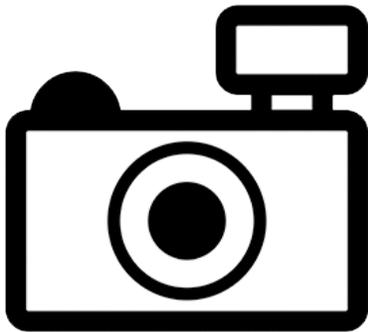


# ***Cherax lorentzi aruanus* (crayfish; no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, October 2011  
Revised, September 2012 and October 2017  
Web Version, 11/30/2017



No Photo Available

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

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### **Native Range**

From Crandall and De Grave (2017):

“ ‘Ngaigouli, Pobdjetour (Trangan); Seltouli and Manoumbai (Kobroor), Arou’ [=Aru Islands, Maluku Province, Indonesia]”

### **Status in the United States**

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

From FFWCC (2017):

“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. Very limited exceptions may be made by permit from the Executive Director [...]  
[Prohibited species list includes:]  
Crayfish – Genus *Cherax* [...]  
*Cherax aruanus*”

## Means of Introductions to the United States

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

## Remarks

From Crandall and De Grave (2017):

“*Cherax lorentzi aruanus* Roux, 1911  
= *Cheraps aruanus* Roux, 1911”

The synonyms *Cheraps aruanus* and *Cherax aruanus* were researched for this ERSS along with the accepted scientific name, *Cherax lorentzi aruanus*.

From Eprilurahman (2014):

“Significant taxonomic disputation and confusion has surrounded the number and identity of species that is referred to as the *C. quadricarinatus* – *C. albertisii* complex, which are identifiable on the basis of red soft membranous outer margin of the propodus of the claw. The earliest taxonomic reviewers of the genus *Cherax*, (Smith 1912; Calman 1911; and Clark 1936), considered there was no justification in considering *C. quadricarinatus*, a large freshwater crayfish, described by von Martens (1868) from northern Australia to be taxonomically distinct from *C. albertisii* described by Nobilli (1899) from southern New Guinea. This view also extended to the species *C. lorentzi* and *C. aruanus* described by Roux (1911) from Papua. In contrast, Holthuis (1949; 1950; 1982) considered *C. quadricarinatus*, *C. albertisii* and *C. lorentzi* to be taxonomically distinct, with the former species restricted to Australia and the latter two species occurring in New Guinea.”

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From GBIF Secretariat (2016):

“Kingdom	Animalia
Phylum	Arthropoda
Class	Malacostraca
Order	Decapoda
Family	Parastacidae
Genus	<i>Cherax</i> Erichson, 1846
Species	<i>Cherax lorentzi</i> Roux, 1911
Subspecies	<i>Cherax lorentzi</i> subsp. <i>Aruanus</i> Roux, 1911”

“SUBSPECIES | ACCEPTED”

## Size, Weight, and Age Range

From Holthuis (1996):

“[...] *C. (A.) lorentzi aruanus* [is known to attain a total length] of 114 mm [...]”

## Environment

From Australian Museum (2017):

“[Crayfish in the genus *Cherax* have] greater tolerances of larger temperature ranges and water conditions than many other crayfish.”

## Climate/Range

From Hope and Aplin (2006):

“In comparison to more southerly islands such as Tanimbar, Timor and Sumba, Aru has a moist climate with a relatively modest water deficit, comparable with southern New Guinea and the tip of Cape York, Australia. [...] Temperatures are slightly cooler in May–August and the diurnal fluctuations greater, with an estimated mean of 28.5°C.”

## Distribution Outside the United States

### Native

From Crandall and De Grave (2017):

“ ‘Ngaigouli, Pobdjetour (Trangan); Seltouli and Manoumbai (Kobroor), Arou’ [=Aru Islands, Maluku Province, Indonesia]”

### 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 Holthuis (1996):

“The presence of decalcified areas on the lower margin of the chelae of the first pair of legs in the adult males shows that the species belongs to the subgenus *Astaconephrops*. The New Guinea species of this subgenus so far numbered four (*Cherax (Astaconephrops) albertisii* (Nobili, 1899); *C. (A.) lorentzi* J. Roux, 1911, with subspec. *aruanus* J. Roux, 1911; *C. (A.) misolicus* Holthuis, 1949, and *C. (A.) monticola* Holthuis, 1950).”

## Biology

From Australian Museum (2017):

“[...] found in streams, lakes and swamps.”

“They have a relatively rapid rate of growth [...]”

## Human Uses

No information available.

## Diseases

From Cannon (1991):

“Temnocephalans are specialized symbiotic flatworms found associated with freshwater hosts, especially crustaceans, in South and Central America, in Australia, in southern and eastern Asia, as well as in Madagascar and in parts of southern Europe (Baer, 1931).”

“*Temnocephala rouxii* Merton, 1913 [...] Comparison of specimens from Australia with those described by Merton (1913) from *Cherups aruanus* (i.e., *Cherax lorentzi* from the Aru Islands just to the north of Australia, across the Sahul shelf) revealed no substantive differences.”

