

FILIPPO DI GIOVANNI & PIER LUIGI SCARAMOZZINO

HYMENOPTERA ICHNEUMONIDAE
OF THE MONTECRISTO ISLAND (TUSCAN ARCHIPELAGO),
WITH SOME NEW RECORDS FOR THE ITALIAN FAUNA

SUMMARY

Data on the presence in the Island of Montecristo (Tuscan Archipelago, Italy) of 35 taxa of Ichneumonidae (Hymenoptera Ichneumonoidea) are provided. The specimens were collected with a Malaise trap in 2011 and 2012. Seven of the identified species were already known for the Tuscan archipelago, four for the Island of Montecristo. The total number of Ichneumonidae in the Archipelago rises from 20 to 49 species, that of Montecristo from 5 to 36. Eleven species are new records for South Italy. *Townostilpnus chagrinator* Aubert, 1916, previously known only from Corsica and southern France, is new to Italy.

Key words: biodiversity, parasitoids, checklist

RIASSUNTO

Gli Ichneumonidae (Hymenoptera) dell'Isola di Montecristo (Arcipelago Toscano, Italia), con alcune nuove segnalazioni per la fauna italiana. Sono forniti dati sulla presenza nell'isola di Montecristo (Arcipelago Toscano, Italia) di 35 taxa di Ichneumonidae (Hymenoptera Ichneumonoidea). Gli esemplari sono stati raccolti con una trappola Malaise nel 2011 e nel 2012. Sette delle specie identificate erano già conosciute dall'arcipelago toscano, quattro di queste per l'isola di Montecristo. Il numero totale di Ichneumonidae nell'Arcipelago sale da 20 a 49 specie, quello di Montecristo da 5 a 36. Undici specie sono nuove per l'Italia meridionale. *Townostilpnus chagrinator* Aubert, 1961, in precedenza noto solo di Corsica e Francia meridionale, è nuovo per l'Italia.

Parole chiave: biodiversità, parassitoidi, checklist

INTRODUCTION

The records in this paper come from sampling efforts of Professor Franco Strumia in Montecristo, aimed at investigating the fauna of arthropods of the island. Not much is known about the Ichneumonidae of the Tuscan archipelago. GENERANI *et al.* (2003) listed only 19 species (see Table I), based on literature and field samplings. As shown in Table I, and as previously noted for Hymenoptera by GENERANI *et al.* (2003), the knowledge amongst islands of the Tuscany Archipelago is very uneven. Capraia (15 species) is the best known island, followed by Montecristo (5 species) and then by Pianosa (2 species). For the others islands, the data on Ichneumonidae are completely missing.

Table I

Ichneumonidae of the Montecristo Island: list of the previously known species of the Tuscan Archipelago divided by island (there are no reports for the islands of Elba, Giannutri, Giglio and Gorgona). The numbers in the columns refer to bibliographic references (see below)

	ICHNEUMONIDAE	CAPRAIA	MONTECRISTO	PIANOSA
1	<i>Anomalon cruentatum</i> (Geoffroy, 1785)	5		4
2	<i>Syzeuctus irrisorius</i> (Rossi, 1794)	5		
3	<i>Casinaria tenuiventris</i> (Gravenhorst, 1829)	5		
4	<i>Trychosis atripes</i> (Gravenhorst, 1829)	5		
5	<i>Cryptus spinosus</i> Gravenhorst, 1829	5		
6	<i>Stenarella domator domator</i> (Poda, 1761)		4	
7	<i>Diplazon laetatorius</i> (Fabricius, 1781)	5		
8	<i>Hybrizon buccatus</i> (de Brébisson, 1825)	5		
9	<i>Apaeleticus bellicosus</i> Wesmael, 1845	5		
10	<i>Misetus strumiai</i> Di Giovanni, Scaramozzino et Diller, 2018		2	
11	<i>Ichneumon sarcitorius sarcitorius</i> Linnaeus, 1758	5		
12	<i>Amblyteles armatorius</i> (Förster, 1771)	6		
13	<i>Exeristes roborator</i> (Fabricius, 1793)	5		4
14	<i>Scambus brevicornis</i> (Gravenhorst, 1829)	5		
15	<i>Pimpla apricaria</i> A. Costa, 1885		1, 3	
16	<i>Poemenia notata</i> Holmgren, 1859		1, 3	
17	<i>Dichrogaster aestivalis</i> (Gravenhorst, 1829)		1, 3	
18	<i>Theroscopus esenbeckii</i> (Gravenhorst, 1815)	5		
19	<i>Aneuclis pusilla</i> Masi, 1933	5		
20	<i>Netelia (Netelia) testacea</i> (Gravenhorst, 1829)	5		

