FOLIA ENTOMOLOGICA HUNGARICA
ROVARTANI KÖZLEMÉNYEK
Volume 86 2025 pp. 31–53
ISSN 0373-9465 (print) ISSN 2786-2798 (online)
published: 20 March 2025

New species and records of Ichneumonidae II. (Hymenoptera)

Zoltán Vas

Hungarian National Museum Public Collection Centre – Hungarian Natural History Museum, Department of Zoology, Hymenoptera Collection, H-1088 Budapest, Baross utca 13, Hungary.
E-mail: vas.zoltan@nhmus.hu

Abstract – Ichneumon wasps (Hymenoptera: Ichneumonidae) of the subfamilies Adelognathinae, Anomaloninae, Campopleginae, Cremastinae, Cryptinae, Ctenopelmatinae, Diplazontinae, Ichneumoninae, Mesochorinae, Ophioninae, and Pimplinae are treated. *Adelognathus kasparyani* sp. nov. and *Perilissus deltoideus* sp. nov. are described from Laos, *Temelucha athenae* sp. nov. is described from Greece. Additionally, *Adelognathus laevicollis* Thomson, 1833, *Delomerista mandibularis* (Gravenhorst, 1829), *Diadromus collaris* (Gravenhorst, 1829), *Diadromus varicolor* Wesmael, 1845, *Dichrogaster aestivalis* (Gravenhorst, 1829), *Diplazon angustus* Dasch, 1964, *Enytus parvicanda* (Thomson, 1887), *Gelis aponius* Schwarz, 2002, *Gelis formicarius* (Linnaeus, 1758), *Gelis melanophorus* (Förster, 1851), *Hyposoter inquinatus* (Holmgren, 1860), *Mesochorus varius* Schwenke, 1999, *Stenobarichneumon citator* (Thunberg, 1822), and *Sussaba flavipes* (Lucas, 1849) are reported for the first time from Hungary, as well as *Anomalon nigribase* Cushman, 1937, *Astiphromma unicolor* Uchida, 1933, *Calosphyrum alboorbitale* Kusigemati, 1987, *Cryptopimpla fasciolurida* Chandra et Gupta, 1977, *Enicospilus plicatus* (Brullé, 1846), *Goryphus dravidus* Jonathan et Gupta, 1973, and *Ophion bicarinatus* Cameron, 1905 from Laos, *Enicospilus agrophus* Gauld et Mitchell, 1978, and *Osprynchotus flavipes* Brullé, 1846 from Ghana, *Enicospilus hecastus* Gauld et Mitchell, 1978 from Angola, and *Charops annulipes* Ashmead, 1890 from Costa Rica.

Key words – taxonomy, species description, distribution, Palaearctic Region, Oriental Region, Afrotropical Region, Neotropical Region

INTRODUCTION

Recent findings from the ongoing identification process of Ichneumonidae (Hymenoptera) material in the Hungarian National Museum Public Collection Centre – Hungarian Natural History Museum, Budapest (HNHM) are presented in this paper, as a continuation of the work reported by Vas (2020). *Adelognathus kasparyani* sp. nov. (Adelognathinae) and *Perilissus deltoideus* sp. nov. (Ctenopelmatinae) are described from Laos, and *Temelucha athenae* sp. nov. (Cremastinae) is described from Greece. Additionally, 25 new country

DOI: *https://doi.org/10.17112/FoliaEntHung.2025.86.31*
ZooBank: *https://zoobank.org/urn:lsid:zoobank.org:pub:29F4889E-500E-4E6B-B88A-07C8A14BB3DB*

records are given for ichneumon wasp species of the subfamilies Adelognathinae, Anomaloninae, Campopleginae, Cryptinae, Diplazontinae, Ichneumoninae, Mesochorinae, Ophioninae, Pimplinae, occurring in the Palaearctic, Oriental, Afrotropical and Neotropical Regions.

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 Schmiedeknecht (1912), Morley (1913), Ghigi (1915), Cushman (1922), Uchida (1930, 1933), Burks (1952), Leclercq (1958), Constantineanu (1959, 1965), Perkins (1959, 1960), Bajári (1960), Townes *et al*. (1961), Horstmann (1969, 1973, 1976), Townes (1969, 1970*a*, *b*, 1971, 1983), Šedivý (1971), Chandra & Gupta (1977), Gauld & Mitchell (1978, 1981), Kasparyan (1981, 1986, 1990, 1999, 2007), Gauld (1984), Gupta (1987), Kusigemati (1987, 1991), Narolsky (1987), Fitton *et al*. (1988), Barron (1992), Lee (1992), Kolarov (1995, 1997, 2013, 2016), Gauld *et al*. (1997), Schwenke (1999), Schwarz (2002), Jonathan (2006), Kasparyan & Khalaim (2007), Klopfstein (2014), Shaw & Wahl (2014), Vas (2016*a*, *b*, 2020), Galsworthy *et al*. (2023), Watanabe (2024), 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, and are deposited in the Hymenoptera Collection of the HNHM. Label data of type specimens are given verbatim, with additions and explanations in square brackets if necessary. Taxa are listed alphabetically.

TAXONOMY

Subfamily: Adelognathinae Thomson, 1888
Genus: *Adelognathus* Holmgren, 1857

Type species: *Adelognathus brevicornis* Holmgren, 1857; subsequent designation by Viereck (1912)

Diagnosis: Townes (1969), Kasparyan (1990)

Adelognathus kasparyani **sp. nov.**
(Figs 1–2)

Type material – Holotype: female, "Laos, Xiangkhouang Prov., Phou Samsoum Mts., Muang Moc, 2220 m, 19°8.627'N, 103°48.050'E, 2024.10.22., leg. L. Peregovits", specimen card-mounted, id. HNHM-HYM 155352.

Figs 1–2. *Adelognathus kasparyani* sp. nov. holotype, 1 = habitus, lateral view, 2 = head, frontal view (photos by Zoltán Vas)

Diagnosis – The new species can be distinguished from the known species of the genus by the following character states in combination: antenna with 12 flagellomeres; combined length of first and second flagellomeres as long as eye length; face and clypeus polished; gena weakly narrowed behind eyes; occipital carina reaching hypostomal carina at base of mandible; apical margin of labrum medially straight; malar space 1.1× as long as basal width of mandible; combined length of third to fifth segments of maxillary palpus 0.8× as long as eye length; epicnemial carina complete, both pleural and ventral parts distinct; propodeal carinae absent, propodeal areae not developed; fore wing without areolet; hind tibia distinctly thickened; first tarsomere of hind tarsus 1.5×, second tarsomere 0.8× as long as fifth tarsomere; ovipositor very slender; face medially and tegula yellow; metasoma black, posteriorly dark brown; pterostigma dark brown; legs orange, hind tibia basally and apically dark brown.

Description – Female (Figs 1–2). Body length ca. 3 mm, fore wing length ca. 3 mm.

