

Davide Dal Pos

FIRST RECORDS OF THE PARASITOID WASP GENUS *SAOTIS* FÖRSTER, 1869
FOR ITALY (HYMENOPTERA, ICHNEUMONIDAE, CTENOPELMATINAE,
MESOLEIINI)

Riassunto. Prime segnalazioni per l'Italia del genere di vespe parassitoidi *Saotis* Förster, 1869 (Hymenoptera, Ichneumonidae, Ctenopelmatinae, Mesoleiini).

Il genere *Saotis* Förster, 1869 è qui segnalato per la prima volta per l'Italia, sulla base del rinvenimento di *Saotis mirabilis* Schmiedeknecht, 1914.

Summary. The genus *Saotis* Förster, 1869, with its species *Saotis mirabilis* Schmiedeknecht, 1914, is hereby recorded for the first time from Italy.

Keywords: Ichneumonidae, *Saotis*, first record, parasitoid wasp, Italy.

Reference: Dal Pos D., 2017. First records of the parasitoid wasp genus *Saotis* Förster, 1869 for Italy (Hymenoptera, Ichneumonidae, Ctenopelmatinae, Mesoleiini). *Bollettino del Museo di Storia Naturale di Venezia*, 68: 59-62.

INTRODUCTION

Ctenopelmatinae is a moderately large subfamily of Ichneumonidae comprising more than 100 genera and 1300 species (YU et al., 2012). This group is considered paraphyletic, and according to QUICKE et al. (2009) it will be split into different subfamilies when new genetic data become available. Mesoleiini is one of the nine tribes in which Ctenopelmatinae is divided, comprising 25 genera widely distributed, although absent from Afrotropical and Australian regions (YU et al., 2012; QUICKE, 2015). Nearly all the members of the tribe are reported to attack Tenthredinoidea sawflies belonging to the families Tenthredinidae, Cimbicidae, and Diprionidae (TOWNES et al., 1965; LEBLANC, 1989, 1999; KASPARYAN & KOPELKE, 2009). To date, 49 species belonging to 14 genera of Mesoleiini are recorded for the Italian fauna (SCARAMOZZINO, 1995; YU et al., 2012; DI GIOVANNI et al., 2015).

This note provides the first records of the European Mesoleiini species *Saotis mirabilis* Schmiedeknecht, 1914 for Italy, which is the first species of its genus recorded for this country.

METHODS

Specimens were collected using Malaise traps and are deposited in D. Dal Pos (DPDC) and F. Di Giovanni (FDGC) private collections.

A dissecting stereomicroscope (OPTIKA SZM-2) was used for observation and study. Photographs were taken by a Canon Eos 600D, lens Canon MP-E 65mm f/2.8 1-5x Macro and Sigma 105mm f/2.8 Macro DG OS HSM, using Combine ZP for the stacking (HADLEY, 2008).

The records are in decimal degree (datum WGS84) and distribution maps were produced using QGIS 2.14.3 Essen with a Digital Elevation Model

(DEM) produced by U.S. Geological Survey (USGS), available at <http://www.webgis.com/terraindata.html>, and a Digital Terrain Model (DTM) produced by Veneto region, available at www.regione.veneto.it/web/ambiente-e-territorio/geoportale.

KASPARYAN & SHAW (2003) and KASPARYAN & KOPELKE (2010) were used for specimens identification.

RECORDS

Saotis (Iskarus) mirabilis Schmiedeknecht, 1914
= *Iskarus seleuciformis* Kolarov, 1987: 70-71

Material examined. Italy, Veneto, Colli Berici, Nanto, 30.V-18.VI.2013, 45°26'08"N 11°33'44"E, Malaise trap, leg. D. Sommaggio, 1 ♀ (FDGC); Veneto, Colli Berici, Monte Motton, 30.V-18.VI.2013, 45°23'05"N 11°27'21"E, Malaise trap, leg. D. Sommaggio, 1 ♀ (DPDC).

DISCUSSION

Saotis Förster, 1869 is a moderately large genus with 29 currently described species distributed in all the Holarctic region (KASPARYAN, 2009, 2010; KASPARYAN & KOPELKE, 2010; YU et al., 2012). It can be easily distinguished by the strongly compressed abdomen, the broad and short ovipositor sheath, and the absence of the areolet in the fore wings (KASPARYAN, 2009; KASPARYAN & KOPELKE, 2010).

