Species richness distribution and endemism of butterworts (*Pinguicula*: Lentibulariaceae) in America

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The genus *Pinguicula* (Lentibulariaceae) includes 127 species of carnivorous plants and Mexico is a recent centre of diversification. The Mexican Transition Zone (MTZ) comprises the main mountain ranges of Mexico, Guatemala, Honduras, El Salvador, and Nicaragua. The MTZ represents the limit between the Nearctic and Neotropical regions, and its geodiversity and climatic complexity promote the floristic richness as well as angiosperm endemism in Central and North America. Based on these, we expected that species richness distribution and endemism of *Pinguicula* show the same pattern. To prove this, the species richness distribution and endemism of *Pinguicula* in America were evaluated by country, ecoregion, biogeographic province, elevation gradient, and grid-cell. For this, a database was constructed based on the review of herbaria specimens housed in electronic databases. Only records that include geolocation information and that have a voucher were taken into account. For the criteria country, ecoregion, and biogeographic province, a count of the species within each polygon was carried out. Intervals of 500 meters were established for the elevation gradient criterion. Whereas, a cell size of 93 × 93 km was employed for the grid-cell analyses. *Pinguicula* is distributed in 20 countries and Mexico harbours the major species number. The species of *Pinguicula* grows in 104 ecoregions and the Sierra Madre Oriental pine-oak forests is the richest. Whereas, 19 biogeographic provinces include almost one species. Of which, the Sierra Madre Oriental (SMO) province is the most diverse. On the other hand, the richness by elevation gradient was concentrated between 0–499 and 1,000–1,499 meters. The grid-cell analyses supported this, as they identified cells with high values of richness and endemism within the MTZ in Mexico. The results showed that the pattern of species richness and endemism of *Pinguicula* was concentrated along the MTZ, particularly in the SMO.

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