

## ***Osteochilus spilurus* (a fish, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, March 2012

Revised, April 2018, August 2018

Web Version, 8/21/2018



Image: Published by Zoologische Mededelingen, from an illustrated translation of Bleeker's Fishes of the Indian Archipelago Part II Cyprini. Licensed under Creative Commons BY 3.0. Available: [https://commons.wikimedia.org/wiki/File:Osteochilus\\_spilurus\\_Bleeker.jpg](https://commons.wikimedia.org/wiki/File:Osteochilus_spilurus_Bleeker.jpg).

## **1 Native Range and Status in the United States**

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### **Native Range**

From Huckstorf (2012):

“The species is known from running and standing waters in Thailand (e.g., Toh Daeng peat swamp; Kottelat *et al.* 1993), Malaysia (Peninsular and Sarawak (e.g., the Rajang basin; Parenti and Lim 2005), Indonesia (Kalimantan (in the Kapuas River, to at least the Kapuas lakes; Kottelat *et al.* 1993), Sumatra, Java), and Brunei Darussalam. Possibly also present in Sabah [Malaysian state on the island of Borneo].”

Ng and Lim (1997) list *O. spilurus* among freshwater fishes native to Singapore that have been extirpated from that country.

## Status in the United States

This species has not been reported as introduced or established in the United States. There is no indication that this species is in trade in the United States.

## Means of Introductions in the United States

This species has not been reported as introduced or established in the United States.

## Remarks

Eschmeyer et al. (2018) report *Labeo moszkowskii* and *Rohita oligolepis* as synonyms of *Osteochilus spilurus*. *O. spilurus* was originally described as *Dangila spilurus*. All of these scientific names were used to search for information for this report.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2018):

“Kingdom Animalia  
Subkingdom Bilateria  
Infrakingdom Deuterostomia  
Phylum Chordata  
Subphylum Vertebrata  
Infraphylum Gnathostomata  
Superclass Actinopterygii  
Class Teleostei  
Superorder Ostariophysii  
Order Cypriniformes  
Superfamily Cyprinoidea  
Family Cyprinidae  
Genus *Osteochilus*  
Species *Osteochilus spilurus* (Bleeker, 1851)”

From Eschmeyer et al. (2018):

“Current status: Valid as *Osteochilus spilurus* (Bleeker 1851). Cyprinidae: Labeoninae.”

### Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 10.2 cm SL male/unsexed; [Martin-Smith 1996]”

## **Environment**

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

## **Climate/Range**

From Froese and Pauly (2018):

“Tropical”

## **Distribution Outside the United States**

### **Native**

From Huckstorf (2012):

“The species is known from running and standing waters in Thailand (e.g., Toh Daeng peatswamp; Kottelat *et al.* 1993), Malaysia (Peninsular and Sarawak (e.g., the Rajang basin; Parenti and Lim 2005), Indonesia (Kalimantan (in the Kapuas River, to at least the Kapuas lakes; Kottelat *et al.* 1993), Sumatra, Java), and Brunei Darussalam. Possibly also present in Sabah [Malaysian state on the island of Borneo].”

Ng and Lim (1997) list *O. spilurus* among freshwater fishes native to Singapore that have been extirpated from that country.

### **Introduced**

This species has not been reported as introduced or established outside of its native range.

## **Means of Introduction Outside the United States**

This species has not been reported as introduced or established outside of its native range.

## **Short Description**

From Alfred (1966):

“In *O. spilurus* there are numerous small pores on the snout and the lateral line scales are relatively fewer, being 29 or 30.”

## **Biology**

From Huckstorf (2012):

“In Danau Sentarum National Park in Indonesia, the species is common and abundant in creeks and small water bodies in the forest (Kottelat and Widjanarti 2005).”

“Also found in peatswamp forest.”

From Choy and Chin (1994):

“This species is found co-existing with *Puntius collingwoodi* and *Hampala bimaculata*, in the deeper, slow-flowing channels of the larger streams.”

From Yap (1988):

“herbivore”

## **Human Uses**

From Huckstorf (2012):

“Possibly found in subsistence fisheries.”

Sule et al. (2016) report that *O. spilurus* is used in the ornamental trade in Malaysia.

