

# First external description of the female of *Stygioides italica* Mazzei & Yakovlev, 2016 (Lepidoptera: Cossidae)

M. Pinzari & M. Pinzari

## Abstract

The female of *Stygioides italica* Mazzei & Yakovlev, 2016 is described for the first time.  
KEY WORDS: Lepidoptera, Cossidae, *Stygioides italica*, Italy.

## Primera descripción externa de la hembra de *Stygioides italica* Mazzei & Yakovlev, 2016 (Lepidoptera: Cossidae)

## Resumen

Se describe por primera vez la hembra de *Stygioides italica* Mazzei & Yakovlev, 2016.  
PALABRAS CLAVE: Lepidoptera, Cossidae, *Stygioides italica*, Italia.

## Introduction

*Stygioides colchica* (Herrich-Schäffer, 1851) is given as present in Greece, southern Russia, Asia Minor, Armenia, Lebanon and Iran (FREINA & WITT, 1990; LINGENHÖLE *et al.*, 2017; KARSHOLT, 2020). Illustrations of the moth can be found in literature (DANIEL, 1954-55; FREINA & WITT, 1990; BERTACCINI *et al.*, 1997; LINGENHÖLE *et al.*, 2017) while only the genitalia of the male are illustrated in ZAGULYAEV (1987).

The presence in Italy has long been debated and sometimes questioned attributing the findings to occasional imports or errors (PARENZAN & PORCELLI, 2006; GRASSI *et al.*, 2007). Indeed, the numerous findings distributed in different Italian regions confirm the presence of *Stygioides colchica* in Italy and in our opinion they validate all the reports: Piedmont, two males from San Sebastiano Curone (AL), location Telecco, 12-V-2001, leg. Baldizzone (CABELLA & FIORI, 2010); Emilia Romagna, a male from Torriana (RN) (BERTACCINI *et al.*, 1997); Lazio, two males from Villa Pamphili in Rome (TURATI, 1919) and one from Tivoli in the "Roman countryside" (DANNEHL, 1927; BERTACCINI *et al.*, 1997); Abruzzo, a male from Campo Felice (AQ) (ZILLI *et al.*, 1997); Apulia, a male from Brindisi (CURÒ, 1890); Calabria, a female from Aspromonte (RC) (BERTACCINI *et al.*, 1997); Sicily, three specimens including two of the Madonie (RAGUSA, 1893).

More recently a male collected in central Italy in Campo Felice (Abruzzo) on a flower of *Gymnadenia conopsea* (L.) has been illustrated in GRASSI *et al.*, (2007). In 2016, the same male was studied again and determined by MAZZEI & YAKOVLEV (2016) as a different species from *Stygioides colchica* and they described a new species *Stygioides italica* Mazzei & Yakovlev, 2016. In BERTACCINI *et al.* (1987) a female of *S. colchica* was reported and pictured but unfortunately the

specimen was in bad conditions; it was collected in Calabria on the Aspromonte (RC), 1700 m, on 31-V-1994. As concerns the biology of the *S. colchica*, the caterpillar lives perhaps on the roots of *Echium* sp (KORB, 1910) while the biology of *S. italica* is completely unknown.

