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## Literature published on the naked tetra *Gymnocharacinus bergii* (Characiformes: Characidae: Gymnocharacinae) from Patagonia, Argentina

Literatur über den Messingsalmler *Gymnocharacinus bergii* (Characiformes: Characidae: Gymnocharacinae) aus Patagonien, Argentinien

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**Summary:** Important articles about the remarkable neotropical naked tetra *Gymnocharacinus bergii* are listed, poorly known or published in journals hardly to obtain.

**Key words:** *Gymnocharacinus bergii*, Patagonia, endemism, Somuncurá, Río Negro

**Zusammenfassung:** Wesentliche, z.T. wenig bekannte oder in relativ unbekanntem Journalen publizierte Arbeiten über den bemerkenswerten neotropischen Messingsalmer *Gymnocharacinus bergii* werden vorgestellt.

**Schlüsselwörter:** *Gymnocharacinus bergii*, Patagonien, Endemismus, Somuncurá, Río Negro

The scaleless characid *Gymnocharacinus bergii* Steindachner, 1903 is a stenothermic teleost fish restricted to the headwaters of the Valcheta stream at the Somuncurá plateau in the Argentinean province of Río Negro. This species is highly threatened by salmonids (*Oncorhynchus mykiss* and *Salvelinus fontinalis*) introduced into its natural environment in 1941 and human activities such as channel drainages and cattle breeding. The species now is classified as "Endangered" in the Red Data Book IUCN 1996. Nowadays, protective measures are planned by the government of the Río Negro province in cooperation with the National Parks Administration to isolate the headwaters of the Valcheta stream by a barrier keeping off salmonids that ascend in winter when rain increases the current and water temperature decreases.

*G. bergii* is of no commercial value. However, due to its unique position within the Characiformes, its endemic occurrence and restricted distribution far south in a thermal stream of northern temperate Patagonia this species was studied or at least mentioned by numerous native and foreign inves-

tigators during the years. Unfortunately, publications about this remarkable teleost are widely dispersed in journals and in languages often less known to researchers. Therefore, we present herein a list of the most informative articles on this species and all officials and researchers involved in conservation management of *G. bergii* or other studies are encouraged to contact either of the authors for help in translations of the papers presented herein (S.K. for German and S.O. for Spanish).

In the past *G. bergii* has been mentioned in many faunistic and other articles that are only included in our list, if they contain some new information. In addition, we included some studies dealing with the area of the Somuncurá Plateau, where *G. bergii* is exclusively distributed, and some others about distribution patterns of Patagonian freshwater fishes.

Literature is listed in chronological order; for literature written in Spanish or German, english keywords are provided in [brackets]. Because most journals listed below are little known we give complete bibliographical details of the publications.

**1903**

STEINDACHNER, F. 1903a. Über einige neue Fisch- und Reptilienarten des k. k. naturhistorischen Hofmuseums. Anzeiger der Akademie der Wissenschaften Wien 40, 17-18. [original description]

STEINDACHNER, F. 1903b. Über einige neue Reptilien- und Fischarten des Hofmuseums in Wien. Sitzungsberichte der kaiserlichen Akademie der Wissenschaften zu Wien 112, 15-22. [complimentary description]

**1936**

POZZI, A.J. 1936. Nota sobre el „*Gymnocharacinus bergii*“ Steindachner. Physis 12, 161-165. [systematics, complimentary history]

**1938**

MAC DONAGH, E. 1938. Contribución a la sistemática y etología de los peces fluviales argentinos. Revista del Museo de La Plata 1, 119- 208. [systematics]

**1975**

RINGUELET, R. A. 1975. Zoogeografía y ecología de los peces de aguas continentales de la Argentina y consideraciones sobre las áreas ictiológicas de América del Sur. Ecosur 2, 1-122 [zoogeography]

**1978**

BACK, H.E. 1978. Wiederentdeckung des Messingsalmlers. Naturwissenschaftliche Rundschau 31, 26-27. [rediscovery]

GÉRY, J. 1978. Results of Dr. K.H. Lülings research in Argentina: The relationships of the naked characid *Gymnocharacinus bergii* (Pisces, Cypriniformes, Characoidei), from Northern Patagonia. Zoologischer Anzeiger 201, 403-409.

