

Two New Species of *Alycaeus* from Eastern Thailand (Gastropoda, Caenogastropoda, Cyclophoridae)

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ABSTRAC.- Two *Alycaeus* species were described from Eastern Thailand, viz. *Alycaeus somwangi* spec.nov., *A. matchacheepiorum* spec.nov.

KEY WORDS.- Gastropoda, Caenogastropoda, Cyclophoridae, *Alycaeus*, Thailand

INTRODUCTION

In Thailand, six species of *Alycaeus* Gray, 1850 were reported previously; *A. distortus* Haines 1854; *A. perakensis* Cross, 1879; *A. roebeleni* Möllendorff, 1894; *A. pratensis* Panha and Burch, 1997; *A. somnueki* Panha and Patamakanthin, 2001 and *A. cristae* Maassen, 2006. (Hemmen and Hemmen, 2001; Panha and Patamakanthin, 2001; Maassen, 2006).

Two new species of *Alycaeus* were collected on limestone walls at Lub Lae Cave, Chonburi Province and Khao Pratun Cave, Rayong Province, Thailand in May and July 2007. The new species are named and described below.

Abbreviations for shell characters: W, shell width; H, shell height. For collections: ZRCBuU, Zoological Research Collection of Burapha University.

Cyclophoridae Gray, 1847

Alycaeus Gray, 1850

Type species (by original designation): *Cyclostoma gibbum* Dydoux, 1838

Range : India, Myamar, Malaysia, Southern China, Japan

Alycaeus somwangi spec. nov.
(figure 1-6)

Type Material- Holotype (ZRCBuU 0280) and six shell paratypes (ZRCBuU 0283) are deposited in the Burapha University Zoological Research Collection. Three shell paratypes (ZRCBuU 0288) are deposited in the National Museum of Natural History Naturalis, Leiden. A paratype (THNHM-MO-04920) is deposited in The Thailand Natural History Museum, Thailand.

Description of Holotype- Shell large for the genus, dextral, with a conical spire and a large body whorl. A transverse constriction occurs in the last whorl, at about 1/4 whorl from the aperture. After the constriction the shell widens again towards the aperture. From the constriction backwards a respiration tube of about 1/4 whorl (about 4.10 mm) lies along the suture. Fresh shells are light orange; the last part of the body whorls is much lighter, the spire a little darker than most of the last whorl. Initial 2 1/2 whorls smooth, only at a high magnification a mesh-like surface is visible; the

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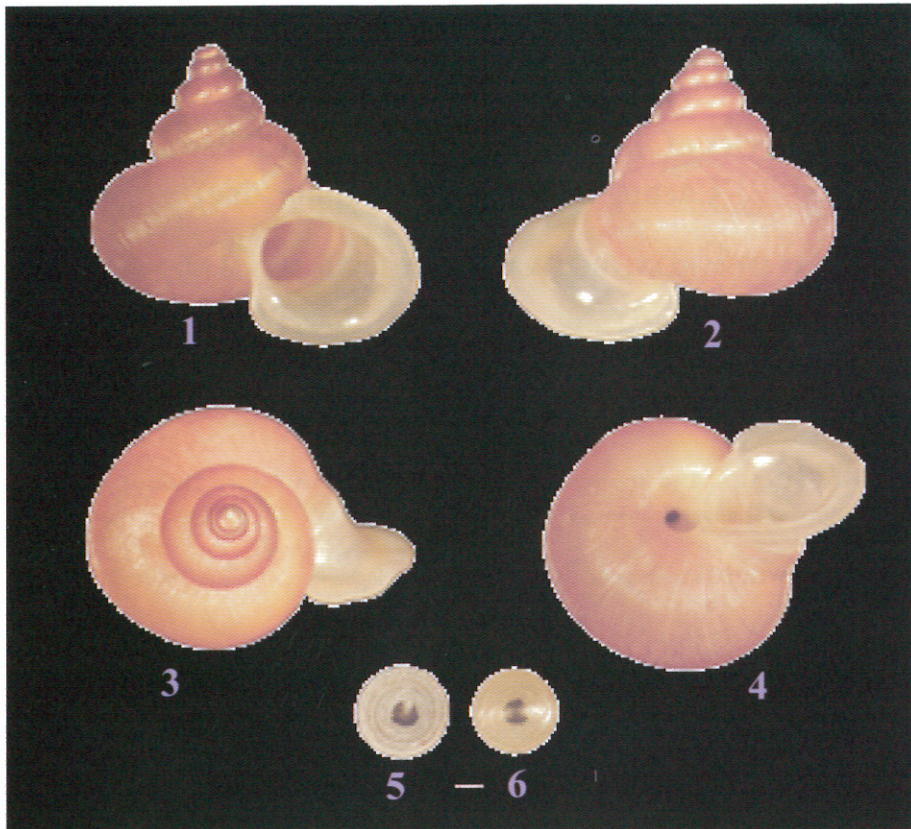