## **Diseases**

No information available. No OIE-reportable diseases have been documented for this species.

## **Threat to Humans**

From Froese and Pauly (2018):

“Harmless”

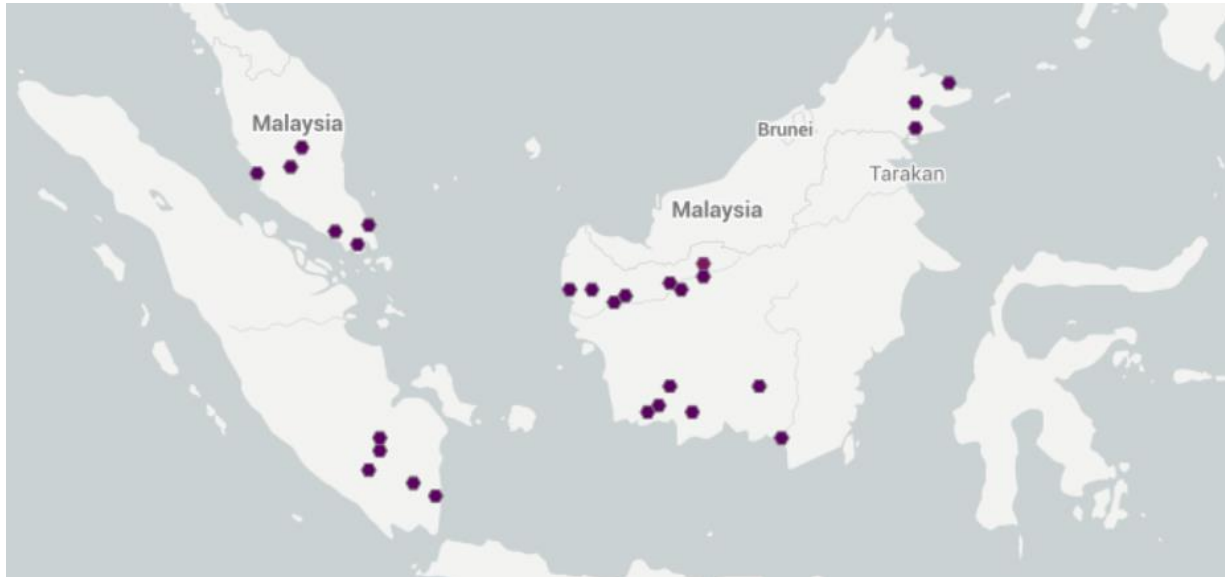
## **3 Impacts of Introductions**

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This species has not been reported as introduced or established outside of its native range.

## 4 Global Distribution

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**Figure 1.** Known global distribution of *O. spilurus*, reported from Southeast Asia. Map from GBIF Secretariat (2017). No georeferenced occurrences are available for *O. spilurus* in Thailand or Brunei.

