

## Introduction to the Nepidae of Thailand

by Nico Nieser & John T. Polhemus

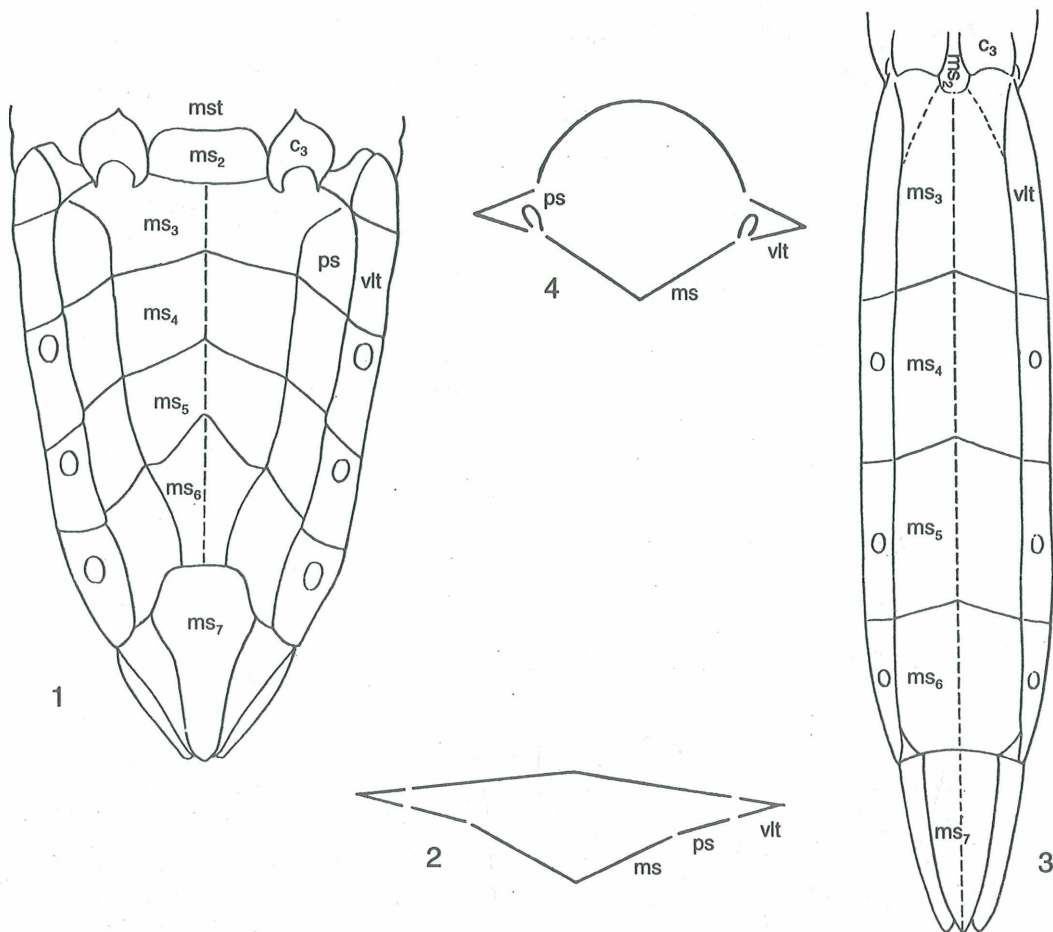
**Abstract:** A key to Australasian genera of Nepidae is given followed by a list of species of Nepidae known from Thailand and adjacent regions and a few notes on habits and habitat preferences of those genera.

The following key is meant to serve in identifying Australasian genera of Nepidae (water scorpions). Whether a specimen of water bug belongs to this family can be checked by the key to families by NIESER (1996b).

