

New data on Epilamprinae from Vietnam and Laos (Dictyoptera: Blaberidae)

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Two new species of the genus *Rhabdoblatta* Kirby, 1903, *Rh. memnonia* sp. n. and *R. ryabovi* sp. n., are described. New data on the geographical distribution of *Morphna clypeata* Anisyutkin et Gorochov, 2001 are given. *Rhabdoblattella annamensis* (Hanitsch, 1927) **comb. n.** is transferred from the genus *Rhabdoblatta*.

Key words: Epilamprinae, *Morphna*, *Rhabdoblatta*, *Rhabdoblattella*, new species

INTRODUCTION

The subfamily Epilamprinae is the most diverse group of the family Blaberidae in South-East Asia (Anisyutkin, 2000a, 2003). This region is still insufficiently known and new taxa can be expected from there. The descriptions of two new species are given below, as well as the distribution data and generic position of some species known from Vietnam and Laos are clarified.

MATERIAL AND METHODS

The specimen studied was dried and pinned. In order to study the structures of the male genital complex (anal plate, hypandrium and the male genitalia) the apex of the abdomen of specimens was removed and treated with *ca.* 10% KOH. The structures of the genital complex were stored in microvials filled with 70% ethanol.

The terminology of the male genitalia follows Klass (1997). The terminology used by Grandcolas (1996) is given in parentheses.

The holotypes and other studied material are deposited in the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (ZIN).

TAXONOMIC PART

Family BLABERIDAE Brunner von Wattenwyl, 1865

Subfamily EPILAMPRINAE Brunner
von Wattenwyl, 1865

Rhabdoblatta Kirby, 1903

Rhabdoblatta memnonia Anisyutkin, sp. n.
(Figs 1a-d, 2a-g)

Holotype. ZIN; male, Vietnam, Prov. Quang Binh, Phong Nha Ke Bang National Park, 40 km north-west of Dong Hoi, 7-21 July 2003; coll. S. Ryabov.

Paratypes. ZIN; 1 male, 1 female, same data as holotype. ZIN; 1 male, Laos, Prov. Khammouane, Ban nong Ping, Tham Peung, 17°22'52.5"N, 105°50'19.9"E, 16 Feb. 2007; coll. H. Steiner.

Description. Male (holotype). Comparatively large species. General colour reddish black; facial part of head black, with yellow spots near eyes and between antennal sockets (Fig. 1, a), vertex yellow (Fig. 1, b), eyes brownish, mouthparts yellowish-brown; antennae nearly black basally, more light toward apex; pronotum black, with two yellow stripes (Fig. 1, b); tegmina blackish proximally and reddish distally, with short yellow stripes along basal part of Sc; legs red-

