Russian Entomol. J. 34(4): 489–501

A review of *Dihammatus* Waterhouse, 1878 (Coleoptera: Lycidae) of Indochina, with description of new species

Обзор рода *Dihammatus* Waterhouse, 1878 (Coleoptera: Lycidae) Индокитая с описанием новых видов

Sergey V. Kazantsev
С.В. Казанцев

Diplomatic Academy of the Ministry of Foreign Affairs of Russia, Ostozhenka 53/2, Moscow 119021 Russia.
Дипломатическая академия МИД России, Остоженка 53/2, Москва 119021 Россия.
Sergey Kazantsev: kazantss@mail.ru; ORCID https://orcid.org/0000-0001-6982-3337

KEY WORDS. Coleoptera, Lycidae, *Dihammatus*, new species, identification key, Oriental region.
КЛЮЧЕВЫЕ СЛОВА. Coleoptera, Lycidae, *Dihammatus*, новые виды, определительная таблица, Ориентальный регион.

ABSTRACT. Eight new species of the genus *Dihammatus* Waterhouse, 1879 are described from Vietnam, Laos and Thailand: *D. belokobylskyi* **sp.n.**, *D. fedorenkoi* **sp.n.**, *D. gavryushini* **sp.n.**, *D. hartmanni* **sp.n.**, *D. laosensis* **sp.n.**, *D. loeiensis* **sp.n.**, *D. siamensis* **sp.n.** and *D. vernaculus* **sp.n.** This increases the number of species of the genus registered in Indochina from six to 14. Five of the six previously known here species, *D. coomani* Pic, 1926, *D. kabakovi* Kazantsev, 1993, *D. korotyaevi* Kazantsev, 1993, *D. silvaticus* Kazantsev, 1993 and *D. tropicus* Kazantsev, 1993, are illustrated with colour photographs for the first time. A key to species of *Dihammatus* of the region is provided.

РЕЗЮМЕ. Из Вьетнама, Лаоса и Таиланда описываются восемь новых видов рода *Dihammatus* Waterhouse, 1879: *D. belokobylskyi* **sp.n.**, *D. fedorenkoi* **sp.n.**, *D. gavryushini* **sp.n.**, *D. hartmanni* **sp.n.**, *D. laosensis* **sp.n.**, *D. loeiensis* **sp.n.**, *D. siamensis* **sp.n.** b *D. vernaculus* **sp.n.** Это увеличивает число видов рода, зарегистрированных в Индокитае, с шести до 14. Пять из шести ранее известных здесь видов, *D. coomani* Pic, 1926, *D. kabakovi* Kazantsev, 1993, *D. korotyaevi* Kazantsev, 1993, *D. silvaticus* Kazantsev, 1993 и *D. tropicus* Kazantsev, 1993, впервые проиллюстрированы цветными фотографиями. Приводится определительная таблица видов *Dihammatus* региона.

Introduction

The net-winged beetle genus *Dihammatus* Waterhouse, 1879, the only member of the tribe Dihammatini (Metriorrhynchinae), includes between 30 and 40 species distributed in the Oriental and the southeast of the Palaearctic regions, namely: Nepal, northeastern India (Assam, Darjeeling), Myanmar, central and southern China (Shaanxi, Yunnan, Taiwan), Japan, Indochina (Thailand, Laos, Vietnam), the Philippines and Sundaland (Malay Peninsula, Sumatra, Java and Borneo/Kalimantan) [Kleine, 1933; Nakane, 1971, 1973; Kazantsev, 1992, 1993; Bocáková, 2003]. The genus is fairly similar to *Plateros* Bourgeois, 1879 from the tribe Platerotini (Lycinae), distinguishable, in addition to the aedeagal structures, by the generally more elongate elytra in relation to pronotum and short antennomeres 2 and 3.

The first *Dihammatus* species from Indochina was described as *Plateros* in the first third of the twentieth century [Pic, 1926]. After the study of the genus resumed at the turn of the century, with the aedeagal structures taken into account [Kazantsev, 1993; Bocáková, 2003], five more species were added to the list of the regional fauna. The present study is a further contribution to the knowledge of *Dihammatus* of Indochina. Examination of the Naturkundemuseum, Erfurt and Insect Centre, Moscow material collected in this region in recent years has led to the discovery of eight yet undescribed *Dihammatus* species, which brings the number of Indochinese members of this genus to 14. Description of the new species and illustrations of the previously known ones from the region are presented below, along with a checklist and a key to *Dihammatus* of Indochina.

Material and methods

For examination the beetles were relaxed in water, then their detached abdomina were kept for several hours in 10% KOH at room temperature. The KOH treated aedeagi and terminalia were then placed in microvials with glycerin for photographing.

The paper adopts the higher classification based on the recent phylogenomic analysis of the family [Kusy *et al*., 2019].

How to cite this article: Kazantsev S.V. 2025. A review of *Dihammatus* Waterhouse, 1878 (Coleoptera: Lycidae) of Indochina, with description of new species // Russian Entomol. J. Vol.34. No.4. P.489–501. doi: 10.15298/rusentj.34.4.07

MSP-1 zoom stereoscopic dissecting microscope with x8 x80 magnification range were used. Photographs were taken with Canon EOS 6D camera and Canon MP-E 65 mm lens. The outline map of Indochina was taken from the NordNord-West maps site at commons.wikimedia.org.

The following acronyms are used in the paper: ICM — Insect Center, Moscow; NME — Naturkundemuseum, Erfurt; ZIN — Zoological Institute, St-Petersburg.

Taxonomy

Family Lycidae Laporte, 1838
Subfamily Metriorrhynchinae Kleine, 1926
Tribe Dihammatini Bocák et Bocáková, 2008
Genus *Dihammatus* Waterhouse, 1879

Dihammatus Waterhouse, 1879: 29.

Type species: *Dihammatus cribripennis* Waterhouse, 1879 (subsequent designation by Bourgeois, 1891).

Dihammatus coomani (Pic, 1926)
Figs 1, 2, 19–21.

Plateros coomani Pic, 1926: 74.
Dihammatus coomani (Pic, 1926): Kazantsev, 1993: 42.

MATERIAL. ♂, 'Tonkin, Hoa Binh', 'comp. with Type', '*Dihammatus coomani* (Pic), Kazantsev det. 1990'; 2 ♂♂ and 2 ♀♀, N Vietnam, 100 km NW Thanh Hoa, Lang Shanh, bamboo bushes, 100 m asl, 20.I.1989. B. Korotyaev leg. (ICM).

DISTRIBUTION. Northern Vietnam (Hoa Binh, Thanh Hoa).

REMARKS. *Dihammatus coomani* is unique in the genus both in terms of its coloration and structure of the aedeagus and terminal abdominal segments: its upperside is orange testaceous, the apical part of parameral tubulus of the aedeagus is dentate and the penultimate tergite is divided by a complete median suture (Figs 1, 2, 19–21).

Dihammatus fedorenkoi Kazantsev, **sp.n.**
Figs 3, 4.

MATERIAL. Holotype: ♀, S Vietnam, Lam Dong Prov., Bi Doup-Nui Ba Nat. Reserve, 12°10′N/108°40′E, h=1400–1600 m, 1–22.IV.2008, D. Fedorenko leg. (ICM).

DESCRIPTION. **Female.** Dark brown; pronotal margins and elytral proximal third light brown; elytral distal two thirds, except at elytral suture, yellowish testaceous (Figs 3, 4).

Vertex with small transverse impression behind antennal prominence. Eyes small, interocular distance ca. 1.5 times greater than eye diameter. Labrum small, short, transverse, truncate anteriorly. Palps slender; ultimate palpomeres elongate, slightly widened distally, obliquely convex and flattened at apex. Antennal sockets separated by minute lamina. Antennae attaining to elytral two fifths, filiform; antennomere 2 ca. 1.4 times longer than wide, subequal in length to antennomere 3, antennomeres 2 and 3 combined ca. 1.4 times shorter than antennomere 4, antennomeres 3–11 with relatively long erect pubescence (Figs 3, 4).

Pronotum transverse, ca. 1.6 times wider than long, trapezoidal, slightly bisinuate basally, triangularly produced anteriorly, noticeably concave at sides, with acute, slightly protruding laterally posterior and conspicuous blunt anterior angles; medially with conspicuous relatively broad triangular furrow in posterior third and delicate median keel in anterior third. Scutellum subquadrate, trapezoidal, rounded at apex (Figs 3, 4).

Elytra very long, ca. 4.2 times longer than wide at humeri, parallel-sided, not dehiscent distally; with four almost equally developed primary costae; interstices with even rows of regular small roundish cells; pubescence dense, short and semi-erect (Fig. 3, 4).

Legs long and slender; femora and tibiae straight, subequal in length; length ratio of hind tarsomeres 1.8 : 1.5 : 1 : 1 : 1.5 (Figs 3, 4).

Length: 6.6 mm. Width (humerally): 1.3 mm.

Male. Unknown.

ETYMOLOGY. The new species is named after Dr. Dmitry Fedorenko (Moscow) who collected the type specimen.

DIAGNOSIS. *Dihammatus fedorenkoi* **sp.n.** is habitually very different from all known species of the genus, both in the coloration and the length of its elytra, which even in the female is 4.2 times longer than wide at the shoulders (Figs 3, 4), whereas it is *Dihammatus* males that tend to have relatively more elongate elytra.

