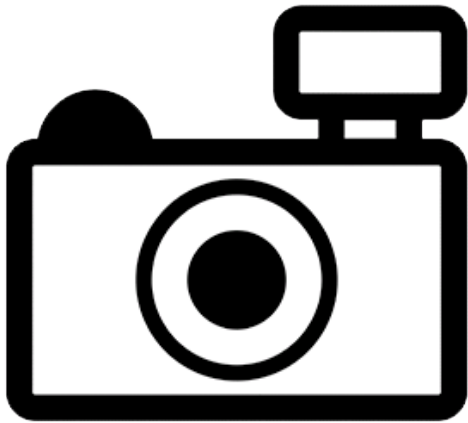


# Fuzzy Claw Shrimp (*Macrobrachium eriocheirum*)

## Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, web version – 03/22/2018



No Photo Available

## 1 Native Range and Status in the United States

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### Native Range

From ITIS (2016):

“Geographic Division: Southern Asia”

From GBIF Secretariat (2016):

“LOCALITY: Bankiriwong, Tadi River”

“GEOGRAPHIC CLASSIFICATION: Thailand”

Uraivan and Sodsuk (2004) state that *Macrobrachium eriocheirum* have been found and identified in Thailand.

### Status in the United States

There were no records of *Macrobrachim eriocheirum* in the United States found.

## Means of Introductions in the United States

There were no records of *Macrobrachim eriocheirum* in the United States found.

## Remarks

No additional remarks.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

“Taxonomic Status:

Current Standing: valid”

“Kingdom Animalia

Subkingdom Bilateria

Infrakingdom Protostomia

Superphylum Ecdysozoa

Phylum Arthropoda

Subphylum Crustacea

Class Malacostraca

Subclass Eumalacostraca

Superorder Eucarida

Order Decapoda

Suborder Pleocyemata

Infraorder Caridea

Superfamily Palaemonoidea

Family Palaemonidae

Subfamily Palaemoninae

Genus *Macrobrachium*

Species *Macrobrachium eriocheirum*”

### Size, Weight, and Age Range

No information was found for *Macrobrachium eriocheirum* regarding size, weight, and age.

### Environment

No information was found for *Macrobrachium eriocheirum* regarding environment.

### Climate/Range

No information was found for *Macrobrachium eriocheirum* regarding climate or range.

## Distribution Outside the United States

### Native

From ITIS (2016):

“Geographic Division: Southern Asia”

From GBIF Secretariat (2016):

“LOCALITY: Bankirwong, Tadi River

GEOGRAPHIC CLASSIFICATION: Thailand”

Uraiwan and Sodsuk (2004) state that *Macrobrachium eriocheirus* have been found and identified in Thailand.

### Introduced

No records of introductions of *Macrobrachium eriocheirus* were found.

## Means of Introduction Outside the United States

No records of introductions of *Macrobrachium eriocheirus* were found.

## Short Description

From GBIF Secretariat (2016):

“Diagnosis. Rostrum [. . .] reaching or slightly overreaching end of antennal scale, 0.4 – 0.6 times as long as carapace, dorsal margin weakly convex, directed slightly ventrad, armed dorsally with 11 – 14 teeth including 4 – 6 placed posterior to orbital margin, ventral margin with 2 or 3 teeth; antennal lobe moderately produced, antennal spine slightly extending beyond antennal lobe; hepatic spine as large as or slightly smaller than antennal spine, situated posteriorly, distinctly below level of antennal tooth. Abdomen [...] with sixth somite 1.2 – 1.5 times as long as fifth; pre-anal carina well developed; fourth pleuron rounded posteroventrally, that of fifth angulated. Telson 1.38 times as long as sixth somite, with sub-triangular posterior end, with pairs of ordinal small and long sub-distal spines and 2 pairs of dorsolateral spines, anterior pair of latter spines placed at or just posterior to mid-length. Antennal scale 0.5 – 0.6 times as long as carapace, slightly more than 2.5 times longer than wide. Epistome usually with marked anteromedian projection (tri-lobed in form) but rarely indistinct. Third maxilliped falling well short of anterior end of antennular peduncle, distal segment slightly shorter than penultimate. First pereopod extending beyond antennal scale by distal 0.3 – 0.5 length of carpus and onwards, fingers as long as or slightly shorter than palm. Second pereopods [. . .] distinctly unequal in length, covered with long, dense velvety setae normally on palm and fingers: major leg longer than total body length, extending beyond antennal scale by carpus and onwards; merus as long as palm, 2.9 – 3.9 times as long as high, with microscopically small spinules particularly on dorsal and lateral surfaces; carpus somewhat cup-shaped, normally less than 2.0 times as long as high, with minute spinules particularly on lateral and dorsal surfaces; palm as long as or slightly shorter than fingers, 2.2 – 2.8 times as long as wide; fingers with narrow gape when