## 5 Distribution Within the United States

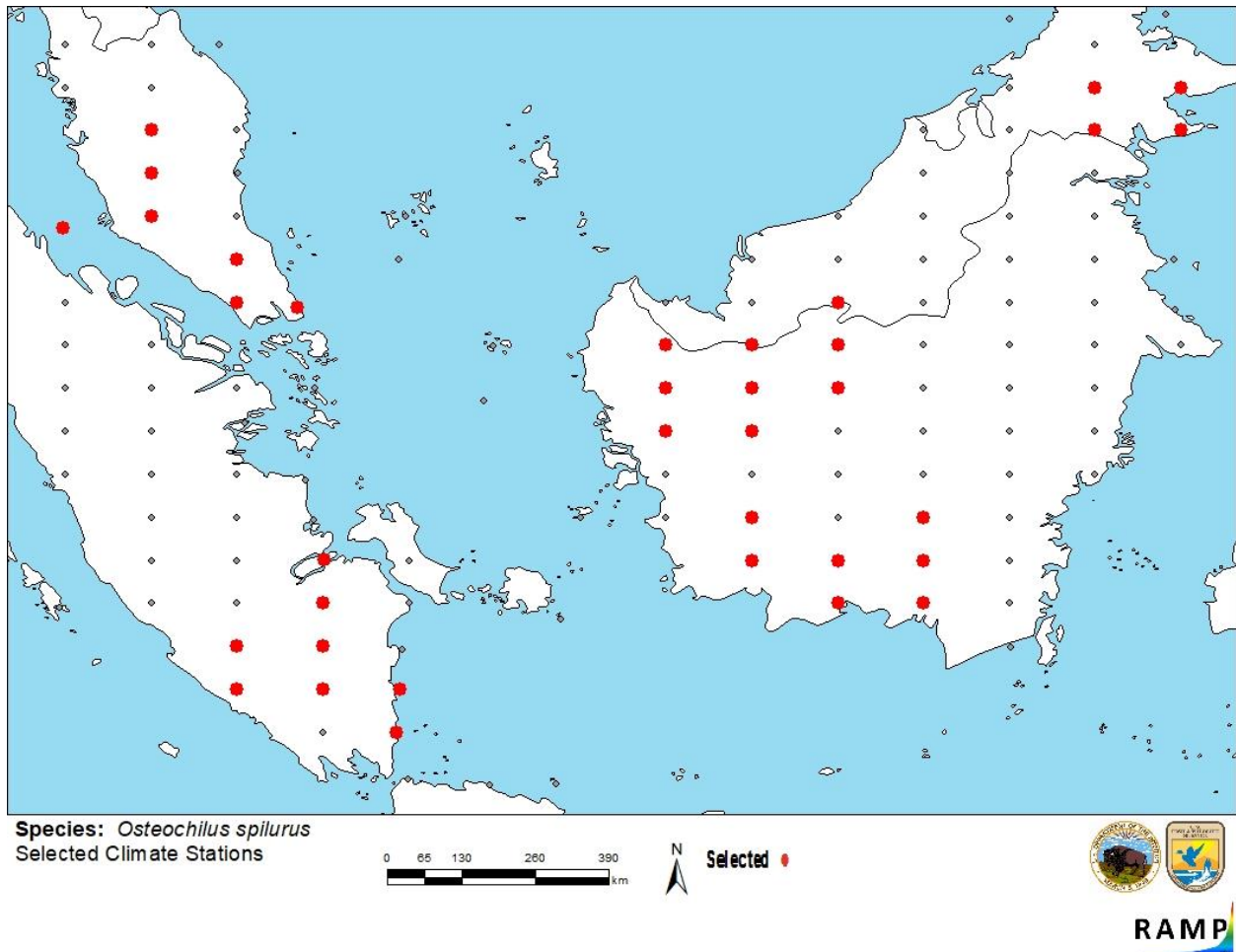
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This species has not been reported as introduced or established in the United States.

