



<http://dx.doi.org/10.12976/jib/2019.09.2.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:16ACC88E-1076-4AC0-AA5D-8D9731BE0036>

The genus *Astiphromma* Förster, 1869 (Hymenoptera, Ichneumonidae, Mesochorinae) in the Ukrainian Carpathians

MATTHIAS RIEDEL¹ & OLEKSANDR VARGA²

¹Blumenlage 22 C, D-29683 Bad Fallingbostal, Germany.

E-mail mamaflo.riedel@t-online.de

²Schmalhausen Institute of Zoology, NAS of Ukraine, Vul. B. Khmelnytskogo 15, Kyiv 01030, Ukraine

E-mail Sancho.Varga@gmail.com

Here we give distributional records of twelve species of the genus *Astiphromma* Förster, 1869 from the Ukrainian Carpathians. Eight species, *A. diversum* Schwenke, 1999, *A. dorsale* (Holmgren, 1860), *A. italicum* Schwenke, 1999, *A. nigrocoxatum* (Strobl, 1902), *A. pictum* (Brischke, 1880), *A. tenuicorne* Thomson, 1886, *A. uliginosum* Schwenke, 1999, *A. varipes* (Holmgren, 1860), are new records for Ukraine.

Key words: parasitoids, Ichneumonidae, *Astiphromma*, Mesochorinae, Ukraine, checklist, new records

Introduction

The genus *Astiphromma* Förster, 1869 is a medium-sized group of the subfamily Mesochorinae comprising 26 species in Europe placed in three subgenera, *Astiphromma* str., *Mesochorella* and *Dolichochorus* (Riedel 2015). Only six species have so far been reported from Ukraine, *A. aggressor* (Fabricius, 1804), *A. albitarse* (Brischke, 1880), *A. hirsutum* (Bridgman, 1883), *A. (Mesochorella) nigriceps* (Brischke, 1880), *A. striatum* (Brischke, 1880) (as *A. mandibularis* (Thomson, 1886)) and *A. splenium* (Curtis, 1833), of which only *A. splenium*—from Carpathians (Meyer 1935; Riedel 2015; Riedel & Kasparyan 2018). Unfortunately, Meyer's collection was lost during the Second World War and now none of these records can be considered valid as there are no voucher specimens available. Here we provide a list of twelve Carpathian species of the genus, of which eight are newly recorded from the country.

Material and methods

The present study is based on specimens collected by second author with sweeping net, Malaise and Trunk Traps in Ivano-Frankivsk and Transcarpathian Regions. Specimens deposited at the Schmalhausen Institute of Zoology, NAS of Ukraine (SIZK) and Vasyl Stefanyk Precarpathian National University were also studied. Specimens were identified using the key of Riedel (Riedel 2015). The voucher specimens from this study are mainly deposited at SIZK. General distribution of the species is given after Yu *et al.* (2016).

Astiphromma aggressor (Fabricius, 1804)

Diagnosis. This species can be distinguished from other European species by the combination of the following characters: clypeus partly, face mainly black, at most around mouth narrowly yellow or red (clypeus and face entirely yellow in male); antenna slender, subapical flagellomeres 1.5–2.0 × as long as wide; mandibular teeth equal; temples strongly narrowed behind eyes; genal carina joining the hypostomal carina distant from mandibular base; scutellum rounded apically; hind coxa red, sometimes with dorsal brownish spot; hind tarsus brown or red; hind femur red; postpetiole of first metasomal tergite with dorsolateral carinae strong and striae at most apically; tergites 4–7 blackish; ovipositor sheath black, pale apically.

Material examined. *Ivano-Frankivsk Region:* 1 ♂, Dibrova, 5 km SW of Bogorodchany, 48.772054 N, 24.511657 E, 310 m, oak forest, sweeping, 8.v.2011; 1 ♂, idem, sweeping, 14.v.2011; 1 ♂, idem, sweeping, 30.iv.2012; 1 ♂, idem, sweeping, 27.v.2012, leg. O. Varga.

Distribution. Western Palaearctic, Ukraine (Riedel & Kasparyan 2018).

***Astiphromma diversum* Schwenke, 1999**

Diagnosis. This species is similar to *A. aggressor*, but has weakly narrowed behind eyes temples and infusate hind tarsus.

Material examined. *Ivano-Frankivsk Region*: 1 ♀, Dibrova, 5 km SW of Bogorodchany, 48.772054 N, 24.511657 E, 310 m, oak forest, sweeping, 27.iv.2014, leg. O. Varga.

