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Revision of the characters of Centrolenidae (Amphibia: Anura: Athesphatanura), with comments on its taxonomy and the description of new taxa of glassfrogs

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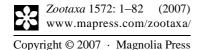
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# Revision of the characters of Centrolenidae (Amphibia: Anura: Athesphatanura), with comments on its taxonomy and the description of new taxa of glassfrogs

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### **Abstract**

Anurans of the family Centrolenidae are a diverse clade of arboreal frogs distributed across tropical America. Knowledge of their taxonomy, systematics, ecology, behavior, morphology, and other evolutionary aspects of their biology is deficient. Relationships among centrolenid species remain largely unresolved, with no satisfactory phylogenetic hypothesis, and none of the current genera has compelling evidence of monophyly. Further, understanding the phylogeny of glassfrogs is constrained by species-level taxonomic problems, including incorrect description of characters, incomplete analyses of intraspecific variation, and lack of appreciation of species diversity. Herein, we define and analyze the 23 characters that are useful, in combination, in diagnosing centrolenid species, and thereby provide a reference for the use of future workers. We propose revised classifications for the parietal and visceral peritoneal pigmentation, liver form and coloration of its associated hepatic peritoneum, nuptial excrescences, and hand ornamentation. We comment on the generic and species-level taxonomy of Centrolenidae, proposing the recognition of a new genus and describing a new species from Ecuador. We treat *Hyla ocellifera* Boulenger as a synonym of *Centrolene prosoblepon* (Boettger), *Hyalinobatrachium cardiacalyptum* McCranie & Wilson as a synonym of *Hyalinobatrachium chirripoi* (Taylor), and *Hyalinobatrachium crybetes* McCranie and Wilson as a synonym of *Hyalinobatrachium colymbiphyllum* (Taylor). We also present an annotated list of the species of glassfrogs from the Republic of Ecuador with some distributional remarks.

**Key words:** Centrolenidae, diagnostic characters, variation, peritoneal coloration, nuptial excrescences, taxonomy, synonyms; *Centrolene, Cochranella, Hyalinobatrachium, Nymphargus*, new genus; *Nymphargus laurae*, new species