

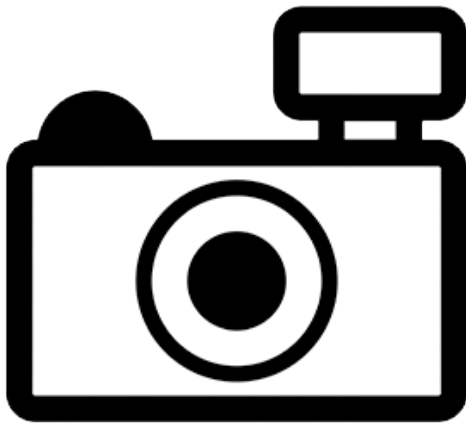
## ***Dawkinsia tambraparniei* (a fish, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, February 2013

Revised, November 2018

Web Version, 1/31/2019



No Photo Available

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

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### **Native Range**

From Froese and Pauly (2018):

“Asia: Tambraparni River basin in India.”

From Dahanukar (2015):

“*Dawkinsia tambraparniei* is endemic to the Western Ghats of India. All the current records of this species (Silas 1954, Pethiyagoda and Kottelat 2005, Johnson and Arunachalam 2009, Devi et al. 2010) are from the upper and middle reaches of Tambraparniei river basin in Tirunelveli District, southern Tamil Nadu. The range of this species, based on the hydrobasin area, is between 4,000 and 4,500 km<sup>2</sup>, however the area is highly restricted to just 1–2% of the range, of less than 100 km<sup>2</sup>.”

## Status in the United States

No records of *Dawkinsia tambraparniei* in the wild or in trade in the United States were found.

## Means of Introductions in the United States

No records of *Dawkinsia tambraparniei* in the wild in the United States were found.

## Remarks

Literature review was conducted using both *Dawkinsia tambraparniei* and the synonym *Puntius tambraparniei*.

From Kannan et al. (2013):

“In recent years, populations of *D. tambraparniei* have declined gradually due to human activities like sand mining, habitat alterations and collection of wild brooders for the aquarium trade.”

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Dawkinsia tambraparniei* (Silas, 1954) is the current valid name of this species. *Dawkinsia tambraparniei* was originally described as *Puntius arulius tambraparniei* Silas, 1954. *Dawkinsia tambraparniei* was also described as *Puntius tambraparniei* Silas, 1954.

From Froese and Pauly (2018):

“Actinopterygii (ray-finned fishes) > Cypriniformes (Carps) > Cyprinidae (Minnows or carps) > Barbinae”

### Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 12.8 cm SL male/unsexed; [Rema Devi et al. 2010]”

### Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

## Climate/Range

From Froes and Pauly (2018):

“Tropical”

## Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Asia: Tambraparni River basin in India.”

From Dahanukar (2015):

“*Dawkinsia tambraparniei* is endemic to the Western Ghats of India. All the current records of this species (Silas 1954, Pethiyagoda and Kottelat 2005, Johnson and Arunachalam 2009, Devi et al. 2010) are from the upper and middle reaches of Tambraparniei river basin in Tirunelveli District, southern Tamil Nadu. The range of this species, based on the hydrobasin area, is between 4,000 and 4,500 km<sup>2</sup>, however the area is highly restricted to just 1–2% of the range, of less than 100 km<sup>2</sup>.”

Introduced

From Magalhães and Jacobi (2013):

“Among the 65 non-native aquarium fish currently found in Brazilian inland waters are seven cyprinids, [...], *Arulius barb* *Dawkinsia tambraparniei* (Silas 1954), [...]. These nine species are [...] considered the most popular in the Brazilian aquarium trade (Alves et al. 2007). They have been constantly introduced into Atlantic Forest creeks by escapes and intentional release from ornamental fish farms located in the Paraíba do Sul River basin, southeastern Brazil (Magalhães et al. 2002; Alves et al. 2007; Magalhães and Jacobi 2008).”

