

Orquídeas Para La Paz

by Tatiana Arias and Luis Eduardo Mejía

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Making peace with nature through sustainable development and biodiversity awareness in Colombia

THE CAQUETÁ DEPARTMENT in Colombia is one of the places where civilians have suffered violence and displacement the most. With the signing of the peace agreement between FARC and the government in 2016, many scientists have been able to finally have safe access to this region of Colombia's rainforest landscapes. There is an urgent need to provide these communities with real opportunities for work, education and health to avoid their returning to coca cultivation and other illegal activities. Using our respective expertise as a botanist and an anthropologist, we collaborate with local communities within the legality of Colombia's conservation laws, providing education, training and governmental permits to create solutions-based opportunities for sustainable development and research, using orchids as a flagship species of our diversity.

In 2019 we met one of these settlers, Mary Polania, a schoolteacher infected with "orchid fever." Mary was forced to leave her home in San Vicente del Caguan many years ago and ended up buying a parcel at El Manantial in Florencia, Caquetá. Mary has been our inspiration ever since. A single mom of four children, she is an honest and hard worker dedicated to the conservation of orchids. Her dedication inspired us to design a project, combining science, community and economic development, using the richness of Caquetá's orchids as a pathway to peace. Starting in the Andean-Amazonian foothills and extending widely into the wilderness of the Amazonian rainforest, our research has led to increasing awareness of orchids in the region.

We wrote the proposal *Orquídeas para la paz* (Orchids for Peace) supported by the first author's research group in neotropical orchid epiphyte evolution and conservation that is registered in the Ministry of Science and Technology of Colombia. Many inhabitants of El Manantial, Florencia and the Caquetá population at large have been involved in this project revolving around orchids and making peace with nature. This project offers an alternative for communities to understand and appreciate the diversity of orchids in their areas while getting a



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- [1] Visiting an indigenous community from the Coreguaje tribe at the Gorgonia reservation in Milan, Caquetá, Colombia.
- [2] Birds eye view of "El Manantial" settlement, a nature community reserve near the city of Florencia, Caquetá. Photograph by Luis Eduardo Mejía.
- [3] During our visit to the Coreguaje settlement we traveled in a canoe with members of the project and the indigenous community, to recognize and identify orchids they have in their territory and translocate them near their village.



- [4] *Octomeria colombiana*.
- [5] *Prosthechea* cf. *fragrans*.
- [6] *Acianthera casapensis*.
- [7] *Catasetum tuberculatum* (female flowers)
- [8] *Epidendrum* cf. *coronatum*.
- [9] *Maxillaria discolor*.
- [10] *Maxillaria parviflora*.
- [11] *Cynoches haagii* (female flowers)
- [12] *Galeandra macroplecta*.

small income for daily activities using this same diversity in a sustainable manner.

The scientific components of this project include an inventory of the orchids of Caquetá, the construction of a community nursery to grow orchids from the region, and in which orchids are taken care of by the community and biology undergraduate students from the region. This nursery is located at 983 feet (300 m) above sea level, so every time our team makes explorations in Caquetá's lowlands below 3,275 feet (1,000 m) elevation, we make living collections to take to our nursery. This with the purpose of waiting for orchids to flower to be able to identify, photograph and press them for herbarium material we deposit at the regional herbaria. Also, orchid phenology is being tracked by undergraduate students all year round. We also track orchid spontaneous pollination to later take fully developed fruits to the in vitro seed cultivation lab located at the Universidad de la Amazonia. With the help of the orchid community and commercial growers and experts, we are prioritizing orchids with horticultural potential for Caquetá and assessing conservation needs. We already have a preliminary list of the most suitable orchids to start reproducing with these two goals in mind. Lastly, we have implemented a series of activities with the communities, reserves, students and stakeholders to promote orchid knowledge and conservation among the public. These activities include workshops, field guides, cultivation manuals, videos, the creation of a tourist orchid trail and the strengthening of demonstrative parcels around El Manantial.

We plan to do augmentation programs in areas where orchid diversity has been lost, also involving the reserves in community sciences using the iNaturalist and biodiversity inventories through bioblitzes, and eventually building orchid nurseries for them. We have sent for publication a checklist of orchid species from Caquetá that at the beginning of this program had 146 species in inventory from the literature and have increased that number to around 360 species. We are sure that based on the relatively small part of the territory we have explored, particularly in montane areas of Caquetá, this list could increase to more than 500, including new species. Even though the safety situation has improved in Caquetá during the last 10 years, there are still areas difficult to visit and with dense rainforest; however, we have also been losing many acres (ha) of land due to



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illegal Amazonian land colonization, illicit coca crops and cattle farms.