DISTRIBUTION. Southern Vietnam (Lam Dong).

Dihammatus korotyaevi Kazantsev, 1993
Figs 5, 22, 23.

Dihammatus korotyaevi Kazantsev, 1993: 43.

MATERIAL. Holotype: ♂, N Vietnam, 100 km NW Thanh Hoa, Lang Shanh, bamboo bushes, 100 m asl, 20.I.1989. B. Korotyaev leg. (ZIN); paratype, ♀, same label (ICM).

DISTRIBUTION. Northern Vietnam (100 km NW Thanh Hoa).

Dihammatus gavryushini Kazantsev, **sp.n.**
Figs 6, 24–26.

MATERIAL. Holotype: ♂, [S] Thailand, Trat prov., Koh Chang I., Son R., 12.11562°N, 102.29777°E, 11.XII.2011, D. Gavryushin leg. (ICM); paratypes: 2 ♂♂ and 3 ♀♀, same label (ICM).

DESCRIPTION. **Male.** Dark brown to black; front trochanters light brown (Fig. 6).

Vertex with conspicuous round impression behind antennal prominence. Eyes large, eye diameter ca. 1.3 times greater than interocular distance. Labrum small, short, transverse, truncate anteriorly. Palps slender; ultimate palpomeres elongate, parallel-sided, obliquely convex and flattened at apex. Antennal sockets separated by minute lamina. Antennae reaching slightly over elytral mid-length, filiform; antennomere 2 about as long as wide, subequal in length to antennomere 3, antennomeres 2 and 3 combined ca. 1.4 times shorter than antennomere 4; antennomeres 3–11 with relatively long erect pubescence (Fig. 6).

Pronotum transverse, ca. 1.7 times wider than long, slightly bisinuate basally, semi-triangularly produced anteriorly, slightly convex at sides, with almost right posterior and obsolete anterior angles; medially with conspicuous narrow furrow in posterior half and delicate keel anteriorly. Scutellum transverse, trapezoidal, with noticeable triangular incision at apex (Fig. 6).

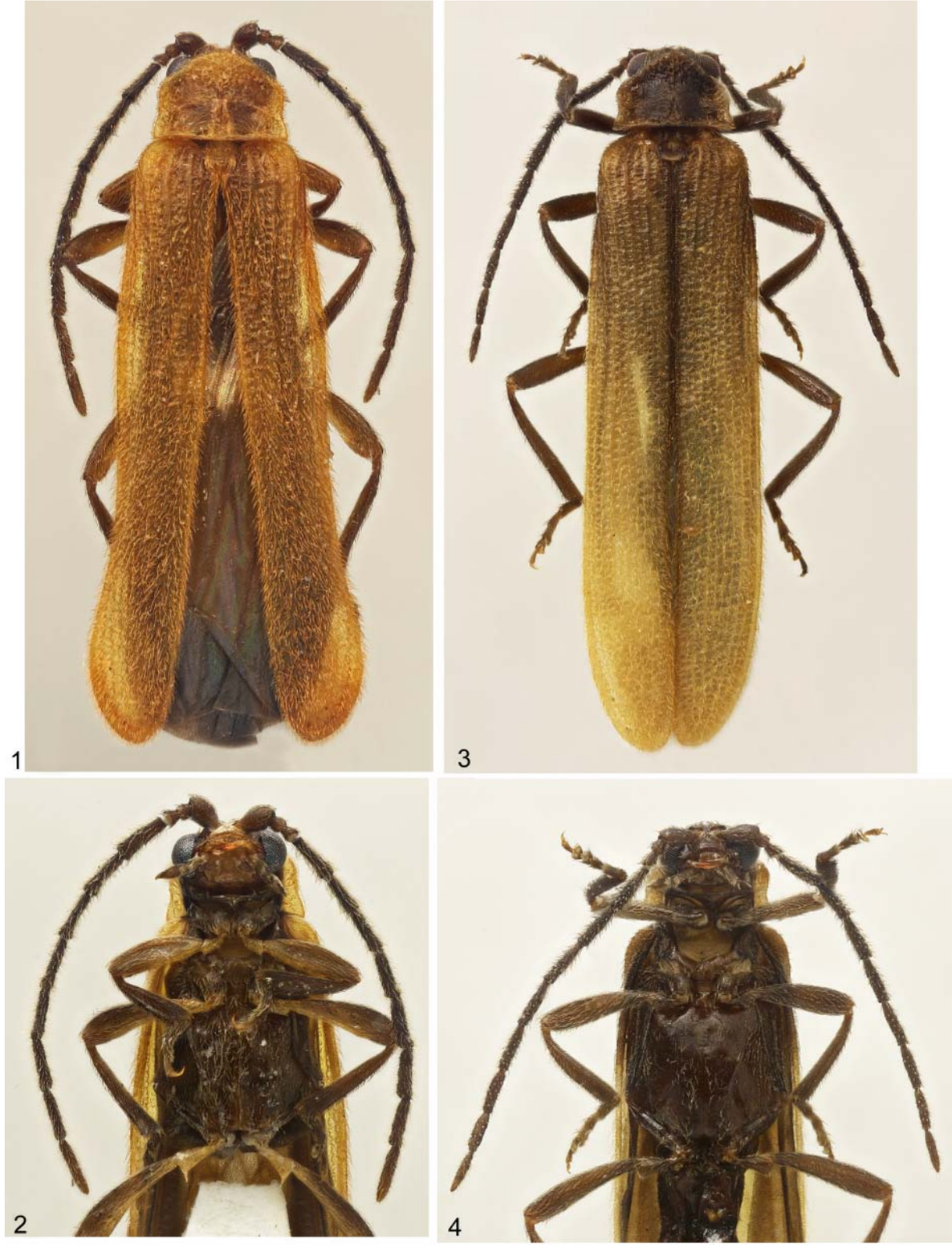
Elytra relatively long, ca. x3.5 times longer than wide at humeri, parallel-sided, with four almost equally developed primary costae; interstices with even rows of regular small roundish cells; pubescence dense, short and semi-erect (Fig. 6).

Legs long and slender; femora and tibiae straight, subequal in length (Fig. 6).

Aedeagus with gradually narrowing distally parameral tubulus, terminated in medieval eastern European helmet-like structure in dorsal view; median lobe with four rows of brush-like festoons along its length; phallobase elongate, 1.4 times longer than wide, narrowing and open proximally in a scoop-like structure (Figs 24, 25). Ultimate sternite slightly widened proximally, with narrow, broadly separated apophyses (Fig. 26).

Length: 3.6–4.3 mm. Width (humerally): 0.9–1.0 mm.

Female. Similar to male, but eyes smaller and antennae shorter.



Figs 1–4. General view of *Dihammatus*: 1, 2 — *D. coomani*, male; 3, 4 — *D. fedorenkoi* **sp.n.**, holotype female; 1, 3 — general appearance; 2, 4 — anterior part of body, ventrally.
Рис. 1–4. Общий вид *Dihammatus*: 1, 2 — *D. coomani*, самец; 3, 4 — *D. fedorenkoi* **sp.n.**, голотип, самка; 1, 3 — общий вид; 2, 4 — передняя часть тела, снизу.

Figs 5–9. General view and pronotum of *Dihammatus*, holotype males: 5 — *D. korotyaevi*; 6 — *D. gavryushini* **sp.n.**; 7, 8 — *D. silvaticus*; 9 — *D. tropicus*; 5–7, 9 — general appearance; 8 — pronotum.
Рис. 5–9. Общий вид и переднеспинка *Dihammatus*, голотипы, самцы: 5 — *D. korotyaevi*; 6 — *D. gavryushini* **sp.n.**; 7, 8 — *D. silvaticus*; 9 — *D. tropicus*; 5–7, 9 — общий вид; 8 — переднеспинка.

ETYMOLOGY. The new species is named after Mr. Dmitry Gavryushin (Naro-Fominsk, Russia) who collected the type series.

DIAGNOSIS. *Dihammatus gavryushini* **sp.n.** resembles *D. korotyaevi* Kazantsev, 1993, but may be easily distinguished by the convex pronotal sides and less elongate elytra (Fig. 6), as well as by the symmetric parameral tubulus, not constricted before apex in dorsal view, and straight distally, in lateral view (Figs 24, 25). In comparison, in *D. korotyevi* the parameral tubulus is noticeably asymmetric, constricted before apex in dorsal view, and bent distally, in lateral view (Figs 22, 23)

DISTRIBUTION. Southern Thailand (Trat).

REMARKS. The aedeagus of a dissected male paratype is the same as of the holotype, with the same four rows of brush-like festoons.

Dihammatus silvaticus Kazantsev, 1993
Figs 7, 8, 27–29.

Dihammatus silvaticus Kazantsev, 1993: 43.

MATERIAL. Holotype: ♂, S Vietnam, prov. Gialai Kontum, 8 km N Kon-Khanung, trop. forest, 22.VI.1983, L. Medvedev leg. (ZIN).

DISTRIBUTION. Southern Vietnam (Gialai Kontum).

REMARKS. The indication of a distally pointed ultimate maxillary palpomere for *D. tropicus* (Kazantsev, 1993), as the re-examination of the holotype showed, was erroneous, the ultimate maxillary palpomere is just flattened and provided with several glabrous distal denticuli.

