

**A new species of the genus *Astiphromma* Förster
(Hymenoptera: Ichneumonidae: Mesochorinae) from Primorsky Krai**

**Новый вид рода *Astiphromma* Förster
(Hymenoptera: Ichneumonidae: Mesochorinae) из Приморского края**

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Abstract. A new species of Darwin wasps *Astiphromma leleji* sp.n. is described from Primorsky Krai of Russia. It belongs to the morphologically distinct “*dorsale* group” of species. The new species differs from most previously known members of the genus in this group by its completely reddish orange body.

Резюме. Из Приморского края России описан новый для науки вид Дарвиновских наездников *Astiphromma leleji* sp.n., принадлежащий к морфологически обособленной группе видов *dorsale*, описание проиллюстрировано фотографиями. Новый вид отличается от большинства уже известных представителей рода, входящих в данную группу, красно-оранжевой окраской тела.

Introduction

Astiphromma Förster, 1869 is a moderately large genus of Darwin wasps belonging to the subfamily Mesochorinae, distributed in the Holarctic and Oriental regions [Yu et al., 2016]. The genus comprises about 60 species in the world fauna, 40 species in the Palaearctic Region, of which 17 species are recorded in the Eastern Palaearctic; eight species are found in the Oriental region [Riedel, 2015, 2019; Yu et al., 2016]. The Japanese fauna includes 14 species of the genus *Astiphromma*, and the South Korean fauna — eight species [Uchida, 1929; Nakanishi, 1969; Lee, 1992; Lee et al., 1994]. Twenty-seven *Astiphromma* species are known in Russia, and 18 species occur in the Russian Far East [Riedel, Kasparyan, 2018; Khalaim, 2019].

The representatives of the genus are known as endoparasitoids and hyperparasitoids of the Braconidae (Hymenoptera), Ichneumonidae (Hymenoptera) and Tachinidae (Diptera). Most of the known species described from Western Palaearctic, the European species were revised by Schwenke [1999, 2004], and subsequently some nomenclature corrections were made by Horstmann [2006]. Riedel [2015] provides recent revision with a more complete key to the Western Palaearctic

Astiphromma species. The Japanese species of the genus were reviewed by Nakanishi [1969], who described five *Astiphromma* species from Japan and divided the genus into two groups (A and B) basing on the morphology of scutellum, first metasomal tergite and occipital carinae.

The *dorsale* species group (= B-group *sensu* Nakanishi), revised by Lee [1992], contains twelve species, distributed predominantly in the Eastern Palaearctic and Oriental regions [Riedel, 2019]. Five of them, namely *Astiphromma dorsale* (Holmgren, 1860), *A. hirsutum* (Bridgman, 1883), *A. japonense* Lee, 1992, *A. paradorsale* Riedel et Kasparyan, 2018 and *A. watanabei* (Uchida, 1929), are known to occur in Russia [Khalaim, 2019]. The *dorsale* species group of *Astiphromma*, characterised by a posterior protrusion on the scutellum, has been found as primary parasitoids of Tachinidae (Diptera), with the specialized shape of the scutellum being used to emerge from the tachinid puparium [Riedel, 2015]. The new *Astiphromma* species, discovered in the Russian Far East, also belongs to this group.

Materials and methods

The original material for this study was collected by the author during his expedition to Primorsky Krai in September 2019 by sweep netting in oak planting in vicinity of Ussuriysk.

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 using Helicon Focus Pro software (ver. 8.3).

The holotype of the new species is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia (ZISP).

The present work is registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:00D31310-F15A-4325-937F-B10D31037CC4

Results

Ichneumonidae Latreille, 1802

Mesochorinae Förster, 1869

Astiphromma Förster, 1869

Astiphromma leleji Humala, sp.n.

Figs 1–5.

<https://zoobank.org/NomenclaturalActs/7D2A8ACB-1926-4800-8A60-D53AEE192F54>

Material. Russia, Primorsky Krai: Holotype Female, Nadezhdinskiy Distr., 25 km SSW of Ussuriysk, Stary Stream, 43.567°N, 131.846°E, 5.IX.2019, leg. A. Humala (ZISP).

Description. Female. Fore wing length 7.9 mm, body length 8.5 mm (Fig. 1).

Antenna slender, distinctly longer than body, with 44 flagellomeres; first flagellomere 6.3 times as long as wide; second flagellomere 3.7 times as long as wide; preapical flagellomeres twice longer than wide. Frons with several transverse wrinkles behind antennal sockets and with a few wrinkles along outer edges of antennal sockets (Fig. 2). Temple strongly and roundly narrowed behind eye, dorsally about 0.35 times as long as eye width. Ocelli large, distance from lateral ocellus to eye 0.9 times ocellar diameter; postocellar distance 0.67 times as long as maximum diameter of lateral ocellus (Fig. 3). Occipital carina complete. Face coarsely punctate (except narrow middle part) and finely granulate, width 1.05 times length of face and clypeus combined and 0.9 times eye length; inner orbits slightly divergent ventrally (Fig. 2). Clypeus fused with face, sparsely punctate, anterior margin convex; anterior tentorial pits moderately large. Mandible short and stout, with two equal teeth, palps long. Malar space 0.4 times as long as basal mandibular width. Genal carina reaching hypostomal carina at distance from mandibular base.

