

**New species and new records of Oriental and Eastern Palaearctic
Campopleginae (Hymenoptera: Ichneumonidae)**

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Abstract – Oriental and Eastern Palaearctic Campopleginae (Hymenoptera: Ichneumonidae) are treated. Two new species are described: *Eriborus hamatus* sp. nov. from Taiwan, and *Eriborus xantusi* sp. nov. from Malaysia (Sabah, Borneo Island). The following new country records are presented: *Echthronomas quadrinotata* (Thomson, 1887) and *Eriborus ryukyuensis* Momoi, 1970 from Taiwan (the former reported for the first time from the Oriental Region), *Eriborus vulgaris* (Morley, 1913) from Malaysia (Sabah, Borneo Island), *Enytus apostatus* (Gravenhorst, 1829) and *Eriborus pleuroptae* Kusigemati et Tanaka, 1992 from North Korea, *Eriborus terebrans* (Gravenhorst, 1829) from Mongolia, *Eriborus obscuripes* Horstmann, 1987 from Russia (Far East), and *Genotropis clara* Townes, 1970 from Thailand.

Key words – taxonomy, species description, distribution, biogeography, faunistics, *Echthronomas*, *Enytus*, *Eriborus*, *Genotropis*

Dedication – This paper, as well as one of the new species described within, is dedicated to the memory of János Xántus (1825–1894), Hungarian zoologist, ethnologist, and one of the most dedicated collectors, as a commemoration of the bicentenary of his birth.

INTRODUCTION

Based on the Oriental and Eastern Palaearctic Campopleginae (Hymenoptera: Ichneumonidae) material of the Hungarian National Museum Public Collection Centre – Hungarian Natural History Museum, Budapest (HNHM) and that of the Biological Museum of Lund University, Lund (MZLU), two new species are described and new distributional records of several species are provided in this paper. Taxonomy and nomenclature follow YU & HORSTMANN (1997) and YU *et al.* (2016). Morphological terminology follows GAULD (1991) and GAULD *et al.* (1997); however, in cases of wing veins the corresponding terminology of

TOWNES (1969) is also used. Terminology of body surface sculpturing follows HARRIS (1979). Identifications were based on the works of TOSQUINET (1903), SZÉPLIGETI (1910), MORLEY (1913), CUSHMAN (1927), UCHIDA (1932), SONAN (1936, 1939), FULLAWAY (1940), RAO & KURIAN (1950), MOMOI *et al.* (1968), HORSTMANN (1969, 1973, 1987), MOMOI (1970), TOWNES (1970), KUSIGEMATI (1981, 1988), GAULD (1984), DBAR & SAPARMAMEDOVA (1988), KUSIGEMATI & TANAKA (1992), SHENG & XU (1997), PAULL & AUSTIN (2006), SHENG & SUN (2006), CHOI & LEE (2010), ROUSSE & VILLEMANT (2012), KONISHI (2016), VAS (2019, 2022, 2023, 2024), HARALDSEIDE (2023), and on examination of adequate type materials (at least from photos of scientific quality). The specimens were identified by the author using a Nikon SMZ645 stereoscopic microscope. Label data of type specimens are given verbatim, with additions and explanations in square brackets if necessary. Photos were taken with a Nikon-D7200 camera, equipped with Nikon AF-S Micro Nikkor 105mm objective and DCR-150 Raynox Macro Conversion lens, managed by Helicon Remote, stacked by Helicon Focus.

RESULTS

Taxonomy

Genus: *Eriborus* Förster, 1869

Type species: *Campoplex perfidus* Gravenhorst, 1829; subsequent designation by MORLEY (1913)

Diagnosis: TOWNES (1970), GAULD (1984)

Eriborus hamatus sp. nov.

(Figs 1–2)

Type material – Holotype: female, “Formosa [= Taiwan], [leg. H.] Sauter, Taihorin, 1909.XI.”, specimen card-mounted, id. HNHM-HYM 155385. Holotype is deposited in the HNHM.

Diagnosis – The new species can be distinguished from the known species of the genus by the following character states in combination: gena distinctly narrowed behind eyes, in dorsal view 0.5× as long as eye width; mesopleuron granulate, densely, strongly punctate, and rugose anterior to the almost smooth, polished speculum; propodeum convex in profile, rugose, punctures only anteriorly distinct, posteriorly merged into rugosity, medially transversely rugose, posterior half medially weakly impressed; propodeal carinae complete and strong, median sections of anterior and posterior transverse carinae slightly weaker but discernible; area superomedia hexagonal, transversely rugose, 1.2× as long as wide, its lateral sides convergent behind costulae, posteriorly

closed; intercubitus ($2rs-m$) about as long as abscissa of M between $2rs-m$ and $2m-cu$; second tergite $1.2\times$ as long as its posterior width; posterior margins of apical tergites almost straight; ovipositor sheath $0.8\times$ as long as hind tibia, basal two-thirds of ovipositor almost straight, apical third very strongly, conspicuously upcurved; scapus and pedicellus black; tegula reddish yellow; metasoma black; fore and middle legs orange, except coxae entirely to predominantly black; hind leg black except apical third of femur orange-brown and tibia medially reddish yellow.

