

A New Record of *Osteochilus spilurus* Bleeker, 1851 (Teleostei, Cyprinidae) in Bangka and Belitung Island, Indonesia

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ABSTRACT

Osteochilus spilurus is native freshwater fish in Sundaland. Previous records of this species in Indonesia indicate a dispersed gap between The Sumatera and the Kalimantan Islands, namely Bangka Belitung Archipelago. A new record in Bangka and the Belitung Islands completes its distribution in Southeast Asia. Fishes with *O. spilurus* morphological characters have been found in five separate regencies.

Keywords: Sundaland, Fish distribution, Southeast Asia

Introduction

Land interactions allow freshwater fish to be dispersed naturally in Indonesia during the Pleistocene. Freshwater fish zoogeography in Southeast Asia reveals that the Sumatra-Kalimantan-Java Islands area has the same native species as part of the Sundaland (Zakaria, 1994). Of these, *Osteochilus spilurus* is present in sluggish freshwater rivers (Kottelat *et al.*, 1993; Haryono and Wahyudewantoro, 2020). The position of lesser concern on it (Huckstorf, 2012) induces a limited distribution of human factors.

In Bangka, Belitung, and Java Islands, there is no record of distribution until 2019 (GBIF, 2019). The last statement on the eastern island of Belitung varies from previous studies on economic benefits, capturing and eating this fish (Kurniawan *et al.*, 2020), and the rise of artificial habitat (Kurniawan *et al.*, 2019). Its natural distribution on the Bangka and

Belitung Islands is important to complete information on the distribution in Southeast Asia and to help its efforts to domesticate aquaculture commodities.

Materials and Methods

In this study, five separate regencies were selected for sampling sites in Bangka and Belitung Islands, Indonesia. Two locations are on Belitung Island, namely Lenggang River (2°55'09.5 "S 108°06'35.4" E) in East Belitung Regency and Air Tering River (3°02'38 "S, 107°40'13 "E) in Belitung regency. Another location is on Bangka Island, a small river of Bencah Village (2°46'03" S, 106°23'48" E) in South Bangka Regency, Lebak River (2°4'38" S, 105°51'53 "E) in Bangka regency, and Lelabi river (1°50'43.7" S, 105°44'57.6" E) in West Bangka Regency. Sampling was conducted during March 2019 until July 2020. This fish does not require special permits and

collected from natural catches using fish traps for wide rivers and scoops for small rivers. Specimens were observed by Weber and de Beaufort (1916) key morphological characteristics of *Osteochilus spilurus* to identify the species.

Results

We found fishes from the five sampling sites in the Bangka and Belitung Islands have been described as *Osteochilus spilurus*. They have a specific morphological character of Weber and de Beaufort (1916) describe, follows: compressed body, snout pointed, dorsal height gradually rising before dorsal fin, prominent with numerous small pores, long maxillary barbels, 28-30 scales lateral line, dorsal fin rays 12-13 and start from on the 7th or 8th scale of lateral line, caudal fin emarginate shape, and a large black blotch on the caudal peduncle. Twenty individuals of each sampling site are labeled and immersed in a 5% formalin solution and then placed in Brawijaya Ichthyologicum Depository, Malang. Standard lengths of them ranging from 61.04 to 22.44 mm.



Fig. 1. Specimen of *Osteochilus spilurus*.

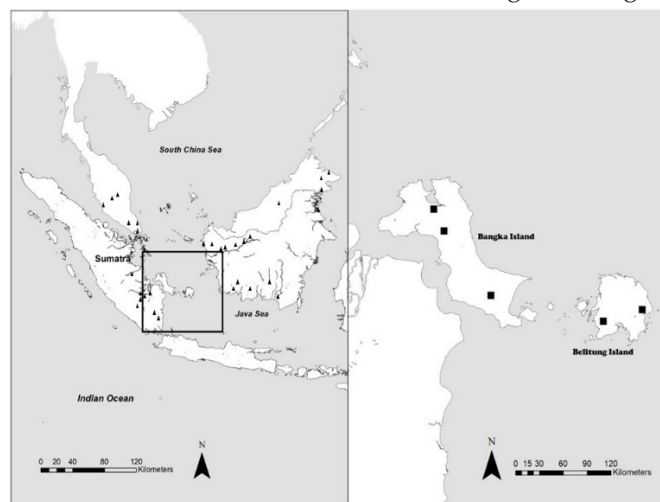


Fig. 1. Distribution of *O. spilurus* in Sundaland (Southeast Asia). Black triangles are previous records before 2019 (GBIF, 2019). Black squares are the recent record in Bangka and Belitung Islands.

Discussion

O. spilurus presence on Bangka Island and Belitung Island is an essential supplementary record in Southeast Asia. Currently, Bangka Belitung Archipelago between Bangka Strait and Karimata Strait are not barriers to the spread of this species. These records solve the Sundaland distribution gap. Figure 2 indicates the more complete distribution of this species in Southeast Asia.

Geographically, the islands of Bangka and Belitung are included in the part of Sundaland during Pleistocene period. We estimate that rivers that were related spread *spilurus* in the past, including to Bangka and Belitung Islands. Historical events affect how ichthyofauna is distributed (Berendzen *et al.*, 2003). Ancient river is a historical barrier for ichthyofauna migration (Waters *et al.*, 2001; Mayden, 1988). Bangka and Belitung islands are related to the modern Indragiri, Hari, and Musi rivers on the island of Sumatra, Kapuas river in West Kalimantan on the ancient northern Sundanese rivers (Voris, 2000; Hutama *et al.*, 2016). However, it is also possible to become the upstream portion of the East Sunda Purba river that connects the southern part of the island of Sumatra, Java Island, and the south of the island of Kalimantan with the estuary in the Java Sea (Kusuma *et al.*, 2016). The lack of economic usage made the study of *O. spilurus* more precise in its distribution.

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