Head: Antenna slightly thickened towards apex, with 12 flagellomeres; first flagellomere slender, ca. 4× as long as its apical width; combined length of first and second flagellomeres as long as eye length in frontal view; preapical flagellomeres longer than wide. Head transverse, polished, sparsely and very finely punctate on smooth background, and with moderately sparse, short hairs.

Ocular-ocellar distance 1.3× as long as ocellus diameter, distance between lateral ocelli 0.9× as long as ocellus diameter. Inner eye orbits not indented, frontal orbits slightly convergent, facial orbits slightly divergent ventrad. Gena weakly, roundly narrowed behind eyes, in dorsal view 0.6× as long as eye width. Occipital carina strong, except dorsomedially indistinct, reaching hypostomal carina at base of mandible; hypostomal carina slightly elevated. Frons convex, slightly impressed above toruli. Face wide, convex in profile. Clypeus wide, very weakly convex in profile, its apical margin subtruncate, moderately sharp. Labrum distinctly exposed below clypeus, its apical margin medially straight, not notched. Malar space 1.1× as long as basal width of mandible, with a distinct subocular groove. Mandible distinctly narrowed towards apex, upper mandibular tooth slightly longer and wider than lower tooth. Combined length of third to fifth segments of maxillary palpus 0.8× as long as eye length in frontal view.

Mesosoma: Mesosoma polished, smooth with very sparse and weak punctures, and with moderately dense, moderately short hairs. Pronotum with short, transverse wrinkles on lower half; epomia indistinct. Mesoscutum 0.9× as long as wide, convex in profile; notaulus anteriorly distinct but not deep, not reaching middle length of mesoscutum. Scuto-scutellar groove wide and moderately deep. Scutellum convex in profile, without lateral carinae. Mesopleuron virtually impunctate, smooth and polished. Epicnemial carina complete, both pleural and ventral parts distinct. Sternaulus indistinct. Posterior transverse carina of mesosternum incomplete, widely absent in front of middle coxae. Metanotum ca. 0.4× as long as scutellum, anteriorly with a pair of foveae. Metapleuron without juxtacoxal carina; submetapleural carina complete. Pleural carina of propodeum complete; propodeal spiracle circular, separated from pleural carina by more than its length, not connected to pleural carina by a ridge. Propodeum rather short and convex in profile, smooth and polished with a few, very sparse, weak punctures; propodeal carinae absent (except very short traces of longitudinal carinae at extreme apex); propodeal areae not developed. Fore wing without areolet, 3*rs-m* absent; second recurrent vein (2*m-cu*) with one bulla; distal abscissa of *Rs* weakly curved towards anterior wing margin; nervulus (*cu-a*) postfurcal by about its width, strongly inclivous; postnervulus (abscissa of *Cu*1 between 1*m-cu* and *Cu*1a + *Cu*1b) intercepted slightly below its middle by *Cu*1a; lower external angle of second discal cell acute. Hind wing with nervellus (*cu-a* + abscissa of *Cu*1 between *M* and *cu-a*) strongly inclivous, broken, intercepted by discoidella (*Cu*1) at about its lower 0.2; discoidella barely pigmented. Coxae smooth with weak, sparse punctures. Hind femur 4.2× as long as wide in profile. Hind tibia distinctly thickened, 4.5× as long as wide in profile; hind tibial spurs shorter than apical width of tibia. First tarsomere of hind tarsus 1.5× as long as fifth tarsomere, second tarsomere 0.8× as long as fifth tarsomere. Tarsal claws short and strongly curved, about as long as arolium, basally with 3–4 distinct pecten.

Metasoma: Metasoma smooth and polished, virtually impunctate, and with very sparse, moderately short hairs. First tergite 1.3× as long as its posterior width, glymma absent, spiracle slightly behind its middle length; dorsomedian carina of first tergite only basally discernible. First sternite ca. 0.3× as long as first tergite. Second tergite 0.6× as long as its posterior width, its laterotergite separated by a crease; thyridium weak, subcircular, separated from basal margin by about its length. Following tergites transverse, fully sclerotised. Ovipositor sheath about as long as apical depth of metasoma; ovipositor very slender, slightly downcurved, tip acute, upper valve without preapical notch or nodus, lower valve not widened subapically, without teeth.

Colour: Flagellum brown, scapus and pedicellus reddish brown ventrally. Head black, except face medially, labrum, palpi and mandible yellow, mandibular teeth brownish. Mesosoma black, tegula pale yellow. Metasoma black, posteriorly dark brown. Wings hyaline, wing veins brown, pterostigma dark brown. Legs orange, except fore and middle trochanters and trochantelli pale yellow, hind tibia basally and apically dark brown, and tarsi more or less brownish.

Male: Unknown.

Distribution – Laos.

Etymology – The new species is dedicated to Dmitry R. Kasparyan (1939–), Russian ichneumonologist, acknowledging his excellent previous works on the genus. The specific epithet is a proper noun in the genitive case.

Remarks on identification – The new species is most similar to, and keys out with the Western Palaearctic species *Adelognathus nigriceps* Thomson, 1888 by using the monograph of Kasparyan (1990), however, only with a partial match of the characters given in the key. The two species can be readily distinguished by the following couplet.

1 Face without yellow spot; face and clypeus finely granulate, matt; malar space distinctly shorter than basal width of mandible; lateromedian longitudinal carinae posteriorly present, though area petiolaris anteriorly not enclosed; hind tibia not thickened, more than 5.5× as long as wide in profile, uniformly orange ..... *Adelognathus nigriceps* Thomson, 1888

– Face medially with large, yellow spot; face and clypeus smooth, polished; malar space slightly longer than basal width of mandible; lateromedian longitudinal carinae absent, except very short traces at extreme apex, area petiolaris not developed; hind tibia distinctly thickened, 4.5× as long as wide in profile, orange with dark brown base and apex ... . *Adelognathus kasparyani* sp. nov.

Subfamily: Cremastinae Förster, 1869
Genus: *Temelucha* Förster, 1869

Type species: *Porizon macer* Cresson, 1872; subsequent designation by Perkins (1962)
Diagnosis: Sedivy (1971), Townes (1971)

Temelucha athenae sp. nov.
(Figs 3–4)

Type material – Holotype: female, "Greece, Peleponesos [= Peloponnese, Arcadia], Lagkadia, Pan, 15.IX.1997, leg. A. Podlussány", specimen card-mounted, id. HNHM-HYM 155355. Paratype: female, same label data as holotype, specimen card-mounted, id. HNHM-HYM 155356.