Distribution. Europe, **new record for Ukraine.**

***Astiphromma dorsale* (Holmgren, 1860)**

Diagnosis. This species can be distinguished from other European species by the combination of the following characters: scutellum pointed apically; occipital carina dipped medially, occiput here more or less impressed; ovipositor sheath 5.0–7.5 × as long as wide; hind leg stout, with femur 3.8–5.1 × as long as wide; mesopleuron ventrally with very scattered punctation; hind tarsus infusate, with tarsal claw strongly curved apically.

Material examined. *Ivano-Frankivsk Region*: 1 ♀, Mochary, 5 km NE of Bogorodchany, 48.837078 N, 24.581379 E, 315 m, mixed forest, Malaise Trap, 17–30.v.2014; *Transcarpathian Region*: 1 ♀, 1 ♂, Svydovets, 2–3 km NW of Kvasy, 48.144694 N, 24.270809 E, 750 m, beech forest, Malaise Trap, 7.v–5.vi.2014, leg. O. Varga; 1 ♀, 8–9 km E of Yasinya, coniferous forest, 920 m, sweeping, 30.vi.1995, leg. V. Ermolenko.

Distribution. Palaearctic and Oriental regions, **new record for Ukraine.**

***Astiphromma hirsutum* (Bridgman, 1883)**

Diagnosis. This species is similar to *A. dorsale*, but has more slender body; slender ovipositor sheath, which is about 7.5–9.5 × as long as wide; slender hind leg with femur about 5.0–5.6 × as long as wide; more densely punctate ventrally mesopleuron; yellowish-brown hind tarsus, with less curved apically tarsal claw.

Material examined. *Ivano-Frankivsk Region*: 2 ♀, Mochary, 5 km NE of Bogorodchany, 48.837078 N, 24.581379 E, 315 m, mixed forest, Malaise Trap, 30.v–16.vi.2014; 1 ♀, idem, Trunk Trap, 11–26.v.2014; 1 ♀, Dibrova, 5 km SW of Bogorodchany, 48.772054 N, 24.511657 E, 310 m, oak forest, sweeping, 10–11.v.2012; *Transcarpathian Region*: 1 ♀, 1 ♂, Svydovets, 2–3 km NW of Kvasy, 48.144694 N, 24.270809 E, 750 m, beech forest, Malaise Trap, 7.v–5.vi.2014; 1 ♀, idem, Malaise Trap, 5–29.vi.2014, leg. O. Varga; 1 ♀, Dilove, beech forest, vii.2008, leg. R. Bidychak.

Distribution. Palaearctic, Ukraine (Riedel & Kasparyan 2018).

***Astiphromma italicum* Schwenke, 1999**

Diagnosis. This species can be distinguished from other European species by the combination of the following characters: clypeus largely and face mainly black (clypeus and face entirely yellow in male); antenna slender, subapical flagellomeres 1.3–1.5 × as long as wide; lower tooth of mandibula longer than upper tooth; temples strongly narrowed behind eyes; genal carina joining the hypostomal carina at mandibular base; scutellum rounded apically, with lateral carinae on basal 0.3; hind coxa red; mesopleuron ventrally with scattered fine punctures; hind femur stout, 3.3–4.0 × as long as wide; postpetiole of first tergite smooth; tergites 4–7 blackish; ovipositor sheath black, pale apically.

Material examined. *Ivano-Frankivsk Region*: 1 ♂, Mochary, 5 km NE of Bogorodchany, 48.837078 N, 24.581379 E, 315 m, mixed forest, Malaise Trap, 10–28.iv.2014; *Transcarpathian Region*: 2 ♀, Svydovets, 2–3 km NW of Kvasy, 48.144694 N, 24.270809 E, 750 m, beech forest, Malaise Trap, 7.v–5.vi.2014, leg. O. Varga.

Distribution. Europe, **new record for Ukraine.**

***Astiphromma nigrocoxatum* (Strobl, 1902)**

Diagnosis. This species can be distinguished from other European species by the combination of the following characters: clypeus largely and face mainly black (clypeus and face entirely yellow in male); mandibular teeth equal; temples strongly narrowed behind eyes; genal carina joining the hypostomal carina distant from mandibular base; scutellum rounded apically; hind coxa blackish; hind femur brown to blackish; postpetiole of first metasomal tergite with dorsolateral carinae strong and striae at most apically; tergites 4–7 blackish; ovipositor sheath stab-like, slightly bent dorsally at apex.

