

# Morphological and taxonomic descriptions of a new genus and species of killifishes (Teleostei: Cyprinodontiformes) from the high Andes of northern Chile

Por: [Arratia, G](#) (Arratia, Gloria)<sup>[1]</sup>; [Vila, I](#) (Vila, Irma)<sup>[2]</sup>; [Lam, N](#) (Lam, Natalia)<sup>[3]</sup>; [Guerrero, CJ](#) (Jimena Guerrero, Claudia)<sup>[4]</sup>; [Quezada-Romegialli, C](#) (Quezada-Romegialli, Claudio)<sup>[2,5]</sup>  
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## Resumen

A new genus and species, *Pseudorestias lirimensis*, is described from the southern part of the Chilean Altiplano. While sharing several characters that clearly align the new species with *Orestias*, this new fish is characterized by numerous autapomorphies: the Meckel cartilage is a continuous cartilage that broadly expands posteriorly (in large specimens, it keeps its anterior part and is resorbed posteriorly), the basibranchials are fused into one long element, the second pharyngobranchial is not displaced dorsally over pharyngobranchial tooth plate 3+4, but they are aligned, the anterior and posterior ceratohyals are closely articulated keeping a scarce amount of cartilage between both bones and ventral to them, ossified middle and distal dorsal radials are present in females as well as ossified middle and distal anal radials.

*Pseudorestias lirimensis* presents strong sexual dimorphism associated to size. Females are almost twice as large and long than males, neuromast lines are absent in males, a mesethmoid is present in males, squamation on head is reduced in males, and ossified middle and distal radial of dorsal fin are cartilaginous in males. *Pseudorestias* and *Orestias* are suggested as the sole members of the tribe Orestiini. A list of characters diagnosing the tribe is provided. The presence of the new genus is interpreted as a possible result of the ecosystem isolation where the fish is living from surrounding basins-as early as possibly from the Miocene-Pliocene times- and its physical and chemical characteristics. Small populations, living conditions, small habitat, and reduced distribution make this species a strong candidate to be considered critically endangered, a situation already established for all other Chilean species living in the Altiplano. There is high probability it will become extinct due to water demands and climate change in the region.

**Palabras clave**

**KeyWords Plus:**[COMPLETE MITOCHONDRIAL GENOME](#); [CLIMATE-CHANGE](#); [PHYLOGENETIC-RELATIONSHIPS](#); [ALTIPLANO](#); [PLEISTOCENE](#); [RIVULIDAE](#); [EVOLUTION](#); [POSITION](#); [PLATEAU](#); [ANCIENT](#)

### Información del autor

**Dirección para petición de copias:** Arratia, G (autor para petición de copias)

+ Univ Kansas, Biodivers Inst, Lawrence, KS 66045 USA.

### Direcciones:

- + [ 1 ] Univ Kansas, Biodivers Inst, Lawrence, KS 66045 USA
- + [ 2 ] Univ Chile, Fac Ciencias, Dept Ciencias Ecol, Santiago, Chile
- + [ 3 ] Univ Chile, Fac Ciencias Agron, Dept Prod Anim, Santiago, Chile
- + [ 4 ] Univ Iberoamer Ciencia & Tecnol, Escuela Med Vet, Santiago, Chile
- + [ 5 ] Univ Antofagasta, Inst Ciencias Nat Alexander von Humboldt, Antofagasta, Chile

**Direcciones de correo electrónico:**[garratia@ku.edu](mailto:garratia@ku.edu)

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