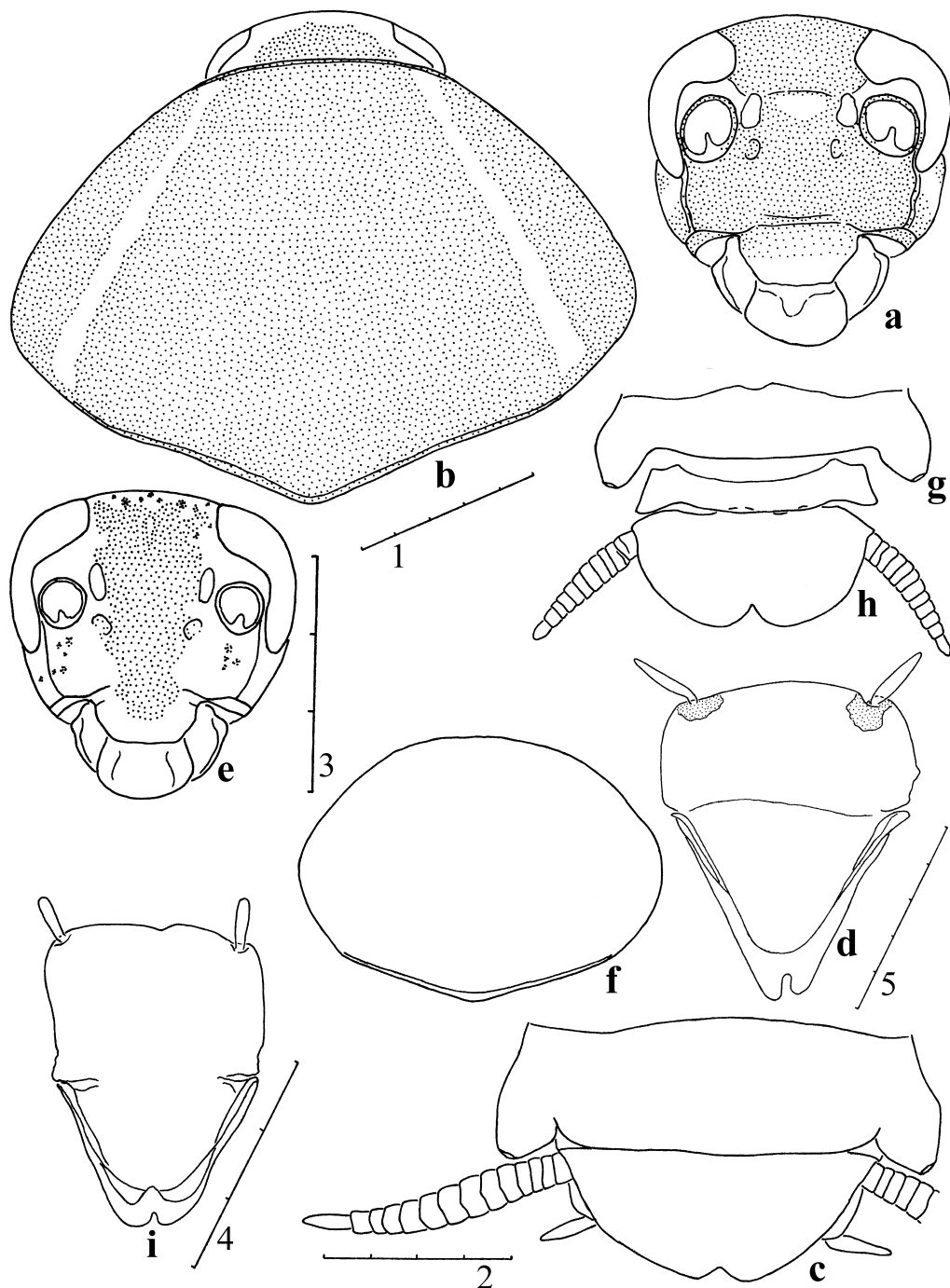


Fig. 1. *Rhabdoblatta* sp., external morphology: **a-d**, *Rh. memnonia* sp. n. (holotype, male); **e-i**, *Rh. ryabovi* sp. n. (holotype, male). Head in front view (**a**, **e**); head and pronotum from above (**b**); abdominal apex from above (**c**, **h**); hypandrium from below (**d**, **i**); pronotum, outline from above (**f**); 8th abdominal tergite from above (**g**). Dotted area shows dark colour (**a**, **b**, **e**) or membranous parts (**d**). Scale bar (mm): 1 belongs to Figs **b**, **f**; scale bar 2 belongs to Figs **a**, **c**; scale bar 3 belongs to Fig. **e**; scale bar 4 belongs to Figs **g-i**; scale bar 5 belongs to Fig. **d**.

dish black, distally more light, coxae partly yellowish; abdomen dark reddish brown, anal plate partly pale. Surfaces smooth, fine punctation visible only in costal field of tegmina. Head more or less rectangular in shape (Fig. 1a), with distance between eyes about 0.8 times shorter than length of eye; interval between antennal sockets about 1.5 the length of scapus; ratio of 3 distal segments of maxillary palps length (from 3rd to 5th) approximately 1 : 1 : 0.9. Pronotum subpentagonal (Fig. 1b). Fore femora with 2 apical spines and 7 spines of different sizes on antero-ventral margin. Structure of hind tarsi typical for genus (Anisyutkin, 2003). Tegmina and wings fully developed, tegmina with rounded apex. Anal plate (X, ultimate tergite) transverse, with caudal margin rounded and slightly incised medially (Fig. 1c). Structure of paraprocts typical for subfamily Epilamprinae (Anisyutkin, 1999). Cerci elongated, with 14-15 distinctly separated segments (Fig. 1c). Hypandrium nearly symmetrical, with caudal margin slightly protruded; styles somewhat flat (Fig. 1d).

Male genitalia (Fig. 2a-g). Sclerite L2 (=L1 sensu Grandcolas, 1996) separated in apical and basal parts (Fig. 2a-b): apical part with weakly sclerotized elongated lobe covered with bristles (Fig. 2, b), basal part incrassated proximally (Fig. 2a). Sclerite L3 (=L2d sensu Grandcolas, 1996) long, with folded structure on membranous sac (Fig. 2a-e); hook hla strongly sclerotized, with weak apical ridge, any armament on inner part of hook absent, apical tooth present (Fig. 2d-f); accessory sclerite L4U (=L3d sensu Grandcolas, 1996) present, not strongly sclerotized (Fig. 2a). Right phallomere as in Figs 2a and 2g; sclerite R4 (=R3d sensu Grandcolas, 1996) with bristles; R3 (=R3v sensu Grandcolas, 1996) elongated.

