



A new species of the genus *Coeloides* (Hymenoptera: Braconidae) from Taiwan and the status of *Coeloides hummeli*

Новый вид рода *Coeloides* (Hymenoptera: Braconidae) с Тайваня и статус *Coeloides hummeli*

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Abstract. New data on the fauna of the genus *Coeloides* Wesmael, 1838 in Eastern Eurasia are presented. This genus and the newly described species *C. braconiformis* **sp. nov.** are recorded for the first time from Taiwan. The name *C. hummeli* Fahringer, 1934, **syn. nov.** is considered a junior subjective synonym of *Bracon* (*Bracon*) *subrugosus* Szépligeti, 1901. An emended diagnosis of the genus *Coeloides* and an illustrated redescription of *B. subrugosus* are provided.

Резюме. Представлены новые данные для фауны рода *Coeloides* Wesmael, 1838 восточной части Евразии. Этот род с новым видом *C. braconiformis* **sp. nov.** впервые отмечен на Тайване. Название *C. hummeli* Fahringer, 1934, **syn. nov.** признано младшим субъективным синонимом *Bracon* (*Bracon*) *subrugosus* Szépligeti, 1901. Приведен уточненный диагноз рода *Coeloides* и иллюстрированное переописание *B. subrugosus*.

Key words: parasitoid, taxonomy, Oriental Region, Palearctic Region, new record, new species

Ключевые слова: паразитоид, систематика, Ориентальная область, Палеарктика, новое указание, новый вид

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Introduction

Coeloides Wesmael, 1838 is a morphologically distinct genus of the subfamily Braconinae, easily recognised by the peculiar shape of the basal flagellomeres (Haeselbarth, 1967). Members of this genus are known as solitary idiobiont ectoparasitoids, primarily targeting wood-boring beetles belonging to the families Curculionidae (Scolytinae) and Buprestidae (Shaw & Huddleston, 1991; Kenis et al., 2004; Yu et al., 2016).

Coeloides comprises 31 distinct species and seven subspecies (Yu et al., 2016), with the majority distributed across the Holarctic region. In the Eastern Palearctic and Oriental regions of China, 13 species have been recorded, including a notably distinct taxon *C. abdominalis orientalis* Haeselbarth, 1967 that is recognised as a subspecies. The species within this genus exhibit considerable morphological uniformity, which complicates their identification. Notably, most known *Coeloides* species are characterised by

a short second submarginal cell with a ratio of veins $SR1 : 3-SR$ ranging from 2.2 to 4.5 [after Mason (1978) and our own measurements]. Only one species, *C. hummeli* Fahringer, 1934 with a distinctly elongated second submarginal cell has been previously described (Fahringer, 1934). In this paper, we describe a new species of the genus that also features an elongated second submarginal cell and demonstrate that *C. hummeli* actually belongs to the genus *Bracon* Fabricius, 1804.

Material and methods

Morphological nomenclature follows Quicke (1987) and Achterberg (1993), with additions proposed by Samartsev et al. (2024). The terminology for mesosomal sulci follows Karlsson & Ronquist (2012). The term “thyridium” (Broad et al., 2018) (or “island” in the terminology of Mason, 1978) is used for membranous areas situated in the posterolateral parts of the second metasomal tergite.

Following abbreviations for morphological structures are used: OD – maximum diameter of lateral ocellus; OOL – ocular-ocellar distance; POL – postocellar distance; T1–T7 – first – seventh metasomal tergites.

The specimens examined are kept at the following institutions: HNHM – Hungarian Natural History Museum (Budapest, Hungary); NHRS – Swedish Museum of Natural History (Stockholm, Sweden); NMNS – National Museum of Natural Science (Taichung City, Taiwan); NMW – Naturhistorisches Museum Wien (Vienna, Austria); NTU – National Taiwan University Insect Museum (Taipei City, Taiwan); TARI – Taiwan Agricultural Research Institute (Taichung City, Taiwan); ZISP – Zoological Institute of the Russian Academy of Sciences (St Petersburg, Russia).

The type specimens of the new species are deposited at NMNS (holotype), NTU, TARI, NMNS, ZISP, and in the private collection of Ch.S. Lin (paratypes).

Genus *Coeloides* Wesmael, 1838

The taxonomic literature on the genus is summarised in Shenefelt (1978) and Yu et al. (2016). The most recent taxonomic publications are pro-

vided by Haeselbarth (1967), Mason (1978), Tobias & Belokobylskij (2000), and Wang et al. (2006).