Mesosoma 1.36 times as long as high, with dense pale setae (Fig. 4). Mesoscutum finely punctate, notaulus shallow. Epomia present. Mesopleuron with dense and fine punctures dorsally and with fine rather scattered setiferous punctures ventrally, speculum smooth. Epicnemial carina reaching midheight of mesopleuron. Sternaulus well developed in anterior 0.4 of mesopleuron; episternal scrobe deeply impressed. Metapleuron with superficial and moderately dense punctures. Scutellum with lateral carina present in anterior 0.25 and with strong sharply pointed tubercle posteriorly. Carination of propodeum complete (Fig. 5). Area basalis transverse, nearly rectangular, 1.6 times wider than long. Area superomedia 1.2 times longer than wide, narrowed posteriorly; costula reaching area superomedia in its anterior 0.2 (Fig. 5). Propodeal spiracle large, located at 0.4 of its diameter from pleural carina and connected to it by short ridge.

Hind femur 5.3 times longer than wide; hind metatarsus 0.44 times as long as hind tibia; inner spur of hind tibia 0.65 times as long as basitarsus; tarsomeres 1–5 ratio as 54 : 24 : 19 : 14 : 18; all tarsal claws bearing three long teeth.

Fore wing with areolet slightly wider than long, shortly stemmed; second recurrent vein (*2m-cu*) slightly proximal to areolet middle. Radius (*2r&RS*) joining pterostigma nearly at its middle; nervulus (*1cu-a*) postfurcal. Hind wing with four basal hamuli and seven distal hamuli. Nervellus of hind wing reclivous, intercepted below its middle, vein *Cu* 1.6 times as long as vein *cu-a*; discoidella distinct.

Metasoma with first tergite 2.1 times as long as wide posteriorly, with deep glymma and some fine transverse ridges in front of glymma; dorsal carina distinct, situated ventrad of spiracle. Second tergite 0.85 times as long as wide posteriorly; thyridium indistinct. Ovipositor thin, downcurved (Fig. 1); sheath entirely pilose, ca. 9.0 times as long as wide and 1.05 times as long as hind metatarsus, gradually narrowed apically.

Color. Body reddish orange. Clypeus, lower part of face, mandible except teeth, malar space, lower gena and mouth parts, tegula, wing bases and fore and mid coxae, trochanters and trochantelli cream-yellowish. Propleuron, rest of fore and mid legs and hind trochanters yellowish. Tergites reddish-orange, slightly lighter posteriorly; sternites 2–4 cream yellow medially. Wings hyaline, veins and pterostigma brown.

Male. Unknown.

Comparative diagnosis. This species differs from its congeners belonging to the *dorsale*-group by its reddish orange ground color of the body. From the closely allied *A. unicolor* Uchida, 1933, having similar color pattern, the new species differs in wider area superomedia of propodeum (1.2 times as long as wide vs. 1.9 times in *A. unicolor*), hind wing with vein *Cu* 1.6 times as long as vein *cu-a* (2.6 times in *A. unicolor*), slightly stouter basal tergites (first tergite 2.1 times as long as wide and second tergite 0.85 times as long as wide vs. 2.3 and 0.95 times respectively in *A. unicolor*) and hind femur (5.3 times as long as wide vs. 5.6 times in *A. unicolor*), and in less size — 8.5 mm (10.4 mm in *A. unicolor*). Clypeus, mandible, lower part of gena and mouth parts of the new species whitish vs. yellowish brown to yellow in *A. unicolor*. Unlike *A. himalayaensis* Riedel, 2019 also having similar body color, the new species has face width 0.9 times of eye length (0.73 times in *A. himalayaensis*), first tergite 2.1 times as long as wide posteriorly (2.8 times in *A. himalayaensis*) and fore wing with areolet shortly stemmed (sessile in *A. himalayaensis*).

Distribution. Russia (Primorsky Krai).