Female. Similar to male in general appearance, but head with comparatively smaller eyes: distance between eyes about equal to eye length; interval between antennal sockets about 1.9 length of scapus; three distal segments of maxillary palps of about equal length; pronotum comparatively wide;

er; fore femora with 2 apical spines and 7-8 spines of different sizes on antero-ventral margin; tegmina slightly truncated apically.

Length (mm): head 6-7.2 (6.4) in males, 7.1 in female; pronotum 10.5-11.4 (10.5) in males, 11.5 in female; tegmen 41-43 (41) in males, 43 in female. Width (mm): head 5.8-6.4 (6) in males, 6.5 in female; pronotum 15-15.5 (15.5) in males, 17.5 in female. Measurements in parentheses are those of the holotype.

Variation. Three distal segments of maxillary palps in paratypes of about equal length. Fore femora with 6-7 (paratype from Vietnam) or 6-10 (paratype from Laos) spines of different sizes on antero-ventral margin. In paratype from Laos, apical part of sclerite L2 broader (Fig. 2, c).

Comparison. The new species clearly differs from all other species of the genus by a distinctly coloured pronotum (Fig. 1, b) and characteristically elongated lobes of the apical part of the sclerite L2 of the male genitalia (Fig. 2b-c). *Rhabdoblatta memnonia* sp. n. is somewhat similar to *Rh. kryzhanovskii* Bey-Bienko, 1957 in shape of the apical part of the sclerite L2 and the hook hla of the sclerite L3 of the male genitalia (see Figs. 104, 105, 111-113 in Anisyutkin, 2003), but clearly differs from the latter by larger size and dark colour.

Note. The male paratype from Vietnam is characterized by an abnormally shortened left tegmen.

Etymology. From the Latin *memnonius*, brownish-black.

***Rhabdoblatta ryabovi* Anisyutkin, sp. n.**
(Figs 1e-i, 2h-l)

Holotype. ZIN; male, Vietnam, Prov. Kon Tum, Distr. Kon Plong, at Mang Cahn, 26 March – 15 April 2005; coll. S. Ryabov.

Description. Male (holotype). Comparatively small species for the genus. General colour yellowish, partly covered with black; facial part of head and mouthparts yellowish, with large black macula and small black spots (Fig. 1e), eyes brownish; antennae