Diagnosis (from Samartsev et al., 2024, emended). Fore wing length 2.5–10 mm. Furrow running from torulus to eye absent. Clypeus without dorsal carina, clypeal sulcus absent or shallow. Malar suture absent or weak. Antenna with 25–55 antennomeres. Scape longer dorsally than ventrally (in lateral view), smoothly narrowed basally, not globose. One to three basal flagellomeres apically flared and widened, ventrally emarginated. Apical flagellomere acute. Mesoscutum of Palaearctic species setose only at notaular area or also sparsely setose medially. Scutellar sulcus crenulate. Median impression of mesopleuron absent. Median area of metanotum with incomplete or indistinct median carina. Propodeum without median longitudinal keel or impression. Angle between wing veins $C+SC+R$ and $1-SR$ usually 55–70°. Vein $1-SR+M$ straight or weakly curved anteriorly. Vein $cu-a$ more or less interstitial (at most weakly antefurcal or postfurcal). Wing membrane evenly setose at base of hind wing. Fore tibia with thick setae on frontal side, hind tibia with subapical transverse row of thick setae. Basal lobes of claws not angularly protruding. Metasoma of female with seven visible tergites; apical margins of T3–T7 weakly sclerotised. T1 with weakly or well developed dorsolateral carinae, without dorsal and sublateral carinae, in some species, with weak median longitudinal keel. T2 with more or less developed median area, anterolateral grooves being diverging posteriorly, and dorsolateral impressions [in *C. rossicus* (Kokujev, 1902), also bordered by long sublateral carinae]. Suture between T2 and T3 more or less deep. Anterolateral areas of T3–T6 absent. Ovipositor sheath 0.6–1.5 times as long as fore wing, apically with developed dorsal nodus and ventral serration. Body mostly smooth, some species with rugose sculpture on basal metasomal tergites.

Coeloides (*Coeloides*) *braconiformis* sp. nov.
(Figs 1–3)

Holotype. Female, **Taiwan**, Nantou County, Guandao Mountain, 24°01'00.8"N 121°00'44.4"E, 1304 MAMSL, on *Prunus campanulata* (Rosaceae), 28.V – 1.VI.2023, Ch.Sh. Lin leg. (NMNS A09070000E).