Material examined. *Transcarpathian Region*: 1 ♀, 2 ♂, Chornogora, Sheshul 6–7 km NE of Kvasy, 48.157193 N, 24.363658 E, 1450 m, subalpine zone, Malaise Trap, 6–29.VI.2014; 4 ♀, 1 ♂, idem, Malaise Trap, 29.vi–18.vii.2014, leg. O. Varga.

Distribution. Western Palaearctic, **new record for Ukraine.**

***Astiphromma pictum* (Brischke, 1880)**

Diagnosis. This species can be distinguished from other European species by the combination of the following characters: temples parallel behind the eyes; lower tooth of mandibula longer than upper tooth; hypostomal carina elevated; scutellum

rounded apically; mesopleurum reddish, often with yellow stripes or spots; head and mesopleuron densely punctate; postpetiole of first metasomal tergite with dorsolateral carinae strong and entirely longitudinally striae.

Material examined. *Ivano-Frankivsk Region*: 1 ♂, Dibrova, 5 km SW of Bogorodchany, 48.772054 N, 24.511657 E, 310 m, oak forest, sweeping, 27.v.2012; *Transcarpathian Region*: 2 ♂, Vynogradiv District, Chorna Gora, 280 m, oak forest, 48.138338 N, 23.073689 E, sweeping, 6.iv.2011, leg. O. Varga.

Distribution. Palaearctic, new record for Ukraine.

Astiphromma splenium (Curtis, 1833)

Diagnosis. This species can be distinguished from other European species by the combination of the following characters: clypeus partly and face mainly black (clypeus and face entirely yellow in male); mandibular teeth equal; temples moderately narrowed behind eyes; genal carina joining the hypostomal carina distant from mandibular base; scutellum rounded apically; postpetiole of first metasomal tergite with dorsolateral carinae strong and striae at most apically; tergites 4–7 often completely red; hind tarsal claw with strong teeth, usually the basal teeth longer than apical teeth.

Material examined. *Ivano-Frankivsk Region*: 3 ♀, Mochary, 5 km NE of Bogorodchany, 48.837078 N, 24.581379 E, 315 m, mixed forest, sweeping, 12.v.2012; 1 ♀, idem, sweeping, 31.v.2012; 2 ♂, idem, sweeping, 4.v.2013; 1 ♀, idem, Malaise Trap, 4–14.vii.2014; 1 ♀, Dibrova, 5 km SW of Bogorodchany, 48.772054 N, 24.511657 E, 310 m, oak forest, sweeping, 11.x.2013; 1 ♀, Gorgany, m. Igrovets, 7.5 km SW of Stara Guta, 48.598571 N, 24.130344 E, 1500 m, subalpine zone, Malaise Trap, 24.v–13.vi.2014; *Transcarpathian Region*: 1 ♀, Svydovets, 2–3 km NW of Kvasy, 48.144694 N, 24.270809 E, 750 m, beech forest, sweeping, 23.viii.2009; 1 ♀, idem, Malaise Trap, 14.vii–24.viii.2013; 4 ♀, 2 ♂, idem, Malaise Trap, 7.v–5.vi.2014; 3 ♀, idem, Malaise Trap, 5–29.vi.2014; 1 ♀, idem, Trunk Trap, 5–29.vi.2014; 1 ♂, idem, Malaise Trap, 29.vi–15.vii.2014, leg. O. Varga; 2 ♀, 2 ♂, Kuziy, 450–700 m, beech forest, sweeping, 12.viii.1994; 1 ♀, Rakhiv, beech forest 450–500 m, sweeping, 29.vii.1994; 1 ♀, Tyachiv distr., Mala Ugolka, beech forest, 500–1000 m, sweeping, 26–27.vii.1995; 1 ♀, idem, sweeping, 30.VII.1995, leg. A. Kotenko; 1 ♂, Dilove, beech forest, sweeping, vi.2008; 1 ♂, idem, sweeping, 7.viii.2008, leg. R. Bidychak.

Distribution. Holarctic, Ukraine (Riedel 2015; Riedel & Kasparyan 2018).

Astiphromma striatum (Brischke, 1880)

Diagnosis. This species can be distinguished from other European species by the combination of the following characters: face and clypeus yellow; lower tooth of mandibula longer than upper tooth; scutellum rounded apically; hind trochantellus flattened ventrally, with edged sides; postpetiole of first metasomal tergite with dorsolateral carinae strong and striae at most apically.

