

Freshwater Crabs of Upper Baleh River, Sarawak

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ABSTRACT

Freshwater crabs are among the most threatened species, primarily due to their high levels of endemism, poor dispersal ability, low fecundity and the relatively fragmented nature of freshwater ecosystems. Consequently, regional diversity of freshwater crabs can serve as surrogates for assessing the quality of aquatic habitats in the upper reaches of Baleh River in Sarawak. The six days of sampling during a scientific expedition in the area resulted in the collection of five species of freshwater crabs, including two notable discoveries. The freshwater crabs belong to the families Gecarcinucidae (*Arachnothelphusa* sp., *Bakousa kenepai*) and Potamidae (*Ibanum aethes*, *Isolapotamon nimboni*, one new genus). The formal description of the new genus and two new species will be made later in appropriate taxonomic journals. The new crab species tends to a specialist in habitat use, being found only from an unusual habitat - a sandy spring within undisturbed forests, near the Elite Honour Camp. These findings indicate that the undisturbed forest patches near the timber camp are important to support population of crabs.

Keywords: Decapod crustacean, Gecarcinucidae, Potamidae, semi-terrestrial

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INTRODUCTION

Freshwater crabs are among the most threatened species in the tropics, primarily due to their high levels of endemism, poor dispersal ability, low fecundity and the fragmented nature of freshwater ecosystems. Many species of the world's freshwater crabs have been listed in the IUCN Red List (Cumberlidge *et al.*, 2009). The freshwater crabs of Borneo comprise of 89 known species in 17 genera and three families, many of which are endemic to the region (Grinang, 2016). Over 50% of the fauna is restricted to Sarawak, and the high diversity is thought to be associated with the diverse aquatic habitats in the state, ranging from high elevation streams to completely dark environments inside limestone cave systems. Studies on species richness of freshwater crabs in Sarawak remain at a state of infancy, and therefore, discovery of many new species may be expected, in particular, from pristine and/or hitherto unexplored areas. This paper provides species accounts for freshwater crabs currently known from the upper reaches of Baleh River.

MATERIALS AND METHODS

During a Scientific Expedition to Upper Baleh River in November 2015, surveys of freshwater crabs were conducted at six tributaries of the river and associated intermittent streams and in nearby moist valleys. Crabs were caught by hand during night surveys or along with fish using the electro-shocking technique. Specimens were examined and compared with the known species (Ng, 1988; Ng *et al.*, 2008; Grinang, 2016).

RESULTS AND DISCUSSION

The six days of sampling effort (20-25 November 2015) in the upper reaches of Baleh River resulted in the collection of five species of freshwater crabs. These belong to the families Gecarcinucidae (*Arachnothelphusa* sp., *Bakousa kenepai*) and Potamidae (*Ibanum aethes*, *Isolapotamon nimboni*, and a new genus). Two of the freshwater crabs are new to science (i.e. one new genus with one new species, and a new species of *Arachnothelphusa*), and will be