

An illustrated key to the families of Gerromorpha in Thailand

by Ping-ping Chen & Herbert Zettel

Abstract: An illustrated key is provided for the five families of Gerromorpha which occur in Thailand.

Gerromorpha are a group of an unusual life form of semiaquatic bugs living either on the water surface or the damp water edge. Morphologically there are apterous (wingless), macropterous (full winged), or brachypterous (short winged) forms. Gerromorpha bugs are ideal objects for ecological studies. Besides, certain species are of importance as bioindicators for water pollution.

Taxonomically under Hemiptera Heteroptera, Gerromorpha include eight families and 115 genera (ANDERSEN 1982; several more genera described during the last 15 years). In Thailand so far only five families have been reported.

The key to the families of Thai Gerromorpha follows mainly the keys of ANDERSEN (1982) for the families of the world, and ZHENG & al. (1994) for the families of China.

Key to the families of Thai Gerromorpha

- 1 Head distinctly prolonged (Fig. 9) **Hydrometridae**

In Thailand this family is represented only by the genus *Hydrometra* LATREILLE. *Hydrometra* species live at the edge of stagnant waters, including bays of streams and brooks, partly on the surface of the water, partly terrestrial.

Head much shorter (Figs. 1 - 3, 7, 8, 10 - 12) 2

- 2 Macropterous specimens..... 3

Apterous or brachypterous specimens..... 6

- 3 Metanotal elevation distinctly exposed, forming a large plate (Fig. 1) 4

Metanotal elevation not present, metanotum covered by the pronotal lobe 5

- 4 Tarsi two-segmented (Fig. 4), head ventrally with bucculae covering the base of rostrum (Fig. 2)..... **Hebridae**

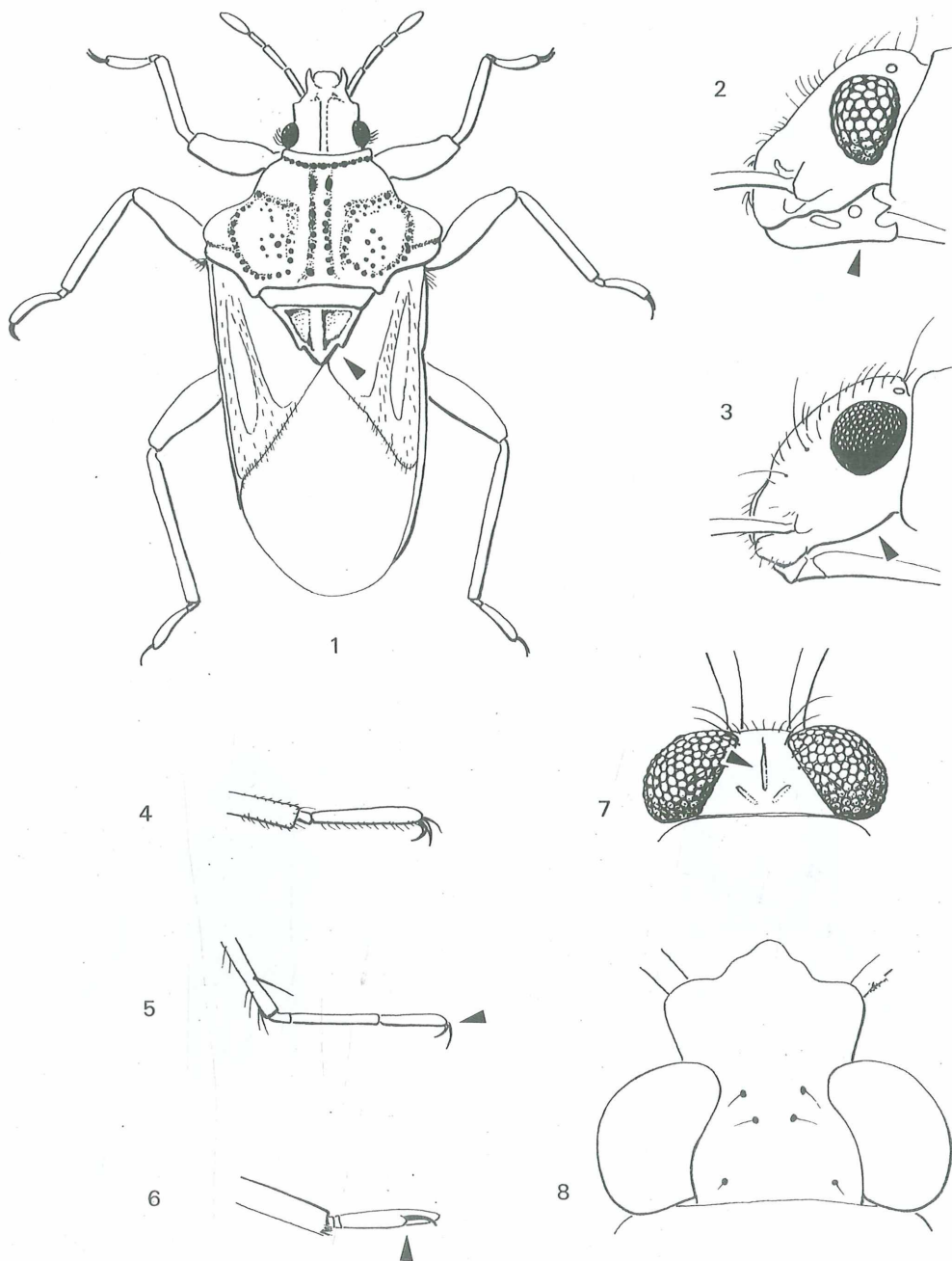
Hebridae are small insects mainly living on land at the edge of the water. A few species live at the surface of the water, and a few are even subaquatic. In Thailand the family is represented by the genera *Hebrus* CURTIS, *Merragata* WHITE, *Timasius* DISTANT, *Hyrcanus* DISTANT, and one undescribed genus.