Material examined. *Ivano-Frankivsk Region*: 1 ♂, Gorgany, 10–12 km SW of Stara Guta, 48.552406 N, 24.126592 E, 1400 m, coniferous forest, sweeping, 20–22.v.2012, leg. O. Varga.

Distribution. Palaearctic, Ukraine (Riedel 2015).

Astiphromma tenuicorne Thomson, 1886

Diagnosis. This species is similar to *A. striatum*, but has not flattened ventrally hind trochantellus; two-coloured mesopleurum: black dorsally and reddish ventrally; slender ovipositor sheath, more than 8.0 × as long as wide; slender hind leg with femur about 5.0–5.6 × as long as wide; longitudinally striae apically postpetiole of first metasomal tergite; yellowish-red hind coxa.

Material examined. *Transcarpathian Region*: 1 ♀, Chornogora, Sheshul 6–7 km NE of Kvasy, 48.157193 N, 24.363658 E, 1450 m, subalpine zone, Malaise Trap, 18.vii–10.viii.2014; 1 ♀, idem, Malaise Trap, 10.viii–1.ix.2014; 1 ♀, Marmarosy, 11–12 km SE of Dilove, 47.925407 N, 24.311800 E, 1550 m, subalpine zone, m. Pip-Ivan, sweeping, 6–9.viii.2012, leg. O. Varga; 1 ♀, Svalyava District, Polyana, abandoned apple orchard, sweeping, 27–28.vi.1986, leg. V. Tolkanitz.

Distribution. Europe, new record for Ukraine.

Astiphromma uliginosum Schwenke, 1999

Diagnosis. This species is similar to *A. diversum*, but has metasomal tergites 4–7 with vespid (dark/pale) pattern and slender ovipositor sheath, about 7.7–8.4 × as long as wide (6.5 × as long as wide in *A. diversum*).

Material examined. *Ivano-Frankivsk Region*: 1 ♀, Mochary, 5 km NE of Bogorodchany, 48.837078 N, 24.581379 E, 315 m, mixed forest, sweeping, 14.v.2013; *Transcarpathian Region*: 1 ♀, Svydovets, 2–3 km NW of Kvasy, 48.144694 N, 24.270809 E, 1000 m, beech forest, sweeping, 16.vi.2013, leg. Varga.

Distribution. Europe, new record for Ukraine.

***Astiphromma varipes* (Holmgren, 1860)**

Diagnosis. This species is similar to *A. italicum*, but has equal mandibular teeth; genal carina joining the hypostomal carina distant from mandibular base; dark brown to black hind femur; large ocelli, distance from the lateral ocellus to the compound eye 0.8–1.0 × of its diameter.

Material examined. *Ivano-Frankivsk Region*: 1 ♀, Gorgany, m. Igrovets, 7 km SW of Stara Guta, 48°35′54,68″N 24°7′52,56″ E, 1375 m, border between coniferous forest and subalpine zone, Malaise Trap, 2–20.vii.2014; 1 ♀, Gorgany, 7.5 km SW of Stara Guta, 48.598571 N, 24.130344 E, 1500 m, subalpine zone, Malaise Trap, 20.vii–8.viii.2014, leg. O. Varga.

Distribution. Western Palaearctic, **new record for Ukraine.**

Acknowledgements

The second author's field work in Carpathians was partly funded by the Rufford Small Grant and Mohamed bin Zayed Species Conservation Grant.

References

- Meyer N. F. 1935. Parasitic Hymenoptera in the family Ichneumonidae of the USSR and adjacent countries. Part 4. Ophioninae. *Keys to the fauna of the USSR. Leningrad* 16: 1–535. [In Russian].
- Riedel M. 2015. Revision of the European species of the genus *Astiphromma* Förster, 1869 (Hymenoptera, Ichneumonidae, Mesochorinae). *Spixiana* 38(1): 85–132.
- Riedel M., & Kasparyan D. R. 2018. Contribution to the genus *Astiphromma* Förster (Hymenoptera, Ichneumonidae, Mesochorinae) from Russia and adjacent countries. *Entomological Reviews* 98: 753–764.
<https://doi.org/10.1134/S0013873818060131>
- Yu D. S., van Achterberg K. & Horstmann K. 2016. *Taxapad 2016 - World Ichneumonoidea 2015. Taxonomy, Biology, Morphology and Distribution.* – On USB Flash drive. www.taxapad.com. Nepean, Ontario, Canada.