Евразиатский энтомол. журнал 12(4): 373–377

New species of net-winged beetles (Coleoptera, Lycidae) from Africa

Новые виды жуков краснокрылов (Coleoptera, Lycidae) из Африки

S.V. Kazantsev
С.В. Казанцев

Insect Centre, Donetskaya 13-326, Moscow 109651 Russia. E-mail: kazantss@mail.ru.
Инсект-центр, ул. Донецкая 13-326, Москва 109651 Россия.

Key words: Coleoptera, Lycidae, new species, Afrotropical region.
Ключевые слова: Coleoptera, Lycidae, новые виды, Афротропическая область.

Abstract. Six new species of net-winged beetles, *Flagrax amaniensis* **sp.n.**, *F. uzungwensis* **sp.n.**, *F. congoensis* **sp.n.**, *Cautires villosus* **sp.n.**, *C. stoltzei* **sp.n.** and *Aferos rwandensis* **sp.n.**, are described from Africa.

Резюме. Из Африки описывается шесть новых видов жуков краснокрылов: *Flagrax amaniensis* **sp.n.**, *F. uzungwensis* **sp.n.**, *F. congoensis* **sp.n.**, *Cautires villosus* **sp.n.**, *C. stoltzei* **sp.n.** и *Aferos rwandensis* **sp.n.**

Introduction

A possibility to study the Lycidae collections from the Zoological Museum of Copenhagen University and the Institut Royal de Sciences naturelles de Belgique in Bruxelles has already allowed to contribute to the knowledge of the Afrotropical fauna of the family [Kazantsev, 2000, 2005, 2012]. Presented below are descriptions of further new species, from the tribes Dictyopterini, Metriorrhynchini and Slipinskiini, mostly from the above mentioned two institutions, collected in eastern and, in one instance, western Africa.

The following acronyms are used in this paper: ICM — Insect Center, Moscow; IRSN — Institut Royal de Sciences naturelles de Belgique, Bruxelles; ZMCU — Zoological Museum of Copenhagen University.

Material and Methods

The material studied was pinned or glued on cardboard rectangles. For examination specimens were relaxed in water, then their detached abdomens were treated for several hours in 10 % KOH at room temperature. The KOH treated aedeagi and ultimate abdominal segments were placed in microvials with glycerin. MSP-1 zoom stereoscopic dissecting microscope with x8 – x80 magnification range was used.

Taxonomy

Flagrax amaniensis Kazantsev, **sp.n.**

Figs 1, 4.

Material. **Tanzania:** Holotype, ♂, ***East Usambara Mts.***, Amani, Monga, 1000 m, 02.ii.1977, H. Enghoff, O. Lomholdt, O. Martin leg. (ZMCU); paratypes: 1♂, ***East Usambara Mts.***, Amani, 1000 m, 27.i.1977, H. Enghoff, O. Lomholdt, O. Martin leg. (ICM); 1♀, idem, 10.vi.1980, M. Stoltze, N. Scharff leg. (ZMCU); 1♀, ***Usambara***, 22.xi, C. Schroeder leg. (ICM).

Description. ♂. Dark brown; head, antennomeres 1–2, pronotum, scutellum, elytral proximal two fifths, protrochanters and profemurs, except distally, yellowish testaceous (Fig. 1).

Head transverse, with elongate excavation between antennal prominences. Fastigium right-angled. Eyes small, interocular distance ca. 2.5 times greater than eye diameter. Antenna attaining to elytral three fourths, feebly serrate, with antennomere 3 wider than long, considerably wider and ca. 2 times longer than antennomere 2 and ca. 1.8 times shorter than antennomere 4.

Pronotum transverse, ca 1.4 times wider than long, with almost straight sides, triangularly produced anterior margin and acute posterior angles. Scutellum elongate, parallel-sided, almost truncate distally (Fig. 1). Elytra long, 3.2 times as long as wide at humeri, conspicuously widened in distal three fifths, with four prominent primary costae, costae 2 and 3 confluent near apex; interstices with double rows of small rectangular cells.

Legs relatively robust; femurs subequal in length to tibiae.

Aedeagus elongate, parallel-sided; median lobe somewhat widened in the middle and noticeably curved in lateral view; phallobase conspicuously bipartite (Fig. 4).

♀. Similar to male, but antennae with short non-erect pubescence and longer single erect hairs.

