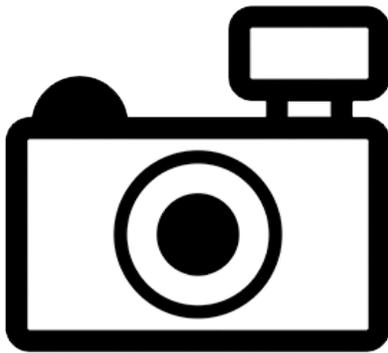


# ***Cherax lorentzi lorentzi* (crayfish; no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, September 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):

“ ‘near Mapar, Manikion District, N.W. New Guinea, W. of Geelvink Bay, 1°42’S, 133°50’E’  
[West Papua 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 lorentzi*”

## 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 lorentzi* Roux, 1911 = *Cheraps lorentzi* Roux, 1911”

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 membraneous 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>lorentzi</i> ”

“SUBSPECIES | ACCEPTED”

### Size, Weight, and Age Range

From Holthuis (1996):

“[...] *C. (A.) lorentzi* [is known to attain a total length] of 154 mm [...]”

From Tapilatu (1998):

“A total of 774 specimens of *C. lorentzi* were captured from [Klasafet] watershed. The results showed that the length and the weight of the captured *C. lorentzi* varied from 15.05 - 61.15 mm carapace length and from 1.8 - 121 g respectively.”

## **Environment**

From Holthuis (1950):

“[...] collected at a low altitude.”

From Austin (2010):

“[...] tolerates a wide variety of water parameters (pH 6.5 to 8.5, medium to hard water).”

## **Climate/Range**

From Austin (2010):

“The optimum temperature for this species is between 22 and 28°C (Werner 2003).”

## **Distribution**

Native

From Crandall and De Grave (2017):

“ ‘near Mapar, Manikion District, N.W. New Guinea, W. of Geelvink Bay, 1°42’S, 133°50’E’ [West Papua 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 Tapilatu (1998):

“The overall sex ratio was 1.16 : 1 for male to female. In the female five stages of gonadal maturity could be distinguished while in the male there were three such stages. Most of the females and males were not in advanced maturity stages. [...] Fecundity varied from 61-71. It seemed that the number of eggs increased with carapace length.”

## Human Uses

From Patoka et al. (2014):

“Marketed crayfish species [...] in the Czech pet trade [include] *Cherax lorentzi*”

“Wholesale availability [...] Very rare”

## Diseases

No information available.

## 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 lorentzi*”

## 4 Global Distribution

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



**Figure 1.** The island of New Guinea, with a purple star indicating the approximate collection location of *C. lorentzi lorentzi* west of Geelvink Bay that was reported in Crandall and De Grave (2017). Public domain map.

## 5 Distribution Within the United States

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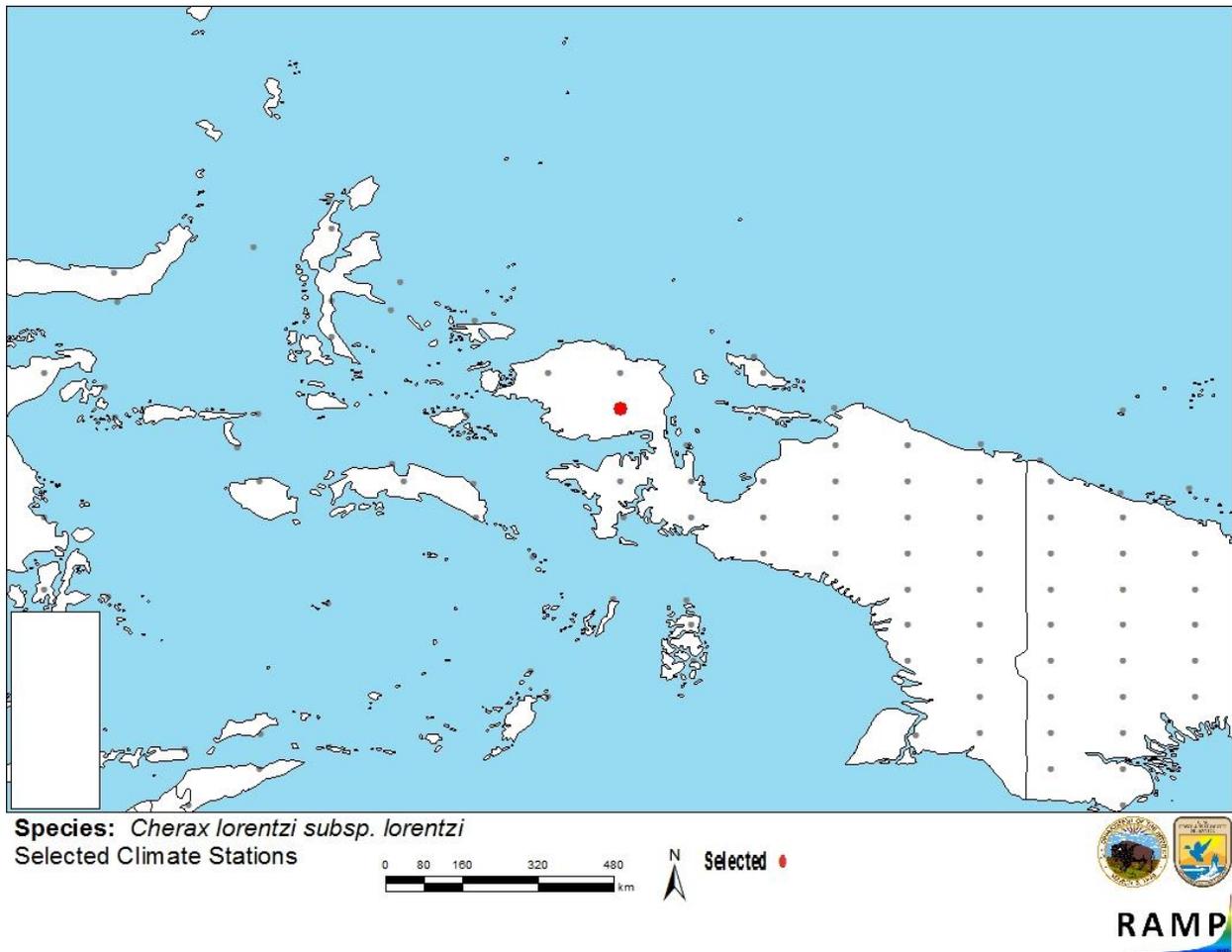
This species has not been reported as introduced or established in the United States.

