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NEW FOR THE RUSSIAN FAUNA DARWIN WASPS (HYMENOPTERA: ICHNEUMONIDAE) FROM PRIMORSKY KRAI AND SAKHALIN ISLAND

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Summary. *Brachyzapus striatus* Humala, **sp. n.** is described and illustrated from Primorsky Krai. Three genera: *Nematopodius* Gravenhorst, 1829, *Seticornuta* Morley, 1913 and *Chriodes* Förster, 1869 and six species of ichneumonid wasps: *Acroricnus nigriscutellatus* Uchida, 1930, *Nematopodius flavoguttatus* Uchida, 1930, *Colpotrochia osuzensis* Kusigemati, 1971, *Seticornuta koreana* Lee et Choi, 2015, *Brachyzapus pyramidalis* Choi et Lee, 2019, *Chriodes xinbinensis* Sheng et Sun, 2014 are reported from Russia for the first time.

Key words: parasitoid wasps, fauna, new records, taxonomy, new species, East Palaearctic.

А. Э. Хумала Новые для российской фауны виды наездников-ихневмонид (Hymenoptera: Ichneumonidae) из Приморского края и острова Сахалин // Дальневосточный энтомолог. 2023. N 484. С. 1-8.

Резюме. Из Приморского края описан и проиллюстрирован *Brachyzapus striatus* Humala, **sp. n.** Три рода: *Nematopodius* Gravenhorst, 1829, *Seticornuta* Morley, 1913 and *Chriodes* Förster, 1869 и шесть видов наездников-ихневмонид: *Acroricnus nigriscutellatus* Uchida, 1930, *Nematopodius flavoguttatus* Uchida, 1930,

Colpotrochia osuzensis Kusigemati, 1971, *Seticornuta koreana* Lee et Choi, 2015, *Brachyzapus pyramidalis* Choi et Lee, 2019 и *Chriodes xinbinensis* Sheng et Sun, 2014 впервые приводятся для России.

INTRODUCTION

The Far Eastern fauna of ichneumon wasps has not yet been sufficiently studied, and this is especially pronounced for the Russian territory, due to the huge species diversity of this family, as well as the small number of specialists on this group in the country and their complete absence in the Far East. This became particularly evident after the publication of the Catalogues of Hymenoptera of the Russian Far East (Kasparyan *et al.*, 2012) and all of Russia (Khalaim *et al.*, 2019). Taking into account that in recent years the ichneumonid fauna has been actively studied in Japan, China, and South Korea, it can be assumed that a significant number of taxa previously unknown in Russia can be revealed here in the Far East, both in taxonomically untreated collections of many subfamilies and in new collected materials from this area.

Within the framework of the present study, in addition to numerous species of Ichneumonidae previously reported from the Russian Far East, species not included in the recently published Annotated Catalogue of Hymenoptera (Khalaim *et al.*, 2019) were found. Among them, several new species have been identified, some have already been described (Humala, 2020; Humala *et al.*, 2020), and another is given in this publication.

MATERIAL AND METHODS

The original material for this study was obtained during two expeditions to Sakhalin Island in July 2009 and to Primorsky Krai in September 2019, as well as during a field trip to the Vityaz Bay (Primorsky Krai) after the IV Eurasian Symposium on Hymenoptera, held at September 9–15, 2019 in Vladivostok. A net and a portable Malaise trap were used as collection methods.

The morphological terminology generally follows Broad *et al.* (2018). Photographs of the new species were taken at the Forest Research Institute KRC RAS with a LOMO MC-6.3 digital camera attached to a Leica MZ9.5 stereomicroscope. Multifocus-images were combined with Helicon Focus Pro software (ver. 8). Materials on the new species and new finds have been deposited in the collection of Zoological Institute of Russian Academy of Sciences, St Petersburg, Russia (ZISP).

RESULTS

Family Ichneumonidae Latreille, 1802

Subfamily Cryptinae Kirby, 1837

Genus *Acroricnus* Ratzeburg, 1852

NOTE. The genus distributed worldwide, excluding Afrotropical and Australasian regions, two species were known in Russia.

***Acroricnus nigriscutellatus* Uchida, 1930**

MATERIAL EXAMINED. **Russia:** Primorsky Krai, Khasanskiy District, Gamov Cape, Vityaz Bay, 42.596° N, 131.189° E, 14.IX 2019, 1♀, A. Humala leg. (ZISP).

DISTRIBUTION. Eastern Palaearctic (China, Japan, South Korea). This species is new to Russia.

Genus *Nematopodius* Gravenhorst, 1829

NOTE. The genus occurs in the Palaearctic, Oriental and Australasian regions; reported from Belarus and Georgia, new to Russia.

