and a cordiform, entire lip with 3 parallel calli continued into 3 low ribs. *Epidendrum appendiculatum* T.Hashim. also from the Chanchamayo valley has proportionately narrower leaves to 24 x 0.95 cm, flowers lemon-yellow, sepals 3.5 x 1.0-1.5 mm, lip 3-lobed, lateral lobes erect, dolabriform and mid-lobe semi-ovate, apically rounded, with a large quadrate callus on the lower half of the mid-lobe. *Epidendrum septempinae* D.E.Benn. & Christenson, also from the Chanchamayo Valley, has smaller plants, leaves 10-12 x 0.8 cm, golden yellow-orange sepals with a pale green carinate apex, and yellow petals and lip, sepals 2.5 x 1.4-1.5 mm, and lip 3-lobed, lateral lobes small, triangular, and mid-lobe hemi-orbicular, acuminate.

NOTES: The holotype of *Amblostoma holochilum* sheet in Berlin had an annotation as “*Epidendrum (Amblostoma) holochilum* (Schltr.) Mansf.” This is evident from the photograph of the holotype taken before World War II by the staff Chicago Natural History Museum (CNHM 18360). That intended combination, however, was never published before. The protologue of *Epidendrum micranthum* Lindl. shows the type as “Peru, Mathews, (1858) (herb. Hooker, Bentham et propr.)” (sic), and several specimens were located in different herbaria, including Kew, and some of their labels show the number 1858 and/or the uncited collection date as “1835”.

ACKNOWLEDGMENT: The specimen from the Parque Nacional Tingo Mar a was photographed by Alex G. D az H., Enrique Yupanqui G. and Luis A. Ocupa Horna during a field study in 2017 in the Programa de Guardaparques Voluntarios 2017, directed by the SERNANP, under the director of the protected area.

CONSERVATION STATUS: DD. Data Deficient. Few collections are known. The Valley of Chanchamayo is very much disturbed, as the main road from Lima to the east runs along it, and little arboreal vegetation remains on the steep slopes, as well as at the bottom. The species may, however still exist in other valleys.

REFERENCES: Bennett, Jr., D.E. & E.A. Christenson, 2001, *Epidendrum septempinae*, **Icon. Orchid. Peruvianum** t. 655. Hashimoto, T., 1987, *Epidendrum appendiculatum*, **Bull. Natl. Sci. Mus., Tokyo**, ser B. 13(1): 35-39.



Authors: E. H agater

Illustrator: R. Jim enez M.

Photo: A. G. D az H.

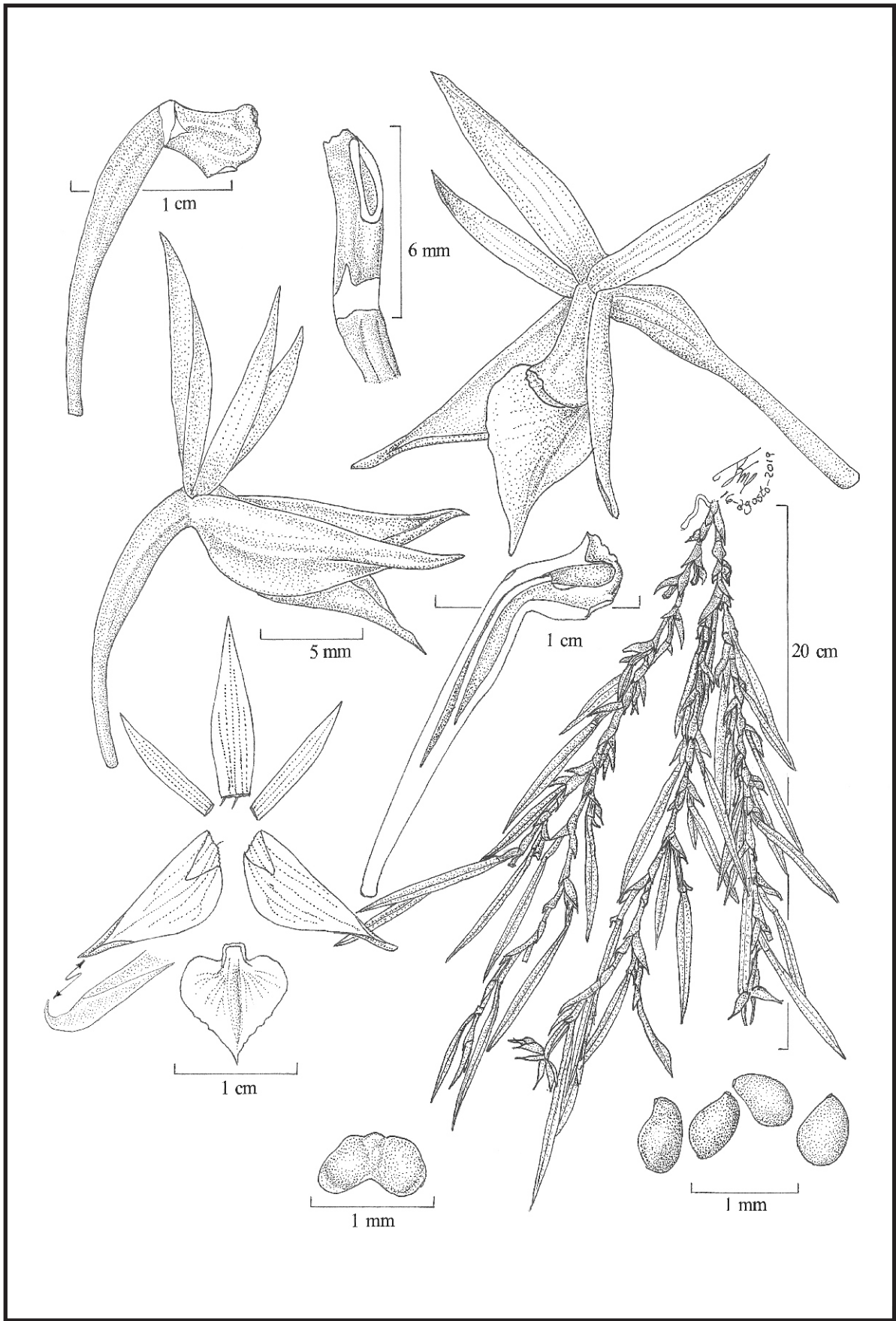
Editors: E. H agater & E. Santiago

Herbario AMO

Ciudad de M xico, M xico

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1727



EPIDENDRUM IDROBOI Hágsater

EPIDENDRUM IDROBOI Hágsater, sp. nov.

COLOMBIA: Cauca: Mun. San Sebastián: Macizo Colombiano, alrededores de la laguna de Cusiyaco, 3017 m, 7-12 X 1958, **Jesús Medardo Idrobo 4006**. Holotype: COL 81384! Isotype: US! (illustration voucher).

Similar to *Epidendrum garayi* Løjtnant but each stem with a single apical leaf 39-79 mm long (vs. 2-3 leaves per stem to 50 mm long), flowers green, inside lemon colored, lip lemon colored, column white (vs. flowers greenish purple), sepals 12.0-15.0 mm long (vs. 10-12 mm long) and lip 8.0-9.6 x 8.5-9.0 mm, widely cordiform, acuminate (vs. lip 11 x 6-7 mm, cordiform, apiculate).

Epiphytic, pendulous, sympodial, scarcely branching **herb**, to 42 cm long. Roots 1 mm in diameter, from the base of the primary stems only, thin, flexuous, simple. **Stems** 10-35 x 1.5-2.5 mm, formed by 3-5 internodes, terete, the first and third provided with non-foliar, non-imbricated bracts, 11-16 x 6-7 mm, triangular-obovate, acuminate, dorsally carinate towards the apex, dark brown in dried material; the stems progressively longer and thinner; last segment a stem 8-16 x 3.0-3.5 mm, subtended by the largest sheath, fusiform thickened, pale gray, densely dotted fuchsia; each new stem originates from the penultimate or last bract, from the base of the last internode. **Leaf** 1, 39-73 x 5-6 mm, single, apical, pendulous, linear-lanceolate, acuminate, dorsally carinate and aristate, base conduplicate, coriaceous, margin entire, spreading. **Spathe** lacking, **Inflorescence** apical, sessile, 1-2-flowered. **Floral bract** 4-5 mm long, triangular, acute, embracing. **Ovary** 16-18 mm long terete, dilated along the apical 1/3. **Flowers** 1-2, pendulous, facing downwards, ovary and sepals green dorsally, inside lemon colored, slightly pruinose, lip lime colored, column white. **Dorsal sepal** 12.0-15.0 x 3.0-3.5 mm, spreading, free, lanceolate, acuminate, 5-veined, margins entire, slightly involute towards the apex. **Lateral sepals** 13.5-14.5 x 4.5-5.1 mm, spreading, free, obliquely ovate-lanceolate, acuminate, dorsally carinate towards the apex and aristate, falcate, upper margin straight, 5-veined, margins entire, slightly involute. **Petals** 11.2-11.6 x 1.5-2.0 mm, shorter than the sepals, spreading, free, oblong-lanceolate, acuminate, 3-veined, margins entire, spreading. **Lip** 8.0-9.6 x 8.5-9.0 mm, united to the column throughout, widely cordiform, acuminate, ecallose, with a prominent, wide mid-rib running down the entire length over three veins, V-shaped in natural position, sides rounded, margins entire, somewhat erose towards the apex. **Column** 5.5-6.5 x 3.5-4.0 mm, thick, somewhat arched upwards, apex truncate, forming a 120° angle with the ovary. **Clinandrium-hood** short, entire, margin dentate. **Anther** widely reniform, 4-celled. **Pollinia** 4, subequal, obovoid, laterally compressed. **Rostellum** apical slit. **Lateral lobes of the stigma** 1/3 the length of the stigmatic cavity which occupies 2/3 of the column. **Nectary** penetrating 1/3 of the pedicel, narrow, unornamented. **Capsule** not seen.

OTHER SPECIMENS SEEN: COLOMBIA: Nariño: Páramo de Quilinsayaco, between La Chocha and Santiago, 2700-3000 m, 1 VIII 1961, *Garay 407*, COL!

OTHER RECORDS: None seen.

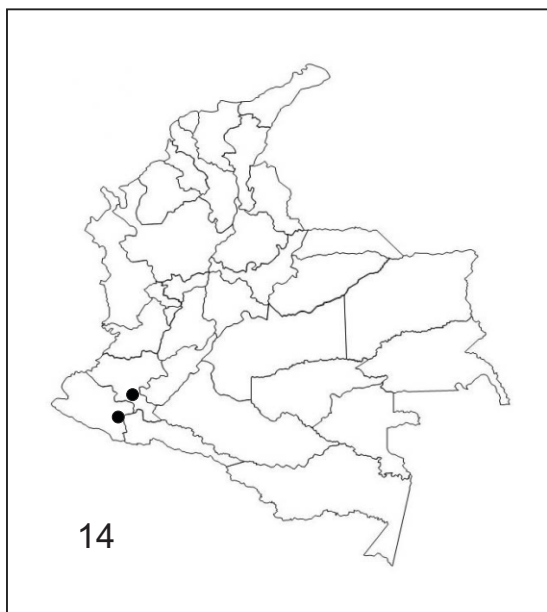
DISTRIBUTION AND ECOLOGY: Known presently only from two localities distant some 100 km, on the summit of the Cordillera Oriental of the Andes in southern Colombia epiphytic on shrubs, at 2700-3000 m altitude. Flowering in August-October.

RECOGNITION: *Epidendrum idroboi* belongs to the *Kalopternix* Group, *Garayi* Subgroup which is recognized by pendent chain of stems, arising each from a sub-apical internode of the previous stem, each with 1-3 linear-lanceolate leaves, inflorescence apical, flowering only once, 1-2 flowered, the flowers non-resupinate, green to red to yellow, de lip cordiform, ecallose. The species is recognized by the long sympodial segments in 3-5 sections, two covered by non-imbricated sheaths, the last enveloping the fusiform pseudobulb, apically with a single leaf, 36-73 x 5-6 mm, 1-2-flowered, the flower green outside, lemon colored inside with white column, sepals 12.0-15.0 mm long, 5-veined, lip, widely cordiform, acuminate. Very similar to *Epidendrum garayi* Løjtnant (replaced synonym of: *Pleuranthium cardiochilum* Garay) which has however 2-3 leaves per pseudobulb, flowers similar but greenish purple, sepals 10-12 mm long and lip 11 x 6-7 mm, cordiform, apiculate. *Epidendrum falsigarayi* Hágsater & Karremans has brick red flowers. *Epidendrum wolfii* Hágsater & E.Santiago has short, bifoliate, cane-like stems, linear-lanceolate leaves 1.1-2.7 cm long, the sessile, 2-flowered inflorescence, successive and opposite, pink, immaculate flowers, the lip widely cordiform with the apex obtuse, the disc with a single evident, low, wide rib running down the middle. *Epidendrum carmelense* Hágsater & Dodson forms pseudobulbs at the end of the stems which are unifoliate, leaves are 3.5-8.5 cm long, with 1-2 greenish to ochre flowers with reddish dots, the lip is reniform, without any ribs.

ETYMOLOGY: In honor of Jesús Medardo Idrobo (1917-2010), Colombian botanist, at the Instituto de Ciencias Naturales de la Universidad Nacional, Bogotá, specialized in Phanerogams, and who collected extensively in Colombia between 1933 and 1980, with many other renown botanists and whose collections are housed particularly at COL, BM, F, AMES, MEDEL and US herbaria. He collected the type material for this species.

CONSERVATION STATUS: DD. Data deficient. Presently known from a two localities, but most of the areas along this range have been poorly collected.

REFERENCES: Garay, L.A., 1953, *Pleuranthium cardiochilum*, *Arch. Jard. Bot. Rio de Janeiro* 12: 181, fig. 3. Hágsater, E., & C.H. Dodson, 1993, *Epidendrum carmelense* in E. Hágsater & G.A. Salazar (eds.), *The Genus Epidendrum*, Part. 1, *Icon. Orchid.* 2: t. 120. Hágsater, E., & E. Santiago, 2010, *Epidendrum wolfii* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part. 10, *Icon. Orchid.* 14: t. 1496. Hágsater, E., & A. Karremans, 2019, *Epidendrum falsigarayi* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part. 13, *Icon. Orchid.* 17(1): t. 1720. Hágsater, E., 2019, *Epidendrum garayi* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part. 13, *Icon. Orchid.* 17(1): t. 1722.



Author: E. Hágsater

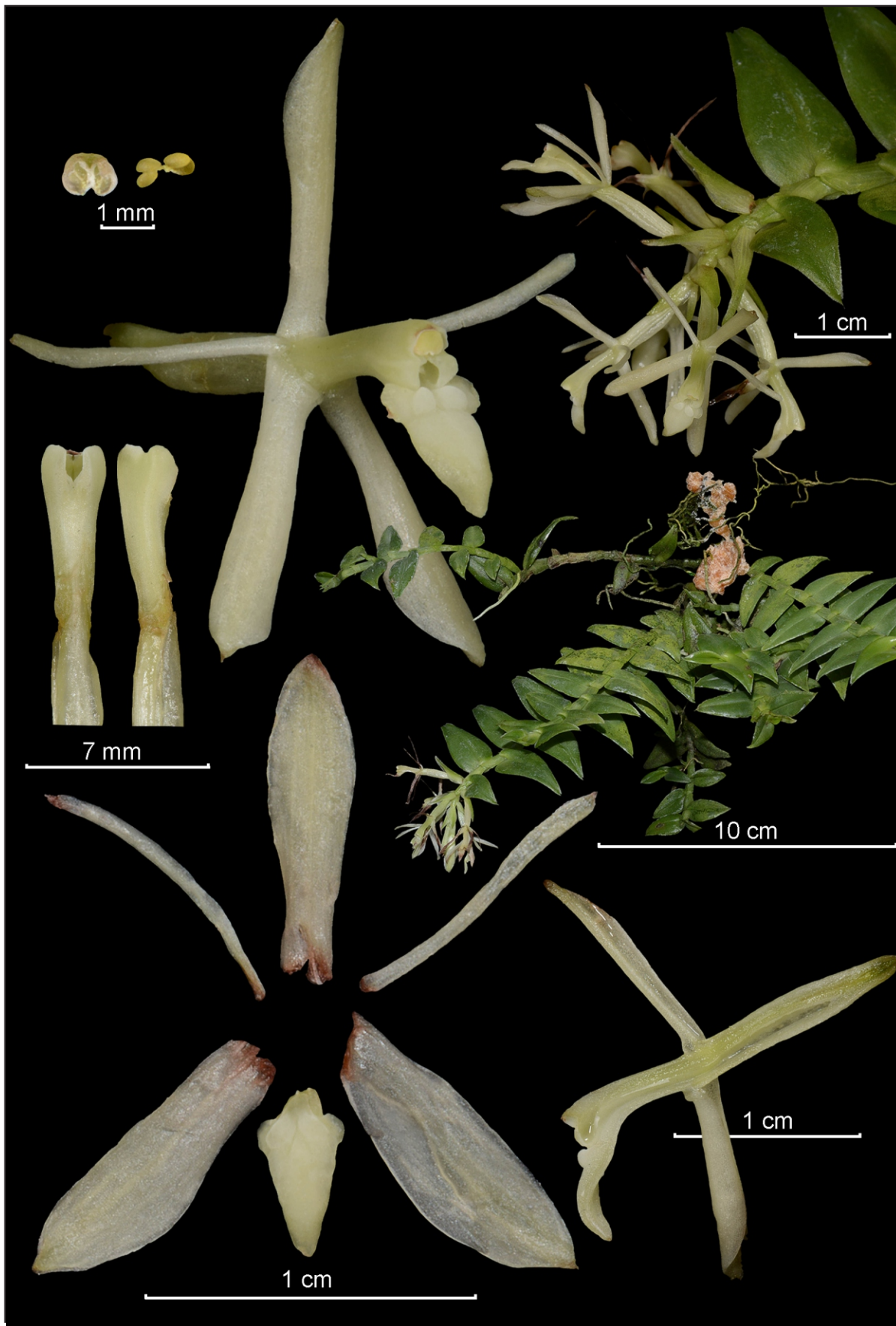
Illustrator: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1728



EPIDENDRUM INTEGRINUM Hágsater

Plate 1729

EPIDENDRUM INTEGRINANUM Hágsater, sp. nov.

Type: ECUADOR: Zamora-Chinchipec: Cantón El Pangui; Parroquia Tundayme; Cordillera del Cóndor, laderas del tepuí andino, vía Canales, ca. 1600 m, col. 10 April 2017, pressed 5 March 2019 in cult., **Gerardo A. Salazar, Diego Francisco Tobar Suárez, Itzi Frago Martínez, Adriana Benítez Villaseñor, Juan Carlos Monge sub Eric Hágsater 15212**. Holotype: QCNE! (LCDP and photo voucher). Ibid., digital images, 10 October 2018, AMO!

Similar to *Epidendrum nanosimplex* Hágsater & Dodson, stems horizontal, with numerous leaves on the same plane of the stem or pendent with new stems produced sub-apically from previous stem, (vs. stems horizontal, new stems produced from the lower internodes of previous stem, leaves scarce and small), and the lip sub-entire, 4.0 x 2.5 mm, mid-lobe triangular (longer than wide) and lateral lobes very reduced, sub-orbicular and rounded (vs. entire lip, 3.0 x 2.8 mm, ovate, obtuse, revolute; calli sub-globose, with a ventral low, wide keel running from the calli to the apex of the lip).

Epiphytic, sympodial, caespitose, horizontal, **herb**, ca. 6-30 cm long, including the inflorescence, and the new stems arising from a sub-apical internode of the previous stem. **Roots** 0.5-1.0 mm in diameter, basal from the initial stem and sometimes from a sub-apical stem, filiform. **Stems** 6.2-9.5 x 0.2 cm, simple, cane-like, laterally compressed, straight, the new stem originating from a middle to sub-apical internode of the previous stem, or pendent with new stems produced sub-apically from previous stem, gradually becoming slightly thinner and shorter. **Leaves** 8-12, aggregate along the stem, green concolor, alternate, articulate, spreading, unequal in size, the basal one generally larger, sub-coriaceous, twisted at the base so as to be in the same plane as the stem; sheaths 5.0-6.0 mm long, tubular, laterally compressed, light green; blade 0.9-2.4 x 0.8-0.9 cm, widely lanceolate, acute, margin entire. **Spathe** lacking. **Inflorescence** 2.7 cm long, apical, racemose, sub-umbellate, straight; peduncle reduced, laterally compressed, straight, light green; rachis 5.0 mm long, short, laterally compressed to terete, thick, straight. **Floral bracts** 4.0-8.2 mm long, almost the same length as the ovary, decreasing towards the apex, ovate-triangular, acute, margin slightly dentate, light green. **Flowers** 6-8, simultaneous, resupinate, white, lip with light green overtone, column green; without any apparent fragrance. **Ovary** 10 mm long, terete, thin, slightly inflated ventrally at the apex, striated, light green. **Sepals** 9.3-9.6 x 2.5-2.6 mm, partly spreading, free, acute, glabrous, 3-veined, margin entire, revolute; dorsal sepal oblanceolate; lateral sepals oblanceolate-elliptic, minutely apiculate. **Petals** 9.0 x 0.6 mm, spreading, free, linear, acute, 1-veined, margin entire. **Lip** 4.0 x 2.5 mm, united to the column, sub-entire, narrowly triangular in general form, base truncate, fleshy, margin entire; lateral lobes 0.8 x 0.5 mm, reduced, hemi-orbicular; mid-lobe 2.9 x 2.0 mm, triangular, longer than wide, apex obtuse; bicallose, the calli prominent, globose, rounded, slightly divaricate. **Column** 6.0 mm long, slightly thicker at the apex, slightly curved towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/3 the length of the stigmatic cavity. **Nectary** deep, penetrating 2/3 of the pedicellate ovary, somewhat inflated, unornamented, **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the locality where the type was collected, in wet Andean montane forest, on slope of Andean Tepui. Flowering in March and October in cultivation.

RECOGNITION: *Epidendrum integrinatum* belongs to the Nanum Group, which is characterized by the *Dichaea* like pendent stems, the inflorescence produced by pairs of opposite flowers, without spathaceous bracts, but with prominent floral bracts. The new species is recognized by the large, plants (about ca. 6-30 cm long), widely lanceolate leaves, green concolor, the ovate-triangular floral bracts, white with green tone flowers, resupinate, with dorsal sepal oblanceolate, and lateral sepals oblanceolate-elliptic (9.3-9.6 x 2.5-2.6 mm) and petals linear, by the small sub-entire lip, 4.0 x 2.5 mm, the mid-lobe triangular (longer than wide) and the lateral lobes very reduced, hemi-orbicular and rounded. *Epidendrum nanosimplex* Hágsater & Dodson, has short plants growing horizontally on the underside of the branches, also has an entire lip, 3.0 x 1.5-2.8 mm, ovate, base truncate, obtuse, revolute, convex, fleshy; calli sub-globose, prominent, with a ventral low, wide keel running from the calli to the apex of the lip, slightly longer than wide. *Epidendrum bonitense* Hágsater & Dodson with grayish-green, ovate leaves, somewhat oblique, sub-coriaceous-succulent, flowers glaucous-green with a faint purple tinge, sepals obovate 4-5-veined, and deeply 3-lobed lip, lateral lobes obliquely ovate, and the mid-lobe sub-rectangular.

CONSERVATION STATUS: Threatened. The locality where the type was collected has been totally destroyed by the construction of very large mining facility. The species may be found further north or south on the flanks of the Cordillera del Cóndor, as well as on the Peruvian side of the border.

ETYMOLOGY: From the Latin *integri-* entire, and *nanum*, Greek for dwarf, in reference to the nearly entire, triangular lip with the basal corners forming very small sub-orbicular lobes, distinct from most species in this group which have prominent lateral lobes, except for *Epidendrum nanosimplex*.

ACKNOWLEDGMENT: Collections by Salazar & Hágsater made under framework contract "Diversidad Genética del Ecuador" MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. "Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales".

REFERENCES: E. Hágsater, & C.H. Dodson, 1993, *Epidendrum bonitense* in E. Hágsater & G.A. Salazar (eds.) The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: t. 113. E. Hágsater, & C.H. Dodson, 1999, *Epidendrum nanosimplex* in E. Hágsater, L. Sánchez S. & J. García Cruz (eds.) The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: t. 360.



Author: E. Hágsater

LCDP: R. Jiménez M. & A. Cisneros

Photo: R. Jiménez M.

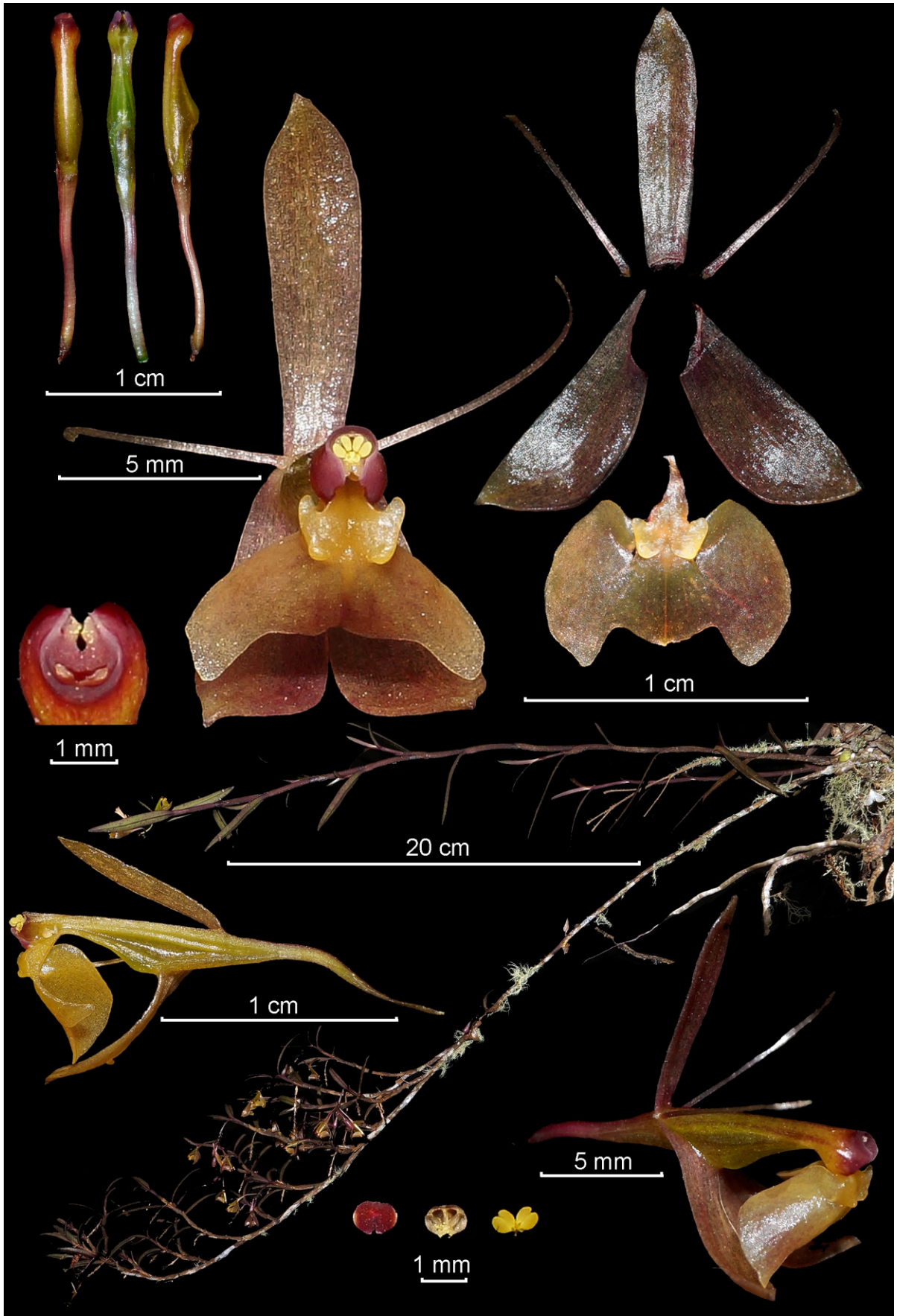
Editors: E. Hágsater & E. Santiago

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Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1729



EPIDENDRUM LABRYCHILUM Hágsater, Edquén & E.Santiago

Plate 1730

EPIDENDRUM LABRYCHILUM Hágsater, Edquén et E.Santiago, *sp. nov.*

Type: PERU: San Martín: Prov. Rioja; Distr. Pardo Miguel Naranjos. Sector Venceremos, 1780 m, 7 febrero 2018, Bosque de Protección Alto Mayo, **José Dilmer Edquén Oblitas 400**. Holotype: HURP!

Similar to *Epidendrum steinbachii* Ames but the flowers red-ochre, lip ochre yellow, column wide red at apex (vs. yellow, concolor), sepals 9 mm long (vs. 6 mm), lip 6 x 8, slightly 3-lobed, the lateral lobes dolabriform, the mid-lobe small (vs. lip 3 x 4 mm, transversely elliptic), calli prominent, laminar (vs. small and globose).

Epiphytic and lithophytic, caespitose, branching **herb**, 60 cm tall. **Roots** 3-4 mm in diameter, basal, fleshy, thick. **Stems**: primary stem 60 x 0.4-0.5, secondary branches 1.5-4.5 x 0.2-0.3 cm, cane-like, terete, thin, the branches produced throughout the length of the primary stem, secondary branches themselves branched, produced from apical internodes of the previous segment or branch. **Leaves** numerous and distributed throughout young primary stem, deciduous when stem mature (i.e. branched), 2-3 on the secondary branches; alternate, articulate, erect-spreading, slightly arched, sub-coriaceous; sheaths 0.4-1.5 cm long, tubular, striated, rugose, red-brown; blade on primary stem 4.0-5.0 x 0.4-0.6 cm, on branches 1.3-4.0 x 0.4-0.5 cm, linear-lanceolate, apex rounded, margin entire, spreading, dark green to wine-red-brown. **Spathes** lacking. **Inflorescence** 1.4-1.7 cm long, produced from the apex of the secondary branches, racemose, flowering only once, laxly few-flowered; peduncle 0.7-1.0 cm long, terete, thin at base, gradually thickened towards the apex, straight; rachis 0.6-0.8 cm long, terete, thin, straight. **Floral bract** 2 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 6-8, successive, several open at once, resupinate, ochre-red, the lip ochre-yellow, column wine-red at the apex, the floral buds wine-red; fragrance of citrus, weak, in afternoon. **Ovary** 11-12 mm long, terete, thin, smooth, slightly widened at the apex, wine-ochre. **Sepals** 9 x 2.5-3.0 mm, partly spreading, free, apex sub-acute, minutely apiculate, 3-veined, margin entire, spreading; dorsal sepals oblanceolate; lateral sepals obliquely united to the column, narrowly elliptic, oblique. **Petals** 8 x 0.3 mm, partly spreading, free, filiform, arching, 1-veined, margin entire, spreading. **Lip** 6 x 8 mm, united to the column, forming a double bladed axe when spread, strongly reflexed and the posterior side of the lateral lobes revolute in natural position, 3-lobed, base cordate, margin entire, spreading; bicallose, the calli prominent, laminar, convergent though widely separate, disc with a very short mid-rib; lateral lobes 2.5 x 5.5 mm, dolabriform, the posterior corner rounded and the inner side upturned, the anterior corner a right angle, spreading, much larger than the recessed, small mid-lobe 0.5 x 3 mm, forming a shallow rounded arc. **Column** 9 mm long, straight, long, ventrally inflated towards the middle of the basal 3/4th, the apex abruptly widened ventrally. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled, wine-red. **Pollinia** 4, obovoid, in two pairs, the inner side of each pair flat, yellow. **Rostellum** apical, slit. **Lateral lobes of the stigma** half as long as the stigmatic cavity. **Nectary** shallow barely penetrating the ovary behind the perianth, but inflated within the column, towards the basal 1/3. **Capsule** not seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the Department of San Martín, Province of Lamas, east of the Andes, in northern Peru, epiphytic at 1565-1765 m altitude in wet montane forest of 5-8 m height, with abundant moss and liquens. Flowering in February.

OTHER SPECIMENS: None seen.

OTHER RECORDS: PERU: **San Martín**: Prov.: Lamas; Distrito: Alonso de Alvarado-Roque; Caserío Canaán, 1565 m, *Edquén s.n.* Digital image, AMO! (LCDP and photo voucher).

RECOGNITION: *Epidendrum soratae* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a monopodial, primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the tall primary stem with numerous short branches, dark green to wine-red-brown, linear-lanceolate leaves, successive ochre flowers tinged wine-red, the lip ochre-yellow, and the apex of the column red, sepals 9 mm long, the lip forming a double-bladed axe when spread, strongly reflexed and the posterior side of the lateral lobes revolute in natural position, the calli prominent, convergent. It is similar to *Epidendrum steinbachii*, which has concolor, yellow flowers, the apex of the column purple, sepals 6 mm long, and the lip transversely elliptic with small, globose calli. *Epidendrum constrictum* Hágsater Chocce & E. Santiago produces branches towards the apex of the primary stem, has ovate-lanceolate leaves flowers of similar color and size, but the lip is orbicular, and column abruptly constricted at the base. *Epidendrum monteagudoii* Hágsater & E.Santiago, has shorter plants, 16 cm tall, which Branch near the apex of the primary stem, linear-lanceolate leaves 1.3 cm long, sepals 8 mm long, and the lip with globose calli with the mid-lobe widely triangular and obtuse.

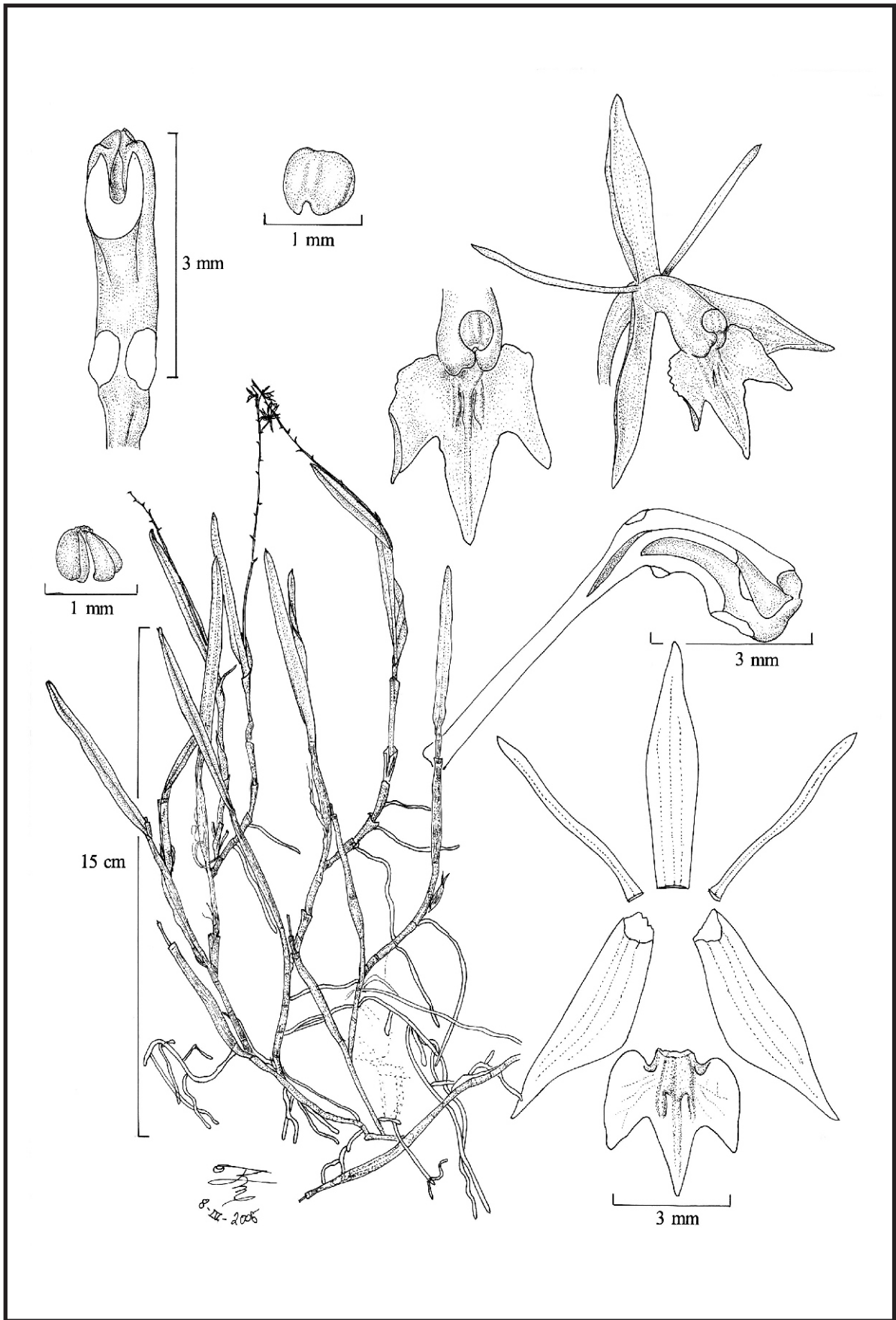
CONSERVATION STATUS: DD. Data deficient. Known presently only from the type.

ETYMOLOGY: From the Greek λαβρυς a double-bladed axe of ancient Crete, used as a symbol of the Moon Goddess, and χειλος, lip, in reference to the peculiar shape of the lip when spread.

ACKNOWLEDGMENT: Type collection made under project awarded to José Dilmer Edquén Oblitas: "Diversidad y distribución de orquídeas en bosque no intervenido, parches o fragmentos y paisajes agointervenidos en el Bosque de Protección Alto Mayo-2018", según Resolución Jefatural del Bosque de Protección Alto Mayo, permiso de investigación N° 006-2018-SERNANP-BPAM-JBPAM, y amparado bajo el Certificado de Procedencia de Muestras Biológicas N° 002-2018-SERNANP-BPAM.



Authors: E. Hágsater, J. D. Edquén O. & E. Santiago LCDP: J. D. Edquén O. & A. Cisneros Photo: J. D. Edquén O. Editors: E. Hágsater & E. Santiago



EPIDENDRUM LANIOIDES Schltr.

EPIDENDRUM LANIOIDES Schltr., *Repert. Spec. Nov. Regni Veg.* 12: 489, 1913.

Type: BOLIVIA: [Santa Cruz: Florida:] Samaipata, An einhom Baume im Bergwalde bei Samaipata, 1700 m, März 1911, *Theodor Carl Julius Herzog 1768*, Holotype: L! Photograph of holotype: AMO! NY!

