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The Taxonomy of Naticidae Guilding, 1834 (Mollusca: Gastropoda) Collection From Sarawak Natural History Museum

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ABSTRACT

This study focused on the taxonomic study of the gastropod family Naticidae based on specimens at the Sarawak Natural History Museum. A total of 146 specimens were investigated. There are 6 species found in the boxes of the specimen's collection which are *Mammilla melanostoma* (Gmelin,1791), *Neverita didyma* (Röding,1798), *Paratectonatica tigrina* (Röding,1798), *Polinices albumen* (Linnaeus,1758), *Polinices mammilla* (Linnaeus,1758) and *Tanea lineata* (Röding,1798). A list of specimens of each species is provided in this study. From all the available specimens in the museum, a dichotomous key is formed. It is hoped that this study serves as a basis for further work on gastropods especially the family Naticidae in Sarawak.

Keywords: Naticidae, museum collection, natural history, Sarawak

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THE TAXONOMY OF NATICIDAE GUILDING, 1834 (MOLLUSCA: GASTROPODA) COLLECTION FROM SARAWAK NATURAL HISTORY MUSEUM

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INTRODUCTION

Taxonomy is an integral component of biological systematics, the science of biodiversity and deals with the naming and classification of organisms (Purvis & Hector, 2000). The taxonomic study provides information that is essential to all branches of biology. The main focus of modern taxonomy is on multi-character integrative methods that look at all the useful data from different areas of biology (Huxley, 1940).

The Naticidae Guilding, 1834 is a diverse gastropod family that can be found from the intertidal zone to thousands of meters below the surface. Naticidae members are easily identified by their globular to ovate-conical shell shape, distinctive features and unusual predatory behaviour (Carpenter & Niem, 1998). According to Kabat (1996), there are an estimated 260–270 recent species in this family that are thought to have originated in the late Triassic or early Jurassic (Wenz, 1941; Bouchet & Warén, 1993).

Most morphological characteristics demonstrate convergence according to current taxonomic classification methods (Sharma *et al.*, 2020). The taxonomic classification of several members of the Naticidae family is exceedingly ambiguous. Taking account of its morphological convergence, understanding the group's evolutionary history is challenging and various unrelated taxa are frequently misdiagnosed as Naticidae hence inflating the group's actual diversity. This study is important as there are still several specimens from years ago left unlabeled and without data attached to them (Hester, 2018). As there is a chance that some of the specimens will go extinct on account of the extinction rate rising over time or that some specimens have been revised for their data, the identification procedure must be done quickly.

Sir Charles Brooke, the second White Rajah, had a personal interest in the early development. When Sarawak gained its independence through the formation of Malaysia in 1963, the Sarawak Museum enjoyed international recognition as a research institute and an institution of higher learning (Chin *et al.*, 1983). The aim of this research was to study the taxonomy of gastropods from the family Naticidae in the Sarawak Natural History Museum collection. Apart from that, it was also to help in determining the species composition of Naticidae Guilding, 1834, in the Sarawak Natural History Museum collection.

MATERIALS AND METHOD

The mollusc specimen data were retrieved on February 17, 2022, from the Sarawak Natural History Museum. The location of the museum is in the centre of Kuching City, Sarawak (1° 33' 20" N 110° 20' 37" E). Figure 1 and Figure 2 below show the location of the museum and the museum's building, respectively.