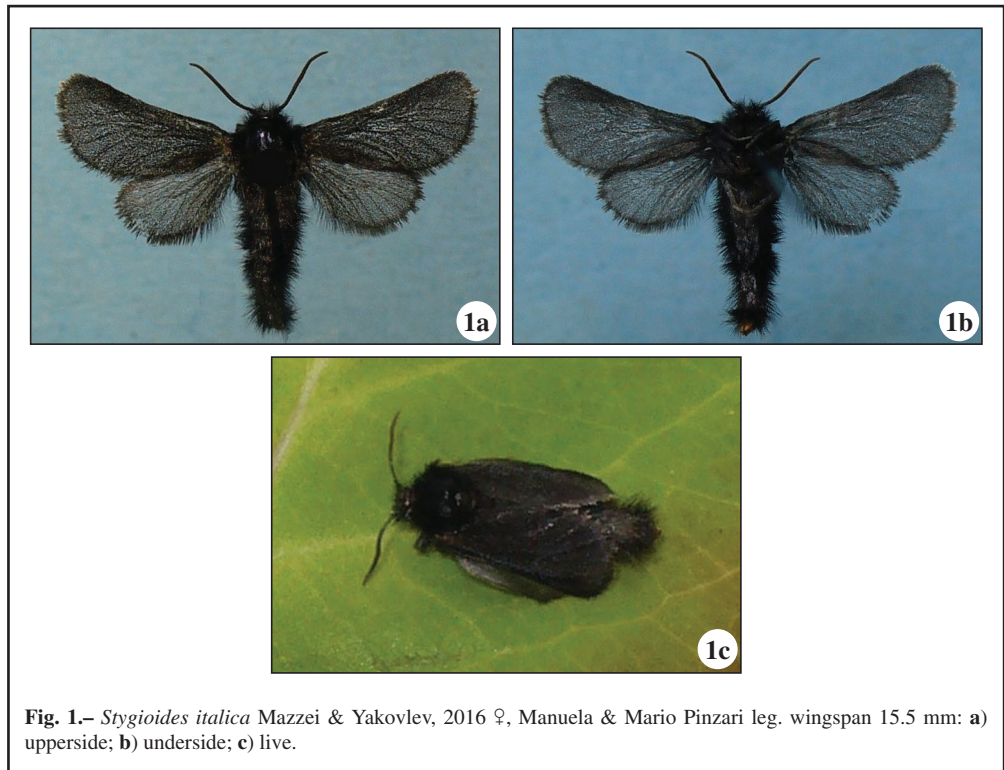
In the context of an ongoing survey of the Lepidoptera fauna in central Italy the results of which are available in PINZARI (2019a, 2019b), PINZARI & PINZARI (2019a, 2019b) and PINZARI *et al.* (2018, 2019), we collected a fresh female specimen of *Stygioides italica* allowed us to describe it in detail.

### Materials and methods

The female was collected in an anthropized area while walking fluttering on 3-VI-2020 around 5 p.m. in Aranova, Fiumicino (Rome), Lazio, Italy. The area is characterized by villas and businesses among gardens and meadows.

### Results

Material examined: 1 ♀, Aranova, in the municipality of Fiumicino (RM), Lazio, Italia, 3-VI-2020, Manuela & Mario Pinzari leg.



**Fig. 1.**– *Stygioides italica* Mazzei & Yakovlev, 2016 ♀, Manuela & Mario Pinzari leg. wingspan 15.5 mm: **a)** upperside; **b)** underside; **c)** live.

### Description of the female of *Stygioides italica* Mazzei & Yakovlev, 2016

Wingspan. 15.5 mm. Background colour deep black. Head, thorax and abdomen. Comparing to the male, female is superiorly densely covered by short black hairs; these extend to up to half of the forewings and a third of the hindwings. Frons black; palps black; eyes black; Antennae short and

filiform. Forewing, rather acute apically, elongate, but less than male; fringe, black. Upperside with black scales. Scales, completely black, do not completely cover the wing surface that therefore appears overall a little transparent. Underside similar to upperside. Hindwings shorter than forewings, roundish; more transparent than forewings (fig. 1a). Underside similar to upperside.

On the lower part of the abdomen the hairs, shorter, and the legs are lead grey (fig. 1b).

### Discussion and concluding remarks

All Italian specimens of *Stygioides* Bruand, 1853 have been attributed to *Stygioides colchyca* until MAZZEI & YAKOVLEV (2016) examined a male from central Italy. By this study they concluded that it was a new species, *Stygioides italica*. The authors do not take any position with respect to the other Italian finds, so we asked whether or not the other Italian findings also belong to *S. italica*.

The sex of most Italian finds is male or not known. We have not found in the literature any description of the female genitals of any *Stygioides* species. Then, we have taken as reference the figures and descriptions of the moths. To date, only one female has been collected in southern Italy and it was attributed to *S. colchica* (BERTACCINI *et al.*, 1997). In their opinion (pers. com. June 2020) our specimen could be a female of *S. italica*. The Italian specimen illustrated in table 12, figure 16, *op. cit.* is a female, however unfortunately it is in bad conditions, but its habitus is good enough to show that the hindwings are decidedly larger and longer than those of our specimen.

