

New records of ichneumon wasps (Hymenoptera, Ichneumonidae) from Malta

Zoltán VAS¹, David MIFSUD² & Gavin R. BROAD³

Ichneumon wasps (Hymenoptera, Ichneumonidae) represent one of the most diverse families of the animal kingdom (TOWNES, 1969). The ichneumon wasp fauna of Malta is still poorly known with only 30 species recorded so far (SCHEMBRI, 1992; MIFSUD, 2012; CASSAR, 2013). Of these, one species, *Diadegma armillatum* (Gravenhorst, 1829) should be removed from the Maltese ichneumon wasp fauna (Horstmann, K., *pers comm.*, 2012) since this is a similar species to *Diadegma semiclausum* (Hellén, 1949), a parasitoid of *Prays oleae* (Bernard, 1788) as well as *Plutella xylostella* (Linnaeus, 1758). On the other hand, a *Gelis* sp. was overlooked by MIFSUD (2012). This species was recorded from Malta by HÄTTENSWILER *et al.* (2007) and was reared from *Scioptetris melitensis* Rebel, 1919 (Lepidoptera, Psychidae).

Recently some Maltese Hymenoptera were donated to the Hungarian Natural History Museum (HNHM) and some other material was sent to the Natural History Museum in London (BMNH) for identification by the second author. Amongst these specimens were six ichneumon wasp species new to the fauna of Malta.

Ichneumonidae taxonomy and nomenclature follow YU *et al.* (2012), and host records were traced through this resource. Identifications were based on keys provided by SZÉPLIGETI (1905), SCHMIEDEKNECHT (1909), BAJÁRI (1960), TOWNES *et al.* (1965), BAJÁRI & MÓCZÁR (1969), TOWNES (1969; 1970a; 1970b; 1971), HORSTMANN (1976), GAULD & MITCHELL (1977), FITTON *et al.* (1988), WAHL (1993), and TOLKANITZ (2007). The voucher specimens are deposited in the Hymenoptera Collection of HNHM, Budapest, Hungary (those indicated by a HNHM id. number below), and some duplicate specimens in D. Mifsud's private insect collection (CDM) in Malta.

Trichomma enecator (Rossi, 1790) (Anomaloniinae)

Material examined: Malta, Birguma, 10.i.2009, 1 ♂, ex. pupa of *Aphelia amplana*, leg. M. Zerafa, det. Z. Vas, HNHM (id. number: HNHM Hym. coll. 22838).

Notes: *Trichomma enecator* is a widespread but uncommon species in the western and eastern Palaearctic. This species is a koinobiont endoparasitoid of various Tortricidae (e.g. GAULD & MITCHELL, 1977). *Aphelia peramplana* (Hubner, 1825) represents a new host record for this species (YU *et al.*, 2012).

¹Department of Zoology, Hungarian Natural History Museum, H-1088 Budapest, Baross Str. 13, Hungary. E-mail: vas@nhmus.hu

²Institute of Earth Systems, Division of Rural Sciences and Food Systems, University of Malta, Msida MSD 2080, Malta. E-mail: david.a.mifsud@um.edu.mt

³Department of Life Sciences, Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom. E-mail: g.broad@nhm.ac.uk

***Casinaría tenuiventris* (Gravenhorst, 1829)**
(Campopleginae)

Material examined: Malta, Verdala Palace, 12–24.vi.2014, 2 ♂♂ & 1 ♀, Malaise trap, leg. D. Mifsud, det. Z. Vas; 1 ♂ & 1 ♀ are housed in HNHM (id. numbers: HNHM Hym. coll. 22839–22840), 1 ♂ in CDM.

Notes: *Casinaría tenuiventris* is widespread through the western and eastern Palaearctic. This species is a koinobiont endoparasitoid of several lepidopteran hosts including the forestry pest, *Lymantria dispar* (Linnaeus, 1758) (citations can be traced through YU *et al.*, 2012).

***Dichrogaster longicaudata* (Thomson, 1884)**
(Cryptinae)

Material examined: Malta, Verdala Palace, 12–24.vi.2014, 4 ♀♀, Malaise trap, leg. D. Mifsud, det. Z. Vas; 3 ♀♀ are housed in HNHM (id. numbers: HNHM Hym. coll. 22844–22846), 1 ♀ in CDM.

Notes: *Dichrogaster longicaudata* is a widespread species, occurring in both the Palaearctic and Nearctic regions. An idiobiont ectoparasitoid of Chrysopidae (ŠEDIVÝ, 1986).

***Exochus semilividus* Vollenhoven, 1875**
(Metopiinae)

Material examined: Malta, Verdala Palace, 12–24.vi.2014, 1 ♂ & 1 ♀, Malaise trap, leg. D. Mifsud, det. Z. Vas, HNHM (id. numbers: HNHM Hym. coll. 22848, 22849).

Notes: *Exochus semilividus* is widespread through the western and eastern Palaearctic, although rare. As with other metopiines, this species will be a koinobiont endoparasitoid, although all we know of its biology is a single host record from *Argyrotaenia ljungiana* (Thunberg, 1797) (Tortricidae) (DJANELIDZE, 1969). However, according to Fauna Europaea (OLE & VAN NIEUKERKEN, 2013), *Argyrotaenia ljungiana* has not been found in Malta.

***Tromatobia lineatoria* (Villers, 1789)**
(Pimplinae)

Material examined: Malta, Zebbug, 26.v.2014, 1 ♀, leg. T. Cassar, det. G.R. Broad. The specimen is housed in HNHM (id. number: HNHM Hym. coll. 22854).