Figure 1-6. Alycaeu spec. 1-6, *A. somwangi* spec. nov., holotype (ZRCBU 0280), Thailand, Lub Lae Cave, an isolated limestone hill of Chonburi Province at 13° 07' 16" N, 101° 36' 05" E.

following whorls covered with numerous fine ribs. The ribs at the underside of the body whorl are of the same prominence as those above. Fresh shells are semitransparent and with dull luster. Whorls 5 1/2 convex, the initial 5 whorls regularly increasing in width. The suture is deep. Apex of the shell mamillate, its base flattened. Umbilicus open, but not wide, partly hidden by a reflected peristome. Aperture almost circular, extremely oblique (about 30° with regard to the coiling axis) and protruding just beyond the peristome. Peristome continuous, flat and widely expanded, attached just below the angular side of the body whorl with a large, flaring edge; basally with another small edge. Just after the constriction the peristome bends slightly downwards. The body whorl is well rounded. Operculum thin, corneous, round, concave outer surface concave, multispiral, nucleus semitransparent and centered. The inner surface is convex.

ansparent and centered. The inner surface is convex.

Dimensions: H 8.7-10.2 mm (holotype 9.15 mm), W 10.3-11.6 mm (holotype 11.2 mm)

Derivatio Nominis.- With pleasure we name this beautiful species after our friend, Mr. Somwang Patamakanthin, an avid fancier of shells who has provided much appreciated document support.

Type Locality.- Thailand, Lub Lae Cave, an isolated limestone hill in Chonburi Province at 13° 07' 16" N, 101° 36' 05" E, 81 meters elevation.

Geographic Distribution and Habitat.- *A. somwangi* seem to be limited to eastern Thailand. All specimens were found on

limestone wall at Lub Lae Cave, Chonburi Province and Khao Pratun Cave, Rayong Province.

Diagnosis - *A. somwangi* has a conical spire and a large body whorl with a transverse constriction and a respiration tube of about $\frac{1}{4}$ whorl, line along a suture. Shell surface covered with numerous fine ribs. Umbilicus open, aperture circular and oblique, peristome continuous flat and expand. Operculum corneous round concave outer surface with mutispiral line and convex inside.

Remarks.- *A. somwangi* spec. nov. is somewhat similar in shell morphology to *A. somnueki* Panha and Patamakanthin but the new species has a more slender, higher spire and a very long respiratory tube. *A. somnueki*, has a round operculum, with a smooth concave, outer surface, the color of molten silver while the inside is convex and reddish-brown in color. *A. somwangi* has round operculum with a concave outer surface with multispiral lines.

Alycaeus matchacheepiorum spec. nov.
(Figure 7-12)

Type Material- Holotype (ZRCBuU 0285) and seven shell paratypes (ZRCBuU 0286) are deposited in the Burapha University Zoological Research Collection. Five shell paratypes (ZRCBuU 0290) are deposited in the National Museum of Natural History Naturalis, Leiden. (THNHM-MO-04921) is deposited in The Thailand Natural History Museum, Thailand.

Description of Holotype- Shell dextral, with a conical spire and large body whorl. In this last whorl, at about $\frac{1}{4}$ whorl from the aperture, there is a transverse constriction. After that constriction, the shell widens again towards the aperture. From the constriction backward a very small respiration tube, about 1.03 mm in length lies along the suture. Fresh shells are bright citron-yellow; the last part of the body whorl is much lighter than, the spire which is a little darker than most of the last whorl. Initial 2 $\frac{1}{2}$ whorls almost smooth, only at high

magnification; is a finely pitted surface visible; the following whorls are covered with numerous fine ribs. Ribs at the underside of the body whorl are of the same prominence as those above. Fresh shells have a dull luster and are not transparent. Whorls 4 $\frac{3}{4}$, convex, the initial 4 whorls regularly increasing in width; the final $\frac{1}{4}$ whorl also increase in width. The suture is deep. Apex of the shell white, mamillate, its base flattened. Umbilicus open, wide, partly hidden by the reflected peristome. Aperture almost circular, tilted at least 45° with regard to the coiling axis, and protruding beyond the peristome. Peristome continuous, flat and widely expanded, but very narrow at parietal side, where it is attached just below the body whorl. Body whorl is well rounded. Operculum thin, corneous, round with a smooth concave, outer surface is molten silver in color and the inside is convex and reddish-brown in color.

Dimensions: H 5.9-6.9 mm (holotype 6.7 mm), W 9.2-10.3 mm (holotype 9.5 mm)

Derivatio Nominis.- With pleasure we name this beautiful species in honor of Assoc. Prof. Surin Matchacheep and Assist. Prof. Somsuk Matchacheep. for the inspiration they provided me in the way of taxonomist.