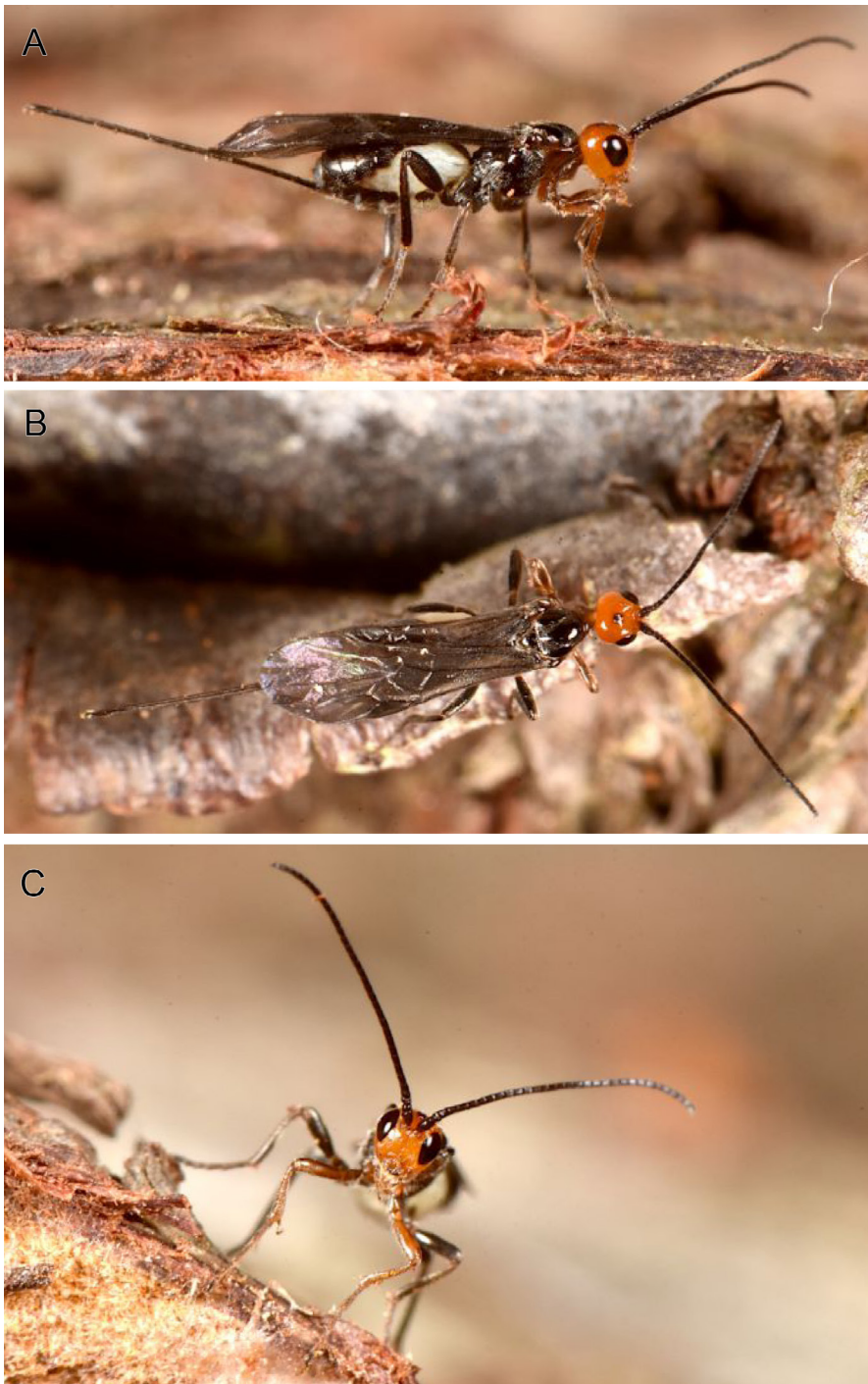


Fig. 1. *Coeloides (Coeloides) braconiformis* sp. nov., habitus of live female in lateral (A), dorsal (B) and anterior (C) view.

Paratypes. Same data as for holotype: 1 female, 1 male (Ch.Sh. Lin's private collection); 1 female, 1 male (NTU); 1 female, 1 male (TARI 345210000G); 1 male (NMNS, A09070000E); 3 females (ZISP INS_HYM_0002201–0002203); 2 males (ZISP INS_HYM_0002204, 0002205).

Description. Female. Fore wing length 3.5–4.8 mm.

Head. Width of head (in dorsal view) 1.3–1.5 times its median length. Transverse diameter of eye (in dorsal view) 0.95–1.00 times length of temple. OOL 3.7–4.2 times OD; POL 0.9–1.2 times OD; OOL 3.5–4.1 times POL. Frons deeply impressed, with shallow median longitudinal groove. Longitudinal diameter of eye in lateral view 1.4–1.5 times its transverse diameter, transverse diameter of eye 1.0–1.3 times minimum width of temple. Face width 1.0–1.2 times combined height of face and clypeus, 1.8–2.2 times width of hypoclypeal depression. Longitudinal diameter of eye 2.1–2.3 times malar space (in anterior view). Malar space 0.75–0.85 times width of mandible base. Malar suture absent. Width of hypoclypeal depression 0.9–1.1 times distance from depression to eye. Clypeus dorsally evenly rounded, with protruding ventral rim.

Antenna with 34–36 antennomeres, 0.9–1.0 times as long as fore wing. Length of scape 1.3–1.4 times its maximum width. First and second flagellomeres distinctly apically flared, third flagellomere weakly emarginated ventrally. First flagellomere 0.9–1.0 times as long as its apical width, 0.9–1.0 times as long as second flagellomere. Middle and penultimate flagellomeres 1.75–1.85 times (1.5 times in the smallest female) and 1.5–1.8 times as long as wide, respectively.

Length of mesosoma 1.55–1.65 times (1.3 times in smallest female) its maximum height. Trans-

verse pronotal sulcus, mesepimeral, and metapleural sulci smooth.

Width of mesoscutum 1.1–1.2 times its median length (in dorsal view). Notauli impressed, smooth, nearly united posteriorly. Mesoscutum mostly glabrous, widely setose on notaular area and posteriorly, with sparse setae anteromedially. Scutellar sulcus 0.12–0.17 times as long as scutellum. Propodeal spiracle round, located in middle of propodeum.

Fore wing. Angle between veins $C+SC+R$ and $1-SR$ about $50-60^\circ$. Pterostigma 2.9–3.1 times as long as wide, vein r arising from basal 0.40–0.45 of pterostigma. Vein $1-R1$ 1.4–1.6 times as long as pterostigma. Length of marginal cell 3.7–5.3 times distance from its apex to apex of wing. Vein $3-SR$ 2.9–3.9 times as long as vein r , 0.5–0.7 times as long as vein $SR1$, 1.4–1.7 times as long as vein $2-SR$. Second submarginal cell 2.5–2.8 times as long as wide. Vein $r-m$ shorter than vein $2-SR$. Vein $1-M$ 0.76–0.89 times as long as vein $1-SR+M$. Vein $1-M$ 1.6–1.8 times as long as vein $m-cu$. Vein $1-M$ 1.8–2.0 times as long as vein $cu-a$. Vein $2-SR+M$ 0.1–0.2 times as long as vein $2-SR$, 0.15–0.25 times as long as vein $m-cu$. Vein $1-SR+M$ weakly curved anteriorly and proximally. Vein $cu-a$ weakly postfurcal.

Legs. Hind femur 2.6–2.8 times as long as wide. Hind tibia 8.7–9.7 times (7.5 times in smallest female) as long as wide, 1.7–1.8 times as long as hind femur; inner spur of hind tibia 0.35–0.40 times as long as hind basitarsus. Hind tarsus 0.8–0.9 times as long as hind tibia. Fifth segment of hind tarsus 0.50–0.55 times (0.65 times in smallest female) as long as hind basitarsus, 0.75–0.80 times (0.90 times in smallest female) as long as second segment.

