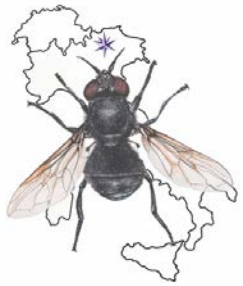
Old Data, New Information: Syrphidae of Italy, One Tool to Rule All Knowledge of Italian Hoverflies

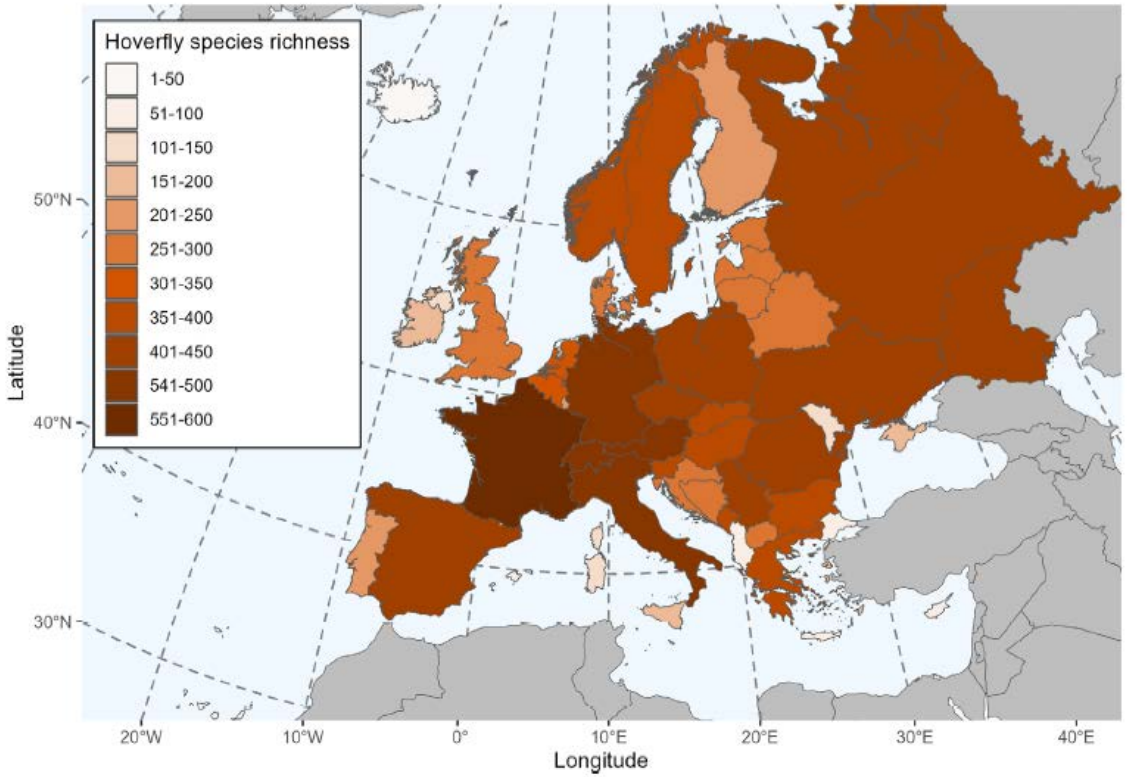


Daniele Sommaggio
Davide Dal Pos



Italy hosts an exceptionally rich hoverfly fauna



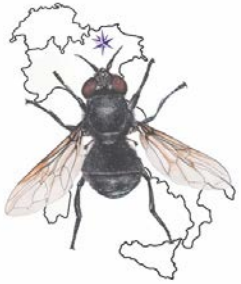


Reverté et al., 2023

Italian hoverfly fauna currently includes **514 species**, making it the second richest in Europe.

However:

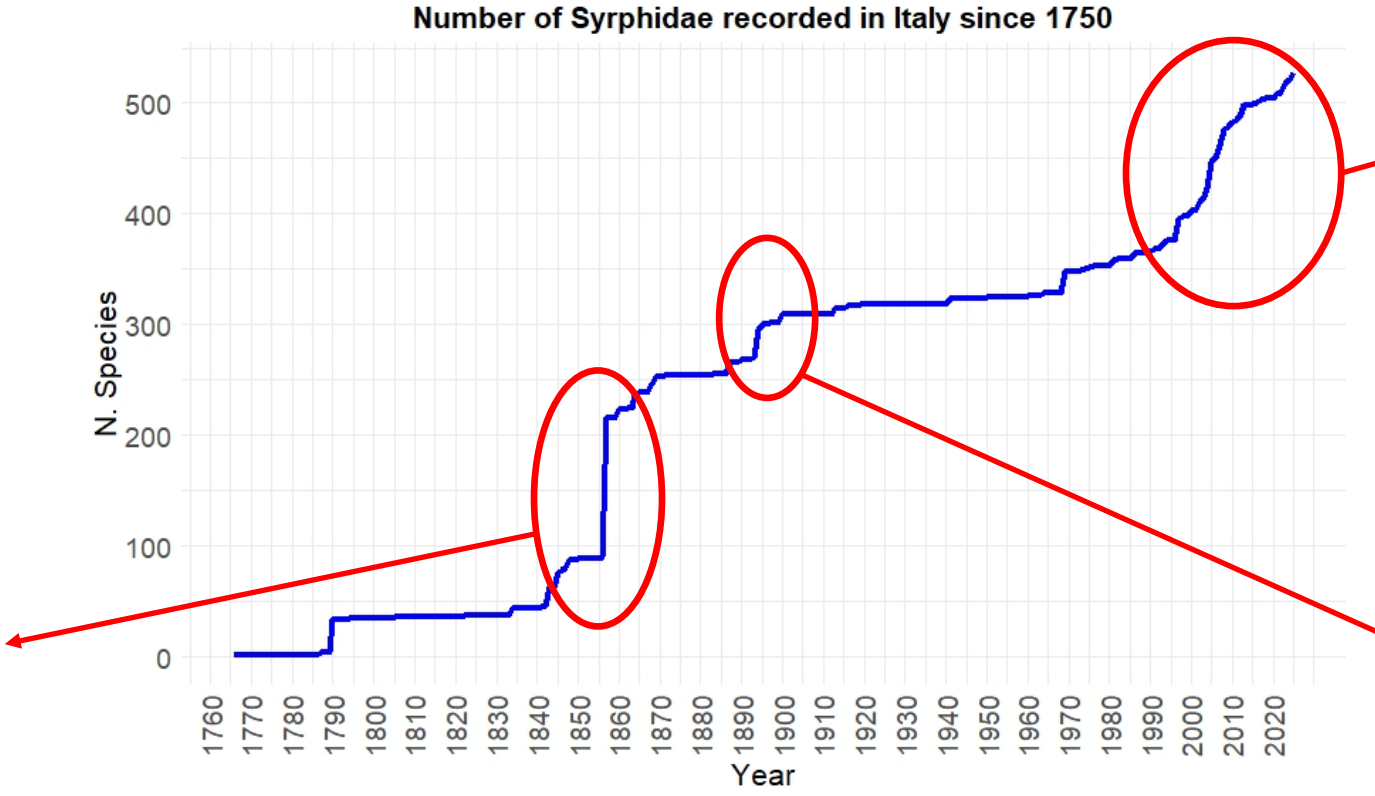
- ✓ the actual number of species is still uncertain;
- ✓ their distribution across the country remains incomplete and highly uneven.



A patchwork of progress

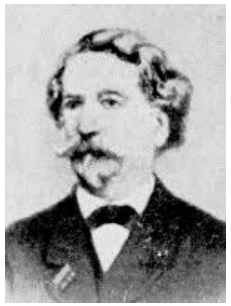
How Italian Hoverfly knowledge expanded in irregular bursts.





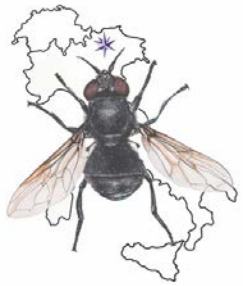
Nowadays …

C. Rondani



M. Bezzi





The past that still speaks

The Scientific Power of Historical Collections.



C. Rondani

Zootaxa 4989 (1): 001–438
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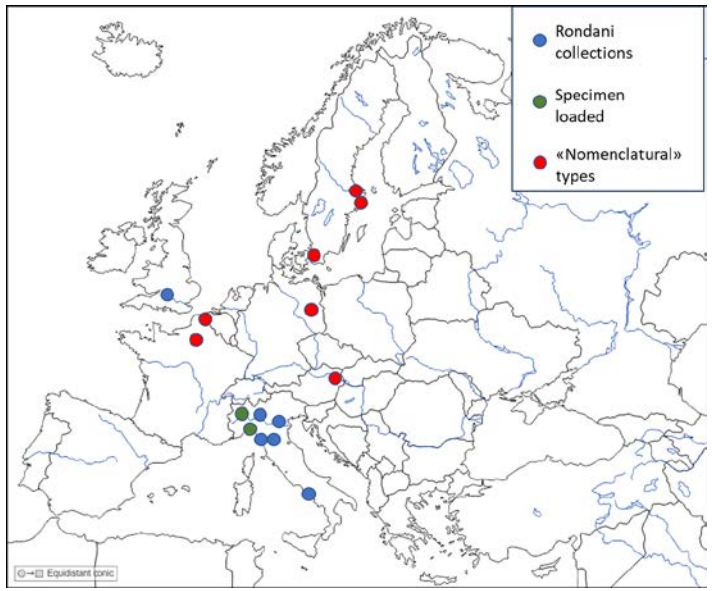
Monograph