Epiphytic and lithophytic, sympodial, somewhat scandent herb, 7-20 cm tall. **Roots** 1.0 mm in diameter, from the base of the stems, simple, filiform, smooth, flexuous. **Rhizome** creeping, multi-articulate, short. **Stems** 3.2-8.0 x 0.2-0.3 cm, pseudobulbs, fusiform, erect, completely covered by sheaths, 1.2-3.6 x 0.2-0.3 cm, distichous, imbricated, 2-leaf-bearing at the apex, tubular, acute, striated when dry. **Leaves** 1-2 at the apex of stem; blade 3.0-8.5 x 0.4-0.8 cm, linear-ligulate, sub-coriaceous, obtuse, equal, erect, margin entire, smooth, spreading, clasping at the base. **Spathes** absent. **Inflorescence** 3.2-8.0 cm, apical, almost the size or slightly longer than the leaves, erect, racemose, flowering simultaneously, lax, several-flowered, smooth; peduncle 1.5-4.4 cm long, terete; rachis 3.0-6.0 cm long, straight. **Floral bracts** 1.0-2.0 x 0.6 mm, much shorter than the ovary, decreasing in size, linear-lanceolate, acuminate, embracing. **Flowers** ca. 10, simultaneous, non-resupinate, pale green, lip greenish white, column green, white towards the apex; anther purplish-brown; fragrance not registered. **Ovary** 5.6-6.0 mm long, thin, terete, not inflate, smooth. **Sepals** 5.0-6.0 x 1.2-1.7 mm, spreading, free, acuminate, membranous, 3-veined, margin entire; dorsal sepal lanceolate; lateral sepal oblique, asymmetrically lanceolate. **Petals** 5.3 x 0.3 mm, spreading, free, linear, sub-acute, 1-veined, margin entire, membranous. **Lip** 3.0-5.0 x 3.0 mm, 3-lobate, united to the column, base cordate, margin entire; disc with single callus, bicuniculate, with 3 thin parallel ribs, the mid-rib elongate, nearly reaching the apex of the mid-lobe; lateral lobes 2.0 x 1.0 mm, transversely ovate, apex acute; mid-lobe 1.9-3.0 x 1.0 mm, triangular-lanceolate, acute. **Column** 3 mm long, slightly arcuate, sub-clavate. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, apex retuse, 4-celled. **Pollinia** 4, sub-equal, sub-ovate, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of stigma** prominent, occupying nearly 1/2 of the stigma. **Nectary** shallow, not penetrating beyond the perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: BOLIVIA: **Santa Cruz:** *sin loc.*, cult. Santa Cruz, 10 II 1992, L.R. *Moreno sub Vásquez 1354*, VASQ (Vásquez 2004). PERU: **Cusco:** Prov. La Convención, Aguas Calientes, 2070 m, 8 IV 2005, *Aedo 11208*, MA! (illustration voucher). Just below ruins of Machu Picchu, 3 II 1958, *Correll P-275*, AMES x2! km 87 along railway to Machu Picchu, in the Vilcanota canyon, 2500 m, 9 II 1999, *M. León & Collantes 2901*, MOL! (illustration: Bennett & Christenson, 2001; photograph: Collantes et al., 2007) ca 112 km de Cusco; en el camino ferroviario Cusco-Quillabamba, 2000 m, 24 III 1987, *Núñez 7544*, USM! CUZ! Aguas Calientes, valle del Río Urubamba, Machu Picchu, 2400 m, 9 III 1973, *Vargas 22311*, CUZ x2! Quispicanchi: Murayaca-Marcapata-Quispicanchi, 1646 m, 7 XI 2005, *Villafuerte 66*, CUZ! Marcapata, Entre Ttio y Mancora, 1953 m, 5 II 2006, *Villafuerte 199*, CUZ! Marcapata, Antes de Ttio, valle de Marcapata, 1850 m, 18 II 1966, *Vargas 17118*, CUZ x2! AMES! Vilcabamba: Cordillera de Vilcabamba, Oyara, Cedropata, 2133 m, 19 II 2007, *Valenzuela 8740*, AMO!

OTHER RECORDS: PERU: Selva central, 1 V 2011, *Morón s.n.*, digital photo, AMO! (photo voucher). **Cusco:** km 87 along railway to Machu Picchu, in the Vilcanota canyon, 2500 m, 8 II 1999, *M. León & Collantes 2853 sub Bennett 7912*, (cited in Bennett & Christenson 2001).

DISTRIBUTION AND ECOLOGY: Distributed in Bolivia and southern Peru, on the eastern upper slope of the Andes. Epiphytic on *Erythrina falcta* Benth. "Pisonat" (Cusco) and lithophytic, 1700-2500 m altitude. Flowering from November to May.

RECOGNITION: *Epidendrum lanioides* belongs to the Lanium Group, characterized by the caespitose habit, fusiform pseudobulbs to slightly fusiform, with 1-6 leaves along the upper half of the stem, paniculate inflorescence, rarely racemose, with a usually tomentose peduncle, lax, erect to arched; bicallous to ecallose, simple or trilobate lip. The specie has plants 7-19 cm tall, with fusiform pseudobulbs, bifoliate, leaves oblong-ligulate, obtuse, a short inflorescence about the length of the leaves, racemose, sepals spreading, lanceolate, petals spreading, acute, margin entire, glabrous, a 3-lobed lip, lateral lobes transversely ovate, acute, a triangular-lanceolate mid-lobe, with 3 thin parallel ribs, the mid-rib elongate. *Epidendrum ciliipetalum* (Garay) Hágsater & E. Santiago has simple, cane-like stems, narrowly oblong-ovate leaves, sub-acute, paniculate inflorescence, sepals reflexed, aristate, narrowly ovate to narrowly elliptic, petals reflexed, short acuminate, margin densely ciliate each cilium septate, generally branching, 3-lobed lip, lateral lobes ovate, redounded, with a prominent clinandrium-hood.

NOTES: The material from Peru is ostensibly vegetatively larger than the type from eastern Bolivia, (pseudobulbs 2.5-3.5 cm long, leaves 3.0-4.5 cm long, fide Schlechter) but the illustration of a flower of the type is clearly the same (Mansfeld, 1930), as are the size of the floral segments. The illustration published by Bennett & Christenson (2007) shows the inner margin of the lateral lobes of the lip irregular erose-dentate, but the photograph of the same collection published by Collantes shows an entire margin.

CONSERVATION STATUS: DD. Data deficient. Though widespread, we have no information on the populations, which from the few collections registered would seem scarce.

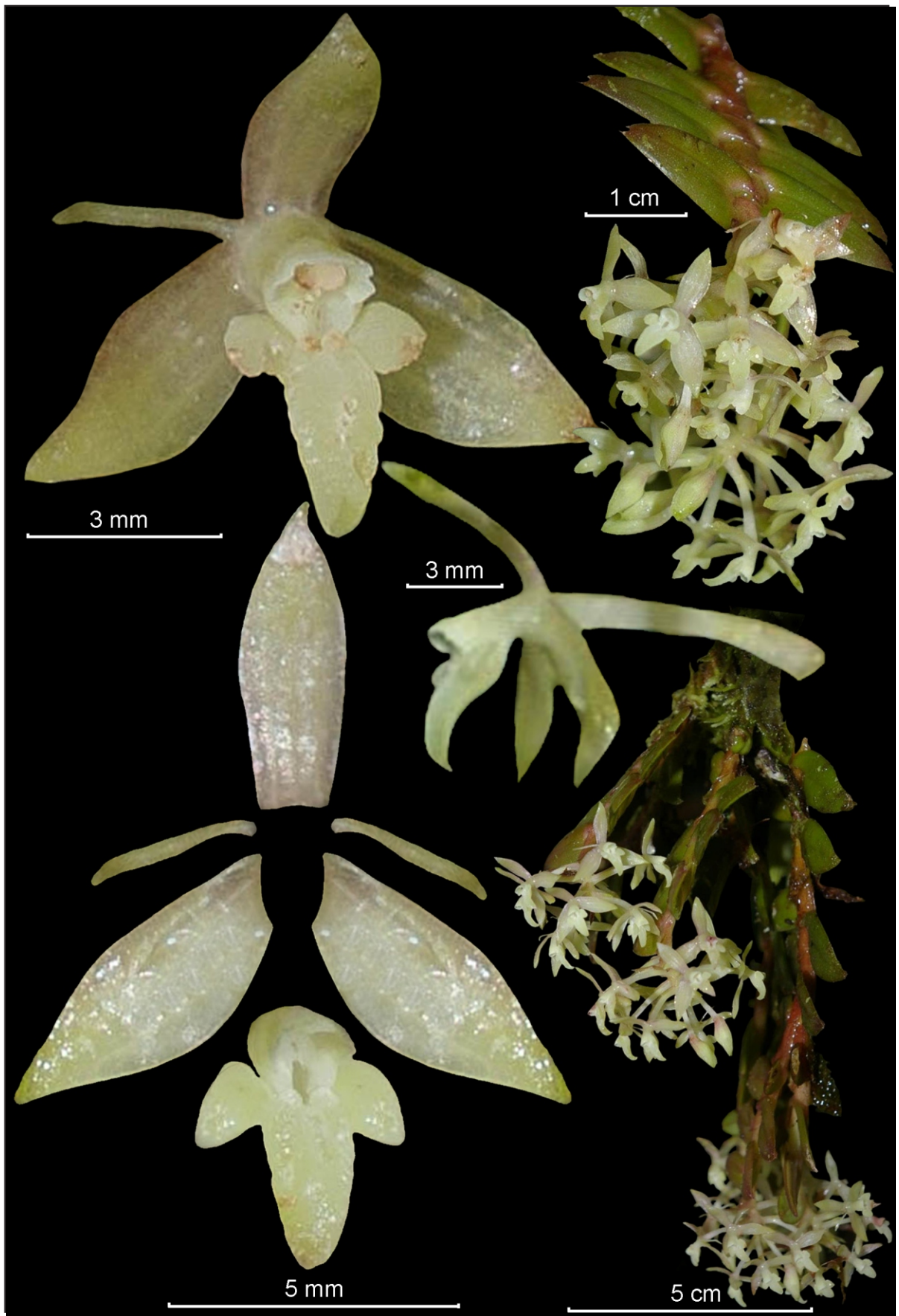
ETYMOLOGY: from the Latin *lana*, wool, and the suffix *-ioides*, resembling, in reference to the similarity of this species to those of the genus *Lanium* Lindl. but with all the parts glabrous. Schlechter (1913) concludes that with this species, the genus *Lanium* is no longer sustainable.

REFERENCES: Bennett Jr, D.E. & E.A. Christenson, 2001, *Epidendrum lanioides* in *Icon. Orchid. Peruvianum* t. 640. Collantes, B., C. Soto & J. Koechlin, 2007, *Epidendrum lanioides*, *Orquídeas Inkaterra Machu Picchu Pueblo Hotel*, p. 120. Hágsater, E., & E. Santiago, 2007, *Epidendrum ciliipetalum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: t. 918. Mansfeld, R., 1930, *Epidendrum lanioides* in *Repert. Spec. Nov. Regni Veg. Beih.* 58: t. 42, fig. 168. Vásquez Ch., R., & P.L. Ibsch (eds.), 2004, *Orquídeas de Bolivia; Diversidad y estado de conservación* 2: 123.



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Photo: E. Morón de Abad Editors: E. Hágsater & E. Santiago
ICONES ORCHIDACEARUM 17(1). 2019. Plate 1731



EPIDENDRUM LEUCONANUM Hágsater & L.Valenz.

Plate 1732

EPIDENDRUM LEUCONANUM Hágsater et L.Valenz., sp. nov.

Type: PERU: Dept. Pasco: Prov. Oxapampa: Dist. Huancabamba; Parque Nacional Yanachaga-Chemillén, sector Tunqui, 1807 m, 13 II 2009, **Rodolfo Vásquez Martínez, Luis Valenzuela Gamarra, Rigoberto Rivera, José Luis Mateo & Jordán 35253**, (LCDP & photo voucher). Holotype: HOXA! Isotypes: MO! USM!

Similar to *Epidendrum tingo-mariae* Hágsater but flowers larger, sepals 5.5 x 2.0 mm (vs. sepals 4.5 x 2.0 mm), petals comparatively short, nearly half as long as sepals (vs. petals slightly shorter than sepals), mid-lobe of lip narrowly triangular, 2 mm long (vs. triangular, 1.7 mm long) and lateral-lobes of lip about 1/3 the length of mid-lobe (vs. about 1/2 the length of the mid-lobe), and column straight (vs. column arched).

Epiphytic, caespitose **herb**, pendent, branched, new stems produced from the base of the previous stem in older plants, 5.5-19 cm long. **Roots** 1 mm in diameter, basal, simple. **Stems** 4.5-19 x 0.2-0.5 cm laterally compressed, ancipitose, completely covered by evanescent, imbricating, foliaceous sheaths. **Leaves** articulate, unequal, progressively smaller, evenly distributed throughout the stems, lanceolate, acute, succulent; sheaths 4.0-10 x 2.0-4.0 mm, tubular, strongly laterally compressed, ancipitose; blade 0.9-3.8 x 0.3-0.9 cm, lanceolate, twisted so as to be on the same plane as the stem, spreading. **Inflorescence** ca. 1.9 cm long, apical and axillary, short racemose sessile, up to 10 flowered, in opposite pairs, each pair at 90° to the previous pair; peduncle 0.5 cm long, very short; rachis 1.0-1.4 cm long completely covered by bracts. **Flowers** 7-9, simultaneous, resupinate, pale greenish white; fragrance not registered. **Floral bracts** 3.0-7.0 mm long, decreasing, narrowly ovate-triangular, acute. **Ovary** 5-10 mm long, thin, not inflated, terete, striated. **Sepals** 5.5 x 2.0 mm, spreading, acute, 3-veined with a pair of secondary veins, margin entire, spreading; dorsal sepal elliptic-lanceolate; lateral sepals elliptic. **Petals** 3.0 x 0.3 mm, linear, acute, 1-veined, spreading, margin entire, spreading. **Lip** 3.7 x 3.2 mm, united to the column, 3-lobed, triangular in general form, base truncate, fleshy, margin slightly erose; bicallose, the calli basal, small, globose, disc with a low mid-rib; lateral lobes 1.1 x 1.3 mm, obliquely ovate, divaricate, apex obtuse, about 1/3 the length of the triangular; mid-lobe 2.0 x 1.5 mm, triangular, somewhat arcuate, apex narrowly rounded, margin entire, thick. **Column** ca. 3.2 mm, straight. **Clinandrium** prominent, surpassing the body, covering the anther completely, entire, lateral margin somewhat widely dentate. **Anther** reniform. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen, apparently short, without penetrating the pedicellate ovary. **Capsule** not seen.

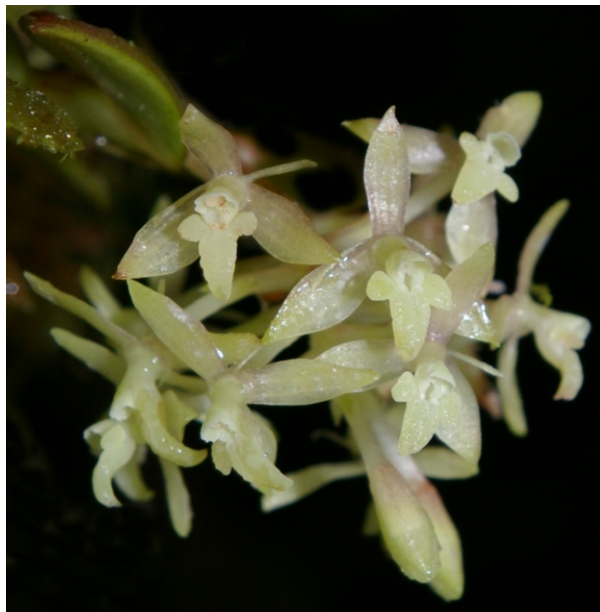
OTHER SPECIMENS: PERU: Dept. Pasco: Prov. Oxapampa: Dist. Huancabamba, Parque Nacional Yanachaga-Chemillén, Sector San Daniel, 2025 m, 1 III 2009, *Vásquez 35477*, HOXA, HUT, MO, MOL, USM!

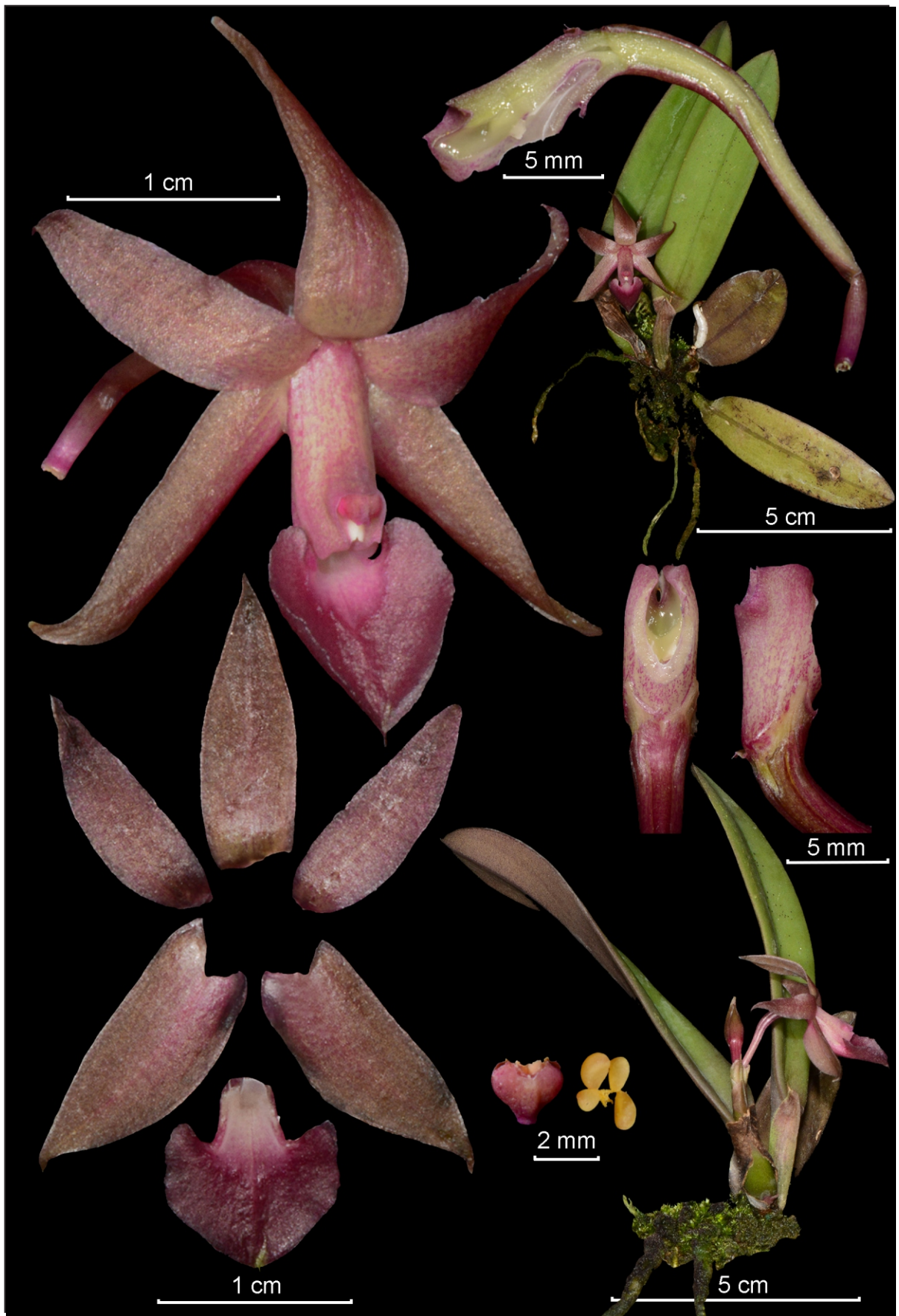
DISTRIBUTION AND ECOLOGY: Known only from the eastern slope of the Eastern Cordillera of the Andes in central Peru, from the Parque Nacional Yanachaga-Chemillén, sector Tunqui, at 1800 m altitude. Epiphytic in primary montane forest on hills. Flowering in February.

RECOGNITION: *Epidendrum leuconanum* belongs to the Nanum Group, which is characterized by the *Dichaea*-like horizontal or pendulous stems, the inflorescence produced by pairs of opposite flowers without spathes, but with prominent floral bracts. The new species is recognized by the pale greenish white flowers and the thin pedicellate ovary, not inflated by the nectary; petals about half as long as the sepals. *Epidendrum tingo-mariae* Hágsater has an arched column with a prominent, erose clinandrium, green flowers, the anther also green, and the short nectary that does not penetrate further than the perianth. *Epidendrum vesicinatum* Hágsater & L.Valenz. grows in the same general area but in sclerophyllous forest on white sand and is easily distinguished by the smaller lateral lobes of the lip, green flowers and inflated pedicellate ovary behind the perianth. *Epidendrum integrinum* Hágsater, from the Cordillera del Cóndor in Ecuador, has large, caespitose plants (about ca. 6-30 cm long), widely lanceolate leaves, cream-greenish tone flowers, the ovary clearly inflated by the deep nectary, dorsal sepal oblanceolate, lateral sepals oblanceolate-elliptic (9.3-9.6 x 2.5-2.6 mm), and by the small sub-entire lip, 4.0 x 2.5 mm, the mid-lobe triangular (longer than wide) and the lateral lobes very reduced, hemi-orbicular and rounded. *Epidendrum bonitense* Hágsater & Dodson has long plants (10-30 cm), stems horizontal to hanging, all covered with ancipitose sheaths, flowers glaucous green with a faint purple tinge, a long ovary (12 mm), long sepals and petals (12 mm and 10 mm, respectively), a 3-lobed lip (5 mm long) with mid-lobe sub-rectangular.

ETYMOLOGY: From the Greek λευκο, white, and νανος, dwarf, in reference to the white flowers which distinguish this species, especially from the sympatric *Epidendrum vesicinatum*. Both belong to the Nanum Group.

REFERENCES: Hágsater, E., 1999, *Epidendrum tingo-mariae*, in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), *The Genus Epidendrum*, Part 2, *Icon. Orchid.* 3: t. 388. E. Hágsater, & C.H. Dodson, 1993, *Epidendrum bonitense* in E. Hágsater & G.A. Salazar (eds.), *The Genus Epidendrum*, Part 1, *Icon. Orchid.* 2: t. 113. Hágsater, E., 2019, *Epidendrum integrinum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1), t. 1729. Hágsater, E., & L. Valenzuela, 2019, *Epidendrum vesicinatum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1), t. 1755.





EPIDENDRUM MACROILINIZAE Hágsater, Cisneros & J.Duarte

Plate 1733

EPIDENDRUM MACROILINIZAE Hágsater, Cisneros et J. Duarte, sp. nov.

Type: ECUADOR: Prov: Cotopaxi: Cantón: Sigchos: por camino Sigchos-Latacunga, desviación hacia Cooperativa Cerro Azul, arriba de Cerro Azul, 3000 m, 22 IV 2018, *Eric Hágsater, Gerardo A. Salazar, Francisco Tobar, Itzi Fragoso & Marcia Peñafiel 15805*.
Holotype: QCNE! (LCDP and photo voucher)

Similar to *Epidendrum ilinizae* Hágsater & Dodson, especially in the cordiform lip, but the plant upright, pseudobulbs aggregate (vs. plant pendent, leaves along an elongate rhizome, without pseudobulbs), flowers larger pinkish brown with the lip wine red, (vs. flowers dark wine red overall), sepals 15-17 mm long (vs. sepals 10-13 mm long).

Epiphytic, caespitose, sympodial, sub-arcuate **herb**, 6.2-9.0 cm tall. **Roots** 1.0-2.7 mm in diameter, fleshy, white. **Stems** 1.5-2.1 x 0.49-0.56 cm, thickened into an oblong pseudobulb, short, dark green, covered by non-foliar sheaths 2.1 x 1.0 cm, amplexicaul, striated when dry. **Leaves** 4.1-8.1 x 1.7-1.8 cm, a single leaf at the apex of pseudobulb, ovate to oblong-lanceolate, acute, fleshy, coriaceous, smooth with a dorsal keel, green above, tinged purple towards the margins and underside, margin entire, spreading. **Spathe** lacking. **Inflorescence** produced from the previous years' growth, when the new growth has reached its full size, apical, sessile, racemose with 2 successive flowers, much shorter than the leaf; peduncle reduced, covered by 3 bracts, 6.0-7.0 x 4.0 mm, widely ovate, apiculate, imbricate. **Flowers** 2, opening in succession, resupinate, sepals and petals pinkish brown, column pink dotted over white, lip wine red; without fragrance. **Floral bracts** shorter than the ovary, triangular-lanceolate, embracing. **Ovary** 17 mm, pedicellate, terete, thin, slightly thicker towards the apex, striated. **Sepals** 15-17 x 5.3-6.0 mm, fleshy, acuminate, glabrous, 5-veined, margins entire, spreading; dorsal sepal oblong-lanceolate, spreading, reflexed, free; lateral sepals ovate-lanceolate, partly spreading, recurvate at the apex, obliquely adnate to the column, margins somewhat revolute. **Petals** 14 x 4.2 mm, spreading, reflexed, free, oblong-lanceolate, acute, 3-veined, margins entire. **Lip** 14 x 10 mm, united to the column, cordiform, base auriculate, apex short-apiculate, somewhat concave in natural position, margin minutely erose especially from the sides towards the base; ecallose, disc with a low, thin keel along the apical half, with a lighter, whitish-pink spot at the base of the disc. **Column** 9 mm, thick, straight. **Clinandrium-hood** short, margin entire. **Anther** cordiform, 4-celled. **Pollinia** 4, obovoid, slightly laterally compressed, yellow; caudicles short, granulose; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** short, occupying 1/3 of the stigmatic cavity. **Nectary** shallow without penetrating the ovary just the column, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Endemic to Ecuador. Known presently only from the type, in the valley southwest of the twin Ilinizas mountains, in high Andean forest, at 3000 m altitude, at the edge of the Reserva Ecológica Los Ilinizas. Epiphytic on small trees. Flowering in April.

RECOGNITION: *Epidendrum macroilinizae* belongs to the Kaloptenix group, Serpens Subgroup characterized by the aggregate, globose pseudobulbs with fleshy-coriaceous leaves, a sessile inflorescence, one to few fleshy, compact, star-shaped flowers, often burgundy red in color, and lip entire, more or less cordiform. The new species is recognized by the single leaved pseudobulb, sessile inflorescence with 2 pinkish brown flowers, the lip wine red, reflexed long sepals (lateral sepals about 17 mm long), lateral sepals, with apex recurved, acuminate, reflexed oblong-lanceolate petals (about 14 mm long), acute, and the lip cordiform, base auriculate, apex short apiculate, somewhat concave in natural position, margin erose especially from the sides towards the base, ecallose, and disc with a low thin mid-rib on the apical half. *Epidendrum ilinizae* Hágsater & Dodson has very similar flowers and lip shape, but these are smaller, sepals 10-13 mm long, plants are pendent with a single wine red flower. *Epidendrum serpens* Lindl. has 2-3 leaves per pseudobulb, 4-5 simultaneous flowers, leaves ovate-lanceolate, petals linear-lanceolate, and lip sub-rounded-ovate. *Epidendrum pachycoleum* Hágsater, O. Pérez & E. Santiago has an erect plant, 1-2-leaved, aggregate, homoblastic pseudobulbs, elliptic leaves, the apical one often much reduced, flowers reddish-violet color, sometimes 2 open at one time, sepals 7.0-7.3 mm long, lip apiculate, disc with a wide, low, central, prominent rib that elongates to the apicule. *Epidendrum platyphylloserpens* Hágsater has pendent plants, smaller, pale green flowers, sepals 10-11 mm long, lip semi-orbicular, base truncate, apex rounded.

ETYMOLOGY: From the Latin *macro*, larger, and Los Ilinizas mountains, in reference to the similarity of the flowers of this species to that of *Epidendrum ilinizae*, but larger.

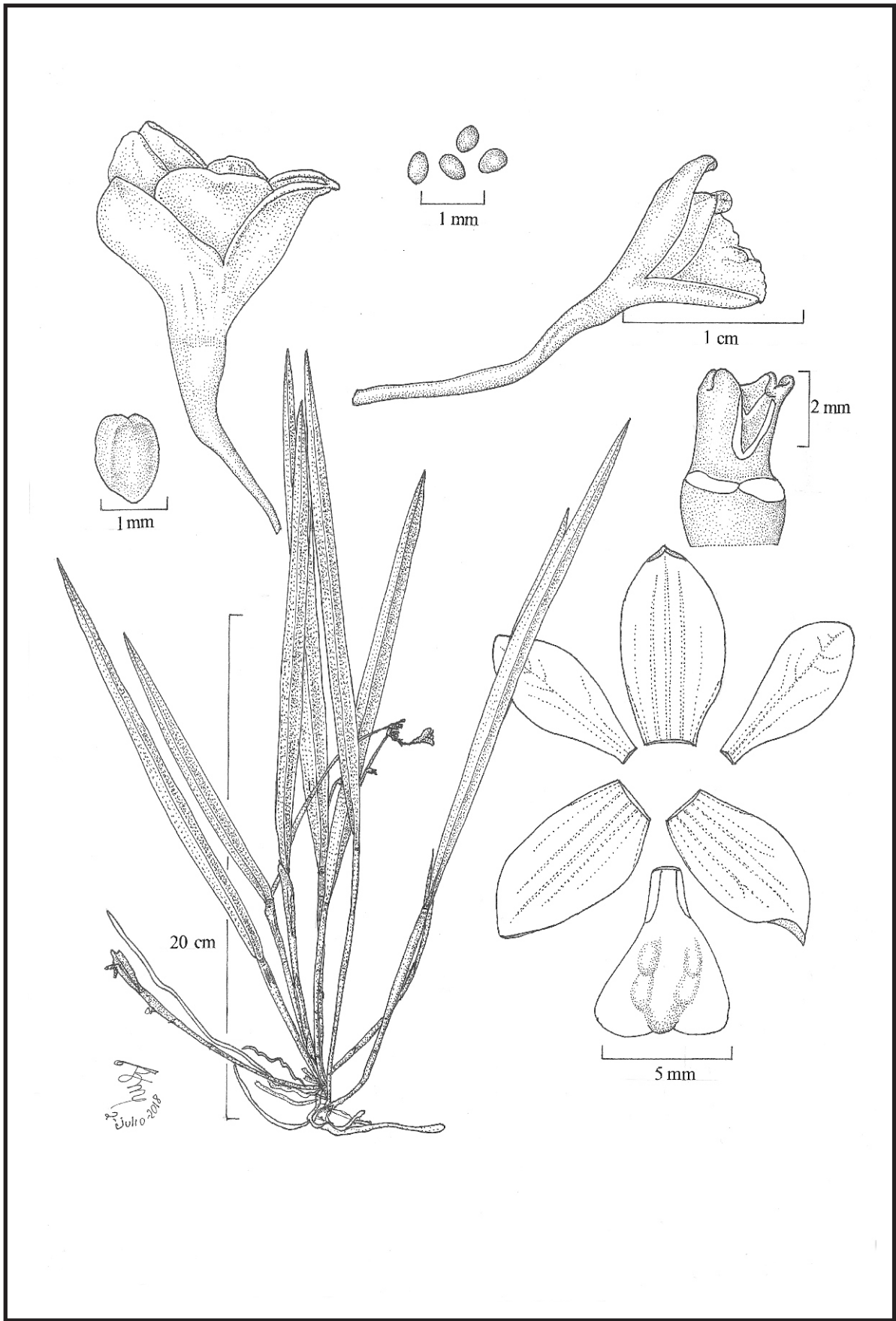
CONSERVATION STATUS: DD. Data deficient. Presently known only from the type.

ACKNOWLEDGMENT: Collections made under framework contract "Diversidad Genética del Ecuador" MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. "Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales".

REFERENCES: Hágsater, E., 2001, *Epidendrum platyphylloserpens* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 3, *Icon. Orchid.* 4: t. 473. Hágsater, E., & C.H. Dodson, 1999, *Epidendrum ilinizae* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.) The Genus *Epidendrum*, Part 2, *Icon. Orchid.* 3: t. 337. Hágsater, E., O. Pérez & E. Santiago, 2013, *Epidendrum pachycoleum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 10, *Icon. Orchid.* 14: t. 1466. Lindley, J., 1844, *Epidendrum serpens* Lindl. in G. Bentham (ed.) *Pl. Hartw. [Bentham]*, p. 149.



Authors: E. Hágsater, A. Cisneros & J. Duarte LCDP: R. Jiménez M. & A. Cisneros Photo: R. Jiménez M. Editors: E. Hágsater & E. Santiago



EPIDENDRUM MAGNICALLOSUM C.Schweinf.

EPIDENDRUM MAGNICALLOSUM C.Schweinf.

Type: PERU: Loreto: Vicinity of Iquitos, 100 m, July 1937, **Guillermo Klug 10117**. Holotype: AMES 61552! Isotype: US 1455968! Nomenclatural
 Synonym: *Encyclia magnicallosa* (C.Schweinf.) Pabst, *Orquídea* (Rio de Janeiro) 29(6): 276. 1967, publ. 1972.

Epiphytic, sympodial, caespitose, erect to pendent herb, to 33 cm long. Roots 1 mm in diameter, basal, fleshy, thin. Stem 11.1-16.3 x 0.1-0.3 cm, simple, cane-like, terete at base, somewhat laterally compressed above, thin, concealed by tubular, imbricating sheaths 32-42 x 1-3 mm, smooth, evanescent with time. **Leaf** 1, 8-20.5 x 0.8-1.2 cm, apical, linear-lanceolate, acuminate, coriaceous, deep green, the base embracing the base of the inflorescence, margin entire, spreading. **Spathes** lacking. **Inflorescence** 10-30.4 cm long, apical, thin, straight to slightly arching; peduncle 8.5-27 cm long, totally hidden by tubular, acuminate, imbricating sheaths [with sheaths 8-10 mm long, tubular], pluri-racemose, the racemes from within the apical bract 5-6 x 1.7 mm, at the apex of the peduncle of the inflorescence, conduplicate, acute; the racemes 2.5-3.0 cm long, filiform, sinuous, nearly totally covered by the floral bracts, new racemes produced in succession over several years, from the apex and from sub-apical internodes of the peduncle. **Floral bracts** 4-7 mm long, much shorter than the ovary, ovate, acute, somewhat tubular at base. **Ovary** 13.4-25.7 mm long, terete, furrowed, forming an inflated ventral vesicle behind the perianth. **Flowers** 1-4 per raceme, successive, developing one at a time, sub-campanulate, sepals pale pink, petals and lip white, column and anther pale green; fragrance lacking. **Sepals** 6.9-7.5 x 4.8-5.0 mm, free, partly spreading, ovate widely-elliptic, acute, 6-7 veined, margin entire, spreading. **Petals** 6.7-6.9 x 3.7-3.8 mm, free, partly spreading, obovate to oblanceolate, acute, 3-veined, margin entire, spreading. **Lip** 5.4-6.0 x 5.9-8.0 mm, united to the column, entire, sub-orbicular-obovate, base somewhat cuneate, apex truncate, apiculate in the wide apical sinus, margins entire, spreading; bicallose, the calli prominent, upright, forming a channel as wide as the entrance of the nectary, disc thickened and sulcate, formed by a narrow channel with an additional rib on each side, in front of the calli, and ending in a thickened mid-rib which nearly reaches the apical sinus. **Column** 2.0 mm long, very short, thick. **Clinandrium-hood** short, margin slightly sinuous. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles somewhat longer than the pollinia, granulose, in two pairs; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating ¼ of the pedicel, forming an inflated vesicle. **Capsule** not seen.

OTHER SPECIMENS: BRAZIL: Amazonas: Santa Isabel do Rio Negro; Taparacuara, Rio Negro, 28 X 1971, *Prance 15638*, INPA! São Gabriel da Cachoeira; Morro dos Seis Lagos Igarapé Ya-mirim, 20 IV 2008, *Assis 55*, INPA! Vista Alegre, margem do Rio Negro e foz do Rio Xie, 22 X 1987, *Farney 1757*, INPA! Porto Camanaus, 19 X 1978, *Madison 6426*, INPA! SEL! Basin of Rio Negro, 31 X 1971, *Prance 15869*, INPA! HB! Morro dos Seis Lagos Igarapé Ya-mirim, 20 IV 2008, 332 m, *Terra-Araujo 296*, INPA! Ibid. 330 m, 27 V 2008, *Terra-Araujo 300*, INPA! Rio Icana, Comunidades Jauacana, 93 m, 30 VI 2009, *Terra-Araujo 630*, INPA! **COLOMBIA: Vaupés:** Río Piraparaná (tributary of Río Apaporis), Caño Tumueña, Savannah O-koo'-mé-gwa, 06 IX 1952, *Schultes 17221*, AMES! (Illustration voucher) Río Kuduyarí (tributary of Río Vaupés); middle and lower course, 700 m, 16 X 1952, *Schultes 17885*, AMES! **PERU: Loreto:** Carretera Iquitos-Nauta, zona reservada Allopahuayo-Mishaua, 156 m, 04 III 2002, *Fernández 12*, USM! Iquitos, Allpahuayo. Estación experimental del Instituto de Investigaciones de la Amazonia Peruana (IIAP), 04 XI 1990, *Vázquez 14582*, MO! **VENEZUELA: Amazonas:** Carretera Maroa-Yavita, hasta los puentes después de Boca Chico, 120 m, 23 I 1998, *Romero 3170*, VEN! Distrito Maroa: cuenca del Itinividi, alto Mee, entre el campamento base y su unión con el caño Desecho, 80 m, *Romero 4047*, VEN! Cuenca del Itinividi, riveras del alto Mee, 100 m, 17 IX 2011, *Romero 4068*, VEN! Río Negro, 1 to 2 km E and SE of San Carlos de Río Negro, 120 m, 11 XI 1987, *Liesner 22969*, F! MO! VEN! Caño 12 km NE de San Carlos de Río Negro; (ca. 20 km of confluence of Río Negro and Brazo Casiquiare), 120 m, 15 IV 1979, *Liesner 6661*, MO! VEN! 1 km from road, between Caño Tremblador and Huachica. 10 km NE of San Carlos and Río Negro, 120 m, 19 IX 1977, *Liesner 3656*, MO! VEN!

OTHER RECORDS: COLOMBIA: Caquetá: Mun. Solano Araracuara, 350 m, *Uribe CUV_0979*, digital images, AMO! **PERU: Pasco:** Oxapampa: Puerto Bermudez, 250 m, 21 VIII 1991, *Castillo ex Bennett 5226*, spirit, USM **VENEZUELA: Amazonas:** Near San Carlos de Río Negro, *Berry 1548*, AMES! SEL! Illustration, *Dunsterville 1343*, (Dunsterville, 1986). Carretera Maroa-Yavita, hasta los puentes después de Boca Chico, 120 m, 23 I 1998, *Romero 3170*, digital image, AMO! (photo voucher).

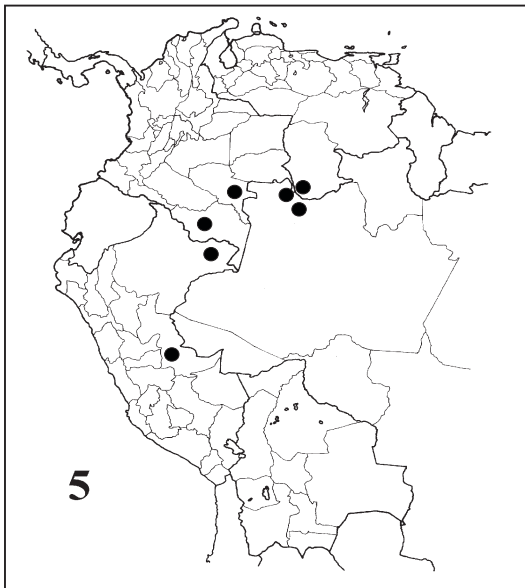
DISTRIBUTION AND ECOLOGY: Widespread along the upper Amazon basin, at the foot of the Andes from Venezuela to Peru; epiphytic at 80-700 m. Epiphytic near the ground in oligotrophic forests on trees on white sands, known as "varillales" in Peru. Flowering from September to June.

