Cochu’s Blue Tetra (*Boehlkea fredcochui*)
Ecological Risk Screening Summary

**U.S. Fish & Wildlife Service, March 2014**
**Revised, December 2015, February 2017, May 2017**
**Web Version, 6/13/2018**

Photo: Sword/Flickr. Licensed under Creative Commons BY-NC-SA 2.0. Available: https://www.flickr.com/photos/swordw/1668914988/in/photolist-3xtChm-dMmNAA-dMmNv7-m2Kd8-dMgejg-8retFb-6gUCiH-6ugoan-6ugmBH-6ukwWC-4i9N2k.

# 1 Native Range and Status in the United States

**Native Range**
From Froese and Pauly (2014):

“South America: Amazon River basin.”

“Brazil: native; Colombia: native”

**Status in the United States**
No records of *Boehlkea fredcochui* in the United States were found.

**Means of Introductions in the United States**
No records of *Boehlkea fredcochui* in the United States were found.
Remarks
Anecdotal evidence for popularity in the aquarium trade.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
According to Eschmeyer et al. (2017), *Boehlkea fredcochui* Géry 1966 is the valid name for the species and is also the original name.

From ITIS (2014):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Characiformes
Family Characidae
Genus *Boehlkea* Géry, 1966
Species *Boehlkea fredcochui* Géry, 1966”

Size, Weight, and Age Range
From Froese and Pauly (2017):

“Max length: 5.4 cm TL male/unsexed; [Gaspar et al. 2012]”

Environment
From Froese and Pauly (2014):

“Freshwater; benthopelagic; pH range: 6.0 - 8.0; dH range: 5 - 12.”

Climate/Range
From Froese and Pauly (2014):

“Tropical; 22°C - 26°C [Riehl and Baensch 1991]”
**Distribution Outside the United States**
Native
From Froese and Pauly (2014):

“South America: Amazon River basin.”

“Brazil: native; Colombia: native”

Introduced
No records of *Boehlkea fredcochui* introductions were found.

**Means of Introduction Outside the United States**
No records of *Boehlkea fredcochui* introductions were found.

**Short Description**
From Butler (2013):

“An elongated, laterally compressed species with a forked caudal fin. The back is dark green to olive while the flanks are blue-green. The flanks are marked with a broad blue stripe that runs from the gill cover through the caudal fin. The belly is lighter blue. The upper part of the iris is bright orange. The fins are colorless.”

**Biology**
From Butler (2013):

“Females are said to deposit their eggs on the underside of broad leafed plants.”

**Human Uses**
From Froese and Pauly (2014):

“Aquarium: commercial”

**Diseases**
No information on diseases of *Boehlkea fredcochui* was found.

**Threat to Humans**
From Froese and Pauly (2014):

“Harmless”
3 Impacts of Introductions

No records of *Boehlkea fredcochui* introductions were found.

4 Global Distribution

![Figure 1. Known global distribution of *Boehlkea fredcochui*. Locations are in Peru, Brazil, and Colombia. Map adapted from GBIF Secretariat (2015).](image)

5 Distribution Within the United States

No records of *Boehlkea fredcochui* in the United States were found.
6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Boehlkea fredcochui* was low for the whole contiguous United States, with very small pockets of medium match in the west and along the Pacific Coast. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low, and no states had an individually high climate score.

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Peru, Brazil, Colombia) and non-source locations (grey) for *Boehlkea fredcochui* climate matching. Source locations from GBIF Secretariat (2015).
Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Boehlkea fredcochui* in the contiguous United States based on source locations from GBIF Secretariat (2015). 0 = Lowest match, 10 = Highest match. Counts of climate match scores are tabulated on the left side of the map.

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 &lt; 0.005</td>
<td>Low</td>
</tr>
<tr>
<td>0.005 ≤ X &lt; 0.103</td>
<td>Medium</td>
</tr>
<tr>
<td>≥ 0.103</td>
<td>High</td>
</tr>
</tbody>
</table>

7 Certainty of Assessment

The certainty of this assessment is low. There was minimal information available for *Boehlkea fredcochui*. Based on anecdotal evidence, this species may have been present in the aquarium trade for as long as 40 years. There is some discussion by experts that the species in trade was misidentified and is not *B. fredcochui*. 
8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness for *Boehlkea fredcochui* is uncertain. There was minimal information available, especially pertaining to any history of introductions. There is not enough confidence in the identification of the species in the aquarium trade to factor presence in trade into the history of invasiveness. The climate match is low. The certainty of 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
- Remarks/Important additional information No additional remarks.
- 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.