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

https://doi.org/10.11646/zootaxa.4989.1.1
http://zoobank.org/urn:lsid:zoobank.org:pub:89C63841-3CF4-491D-8C73-BEF7DCB18FB5

Catalog of the Diptera types described by Camillo Rondani

ALESSANDRA SFORZI[1] & DANIELE SOMMAGGIO[2]

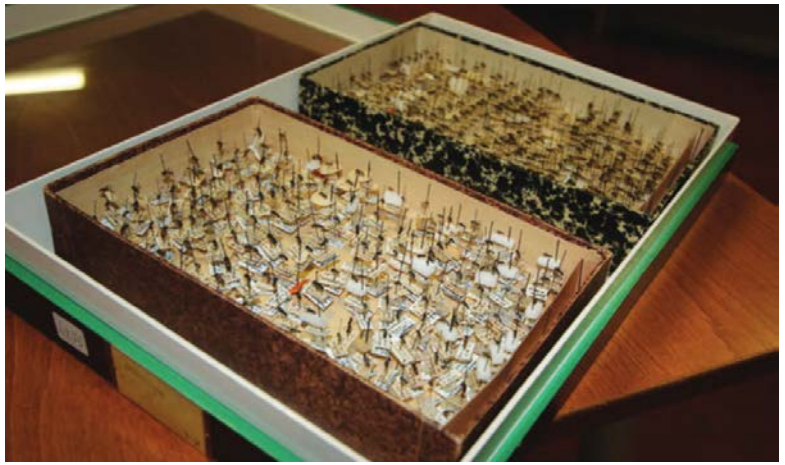


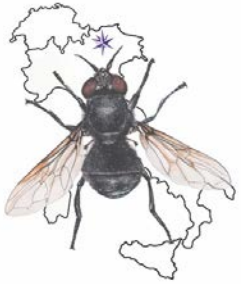
F. Venturi



M. Bezzi







Paragus compeditus: an example of deletion



Bezzi (1925) recorded two specimens of *Paragus aegyptius* Macquart, 1850 in Giglio Isle.

Goeldlin de Tiefenau (1976) synonymized *P. aegyptius* with *P. compeditus* Wiedemann, 1830.

Therefore *P. compeditus* has been included in all the Italian checklist except in Reverté et al. (2023).

In the Bezzi's collection in Milan all the Italian specimens labelled *P. aegyptius* are instead *P. quadrifasciatus* Meigen, 1822.

MATERIALI PER UNA FAUNA DELL'ARCIPELAGO TOSCANO

XVII.

DITTERI DEL GIGLIO

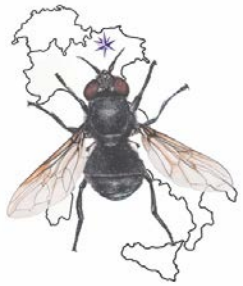
DI M. BEZZI

90. **Paragus aegyptius** Macquart 1849.

1 ♂ 1 ♀, giugno, luglio, 1900, 1901.
A e L: c. s.; Dg: paesi mediterranei.

Paragus compeditus

Cancelled



Where Knowledge Begins

The Essential Role of Original Publications.



The case of *Platycheirus muelleri*

Loc. class.: Crussiza, Selva di Piro (Ven. Giulia) VIII-37, 1 es. ♂, Marcuzzi leg. Dedico questa nuova specie al Prof. Giuseppe Müller che mi è stato guida e compagno nell'escursione in cui mi fu dato di scoprirla.