## 6 Climate Matching

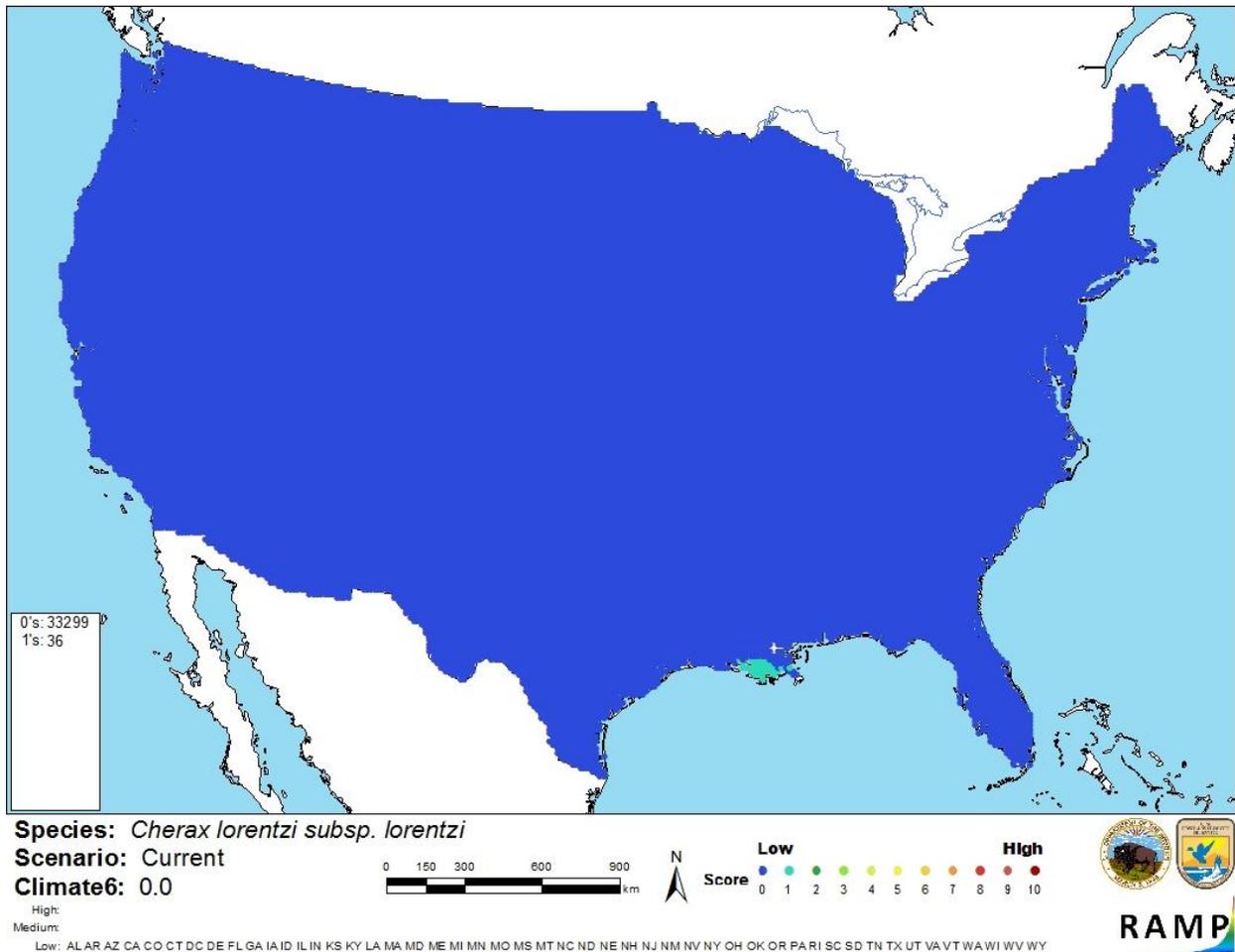
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### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) for *Cherax lorentzi lorentzi* was low throughout the contiguous United States, reflected in a Climate 6 score of 0.000. Scores of 0.005 and below are classified as low climate match.