We believe that commercial orchid production is an important option for rural populations in remote areas of Colombia to increase environmental and economic sustainability for the region. Using a short-term solution in scientific and nature-based tourism, we hope to develop orchid horticulture for commercial purposes in the long term. We are pleased to note that this experience has attracted other people nationally and internationally and we are hoping to expand our work to the Colombian Department of Guainía where we are going to be working with former combatants.

Additional information

Arias, T. 2021. *Orquídeas para la paz 2* (YouTube). <https://www.youtube.com/watch?v=EPIXfIRyVzk&t=13s>

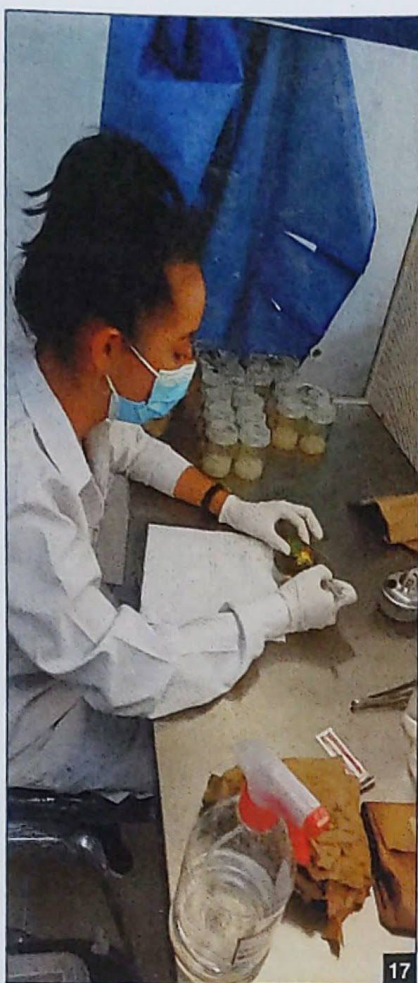
Arias, T. 2021. *Orquídeas para la paz* (YouTube). <https://www.youtube.com/watch?v=RhfWDnvn58>

Mejía, L.E. and T. Arias. *Manual para el Cultivo de Orquídeas*. <https://drive.google.com/file/d/1Mhrlu-Aic2W-Cg6hEOR9NLPxEP03X3S/view>.

— *Manual para el Cultivo Casero de Semillas*. <https://drive.google.com/file/d/156kQMBzMI9BRnbF9I5PxVT2Skp56QJhO/view>.

— *Guía de Orquídeas*. <https://drive.google.com/file/d/1ytsIRyWE0jk7Sqm55WCrExEnceKFxV4N/view>

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[13] Mary Polania in the newly constructed orchid nursery talking about orchids to visitors from El Caquetá.

[14] One of the five "farms" chosen to have orchids of the region on display. Each "farm" or "parcel" owner has the responsibility to care for these orchids, receive tourists and to tell them about "El Manantial," indigenous cultures and orchids, uses of some orchids, and general biology and orchid cultivation.

[15] Our nursery at "El Manantial" is the biggest in Caquetá with around 2,000 specimens of 150 species. The orchids displayed here are not for commercial purposes but for research, conservation, and enjoyment.

[16] During the past four years we have offered a series of workshops in orchid biology and cultivation. Initially experts from the Colombia Orchid Society trained Mary Polania, a biology undergraduate student at Universidad de la Amazonia in Florencia as well as other students who now they teach these courses to many around Caquetá.

[17] Harvesting germinated seedlings from flask to return to the nurseries.

IX International Conference on Orchid Conservation "Soroa 2022"

NEW DATES

THE SORO BOTANICAL and Orchid Garden and the University of Artemisa IX International Conference on Orchid Conservation "Soroa 2022," has been postponed from February 2022 to **NOVEMBER 2022** with exact dates to be determined soon.

This second postponement has become necessary due to damage caused by a recent tropical weather system as well as the COVID-19 pandemic situation in Cuba. Vaccinations are underway in Cuba but February was too soon to safely hold the Conference.