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Ecuadorian glass frogs: current state of knowledge, new research trends and conservation

Ecuador has the biggest number of amphibian species per unit of area in the world (427 species in 276,840 km²). Glass frogs (Centrolenidae) with 30 species, constitute 7.06 % of the Ecuadorian anurans. However, the current state of knowledge of this family in Ecuador is still very basic. Several species of glass frogs are currently undescribed, confused with previously described taxa, not yet reported from the country but present in local museum collections, not yet discovered in Ecuador, or even described under two different names. The genus *Hyalinobatrachium* is poorly known in the country (four species), but at least three undescribed taxa are present in the western lowlands of Ecuador. Among the genera *Cochranella* and *Centrolene*, at least 6 new species are known from tropical and subtropical areas in western and eastern slopes of the Ecuadorian Andes. Several characters such as the patterns of skin, eye, peritoneum and pericardium color, the prepollicall spine, the nuptial pad, and the presence of the bulla are discussed, especially around its taxonomic potential. At least one undescribed taxon from western lowlands of Ecuador is critically endangered, if not extinct. In the last decade, conservative estimates indicate that at least 26 species of Ecuadorian amphibians have declined or gone extinct, two of them belong to the family Centrolenidae. The reasons for this crisis are not clear but have been related to habitat destruction, climate change, and fungal disease such as the chytridiomycosis.
