

## THREATENED FISHES OF THE WORLD: *Iberochondrostoma almacai* COELHO, MESQUITA & COLLARES-PEREIRA, 2005 (Cyprinidae)

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### ABSTRACT

*Iberochondrostoma almacai* is an endemic cyprinid fish from the southwest of the Iberian Peninsula, with a distribution area restricted to three independent Portuguese river basins. This species is critically endangered due to water abstraction, pollution, habitat destruction and introduction of exotic species. Captive breeding for restocking purposes is already being conducted.

### COMMON NAME

Boga do Sudoeste (Portuguese) (Fig 1).

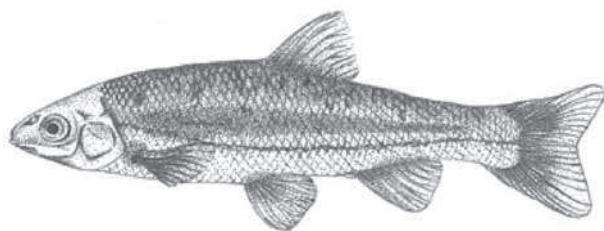


Fig 1. *Iberochondrostoma almacai* sampled at the River Arade (Scientific illustration by Clara Almada)

### CONSERVATION STATUS

Critically Endangered (Portuguese Red Data Book - Cabral et al., 2005).

### IDENTIFICATION

This small cyprinid (up to 148 mm TL) presents 45-53 scales in the lateral line, 10.5-12 scales above the

lateral line and 3.5-5.5 scales below the lateral line (Coelho et al., 2005).

### DISTRIBUTION

This species is endemic to the southwest Portuguese drainages of the Mira, Arade and Bensafrim (Ribeiro et al., 2007).

### ABUNDANCE

The species is highly fragmented and has a small distribution range. Genetic data indicate a population decrease in the last 100 to 2400 years, probably as a result of anthropogenic disturbance (range of estimated effective population size 25-163) (Sousa et al., 2010).

### HABITAT AND ECOLOGY

This fish lives in small or medium-sized Mediterranean-type streams surviving the summer in small pools under the shade of vegetation.

## REPRODUCTION

*I. almacai* breeds from January to April. Both sexes mature at age 2. This species presents high fecundity. A female with 100 mm may release more than 3000 eggs (Magalhães, 2002).

## THREATS

Water abstraction and pollution affect fish directly and lead to severe habitat destruction. Additionally, the construction of dams and the introduction of exotic species are thought to contribute to the decrease of sub-populations, mainly in the River Arade.

## CONSERVATION

*Ex-situ* reproduction is already being implemented (<http://exsitu.quercusan.cn.pt/>) and the River Mira was already restocked in 2013 with more than 900 captive bred individuals (descendants from a brood stock captured in the same river basin to preserve the gene pool of the original population).

## CONSERVATION RECOMMENDATIONS

Riparian habitat recovery and digging pools where fish can survive extreme summer droughts are imperative river rehabilitation measures. Selective removal of exotic species should also be implemented as they compete with endemic species and prey on them. Since the genetic diversity index values obtained for the cytochrome *b* gene are moderately low (Sousa-Santos et al., 2013), measures to implement gene flow within the two described conservation units (mainly represented by the Mira and Arade rivers) are recommended to enhance genetic diversity (Sousa et al., 2010).

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## Sažetak

### UGROŽENE VRSTE RIBA U SVIJETU: *Iberochondrostoma almacai* COELHO, MESQUITA & COLLARES-PEREIRA, 2005 (Cyprinidae)

*Iberochondrostoma almacai* je endemska vrsta ribe s jugozapada Iberijskog poluotoka, nastanjena u ograničenom području triju nezavisnih portugalskih riječnih slivova. Ova vrsta posebno je ugrožena zbog raznih vodozahvata, zagađenja, uništavanja staništa i uvođenja egzotičnih vrsta. U tijeku je uzgoj ove vrste za daljnje provođenje poribljavanja.

**Ključne riječi:** *Iberochondrostoma almacai*, endemske vrste, konzervacija, poribljavanje

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