Description – Female (Figs 1–2). Body length ca. 8 mm, fore wing length ca. 7 mm.

Head: First flagellomere ca. $4\times$ as long as its apical width, preapical flagellomeres distinctly longer than wide. Head transverse, matt, granulate and distinctly, densely punctate, and with dense, short hairs. Ocular-ocular distance $0.9\times$ as long as ocellus diameter, distance between lateral ocelli $1.2\times$ as long as ocellus diameter. Inner eye orbits weakly indented, subparallel. Gena moderately short, distinctly narrowed behind eyes, in dorsal view $0.5\times$ as long as eye width. Occipital carina complete, reaching hypostomal carina at base of mandible; hypostomal carina slightly elevated. Frons flat, weakly rugose, median longitudinal carina absent. Face almost flat in profile, partly rugose. Clypeus very weakly separated from face, flat in profile, wide, its apical margin weakly convex, not impressed, moderately blunt. Malar space $0.5\times$ as long as basal width of mandible. Lower margin of mandible with a moderately wide flange from base towards teeth, flange gradually narrowed before teeth; mandibular teeth about equal.

Mesosoma: Mesosoma densely punctate on granulate background, matt, and with dense, short hairs. Lower half of pronotum with strong, transverse and oblique wrinkles; epomia weak. Mesoscutum about as long as wide, convex in profile; notaulus not developed. Scuto-scutellar groove wide and moderately deep. Scutellum weakly convex in profile, lateral carinae not developed. Mesopleuron granulate, densely, strongly punctate, anterior to speculum rugose; speculum almost smooth, polished. Epicnemial carina complete, strong, pleural part bent to anterior margin of mesopleuron reaching it at about its middle height, ventral part not elevated. Sternaulus indistinct. Posterior transverse carina of mesosternum complete, slightly elevated. Metanotum ca. $0.5\times$ as long as scutellum. Metapleuron densely punctate on granulate background, without juxtacoxal carina; submetapleural carina complete, elevated. Pleural carina of propodeum complete, strong; propodeal spiracle oval, separated from pleural carina by about its length, connected to pleural carina by a distinct ridge. Propodeum convex in profile, rugose, punctures only anteriorly distinct, posteriorly merged into rugosity, medially transversely rugose; posterior half of propodeum medially weakly impressed. Propodeal carinae complete and strong, though median sections of anterior and posterior transverse carinae slightly weaker than other carinae but clearly discernible. Area basalis trapezoid, slightly shorter than its

anterior width. Area superomedia hexagonal, transversely rugose, $1.2\times$ as long as wide, its lateral sides convergent behind costulae, posteriorly closed. Area petiolaris strongly, transversely striate, separated from area superomedia by median section of posterior transverse carina. Fore wing without areolet, *3rs-m* absent, second recurrent vein (*2m-cu*) postfurcal, intercubitus (*2rs-m*) about as long as abscissa of *M* between *2rs-m* and *2m-cu*, their angle obtuse; distal abscissa of *Rs* straight; nervulus (*cu-a*) postfurcal by about its width, vertical; postnervulus (abscissa of *Cu1* between *1m-cu* and *Cu1a* + *Cu1b*) intercepted slightly above its middle by *Cu1a*; lower external angle of second discal cell weakly acute. Hind wing with nervellus (*cu-a* + abscissa of *Cu1* between *M* and *cu-a*) vertical, not intercepted by discoidella (*Cu1*); discoidella spectral, proximally not connected to nervellus. Coxae finely granulate-punctate. Hind femur ca. $5\times$ as long as wide in profile. Inner spur of hind tibia ca. $0.6\times$ as long as first tarsomere of hind tarsus. Hind tarsus with a midventral row of closely spaced, short hairs (appearing as a darker, somewhat scaly, inconspicuous line). Tarsal claws small, about as long as arolium, pectinate almost to apices.

Metasoma: Metasoma weakly compressed, very finely granulate to shagreened, with dense, short hairs. First tergite ca. $2.8\times$ as long as its posterior width, $1.2\times$ as long as second tergite; glymma strong; dorsomedian carinae of first tergite weak. Second tergite $1.2\times$ as long as its posterior width; thyridium oval, its distance from anterior margin of tergite subequal to its length. Posterior margins of sixth and seventh tergites medially almost straight, not excised. Ovipositor sheath $0.8\times$ as long as hind tibia; ovipositor compressed, basal two-thirds almost straight, apical third very strongly, conspicuously upcurved, preapical dorsal notch distinct, small.

Colour: Antenna, including scapus and pedicellus, black. Head black, palpi and mandible reddish yellow except base of mandible narrowly blackish and mandibular teeth brown. Mesosoma black, tegula reddish yellow. Metasoma black; ovipositor sheath blackish. Wings hyaline, wing veins and pterostigma dark brown. Fore and middle legs: coxae black, apically at most narrowly yellowish, trochanters and trochantelli orange with brownish patches, femora, tibiae and tarsi orange, apical tarsomeres brownish. Hind leg: coxa, trochanter and trochantellus black; femur black, apical third orange-brown; tibia basally and apically extensively black, medially reddish yellow; tarsus blackish. Hairs greyish.