Figs 3–4. *Temelucha athenae* sp. nov. holotype, 3 = habitus, lateral view, 4 = head, frontal view (photos by Zoltán Vas)

Diagnosis – The new species can be distinguished from the known species of the genus by the following character states in combination: small species (body length ca. 4 mm); fore wing veins pigmented, pterostigma not unusually large; apical margin of clypeus weakly convex; malar space 0.7× as long as basal width of mandible; mesosoma conspicuously elongate, in profile 2.1–2.2× as long

as its maximum width but ventrally not concave; area superomedia 1.8–2.0× as long as wide, posteriorly closed; second discal cell 1.6–1.7× as long as first subdiscal cell; longer spur of hind tibia slightly longer than apical width of hind tibia; first tergite longer than second tergite, its ventral margins almost touching each other ventrally; ovipositor sheath 1.3–1.4× as long as hind tibia, ovipositor straight; clypeus, malar space, almost entire eye orbits, tegula, scutellum, a pair of roughly V-shaped stripes (as seen from anterior view) covering almost entire length of mesoscutum, and tergites from third on posteriorly and laterally widely yellow.

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

Head: Antenna with 22 flagellomeres; first flagellomere slender, ca. 4× as long as its apical width; preapical flagellomeres longer than wide. Head transverse, shiny, finely coriaceous to smooth, punctate (face more densely than other parts of head), and with short hairs. Ocelli small, ocular-ocellar distance 1.5× as long as ocellus diameter, posterior ocellar distance almost 3× as long as ocellus diameter. Inner eye orbits not indented, distinctly divergent ventrad. Gena in dorsal view 0.5× as long as eye width, roundly narrowed behind eye. Occipital carina medially obsolete, laterally and ventrally present, reaching hypostomal carina slightly before base of mandible; hypostomal carina slightly elevated. Frons weakly impressed above toruli. Face and clypeus very weakly convex in profile, apical margin of clypeus weakly convex, sharp. Malar space 0.7× as long as basal width of mandible. Mandible basally wide, narrowed towards apex, mandibular teeth subequal.

Mesosoma: Mesosoma conspicuously elongate, in profile 2.1–2.2× as long as its maximum width but ventrally not concave, densely punctate on finely coriaceous to granulate background, weakly shiny, and with dense, short hairs. Pronotum wrinkled on lower half; epomia discernible. Mesoscutum weakly convex in profile, ca. 1.25× as long as wide; notaulus indistinct. Scuto-scutellar groove moderately deep and wide. Scutellum flat in profile, lateral carinae only basally discernible. Mesopleuron finely granulate with dense punctures, and with distinct and dense diagonal wrinkles around speculum; speculum small, smooth. Epicnemial carina complete, pleural part slightly bent to anterior margin of mesopleuron but not reaching it. Sternaulus indistinct. Posterior transverse carina of mesosternum complete. Metanotum finely wrinkled, ca. 0.4× as long as scutellum. Metapleuron with juxtacoxal carina not developed; submetapleural carina complete. Pleural carina of propodeum strong; propodeal spiracle rather small, circular, separated from pleural carina by about 3× its length, connected to pleural carina by a distinct ridge. Propodeum weakly convex in profile, its apex elongate, reaching behind middle length of hind coxa; propodeal carinae complete, well developed. Area basalis trapezoid, about as long as its anterior width. Area superomedia granulate, hexagonal, 1.8–2.0× as long as wide, lateral sides behind costulae weakly convergent, posteriorly closed. Area petiolaris

separated from area superomedia by the median section of posterior transverse carina, and densely, transversely striate. Fore wing with pigmented veins, without areolet, 3*rs-m* absent; second recurrent vein (2*m-cu*) postfurcal; distal abscissa of *Rs* almost straight; nervulus (*cu-a*) interstitial, vertical; postnervulus (abscissa of *Cu*1 between 1*m-cu* and *Cu*1a + *Cu*1b) intercepted strongly above its middle by *Cu*1a; second discal cell 1.6–1.7× as long as first sub-discal cell (measured at front margins); lower external angle of second discal cell slightly obtuse, almost right-angled; pterostigma not unusually large, its length ca. 0.7×, its width ca. 1.2× as long as anterior width of marginal cell (measured at front margin, distal to pterostigma). Hind wing with nervellus (*cu-a* + abscissa of *Cu*1 between *M* and *cu-a*) straight, vertical; discoidella (distal abscissa of *Cu*1) spectral, proximally weakly connected to nervellus. All coxae very finely coriaceous, hind coxa with distinct punctures. Hind femur 4× as long as wide in profile. Inner hind tibial spur slightly longer than apical width of hind tibia. Tarsal claws thin, simple, slightly longer than arolium.

Metasoma: Metasoma compressed, finely granulate to shagreened, with weak, moderately dense punctures from third tergite on, and with short, moderately sparse hairs; first tergite partly, second tergite entirely with longitudinal striation. First tergite slender, ca. 3.5× as long as its posterior width, 1.1× as long as second tergite; dorsomedian carina of first tergite distinct, reaching almost to spiracle; ventral margins of first tergite almost touching each other ventrally; postpetiolus moderately bulging. Second tergite ca. 2× as long as its posterior width. Posterior margins of third and following tergites medially strongly excised, concave. Ovipositor sheath 1.3–1.4× as long as hind tibia (or as long as fore wing from wing base to base of pterostigma); ovipositor straight, compressed, dorsal preapical notch distinct.

Colour: Antenna dark brown, scapus ventrally yellow, pedicellus and basal 2–3 flagellomeres ventrally more or less yellowish. Head black with palpi, clypeus, malar space entirely, eye orbits almost entirely except above malar space and mandible except teeth yellow. Mesosoma black with the following parts yellow: tegula, scutellum, short subalar ridge, and a pair of roughly V-shaped stripes (as seen from anterior view) covering almost entire length of mesoscutum. Metasoma black to dark brown, tergites from third on posteriorly and laterally extensively, widely yellow. Wings hyaline, wing veins and pterostigma brown. Fore and middle legs orange-yellow, except bases of coxae and trochanters, and apical tarsomeres more or less brownish. Hind leg: coxa and trochanter blackish, apically widely yellowish; trochantellus yellowish orange, basally narrowly darkened; femur orange, basally more or less brownish, apically yellowish; tibia basally and apically brown, externo-medially pale yellow; tarsus brownish.

Male: Unknown.

Distribution – Greece.

Etymology – The specific epithet *athenae* is derived from the Latinised name of the ancient Greek goddess Pallas Athena; proper noun in the genitive case.

Remarks on identification – By using the most complete identification key to the Western Palaearctic species of the genus (Vas 2016*a*), the new species runs to *Temelucha cylindrator* Narolsky, 1987 at couplet 20. The two species can be easily distinguished by the additional couplet provided below.

