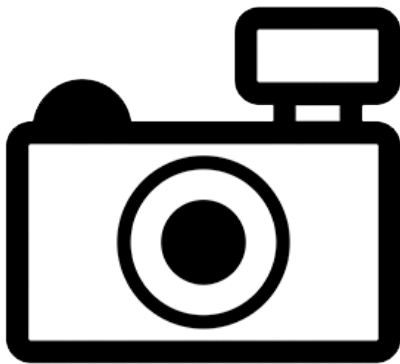


***Cherax parvus* (a crayfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, September 2011
Revised, September 2012, January 2018
Web Version, 5/21/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Short and Davie (1993):

“Recorded from the upper Tully R. and its tributary, O’Leary Ck, above Koombooloomba Dam, at 720-750 m altitude, Cardwell Ra., NEQ [Northeast Queensland, Australia].”

Status in the United States

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

The Florida Fish and Wildlife Conservation Commission has listed the crayfish *Cherax parvus* as a prohibited species. 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” (FFWCC 2018).

From Washington Department of Fish & Wildlife (2018):

“(1) Prohibited aquatic animal species. RCW 77.12.020

These species are considered by the commission to have a high risk of becoming an invasive species and may not be possessed, imported, purchased, sold, propagated, transported, or released into state waters except as provided in RCW 77.15.253. [...] The following species are classified as prohibited animal species: [...] Family Parastacidae: Crayfish: All genera except *Engaeus*, and except the species *Cherax quadricarinatus* [*sic*], *Cherax papuanus*, and *Cherax tenuimanus*.”

Means of Introduction into the United States

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

2 Biology and Ecology

Taxonomic Hierarchy

From Crandall (2016):

“Classification: 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 parvus* (Species)”

“Status: accepted”

Size, Weight, and Age Range

From Short and Davie (1993):

“This is the smallest species so far described in the genus. The holotype, which has a post-orbital body length of only 55 mm and a post-orbital carapace length of 23 mm, shows [characteristics] of a well developed male. Of the 24 paratypes only two exceed 17 mm in post-orbital carapace length.”

Environment

From Short and Davie (1993):

“Freshwater [...] shallow open water (1 m), rocks/sand or clay substrates [...] zero to moderate flow, water clarity high. Recorded physico-chemical tolerances: pH 5.5, hardness <10 ppm, water temperature 18-20°C, dissolved oxygen 5.8-6.0 ppm.”

Climate/Range

From Short and Davie (1993):

“[...] 720-750 m altitude [...]”

“[...] humid tropics [...]”

Distribution Outside the United States

Native

From Short and Davie (1993):

“Recorded from the upper Tully R. and its tributary, O’Leary Ck, above Koombooloomba Dam, at 720-750 m altitude, Cardwell Ra., NEQ [Northeast Queensland, Australia].”

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 Short and Davie (1993):

“Carapace punctate; slender [...] Rostrum slender, triangular, tapering strongly in distal third [...] Eyes with cornea large, globular, well pigmented; eyestalks largely concealed by rostrum. [...] Sternal keel sharp posteriorly, more rounded anteriorly, lateral processes setose, without obvious pores [...] First chelipeds large, chela length exceeding carapace length (shorter in juvenile paratypes) [...] Outer margin of chela moderately convex; fingers slightly gaping (without gape in undeveloped paratypes) [...]”

“Body dark brown; first chelipeds dark brown disto-dorsally with reticulated pattern on manus, fingertips orange, proximal merus and ischium orange, ventral manus and fingers cream; second chelipeds and ambulatory legs greenish-cream dorsally, light cream ventrally.”

Biology

From Short and Davie (1993):

“[...] short phreatic burrows under rocks or amongst leaf litter in shallow open water (1 m), rocks/sand or clay substrates, fringing simple notophyll vine forest [...]”

“Close association of this species with rainforest is suggested by its absence in Nitchaga Ck, another tributary of the Tully R., above Tully Falls.”

“At the type locality *C. parvus* is sympatric with *E[uastracus] yigara* sp.nov., *Caridina zebra* Short, 1993, and an undescribed *Macrobrachium*.”

“Although abundant at the type locality, more data is required on the distribution of the species and its relative abundance at other sites.”

Human Uses

No information available.

Diseases

From Sewell et al. (2006):

“Temnocephalan worms are freshwater rhabdocoel turbellarian ectosymbionts associated in Australia with crustacean hosts, particularly parastacid crayfish.”

“*Temnosewellia argeta* sp. nov [...]

HOSTS. *Cherax parvus*, *Euastacus yigara*.”

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

Threat to Humans

No information available.

3 Impacts of Introductions

No information available. No introductions of this species have been reported.

The Florida Fish and Wildlife Conservation Commission (FFWCC 2018) and the Washington Department of Fish and Wildlife (2018) have listed this species as a prohibited species.