***Nematopodius (Nematopodius) flavoguttatus* Uchida, 1930**

MATERIAL EXAMINED. **Russia:** Primorsky Krai, Nadezhdinskiy District, 7 km NW Razdol'noe, Pravaya Klyopohnaya River, 44.574° N, 131.849° E, 5.IX 2019, 1♀, A. Humala leg. (ZISP).

DISTRIBUTION. Eastern Palaearctic (China, Japan, South Korea). New to Russia.

Subfamily Metopiinae Förster, 1869

Genus *Colpotrochia* Holmgren, 1856

NOTE. Predominantly Holarctic, Oriental and Neotropical genus with seven species known in Russia.

***Colpotrochia osuzensis* Kusigemati, 1971**

MATERIAL EXAMINED. **Russia:** Sakhalin Isl., Shebunino surr., 46.421° N, 141.870° E, 21.VII 2009, 1♀, A. Humala leg. (ZISP).

DISTRIBUTION. Eastern Palaearctic (Japan, South Korea). New to Russia.

Genus *Seticornuta* Morley, 1913

NOTE. The genus is known in the Palaearctic, Oriental, Nearctic and Neotropical regions (Yu *et al.*, 2012). New to Russia.

***Seticornuta koreana* Lee et Choi, 2015**

MATERIAL EXAMINED. **Russia:** Primorsky Krai, Khasanskiy District, Gamov Cape, Vityaz Bay, 42.596° N, 131.189° E, 13.IX 2019, 1♂, A. Humala leg. (ZISP).

DISTRIBUTION. Eastern Palaearctic (South Korea). This species is reported from Russia for the first time.

NOTES. Watanabe (2015) synonymized *Seticornuta koreana* Lee et Choi, 2015 with *S. nigra* Sheng et Sun, 2013, described from China (Sheng *et al.*, 2013), though later Choi & Lee (2017) showed validity of *S. koreana* basing on the original descriptions of both species. The Russian male specimen is comparatively large (body length 12.0 mm, forewing length 9.5 mm); antenna with 48 flagellomeres, as long as two thirds of body length; malar space length 0.7 times as long as basal width of mandible; propodeum 0.6 times as long as wide, area basalis of propodeum is separated from the area superomedia by a distinct transverse carina. Now it is difficult to confirm or reject the synonymy of *S. koreana*, as comparison of type specimens and the study of additional materials with probable using DNA barcoding are required.

Subfamily Nesomesochorinae Ashmead, 1905

Genus *Chriodes* Förster, 1869

NOTE. Predominantly Oriental genus with 28 species; three species are known in the Afrotropical region and one species, namely *Chriodes xinbinensis* Sheng et Sun, 2014, was reported from the Palaearctic China (Sheng & Sun, 2014). New to Russia.

***Chriodes xinbinensis* Sheng et Sun, 2014**

MATERIAL EXAMINED: **Russia:** Primorsky Krai., 9 km W Spassk-Dalniy, 44.594° N 132.678° E, *Quercus* forest, 4.IX.2019, 1♀, A. Humala leg. (ZISP).

DISTRIBUTION. Eastern Palaearctic (China-Liaoning). The genus and the species are reported for the first time for the fauna of Russia. It is the second genus of the subfamily Nesomesochorinae found in Russia and the second species of the subfamily in the Russian fauna.

Subfamily Pimplinae Wesmael, 1845

Genus *Brachyzapus* Gauld et Dubois, 2006

NOTE. Palaearctic, Oriental and Afrotropical genus. Three species were known from Russia.

***Brachyzapus pyramidalis* Choi et Lee, 2019**

MATERIAL EXAMINED: **Russia:** Sakhalin Isl., Shebunino surr., 46.4212° N, 141.8701° E, Malaise trap, 21–24.VII.2009, 1♀, A. Humala leg. (ZISP).

DISTRIBUTION. Eastern Palaearctic (South Korea). New to Russia.

NOTE. The Russian female specimen is large, body length 12.5 mm, forewing 10.2 mm, and hind femur is reddish brown, infuscate posteriorly, which contradict the original description of the species, although it may be considered as an intraspecific variation.

***Brachyzapus striatus* Humala, sp. n.**

<https://zoobank.org/NomenclaturalActs/909A36FE-3BD8-4E21-A760-A419FE26114E>

Figs 1– 5

TYPE MATERIAL: Holotype – ♀, **Russia**: Primorsky Krai, Khasanskiy District, Gamov Cape, Vityaz Bay, 42.607° N, 131.192° E, 13.IX 2019, A. Humala leg. (ZISP).

DESCRIPTION. **Female**. Fore wing 6.2 mm, body length 9.2 mm (Fig. 1).