crossed, with 11 – 17 teeth on cutting edges; minor leg extending beyond antennal scale by chela, palm slightly more than 1.5 times as long as fingers and again slightly more than 2 times as long as wide. Third pereopod with propodus [. . .] 2.3 – 2.9 times as long as dactylus, with 5 or 6 sparsely placed spines on posterior margin. Appendix masculina [. . .] about twice length of appendix interna, with numerous stiff setae on mesial surface as well as anterolateral margin. Uropodal exopod [. . .] sub-equal in length to endopod, movable spine on diaeresis shorter than lateral projection. Egg. Eggs fewer in number but large in size, non-eyed eggs measuring 1.0 – 1.25 x 1.4 – 1.7 mm (Hanamura et al. 2011).”

## **Biology**

Information on the biology of *Macrobrachium eriocheirus* could not be found.

## **Human Uses**

Information on human uses of *Macrobrachium eriocheirus* could not be found.

## **Diseases**

Information on diseases of *Macrobrachium eriocheirus* could not be found.

## **Threat to Humans**

Information on threats to humans from *Macrobrachium eriocheirus* could not be found.

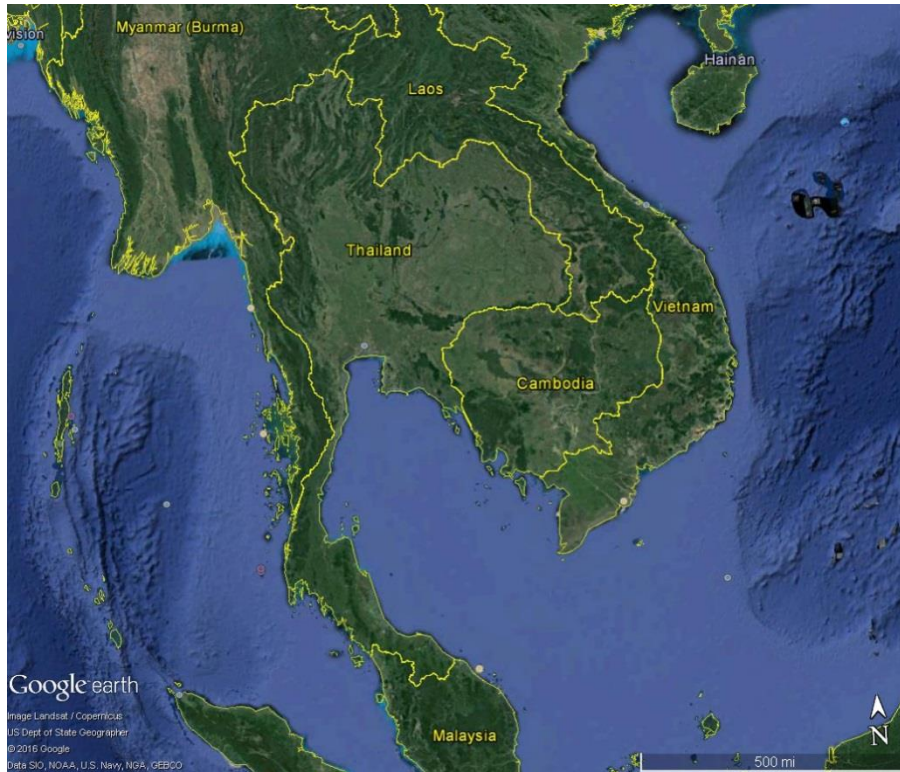
# **3 Impacts of Introductions**

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No records of introductions of *Macrobrachium eriocheirus* were found.

## 4 Global Distribution

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**Figure 1.** Map of Thailand (Google Inc 2013).

The most detailed range information found indicated that *Macrobrachium eriocheirus* is present in Thailand (Uraiwan and Sodsuk 2004; GBIF Secretariat 2016), therefore, Thailand as a whole was used as source locations for the climate match.