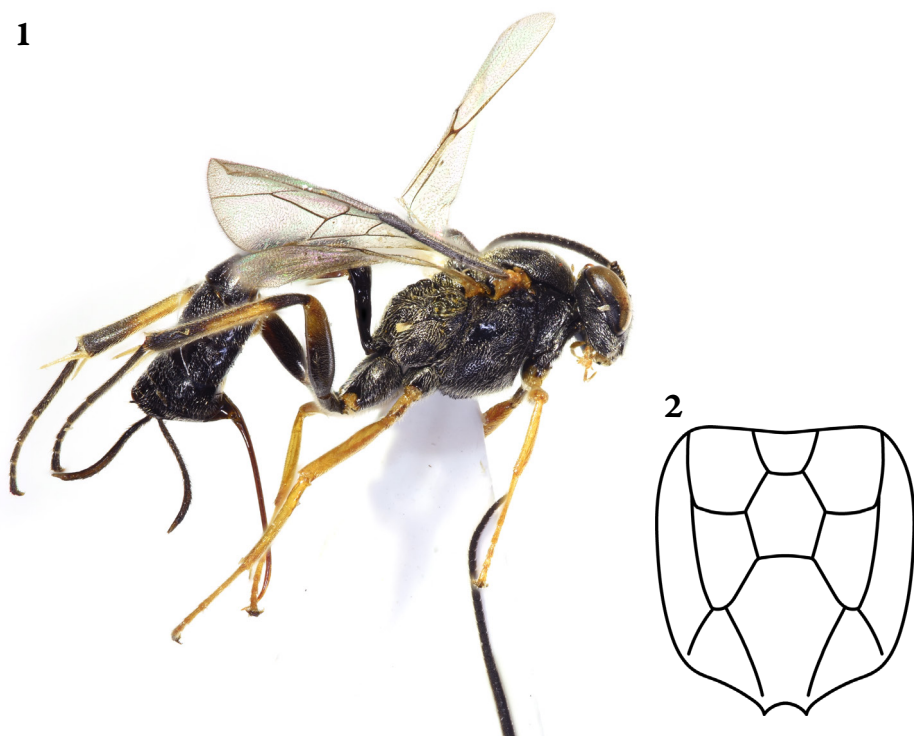
Male: Unknown.

Distribution – Taiwan.

Etymology – The specific epithet *hamatus* is the masculine form of the Latin adjective *hamatus*, -a, -um, meaning hooked, referring to the apically strongly upcurved ovipositor of the new species.

Remarks on identification – The new species, considering the character combination of its apically very strongly upcurved ovipositor, entirely black metasoma, and extensively black hind leg, might only be confused with a species described from Okinawa, Japan by MOMOI (1970): *Eriborus howardae* Kittel,

2016 (replacement name for *Eriborus niger* Momoi, 1970, as the original name is a secondary junior homonym of *Eriborus niger* (Szépligeti, 1908) (KITTEL 2016)). This species can be readily distinguished from the new species by its much longer ovipositor (ovipositor sheath almost 2× as long as hind tibia), and entirely black hind femur (MOMOI 1970). *Eriborus hamatus* sp. nov., due to its strongly upcurved ovipositor and relatively stout body, is superficially similar to some species of *Lathrostizus* Förster, 1869; however, in *Lathrostizus* the midventral row of closely spaced, short hairs of hind tarsus is absent, the areolet is closed (*3rs-m* present), and the area superomedia is opened posteriorly (TOWNES 1970, HORSTMANN 1971, 2004).