Length: 9.0–11.9 mm. Width (humerally): 2.3–2.9 mm.

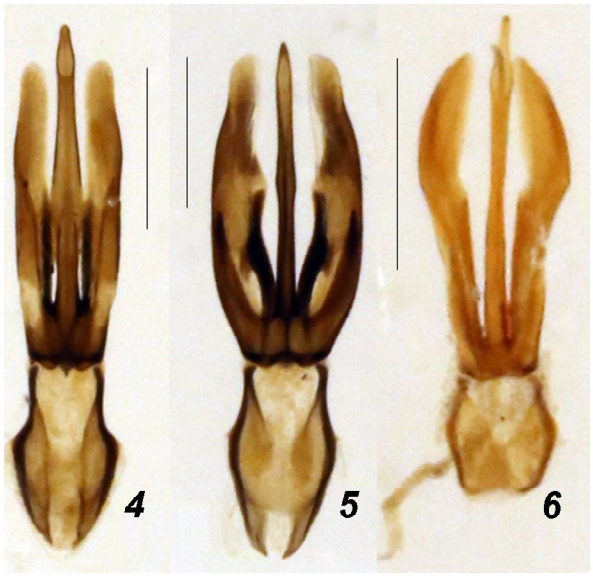
Etymology. The name of the new species is derived from its type locality.

Diagnosis. *F. amaniensis* sp.n. may be easily distinguished from other *Flagrax* species by the uniformly dark

Figs 1–3. General view of *Flagrax*, males: 1 — *F. amaniensis* sp.n.; 2 — *F. uzungwensis* sp.n.; 3 — *F. congoensis* sp.n. 1–2 — paratypes; 3 — holotype.

Рис. 1–3. Общий вид *Flagrax*, самцы: 1 — *F. amaniensis* sp.n.; 2 — *F. uzungwensis* sp.n.; 3 — *F. congoensis* sp.n. 1–2 — паратипы; 3 — голотип.

ultimate antennomeres, dark proximal two fifths of elytra (Fig. 1), as well as by the widened in the middle and curved in lateral view median lobe and constricted proximally phallobase of the aedeagus; phallobase conspicuously bipartite, distally separated by median notch (Fig. 4).



Figs 4–6. Aedeagi of *Flagrax*, males: 4 — *F. amaniensis* sp.n.; 5 — *F. uzungwensis* sp.n.; 6 — *F. congoensis* sp.n. 4–5 — paratypes; 6 — holotype. Scale bars 0.5 mm.

Рис. 4–6. Эдеагусы *Flagrax*, самцы: 4 — *F. amaniensis* sp.n.; 5 — *F. uzungwensis* sp.n.; 6 — *F. congoensis* sp.n. 4–5 — паратипы; 6 — голотип. Масштабные линейки 0,5 мм.

Variation. In one of the paratypes the pro- and mesocoxae, mesepimeron and mesepisternum are yellowish testaceous.

Flagrax uzungwensis Kazantsev, **sp.n.**

Figs 2, 5.

Material. **Tanzania:** Holotype, ♂, ***Uzungwe Mts.***, Mwanihana Forest above Sanje, 1000 m, 01.viii.1981, M. Stoltze, N. Scharff leg. (ZMCU); paratypes, 1♂, same label (ICM); 1♂, ***Uzungwe Mts.***, Mwanihana Forest, Sanje River, 1400 m, 16.viii.1982, M. Stoltze, N. Scharff leg. (ZMCU).

Description. ♂. Yellowish testaceous; antennomeres 5–11, elytra, except proximal sixth, abdomen and tarsi dark brown (Fig. 2).

Head transverse, with shallow roundish impression behind antennal prominences. Fastigium almost right-angled. Eyes small, interocular distance ca. 2.2 times greater than eye diameter. Antenna narrow, non-serrate, attaining to elytral three fourths, with antennomere 3 elongate, almost as wide as and ca. 1.5 times longer than antennomere 2 and ca. 1.6 times shorter than antennomere 4.

Pronotum transverse, ca 1.2 times wider than long, with narrowing anteriorly sides, semi-circularly produced anterior margin and acute posterior angles. Scutellum elongate, parallel-sided, rounded distally (Fig. 2). Elytra long, 3.4 times as long as wide at humeri, noticeably widened in distal five sixths, with four prominent primary costae, costa 3 weakened near apex; interstices with double rows of subquadrate cells.

