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Moolenbeek, R.G.

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A common mytilid from the Sunda Shelf new to science

*Musculus panhai* n. sp. (Bivalvia: Mytilidae)

Robert G. MOOLENBEEK
Zoölogisch Museum Amsterdam, P.O. Box 94766, 1090 GT Amsterdam, the Netherlands (r.g.moolenbeek@uva.nl)

**ABSTRACT**
Up to now a locally abundant tiny mytilid occurring on the Sunda Shelf (Thailand and Indonesia) has been misidentified as *Musculus nanus*. Since no recent name is available, it is described as new to science, *Musculus panhai* n. sp.
Key words: Thailand, Indonesia, Sunda Shelf, Mytilidae, *Musculus panhai* n. sp., systematics

**INTRODUCTION**

During an expedition initiated by Naturalis (the Netherlands) and LIPI (Indonesia) to the Kepulauan Seribu (the Thousand Islands) in the Bay of Jakarta in October 2005, a small mytilid was collected. In particular the islands close to Jakarta, where pollution is most severe, harboured areas covered by millions of tiny mytilids at depths ranging from 3 to 5 meters. In so called large byssus nests they were sitting close to each other, covered partly by barnacles and predated by several species of the genus *Thais* s.l.

More or less the same habitat was found during a recent collecting trip to the Gulf of Thailand. Around the island Ko Lan, just off Pattaya, the same mytilid occurred in large densities. Identification did not seem to be difficult since Lynge (1909) published about the results of the Danish Expedition to Siam (1899-1900). He identified and figured this species as *Modiolaria nana* Dunker. In 1998 this species was figured again by Lamprell & Healy (1998: fig. 205) as *Musculus* sp. and recorded from the Arafura Sea. These authors also described and figured *Musculus nanus* (Dunker, 1857), a species from western and South Australia (type locality: Port Lincoln). Due to the kind cooperation of Mrs Kathie Way (BMNH) I was able to study photographs of Dunker’s type specimens and I conclude that that species is different from our species from the Sunda Shelf in Indonesia and Thailand.

Gould (1861) described another Australian species, *Modiolaria varicosa*, but since neither figures nor type specimens are available (Johnson, 1964: 164) I consider it a *nomen dubium*. Since no other name is available I describe this species as new to science.

**ABBREVIATIONS**

BMNH = British Museum of Natural History, London, England
MZR = Museum Zoologicum Bogoriense, Cibinong, Indonesia
n. sp. = New species
SD = subsequent designation
s.l. = sensu lato [in the broad sense]
ZMA = Zoölogisch Museum Amsterdam, the Netherlands

**SYSTEMATICS**

Family: Mytilidae
Genus: *Musculus* Röding, 1798
Type species: *Mytilus discors* Linnaeus, 1767 (SD)

*Musculus panhai* n. sp.
Figs 1-7

*Modiolaria nana* Dunker; Lynge, 1909: 139-140, plate 2 fig. 5 (not of Dunker, 1857)
*Musculus* sp.; Lamprell & Healy, 1998: 90-91, fig. 205

Description holotype (ZMA Moll. 4.09.045).
Shell thin and fragile, with three distinct shell regions, the anterior one the smallest. Length 13.4 mm, height 6.5 mm. This anterior part has about 8 costae. Posterior part of shell surface with about 35 radial ribs, the median part only with concentric growth lines. Posterior dorsal margin with about 14 short ridges which touch the first radial rib. On the inner side these ridges occur like small crenulations. Umbones inflated. Internal shell glossy, the anterior part of shell surface with about 35 radial ribs, the median part only with concentric growth lines. Posterior dorsal margin with about 14 short ridges which touch the first radial rib. On the inner side these ridges occur like small crenulations. Umbones inflated. Internal shell glossy, the anterior and posterior ridges shining through. Colour cream with brown or red-brown zigzag markings, blotches or stripes, shining through on the
inner side. Periostracum: a smooth thin brown layer.

Type locality.-
INDONESIA: Teluk Jakarta (Bay of Jakarta), Pulau Onrust, 3-5 m, September 2005, sta. SER05/01, leg. R.G. Moolenbeek.

Type material.-
Apart from the holotype I studied more than 100 paratypes (ZMA Moll. 4.09.046) from the type locality. Part of this material will be stored in Museum Zoologicum Bogoriense, Cibinong, Indonesia.

Other material studied.-
INDONESIA: Teluk Jakarta (Bay of Jakarta): Sta. SER05/10, Kelor/>25; Sta. SER05/08, Ayer Besar/2; Sta. SER05/27, Air/2; Sta. SER05/28, Tidung Kecil/5; Sta. SER05/35, Karang Jong/3; Sta. SER05/07, Bidadari/>100; Sta. SER05/03, Damar Kecil/5.
THAILAND: off Pattaya, Ko Lan, 3-6 m, 15 August 2006, leg. R.G. Moolenbeek/>25.

Variability.-
Only the colour pattern is highly variable. It can be fine dots, strong zigzag markings or blotches. On some fully grown specimens the inner side can be a bit nacrous.

Etymology.-
This new species is dedicated to my Thai colleague and friend Prof. Dr Somsak Panha. During my stay in Thailand in 2005 he showed me his wonderful country and arranged my stay at the Chulalongkorn University in Bangkok.

Remarks.-
Modiolaria varicosa Gould, 1861, is considered a nomen dubium (not figured, types lost) although laseron (1956) and Lamprell & Healy (1998) figured a species under the name Musculus varicosus. Musculus nanus differs by a somewhat different shape (see Figs 8-9) with less radial grooves on the posterior part (12 to 15).
Musculus nanulus Thiele, 1930, is less slender, smaller and has less radial costellae.
Musculus viridulus (H. Adams, 1871), has a more rounded shape and the one shell figured by Oliver (1992) looks very similar to M. nanus.

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Staff members of LIPI and Naturalis made this expedition a success. My wife Wilma van der Hijden financed my trip and was my buddy during SCUBA diving activities in Thailand. Mr Henk Dekker and Mr Leo van Gemert allowed me to study their Musculus viridulus samples from the Red Sea. Kathie Way (BMNH) kindly send photographs of Dunker's type material, photographed by Phil Hurst. As mentioned above, Prof. Dr Somsak Panha and his colleagues contributed to the success of this trip to Thailand. Also colleagues from the Burapha University in Chonburi (Drs Sumaitt and Dumrongrojwattana) kindly offered diving facilities. Bram van der Bijl and Mike Filmer were so kind to give comments on the manuscript and Leon Hoffman prepared the plate.

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