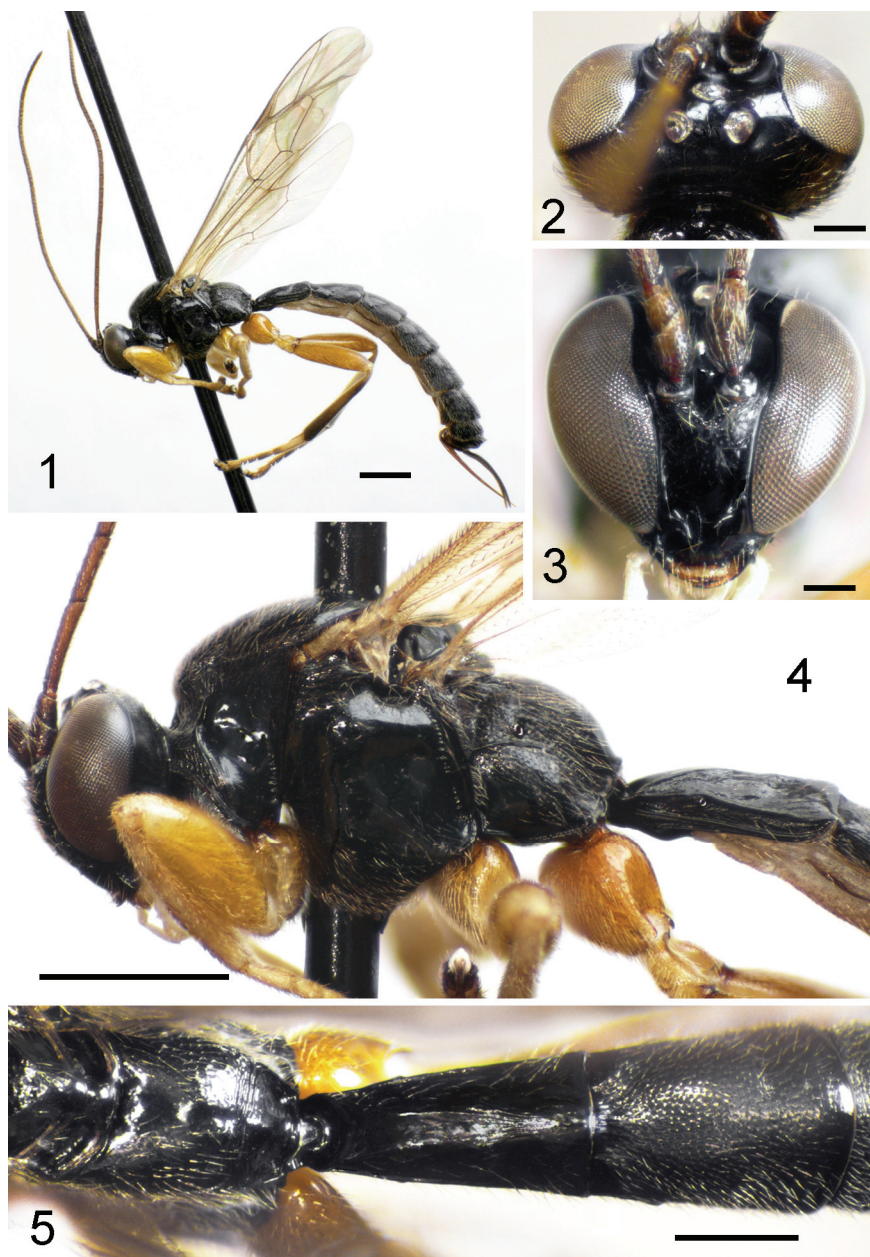
Head. Head distinctly narrowed behind eyes, nearly as wide as high. Frontal orbits strongly convergent downwards, weakly excavated at the level of antennal sockets (Fig. 3), facial margins subparallel. Minimum face width $0.3 \times$ head width. Face smooth, sparsely punctured, the distance between punctures longer than their diameter; clypeus more sparsely punctured. Face and clypeus pubescent, hairs length as long as flagellum diameter. Frons shiny, without punctures, somewhat concave. Antenna as long as fore wing, with 28 elongate flagellomeres; first flagellomere $5.7 \times$ as long as wide. Ocelli of moderate size, maximum diameter as long as distance between lateral ocellus and eye; postocellar line $0.9 \times$ as long as maximum diameter of lateral ocellus (Fig. 2). The level of posterior margins of ocelli is clearly in front of the level of posterior eyes margins. Temple moderately short, $0.6 \times$ as long as the width of compound eye. Occipital carina complete, connected to hypostomal carina far from base of mandible. Clypeus with thin apical ridge. Mandible bidentate with teeth weakly twisted, upper tooth distinctly longer than lower tooth. Malar space $0.2 \times$ as long as basal width of mandible.

Mesosoma. Mesosoma $1.4 \times$ as long as maximum height. Pronotum polished with strong curved epomia, striated in front of epomia and sparsely punctured along upper margin (Fig. 4). Mesoscutum punctured; notauli deep, reaching the middle of mesoscutum. Lateral margin of mesoscutum behind tegula strongly widened, lamelliform. Scutellum moderately and evenly convex, bordered by carinae in anterior half.