LÜLING, K.H. 1978a. Nuevo hallazgo y notas sobre *Gymnocharacinus bergii* Steindachner, 1903 (Characidae, Tetragonopteridae). Revista de Biología del Uruguay 6, 19-29. [rediscovery]

LÜLING, K.H. 1978b. Wissenschaftliche Ergebnisse des Forschungsaufenthaltes Dr. K.H. Lülings in Argentinien 1975: Über den Biotop des patagonischen Messingsalmlers *Gymnocharacinus bergii* (Pisces, Characoidei). Zoologischer Anzeiger 201, 410-423. [detailed information on the habitat]

LÜLING, K.H. 1978c. Der schuppenlose Messingsalmler (*Gymnocharacinus bergii*) aus Patagonien. TI – Tatsachen und Informationen aus der Aquaristik 41, 28. [abstract of 1978b]

LÜLING, K.H. 1978d. Die Wiederentdeckung und die erste Ausstellung des patagonischen Messingsalmlers, *Gymnocharacinus bergii*, in einem Schauaquarium. Der Zoologische Garten N.F. 48, 167-176. [rediscovery, first exhibition in a public aquarium]

**1980**

SCHMETTKAMP, W. 1980. Patagonischer Messingsalmler, *Gymnocharacinus bergii*. Erste Ergebnisse aus Aquarienbeobachtungen zum Verhalten, zur Ernährung und der Fortpflanzung. Das Aquarium 135, 450-453. [behaviour, feeding and reproduction in the aquarium]

**1983**

LÜLING, K.H. 1983. Die Wiederentdeckung des Patagonischen Messingsalmlers *Gymnocharacinus bergii* und seine Lebensweise. Natur und Museum 113, 112-118. [rediscovery, biology]

MIQUELARENA, A.M., & R.H. ARÁMBURU. 1983. Osteología y lepidología de *Gymnocharacinus bergii* (Pisces, Characidae). Limnobiós 2, 491-512. [osteology, scales]

**1992**

WĘGRZYN, D., C. UBEDA, & S. ORTUBAY. 1992. Conservación de *Gymnocharacinus bergii* (Characidae). Una propuesta de manejo sobre el arroyo Valcheta, Río Negro, Argentina. 1er. Simposio y Taller de Ictiología, UACH, Valdivia, Chile [conservation, proposal for management of habitat]

WĘGRZYN, D., C. UBEDA, S. ORTUBAY, M.I. GIL, & L. CÚRTOLO. 1992. Plan de Manejo de la Cuenca del arroyo Valcheta. Parte 1. El Recurso Ictico. pp 1-66. Dirección de Pesca, Subsecretaría de Recursos Naturales, Ministerio de Economía de Río Negro. [conservation, proposal for management of habitat]

**1993**

BESSERA E., S. ORTUBAY, D. PAZ BARRETTO, D. WĘGRZYN, & A. MORETTI. 1993. Propuesta de manejo integrado de las cuencas hidrográficas de la provincia de Río Negro, Argentina. Parte 2. Cuenca del arroyo Valcheta. Gestión en Recursos Naturales, Un enfoque integrado para el desarrollo. III Congreso Internacional, Pucón, Chile, presented on congress but yet unpublished. [conservation, proposal for management of habitat]

**1994**

CUSSAC, V., & S. ORTUBAY. 1994. Reabsorción de la escama en *Gymnocharacinus bergii* (Pisces, Characidae): su relación con la talla. Tankay 1, 226-228. [scale reabsorption]

ORTUBAY, S., & V. CUSSAC. 1994. Morfometría, relación largo-peso e índice gonadosomático de *Gymnocharacinus bergii* (Pisces, Characidae), en el arroyo Valcheta, Provincia de Río Negro, Argentina. Tankay 1, 254-255. [morphometry, gonadosomatic index]

ORTUBAY, S., S. GÓMEZ, & V. CUSSAC. 1994. Determinación de las temperaturas letales máximas