References: 1 - CANOVAI *et al.*, 2000; 2 - DI GIOVANNI *et al.*, 2018; 3 - GENERANI *et al.*, 1998; 4 - GENERANI *et al.*, 2003; 5 - MASI, 1933; 6 - RAZZAUTI, 1917.

MATERIAL AND METHODS

Field samplings were carried out in Montecristo Island in 2011-2012 with a Malaise trap. All ichneumonids were sorted and prepared. Mounted specimens were identified according to traditional morphological keys available in literature. For the nomenclature and geographical distribution we followed Taxapad (YU *et al.*, 2012), Fauna Europaea (ZWAKHALS & VAN ACHTERBERG, 2017), the checklist of Italian Ichneumonidae (SCARAMOZZINO, 1995), and subsequent updates. The Italian geographical distribution follows the division into areas (North, South, Sardinia and Sicily) used for the checklist of the species of Italian fauna proposed by MINELLI *et al.* (1993-1995).

Photographs were taken with a Nikon D5300 digital camera attached to a Leica Z16 APO stereoscope. Images were stacked in a single in-focus image using Helicon Focus 3D (version 3.9.7W) and Zerene Stacker software (version 1.04). The specimens are preserved in the Dipartimento di Scienze Agrarie, Alimentari e Agro-ambientali, Università di Pisa and in the authors' collections.

RESULTS

Of the ichneumonids collected in Montecristo, 35 taxa have been identified to genus or species (Table II), including further specimens of *Misetus strumiai* Di Giovanni, Scaramozzino et Diller, 2018, a new species of Ichneumoninae recently described from the island (DI GIOVANNI *et al.*, 2018). Some specimens belonging to the subfamilies Campopleginae, Ichneumoninae, Mesochorinae and Phygadeuontinae have not been identified yet. The total number of species known for Montecristo rises to 36, while for the Tuscan archipelago it rises to 49.

COMMENTARY ON STUDIED SPECIES

Anomalon cruentatum (Geoffroy, 1785)

Palearctic species. It has been recorded in North and South Italy, Sicily and Sardinia.

Apophua suturalis (Morley, 1914)

The species has been recorded in France and North Italy. This is the first record for South Italy.

Table II
Ichneumonidae of the Montecristo Island: list of the identified species with collection periods