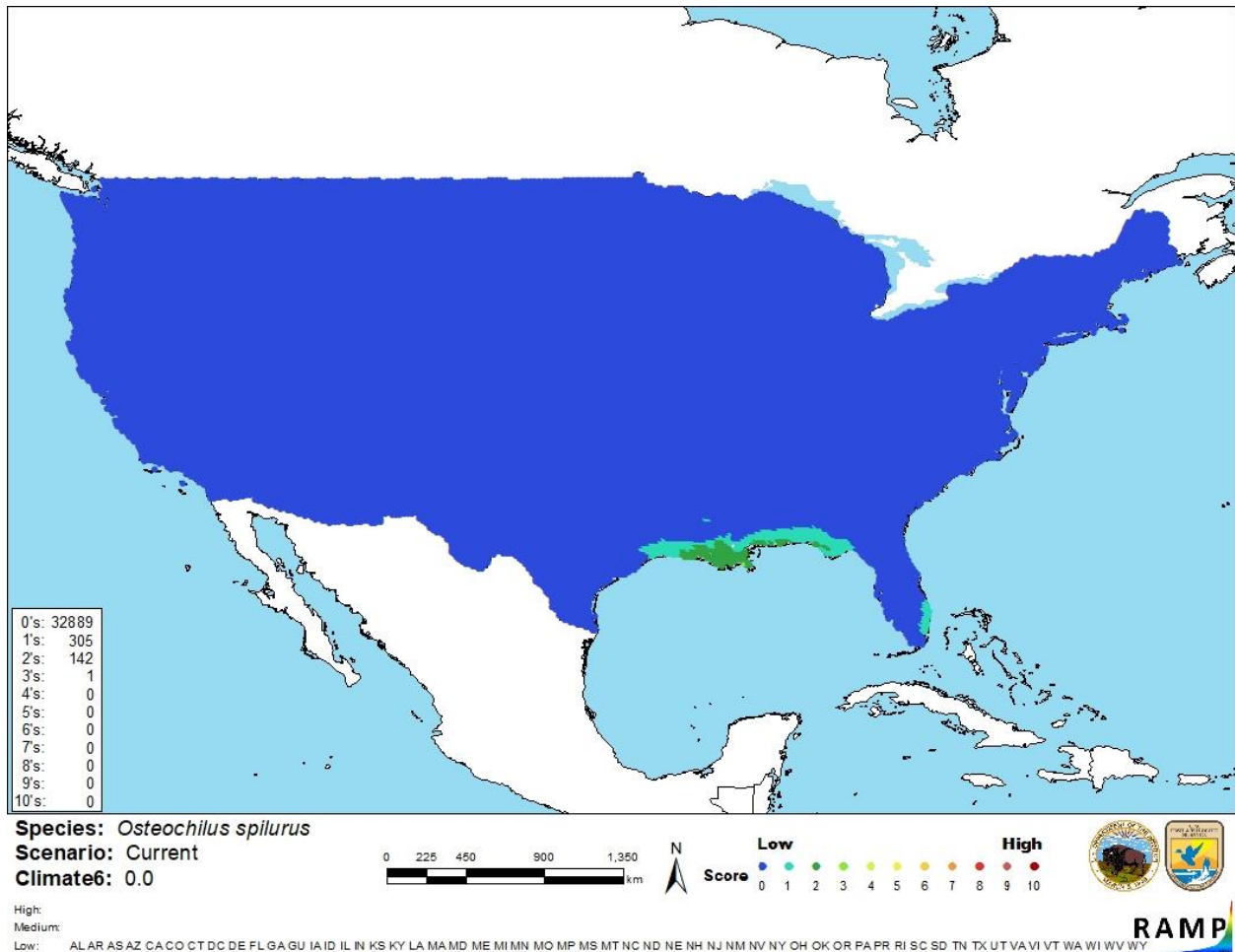
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2018; 16 climate variables; Euclidean distance) was low throughout the contiguous United States, reflected in a Climate 6 score of 0.000. Scores of 0.005 and lower are classified as low match. Although still considered a low match, the climate match was slightly higher along the Gulf Coast and in southeastern Florida.



**Figure 2.** RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Malaysia, Indonesia) and non-source locations (gray) for *Osteochilus spilurus* climate matching. Source locations from GBIF Secretariat (2017).



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Osteochilus spilurus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

There is little information available about the biology and ecology of *Osteochilus spilurus*. No introductions of this species have been reported, so any impacts of introduction remain unknown. Further information is needed to adequately assess the risk this species poses. Certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Osteochilus spilurus* is a cyprinid fish native to Southeast Asia. This species has a low climate match with the contiguous United States. The area of highest match was in Florida and along the Gulf Coast. *O. spilurus* has not been reported as introduced outside its native range, so the history of invasiveness is uncertain. It is used in the ornamental trade in Malaysia and may be found in subsistence fisheries. It is reportedly extirpated from Singapore, where it was native. Because of a lack of information on which to base a risk assessment, the certainty of this assessment is low. The overall risk assessment category is Uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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**Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.**

Alfred, E. R. 1966. The fresh-water fishes of Singapore. *Zoologische Verhandelingen* 78:3-68, plates 1-8.

Choy, S. C., and P. K. Chin. 1994. Freshwater fishes from the headwaters of the Belalong-Temburong River System, Brunei Darussalam, Borneo. *Raffles Bulletin of Zoology* 42(4):757-774.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (August 2018).

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- Yap, S. Y. 1988. Food resource utilization partitioning of fifteen fish species at Bukit Merah Reservoir, Malaysia. Hydrobiologia 157:143-160.

## 10 References Quoted But Not Accessed

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**Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.**

- Kottelat, M., and E. Widjanarti. 2005. The fishes of Danau Sentarum National Park and the Kapuas Lakes area, Kalimantan Barat, Indonesia. The Raffles Bulletin of Zoology Supplement 13:139-173.
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