KASPARYAN & KOPELKE (2010) divided the genus *Saotis* into 12 species-group, placing *S. mirabilis* alone within the *mirabilis* species-group. Then, based on morphological differences, KASPARYAN (2010) placed *mirabilis* into the distinct subgenus *Iskarus*, following the name proposed by KOLAROV (1987)



Fig. 1. *Saotia mirabilis*: habitus, lateral view.

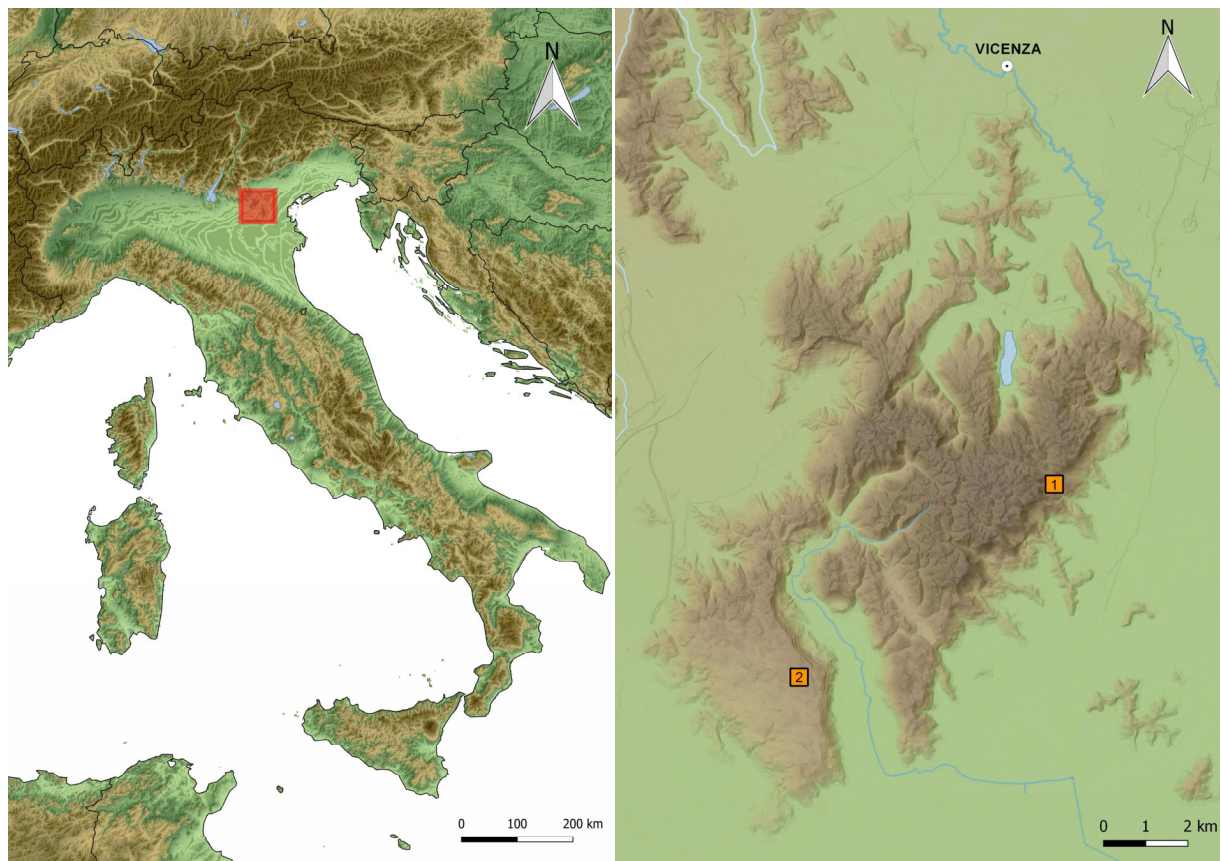


Fig. 2. Placement of the collecting area in north east Italy (left, red square) and detail of the two collecting localities within Berici Hills (right): Nanto (square 1) and Monte Motton (square 2).

and making *S. mirabilis* the only representative of subgenus *Iskarus*.

The species can be easily distinguished by the following morphological features: large size (length of the body about 15 mm), a very long abdomen (3 times as long as head and thorax combined), hind

marging of tergites 3-8 with a deep median notch, tergite 8 depressed, ovipositor sheath small in comparison with the other species of the genus, and mesothorax almost entirely red (fig. 1) (KASPARYAN & KOPELKE, 2010).