species	31.V-15.VI.2011	15.VI-07.VII.2011	07.VII-22.VII.2011	22.VII-11.VIII.2011	03.III-27.III.2012	27.III-19.IV.2012	19.IV-13.V.2012	13.V-06.VI.2012	06.VI-26.VI.2012	26.VI-13.VII.2012	13.VII-05.VIII.2012	31.VIII-22.IX.2012
Anomaloniinae												
<i>Anomalon cruentatum</i> (Geoffroy, 1785)			2♀♀					2♂♂ 3♀♀	2♂♂	4♀♀		1
Banchinae												
<i>Apophua suturalis</i> (Morley, 1914)								1♀				
<i>Lissonota bivittata</i> Gravenhorst, 1829								2♀♀				2♀♀
<i>Lissonota picticoxis</i> Schmiedeknecht, 1900		1♂ 3♀♀							2♀♀	2♀♀		
Campopleginae												
<i>Campoplex deficiens</i> Gravenhorst, 1829									1♀			
<i>Campoplex</i> sp.	1♂ 2♀♀	2♀♀							1♂ 3♀♀			
<i>Casinarina affinis</i> Tschek, 1871									1♂			
<i>Casinarina mesozosta</i> (Gravenhorst, 1829)			1♀						2♂♂	2♂♂ 1♀		
<i>Cymodusa australis</i> (Smits van Burgst, 1913)	4♀♀	2♂♂	3♂♂ 9♀♀	3♀♀				1♂ 6♀♀	3♂♂ 9♀♀	3♂♂ 6♀♀	1♀	
<i>Eriborus terebrator</i> Aubert, 1960		1♀									1♀	1♀
<i>Hyposoter discedens</i> (Schmiedeknecht, 1909)		2♂♂ 1♀	3♂♂ 5♀♀	1♂ 5♀♀				10♂♂ 9♂♂ 7♀♀	2♂♂ 4♀♀	2♂♂ 8♀♀	1♂ 4♀♀	
<i>Nemeritis</i> sp.								1♀				
<i>Venturia canescens</i> (Gravenhorst, 1829)												1♀
Cryptinae												
<i>Aritranis director</i> (Thunberg, 1822)		1♀										
<i>Cryptus spinosus</i> Gravenhorst, 1829			1♀									1♀
<i>Mesostenus albinotatus</i> Gravenhorst, 1829		1♀	4♂♂ 3♀♀	3♂♂				1♂ 2♀♀	4♂♂ 3♀♀	1♂ 5♀♀	3♂♂	
<i>Mesostenus transfuga</i> Gravenhorst, 1829				1♂				2♀♀				1♂
<i>Trychosis legator</i> (Thunberg, 1822)											1♀	

continued on next page

Lissonota bivittata Gravenhorst, 1829

The species is known from Europe and Middle East. In Italy it has been recorded from North Italy. This is the first record for South Italy. Collected specimens can be assigned to the ssp. *gallicator* Aubert, 1969, which is known from Corsica, Spain and Turkey and it is characterized by having yellow marks reduced, mesoscutum black with only two longitudinal red stripes, trochanters and abdomen black (REY DEL CASTILLO, 1989).

Lissonota picticoxis Schmiedeknecht, 1900

European species. The species has been recently recorded for North Italy by DI GIOVANNI & RESHCHIKOV (2016). This is the first record for South Italy.

Campoplex deficiens Gravenhorst, 1829

The species is known from Europe and Middle East. In Italy it has been recorded in Trentino-Alto Adige by COBELLI (1905) but the record needs to be checked as the species has been misinterpreted because of a taxonomic confusion with *Campoplex difformis* (Gmelin, 1790) (see SCARAMOZZINO *et al.*, 2018; DI GIOVANNI *et al.*, submitted). This is the first record for South Italy.

Casinarina affinis Tschek, 1871

European species. The species has been recorded in North Italy as *Casinarina monticola* Thomson, 1887 (syn. *C. affinis* Tschek, 1871; RIEDEL, 2018). This is the first record for South Italy.

Casinarina mesozosta (Gravenhorst, 1829)

European species. In Italy the species has been recorded from North Italy and recently in Sardinia (RIEDEL, 2018). This is the first record for South Italy.

Cymodusa australis (Smits van Burgst, 1913)

The species is known from Europe and Middle East. In Italy it has been recorded from North Italy. This is the first record for South Italy.

Eriborus terebrator Aubert, 1960

The species has been recorded in France (including Corsica) and Bulgaria. It has been recently recorded for North Italy by DI GIOVANNI & RESHCHIKOV (2016). This is the first record for South Italy.

Hyposoter discedens (Schmiedeknecht, 1909)

European species. It has been recently recorded for North Italy by DI GIOVANNI & RIEDEL (2017). This is the first record for South Italy.