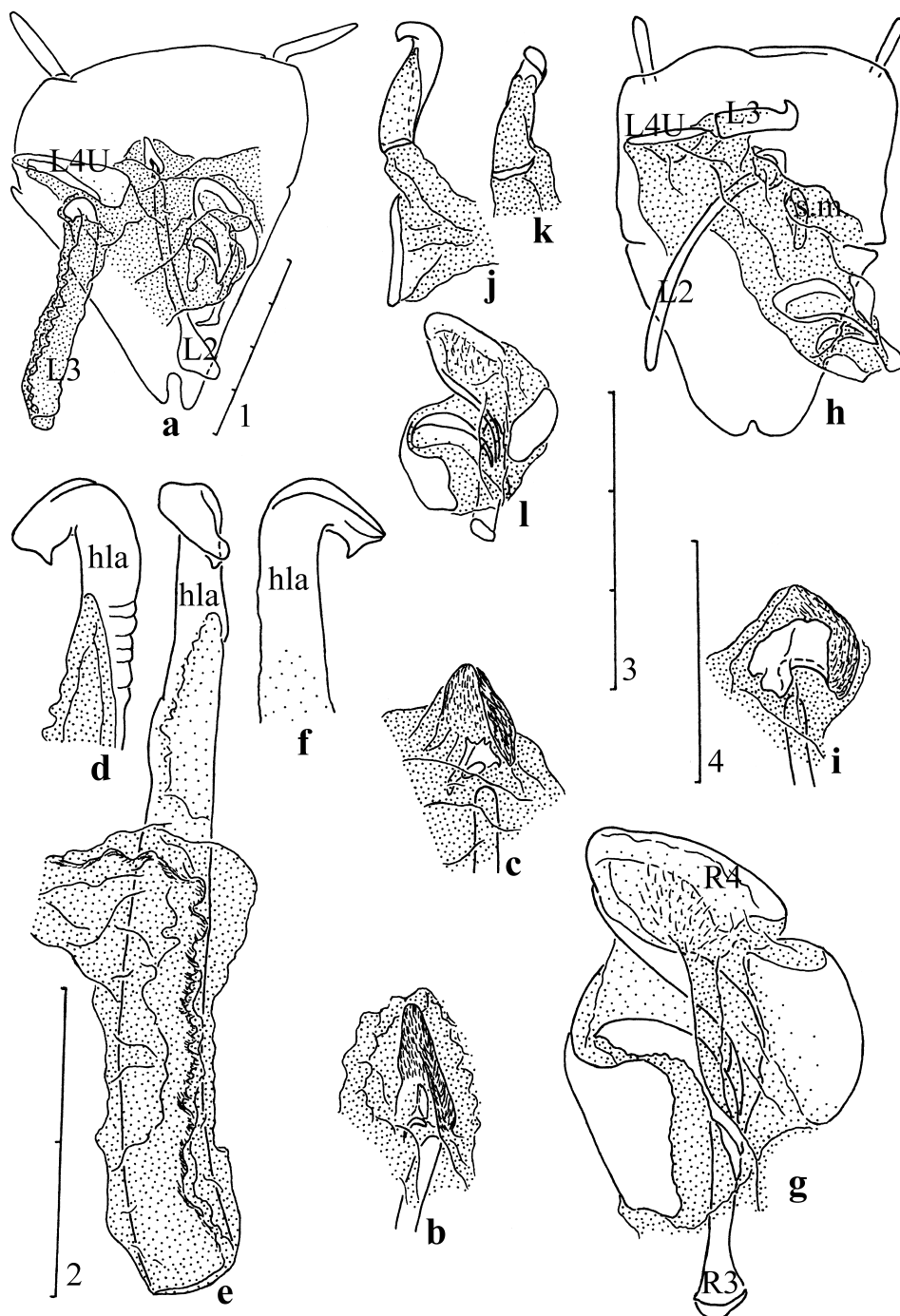


Fig. 2. *Rhabdoblatta* sp., male genitalia. **a-g**, *Rh. memnonia* sp. n. (holotype (a, b, d-g), paratype (c)); **h-l**, *Rh. ryabovi* sp. n. (holotype, male). Hypandrium and genitalia from above (a, h); apex of sclerite L2 from above (b, c, i); sclerite L3 (d-f, j, k); right phallomere from above (g, l). Figs h, j show hla sclerite in protracted state. hla, L2, L3, L4U, R3, R4, s.m. – structures of the male genitalia, see text. Dotted area shows membranous parts. Scale bar (mm): 1 belongs to Fig. 2a; scale bar 2 belongs to Figs 2b-g, j-l; scale bar 3 belongs to Fig. 2h; scale bar 4 belongs to Fig. 2i.

blackish; pronotum yellow, with numerous large irregular black spots (ratio of yellow and black colours about equal) and small, not numerous reddish spots; tegmina blackish, with irregular yellow spots, located mostly in proximal, especially along costal margin, and distal parts; thorax from below, abdomen and legs yellow; coxae, femora and abdomen covered with small black spots, larger black spots arranged in three lines on abdomen: medial and two lateral; abdomen from above brownish, distal parts of anal plate and cerci pale. Surfaces dull, head and tegmina clearly punctured, pronotum uneven, slightly tuberculated. Head (Fig. 1e) with distance between eyes about 0.9 times shorter than length of eye; interval between antennal sockets about 1.7 the length of scapus; ratio of 3 distal segments of maxillary palps length (from 3rd to 5th) approximately 1 : 1.1 : 1.2. Pronotum subpentagonal, rounded (Fig. 1f). Fore femora with 2 apical spines and 6-7 spines of different sizes on antero-ventral margin. Structure of hind tarsi typical for genus (Anisyutkin, 2003). Tegmina and wings fully developed, tegmina with rounded apex. Anal plate (X, ultimate tergite) transverse, with caudal margin widely rounded and incised medially (Fig. 1h). Structure of paraprocts typical for subfamily Epilamprinae (Anisyutkin, 1999). Cerci elongated, with 12 segments (Fig. 1h). Hypandrium asymmetrical, with caudal margin medially slightly notched; styles somewhat flat (Fig. 1i).