## Means of Introduction Outside the United States

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## Short Description

From Pethiyagoda and Kottelat (2005):

“Description. [...]. Head and body compressed. Ventral profile gently curved; dorsal profile arched. Snout short, its length subequal to eye diameter. Mouth small, subterminal, arched, angled at about 45° to horizontal, its angle anterior to nares. A rostral fold present, not overhanging upper lip. Jaws not visible with mouth closed. Lips smooth; lower lip entire, not interrupted medially. In mature males area between upper lip, anterior naris and eye densely and finely tuberculated. A pair of maxillary barbels present, their length almost ½ eye diameter.

Dorsal-fin origin above eighth or ninth lateral-line scale. Dorsal-fin origin slightly closer to snout than to base of caudal fin. Posterior profile of dorsal fin slightly concave and emarginate in both sexes, branched rays 2–5 prolonged into filament-like extensions in mature males. Pectoral fin with one simple and 15 branched rays. Pectoral fin just reaching pelvic fin origin; pelvic fin just reaching anal-fin origin. Caudal peduncle longer than deep, its depth 68.2– 77.3% of its length.

Lateral line complete, with 19 (1) or 20 (4) or 21 (2) scales + 2, curving downward from origin until about 9th pored scale, and then proceeding linearly to middle of caudal peduncle. Predorsal scales 7.

Coloration. – Adult specimens in alcohol [...] dark brownish olive or black on back, becoming lighter on sides to white on ventral surface. A black, vertically-elongate blotch under dorsal-fin origin extending on to and above lateral-line scales 8–10, about three scales high. A second blotch on posterior-most scales of dorsal sheath, extending 2–3 scales down, becoming progressively fainter. A third vertically-elongate blotch above anal fin, on and above lateralline scales 14–16, about 3 scales high. A further blotch or bar on caudal-fin base, less-well defined than those on body. Dorsal, anal, pectoral, pelvic and caudal fins hyaline.”

## Biology

From Dahanukar (2015):

“Found in moderate flowing streams and rivers with bed rock and sandy bottom.”

## Human Uses

From Dahanukar (2015):

“Collected for the aquarium fish trade and also used as a food fish (R. Kumar per. comm.). Collection of the fish for aquarium trade could be a possible threat to the species.”

From Kannan et al. (2014):

“*Dawkinsia tambraparniei* (Silas, 1954) is a small fish, commonly known as Tamiraparani barb, and it is very popular in aquarium trade because of its brilliant body and fin colour.”

## Diseases

No information on diseases of *Dawkinsia tambraparniei* was found. **No records of OIE-reportable diseases were found for *D. tambraparniei*.**

## Threat to Humans

From Froese and Pauly (2018):

“Harmless”