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

## Threat to Humans

No information available.

## 3 Impacts of Introductions

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No introductions of this species have been reported.

From FFWCC (2017):

“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. Very limited exceptions may be made by permit from the Executive Director [...]

[Prohibited species list includes:]

Crayfish – Genus *Cherax* [...]

*Cherax aruanus*”

## 4 Global Distribution

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No georeferenced occurrences of *C. lorentzi aruanus* were found.



**Figure 1.** Map of Indonesia with the Aru Islands circled, in purple. *C. lorentzi aruanus* is reported from the Aru Islands. Map credit: Uwe Dederling. Licensed under CC BY-SA 3.0. Available: <https://commons.wikimedia.org/w/index.php?curid=9506522>. (October 2017).

## 5 Distribution Within the United States

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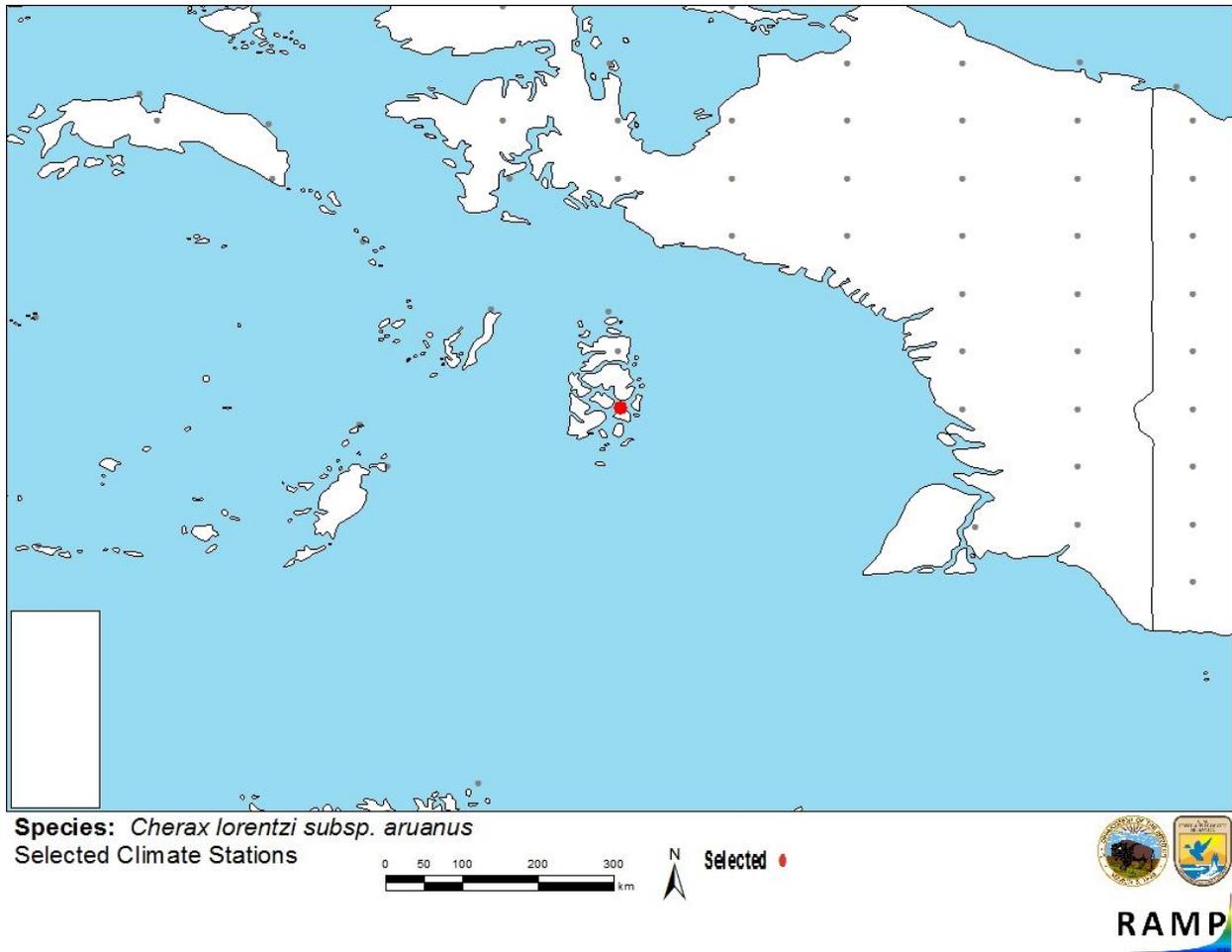
This species has not been reported as introduced or established in the United States.