1 Mesosoma in profile ca. 2.6× as long as its maximum width, ventrally distinctly concave (cf. Narolsky 1987: fig. 3); area superomedia more than 2.5× as long as wide, opened or at most weakly closed posteriorly; ovipositor sheath more than 2× as long as hind tibia; mesosoma (except tegula) black; metasoma black to dark brown ..... *Temelucha cylindrator* Narolsky, 1987

– Mesosoma in profile ca. 2.2× as long as its maximum width, ventrally not concave (Fig. 3); area superomedia 1.8–2.0× as long as wide, strongly closed posteriorly; ovipositor sheath 1.3–1.4× as long as hind tibia; scutellum and a pair of roughly V-shaped stripes on mesoscutum yellow; metasoma with tergites from third on posteriorly and laterally extensively yellow ..... *Temelucha athenae* sp. nov.

Additionally, it is worth emphasising that *Temelucha athenae* sp. nov. certainly does not represent the yet unknown female of *Temelucha elongata* Kolarov, 1995, a species also characterised by similarly elongate metasoma, because the much larger size (fore wing length 4.7 mm), the apical margin of the clypeus being distinctly convex, the very different propodeal carination with area superomedia opened posteriorly (cf. Kolarov 1995: fig. 6), and its overall much darker colouration (malar space, mesosoma except tegula, and metasoma black) readily separate the new species from it.

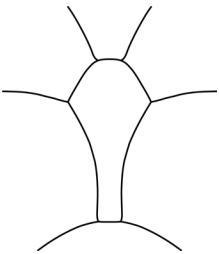
Subfamily: Ctenopelmatinae Förster, 1869
Genus: *Perilissus* Förster, 1855

Type species: *Ichneumon filicornis* Gravenhorst, 1820; subsequent designation by Morley (1913)

Diagnosis: Townes (1970*b*)

***Perilissus deltoideus* sp. nov.**
(Figs 5–7)

Type material – Holotype: female, "Laos, Xiangkhouang Prov., Phou Samsoum Mts, Muang Moc, 1970 m, 19°9.131'N, 103°46.670'E, 2024.10.26., leg. L. Peregovits", specimen card-mounted, id. HNHM-HYM 155353. Paratype: male, same label data as holotype, specimen card-mounted, id. HNHM-HYM 155354.



Figs 5–7. *Perilissus deltoideus* sp. nov. holotype, 5 = habitus, lateral view, 6 = head, frontal view, 7 = area superomedia, dorsal view (photos 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: face and clypeus almost flat in profile; lower mandibular tooth distinctly longer and wider than upper tooth; mesosoma granulate, virtually impunctate; notaulus anteriorly distinct, not reaching middle length of mesoscutum; longitudinal and transverse propodeal carinae fully developed, strong, lateromedian longitudinal carinae conspicuously strongly convergent between anterior and posterior transverse carinae; area basalis well developed, posteriorly closed; area superomedia roughly deltoid-shaped, 2× as long as wide, conspicuously strongly narrowed towards apex, posteriorly closed, covered with short, transverse costae; fore wing with petiolate areolet and subvertical nervulus (*cu-a*); first tergite 2.6× as long as its posterior width, dorsomedian carina absent, dorsolateral carina present along entire length; lower half of face and clypeus orange; tegula brown; pterostigma dark brown; first tergite of metasoma black, second to sixth tergites blackish to brown, seventh to eighth tergites and all laterotergites orange-brown to orange; all coxae predominantly dark; hind femur reddish; hind tibia dark brown.

Description – Female (Figs 5–7). Body length ca. 10 mm, fore wing length ca. 8.5 mm.

Head: Antenna slender, longer than body, with 41–43 flagellomeres; first flagellomere ca. 3.7× as long as its apical width, slightly longer than second flagellomere; preapical flagellomeres longer than wide. Head transverse, matt, finely granulate except clypeus almost smooth with a few large punctures, and

with dense, short hairs. Ocular-ocellar distance 1.5× as long as ocellus diameter, distance between lateral ocelli 0.7× as long as ocellus diameter. Inner eye orbits barely indented, subparallel. Gena weakly, roundly narrowed behind eyes, in dorsal view 0.7× as long as eye width. Occipital carina complete, reaching hypostomal carina distinctly before base of mandible; hypostomal carina not elevated. Frons almost flat, slightly impressed above toruli. Face wide, almost flat in profile. Clypeus weakly separated from face, rather wide, almost flat in profile, its apical margin subtruncate, thick. Malar space 0.35× as long as basal width of mandible. Mandible long, weakly curved, lower mandibular tooth distinctly longer and wider than upper tooth.

Mesosoma: Mesosoma matt, granulate, virtually impunctate except indistinct, dense, rather small and weak punctures on mesoscutum and scutellum, and with dense, short hairs. Pronotum with short, transverse wrinkles on lower half; epomia distinct. Mesoscutum about as long as wide, convex in profile; notaulus anteriorly distinct, not reaching middle length of mesoscutum. Scuto-scutellar groove wide and moderately deep. Scutellum weakly convex in profile, without lateral carinae. Mesopleuron with median longitudinal groove on its posterior 0.35. Epicnemial carina complete, pleural part reaching above lower posterior corner of pronotum, not bent towards anterior margin of mesopleuron. Sternaulus indistinct. Posterior transverse carina of mesosternum incomplete, widely absent in front of middle coxae. Metanotum ca. 0.4× as long as scutellum, strongly convex in profile. Metapleuron with rather short juxtacoxal carina basally discernible; submetapleural carina complete. Pleural carina of propodeum complete; propodeal spiracle subcircular, separated from pleural carina by about its length, not connected to pleural carina by a ridge. Propodeum moderately short, convex in profile; both longitudinal and transverse propodeal carinae fully developed, strong, lateromedian longitudinal carinae conspicuously strongly convergent between anterior and posterior transverse carinae. Area basalis trapezoid, slightly shorter than its anterior width, posteriorly closed. Area superomedia hexagonal, roughly deltoid-shaped, elongate, 2× as long as wide, conspicuously strongly narrowed towards apex, posteriorly closed, its surface shinier than other propodeal areae, with short, transverse costae. Area petiolaris short. Fore wing with petiolate, quadrangular areolet, 3*rs-m* present, second recurrent vein (2*m-cu*) close to its distal corner; distal abscissa of *Rs* straight; nervulus (*cu-a*) postfurcal by 0.2–0.3× its length, subvertical; postnervulus (abscissa of *Cu*1 between 1*m-cu* and *Cu*1a + *Cu*1b) intercepted distinctly below its middle by *Cu*1a; lower external angle of second discal cell weakly obtuse. Hind wing with nervellus (*cu-a* + abscissa of *Cu*1 between *M* and *cu-a*) strongly reclivous, broken, intercepted by discoidella (*Cu*1) far above its middle. Coxae finely granulate. Fore tibia with a distinct apical tooth. Hind femur 5× as long as wide in profile. Inner spur of hind tibia 0.35× as long as first tarsomere of hind tarsus. Tarsal claws longer than arolium, distinctly pectinate almost to apices.