Legs relatively slender; femurs subequal in length to tibiae.

Aedeagus elongate; median lobe narrow, somewhat swollen in the middle and slightly curved in lateral view; parameres rounded; phallobase seemingly bipartite, the two parts connected medially, with circular distal notch (Fig. 5).

♀. Unknown.

Length: 9.7–12.1 mm. Width (humerally): 2.5–3.2 mm.

Etymology. The name of the new species is derived from its type locality.

Diagnosis. *F. uzungwensis* sp.n. is similar to *F. amaniensis* sp.n., but may be distinguished by the narrow, nonserrate antennae, yellow testaceous antennomeres 1–4, mostly yellow venter and legs, shorter proximal yellow band of the elytra (Fig. 2), as well as by the rounded parameres, narrower and shorter median lobe and less conspicuously constricted proximally phallobase of the aedeagus (Fig. 5).

Remarks. The discovery of representatives of *Flagrax* Kazantsev, 1992 in the Usambara and Uzungwe Mountains in Tanzania adds another patch to the distribution of the genus, previously known from isolated areas in Guinea and Sierra-Leone, in the Congo Basin and the Biafra Gulf region, including islands Bioko (Fernando Poo) and Sao Tome, and in Natal and Transvaal [Kazantsev, 2006].

Flagrax congoensis Kazantsev, **sp.n.**

Figs 3, 6.

Material. **Zaire:** Holotype, ♂, ***Mayumbe,*** Lundu, 18.vii.1976 (ICM); paratype, **Republic of Equatorial Guinea:** 1♂, «Guinea Espanola, NSOC, 13.vii.(19)48, E. Ortiz leg.» (ICM).

Description. ♂. Yellowish testaceous; antennomeres 3–11, elytral distal half, abdomen and tarsi dark brown (Fig. 3).

Head transverse, with conspicuous roundish impression behind antennal prominences. Fastigium almost right-angled. Eyes relatively large, interocular distance ca. 1.7 times greater than eye diameter. Antenna serrate, attaining to elytral five sixths, with antennomere 3 ca. 1.25 times longer than wide, conspicuously wider and ca. 2 times longer than antennomere 2 and ca. 1.6 times shorter than antennomere 4.

Pronotum transverse, ca. 1.4 times wider than long, with almost straight sides, semicircularly produced anterior margin and prominent posterior angles. Scutellum elongate, parallel-sided, rounded and minutely emarginate distally (Fig. 3). Elytra long, 3 times as long as wide at humeri, slightly widened in distal two thirds, with four rather narrow primary costae, costae 2 and 3 confluent near apex; interstices with double rows of rectangular elongate cells.

Legs relatively slender; femurs noticeably longer than tibiae.

Aedeagus relatively short, with widened distally parameres of the aedeagus and relatively short phallobase (Fig. 6).

♀. Unknown.

Length: 7.6–10.5 mm. Width (humerally): 2.0–2.7 mm.

Etymology. The name of the new species is derived from the Congo River in the basin of which the holotype was collected.

Diagnosis. *F. congoensis* sp.n. may be distinguished from *F. auberti* (Bourgeois, 1881) illustrated in Kazantsev [2006], as well as from the other congeners by the widened distally parameres of the aedeagus and shorter phallobase (Fig. 6).

Cautires villosus Kazantsev, **sp.n.**

Figs 7, 10–11.

Material. **Tanzania:** Holotype, ♂, ***Uzungwe Mts.***, Mwanihana Forest above Sanje, 1000 m, 01.viii.1981, M. Stoltze, N. Scharff leg. (ZMCU); paratype, 1♂, same label (ICM).

Description. ♂. Yellowish testaceous; antennomeres 5–11, flabellae of antennomeres 3 and 4, elytra, except proximal fifth, abdomen, tibiae and tarsi dark brown (Fig. 7).

Head small, almost completely concealed under pronotum. Eyes moderately large, interocular distance ca. 2.5 times greater than eye radius. Fastigium right-angled. Ultimate palpomeres subequal in width and length, widening and flattened distally. Antennal sockets separated by minute lamina. Antenna almost attaining to elytral two thirds, flabellate from antennomere 3, with antennomere 3 almost 10 times longer than antennomere 2 and ca. 1.2 times longer than antennomere 4; flabellum of antennomere 3 ca. 1.5 times longer than antennomere, flabellum of antennomere 4 ca. 2 times longer than antennomere; pubescence of antennomeres 3–11 short and erect (Fig. 7).