## 3 Impacts of Introductions

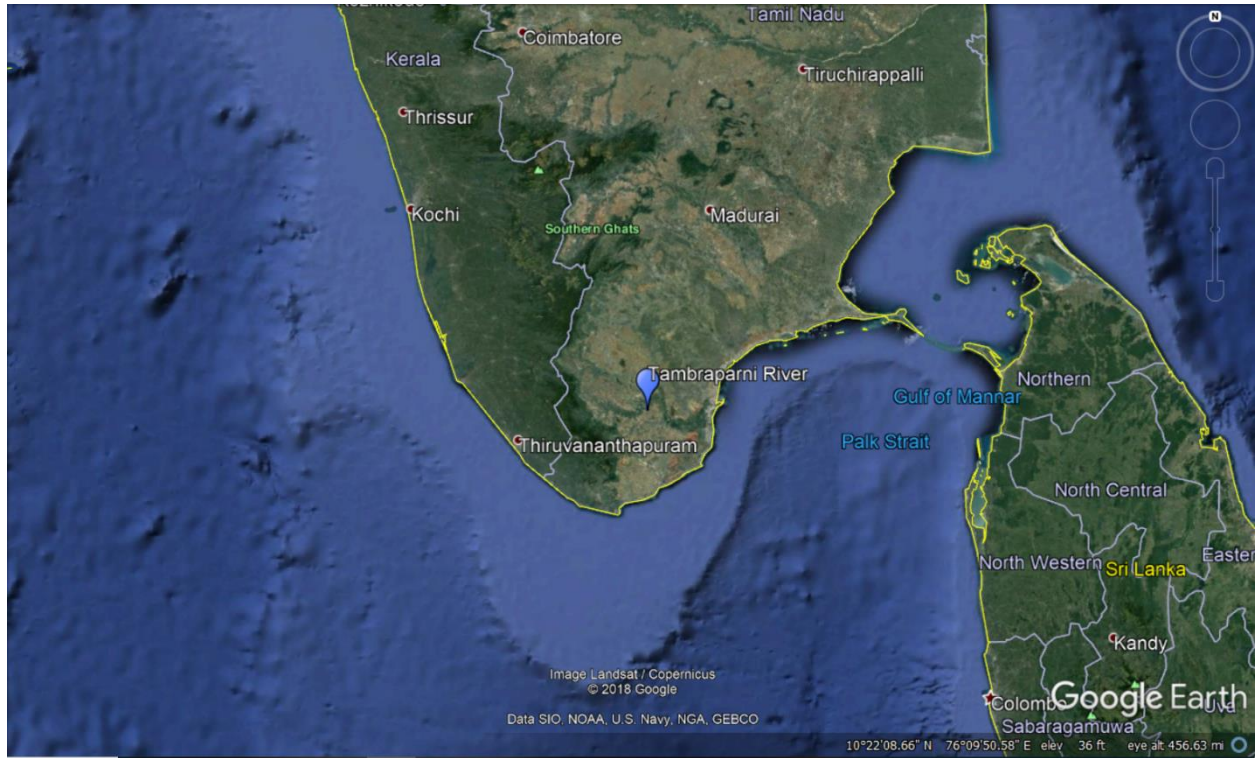
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From Magalhães and Jacobi (2013) [referring to introductions to Brazilian waters]:

“Competition for food is possible between the non-native cyprinids [...], *D. tambraparniei*, [...], and the native cichlids *G. obscurus* and *A. muriae*, since they are all omnivorous and usually live in the deep layer of streams (Froese and Pauly 2007; Menezes et al. 2007).”

## 4 Global Distribution

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**Figure 1.** Map of southern India and Sri Lanka showing locations where *Dawkinsia tambraparniei* has been reported. Location is in India. Map from Google (2018). *D. tambraparniei* range description given by Dahanukar (2015) Froese and Pauly (2018).

*Dawkinsia tambraparniei* had no georeferenced locations. Source point locations were determined with descriptions from Dahanukar (2015) and Froese and Pauly (2018).