- de *Gymnocharacinus bergi* (Pisces, Characidae). Tankay 1, 256-258. [upper and lower lethal temperatures]
- ORTUBAY, S., L. SEMENAS, C. UBEDA, A. QUAGGIOTTO, & G. VIOZZI. 1994. Catálogo de peces dulceacuícolas de la Patagonia argentina y sus parásitos metazoos, pp. 1-110. Subsecretaría de Recursos Naturales, Río Negro, Argentina. [fish parasites]
- 1995**
- MENNI, R.C., & S.E. GÓMEZ. 1995. On the habitat and isolation of *Gymnocharacinus bergi* (Pisces, Characidae). Environmental Biology of Fishes 42, 15-23
- ORTUBAY, S.G., D.R. WĘGRZYN, & V.E. CUSSAC. 1995. Distribución, comportamiento y hábitat de *Gymnocharacinus bergi* (Pisces, Characidae) en el arroyo Valcheta, Río Negro, Argentina, p. 288. In: Resúmenes Reunión Argentina de Ecología, Universidad de Mar del Plata, Mar del Plata [distribution, behaviour, habitat]
- 1997**
- ESCALANTE, A.H., & R.C. MENNI. 1997. Dieta alimentaria de la «mojarra desnuda» *Gymnocharacinus bergi* en aguas termales de la Patagonia, Argentina., pp 1-42 In : Resúmenes de la XVIII Reunión Argentina de Ecología, Universidad de Buenos Aires, Facultad de Agronomía, Buenos Aires. [feeding preferences]
- ORTUBAY, G.S., S.E. GÓMEZ, & V.E. CUSSAC. 1997. Lethal temperatures of a neotropical fish relict in Patagonia, the scale-less characinid *Gymnocharacinus bergi*. Environmental Biology of Fishes 49, 341-350.
- 1998**
- BELLO, M.T., & C.A. UBEDA. 1998. Estado de conservación de los peces de agua dulce de la Patagonia. Aplicación de una metodología objetiva. Gayana Zoológica 62, 45-60. [conservation status of patagonian freshwater fishes, application of objective method]
- ORTUBAY, S.G. 1998. Biología de *Gymnocharacinus bergi* Steindachner, 1903 (Pisces, Characidae). Tesis Doctoral, pp. 1-186., Universidad Nacional del Comahue, San Carlos de Bariloche. [distribution, lethal temperatures, biology; reproduction and life cycle, osteology, bone and scale reduction]
- ESCALANTE, A.H., & R.C. MENNI. 1999. Feeding ecology of the relict fish *Gymnocharacinus bergi*, a characid from southern South America. Water SA 25, 529-532
- 2000**
- ORTUBAY, S. & V. CUSSAC. 2000. Threatened fishes of the world: *Gymnocharacinus bergi* Steindachner, 1903 (Characidae). Environmental Biology of Fishes 58, 144.
- LOZADA, M., S. ORTUBAY & V. CUSSAC. 2000. Fright reaction in *Gymnocharacinus bergi* (Pisces, Characidae), a relict fish from Patagonia. Environmental Biology of Fishes 58, 227-232.
- 2002**
- BELLO, M.T. 2002. Los peces autóctonos de la Patagonia Argentina. Distribución natural. Cuadernos Universitarios 43, 1-54, Universidad Nacional del Comahue, San Carlos de Bariloche. [references list of native Patagonian fishes]
- CUSSAC, V.E. & S.G. ORTUBAY. 2002. Gametogenesis and development of *Gymnocharacinus bergi* (Pisces: Characidae): reproductive mode relative to environmental stability. Environmental Biology of Fishes 63, 289-297.
- ETCHEGOIN, J.A., F. CREMONTE, & A.H. ESCALANTE. 2002. *Steganoderma (Steganoderma) valchetensis* n.sp. (Digenea: Zoogonidae) from the relict fish *Gymnocharacinus bergi* (Osteichthyes: Characidae) in Argentina. Systematic Parasitology 51, 149-153.
- ORTUBAY, S.G., M. LOZADA, & V.E. CUSSAC. 2002. Aggressive behaviour between *Gymnocharacinus bergi* (Pisces, Characidae) and other neotropical fishes from a thermal stream in Patagonia. Environmental Biology of Fishes 63, 341-346.
- 2003**
- BAIGÚN, C., & R. FERRIZ. 2003. Distribution patterns of native freshwater fishes in Patagonia (Argentina). Organism Diversity & Evolution 3, 151-159.
- 2004**
- CUSSAC, V., S. ORTUBAY, G. IGLESIAS, D. MILANO, M. E. LATTUCA, J.P. BARRIGA, M. BATTINI, & M. GROSS. 2004. The distribution of South American galaxiid fishes: the role of biological traits and post glacial history. Journal of Biogeography 31, 103-121.
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