4 Global Distribution



Figure 1. Known global distribution of *Cherax parvus*. Map from GBIF Secretariat (2017).

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 match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in peninsular Florida and low elsewhere in the contiguous U.S. Climate 6 score indicated that the contiguous U.S. has a low climate match overall. The range of scores classified as low match is 0.000 through 0.005, inclusive; Climate 6 score for *Cherax parvus* was 0.002.

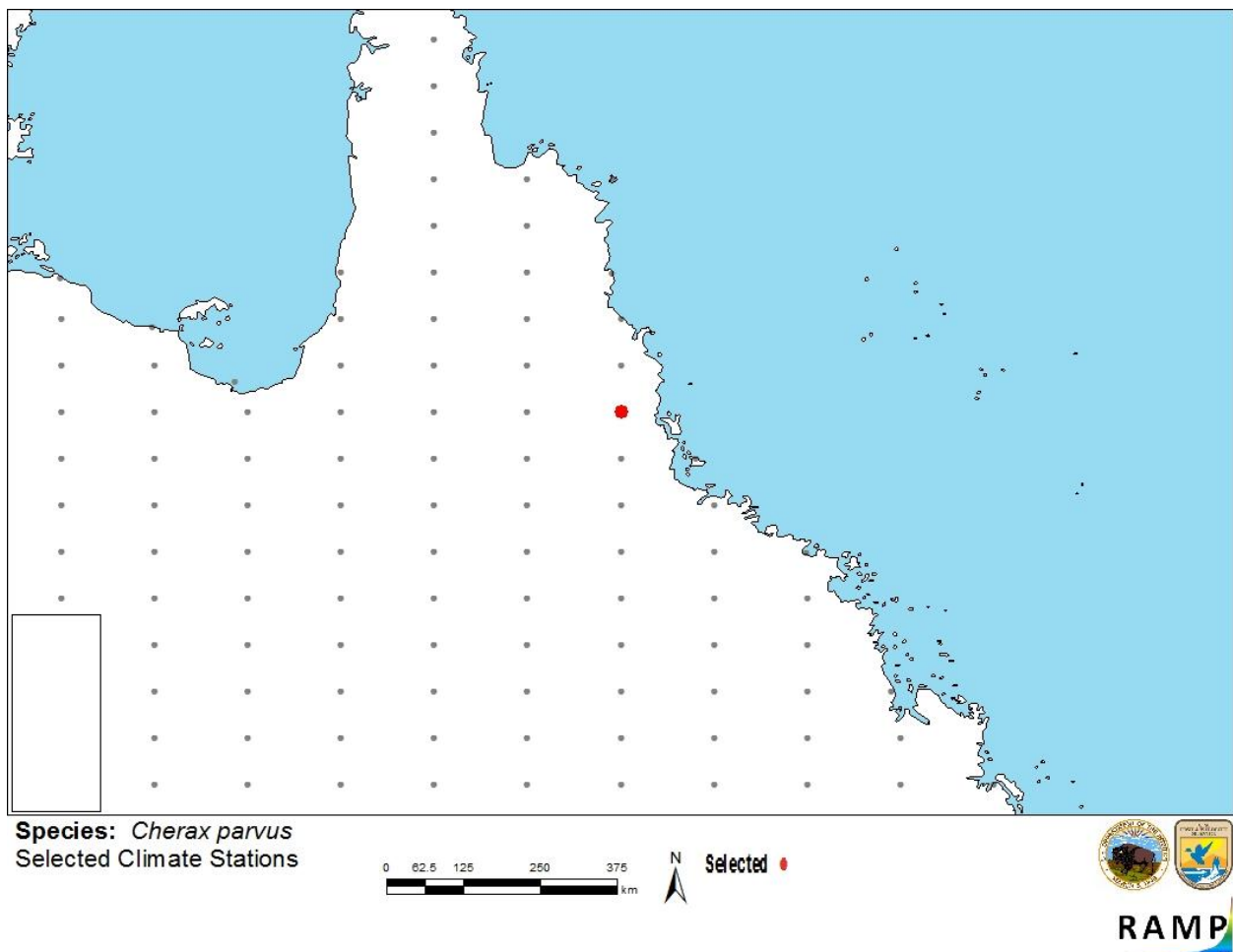


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in northeastern Australia selected as source locations (red) and non-source locations (gray) for *Cherax parvus* climate matching. Source locations from GBIF Secretariat (2017).