Metasoma: Metasoma finely granulate to shagreened, virtually impunctate, less matt than head and mesosoma, and with dense, short hairs. First tergite 2.6× as long as its posterior width, glymmae deep, separated from each other only by a translucent partition, spiracle at about its middle length; dorsomedian carina of first tergite absent, dorsolateral carina present along entire length of tergite. First sternite ca. 0.4× as long as first tergite. Second tergite 1.1× as long as its posterior width; thyridium weak, subcircular, adjacent to basal margin. Ovipositor sheath shorter than apical depth of metasoma; ovipositor thick, straight, acute, dorsal preapical notch distinct, wide.

Colour: Antenna orange. Head black, lower half of face, clypeus, palpi and mandible except teeth orange; mandibular teeth blackish. Mesosoma black, tegula brown. Metasoma predominantly dark: first tergite black, second to sixth tergites blackish to brown, seventh to eighth tergites and all laterotergites orange-brown to orange. Wings hyaline, wing veins and pterostigma dark brown. Fore and middle legs: coxae predominantly black, apically pale orange, rest of legs orange except apical tarsomeres more or less darkened. Hind leg: coxa black except apically pale orange; trochanter, trochantellus and femur reddish; tibia dark brown without paler basal spot; tarsus ivory except narrowly brown at extreme base and apical tarsomere slightly darkened.

Male: Similar to female in all characters described above, except: ocular-ocellar distance 1×, distance between lateral ocelli 0.5× as long as ocellus diameter; propodeal spiracle separated from pleural carina by less its length; area superomedia even more elongate (2.2× as long as wide) and more narrowed posteriorly than in female; subgenital plate simple, parameres narrowed apically; fore and middle coxae more extensively brownish instead of black.

Distribution – Laos.

Etymology – The specific epithet *deltoideus* is the masculine form of the Latinised adjective *deltoideus, -a, -um*, here meaning deltoid- (kite-)shaped, referring to the characteristic shape of area superomedia of the new species.

Remarks on identification – Due to its predominantly dark metasoma (i.e., median tergites not reddish), partly orange face, reddish hind femur, dark hind tibia, and fully carinate propodeum, the new species cannot be confused with any *Perilissus* species known from the Oriental Region. It is most similar to the Palaearctic species *Perilissus sericeus* (Gravenhorst, 1829), but the latter species can be easily separated from the new species by its pale yellowish pterostigma, yellow tegula, orange fore and middle coxae, distinctly reclivous nervulus, and by its quite different propodeal areae (area basalis is weakly developed and posteriorly opened, area superomedia is much less elongate and much less narrowed towards its apex, and is only weakly separated from area petiolaris).

NEW DISTRIBUTION RECORDS

Subfamily: Adelognathinae Thomson, 1888

Adelognathus laevicollis Thomson, 1833

Material examined – Hungary: Borsod-Abaúj-Zemplén County, Aggtelek, Kavicshát, Kardos-völgy [= valley], 13–14.VI.2020, leg. T. Korompai, one female.

Remarks – First record from Hungary. It is widely distributed in the Western Palaearctic Region (Yu *et al*. 2016).

Subfamily: Anomaloninae Viereck, 1918

Anomalon nigribase Cushman, 1937

Material examined – Laos: Xiangkhouang Province, Phou Samsoum Mts, Muang Moc, 2220 m, 19°8.629'N, 103°48.050'E, 24.X.2024, leg. L. Peregovits, one female.

Remarks – First record from Laos. It has been known from the Oriental and Eastern Palaearctic Regions (Yu *et al*. 2016).

Subfamily: Banchinae Wesmael, 1845

Cryptopimpla fasciolurida Chandra et Gupta, 1977

Material examined – Laos: Xiangkhouang Province, Phou Samsoum Mts, Muang Moc, 1970 m, 19°9.131'N, 103°46.670'E, 26.X.2024, leg. L. Peregovits, one female.

Remarks – First record from Laos. So far it has been known only from India (Yu *et al*. 2016).

Subfamily: Campopleginae Förster, 1869

Charops annulipes Ashmead, 1890

Material examined – Costa Rica: Surrubres, date and collector unknown, one male.

Remarks – First record from Costa Rica. It has been known from Canada, the USA, and Mexico so far (Yu *et al*. 2016).

Enytus parvicanda (Thomson, 1887)

Material examined – Hungary: Bács-Kiskun County, Ócsa, Madárvárta [= Bird Ringing Centre], 1.V.2024, leg. V. Szőke & Z. Vas, one female.

Remarks – First record from Hungary. It is widely distributed in the Western Palaearctic Region (Yu *et al*. 2016).

Hyposoter inquinatus (Holmgren, 1860)

Material examined – Hungary: Veszprém County, Pénzesgyőr, Pangea, 25.V.–1.VI.2024, leg. Cs. Kutasi, one female.

Remarks – First record from Hungary. It is widely distributed in the Western Palaearctic Region (Yu *et al*. 2016).

Subfamily: Cryptinae Kirby, 1837

Calosphyrum alboorbitale Kusigemati, 1987

Material examined – Laos: Xiangkhouang Province, Phou Samsoum Mts, Muang Moc, 2220 m, 19°8.629'N, 103°48.050'E, 22.X.2024, leg. L. Peregovits, one female.

Remarks – First record from Laos. This species so far has only been known from southern Japan (Yu *et al*. 2016). The orange colouration of mesopleuron and propodeum is more extensive in the female from Laos than in the holotype female from Japan, similarly to some of the Japanese paratype males. Apparently, females of this species exhibit not less intraspecific variability in respect of this character than males.

Dichrogaster aestivalis (Gravenhorst, 1829)

Material examined – Hungary: Bács-Kiskun County, Fülöpszállás, Kelemen-szék, 23.VI.2024, leg. V. Szőke & Z. Vas, one female.

Remarks – First record from Hungary. This species is widely distributed in the Palaearctic Region and it has been introduced into South Africa (Yu *et al*. 2016).

Gelis aponius Schwarz, 2002

Material examined – Hungary: Pest County, Páty, Mézeshegy, 26.VI.–16.VII.2024, leg. V. Szőke & Z. Vas, one female.

Remarks – First record from Hungary. It has been known from Austria, Czech Republic, and Spain so far (Yu *et al*. 2016).

Gelis formicarius (Linnaeus, 1758)

Material examined – Hungary: Borsod-Abaúj-Zemplén County, Cserépfalva, 13.VI.2024, leg. G. Tamási, one female.

Remarks – First record from Hungary. This species is widely distributed in the Palaearctic Region; Yu *et al*. (2016) list Hungary as part of its known distribution, citing Zilahi-Kiss (1915, 1926), however, the locality mentioned in both of these papers is now found in Romania (Nagyilonda = Comuna Ileanda).

Gelis melanophorus (Förster, 1851)

Material examined – Hungary: Baranya County, Szársomlyó, 26–29.X.2024, leg. B. P. Schlitt, one female.

Remarks – First record from Hungary. It is widely distributed in the Western Palaearctic Region (Yu *et al*. 2016).