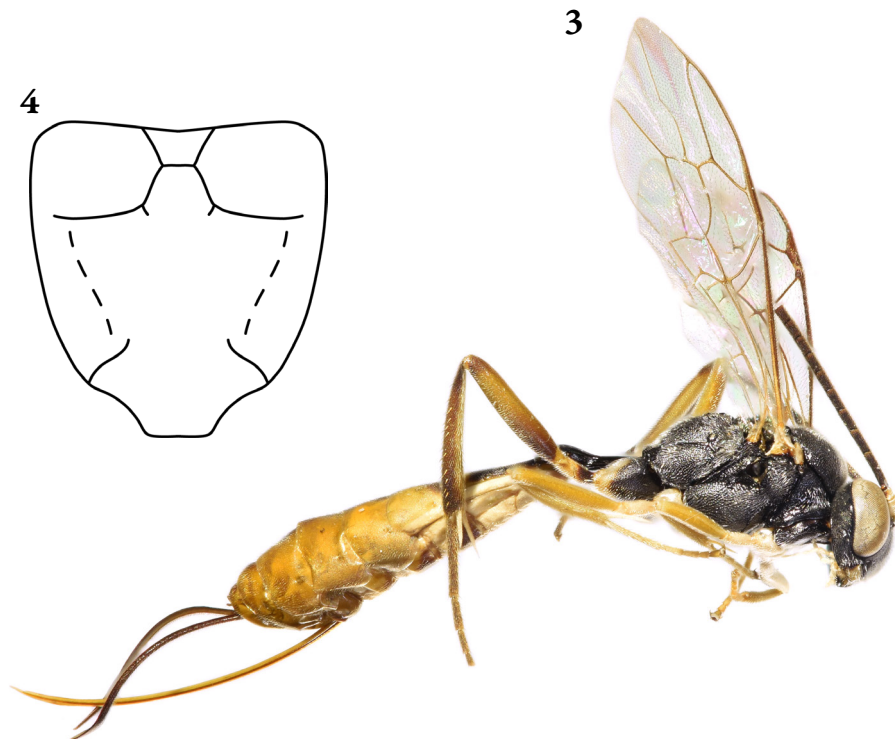


Figs 1–2. *Eriborus hamatus* sp. nov., 1 = habitus, holotype, 2 = propodeum, surface sculpture not indicated (photo by Zoltán Vas, drawing by Viktória Szőke)

***Eriborus xantusi* sp. nov.**

(Figs 3–4)

Type material – Holotype: female, “Malaysia: Sabah, Sipitang, Mendolong, A1L, 20.II.1989, leg. S. Adebratt”, specimen pinned, id. MZLU 207006. Holotype is deposited in the MZLU.



Figs 3–4. *Eriborus xantusi* sp. nov., 3 = habitus, holotype, 4 = propodeum, surface sculpture not indicated (photo by Zoltán Vas, drawing by Viktória Szőke)

Diagnosis – The new species can be distinguished from the known species of the genus by the following character states in combination: gena distinctly narrowed behind eyes, in dorsal view $0.4\times$ as long as eye width; mesopleuron granulate, densely, strongly punctate, and with short wrinkles anterior to the finely granulate speculum; propodeum convex in profile, rugose-punctate, posterior half medially distinctly impressed, impression with transverse costae; lateromedian longitudinal carinae anterior to the level of costulae distinct, posterior to the level of costulae virtually absent, lateral longitudinal carinae weak to obsolescent, anterior transverse carina distinct, posterior transverse carina laterally distinct, medially absent; area superomedia only anteriorly bordered,

behind costulae without lateral and posterior bordering carinae; intercubitus (*2rs-m*) slightly longer than abscissa of *M* between *2rs-m* and *2m-cu*; second tergite $1.7\times$ as long as its posterior width; posterior margins of apical tergites concave but not excised; ovipositor sheath $1.6\times$ as long as hind tibia, ovipositor almost evenly upcurved; scapus and pedicellus pale yellow with dorsal blackish patches; tegula pale yellow; first tergite of metasoma black with yellowish apical band, second tergite black with wide, yellow apical band, third and following tergites orange, base of third tergite and narrow dorsal patches of following tergites brownish; fore and middle legs orange, except coxae, trochanters and trochantelli pale yellow; hind coxa blackish, apical third pale yellow, femur yellowish brown, basally and apically distinctly darkened, tibia brown, basally and apically darkened, ventral side entirely and an indistinct basal spot of dorsal side yellowish.

Description – Female (Figs 3–4). Body length ca. 7.5 mm, fore wing length ca. 5.5 mm.

Head: First flagellomere ca. $4\times$ as long as its apical width, preapical flagellomeres slightly longer than wide. Head transverse, matt, granulate-punctate, punctures distinct on face and clypeus, weak on gena, and with dense, short hairs. Ocular-ocellar distance $0.7\times$ as long as ocellus diameter, distance between lateral ocelli $1.2\times$ as long as ocellus diameter. Inner eye orbits distinctly indented, weakly convergent ventrad. Gena short, distinctly narrowed behind eyes, in dorsal view $0.4\times$ as long as eye width. Occipital carina complete, reaching hypostomal carina almost at base of mandible; hypostomal carina slightly elevated. Frons flat, slightly rugulose, median longitudinal carina absent. Face almost flat in profile, partly rugulose. Clypeus very weakly separated from face, flat in profile, moderately wide, its apical margin convex, not impressed, blunt. Malar space $0.3\times$ as long as basal width of mandible. Lower margin of mandible with a moderately wide flange from base towards teeth, flange gradually narrowed before teeth; upper mandibular tooth slightly longer and wider than lower tooth.

Mesosoma: Mesosoma densely punctate on granulate background, matt, and with dense, short hairs. Lower half of pronotum almost smooth with relatively weak, transverse wrinkles; epomia weak. Mesoscutum about as long as wide, convex in profile; notaulus not developed. Scuto-scutellar groove wide and moderately deep. Scutellum weakly convex in profile, lateral carinae not developed. Mesopleuron granulate, densely, strongly punctate, and with short wrinkles anterior to speculum; speculum finely granulate, matt. Epicnemial carina complete, strong, pleural part bent to anterior margin of mesopleuron reaching it at about its middle height, ventral part slightly elevated. Sternaulus indistinct. Posterior transverse carina of mesosternum complete, slightly elevated. Metanotum ca. $0.5\times$ as long as scutellum. Metapleuron densely punctate on granulate background, without juxtacoxal carina; submetapleural carina complete, elevated. Pleural carina of propodeum complete, strong; propodeal spiracle oval, separated from pleural carina by about its length, connected to pleural carina

