



Floristic Novelties of the Madidi Region: New Species and New Records for the Bolivian Flora



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Introduction

The Madidi Region in northwest of Bolivia comprises a diverse geomorphology and unparalleled climatic gradients. The region covers less than 10% of the country, but accounts for more than half of the country's plant diversity (Madidi Region Floristic Inventory Project unpublished data). The results gathered through this project in the last seven years support that the diversity of plants surpasses former inventory's expectations¹.

We here present some of our findings as far as floristic novelties such as new species and records for Bolivia.

Methods

For one hand and in many cases, these floristic novelties derive from an exhaustive revision of plant collections and the corroboration of different specialists. And in the other hand, this tasks were also carried out through plenty revisions of literature, types and specimens at LPB, MO and NY herbaria. In order to corroborate new records we have based our work on bibliographic references cited in TROPICOS-VAST database. Most of these novelties were already published in recent papers (see ²⁻⁵).



New species of dry forests: a. *Justicia* (Acanthaceae), b. *Hippeastrum* (Amaryllidaceae), c. *Yungasocereus* (Cactaceae), d. *Billbergia* (Bromeliaceae).

Results

Our summary of novelties of vascular plants and bryophytes found in the Madidi region shows current findings of taxa known only from type specimens, new records and new species (see table). Additionally 11 vascular plant genera were identified to be new records for Bolivia and 12 families are new records for the region.

Plant group	Known from type	New record for Bolivia	New species
Vasculars	25	124	102
Bryophytes	4	25	0
Total	29	149	102*

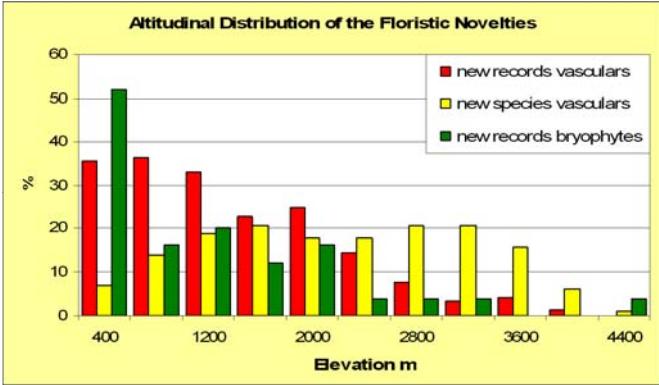
*Includes 10 species described out of the Madidi Project.

Among the new species, 19 have already been published or are in press⁶⁻⁸, 38 are in preparation, 28 are under study, and 17 are in lack of appropriate material to allow us with certainty to describe them.

The altitudinal distribution of the new records is similar for bryophytes and vascular plants with a major proportion below 400 m in Amazonian forests and a progressive decrease with elevation. The number of new vascular records is probably affected by a major density of collections at lower elevations, while the greater number of new bryophyte records in the lowlands is probably due to fewer collections carried out historically. The altitudinal distribution of new species is proportionally greater at intermediate elevations (1000–3000 m).



New species of pluvial montane forests : a. *Orthaea* (Ericaceae), b. *Cyathea bettinae* (Cyatheaceae), c. *Persea* (Lauraceae), d. *Prestonia* (Apocynaceae).



According to the vegetation types in the studied area, we have found more new species in pluvial montane forests (37), followed by pluvial upper montane forests (22), pluvial lower montane forests (19), and dry forests (14). The families with the most new species are Lauraceae (12), Grammitidaceae (7) Thelypteridaceae (7), Acanthaceae and Araliaceae (5).



New species of pluvial upper montane forests: a. *Gynoxys* (Asteraceae), b. *Weinmannia yungasensis* (Cunoniaceae), c. *Hydrocotyle* (Apiaceae), d. *Oreopanax* (Araliaceae).

Literature cited

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