

# First record of the genus *Hartemita* Cameron from Russia with description of a new species from the south of the Russian Far East (Hymenoptera: Braconidae, Cardiochilinae)

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The genus *Hartemita* Cameron, 1910 is recorded from Russia for the first time. *Hartemita spasskensis* sp. n. is described from the Primorsk Territory of Russia. A key to Palaearctic species of *Hartemita* and a review of Cardiochilinae occurring in Russia are given.

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## Introduction

The genus *Hartemita* Cameron with the type species *H. laticeps* Cameron was described from Central Sumatra, Indonesia (Cameron, 1910). The genus *Laminatarsus* Fullaway was described from the Philippines (Fullaway, 1919), and later placed in synonymy with *Hartemita* (De Saeger, 1948). In the world catalogue of Braconidae (Shenefelt, 1973), *Hartemita* was considered a synonym of *Cardiochiles* Nees.

The revision of the genus *Hartemita* and revaluation of the generic characters of subfamily Cardiochilinae (Dangerfield & Austin, 1990; Dangerfield et al., 1999) resulted in the resurrection of this generic name. The main features characterizing *Hartemita* and separating it from *Cardiochiles* s.l. are the strongly compressed, usually very widened, flattened or laminate basitarsus of hind leg and very short and curved ovipositor. The genus is distributed in the Oriental Region and East Palaearctic.

Several *Hartemita* species were described from China (Chen et al., 1998), Korea and Japan (Belokobylskij & Ku, 2001) and India (Ahmad & Shujaiddin, 2004), but no species were recorded north of 38° (middle of Korean Peninsula). The author captured two specimens of a new *Hartemita* species in the Primorsk Territory in 2001 and 2003. That is the first record of the genus from Russia.

The hosts of *Hartemita* are still unknown, but probably these braconids are endoparasitoids of lepidopteran larvae, like other Cardiochilinae.

The terms for wing venation are used as defined by Belokobylskij & Tobias (1998). The following abbreviations are used: POL – postocellar line; OOL – ocular-ocellar line; Od – maximum diameter of lateral ocellus. The types of the new species are deposited at Zoological Institute of the Russian Academy of Sciences (St.Petersburg).

