

The family bithyniidae gray, 1857 (gastropoda: truncatelloidea) in peninsular Malaysia and Singapore

ABSTRACT

Freshwater snails of the family Bithyniidae on mainland Southeast Asia are important intermediate hosts of zoonotic parasites. However, bithyniids in the southern tip of the mainland, in Peninsular Malaysia and Singapore, have remained largely overlooked. We review records of the bithyniids from this target region based on literature and museum material to verify species identities, statuses and distribution. Species identification was conducted mainly using shell characters and supplemented by analyses of the COI gene. We recorded four species—*Digoniostoma siamensis siamensis*, *Gabbia minuta*, *Gabbia* cf. *stenothyroides*, *Wattebledia baschi*. In Malaysia, *G. minuta* and *W. baschi* are only known from their type localities. *Digoniostoma siamensis siamensis* occurs in Peninsular Malaysia and was introduced to Singapore in recent decades. *Gabbia* cf. *stenothyroides* has also been introduced to Singapore. Molecular analyses indicated that *D. siamensis siamensis* shares the same clade with mainland Southeast Asian *Bithynia* spp., *Gabbia* cf. *stenothyroides* is sister to a bithyniid from Sulawesi, while *Bithynia* and *Gabbia* were recovered as non-monophyletic groups. Our study clarifies the presence of two introduced bithyniids in Singapore, reveals the lack of knowledge on native (including endemic) Malaysian species, and further emphasises the need for a revision of all bithyniids.