RECOGNITION: *Epidendrum magnicallosum* belongs to the Physinga Group which is characterized by to the generally small, caespitose plants, the inflorescence apical and racemose producing new racemes with time and thus pluri-racemose, the successive flowers opening one at a time on an elongate peduncle with acuminate bracts, the lip entire and the ovary with a prominent vesicle. The species is recognized by the thin stem 11.1-16.3 x 0.1-0.3 cm, with a single apical leaf, linear-lanceolate, acute, coriaceous, 8-20.5 x 0.8-1.2 cm, inflorescence 10-27.7 cm long, peduncle thin, producing new racemes from subapical internodes with time, flowers campanulate, pale pink with petals and lip white, sepals 6.9-7.5 mm long, lip 5.4-6.0 x 5.9-8.0 mm, entire, sub-orbicular-obovate, base somewhat cuneate, apex truncate, apiculate in the wide apical sinus, margins entire, spreading; bicallose, the calli prominent, upright, forming a channel as wide as the entrance of the nectary, disc thickened and sulcate, formed by a narrow channel with an additional rib on each side, in front of the calli, and ending in a thickened mid-rib which nearly reaches the apical sinus. *Epidendrum cystosum* Ames has 3-6 leaves distributed through the stem, and a short inflorescence 1.5-4.5 cm long, lip sub-orbicular, sub-acute, 5 x 5 mm, bicallose, and 5 narrow ribs on the disc. *Epidendrum ceticaudatum* Rinc.-González, Villanueva & E.Santiago, has 4-8 leaves distributed along the apical half of the stem, a long inflorescence 15-22 mm long, peduncle zig-zag with large flowers, sepals 13 mm long, pink, a white lip 6 x 9 mm, convex, bicallose, with 3 ribs, shaped like the tail of a whale. *Epidendrum hellerianum* A.D.Hawkes is 30-50 cm tall, with 5-7 leaves, inflorescence zig-zag, sepals 25-30 mm long, and lip 3-lobed, apex deflexed.

CONSERVATION STATUS: DD. Deficient. Widespread throughout the upper Amazon Basin, and apparently rare with population of numerous individuals where it is found.

ETYMOLOGY: In reference to the large thickening of the disc, which forms a large thick structure together with the calli.

REFERENCES: Bennett Jr., & E.A. Christenson, 1995, *Epidendrum magnicallosum* in *Icon. Orchid. Peruv.* Pl. 244. D.E. Dunsterville, G.C.K., 1986, *Epidendrum magnicallosum*, *Lindleyana* 1(4): 244-245. Hamer, F., 1982, *Epidendrum hellerianum*, in F. Hamer, *Orchids of Nicaragua*, in C.H. Dodson (ed.), *Icon. Pl. Trop.* 8: t. 718. Hamer, F., 1985, *Epidendrum cystosum* Ames, in C.H. Dodson (ed.), *Icon. Pl. Trop.* 13: t. 1218. Rincón-González, M., B. Villanueva & E. Santiago 2015, *Epidendrum ceticaudatum* in E. Hågsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(1): t. 1511.



Authors: E. Santiago & E. Hågsater

Illustrator: R. Jimenez M.

Photo: G. A. Romero

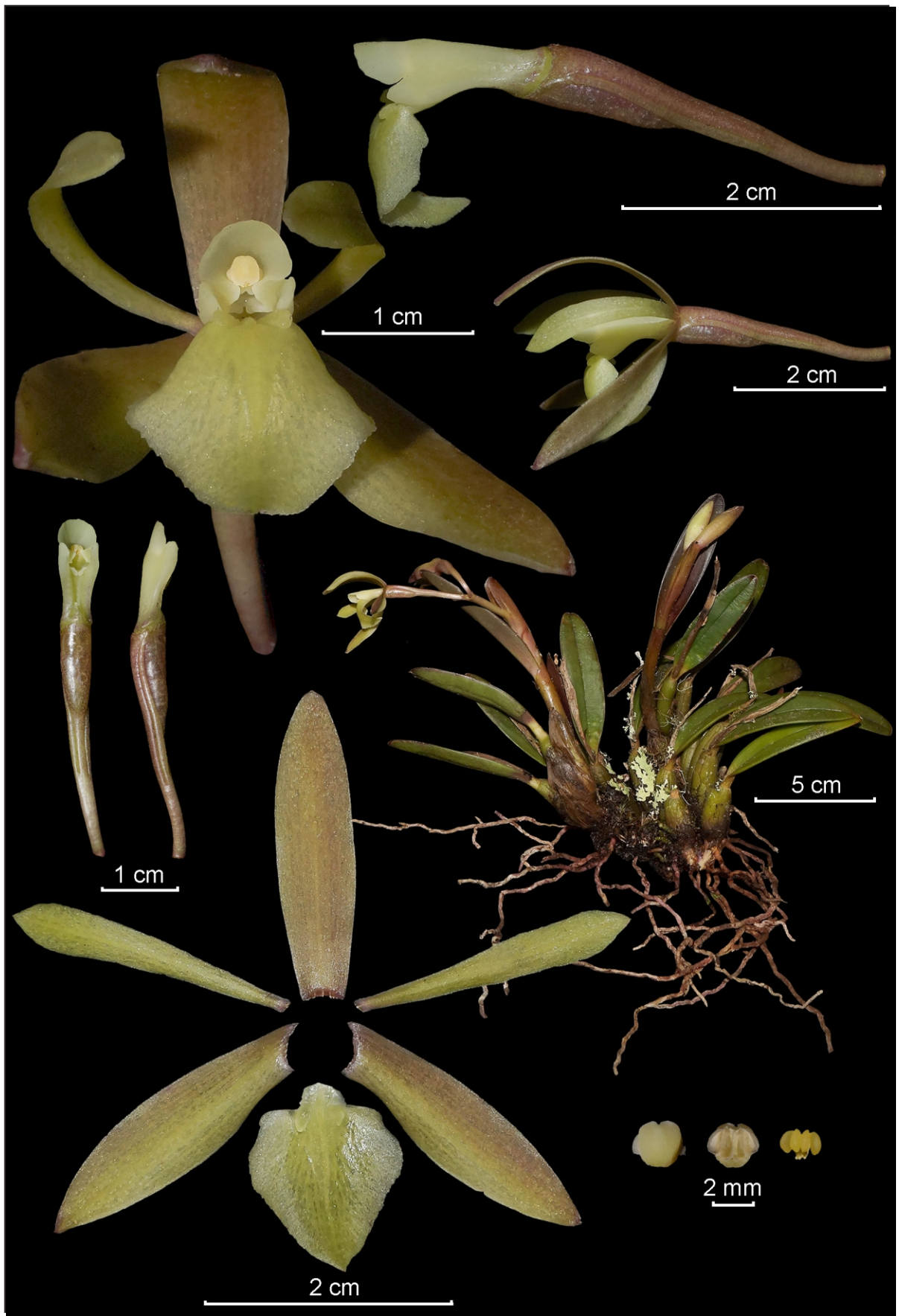
Editors: E. Hågsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1734



EPIDENDRUM MAGNISAXICOLA Hágsater, Edquén & E.Santiago

Plate 1735

EPIDENDRUM MAGNISAXICOLA Hágsater, Edquén et E.Santiago, *sp. nov.*

Type: PERU: Amazonas; Prov. Chachapoyas; Dist. Granada: Comunidad Campesina de Diosan, 3074 m, 14 agosto 2018, **José Dilmer Edquén Oblitas 584**. Holotype: HURP! (LCDP and photo voucher).

Similar to *Epidendrum saxicola* Kraenzl. but the flowers greenish yellow with the sepals tinged brown (vs. flowers dirty purple, lip white, tinged purple), sepals 24-25 mm long (vs. sepals 15 mm long), petals 25 x 4 mm, oblanceolate (vs. petals 13 x 2.5 mm, linear-oblanceolate) and lip 13.5 x 11 mm, ovate-rhombic (vs. lip sub-orbicular to obscurely pentagonal).

Epiphytic, sympodial, caespitose, climbing **herb**, 13 cm tall. **Roots** 2.0-2.2 mm in diameter, distributed throughout the rhizome, thin. **Stems** 3.0-4.0 x 1.1-1.3 cm, thickened, forming fusiform pseudobulbs, striated and rugose; covered by a single sheath 3.8-4.2 cm long, membranaceous, brown, translucent, becoming fibrous. **Leaves** 1, 4.3-6.5 x 1.4-1.7 cm, apical, articulate, coriaceous, narrowly elliptic, apex obtuse, margin entire, spreading, copper-brown when young during flowering, turning green when mature. **Spathe** 1, 3.2-5.3 cm long, tubular, oblong, conduplicate, apex rounded, copper-brown. **Inflorescence** 6.8 cm long, including the flowers, apical from the developing stem, when the leaf has reached its full length, sub-erect, few-flowered, racemose; peduncle 4.0-4.8 cm long, terete, thin, straight, erect, creamy brown, about as long as the spathe and nearly totally hidden within it. **Floral bracts** 2.0-3.0 mm long, much shorter than the ovary, triangular-ovate, acute, embracing, cream colored. **Ovary** 3.0-5.0 cm long, terete, straight, ventrally inflated along the apical half, furrowed. **Flowers** 2, simultaneous, resupinate, pale greenish yellow, sepals tinged brown, anther white; fragrance not registered. **Sepals** 24-25 x 6.5-7.0 mm, partly spreading, free, oblong-elliptic, 5-veined, obtuse, margin entire, spreading; lateral sepals slightly oblique, dorsally slightly carinate towards the apex. **Petals** 25 x 4.0 mm, partly spreading, free, oblanceolate, 1-veined, margin entire, spreading. **Lip** 13.5 x 11 mm, united to the column, entire, ovate-rhombic when spread, base truncate, apex obtuse, apex and basal lateral margins revolute in natural position; bicallose, the calli small, fleshy, somewhat laterally compressed, slightly divaricate; disc provided with a triangular mid-rib, apex acute, disappearing before reaching the apex. **Column** 14 mm long, thin at basal 1/3, gradually widening towards the apex, straight, ending in a very prominent clinandrium-hood and somewhat shorter rounded lateral lobes. **Clinandrium-hood** prominent, surpassing the body of the column, entire, margin crenate. **Rostellum** apical, slit. **Anther** subspherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, as long as the pollinia; viscidium semi-liquid. **Lateral lobes of the stigma** small, occupying 1/4 of the stigmatic cavity. **Nectary** penetrating nearly half of the pedicellate ovary, inflated and forming an elongate vesicle. **Capsule** not seen.

OTHER SPECIMENS: PERU: Cajamarca: Jaén, San José de la Alianza-Rinconada, 2600-2700 m, 17 III 2009, *Vásquez 230*, MOL! **Pasco:** Oxapampa, Parque Nacional Yanachaga Chemillén, Sector Chacos, 2850 m, 10 III 2005, *Becerra 924*, MO! (Illustration AMO) Ibid. Dist. Huancabamba, Sector Oso Playa, 2561 m, 26 XII 2010, *Briceño 520*, HOXA! USM

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Northern to central Peru, on the eastern slope of the Andes in the Departments of Cajamarca, Amazonas bordering on San Martín and Pasco, Epiphytic at 2561-3074 m. Flowering in August to March.

RECOGNITION: *Epidendrum magnisaxicola* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the surface of the vegetative structures often rugose, the prominent spathaceous bract apically rounded, few-flowered, erect inflorescence, the flowers purple or yellow. The new species is recognized by the large flowers, sepals 24-25 mm long, pale greenish yellow, the sepals tinged brown, oblanceolate petals 25 x 4 mm, lip 13.5 x 11 mm, entire, ovate-rhombic, base truncate, revolute in natural position. It is similar to *Epidendrum saxicola* which has purple flowers with a white lip, tinged purple, sepals 15 mm long, petals 13 x 2.5 mm, lip sub-orbicular to obscurely pentagonal. *Epidendrum harmsianum* Kraenzl. has sulfur-yellow, smaller flowers, sepals 16 mm long, lip transversely ovate-oblong, base sub-cordate. *Epidendrum macrogastrum* Kraenzl. also has smaller, yellow flowers sepals 12 mm long, petals 10 x 1.0-1.2 mm, linear, and lip widely cordiform.

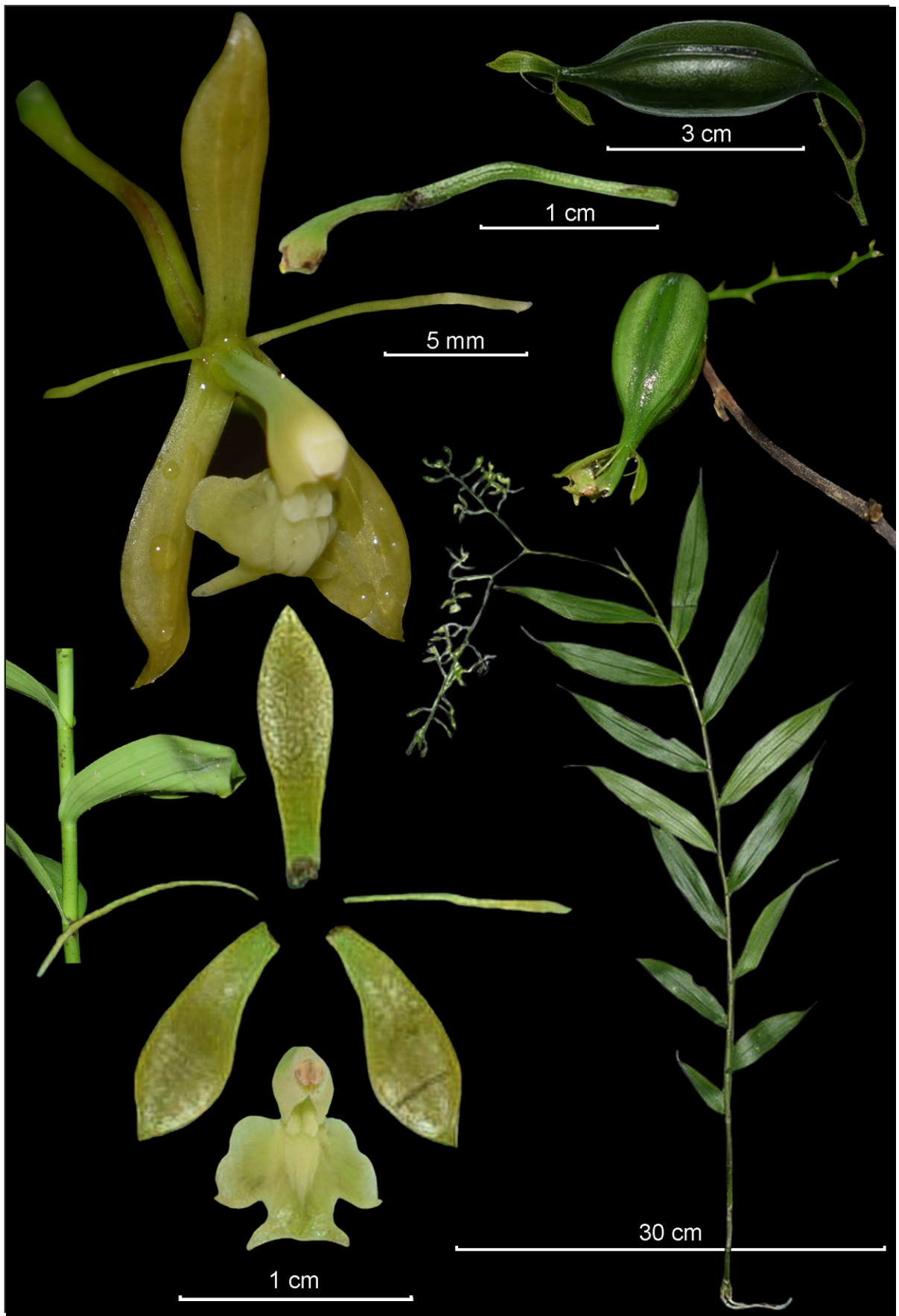
CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin, *magnis*, large, and *saxicola*, *saxum*, rock and *colére*, dwelling, thus rock-dwelling, in reference to the comparatively large flowers of this species compared to those of *Epidendrum saxicola* which it closely resembles.

ACKNOWLEDGMENT: Collections made under project "Efecto de la fragmentación de hábitats de bosque alto andino en diversidad de Orchidaceae y Bromeliaceae del anexo de Diosán, Distrito de Granadas, Amazonas" emitido bajo la resolución de Dirección General (RDG) N° 137-2018-SERFOR/DGGSPPFFS; correspondiéndole el Código de Autorización N° AUT-IFL-2018-025.

REFERENCES: Bennett, D.E., & E.A. Christenson, 1998, *Epidendrum harmsianum*, in E.A. Christenson (ed), **Icon. Orchid. Peruvianum**, pl. 461. Kränzlin, F.W.L., 1905, *Epidendrum macrogastrum* in **Repert. Spec. Nov. Regni Veg.** 1: 187. Kränzlin, F.W.L., 1905, *Epidendrum saxicola* in **Repert. Spec. Nov. Regni Veg.** 1: 187.





EPIDENDRUM MAMAPACHAE Hágsater, F.O.Espinosa & E.Santiago

Plate 1736

EPIDENDRUM MAMAPACHAE Hágsater, F.O.Espinosa et E.Santiago, *sp. nov.*

Type: COLOMBIA: Boyacá: Prov. Neira, Mun. Garagoa, Vereda Quigua, 2299 m, 19 marzo 2018, **Freddy Orlando Espinosa Gamboa 106**. Holotype: HECASA!* (LCDP and photo voucher).

Similar to *Epidendrum isthmii* Schltr. but the flowers green, apex of the column, calli and ribs of the lip cream colored (vs. flowers green, disc of the lip white), flowers smaller, sepals 10.5-12.0 mm long (vs. 13.0-15.5 mm long), petals 9.5 x 1 mm, filiform (vs. 13-15 x 2 mm, linear-oblanceolate, not filiform).

Epiphytic and semi-terrestrial, sympodial, caespitose, erect to arching-pendent **herb**, 30-244 cm tall. **Roots** 2.0-2.5 mm in diameter, basal, fleshy, thickened, white. **Stems** 14-180 x 0.4 cm, simple, cane-like, terete. **Leaves** 6-13 or more, sheaths 2.7 x 0.4 cm, tubular; blade 2.8-16.0 x 1.0-2.9 cm, elliptic-lanceolate, acuminate, margin entire, somewhat revolute. **Spathes** lacking. **Inflorescence** 14-18 cm long, apical, paniculate, 1 branched, the branch about twice as long as the main raceme, the branch sometimes producing 1-2 short 2-3 flowered branches; peduncle 9-10 cm long, sheathed by 2 long, tubular, triangular acuminate bracts 1.5-5.0 cm long, not imbricated, the second bract above the middle of the peduncle, much smaller. **Floral bracts** to 10 mm long, shorter than the ovary, linear-triangular, acuminate, embracing. **Ovary** 12-18 mm long, terete, somewhat thickened along the apical half. **Flowers** 19-30, opening in succession, resupinate, green, the apex of the column, calli and ribs of the lip cream colored; fragrance none. **Sepals** 10.5-12.0 x 3-4 mm, spreading, oblanceolate, obtuse to acute, 5-veined, margins entire, spreading. **Petals** 9.5 x 1.0 mm, partly spreading, arched forward, filiform, apex rounded, 1-veined. **Lip** 6.0 x 7.5 mm, united to the column, deeply 3-lobed, sides reflexed in natural position when mature; calli elongate, parallel, short, barely surpassing the column, disc with 3 parallel ribs, the mid-rib longer reaching the isthmus of the mid-lobe; lateral lobes 2.5 x 4.5 mm, dolabriform, distal margin entire, somewhat bilobate; mid-lobe 2 x 4 mm, a short wide isthmus with a pair of triangular, divergent lobules 1.7 x 1.0 mm, acute at the apex, forming a transverse, semi-lunate apex. **Column** 7.5-8.5 mm long, thin, dilated towards the apex, somewhat arched. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Anther** obovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, longer than the pollinia. **Nectary** narrow, slightly penetrating the ovary. **Capsule** 55 x 16 mm, ellipsoid; pedicel 15 x 2-4 mm, progressively thickened, body 34 x 16 mm, apical neck thick, 6 x 4 mm, sepals persistent.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from the summit of the Cordillera Oriental of the Andes, in the municipality of Garagoa, southeastern Boyacá, on the Mamapacha Massif, Found in conserved Andean forest, at 2300 m altitude. Flowering from March.

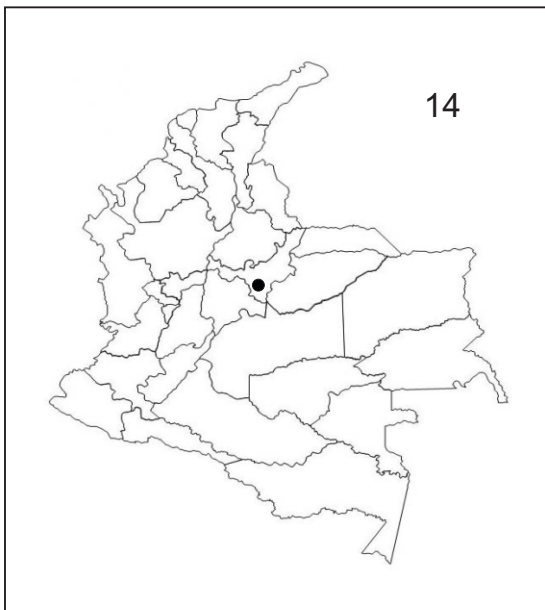
RECOGNITION: *Epidendrum mamapachae* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence without any spathes, though it may have several bracts, the mostly filiform petals, the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair; and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers often marked with purple on the disc of the lip and apex of the column. The new species is recognized by flowers green, apex of the column and calli and ribs of the lip cream colored, lacking fragrance, sepals 10.5-12.0 cm long, petals filiform, 9.5 x 1.0 mm, lateral lobes of lip strongly reflexed, and the mid-lobe spreading. *Epidendrum isthmoide*s Hágsater & E.Santiago has creamy green flowers, sepals 9-10 mm, petals 9 x 0.3 mm, lateral lobes of lip rectangular with margin dentate, lip slightly concave in natural position, and ovary papillose. *Epidendrum jacarandichromum* Hágsater, E.Santiago et Uribe Vélez has the peduncle of the inflorescence with 1-3 large, conduplicate, brown bracts, similar to those subtending the lower branches of the inflorescence, the lip of the flower with sub-reniform lateral lobes, the corners rounded, the calli of the lip usually lavender-blue, the color spreading from the calli onto the sides of the disc except for the white ribs on the disc, and lobes of the mid-lobe arched, apex rounded, margin entire. *Epidendrum isthmii* Schltr. is characterized by the lateral lobes of the lip sub-rectangular to ax-shaped, corners right-angled, calli and disc of the lip white, the margin of the lip being often green, and the lobes of the mid-lobe are nearly straight, apex truncate, margin irregular.

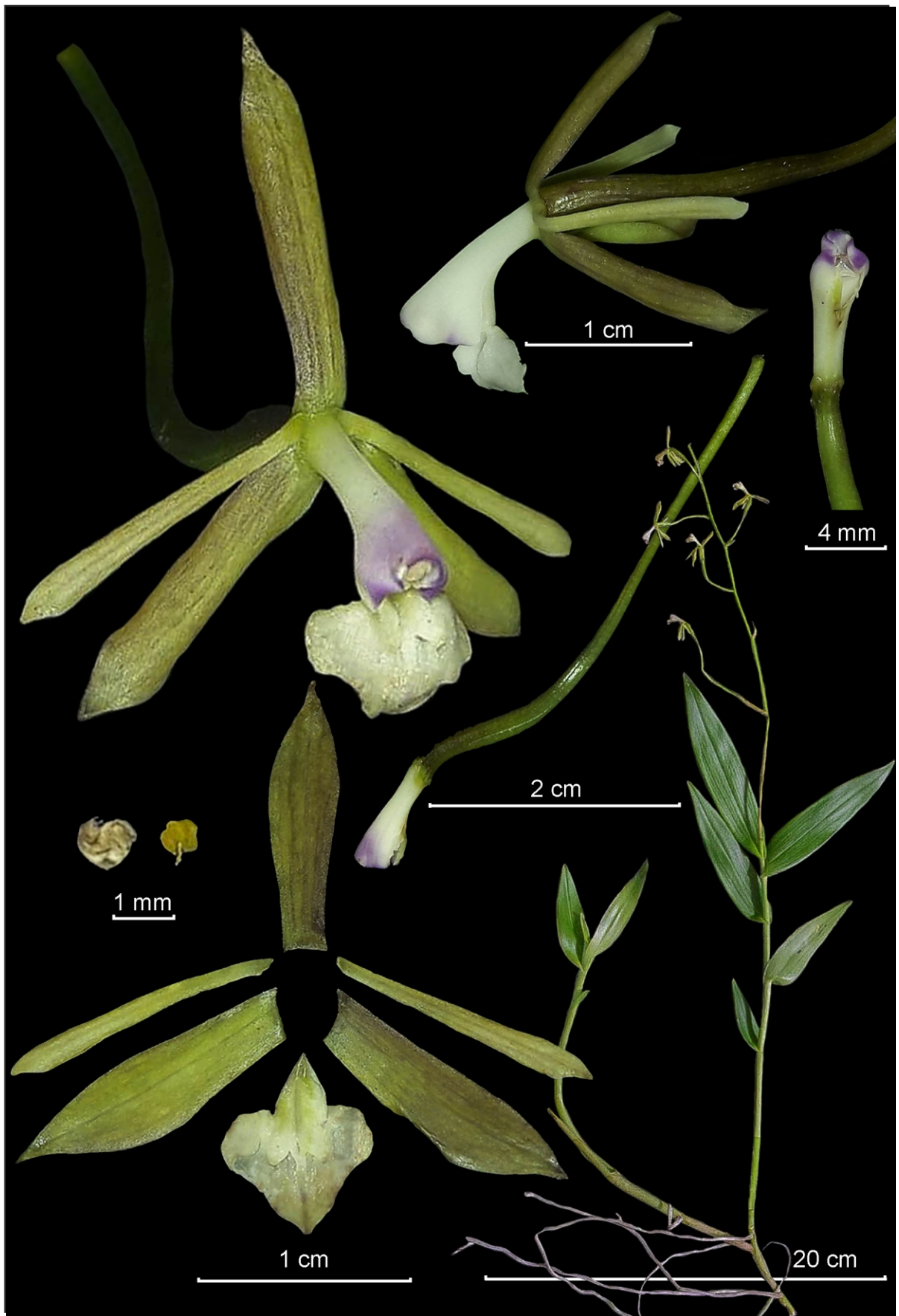
CONSERVATION STATUS: DD. Data deficient. Presently only known from the type locality.

NOTE: HECASA = Herbario Catatumbo Sarare, Universidad de Pamplona, Norte de Santander, Colombia.

ETYMOLOGY: In honor of the Mamapacha Massif, where the species was collected. Mama Pacha, in the tradition of the pre-Columbian inhabitants of Garagoa, was the matron of a family of Mohanes (mythological figures in Colombian folklore) that lived atop the hill above the town and who dominated the devils of the mountain range. In times of great draught, she would order the Mohanes to go down to the town and kidnap the most beautiful maiden to be sacrificed in a special ceremony. Where the blood of the maiden dropped, a water source would surface and thus the lake and canyons of the town were produced. Not to be confused with Pachamama, the fertility goddess of the Incas.

REFERENCES: Hágsater, E., E. Santiago, C. Uribe Vélez, 2018, *Epidendrum jacarandichromum*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1630. Santiago, E., & E. Hágsater, 2008, *Epidendrum isthmii*, in E. Hágsater & L. Sánchez (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: t. 1132. Santiago, E., & E. Hágsater, 2008, *Epidendrum isthmoide*s, in E. Hágsater & L. Sánchez (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: t. 1133.





EPIDENDRUM MANIESPINOSARUM Hágsater & F.O.Espinosa

Plate 1737

EPIDENDRUM MANIESPINOSARUM Hágsater et F.O.Espinosa, *sp. nov.*

Type: COLOMBIA: Boyacá: Prov.: Neira, Mun.: Garagoa, Vereda Quigua, 2450 m, 2 septiembre 2018, **Freddy Orlando Espinosa Gamboa 105** Holotype: HECASA!* (LCDP and photo voucher)

Similar to *Epidendrum clavadista* Hágsater & Collantes, but without spathes, flowers resupinate (vs. non-resupinate), small, sepals 12.7-13.9 mm long, (vs. sepals 20 mm long), lip entire, triangular (vs. lip shallowly 3-lobed, lateral lobes hemi-orbicular, mid-lobe triangular).

Epiphytic, caespitose, sympodial, erect **herb**, 40 cm tall including the inflorescence. **Roots** 3 mm in diameter, basal, from the somewhat scandent rhizome, thick, fleshy. **Stems** 23 x 0.2-0.4 cm, simple, cane-like, terete, straight, the basal 2/3 covered by tubular, non-foliar sheaths 15-35 x 0.4 cm. **Leaves** ca. 5, distributed along the apical 1/3 of the stem, sub-erect, articulate, unequal, progressively larger; sheaths 0.8-4.1 x 0.2-0.4 cm, tubular, smooth; blade 4-10 x 1.3-2.0 cm, lanceolate-elliptic, acute, sulcate, bright green, margins entire, spreading. **Spathes** lacking. **Inflorescence** 20 cm long, apical, paniculate with a short branch near the middle, laxly few-flowered; peduncle 7 cm long, erect, straight, terete. **Floral bracts** 6-7 mm long, much shorter than the ovary, triangular-linear, acuminate. **Flowers** ca. 7, simultaneous, resupinate, sepals pale green somewhat tinged brown, petals pale green, column white, sometimes tinged purple towards the apex, lip white; fragrance none. **Ovary** 30-46 mm long, terete, longitudinally furrowed. **Sepals** free, somewhat reflexed, membranaceous, narrowly oblong-elliptic, acuminate, 3-veined, margin entire, revolute; dorsal sepal 12.7 x 3.3 mm, lateral sepals 13.9 x 3.9 mm. **Petals** 13.0 x 1.4 mm, somewhat reflexed and slightly down-wards, linear-oblongate, acute, membranaceous, 3-veined, margin entire, revolute. **Lip** 5.8 x 7.0 mm, united to the column, entire, triangular, base truncate, the side angles rounded, apex sub-acute; margins entire; bicallous, the calli prominent, divergent, laminar, with 3 low, short, narrow, parallel ribs on the disc. **Column** 8 mm long, thin, slightly arching. **Clinandrium-hood** reduced, margin entire. **Anther** spherical, unornamented, 4-celled. **Pollinia** 4, the inner pair slightly smaller, obovoid, laterally compressed; caudicles granulose, about as long as the pollinia; viscidium semi-liquid. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: COLOMBIA: Cundinamarca: Prov. Guavio: Mun. Gachetá; Vereda Salinas, predio Paramera, 2130 m, rec. 30 V 2019, *Carlo Da Ros 728*, digital image, AMO!

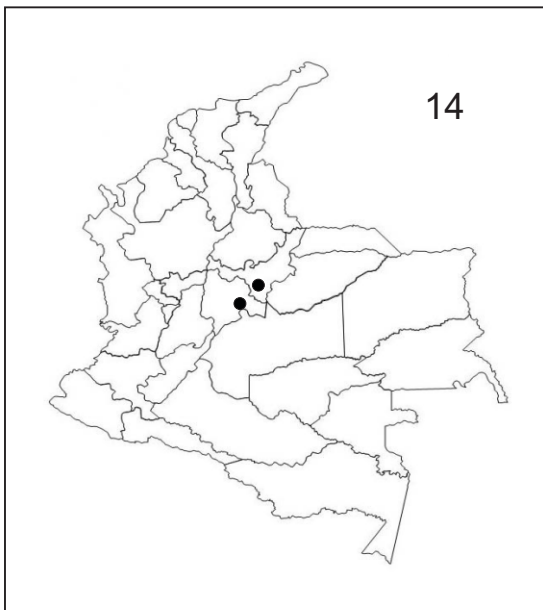
DISTRIBUTION AND ECOLOGY: Known presently only from the type locality in the municipality of Garagoa, southwestern Boyacá, near the Mamapacha Massif, and neighboring Cundinamarca, some 40 km distant, upper western slope of the Cordillera Oriental of the Andes NE of Bogotá. Found in conserved remanents of Andean forest, at 2130-2450 m altitude. Flowering in September.

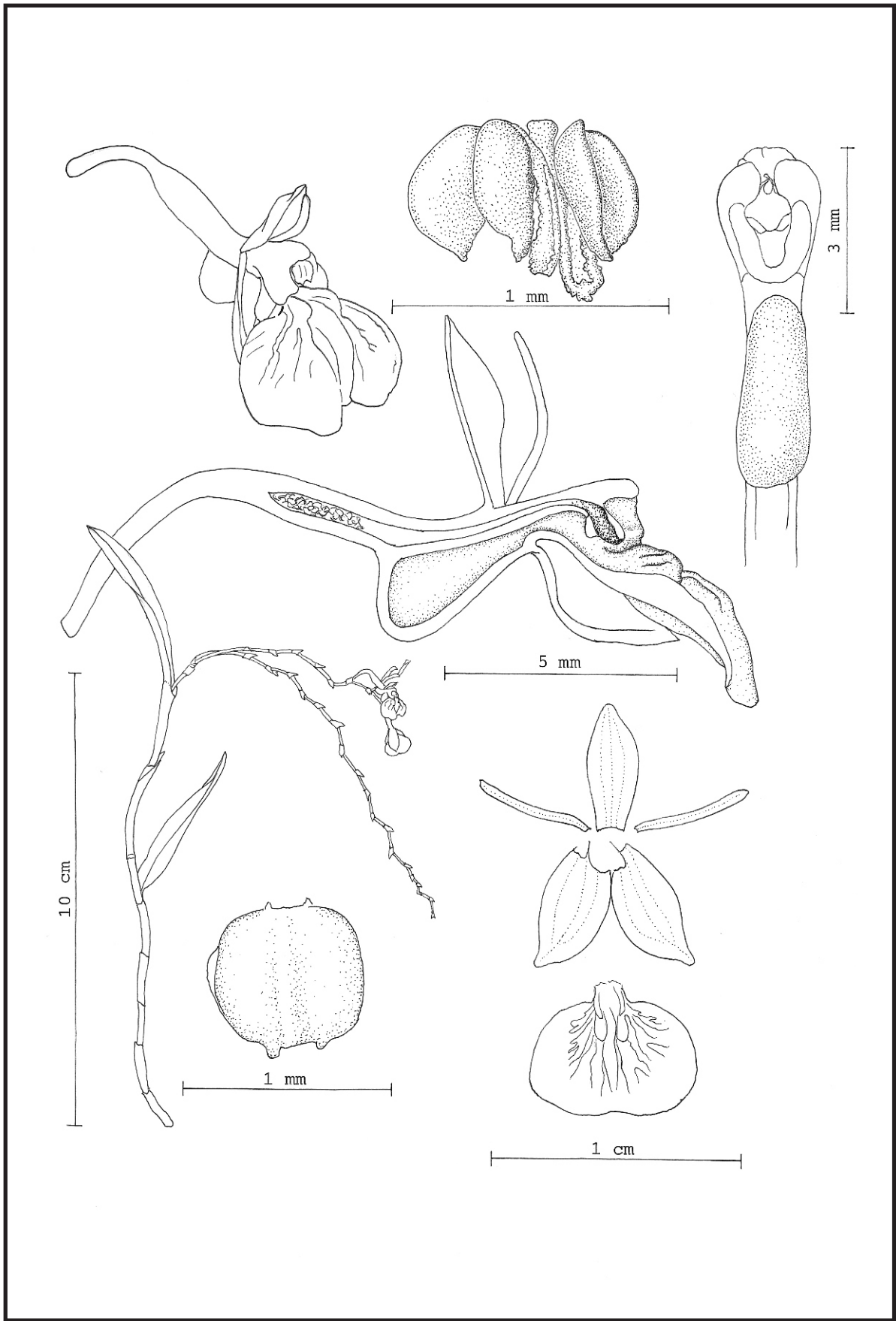
RECOGNITION: *Epidendrum maniespinosarum* does not match any group well, and thus I propose a new group for this species, the Maniespinosarum Group, which has caespitose habit, erect paniculate inflorescence, without spathe, few, laxly spaced resupinate flowers, a simple triangular, bicallous lip. It is somewhat reminiscent of the Herrenhusanum Group, recognized by the caespitose, sympodial habit, the erect racemose inflorescence subtended by a narrow, long spathe, and non-resupinate flowers. The new species is recognized by the unequal, progressively larger leaves 4.0-10 x 1.3-2.0 cm, lack of any visible spathes, resupinate flowers green, column white, sometimes tinged purple towards the apex, lip white; sepals 12.7-13.9 mm long, the lip entire, triangular, with the side angles rounded, the apex sub-acute. *Epidendrum clavadista* Hágsater & Collantes has linear-lanceolate leaves 0.3-0.5 cm wide, small, non-resupinate flowers, sepals 9-10 mm long, ochre-yellow, the base of the petals white, the column and lip white, the apex of the column marked in purple, lip shallowly 3-lobed, mid-lobe of the lip triangular. *Epidendrum herrenhusanum* Hágsater from between Bucaramanga and Pamplona, Colombia, has larger flowers, sepals 20 mm long, flowers entirely bronzy-yellow, except for the green column, and mid-lobe of the ovate-acuminate lip; petals are linear. *Epidendrum yambrasbambense* Hágsater, from Amazonas, Peru, also has very narrow leaves, 0.3-0.5 cm, but greenish white flowers, similar in size, sepals 9-10 mm long, the lip equally 3-lobed, but the mid-lobe square, apex slightly emarginate; petals free, spreading. *Epidendrum veroreveloi* Hágsater & Dodson from Ecuador has wider leaves, 1.6 cm wide, larger copper-green flowers, apical half of the column apple-green, sepals 15-16 mm long, and lip entire, ovate, base cuneate, apex obtuse, petals free, spreading.

NOTE: HECASA = Herbario Catatumbo Sarare, Universidad de Pamplona, Norte de Santander, Colombia.

ETYMOLOGY: In honor of the two children of the collector and second author, Mariana and Nicolás Espinosa Barriga, who accompanied the collector in the field.

REFERENCES: Hágsater, E., & B. Collantes M., *Epidendrum clavadista*, in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1609. Hágsater, E., 1999, *Epidendrum herrenhusanum*, in E. Hágsater, L. Sánchez & J. García-Cruz (eds.), *The Genus Epidendrum*, Part 2, **Icon. Orchid.** 3: t. 333. Hágsater, E., 2001, *Epidendrum yambrasbambense*, in E. Hágsater & L. Sánchez (eds.), *The Genus Epidendrum*, Part 3, **Icon. Orchid.** 4: t. 500. Hágsater, E., & C. H. Dodson, 2001, *Epidendrum veroreveloi*, in E. Hágsater & L. Sánchez (eds.), *The Genus Epidendrum*, Part 3, **Icon. Orchid.** 4: t. 497.