Venturia canescens (Gravenhorst, 1829)

A species of worldwide distribution. For its importance as biological control agent of pests of stored products, its biology is well-known (i.e. see FRILLI, 1965). However, records of this species in Italy are limited to North Italy and Sicily. This is the first record for South Italy.

Aritranis director (Thunberg, 1822)

It is present in Europe to Middle East and North America. In Italy it has been recorded for North Italy. This is the first record for South Italy.

Cryptus spinosus Gravenhorst, 1829

The species is known from Europe and North Africa. It has been recorded in North and South Italy, Sicily and Sardinia.

Mesostenus albinotatus Gravenhorst, 1829

Holarctic species. In Italy the species has been recorded in North and South Italy.

Mesostenus transfuga Gravenhorst, 1829

Palearctic species. In Italy the species been recorded in North Italy and Sardinia, and recently from South Italy (Tuscany) by CORCOS *et al.* (2017).

Trychosis legator (Thunberg, 1822)

Palearctic species. In Italy it is present in North and South Italy and Sardinia.

Diplazon laetatorius (Fabricius, 1781)

A species of worldwide distribution. It has been recorded in North and South Italy, Sicily and Sardinia.

Syrphophilus bizonarius (Gravenhorst, 1829)

Holarctic species. It has been recorded in North and South Italy, Sicily and Sardinia.

Misetus strumiai Di Giovanni, Scaramozzino et Diller, 2018

The species has been recently described on a single female of Montecristo (DI GIOVANNI *et al.*, 2018). So far, this is the only known locality for this species.

Exochus erythronotus (Gravenhorst, 1820)

The species is known from Europe and Middle East. It has been recorded in North and South Italy, Sicily and Sardinia.

Hypsicera subtilitor Aubert, 1969

European species. It has been generically reported for Italy by AESCHLI-MANN (1989) and already recorded from Tuscany by CORCOS *et al.* (2017).

Enicospilus cerebrator Aubert, 1966

The species is known from Europe and Middle East. It has been recorded in North and South Italy, and Sicily.

Orthocentrus strigatus Holmgren, 1858

The species has been recorded in Austria, Lithuania, Poland, central Russia, Spain, and Sweden. It has been recently recorded for the first time in Iran (MOHAMMADI-KHORAMABADI & TALEBI, 2013) and Italy (Tuscany) (CORCOS *et al.*, 2017).

Dichrogaster aestivalis (Gravenhorst, 1829)

The species is known from Europe and Middle East. In Italy it has been record in North and South Italy, and Sicily.

Dichrogaster modesta (Gravenhorst, 1829)

The species is known from Europe and Near East. In Italy it has been record in North Italy and recently in South Italy by CORCOS *et al.* (2017).

Townostilpnus chagrinator Aubert, 1961 (Fig. 1)

So far, the species has been found only in Corsica and South France (AUBERT 1961, 1980). This is the first record for Italy. The genus is represented in Europe by a single species, *T. chagrinator*, and it can be distinguished in having thorax and propodeum extremely oblique (in profile), with apical area of propodeum narrow and covering almost its entire dorsal surface (AUBERT, 1961; TOWNES, 1970). A second species, *Townostilpnus rufinator* Aubert, 1961 has been described from Philippines and Japan (AUBERT, 1961; MOMOI, 1970), but relationships with the genus *Palpostilpnus* Aubert, 1961 has still to be cleared (TOWNES, 1970).

Pimpla apricaria A. Costa, 1885

So far this species has been found in Corsica, Sardinia and Montecristo Is. Record from Bulgaria (ATANASOV, 1988) is questionable.

