Environmental Biology of Fishes **50**: 104, 1997.

Threatened fishes of the world: *Iberocypris palaciosi* Doadrio, 1980 (Cyprinidae)

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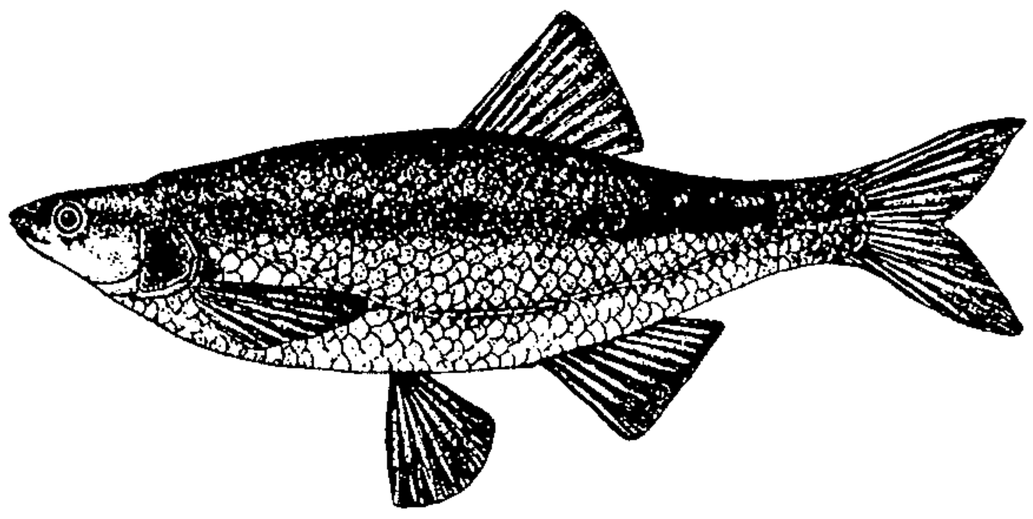
Common name: Bogardilla (Sp).
Conservation status: Threatened (Spanish National Catalogue of Threatened Species and Council Directive of the EEC on the Conservation of Natural Habitats, Annex II).
Identification: D 3/7–8(9), A 3/8–9, LL 9–10/45–53/4–5, pharyngeal teeth 5–5, 5.1–1.5 or 5.1–5, gill rakers 10–20, vertebrae 35–36. A small sized (up to 15.5 cm SL) fish, relatively slender with a small head. Body covered with scales, brownish-green to grey, sides yellowish, belly white; fins mostly yellowish; a dark iridescent band from the eye to the tail fin. Head pointed with the mouth on the lower side of the snout and slightly angled.



Drawing by J. C. Arenillas (see Doadrio 1980).
Distribution: It is found in the Guadalquivir River and its right side tributaries Rumblar, Jándula and Robledo, southern Spain. Known by the local fishermen, the bogardilla was discovered in 1978 and described in 1980. **Abundance:** The species is locally abundant. There are about 300 preserved specimens kept in the collections of the National Museum of Natural Sciences, Madrid, Spain. **Habitat and ecology:** The bogardilla lives in middle reaches of rivers with moderate to high flow and relatively abundant aquatic plants. Accompanying fishes are *Barbus sclateri*, *Chondrostoma willkommii*, *Leuciscus pyrenaicus*, *Rutilus lemmingii*, *Tropidophoxinellus alburnoides* (Iberian endemic Cyprinidae), *Cobitis paludica* (Iberian endemic Cobitidae) and *Micropterus salmoides* (exotic Centrarchidae). Feeding ecology is unknown. **Reproduction:** Little studied but is believed to spawn in April. Fecundity ranges from 800 to 3200 eggs per female (mean = 1838, for twenty females with a mean weight of 25.9 g). Females greatly outnumber males (sex-ratio = 16.8 : 1); this fact together with the distinct karyological formulations obtained by Álvarez et al. (1986) (2n = 50, 3n = 75 and 4n = 100) suggests the existence of unisexual populations of hybrid origin. **Threats:** Recent occurrence of an exotic fish predator, *Micropterus salmoides*, is reputed to be one of the main causes of disturbance (Elvira 1996). Other factors of risk are the presence of large dams with consequent water flow regulation and the increasing water pollution (Elvira 1995). In fact, water quality of some monitored localities is insufficient, with physico-chemical levels under the values stated by the EEC Directive about Freshwaters of 1978 (Doadrio et al. 1991). **Conservation action:** The species is officially protected by the Spanish National Catalogue of Threatened Species of 1990, under the Annex II 'species of special interest'. The Council Directive of the EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora of 1992 includes the bogardilla under its Annex II 'species of Community interest whose conservation requires the designation of special areas of conservation'. The Spanish Red Data Book (Blanco & González 1992) considered it as 'insufficiently known' (K). A part of the known distribution range of the species (including the type locality) is protected by the Natural Park 'Sierra de Andújar' declared on 1989. **Conservation recommendations:** Control and eventual erradication of acclimatized fish, as well as a permanent control of wastes, water quality levels and river water flows. Some specimens ought to be kept alive in aquarium and reproduced in captivity. **Remarks:** Controversy about acceptance of the bogardilla as a valid species remains unresolved: (1) It maybe a part of a diploid-polyploid complex related or not with the already described in Portugal diploid-triploid '*Tropidophoxinellus alburnoides* complex', (2) it can be regarded as a member of the '*Leuciscus souffia* complex', and (3) it is an hybrid between *Leuciscus* and *Chondrostoma*, or other related genera. However, eventual hybridization, hybridogenesis or gynogenesis occurring in wild populations of bogardilla are still untested. Understanding of its taxonomic and systematic relationships requires, together with further genetic studies, a better knowledge of its reproductive style.

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