EPIDENDRUM MASSIF-HOTTENSE Hágsater

EPIDENDRUM MASSIF-HOTTENSE Hágsater, sp. nov.

Type: HAITI: Grand'Anse; Massif de la Hotte; Camp. Perrin; carretera a Jérémie; en derredor del cruce del Rivière Glace; 1 km antes del vado de río, lomas kársticas a la izquierda, 1 km adentro, rocas muy accidentadas; 800 m; collected 24 April 1982, cultivated at the Jardín Botánico Santo Domingo and later at AMO, **Donald D. Dod 912**, received 19 November 1986, cultivated at AMO, pressed 19 July 1987, **Eric Hágsater 9134**. Holotype: AMO! (illustration and photo voucher).

Similar to *Epidendrum polygonatum* Lindl. but the leaves proportionately longer, 3.3-5.0 x 0.4-0.6 cm (vs. 2.8-3.9 x 0.4-0.7 cm), bracts of the peduncle of the inflorescence short, triangular, 2-3 mm long (vs. long, tubular, acuminate, 5-10 mm), lip 4.4 x 6.7 mm, reniform, base slightly cordate (vs. 5 x 12 mm, widely triangular to obcordiform, base widely cuneate).

Lithophytic, sympodial, caespitose **herb**, 17-36 cm tall including the inflorescence. **Roots** 1.0-1.5 mm in diameter, basal, thin. **Stem** 7.2-11.3 x 2-3 mm, simple, cane-like, thin, flexuous, terete. **Leaves** 9-12, alternate, distributed throughout the stem; sheaths tubular, striated; blade 3.3-5.0 x 0.4-0.6 cm, narrowly ovate-lanceolate, acute, sub-coriaceous-succulent, green tinged purple, margin entire. **Inflorescence** 5.6-11.4 cm long, apical, from the mature growth, racemose, nutant, flowering in succession several times in a year, fractiflex; peduncle 4.1-12.3 cm long, with short triangular bracts 2-3 mm long, distant from each other; rachis zig-zag. **Floral bracts** 1-3 mm long, much shorter than the ovary, triangular, acute, embracing. **Ovary** 9.5 mm long, terete, inflated ventrally, forming a globose, elongate vesicle behind the perianth occupying 1/3 the length of the ovary, smooth. **Flowers** 7-16 per raceme, successive, opening one or two at a time, greenish pink, translucent, column green; fragrance not registered. **Sepals** 5-6 x 1-2 mm, spreading, slightly concave, ovate-lanceolate, sub-acute, 3-veined, membranaceous, margins entire, spreading; dorsal sepals free, lateral sepals connate along the basal half. **Petals** 4.8-5.0 x 0.3-0.5 mm, linear, acute to obtuse, 1-veined, margins entire, spreading. **Lip** 4.4 x 6.7 mm, united to the column, entire, reniform, fleshy; bicallose, calli prominent, parallel, disc with 3-5 thick, low ribs, only the mid-rib reaching the apex of the lip. **Column** 3 mm long, straight, short, somewhat thicker towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** sub-quadrate, reniform, with a low rounded mid-rib; 4-celled. **Pollinia** 4, semi-obovate, laterally compressed, the inner edge straight and ending in a small apiculus; caudicles soft and granulose, slightly longer than the pollinia; viscidium viscidous. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** half the length of the stigmatic cavity. **Nectary** deep, penetrating 1/3 of the pedicellate ovary, forming a vesicle behind the perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: HAITI: Grand'Anse; Massif de la Hotte; Camp. Perrin; carretera a Jérémie; en derredor del cruce del Rivière Glace; 1 km antes del vado de río, lomas kársticas a la izquierda, 1 km adentro, rocas muy accidentadas; 800 m, colectada 24 IV 1982, florecida 22 julio 1982 en JBSD, *Dod 912*, Herb. Dod x 11! (seen and photographed 20 March 2000 at University of California, Berkeley, in office of Donald Dod, then retired). Rivière Glace, 750 m, 5 VIII 1945, *Holdrige 2137*, AMES! **Sud:** Massif de la Hotte, western group Tiburon, Morne Pentrer, 900 m, 27 VIII 1928, *Ekman 10605*, S!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Endemic to Haiti, on the Massif de la Hotte, a mountain range in southwestern Haiti, on the far western end of the Tiburon Peninsula, one of the most biologically diverse and significant areas of all of Hispaniola. Lithophytic on rocks with moss at 750-900 m altitude on karst hills. Flowering from April to August.

RECOGNITION: *Epidendrum massif-hottense* belongs to the Physinga Group which is characterized by to the generally small, caespitose plants, the inflorescence apical and racemose producing new racemes with time and thus pluri-racemose, the successive flowers opening one at a time on an elongate peduncle with acuminate bracts, the lip entire and the ovary with a prominent vesicle. The species is recognized by leaves 3.3-5.0 x 0.4-0.6 cm, very short bracts on the peduncle of the inflorescence, 2-3 mm long, much shorter than the internodes, and lip 4.4 x 6.7 mm, reniform, base slightly cordate. *Epidendrum polygonatum* has 5-12 leaved stem, leaves shorter, 2.8-3.9 x 0.4-0.7 cm, ovate-lanceolate, acuminate, and the zig-zag inflorescence, with the bracts of the peduncle 5-11 mm long, surpassing the internodes, sepals small, 4-5 mm long, translucent pink, lip 5 x 12 mm, widely triangular-obcordiform, twice as wide as it is long. *Epidendrum ceticaudatum* Rinc.-González, Villanueva & E.Santiago, has arching stems 15-18 cm long, 4 leaves distributed along the apical half of stem, flowers larger, sepals 13-14 mm long, and lip 6.2 x 9.6 mm, bell-shaped when spread. *Epidendrum physodes* Rchb.f. has leaves 3.5-7 x 0.6-1.2 cm, flowers small, sepals 5-8 mm long, lip 3-5 x 4-7 mm transversely obovate.

CONSERVATION STATUS: DD. Data deficient. Probably endangered due to the highly restricted distribution and generally anthropogenic degradation of Haiti, as well as increased hurricane activity.

REFERENCES: Dietrich, H., et. al., 2007, *Epidendrum polygonatum* [as *Physinga polygonate*] in *Orchidaceae I, Flora de la República de Cuba* 12(1): 86-87. A.R. Gantner Verlag, Ruggell. Rincón González, M., B. Villanueva & E. Santiago, 2015, *Epidendrum ceticaudatum* in *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(1): t. 1511. Santiago, E., & E. Hágsater, 2008, *Epidendrum physodes* in *The Genus Epidendrum*, Part 7, *Icon. Orchid.* 11: t. 1159.



Author: E. Hágsater

Illustrator: E. Hágsater

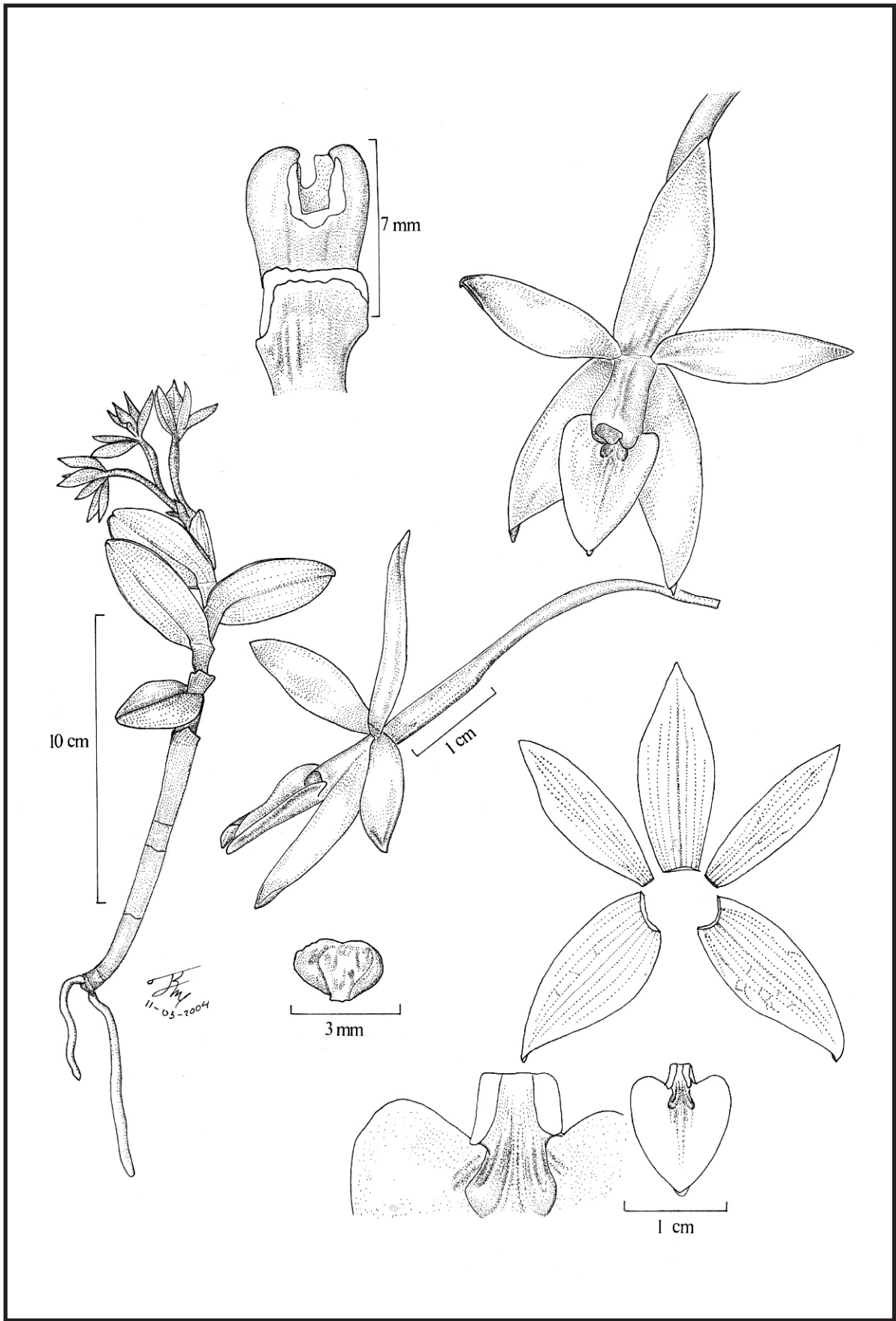
Photo: E. Hágsater

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1738



EPIDENDRUM MEGAGASTRIUM Lindl.

EPIDENDRUM MEGAGASTRIUM Lindl., Fol. Orchid. 3(Epidendrum): 49. 1853.

Type: PERU: [Amazonas:] Province of Chachapoyas, **Andrew Mathews s.n.** Holotype: K! Photo of holotype: AMES! Isotypes: G! (illustration voucher). "Mathews 2838" ex Herb. Hookerianum, K! specimen with tracing of holotype, W 4358! Incomplete floral segments only, mounted in envelopes with other collections, W 55280!

Lithophytic, sympodial, scandent **herb. Roots** 1-2 mm in diameter, produced from the rhizomatous base of the stem, scarce, terete, thin, white. **Stems** 10-13, 5 x 0.4-0.8 cm, simple, cane-like, produced from the middle internodes of the previous stem, terete at base, somewhat laterally compressed towards the apex; base covered by sheaths 2.0-2.5 cm long, tubular, non-foliar, scarious and becoming fibrous with time. **Leaves** 4-7, aggregate at the apex of the stem, articulate, alternate, spreading, fleshy-coriaceous; sheaths 1.0-2.5 x 0.5-0.9 cm, tubular, infundibuliform when dry, minutely striated; blade 3.0-5.0 x 1.8-2.3 cm, elliptic, apex unequally bilobed, margin entire, spreading. **Spathe** 1, 24 x 16 mm (when spread), tubular at base, conduplicate towards the apex, membranaceous, margin entire. **Inflorescence** 7 cm long (including flowers), apical, racemose, few-flowered, erect; peduncle 2.4 cm long, totally hidden within the spathe, rachis very short. **Floral bracts** 7 mm long, much shorter than the ovary, narrowly triangular, acute, embracing. **Ovary** 27-30 mm long, terete, base thin, slightly inflated ventrally along apical half. **Flowers** 3, simultaneous, non-resupinate, erect, fleshy, brown-orange, column pale green; fragrance not registered. **Sepals** 20.5 x 7.6 mm, obovate-elliptic, acute, 9-veined, margin entire, spreading; dorsal sepal spreading, free; lateral sepals obliquely united to the base of column, partly spreading, minutely apiculate. **Petals** 18.5 x 4.7 mm, free, spreading, oblong-elliptic, acute, 5-veined, margin entire, spreading. **Lip** 11.4 x 10.0 mm, united to the column, entire, narrowly cordiform, base cordate, apex obtuse, margin entire, spreading; bicalllose, calli narrow, fleshy, divergent; disc provided with 3 low ribs, the very evident mid-rib disappearing before reaching the apex, the lateral pair much shorter. **Column** 7 mm long, thin, straight. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** deep, penetrating half the pedicellate ovary, narrow. **Capsule** not seen.

OTHER SPECIMENS: PERU: Without locality data, *Bennett 3923*, MOL! (copy of illustration prepared for Icon. Orchid. Peruvianum, unpublished, AMO!) **Ancash:** Huaylas, Huascarán National Park, Parón valley, 3700 m, 1 I 1985, *Smith 8945*, MO! USM! **Amazonas:** Prov. Chachapoyas, *Drake s.n.*, P! Luya, Cerros Calla Calla, on road to Leimebamba, 3100 m, 22 VI 1964, *Hutchinson 5804*, UC! **Cajamarca:** Above Celendin, on the road to Balsas, 24 VIII 1924, *Cisno G74-40*, E! above Balsas, on road to Celendin, 20 km W of Hacienda Limón, 2900 m, 17 XI 1964, *Hutchinson 7029*, AMES! F! K! MO! NY! US! **Cusco:** Quebrada Las Peñas, 3150 m, 12 XI 1976, *Chávez 3510*, MO! Aguas Calientes, km 88 camino Cuzco a Machu Picchu, 2400 m, 31 X 2000, *Quispe 16*, AMO (spirit and illustration) USM! **Junín:** Quebrada de Muruhuay, Dist. Acobamba, Prov. Tarma, 3141 m, 31 X 2013, *Gutiérrez OJSYGU2*, USM! Prov. Tarma, 2 km NE of Palca in valle of Río Tarma on road to San Ramón, 2700 m, 24 XI 1962, *Iltis 31*, AMES! WIS! Palca, 2700 m, VIII 1947, *Soukup 3500*, AMES!

OTHER RECORDS: PERU: Amazonas: Chachapoyas, Kuelap, *Moron s.n.*, digital photo, AMO! (photo voucher). **Cusco:** Wataywasi, *Galiano 10444*, digital photo, AMO! Trail above Mollepata to Marqoqasa, *Tony Revelo s.n.*, digital image in Naturalista (https://www.naturalista.mx/observations/20151765#activity_comment_3054769) **Junín:** Tarma, Acobamba, Huarcaña, 3129 m, 13 X 2013, *R. Fartan s.n.*, digital photo, AMO!

DISTRIBUTION AND ECOLOGY: Widely distributed in Peru along the Andes at 2700-3700 m, growing as lithophyte on rocky slopes. Flowering from August to January.

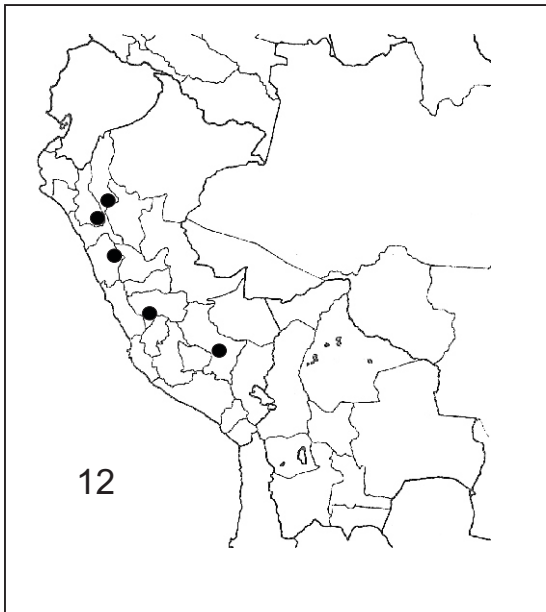
RECOGNITION: *Epidendrum megagastrium* belongs to the geminiflorum group, characterized by the sympodial, scandent, straggling habit, the semi-ovate spathe, the erect stems with 3-10 coriaceous leaves, and few non-resupinate flowers, and the lip with laminar calli, disc flat. The species is recognized by the leaves elliptic, 3.0-5.0 x 1.8-2.3 cm, inflorescence 7 cm long including the 3 flowers, brown-orange, column pale green, sepals 20.5 x 7.6 mm, petals 18.5 x 4.7 mm, oblong-elliptic, lip narrowly cordiform, obtuse, with an obvious mid-rib and two very short lateral ribs. *Epidendrum azuayense* Hágsater & E. Santiago has leaves 1.0-5.0 x 0.8-1.5 cm, oblong-elliptic, inflorescence 5.5 cm long with two orange flowers, column green, sepals 13-18 x 5.0-6.0 mm, petals 12-16 x 5.0-6.0 mm, oblong-elliptic, oblique, lip 8.0-9.0 x 11 mm, widely cordiform, obtuse without ribs. *Epidendrum philocremnum* Hágsater & Dodson has leaves 2.0-5.0 x 0.9-1.7 cm, ovate to narrowly elliptic, inflorescence 6-8 cm long, with 2 green concolor flowers, lip sometimes tinged purple-brown, sepals 12-15 x 3-5.4 mm, petals 12-14 x 2.3-2.5 mm oblong, lip 3-lobed, mid-lobe triangular without ribs. *Epidendrum cuencanum* Schltr. also has elliptic leaves, but these are wider and larger, 4.5-9.0 x 1.5-4.3 cm, 2-5 flower greenish white, sepals and petals similar in size, but petals linear, and lip 13 x 12.5 mm, cordiform, acute, without ribs. *Epidendrum cajamarcae* Schltr. has greenish maroon flowers, sepals 18 mm long, lip 12 x 10 mm, 3-lobed, widely ovate, lateral lobes semi-orbicular, rounded, mid-lobe triangular acuminate without ribs.

NOTES: Martius (1898-1902) gives a detailed description of the species based on the type and Lindley's illustration, ("labello... disco basi breviter bilamellato area aspera triangulari interposita"), adding the distribution as Peru and Ecuador, and possibly also found in Brazil: "In Brasilia contermina forsan adhuc invenienda"; however, no specimen is cited; our interpretation is that the triangle is due to the very short lateral ribs. Kränzlín (1911) cited another species under *E. megagastrium*, based on *Weberbauer 1787*, but this homonym is not valid, it is not cited by IPNI, and specimen *Weberbauer 1787* was later taken up by Schlechter (1921) to publish his *Epidendrum brevicaulis* Schltr. Schlechter published the same name *E. brevicaulis* a second time for a different species which was later replaced by Ames as *Epidendrum schlechterianum*, a species endemic to Panama; at the name *E. schlechterianum* has been used for other similar species (Santiago & Hágsater, 2007).

CONSERVATION STATUS: DD. Data deficient. Widespread along the upper Amazon slope of the Andes.

ETYMOLOGY: From the Greek μέγα, large, and γαστήρ, belly, in reference to the inflated nectary which is evident along the underside of the pedicellate ovary, especially when seeing the flower from one side and pressed.

REFERENCES: Ames, O., 1924, *Epidendrum schlechterianum* in *Schedul. Orchid.* 7: 9, fig. 1. Hágsater, E. & C. H. Dodson, 2001, *Epidendrum philocremnum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: t. 470. Hágsater, E. & E. Santiago, 2019, *Epidendrum azuayense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1706. Santiago, E. & E. Hágsater, 2019, *Epidendrum cuencanum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1716. Kränzlín, F.W.L. 1911, *Epidendrum megagastrium* in *Veg. Erde* [Engler] 12: 247. Martius, C.F.P. von, 1898-1902, *Epidendrum megagastrium* in *Flora Brasiliensis* 3(5): Orchidaceae 2: 146-147. Santiago, E. & E. Hágsater, 2007, *Epidendrum schlechterianum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: t. 982. Schlechter, R., 1921, *Epidendrum brevicaulis* in *Repert. Spec. Nov. Regni Veg. Beih.* 9: 81. 1921. Schlechter, R., 1922, *Epidendrum brevicaulis* in *Repert. Spec. Nov. Regni Veg. Beih.* 17: 30.



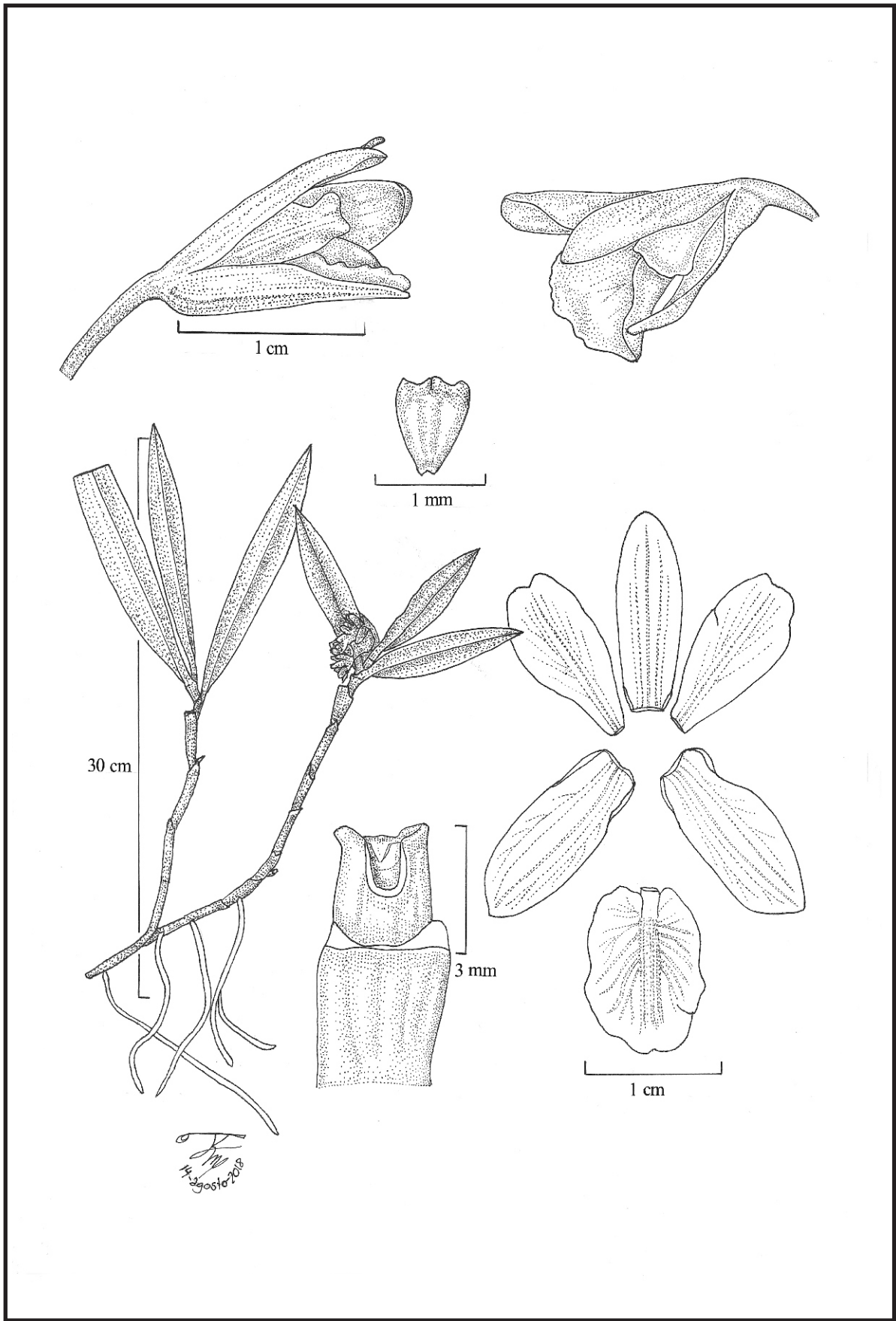
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Photo: E. Morón de Abad
Editors: E. Hágsater & E. Santiago
ICONES ORCHIDACEARUM 17(1). 2019. Plate 1739



EPIDENDRUM MERACRYPTANTHUM Hágsater & E.Santiago

EPIDENDRUM MERACRYPTANTHUM Hágsater et E.Santiago, *sp. nov.*

Type: Ecuador: Napo: Mera, in *rastrajo*, ca. 1100 m, 4 April 1956, **Erik Asplund 20130**. Holotype: S! (illustration voucher).

Similar to *Epidendrum cryptanthum* L.O.Williams, sepals 13.4-14.2 mm long (vs. 9.0-11.5 mm long, petals obovoid, base cuneate, apex rounded, slightly emarginate, 6 mm wide (vs. petals spatulate, rounded 3-4 mm wide), and lip entire, sub-oblong, base deeply cordate (vs. obovate-pandurate, with the lateral margins involute).

Epiphytic, sympodial, scandent **herb**, ca. 29 cm tall, with successive lateral growth. **Roots** 1-2 mm in diameter, thin, distributed along the basal rhizomatous internodes, scarce. **Stems** 20 x 0.3-0.5 cm, simple, cane-like, terete, thin, sub-erect, covered nearly totally by tubular sheaths, the sheaths somewhat dilated and laterally compressed towards the apex, scarious, becoming fibrous with time. **Leaves** 4-5, aggregated towards the apex of the stems, alternate, articulate, coriaceous; sheaths 0.5-3.0 x 0.25-0.70 cm, tubular, laterally compressed, slightly inflated towards the apex, minutely striated; blade 8.7-18.0 x 1.8-2.5 cm, elliptic, acute, with a low dorsal keel, margin entire, spreading. **Spathe** lacking. **Inflorescence** 3 cm long, apical, arcuate, racemose, distichous, flowering only once, short, compact, nearly totally hidden within the floral bracts. **Floral bracts** 13-18 mm long, much longer than the ovary (nearly as long as the flower), ovate to ovate-oblong, subacute, conduplicate, pellucid, pale brown, apical margin somewhat erose. **Flowers** ca. 5, successive, nearly totally hidden by the floral bracts, sepals and petals ivory white. **Ovary** 6 mm long, short, terete, thin, smooth, not inflated. **Sepals** free, partly spreading, glabrous, margin spreading, entire; dorsal sepal 13.4 x 4.9 mm, oblong-elliptic, rounded, 5-veined; lateral sepals 14.2 x 5.7 mm, oblong-elliptic, slightly constricted near the base, apex obtuse-rounded, 5-veined, with a low dorsal keel, with minute papillae on the apical dorsal surface. **Petals** 12.8 x 6 mm, free, partly spreading, obovoid, base cuneate, apex rounded, slightly emarginate, 3-veined, the lateral veins many-branched, margin entire, spreading. **Lip** 11.4 x 8.5 mm; united to the column, entire, sub-oblong, base deeply cordate, apex minutely emarginate, lateral margins involute, crenate; disc with 3 low, laminar, parallel, elongate keels nearly reaching the apical sinus. **Column** 2.5 mm long, very short, thick. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, apex truncate, 4-celled. **Pollinia** 4, not seen. **Rostellum** not seen. **Nectary** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the type, from the foot of the eastern slopes of the Andes in central Ecuador, at ca. 1100 m. Flowering in April.

RECOGNITION: *Epidendrum meracryptanthum* belongs to the Polychlamys Group, Polychlamys Subgroup which is characterized by the successive lateral growths, the distichous, apical inflorescence with prominent, conduplicate, acute, glumaceous floral bracts. The species is distinguished by the short, compact inflorescence, bracts pale brown, flowers ivory white, sepals 13.4-14.2 mm long, petals 6 mm wide, obovoid, base cuneate, apex rounded, slightly emarginate, lip entire, sub-oblong, base deeply cordate, apex minutely emarginate. *Epidendrum cryptanthum* L.O.Williams also has short, compact, inflorescence, but paniculate, composed of 1-3 racemes (a feature which is not evident from the compact inflorescence, especially in pressed specimens), flowers creamy white totally hidden within the imbricating glumaceous bracts, sepals free, 9.0-11.5 mm long, petals spatulate, rounded 3-4 mm wide, lip obovate-pandurate with the lateral margins involute, and the thin ovary, not inflated. It has been confused with *Epidendrum salpichlamys* Hágsater & E.Santiago which has narrower leaves (less than 17 mm wide), a simple, sessile, compact, racemose inflorescence, imbricating floral bracts, the trumpet-shaped, greenish yellow flowers, with the sepals basally connate and abruptly reflexed above the middle, an oblong lip, and a thin non-inflated ovary. *Epidendrum estrellense* Ames has an elongate inflorescence (5 cm long) with 7 imbricating bracts covering the peduncle, greenish yellow to green flowers of similar size (sepals 10 mm long); the lip is suborbicular-cordate, conduplicate in natural position, and the ovary does not form a vesicle.

NOTE: It is surprising to find this species in Ecuador, in an area which has been continuously collected for the past 70 years, but only a single collection dating back to 1956. The other species of this group are endemic to southern Mesoamerica, particularly Costa Rica and western Panama.

ETYMOLOGY: In reference to the locality of Mera, Pastaza, Ecuador, where the type was collected, and *cryptanthum*, the species which is most similar to it; thus, the *cryptanthum* from Mera.

REFERENCES: Hágsater, E., & E. Santiago, 2006, *Epidendrum salpichlamys* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 8: t. 883. Santiago, E., & E. Hágsater 2007, *Epidendrum cryptanthum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, **Icon. Orchid.** 9: t. 924. Santiago, E., & E. Hágsater 2007, *Epidendrum estrellense* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, **Icon. Orchid.** 9: t. 934.



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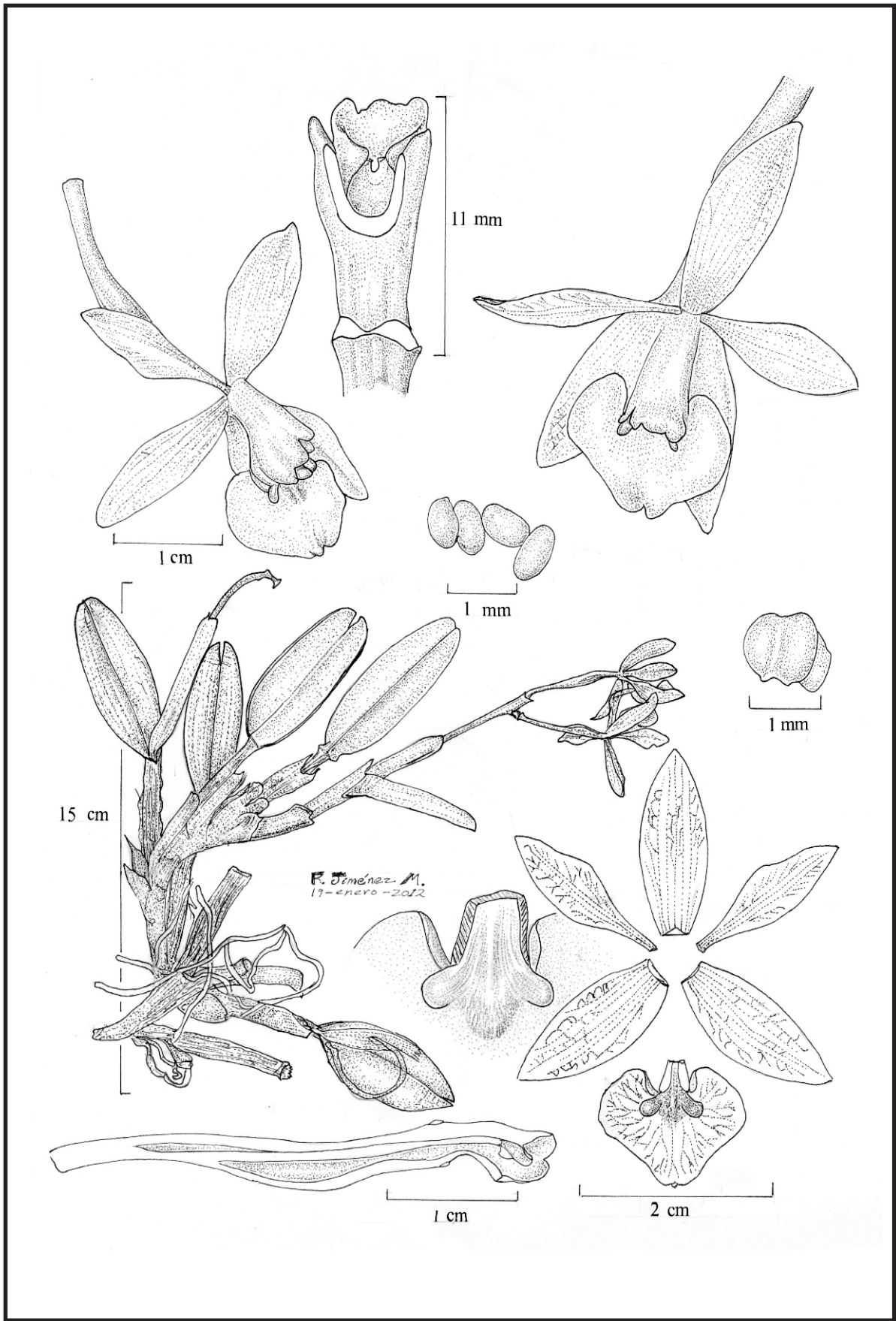
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1740



EPIDENDRUM MILPOËNSE Hágsater & E.Santiago

Plate 1741

EPIDENDRUM MILPOËNSE Hágsater et E.Santiago, sp. nov.

Type: PERU: Pasco: Prov. Oxapampa, Distr. Huancabamba, Sector Milpo, 2900 m, 18 marzo 2004, **Rodolfo Vasquez Martínez, Abel Monteagudo Mendoza, Juan Perea Macedo, Rolando Francis Jiménez & Jose Luis Mateo Miguel 30251**. Holotype: HOXA!
Isotype: MO! (illustration and photo voucher).

Similar to *Epidendrum microcattleyioides* D.E.Benn. & Christenson but the flowers yellowish green (vs. flowers yellow), sepals 18-19 mm long (vs. sepals 12-13 mm long), petals 16.0-17.5 x 5-7 mm, rhombic-spathulate (vs. petals 11 x 7 mm, obovate), lip 11 x 15 mm, widely cordiform, slightly apiculate (vs. lip 9.0 x 14.5 mm, transversely reniform and widely emarginate).

Epiphytic, sympodial, caespitose, ascending herb, 13-15 cm tall. **Roots** 1.0-1.5 mm in diameter, basal, distributed along the rhizome, thin, white. **Stems** 5 x 0.8-1.0 cm, forming fusiform pseudobulbs, each pseudobulb produced from the base of the previous pseudobulb; covered by 2-3 sheaths 1.6-2.15 cm long, no-foliar, scarious and becoming fibrous with time. **Leaves** 1, 4.7-6.5 x 1.6-2.0 cm, narrowly elliptic, apex rounded and slightly bilobed, articulate, coriaceous, ventral surface rugose, margin entire, spreading. **Spathes** 1, 2.7-4.5 x 0.5-0.7 cm, tubular, oblong, conduplicate, apex rounded. **Inflorescence** 9.5-10 cm long including the flowers, apical, erect, few-flowered, racemose, longer than the leaf; peduncle 4-5 cm long, laterally compressed, thin, erect, straight; rachis very short. **Floral bracts** 2 mm long, much shorter than the ovary, triangular-ovate, apex acute, embracing. **Ovary** 33 mm long, terete, thin, straight, slightly inflated ventrally along the apical half, minutely furrowed. **Flowers** 2-3, simultaneous, non-resupinate (if the inflorescence is 2-flowered, then the flowers opposite, and only one is non-resupinate), green; fragrance not registered. **Sepals** 18-19 x 6.5-7.0 mm, spreading, free, elliptic, obtuse, fleshy, 7-veined, the lateral veins short branched, margin entire, spreading. **Petals** 16-17.5 x 5-7 mm, spreading, free, rhombic-spathulate, obtuse, 3-veined, the lateral veins short branched, margin entire, spreading. **Lip** 11 x 15 mm, united to the column, entire, widely cordiform, base deeply cordate, apex obtuse, slightly apiculate and reflexed, margin entire; bicallose, the calli small, globose, fleshy, slightly divaricate; disc somewhat fleshy between the calli, 3 mid-ribs that extend to the apical sinus. **Column** 11 mm long, short, thin at base, gradually widened towards the apex. **Clinandrium-hood** prominent, surpassing the body of the column, entire, margin sinuous. **Rostellum** apical, slit. **Anther** reniform with mid-rib running down middle; 4-celled. **Pollinia** obovoid; caudicles not seen. **Lateral lobes of stigma** prominent, occupying $\frac{1}{2}$ the length of the stigmatic cavity, **nectary** penetrating half the pedicellate ovary, slightly inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Pasco: Prov. Oxapampa, Dist. Huancabamba, Misericordia trail, Lanturachi-Santa Barbara, 2300-3300 m, 3 VII 1985, *Foster 10507*, USM! Ibid. Sector Santa Barbara-Milpo, 2972-3008 m, 1 II 2005, *Franco 2748*, MO! Ibid. Sector Milpo, 2900 m, 15 III 2004, *Vásquez 30087*, HOXA! MO! USM! Ibid. *Vásquez 30138*, HOXA! MO! USM!

OTHER RECORDS: PERU: Pasco: Hort. Oxapampa, 28 III 2019, *Huayta s.n.*, *Hágsater 16139*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Known only from central Peru, eastern slope of the Andes in the Province of Oxapampa, District of Huancabamba, sector Milpo and Santa Barbara, in very wet low forest, to 6 m tall, epiphytic at 2300-3000 m altitude. Flowering in February and March.

RECOGNITION: *Epidendrum milpoënsense* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the prominent spathaceous bract apically rounded, few-flowered, erect inflorescence, flowers purple or yellow, and surface of the vegetative structures often rugose. The species is recognized by the green flowers, sepals 18-19 mm long, petals 16-17.5 x 5-7 mm, rhombic-spathulate, the lip widely cordiform, base deeply cordate, disc fleshy with 3 low ribs which reach the apex, ovary slightly inflated. *Epidendrum microcattleyioides* D.E.Benn. & Christenson has yellow flowers with the margin white, sepals 12-13 mm long, lip reniform, widely emarginate, with a single mid-rib, ovary geniculate. *Epidendrum saxicola* Kraenzl. has purple flowers, the lip white tinged purple, sepals 15 mm long, petals 13 x 2-3 mm, linear-oblongate, lip sub-orbiculate to obscurely pentagonal. *Epidendrum herreranum* C.Schweinf. has reddish brown flowers with the central surface of the floral segments yellow, lip 3-lobed, the lateral lobes obliquely rounded-dolabriform, petals 19 x 11 mm, rhombic-spathulate.