## 5 Distribution Within the United States

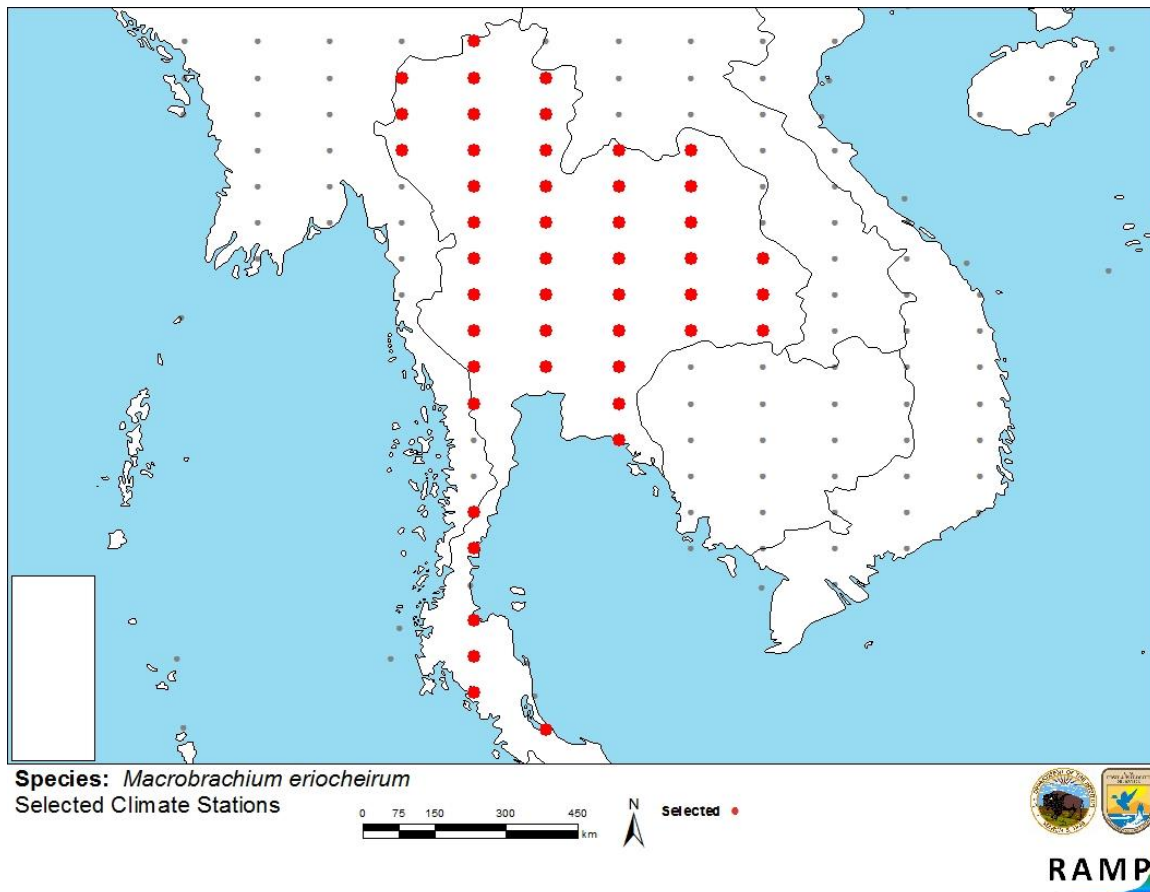
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There were no records of *Macrobrachium eriocheirus* in the United States found.