Dihammatus tropicus Kazantsev, 1993
Figs 9, 30, 31.

Dihammatus tropicus Kazantsev, 1993: 43.

MATERIAL. Holotype: ♂, S Vietnam, prov. Gialai Kontum, Buon Loi, trop. forest, 31.V.1983, L. Medvedev leg. (ZIN); ♂, S Vietnam, prov. Gialai Kontum, 8 km N Kon-Hanung, trop. forest, 22.VI.1983, L. Medvedev leg.; 2 ♀♀, same label; ♀, S Vietnam, prov. Gialai Kontum, 40 km N Ankhe, tropical forest, 3.XI.1979, L. Medvedev leg. (ICM).

DISTRIBUTION. Southern Vietnam (Gialai Kontum).

REMARKS. It is possible that the difference between *D. tropicus* and *D. silvaticus* in the male genitalia is due to the non-protrusion of the median lobe in the aedeagus of the former: more, and preferably fresh, material is needed, due to the impossibility to check this on the dry cyanid-treated cabinet specimens, as is the case with the studied Gialai Kontum material.

Dihammatus siamensis Kazantsev, **sp.n.**
Figs 10, 32, 33.

MATERIAL. Holotype: ♂, NE Thailand, Loei prov., Phu Kradung N.P., 16°52'N, 101°49'E, 1000 m, 16–17.V.1999, D. Hauck leg. (ICM).

DESCRIPTION. **Male.** Dark brown to black; pedicel distally and pronotal sides narrowly light brown (Fig. 3A).

Vertex with shallow roundish impression behind antennal prominence. Eyes relatively small, interocular distance ca. 1.3 times greater than eye diameter. Labrum small, transverse, truncate anteriorly. Palps slender; ultimate palpomeres elongate, slightly widened distally, obliquely convex and flattened at apex. Antennal sockets separated by minute lamina. Antennae attaining to elytral mid-length, filiform; antennomere 3 ca. 1.5 times wider than long, antennomeres 2 and 3 combined ca. 1.3 times shorter than antennomere 4, antennomeres 3–11 with relatively long erect pubescence (Fig. 10).

Pronotum transverse, ca. 1.3 times wider than long, trapezoidal, slightly bisinuate basally, semi-circular anteriorly, straight at sides, with acute posterior and inconspicuous blunt anterior angles; medially with conspicuous narrow furrow in posterior half. Scutellum transverse, with noticeable semi-circular incision at apex (Fig. 10).

Elytra moderately long, ca. 3.3 times longer than wide at humeri, parallel-sided; with four almost equally developed primary costae; interstices with even rows of regular small roundish cells; pubescence dense, short and semi-erect (Fig. 10).

Legs relatively robust; femora and tibiae straight, subequal in length (Fig. 10).

Aedeagus with sub-cylindrical parameral tubulus, dorsally with truncate distally trapezoidal plate, at apex ca. 2.5x more narrow than at base; distal process of median lobe, in lateral view, with double curve, first dorsally, then ventrally (Figs 32, 33).

Length: 3.8 mm. Width (humerally): 0.9 mm.

Female. Unknown.

ETYMOLOGY. The new species is named after 'Siam', the former name of the country where the type specimen was collected.

DIAGNOSIS. *Dihammatus siamensis* **sp.n.** is similar to *D. vernaculus* **sp.n.**, but may be differentiated by the distinctly transverse antennomere 3 (Fig. 10), as well as by the distally broader dorsal plate and the double curve, in lateral view, of the distal process of median lobe, first dorsally, then ventrally (Figs 32, 33).

DISTRIBUTION. Northeastern Thailand (Loei).

Dihammatus vernaculus Kazantsev, **sp.n.**
Figs 11, 12, 34, 35.

MATERIAL. Holotype: ♂, N Vietnam, Hoa Binh Prov., Yen Thai District, Lac Thinh, Cuc Phuong NP, 300 m, 20°28'N, 105°34'E, 1–2.V.2002, S. Belokobylsky leg. (ICM).

DESCRIPTION. **Male.** Dark brown to black; antennomeres 2 and 3, pronotal margins narrowly narrowly and trochanters light brown (Figs 11, 12).

Vertex with conspicuous transverse impression behind antennal prominence. Eyes small, interocular distance ca. 1.5 times greater than eye diameter. Labrum transverse, but relatively long, with feeble median incision anteriorly. Palps slender; ultimate maxillary palpomere elongate, slightly widened distally, obliquely convex and flattened at apex. Antennal sockets separated by minute lamina. Antennae reaching slightly over elytral mid-length, filiform; antennomere 2 about as long as wide, subequal in length to antennomere 3, antennomeres 2 and 3 combined ca. 1.4 times shorter than antennomere 4, antennomeres 3–11 with relatively long erect pubescence (Figs 11, 12).

Pronotum transverse, ca. 1.6 times wider than long, trapezoidal, slightly bisinuate basally, convex anteriorly, straight at sides, with acute posterior and noticeable blunt anterior angles; medially with conspicuous narrow furrow in posterior half. Scutellum transverse, with distinct semi-triangular incision at apex (Figs 11, 12).

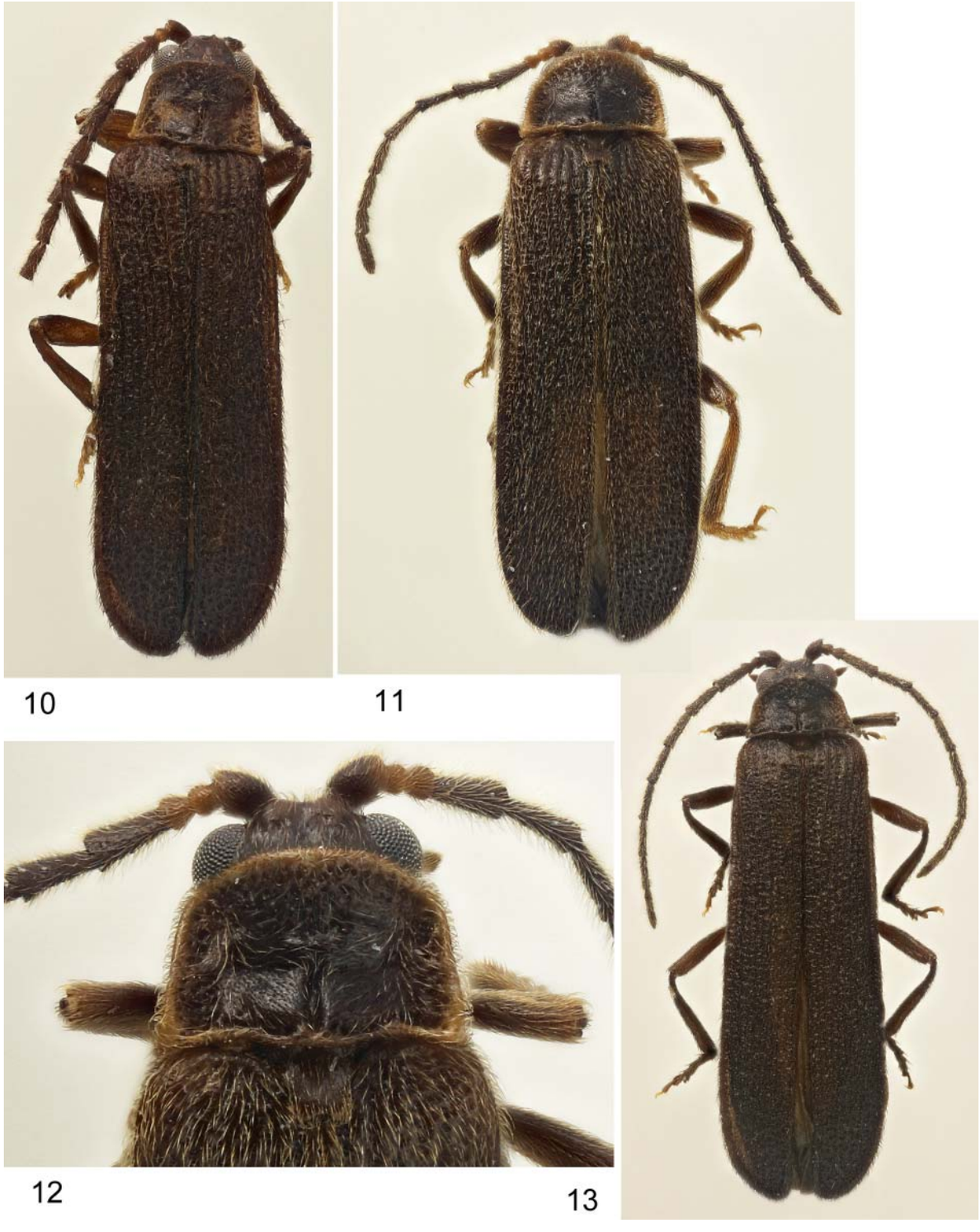
Elytra relatively short, only ca. 3 times longer than wide at humeri, parallel-sided, slightly dehiscent at distal third; with four almost equally developed primary costae; interstices with even rows of regular small roundish cells; pubescence dense, short and semi-erect (Fig. 11).

Legs relatively robust; femora and tibiae straight, subequal in length; length ratio of hind tarsomeres 2 : 2 : 2 : 1.5 : 3 (Fig. 11).

