

EVIDENCE FOR *ISOLAPOTAMON BAUENSE* NG, 1987 (DECAPODA: BRACHYURA: POTAMIDAE) BEING THE LARGEST RECORDED TRUE FRESHWATER CRAB IN SOUTHEAST ASIA¹

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True or primary freshwater crabs, excluding the members of Hymenosomatidae and Sesarmidae, comprise over 1,300 species in five families (Gecarcinucidae, Potamidae, Potamonautidae, Pseudothelphusidae, and Trichodactylidae), which spend their entire life in freshwater habitats and never return to the sea (Ng 2017). The key feature that differentiates all true freshwater crabs from their marine counterparts is the direct development of offspring, with no larval stages, i.e., their eggs hatch directly into young crabs (Ng 2017; Sternberg and Cumberlidge 2001; Yeo *et al.* 2008). Their high level of endemism, low fecundity rates, limited dispersal, and fragmented distribution throughout freshwater ecosystems are major factors which make true freshwater crabs among the most threatened species, especially in the tropics (Cumberlidge *et al.* 2009).

A fair number of freshwater crab species are economically and ecologically significant, wherever they are found (Cumberlidge *et al.* 2009; Yeo *et al.* 2008). Freshwater crabs are consumed throughout Southeast Asia and are frequently harvested from the wild and sold in markets (Cumberlidge *et al.* 2012). From Borneo, 83 species of true freshwater crabs belonging to Gecarcinucidae and Potamidae are known, the majority of which are endemic (Grinang *et al.* 2016). Currently, commercial aquaculture is not practiced for freshwater crabs in Malaysia. The potamid crab, *Isolapotamon bauense* Ng 1987, from Sarawak is the largest known freshwater crab in Borneo, which can attain a size of 85.10 mm in carapace width (CW) (Grinang *et al.* 2016; Ng 1988; Ng and Tan 1998). Being the largest, a species is easily recognizable by the public, and consequently, conservation efforts can be afforded to it, e.g., the Tasmanian Giant Freshwater Crayfish *Astacopsis gouldii* (E. Clark 1936), the world's largest known freshwater invertebrate, has become a protected icon of Tasmania (Kawai *et al.* 2015).

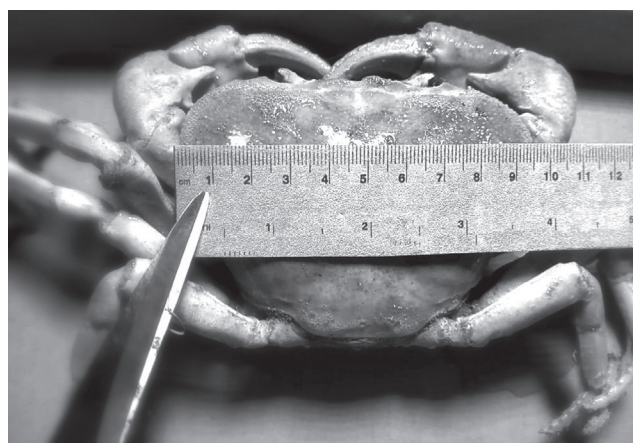


Fig. 1: Male *Isolapotamon bauense* Ng, 1987, observed at Gunung Serumbu in Bau, Sarawak (carapace width 95 mm)

In fact, no true freshwater crab within the Southeast Asian region is known to attain a size comparable to that of *Isolapotamon bauense*. The only exception is *Indochinamon bhumibol* (Naiyanetr 2001), the largest freshwater crab in Thailand, with a recorded maximum size of 87 mm carapace width (CW) (Naiyanetr 2001). Local people from within the distribution range of *Isolapotamon bauense* informed that the species can grow up to 120 mm CW.

During a reconnaissance trip to Gunung Serumbu in Bau (01° 25' 55" N, 110° 13' 27" E; 199 m above sea level), Sarawak, in January 2020, an adult male *Isolapotamon bauense* was captured when it came out of its burrow. The specimen was photographed on site, with a plastic ruler placed on its dorsal surface across the widest part of the carapace (Fig. 1), and subsequently released into its natural habitat.

The crab measured 95 mm CW, which clearly exceeds the largest recorded size of *Isolapotamon bauense* (85.10 mm) and *Indochinamon bhumibol* (87.0 mm) (Grinang *et al.* 2016;

Naiyanetr 2001; see also Ng and Tan 1998). *Isolapotamon bauense* is, therefore, confirmed to be the largest known true freshwater crab in Southeast Asia in terms of carapace width. It could also be the largest potamid crab in the world. While *Isolapotamon bauense* is now known to grow beyond 90 mm CW, it is possible that still larger crabs exist, but because of its rarity, we may never know the extent to which the species can grow.

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