

THE SEMIAQUATIC HETEROPTERA (GERROMORPHA) OF THAILAND:  
FAUNISTICS, BIOGEOGRAPHY AND PHYLOGEOGRAPHY

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ABSTRACT

Semiaquatic heteropterans (Gerromorpha) were collected from mountain streams and waterfalls and lowland ponds adjacent to the mountains were collected from 2002 to 2006. One hundred fifty-eight species representing 31 genera and 5 families of semiaquatic Heteroptera were collected in this study. This includes an undescribed genus, 50 undescribed species, and 7 new country records.

A biogeographic study based on presence/absence data was conducted using Cluster analysis, TWINSpan, and DECORANA to assess the compositional similarity of the Gerromorpha of highland and lowland communities. The results indicate that the species composition of southern ranges were distinctly similar to each other and substantially different from those of the ranges north of the northern limit of the Isthmus of Kra, whereas the analyses revealed no clear biogeographic patterns of the community of lowland ponds were recognized. Three distinct biogeographic groups were recognized based on species compositions of eight mountain ranges.

A phylogeographic study was conducted using a ca. 750 bp fragment of the mitochondrial gene cytochrome oxidase c subunit 1 (COI) to assess if the genetic structure among populations of *Ptilomera tigrina* and *Onychotrechus esakii*. The results indicated that the populations north of and in the Isthmus of Kra differed from each other genetically, but populations within each side are similar to one to another.