Aedeagus with sub-cylindrical parameral tubulus, dorsally with truncate distally trapezoidal plate, at apex ca. 3.7x more narrow than at base; distal process of median lobe, in lateral view, slightly curved dorsally (Figs 34, 35).

Length: 4.0 mm. Width (humerally): 1.1 mm.

Female. Unknown.



Figs 10–13. General view and pronotum of *Dihammatus*, males: 10 — *D. siamensis* **sp.n.**; 11, 12 — *D. vernaculus* **sp.n.**; 13 — *D. kabakovi*; 10–12 — holotypes; 10, 11, 13 — general appearance; 12 — pronotum.
Рис. 10–13. Общий вид и переднеспинка *Dihammatus*: 10 — *D. siamensis* **sp.n.**; 11, 12 — *D. vernaculus* **sp.n.**; 13 — *D. kabakovi*; 10–12 — голотипы; 10, 11, 13 — общий вид; 12 — переднеспинка.

ETYMOLOGY. The name of the new species is derived from the Latin for 'native'.

DIAGNOSIS. *Dihammatus vernaculus* **sp.n.** has the same type of aedeagus as *D. siamensis* **sp.n.**, differing in the shape of antennomere 3, which is as long as wide (Figs 11, 12), being distinctly transverse in *D. siamensis* **sp.n.**, and by the more narrow distal margin of the dorsal plate and dorsally curved distal process of median lobe of the aedeagus (Figs 34, 35).

DISTRIBUTION. Northern Vietnam (Hoa Binh).

Dihammatus kabakovi Kazantsev, 1993
Figs 13, 36–38.

Dihammatus kabakovi Kazantsev, 1993: 44.

MATERIAL. Holotype: ♂, Vietnam, Mts NW Dong Hoi, Rao Te, 600 m, 24.III.1963, O. Kabakov leg. (ZIN); paratype: ♀, [Vietnam], the Upper Song Shu R., 300, 22.III.1961, Izoh leg. (ICM); 6 ♂♂ and 9 ♀♀, N Vietnam, Lau Chau, Huang Lien Son N.P., 1920–2070 m, 22.238°N, 103.779°E, 19.IV.2013, A. Prosvirov leg. (ICM); 3 ♂♂ and 7 ♀♀, NE Laos, Hua Phan prov., Ban Saleui, Phou Pan Mt., ~20°12'N, 104°01'E, 1300–1900 m, 1–31.05.2011, C. Holzschuh leg. (ICM); ♂, Vietnam, Lao Cai Prov., Sa Pa Distr., Fan Si Pan Mt., 1900–2500 m, 20.IV–9.V.1999, N.L. Orlov leg. (ICM); ♂, Laos bor. or., Hua Phan pr., Ban Saleui, Phou Pan Mt., 20°13'N, 103°59'E, 20.IV–10.V.2004, F. Kantner leg. (ICM); male, N Vietnam, Lao Cai Prov., Huang Lien NP, Tram Ton, 1800–2050 m, 22°21.197'N, 103°46.513'E, 13–16.V.2015, F. Creutzburg leg. (ICM); ♀, N Vietnam, Lao Cai Pr., Huang Lien NP, Tram Ton, 1950 m, 22°21.197'N, 103°46.513'E, 13–16.V.2015, F. Creutzburg leg. (NME).

DISTRIBUTION. Northern and Central Vietnam, northeastern Laos.

Dihammatus laosensis Kazantsev, **sp.n.**
Figs 14, 39, 41, 42.

MATERIAL. Holotype: ♂, NE Laos, Hua Phan prov., Ban Saleui, Phou Pan Mt., ~20°12'N, 104°01'E, 1300–1900 m, 1–31.05.2011, C. Holzschuh leg. (ICM); paratypes: 2 ♀♀, same label (ICM).

DESCRIPTION. **Male.** Uniformly dark brown to black, only labrum light brown (Fig. 14).

Vertex with small double round impressions behind antennal prominence. Eyes moderately large, eye diameter ca. 1.1 times greater than interocular distance. Labrum small, transverse, truncate anteriorly. Palps slender; ultimate palpomeres slightly longer than wide, almost parallel-sided, obliquely convex and flattened at apex. Antennal sockets separated by minute lamina. Antennae attaining to elytral mid-length, filiform; antennomere 2 slightly longer than wide, subequal in length and width to antennomere 3, antennomeres 2 and 3 combined ca. 1.25 times shorter than antennomere 4, antennomeres 3–11 with relatively long erect pubescence (Fig. 14).

Pronotum transverse, ca. 1.5 times wider than long, trapezoidal, bisinuate basally, semi-circular anteriorly, straight at sides, with acute, slightly protruding laterally posterior and rounded anterior angles; medially with oval furrow in posterior half. Scutellum transverse, trapezoidal, almost truncate at apex, with inconspicuous median notch (Fig. 14).Elytra long, ca. 3.8 times longer than wide at humeri, parallel-sided, slightly dehiscent at distal half; with four almost equally developed primary costae; interstices with even rows of regular small roundish cells; pubescence moderately dense, short and semi-erect (Fig. 14).

Legs long and slender; femora and tibiae straight, subequal in length; length ratio of hind tarsomeres 2 : 2 : 1.5 : 1.7 : 2.5 (Fig. 14).

Aedeagus with sub-cylindrical parameral tubulus, semicircular at apex dorsally; dorsal process of median lobe of aedeagus distally swollen in lateral view, ventral process of median lobe distally bent outwards (Figs 41, 42). Ultimate sternite narrowed and rounded proximally (Fig. 39).

Length: 4.8–5.7 mm. Width (humerally): 1.0–1.3 mm.

Female. Similar to male, but eyes smaller and antennae somewhat shorter.

ETYMOLOGY. The new species is named after the country where the type series was collected.

DIAGNOSIS. *Dihammatus laosensis* **sp.n.** is similar to *P. kabakovi* Kazantsev, 1993, but may be differentiated by the distally truncate scutellum (Fig. 14), distally swollen (in lateral view) dorsal process of median lobe of the aedeagus and distally bent outwards (in lateral view) ventral process of median lobe (Figs 41, 42) vs the distinctly notched scutellum, distally narrow dorsal process and distally straight ventral process of median lobe in *D. kabakovi* (Figs 13, 36, 37). In the shape of the aedeagus the new species also resembles *D. chinensis* Bocakova, 2003, from western Yunnan mountains in China, but is distinguishable by the more elongate elytra (3.8x longer than wide at humeri vs. 3.4x in *D. chinensis* — Bocáková, 2003: 174) and ventrobasally fused parameres (separate in *D. chinensis* — Bocáková, 2003: fig. 3).

DISTRIBUTION. Northeastern Laos (Hua Phan).

Dihammatus loeiensis Kazantsev, **sp.n.**
Figs 15, 40, 43, 44.

MATERIAL. Holotype: ♂, NE Thailand, Loei prov., Phu Kradung N.P., 16°52'N, 101°49'E, 1000 m, 16–17.V.1999, D. Hauck leg. (ICM).

Description. **Male.** Dark brown to black; pedicel distally, pronotal margins narrowly, front and middle trochanters and front femora proximally light brown (Fig. 15).

Vertex with roundish impression behind antennal prominence. Eyes large, eye diameter ca. 1.4 times greater than interocular distance. Labrum small, transverse, truncate anteriorly. Palps slender. Antennal sockets separated by narrow widening dorsally lamina. Antennae reaching slightly over elytral mid-length, filiform; antennomere 2 subequal in length to antennomere 3, antennomeres 2 and 3 combined ca. 1.5 times shorter than antennomere 4, antennomeres 3–11 with relatively long erect pubescence (Fig. 15).

Pronotum transverse, ca. 1.5 times wider than long, trapezoidal, slightly bisinuate basally, triangularly produced anteriorly, slightly concave at sides, with acute, slightly protruding laterally posterior and conspicuous blunt anterior angles; medially with oval furrow in posterior half. Scutellum transverse, trapezoidal, with noticeable semi-circular incision at apex (Fig. 15).

Elytra moderately long, ca. 3.3 times longer than wide at humeri, almost parallel-sided, slightly dehiscent at distal fourth; with four almost equally developed primary costae; interstices with even rows of regular small roundish cells; pubescence dense, short and semi-erect (Fig. 15).

