1  Native Range and Status in the United States

Native Range
From Froese and Pauly (2016):

“South America: Mucujê River, tributary of the Paraguaçu River in Brazil.”

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

The parasitic catfish, *Copionodon orthiocarinatus*, is a prohibited nonnative species in Florida. According to the FFWCC (2016), “prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities.”

Means of Introductions in the United States
This species has not been reported as introduced in the United States.
2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
From ITIS (2016):

“Kingdom Animalia
    Subkingdom Bilateria
    Infrakingdom Deuterostomia
        Phylum Chordata
        Subphylum Vertebrata
            Infraphylum Gnathostomata
                Supercalss Osteichthytes
                    Class Actinopterygiii
                        Subclass Neopterygii
                            Infraclass Teleostei
                                Superorder Ostariophysi
                                    Order Siluriformes
                                        Family Trichomycteridae Bleeker, 1858
                                            Subfamily Copionodontinae de Pinna, 1992
                                                Genus Copionodon de Pinna, 1992
                                                    Species Copionodon orthiocarinatus de Pinna, 1992”

“Current Standing: valid”

Size, Weight, and Age Range
From Froese and Pauly (2016):

“Maturity: L_m ? range ? - ? cm
Max length : 7.5 cm SL male/unsexed; [de Pinna and Wosiacki 2003]”

Environment
From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

Climate/Range
From Froese and Pauly (2016):

“Tropical, preferred ?”
**Distribution Outside the United States**

Native
From Froese and Pauly (2016):

“South America: Mucujê River, tributary of the Paraguaçu River in Brazil.”

Introduced
No introductions of this species have been reported.

**Means of Introduction Outside the United States**
No introductions of this species have been reported.

**Short Description**
From Froese and Pauly (2016):

“interopercle with 2 rows of odontodes; posterior region of interopercle distant to anterior margin of pectoral fin; interopercular patch of odontodes (26-31% HL). Adipose fin large, abruptly emerging after dorsal fin. Prepelvic (47-48% SL); predorsal (47-48% SL). Head wide 89-90% HL) [Campanario and de Pinna 2000].”

**Biology**
From Bichuette et al. (2008):

“Copionodontines occur exclusively in the Chapada Diamantina, a vast and complex plateau composed of Proterozoic terrain extending along a more or less north-south axis in the State of Bahia, northeastern Brazil. Much of the plateau is above 1000 m altitude, with several peaks reaching over 2000 m. The Chapada Diamantina is drained by four different basins, rio São Francisco to the west, rio de Contas to the south, rio Paraguaçu to the east and north and rio Itapicuru to the north. So far, copionodontines have been found exclusively in drainages associated with the rio Paraguaçu. However, much of the Chapada Diamantina is accessible only with difficulty and vast portions of it remain unsampled. It is possible that copionodontine catfishes will be found to occur also in suitable environments in headwaters of the other drainages in the plateau.”

“Copionodontines occupy the upper reaches of fast-flowing streams on rocky beds, often with tiny or no water flow in the dry season. Fish tend to concentrate on quiet deep pools, though some individuals lodge in narrow rock crevices in fast flowing sectors. Habitat preferences also vary according to species. Water in the upper reaches of the Chapada Diamantina is cool and usually black (tea-stained), but there are records of copionodontines in a few clear water streams as well. Usually they share their environment with few or no other fish species.”
From Zanata and Primitivo (2014):

“[…] the life history of copionodontines is poorly known, except for a few generalizations for the subfamily. Sazima (2004) cites that “Copionodon species ... are active during the day as well as at night, although these species are less nektonic than *T. longipinnis*”.”

**Human Uses**
No information available.

**Diseases**
No information available.

**Threat to Humans**
From Froese and Pauly (2016):

“Harmless”

### 3 Impacts of Introductions
No introductions of this species have been reported.

The parasitic catfish, *Copionodon orthiocarinatus*, is a prohibited nonnative species in Florida. According to the FFWCC (2016), “prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities.”

### 4 Global Distribution

*Figure 1.* Known global established locations of *Copionodon orthiocarinatus*, reported from eastern Brazil. Map from GBIF (2016).
5 Distribution Within the United States

This species has not been reported in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low throughout the contiguous U.S., reflected in a Climate 6 proportion of 0.001. The range for Climate 6 proportions indicating a low climate match is 0.000 to 0.005.

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in eastern Brazil selected as source locations (red) and non-source locations (gray) for *Copionodon orthiocarinatus* climate matching. Source locations from GBIF (2016).
Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Copionodon orthiocarinatus* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on left.

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

<table>
<thead>
<tr>
<th>Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)</th>
<th>Climate Match Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000≤X≤0.005</td>
<td>Low</td>
</tr>
<tr>
<td>0.005&lt;X≤0.103</td>
<td>Medium</td>
</tr>
<tr>
<td>≥0.103</td>
<td>High</td>
</tr>
</tbody>
</table>

7 Certainty of Assessment

Information on the biology and range of *C. orthiocarinatus* is sparse. In addition, no introductions of the species have been reported so potential impacts are unknown. Given this lack of information, the certainty of assessment is low.
8 Risk Assessment

Summary of Risk to the Contiguous United States

*Copionodon orthiocarinatus* is a fish species native to eastern Brazil from the family Trichomycteridae. Very little is known about its biology, and it has not been reported as introduced outside its native range, so impacts of introduction are unknown. Climate match to the continental U.S. is low. Overall risk posed by *C. orthiocarinatus* 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

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


10 References Quoted But Not Accessed

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.


Sazima, I. 2004. Natural history of *Trichogenes longipinnis*, a threatened trichomycterid catfish endemic to Atlantic forest streams in southeast Brazil. Ichthyological Exploration of Freshwaters 15:49-60.