BIODIVERSITAS
Volume 22, Number 6, June 2021
Pages: 3271-3276

ISSN: 1412-033X
E-ISSN: 2085-4722
DOI: 10.13057/biodiv/d220632

Short communication: Production, distribution and conservation analysis of *Cherax* crayfish endemic to Papua and West Papua Provinces, Indonesia

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Manuscript received: 22 March 2021. Revision accepted: 22 May 2021.

Abstract. *Widyasari F, Sayuti M, Salampessy RBS. 2021. Short communication: Production, distribution and conservation analysis of* Cherax *crayfish endemic to Papua and West Papua Provinces, Indonesia. Biodiversitas 22: 3271-3276.* Freshwater crayfish is a species from the Parastacidae family that is indigenous to Papua and West Papua Indonesia. This study analyzes the amount of production, economic value, distribution, and conservation of freshwater crayfish endemic to Papua and West Papua. The production data were obtained from *Stasiun Karantina Ikan or* Fish Quarantine Inspection Agency in Papua and West Papua, Indonesia. Data regarding the price of *Cherax* crayfish were determined based on interviews with freshwater crayfish sellers. Furthermore, the distribution of freshwater crayfish was explained based on a literature review, while the data of its conservation were retrieved from the IUCN Red List of Threatened Species. *Cherax* crayfish caught from wild populations in West Papua is known higher than in Papua. Increased sales revenue could support the economy of the local community. There have been 25 species of freshwater crayfish identified, nine of which were from West Papua and 16 from Papua. Three species were under Endangered (EN), Least Concern (LC), Vulnerable (VU) status, respectively. Four species were under Data Deficient (DD) status, while the rest were unidentified. Overfishing of *Cherax* crayfish causes decline *Cherax* crayfish stock in the wild, future researchers are expected to conduct more specific studies that include relevant stakeholders regarding the conservation of *Cherax* crayfish that are endemic to Papua and West Papua.

Keywords: *Cherax*, conservation, crayfish, IUCN red list, Papua, production

INTRODUCTION

Freshwater crayfish found in New Guinea island has been studied by a number of researchers including (Holthuis 1949; Holthuis 1956; Holthuis 1958; Holthuis 1986; Holthuis 1996) as well as (Lukhaup and Pekny 2006; Lukhaup and Herbert 2008; Lukhaup and Pekny 2008; Lukhaup 2015; Lukhaup et al. 2015; Patoka et al. 2015a; Patoka et al. 2015b; Lukhaup et al. 2017; Patoka et al. 2017; Lukhaup et al. 2018 and Sedik et al. 2018). Species from genus *Cherax* crayfish generally traded as ornamental fish (Chucholl 2013; Papavlasopoulou et al. 2014; Patoka et al. 2014). *Cherax* crayfish from Papua are generally caught from nature then collected and sent to Java (Jakarta and Surabaya), and then exported by Indonesian wholesalers to Asia, the US, and Europe (Lukhaup and Herbert 2008; Patoka et al. 2015b), also been bred in aquariums or ponds as ornamental fish because *Cherax* crayfish not prone to stress and diseases (Iskandar 2003).

Seen from the technical aspects of breeding and market potential, *Cherax* crayfish can be widely bred to provide economic benefits for the community while its conservation can be maintained. Regarding its natural environment, Indonesia has enormous potential for *Cherax* crayfish breeding. The climate and seasonal cycles allow *Cherax* crayfish to be bred throughout the year. Red claws (*C. quadricarinatus*) can lay eggs 4-5 times a year, while in Queensland, Australia, red claws can only lay eggs twice a year (Wiyanto and Hartono 2003). *Cherax* crayfish has an important ecological in freshwater ecosystem which one is as a component food chain, larvae *Cherax* crayfish serves as food for larger aquatic animals, while the adult of this *Cherax* crayfish has a cannibal when they lack food and when they live in a dense population (Abinawanto et al. 2018) although *Cherax* crayfish are generally active foraging at night (nocturnal) and also includes all-eating types (omnivores) (Wiyanto and Hartono 2003). This cannibal nature starts to appear since it is still young (Wiyanto and Hartono 2003), and *Cherax* crayfish will prey on other crayfish that are sick or moulting because they are in a weak condition and they secrete a lubricating hormone (pheromone) with a strong smell, making it easier for other *Cherax* crayfish to prey on them (Iskandar 2003). Young *Cherax* crayfish are usually only take a few seconds to molt, while *Cherax* crayfish are more mature takes about 3-4 minutes for molting (Wiyanto and Hartono 2003). *Cherax* crayfish will be more frequent molting for good growth (Lukito and Prayugo 2007).

The demands for *Cherax* crayfish for consumption come from Japan, Malaysia, Hong Kong, China, Taiwan, Korea and Singapore. In addition, people in the United States, Canada, France, the Netherlands, Germany,