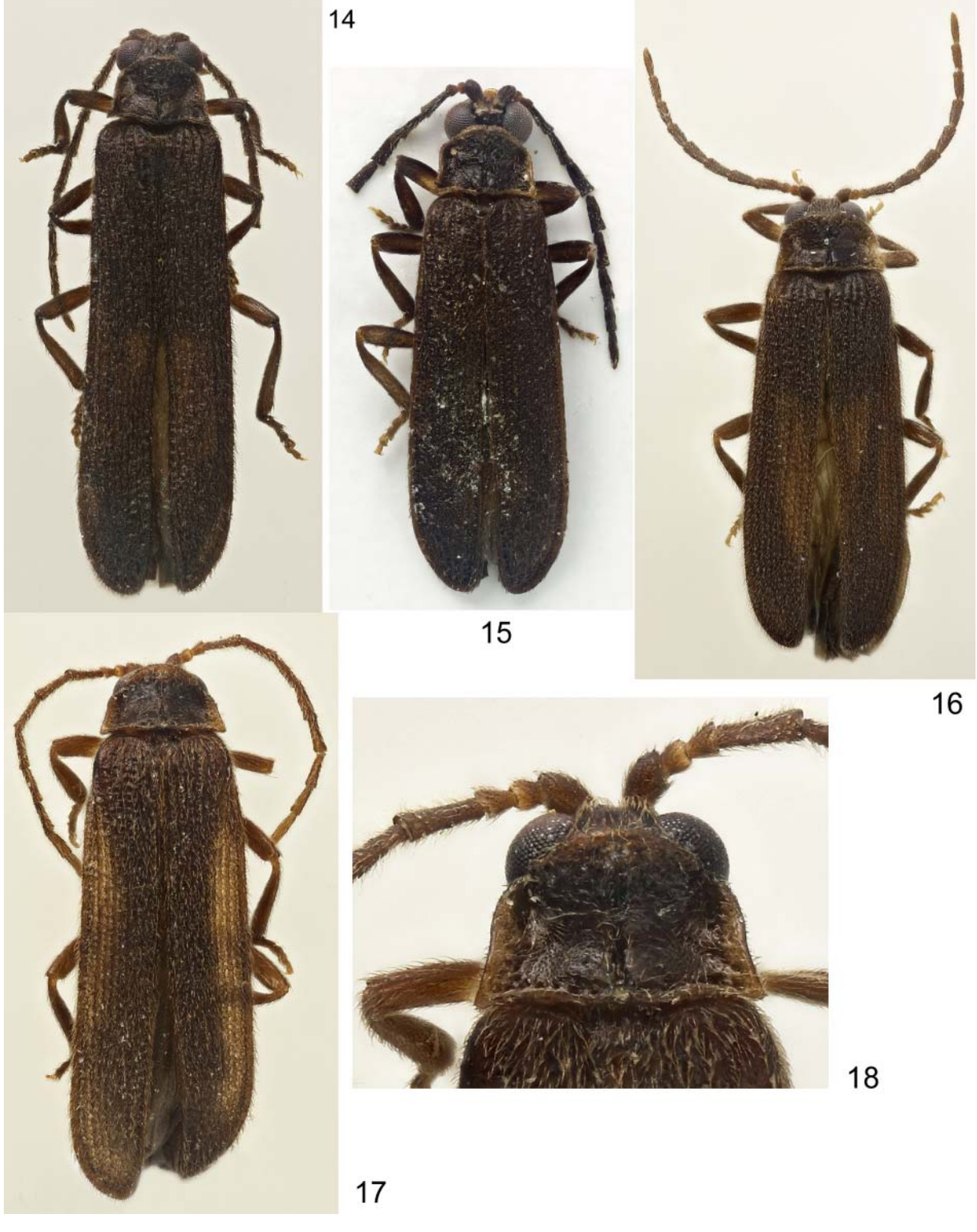
Legs slender; femora and tibiae noticeably flattened, straight, subequal in length; length ratio of hind tarsomeres 1.1 : 1.1 : 1.1 : 1 : 1 (Fig. 15).

Aedeagus with sub-cylindrical distally medially incised parameral tubulus; dorsal process of median lobe of aedeagus distally, in lateral view, first curved ventrally, then bent dorsally (Figs 43, 44). Ultimate sternite narrowed and pointed proximally (Fig. 40).

Length: 4.5 mm. Width (humerally): 1.0 mm.

Female. Unknown.

ETYMOLOGY. The new species is named after the province where the type specimen was collected.



Figs 14–18. General view and pronotum of *Dihammatus*, holotype males: 14 — *D. laosensis* **sp.n.**; 15 — *D. loeiensis* **sp.n.**; 16 — *D. hartmanni* **sp.n.**; 17, 18 — *D. belokobylskyi* **sp.n.**; 14–17 — general appearance; 18 — pronotum.
Рис. 14–18. Общий вид и переднеспинка *Dihammatus*, голотипы, самцы: 14 — *D. laosensis* **sp.n.**; 15 — *D. loeiensis* **sp.n.**; 16 — *D. hartmanni* **sp.n.**; 17, 18 — *D. belokobylskyi* **sp.n.**; 14–17 — общий вид; 18 — переднеспинка.

DIAGNOSIS. *Dihammatus loeiensis* **sp.n.** is similar to *D. belokobylskyi* **sp.n.** and *D. hartmanni* **sp.n.**, but differs in the semi-triangularly produced anterior pronotal margin (Fig. 15), and may be distinguished also by the distally rounded and medially incised parameral tubulus (Figs 43, 44).

DISTRIBUTION. Northeastern Thailand (Loei).

Dihammatus hartmanni Kazantsev, **sp.n.**
Figs 16, 45, 46.

MATERIAL. Holotype: ♂, C Vietnam, Thua Tien-Hue Prov., Phu Loc, Bach Ma NP, top area, 1250–1400 m, 16°11'39"N, 107°51'12"E, LFF, 5–9.V.2019, A. Weigel leg. (NME).

DESCRIPTION. **Male.** Dark brown to black; pedicel, pronotal sides, front trochanters and bases of front femora light brown (Fig. 16).

Vertex with shallow round impression behind antennal prominence. Eyes moderately large, eye diameter subequal in length to interocular distance. Labrum small, transverse, truncate anteriorly. Palps slender; ultimate palpomeres somewhat longer than wide, parallel-sided, obliquely convex and flattened at apex. Antennal sockets separated by minute lamina. Antennae slightly reaching over elytral mid-length; antennomere 2 about as long as wide, subequal in length to antennomere 3, antennomeres 2 and 3 combined ca. 1.4 times shorter than antennomere 4, antennomeres 3–11 with relatively long erect pubescence (Fig. 16).

Pronotum strongly transverse, ca. 1.8 times wider than long, slightly bisinuate basally and convex anteriorly, with slightly concave sides, small acute posterior and inconspicuous blunt anterior angles; medially with deep narrow furrow in posterior half and delicate keel anteriorly. Scutellum transverse, trapezoidal, with noticeable triangular incision at apex (Fig. 16).

Elytra relatively short, ca. 3.1 times longer than wide at humeri, parallel-sided; with four almost equally developed primary costae; interstices with even rows of small roundish cells; pubescence dense, short and semi-erect (Fig. 16).

Legs slender; femora and tibiae straight, subequal in length; length ratio of hind tarsomeres 2 : 2 : 1.5 : 1.5 : 2.5 (Fig. 16).

Aedeagus with sub-cylindrical parameral tubulus; dorsally at distal margin trapezoidal, truncate apically; dorsal process of median lobe distally bent inwardly, in lateral view; phallobase proximally narrowed (Figs 45, 46).

Length: 4.0 mm. Width (humerally): 1.0 mm.

Female. Unknown.

ETYMOLOGY. The new species is named after Dr. Matthias Hartmann (Erfurt, Germany) through whose courtesy I was able to study the NME *Dihammatus* material.

DIAGNOSIS. *Dihammatus hartmanni* **sp.n.**, habitually similar to *D. belokobylskyi* **sp.n.**, may be distinguished by the less elongate elytra (3.1x longer than wide at humeri) (Fig. 16), as well as by the aedeagal structures, where the dorsal process of median lobe distally is bent inwardly, in lateral view, and the phallobase is proximally narrowed (Figs 45, 46).

DISTRIBUTION**.** Central Vietnam (Thua Tien-Hue, Bach Ma National Park).

Dihammatus belokobylskyi Kazantsev, **sp.n.**
Figs 17, 18, 47, 48.

MATERIAL. Holotype: ♂, N Vietnam, Hoa Binh Prov., Yen Thai District, Lac Thinh, Cuc Phuong NP, 300 m, 20°28'N, 105°34'E, 1–2.V.2002, S. Belokobylsky leg. (ICM); paratypes: ♀, N Vietnam, Hoa Binh Prov., Mai Chan District, Pa Co, 1100–1200 m, 20°45'N, 104°54'E, 27–28.IV.2002, S. Belokobylsky leg. (ICM); ♀, N Vietnam, Ninh Binh Prov., Cuc Phuong N.P., 270 m, 20°17'57"N, 105°40'05"E, 22–24.V.2015, LT, A. Weigel leg. (NME).

DESCRIPTION. **Male.** Dark brown to black; pedicel distally, palps, except ultimate palpomeres pronotal sides narrowly and front trochanters and bases of front femora light brown (Figs 17, 18).

Vertex with shallow roundish impression behind antennal prominence. Eyes large, eye diameter ca. 1.2 times greater than interocular distance. Labrum small, transverse, truncate anteriorly. Palps slender; ultimate palpomeres elongate, almost parallel-sided, obliquely convex and flattened at apex. Antennal sockets separated by minute lamina. Antennae reaching slightly over elytral mid-length, filiform; antennomere 2 about as long as wide, subequal in length to antennomere 3, antennomeres 2 and 3 combined ca. 1.4 times shorter than antennomere 4, antennomeres 3–11 with relatively long erect pubescence (Figs 17, 18).

Pronotum transverse, ca. 1.6 times wider than long, trapezoidal, slightly bisinuate basally, semi-circular anteriorly, slightly concave at sides, with acute, slightly protruding laterally posterior and inconspicuous blunt anterior angles; medially with conspicuous narrow furrow in posterior half. Scutellum transverse, with conspicuous semi-circular incision at apex (Figs 17, 18).

Elytra moderately long, ca. 3.4 times longer than wide at humeri, almost parallel-sided, slightly dehiscent at distal third; with four almost equally developed primary costae; interstices with even rows of regular small roundish cells; pubescence dense, short and semi-erect (Fig. 17).