The species was previously recorded for Bulgaria,

France, Germany, Netherlands, Poland, European part of Russia, Slovakia, and Switzerland (SCHMIEDEKNECHT, 1914; TEUNISSEN, 1948; BAUER, 1961; AUBERT, 1964; KOLAROV, 1987; HORSTMANN, 2001; SCHMIDT & ZMUDZINSKI, 2003; KAŻMIERCZAK, 2004; KASPARYAN & KOPELKE, 2010). Although no host records are reported specifically for the species, the genus is known to be associated with gall-forming sawflies mostly belonging to the former genera *Pontiana* Costa, 1859 and *Phyllocolpa* Benson, 1960 (Tenthredinidae), now synonyms of *Euura* Newman, 1837 (PROUS et al., 2014), on *Salix* L. (Salicaceae) (KASPARYAN, 2010; KASPARYAN & KOPELKE, 2010).

The two Italian collecting sites are located in the north eastern part of the country, within Berici Hills, an important conservation area both for flora and fauna in the eastern Po valley landscape (fig. 2) (MAGISTRETTI & RUFFO, 1959, 1960; COGO &

FONTANA, 2002; SOMMAGGIO, 2014; TASINAZZO, 2014). Nanto is a dry meadow, surrounded by mixed wood subjected to anthropogenic cut in 2013 (year of the collection), while Monte Motton trap was settled at the edge of a mixed coniferous and oak wood, adjacent to uncultivated weeds meadow, previously used as vineyards (SOMMAGGIO, 2014).

ACKNOWLEDGMENTS

I would like to thank Marco Uliana, (curator of Entomology, Museum of Natural History, Venice), for imaging the specimen and providing an early critical review of the manuscript, and Daniele Sommaggio (Vicenza, Italy) for giving me the possibility of studying the specimens. Thanks also to Filippo Di Giovanni for reviewing the paper.