## 6 Climate Matching

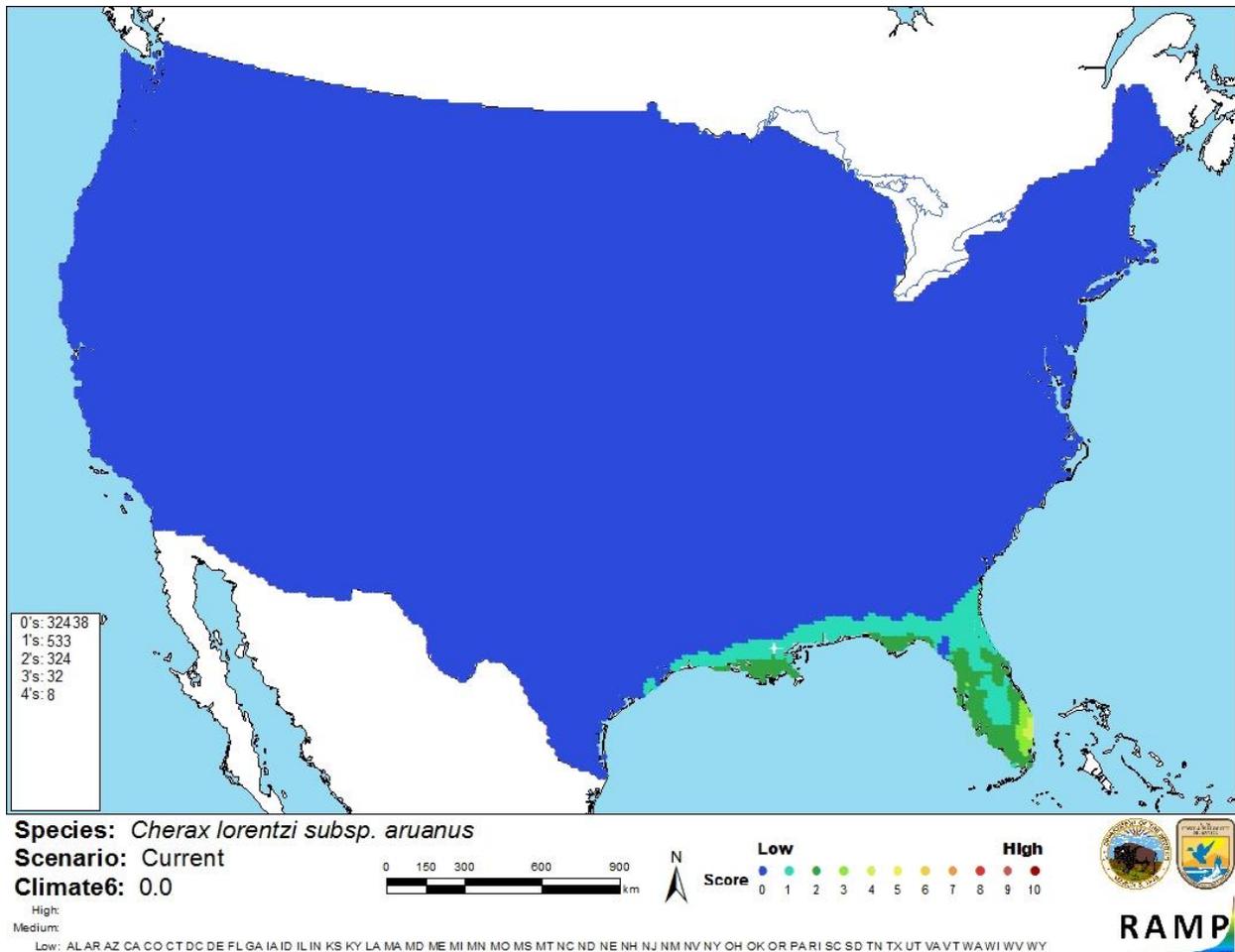
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### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) for *Cherax lorentzi aruanus* was low throughout the contiguous United States except for a small area of medium match centered on West Palm Beach, Florida. This distribution of local climate matches was reflected in a Climate 6 score of 0.000, indicating a low climate match for the contiguous U.S. as a whole.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *Cherax lorentzi aruanus* climate matching. Source locations interpreted from verbal descriptions in GBIF Secretariat (2016).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Cherax lorentzi aruanus* in the contiguous United States based on source locations reported by 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 (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 < X < 0.005$	Low
$0.005 < X < 0.103$	Medium
$> 0.103$	High

## 7 Certainty of Assessment

Very little information is available on the biology, ecology, and distribution of *Cherax lorentzi aruanus*. No introductions of this species have been reported, so impacts of its introduction remain unknown. Certainty of this assessment is low because of the paucity of information.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Cherax lorentzi aruanus* is a crayfish native to the Aru Islands of eastern Indonesia. Very little information is available on this species, and it has not been reported as introduced. Climate match to the contiguous United States is low, with only a small area of medium match in southeastern Florida. Further information is necessary to fully assess the risks posed by *C. lorentzi aruanus*, so the overall risk assessment category is “Uncertain”.

### Assessment Elements

- **History of Invasiveness: Uncertain**
- **Climate Match: Low**
- **Certainty of Assessment: 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.**

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## 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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