by a distinct ridge. Propodeum convex in profile, rugose-punctate, punctures anteriorly distinct, posteriorly merged into rugosity; posterior half of propodeum medially distinctly impressed, impression with strong, dense, transverse costae. Propodeal carination: lateromedian longitudinal carinae anterior to the level of costulae distinct, posterior to the level of costulae virtually absent; lateral longitudinal carinae weak to obsolescent; anterior transverse carina, including costulae, distinct; posterior transverse carina laterally distinct, medially absent. Area basalis trapezoid, about as long as its anterior width. Area superomedia only anteriorly bordered, behind costulae without lateral and posterior bordering carinae; its anterior (bordered) part with strong, sparse punctures on granulate background. Area petiolaris medially with strongly trans-costate impression, junction with area superomedia not discernible. Fore wing without areolet, *3rs-m* absent, second recurrent vein (*2m-cu*) postfurcal, intercubitus (*2rs-m*) slightly longer than abscissa of *M* between *2rs-m* and *2m-cu*, their angle obtuse; distal abscissa of *Rs* straight; nervulus (*cu-a*) postfurcal by about its width, vertical; postnervulus (abscissa of *Cu1* between *1m-cu* and *Cu1a* + *Cu1b*) intercepted slightly above its middle by *Cu1a*; lower external angle of second discal cell weakly acute. Hind wing with nervellus (*cu-a* + abscissa of *Cu1* between *M* and *cu-a*) slightly reclinous, not intercepted by discoidella (*Cu1*); discoidella spectral, proximally not connected to nervellus. Coxae finely granulate-punctate. Hind femur ca. 5× as long as wide in profile. Inner spur of hind tibia ca. 0.65× as long as first tarsomere of hind tarsus. Hind tarsus with a midventral row of closely spaced, short hairs (appearing as a darker, somewhat scaly line). Tarsal claws small, about as long as arolium, pectinate almost to apices.

Metasoma: Metasoma compressed, elongate, very finely granulate to shagreened with inconspicuous punctures, and with dense, short hairs. First tergite slender, ca. 4× as long as its posterior width, 1.3× as long as second tergite; glymma small but distinct; dorsomedian carinae of first tergite barely discernible. Second tergite 1.7× as long as its posterior width; thyridium small, subcircular, its distance from anterior margin of tergite 3× as long as its length. Posterior margins of sixth and seventh tergites medially concave but not excised. Ovipositor sheath quite long, 1.6× as long as hind tibia; ovipositor compressed, almost evenly upcurved, preapical dorsal notch distinct.

Colour: Antenna brown, scapus and pedicellus pale yellow with dorsal blackish patches. Head black, palpi and mandible pale yellow, mandibular teeth brownish. Mesosoma black, tegula pale yellow. Metasoma: first tergite black with moderately wide, yellowish apical band; second tergite black with wide, yellow apical band; third and following tergites orange, base of third tergite and narrow dorsal patches of following tergites brownish; ovipositor sheath dark brown. Wings hyaline, wing veins and pterostigma brown. Fore and middle legs orange, except coxae, trochanters and trochantelli pale yellow. Hind leg: coxa distinctly bicoloured, basal two-thirds blackish, apical third pale yellow; trochanter black, apically narrowly yellowish; trochantellus brownish yellow; femur yellowish

brown, basally and apically distinctly, widely darkened; tibia brown, basally and apically darkened, ventral side entirely and an indistinct basal spot of dorsal side yellowish; tarsus brown. Hairs greyish.

Male: Unknown.

Distribution – Malaysia (Borneo Island).

Etymology – As a commemoration of the bicentenary of János Xántus (1825–1894)'s birth, the new species is dedicated to the memory of this remarkable zoologist, ethnologist, and one of the most dedicated collectors who, during his adventurous life and travels in North America and Southeast Asia (including Borneo), greatly contributed to the richness of the Hungarian natural history collections. The specific epithet is proper noun in the genitive case.

Remarks on identification – The new species, considering the unique character combination of its quite long, almost evenly upcurved ovipositor, reduced propodeal carination and colouration of metasoma and hind leg, cannot be confused with any other species of the genus. Regarding general habitus, *Eriborus xantusi* sp. nov. is superficially similar to *Eriborus pleuroptyae* Kusigemati et Tanaka, 1992, described and known from Japan (Honshu), and reported for the first time from North Korea in this paper below. The latter species can be easily distinguished from the new species by its propodeum with strongly developed carinae (cf. KUSIGEMATI & TANAKA (1992): fig. 1), shorter ovipositor sheath (1.2–1.3× as long as hind tibia), orange hind femur, orange hind tibia with weak basal and apical infuscation, and more extensively darkened middle and apical tergites.

Faunistics and biogeography

Echthronomas quadrinotata (Thomson, 1887)

Material examined – Taiwan: “Ilan [=Yilan] County, Fu-Shan Botanical Garden, 700 m”, 25–27.IX.2000, leg. L. Papp, L. Peregovits & L. Ronkay, at light, one male. Deposited in the HNHM.