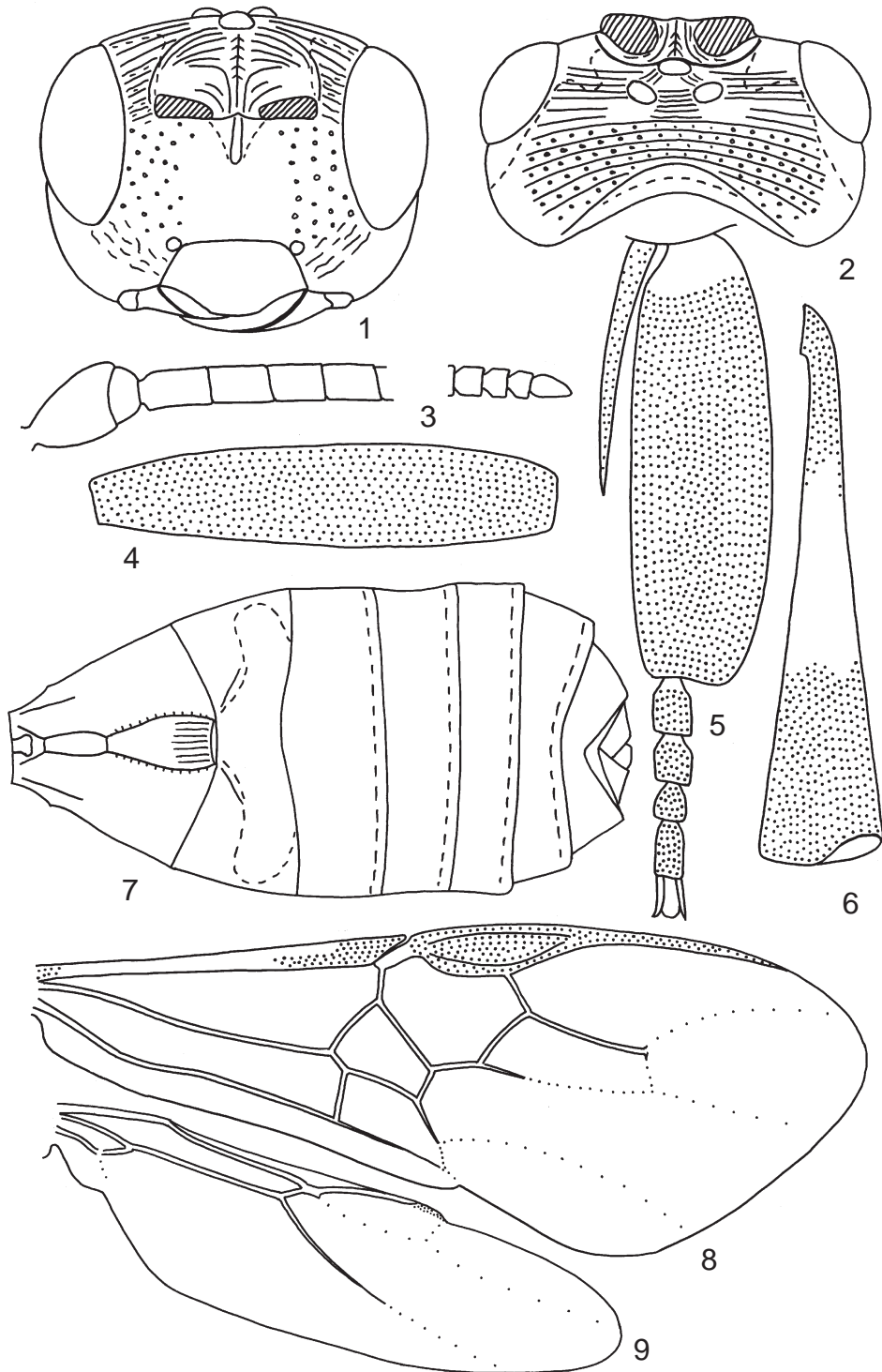
## *Hartemita spasskensis* sp. n.

(Figs 1-9)

*Holotype*. ♀, **Russia**, *Primorsk Terr.*, Spassk-Dal'niy, forest, bush, 26-28.VI.2003 (S. Belokobylskij).

*Paratype*. 1 ♀, **Russia**, *Primorsk Terr.*, Spassk-Dal'niy, forest, 30.VI.2001 (S. Belokobylskij).

*Description*. Female. Body length 5.8-6.1 mm; fore wing length 5.8 mm. Head width 2.0-2.1 times its median length and 1.6-1.7 times its maximum length. Occiput strongly concave. Head behind eyes (dorsal view) weakly convex anteriorly, roundly narrowed posteriorly; transverse diameter of eye (dorsal view) 1.0-1.1 times length of temple (0.85-0.9 times for measure on straight line). Ocelli rather large, in triangle with base 1.3 times its sides. POL 1.15 times Od, 0.4-0.5 times OOL; OOL 2.4-2.7 times Od. Frons distinctly concave, with median elevation and fine carina. Eye glabrous, 1.5-1.6 times as high as broad. Face with distinct short median elevation in upper 0.3; width of face 1.2-1.25 times height of eye and 1.8 times height of face. Malar space 0.4 times height of eye and 0.9 times basal width of mandible. Clypeal suture distinct above, shallow laterally. Clypeus almost flat, with weakly convex



**Figs 1-9.** *Hartemita spasskensis* sp. n. (holotype). 1, head, front view; 2, head, dorsal view; 3, basal and apical segments of antenna; 4, hind femur; 5, hind tarsus; 6, hind tibia; 7, metasoma, dorsal view; 8, fore wing; 9, hind wing.

middle of lower margin, about twice as wide as high. Maxillary palpi 0.9 times height of head.

Antennae thick and setiform, 42-43-segmented. Flagellar segments subsquare in apical half. First flagellar segment 1.7-2.0 times as long as its apical width, 1.1-1.2 times as long as second segment. Penultimate segment subsquare or elongate (1.5 times as long as wide). Apical segment distinctly pointed apically and with very short apical spine.