FREINA & WITT (1990) showed two females of *S. colchica* (Table 1, figs 4 and 5, *op. cit.*): the first with a wingspan of 11 mm and the second of 19 mm. Both are specimens from Kleinasien, westl. whose hindwings are small, in relation to forewings, like those of our specimen but in both moths, the abdomen is much longer.

LINGENHÖLE *et al.* (2017) illustrated (figs 3 and 9 *op. cit.*) two females of *Stygioides* species: the first is *S. persephone* (Reisser, 1962), from the south of Creta, and the second is *S. colchica* from Iran; in both specimens, the hindwings are proportionally longer than in our specimen.

All mentioned observations do not lead to any definitive conclusion that it would be advisable to wait for the capture of a male.

The deep, black colour background of wings and the scales, which are never brown even at the binocular, and the leaden grey colour of the lower abdomen and legs, tell us that it is a different species from *S. colchica* and from the others known *Stygioides* species. The darker colour than the male can fall within the sexual dimorphism typical of the *Stygioides* genus. It is probably an extremely rare species and the wait for the capture of a male could be very long. Even *S. italica* was found in central Italy even if at much higher altitudes. In light of these considerations we think that it is the female of *S. italica*, excluding for now the possibility that it is a new species, and as such we have described it.

The findings of southern and central Italy, which validate those of Rome, indicate that at least in the central south of the Italian peninsula there is only *S. italica*.

### Acknowledgments

We thank Dr. Giorgio Baldizzone, Edgardo Bertaccini and Gabriele Fiumi for the information provided.

### BIBLIOGRAPHY

- BERTACCINI, E., G. FIUMI & PROVERA P., 1997.– *Bombici e Sfingi d'Italia (Lepidoptera Heterocera)*, **2**: 256 pp. Natura-Giuliano Russo Editore, Monterenzio.
- CABELLA, C. & FIORI, F., 2010.– I macrolepidotteri della provincia di Alessandria (Piemonte Sud Orientale) Secondo contributo (Lepidoptera).– *Rivista Piemontese di Storia naturale*, **31**: 107-138.
- CURÒ, A., 1890.– Aggiunte alla parte prima del Saggio di un Catalogo dei Lepidotteri d'Italia.– *Bullettino della Società Entomologica Italiana*, **21**(3/4): 76-85.

