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Description of a new species of *Hemiteles* (Ichneumonidae, Phygadeuontinae) from Europe

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A b s t r a c t : A new species of *Hemiteles* (*H. centumannorum* nov.sp.) is described from Austria and Croatia. In the female sex it can be separated from the other European species of *Hemiteles* by the combination of the following characters: relatively short third antennal segment (3.5-3.8 times as long as wide), white tegula, entirely hyaline fore wing, dark brown pterostigma, second metasomal tergite mainly orange and with distinct punctures.

K e y w o r d s : Ichneumonidae, Phygadeuontinae, *Hemiteles*, new species, Europe

Introduction

The genus *Hemiteles* was used in a very broad sense in the 19th century and first half of the 20th century for a range of species of Phygadeuontinae with the fore wing areolet usually open, but is now restricted to a small and rather uniform group, mainly due to generic revisions by Townes. TOWNES (1970) made a description of the genus *Hemiteles* in the restricted sense and provided a key to genera of Cryptinae (which he called Gelinae), which at that time included the group that has recently become generally accepted as its own subfamily Phygadeuontinae based on phylogenetic studies by SANTOS (2017).

Following on from the generic reclassification performed by TOWNES (1970) it was mainly Klaus Horstmann who studied many types of European Phygadeuontinae (e.g. HORSTMANN 1972, 1974a, 1974b, 1979a, 1979b, 1981, 1982, 1983a, 1983b, 1986a, 1986b, 1986c, 1988a, 1988b, 1990, 1993, 1998, 2000, 2001, 2002, 2004, 2006) and transferred the named species to the many genera now accepted. In doing so, he created an extremely valuable basis for revisions of the species of genera. This made it possible to provide a key to the Western Palaearctic species of *Hemiteles* (SCHWARZ & SHAW 2000). That key does not, however, include *H. rufigaster* HORSTMANN, 1990, known only from the Canary Islands nor the Holarctic *H. subglaber* TOWNES, 1983, described from North America but with mention also of probably conspecific European specimens (TOWNES 1983). At that time there were no specimens of either species available to the authors.

The most important characters of *Hemiteles* are: epipleurum of second tergite of metasoma not separated from the tergite (in dried specimens sometimes not easy to trace); fore wing with 2m-cu with one bulla; nervellus in hind wing intercepted; and mesoscutum mat.

In the course of determining European Phygadeuontinae some specimens of a *Hemiteles* species have been found which differ from all other described species of the genus, and the new species is described here.

Material and methods

The collections in Linz, Vienna, Munich and the private collection of the author have been checked for material of the new species.

The morphological terminology follows BROAD et al. (2018).

Description

***Hemiteles centumannorum* nov.sp.**

Holotype (♀): "A, Oberösterreich Walding NW Linz 5.2019, 48°20‘58‘‘N 14°09‘29‘‘E, J. Schwarz", "Holotypus", Holotypus ♀ *Hemiteles centumannorum* SCHWARZ des. Mart. Schwarz ‘21" (Biologiezentrum Linz). The holotype was collected inside a retirement home by the son of the author who worked there as civilian community servant.

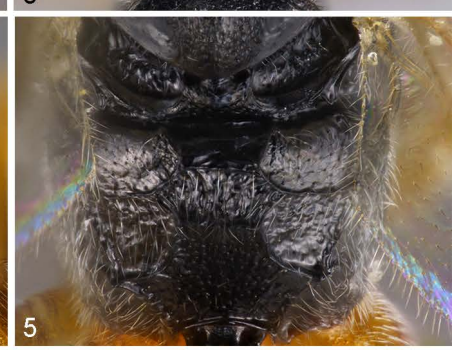
Paratypes (3♀♀): Austria: Oberösterreich (= Upper Austria), Linz-Urfahr, KGA-Riesenhof (= Kleingartenanlage Riesenhof), Parzelle 60, 22-26.vi.2016, 48°19‘06‘‘N, 14°16‘13‘‘E, leg. Tiefenthaler (1♀); same data except 18-21.vii.2016 (1♀). Croatia: Split, Marjan, 6-20.vii.2017, leg. B. Kokan (1♀) (all Biologiezentrum Linz). The two paratypes from Austria were collected in an allotment garden area.

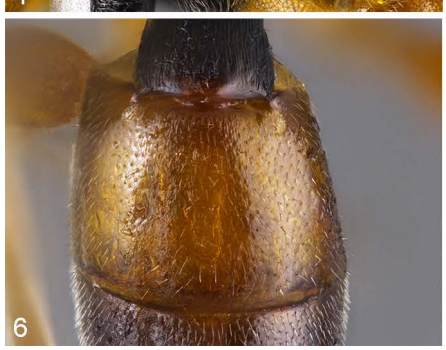
H. centumannorum nov.sp., which is morphologically most similar to *H. similis* (GMELIN), can be separated from the other European species of *Hemiteles* by the combination of the following characters: third segment of antenna (without annellus) 3.5-3.8 times as long as wide, tegula white, fore wing entirely hyaline and with pterostigma dark brown, second metasomal tergite mainly orange (blackish laterally) and with distinct punctures. It keys to couplet 2 in the key to the females of Western Palaearctic *Hemiteles* (SCHWARZ & SHAW 2000) but doesn’t agree entirely with either of the two alternatives.