Metasoma. Median length of T1 1.1–1.2 times (0.9 times in smallest female) its apical width. Dorsolateral carinae of T1 weakly developed. Median area of T1 separated by crenulate furrow, without median longitudinal keel. T2 with deep smooth sublateral grooves (not incorporating thyridia), without median area, medially 0.8–1.0 times as long as T3. Basal width of T2 1.1–1.7 times its median length. Spiracle located in middle of T2. Suture between T2 and T3 deep, weakly curved medially, crenulate. Hypopygium not projecting outside apical tergite. Ovipositor sheath 2.8–3.2 times as long as hind tibia, 0.8–1.1 times as long as fore wing.

Sculpture. Body entirely smooth.

Coloration. Head reddish brown with yellowish tint on face and lower part of gena, with brown median patch on vertex. Mesosoma mostly (including tegulae) brown to dark brown with yellowish brown prothorax and more or less developed patches at notaular area of mesoscutum, mesopleuron, scutellum, and metanotum. Fore leg mostly reddish brown with wide brownish patches, middle and hind legs brown to dark brown; maxillary palp and wide patches on fore leg yellowish brown. Metasoma with brownish black tergites and pale yellow pleural parts. Wing membrane infusate, pterostigma and wing veins brown.

Male. Fore wing length 4.1–4.3 mm. Transverse diameter of eye (in dorsal view) 0.85–0.95 times length of temple. Longitudinal diameter of eye in lateral view 1.6–1.7 times its transverse diameter. Face width 1.0–1.1 times combined height of face and clypeus. Longitudinal diameter of eye 2.4–2.5 times malar space (in anterior view). Antenna 1.0–1.1 times as long as fore wing. Length of scape 1.4–1.5 times its maximum width. Length of first flagellomere 1.0–1.3 times its apical width. Middle and penultimate flagellomeres 1.9–2.0 times as long as wide. Vein r arising from middle of pterostigma. Hind femur 2.4–2.6 times as long as wide. Hind tibia 8.5–9.5 times as long as wide, 1.6–1.8 times as long as hind femur; inner spur of hind tibia 0.4–0.5 times as long as hind basitarsus. Hind tarsus 0.85 times as long as hind tibia. Fifth segment of hind tarsus 0.95–1.00 times as long as second segment. T2 medially 0.85–0.90 times as long as T3. T7 and T8 (and anterior tergites to lesser extent) densely covered with yellowish setae. Otherwise similar to female.

Comparison. Because of the two short, apically flared basal flagellomeres, the smooth T1–T3, the crenulate furrows of T1, and the tarsal claws of the male being approximately the same length as the arolium, the new species belongs to the *C. bostrichorum* species-group (Haeselbarth, 1967) and approaches to *C. bostrichorum* Giraud, 1872 in keys (Haeselbarth, 1967; Tobias, 1986; Tobias & Belokobylskij, 2000). However, the very long second submarginal cell with the vein $SR1$, which is 1.5–1.9 times as long as the vein $3-SR$ (*vs.* 2.2–4.5 times in other species of *Coeloides*), makes the new species unique and easily distinguishable from all other members of the genus.