Type locality- Thailand, Khao Pratun Cave, an isolated limestone hill in Rayong Province at 13° 07' 19" N, 101° 36' 03", 55 meters elevation.

Geographic Distribution and Habitat.- *Alycaeus matchacheepiorum* seem to be limited to eastern Thailand. Specimens were found on a limestone wall at Khao Pratun Cave, Khao Bote Cave Rayong Province.

Diagnosis - *Alycaeus matchacheepiorum* spec. nov. has conical spire and a large body whorl with transverse constriction, respiration tube short. Shell surface covered with numerous fine ribs. Umbilicus open, aperture circular and oblique, peristome continuous flat and expanded. Operculum corneous round, concave outer surface is molten silver and convex, inner surface reddish-brown

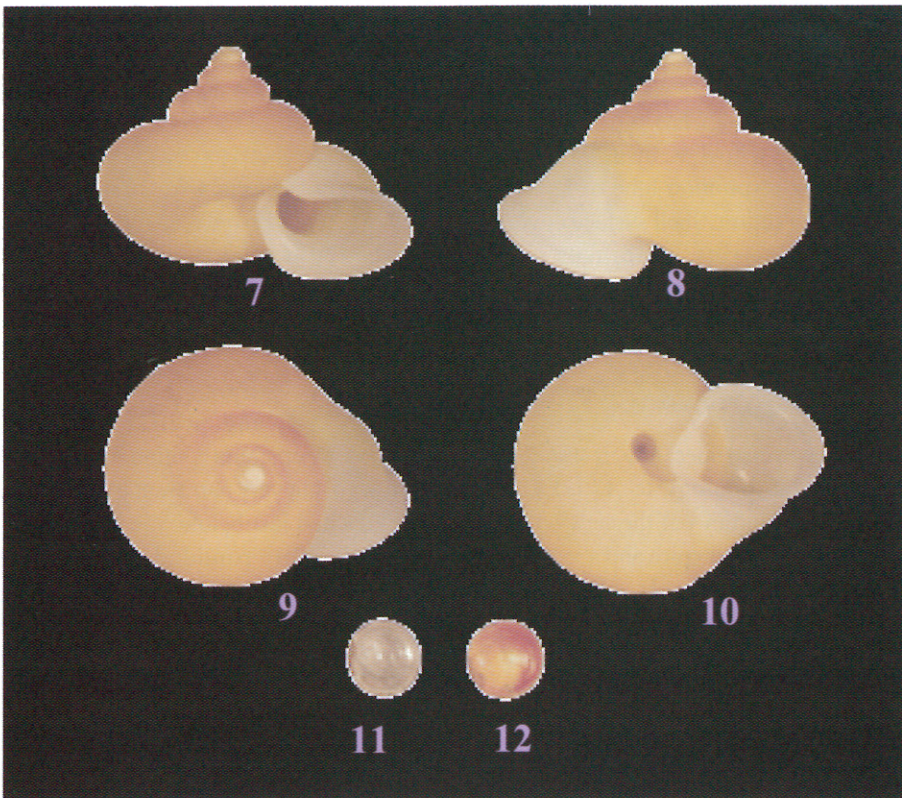


Figure 7-12, *Alycaeus machacheepiorum* spec. nov. holotype (ZRCBuU 0285), Thailand, Khao Pratum Cave, an isolated limestone hill of Rayong Province at 13° 07' 19" N, 101° 36' 03". Photographs by Pratin Boon-ngam

ACKNOWLEDGEMENTS

This research was supported by a Development grant from Faculty of Science, Burapha University. We wish to thank Prof. Drs, F.W.H. Beamish for critical reading the manuscript. Thanks are due to Mr. Pratin Boon-ngam, for the pictures and specimens, Somwang Patamakanthin for the loan of materials and documentation, to Rungwit Chaijirawong, Ampanpong Wongtanapanya for specimen collection and an anonymous reviewers for their comment on the manuscript.

LITERATURE CITED

Hemmen, J. and Hemmen C. 2001. Aktualisierte liste der terrestrischen gastropoden Thailands. *Schriften zur Malakozoologie*. 18:35-70.

Maassen, W.J. 2006. Remarks on *Alycaeus* species from South-East Asia, with the descriptions of four new species with keeled shells (Gastropoda, Caenogastropoda, Cyclophoridae). *Basteria*, 70: 133-139.

Panha, S. and Patamakhanth, S. 2001. A new *Alycaeus* species from southern Thailand (Prosobranchia: Cyclophoridae: Cyclophoridae). *Of Sea and Shore*. Vol. 23(4):189-190.

Received : 1 October 2007

Accepted : 13 October 2007