Remarks – First record from Taiwan, and from the Oriental Region. This species is widely distributed in the Palaearctic Region (YU *et al.* 2016). The present record significantly expands the distribution of the species both eastwards and southwards. The Taiwanese specimen is somewhat smaller (body length 5 mm) than the usual European specimens (usually ca. 7 mm), nevertheless all species-level diagnostic characters clearly support their conspecificity. The smaller size of the Oriental specimen may be explained by possibly different host species in the region (in Europe it develops in erebid moths (Lepidoptera)).

Enytus apostatus (Gravenhorst, 1829)

Material examined – North Korea: “Prov. Ryang-gang, Chann-Pay Plateau, 15 km SSW from Sam-zi-yan [= Samjiyon], 1600 m”, 23.VII.1975, No. 277, leg. J. Papp & A. Vojnits, one female. Deposited in the HNHM.

Remarks – First record from North Korea, and from the Korean Peninsula. This species is widely distributed in the Palaearctic, Afrotropical and Oriental Regions and it is also known from Greenland (YU *et al.* 2016).

Eriborus obscuripes Horstmann, 1987

Material examined – Russia: “Siberia or., Raddefka” [= East Siberia, Jewish Autonomous Oblast, Radde], date and collector unknown, one female. Deposited in the HNHM.

Remarks – First record from Russia. This species is known from several European countries (YU *et al.* 2016, VAS 2019) and has been recently reported from the Eastern Palaearctic Region (Iran) (VAS *et al.* 2024). The present record significantly expands the distribution of the species eastwards.

Eriborus pleuroptyae Kusigemati et Tanaka, 1992

Material examined – North Korea: “Prov. South Pyongan, 40 km NE from Nam-po [= Nampho]”, 5.IX.1971, No. 239, leg. S. Horvatovich & J. Papp, two females; Prov. South Pyongan, Pyongyang, Hotel garden, 6–7.IX.1971, No. 243, leg. S. Horvatovich & J. Papp, one female. Deposited in the HNHM.

Remarks – First records from North Korea, and from the Korean Peninsula. This species has been known from Japan (Honshu) so far (KUSIGEMATI & TANAKA 1992, YU *et al.* 2016).

Eriborus ryukyuensis Momoi, 1970

Material examined – Taiwan: “Formosa, Taihorinsho”, X.1909, leg. H. Sauter, one female. Deposited in the HNHM.

Remarks – First record from Taiwan. This species has been known from Japan (Okinawa, Kyushu) and Vietnam so far (MOMOI 1970, KUSIGEMATI 1976, NHI & LONG 2016, YU *et al.* 2016).

Eriborus terebrans (Gravenhorst, 1829)

Material examined – Mongolia: “Chentej aimak [= Khentii Province], 150 km ONO v. Öndörchaan [= Chinggis City], 10 km S v. Kerulen [= Kherlen], 1000 m”, 30.VII.1965, Nr. 331, leg. Z. Kaszab, one female, four males. Deposited in the HNHM.

Remarks – First record from Mongolia. This species is widely distributed in the Palaearctic and Oriental Regions and has been introduced to the Nearctic Region (YU *et al.* 2016).

Eriborus vulgaris (Morley, 1913)

Material examined – Malaysia: “Sabah, Sipitang, Mendolong”, 20.II.–14.III.1989, leg. S. Adebratt, three females. Deposited in the MZLU (one female) and in the HNHM (two females).

Remarks – First record from Malaysia and from Borneo Island. This species is widely distributed in the Oriental and Eastern Palaearctic Regions (NH1 & LONG 2016, YU *et al.* 2016).

Genotropis clara Townes, 1970

Material examined – Thailand: “Nan Prov., over and along the rivulet above Mae Charim waterfall”, 6–8.XI.2004, leg. M. Földvári, A. Orosz & L. Papp, one female, one male. Deposited in the HNHM.

Remarks – First record from Thailand. This species was described from the Philippines (TOWNES 1970); recently, HAN *et al.* (2022) reported it from China (both from parts belonging to the Orientalis and to the Eastern Palaearctis). The specimens from Thailand are identical with the holotype in colouration, i.e., hind femur and tibia are almost entirely orange, only slightly, indistinctly darkened basally (femur) or subbasally (tibia) and apically (both), while these are conspicuously, strongly and extensively darkened, blackish in the Chinese specimens (cf. HAN *et al.* 2022: fig. 3).