Tarsi three-segmented (Fig. 5), head without bucculae (Fig. 3) **Mesoveliidae**

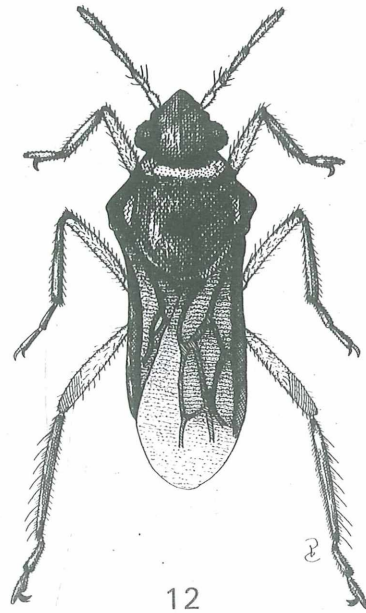
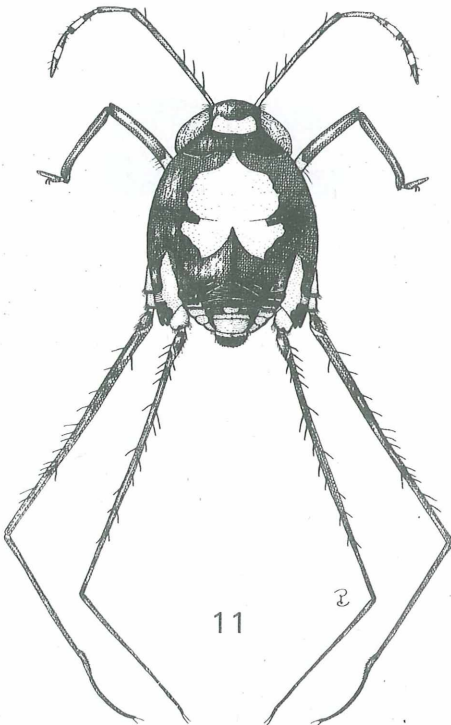
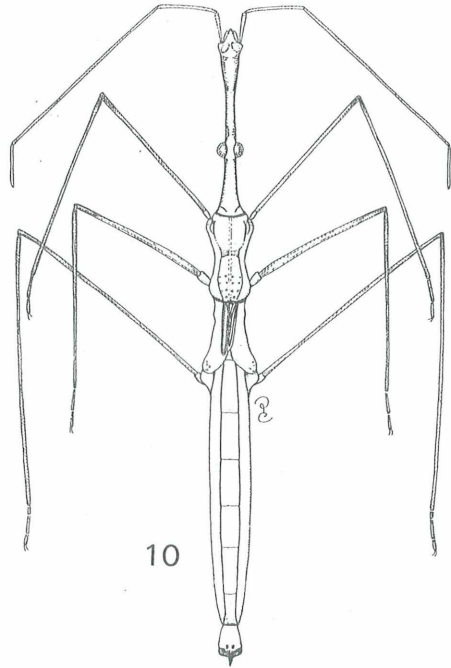
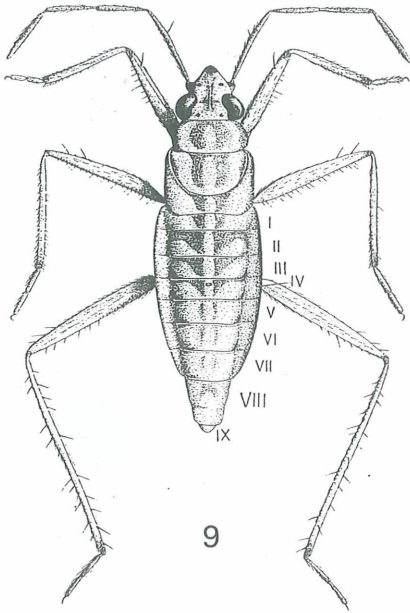
The few species of the genus *Mesovelvia* MULSANT & REY live at the edge of stagnant waters including bays of streams without current, or are hygropetric on mossy rocks.