Goryphus dravidus Jonathan et Gupta, 1973

Material examined – Laos: Xaisomboum Provice, Ban Kohai, 1090 m, 18°59.250'N, 103°21.661'E, 19.X.2024, leg. L. Peregovits, one female.

Remarks – First record from Laos. It is widely distributed in the Oriental Region (Yu *et al*. 2016).

Osprynchotus flavipes Brullé, 1846

Material examined – Ghana: Mole National Park around Bowena Ranger Camp, 9°33'23.96"N, 1°40'24810"W, 284 m, 26–27.VII.2024, leg. Sz. Sáfián, one female.

Remarks – First record from Ghana. It is widely distributed in the Afrotropical Region (Yu *et al*. 2016).

Subfamily: Diplazontinae Viereck, 1918

Diplazon angustus Dasch, 1964

Material examined – Hungary: Heves County, Parád, Mogyorós-orom, 47°55'15.9"N, 19°56'09.0"E, 25.IV.2024, leg. T. Kovács, one male.

Remarks – First record from Hungary. It is widely distributed in the Holarctic Region (Yu *et al*. 2016).

Sussaba flavipes (Lucas, 1849)

Material examined – Hungary: Komárom-Esztergom County, Máriahalom, 24.V.2015, leg. O. Merkl, one female; Veszprém County, Pénzesgyőr, Pangea, 25.V.–1.VI.2024, leg. Cs. Kutasi, one male.

Remarks – First records from Hungary. It is widely distributed in the Holarctic Region (Yu *et al*. 2016).

Subfamily: Ichneumoninae Latreille, 1802

Diadromus collaris (Gravenhorst, 1829)

Material examined – Hungary: Bács-Kiskun County, Kiskunhalas, Sós-tó [= Lake], 22.VI.2024, leg. V. Szőke & Z. Vas, one female.

Remarks – First record from Hungary. It is widely distributed in the Palaearctic Region, and has been introduced into the Oriental, Australasian, Afrotropical and Neotropical Regions (Yu *et al*. 2016).

Diadromus varicolor Wesmael, 1845

Material examined – Hungary: Győr-Moson-Sopron County, Bakonyszentlászló, Vinye, 8–9.VIII.2024, leg. B. P. Schlitt, one male.

Remarks – First record from Hungary. It is widely distributed in the Palaearctic Region (Yu *et al*. 2016).

Stenobarichneumon citator (Thunberg, 1822)

Material examined – Hungary: Pest County, Páty, Mézeshegy, 26.VI.–16.VII.2024, leg. V. Szőke & Z. Vas, at light, one male.

Remarks – First record from Hungary. It is widely distributed in the Palaearctic Region (Yu *et al*. 2016).

Subfamily: Mesochorinae Förster, 1869

Astiphromma unicolor Uchida, 1933

Material examined – Laos: Xiangkhouang Province, Phou Samsoum Mts, Muang Moc, 2220 m, 19°8.629'N, 103°48.050'E, 24.X.2024, leg. L. Peregovits, one female.

Remarks – First record from Laos. It has been known from Taiwan and Japan so far (Yu *et al*. 2016).

Mesochorus varius Schwenke, 1999

Material examined – Hungary: Pest County, Páty, Mézeshegy, 26.VI.–16.VII.2024, leg. V. Szőke & Z. Vas, at light, one female.

Remarks – First record from Hungary. It has been known from Italy so far (Yu *et al*. 2016).

Subfamily: Ophioninae Shuckard, 1840

Enicospilus agrophus Gauld et Mitchell, 1978

Material examined – Ghana: Mole National Park around Kparia Camp, 9°59'25.87"N, 1°24'36.50"W, 295 m, 30.VII.–1.VIII.2024, leg. Sz. Sáfián, one female.

Remarks – First record from Ghana. It has been known from Angola, the Democratic Republic of Congo, and South Africa so far (Yu *et al*. 2016).

Enicospilus hecastus Gauld et Mitchell, 1978

Material examined – Angola: Cuanza Norte Floresta de Cambondo, 9°6'1.57"S, 14°39'58.26"E, 420 m, 16–17.XII.2023, leg. Sz. Sáfián & C. Y. M. Correia, one female.

Remarks – First record from Angola. It has been known from the Democratic Republic of Congo, Gabon, and Uganda so far (Yu *et al*. 2016).

Enicospilus plicatus (Brullé, 1846)

Material examined – Laos: Xiangkhouang Province, Muang Nga, 1550 m, 19°6.807'N, 103°38.582'E, 21.X.2024, leg. L. Peregovits, one female.

Remarks – First record from Laos. It is distributed in the Oriental, Eastern Palaearctic and Australasian Regions (Yu *et al*. 2016).

Ophion bicarinatus Cameron, 1905

Material examined – Laos: Xiangkhouang Province, Phou Samsoum Mts, Muang Moc, 2220 m, 19°8.629'N, 103°48.050'E, 24.X.2024, leg. L. Peregovits, four females.

Remarks – First record from Laos. It is distributed in the Oriental and Eastern Palaearctic Regions (Yu *et al*. 2016).

Subfamily: Pimplinae Wesmael, 1845

Delomerista mandibularis (Gravenhorst, 1829)

Material examined – Hungary: Borsod-Abaúj-Zemplén County, Dédestapolcsány, 14–16.VI.2024, leg. P. G. Sulyán, one female.

Remarks – First record from Hungary. It is widely distributed in the Palaearctic Region (Yu *et al*. 2016).

*

Acknowledgements – The author is grateful László Peregovits, Attila Podlussány, Szabolcs Sáfián, Bence Péter Schlitt, Péter Gábor Sulyán, Csaba Kutasi, Ottó Merkl, Tibor Kovács, Gergő Tamási, and C. Y. M. Correia for collecting/donating material to the Hymenoptera Collection of the HNHM. Thanks are due to Juriya Okayasu and Yuji Omatsu (Hokkaido University, Japan) for the scientific quality photos of type material deposited in their institution, to Viktória Szőke (HNHM) for the drawings and post-image works, and to my colleagues from the Central Library of the HNHM for their help in obtaining some of the relevant literature. The author is grateful to the reviewer and to Dávid Rédei (National Chung Hsing University, Taiwan) for their corrections and comments on the manuscript.

REFERENCES

Bajári E. 1960: Fürkészdarázs-alkatúak I. Ichneumonoidea I. – In: Székessy V. (ed.): *Magyarország Állatvilága. Fauna Hungariae. XI, 4.* Akadémiai Kiadó, Budapest, 266 pp.