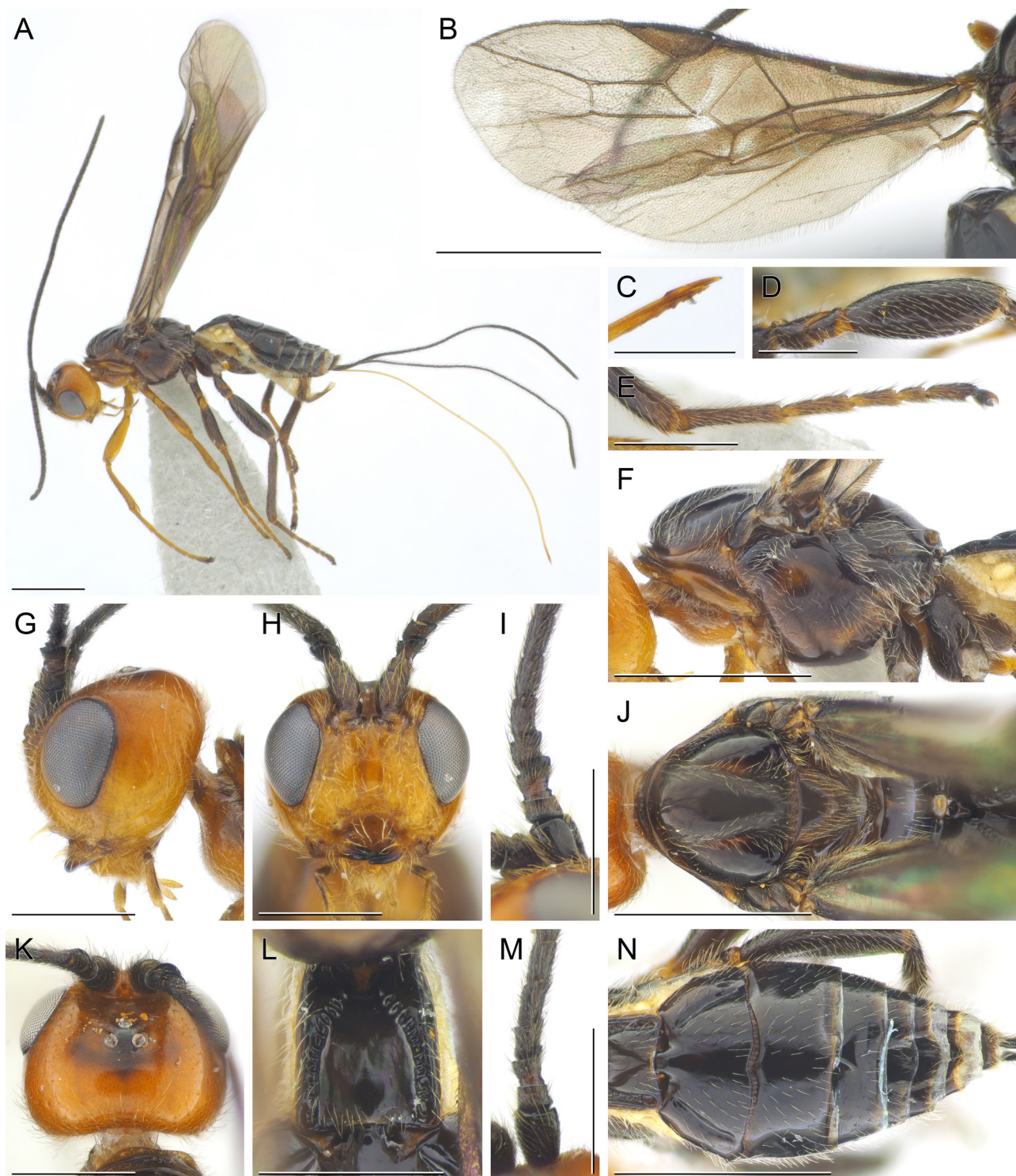


Fig. 2. *Coeloides (Coeloides) braconiformis* sp. nov., holotype, female, NMNS (A, C, D–H, J, K, N) and paratype, female, ZISP (B, I, L, M). **A**, habitus, lateral view; **B**, wings; **C**, apex of ovipositor; **D**, hind trochanter and femur, anterior view; **E**, hind tarsus; **F**, mesosoma, lateral view; **G**, head, lateral view; **H**, head, anterior view; **I**, base of antenna, lateral view; **J**, mesosoma, dorsal view; **K**, head, dorsal view; **L**, T1, dorsal view; **M**, base of antenna, dorsal view; **N**, metasoma, dorsal view. Scale bars: 1 mm (A, B, F, J, N), 0.5 mm (D, E, G–I, K–M), 0.25 mm (C).

