

# A preliminary list of aquatic and semiaquatic Heteroptera (Nepomorpha, Gerromorpha) from the Maekhong-Chi-Mun rivers area, Thailand

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**Abstract:** A list of Nepomorpha and Gerromorpha from the Maekhong-Chi-Moon rivers area in Ubon Ratchathani Province, Thailand, is presented. All together 26 species in 9 families are recorded. The following species are newly recorded for Thailand: *Anisops barbatus* BREDDIN, *Anisops nigrolineatus* LUNDBLAD (Notonectidae), *Neolardus typicus* (DISTANT) (Veliidae), *Gerris nepalensis* DISTANT, *Ptilomera hylactor* BREDDIN, and *Ventidius modulatus* LUNDBLAD (all Gerridae).

## Introduction

Maekhong, Chi and Moon rivers are three main fresh water reservoirs for people in the Northeast of Thailand. Chi River (Nam Chi) passes through the Northeast region from west to east. Mun River (Nam Mun) drains a large part of Ubon Ratchathani Province by several tributaries and joins Chi in the West of Muang Ubon in the South of Ubon Ratchathani; then Chi runs to the Maekhong River (Mae Nam Khong), which constitutes the border between Thailand and Laos.

The present day concerns of these resources is the impact of water quality due to rapid growth of industrialization and population. Beside physical and chemical measurements of water quality, aquatic insects have been widely used as bioindicators for this purpose. To test the water quality of the river system, a study was carried out by the first and second authors involving seasonal monitoring of aquatic insects from several sites in the Maekhong-Chi-Mun river system in Ubon Ratchathani Province (see Tab. 1).

The results from physical and chemical measurements of these three water resources have shown high levels of oxygen (7.10–8.25 mg/l) and low levels of nutrients (nitrogen and phosphorus), heavy metals, and other organic matter. It is implied that the water quality of Maekhong-Chi-Mun rivers that pass through sites in Ubon Ratchathani is still of good quality and has not much contamination. This is also indicated by the results of aquatic insect samplings.

In the course of the study, material of six insect orders (Ephemeroptera, Odonata, Heteroptera, Trichoptera, Coleoptera, and Diptera) was collected. In the following, the results on aquatic and semiaquatic Heteroptera are presented. The following species list is a contribution to the knowledge of the Heteroptera fauna of Northeast Thailand, especially to that of Ubon Ratchathani Province, from which so far no aquatic Heteroptera have been reported in literature.

## Material and Methods

The study was a seasonal survey of Maekhong-Chi-Mun rivers by the first and second authors from July 1995 to July 1996. Eleven sampling sites (see Tab. 1) were chosen for collecting aquatic insects. Specimens were collected qualitatively and preserved in ethanol. The physical and chemical parameters of water quality such as pH, chemical oxygen demand (BOD), nitrogen, phosphorus, and heavy metal contents were measured by using procedures given in the Standard Methods for the Examination of Water and Wastewater (AMERICAN PUBLIC HEALTH ASSOCIATION & al. 1981).

Table 1: List of sites, collecting dates, and reference numbers used in the species list.

Sampling Site	Date	Reference number
<b>Chi River:</b>		
Ban Tasala	17.11.1995	10
	16.3.1996	12
	7.7.1996	18
<b>Mun River:</b>		
Ban Kudchom	16.3.1996	11
	7.7.1996	17
Koloi Muang	16.3.1996	2
	7.7.1996	15
Hanphudung Muang	16.3.1996	1
	7.7.1996	14
Tan Soom	16.3.1996	3
Kansapung Piboon	16.3.1996	4
	7.7.1996	16
Sirinton	16.3.1996	13
	7.7.1996	19
<b>Maekhong River:</b>		
Ban Nasanum	16.3.1996	5
Kamarat	16.3.1996	6
Ban Gum	16.3.1996	9
Kong Chaim	16.3.1996	8

Identifications were mainly done by the third author, some material of the families Noto-nectidae and Nepidae was identified by Dr. N. Nieser (Tiel, The Netherlands).

Material is mainly deposited in the entomological collection of the Khon Kaen University, Faculty of Agriculture, a smaller part also in the Natural History Museum Vienna (NMV).

### List of species

#### Nepomorpha

#### Belostomatidae

#### *Diplonychus rusticus* (F.)

Site: 17.

A common and widely distributed species in Southeast Asia.

## Nepidae

### *Ranatra longipes thai* LANSBURY

Site: 3.

A common and abundant species in larger stagnant waters in Northeast Thailand.

### *Ranatra* sp.

Sites: 4, 16.