Mesosoma 1.25-1.3 times as long as high. Lateral depression of pronotal sides rather shallow. Notauli complete, rather deep, narrow in anterior half, wide in posterior half, crenulate. Prescutellar depression deep and long, with 3-5 strong carinae, smooth between carinae, 0.4-0.5 times as long as scutellum. Scutellum convex, without lateral carinae, with distinct, transverse, narrow, crenulate depression in posterior 0.25. Prepectal carina absent. Sternauli wide, shallow, crenulate-punctate. Propodeum obliquely and almost linearly slanting from base to apex (lateral view).

Wings. Length of fore wing 2.5-2.6 times its maximum width. Pterostigma rather narrow. Radial vein arising almost from middle of pterostigma. Second radial abscissa 3.0 times as long as first abscissa, 1.8-2.0 times as long as first radiomedial vein (which is weakly curved), 3.0-3.3 times as long as the straight and inclivous second radiomedial vein. First radiomedial vein 1.5-1.8 times as long as second radiomedial vein. Second medial abscissa 0.7-0.8 times as long as first radiomedial vein, 1.3-1.5 times as long as recurrent vein. Second radiomedial cell distinctly narrowed distally, its length 3.3-3.4 times maximum width and 1.7-1.8 times length of brachial cell. Discoidal cell strongly narrowed apically, posterior (long) abscissa of basal vein about twice as long as recurrent vein. Distance from nervulus to basal vein 0.4-0.7 times nervulus length. Hind wing 3.7-4.0 times as long as wide. First abscissa of costal vein 0.65-0.7 times as long as second abscissa. First abscissa of mediocubital vein 0.4-0.45 times as long as second abscissa. Radial vein arising almost from one point with basal vein or shortly behind it. Radial cell distinctly narrowed in basal 0.3-0.35, with very strongly unsclerotized and oblique additional transverse vein.

Legs. Hind femur 4.2-4.3 times as long as wide. Hind tibia with numerous slender dorsal spines, strongly widened apically; its length 4.5 times maximum width, 0.85 times length of hind tarsus, 1.2-1.25 times length of hind femur; maximum width of hind tibia 0.8-0.9 times width of hind basitarsus, 1.1-1.2 times width of hind femur. Hind basitarsus strongly widened, elongate-oval, without apical prominence, 2.8-3.0 times

as long as maximum width, 0.75-0.8 times as long as hind tibia, 1.7-2.0 times as long as remaining tarsal segments combined, 1.55-1.7 times as long as inner tibial spur; maximum width of hind basitarsus 1.2 times maximum width of hind tibia. Second tarsal segment 1.6-1.7 times as long as wide, 1.1-1.2 times as long as third segment, almost as long as fifth segment (without pretarsus). Claws densely pectinate, hind claw with 3-5 teeth.

Metasoma 1.1-1.3 times as long as mesosoma. First tergite indistinctly separated from laterotergites, with very narrow median long depression in basal half, with wide convex oval area in apical half delineated by narrow and finely crenulate furrows. Second tergite with 2 very shallow oblique submedian basal furrows. Ovipositor sheath very short, rounded apically.

Sculpture. Vertex more or less entirely finely transversely striate, with punctation. Frons with curved striae, almost smooth near antennal sockets. Face finely and rather densely punctate; clypeus very finely striate-punctate in upper half, smooth in lower half. Temple finely punctate. Mesoscutum densely and deeply punctate, partly with rugosity. Scutellum rather finely or distinctly punctate. Mesopleuron densely and deeply punctate, smooth on rather wide transverse area above sternaulus. Propodeum coarsely rugose-areolate, with radiate striae in medioposterior 0.3, almost smooth posterolaterally. Hind coxae smooth in upper half, punctate in ventral half, with very fine coriaceous sculpture between punctation. Metasoma almost entirely smooth; apical part of medioposterior area of first tergite finely striate.

