

**"Taxonomy and biogeography of Prescottiinae Dressler (Orchidaceae) from
Colombia"**
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Taxonomy is a fundamental discipline of biology aiming in description, naming and cataloguing of living organisms. An interpretation of taxonomic information, as species checklists, distribution data and keys for identification, are essential to all biologists. Therefore, taxonomy is of critical importance for the conservation and sustainable use of biodiversity. The greatest orchid taxonomic diversity in the world is in Colombia. The knowledge of one of the orchid high Andean subtribe, Prescottiinae, is still fragmentary. The aim of the study was a taxonomic revision of Prescottiinae (Orchidaceae) from Colombia. As the Prescottiinae occur in tropical alpine biomes, they are exposed to different threats as timber extraction, logging and deforestation for pasture. Thus the second aim of this study was to explain the present distribution of the subtribe in the light of their ecological niche and evolutionary history.

The subtribe Prescottiinae includes nine genera, five of them (57 species) occur in Colombia (*Aa*, *Altensteinia*, *Gomphichis*, *Myrosmodes*, and *Prescottia*). The occurrence of *Stenoptera* is not confirmed in the studied area, its records for the country are doubtful and most probably are the result of incorrect determination. The Prescottiinae are terrestrial plants occurring mainly in upper montane forest, subparámo and páramo vegetation, most of them are of restricted distribution occurring mainly in altitudinal belt from c. 1000 m to even 5000 m.

Ecological niches models (ENMs) based on climatic variables confirm high Andean pattern in potential distribution of selected Prescottiinae. However, many disjunctions could be observed, especially for the genus *Myrosmodes*. Model is consistent with the observations and distribution of páramo. Identity test shows that niches of eight species in four genera are significantly similar or even identical with the closest relatives from the same genus. The reason could be relatively recent diversification time of these taxa (c. 0.4-5 Mya). Molecular clock analysis show that uprising of páramo and then new niches to inhabit, is also the most probable reason of starting *Myrosmodes* evolutionary lineage (c. 5 Mya). The ENMs for Last Glacial Maximum climate conditions show generally more extensive potential suitable habitats for Prescottiinae than today. This may be due alpine character of the studied species and could be an important signal during global warming.