### Key to Australasian subfamilies and genera of Nepidae

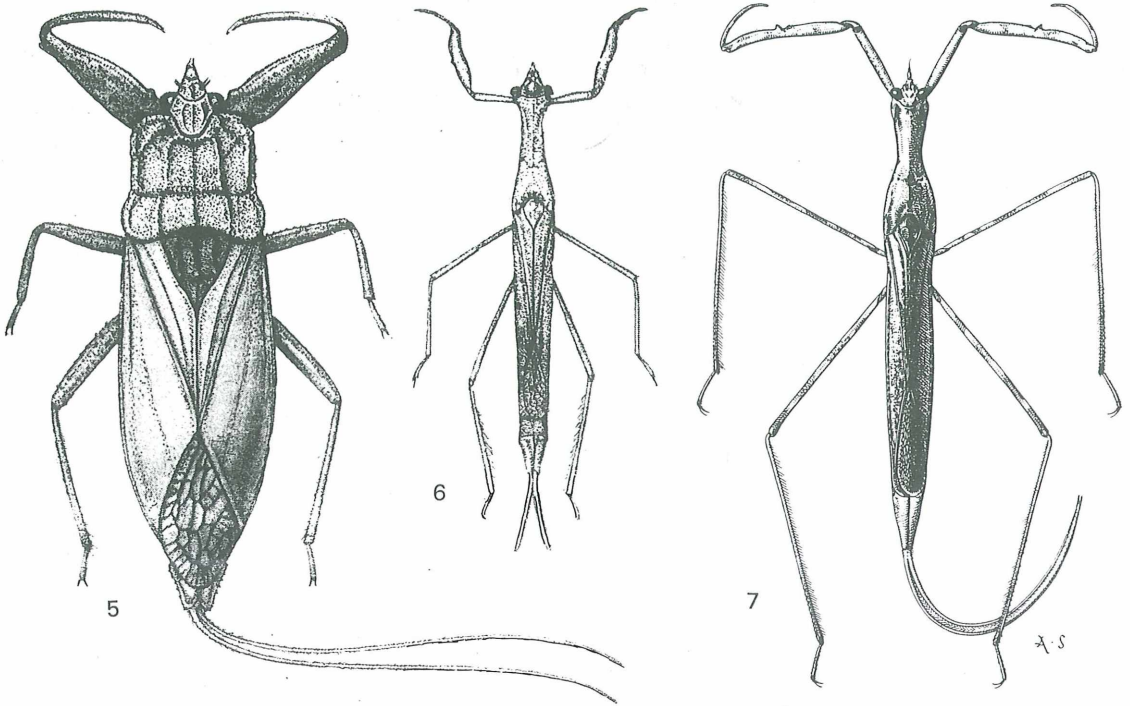
(adapted from LANSBURY 1972b, 1974)

- 1 Body broad and flat, parasternites visible, abdominal sterna divided into six more or less distinct longitudinal zones (Figs. 1, 2) (Nepinae)..... 2  
 Body usually cylindrical, parasternites concealed by the ventral laterotergites (Figs. 3, 4) (Ranatrinae)..... 5
- 2 Small species, body length excluding respiratory siphon not exceeding 14 mm, siphon short, less than half the length genital operculum..... **Montonepa**  
 Known from one species, *Montonepa erutus* (MONTANDON), from Assam (India), see LANSBURY (1973b).  
 Larger species, length over 16 mm, respiratory siphon longer than the genital operculum. 3
- 3 Ventral spiracular apertures (on pronotum caudally of fore coxae, not to be confused with the spiracular like structures on laterotergites) distinct (Fig. 8), siphon not more than half the length of the inner margin of hemielytra (measured from apex of scutellum to membrane) [South America, Southeast China and North Borneo]..... **Telmatometra**  
 Ventral spiracular apertures vestigial or absent, siphon more than two thirds the length of inner margin of hemielytra..... 4
- 4 Membrane of hemielytra with distinct venation and differentiated from corium, siphon longer (usually much longer) than inner margin of hemielytra (Fig. 5) [Palaeotropical]..... **Laccotrephes**  
 There are two species in Thailand (see list), but the genus needs revision, because many records are suspect. *Laccotrephes* are usually found in shallow somewhat muddy or sandy places, in virtually stagnant water, hiding in the substrate.  
 Membrane of hemielytra with indistinct venation and not differentiated from corium, siphon shorter than inner margin of hemielytra. **Borborophyes**  
 Known from one species, *B. mayri* STÅL, from North Luzon (Philippines), see LANSBURY (1973).



Figs. 1 - 4: Abdomen of (1, 2) Nepinae and (3, 4) Ranatrinae in ventral view (1, 3) and in schematic cross section; c3: metacoxa; ms2 - ms7: median sternites 2 - 7; mst: metasternum; ps: parasternites; vlt: ventral laterotergite (after LANSBURY 1972a).

- 5 Body subcylindrical (Figs. 6, 7), distance between middle and hind coxae narrower than the width of a coxa..... 6
- Body flattened, distance between middle and hind coxae broader than the width of a coxa. .... 7
- 6 In lateral view outer margin of eyes not reaching downward ventrally of ventral margin of head, fore femur longer than pronotum [cosmopolitan]. ..... **Ranatra**
- In Thailand eight species (see list), most species hide amongst vegetation at the edge of various types of water, some bury at least occasionally in mud.



Figs. 5 - 7: Habitus of (5) *Laccotrephes*, (6) *Cercotmetus*, and (7) *Ranatra* (figs. 5 & 6 from LUNDBLAD 1933, 7 from USINGER in MENKE 1979).