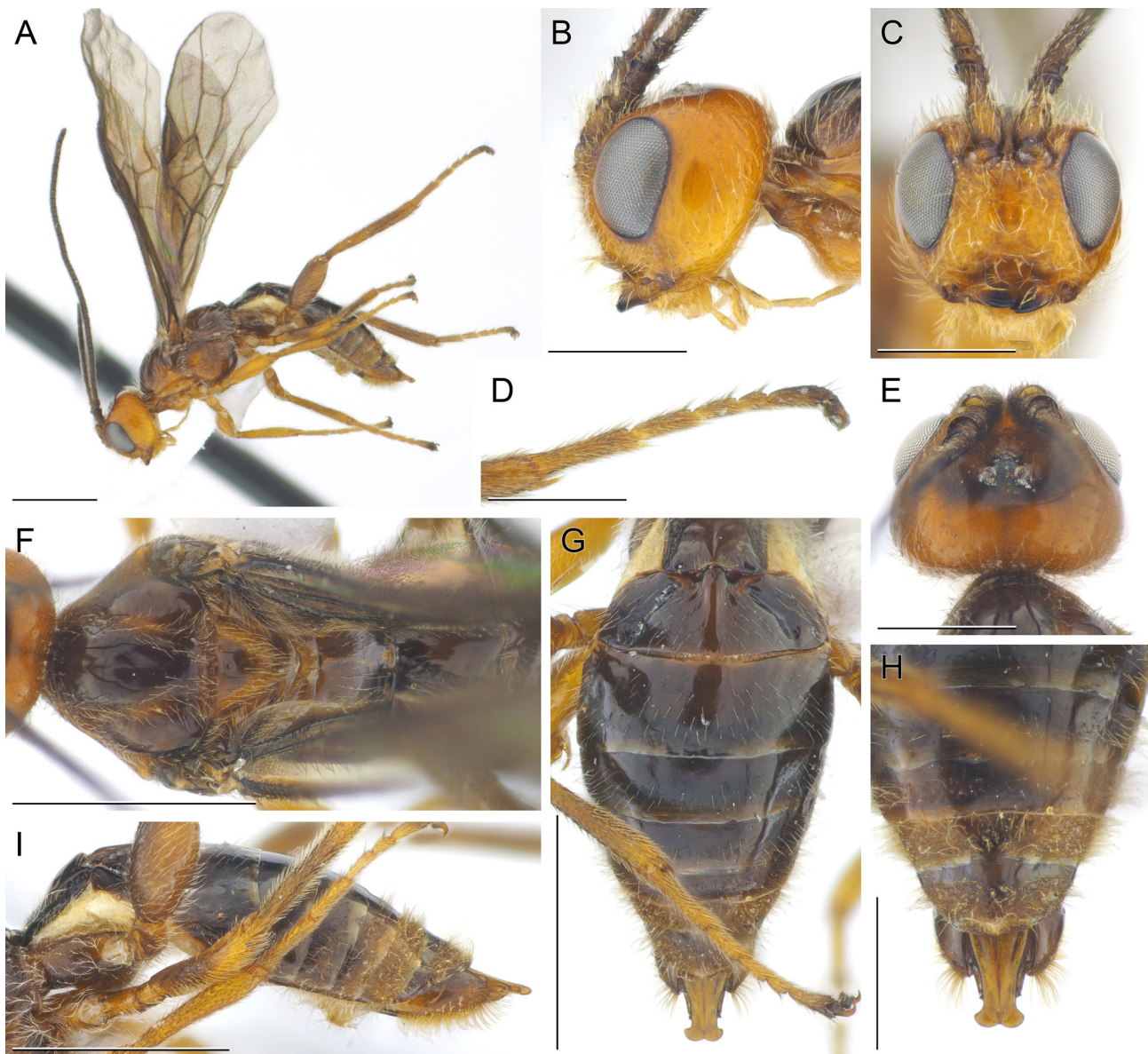


Fig. 3. *Coeloides (Coeloides) braconiformis* sp. nov., paratype, male, ZISP. **A**, habitus, lateral view; **B**, head, lateral view; **C**, head, anterior view; **D**, hind tarsus; **E**, head, dorsal view; **F**, mesosoma, dorsal view; **G**, metasoma, dorsal view; **H**, apex of metasoma, dorsal view; **I**, metasoma, lateral view. Scale bars: 1 mm (F, G, I), 0.5 mm (A–E, H).

Bionomics. This species was collected from tree *Prunus campanulata* (Rosaceae), where the bark beetle *Sphaerotrypes pila* Blandford, 1894 (Curculionidae), was breeding in the bark of the trunk.

Etymology. The specific name is derived from the generic name *Bracon* Fabricius, 1804 and the Latin suffix *-formis* (having the form of; -shaped), indicating the similarity of the new species to the members of the latter genus in the wing venation.

Genus *Bracon* Fabricius, 1804

The taxonomic literature on the genus is summarised by Shenefelt (1978), Achterberg & Polaszek (1996), Papp (2012), and Yu et al. (2016).

Bracon (Bracon) subrugosus Szépligeti, 1901 (Fig. 4)

Bracon subrugosus Szépligeti, 1901: 183 (in key), 272.

For a summary of the taxonomic history and a list of synonyms, see Papp (2008) and Yu et al. (2016).

Coeloides hummeli Fahringer, 1934: 327, 1935: 1; Hae-selbarth, 1967: 25 ("Der Typus – anscheinend das einzige bekannte Exemplar – ist nach Dr. Hedqvist im Museum Stockholm nicht mehr aufzufinden"); Shenefeld, 1978: 1739 (type indicated as lost, after op. cit.), **syn. nov.**

Type material examined. Holotype of *Coeloides hummeli*, pinned female, **China**, "Kina S. Kansu", "Sven Hedins Exp. Ctr. Asien Dr. Hummel", "10/9", "Typ", "*Coeloides Hummeli* n. sp. det. Dr. Fahringer" (NHRS-JUST000000145).

Syntypes of *Bracon trypetanus* Fahringer, 1927, **Germany**, *Saxony*: "Sachsen, Schütze", "48", "Am: *Trypeta cylindrica* R. D.", "*Bracon trypentanum* ♂ type det. Dr. Fahringer", 1 female, 1 male (NHRS JUST000000143); "Rechlau Sachsen", "*Trypeta cylindrica* Rd.", "*Bracon trypentanus* m. Type det. Dr. Fahringer", "Holotype", "*Bracon sulcatulus* Sz. ♂ det. Papp J., 1989", 1 male (NMW).

Lectotype of *Bracon quinquemaculatus* Szépligeti, 1901, **Hungary**, Budapest, Diós-árok, 18.IX.1896, G. Szépligeti leg., 1 female (HNHM Hym.Typ.No.375).

Lectotype of *Bracon subglaber* Szépligeti, 1901, **Hungary**, Mátyásföld, 3.VI.1897, 1 female (HNHM Hym.Typ.No.376).