Legs relatively robust; femora and tibiae straight, subequal in length (Fig. 17).

Aedeagus with sub-cylindrical parameral tubulus, slightly constricted before distal fourth; dorsal process of median lobe distally almost straight in lateral view, ventral process of median lobe bifurcate distally, with with inner distal process noticeably more prominent than the outer one; phallobase relatively broad, only 1.2 times longer than wide, slightly widening proximally (Figs 47, 48).

Length: 4.1–4.5 mm. Width (humerally): 1.1–1.2 mm.

Female. Similar to male, but eyes smaller and antennae somewhat shorter.

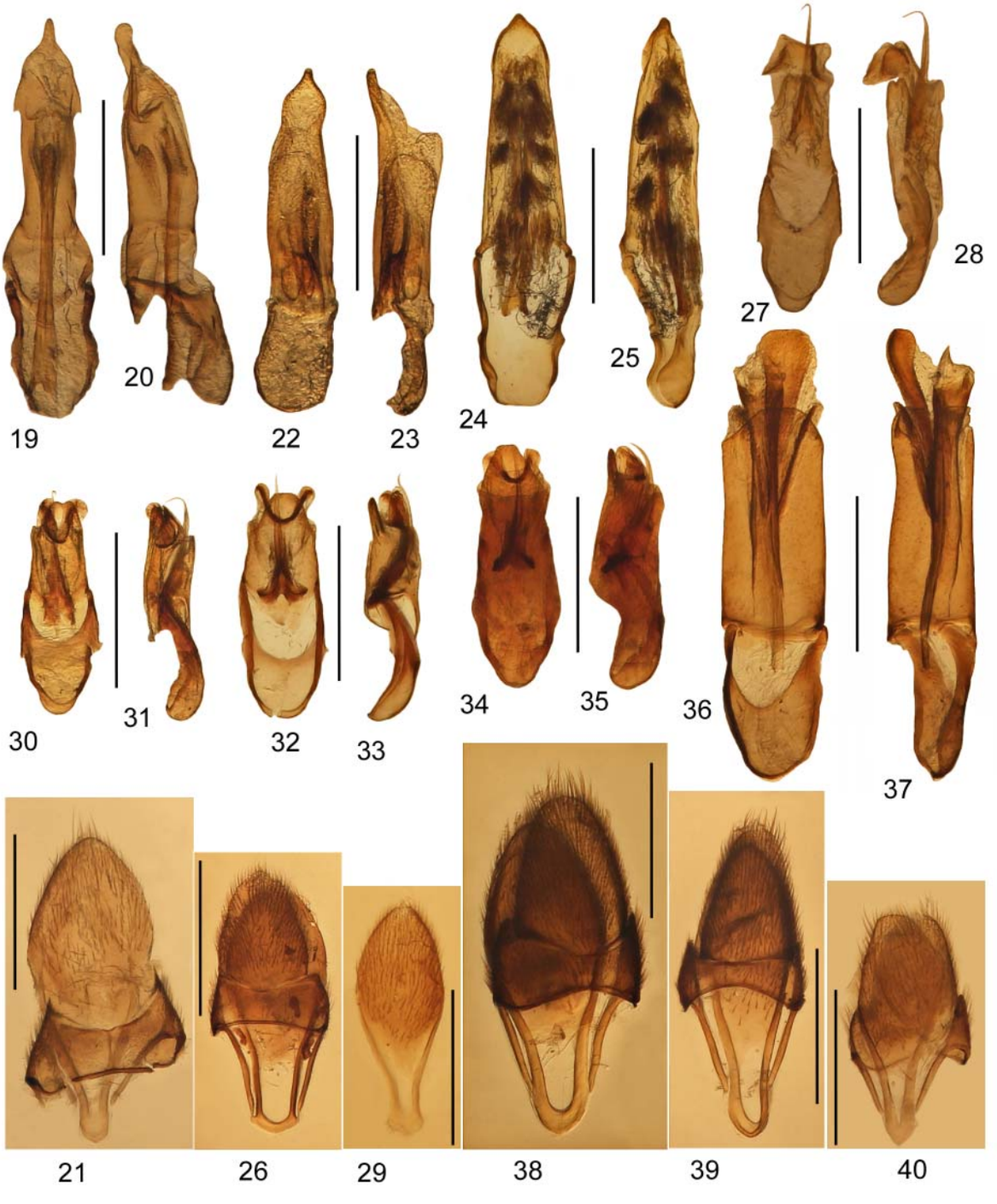
ETYMOLOGY. The new species is named after Dr. Sergey Belokobylsky (St-Petersburg) who collected the type series.

DIAGNOSIS. *Dihammatus belokobylskyi* **sp.n.** may be distinguished from the similar *D. hartmanni* **sp.n.** by the more elongate elytra (3.4x longer than wide at humeri) (Fig. 17), and by the distally almost straight in lateral view dorsal process of median lobe of aedeagus, with proximally widened phallobase (Figs 47, 48).

DISTRIBUTION. Northern Vietnam (Hoa Binh).

A key to *Dihammatus* of Indochina

1. Upperside uniformly or partly yellow- or orange-testaceous (Figs 1, 3) 2
— Upperside dark brown to black, sometimes with light brown pedicel and pronotal margins (Figs 5–18) 3
2. Upperside uniformly orange-testaceous (Fig. 1). Male hind trochanters acutely spinose (Fig. 2). Parameral tubulus of aedeagus distally produced into a helmet-shaped structure, with a pair of lateral teeth; male penultimate tergite with complete median suture (Figs 19–21) ..... *D. coomani*
— Pronotum brown, elytra with brown suture, brownish anterior third and yellow-testaceous distal two thirds (Fig. 3) ..... *D. fedorenkoi* **sp.n.**
3. Parameral tubulus of aedeagus distally produced into a helmet-shaped structure (Figs 19, 22, 24) 4
— Parameral tubulus distally without a helmet-shaped structure (e.g., Figs 32, 36) 5
4. Pronotal sides concave, ratio of elytral length to width ca. 4.0x (Fig. 5). Parameral tubulus asymmetric, constricted



Figs 19–40. Aedeagi and ultimate abdominal segments of *Dihammatus*, males: 19–21 — *D. coomani*; 22, 23 — *D. korotyaevi*; 24–26 — *D. gavryushini* **sp.n.**; 27–29 — *D. silvaticus*; 30 — 31, *D. tropicus*; 32, 33 — *D. siamensis* **sp.n.**; 34, 35 — *D. vernaculus* **sp.n.**; 36–38 — *D. kabakovi*; 39 — *D. laosensis* **sp.n.**; 40 — *D. loeiensis* **sp.n.**; 22–35, 39, 40 — holotypes; 19, 20, 22, 23–25, 27, 28, 30–37 — aedeagi, in dorsal and lateral views; 21, 26, 29, 38–40 — ultimate abdominal segments. Scale bars — 0.5 mm.

Рис. 19–40. Эдеагусы и вершинные брюшные сегменты *Dihammatus*, самцы: 19–21 — *D. coomani*; 22, 23 — *D. korotyaevi*; 24–26 — *D. gavryushini* **sp.n.**; 27–29 — *D. silvaticus*; 30 — 31, *D. tropicus*; 32, 33 — *D. siamensis* **sp.n.**; 34, 35 — *D. vernaculus* **sp.n.**; 36–38 — *D. kabakovi*; 39 — *D. laosensis* **sp.n.**; 40 — *D. loeiensis* **sp.n.**; 22–35, 39, 40 — голотипы; 19, 20, 22, 23–25, 27, 28, 30–37 — эдеагусы, сверху и сбоку; 21, 26, 29, 38–40 — вершинные брюшные сегменты. Масштабные линейки — 0,5 мм.

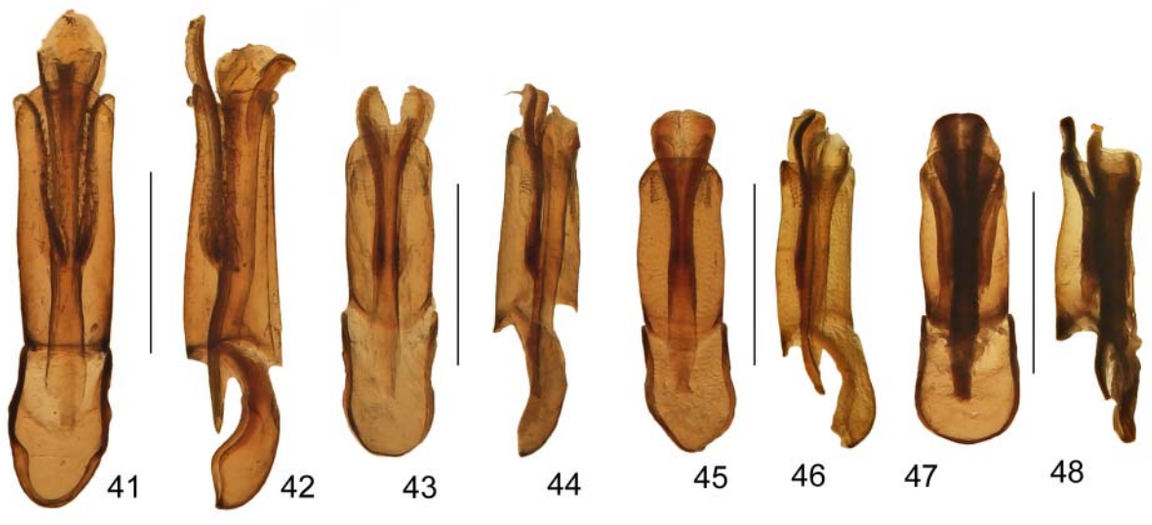


Fig. 41–48. Aedeagi of *Dihammatus*, holotype males, in dorsal and lateral views: 41, 42 — *D. laosensis* **sp.n.**; 43, 44 — *D. loeiensis* **sp.n.**; 45, 46 — *D. hartmanni* **sp.n.**; 47, 48 — *D. belokobylskyi* **sp.n.** Scale bars — 0.5 mm.
Рис. 19–40. Эдеагусы *Dihammatus*, голотипы, самцы, сверху и сбоку: 41, 42 — *D. laosensis* **sp.n.**; 43, 44 — *D. loeiensis* **sp.n.**; 45, 46 — *D. hartmanni* **sp.n.**; 47, 48 — *D. belokobylskyi* **sp.n.** Масштабные линейки — 0,5 мм.

