1 Native Range and Status in the United States

Native Range
From Chambers (1987):

“Freshwater crayfish (Cherax albertisii) […] occur throughout the shallow lakes and rivers of Western Province [Papua New Guinea].”

Status in the United States
This species has not been reported as introduced or established in the United States. There is no indication that this species is in trade in the United States.

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

Remarks
GBIF Secretariat (2017) refers to this species as the “Papua blue green crayfish.”
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. […] 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 later [*sic*] two species occurring in New Guinea. My results […] support the recognition of *C. quadricarinatus* and *C. albertisii*, however there is much greater taxonomic diversity within this complex than previously realised.”

“The characters used to differentiate *C. quadricarinatus*, *C. albertisii* and related taxa focus predominately on a suite of attributes that are often highly variable, including the number of rostral spines, the length and degree of development of the rostral carinae and the size and shape of the propodus. Thus it is obvious that a more detailed molecular and morphological study of variation with the *C. quadricarinatus*–*albertisii* group is required with more intensive sampling in both northern Australia and southern New Guinea to confirm the number of taxa and identify, if possible, diagnostic morphological traits for these species.”

2 Biology and Ecology

**Taxonomic Hierarchy and Taxonomic Standing**

From WoRMS (2018):

“Biota > Animalia (Kingdom) > Arthropoda (Phylum) > Crustacea (Subphylum) > Multicrustacea > (Superclass) > Malacostraca (Class) > Eumalacostraca (Subclass) > Eucarida (Superorder) > Decapoda (Order) > Pleocyemata (Suborder) > Astacidea (Infraorder) > Parastacoidea (Superfamily) > Parastacidae (Family) > *Cherax* (Genus) > *Cherax albertisii* (Species)”

“Status accepted
Rank Species”

**Size, Weight, and Age Range**

No information available.

**Environment**

From WoRMS (2018):

“Environment […] fresh[water]”
From Chambers (1987):

“[… shallow lakes and rivers […]”

**Climate/Range**

From McAlpine et al. (1983):

“The larger part of the country [of Papua New Guinea] experiences relatively high annual rainfall of 2500-3500 mm. […] The seasonal variation of rainfall over most of Papua New Guinea can be described best as a change from ‘fairly wet’ to ‘very wet’.”

“Temperature regimes [in Papua New Guinea] are equable, showing little seasonal variation. Daily mean maximum temperatures on the coast are around 30-32°C, with minima around 23°C.”

**Distribution Outside the United States**

Native

From Chambers (1987):

“Freshwater crayfish (*Cherax albertisii*) […] occur throughout the shallow lakes and rivers of Western Province [Papua New Guinea].”

Introduced

This species has not been reported as introduced or established outside of its native range.

**Means of Introduction Outside the United States**

This species has not been reported as introduced or established outside of its native range.

**Short Description**

From Karadal and Türkmen (2014):

“Morphologically *C. albertisii* and *C. quadricarinatus* have a similarity in body shape and colours (Kusmini, 2009).”

**Biology**

From Karadal and Türkmen (2014):

“In nature, *C. quadricarinatus* and other Australian crayfish are found in either rocky or sandy areas. Juveniles use pebbles as shelter to protect themselves from predation or attacks by conspecifics (Jones and Ruscoe, 2001; Molony and Bird, 2005). Morphologically *C. albertisii* and *C. quadricarinatus* have a similarity in body shape and colours (Kusmini, 2009). Also, they prefer the same habitat types in nature.”
**Human Uses**
Faulkes (2015) reports *C. albertii* as present in the pet trade in Germany (Chucholl 2013), the Czech Republic (Patoka et al. 2014, 2015), and Turkey (Türkmen and Karadal 2012).

**Diseases**
From Sugiani et al. (2015):

“Crayfish “red-claw” (*Cherax quadricarinatus*) and “blue-huna” (*Cherax albertisii*) are susceptible to ectosymbiont *Craspedella* sp.”

No OIE-reportable diseases (OIE 2019) have been documented for this species.

**Threat to Humans**
No information available.

**3 Impacts of Introductions**
This species has not been reported as introduced or established outside of its native range.
4 Global Distribution

No georeferenced occurrence information was available for this species (GBIF Secretariat 2017).

Figure 1. Map of Papua New Guinea, highlighting the Western Province, which is the known native range of *Cherax albertisii* as reported by Chambers (1987). Map: TUBS. Licensed under Creative Commons (CC BY-SA 3.0). Available: https://commons.wikimedia.org/w/index.php?curid=16875338. (February 2019).

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.001, which is a low climate match. A Climate 6 score of 0.005 or below indicates a low match. The climate score was medium in Florida and low for the remaining 47 States. Locally, the climate match was medium only in southern peninsular Florida; in all other areas, the climate match was low.
Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations on the island of New Guinea selected as source locations (red; Papua New Guinea) and non-source locations (gray) for *Cherax albertisii* climate matching. Source locations based on distribution information reported by Chambers (1987).
Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Cherax albertisii* in the contiguous United States based on distribution information reported by Chambers (1987). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

There is little information available on the biology, physical description and distribution of *Cherax albertisii*. Because no georeferenced occurrences are available, the climate match is based on a general description of this species’ range, contributing to uncertainty. Taxonomic confusion surrounds *C. albertisii* and closely related congeners, and there are no diagnostic morphological characters that can be used to reliably distinguish among species. Additionally, no introductions have been reported on which to base an evaluation of impacts. Further information
is needed to adequately assess the risk this species poses to the contiguous United States. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cherax albertisii is a freshwater crayfish native to southwestern Papua New Guinea. It is in the aquarium trade in Turkey, Germany, and the Czech Republic, but does not appear to be in trade in the United States. C. albertisii has never been reported as introduced or established outside of its native range. History of invasiveness is uncertain. This species has a low climate match with the contiguous United States overall, and a medium match in Florida. However, the climate match was based on a general description of the species range because georeferenced occurrences are not available. Due to a lack of introduction history and distribution information relevant to assessing the invasive potential of this species in the contiguous United States, the certainty of this 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
- 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.


Kusmini, I. I. 2009. Phenotype and genotype characteristics of blue crayfish (Cherax albertisii) and red claw (Cherax quadricarinatus) hybrid. Master’s thesis. Institute of Agriculture, Bogor Agricultural University, Bogor, Indonesia. (In Indonesian with English abstract.)