Pronotum transverse, ca. 1.15 times wider than long, trapezoidal, with rounded anterior margin and prominent acute posterior angles; median cell narrow and inconspicuous, antero-lateral ribs inconspicuous, lateral carinae almost obsolete. Scutellum elongate, parallel-sided, triangularly emarginate distally. Elytra long, 3.75 times as long as wide at humeri, noticeably widening posteriorly, with four equally developed primary costae; interstices proximally and distally with double rows of uneven cells; interstices 1 and 4 noticeably narrower; pubescence relatively long and erect, bottom of cells hairless (Fig. 7).

Legs with considerably widened and subequal in length femurs and tibiae; tarsomeres 1 and 2 with distal plantar pad.

Aedeagus elongate, straight, lanceolate distally and swollen in the middle; phallobase relatively broad, conspicuously emarginate medially (Figs 10–11).

♀. Unknown.

Length: 8.2–9.6 mm. Width (humerally): 1.9–2.2 mm.

Etymology. The name of the new species is derived from the Latin for «hairy», alluding to the erect pubescence of its elytra.

Diagnosis. *C. villosus* sp.n. may be easily distinguished from all its afrotropical congeners by the long erect elytral pubescence (Fig. 7), as well as by the structure of the aedeagus (Figs 10–11).

Cautires stoltzei Kazantsev, **sp.n.**

Figs 8, 12–13.

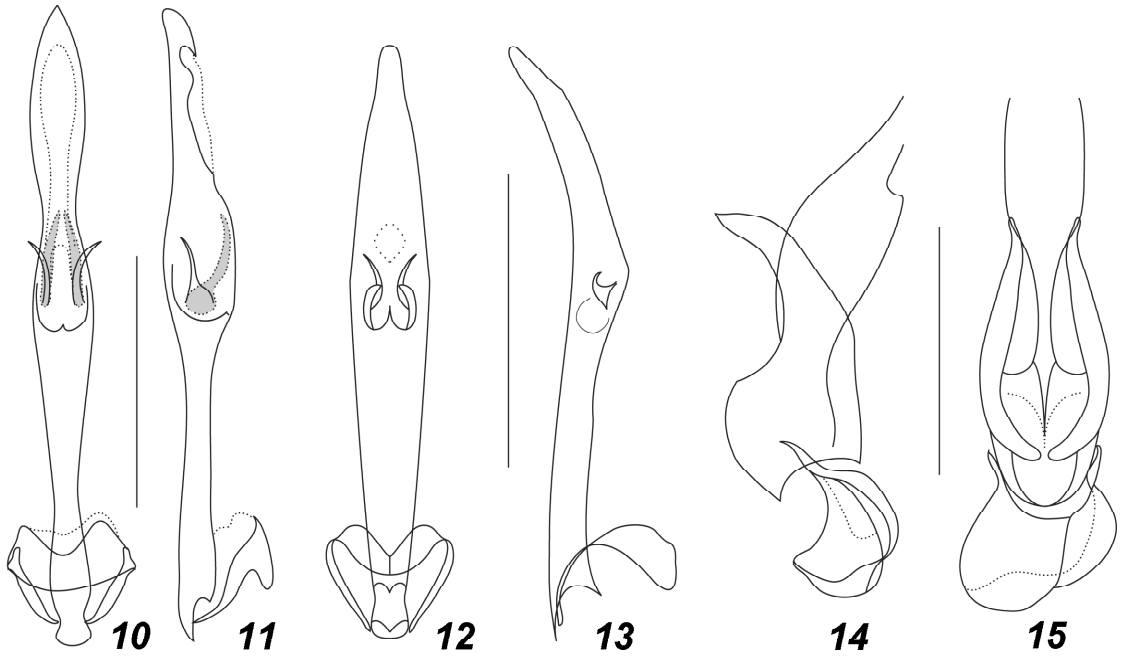
Material. **Tanzania:** Holotype, ♂, ***Uzungwe Mts.***, Mwanihana Forest above Sanje, 1000 m, 01.viii.1981, M. Stoltze, N. Scharff leg. (ZMCU); paratypes: 1♂, 1♀, the same label as holotype (ICM); 1♀, ***West Usambara Mts.***, Mazumbai, 1600 m, 1.VIII.1980, M. Stoltze, N. Scharff leg. (ZMCU); 1♂, 1♀, ***Mt. Rungwe***, SW, 1900 m, 20.VIII.1980, M. Stoltze, N. Scharff leg. (ZMCU).