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REFERENCES

- CHOI J.-K. & LEE J.-W. 2010: Taxonomic study of Korean Eriborus Förster (Hymenoptera: Ichneumonidae: Campopleginae) new to Korea. – *Entomological Research* **40**: 236–241. <https://doi.org/10.1111/j.1748-5967.2010.00287.x>
- CUSHMAN R. A. 1927: New Indian Ichneumonidae. – *Records of the Indian Museum* **29**: 241–247. <https://doi.org/10.26515/rzsi/v29/i4/1927/163207>
- DBAR R. S. & SAPARMAMEDOVA N. K. 1988: (A new species of Eriborus (Hymenoptera: Ichneumonidae), a parasite of Portesia cargalica Moore in the central Kopet Dag.) – *Proceedings of the Academy of Sciences of the Turkmen SSR, Series of Biological Sciences* **1988**(6): 62–64.
- FULLAWAY D. T. 1940: New species from the Bishop Museum collection of Samoan parasitic Hymenoptera. – *Proceedings of the Hawaiian Entomological Society* **10**: 399–410.
- GAULD I. D. 1984: *An introduction to the Ichneumonidae of Australia*. – British Museum (Natural History), London, 413 pp.
- GAULD I. D. 1991: The Ichneumonidae of Costa Rica, 1. Introduction, keys to subfamilies, and keys to the species of the lower Pimpliform subfamilies Rhyssinae, Poemeniinae, Acaenitinae and Cyloceriinae. – *Memoirs of the American Entomological Institute* **47**: 1–589.
- GAULD I. D., WAHL D., BRADSHAW K., HANSON P. & WARD S. 1997: The Ichneumonidae of Costa Rica, 2. Introduction and keys to species of the smaller subfamilies, Anomaloninae, Ctenopelmatinae, Diplazontinae, Lycorininae, Phrudinae, Tryphoninae (excluding Netelia) and Xoridinae, with an appendix on the Rhyssinae. – *Memoirs of the American Entomological Institute* **57**: 1–485.
- HAN Y.-Y., VAN ACHTERBERG K. & CHEN X.-X. 2022: Four rare genera of the subfamily Campopleginae (Hymenoptera: Ichneumonidae) from China, with description of three new species. – *Zootaxa* **5219**(3): 247–264. <https://doi.org/10.11646/zootaxa.5219.3.3>
- HARALDSEIDE H. 2023: Two new species of campoplegine ichneumonid wasps (Hymenoptera, Ichneumonidae, Campopleginae) from Germany. – *Norwegian Journal of Entomology* **70**: 132–137.
- HARRIS R. A. 1979: A glossary of surface sculpturing. – *Occasional Papers in Entomology* **28**: 1–31.
- HORSTMANN K. 1969: Typenrevision der europäischen Arten der Gattung Diadegma Förster (syn. Angitia Holmgren). – *Beiträge zur Entomologie* **19**: 413–472.
- HORSTMANN K. 1971: Revision der europäischen Arten der Gattung Lathrostizus Förster (Hymenoptera, Ichneumonidae). – *Mitteilungen der Deutschen Entomologischen Gesellschaft* **30**: 8–12, 16–18. <https://doi.org/10.1002/mmnd.4820300202>
- HORSTMANN K. 1973: Nachtrag zur Revision der europäischen Diadegma-Arten (Hymenoptera: Ichneumonidae). – *Beiträge zur Entomologie* **23**: 131–150.
- HORSTMANN K. 1987: Die europäischen Arten der Gattung Echthronomas Förster and Eriborus Förster (Hym., Ichneumonidae). – *Nachrichtenblatt der Bayerischen Entomologen* **36**: 57–67.
- HORSTMANN K. 2004: Bemerkungen zur Systematik einiger Gattungen der Campopleginae IV (Hymenoptera, Ichneumonidae). – *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* **56**: 13–35.

- KITTEL R. N. 2016: Eighty-nine replacement names for Braconidae and Ichneumonidae (Insecta: Hymenoptera: Ichneumonoidea). – *Japanese Journal of Systematic Entomology* **22**(2): 161–174.
- KONISHI K. 2016: A New Record of *Eriborus applicitus* Sheng & Sun, 2006 (Hymenoptera: Ichneumonidae) Parasitic on *Cossus insularis* (Staudinger, 1892) (Lepidoptera: Cossidae) from Japan. – *Japanese Journal of Systematic Entomology* **22**(2): 155–157.
- KUSIGEMATI K. 1976: New host records of Ichneumonidae from Japan. – *Memoirs of the Faculty of Agriculture, Kagoshima University* **12**: 125–127.
- KUSIGEMATI K. 1981: A new species of the genus *Microcharops* Roman from Japan (Hymenoptera, Ichneumonidae). – *Memoirs of the Faculty of Agriculture, Kagoshima University* **17**: 127–130.
- KUSIGEMATI K. 1988: Descriptions of four new Ichneumon flies parasitic on pine insect pests in Thailand (Hymenoptera: Ichneumonidae). – *Memoirs of the Faculty of Agriculture, Kagoshima University* **24**: 147–155.
- KUSIGEMATI K. & TANAKA A. 1992: New host records of Ichneumonidae (Hymenoptera), with description of a new *Eriborus* species from Japan (VIII). – *Memoirs of the Faculty of Agriculture, Kagoshima University* **28**: 83–88.
- MOMOI S. 1970: Ichneumonidae (Hymenoptera) of the Ryukyu Archipelago. – *Pacific Insects* **12**(2): 327–399.
- MOMOI S., KUSIGEMATI K. & NAKANISHI A. 1968: Ichneumonidae (Hymenoptera) collected in paddy fields of the Orient, with descriptions of new species, Part 2. Subfamilies Porizontinae, Metopiinae and Diplazontinae. – *Mushi* **41**: 201–214.
- MORLEY C. 1913: *The fauna of British India including Ceylon and Burma, Hymenoptera, Vol. 3. Ichneumonidae*. – British Museum, London, 531 pp.
- NHI P. T. & LONG K. D. 2016: A checklist of the family Ichneumonidae (Hymenoptera: Ichneumonoidea) from Vietnam. – *Tap chi Sinh hoc* **38**(4): 411–441.
- PAULL C. & AUSTIN A. D. 2006: The hymenopteran parasitoids of light brown apple moth, *Epiphyas postvittana* (Walker) (Lepidoptera: Tortricidae) in Australia. – *Australian Journal of Entomology* **45**(2): 142–156. <https://doi.org/10.1111/j.1440-6055.2006.00524.x>
- RAO S. N. & KURIAN C. 1950: Descriptions of eleven new and records of fifteen known species of Ichneumonoidea (Hymenoptera Parasitica) from India. – *Indian Journal of Entomology* **12**: 167–190.
- ROUSSE P. & VILLEMANT C. 2012: Ichneumons in Reunion Island: a catalogue of the local Ichneumonidae (Hymenoptera) species, including 15 new taxa and a key to species. – *Zootaxa* **3278**: 1–57. <https://doi.org/10.11646/zootaxa.3278.1.1>
- SHENG M. L. & SUN S. P. 2006: A new species of genus *Eriborus* Foerster (Hymenoptera: Ichneumonidae) parasitizing *Holcocerus insularis* Staudinger (Lepidoptera: Cossidae). – *Entomologica Fennica* **17**(2): 170–173. <https://doi.org/10.33338/ef.84325>
- SHENG M. L. & XU G. T. 1997: Three new species and two new host records of genus *Eriborus* Foerster (Hymenoptera: Ichneumonidae) from China. – *Entomologia Sinica* **4**(2): 139–143. <https://doi.org/10.1111/j.1744-7917.1997.tb00083.x>
- SONAN J. 1936: Two new species of Ichneumon-flies. – *Transactions of the Natural History Society of Formosa* **26**: 269–270.

