

ORCHIDS FROM THE DRACULA RESERVE IN ECUADOR

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THE DRACULA RESERVE in north-west Ecuador has an exceptionally rich, highly endemic, but poorly known flora containing many surprises for biologists. Orchid expert Luis Baquero (Jardin Botanico de Quito, Universidad de Las Americas) has been exploring this region for many years, sponsored in part by the Quito Orchid Society, and he helped choose the location for the reserve.

Dracula terborchii was first discovered in an orchid collection in Europe, but its home was recently found in and around the Dracula Reserve. This *Dracula* is one reason we chose this area to protect.

The most diverse genus in the Reserve is *Lepanthes*. Here are two examples, *Lepanthes meniscophora*, and *Lepanthes athena*. Note the insect on the flower. Many (maybe all?) *Lepanthes* orchid species have evolved to mimic a female fungus gnat. A male of the appropriate fly species tries to mate with the flower, pollinating it in the process of "pseudocopulation." The image of *Lepanthes nautica*, side view, shows a white organ hanging under the column which imitates the genitalia of a female fungus gnat.

Another resident orchid is *Cyrtorchilum geniculatum*, here growing in the fallen crown of a cut tree just outside the reserve.

Dracula trigonopetala, a recently described species, is one of the rarest *Dracula* species in the area.

Phragmipedium fischeri, classified by the IUCN as "Critically Endangered," is endemic to a very small area near our Dracula Reserve in extreme northwest Ecuador, and nearby southwest Colombia: <http://www.iucnredlist.org/details/43324499/0>. The IUCN estimates there may be fewer than 100 adult individuals and reports that even this small number is rapidly declining. If this is true, the species is on the brink of extinction, and it is among the most endangered plants in Ecuador. In an emergency action, the Orchid Conservation Alliance funded the purchase of the only known Ecuadorian site for this species, with the help of donations from the Slipper Orchid Alliance, and Judith Rapacz.

This undescribed *Trevoria* sp. nov. discovery needed a lot of patience. The first known plant was found eight years ago in a remote part of what is now our Dracula Reserve, by orchidologist Luis Baquero and local resident Hector Yela, who is now our reserve guard.



Dracula terborchii



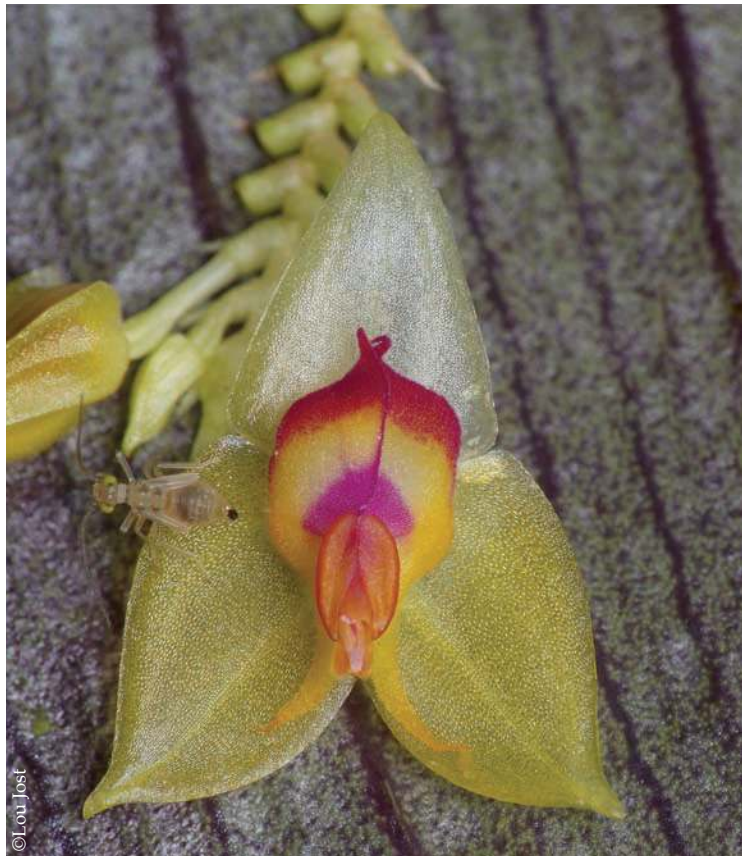
Dracula terborchii lip.