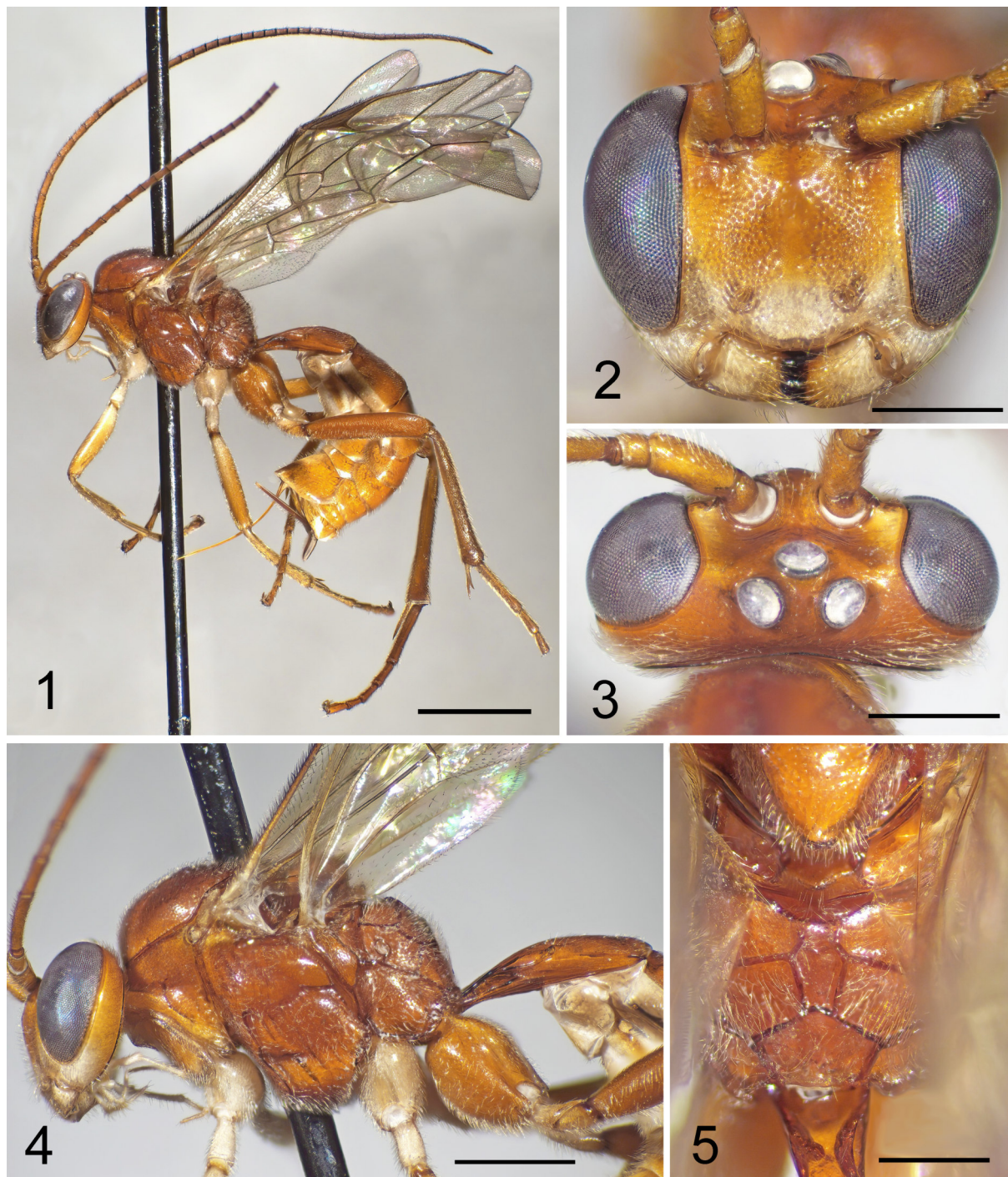
Etymology. I am pleased to name this species in honor of Dr. Arkady Stepanovich Lelej — a renowned Russian hymenopterist, an expert in Mutillidae — in recognition of his contribution to the study of the World Hymenoptera, and his 80th anniversary.

Remarks. The original description of *A. unicolor* [Uchida, 1933: 56] is very brief, however, characters such as “Area superomedia shmal und lang”, “Bohrer dick, kürzer als das erste Segment. Körperlänge: 10 mm.” clearly do not fit to the new species. The description provided by Lee [1992: 228] is based only on two non-type male specimens from Japan and Taiwan, but he did not study female. In particular, he noted in the key that “Malar space female, 0.7x the basal width of mandible... Tergite 1 of abdomen with lateral area in front of glymma smooth. Glymma very small.”, and these characters do not correspond to either type of *A. unicolor* or *A. leleji* sp.n.

The photographs of the type specimen of *A. unicolor* available on the Ehime University Museum’s website [Konishi, 2026] are of fairly low resolution; however, thanks to Japanese colleagues, I was able to obtain more detailed photographs of this specimen, which allowed me to reveal additional morphological characteristics distinguishing the new species and to include them in the diagnosis.

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Figs 1–5. *Astipbromma leleji* sp.n., female, holotype. 1 — habitus, lateral view; 2 — head, front view; 3 — head, dorsal view; 4 — head and mesosoma, lateral view; 5 — propodeum, dorsal view. Scale bars: 1 — 2.0 mm, 2, 3, 5 — 0.5 mm, 4 — 1.0 mm.

Рис. 1–5. *Astipbromma leleji* sp.n., самка, голотип. 1 — габитус, вид сбоку; 2 — голова, вид спереди; 3 — голова, вид сверху; 4 — голова и мезосома, вид сбоку; 5 — промежуточный сегмент, вид сверху. Масштаб: 1 — 2,0 мм, 2, 3, 5 — 0,5 мм, 4 — 1,0 мм.

Toyohashi, Japan) for the useful discussion and photographs they sent of the type of *A. unicolor*, which enabled to make a comparison with the new species.

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