Female (Fig. 1): Antenna with 26-29 segments, third segment (without annellus) 3.5-3.8 times as long as wide and sixth segment 2.1-2.5 times as long as wide. Head coriaceous and matt, without distinct punctures. Inner margins of eye distinctly divergent ventrally (Fig. 2). Central convexity of face rather distinct. Clypeus strongly convex and with a small depression in the centre apically. Mandible with upper tooth slightly longer than lower tooth. Malar space 1.0-1.1 times as long as basal width of mandible. Shortest distance between hind eye and ocellus (OOL) 0.8-0.9 times diameter of hind ocellus. Head behind the eyes strongly narrowed. Head as seen from above rather strongly transverse (Fig. 3).

Lateral part of pronotum coriaceus and matt and with indistinct punctures dorsally, below with rugosity and lustrous. Mesoscutum coriaceous and matt, with very indistinct punctation; notaulus short and weak. Mesopleuron with fine transverse striation and anteriorly ventrally coriaceous and matt (Fig. 4); speculum entirely or partly and often hind margin of mesopleuron below speculum smooth and lustrous. Speculum sometimes with weak striation anteriorly. Metapleuron with weak rugosity, weakly coriaceus and with indistinct punctures.

Propodeum (Fig. 5) short, lustrous and with weak rugosity, all carinae distinct, except lateromedian longitudinal carina between anterior transverse carina and posterior transverse carina weak; area superomedia short, 0.5-0.7 times as long as wide; area petiolaris long, hardly concave.





Figs 1-7: Holotype (♀) of *Hemiteles centumannorum* nov.sp.; habitus laterally (**1**), head frontally (**2**), head dorsally (**3**), mesosoma laterally (**4**), propodeum (**5**), second tergite of metasoma (**6**), ovipositor (**7**).

Hind femur 3.8-4.1 times as long as wide. Fore wing with ramulus short, 1cu-a interstitial or postfurcal, areolet with 3rs-m usually indicated above and below.

Postpetiole with fine longitudinal striation. Second metasomal tergite with distinct and moderate punctures, distance between punctures larger than their diameter, without striation or rarely partly (especially anteriorly) with very fine striation; punctures larger than in any other known European species of *Hemiteles* (Fig. 6). Fourth tergite with distinct, but slightly smaller punctures than on third tergite. Ovipositor sheath 0.5-0.6 times as long as hind tibia. Ovipositor without a distinct nodus, its tip without teeth ventrally (Fig. 7).

Coloration: black. White are mandible (except teeth), palpi and tegula. Orange are scape ventrally, sometimes base of flagellum ventrally, clypeus ventrally (sometimes indistinct), often hind corner of pronotum, legs, sometimes postpetiole apically, second metasomal tergite (blackish laterally) and often third tergite basally (except laterally). Tibiae slightly lightened basally. Mandible with teeth brownish. Antenna mainly dark brown, but black above basally. Fore wing uniformly hyaline; pterostigma dark brown.

Body length: 3.4-4.8 mm.

Male unknown.

The species is named after the hundredth anniversary of the Entomological Working Group at the Biology Centre (Biologiezentrum) at Linz, founded on October 26, 1921.

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Zusammenfassung

Es wird eine neue *Hemiteles*-Art (*H. centumannorum* nov.sp.) aus Österreich und Kroatien beschrieben, die sich im weiblichen Geschlecht von den anderen bekannten europäischen Arten der Gattung durch folgende Merkmalskombination unterscheidet: relativ kurzes 3. Fühlerglied (3,5-3,8-mal so lang wie breit), einheitlich helle Vorderflügel ohne Verdunkelung, dunkelbraunes Pterostigma, weiße Tegulae, 3. Tergit des Metasomas fast ganz orange und vergleichsweise deutlich punktiert.

References

BROAD G.R., SHAW M.R. & M.G. FITTON (2018): Ichneumonid wasps (Hymenoptera: Ichneumonidae): their classification and biology. — Handbooks for the Identification of British Insects Vol. **7**, Part 12, 1–417.

HORSTMANN K. (1972): Type revision of the species of Cryptinae and Campopleginae described by J. B. Bridgman (Hymenoptera: Ichneumonidae). — Entomologist **105**: 217-228.

HORSTMANN K. (1974a): Typenrevision der von Strobl in der Gattung *Hemiteles* GRAVENHORST s. l. beschriebenen Arten und Formen. — Zeitschrift d. Arbeitsgem. Österr. Ent. **25**: 52-56.

HORSTMANN K. (1974b): Typenrevision der von E. Zilahi-Kiss beschriebenen Hemitelinen mit Bemerkungen zu den Gattungen *Hemiteles* GRAV. (s. str.), *Gnotus* FOERST. und *Xiphulcus* TOWNES (Hymenoptera, Ichneumonidae). — Ann. hist.-nat. Mus. Nat. Hung. **66**: 339-346.