NOTE: The original description of *Epidendrum microcattleyioides* indicates that the dorsal sepal measures 15 x 6.5 mm, and lateral sepals 22.5 x 7.5 mm. Analyzing a flower in spirit of the type, *Bennett 7939* at MOL shows that the flowers are smaller, sepals are 12-13 x 6-7 mm.

CONSERVATION STATUS: DD. Data deficient. The species is presently known from a reduced area, but collections have been made along the single road that traverses this part of the Andes, and thus it could have a much wider distribution.

REFERENCES: Kränzlin, F., 1905, *Epidendrum saxicola*, in **Repert. Spec. Nov. Regni Veg.** 1: 187. Bennett, D.E. & E.A. Christenson, 2001, *Epidendrum microcattleyioides*, in E.A. Christenson (ed.) **Icon. Orchid. Peruvianum** pl. 644. Hágsater, E., & B. Collantes, 2013, *Epidendrum herreranum*, in **Icon. Orchid.** 14: pl. 1438.



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M.

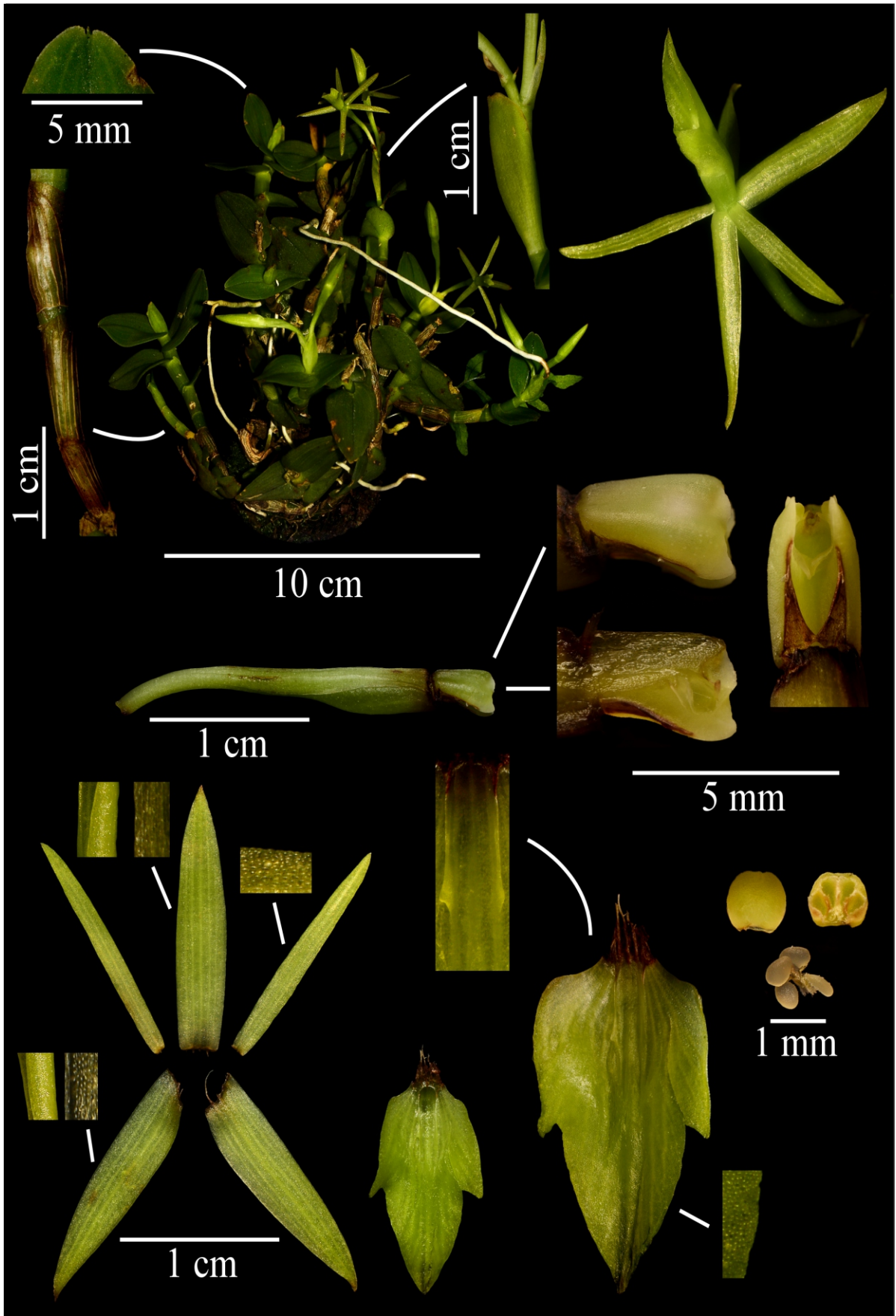
Photo: R. Vásquez

Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019. Plate 1741



EPIDENDRUM MONTISCHILLAENSE Hágsater, E.Santiago & Zambrano

Plate 1742

EPIDENDRUM MONTISCHILLAENSE Hágsater, E.Santiago et Zambrano, *sp. nov.*

Type: ECUADOR: El Oro: Road from Paccha del Inca to Pasaje, 1800 m, 23 May 1988, **Alex Hirtz 3865**. Holotype: MO! (illustration AMO!)

Similar to *Epidendrum niebliense* Hágsater & E.Santiago but the flowers larger, lip wrapped around the column and completely covering it in natural position (vs. lip spread flat), sepals 14-16 mm long (vs. sepals 12.7 mm long), the lip totally united to the column (vs. free from column), 3-lobed, base truncate, provided with two long, thin, laminar keels (vs. sub-orbicular-rhombic, base cuneate, ecallose), and lateral lobes of lip sub-quadrate, apex generally forming an acute angle (vs. lip narrowly hemi-obovate, apex rounded).

Epiphytic, sub-caespitose, sympodial, prostrate repent **herb**, ca. 12 cm long. **Roots** 0.5-1.0 mm in diameter, scarce, terete, thin, white. **Stems** ca. 8.0 x 0.4 cm, cane-like, produced from the lower internode of the previous stem, terete at base, somewhat laterally compressed at the apex; base covered by non-foliar sheaths 0.6-2.0 cm long, tubular, scarious, becoming fibrous with age. **Leaves** 3-5, distributed along the apical half of the stem, articulate, alternate, spreading, fleshy-coriaceous; sheaths 0.4-1.0 x 0.5-0.6 cm, tubular, somewhat infundibuliform at the apex, longitudinal striated; blade 2.4-3.2 x 1.2-1.7 cm, oblong-ovate, obtuse, unequally bilobed, mucronate, margin entire, revolute. **Spathes** 1, 14 x 4.0 mm, conduplicate, narrowly obovate, obtuse. **Inflorescence** 3 cm long (including the flowers), apical, racemose, few-flowered, erect; peduncle 5-12 mm long, thin, laterally compressed, straight; rachis 2.0-2.5 mm long, straight. **Floral bracts** 1-7 mm long, much shorter than the ovary, linear-triangular, acuminate, embracing. **Flowers** 2, simultaneous, non-resupinate, erect, green; fragrance not registered. **Ovary** 16-20 mm long, terete, thin, ventrally inflated near the apex, finely striated. **Sepals** 14-16 x 3.5-4.0 mm, free, triangular-oblong, 5-veined, margin entire, revolute in natural position; dorsal sepal slightly reflexed, apex acute, margin spreading; lateral sepals spreading, oblique, acute. **Petals** 15-16 x 1.3-2.5 mm, free, spreading, oblong, sub-acute, 3-veined, margin entire, spreading. **Lip** 11.5-13 x 6.8-11 mm, united to the column, 3-lobed, base truncate, margin entire, lip always wrapped around the column and completely covering it in natural position; ecallose, but with a pair of long, thin, laminar, thin, parallel keels; lateral lobes 2.0-3.5 x 6.0-7.0, sub-quadrate, apex truncate to forming shallow sinuses; mid-lobe 5.7 x 5.3 mm, trapezoid, apex rounded to obtuse, minutely apiculate. **Column** 4 mm long, thick, straight. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped. **Rostellum** apical slit. **Lateral lobes of the stigma** long, about 1/2 as long as the stigmatic cavity. **Nectary** penetrating 1/3 of the pedicellate ovary, somewhat swollen behind the perianth. **Capsule** none seen.

OTHER SPECIMENS: ECUADOR: El Oro: Zaruma: Huertas, sector Guayrapongu, [Cordillera de Corredores], 1540 m, 7 VIII 2017, Zambrano 2094, Herb. J.Zambrano. LCDP, AMO! (LCDP and photo voucher).

OTHER RECORDS: ECUADOR: El Oro: Chilla: sector Loma de Valsa, 1672 m, 09 VI 2018, Zambrano 2315a, digital image, AMO! Zaruma: Huertas, sector Guayquichuma, 1800 m, 21 VIII 2017, Zambrano 2113a.

DISTRIBUTION AND ECOLOGY: Known from the Cordillera de Chilla as well as the Cordillera de Corredores, from the foot of the western Cordillera de los Andes in the Province of El Oro, at 1540-1800 m altitude. According to Weigand (2004), this corresponds to the Amotape-Huancabamba zone. Flowering in March and August.

RECOGNITION: *Epidendrum montischillaense* belongs to the Cleistogastrium Group, characterized by the small plants, stems produced from the middle internodes of the previous stem, inflorescences with 1-2 spathes, erect with 1-2 non-resupinate flowers, lip ecallose, entire or clearly 3-lobed, the lip usually nearly completely free from the column. The new species has leaves 2.4-3.2 x 1.2-1.7 cm, oblong-ovate, non-resupinate green flowers, sepals 14-16 mm long, petals 1.3-2.5 mm wide, lip totally united to the column, always wrapped around the column and completely covering it in natural position, base truncate with lateral lobes sub-quadrate, forming an acute angle. *Epidendrum niebliense* is vegetatively similar, but sepals are 12.7 mm long, a sub-orbicular-rhombic lip free from the column, flat, spreading, ecallose. *Epidendrum cleistogastrium* Hágsater & Dodson has yellow, cleistogamous flowers, and a lip, 3-lobed and cuneate, with the lateral lobes semi-obovate, which embraces the column and joined only to the base of the column. *Epidendrum amplexigastrium* Hágsater & Dodson is very similar but the flowers are copper-colored, sepals 7-veined, and the lip excavate in the disc, papillose, base of lip cuneate, lateral lobes obliquely oblong, apex rounded. *Epidendrum marsupiale* F.Lehm. & Kraenzl. has very thin stems, leaves 11-30 x 8-15 mm, oblong-elliptic, distant from each other, sepals 12 mm long, a similar lip in both shape and size but the lateral lobes are separated by deep sinuses and spreading in front of the column, the disc of the lip excavate. These last two species having an excavate lip and the column united to the lip belong to the Marsupiale Group.

CONSERVATION STATUS: So far, this species has a very restricted geographical distribution (Cordillera de Chilla-Cordillera de Corredores), and it is necessary to consider it as a restricted endemic. *Epidendrum montischillaense* is present in remnant forest patches disturbed by human activities, where the populations exhibit low densities (3-7 plants per phorophyte).

ETYMOLOGY: In reference to the small Cordillera de Chilla, where the species has been collected, in the Province of El Oro.

REFERENCES: Hágsater, E., & C.H. Dodson, 1999, *Epidendrum amplexigastrium* in The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: t. 304. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum cleistogastrium* in The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: t. 428. Hágsater, E., & E. Santiago, 2018, *Epidendrum niebliense* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(2): t. 1687. Kränzlin, F.W.L., 1921, *Epidendrum marsupiale* in Orchidaceae Lehmannianae in Guatemala, etc., **Bot. Jahrb. Syst.** 26: 174-175. Weigand, M. (2004) Additional observations on the biogeography of the Amotape-Huancabamba zone in Northern Peru: Defining the South-Eastern limits. **Revista Peruana de Biología** 11: 137-134.



Authors: E. Hágsater, E. Santiago & B. J. Zambrano

LCDP: B. J. Zambrano R.

Photo: B. J. Zambrano R.

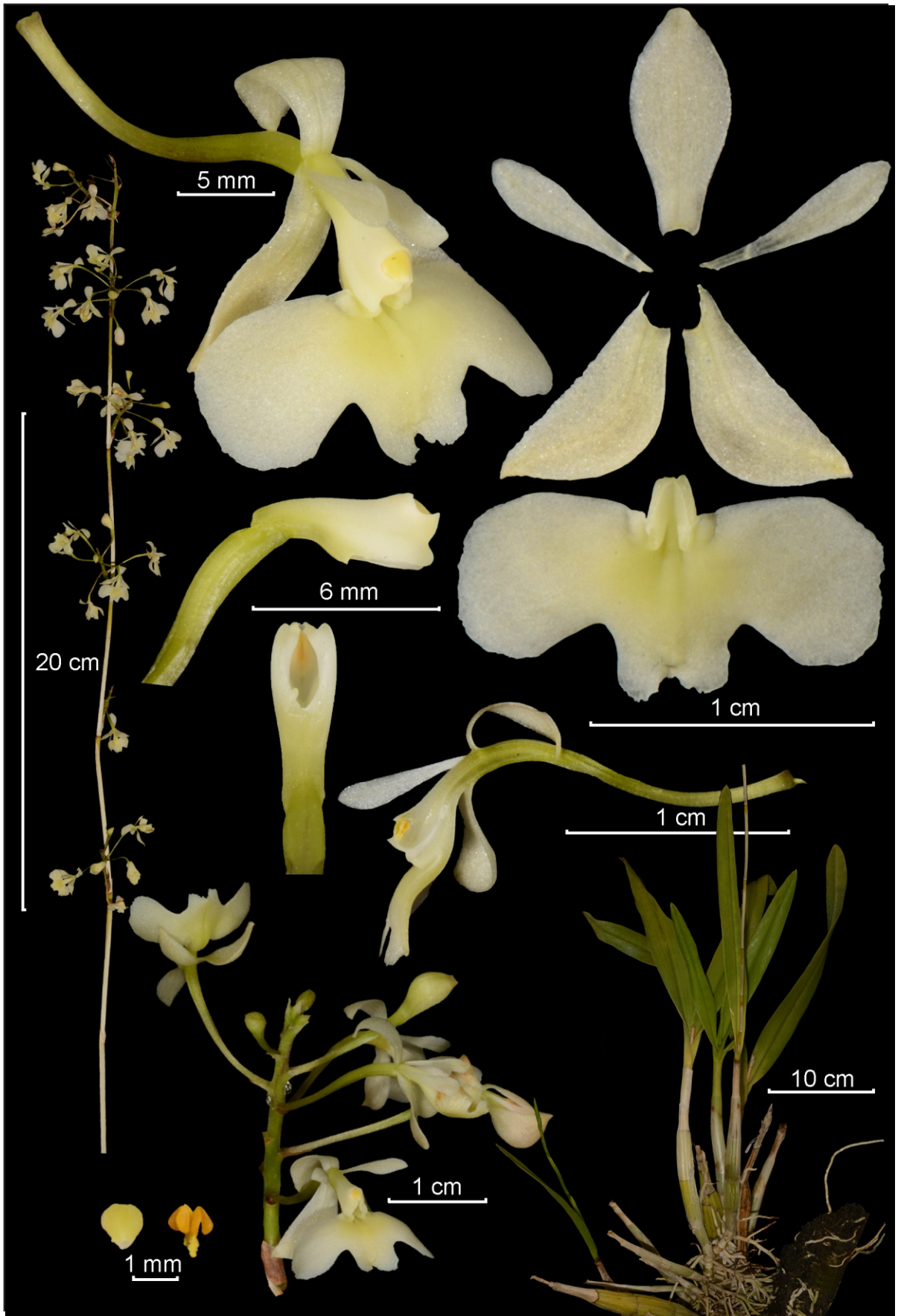
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1742



EPIDENDRUM MOROCHOI Hágsater

Plate 1743

EPIDENDRUM MOROCHOI Hágsater, sp. nov.

Type: ECUADOR: Loja: Cantón Macará; cerca de cantones Zapotillo y Celica, carretera fronteriza con Perú, 320 m, en Algarrobo, *Prosopis* sp., 15 October 2018. **Eric Hágsater & Elizabeth Santiago Ayala 15952.** (LCDP voucher). Holotype: HA!

Similar to *Epidendrum polystachyum* Ruiz & Pav. in every way, but the flowers creamy white (vs. apricot yellow), stems 1-2 foliate, the leaves aggregate at the apex of the stem (vs. 2-3 foliate, the leaves spread out along the apex of the stem).

Terrestrial, sympodial, caespitose, erect **herb** ca. 150 cm tall including the inflorescence. **Roots** 2-3 mm in diameter, fleshy, thin, white. **Stems** 11-18 x 0.6-2.8 cm, thickened, fusiform, erect, straight, fluted, yellow-green; covered when young by non-foliar sheaths, tubular, scarious. **Leaves** 1-2, apical, conduplicate at the base, erect, thick, coriaceous; blade 14-20 x 1.5-3.1 cm, oblong, acute, minutely apiculate, green, margin entire, spreading. **Spathe** absent. **Inflorescence** to 120 cm long, paniculate, producing short, few-flowered racemes from the apical nodes of mature stems, erect to arching; peduncle to 50 x 0.3 cm, long, terete, provided with bracts 7.9 x 0.3 cm, tubular, triangular, embracing, acute to slightly acuminate; rachis to 60 x 0.2-0.3 cm; racemes 2.5-3.5 cm long, producing to 11 flowers in succession, ca. 5 open at one time. **Floral bracts** 4-6 x 0.8-1 mm, much shorter than the ovary, progressively shorter towards the apex of the raceme, triangular, acuminate, embracing. **Ovary** 16 mm long, thin, not inflated, furrowed, slightly thicker at the apex. **Flowers** ca. 60, 7-11 per raceme, successive, resupinate, cream colored in general, center of lip greenish yellow turning pale yellow, column green at the base and cream to the apex; without any apparent fragrance. **Sepals** spreading, free, 3-veined, acute, margins entire, spreading; dorsal sepal 8 x 3 mm, narrowly elliptic to broadly lanceolate, strongly reflexed; lateral sepals 9 x 3 mm, spreading, elliptic-lanceolate, falcate, the upper margin straight. **Petals** 8.3 x 2.0 mm, sub parallel to the column, free, oblanceolate, apex obtuse to rounded, 1-veined, margin entire, partly spreading. **Lip** 6 x 15 mm, totally united to the column, 3-lobed, spreading, base truncate-sub-cordate; lateral lobes 5.9 x 6.0 mm, obovate-sub-quadrate, corners rounded, margins minutely crenulate; mid-lobe 2 x 4 mm, transversely sub-rectangular with two small, semi-orbicular lobes at the apex, with margin crenulate; bicallose, the calli narrowly ovate, parallel, glabrous; the disk with 1 thick, elongate mid-rib that reaches the apical sinus. **Column** 6 mm long, straight, widened towards the apex, with an obtuse tooth on each side of the anther. **Clinandrium-hood** short, margin entire. **Anther** ovoid, apex narrowly truncate, 4-celled. **Pollinia** 4, obovate, laterally compressed; caudicles soft and granulose, slightly longer than the pollinia; viscidium semi-liquid. **Nectary** penetrating 1/4 of the pedicel behind the perianth, not inflated, unornamented. **Rostellum** not seen. **Lateral lobes of the stigma** small, 1/4 the length of the stigmatic cavity. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Loja: Catamayo, between El Tambo y La Toma, 1000 m, 3 IX 1923, *Hitchcock 21364*, AMES! GH! NY! US! Catamayo, La Toma-Catacocha, ca. km 26, 2300 m, 3 IX 2000, *Madsen 7216*, LOJA! Cerro Villonaco, road La Toma-Loja km 12, 2000 m, 2 IX 1988, *Madsen 75191*, AAU! LOJA! QCA! QCNE! near Chinche [Las Chinchas] between San Pedro and Zaruma, 1900 m, 1 VIII 1938, *Penland 1204*, AMES! La Toma-Catacocha, 2300 m, 3 IX 2000, *Sánchez 7216*, QCNE! **PERU: Piura:** from Ayabaca area, 18 X 1985, *Visquerra sub Bennett 3541*, MOL! (illustration *Pastorelli 468*, xerox AMO!) Ayabaca, Cujaca-Quebrada de Mangas, 1800 m, 8 IX 1976, *Sagástegui 8679*, NY!

OTHER RECORDS: ECUADOR: Loja: Loja to El Oro, MBG 59-16-29, 1 IV 1978, *Dodson 32*, SEL x2! (xerox, AMO!) Loja-Coastal road, MBG 59-16-29, 1959, *Dodson 432*, SEL! (xerox AMO!) Vilcabamba: Tumianuma, 1590 m, *Perkins s.n.*, digital photo AMO! (photo voucher). **PERU: Piura:** Ayabaca, along Trail between Yanchala and Olleros, 1300 m, 30 XI 1992, *Campoverde 5964*, cited by Bennett & Christenson 2001.

DISTRIBUTION AND ECOLOGY: The species is apparently endemic and common in what is known as the Amotape-Huancabamba zone (Weigend, 2002), on the western slopes of the Cordillera Occidental of the Andes in southern Ecuador in the basin of Loja and neighboring Peru, epiphytic, from 320 to 2000 m altitude in dry scrub forest sometimes with cacti. Flowering from October to April.

RECOGNITION: *Epidendrum morochoi* belongs to the Blepharistes Group recognized by the caespitose habit, simple fusiform stems, oblong leaves, lacking spathes, erect to nutant inflorescences, producing several short racemes from several nodes of the rachis along the upper half of the inflorescence, lip widely 3-lobed, reniform lip, the mid-lobe sub-quadrate and itself bilobed. The new species is recognized by the erect pseudobulbs, leaves 1-2, lanceolate, coriaceous, flowers cream colored in general, center of lip greenish yellow turning pale yellow, column green at the base and cream to the apex, sepals 8-9 x 3 mm, acute, petals 8.3 x 2 mm, lanceolate-ovate, apex obtuse to rounded, and lip 6 x 15 mm, slightly cordiform trilobate, mid-lobe with 2 little lobes with margin crenulate, wider than long. It is very similar to *Epidendrum polystachyum* which has apricot-yellow flowers but has 3 leaves spread out along the apex of the stem; this species is found on the eastern side of the Cordillera Occidental of the Andes, in southern Ecuador in the basin of Malacatos and the Cordillera del Cóndor, and northern Peru. *Epidendrum pseudopolystachyum* D.E.Benn. & Christenson from central Peru, on the Eastern side of the Andes has short plants, to 22 cm tall, bifoliate with oblong-elliptic leaves and greenish flowers, the petals and the lip transverse, convex, with entire margins, 6.6 x 13.0 mm, with lateral lobes elliptic, obtuse-redounded, mid-lobe bi-lobulate, lobules sub-orbicular, obtuse-rounded. *Epidendrum blepharistes* Barker ex Lindl. is widespread from Costa Rica to Bolivia; has 4-10 leaves distributed along the upper half of the stem, flowers white to lilac-pink to purple, lip 3-lobed, somewhat convex, the base slightly cordate, apical margin of the lobes deeply dentate; lateral lobes spreading, oblong-dolabriform, oblique; mid-lobe cuneate, retuse, bilobed, nearly as long as the lateral lobes.

NOTE: When discussing *Epidendrum blepharistes* (Santiago & Hágsater, 2008) we placed it in a Subgroup Blepharistes under Group Schistochilum, but we hereby provide it with its own group under the best-known species, *Epidendrum blepharistes* as Blepharistes Group. Though the flowers are somewhat similar, the vegetative characters are quite distinct.

CONSERVATION STATUS: DD. Data deficient. Apparently rather common in the warm dry area of southwestern Ecuador, which has suffered heavily from anthropogenic intervention and from a prolonged dry spell during the past year.

ETYMOLOGY: In honor of Servando Morocho (1969-) who heads the Orchidarium of the Universidad de Cuenca, Azuay, Ecuador, who introduced us to this species.

ACKNOWLEDGMENT: Collections by Hágsater made under framework contract "Diversidad Genética del Ecuador" MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. "Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales".

REFERENCES: Bennett Jr., D.E., & E.A. Christenson, 2001, *Epidendrum pseudopolystachyum* in *Icon. Orch. Peruvianum* pl. 649. Kunth, K., 1816, *Epidendrum polystachyum* in A. Humboldt, A. Bonpland & K. Kunth (eds.) *Nov. Gen. Sp. (quarto ed.)* 1: 352. Santiago, E., & E. Hágsater, 2008, *Epidendrum blepharistes* in E. Hágsater & L. Sánchez S, (eds.) *The Genus Epidendrum*, Part 7, *Icon. Orch.* 11: pl. 1105. Weigend, M., 2002, Observations on the biogeography of the Amotape-Huancabamba zone in northern Peru. *Bot. Rev.* (Lankester) 68(1): pp. 38-54.



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Herbario AMO

Ciudad de México, MÉXICO

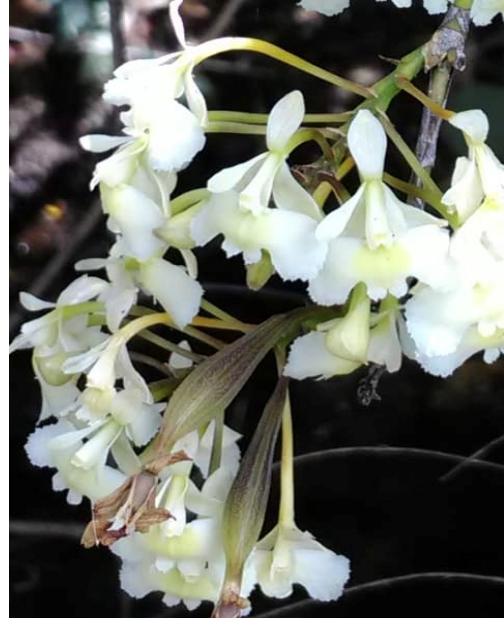
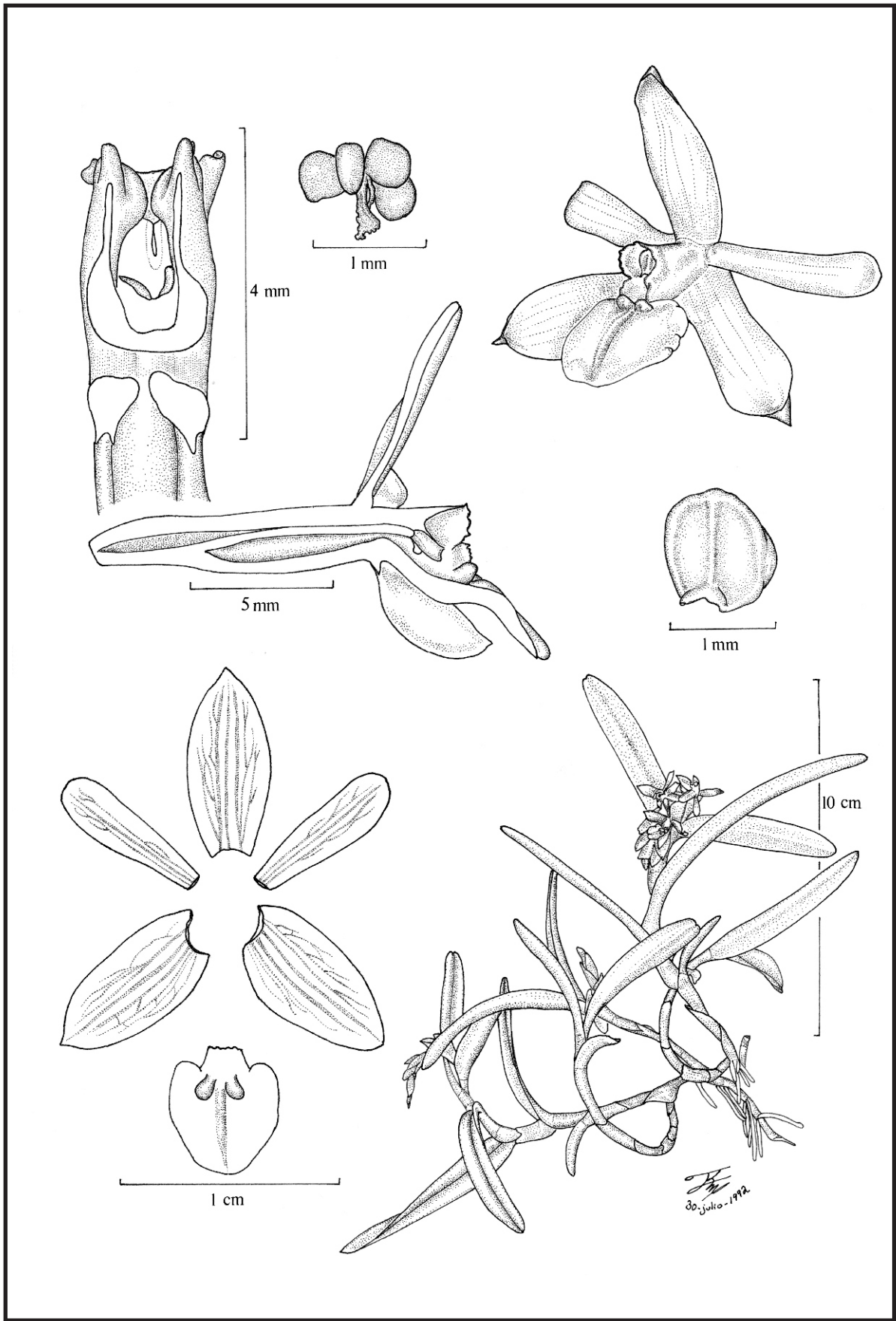


Photo: B. Perkins

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1743



EPIDENDRUM NEOPORPAX Ames

EPIDENDRUM NEOPORPAX Ames, Bot. Mus. Leaf. 2 (9): 112. 1934.

Type: CUBA: [Holguín:] Monte Verde, on trees in thick woods, 15 March 1860, **Charles Wright 3343**. Holotype: W! Isotypes: AMES! G x2! K! Basionym: *Epidendrum porpax* Rchb.f., Flora 48: 278. 1865. non Rchb.f., Bonplandia 3: 220. 1855. Nomenclatural synonym: *Epidendrum vestitum* Ames, Sched. Orch. 4: 51. 1923. non Sw., Prodr. 124. 1788. *Auliza vestita* Acuña, Bol. Estac. Exper. Agron., Santiago (Cuba) 60: (Cat. Descr. Orquid. Cub.) 86. 1939. Taxonomic Synonyms: *Epidendrum porpax* Rchb.f. var. *domingensis* Cogn., Urban Symb. Ant. 7: 181. 1909. Type: Dominica Republic: entre Moca y Sabaneta de Yásica. **Ariza Juliá s.n.** Herb. Jiménez 5375.

Epiphytic, sympodial, repent **herb**, 8-12 cm tall. **Roots** 0.5-0.9 mm in diameter, basal, scarce, distributed along the internodes of the rhizome, fleshy, thin, white. **Stems** 6.5-10 x 0.21-0.38 cm, simple, cane-like, terete, produced from a middle internode of the previous stem. **Leaves** 2-3 aggregate towards the apex of the stem; sheaths 1.0-2.0 x 0.2-0.6 cm, tubular, striated when dry; blade 4.9-8.0 x 0.7-1.0 cm, conduplicate at base, linear-oblong, retuse, fleshy, coriaceous, green, striated when dry, margin entire, apex unequally bilobed. **Spathes** lacking. **Inflorescence** 2-4 cm long, apical, racemose, arching, nutant, emerging from mature stem, flowering only once, distichous, lax-flowered; peduncle covered by 1 conduplicate bract, slightly smaller than the floral bracts; rachis straight, unornamented. **Floral bracts** 10-13 x 6-8 mm, longer than the ovary, conduplicate, ovate, obtuse to rounded, glumaceous, green to white. **Ovary** 7.0-9.6 mm long, straight, terete, slightly inflated along the apical half. **Flowers** 3-7, more or less simultaneous, distichous, lip always towards the rachis, green to white; without fragrance. **Sepals** 7.5-8.0 x 3.5-4.0 mm, spreading, glabrous, ovate-lanceolate, obtuse, margin entire somewhat revolute; dorsal sepal free, 3-veined, lateral veins branching; lateral sepals slightly connate at the base, 5-veined, lateral veins branching. **Petals** 7.4 x 2.0 mm, spreading, free, oblong, apex rounded, 3-veined, lateral veins branching, margin entire, spreading. **Lip** 5.6 x 5.0 mm, united to the column, entire, cordate at the base, cordiform, apex rounded; bicallose, the calli small, globose, divaricate with a low, long mid-rib reaching the apical sinus. **Column** 3.5-4.0 mm long, straight. **Clinandrium-hood** prominent, but not surpassing the body of the column, margin erose. **Anther** sub-spherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles granulate, slightly longer than the pollinia; viscidium semi-liquid. **Rostrum** sub-apical, slit. **Lateral lobes of the stigmatic cavity** small. **Nectary** penetrating 3/4 the ovary, unornamented. **Capsule** 2.4 x 0.9 cm sub-spherical.

OTHER SPECIMENS: CUBA: Granma: Guisa, Mogotes del Raudal, 300 m, 14 VIII 1992, *Padilla sub Hágsater 10518*, AMO! (illustration voucher). Sierra Maestra, Manguito, valle del arroyo Peladero cerca de El Zapato, 1300 m, 24 III 1970, *Lippold 10371*, HAJB! **Guantanamo:** Reservationis Cupeyal supra vallem Rio Toa, 800 m, 9 II 1970, *Borhidi s.n.*, BP! La Prenda, 28 XII 1920, *Hiram 4153*, NY! **Santiago de Cuba:** Pico Turquino, Sierra Maestra, 10 VI 1936, *Acuña 10000*, HAC! Loma del Gato, 1949, *Bro. Chrysogono 6384*, HAC! Loma del Gato, 30 XII 1948, *Hno. Clemente 15354*, HAC! Along Río Peladero, below Aserradero San Antonio de los Cumbres, crest of Sierra Maestra, 1300 m, 23 I 1956, *Morton 9469*, US! Arroyo Peladero, Alto Valenzuela, Sierra Maestra, 1956, *Morton 20179*, HAC! **Holguín:** Plancha Trail, Mensura to Woodfred, 4 II 2010, *Shafer 2884*, NY! Monte Verde, 660 m, 13 II 1911, *Shafer 8680*, NY! *Wright s.n.*, S! Valparaiso, *Wright s.n.*, W! 1860-64, *Wright 630*, HAC! **HAITI:** Without locality, fl. In cult, 1976, *Dod s.n.* SEL! Plaine du Nord: Cap. Haitien, Park National Citadelle, Sierra al norte de la fortaleza Chaine Bonnet L'Eveque, 750 m, X 1985, *Dod 1218*, Herb. Dod* x7! **DOMINICAN REPUBLIC:** Cordillera Central; San José de Las Matas, carretera entrando por Pedregal hacia Mata Grande al lado del Río Bao, 750 m, 27 X 1982, *Dod 1798*, Herb. Dod x2! Ibid. *Dod 2047*, Herb. Dod! Azúa: San Juan. Loma La Vieja, near arroyo La Vieja, Hispaniola, Cordillera Central, 800 m, 28 VIII 1929, *Ekman 13419*, K! S! La Lanza, between Polo and Monteadá Nueva, 900-1000 m, 27 February 1969, *Liogier 14288*, NY! Santo Domingo: Rancho Arriba; Monte David, 700 m, 16 XII 1973, *Liogier 20864*, NY!

OTHER RECORDS: Woodstream orchids, *Epidendrum neoporpx* "Woodstream" CBM/AOS, www.woodstreamorchids.com (photo voucher)

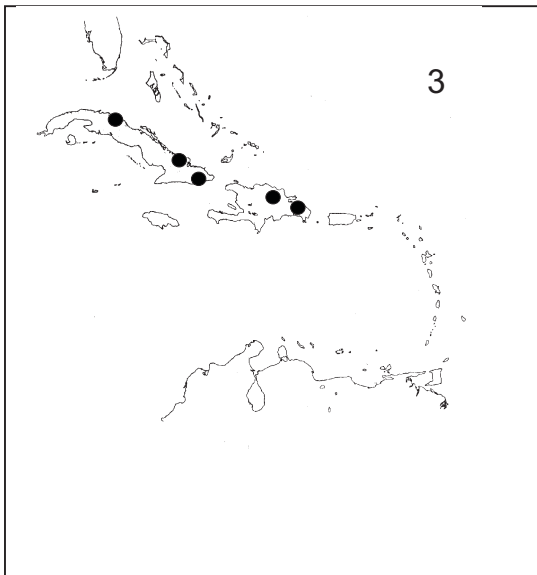
DISTRIBUTION AND ECOLOGY: Known from Cuba and Hispaniola. Epiphyte, from 300-1300 m altitude. Flowering from October to February.

RECOGNITION: *Epidendrum neoporpx* belongs to the Polychlamys Group, characterized by the few-leaved stems, the leaves aggregate towards the apex of the stems and the arching inflorescence with distichous flowers and large, conduplicate bracts; and the Octomerioides Subgroup which has slightly thickened stems, rigid fleshy-thickened linear-oblong to linear-lanceolate leaves. The species is distinguished by the (2)-3, conduplicate, linear-oblong, succulent leaves, 4.9-8.0 x 0.7-1.0 cm, 3-7, green to white flowers, sepals 7.5-8.0 x 3.5-4.0 mm long, 3-5-veined, lateral veins branching, petals 3-veined with lateral veins branching and a cordiform lip. *Epidendrum octomerioides* Schltr. has slightly thickened stems, 1-2 apical, linear oblong to linear-lanceolate, sub-erect, very fleshy thickened leaves, 3.5-13 x 0.6-1.5 cm, with white (rarely greenish white) flowers, the sepals 7.5-10 mm long, 3-veined, lateral veins branching, petals 3-veined without branching, and a triangular-cordiform lip with two very small calli.

CONSERVATION STATUS: (DD). Data deficient.

*NOTE: The personal herbarium of Donald D. Dod was seen by the author at the University of California Berkeley, in a visit to Donald D. Dod (1912-2008) in August 1999, then retired.

REFERENCES: Hágsater, E., & J.D. Ackerman, 2014, *Epidendrum neoporpx*, in J.D. Ackerman et al., Orchid Flora of the Greater Antilles, in *Mem. New York Bot. Gard.* 109: p. 176. Santiago, E., & E. Hágsater, 2007, *Epidendrum octomerioides* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, *Icon. Orchid.* 9: t. 967.



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Illustrator: R. Jiménez M.

Photo: R. Jiménez M.