REFERENCES

- AUBERT J.F., 1964. Révision des travaux concernant les Ichneumonides de France, 4ème supplément au catalogue de Gaulle. *Bulletin mensuel de la Société linnéenne de Lyon*, 33(2): 57-64.
- BAUER R., 1961. Ichneumoniden aus Franken. Teil II (Hymenoptera: Ichneumonidae). *Beiträge zur Entomologie* 11(7-8): 732-792.
- COGO A., FONTANA P., 2002. The Orthopteroid insect fauna of Colli Berici (North-eastern Italy, Vicenza district). *Natura Vicentina*, 6: 5-69.
- DI GIOVANNI F., RESHCHIKOV A., RIEDEL M., DILLER E., SCHWARZ M., 2015. New records of Ichneumonidae (Hymenoptera) for the Italian fauna. *Biodiversity Data Journal*, 3: e5057.
- HADLEY A., 2008. Combine ZM. www.hadleyweb.pwp.blueyonder.co.uk/ (accessed 8 March 2017).
- HORSTMANN K., 2001. Ichneumonidae. In: Dathe H.H., Taeger A., Blank S.M. (eds.), Verzeichnis der Hautflügler Deutschlands (Entomofauna Germanica 4). *Entomologische Nachrichten und Berichte*, Dresden. Bieheft 7: 69-103.
- KASPARYAN D.R., 2009. Two new Palaearctic species of *Saotis* Förster, 1869 (Hymenoptera: Ichneumonidae: Ctenopelmatinae). *Zoosystematica Rossica*, 18(1): 118-125.
- KASPARYAN D.R., 2010. The Nearctic species of *Saotis* Förster, 1869 (Hymenoptera: Ichneumonidae: Ctenopelmatinae). *Zoosystematica Rossica*, 19(1): 89-116.
- KASPARYAN D.R., KOPELKE J.-P., 2009. Taxonomic review and key to European ichneumon flies (Hymenoptera, Ichneumonidae), parasitoids of gall-forming sawflies of the genera *Pontania* Costa, *Phyllocolpa* Benson, and *Euura* Newman (Hymenoptera, Tenthredinidae) on willows: Part I. *Entomological Review*, 89(8): 933-957.
- KASPARYAN D.R., KOPELKE J.-P., 2010. A taxonomic review of Ichneumon-flies (Hymenoptera, Ichneumonidae), parasitoids of the gall-forming sawfly (Hymenoptera, Tenthredinidae) on *Salix*. Part II. Review of the Palaearctic species of the genus *Saotis* Förster with description of four new species. *Entomological Review*, 89(1): 71-98.
- KASPARYAN D.R., SHAW M.R., 2003. A preliminary key to the European species of the genus *Saotis* Förster, 1869, with a list of British species (Ichneumonidae: Ctenopelmatinae: Mesoeliini). *Zoosystematica Rossica*, 11(2): 351-355.
- KAZMIERCZAK T., 2004. Checklist of Ichneumonidae (Hymenoptera) of Poland. *Electronic Journal of Polish Agricultural Universities*, 7: 1-63.
- KOLAROV J., 1987. A new Ctenopelmatinae genus and species from Bulgaria (Hymenoptera, Ichneumonidae). *Entomofauna*, 8(6): 69-76.
- LEBLANC L., 1989. A taxonomic revision of the Nearctic species of *Himerta* (Hymenoptera: Ichneumonidae). *Contributions of the American Entomological Institute*, 25(3): 1-76.
- LEBLANC L., 1999. The Nearctic species of *Protarchus* Foerster (Hymenoptera: Ichneumonidae: Ctenopelmatinae). *Journal of Hymenoptera Research*, 8: 251-267.
- MAGISTRETTI M., RUFFO S., 1959. Primo contributo alla conoscenza della fauna delle oasi xerothermiche prealpine (Coleotteri Carabidi, Scarabeidi, Crisomelidi). *Memorie del Museo Civico di Storia Naturale di Verona*, 7: 99-125.
- MAGISTRETTI M., RUFFO S., 1960. Secondo contributo alla conoscenza della fauna delle oasi xerothermiche prealpine. *Memorie del Museo Civico di Storia Naturale di Verona*, 8: 223-240.
- PROUS M., BLANCK S.M., GOULET H., HEIBO E., LISTON A., MALM T., NYMAN T., SCHMIDT S., SMITH D., VÅRDAL H., VIITASAARI M., VIKBERG V., TAEGER A., 2014. The genera of Nematinae (Hymenoptera, Tenthredinidae). *Journal of Hymenoptera Research*, 40: 1-69.
- QUICKE D.L.G., 2015. The Braconid and Ichneumonid parasitoid wasps: biology, systematics, evolution and ecology. *John Wiley and Sons, Ltd, Wiley, Blackwell*, Oxford, UK, 681 pp.
- QUICKE D.L.G., LAURENNE N.M., FITTON M.G., BROAD G., 2009. A thousand and one wasps: a 28S rDNA and morphological phylogeny of the Ichneumonidae (Insecta: Hymenoptera) with an investigation into alignment parameter space and elision. *Journal of Natural History*, 43(23-24): 1305-1421.
- SCARAMOZZINO P.L., 1995. Hymenoptera Ichneumonidae. In: Minelli A., Ruffo S., La Posta S. (eds.), Checklist delle specie della fauna italiana. 94. *Calderini*, Bologna, 62 pp.
- SCHMIDT K., ZMUDZINSKI F., 2003. 3. Beitrag zur Kenntnis der badischen Schlupfwespenfauna (Hymenoptera, Ichneumonidae). *Carolinea, Beiträge zur naturkundlichen Forschung in Südwestdeutschland*, 61: 119-132.
- SCHMIEDEKNECHT O., 1914. Opuscula Ichneumonologica. Fasc. XXXVI-XXXVII. Tryphoninae. *Blankenburg*, Thüringen. 2803-2962.
- SOMMAGGIO D., 2014. Valutazione biodiversità. Ditteri sirfidi. Report finale. *Life Natura Colli Berici*. 43 pp. www.lifecolliberici.eu/file/856-LifeColliBerici_Relazione_ValutazioneBiodiversita.pdf (accessed 8 March 2017).
- TASINAZZO S., 2014. La vegetazione dei Colli Berici - Parte I. *Provincia di Vicenza*. 78 pp. www.lifecolliberici.eu/it/documenti (accessed 8 March 2017).
- TEUNISSEN H.G.M., 1948. Naamlijst van inlandse sluipwespen (Fam. Ichneumonidae I). *Tijdschrift Voor Entomologie*, 89 (1946): 10-38.

TOWNES H., MOMOI S., TOWNES M., 1965. A catalogue and reclassification of the Eastern Palearctic Ichneumonidae. *Memoirs of the American Entomological Institute*, 5: 1-661.

YU D.S., VAN ACHTERBERG C., HORSTMANN K., 2012. World Ichneumonoidea. Taxonomy, Biology, Morphology and

Distribution (Braconidae). *Taxapad: Scientific Names for Information Management*, Ottawa, Ontario, Canada. www.taxapad.com (accessed 8 March 2017).

AUTHOR'S ADDRESS

Davide Dal Pos c/o Museo di Storia Naturale di Venezia, Santa Croce 1730, I-30135, Venice, Italy; daveliga@gmail.com