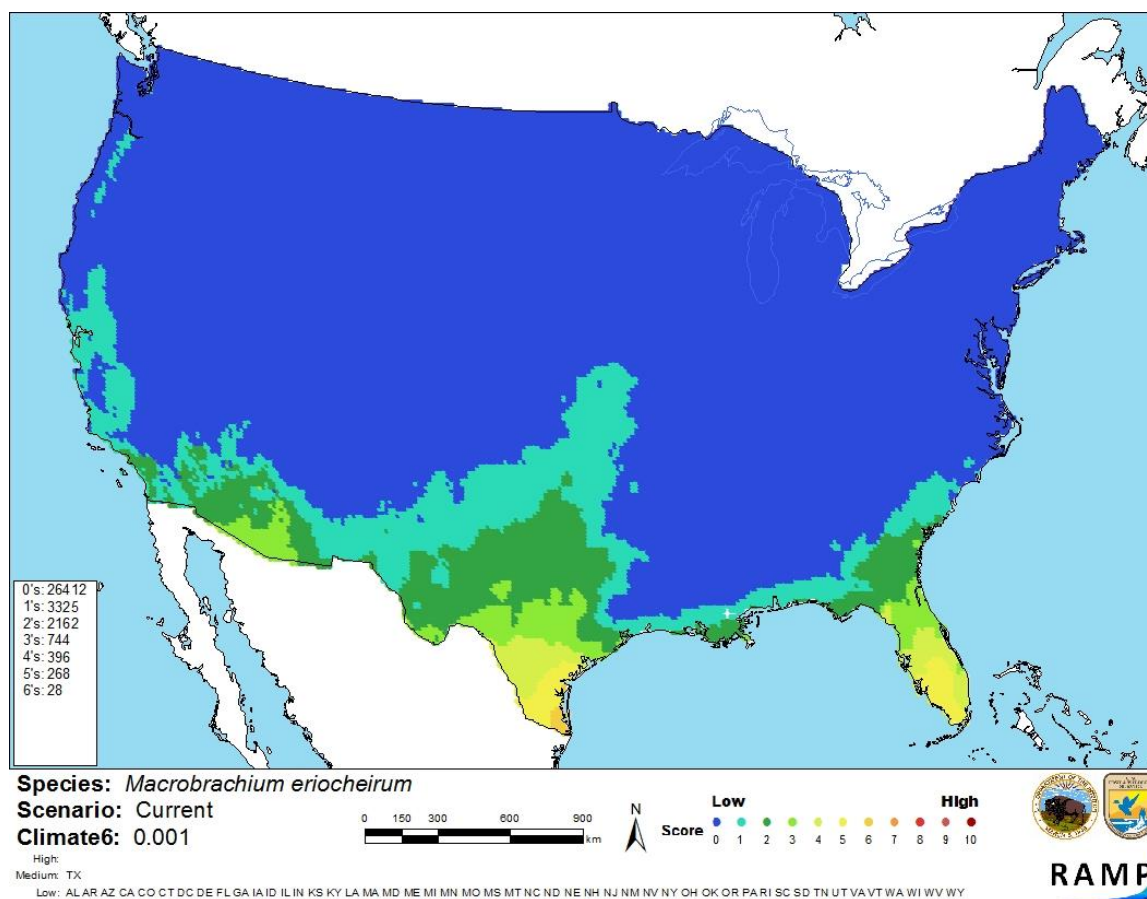
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Macrobrachium eriocheirum* was medium in parts of Florida and Texas with the rest of the country having a low match. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.001, low, and no states had and individually high climate match.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations in Thailand selected as source locations (red) and non-source locations (gray) for *Macrobrachium eriocheirum* climate matching. Source locations from Uraiwan and Sodsuk (2004) and GBIF Secretariat (2016).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Macrobrachium eriocheirum* in the contiguous United States based on source locations reported by Uraiwan and Sodsuk (2004) and GBIF Secretariat (2016). 0 = Lowest match, 10 = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

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

## 7 Certainty of Assessment

The certainty of this assessment is low. Minimal information about *Macrobrachium eriocheirum* was available. No records of introduction were found.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

The history of invasiveness for *Macrobrachium eriocheirus* is uncertain. No records of introductions were found outside of its native range. The climate match is low with pockets of medium match in Florida and Texas. The confidence in the results of the climate match is low. A specific distribution for this species could not be found. A generalized, country level distribution was used for the source locations of the climate match. Using a more detailed, specific range for source points may change the results of the climate match. The certainty of assessment is low due to a general lack of information. 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

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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.**

- GBIF Secretariat. 2016. GBIF backbone taxonomy: *Macrobrachium eriocheirus* Dai, 1984. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2224715>. (December 2016).
- Google Inc. 2013. Google Earth Pro (Version 7.1.7.2606) [Software]. Available: <https://www.google.com/earth/download/ge/agree.html>. (December 2016).
- ITIS (Integrated Taxonomic Information System). 2016. *Macrobrachium eriocheirus* Dai, 1984. Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=612667#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=612667#null). (December 2016).
- Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk assessment mapping program: RAMP. U.S. Fish and Wildlife Service.
- Uraivan, S., and P. Sodsuk. 2004. The *Macrobrachium* culture industry in Thailand. SEAFDEC 28–31.

## 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.

Hanamura, Y., H. Imai, O. Lasasimma, P. Souliyamath, and S. Ito. 2011. Freshwater prawns of the genus *Macrobrachium* Bate, 1868 (Crustacea, Decapoda, Palaemonidae) from Laos. *Zootaxa* 3025:1–37.