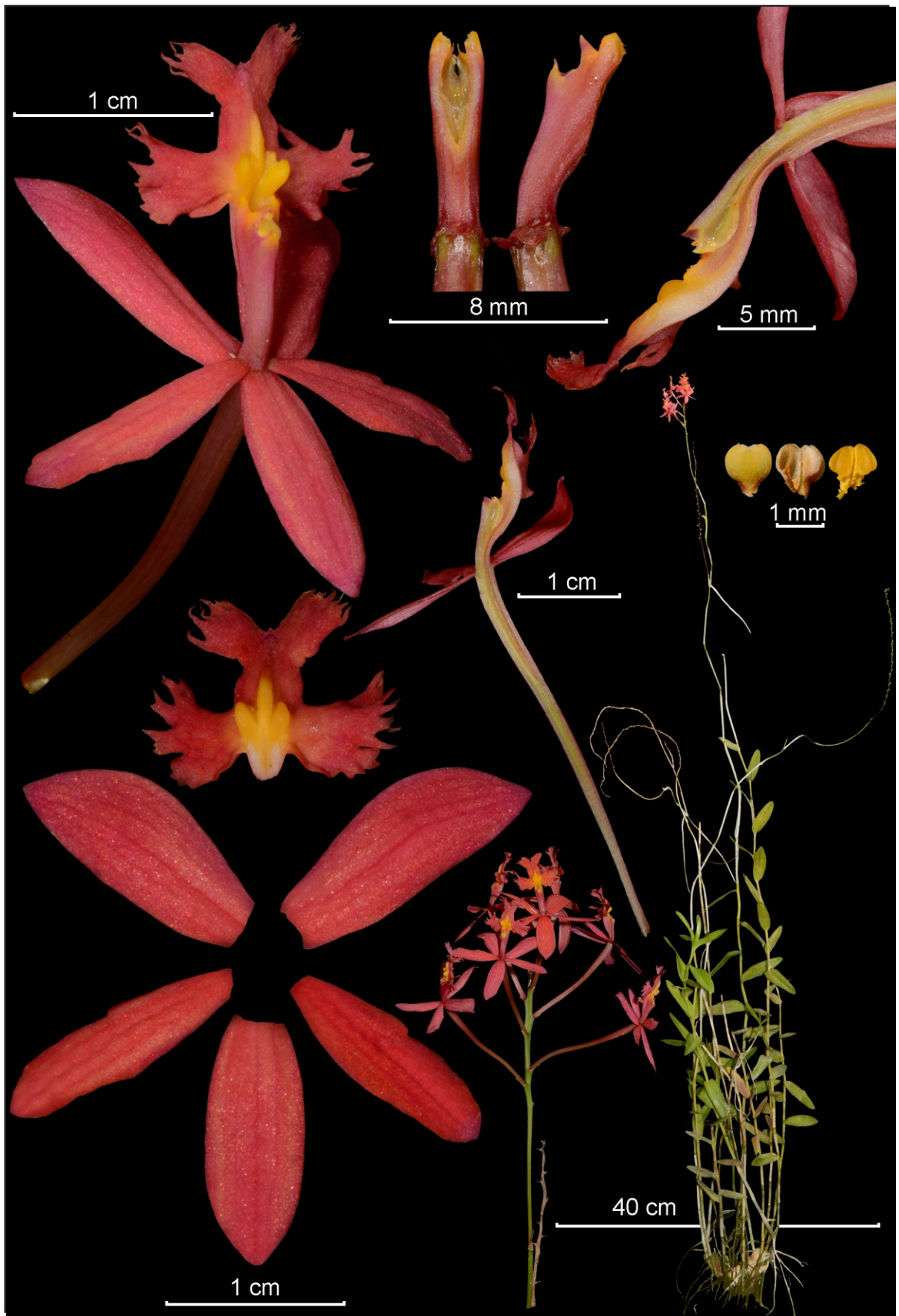
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1744



EPIDENDRUM × OBRIENIANUM Rolfe

Plate 1745

EPIDENDRUM × *OBRIENIANUM* Rolfe, Gard. Chron. (1888) 1: 770-771, fig. 103, et (1889) 8.

Type: "*Epidendrum radicans* Pav. ex Lindl. × *E. evectum* Hook.", May 1888, **James Veitch & Sons s.n.** Holotype: K! [The correct species name for *Epidendrum evectum* Hook. is *Epidendrum jamiesonis* Rchb.f.]

Terrestrial, sympodial, caespitose **herb**, up to 100 cm tall including the inflorescence. **Roots** 1.2-2.0 mm in diameter, fleshy, white, from the base of the stems. **Stems** 50-82 × 0.3-0.4 cm, simple, cane-like, terete, straight, the basal part covered by several non-foliar sheaths, chartaceous, gray, imbricated, tubular. **Leaves** 7 or more, distributed along the apical half of the stem; sheaths 3.0-4.1 × 0.35-0.45 cm, tubular, thin, smooth to slightly striated, brown; blade 3.8-9.0 × 1.4-2.3 cm, oblong-elliptic, apex shortly bilobate, coriaceous, green, margin entire. **Inflorescence** up to 50 cm long, apical from the mature stem, simple to pluri-racemose, erect, producing 1-3 new racemes from the upper nodes of the peduncle; peduncle up to 25 cm long, elongate, terete, straight, green, covered by tubular bracts, chartaceous, gray, imbricated, acuminate; rachis 8.9-30.7 cm long, slightly laterally compressed. **Floral bracts** 2.0-3.0 mm long, decreasing in length apically, much shorter than the ovary, triangular, chartaceous, acuminate, embracing. **Ovary** ca. 25-45 mm long, red, sometimes purple tinged, thin, terete, not inflated. **Flowers** successive, up to 6 open at a time, with floral buds in various stages of development, non-resupinate, crimson-red, apical side lobes of the column, calli and mid-rib of lip yellow, anther green; fragrance none. **Sepals** 14 × 5.2-5.5 mm, slightly reflexed, oblong-oblancoolate, acute, 5-veined, margin entire, spreading, without dorsal keel; lateral sepals oblique. **Petals** 15 × 3.5 mm, slightly reflexed, oblong-lanceolate, obtuse, 3-veined, with the lateral veins branching. **Lip** 11 × 14 mm, united to the column, deeply 3-lobed, base somewhat cordate; bicallose, the calli linguiform apex obliquely rounded, slightly divergent, ascendant, thick, with a prominent mid-rib, laminar, straight, progressively narrower towards the apex reaching the middle of the isthmus of the mid-lobe; lateral lobes 9.0 × 6.0 mm, oblique, sub-flabelliform, posterior margin entire, distal margins deeply lacinate; mid-lobe 7.0 × 9.0 mm, formed by a narrow, sub-quadrate isthmus in basal half 3.0 × 4.0 mm, apical half bilobed, lobes 4.0 × 3.0 mm, divergent, sub-quadrate, the distal margin dentate-lacinate. **Column** 8.2 mm long, straight, apex somewhat concave when seen from the side, with a pair of short, digitiform acuminate side lobes. **Clinandrium-hood** short, margin entire. **Anther** 1.3 × 1.3 mm, cordiform, apex truncate, 4-celled. **Pollinia** 4, obvoid, laterally compressed; caudicles, elongate, like a pile of roof tiles; viscidium transparent. **Rostellum** apical, slit. **Capsule** not seen.

OTHER SPECIMENS: Cultivated at AMO, origin unknown, 16 VII 2019, Hågsater 16158 AMO! (LCDP and photo voucher).

OTHER RECORDS: *Cogniaux & Goossens, Epidendrum × obrienianum* in Dict. Icon. Orchid.: *Epidendrum hybr.* pl. 2. Numerous images are available on the internet under this name, however, not all correspond to the original hybrid. Mislabelled images mainly have the yellow in the lip not restricted to the two calli and mid-rib which are characteristic of the hybrid. *Epidendrum puniceoluteum* F.Pinheiro & F.Barros, from coastal Brazil, also has the spillover effect.

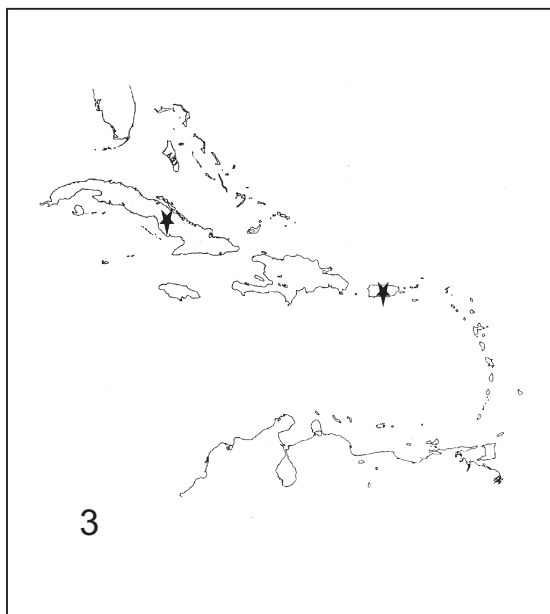
DISTRIBUTION AND ECOLOGY: Widely cultivated worldwide. Escaped into the wild in Hawaii (Randall, 1995), Cuba and Puerto Rico (Hågsater & Ackerman, 2014) among other places. Often misidentified as *Epidendrum radicans* Pav. ex Lindl. or *Epidendrum ibaguense* Kunth; both are differentiated by having resupinate flowers in red, orange and yellow combinations.

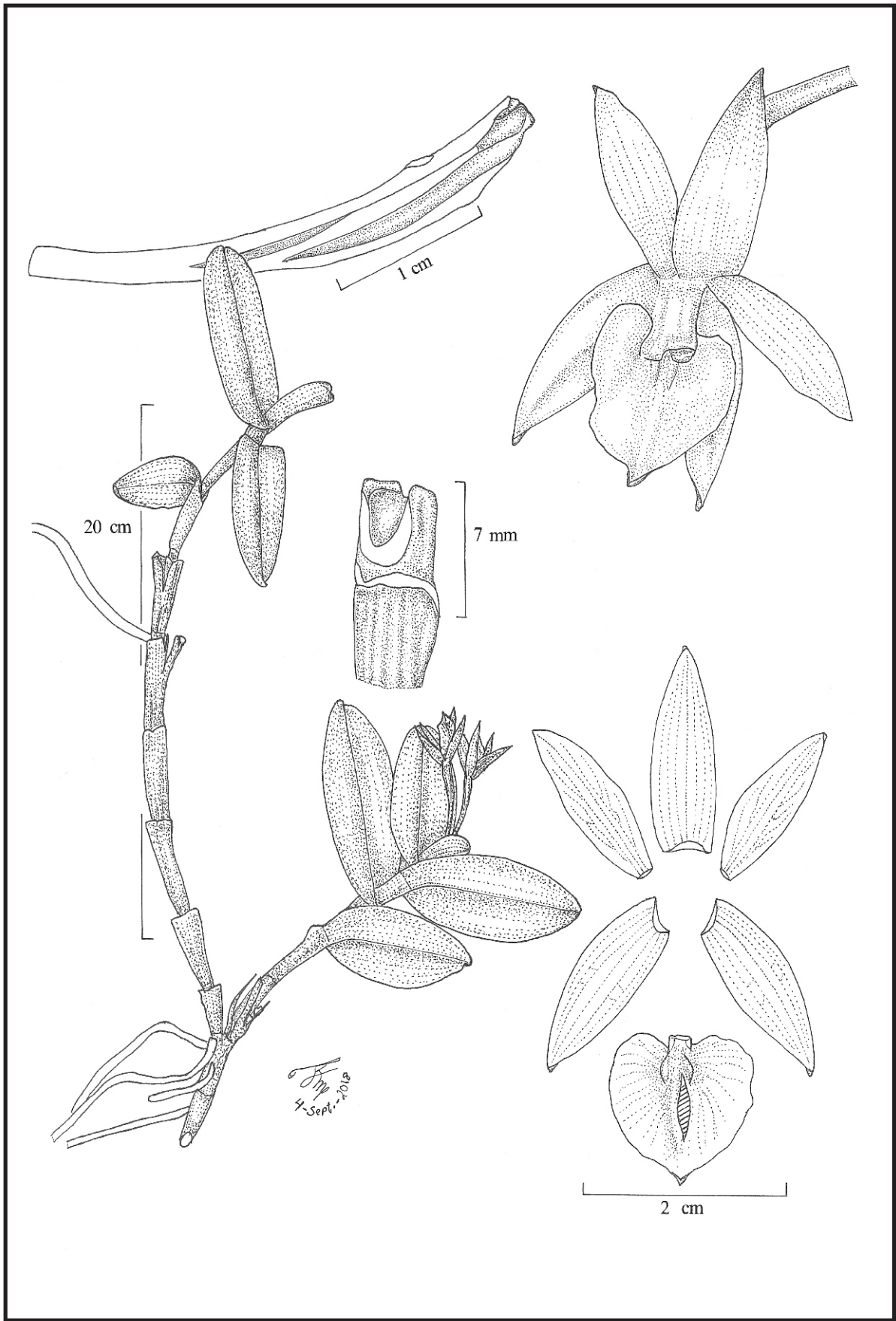
RECOGNITION: *Epidendrum × obrienianum* belongs to the Schistochilum Group, Calanthum Subgroup which is characterized by the caespitose habit, erect, simple, cane-like stems, the generally elongate peduncle of the inflorescence, the erect raceme of generally resupinate, showy, colorful flowers, the lip adorned by two calli and a median, narrow keel. The hybrid is recognized by the terrestrial, caespitose habit, crimson-red, non-resupinate flowers with yellow calli and mid-rib, anther green, petals oblong (about 15 mm long), obtuse, calli wide, linguiform, sub-divergent, ascendant, mid-rib of the lip yellow that reaches the middle of the isthmus of the mid-lobe, lip deeply 3-lobed, base somewhat cordate, lateral lobes sub-flabelliform, mid-lobe formed by a narrow isthmus in the basal half, apical half bilobed the lobes divergent, sub-quadrate, the distal margin dentate-lacinate and the apical lobes of the column are very short. It is very similar to the new *Epidendrum cryptopateras* Hågsater & Courtinard, from Martinique, being the same color and overall shape, but having slightly shorter sepals and petals (about 13 mm long), the apex of the column having elongated laminar lateral lobes, and calli being narrow, laminar, parallel, erect, semi-elliptic, *Epidendrum puniceoluteum* F.Pinheiro & F.Barros, from the southern coast of Brazil, is also very similar but having a brighter red color, the yellow color of the calli somewhat spilling onto the disc of the lip and wider, sub-quadrate calli, a wider mid-rib, shorter apical lobes of a thicker column.

CONSERVATION STATUS: Widely cultivated worldwide.

ETYMOLOGY: In honor of James O'Brien (1842-1930), British gardener, in charge of several orchid collections and nurseries, Secretary, Orchid Committee, Royal Horticultural Society 1889-1923. Contributor on orchid hybrids to Gardener's Chronicle 1891-1931 (Desmond 1994).

REFERENCES: Cogniaux, A., & A. Goossens, 1897-1902, *Epidendrum hybr.* Pl. 2 in **Dict. Icon. Orchid.** Desmond, Ray, 1994, **Dictionary of British and Irish Botanists and Horticulturists including plant collectors, Flower Painters and Garden Designers.** Taylor & Francis Ltd, London. Pp. 1-831. Hågsater, E., & J.D. Ackerman, 2014, *Epidendrum* in J.D. Ackerman (Coordinator), *Orchid Flora of the Greater Antilles, Mem. New York Bot. Gard.* 109: 151-190. Hågsater, E. & P. Courtinard, 2019, *Epidendrum cryptopateras* in E. Hågsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1715. Pinheiro, F., & F. de Barros, 2006, *Epidendrum puniceoluteum*, uma espécie de Orchidaceae do litoral brasileiro, **Hoehnea** 33(2): 247-250. Rolfe, R.A. in Scott, W.H. (ed.), 1888, *Epidendrum obrienianum* × n. **hyb. Gard. Chron.** (1888)1: 770-771. Randall, John, 1995, in **Invasive Plants Atlas of the United States** <https://www.invasiveplantatlas.org/subject.html?sub=14000>, downloaded 15 July 2019. Sanz, Ernesto, 2014, A natural Frankenstein: the orchid hybrid, *Epidendrum × obrienianum*, **Tropical Biodiversity**, posted 30 March 2014, <https://blogs.reading.ac.uk/tropical-biodiversity/2014/03/a-natural-frankenstein-the-orchid-hybrid-epidendrum-x-obrienianum/>, downloaded 15 July 2019. **Dict. Icon. Orchid.:** *Epidendrum hybr.* pl. 2





EPIDENDRUM ORBICORDICHILUM Hágsater & E.Santiago

EPIDENDRUM ORBICORDICHILUM Hágsater et E.Santiago, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: Cordillera Central, Vertiente Occidental, Hoya del Río Bugalagrande, 2900 m, 17 April 1946, José Cuatrecasas 20874, Holotype: VALLE! Isotypes: AMES! F! (Illustration voucher). US!

Similar to *Epidendrum cuencanum* Schltr. but leaves 1.8-3.5 cm wide, elliptic to narrowly elliptic (vs. leaves 1.5-4.3 cm wide, widely elliptic), flowers sepia-ochre turning bright orange with age (vs. greenish white), sepals with margin spreading (vs. sepals with margin slightly revolute), petals 17 x 5.4 mm, elliptic (vs. 20 x 2 mm, linear), lip 14 x 14 mm, orbicular-cordiform (vs. 13 x 12.5 mm, cordiform).

Epiphytic or terrestrial, sympodial, scandent herb. **Roots** 1.5-2.5 mm in diameter, produced from the base of stems, scarce, terete, thick, white. **Stems** 14-28 x 0.4-0.9 cm, simple, cane-like, produced from the middle of the previous stem, terete at base, somewhat laterally compressed towards the apex; base covered by non-foliar sheaths 2.0-3.5 cm long, tubular (somewhat infundibuliform apically when dry), scarious, becoming fibrous with age. **Leaves** 3-4, distributed along the apical 1/4 of stems, alternate, spreading, coriaceous, yellowish green; sheaths 1.0-2.5 x 0.4-0.9 cm, tubular, somewhat infundibuliform, minutely striated; blade 3.7-9.0 x 1.8-3.5 cm, elliptic to narrowly elliptic, apex unequally bilobed, margin entire. **Spathes** 1-2, 1.6-2.4 x 1.2-1.8 cm (when spread), tubular at base, conduplicate above, apex obtuse to rounded (obovate when spread), membranous. **Inflorescence** 5-6 cm long (including the flowers), apical, racemose, few-flowered, erect; peduncle 6-7 mm long, totally hidden within the spathe; rachis short. **Floral bracts** 2 mm long, much shorter than the ovary, triangular-ovate, sub-acute, embracing. **Flowers** 2, simultaneous, non-resupinate, erect, fleshy, sepia-ochre turning bright orange with age, fragrance not registered. **Ovary** 35 mm long, terete, thin at base, gradually thickened towards the apex, minutely striated. **Sepals** 20 x 6.3 mm, free, acute, minutely apiculate, 7-veined, margin entire, spreading; dorsal sepal spreading, triangular-lanceolate; lateral sepals partly spreading, narrowly elliptic, slightly oblique, dorsally carinate. **Petals** 17 x 5.4 mm, free, spreading, elliptic, apex sub-acute, minutely apiculate, 3-veined, the lateral veins short branched, margin entire, spreading. **Lip** 14 x 14 mm, united to the column, entire, orbicular-cordiform, base cordate, apex obtuse, minutely apiculate, margin entire, spreading; bicallose, calli thin, laminar, low. **Column** 7 mm long, thin, straight. **Clinandrium-hood** short, margin entire. **Anthor** reniform, 4-celled. **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating half the pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Quindío: without locality, VIII 1964, *Kapuler 239*, COL! **ECUADOR. Carchi:** Road Tulcán-Santa Barbara, E of El Carmelo, 2700 m, 21 VI 1983, *Bohlin 626*, GB! Gruta de la Paz, 2500 m, 28 VIII 2004, *Cerón 51660*, QAP! Km 40-45, E of Santa Barbara on road Tulcán to La Bonita, 2300-2600 m, 1-27 VII 1982, *Dodson 13060*, Q! SEL! E of Gruta La Paz, 3200 m, 14 IX 2004, *Hirtz 9017*, AMO x3! **Napo:** between Cuyuja and Papallacta, 2800-2900 m, 5 VI 1973, *Holm-Nielsen 6889*, AAU! AMES! SEL! **Pichincha:** Pulumahua, 25 km NW San Antonio, 2600-3000 m, 13 I 1967, *Sparre 13954*, S! Western slope of Mt. Iliniza, 2900-3000 m, 23 I 1987, *Hirtz 3074*, MO x2!

OTHER RECORDS: ECUADOR: Imbabura: Cotacachi, 2940 m, *Andreas Kay*, digital images, AMO! (photo voucher).

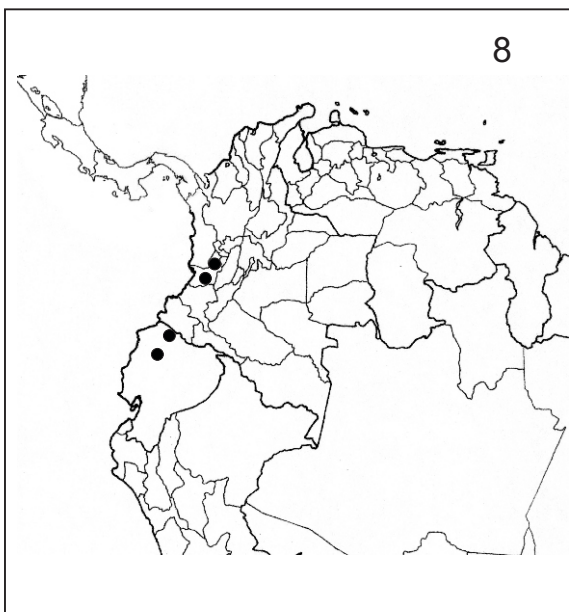
DISTRIBUTION AND ECOLOGY: Ranging from the southern Central Range in Colombia (Quindío) to northern Ecuador on both slopes of the Andes, terrestrial and epiphytic at 2300-3200 m altitude. Flowering from January to September.

RECOGNITION: *Epidendrum orbicordichilum* belongs to the Geminiflorum group, characterized by having a sympodial, scandent, straggling habit, semi-ovate spathe, erect stems with 3-10 coriaceous leaves, few non-resupinate flowers, and a lip with laminar calli, disc flat. The new species is recognized by the leaves 3.7-9.0 x 1.8-3.5 cm, elliptic to narrowly elliptic, flowers sepia-ochre turning orange with age, sepals 20 mm long, the margin spreading, petals 17 x 5.4 mm, elliptic; lip 14 x 14 mm, orbicular-cordiform, with a pair of low laminar calli. *Epidendrum cuencanum* is vegetatively similar, but the flowers are greenish white, sepals 21.5 mm long with the margins slightly revolute, petals 20 x 2.0 mm, linear; lip 13.0 x 12.5 mm, cordiform, with a pair of small calli. *Epidendrum megagastrium* Lindl. has leaves 3.0-5.0 x 1.8-2.3 cm, flowers copper brown, sepals 20.5 mm long, petals 18.5 x 4.7 mm, oblong-elliptic; lip 11.4 x 10.0 mm, narrowly cordiform with a pair of fleshy, divergent calli and with 3 low ribs, the very evident mid-rib disappearing before reaching the apex. *Epidendrum azuayense* Hágsater & E.Santiago has leaves 1.0-5.0 x 0.8-1.5 cm, oblong-elliptic, flowers orange, sepals 13-18 mm long, petals 12-16 x 5.0-6.0 mm, oblanceolate with the margin crenulate; lip 8.0-9.0 x 11 mm, widely cordiform. *Epidendrum geminiflorum* Kunth has leaves 2.7-9.0 x 1.2-2.6 cm, oblong; flowers greenish yellow, sepals 14-18 [21] mm long and the margin revolute, petals 14.4-16.0 [19] x 2.7-3.3 mm, narrowly lanceolate; lip 10-13 [16] x 8.0-12 mm, 3-lobed, the lateral lobes sub-orbicular to hemi-elliptic, small.

CONSERVATION STATUS: LC. Less Concern. The known range of distribution extends 665 km, in Colombia central Andes and Ecuador Andes, some expected extent of occurrence 35,000 km², between 2500-3200 m altitude.

ETYMOLOGY: From the Latin *orbis*, circular, *cordatus*, with two rounded lobes at base, like heart-shaped, and *chilus*, lipped, in reference to the nearly rounded cordate lip which distinguishes this species.

REFERENCES: Hágsater, E., & E. Santiago, 2019, *Epidendrum azuayense* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, *Icon. Orchid.* 17(1): t. 1706. Santiago, E., & E. Hágsater, 2019, *Epidendrum cuencanum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, *Icon. Orchid.* 17(1): t. 1716. Santiago, E., & E. Hágsater, 2019, *Epidendrum geminiflorum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, *Icon. Orchid.* 17(1): t. 1724. Santiago, E., & E. Hágsater, 2019, *Epidendrum megagastrium* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, *Icon. Orchid.* 17(1): t. 1739.



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M

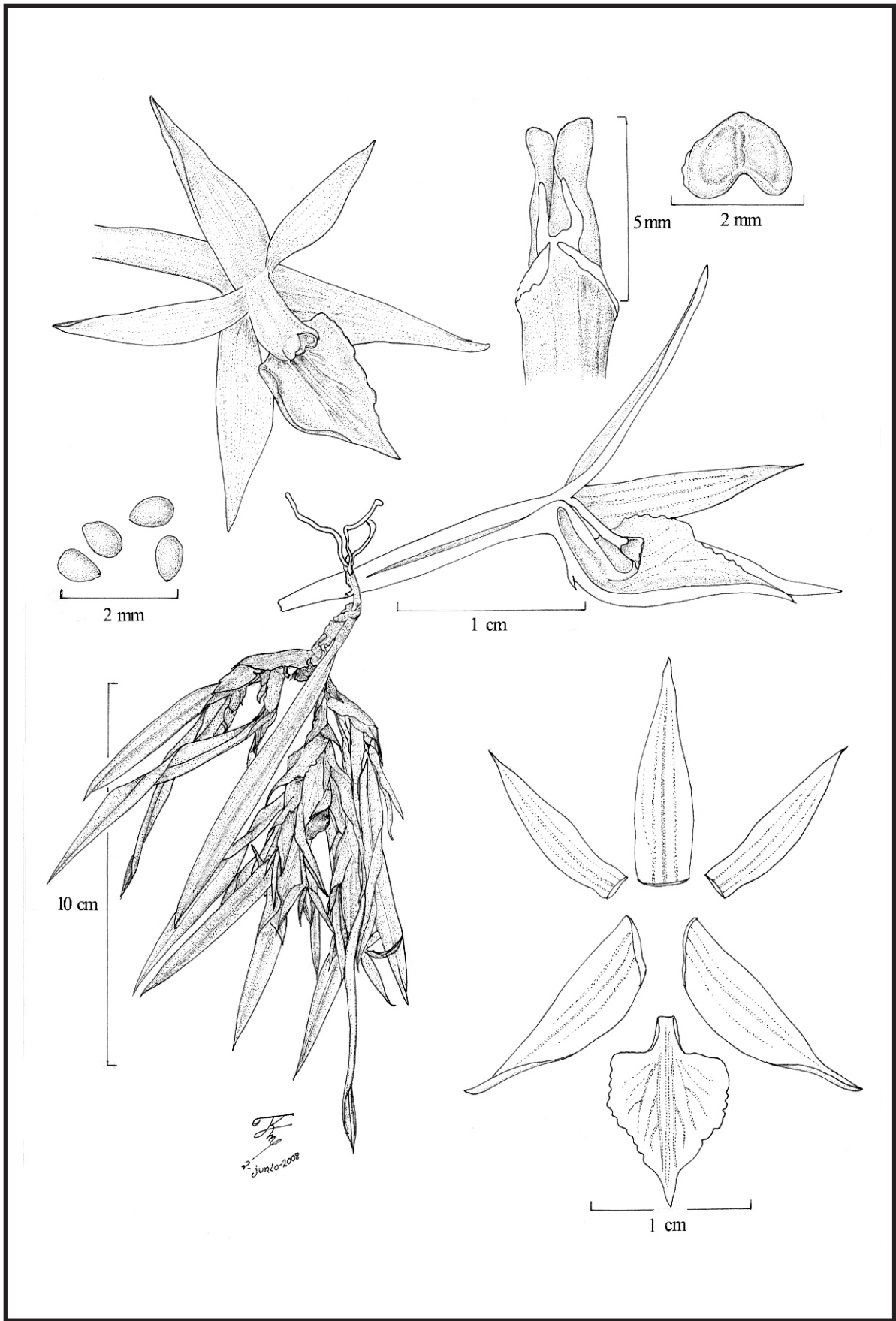
Photo: A. Kay †

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1746



EPIDENDRUM PALALABRUM Hágsater

EPIDENDRUM PALALABRUM Hágsater, *sp. nov.*

Type: ECUADOR: Prov. Napo: [Cantón Tena:] road San Miguel (Salcedo) Puerto Nuevo (Napo) (under construction), 54 km from San Miguel, 3200-3300 m, 29 September 1976, **Benjamin Øllgaard & Henrik Balslev 9822**. Holotype: NY! (illustration voucher) Isotype: AAU!

Similar to *Epidendrum carmelense* Hágsater & Dodson but sepals 13-14 mm long (vs. sepals 10 mm long), lip 9.1 x 7.4 mm, shovel-shaped, base truncate, basal half quadrate, apical half triangular, apex acuminate (vs. lip 7 x 11 mm, reniform, base cordate, apex rounded).

Epiphytic, sympodial, caespitose, pendulous, branching **herb**, 15-20 cm long. **Roots** 0.5-1.0 mm in diameter, basal to the primary stem only, thin. **Stems** 1.3-2.7 x 0.2-0.4 cm, pendulous, constituted by 3-4 internodes, the two basal internodes short, the apical ones elongate, the apical internode forming a small fusiform pseudobulb, each new stem produced from a sub-apical internode of the previous stem, completely covered by non-foliar sheaths, 8-25 mm long, ovate, acuminate, embracing. **Leaves** 1 per stem, 4.0-8.9 x 0.4-0.8 cm, apical, pendulous, linear-lanceolate, acuminate, dorsally carinate, margins revolute. **Spathe** lacking. **Inflorescence** apical, sessile, pendulous. **Floral bracts** ca. 5 x 4 mm, shorter than the ovary, ovate-triangular, acute, hidden within the sheath subtending the pseudobulb. **Flowers** 1-2, pendulous, facing downwards, pale brown; fragrance not registered. **Ovary** 14 mm long, terete, thin, not inflated, striated. **Sepals** 13.0-14.0 x 3.7-4.0 mm, spreading, free, glabrous, 3-veined, margin entire, spreading; dorsal sepal lanceolate, acuminate; lateral sepals obliquely lanceolate, acuminate, the upper margin straight. **Petals** 11.7 x 2.5 mm, spreading, free, lanceolate, acuminate, somewhat falcate, 3-veined, margins entire, spreading. **Lip** 9.1 x 7.4 mm, united to the column, entire, shovel-shaped, base truncate, basal half quadrate, apical half triangular, apex acuminate, margin spreading, erose especially on the sides; ecallose with the veins somewhat thickened on the disc of the lip. **Column** 5 mm long, short, thick, forming a 120° angle with the pedicellate ovary. **Clinandrium-hood** upturned, bifid, somewhat reduced, margin erose. **Anther** obreniform, apex forming a wide sinus with a ventral mid-rib. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** very short. **Nectary** shallow without penetrating the perianth, narrow, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from a single collection, on the eastern slopes of the Andes, in central Ecuador; epiphytic at 3200-3300 m altitude. Flowering in September-October.

RECOGNITION: *Epidendrum palalabrum* belongs to the *Kalopternix* group, *Garayi* subgroup which is recognized by pendent chain of stems, arising each from a sub-apical internode of the previous stem, each with 1-3 linear-lanceolate leaves, inflorescence apical, flowering only once, 1-2 flowered, the flowers non-resupinate, green to red or yellow, de lip cordiform, ecallose. The new species is recognized by the pale brown flowers, sepals 13-14 x 3.7-4.0 mm, lanceolate, acuminate, 3-veined, petals 11.7 x 2.5 mm, lanceolate, acuminate and lip shovel-shaped, base truncate, basal half quadrate, apical half triangular, apex acuminate, margin erose. *Epidendrum carmelense* Hágsater & Dodson has plants 12-48 cm long, forming large mases, flowers green to ochre with reddish dots on the column, sepals 10 x 6.5 mm, ovate, acute, petals 8.5 x 3.5 mm, ovate-elliptic, acute; lip 7 x 11 mm, reniform, base cordate, apex rounded. It is vegetatively very similar to *Epidendrum cardiodontatum* Hágsater & Dodson, but the inflorescence has 7 successive flowers, lip sub-cordiform, base cordate. *Epidendrum garayi* Løjtant has 3-4 leaves per pseudobulb, flowers greenish purple, sepals 10-12 mm long, lip cordiform, acuminate. *Epidendrum falsigarayi* Hágsater & Karremans has 3-6 leaved stem segments, leaves 25-50 x 3-5 mm, 1 brick-red flower, ovate, acuminate sepals 12-12.3 mm long, triangular ovate, acute petals, 8.6 x 4.4 mm, and a cordiform, apiculate lip 7.3 x 9.6 mm.

CONSERVATION STATUS: DD. Data deficient. There are few roads the cross the Andes and in general the areas north and south are covered by national protected areas and not exploited for agriculture nor cattle ranching.

ETYMOLOGY: From the Latin *pala*, shovel, and *labrum*, lip, in reference the shovel-shaped lip, where the basal half is quadrate and the apical half triangular, the base truncate.

REFERENCES: Hágsater, E., & C.H. Dodson, 1993, *Epidendrum carmelense* in E. Hágsater & G.A. Salazar (eds.), *The Genus Epidendrum*, Part. 1, Icon. Orchid. 2: t. 120. Hágsater, E., & C.H. Dodson, 2010, *Epidendrum cardiodontatum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part. 9, Icon. Orchid. 13: t. 1310. Hágsater, E., & A. Karremans, 2019, *Epidendrum falsigarayi* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part. 13, Icon. Orchid. 17(1): t. 1720. Hágsater, E., 2019, *Epidendrum garayi* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part. 13, Icon. Orchid. 17(1): t. 1722.



Author: E. Hágsater

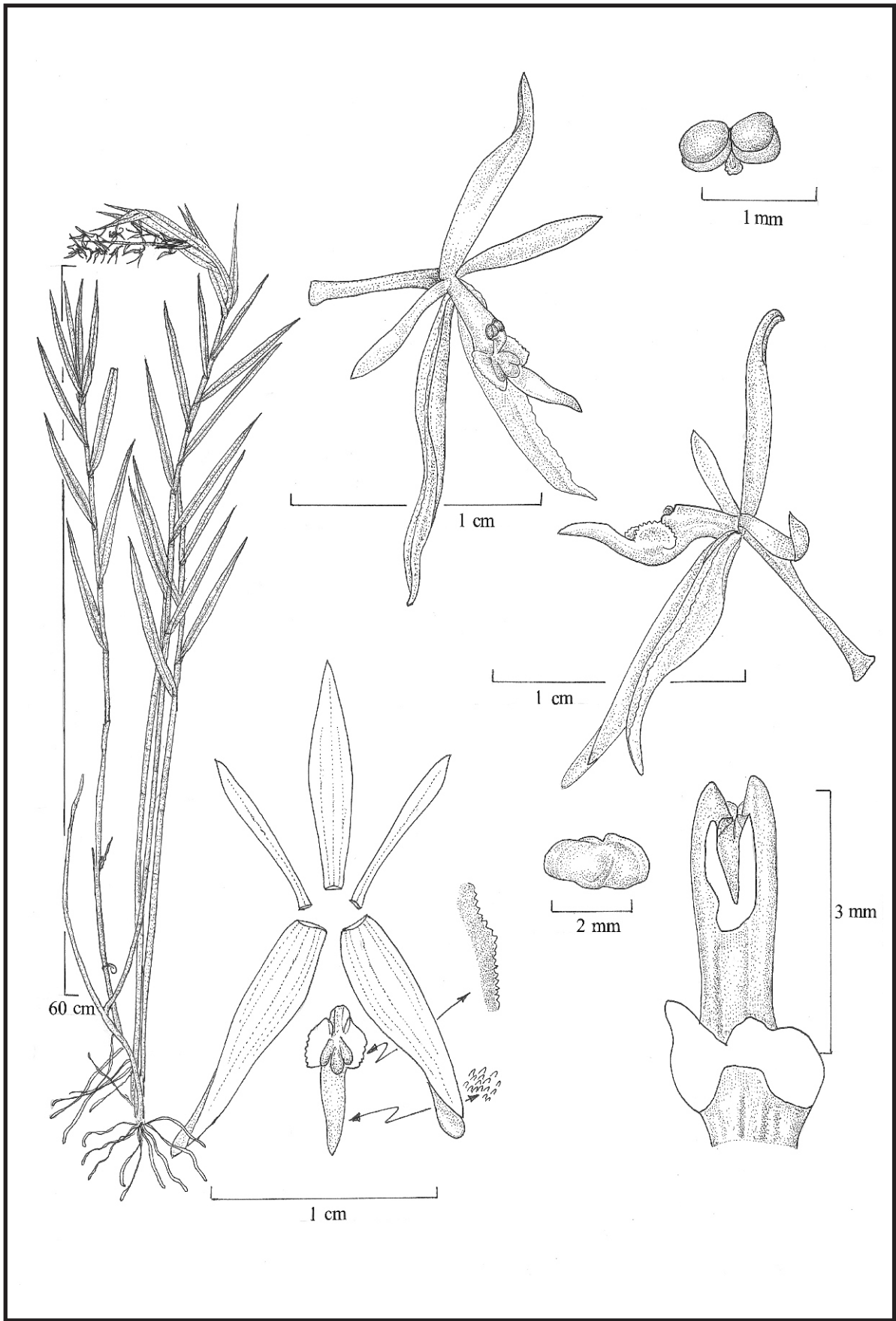
Illustrator: R. Jiménez M

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1747



EPIDENDRUM PRAETERITUM Hágsater

Plate 1748

EPIDENDRUM PRAETERITUM Hágsater, *sp. nov.*

Type: ECUADOR: Napo between Papallacta and Baeza, 1900 m, epiphyte in wet forest, 20 February 1982, **Carlyle A. Luer & Alexander Hirtz 6858** Holotype: SEL 44689! (illustration voucher).

Similar to *Epidendrum cornutum* Lindl. but the leaves narrower 6-9 mm wide (vs. to 14 mm wide), inflorescence as long as the apical leaves (vs. shorter than the apical leaves), flowers light yellow (vs. white and strongly fragrant), smaller; lateral sepals 10.2 mm long (vs. 12.3 mm long) and lip 5.7 x 2.7 mm (vs. 7.3 x 4 mm).