Colour. Head yellow; large median spot on frons, almost entire vertex and posterior 0.7 of temples almost black. Mesosoma black apart from the following which are yellow: upper narrow or very narrow part of pronotal sides, axillae, small medioposterior spot of scutellum, more or less wide area of prescutellar depression, posterior half or most part of propodeum. Mesosoma black apart from the following which are yellow: most part of first tergite and its laterotergites, anterolateral corners of second and third tergites, sometimes sides of second tergite, and apex of metasoma; narrow margins of third-seventh tergites pale, yellowish laterally or entirely yellow. Antennae black; scapus and pedicel yellow below. Palpi black, 1-2 apical segments of maxillary palpi brownish yellow. Legs black; yellow or brownish yellow: apical 0.3 of fore femur, fore and middle tibiae entirely, fore tarsus, base of hind basitarsus; pale yellow: inner side of fore coxa, narrow distal ring of fore, middle and hind coxae, wide median 0.3-0.7 of hind tibia. In paratype, fore leg almost entirely (except for black basal half of coxa), tibia and base of basitarsus of middle leg and middle third of hind tibia yel-

low; middle femur below and apically brownish yellow; middle tarsus for the most part, middle and hind spurs pale reddish brown; hind tarsus dark reddish brown; rest parts of legs black. Fore wings faintly infuscate, more distinctly infuscate distally. Pterostigma black; costal vein mostly brownish yellow or pale reddish brown.

Male. Unknown.

**Diagnosis.** In the key by Dangerfield & Austin (1990), the new species runs to *H. singaporensis* (Mao), but it distinctly differs in the shape of head, shape of basitarsus of hind tarsus, short second-fifth segments of hind tarsus, and coloration. In the key by Chen et al. (1998), *H. spasskensis* sp. n. runs to *H. chinensis* Chen, He & Ma, but it differs in the second-fifth segments of hind tarsus shorter, hind coxa entirely black, third antennal segment slightly longer than fourth segment, temple short, frons striate in the most part, mesoscutum medioposteriorly without broad depressed field, and mesopleurum rather widely smooth above sternauli. The new species differs from the recently described from Korea and Japan *H. nigrotestacea* Belokobylskij & Ku (Belokobylskij & Ku, 2001) in the clypeus weakly convex medioventrally, notauli narrower in posterior half, hind basitarsus narrow, apical area of first tergite partly very finely striate and delineated by finely crenulate furrows, propodeum with radiate striae in medioposterior 0.3, hind tibia mostly black, pterostigma black, and size of the body small.

#### Key to Palaearctic species of the genus *Hartemita*

1. Hind basitarsus not broadly laminate, not wider than distal part of hind tibia, more than 3 times as long as wide . . . . . 2
  - Hind basitarsus broadly laminate, wider than distal part of hind tibia, not more than 3 times as long as wide . . . . . 4
2. Ventral margin of clypeus convex medially. Propodeum with prominent anterior transverse carina. Body length 6.4-8.9 mm. – Indonesia, China (Zhejiang, Taiwan, Fujian, Guangxi, Yunnan), Nepal . . . . . **H. laticeps** Cameron
  - Ventral margin of clypeus concave or almost straight medially. Propodeum without prominent anterior transverse carina . . . . . 3
3. Mesoscutum smooth along anterior and posterior margins, punctate on the rest part. Maxillary palpi 1.3 times as long as height of head. Hind basitarsus 4.2 times as long as wide. Second radiomedial cell 3.6 times as long as wide. Antennal flagellum black. Hind coxa mostly orange-yellow with black spot on distal outer surface. Body length 4.0-5.7 mm. – Indonesia, India, Nepal . . . . . **H. rhadinotarsa** Dangerfield & Austin
  - Mesoscutum entirely punctate. Maxillary palpi as long as height of head. Hind basitarsus 5.0 times as long as wide. Second radiomedial cell 3 times as long as wide. Antennal flagellum largely yellow. Hind coxa yellow, largely black dorsally. Body length 5.5 mm. – China (Zhejiang) . . . . . **H. punctata** Chen, He & Ma
4. Ventral margin of clypeus more or less concave medially . . . . . 5