- 5 Head medio-dorsally with a distinct impressed line (Fig. 7), legs usually not very long and slender (Fig. 12), hind femora usually stouter than middle femora, very small to medium sized species..... **Veliidae**

Large family with 13 described genera known from Thailand; a further three genera may occur. About 30 species are known by the authors, mostly undescribed or not recorded from Thailand. Species live in various limnic habitats in running and stagnant waters, two genera (*Halovelia* BERGROTH and *Haloveloides* ANDERSEN) live on the sea shore.



Figs. 1 - 8: (1) Habitus of *Hyrcanus* sp. (Hebridae) (► metanotal elevation); head, lateral view, of (2) *Timasius* sp. (Hebridae) (► buccula) and (3) *Mesovelia vittigera* (Mesoveliidae); hind tarsi of (4) *Timasius* sp. (Hebridae) and (5) *Mesovelia vittigera* (Mesoveliidae), and (6) *Rhagovelia sumatrensis* (Veliidae) (► insertion of claws); head, dorsal view, of (7) *Rhagovelia sumatrensis* (Veliidae) (► impressed midline of head) and (8) *Ptilomera tigrina* (Gerridae) (different scales).



Figs. 9 - 12: Habitus of (9) *Mesovelia* sp. (Mesoveliidae), (10) *Hydrometra* sp. (Hydrometridae), (11) *Ventidius* (*Ventidioides*) sp. (Gerridae), and (12) *Microvelia* sp. (Veliidae) (different scales).

Head medio-dorsally without impressed line (Fig. 8), legs usually very long and slender (Fig. 11), hind femora usually more slender than middle femora, usually medium-sized to large, but also with a few small representatives.....

Gerridae

Very large family with 20 genera (including one undescribed) and more than 40 species known from Thailand. A further five genera may occur but are so far not recorded. Species live in stagnant as well as in running waters; *Halobates* ESCHSCHOLTZ is marine.

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|---|--|---------------------|
| 6 | Metanotal elevation distinctly exposed, forming a large plate (Fig. 1) | Hebridae |
| | Metanotum not elevated | 7 |
| 7 | Abdominal scent orifice on tergite 4 present (Fig. 10), claws inserted apically (Fig. 5) | Mesoveliidae |
| | Abdominal scent orifice absent, claws inserted not apically in most genera (e.g. Fig. 6) | 5 |

References

- ANDERSEN, N.M. 1982: The Semiaquatic Bugs (Hemiptera, Gerromorpha). Phylogeny, Adaptations, Biogeography and Classification. - Entomonograph 3: 1-455.
- ZHENG, L., CHEN, P.P., LIU, G. & REN, S. 1994: 13. Aquatic and Semiaquatic Hemiptera, pp. 210-249. In: MORSE J.C., YANG, L. & TIAN, L. (eds.): Aquatic insects of China useful for monitoring water quality. - Hohai Univ. Press, Nanjing.

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Small notes, announcements & requests:

For my studies on Thai aquatic and semiaquatic bugs within the current project, I would like to borrow all "Indo-Chinese" material of Helotrephidae and Hebridae from any collections.

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Thai material of the following genera of Microveliinae (Veliidae) is needed for revision: *Pseudovelia* and *Xiphovelia*. Material from Philippine Islands is also welcome.

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