Epiphytic, erect, sympodial, caespitose **herb**, to ca. 70 cm tall. **Roots** 1.5-1.8 mm in diameter, basal, fleshy, scarce. **Stems** 25-60 x 0.15-0.3 cm, simple, cane-like, terete. **Leaves** 7-14, sub-erect, alternate, distributed throughout the upper half of the stem, sheaths 2.0-4.2 x 0.2-0.3 cm, tubular, longitudinally striated; blade 8-14 x 0.6-0.9 cm, lanceolate, acuminate, articulate, smooth, margin entire. **Spathes** 1-2, 4.6-7.0 cm long, tubular, conduplicate, acuminate. **Inflorescence** 10-14 cm long, apical, racemose, arcuate-nutant; peduncle 6 cm long, sub-erect, arched, nearly covered by the spathes. **Floral bracts** 5-8 mm long, slightly shorter than the ovary, linear-triangular, acuminate, embracing. **Flowers** 17-20, simultaneous, resupinate, light yellow, fragrance not registered. **Sepals** free, narrowly elliptic, acute, margin entire; dorsal sepals 9.5 x 1.8 mm, spreading, 3-veined; lateral sepals 10.2-11.2 x 2.4-2.6 mm, partly spreading, oblique, 5-veined, with a prominent dorsal apical keel, its margin erose, mucronate. **Lip** 5.7 x 2.7 mm, united to the column, 3-lobed, fleshy, base cordate, bicallose, the calli elongate, complanate, a short mid-rib in between, slightly longer than the calli; lateral lobes 1.02 x 2.04 mm, transversely elliptic, margin dentate; mid-lobe 3.8 x 1.02 mm, narrowly triangular, acute, fleshy thickened, surface minutely papillose. **Column** 3.0 mm long, straight, short, forming an obtuse angle with the ovary. **Clinandrium-hood** reduced, entire. **Anther** reniform. **Pollinia** 4, obovoid, unequal, the inner pair slightly smaller; caudicles soft and granulose short. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from a single collected in 1982, from above Baeza, Napo, Central Ecuador, on the eastern slope of the Andes. The area has since been heavily disturbed along the highway. Epiphytic in wet forest at 1900 m altitude. Flowering in February.

RECOGNITION: *Epidendrum praeteritum* belongs to the *Alpicolum* Group, which is recognized by the caespitose habit, simple, cane-like stems, apical racemose inflorescence subtended by 1-3 acute spathaceous bracts, the flowers fleshy, linear petals and a 3-lobed lip, bicallose with short, fleshy keels, the mid-lobe triangular and fleshy. The new species is recognized by the caespitose habit, numerous narrowly lanceolate leaves to 14 x 0.9 cm, inflorescence as long as the apical leaves, pale yellow relatively large flowers, lateral sepals 10.2-11.2 mm long, 5-veined, lip 5.7 x 2.7 mm. It is similar to *Epidendrum cornutum* Lindl., which also has a caespitose habit, wider leaves to 13.5 x 1.4 cm, the inflorescence shorter than the apical leaves, white, very fragrant flowers, lateral sepals 12.3 mm long, 5-veined, and a longer lip, 7.3 x 4 mm. *Epidendrum alpicoloscandens* Hágsater & Dodson, has a scandent habit, about half as many leaves, the inflorescence much surpassing the apical leaves, smaller, pale yellow-orange flowers, lateral sepals 8.6 mm long, 3-veined, and lip 4.0 x 2.5 mm.

CONSERVATION STATUS: DD. Data deficient. It is surprising that we have not been able to find any more material from this area that may belong to this species, as it has been historically heavily collected due to its short distance from the capital city, Quito. However, the area along the slope as the road has been largely turned into pastures for cattle grazing. The species may still be found in the largely untouched conservation areas across the Quijos river.

ETYMOLOGY: From the Latin *praeteritus*, past, passed over, lost. In reference to the fact that this specimen has been passed over though it was been seen often in the Selby Herbarium by both Dodson and Hágsater over the years.

REFERENCES: Lindley, J., 1840, *Epidendrum cornutum*, J. Bot. (Hooker) 3:86. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum alpicoloscandens* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum Part 3*, **Icon. Orchid.** 4: t. 407.



Author: E. Hágsater

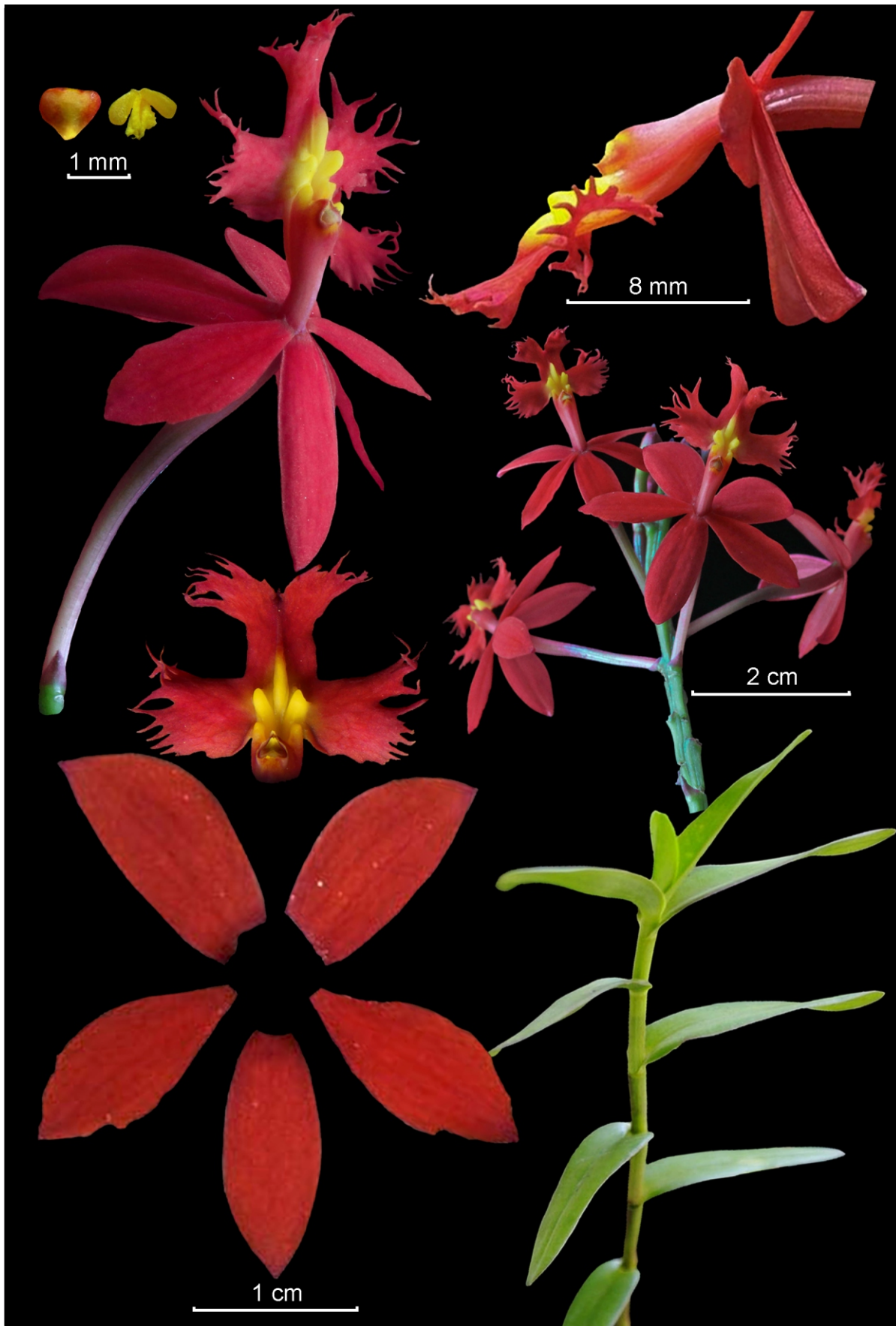
Illustrator: R. Jiménez M

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1748



EPIDENDRUM PUNICEOLUTEUM F.Pinheiro & F.Barros

Plate 1749

EPIDENDRUM PUNICEOLUTEUM F.Pinheiro & F.Barros, *Hoehnea* 33(2): 248. 2006.

Type: BRAZIL: Paraná: Paranaguá, Balneário Shangri-lá, janeiro 1996, *O.S. Ribas et al. 1051*. Holotype SPF. Isotype MBM.

Terrestrial, sympodial, caespitose **herb**, 13-151 cm tall including the inflorescence. **Roots** 2 mm in diameter, fleshy, white, from the base of the stems. **Stems** 40-90 x 0.2-0.5 cm, simple, cane-like, terete, straight, all covered by several foliar sheaths. **Leaves** 11-16, distributed along the stem; sheaths 1.0-4.4 x 0.2-0.6 cm, tubular, slightly laterally compress, thin, smooth, chartaceous, scarious when dry, green; blade 3.0-10.5 x 0.6-2.9 cm, oblong-lanceolate, apex retuse, coriaceous, green, margin entire. **Inflorescence** 21-52 cm long, apical from the mature stem, simple to pluri-racemose, erect, producing 1-3 new racemes from the upper nodes of the peduncle; peduncle 26-28 cm long, elongate, terete, straight, green, covered by tubular bracts, chartaceous, striated, scarious when dry, gray, imbricated, acuminate. **Floral bracts** 3-18 mm long, decreasing, much shorter than the ovary, triangular, chartaceous, acuminate, embracing. **Ovary** 18-38 mm long, green with pink tones at the apex, thin, terete, not inflated. **Flowers** successive, to 6-8 open at a time, with floral buds in various stages of development, non-resupinate, bright red, apical lobes of the lip, calli and mid-rib of the lip yellow, the color spilling onto the disc of the lip and apex of column, anther green; fragrance none. **Sepals** 11.3-18.0 x 4.0-7.5 mm, spreading, oblanceolate, acute, 5-veined, margin entire, spreading; lateral sepals with a low apical dorsal keel. **Petals** 12.0-17.8 x 4.0-7.7 mm, spreading, elliptic, acute to slightly acuminate, 5-veined, margin erose. **Lip** 4.7-8.7 x 12.6-20.2 mm in natural position, united to the column, deeply 3-lobed, base cordate; bicallose, the calli linguiform, ascendant, slightly divergent, low, with a prominent mid-rib, laminar, that reaches the middle of the isthmus of the mid-lobe; lateral lobes 4.0-9.3 x 4.4-10.1 mm in natural position, sub-quadrate to sub-flabelliform, posterior margin entire, distal margins deeply lacinate; mid-lobe 3.6-7.0 x 5.1-10.1 mm, formed by sub-oblong isthmus in the basal half, 2.0 x 4.0 mm, apical half bilobed, the lobes 3.0 x 4.0 mm, erect, sub-quadrate, the distal margin lacinate. **Column** 7.7-12.5 mm long, straight, with a pair of elongate, digitiform side lobes, the apex bidentate that embracing the anther. **Clinandrium-hood** short, margin bidentate. **Anther** 1.5 x 1.3 mm, ovoid, apex truncate, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles, elongate. **Rostrum** apical, slit. **Capsule** not seen.

OTHER SPECIMENS: BRAZIL: São Paulo: Cananéia: Ilha do Cardoso, cult. Jardim Botânico do Instituto de Botânica SP 10312, São Paulo, received 26 XI 1989, cult. Herbario AMO, Mexico City, pressed 4 IV 2002, *Hágsater 10266*. AMO! Illustration, AMO! Ibid. Pressed 22 V 2002, AMO! Ibid. pressed 25 IV 2019, AMO! Digital images, AMO! [For a complete list of specimens see original description, Pinheiro & Barros, 2006.]

OTHER RECORDS: BRAZIL: Rio Grande do Sul: Luiz Filipe Varella, www.orchideasgauchas.net digital images (LCDP & Photo voucher).

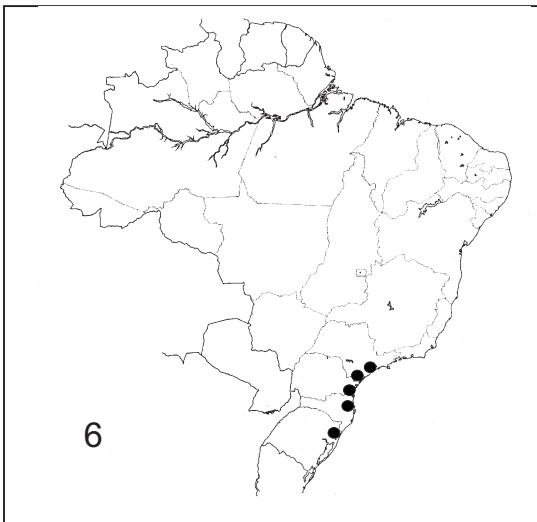
DISTRIBUTION AND ECOLOGY: Endemic to the southern coast of Brazil from the municipality of Osório, Rio Grande do Sul to Paria Grande, São Paulo. Numerous populations are found on Ilha Comprida, Ilha do Cardoso, Ilha de Superagui and Ilha do Mel. Terrestrial in restinga vegetation, flowering throughout the year.

RECOGNITION: *Epidendrum puniceoluteum* belongs to the Schistochilum Group, Calanthe Subgroup which is characterized by the caespitose habit, erect, simple, cane-like stems, a normally elongate peduncle of the inflorescence, an erect raceme of generally resupinate, showy, colorful flowers, and a lip adorned by two calli and a median narrow keel. This species, from the southern coast of Brazil, is recognized by the non-resupinate, bright red flowers with yellow calli and mid-rib; sepals 11-18 mm long, petals elliptic, relatively wide; the deeply 3-lobed lip; the calli linguiform, ascendant, slightly divergent, low, with a prominent mid-rib, laminar, reaching the middle of the isthmus of the mid-lobe; lateral lobes sub-quadrate to sub-flabelliform, posterior margin entire, distal margins deeply lacinate; mid-lobe formed by sub-oblong isthmus in the basal half, apical half bilobed, the lobes divergent, sub-quadrate, the distal margin lacinate. *Epidendrum x obrienianum* Rolfe being the similar color and overall shape, is distinguished mainly by the narrower, oblong petals, and especially by the calli being wide, linguiform, sub-divergent, ascendant. *Epidendrum cryptopateras* Hágsater & Courtinard, from Martinique, being the same color and overall shape but having slightly shorter sepals and petals (about 13 mm long), is distinguished mainly by the calli which are narrow, laminar, parallel, erect, semi-elliptic.

CONSERVATION STATUS: NT. Not threatened. Common and widespread in its natural habitat, where it is sometimes sympatric with *Epidendrum fulgens* Brongn. and intermediate hybrid forms have been observed (Pinheiro & Barros, 2006).

ETYMOLOGY: From the Latin *puniceus*, Phoenician purple, crimson, and *luteus*, deep yellow, in reference to the crimson color of the flowers with the yellow calli and mid-rib.

REFERENCES: Hágsater, E., 2019, *Epidendrum x obrienianum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1745. Hágsater, E. & P. Courtinard, 2019, *Epidendrum cryptopateras* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1715. Pinheiro, F., e F. de Barros, 2006, *Epidendrum puniceoluteum*, uma espécie de Orchidaceae do litoral brasileiro, *Hoehnea* 33(2): 247-250.



Author: E. Hágsater

LCDP: L. F. Varella & A. Cisneros

Photo: L. F. Varella

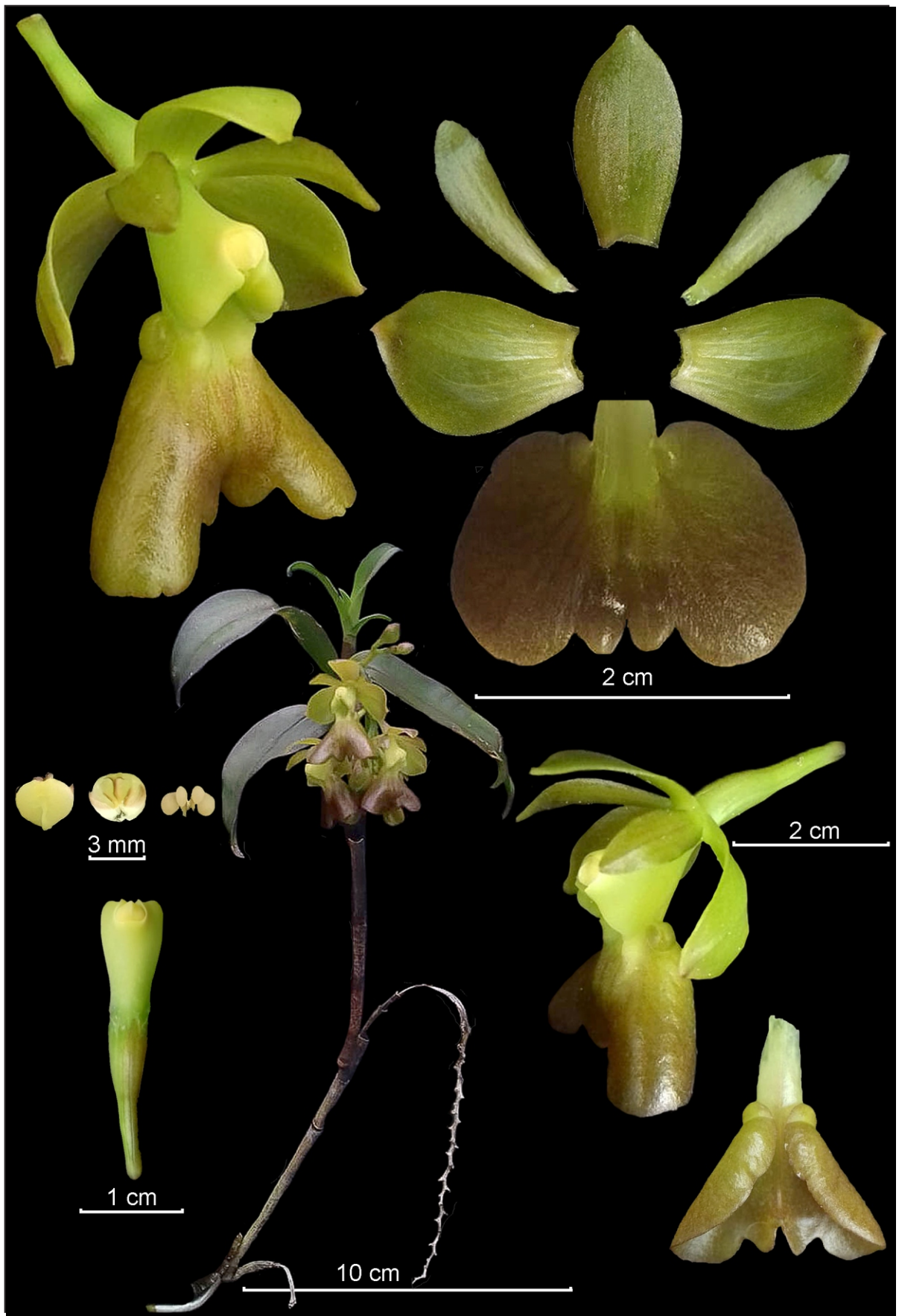
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1749



EPIDENDRUM RIMARACHINII Hågsater

Plate 1750

EPIDENDRUM RIMARACHINII Hágsater *sp. nov.*

Type: PERÚ: Cajamarca: Provincia San Ignacio; Distrito San José de Lourdes; caserío El Crucero, 1670 m, 08 V 2018, **Luis Ocupa Horna & Edwal Adelmo Rimarachin Mena 201**, Hotoype: HUT!

Similar to *Epidendrum albazoëense* Hágsater & Salas Guerr. but the flowers green with the lip brown (vs. green flowers turning yellowish, tinged purple, especially at the apex of the column and over the veins of the lip marked by purple dots), mid-lobe of the lip recessed (vs. mid-lobe spreading beyond the lateral lobes).

Epiphytic, sympodial, erect **herb**, ca. 20-22 cm tall, the new stems arising from a sub-apical internode of the previous stem. **Roots** 2 mm in diameter, from the base of the basal stem, simple, thick. **Stems** 8-12 x 0.4 cm, erect, simple, cane-like, thin, terete, new stem arising from the middle of the previous stem. **Leaves** 3-6, aggregate towards the apical half of the stem, recurved, alternate, base embracing the stem; blade 1.4-6.6 x 1.1-2.2 cm, sub-equal, grass-like, lanceolate, acute, green, concolor. **Spathe** lacking. **Inflorescence** 3.5-8.7 cm long, apical, racemose, slightly laterally compressed, not ancipitose, lax-flowered; peduncle 1.3-2.4 cm long, rachis 2.7-8.0 cm, arching, nutant. **Floral bracts** ca 4 mm long, shorter than the ovary, triangular, acute, embracing. **Flowers** 5-28, opening in succession, several open at one time, resupinate; sepals and petals green, lip brown, calli and column green, anther pale green; fragrance none registered. **Ovary** 11 mm long, not inflated, thin, terete at base, slightly thickened behind the perianth. **Sepals** 13-15 x 6-9 mm, free, partly spreading, incurved, fleshy, 6-veined, sub-acute, margins entire, spreading; dorsal sepal elliptic; lateral sepals obovate. **Petals** 13-15 x 3-4 mm, free, partly spreading, forming a cup with the sepals, oblanceolate, acute, fleshy, 3-veined, margin slightly erose, spreading. **Lip** 13-15 x 22-23 mm, united to the column, 3-lobed, obreniform in general outline, lateral margins strongly revolute in natural position, base cordate, mid-lobe recessed, i.e. lateral lobes somewhat longer than the mid-lobe at the apex; bicallose, calli somewhat laterally compressed, in front of the sides of the column, inconspicuous; lateral lobes 9 x 16.5 mm, transversely obovate, wider towards the apex; mid-lobe 2.5 x 6.5 mm, recessed, formed by two small, semi-orbicular lobes, with a deep sinus in the middle. **Column** 11 mm long, thickened towards the apex, truncate. **Clinandrium-hood** reduced, margin entire. **Anther** cordiform, 4-celled. **Pollinia** 4, obovoid, the inner pair somewhat smaller, slightly laterally compressed; caudicles short, soft and granulose; viscidium semi-liquid. **Rostrum** not seen. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the type. Found at an altitude of 1670 m., in disturbed forests, epiphytic on *Coffea* sp. stems. Flowering twice yearly, in March and September.

RECOGNITION: *Epidendrum rimarachinii* belongs to the *Incomptum* group which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy green to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The species is recognized by the sepals about half as wide as they are long, 13-15 x 6-9 mm, petals oblanceolate, 3-veined, 13-15 x 3-4 mm, and the lip 13-15 x 22-23 mm, 3-lobed, obreniform in general outline, lateral margins strongly revolute in natural position, base cordate, bicallose, lateral lobes 9 x 16.5 mm, transversely obovate, wider towards the apex; mid-lobe 2.5 x 6.5 mm, recessed, formed by two small, semi-orbicular lobes, with a deep sinus in the middle. *Epidendrum albazoëense* Hágsater & Salas Guerr. has green flowers turning yellowish, tinged purple, especially at the apex of the column, and over the veins of the lip marked by purple dots, sepals are 14.7-20 mm long, petals narrowly elliptic, base narrowly cuneate, acute, 3-veined, the lip 3-lobed, 8.5 x 16 mm; the lateral lobes sub-reniform, at an oblique angle, the widest part of the lip between the apices of the lateral lobes; mid-lobe 2.9 x 6.5 mm, sub-rectangular, apex deeply retrorse, corners rounded. *Epidendrum incomptum* Rchb.f. has narrowly obovate sepals, petals linear-oblanceolate, 1-veined, lip 10-15 x 13-28 mm, 3-lobed, slightly convex, ecallose; lateral lobes divaricate, obliquely ovate, and mid-lobe sub-quadrate, truncate. *Epidendrum xelidorimarachinii* Hágsater & E. Santiago has lip 3-lobed, slightly convex, margins entire, spreading; lateral lobes 9-10 x 8.5 mm, semi-obovate, base widely cordate, posterior side semi-obovate, front margin straight; mid-lobe 4 x 8 mm, deeply bifurcate, formed by a pair of triangular divergent lobes forming a nearly 90° angle, each triangle 4.0 x 2.5 mm, apex narrowly rounded.

NOTES: The species is peculiar in the recessed mid-lobe of the lip, which is surpassed by the lateral lobes of the lip at its apex.

CONSERVATION STATUS: DD. Data deficient. Known presently only from the type.

ETYMOLOGY: In honor of Edwal Adelmo Rimarachin Mena (1995-), of San José de Lourdes, Cajamarca, Peru, who participated in the collection of the type. He is an agricultural technician of the Instituto de Educación Superior Tecnológico Público "4 de junio de 1821" at Jaén; grower, collector and protector of orchids. He rescues species from disturbed forests and safeguards them in a family vivarium in order to conserve the genetic material.

REFERENCES: E. Hágsater, E., & E. Santiago, 2006, *Epidendrum incomptum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 5, **Icon. Orchid.** 8: t. 844. Hágsater, E., & M. Salas Guerrero, 2018, *Epidendrum albazoëense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1601. Hágsater, E., 2019, *Epidendrum xelidorimarachinii* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1756.



Author: E. Hágsater

LCDP: E. A. Rimarachin & A. Cisneros

Photo: E. A. Rimarachin

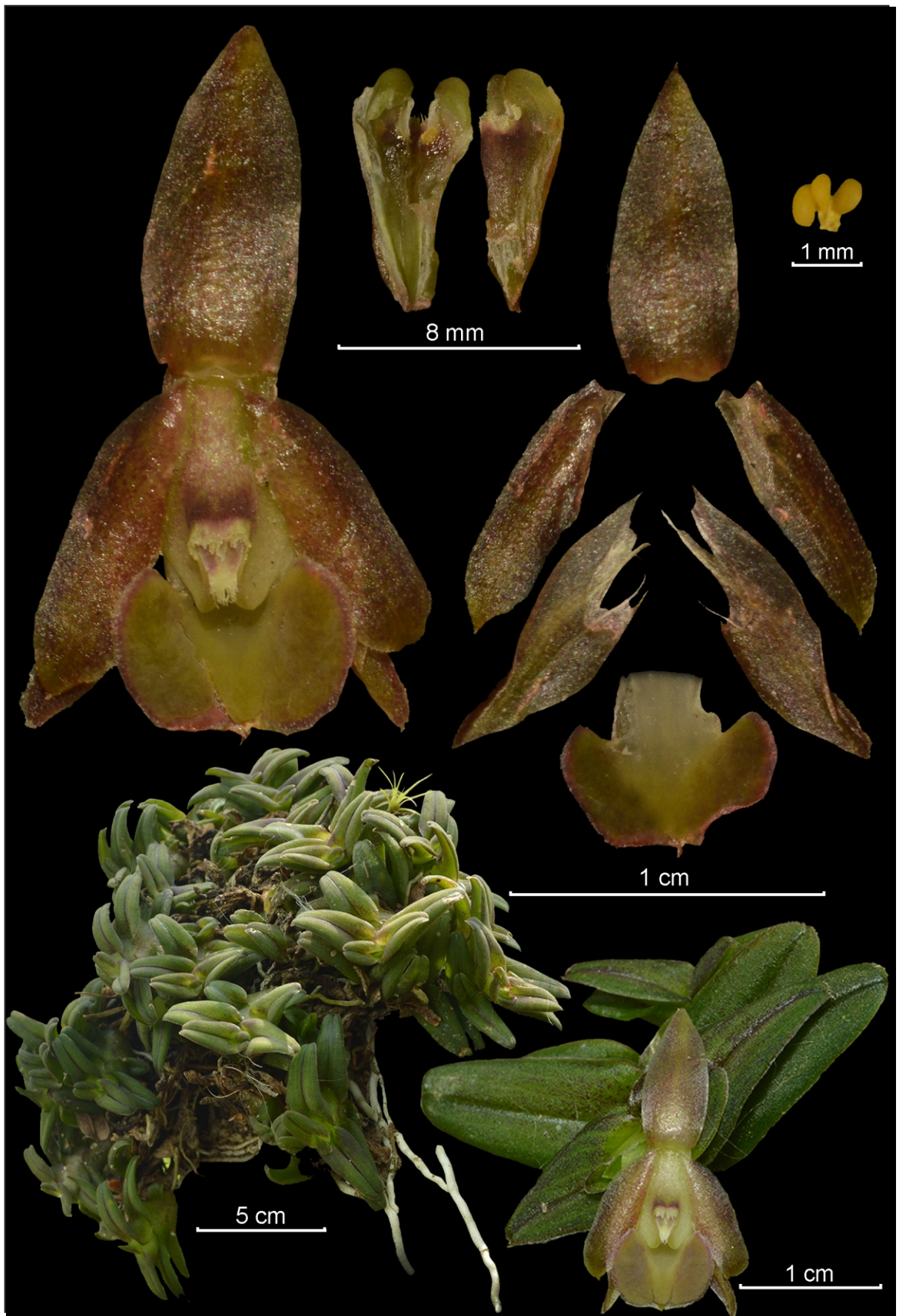
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019.

Plate 1750



EPIDENDRUM RIVERAE Hågsäter

Plate 1751

EPIDENDRUM RIVERAE Hágsater, sp. nov.

Type: COLOMBIA: Antioquia: Chigorodó, Vereda Santillana, predio Bodegas, área de conservación de Banacol, 20 m, 10 abril 2019, **Cristian Camilo Rivera Jiménez CCR-1345**. Holotype: TOLI! (LCDP and photo voucher).

Similar to *Epidendrum longirepens* (C.Schweinf.) C.Schweinf. but the petals descendent, covering $\frac{3}{4}$ of the lateral sepals, (vs. spreading, somewhat descendent without covering the lateral sepals), lip widely cordiform, much wider than long, apex truncate, abruptly apiculate (vs. cordiform-sub-orbicular, about as wide as it is long, apex abruptly apiculate), clinandrium-hood tridentate, margin densely fimbriate (vs. sub-rectangular to triangular erose-denticulate process), anther long ovoid, ending in a long, fimbriate appendage (vs. ovoid-circular, short, apical margin entire).

Epiphytic, creeping, sympodial, caespitose **herb**, to 2.5 cm tall, forming large mats. **Roots** ca. 1 mm in diameter, thin, simple, distributed along the rhizome. **Stems** ca. 2.5 cm tall, the rhizome creeping along the substrate, stem, totally covered by foliar sheaths, new stem produced near the middle of the previous stem, below the leaves. **Leaves** 6-8, distributed throughout the stem, the middle leaves larger, progressively smaller towards the apex, fleshy succulent, dark green, non-articulate with the sheath; blade 8-17 x 6-8 mm, conduplicate at the base so that the stem appears laterally compressed, ovate-elliptic, apex unequally bilobed, apical margin minutely erose-crenate. **Spathes** lacking. **Inflorescence** apical, single flowered, sessile, flowering only once. **Floral bract** up to 8 mm long, similar to the leaves but smaller, translucent, conduplicate, with a prominent dorsal keel, margin minutely erose, sometimes accompanied by a very small bracts to 3 x 2 mm, conduplicate, sub-orbicular. **Flower** single, sessile, copper green due to small purple dots, base of clinandrium-hood and anther pale purple; apparently without fragrance. **Ovary** ca. 5 mm long, short, thick, terete, with 3 low keels. **Sepals** ovate, dorsally carinate, aristate, fleshy, 3-veined, margin minutely erose; dorsal sepal 10 x 4.0 mm, reflexed; lateral sepals 10 x 3.3 mm, partly spreading, somewhat falcate, with a prominent dorsal keel, obliquely united to the base of the column. **Petals** 9.0 x 2.5 mm, spreading-descendent, covering $\frac{3}{4}$ of the lateral sepals, oblong, apex widely rounded, acute, 3-veined, margin entire. **Lip** 4.0-5.0 x 6.8 mm, much wider than long, united to the column, widely cordiform, apex truncate, abruptly apiculate, margin minutely denticulate, ecallose. **Column** 6 mm long, short, thick, apex with a long, widely rounded lobe on each side. **Clinandrium-hood** ca. 1 mm long, very short, tridentate (with two wide sinuses), margin densely fimbriate. **Anther** 4-celled, long ovoid with the front sulcate and a low, rounded ridge down the middle, ending in a long, fimbriate appendage. **Pollinia** 4, obovoid, laterally compressed, the outer pair slightly larger, caudicles soft and granulose, somewhat longer than the pollinia; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent about half as long as the stigmatic cavity. **Nectary** deep, penetrating half of the pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the lowlands of the Atlantic basin south of the Golfo de Urabá; epiphytic on *Machaerium* aff. *capote* Triana ex Dugand, at 20 m altitude. Flowering in April.

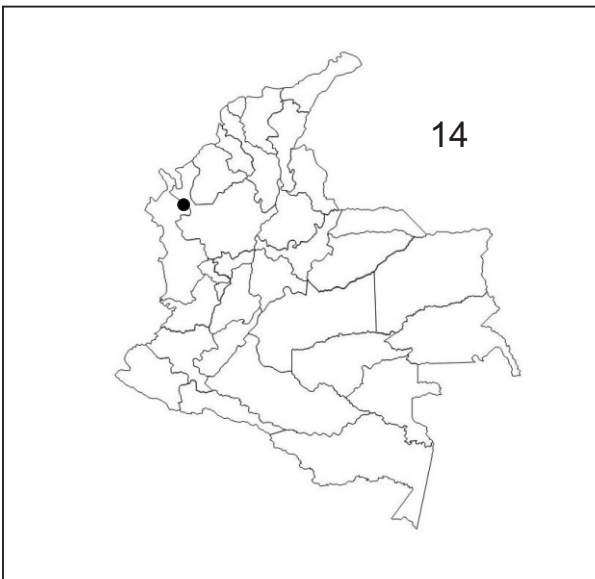
RECOGNITION: *Epidendrum riverae* belongs to the Nanodes Group, characterized by the caespitose to creeping, sympodial plants, the short stems completely covered by the base of the non-articulate, fleshy, imbricating leaves; and having sessile, few-flowered inflorescences. The new species is recognized by the low, creeping habit, no more than 2 cm tall, single flowered, sepals 10 mm long, column 6 mm long, sepals oblong, apex somewhat rounded, acute, clinandrium-hood, bifid, margin fimbriate, anther long ovoid ending in a long, fimbriate appendage. *Epidendrum longirepens* from the Amazon basin along the Colombian-Peruvian-Brazilian border, also has low, creeping habit which forms large mats, no more than 2 cm tall, single flowered inflorescence, small flowers, sepals 8.7-12.0 mm long, column 3.9-5.0 mm long, lip cordiform-sub-orbicular, clinandrium-hood entire, anther ovoid-circular, short, apical margin entire. *Epidendrum schlechterianum* Ames from Panama and the northwestern slope of the Chocó has a two-flowered inflorescence with relatively long, greenish purple to olive green flowers tinged with red, sepals oblong-lanceolate, 17-20 mm long, lip cordate-reniform, minutely apiculate, and the column 10-14 mm long with the anther elongate, sub-acute and apically fimbriate. *Epidendrum congestum* Rolfe has 2-3, much smaller flowers (sepals 7-10 mm long) and the lip cordiform with the apex acute, and the anther widely ovoid and apically truncate, the margin something dentate. *Epidendrum congestoides* Ames & C.Schweinf. also has a two-flowered inflorescence, but the flowers are smaller, green to reddish green, sepals ovate to ovate-lanceolate, 8-10[13] mm long, the lip reniform-semi-orbicular, somewhat embracing the short column (4.5-5.8 [6.6] mm long) in natural position, and the anther is short, the margin fimbriate.

ETYMOLOGY: In honor of Cristian Camilo Rivera Jiménez, (1990-) of Tolima, Colombia, a Forestry Engineer, who specializes in trees and works on conservation projects in Colombia, and who collected and photographed the type specimen in its habitat.

CONSERVATION STATUS: DD. Data deficient.

ACKNOWLEDGMENT: The field work and photography were done in the context of a Neutral Carbon project developed by Banacol and ConTREEbute S.A.S. Cristian Rivera wishes to thank professors Boris Villanueva and Fernando Fernández for their support and his field companion Oscar Gómez.

REFERENCES: Santiago, E., & E. Hágsater, 2007, *Epidendrum congestum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, Icon. Orchid. 9: pl. 920. Santiago, E., & E. Hágsater, 2007, *Epidendrum congestoides*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, Icon. Orchid. 9: pl. 921. Santiago, E., & E. Hágsater, 2007, *Epidendrum schlechterianum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, Icon. Orchid. 9: pl. 982.



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LCDP: C. C. Rivera & A. Cisneros

Photo: C. C. Rivera

Editors: E. Hágsater & E. Santiago

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Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1751



EPIDENDRUM ROCIOAE Hágsater & Vásquez

Plate 1752

EPIDENDRUM ROCIOAE Hágsater et Vásquez, sp. nov.

Type: PERU: Oxapampa: Dist. Huancabamba: Carretera San Daniel-Tunqui, bosque secundario en borde de carretera, 1645 m, 25 mayo 2009, **Rodolfo Vásquez Martínez, Rocío Rojas Gonzáles and Rigoberto Rivera Camaña 35730**. Holotype: HOXA! Isotypes: MO, USM! Digital images of pretype: HOXA! AMO! (LCDP and photo voucher).

Similar to *Epidendrum avicula* Lindl. but the pseudobulbs cylindrical (vs. ovoid-fusiform pseudobulbs), 2 narrowly elliptic leaves of 3.5-5.0 cm long (vs. 1-2 ovate to elliptic leaves about 2.5 cm long), a long panicle about 23 cm long (vs. short panicle (ca. 10-18 cm long)), oblong-lanceolate sepals and linear-oblong petals (vs. lanceolate sepals and linear-lanceolate petals), lip hexagonal-rhombic about 3.2 mm long, sub-apiculate (vs. sub-rhombic lip about 4.5 mm long, acute).

Epiphytic, sympodial, caespitose **herb**, to 25 cm tall including the inflorescence. **Roots** 1 mm in diameter, basal, fleshy, glabrous, thin. **Stems** 2.1-2.5 x 0.9 mm, simple, thickened, cylindrical pseudobulbs, terete, erect; partly covered by tubular, non-foliaceous, somewhat inflated sheath. **Leaves** 2, 3.5-5.0 x 1.6 x 1.9 cm, apical, suberect; blade narrowly elliptic, coriaceous, apex obtuse, margin entire. **Inflorescence** 23 cm long, apical, paniculate, erect, provided with several short racemes, laxly few-flowered, each raceme subtended by a narrowly triangular, acute, conduplicate bract 5 mm long; peduncle 5 cm long, thin, terete, short pilose; rachis 18 cm long, terete, straight, short pilose. **Floral bracts** 1-4 mm long, much shorter than the ovary, triangular, acute. **Flowers** ca. 24-30, 2-6 per raceme, simultaneous, non-resupinate, distichous, pale brown, lip ochre; fragrance not registered. **Ovary** 10-17 x 0.5 mm, terete, thin, slightly thickened towards the apical 1/5th, short pilose. **Sepals** 5-veined, margin entire, dorsal surface short pilose; dorsal sepal free, 5.0 x 2.0 mm, somewhat reflexed, narrowly oblong-elliptic, apex obtuse-rounded, minutely apiculate; lateral sepals connate along the basal-inner 1/3 margin, 5.0-6.0 x 2.0-2.5 mm, partly spreading, oblong-lanceolate, slightly oblique, obtuse, minutely apiculate, margins entire. **Petals** 5.0 x 0.7-0.9 mm, free, spreading, linear-oblong, obtuse, 1-veined, slightly falcate, margin entire. **Lip** 3.2 x 2.6 mm, obliquely united to the basal half of the column, entire, base widely cuneate, hexagonal-rhombic, widest near the base, apex short apiculate, margin entire; bicallose, the calli small, thin, laminar, nearly totally hidden beneath the apex of the column; disk somewhat pilose at the base between the calli. **Column** 3.0 mm long, forming a 110° angle with the ovary, slightly sigmoid when seen from the side, ending with a long rounded, narrow wing on each side. **Clinandrium** short, margin entire. **Anther** obreniform. **Pollinia** 4, obovoid, similar in size and shape. **Rostellum** apical, slit. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

RECOGNITION: *Epidendrum rocioae* belongs to the Lanium Group which is characterized by rhizomatous plants, the stems cane-like to pseudobulbous, leaves generally aggregate towards the apex, flowers non-resupinate, more or less pubescent, pollinia 2 or 4. The new species is recognized by the cylindrical pseudobulbs, 2 apical, sub-erect, elliptic leaves, inflorescence erect, paniculate; peduncle, rachis and ovaries short, densely pilose, rachis straight, sepals dorsally short pilose, petals narrowly oblong, margin entire, lip entire, base widely cuneate, hexagonal-rhombic, widest near the base, apex short apiculate, margin entire. *Epidendrum avicula* Lindl. has fusiform-ovoid stems, ovate leaves 2.5 cm long, the panicle about 7-10 cm long, lanceolate sepals, linear petals, a sub-rhombic lip of 4.5 mm long, with 2 keels in the disk. *Epidendrum berkeleyi* (Rolfe) Baptista has linear-oblong stems, 2-3 leaves, oblong, sub-acute, apiculate, an inflorescence about 5-10 cm long, lanceolate sepals, petals linear-filiform, and a lip for 4.8 mm long, ovate, concave, with the base of the disk bidentate. *Epidendrum ecuadorensis* (Schltr.) Hágsater & Zambrano has 10 cm tall plants including the inflorescence with a fusiform-cylindrical pseudobulb, leaves narrowly oblong to oblong-ligulate, about 2.5 cm long, sepals ovate-lanceolate, lateral sepals oblique, petals oblique-linear, sub-acute, an ovate lip, concave, 4 mm long with 3 prominent keels in the disk, column about 2 mm long. *Epidendrum flexuocallosum* Hágsater & E.Santiago has up to 6.5 cm long stems with 3-6 elliptic-lanceolate leaves distributed throughout, spreading, linear petals with margins densely ciliate, and an ecallose, 3-lobed lip with two short cunicula at the base.