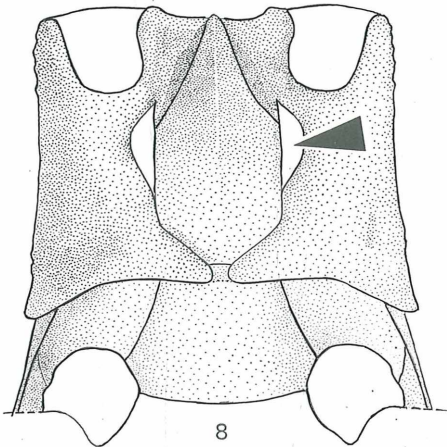


Fig. 8: Pro- and mesosternum of *Telmato-trephes*, arrow illustrating spiracular aperture (adapted from LANSBURY 1973b).

- In lateral view outer margin of eyes reaching downward ventrally of ventral margin of head, fore femur shorter than pronotum [tropical Asia] ***Cercotmetus***

In Thailand three species (see list), apparently in similar places as *Ranatra* species, however, compared to *Ranatra*, species of *Cercotmetus* are more often found

swimming, exploring the area ahead with their front legs or simply floating without moving between plant debris.

- 7 Humeral width of pronotum larger than its median length, groove in anterior femur extending about four fifth along inner margin. .... ***Goondnomdanepa***

Known from three species, *G. brittoni* LANSBURY, 1978, *G. prominens* LANSBURY, 1978, and *G. weiri* LANSBURY, 1974, from North Australia.

Humeral width of pronotum less than its median length, groove of fore femur short, extending about halfway along inner margin. .... ***Austronepa***

Known from one species, *Austronepa angusta* (HALE), from Australia.

**Preliminary list of Nepidae occurring in Thailand and adjacent areas,  
mainly based on literature**

**Abbreviations used in the following table:** countries: B = Myanmar; C = China (SW); I = India (especially Assam); L = Laos and Cambodia; M = West Malaysia and Singapore; S = Sumatera; T = Thailand; V = Viêt-Nam. + recorded, +! first record (material deposited in Natural History Museum Vienna [NHMW]), +\* endemic, ? uncertain record, a see MONTANDON (1903), b see POLHEMUS (1995), c first record (Material in John T. Polhemus Collection [JTPC]), d from LUNDBLAD (1933), e - from LANSBURY (1972).

	I	B	T	L	V	M	S	C
<b><i>Cercotmetus</i></b>								
<i>asiaticus</i> AMYOT & SERVILLE			+		+!	+	+	
<i>brevipes</i> MONTANDON	+		+		+	+ <sub>c</sub>	+	+
<i>compositus</i> MONTANDON			+	+	+	+ <sub>c</sub>	+	
<b><i>Ranatra</i></b>								
<i>chinensis</i> MAYR		+ <sub>a</sub>			+			+
<i>falloui</i> MONTANDON			+		+			+
<i>feana</i> MONTANDON	+	+						
<i>filiformis</i> F.	+ <sub>c</sub>	+						
<i>gracilis</i> DALLAS		+	+ <sub>c</sub>	+			+	
<i>katsara</i> NIESER			+*					
<i>longipes longipes</i> STÅL							+	+ <sub>b</sub>
<i>longipes thai</i> LANSBURY	+ <sub>c</sub>		+	?	+ <sub>c</sub>	+ <sub>c</sub>		
<i>odontomeros</i> NIESER			+*					
<i>parmata</i> MAYR			+	+			+!	
<i>sulawesii</i> NIESER & CHEN			+!					
<i>varipes varipes</i> STÅL	+	+	+		+	+	+	
<i>varipes atropa</i> MONTANDON	+ <sub>e</sub>		+ <sub>e</sub>			+ <sub>e</sub>	+ <sub>c</sub>	
<b><i>Laccotrepes</i></b>								
<i>archipelagi</i> (FERRARI)							+ <sub>c</sub>	
<i>grossus</i> (FABRICIUS)			+ <sub>c</sub>		+ <sub>c</sub>	+ <sub>c</sub>	+ <sub>c</sub>	+
<i>japonensis</i> SCOTT						+	+	
<i>pfeifferae</i> FERRARI			+ <sub>d</sub>			+ <sub>c</sub>	+ <sub>c</sub>	
<i>simulatus</i> MONTANDON					+ <sub>c</sub>	+ <sub>c</sub>	+ <sub>d</sub>	
<b><i>Montonepa</i></b>								
<i>erutus</i> (MONTANDON)	+*							
	I	B	T	L	V	M	S	C

**Remarks:**

*Ranatra falloui*: in Thailand only from Koh Chang.

*Ranatra katsara*: only from Ubon Ratchanthani; see NIESER (1997).

*Ranatra longipes thai*: Record from Laos based on a single female. Subspecific classification therefore uncertain.

*Ranatra parmata*: Record from "Sumatra" refers to one specimen from Nias Island [NHMW] and one female from Sumatera Utara [JTPC].

*Ranatra varipes atropa* should be treated as a distinct species, because it is distinctive, and occurs with the nominal subspecies.

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