

**DIVERSITY OF ORCHID SPECIES IN GUANACAS RESERVE,
ANTIOQUIA - COLOMBIA**

Progress Report No. 1

to the Conservation Committee of the American Orchid Society

(Project funding from AOS)

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October 2019

Medellin - Colombia

PRESENTATION

The preliminary results of the orchideological exploration carried out in the Guanacas reserve, municipality of Santa Rosa de Osos, funded by the Conservation Committee of the American Orchid Society are presented in this report. A first four-day field trip was made during the month of September 2019, in which 50 morphospecies of orchids, belonging to 15 genera, were collected. The material was herbalized and is in the process of identification. The preliminary list of species and photographic file is presented.

INTRODUCTION

Orchids, without a doubt, constitute not only the group of flowering plants (angiosperms) with the largest number of species in the world, but also one of the most charismatic of the plant kingdom. The particular shapes and attractive colors of its flowers have historically attracted the attention of naturalists, horticulturists, taxonomists, artists, and society in general, which recreates in them, the greatest inspiration that nature could express in a flower. Even for the most profane in the knowledge of plants, the concept of orchid is synonymous with high expression of beauty, design and color. Orchids, like no other flower, have touched the most intimate fiber of sensitivity of human beings, thus becoming a natural reference to admire and contemplate in the plant world.

Orchids are part of the flora in almost all the terrestrial ecosystems of the world, and Colombia, due to its geographical position and geological particularities, has been privileged as the representativeness of species of this group, positioning itself between the first two countries, jointly with Ecuador, with greater wealth of orchids in the world (Minambiente and U. Nal de Colombia, 2015). The vast humid regions of Colombia, especially mountain ecosystems, have favored the presence of a huge diversity of orchids, which usually live mainly as epiphytes on other host plants. It is presumed that 93% of tropical orchids are epiphytic (Benzing 1990) and in Colombia, the Andes

mountain range is home to more than 90% of all species in the country (Minambiente and U. Nal de Colombia 2015).

Likewise, it has been estimated that almost 40% of all the species registered in Colombia are endemic to some biogeographic region of the country, considering the Andean region, with 78%, as the area with the highest rate of orchid endemic nationwide (Minambiente and U. Nal de Colombia 2015).

The importance of this group in Colombia is such that even the Colombian Academy of History designated, in 1936, the *Cattleya trianae* orchid, as the national emblematic flower. However, despite the importance exhibited by the Orchidaceae family in this country, the Red Book of Plants of Colombia (Calderón-Sáenz 2007), records 207 species as threatened with extinction, mainly due to habitat loss, loss of pollinators and trade illegal, although the latter is totally prohibited in the country.

The orchideological exploration that has been carried out in the Guanacas reserve, north of the Cordillera Central, in Colombia, aims to document the richness of existing orchid species in areas that are in different conservation and restoration states, contributing in this way to increase the importance of this group as one of the most relevant natural values to preserve, within the conservation strategies executed by Fundación Guanacas to maintain over time, the valuable natural heritage represented in the forest ecosystems of fog that is still in this region of the Colombian Andes.

METHODOLOGY

The first field trip for the orchideological exploration to the Guanacas reserve was carried out between September 20-23th, 2016. Forest coverings were explored in different conservation states, in areas adjacent to the Guanacas stream.

Specimens for herbalization were collected, as well as floral structures in fixative solutions, for subsequent dissection and identification (Annex, figure 1). Georeferencing and photographic registration was carried out. Herbalized

samples (Annex, figure 2) were dried in the herbarium of the University of Antioquia (HUA) and are being identified.

RESULTS

50 morphospecies (Annex, figures 3 and 4), distributed in 15 genera (Table 1), are reported on a preliminary basis. The best represented genera were in their order: Epidendrum (14 species), Pleurothallis (8 species), Stelis (5 species) and Maxillaria (5 species).

Table 1. Preliminary list of orchid species registered in the Guanacas reserve

SPECIES
<i>Epidendrum megalospathum</i>
<i>Epidendrum arachnoglossum</i>
<i>Epidendrum aura-usecheae</i>
<i>Epidendrum blepharistes</i>
<i>Epidendrum melinanthum</i>
<i>Epidendrum cf. igneum</i>
<i>Epidendrum fimbriatum</i>
<i>Epidendrum cernuum</i>
<i>Epidendrum envigadoense</i>
<i>Epidendrum elleanthoides</i>
<i>Epidendrum stanhopeianum</i>
<i>Epidendrum cf. imperator</i>
<i>Epidendrum cylindrostachys</i>
<i>Epidendrum geminiflorum</i>
<i>Cranichis sp.</i>
<i>Odontoglossum sceptrum</i>
<i>Oncidium ornithorhynchum</i>
<i>Oncidium cf. anomalum</i>
<i>Cyrtochilum annulare</i>
<i>Cyrtochilum ventilabrum</i>
<i>Cyrtochilum cf. camiciferum</i>
<i>Cyrtochilum divaricatum</i>

SPECIES
<i>Maxillaria aggregata</i>
<i>Maxillaria acuminata</i>
<i>Maxillaria aurea</i>
<i>Maxillaria nubigena</i>
<i>Maxillaria giganteum</i>
<i>Prosthechea cf. hardwegii</i>
<i>Pleurothallis megalorhina</i>
<i>Pleurothallis sigsigensis</i>
<i>Pleurothallis cf. fossulata</i>
<i>Pleurothallis punctata</i>
<i>Pleurothallis aves-serialis</i>
<i>Pleurothallis lopezii</i>
<i>Pleurothallis sp. 1</i>
<i>Pleurothallis sp. 2</i>
<i>Stelis sp. 1</i>
<i>Stelis sp. 2</i>
<i>Stelis sp. 3</i>
<i>Stelis sp. 4</i>
<i>Stelis sp. 5</i>
<i>Lepanthes wagneri</i>
<i>Lepanthes ophelma</i>
<i>Lepanthes mucronata</i>
<i>Chrysocycnis ecuadorensis</i>
<i>Andinia pilosella</i>
<i>Andinia hipocreppica</i>
<i>Porroglossum muscosum</i>
<i>Platystele consobrina</i>
<i>Scaphyglottis grandiflora</i>

CITED LITERATURE

- Benzing, D. H. 1990. Vascular epiphytes: general biology and related biota. Cambridge University Press.
- Calderón-Sáenz E. (ed.). 2006. Red Book of Plants of Colombia. Volume 3: Orchids, Part One. Red Books Series of Threatened Species of Colombia. Bogota Colombia. Instituto Alexander von Humboldt - Ministry of Environment, Housing and Territorial Development. 828 p.
- Ministry of Environment and Sustainable Development and National University of Colombia. 2015. Plan for the study and conservation of orchids in Colombia. Texts: Betancur, J., H. Sarmiento-L., L. Toro-González & J. Valencia. Ministry of Environment and Sustainable Development, Colombia; National University of Colombia, Bogotá D.C. P.336

ANNEX



Figure 1. Collection of orchid specimens in the Guanacas reserve.



Figure 2. Herbarization of orchid specimens in the Guanacas reserve.



Figure 3. Orchids of the Guanacas reserve. *Sobralia* sp. (left); *Epidendrum aura-usecheae* (right).



Figure 4. Orchids of the Guanacas reserve. *Pleurothallis megalorhina* (left); *Odontoglossum sceptrum* (right).



Figure 5. Orchids of the Guanacas reserve. *Porroglossum muscosum* (left); *Andinia hipocreppica* (right).



Figure 6. Orchids of the Guanacas reserve. *Pleurothallis aves serials* (left); *Lepanthes ophelma* (right).