Description. ♂. Yellowish testaceous; antennomeres 3–11, flabellum of antennomere 3, elytra, except proximal fifth, abdomen, tibiae and tarsi dark brown (Fig. 8).

Head small, almost completely concealed under pronotum. Eyes large, interocular distance ca. 1.5 times greater than eye radius. Fastigium acute, ca. 80°. Ultimate palpomeres subequal in width and length, widening and flattened distally. Antennal sockets separated by minute lamina. Antenna almost attaining to elytral two thirds, flabellate from antennomere 3, with antennomere 3 almost 10 times longer than antennomere 2 and ca. 1.2 times longer than antennomere 4; flabellum of antennomere 3 ca. 1.2 times longer than antennomere, flabellum of antennomere 4 ca. 1.75 times longer than antennomere; pubescence of antennomeres 3–11 short and erect (Fig. 8).

Pronotum almost as wide as long, with triangularly produced anterior margin, conspicuously concave sides and acute posterior angles; median cell narrow, antero-lateral ribs narrow and inconspicuous, lateral carinae obsolete. Scutellum subquadrate, parallel-sided, triangularly emar-

Figs 7–9. General view of *Cautires* and *Aferos*, holotype males: 7 — *C. villosus* sp.n.; 8 — *C. stoltzei* sp.n.; 9 — *A. rwandensis* sp.n.
Рис. 7–9. Общий вид *Cautires* и *Aferos*, голотипы, самцы: 7 — *C. villosus* sp.n.; 8 — *C. stoltzei* sp.n.; 9 — *A. rwandensis* sp.n.



Figs 10–15. Aedeagi of *Cautires* and *Aferos*, holotype males: 10–11 — *C. villosus* sp.n.; 12–13 — *C. stoltzei* sp.n.; 14–15 — *A. rwandensis* sp.n. 10, 12, 14 — ventrally; 11, 13, 15 — laterally. Scale bars 0.5 mm.
Рис. 10–15. Эдеагусы *Cautires* и *Aferos*, голотипы, самцы: 10–11 — *C. villosus* sp.n.; 12–13 — *C. stoltzei* sp.n.; 14–15 — *A. rwandensis* sp.n. 10, 12, 14 — вид снизу; 11, 13, 15 — вид сбоку. Масштабная линейка: 0,5 mm.

ginate distally. Elytra long, 4.15 times as long as wide at humeri, noticeably widening posteriorly, with four equally developed primary costae; interstices with double rows of uneven cells; interstices 1 and 4 noticeably narrower, with one row cells, except proximally and distally; pubescence short and decumbent, bottom of cells hairless (Fig. 8).

Legs with moderately widened femurs and tibiae; protibiae slightly longer than profemurs, meso- and metatibiae subequal in length to meso- and metafemurs; tarsomeres 1 and 2 with distal plantar pad.

Aedeagus elongate, straight, broadest in the middle; phallobase relatively narrow, conspicuously emarginate medially (Figs 12–13).

♀. Similar to male, but antennae only dentate, not flabellate.

Length: 7.5–9.7 mm. Width (humerally): 1.7–2.2 mm.

Etymology. The new species is named after M. Stoltze, one of the collectors of the type series.

Diagnosis. *C. stoltzei* sp.n. may be differentiated from the similarly coloured *C. usambarae* Bourgeois, 1910, also from Tanzania, by the smaller body, less prominent elytral costae and a single row of cells in the first and last elytral interstice (Fig. 8). It differs from *C. villosus* sp.n. by the dark antennomeres 3 and 4, shorter antennal flabellae, short decumbent elytral pubescence, as well as by the structure of the aedeagus (Figs 12–13).

Variation. In some of the paratypes the venter and legs are almost completely black.

Aferos (*Ukachaka*) *rwandensis* Kazantsev, **sp.n.**

Figs 9, 14–15.

Material. **Rwanda:** Holotype, ♂ (ICM); paratypes, 2♀♀, ***Gisakura,*** 1.v.(19)72, coll. IRSNB, ex coll. J. Roggeman, I.G.: 30.600 (IRSN).