before apex in dorsal view, its apex bent outwards in lateral view (Figs 22, 23) ..... *D. korotyaevi*

— Pronotal sides straight, ratio of elytral length to width ca. 3.5x (Fig. 6). Parameral tubulus symmetric, not constricted before apex in dorsal view, its apex straight in lateral view. Ultimate sternite slightly widened proximally, with narrow, broadly separated apophyses (Figs 24–26) ..... *D. gavryushini* **sp.n.**

5. Aedeagus with narrowed dorsal plate and long narrow more or less arcuate process of median lobe (Figs 27–35) 6

— Aedeagus without distally produced dorsal plate and without long narrow process of median lobe (e.g., Figs 36, 37) ... 10

6. Dorsal plate distally with median incision (Figs 27, 30) 7

— Dorsal plate distally truncate (Figs 32, 34) 9

7. Ratio of elytral length to width 3.4x. Distal process of median lobe short, not protruded and almost straight.....*D. kubani*

— Ratio of elytral length to width 3.1–3.2x (Figs 7, 8). Distal process of median lobe long, protruded and distally hooked (Figs 27, 28, 30, 31) 8

8. Pedicel light brown, distinctly lighter than antennomere 3 (Figs 7, 8). Distal hooks of median lobe protruded; their distal angle rounded in lateral view (Figs 27, 28) .....*D. silvaticus*

— Pedicel concolorous with antennomere 3 (Fig. 9). Distal hooks of median lobe invaginated; their distal angle pointed in lateral view (Figs 30, 31) .....*D. tropicus*

9. Antennomere 3 distinctly transverse (Fig. 10). Dorsal plate distally broader, at apex ca. 2.5x more narrow than at base, distal process of median lobe, in lateral view, first curved dorsally, then ventrally (Figs 32, 33) .....*D. siamensis* **sp.n.**

— Antennomere 3 about as long as wide (Figs 11, 12). Dorsal plate distally narrower, at apex ca. 3.7x more narrow than at base, distal process of median lobe, in lateral view, slightly curved only dorsally (Figs 34, 35) .....*D. vernaculus* **sp.n.**

10. Ratio of elytral length to width 3.6–3.8x (Figs 13, 14). Parameral tubulus distally with semi-circular margin (Figs 36, 41) 11

— Ratio of elytral length to width 3.1–3.4x (Figs 15–17). Parameral tubulus distally trapezoidal or medially incised (Figs 43, 45, 47) 12

11. Ratio of elytral length to width 3.6x. (Fig. 13). Dorsal process of median lobe of aedeagus distally narrow in lateral view, ventral process of median lobe distally straight (Figs 36, 37).....*D. kabakovi*

— Ratio of elytral length to width 3.8x. (Fig. 14). Dorsal process of median lobe of aedeagus distally swollen in lateral view, ventral process of median lobe distally bent outwards (Figs 41, 42) ..... *D. laosensis* **sp.n.**

12. Anterior pronotal margin semi-triangularly produced forward (Fig. 15). Parameral tubulus distally medially incised; dorsal process of median lobe of aedeagus distally first curved ventrally, then bent dorsally in lateral view (Figs 43, 44) ..... *D. loeiensis* **sp.n.**

— Anterior pronotal margin semi-circular (Figs 16–18). Parameral tubulus distally trapezoidal, with truncate distal margin; dorsal process of median lobe of aedeagus distally almost straight or bent inwardly in lateral view (Figs 45–48) 13

13. Ratio of elytral length to width 3.1x (Fig. 16). Dorsal process of median lobe of aedeagus distally bent inwardly in lateral view; phallobase proximally narrowed (Figs 45, 46) ..... *D. hartmanni* **sp.n.**

— Ratio of elytral length to width 3.4x (Figs 17). Dorsal process of median lobe of aedeagus distally almost straight in lateral view; phallobase proximally widened (Figs 47, 48) ..... *D. belokobylskyi* **sp.n.**

A checklist of *Dihammatus* of Indochina

1. *belokobylskyi* Kazantsev **sp.n.** Northern Vietnam (Hoa Binh).
2. *coomani* Pic, 1926: 74 (*Plateros*). Northern Vietnam (Hoa Binh).
3. *fedorenkoi* Kazantsev **sp.n.** Southern Vietnam (Lam Dong).
4. *gavryushini* Kazantsev **sp.n.** Southern Thailand (Trat).
5. *hartmanni* Kazantsev **sp.n.** Central Vietnam (Bach Ma NP), 1250–1200 m.

6. *kabakovi* Kazantsev, 1993: 44. Northern and central Vietnam, northern Laos.
7. *korotyaevi* Kazantsev, 1993: 44. Northern Vietnam (Thanh Hoa), 100 m.
8. *kubani* Bocáková, 2003: 175. Northern Laos (Louang Phrabang), 900–1200 m. (The aedeagus illustrated in Bocáková, 2003).
9. *laosensis* Kazantsev **sp.n.** Northeastern Laos (Hua Phan).
10. *loeiensis* Kazantsev **sp.n.** Northeastern Thailand (Loei).
11. *siamensis* Kazantsev **sp.n.** Northeastern Thailand (Loei).
12. *silvaticus* Kazantsev, 1993: 43. Southern Vietnam (Gialai Kontum).
13. *tropicus* Kazantsev, 1993: 43. Southern Vietnam (Gialai Kontum).
14. *vernaculus* Kazantsev **sp.n.** Northern Vietnam (Hoa Binh).

Discussion

Although *Dihammatus* species in most cases are readily distinguished from the equally small and generally similar *Plateros* by the short and subequal in length