Lectotype of *Bracon subrugosus* Szépligeti, 1901, **Hungary**, Hűvösvölgy, 28.VIII.1897, 1 female (HNHM Hym.Typ.No.358).

Non-type material examined. **Russia**: *Leningrad Prov.*, Volosovsky Distr., W of Limozha, 59°22'05.9"N 29°30'15.8"E, meadow, 14.VI.2014, K. Samartsev, 1 female (ZISP A0108-K12); *Novgorod Prov.*: Pestovo Distr., 20 km NW of Pestovo, Tychkino Vill., 3.VI.2002, V.I. Tobias leg., 1 male (ZISP KS0004103); same locality and collector, 15.VII.2002, 1 female (ZISP KS0004111); *Samara Prov.*, Kinel' Distr., SE of Alekseyevka, 53°14'38.8"N 50°30'18.7"E, meadow, 17.VIII.2012, K. Samartsev, 2 females (ZISP KS0004099, KS0004100), 1 male (ZISP KS0004102).

Redescription. *Female.* Fore wing length 3.4–5.0 mm.

Head. Width of head (in dorsal view) 1.7–1.9 times its median length. Transverse diameter of eye (in dorsal view) 1.4–1.9 times length of temple. OOL 2.3–2.8 times OD; POL 1.5–1.8 times OD; OOL 1.3–1.6 times POL. Frons with shallow median longitudinal groove. Longitudinal diameter of eye in lateral view 1.6–1.7 times its transverse diameter. Hind margins of eye and temple (in lateral view) slightly broadened dorsally. Face width 1.6–1.8 times combined height of face and clypeus, 1.9–2.2 times width of hypoclypeal depression.

Longitudinal diameter of eye 2.8–3.3 times malar space (in anterior view). Width of hypoclypeal depression 1.2–1.5 times distance from depression to eye. Clypeus prominent, clypeal sulcus smoothed, ventral rim weakly protruding.

Antenna 0.7–0.8 times as long as fore wing, with 27–33 antennomeres. First, middle, and penultimate flagellomeres 1.6–1.8, 1.4–1.5, and 1.5–1.8 times as long as wide, respectively.

Length of mesosoma 1.3–1.5 times its maximum height. Notauli impressed anteriorly, shallow posteriorly. Mesoscutum medially glabrous. Mesepimeral and metapleural sulci smooth. Propodeal spiracle located posterior to middle of propodeum (in lateral view). Propodeum with short, branched median longitudinal keel apically.

Wings. Vein *r* arising from basal 0.4 of pterostigma. Vein *1-R1* 1.4–1.5 times as long as pterostigma. Length of marginal cell 4.0–6.5 times distance from its apex to apex of wing. Vein *3-SR* 2.2–2.3 times as long as vein *r*, 0.50–0.65 times as long as vein *SR1*, 1.4–1.6 times as long as vein *2-SR*. Vein *1-M* 0.8–0.9 times as long as vein *1-SR+M*, 1.9–2.5 times as long as vein *m-cu*, 1.7–2.4 times as long as vein *cu-a*.

Legs. Hind femur 3.1–3.5 times as long as wide. Hind tibia with subapical transverse row of thick setae, 7.0–8.2 times as long as wide, 1.5 times as long as hind femur; inner spur of hind tibia 0.40–0.55 times as long as hind basitarsus. Fifth segment of hind tarsus 0.5–0.6 times as long as hind basitarsus, 0.8–0.9 times as long as second segment. Claws with acutely protruding basal lobes.

Metasoma. Median length of T1 about 0.75–0.85 times its apical width. Dorsolateral carinae of T1 developed, dorsal carinae of T1 incomplete. T2 medially 0.9–1.1 times as long as T3; basal width of T2 1.8–2.1 times its median length. Median area of T2 more distinctly separated anteriorly, with weakly posteriorly diverging and smoothed lateral margins; anterolateral areas absent or weakly developed. Suture between T2 and T3 deep, curved, crenulate. Apical margins of T3–T6 thick, with shallow, weakly crenulate, transverse subapical grooves. Ovipositor sheath 2.7–3.6 times as long as hind tibia, 0.8–1.0 times as long as fore wing. Apex of ovipositor with dorsal nodus and ventral serration.



Fig. 4. *Bracon (Bracon) subrugosus* Szépligeti, 1901, holotype of *Coeloides hummeli* Fahringer, 1934, female, NHRS. **A**, labels; **B**, head, dorsal view; **C**, head, anterior view; **D**, head, anterolateral view; **E**, antenna; **F**, propodeum, dorsal view; **G**, metasoma, dorsal view; **H**, hind leg, anterior view; **I**, mesosoma, dorsal view; **J**, apex of ovipositor; **K**, mesosoma, lateral view; **L**, T1, dorsal view; **M**, wings. Scale bars: 1 mm (E, I, K, M), 0.5 mm (B–D, F–H), 0.25 mm (J, L).