- DANIEL, F., 1954-1955.– Monographie der Cossidae. I. (Lep.-Het.). Kritische Beurteilung der bisher dem Genus *Stygia* Latr. zugeteilten Arten.– *Mitteilungen der Münchner Entomologischen Gesellschaft*, **44-45**: 159-181, 1 pl.
- DANNEHL, F., 1927.– Sammelreise nach Mittelitalien 1926 und ihre Ergebnisse.– *Lepidopterologische Rundschau*, **1**: (1) 11-12, (2) 26-28, (3) 35-37, (4) 46-48.
- FREINA, J. J., DE & WITT T. J., 1990.– *Die Bombyces und Sphinges der Westpalaearktis (Insecta, Lepidoptera)*, **2**: 134 + 2 pp., 4 pls. Forschung & Wissenschaft, München.
- GRASSI, A., PIMPINELLI, I., PINZARI, M. & ZILLI, A., 2007.– Some noteworthy records of macromoths from central Italy (Lepidoptera).– *Bollettino dell'Associazione Romana di Entomologia*, **62**(1-4): 131-144.
- KARSHOLT, O., 2020.– Cossidae. In Fauna Europaea Web Service. *Fauna Europaea version 1.3*. Available from <http://www.faunaeur.org> [accessed 26 June 2020].
- LINGENHÖLE, A., FRIEDRICH, E. & YAKOVLEV, R. V., 2017.– Description of male of the rarest European Carpenter-moth *Stygioides persephone* (Reisser, 1962) (Lepidoptera: Cossidae).– *Zootaxa*, **4363**(4): 597-600.
- MAZZEI, P. & YAKOVLEV, R. V., 2016.– *Stygioides italica* Mazzei et Yakovlev - new species of Cossidae (Lepidoptera) from Italy.– *Russian Entomological Journal*, **25**(4): 401-403.
- PARENZAN, P. & PORCELLI, F., 2006.– I macrolepidotteri italiani.– *Phytophaga*, **15**: 1-1051.
- PINZARI, M., CIANFERONI, F., MARTELLI, S. & DIOLI, P., 2018.– *Zelus renardii* (Kolenati, 1856), a newly established alien species in Italy (Hemiptera: Reduviidae, Harpactorinae).– *Fragmenta Entomologica*, **50**(1): 31-35.
- PINZARI, M., 2019a.– *Epicallima icterinella* (Mann, 1867) new to Italy (Lepidoptera: Oecophoridae).– *SHILAP Revista de lepidopterologia*, **47**(188): 735-738.
- PINZARI, M., 2019b.– *Phylloneta sisypchia* (Araneae: Theridiidae), a predator of larvae of *Euphydryas aurinia* (Lepidoptera: Nymphalidae) and its parasitoid *Erycia furibunda* (Diptera: Tachinidae).– *Acta Zoologica Bulgarica*, **71**(2): 195-200.
- PINZARI, M., & PINZARI, M., 2019a. Contribution to the knowledge of Lepidoptera fauna of Lampedusa: *Bifascioides leucomelanella* (Rebel, 1917) and *Ceutholpha isidis* (Zeller, 1867) (Lepidoptera) new to Italy.– *Journal of Entomological and Acarological Research*, **51**(8031): 77-81.
- PINZARI, M., & PINZARI, M., 2019b.– Genus *Delplanqueia* Leraut, 2001 and *D. inscriptella* (Duponchel, 1836) (Lepidoptera: Pyralidae) in Italy.– *Journal of Entomological and Acarological Research*, **51**(2): 60-68.
- PINZARI, M., CIANFERONI, F., FABIANI, A. & DIOLI, P., 2019.– Predation by nymphs of *Picromerus bidens* (Heteroptera: Pentatomidae, Asopinae) on caterpillars of *Euphydryas aurinia provincialis* (Lepidoptera: Nymphalidae) in Italy.– *Redia*, **102**: 89-94.
- RAGUSA, E., 1893.– Note lepidotterologiche.– *Il Naturalista siciliano*, **12**(9): 206-207.
- REISSER, H., 1962.– Weitere neue Heteroceren aus Kreta.– *Zeitschrift der Wiener Entomologischen Gesellschaft*, **47**(12): 193-215.
- RENNWALD, E., 2020.– *Stygioides* (Cossidae).– In *Bestimmung von Schmetterlingen (Lepidoptera) und ihren Präimaginalstadien* [accessed 26 June 2020].
- TURATI, E., 1919.– Nuove forme di Lepidotteri. Correzioni e note critiche IV.– *Il Naturalista siciliano*, **23**: 203-368, 4 pls.
- ZAGULYAEV, A. K., 1987.– Family Cossidae. Carpenter Moths.– In G. S. MEDVEDEV. *Keys to the Insects of the European Part of the USSR*, **4**(1): 256-268.

\*M. P.  
Dipartimento di Biologia  
Università di Roma Tor Vergata  
Via della Ricerca Scientifica, 1  
I-00133 Roma  
ITALIA / ITALY  
E-mail: manuela.pinzari@uniroma2.it  
<https://orcid.org/0000-0003-0829-3453>

M. P.  
Piazza Francesco Morosini, 12  
I-00136 Roma  
ITALIA / ITALY  
E-mail: mario.pinzari@uniroma3.it  
<https://orcid.org/0000-0002-5279-2092>

\*Autor para la correspondencia / *Corresponding author*

(Recibido para publicación / *Received for publication* 10-VII-2020)

(Revisado y aceptado / *Revised and accepted* 24-VII-2020)

(Publicado / *Published* 30-IX-2020)