

## Description of a new species of *Esakia* LUNDBLAD, 1933 (Insecta: Heteroptera: Gerridae) from Vietnam

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### Abstract

A new species of halobatine water striders, *Esakia latonota* sp.n. from Vietnam is described and illustrated. This species is unique among its congeners in having the combination of following characters: extensive pale markings on dorsum of thorax, pale connexivum of the female, and well-developed distal process of metacetabula.

**Keywords:** Heteroptera, Gerridae, *Esakia*, new species, Vietnam

### Zusammenfassung

*Esakia latonota* sp.n., eine neue Wasserläuferart aus Vietnam, wird beschrieben und abgebildet. Diese Art ist in ihrer Gattung durch die folgende Merkmalskombination einzigartig: ausgedehnter heller Fleck auf der Oberseite des Thorax, helles Connexivum des Weibchens und ein stark entwickelter distaler Fortsatz am Metacetabulum.

### Introduction

The Southeast Asian genus *Esakia* LUNDBLAD, 1933 is a small genus of water striders in the subfamily Halobatinae (Gerridae). There are presently only seven recognised species, each with restricted distribution. The type species, *Esakia ventidioides* LUNDBLAD, 1933, was originally described from Sumatra. *Esakia usingeri* HUNGERFORD & MATSUDA, 1958, *E. cenizae* ZETTEL, 2004 and *E. palawanensis* ZETTEL, 2004 are only known from restricted areas in the Philippines. In Peninsular Malaysia, there are three species, *E. fernandoi*, *E. johorensis*, and *E. lundbladi*, all were described by CHENG (1966). In addition, HUNGERFORD & MATSUDA (1958) described *Esakia kuiterti* from Myanmar, and MIYAMOTO (1967) described *Esakia hungerfordi* from Brunei (Borneo), but subsequently POLHEMUS (1991) treated the former as junior synonym of *E. ventidioides*, and the latter as junior synonym of *E. fernandoi*. These synonymies need to be re-confirmed in a careful revision of the genus *Esakia*.

The present paper provides description of a new species, *Esakia latonota*, from southern Vietnam. This species was previously listed as *Esakia* sp. by ZETTEL & CHEN (1996) in their study on the Gerridae of Vietnam.

### Material and methods

The materials examined in this study are deposited in the following collections:

NHMW Natural History Museum, Vienna, Austria

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ZMHU Zoological Museum, Hanoi University of Science, Vietnam

ZRC Zoological Reference Collection, Raffles Museum of Biodiversity Research, Singapore.

Illustrations were made with the help of camera lucida attached to a Nikon SMZ800 stereo-microscope and a Nikon Labophot-2 compound microscope. All measurements are given in millimetres.

## Taxonomy

### Genus *Esakia* LUNDBLAD, 1933

*Esakia* LUNDBLAD, 1933: 19, 401–405, fig. 129, pl. 12 (type species *Esakia ventidioides*, by monotypy); MATSUDA 1960: 316–319, figs. 44, 854–871.

### *Esakia latonota* sp.n. (Figs. 1–7)

*Esakia* sp.: ZETTEL & CHEN 1996: 152, 181.

**Etymology:** The specific epithet refers to the wide pale mark on meso- and metanotum of the insect.

**Material examined: Holotype** (apterous ♂) and allotype (apterous ♀): “VIETNAM, Nam Cat Tien N.P., 1.–15.5.1994, leg. P. Pacholátko & L. Dembicky” (NHMW). **Paratypes:** 2 ♂♂, 12 ♀♀ (apterous), same label as holotype (NHMW, ZRC); 15 ♂♂, 24 ♀♀ (apterous), Cat Tien National Park, Dak-Lua stream (near Dak-Lua ranger station), coll. Tran A.D & Pham T.D., 09 Apr. 2010, PTD1001 (ZMHU, ZRC).

**Description of apterous form:** Size: male, length 2.21–2.30 (holotype 2.28), width 1.27–1.32 (holotype 1.31); female, length 2.31–2.51 (allotype 2.38), width 1.41–1.59 (allotype 1.52).