Sculpture. Head and mesosoma mainly smooth. Face weakly granulate under toruli and near lateral margins; malar space granulate; frons weakly granulate. T1 laterally rugose, its median area longitudinally rugose posteriorly. T2 with more or less developed, longitudinally rugose to irregularly punctate sculpture; T3–T6 with weak papillary-like sculpture.

Coloration. Head, pronotum, and mesoscutum reddish yellow, yellowish brown or reddish brown with dark brown patch on frons, vertex, on gena near eye, and often on mesoscutal lobes. Rest part of mesosoma brownish black. Legs brownish black with variable brownish yellow patches at apical parts of femora and basal parts of tibiae (hind leg darkest coloured). Metasoma yellowish brown, dorsally with large brown patch and darkly coloured T1. In darker specimens, most of head and mesosoma black. Wing membrane brownish, infusate, lighter apically; pterostigma and wing veins brown.

Male. POL 1.6–2.2 times OD. Longitudinal diameter of eye 3.5–3.8 times malar space (in anterior view). Antenna about as long as fore wing. Marginal cell 3.5–4.5 times as long as distance from its apex to apex of wing. Vein 3-SR 1.0–1.2 times as long as vein 2-SR. Fifth segment of hind tarsus 0.9–1.0 times as long as second segment. Basal width of T2 1.5–1.7 times its median length. Otherwise similar to female.

Comparison. The characters of the holotype of *Coeloides hummeli* Fahringer, 1934 fall entirely within the intraspecific variability of *Bracon subrugosus* Szépligeti, 1901. The latter is most closely related to several Palaearctic species of the genus (*B. breviareolatus* Tobias, 1957, *B. leptus* Marshall, 1897, *B. luteator* Spinola, 1808, *B. mariae* Dalla Torre, 1898, *B. pectoralis* Wesmael, 1838, and *B. trucidator* Marshall, 1888). These species are characterised by a long ovipositor (approximately as long as the fore wing), antennae with elongated flagellomeres, and a completely sculptured metasoma.

Among the species of this group, *B. subrugosus* is distinguished by the following characters (comparative data are given below only for those species from which it differs by the corresponding characters). The longitudinal diameter of the eye (in the anterior view) is 2.8–3.3 times the

length of the malar space (*vs.* 2.0–2.5 times in *B. luteator*). The width of the face is 1.6–1.8 times the combined height of the face and clypeus (*vs.* 1.3–1.5 times in *B. pectoralis* and *B. breviareolatus*). The vein 3-SR is 0.50–0.65 times as long as the vein SR1 and 1.4–1.6 times as long as the vein 2-SR (*vs.* 0.25–0.40 times as long as the vein SR1 and 0.75–1.00 times as long as the vein 2-SR in *B. breviareolatus*). The sheath of the ovipositor is 2.7–3.6 times as long as the hind tibia and 0.8–1.0 times as long as the fore wing (*vs.* 1.3–1.4 times in *B. leptus* and *B. mariae*, and 1.1–1.2 times in *B. luteator*). The pterostigma is brown (*vs.* yellow in *B. pectoralis* and some specimens of *B. leptus*; with a large basal yellow patch in *B. mariae*).

Bracon subrugosus is most similar to *B. trucidator*. The differences between these species are presented in the dichotomy below.

1. Notauli impressed. Face along eyes smooth. Median area of T1 with very smoothed rugulose sculpture or smooth, its margin weakly crenulate *B. trucidator*
- Notauli very shallow or indistinct. Face along eyes distinctly granulate. Median area of T1 longitudinally rugose, its margin strongly crenulate *B. subrugosus*

Discussion

Although *Coeloides* is a highly distinctive genus within the subfamily Braconinae, diagnosing its species can be challenging. Taxonomic keys (Haeselbarth, 1967; Tobias and Belokobylskij, 2000; Wang et al., 2006) do not consistently enable users to confidently identify specimens, particularly those from China, where the fauna appears to be insufficiently studied. Several species of *Coeloides* described from China are known only from their original descriptions. These taxa (*C. changbaiensis* Wang et Chen, 2006, *C. flavus* Wang et Chen, 2006, *C. glabroventris* Wang et Chen, 2006, *C. guizhouensis* Yang, 1996, and *C. longquanus* Wang et Chen, 2006) require further study involving additional material to clarify whether they are synonymous with widespread Palaearctic species. However, it can now be concluded that *Coeloides abdominalis orientalis* Haeselbarth, 1967, *C. japonicus* Watanabe, 1958, *C. qinlingensis* Dang et Yang, 1989, and the newly described species exemplify the peculiarity of the

Eastern Palaearctic and Oriental fauna of the genus. In addition, the holotype of *Coeloides hummeli* Fahringer, 1934, which is placed here in synonymy with *Bracon subrugosus* Szépligeti, 1901, represents the first record of the latter species in the fauna of China.

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