- Ventral margin of clypeus convex medially . . . . . 6
5. Notauli wide in posterior half. Frons entirely smooth. Hind basitarsus with rather distinct apical prominence. Second-fourth segments of hind tarsus long. Hind femur yellow. Body length 6.0-6.7 mm. – China (Taiwan), Nepal . . . . . **H. townesi** Dangerfield & Austin
  - Notauli rather narrow in posterior half. Frons transversely striate, sometimes in posterior 0.3 only. Hind basitarsus without apical prominence. Second-fourth segments of hind tarsus short, subsquare. Hind femur black. Body length 6.6-7.2 mm. – Japan (Honsu), South Korea . . . . . **H. nigrotestacea** Belokobylskij & Ku
6. Maxillary palpi 1.3 times as long as height of head. Hind basitarsus 2.5 times as long as wide, 1.4 times as wide as apical width of hind tibia, 2.3 times as long as remaining tarsal segments. Propleurum without black spot. Mesosternum yellow. Hind coxa with one black spot. Body length 6.2-6.9 mm. – China (Zhejiang, Fujian) . . . . . **H. flava** Chen, He & Ma
  - Maxillary palpi about as long as height of head. Hind basitarsus 2.8-3.0 times as long as wide, about 1.2 times as wide as apical width of hind tibia, 1.7-2.0 times as long as remaining tarsal segments. Propleurum entirely black or with black posterior spot. Mesosternum black. Hind coxa entirely black or with two black spots . . . . . 7
7. Hind coxa entirely black. Third antennal segment 1.1-1.2 times as long as fourth segment. Frons striate in the most part. Mesoscutum medioposteriorly without broad depressed field. Second-fifth segments of hind tarsus shorter. Mesopleurum rather widely smooth above sternauli. Body length 5.8-6.1 mm. – Russia (Primorsk Territory). . . **H. spasskensis** sp. n.
  - Hind coxa yellow with two black spots. Third antennal segment 1.5 times as long as fourth segment. Frons largely smooth. Mesoscutum medioposteriorly with broad depressed field. Second-fifth segments of hind tarsus longer. Mesopleurum narrowly smooth above sternauli. Body length 5.6-6.0 mm. – China (Zhejiang) . . . . . **H. chinensis** Chen, He & Ma

#### Notes on Cardiochilinae species of the Russian fauna

Most of Palaearctic species of the large genus *Cardiochiles* Nees were described from arid or semi-arid territories of Middle and Central Asia. Only a few species of this genus are recorded from Russia situated mostly in the northern humid part of the Palaearctic. More diverse cardiochiline fauna was found in the southern part of the Russian Far East. In addition to *Hartemita spasskensis* sp. n., *Bohayella tobiasi* Belokobylskij (Amur Province, south of Khabarovsk and Primorsk Territories) and 3 species of *Cardiochiles* s.l. [*C. saltator* (Fabricius), *C. rugosus* Telenga and *C. turga* Belokobylskij] (Belokobylskij, 1987, 1998) were recorded here. After the generic reclassification of the subfamily Cardiochilinae (Dangerfield et al., 1999), two last species (recorded from the Primorsk Territory only) were transferred to the genus *Austerochiles* Dangerfield, Austin & Whitfield (Dan-

gerfield et al., 1999; Chen et al., 2004). *C. saltator*, widely distributed in the Palaearctic Region, including Russia, and penetrating to the Oriental Region (India), belongs to the genus *Cardiochiles* in current sense (Dangerfield et al., 1999). The second *Cardiochiles* species from Russia is *C. volgensis* Tobias. It has been recently described from Volgograd Province (Tobias, 1986) and later collected in Astrakhan Province (1 ♀, Baskunchak Lake, steppe, 8-13.VI.2004, leg. S. Belokobylskij). The third species, *C. fallax* Kokujev, is widely distributed in the Caucasus region (including its Russian northern part), southern Ukraine, Volgograd Province of Russia, Kazakhstan and Turkmenistan. Two last species together with the transpalaearctic *C. saltator* are the only Cardiochilinae species recorded from the European part of Russia.

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