

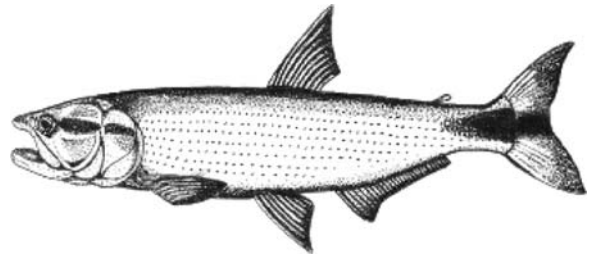
Threatened fishes of the world: *Salminus affinis* Steindachner, 1880 (Characidae)

Pablo Lehmann A. ·
Andrés Felipe Montoya-López · Mónica Botero

Received: 14 October 2008 / Accepted: 5 May 2009 / Published online: 15 May 2009
© Springer Science + Business Media B.V. 2009

Keywords *Salminus* · Colombia · Freshwater fishes ·
Conservation · Endangered species

Common name: Picuda, Rayada, Rubia, Rubio, Dorada (Spanish). **Conservation status:** Listed as vulnerable by the Red Book of Colombian Freshwater Fishes (Lehmann and Alvarez-León 2002). **Identification:** Presence of dark post-orbital stripe, absence of any development of the median caudal-fin rays beyond the primary margin of the fin, caudal-peduncle spot spreads onto the caudal fin, 68–79 lateral line scales; D.ii + 9; P.i + 12–14; V.i + 7; A.iii + 23–25 (Eigenmann 1922; Lehmann 1999; Lima 2006). Illustration corresponds to Collection of ichthyology University of Antioquia (CIUA)-970, by Andres



Montoya. **Distribution:** Magdalena, Cauca, San Jorge, Cesar, Sinú and Rancheria river basins (Lehmann and Alvarez-León 2002; Lima 2006; Mojica et al 2006). **Abundance:** Current reports in the Magdalena River basin suggest a drastic decrease in population size (Lehmann and Alvarez-León 2002; Lehmann and Niño 2008). **Habitat and ecology:** Migratory species, it can be found in the main river channel, in clean-water tributaries. Its diet is composed of fish and insects (Lehmann and Alvarez-León 2002). **Reproduction:** Breeding individuals have been observed in the rainy season and gonadal development reaches its peak during November (Lehmann 1999). **Threats:** Water pollution, overfishing, gold mining and hydroelectric dams (Galvis and Mojica 2007). **Conservation action:** The minimum capture size of 35 cm total size is legally established. Considered as priority species for conservation (Lehmann and Niño 2008). **Conservation recommendations:** Conservation of undisturbed tributaries, fishing regulations, biological research,

P. Lehmann A. (✉)
Laboratório de Ictiologia,
Pontifícia Universidade Católica do Rio Grande do Sul,
Porto Alegre, Brasil
e-mail: lehmannatfish@gmail.com

A. F. Montoya-López
Grupo Biogenesis, Laboratory 233a,
Facultad de Ciencias Agrarias, Universidad de Antioquia,
A.A. 1226 Medellín, Colombia

M. Botero
Grupo GRICA, Facultad de Ciencias Agrarias,
Universidad de Antioquia,
A.A. 1226 Medellín, Colombia

implementation of closed season during the spawning months (from November to February) and development of artificial breeding and rearing techniques are required. *Remarks*: Boulenger (1898) and Géry and Lauzanne (1990) listed *S. affinis* from the Ecuador, what was followed by Maldonado-Ocampo et al (2005). According to Lima (2006) the species from the upper Amazon basin correspond to *Salminus iquitensis* and is distinguished from *S. affinis* by having dark pigmentation on the interradial membranes on the caudal fin.

References

- Boulenger GA (1898) Poissons de l'Equateur (première partie). Bollettino Musei di Zoologia ed Anatomia Comparata della R. Università di Torino 13(329):1–13
- Eigenmann C (1922) The fishes of western South America, Part I. The fresh-water fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Memoirs of the Carnegie Museum v. 9 (no. 1), 1-346, Pls. 1-38
- Galvis G, Mojica JI (2007) The magdalena river fresh water fishes and fisheries. Aquatic Ecosystem Health & Management 10(2):127–139
- Géry J, Lauzanne L (1990) Les types des espèces du genre *Salminus* Agassiz, 1829 (Ostariophysi, Characidae) du Muséum National d'Histoire Naturelle de Paris. Cybium 14(2):113–124
- Lehmann P (1999) Composición y estructura de las comunidades de peces de dos tributarios en la parte alta del río Cauca. Tesis Facultad de Ciencias, Universidad del Valle, Cali-Colombia, Colombia
- Lehmann P, Alvarez-León R (2002) *Salminus affinis*. In: Mojica J, Castellanos C, Usma S, Alvares R (eds) (2002) Libro rojo de peces dulceacuicolas de Colombia, la serie libros rojos de especies amenazadas de Colombia. Instituto de Ciencias Naturales - Universidad Nacional de Colombia, Ministerio del Medio Ambiente, Bogotá
- Lehmann P, Niño R (2008) Lineamientos y prioridades de conservación para la biodiversidad acuática, ecosistemas y sistemas hídricos del Caribe, Pacífico y Andes de Colombia. Instituto de Investigación de Recursos Biológicos “Alexander von Humboldt”. IAvH, Bogota, Colombia
- Lima FC (2006) Revisão taxonômica e relações filogenéticas do gênero *Salminus* (Teleostei: Ostariophysi: Characiformes: Characidae). Unpublished Ph.D. Thesis, Instituto de Biociências, Universidade de São Paulo, São Paulo
- Maldonado-Ocampo JA, Ortega-Lara A, Usma JS et al (2005) Peces de los Andes de Colombia. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá
- Mojica JI, Castellanos C, Sánchez-Duarte P, Díaz C (2006) Peces de la cuenca del río Ranchería, La Guajira, Colombia. Biota Colombiana 7(1):129–142