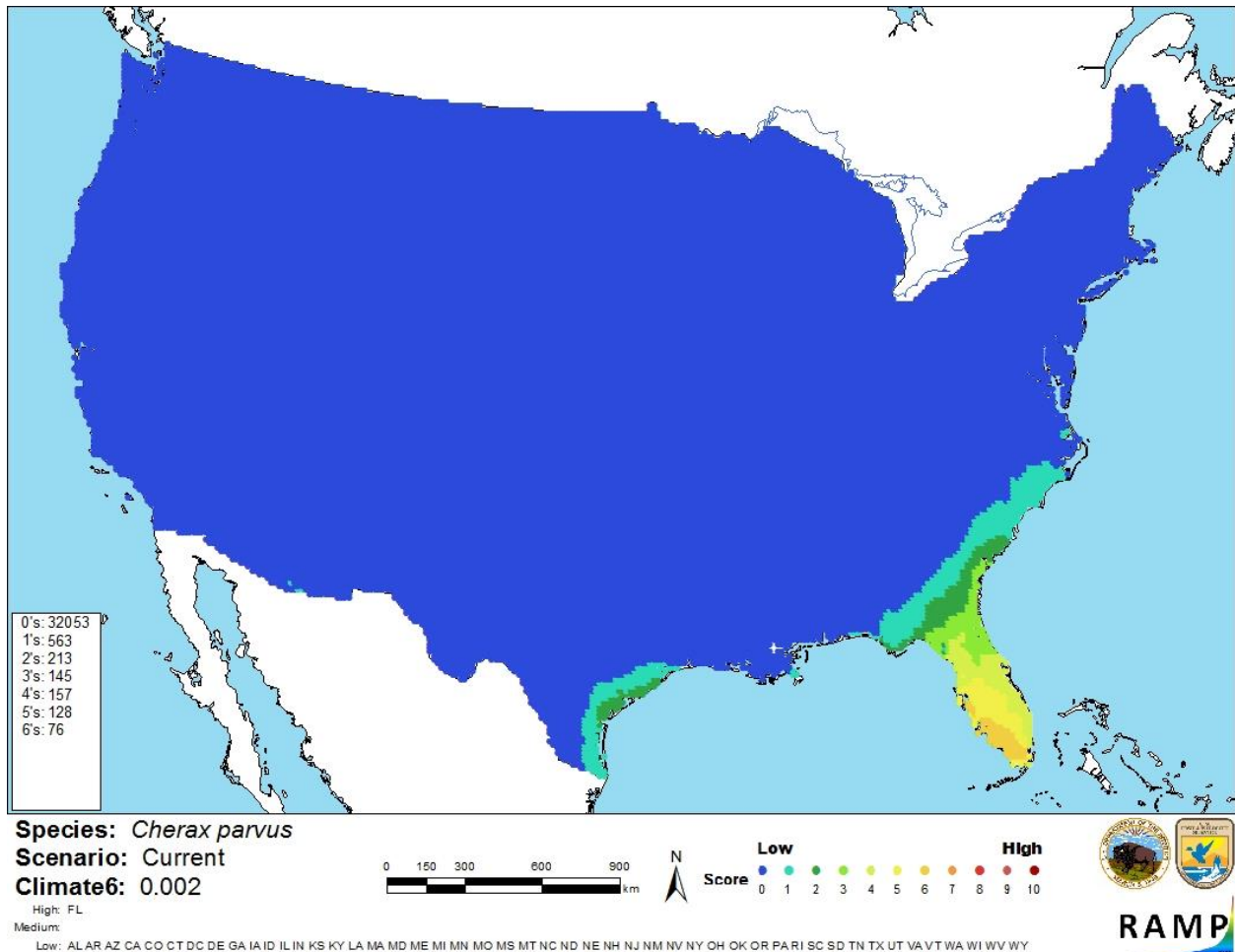


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Cherax parvus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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
≥ 0.103	High

7 Certainty of Assessment

Very little information is available on the biology, ecology, and distribution of *Cherax parvus*. Nearly all available information comes from the original paper describing the species. No information is available on impacts of introduction because no introductions have been reported. Certainty of this assessment is low due to the lack of information.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cherax parvus is a crayfish native to northeast Queensland, Australia. Very little is known about the species, in part because it was first described only 25 years ago and has a very restricted native range. Florida and Washington prohibit possession or trade of *C. parvus*. The climate matching analysis indicates low match with the contiguous United States, based on a very small and tropical source region. No introductions of this species have been reported. Overall risk assessment category of *Cherax parvus* is uncertain.

Assessment Elements

- **History of Invasiveness: Uncertain**
- **Climate Match: Low**
- **Certainty of Assessment: Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

- Crandall, K. A. 2016. *Cherax parvus* Short & Davie, 1993. World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=885567>. (January 2018).
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- Washington Department of Fish & Wildlife. 2018. WAC 220-12-090 Classification - Nonnative aquatic animal species. Washington Department of Fish & Wildlife, Olympia, Washington. Available: <https://wdfw.wa.gov/ais/wac.html>. (January 2018).