Colour (Figs. 1–5): Dorsum of body black with pale markings, covered with scattered silvery pubescence. Pale markings are light green in live individuals, but turn to pale yellowish in preserved specimens. Head mainly black with two sub-triangular pale markings next to posterior margin. Antennae: segment 1 pale at basal half (males) or up to four fifths (females), distal part dark brown, other segments black (Fig. 2). Pronotum black with small pale spot medially. Meso- and metanotum with very broad pale marking, reaching lateral sides. Metacetabulum with long pale marking at apex (Figs. 4, 5). All coxae and front trochanters pale; middle and hind trochanters pale at basal part, brown distally. Legs black, except basal part of front femur pale (Fig. 3). Dorsum of abdomen black, connexivum in males totally black, in females totally pale. Venter entirely pale.

Apterous male (holotype): Head width 0.94, interocular width 0.43, eye length (measured on dorsal view, from anterior to posterior margin of eye) 0.45. Lengths of antennal segments 1–4: 1.14 0.38 0.38 0.29, width of antennal segment 1: 0.08, width of antennal segment 3: 0.10. Pronotum length 0.18, mesonotum length 0.60. Lengths of leg segments (femur tibia tarsus 1 tarsus 2): front leg: 1.00 0.87 0.04 0.22; middle leg: 3.00 2.12 0.79 : 0.16; hind leg: 3.41 : 0.95 0.12 : 0.23. Width of front femur 0.12. Metacetabula with apical process developed. Abdomen short. Genital segments: tergum