## 5 Distribution Within the United States

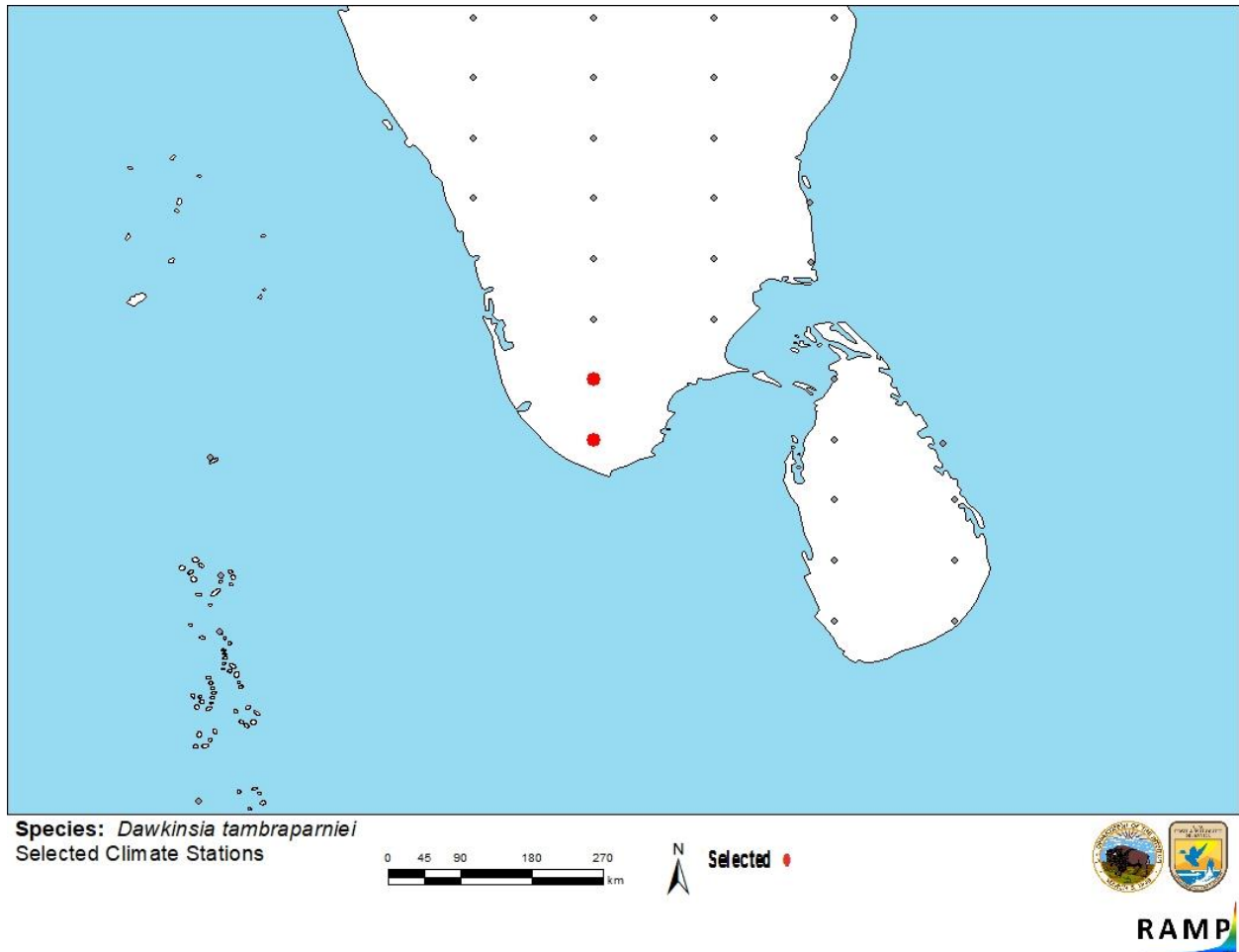
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No records of *Dawkinsia tambraparniei* in the wild in the United States were found.