New unnamed *Trevoria* species.



Lepanthes meniscophora



Lepanthes athena and friend.



Lepanthes nautica side view.

It did not have flowers so nothing could be concluded about it. Over the succeeding years, several other plants were found in distant parts of the future Dracula Reserve, always without flowers. One of them was collected alive and kept in the Quito Botanical Garden, where it finally flowered for the first time this year. The flower has a strong odor of olive oil. Sadly, the creation of our reserve did not happen in time to save the largest population of this species, but we have managed to protect some of the other populations.

The discovery of *Pleurothallis chicalensis* was published by M. Jimenez, L. Baquero, M. Wilson, and G. Iturralde in 2018 in the journal *Lankesteriana*. It is a bright yellow pleurothallis, first found by Javier Robayo (EcoMinga's executive director), Hector Yela (our reserve guard) and Andreas Kay (photographer) in 2013 in the Cerro Oscuro unit of our Dracula Reserve. The first scientific collection was made in 2016 by Luis Baquero, one of the architects of our reserve design. The authors named it after the small town of Chical, the nearest community, so that community members might feel some pride in the biodiversity of the magnificent forests which still survive there.

Members of the orchid genus *Scaphosepalum* have strange flowers that look like the heads of horned animals. There are two upper horns that point sideways, and a lower horn that points forward and upward. These horns are extensions of the three sepals, which are more or less united at their bases to form an enclosure for the small but complex lip. The Dracula Reserve and the surrounding forests are home to many species of *Scaphosepalum*, some of which are very hard to distin-



Cyrtorchilum geniculatum



Dracula trigonopetala

guish because of their natural variability and perhaps, some occasional hybridization. Luis has found one ridge that has up to seven species of *Scaphosepalum*! One of these species turned out to be new to science, and Luis published its description in the 2017 issue of the botanical journal *Lankesteriana*. He named it *Scaphosepalum zieglerae*, after Susann Ziegler Annen of Basel, Switzerland, who together with her husband Max have been major supporters of the Dracula Reserve project, through the University of Basel Botanical Garden. (The University of Basel Botanical Garden provided the initial funding and support to start this reserve, and continues to help fund its expansion and pay the salaries of its guards.)

We recently raised funds to buy the ridge that contains this and other *Scaphosepalum* species, along with many other rare orchids. The ridge connects two of our Dracula Reserve units, Cerro Colorado and Cerro Oscuro, and is a rare example of lower-elevation ridge line habitat, most of which has been turned into pastures elsewhere in the region.

Ongoing financial support is of utmost importance to ensure the sustainability of the reserves. We are most thankful for the support of the Orchid Conservation Alliance, University of Basel Botanical Garden, Quito Orchid Society, Slipper Orchid Alliance, and the individual donors to these organizations, most notably Vera Lee Rao, Mark Wilson, Vicki Byrd, Susann Ziegler Annen and Max Annen, Judith Rapacz, Henri Botter and Ardy van Ooij, and Urs and Beat Fischer. The Rainforest Trust generously matches all these donations

dollar-for-dollar, doubling the amount of land that we could buy.

The EcoMinga Foundation is now expanding the Dracula Reserve to include lower elevations, which will contain different species. Potential donors should contact the Orchid Conservation Alliance.*

References

- <https://ecomingafoundation.wordpress.com/2016/03/26/orchid-conservation-alliance-site-visit-to-our-dracula-reserve/>
- <https://ecomingafoundation.wordpress.com/category/plants/orchids/>
- <https://ecomingafoundation.wordpress.com/category/dracula-reserve/>
- <https://www.rainforesttrust.org/dracula-reserve-expansion-new-protection-for-ecuadors-endangered-orchids/>

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