One larva (4), one male and one female (16) probably represent a new species similar to *R. malayana* LUNDBLAD which was described from Sulawesi.

### *Cercotmetus asiaticus* (AMYOT & SERVILE)

Site: 8.

## Micronectidae (Corixidae, part)

### *Micronecta* spp.

Sites: 1, 2, 4, 5, 6, 8, 11, 17.

Numerous specimens of this genus were collected, most of them probably belonging to *M. quadristrigata* BREDDIN.

## Notonectidae

### *Anisops barbatus* BROOKS

Site: 1.

In our material this species is represented by a single female. First record for Thailand!

### *Anisops kuroiwa* MATSUMURA

Site: 19.

A widely distributed and abundant species living in stagnant waters, previously reported under the synonym *A. batillifrons* LUNDBLAD.

### *Anisops nigrolineatus* LUNDBLAD

Sites: 8, 13.

Known from India (main distribution), Myanmar, and Sumatera (type locality). Not common. First record for Thailand!

### *Anisops* sp. (larvae)

Site: 9.

### *Nychia* sp.

Site: 15.

All material from Southeast Asia was previously reported under the names *N. limpida* STÅL or *N. sappho* KIRKALDY. The genus is now under revision by N. Nieser.

**Pleidae*****Paraplea* sp.**

Site: 14.

Represented by a single, unidentified female.

**Gerromorpha****Mesoveliidae*****Mesovelia vittigera* HORVATH**

Sites: 11, 17.

A common species, widely distributed in Asia, living at the edge of stagnant waters.

***Mesovelia horvathi* LUNDBLAD**

Site: 2.

Rarer than *M. vittigera* and mainly found in the environment of running waters.

**Hydrometridae*****Hydrometra orientalis* LUNDBLAD**

Sites: 4, 8.

***Hydrometra greeni* KIRKALDY**

Sites: 8, 9, 19.

**Veliidae*****Neolardus typicus* DISTANT**

Site: 4.

Described from India. Material from Laos in the NMV. First record for Thailand!

***Baptista* sp.**

Site: 8.

An unidentified species represented by a single female.

***Microvelia douglasii* SCOTT**

Site: 9.

A common species all over Southeast Asia. Typical inhabitant of small stagnant waters.

**Genus ?**

Site: 5.

An unknown Microveliinae, possibly belonging to an undescribed genus, represented by two larvae only.

## Gerridae

### ***Rhagadotarsus kraepelini* BREDDIN**

Sites: 14, 15.

A widely distributed species. Prefers open surface of stagnant or slowly flowing waters.

### ***Naboandelus signatus* DISTANT**

Sites: 5, 8, 14, 17, 19.

Similar habitats like *Rhagadotarsus kraepelini*, but usually much rarer. Up to now only a single published record from Thailand (POLHEMUS & POLHEMUS 1994), more material collected by P.P. Chen and the third author.

### ***Aquarius adalaidis* (DOHRN)**

Site: 16.

Inhabitant of the open surface of larger stagnant water bodies and lentic parts of larger rivers.

### ***Gerris nepalensis* DISTANT**

Site: 16.

Rarely collected, mainly a palaearctic species. First record for Thailand.

### ***Limnogonus fossarum fossarum* (F.)**

Site: 1.

Common and widely distributed species, living in small and large stagnant water bodies even in rain puddles and flooded paddy fields.

### ***Limnogonus nitidus* (MAYR)**

Site: 4.

Common and widely distributed, similar like *L. fossarum*, but rarer and also found in lentic parts of running waters.

### ***Neogerris parvulus* STÅL**

Sites: 1, 4, 8.

Widely distributed and preferring similar habitats like *L. fossarum*, but normally in smaller water bodies or between some vegetation. Not so common.

### ***Amemboa brevifasciata* MIYAMOTO**

Site: 8.

Usually found in small stagnant waters.

### ***Ptilomera hylactor* BREDDIN**

Site: 6.

*Ptilomera* species are typical inhabitants of running waters. This species was described from Cambodia and recorded from Viet Nam (ZETTEL & CHEN 1996). The third author collected this species also in Chayaphum Province. First records for Thailand!

***Ventidius modulatus* LUNDBLAD**

Sites: 10, 12, 13, 14, 18.

Usually in slowly flowing waters. Widely distributed from Sri Lanka and India to Indonesia (CHEN & ZETTEL, in prep.), but not common. Up to now no published records for Thailand!

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**Planned for Amemboa, No. 2:**

- \* Keys to Thai genera of Hebridae, Veliidae, Gerridae, and Helotrephidae
- \* A check-list of Notonectidae in Southeast Asia
- \* Regional species lists
- \* and more news on the project ...

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