**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 lorentzi* climate matching. Source locations from Crandall and De Grave (2017).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Cherax lorentzi lorentzi* in the contiguous United States based on source locations reported by Crandall and De Grave (2017). 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

Little information is available on the biology, ecology, and distribution of *Cherax lorentzi lorentzi*. 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 Continental United States

*Cherax lorentzi lorentzi* is a crayfish native to the island of New Guinea, specifically West Papua Province of Indonesia. Little information is available on this species, and it has not been reported as introduced. It is present, but very rare, in the ornamental crayfish trade in Europe. No evidence was found of trade of this species occurring within the United States. *C. lorentzi* appears on the state of Florida's list of prohibited species. Climate match to the contiguous United States was low. Further information is necessary to fully assess the risks posed by *C. lorentzi lorentzi*, 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.**

- Austin, C. M. 2010. *Cherax lorentzi*. The IUCN Red List of Threatened Species 2010: e.T153683A4531676. Available: <http://www.iucnredlist.org/details/full/153683/0>. (October 2017).
- Crandall, K. A., and S. De Grave. 2017. An updated classification of the freshwater crayfishes (Decapoda: Astacidea) of the world, with a complete species list. *Journal of Crustacean Biology* 37(5):615-653.
- Eprilurahman, R. 2014. Molecular taxonomy and evolution of freshwater crayfish of the genus *Cherax* (Decapoda: Parastacidae) from northern Australia and New Guinea. Master's thesis. Charles Darwin University, Northern Territory, Australia.
- FFWCC (Florida Fish and Wildlife Conservation Commission). 2017. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/>. (October 2017).
- GBIF Secretariat. 2016. GBIF backbone taxonomy: *Cherax lorentzi* subsp. *lorentzi*. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/8955786>. (October 2017).
- Holthuis, L. B. 1950. The Crustacea Decapoda Macrura collected by the Archbold New Guinea expeditions. *American Museum Novitates* 1461:1-17.

- Holthuis, L. B. 1996. *Cherax (Astaconephrops) minor* new species, a parastacid from the mountains of Irian Jaya (W. New Guinea), Indonesia (Crustacea: Decapoda: Parastacidae). *Zoologische Mededelingen Leiden* 70:361-366.
- Patoka, J., L. Kalous, and O. Kopecký. 2014. Risk assessment of the crayfish pet trade based on data from the Czech Republic. *Biological Invasions* 16:2489-2494.
- Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.
- Tapilatu, Ricardo. (1998). Reproductive aspects of *Cherax lorentzi* (Crustacea: Parastacidae) in Klasafet watershed, Sorong, Irian Jaya, Indonesia. *Science in New Guinea*. 24. 43-51.

## 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.**

- Calman, W. T. 1911. Note on a crayfish from New Guinea. *Annals and Magazine of Natural History*, 8<sup>th</sup> series, 8:366-368.
- Clark, E. 1936. The freshwater and land crayfishes of Australia. *Memoirs of the National Museum of Victoria* 10:5-58.
- Holthuis, L. B. 1949. Decapoda Macrura with a revision of the New Guinea Parastacidae. *Zoological Results of the Dutch New Guinea Expedition 1939*, number 3. *Nova Guinea* 5:289-328.
- Holthuis, L. B. 1982. Freshwater Crustacea Decapoda of New Guinea. Pages 603-619 in J. L. Gressitt, editor. *Biogeography and ecology of New Guinea*, volume 2. *Monographiae Biologicae* 42.
- Nobili, Di Guiseppe. 1899. Contribuzioni alia conoscenza della fauna carcinologica della Papuasias. delle Molucche e dell' Australia. *Annali del Museo Civico di Genova*, series 2 20(40):230-282.
- Roux, J. 1911. Nouvelles espèces de Décapodes d'eau douce provenant de Papouasie. *Notes Leyden Museum* 33:81-106.
- Smith, G. 1912. The freshwater crayfishes of Australia. *Proceedings of the Zoological Society of London* 82(1):144-171.
- von Martens, E. 1868. Ueber einige neue Crustaceen und uber die neuholländischen Süßwasserkrebse. *Monatsberichte Akademie Wissenschaften Berlin* 1868:608-619.

Werner, U. 2003. Shrimps, crayfishes, and crabs in the freshwater aquarium, 2nd edition. Verlag  
A.C.S.