- SONAN J. 1939: Descriptions of three new species of Ichneumonidae from Formosa (Hymenoptera). – *Dobutsugaku zasshi* **51**: 428–431.
- SZÉPLIGETI GY. 1910: E. Jacobons'sche Hymenopteren aus Java und Krakatau. Braconiden und Ichneumoniden. – *Notes from the Leyden Museum* **32**: 85–104.
- TOSQUINET J. 1903: Ichneumonides nouveaux. – *Mémoires de la Société Entomologique de Belgique* **10**: 1–403.
- TOWNES H. 1969: The genera of Ichneumonidae. Part 1. – *Memoirs of the American Entomological Institute* **11**: 1–300.
- TOWNES H. 1970: The genera of Ichneumonidae. Part 3. – *Memoirs of the American Entomological Institute* **13**: 1–307.
- UCHIDA T. 1932: H. Sauter's Formosa-Ausbeute. Ichneumonidae (Hym.). – *Journal of the Faculty of Agriculture, Hokkaido University* **33**: 133–222.
- VAS Z. 2019: Contributions to the taxonomy, identification, and biogeography of Eriborus Förster, 1869 and Nepiesta Förster, 1869 (Hymenoptera: Ichneumonidae: Campopleginae). – *Opuscula Zoologica Instituti Zoosystematici et Oecologici Universitatis Budapestinensis* **50**(1): 87–98. <https://doi.org/10.18348/opzool.2019.1.87>
- VAS Z. 2022: Contributions to the taxonomy and biogeography of Afrotropical Eriborus Förster, 1869 (Hymenoptera: Ichneumonidae: Campopleginae). – *Acta Zoologica Academiae Scientiarum Hungaricae* **68**(2): 169–178. <https://doi.org/10.17109/AZH.68.2.169.2022>
- VAS Z. 2023: Still from Bíró's cornucopia: new species and new records of Campopleginae from Australia (Hymenoptera: Ichneumonidae). – *Folia entomologica hungarica* **84**: 63–97. <https://doi.org/10.17112/FoliaEntHung.2023.84.63>
- VAS Z. 2024: New species and new records of Oriental Campopleginae and Nesomesochorinae (Hymenoptera: Ichneumonidae). – *Folia entomologica hungarica* **85**: 61–79. <https://doi.org/10.17112/FoliaEntHung.2024.85.61>
- VAS Z., FEIZI A., TALEBI A. A. & HEYDARI M. Z. 2024: Contributions to the taxonomy, identification, and biogeography of Palaearctic Campopleginae (Hymenoptera: Ichneumonidae), with the description of a new Porizon Fallén species from Iran. – *Zootaxa* **5418**(5): 183–192. <https://doi.org/10.11646/zootaxa.5418.2.5>
- YU D. S. & HORSTMANN K. 1997: *A catalogue of world Ichneumonidae (Hymenoptera)*. – The American Entomological Institute, Gainesville, 1558 pp.
- YU D. S., VAN ACHTERBERG C. & HORSTMANN K. 2016: *Taxapad 2016, Ichneumonoidea 2015*. – Database on flash-drive. www.taxapad.com, Nepean, Ontario, Canada.