Description. ♂. Black; pronotum yellowish testaceous.

Head transverse, scarcely and finely punctured, with conspicuous transverse impression behind antennal prominence. Fastigium blunt, at ca. 100°. Eyes moderately large, interocular distance ca. 4 times greater than eye radius. Labrum transverse, slightly concave anteriorly. Ultimate palpomeres securiform, widened and flattened at outer margin. Antennal sockets separated by relatively broad lamina. Antenna with narrow parallel-sided antennomeres, antennomere 3 elongate, ca. 2 times longer than antennomere 2 and ca. 1.2 times shorter than antennomere 4 (Fig. 9).

Pronotum transverse, ca. 1.3 as wide as long, slightly trapezoidal, with rounded anterior and noticeable acute, rounded distally, posterior angles. Scutellum subquadrate, nearly parallel-sided, rounded and minutely emarginate distally (Fig. 9). Elytra long, 3.2 times as long as wide at humeri, slightly narrowing distally, nearly glabrous, with very short scarce hairs along primary costae; primary costae equally developed, with costa 3 vanishing near apex; interstices with two rows, or, in distal half of interstices 2–4, one row of cells (Fig. 9).

Legs slender and narrow; femurs and tibiae subequal in length, tibiae noticeably curved; tarsi narrow.

Aedeagus with elongate narrow median lobe and conspicuously concave, in lateral view, parameres (Figs 14–15).

♀. Similar to male, but somewhat broader, antenna attaining to elytral third.

Length: 5.5–6.9 mm. Width (humerally): 1.5–2.0 mm.

Etymology. The name of the new species is derived from the name of the country where it was collected.

Diagnosis. *A. rwandensis* sp.n., may be distinguished from the two known members of the subgenus *Ukachaka* Kazantsev, 2000, *A.* (*Ukachaka*) *basilewskii* Kazantsev, 2000 and *A.* (*U.*) *dewittei* Kazantsev, 2000, by the non-pointed distally ultimate palpomeres and a single row of cells in the distal half of elytral interstices 2–4, as well by the conspicuously concave, in lateral view, parameres of the aedeagus (Figs 14–15).

Remarks. The tip of the median lobe of the aedeagus of the holotype (the only male available for study) is missing. Nevertheless, it is apparent that in the aedeagal structure *A. rwandensis* sp.n. is fairly similar to the other species of *Ukachaka*. The new species, however, differs from both of them by the not pointed distally ultimate palpomeres and presence of one row of cells in distal half of elytral interstices 2–4, but not in the last. Therefore, the shape of the ultimate palpomere and the number of rows of cells in the last elytral interstice, which were presumed to be among the characters differentiating the two subgenera [Kazantsev, 2000], apparently cannot be used as such. It seems that it is just the absence of the dense elytral vestiture and structure of the aedeagus with very long narrow median lobe and short loose parameres that are apomorphous for *Ukachaka*.

Acknowledgements

It is my pleasant duty to express gratitude to Dr. A. Solodovnikov (Zoological Museum of Copenhagen University) and Dr. P. Grootaert (Institut Royal de Sciences naturelles de Belgique, Bruxelles) for the possibility to study the Afrotropical lycid material under their care. My special thanks are due to Prof. K.V. Makarov (Moscow) for his help with the colour photos.

References

Kazantsev S.V. 2000. New and little known African lycids (Coleoptera) // Russian Entomological Journal. Vol.9. No.3. P.241–248.

Kazantsev S.V. 2005. Review of *Aferos* Kazantsev (Coleoptera, Lycidae), with a note on *Staepteron cyanoxanthum* (Bourgeois) // Zootaxa. Vol.803. P.1–23.

Kazantsev S.V. 2006. A review and phylogenetic analysis of Afrotropical Dictyopterini (Coleoptera, Lycidae) // Mitteilungen aus dem Museum für Naturkunde in Berlin, Deutsche Entomologische Zeitschrift. Bd.53. Ht.1. S.43–64.

Kazantsev S.V. 2012. New taxa and a checklist of Afrotropical Metriorrhynchini (Lycidae, Coleoptera), with a note on biogeography of the tribe // Russian Entomological Journal. Vol.21. No.1. P.23–33.

Поступила в редакцию 19.03.2013