Notes: *Tromatobia lineatoria* is widespread in the western Palaearctic region. *Tromatobia* larvae develop in the egg sacs of various spider hosts.

***Xorides praecatorius* (Fabricius, 1793)**
(Xoridinae)

Material examined: Malta, Buskett, 15.iii.2003, 2 ♂♂, emerged from galleries of Cerambycidae from an unidentified tree, leg. D. Mifsud, det. Z. Vas (1 ♂ in HNHM, id. number: HNHM Hym. coll. 22851) & det. G.R. Broad (1 ♂ in CDM).

Notes: *Xorides praecatorius* is a widespread and common species in the western and eastern Palaearctic region. An idiobiont ectoparasitoid, its hosts are wood-boring Coleoptera larvae.

REFERENCES

- BAJÁRI, E. & MÓCZÁR, L. (1969) Fűrészdarázs-alkatúak IV. Ichneumonoidea IV. In: *Magyarország Állatvilága. Fauna Hungariae, XI, 7*. Akadémiai Kiadó, Budapest. 122 pp.
- BAJÁRI, E. (1960) Fűrészdarázs-alkatúak I. Ichneumonoidea I. In: *Magyarország Állatvilága. Fauna Hungariae, XI, 4*. Akadémiai Kiadó, Budapest. 266 pp.
- CASSAR, T. (2013) *Diplazon laetatorius* (Fabricius, 1781) - new record of an Ichneumonidae from Malta (Hymenoptera). *Bulletin of the Entomological Society of Malta*, 6: 148.
- DJANELIDZE, B.M. (1969) [Data on the relationship between Ichneumonflies (Hym., Ichneumonidae) and their hosts]. *Bulletin of the Academy of Sciences of the Georgian SSR*, 55: 445–448.
- FITTON, M.G., SHAW, M.R. & GAULD, I.D. (1988) Pimpline ichneumon-flies. Hymenoptera: Ichneumonidae (Pimplinae). *Handbooks for the Identification of British Insects Vol. 7. Part 1*. Royal Entomological Society of London, London. 110 pp.
- GAULD, I.D. & MITCHELL, P.A. (1977) Ichneumonidae: Orthopelmatinae & Anomaloninae. *Handbooks for the Identification of British Insects Vol. 7. Part 2(b)*. Royal Entomological Society of London, London. 32 pp.
- HÄTTENSCHWILER, P., SAMMUT, P. & ZERAFA, M. (2007) Rediscovery of *Sciopetris melitensis* Rebel, 1919 and description of its morphology and life history (Psychidae). *Nota lepidopterologica*, 30 (2): 397–406.
- HORSTMANN, K. (1976) Nachtrag zur revision der europäischen *Dichrogaster*-Arten (Hymenoptera, Ichneumonidae). *Zeitschrift der Arbeitsgemeinschaft österreichischer Entomologen*, 28 (1–3): 55–61.
- MIFSUD, D. (2012) *Syrphophilus bizonarius* (Gravenhorst, 1829) (Hymenoptera) - new to Malta, with a revised check-list of the Ichneumonidae of the Maltese Islands. *Bulletin of the Entomological Society of Malta*, 5: 179–183.
- OLE, K. & VAN NIEUKERKEN, E.J. (2013) Fauna Europaea: *Argyrotaenia ljugiana*. Fauna Europaea version 2.6.2. <http://www.faunaeur.org> (accessed January 2015)
- SCHEMBRI, S. (1992) A preliminary list of the Ichneumonidae of the Maltese Islands (Hymenoptera). *Bollettino della Società entomologica italiana*, 124 (1): 49–54.
- SCHMIEDEKNECHT, O. (1909) *Opuscula Ichneumonologica. IV. Band. Ophioninae. Fasc. XXI-XXIII*. Blankenburg in Thüringen, pp. 1601–1840.
- ŠEDIVÝ, J. (1986) The hosts of Ichneumon flies in Europe (Hymenoptera, Ichneumonidae). *Acta Entomologica Bohemoslovaca*, 83: 10–23.
- SZÉPLIGETI, GY. (1905) Übersicht der paläarktischen Ichneumoniden. I. Theil. *Annales Musei Nationalis Hungarici*, 3: 508–540.
- TOLKANITZ, V.I. (2007) [Ichneumon flies of the genus *Exochus* Gravenhorst (Hymenoptera: Ichneumonidae: Metopiinae) of the fauna of Palaearctic region] (in Russian with English summary). *Russian Entomological Journal*, 16 (3): 339–358.
- TOWNES, H. (1969) The genera of Ichneumonidae. Part 1. *Memoirs of the American Entomological Institute*, 11: 1–300.
- TOWNES, H. (1970a) The genera of Ichneumonidae. Part 2. *Memoirs of the American Entomological Institute*, 12: 1–537.
- TOWNES, H. (1970b) 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., MOMOI, S. & TOWNES, M. (1965) A catalogue and reclassification of Eastern Palearctic Ichneumonidae. *Memoirs of the American Entomological Institute*, 5: 1–661.
- WAHL, D.B. (1993) Family Ichneumonidae (Pp. 395–509). In: GOULET, H. & HUBER, J.T. [eds.], *Hymenoptera of the World: An identification guide to families*. Agriculture Canada, Ottawa. vii + 668 pp.
- YU, D.S., VAN ACHTERBERG, C. & HORSTMANN, K. (2012) *Taxapad 2012, Ichneumonoidea 2011*. Database on flash-drive. www.taxapad.com, Ottawa, Ontario, Canada.

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