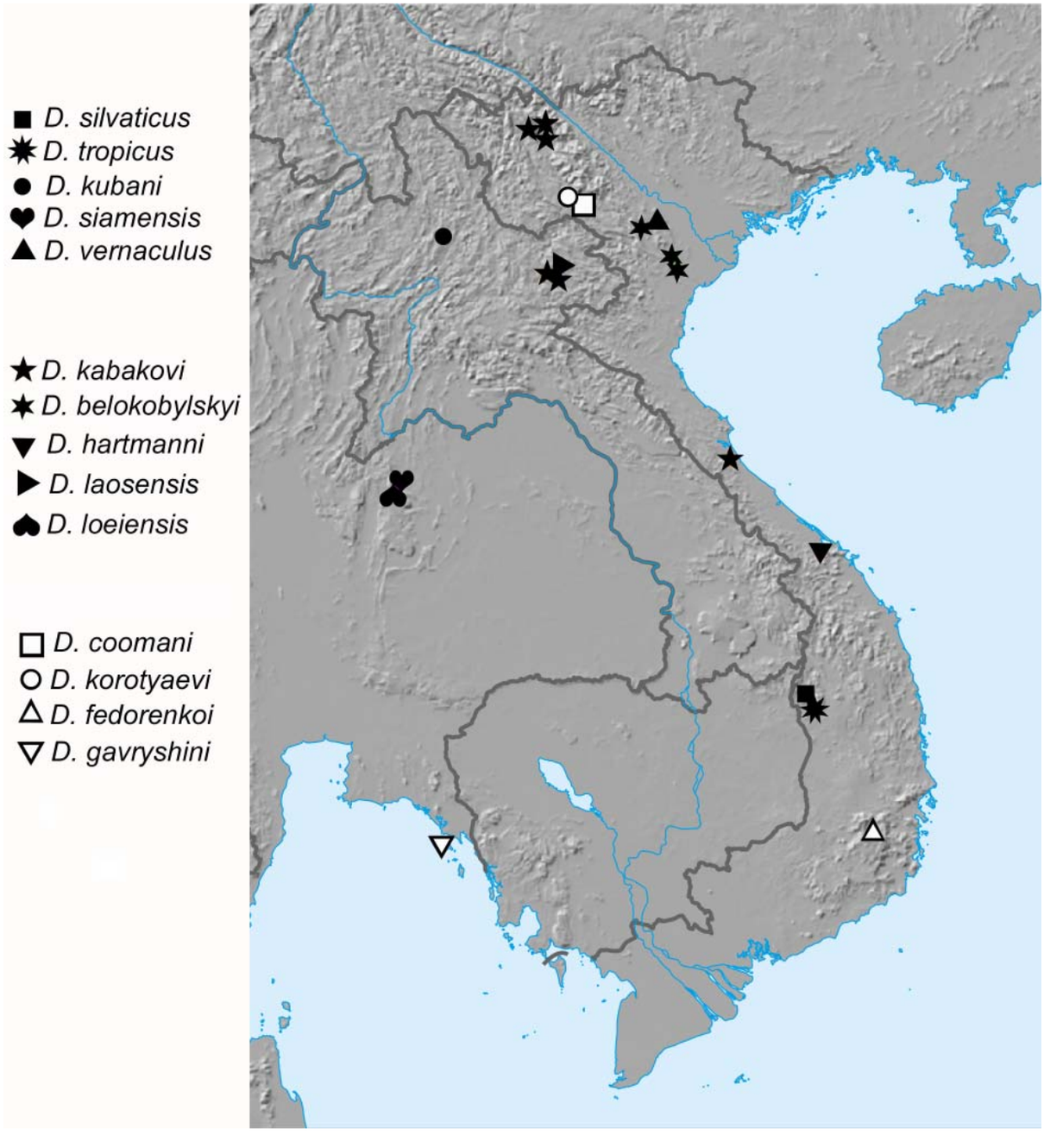


Fig. 49. Distribution map of *Dihammatus* species in Indochina.
Рис. 49. Карта распространения видов *Dihammatus* в Индокитае.

and width antennomeres 2 and 3, sometimes these antennomeres in *Plateros* are also short and subequal in structure, e.g., in *P. kleineanus* Nakane, 1971 and *P. pseudochinensis* Kazantsev, 2005 from Taiwan, *P. guttifer* Kazantsev, 2018 and *P. nyungwensis* Kazantsev, 2018 from Rwanda, *P. ablutus* Bourgeois, 1908 from Kenya, *P. bonneviei* Pic, 1924 from Congo, *P. hephaestus* Kazantsev, 2011 from Costa-Rica, etc. [Kazantsev, 1997, 2000, 2005, 2011, 2018; Matsuda, 2009]. Of course, a reliable way to distinguish a *Dihammatus* species from a *Plateros* would be to examine its male genitalia, always with an elongate sub-cylindrical parameral tubulus containing complex structures inside. Additionally, examining the pronotum and ultimate palpomeres of a *Dihammatus* species could also be helpful to recognise a *Dihammatus* species. Unlike in *Plateros*, the median pronotal furrow in *Dihammatus* is more distinctly outlined, the anterior area of the pronotum is coarsely punctured, sometimes rugulose, and the distal margin of the ultimate maxillary palpomere is provided with several glabrous denticuli. At the same time, however, to be sure that a seemingly new to science *Dihammatus* species has not been described already as *Plateros*, a study of the *Plateros* fauna of the region appears to be a necessity. To this end, a review of *Plateros* of Indochina has been done recently, with the majority of the primary types of the taxa examined [Kazantsev, 2021].

By the structure of their male genitalia, the *Dihammatus* species of Indochina seem to be divided into three groups, the *D. coomani* group, with a helmet-shaped structure atop of the parameral tubulus of the aedeagus (Figs 19, 22, 24), the *D. silvaticus* group, with a distally narrowed dorsal plate and long narrow arcuate process of median lobe of the aedeagus (Figs 27–35), and the *D. kabakovi* group, with the parameral tube that is not distally produced into narrowed dorsal plate and does not have a long narrow process of median lobe (e.g., Figs 36, 37).

The *D. coomani* group includes *D. coomani*, *D. korotyaevi* and *D. gavryushini* **sp.n.** Two of these species, *D. coomani* and *D. korotyaevi*, have the most elongate elytra in the studied male *Dihammatus*, 3.9 and 4 times longer than wide at humeri. In this respect it is probable that *D. fedorenkoi* **sp.n.**, where the male is not known, but the female of which is characterised by the even more elongate elytra (4.2 times longer than wide at humeri), also belongs in this group. However, judging by the shape and structure of the ultimate abdominal segments, where in one species (*D. coomani*), unlike in others, the penultimate tergite is divided by a median suture (Fig. 21), and in another (*D. gavryushini* **sp.n.**) the ultimate sternite is slightly widened proximally and has very narrow, broadly separated proximal apophyses (Fig. 26), the *D. coomani* group may turn out to be paraphyletic. Members of the *D. coomani* group are registered in the north (two species) and in the south (also two species) of the region (Fig. 49).

The *D. silvaticus* group includes *D. silvaticus*, *D. tropicus*, *D. kubani*, *D. siamensis* **sp.n.** and *D. vernaculus* **sp.n.** (Fig. 49). This group also seems to be separated by the widened (in a different way, not like in *D. gavryushini* **sp.n.** above) proximally ultimate ventrite (Fig. 29).

The *D. kabakovi* group includes the remaining *D. kabakovi*, *D. belokobylskyi* **sp.n.**, *D. hartmanni* **sp.n.**, *D. laosensis* **sp.n.** and *D. loeiensis* **sp.n.** (Fig. 49).

Acknowledgements. I would like to thank Dr. Matthias Hartmann (NME) and Dr. Boris A. Korotyaev (ZIN) through whose courtesy I was able to study the *Dihammatus* material under their supervision. I am also grateful to Dr. Dmitry N. Fedorenko (Moscow, Russia), Dr. Dmitry I. Gavryushin (Naro-Fominsk, Russia) and Dr. Carolus Holzschuh (Villach, Austria) who generously handed over beautiful lycid material collected in Thailand, Laos and Vietnam.

References

Bocáková M. 2003. New Libnetini from China, Nepal and Laos (Coleoptera: Lycidae) // Biologia, Bratislava. Vol.58. P.173–177.

Bourgeois J. 1891. Études sur la distribution géographique des Malacodermes // Annales de la Société entomologique de France. Vol.60. P.337–364 (+ 1 carte).

Kazantsev S.V. 1992. To the knowledge of oriental Cantharoidea (Coleoptera). On the Lycidae of Himalaya. Part II // Entomologica Basiliensia. Vol.15. P.261–266.

Kazantsev S.V. 1993. *Dihammatus* C.O. Waterhouse (Coleoptera, Lycidae) of Indochina // Russian Entomological Journal. Vol.2. No.1. P.41–45.

Kazantsev S.V. 1997. Sur le sous-genre *Planeteros* (Coleoptera, Lycidae) // Revue française d'Entomologie (N.S.). Vol.19. Nos.1–2. P.7–17.

Kazantsev S.V. 2000. To the knowledge of the African subgenus *Planeteros* of the genus *Melaneros* (Coleoptera, Lycidae) // Beiträge für Entomologie, Berlin. Bd.50. H.1. P.103–118.

Kazantsev S.V. 2005. Contribution to the knowledge of the genus *Plateros* (Lycidae, Coleoptera) // Russian Entomological Journal. Vol.13. No.4 (2004). P.237–244.

Kazantsev S.V. 2011. New and little known taxa of Platerotini, with a note on biogeography of the tribe (Lycidae, Coleoptera) // Russian Entomological Journal. Vol.20. No.2. P.151–187. https://doi.org/10.15298/rusentj.20.2.07

Kazantsev S.V. 2018. A checklist of *Plateros* Bourgeois, 1879 from Africa, with description of new species (Coleoptera: Lycidae) // Russian Entomological Journal. Vol.2. No.1. P.19–32. https://doi.org/10.15298/rusentj.27.1.04

Kazantsev S.V. 2021. A review of *Plateros* Bourgeois, 1879 of Indochina (Coleoptera: Lycidae) // Russian Entomological Journal. Vol.30. No.1. P. 47–73. https://doi.org/10.15298/rusentj.30.1.07

Kleine R. 1933. Pars 123: Lycidae // Coleopterorum Catalogus auspiciis et auxilio W. Junk editus a Schenkling. Berlin, W. Junk. 145 p.

Kusy D., Motyka M., Bocek M., Macek M., Bocak L. 2019. Phylogenomic analysis resolves the relationships among net-winged beetles (Coleoptera: Lycidae) and reveals the parallel evolution of morphological traits // Systematic Entomology. Vol.44. P.911–925. https://doi.org/10.1111/syen.12363

Matsuda K. 2009. Notes on the lycid genus *Plateros* (Coleoptera: Lycidae: Platerodinae) from East Asia, III. Two sp.n. of the *Plateros chinensis* complex in Taiwan // Entomological Review of Japan. Vol.64. No.2. P.161–172.

Nakane T. 1971. Formosan Lycidae in the collection of the California Academy of Sciences (Insecta, Coleoptera) // Bulletin of the National Museum of Nature and Science Series A (Zoology). Vol.14. No.2. P.137–155.

Nakane T. 1973. Notes on Formosan Lycidae described by Maurice Pic in the collection of the "Museum National d'Histoire Naturelle", Paris (Insecta: Coleoptera) // Bulletin of the National Museum of Nature and Science Series A (Zoology). Vol.16. No.1. P.9–14.

Pic M. 1926. Coléoptères exotiques nouveaux ou peu connues // Annales de la Société Linnéenne de Lyon. Vol.72. P.73–77.

Waterhouse C.O. 1879. Illustrations of Typical Specimens in the Collection of the British Museum. Part 1 – Lycidae. London: Taylor and Francis. 93 p.