Barron J. R. 1992: The Nearctic species of Perilissus (Hymenoptera, Ichneumonidae, Ctenopelmatinae). – *Canadian Entomologist* **124**: 211–272. https://doi.org/10.4039/Ent124211-2

Burks B. D. 1952: A review of the Nearctic genera of the tribe Mesoleiini with descriptions of two new genera and a revision of the Nearctic species of Perilissus and Labrossyta (Hymenoptera - Ichneumonidae). – *Annals of the Entomological Society of America* **45**(1): 80–103. https://doi.org/10.1093/aesa/45.1.80

Chandra G. & Gupta V. K. 1977: Ichneumonologia Orientalis. Part VII. The tribes Lissonotini and Banchini (Hymenoptera: Ichneumonidae: Banchinae). – *Oriental Insects Monograph* **7**: 1–290.

Constantineanu M. I. 1959: Familia Ichneumonidae, tribul Ichneumoninae Stenopneusticae. [Family Ichneumonidae, tribe Ichneumoninae Stenopneusticae.] – In: Botnariuc N. (ed.): *Fauna Republicii Populare Romine IX, 4*. Academia Republicii Populare Romine, Bucarest, 1248 pp.

Constantineanu M. I. 1965: Familia Ichneumonidae, subfamiliile Phaeogeninae si Alomyinae. [Family Ichneumonidae, subfamilies Phaeogeninae and Alomyinae.] – In: Botnariuc N. (ed.): *Fauna Republicii Populare Romine IX, 5*. Academia Republicii Populare Romine, Bucarest, 508 pp.

Cushman R. A. 1922: On the Ashmead manuscript species of Ichneumonidae of Mrs. Slosson's Mount Washington lists. – *Proceedings of the United States National Museum* **61**: 1–30. https://doi.org/10.5479/si.00963801.2429

Fitton M. G., Shaw M. R. & Gauld I. D. 1988: *Handbooks for the identification of British insects. Vol. VII. Pimpline Ichneumon-flies. Hymenoptera, Ichneumonidae, Pimplinae.* – Royal Entomological Society of London, London, pp. 1–110.

Galsworthy A., Shaw M. R. & Haraldseide H. 2023: A key to European species of Hyposoter Förster, 1869 (Ichneumonidae: Campopleginae) with descriptions of 18 new species, and notes on all included species. – *Zootaxa* **5290**(1): 1–73. https://doi.org/10.11646/zootaxa.5290.1.1

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 Cylloceriinae. – *Memoirs of the American Entomological Institute* **47**: 1–589.

Gauld I. D. & Mitchell P. A. 1978: *The taxonomy, distribution and host preferences of African parasitic wasps of the subfamily Ophioninae*. – CAB Commonwealth Institute of Entomology, London, 287 pp.

Gauld I. D. & Mitchell P. A. 1981: The taxonomy, distribution and host preferences of Indo-Papuan parasitic wasps of the subfamiliy Ophioninae. – CAB Commonwealth Institute of Entomology, London, 611 pp.

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.

Ghigi A. 1915: Gli Osprynchotus della collezione Magretti. [Osprynhotus of Magretti's collection.] – *Annali del Museo Civico di Storia Naturale di Genova* **6**(3): 290–298.

Gupta V. K. 1987: The Ichneumonidae of the Indo-Australian area (Hymenoptera). Part 1. – *Memoirs of the American Entomological Institute* **41**: 1–597.

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. 1973: Revision der europäischen Arten der Gattung Dichrogaster Doumerc (Hym. Ichneumonidae). – *Entomologica Scandinavica* **4**: 65–72. https://doi.org/10.1163/187631273X00066

Horstmann K. 1976: Nachtrag zur Revision der europäischen Dichrogaster-Arten (Hymenoptera, Ichneumonidae). – *Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen* **28**: 55–61.

Jonathan J. K. 2006: *Ichneumonologia indica. Part 1. An identification manual on subfamily Mesosteninae (Hymenoptera: Ichneumonidae)*. – Zoological Survey of India, Kolkata, xix + 680 pp.

Kasparyan D. R. 1981: [*A guide to the insects of the European part of the USSR. Vol. III. Number 3. Hymenoptera, Ichneumonidae.*] – Nauka, Leningrad, 687 pp.

Kasparyan D. R. 1986: (Towards a revision of the Ichneumonids genus Adelognathus Holmgren (Hymenoptera, Ichneumonidae).) – *Proceedings of the Zoological Institute Leningrad* **159**: 38–56.

Kasparyan D. R. 1990: [*Fauna of USSR. Insecta Hymenoptera. Vol. III. Number 2. Ichneumonidae. Subfamily Tryphoninae: Tribe Exenterini. Subfamily Adelognathinae.*] – Nauka, Leningrad, 342 pp.

Kasparyan D. R. 2007: Ichneumonidae (Introduction), Adelognathinae, Stilbopinae, Townesioninae. – In: Lelej A. S. (ed.): *Key to the insects of Russian Far East. Vol. IV. Neuropteroidea, Mecoptera, Hymenoptera. Part 5*. Vladivostok: Dalnauka, pp. 255–279, 410–418, 430–433, 472–474.

Kasparyan D. R. & Khalaim A. I. 2007: Pimplinae, Tryphoninae, Eucerotinae, Xoridinae, Agriotypinae, Lycorininae, Neorhacodinae, Ctenopelmatinae, Phrudinae, Ophioninae, Acaenitinae, Collyriinae, Mesochorinae. – In: Lelej A. S. (ed.): *Key to the insects of Russia Far East. Vol. IV. Neuropteroidea, Mecoptera, Hymenoptera. Part 5*. Vladivostok, Dalnauka, pp. 279–410, 418–423, 428–430, 474–559, 562–565, 632–637, 667–680.

Kasparyan D. R. & Tolkanitz V. I. 1999: *Fauna of Russia and neighbouring countries. Insecta Hymenoptera. Vol. III. Number 3. Ichneumonidae, subfamily Tryphoninae: tribes Sphinctini, Phytodietini, Oedemopsini, Tryphonini (addendum), Idiogrammatini. Subfamilies Eucerotinae, Adelognathinae (addendum), Townesioninae*. – Nauka, Saint Petersburg, 404 pp.

Klopfstein S. 2014: Revision of the Western Palaearctic Diplazontinae (Hymenoptera, Ichneumonidae). – *Zootaxa* **3801**(1): 1–143. https://doi.org/10.11646/zootaxa.3801.1.1

Kolarov J. A. 1995: Cremastinae (Hymenoptera, Ichneumonidae) from Italy and some adjacent regions. – *Linzer biologische Beiträge* **27**(2): 1103–1114.

Kolarov J. A. 1997: A review of the Cremastinae of the Balkan Peninsula, Turkey and Cyprus with zoogeographical notes (Hymenoptera: Ichneumonidae). – *Beiträge zur Entomologie* **47**(1): 169–199.

Kolarov J. A. 2013: *Fauna Bulgarica. 31. Tryphoninae, Eucerotinae, Adelognathinae, Lycorininae, Neorhacodinae, Orthopelmatinae*. – Editio Academica Professor Marin Drinov, Sofia, 566 pp.