Male genitalia (Fig. 2h-l). Sclerite L2 (=L1 sensu Grandcolas, 1996) separated in apical and basal parts (Fig. 2h, i): sclerite of apical part comparatively wide, with weakly sclerotized lobe covered with bristles (Fig. 2i), basal part rod-like (Fig. 2h). Sclerite L3 (=L2d sensu Grandcolas, 1996) comparatively short, without folded structure on membranous sac (Fig. 2h-k); hook hla strongly sclerotized, without apical ridges and any armament on inner part of hook, apical tooth present (Fig. 2j, k); accessory sclerite L4U (=L3d sensu Grandcolas, 1996) present, comparatively large (Fig.

2h, j). Right phallomere as in Figs 2h and 2l; sclerite R4 (=R3d sensu Grandcolas, 1996) with bristles; R3 (=R3v sensu Grandcolas, 1996) comparatively shorter, as compared with *Rh. memnonia* sp. n. Thickened striated part of membrane present below apical part of sclerite L2 (Fig. 2h, s.m.).

Female unknown.

Length (mm): head 3.8; pronotum 6.2; tegmen 24. Width (mm): head 3.4; pronotum 9.

Comparison. The new species is similar to *Rh. monticola* (Kirby, 1903) in shape of sclerite L3 (see Figs 4-6 in Anisyutkin, 2003) of the male genitalia, but clearly differs from the latter in shape of the apical sclerite L2.

Etymology. The species is named after Dr. Sergey Ryabov, an herpetologist and an entomologist.

Morphna Shelford, 1910

Morphna clypeata Anisyutkin & Gorochov, 2001

Holotype. ZIN; female, Vietnam, Prov. Gia Lai, 50-60 km north of Kannack, Kon Cha Rang, alt. 1000-1200 m, 14-15 Apr. 1995, coll. A.V. Gorochov.

Paratype. ZIN; female; Vietnam, Prov. Gia Lai, 20 km north of Kannack, Buon Luoi, 15-19 Nov. 1993, coll. A.V. Gorochov.

Other material examined. ZIN; 1 female, Vietnam, Prov. Quang Binh, Phong Nha Ke Bang National Park, 40 km north-west of Dong Hoi, 7-21 July 2003; coll. S. Ryabov. – ZIN; 1 female, same locality data, 9 Oct. 2003; coll. N. Orlov.

The specimen from Quang Binh Province completely agrees with the description of *M. clypeata* given earlier (Anisyutkin & Gorochov, 2001). The new specimen is somewhat intermediate between holotype and paratype of this species: it is similar to the holotype in having larger size, while its greenish coloration is similar to the paratype of the species.

Measurements of the specimens from Quang Binh: length (mm): head 7.9-8.3; pronotum 12.5-13.7; tegmen 42-47. Width (mm): head 7.2-8.2; pronotum 19-21.

Rhabdoblattella* Anisyutkin, 2000**Rhabdoblattella annamensis*
(Hanitsch, 1927), comb. n.**

This species was described by Hanitsch (1927) from South Vietnam (Dran, Langbian, south Annam) in the genus *Epilampra* Burmeister, 1838. The male genitalia were not described and no illustrations were given in the original description (Hanitsch, 1927: 21, 22). Later, *Rh. annamensis* was transferred to the genus *Rhabdoblatta* Kirby, 1903 (Princis, 1967). The detailed redescription of this species was given by Roth (1999). On the basis of this redescription and illustrations (Roth, 1999: 156-158, Figs 15 A-D) I suppose that *Rh. annamensis* is actually a member of the genus *Rhabdoblattella*. This conclusion is based on the specific structure of the hypandrium – “interstylar margin convexly rounded, with a small dorsally directed papilla near the middle” (Roth, 1999: 156) and the male genitalia: the presence of an apical incision (“preapical incision” of Roth, 1999) of sclerite L3, the structure of the apical sclerite of L2: “median phallomere (L2 – L.A.) a strongly tapered sclerite with a small irregular sclerotization L2vm (basal part of L2 – L.A.) narrowly separated from it apically” (Roth, 1999: 156) and characteristic shape of right phallomere (compare Fig. 15 D in Roth, 1999, and Figs 6, 15, 18 in Anisyutkin, 2000b).

ACKNOWLEDGEMENTS

I am indebted to S. Ryabov (Director of Tula Exotarium, Russia), N. Orlov (Zoological Institute RAS, St. Petersburg, Russia) and H. Steiner (Hanau, Germany) for collecting material. This study was supported by the Russian Foundation for Basic Research (grant no. 07-04-00540) and the program of Presidium of the Russian Academy of Sciences “Origin and Evolution of Biosphere”. This work is based on the collections of

the Zoological Institute of RAS, which are supported by Rosnauka for UFC No. 2-2.20.

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Received 29 December 2008 / Revised 20 March 2009 / Accepted 12 May 2009