Mesopleuron smooth, with swelling below subtegular ridge (Fig. 4). Epicnemial carina ended near middle of mesopleuron far from its front margin. Sternauli not developed. Mesosternum sparsely punctured with whitish setae. Propodeum with reduced carinae, excluding pleural carinae and posterior stubs of lateral longitudinal carinae; at the site of posterior transverse carina transversely striated (Fig. 5). Propodeal spiracle oval, separated from pleural carina by its minimum diameter length. Metapleurum polished in lower half, upper part with punctures and hairs; submeta-pleural carina strong, angularly bent in anterior 0.4 .

Legs. Legs stout, fore femur inflated. Hind femur $4.2 \times$ as long as maximum width; fifth tarsomeres enlarged, claws simple. The ratio between the lengths of the hind tarsomeres are 63:30:18:11:28.

Wings. Fore wing without areolet, second recurrent vein (2m-cu) with two bullae. Nervulus (1cu-a) clearly postfurcal, first subdiscal cell somewhat widened posteriorly; parallel vein connects to postnervulus below the middle. Nervellus (CU+cu-a) strongly reclivous, intercepted in the middle; subbasal cell in the upper half is almost hairless.



Figs 1–5. *Brachyzapus striatus* Humala, **sp. n.**, ♀, holotype. 1 – habitus, lateral view, scale bar 1.0 mm; 2 – head, dorsal view, scale bar 0.2 mm; 3 – head, frontal view, scale bar 0.2 mm; 4 – head, mesosoma and first tergite, lateral view, scale bar 1.0 mm; 5 – propodeum and basal tergites, dorsal view, scale bar 0.5 mm.

Metasoma. First tergite subpolished, $1.9 \times$ as long as maximum width posteriorly, with glymmae (Fig. 4). Median dorsal carinae converge towards the posterior quarter of the tergite, forming a longitudinally striated area in the middle, not reaching posterior margin of tergite (Fig. 5). Lateral carina extends above the spiracle, reaching posterior margin of tergite. First sternite convex in profile, ended at the level of spiracles. Second metasomal tergite $1.4 \times$ as long as maximum width posteriorly, more coarsely sculptured; basolateral corners separated by shallow oblique grooves. Ovipositor slightly upcurved, evenly tapered to sharp point, sheath length $0.8 \times$ as long as hind tibia (Fig. 1).

Color. Body black; maxillary and labial palps, dorsoposterior corner of pronotum, tegula and base of wings yellowish. Legs yellowish; hind coxa and femur yellowish-brown; hind tibia fuscous with proximal pale band and light medial part; tibial spurs and first tarsomere in basal $\frac{3}{4}$ and basal third of second tarsomere pale. Antennae, mandibles, ovipositor and pterostigma brown. All tergites with very narrow yellowish posterior edge.

Male. Unknown.

DIAGNOSIS. *Brachyzapus striatus* **sp. n.** closely related to *B. convergens* Choi et Lee, 2019, sharing with it strongly convergent downwards inner orbits and short malar space, but can be distinguished from the latter by more stout metasomal tergites without yellowish posterior margins; postfurcal nervellus; nervellus intercepted in the middle (vs. in upper third); the second tarsomere of hind leg is longer than the fifth tarsomere (vs. the fifth tarsomere is longer than the second tarsomere); propodeum with transverse striae, hind femur $4.2 \times$ as long as wide (vs. $3.8 \times$); ovipositor longer and slightly upcurved sheath $0.8 \times$ as long as hind tibia (vs. $0.6 \times$), and coloration of antenna, hind legs and tergites. From other *Brachyzapus* species occurring in the Palearctic and keyed by Choi *et al.* (2019), the new species differs: from *B. atripedalis* (Sheng, 2001), *B. politus* Pham, Broad, Matsumoto et Wägele, 2012, *B. pyramidalis* Choi et Lee, 2019 and *B. tenuiabdominalis* (Uchida, 1941) in more strongly convergent downwards inner orbits, shorter malar space and coloration of the body; from *B. nikkoensis* (Uchida, 1928) and *B. nitidus* (Hao et Sheng, 2002) in black scutellum, postscutellum and posterior margins of tergites; from *B. nitidus* and *B. uncarinatus* (Uchida et Momoi, 1958) in lacking posterior transverse carina of propodeum, and more stout hind femur, $4.2 \times$ as long as wide (vs. $5.0\text{--}6.0 \times$).

DISTRIBUTION. The new species is currently known only from the type locality in the Russian Far East (south part of Primorsky Krai).

ETYMOLOGY. The species is named after the striation on propodeum, postpetiole and anterior pronotum.

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