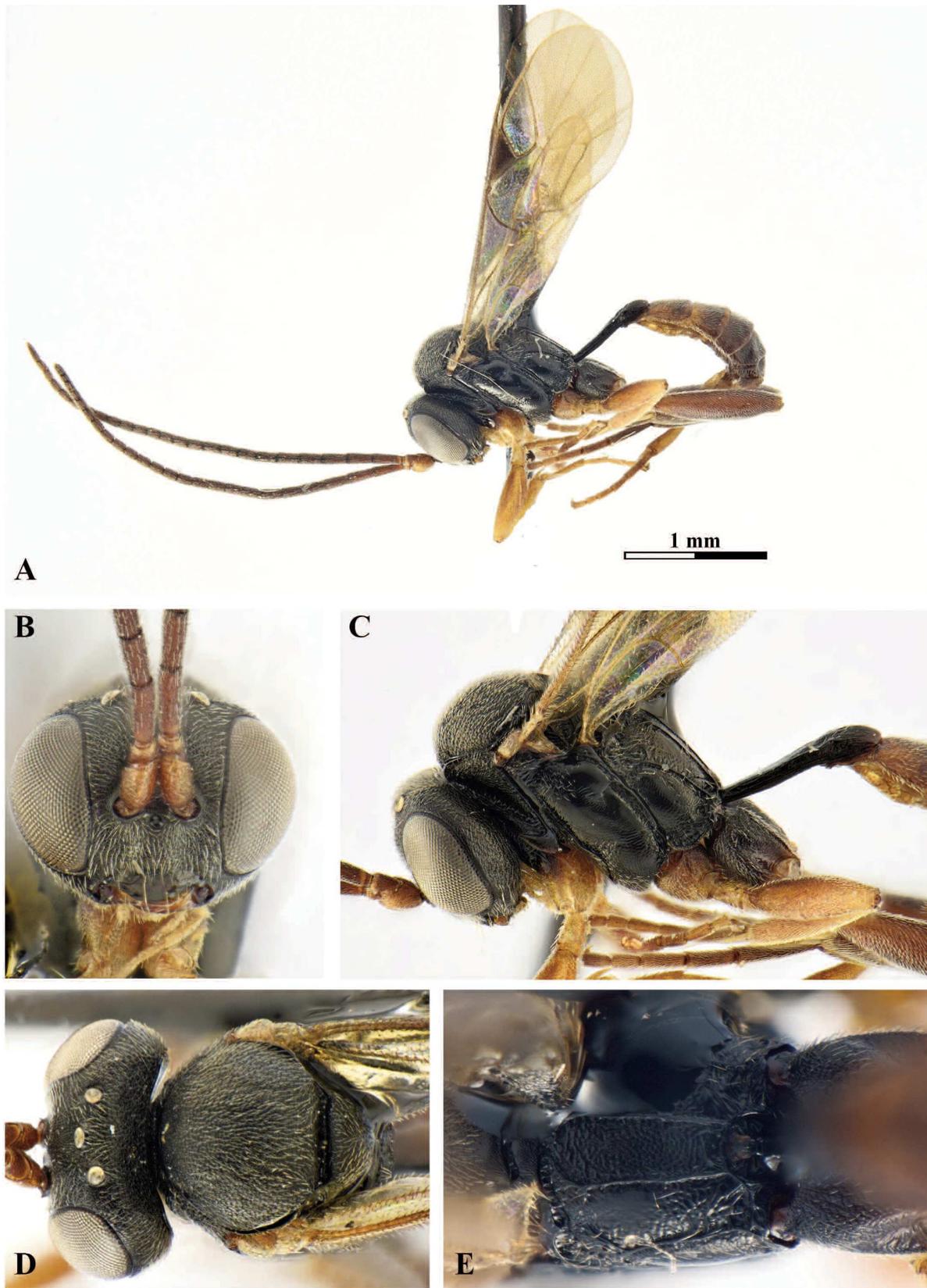


Fig. 1 — *Townostilpnus chagrinator* Aubert, 1961. A: male habitus, lateral view. B: head, frontal view. C: thorax, lateral view. D: head and mesoscutum, dorsal view. E: propodeum, dorsal view.

Poemenia notata Holmgren, 1859

European species. In Italy it has been recorded in North and South Italy (Tuscany).

Thymariscus niger (Taschenberg, 1865)

The species is known from Europe and Middle East. In Italy it has been recorded in North and South Italy.

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