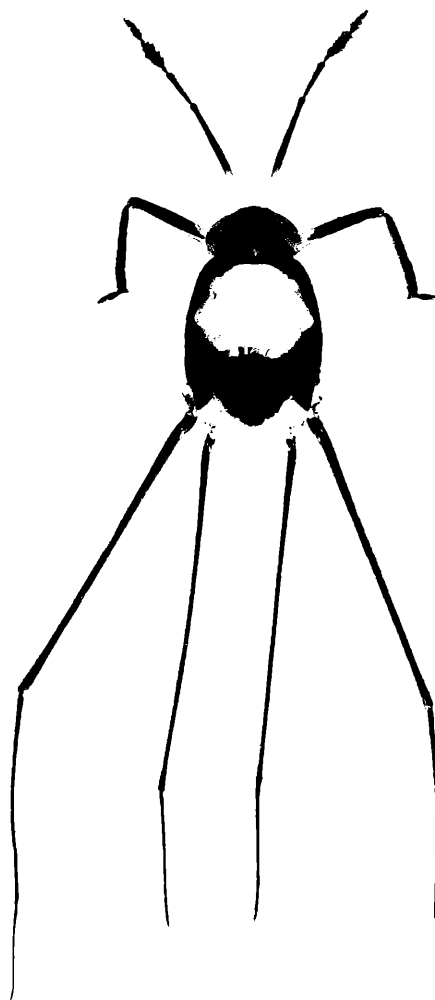


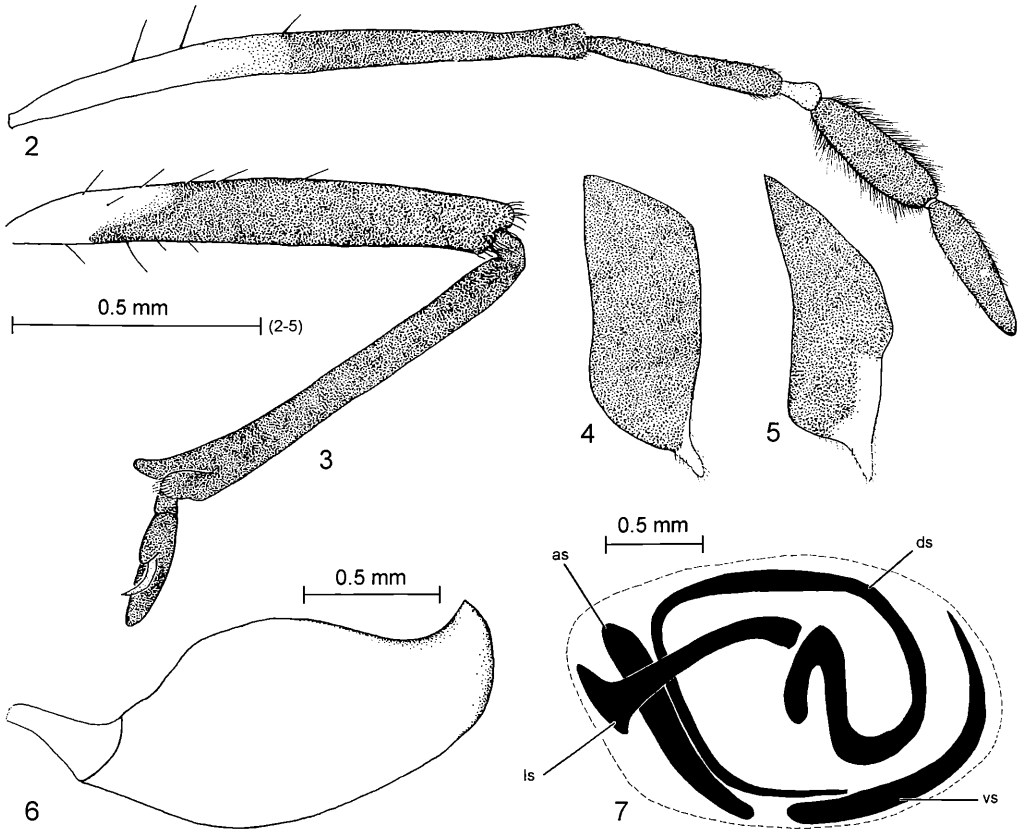
Fig. 1: Habitus of *Esakia latonota* sp.n., apterous male (holotype; genitalia dissected).

8 small, posterior margin round, length 0.24; paramere and endosoma structures as in Figures 6 and 7.

Apterous female (allotype): Head width 1.00, interocular width 0.46, eye length 0.49. Lengths of antennal segments 1–4: 0.79 0.32 0.40 0.32. Pronotum length 0.17, mesonotum length 0.91. Lengths of leg segments: front leg: 1.11 0.92 0.04 0.26; middle leg: 3.17 2.23 0.87 0.14; hind leg: 3.41 1.03 0.14 0.23. Width of front femur 0.11. Metacetabula with apical process well-developed. Abdomen short.

Macropterous form unknown.

**Comparative notes:** *Esakia latonota* sp.n. is a unique species that can be separated from other congeneric species by the combination of following characters: colour pattern of apterous form: pale marking on meso-, metanota extensive (reaching lateral side



Figs. 2–7: Morphological features of *Esakia latonota* sp.n., male. (2) right antenna; (3) right front leg; (4) metacetabula, dorsal view; (5) metacetabula, lateral view; (6) left paramere, lateral view; (7) endosoma, lateral view (as – accessory sclerite; ds – dorsal sclerite; ls – lateral sclerite; vs – ventral sclerite).

of mesonotum), connexivum of the female pale, distal process of metacetabula well-developed. Among *Esakia* species, this new species only shares the characteristics of well-developed and rather pointed distal process of metacetabula with *E. ventidioides* and *E. lundbladi*. This distal process is more blunt in *E. palawanensis*; or reduced, not developed in *E. usingeri* and *E. cenizae*; or developed and bilobate in *E. fernandoi*. *Esakia latonota* sp.n. is probably most similar to *E. ventidioides*, but can be separated from it by the colour pattern, the relative lengths of antennal segments, and the less pointed apex of paramere.

*Esakia* species can be separated from each other by the following characters: male genitalia (shape of paramere and structures of endosoma), colour patterns (each species has a unique set of colour pattern: markings of head, pro-, meso-, metanotum, colour of metacetabula, middle, hind coxa which are supposed to be stable at the specific level), distal process of metacetabula, width of antennal segment 3, and ratio of antennal segments.

However, the relationships among species are poorly known. A taxonomic revision of this genus is necessary and will be treated in a separate study at a later date.

**Distribution.** Vietnam: Dong Nai province.

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