CONSERVATION STATUS: DD. Data deficient. Known presently only from the type collection.

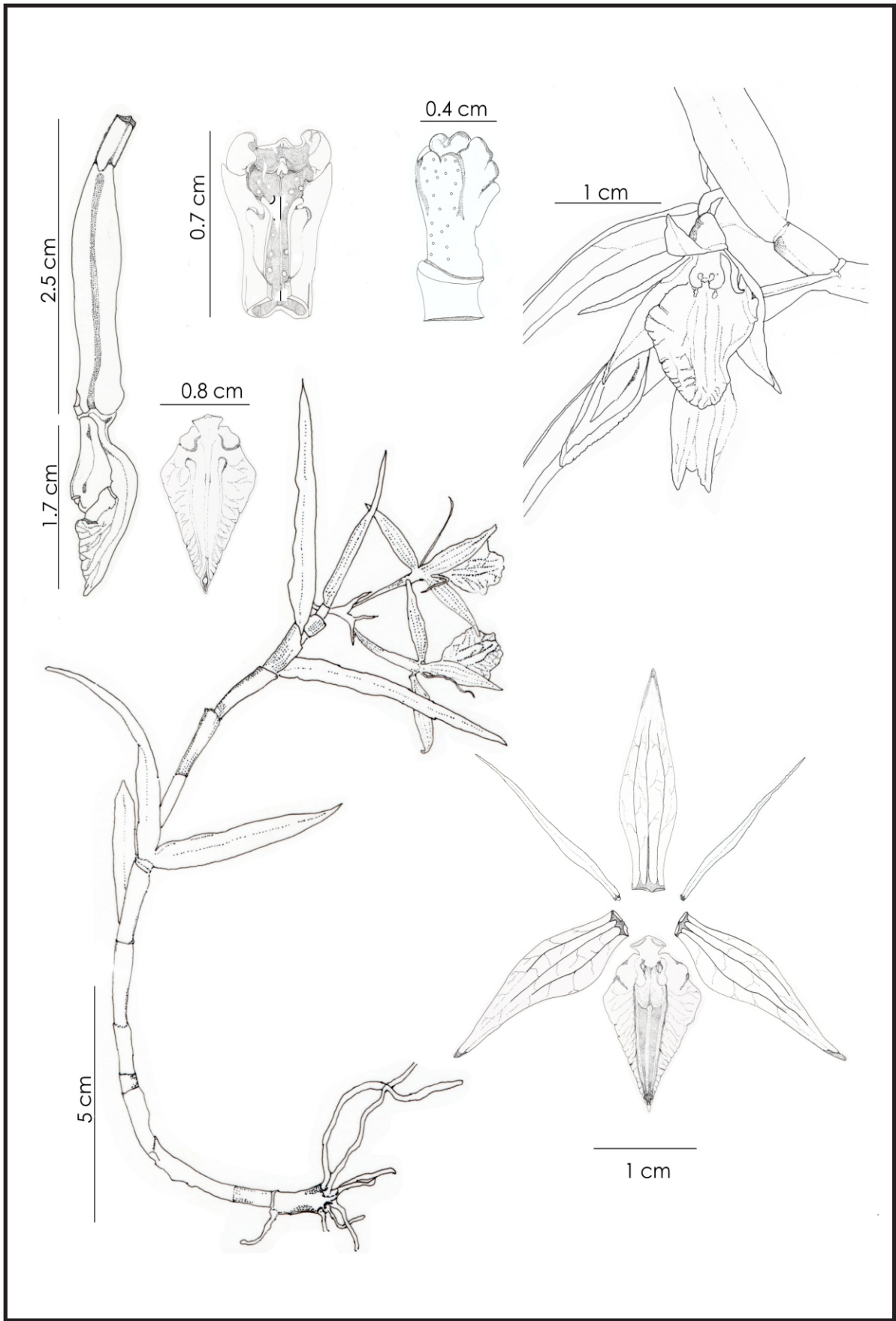
ETYMOLOGY: In honor of Rocío del Pilar Rojas Gonzáles (1968-) born in Iquitos, Loreto, currently living in Oxapampa, a Botanist, specialized in Gesneriaceae, curator at HOXA, who participated in the collection of the type.

REFERENCES: Baptista, D.H., 2005, *Epidendrum berkeleyi*, in *Novas combinações de Nomenclatura*, Bol. CAOB 58: 49-51. Lindley, J., 1841, *Epidendrum avicula*, in *J. Bot. (Hooker)* 3: 85. Schlechter, F.R.F., 1921, *Lanium ecuadorensis* in *Repert. Spec. Nov. Regni Veg.* 8: 89. Rolfe, R. A., 1894, *Lanium berkeleyi*, in *Bull. Misc. Inform. Kew.* 392. Hágsater, E., & E. Santiago, 2007, *Epidendrum flexuocallosum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: t. 938.



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Herbario AMO Ciudad de México, MÉXICO

Photo: R. Vásquez Editors: E. Hágsater & E. Santiago
ICONES ORCHIDACEARUM 17(1). 2019. Plate 1752



EPIDENDRUM TRULLATUM Hágsater, L.Valenz. & E.Santiago

Plate 1753

***EPIDENDRUM TRULLATUM* Hágsater, L.Valenz. et E.Santiago, sp. nov.**

Type: PERU: Junín: Prov. Satipo, Dist. Pampa Hermosa, Pui Pui Protection Forest, 3309 m, 13 X 2014, **Luis Valenzuela 28543**,
Holotype: HOXA! (illustration and photo voucher.) Isotypes: MO! USM!

Similar to *Epidendrum cardenasii* Hágsater, vegetatively very similar, flowers somewhat larger, sepals 17-18 x 3.5-4.0 mm (vs. 12-13 x 5-6 mm), and lip trullate, apex acute to rounded, 11-15 x 10.0-11.5 mm, (vs. reniform, bilobed, apically emarginate with a thick mucro in the sinus, 9-10 x 11.3-12.5 mm, lobes semi-ovate).

Epiphytic, sympodial, erect **herb**, 15-21 cm tall. **Roots** 1.0-1.5 mm in diameter, thin, simple, white. **Stems** 15.5 x 0.3-0.5 cm, simple, cane-like, slightly sinuous, produced from near the apex of the previous stem, terete at base, laterally compressed towards the apex; base covered with sheaths 1.0-1.8 cm long, non-foliar, becoming scarious and fibrous. **Leaves** 9-11, distributed throughout the upper half of the stem, articulate, distichous, sub-spreading in respect to the stem, sub-coriaceous; sheaths 8-17 x 0.4-0.5 mm, tubular, laterally compressed, somewhat infundibuliform in dry specimen, minutely striated, rugose; blade 3.5-5.5 x 0.4-0.7 cm; lanceolate-oblong, acuminate, margin entire, slightly revolute. **Spathes** lacking. **Inflorescence** 1.5 cm long (4 cm long including the flowers), apical, 1-3-flowered, arcuate-nodding, flowering only once; peduncle 10 mm long, laterally compressed, erect, arcuate, without bracts; rachis 5 mm long. **Floral bracts** 4-6 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 1-3, opening in succession, eventually all open at once, resupinate, membranaceous, color pale green; fragrance none. **Ovary** 17-19 mm long, terete, thin at the base, gradually dilated at the apex. **Sepals** 17-18 x 3.5-4.0 mm, spreading, free, lanceolate, acuminate, 3-veined, lateral veins sometimes branching then appearing 4-veined, margin entire, spreading; lateral sepals slightly oblique. **Petals** 16 x 0.3 mm, free, spreading, lanceolate-linear, acuminate, 1-veined, margin entire, spreading. **Lip** 11-15 x 10.0-11.5 mm, trullate to angular-ovate, apex acuminate, base cuneate, margin entire, spreading, calli 2, divergent, sub-globose; disc with 3 parallel narrow ridges forming a pair of adaxial grooves. **Column** 7 mm long, thin, straight. **Anther** not seen. **Pollinia** not seen. **Rostellum** not seen. **Lateral lobes of the stigma** not seen. **Nectary** penetrating half the pedicellate ovary. **Capsule** not seen.

OTHER SPECIMENS: PERU: Huancavelica: Prov. Tayacaja; Dist. Tintay Puncu; Anexo Llihuapampa; bosque Usnopata, 6 km al suroeste del anexo, 2800-3300 m, 16 X 2010, *Luis Enrique Egoavil Arroyo* 7, HOXA!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from two collections from central Peru, in the Departments of Huancavelica and Junín, epiphytic in spiny steppe forest of Puna at 2800-3300 m altitude. Flowering in October.

RECOGNITION: *Epidendrum trullatum* belongs to the Soratae Group, characterized by the branching habit, superposed stems, infundibuliform, rugose leaf-sheaths, lanceolate-oblong, aristate leaves, no spathe, and a compact, racemose, nutant inflorescence on a short peduncle. The new species can be recognized by the 17-18 x 3.5-4.0 mm long sepals, lanceolate-linear petals, trullate to angular-ovate lip 11-15 x 10.0-11.5 mm, acuminate to rounded at the apex. *Epidendrum cardenasii* from Bolivia has smaller flowers, sepals 12-13 x 5-6 mm, and the lip 9-10 x 11.3-12.5 mm, reniform, bilobed, apically emarginate with a thick mucro in the sinus, lobes semi-ovate.

CONSERVATION STATUS: DD. Data deficient. Known presently from a pair of collections within protected natural areas.

ETYMOLOGY: From the Latin *trullatus*, in unequally rhomboid, like a bricklayer's trowel, wider below the middle, in reference to the shape of the lip.

REFERENCE: Hágsater, E., 1999, *Epidendrum cardenasii*, in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), *The Genus Epidendrum*, Part 2, **Icon. Orchid.** 3: t. 320.





EPIDENDRUM TUNDAYCIRRHATUM Hágsater & Tobar

Plate 1754

EPIDENDRUM TUNDAYCIRRHATUM Hágsater et Tobar, sp. nov.

Type: ECUADOR: Zamora-Chinchipec: El Pangui: Tundayme, Cordillera del Cóndor, laderas del tepui andino vía Canales, 1561-1600 m, 10 abril 2017. **Francisco Tobar, Gerardo A. Salazar, Itzi Fragosó, Adriana Benítez & Juan Carlos Monge sub Eric Hágsater 15216.**
Holotype: QCNE!* (LCDP voucher)

Similar to *Epidendrum xelidonourum* Hágsater & H. Medina, the flowers green turning olive-green to brown, column and lip white turning yellow (vs. flowers pale green, column and lip white), sepals 9 mm long (vs. sepals 6.4-7.0 mm long), apical lobes of lip uncinata, cirrose lobes, involute in natural position (vs. apical lobes of lip linear triangular, acuminate, arching-divaricate).

Epiphytic, sympodial, caespitose, erect **herb**, 20-30 cm tall including the inflorescence. **Roots** 2 mm in diameter, fleshy, slightly thick, white. **Stems** 9.5-12.5 x 0.3 cm, terete, cane-like, thin, erect, simple; entirely covered by non-foliar sheaths 10-13 x 3 mm, tubular, acute, scarious when dry, very thin. **Leaves** 4-5, distributed in the apical half of the stem, erect, sub-coriaceous; blade 3.8-5.9 x 0.9-1.4 cm, lanceolate, acute, margin entire, extended, concolor, green. **Spathe** lacking. **Inflorescence** 6.4-6.9 cm long, racemose, few-flowered, apical, erect, green; peduncle 2.1 cm long, short, terete, slightly thick covered by 2-3 unequal, imbricated, lanceolate, acute, conduplicate bracts, the longer one 2.7-3.0 x 0.6 cm long, green tinged with purple; rachis 3.3 cm, terete, short, green. **Floral bracts** 6-11 x 2 mm, covering the entire ovary, progressively shorter towards the apex of the inflorescence, lanceolate to triangular, acute, embracing. **Ovary** 9 mm long, thick, arcuate, not inflated, smooth, green. **Flowers** 8 per raceme, successive, non-resupinate, sepals and petals green turning to olive-green to brown, the lip and column white turning yellow; no fragrance registered. **Sepals** 9 x 3 mm, spreading, free, acute, concave, margin entire; dorsal sepal, 5-veined, widely lanceolate; lateral sepals 3-veined, elliptic-lanceolate, dorsally carinate. **Petals** 8 x 4 mm, spreading, free, fleshy, broadly oblanceolate to sub-spatulate, apex acute, 1-veined, margin entire. **Lip** 10 x 7 mm, united to the column, 3-lobed, somewhat concave in natural position, base deeply cordate; lateral lobes 4 x 2 mm, dolabriform, margin undulate to erose; mid-lobe 6.0 x 4.8 mm, basal half cuneate, elongate, then bilobed, forming 2 prominent uncinata, cirrose lobes, involute in natural position; disk 3-ribbed elongated to the apical sinus, the mid-rib prominent especially at the base; bicallose, calli sub-redounded, prominent, elongate, parallel. **Column** 6 mm long, slightly arcuate, margin undulate at the apex. **Clinandrium-hood** short, margin entire. **Anther** ovoid, apex acute. **Pollinia** not seen. **Rostrum** not seen. **Lateral lobes stigmatic cavity** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: ECUADOR: Zamora-Chinchipec: El Pangui: Tundayme, Cordillera del Cóndor, laderas del tepui andino vía Canales, 1647 m, 10 VII 2017, *Donoso s.n.*, digital images, AMO! (photo voucher). Ecuagenera, vivos en Gualaceo, from Tundayme, Cordillera de Condor, flowered 23 X 2016, *Hágsater 14808*, digital images, AMO! [previously cited under *Epidendrum xelidonourum* (Hágsater & Medina, 2018)].

DISTRIBUTION AND ECOLOGY: Known presently only from the type locality in Tundayme. Epiphytic in wet tropical forest, at 1561-1600 m altitude, on the western slopes of the Cordillera del Cóndor, an Andean Tepui. Flowering in April.

RECOGNITION: *Epidendrum tundaycirrhatum* belongs to the Biccirrhatum Group, a small group of species which has appeared recently and is characterized by the caespitose habit, simple, leafy, short stems, a compact, nodding inflorescence, conspicuous bracts about as long as the ovary, numerous fleshy, green and/or white flowers with the mid-lobe deeply bilobate, the lobules sometimes cirrose, the thin pollinia, and unequal, the inner pair smaller, without being of the bird-wing-type. The new species is recognized by the green turning olive-green tepals and lip white turning yellow, sepals 9 mm long, mid-lobe of the lip cuneate at the base, and bilobed forming two uncinata, cirrose lobes which are involute in natural position. *Epidendrum enantilobum* Hágsater has green to cream-colored flowers; lip and column white, sepals 4-5 mm long, lateral lobes falcate-oblong, mid-lobe forming two opposite narrow ciliate lobes. *Epidendrum xelidonourum* has very pale greenish white to ochre flowers; base of the sepals, petals and column green, column and lip white, lateral lobes of the lip 1/4 circle, mid-lobe basal half sub-rectangular, slightly slimmer at the middle, apical half bilobed, lobes linear triangular, acuminate, arching-divaricate, reminiscent of the tail of barn swallows. *Epidendrum brachyblastum* has sepals, 6.0-6.8 mm long, narrow hemi-ovate lateral lobes of the lip, and deep green flowers with lip and apical half of the column snow white. *Epidendrum hugomedinae* Hágsater has snow-white flowers with keels of the lip tinged violet and the obtusate mid-lobe formed by two, rounded, somewhat divergent, lobes. *Epidendrum bicirrhatum* D.E. Benn. & Christenson, from northern Peru, has pale cream-orange flowers with the base of the sepals and petals green, tips of the keels of the lip lavender; flowers are similarly sized, sepals being 4.6-5.2 mm long, lip has denticulate margins on sub-orbicular lateral lobes and cirrose lobules on mid-lobe. The Bolivian *E. ophidion* Dodson & Vásquez is quite similar to the latter, but has successive, yellow flowers with three purple lines on disc, pustulate sepals 6-8 mm long, and dolabriform lateral lobes with a crenulate margin. *Epidendrum tiwinzaense* Hágsater & Dodson species has green flowers with a white lip and apical half of column, sepals some 7 mm long, and a lip terminating in a pair of cirrose lobes.

CONSERVATION STATUS: EN. Endangered. The sole locality where it was collected in April 2017, has been totally razed in the preparation of land for extensive mining.

ETYMOLOGY: In reference to the locality of Tundayme, where the type was collected, and the Latin *cirrhatum*, which refers to the two apical lobes of the mid-lobe of the lip, characteristic of this group of species.

***ACKNOWLEDGMENT:** Collections made under framework contract "Diversidad Genética del Ecuador" MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. "Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales".

REFERENCES: Bennet, Jr., D. E., & E. A. Christenson, 1998, *Epidendrum bicirrhatum* D.E. Benn. & Christenson, in *Orchids of Peru*, **Icon. Orchid. Peruv.** pl. 453. Dodson, C. H., & R. Vásquez, 1989, *Epidendrum ophidion* in *Orchids of Bolivia*, **Icon. Pl. Trop.** ser. 2, 4: pl. 331. Hágsater, E., & C. H. Dodson, 2004, *Epidendrum brachyblastum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 4, **Icon. Orchid.** 7: t. 713. Hágsater, E., & C. H. Dodson, 2004, *Epidendrum tiwinzaense*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 4, **Icon. Orchid.** 7: t. 795. Hágsater, E., & H. Medina, 2018, *Epidendrum xelidonourum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16: t. 1666.



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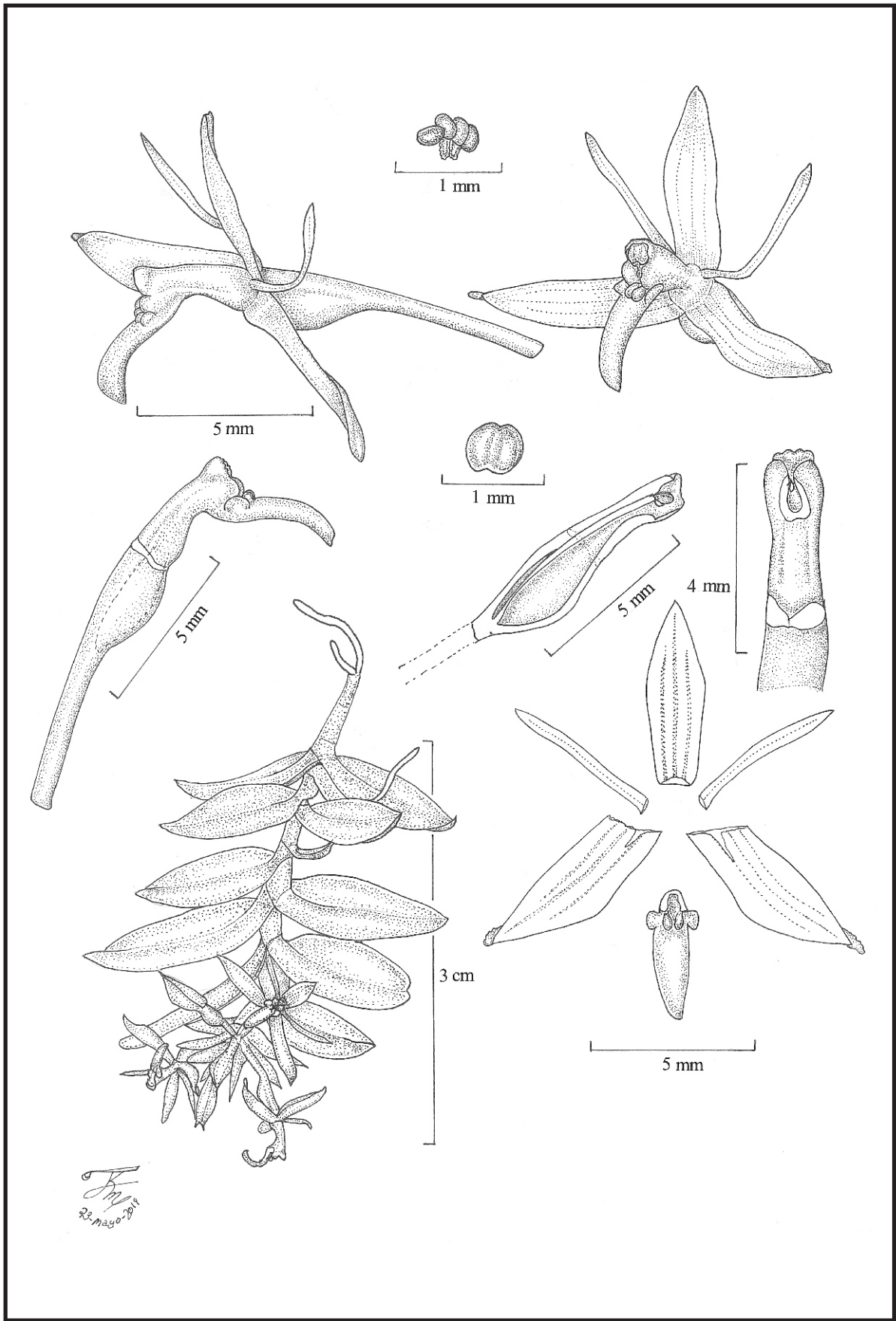
Photo: J. J. Donoso

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(1). 2019. Plate 1754



EPIDENDRUM VESICINANUM Hágsater & L.Valenz.

Plate 1755

EPIDENDRUM VESICINANUM Hágsater et L.Valenz., sp. nov.

Type: PERU: Pasco: Prov. Oxapampa: Dist. Villa Rica: Sector Alto Ubiriki, Bosque de Protección San Matías San Carlos, 1800 m, 15 II 2017, **Luis Valenzuela & Jaime Flores 31368**. Holotype: HOXA! Isotypes: MO x 2! USM! flowering stem in spirit, AMO! (illustration & photo voucher).

Similar to *Epidendrum tingo-mariae* Hágsater, but ovary inflated ventrally near the apex due to long nectary (vs. ovary thin throughout, nectary short without penetrating the ovary), flowers larger, sepals 5.6-6.0 mm long (vs. sepals 4.5 x 2.0 mm), mid-lobe of lip 2.2 x 0.9 mm, lanceolate (vs. triangular, 1.7 mm long) and lateral lobes of lip small, about 1/3 the length of the mid-lobe, transversely elliptic (vs. lateral lobes suborbicular about 1/2 the length of the mid-lobe).

Epiphytic, sympodial, pendulous, **herb**, 4.4-6.7 cm long, including the inflorescence. **Roots** 1.0 mm in diameter, basal from the initial stem, filiform. **Stems** 3.6-5.9 x 0.1-0.2 cm, simple, cane-like, laterally compressed, straight, gradually becoming slightly thinner and shorter, new stems produced from near the base of the previous one. **Leaves** 6-12, aggregate along the stem, light green concolor, alternate, articulate, spreading, unequal in size, the lower ones generally larger, sub-coriaceous, twisted at the base so as to be in the same plane as the stem; sheaths 3.8-4.5 mm long, tubular, laterally compressed, light green; blade 0.9-1.8 x 0.4-0.6 cm, ovate-lanceolate, acute, margin entire, spreading. **Spathes** lacking. **Inflorescence** 1.5 cm long, apical, racemose, sub-umbellate, straight; peduncle reduced, laterally compressed, straight, light green; rachis 5.6 mm long, short, laterally compressed to terete, thick, straight. **Floral bracts** ca. 3.0-6.4 mm long, prominent, almost the same length as the ovary, decreasing towards the apex, ovate-triangular, acute, margin slightly dentate, light green. **Flowers** 4-7, simultaneous, resupinate, light green, lip with light green overtone, column white, turning green towards the apex; fragrance not registered. **Ovary** ca. 8 mm long, terete, thin, inflated ventrally, forming a vesicle along the apical half of the pedicel, striated, pale green. **Sepals** 5.6-6.0 x 1.8-2.0 mm, spreading, free, acute, glabrous, 3-veined, margin entire, revolute; dorsal sepal lanceolate; lateral sepals oblanceolate, with a low dorsal keel at the apex, laterally compress, margin erose. **Petals** 5.0 x 0.5 mm, partly spreading, free, linear, acute, 1-veined, margin entire. **Lip** 3.1 x 2.5 mm, united to the column, trilobate, lanceolate in general form, base truncate, fleshy, margin entire; lateral lobes 0.5-1.0 x 0.4-0.5 mm, reduced, transversely elliptic, somewhat divergent; mid-lobe 2.2 x 0.9 mm, lanceolate, longer than wide, reflexed, apex obtuse; bicallose, the calli basal, small, semi-globose, rounded, parallel; disc glabrous. **Column** 3.5 mm long, slightly thicker at the apex, curved towards the apex. **Clinandrium-hood** short, margin undulate. **Anther** sub-redounded, 4-celled. **Pollinia** 4, obovoid, slightly laterally compressed. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** small, almost the length of the stigmatic cavity. **Nectary** deep, penetrating 1/3 of the pedicellate ovary, inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Pasco: Prov. Oxapampa, Dist. Huancabamba, Parque Nacional Yanachaga-Chemillén, Sector San Daniel, 2362 m, 20 II 2011, *Briceno 816*, HOXA! Ibid. 2200-2500 m, 6 III 2006, *Vásquez 30964*, MO. Ibid. 2200-2500 m, 13 III 2006, *Vásquez 31142*, MO! Ibid. 2200-2500 m, 14 III 2006, *Vásquez 31174*, HOXA! HUT, MO, USM. Parque Nacional Yanachaga-Chemillén, Sector San Daniel, borde de la laguna San Daniel, 2363 m, 23 II 2008, *Vásquez 33631*, HOXA! MO, USM! MO, USM! Dist. Chontabamba; Alto Gramazú al borde del Río Machis, 2087 m, 20 XII 2007, *Rojas 4991*. HOXA! USM! MO, HUT.

OTHER RECORDS: PERU: Pasco: Prov. Oxapampa: Dist. Huancabamba: Parque Nacional de Yanachaga-Chemillén, Sector Tunki, Bosque primario montano, 1800-1876 m, 8-17 II 2008, *Acuña & Flores 4*. Digital images, AMO! Illustration, AMO!

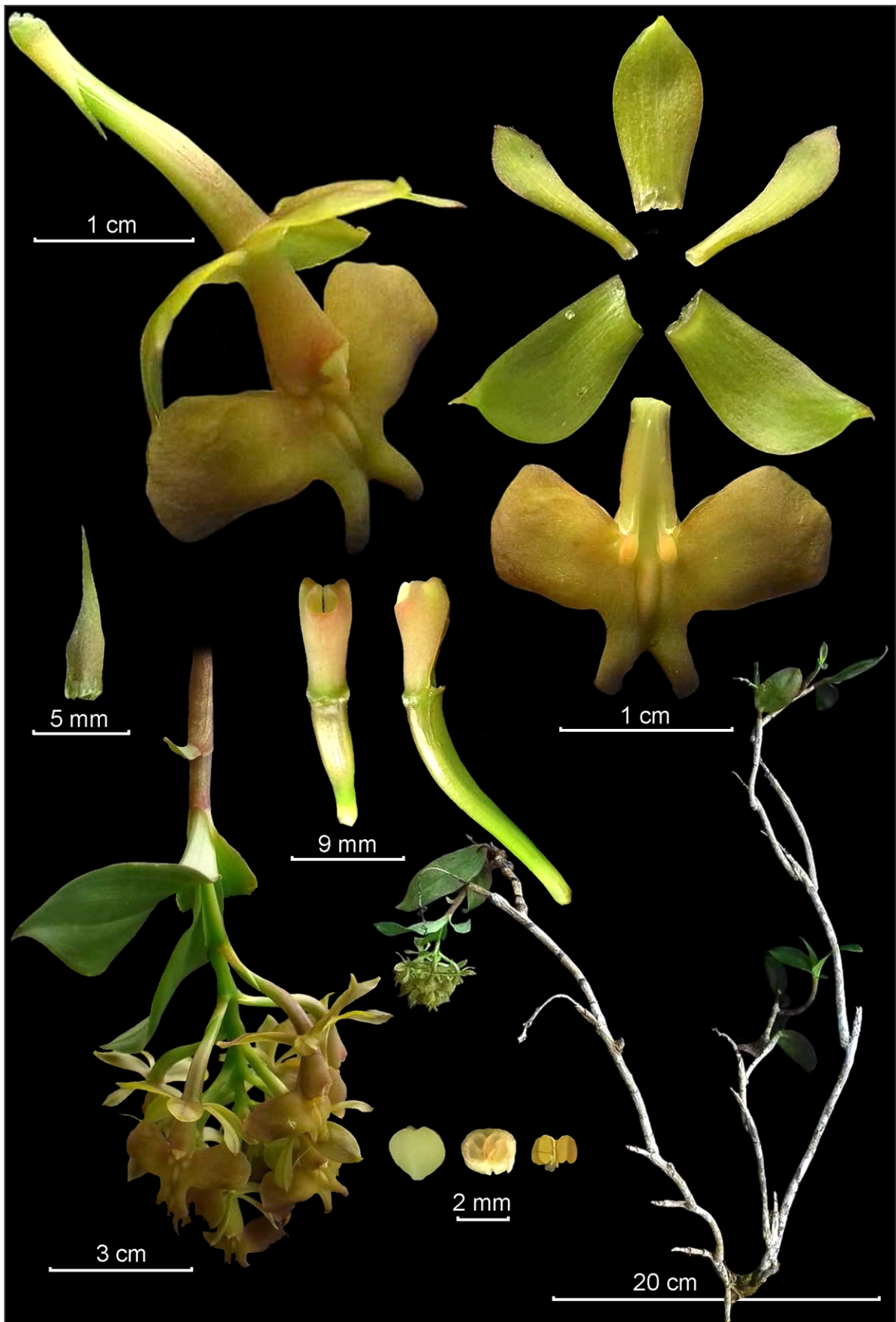
DISTRIBUTION AND ECOLOGY: Known presently only from the Parque Nacional Yanachaga-Chemillén in the general area of Oxapampa, Pasco, at 1800-2400 m altitude, epiphytic in primary montane forest. Flowering in February-March.

RECOGNITION: *Epidendrum vesicinatum* belongs to the Nanum Group, which is characterized by the *Dichaea* like pendulous stems, the inflorescence produced by pairs of opposite flowers, without spathaceous bracts, but with prominent floral bracts. The new species is recognized by the green flowers, inflated nectary at the apical half of the pedicellate ovary, and the small column. *Epidendrum integrinum* Hágsater has large, caespitose plants (about ca. 6-30 cm long), widely lanceolate leaves, with cream-greenish tone flowers, resupinate, with dorsal sepal oblanceolate, and lateral sepals oblanceolate-elliptic (9.3-9.6 x 2.5-2.6 mm) and by the small sub-entire lip, 4.0 x 2.5 mm, the mid-lobe triangular (longer than wide) and the lateral lobes very reduced, hemi-orbicular and rounded. *Epidendrum bonitense* Hágsater & Dodson has long plants (10-30 cm), stems horizontal to hanging, all covered with ancipitose sheaths, flowers glaucous green with a faint purple tinge, a long ovary (12 mm), long sepals and petals (12 mm and 10 mm, respectively), a trilobate lip (5 mm long), with mid-lobe sub-rectangular. *Epidendrum leuconanum* Hágsater & L.Valenz., is found in the same general area of Oxapampa, but in low montane forest on white sand and has apical and axillary inflorescences, with pale greenish white flowers and the pedicellate ovary thin, not inflated, with a 3-lobed lip, lateral lobes 1.1 x 1.3 mm and the mid-lob 2.0 x 1.5 mm long. *Epidendrum tingo-mariae* Hágsater has an arched column with a prominent, erose clinandrium, green flowers, with the anther also green, and the short nectary that does not penetrate further than the perianth and thus ovary thin throughout.

ETYMOLOGY: From the Latin *vesicula*, an inflated bladder, and the Greek *nanum*, dwarf, in reference to the inflated nectary behind the perianth, which distinguishes this species, from the closely similar and sympatric *Epidendrum microlobanum* which has white flowers and a thin pedicel. Both belong to the Nanum Group.

REFERENCES: Hágsater, E., 1999, *Epidendrum tingo-mariae*, E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: t. 388. E. Hágsater, & C.H. Dodson, 1993, *Epidendrum bonitense* in E. Hágsater & G.A. Salazar (eds.) The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: t. 113. Hágsater, E., 2019, *Epidendrum integrinum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1), t. 1729. Hágsater, E., & L. Valenzuela, 2019, *Epidendrum leuconanum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1), t. 1732.





EPIDENDRUM XELIDORIMARACHINII Hágsater & E.Santiago

Plate 1756

EPIDENDRUM XELIDORIMARACHINII Hágsater et E. Santiago, sp. nov.

Type: PERÚ: Cajamarca: Provincia San Ignacio; Distrito San José de Lourdes; cerca del Crucero, caserío Villa Rica, 1650 m, 10 VI 2018, **Luis Ocuja Horna & Edwal Adelmo Rimarachin Mena 202**. Holotype: HUT! (LCDP and photo voucher)

Similar to *Epidendrum incomptum* Rchb.f. but the mid-lobe of the lip bifurcate, formed by a pair of triangular divergent lobes forming a nearly 90° angle (vs. mid-lobe entire, sub-quadrate, apex rounded and short apiculate).

Epiphytic, sympodial, erect **herb** 20-2 cm tall, where each new growth originates from a middle to sub-apical internode of the previous growth. **Stems** 8-12 x 0.4 cm, erect, simple, cane-like, thin, terete, stems straight, progressively shorter, covered by several non-foliar sheaths. **Leaves** 3-6, distributed along the apical half of the stems, alternate, somewhat conduplicate at the base; blade 1.4-6.6 x 1.1-2.2 cm, sub-equal, lanceolate, acute, green, concolor. **Spathes** lacking. **Inflorescence** 3.5-8.7 cm, apical, racemose, arching, nutant; peduncle 1.3-2.4 cm long, slightly laterally compressed, not aciculate; rachis 2.7-8.0 cm long. **Floral bracts** ca. 4 mm long, much shorter than the ovary, triangular, acute, embracing. **Flowers** 5-7, opening in succession, eventually all open at once, resupinate; sepals and petals green, lip brown, calli green to yellow; fragrance not registered. **Ovary** 11 mm long, not inflated, thin, terete at base, slightly thickened at the apex. **Sepals** 13-15 x 6-9 mm, spreading, free, fleshy, acute, slightly incurved, 6-veined, margins entire, spreading; dorsal sepals elliptic-lanceolate; lateral sepals elliptic. **Petals** 13-15 x 3-4 mm, spreading, oblanceolate, acute, fleshy, 3-veined, margin slightly erose, spreading. **Lip** 13-15 x 22-23 mm, united to the column, 3-lobed, slightly convex, margins entire, spreading; lateral lobes 9-10 x 8.5 mm, semi-obovate, base widely cordate, posterior margin semi-obovate, front margin straight; mid-lobe 4 x 8 mm, deeply bifurcate, formed by a pair of triangular divergent lobes forming a nearly 90° angle, each triangle 4.0 x 2.5 mm, apex narrowly rounded; calli two, separate, nearly parallel, long, dorsally rounded, lip with a prominent, low, wide mid-rib nearly reaching the apical sinus. **Column** 11 mm long, thickened towards the apex, green. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, slightly laterally compressed. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the type in northern Peru, just south of the border with Ecuador, at about 1670 m altitude.

RECOGNITION: *Epidendrum xelidorimarachinii* belongs to the *Incomptum* Group, which is characterized by the erect habit with successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, roots produced generally only from the base of the primordial stem, inflorescences are short with fleshy yellowish to green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the acute sepals, lateral sepals elliptic, dorsal elliptic-lanceolate, petals oblanceolate, 3-veined, lip 3-lobed, slightly convex, margins entire, spreading; lateral lobes 9-10 x 8.5 mm, semi-obovate, base widely cordate, posterior side semi-obovate, front margin straight; mid-lobe 4 x 8 mm, deeply bifurcate, formed by a pair of triangular divergent lobes forming a nearly 90° angle, each triangle 4.0 x 2.5 mm, apex narrowly rounded. *Epidendrum incomptum* has a dense inflorescence with up to 20 flowers; lip 3-lobed, ecallose, divaricate lateral lobes with the forward edge usually straight and a sub-quadrate, minutely apiculate mid-lobe. *Epidendrum rimarachinii* Hágsater has a similar appearance but has a completely different lip, 13-15 x 22-23 mm, 3-lobed, obreniform in general outline, lateral margins strongly revolute in natural position, base cordate, apex strongly emarginate, bicallose; lateral lobes 9 x 16.5 mm, transversely obovate, wider towards the apex; mid-lobe 2.5 x 6.5 mm, formed by two small, semi-orbicular lobes with a deep sinus in the middle.

CONSERVATION STATUS: DD. Data deficient. Known presently only from the type.

ETYMOLOGY: From the Greek *χελιδόν*, a swallow, and *Rimarachin*, in reference to the resemblance between the mid-lobe of the lip (when spread) to the tail of the Barn Swallow; and Edwal Adelmo Rimarachin Mena (1995-), of San José de Lourdes, Cajamarca, Peru, who brought this species to our attention. He is an Agricultural technician of the Instituto de Educación Superior Tecnológico Público "4 de junio de 1821", Jaén; grower, collector and protector of orchids. He rescues species from disturbed forests and safeguards them in a family vivarium in order to conserve the genetic material.

REFERENCES: E. Hágsater & E. Santiago, 2006, *Epidendrum incomptum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: t. 844. Hágsater, E., 2019, *Epidendrum rimarachinii* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1): t. 1750.



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Photo: E. A. Rimarachin

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Plate 1756