HORSTMANN K. (1979a): Typenrevision der von Gravenhorst beschriebenen oder gedeuteten *Hemiteles*-Arten (Hymenoptera, Ichneumonidae). — Polskie Pismo Entomologiczne **49**: 151-166.

HORSTMANN K. (1979b): A revision of the types of the *Hemiteles* spp. described by Thomson (Hymenoptera: Ichneumonidae). — Ent. Scand. **10**: 297-302.

HORSTMANN K. (1981): Typenrevision der von Karl Hedwig beschriebenen Arten und Formen der Familie Ichneumonidae (Hymenoptera). — Ent. Mitt. zool. Mus. Hamburg **7**: 65-82.

HORSTMANN K. (1982): Revision der von Panzer beschriebenen Ichneumoniden-Arten (Hymenoptera). — Spixiana **5**: 231-246.

HORSTMANN K. (1983a): Typenrevision der von Schmiedeknecht beschriebenen *Hemiteles*-Arten (Hymenoptera, Ichneumonidae). — Mitt. Münch. Ent. Ges. **72**: 147-158.

HORSTMANN K. (1983b): Revision of species of Western Palearctic Ichneumonidae described by French authors. — Contrib. Amer. Ent. Inst. **20**: 101-115.

HORSTMANN K. (1986a): Revision der von Hartig beschriebenen Ichneumoniden-Arten. — Spixiana **8**: 323-335.

HORSTMANN K. (1986b): Revision der von Aerts, Dominique, Kieffer und Verhoeff beschriebenen Ichneumoniden-Taxa, mit einer Bearbeitung von *Diaglyptellana* HORSTMANN (Hymenoptera, Ichneumonidae). — Nachrichtenblatt der Bayerischen Entomologen **35**: 100-106.

HORSTMANN K. (1986c): Typenrevision der von Karl Pfankuch beschriebenen Arten und Formen der Familie Ichneumonidae (Hymenoptera). — Ent. Mitt. zool. Mus. Hamburg **8**: 251-264.

HORSTMANN K. (1988a): Revision einiger westpaläarktischer Phygadeuontini (Hymenoptera, Ichneumonidae). — Nachrichtenblatt der Bayerischen Entomologen **37**: 59-64.

HORSTMANN K. (1988b): Revision der von Fahringer beschriebenen westpaläarktischen Ichneumoniden-Arten (Hymenoptera). — Zeitschrift d. Arbeitsgem. Österr. Ent. **40**: 14-22.

HORSTMANN K. (1990): Typenrevision der von Hellén beschriebenen Cryptinae (Hymenoptera, Ichneumonidae). — Entomol. Fennica **1**: 181-187.

HORSTMANN K. (1993): Revision der von Ferdinand Rudow beschriebenen Ichneumonidae I. (Hymenoptera). — Beitr. Ent. **43**: 3-38.

HORSTMANN K. (1998): Übersicht über die von Sigismund Brauns beschriebenen europäischen Ichneumonidae (Hymenoptera). — Nachrichtenblatt der Bayerischen Entomologen **47**: 80-87.

HORSTMANN K. (2000): Typenrevision einiger von Habermehl beschriebener Ichneumonidae (Hymenoptera). — Nachrichtenblatt der Bayerischen Entomologen **49**: 67-70.

HORSTMANN K. (2001): Revision der von Johann Christian Fabricius beschriebenen Ichneumonidae. — Beitr. Ent. **51**: 7-50.

HORSTMANN K. (2002): Revisionen der von Gregor beschriebenen Ichneumonidae (Hymenoptera). — Linzer biol. Beitr. **34**: 377-382.

HORSTMANN K. (2004): Übersicht über die von SCHIØDTE (1839a) eingeführten Namen für Taxa der Ichneumonidae (Hymenoptera). — Linzer biol. Beitr. **36**: 253-263.

HORSTMANN K. (2006): Revisionen der von Kriechbaumer aus der Westpaläarktis und Zentralasien beschriebenen Ichneumonidae (Insecta, Hymenoptera). — Spixiana **29**: 1-30.

SANTOS B.F. (2017): Phylogeny and reclassification of Cryptini (Hymenoptera, Ichneumonidae, Cryptinae), with implications for ichneumonid higher-level classification. — Systematic Entomology **42**: 1-27.

SCHWARZ M. & M.R. Shaw (2000): Western Palaearctic Cryptinae (Hymenoptera: Ichneumonidae) in the National Museums of Scotland, with nomenclatural changes, taxonomic notes, rearing records and special reference to the British check list. Part 3. Tribe Phygadeuontini, subtribes Chiroticina, Acrolytina, Hemitelina and Gelina (excluding *Gelis*), with description of new species. — Entomologist's Gazette **51**: 147-186.

TOWNES H.K. (1970): The genera of Ichneumonidae, part 2. — Memoirs of the American Entomological Institute **12**: 1-537.

TOWNES H.K. (1983): Revisions of twenty genera of Gelini (Ichneumonidae). — Memoirs of the American Entomological Institute **35**: 1-281.

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