Kolarov J. A. 2016: Cremastinae (Hymenoptera, Ichneumonidae) from Turkey and adjacent countries with description of a new species. – *Linzer biologische Beiträge* **48**(2): 1321–1326.

Kusigemati K. 1987: Descriptions of two new species of the genus Calosphyrum Townes from Japan (Hymenoptera: Ichneumonidae). – *Memoirs of the Faculty of Agriculture, Kagoshima University* **23**: 81–87.

Kusigemati K. 1991: A new species of Anomalon Panzer from Formosa, with a key of Formosan species of Anomalon (Hymenoptera, Ichneumonidae). – *Japanese Journal of Entomology* **59**: 499–503.

Leclercq J. 1958: Genres Oneilella et Osprynchotus (Hymenoptera Ichneumonidae) subfam. Cryptinae I. – *Exploration du Park National de l'Upemba. Mission G. F. de Witte* **50**(6): 61–68.

Lee J.-W. 1992: A revision of species of the B-group of Astiphromma (Hymenoptera: Ichneumonidae: Mesochorinae). – *Oriental Insects* **26**: 213–239. https://doi.org/10.1080/00305316.1992.10432252

Morley C. 1913: *The fauna of British India including Ceylon and Burma, Hymenoptera, Vol. 3. Ichneumonidae*. – British Museum, London, 531 pp.

Narolsky N. B. 1987: [New species of the genus Temelucha (Hymenoptera, Ichneumonidae).] – In: *Fauna and Biocenotics Relations of the Ukranian Insects*. Kiev, pp. 46–48.

Perkins J. F. 1959: *Handbooks for the identification of British insects. Vol. VII. Part 2 (ai). Hymenoptera. Ichneumonoidea. Ichneumonidae, key to subfamilies and Ichneumoninae I.* – Royal Entomological Society of London, London, pp. 1–116.

Perkins J. F. 1960: *Handbooks for the identification of British insects. Vol. VII. Part 2 (aii). Hymenoptera. Ichneumonoidea. Ichneumonidae, subfamilies Ichneumoninae II, Alomyinae, Agriotypinae and Lycorininae*. – Royal Entomological Society of London, London, pp. 117–213.

Perkins J. F. 1962: On the type species of Förster's genera (Hymenoptera: Ichneumonidae). – *Bulletin of the British Museum (Natural History)* **11**: 385–483.

Schmiedeknecht O. 1912: *Opuscula Ichneumonologica. V. Band. Tryphoninae.* – Blankenburg in Thüringen, pp. 2323–2562.

Schwarz M. 2002: Revision der westpaläarktischen Arten der Gattungen Gelis Thunberg mit apteren Weibchen und Thaumatogelis Schwarz (Hymenoptera, Ichneumonideae). Teil 3. – *Linzer biologische Beiträge* **34**(2): 1293–1392.

Schwenke W. 1999: Revision of the European Mesochorinae (Hymenoptera, Ichneumonoidea, Ichneumonidae). – *Spixiana* **Supplement 26**: 1–124.

Šedivý J. 1971: Revision der europäischen Temelucha-Arten (Hym., Ichneumonidae). – *Acta scientiarum naturalium Academiae scientiarum bohemoslovacae, Brno* **5**(1): 1–34.

Shaw M. R. & Wahl D. B. 2014: Biology, early stages and description of a new species of Adelognathus Holmgren (Hymenoptera: Ichneumonidae: Adelognathinae). – *Zootaxa* **3884**(3): 235–252. https://doi.org/10.11646/zootaxa.3884.3.3

Townes H. 1969: The genera of Ichneumonidae. Part 1. – *Memoirs of the American Entomological Institute* **11**: 1–300.

Townes H. 1970*a*: The genera of Ichneumonidae. Part 2. – *Memoirs of the American Entomological Institute* **12**: 1–537.

Townes H. 1970*b*: The genera of Ichneumonidae. Part 3. – *Memoirs of the American Entomological Institute* **13**: 1–307.

Townes H. 1971: The genera of Ichneumonidae. Part 4. – *Memoirs of the American Entomological Institute* **17**: 1–372.

Townes H. 1983: Revisions of twenty genera of Gelini (Ichneumonidae). – *Memoirs of the American Entomological Institute* **35**: 1–281.

Townes H., Townes M. & Gupta V. K. 1961: A catalogue and reclassification of the Indo-Australian Ichneumonidae. – *Memoirs of the American Entomological Institute* **1**: 1–522.

Uchida T. 1930: Vierter Beitrag zur Ichneumoniden-Fauna Japans. – *Journal of the Faculty of Agriculture, Hokkaido University* **25**: 243–298.

Uchida T. 1933: Beiträge zur Systematik der Tribus Mesochorini Japans (Hym. Ichneumonidae). – *Insecta Matsumurana* **8**: 51–63.

Vas Z. 2016*a*: A new species of *Temelucha* Förster from Malta with an updated and revised identification key to the Western Palaearctic *Temelucha* species (Hymenoptera, Ichneumonidae, Cremastinae). – *Journal of Hymenoptera Research* **48**: 67–84. https://doi.org/10.3897/JHR.48.7094

Vas Z. 2016*b*: *Temelucha flavia* sp. n. from the southern Mediterranean region (Hymenoptera: Ichneumonidae: Cremastinae). – *Ecologica Montenegrina* **8**: 38–44. https://doi.org/10.37828/em.2016.8.5

Vas Z. 2020: New species and records of Ichneumonidae (Hymenoptera). – *Folia entomologica hungarica* **81**: 95–104. https://doi.org/10.17112/FoliaEntHung.2020.81.95

Viereck H. L. 1912: Tryphoninae. A review. – *Proceedings of the Entomological Society of Washington* **14**: 175–178.

Watanabe K. 2024: Taxonomic study of Japanese Ctenopelmatinae (Hymenoptera, Ichneumonidae), with descriptions of 22 new species. – *Bulletin of the Kanagawa Prefectural Museum (Natural Science)* **53**: 39–102.

Yu D. S., Achterberg C. van & Horstmann K. 2016: *Taxapad 2016, Ichneumonoidea 2015.* – Database on flash-drive. www.taxapad.com, Nepean, Ontario, Canada.

Yu D. S. & Horstmann K. 1997: *A catalogue of world Ichneumonidae (Hymenoptera).* – The American Entomological Institute, Gainesville, 1558 pp.

Zilahi-Kiss E. 1915: Újabb adatok Magyarország Hymenoptera-faunájához. [Neue Daten zur Hymenopterenfauna Ungarns.] – *Rovartani Lapok* **22**: 19–33, 76–86.

Zilahi-Kiss E. 1926: Zweiter Beitrag zur Kenntnis der ungarischen und siebenbürgischen Ichneumoniden-(Schlupfwespen-) Fauna. – *Verhandlungen und Mitteilungen des Siebenburgischen Vereins für Naturwissenschaften in Hermannstadt* **75–76**: 74–120.