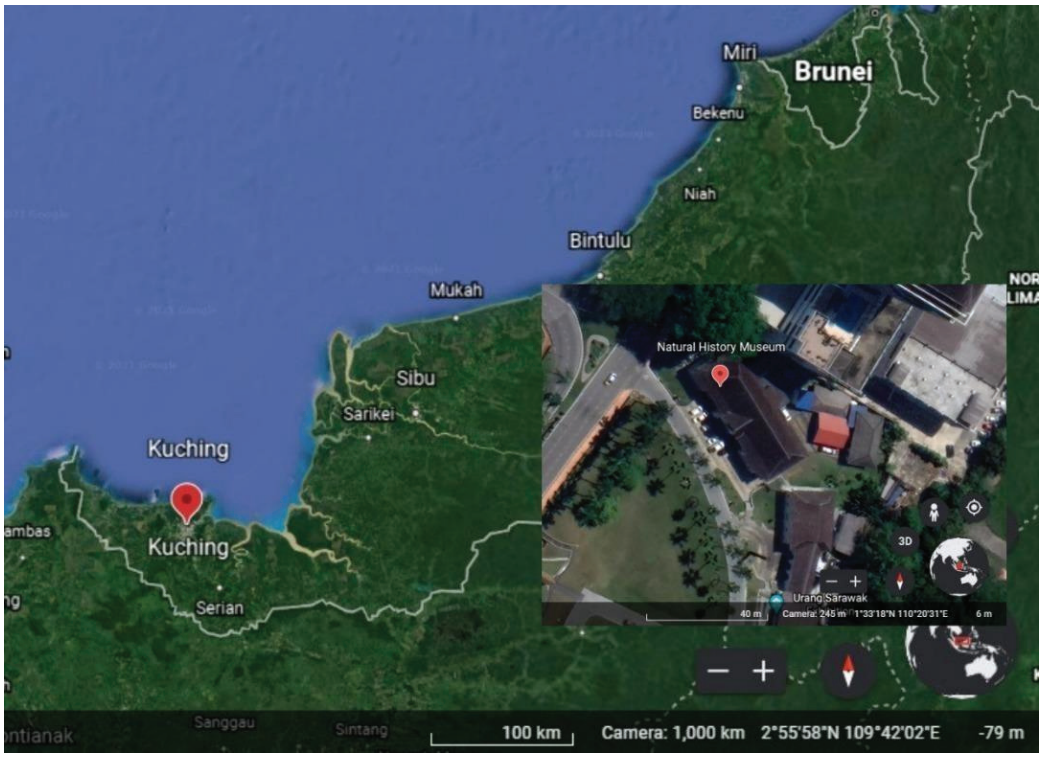

Figure 1: Map of Sarawak and location of the Sarawak Natural History Museum.

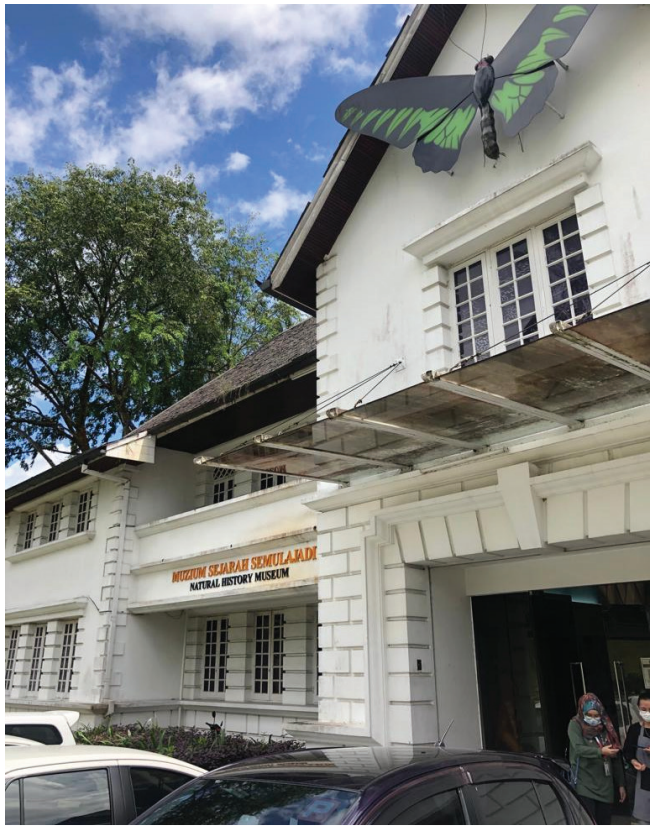

Figure 2: Natural History Museum building, Kuching, Sarawak.