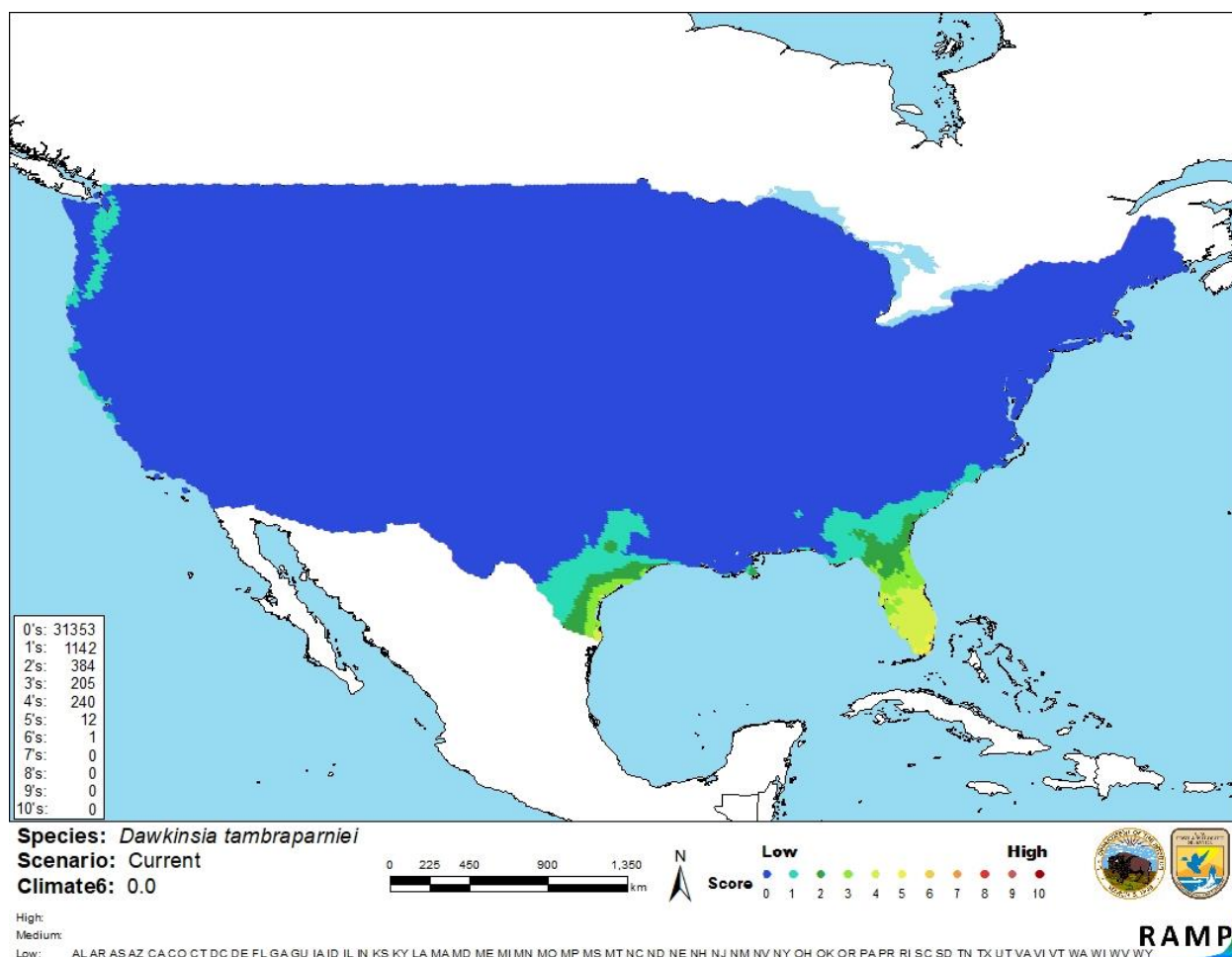
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Dawkinsia tambraparniei* was low for the majority of contiguous United States with small patches of medium match in the southern Florida and Texas. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low, with all States having low individual climate scores.



**Figure 2.** RAMP (Sanders et al. 2018) source map showing weather stations in southern India selected as source locations (red; India) and non-source locations (gray) for *Dawkinsia tambraparniei* climate matching. *D. tambraparniei* range description given by Dahanukar (2015) and Froese and Pauly (2018).



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Dawkinsia tambraparniei* in the contiguous United States based on range description given by Dahanukar (2015) and Froese and Pauly (2018). 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
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

The certainty of assessment for *Dawkinsia tambraparniei* is low. There is minimal information available for this species. Magalhães and Jacobi (2013) suggests that this species has been introduced into Brazil and is competing with native species. However, there is no information regarding if these introductions have led to an established population, exactly where these introductions have taken place, or if there is documented harm. In addition, there are no

georeferenced source point locations. Distribution of *D. tambraparniei* was based on descriptions from Dahanukar (2015) and Froese and Pauly (2018).

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Dawkinsia tambraparniei* is a freshwater fish native to the India. The history of invasiveness is none documented. Magalhães and Jacobi (2013) suggests that this species has been introduced into Brazil and is competing with native species. However, there is no information regarding if these introductions have led to an established population, exactly where these introductions have taken place, or if they have caused harm. The climate match for the contiguous United States was low with all States having a low individual climate score. The certainty of assessment is low. The overall risk assessment category is uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** No additional information.
- **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.**

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- Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

## 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.**

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