Nota: un esemplare ♂ di Malga Na Psih (tra Plezzo e M. Canin, 850 m.) è identico all'esemplare tipico descritto sopra. Solamente sui femori ante-

Platycheirus muelleri

Cancelled

Italian species

New species for Slovenia

G. MARCUZZI

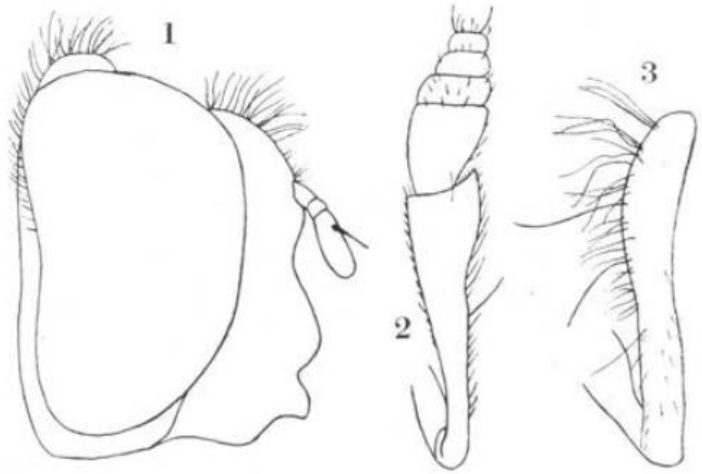
UN NUOVO *PLATYCHIRUS* DELLA VENEZIA GIULIA

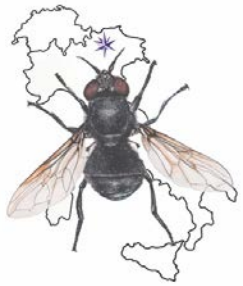
(Dipt. Syrphidae)

Platychirus Mülleri n. sp.

Dissimile da tutte le specie di *Platychirus* finora note per la riduzione della colorazione gialla.

Fronte nera, lucente, a pubescenza nera lunga e fitta. Muso bleu metallico scuro lucente, con pruinosità biancastra, lateralmente a pubescenza scura. Antenne totalmente nere, terzo articolo subrettangolare, lungo circa due volte il secondo. Torace bleu scuro metallico, con pruinosità grigio-cerulea, che lascia





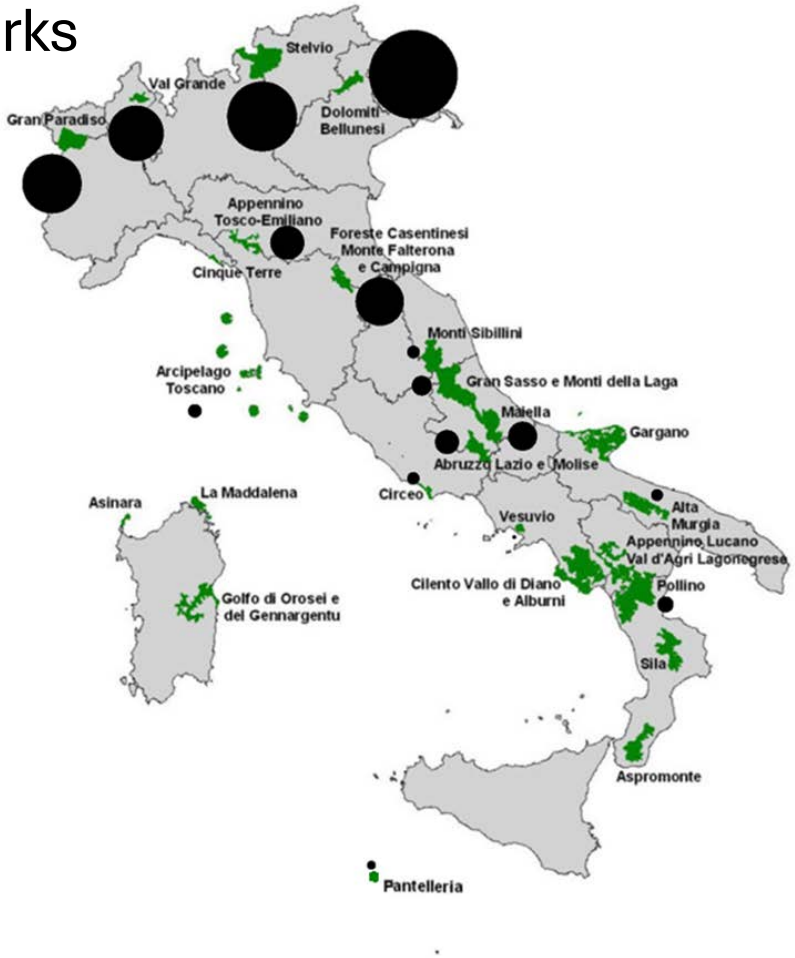
New Data from across Italy

Growing Interest in Hoverflies Is Driving New Research



The research in Italian National Parks

Abruzzo, Lazio e Molise (unifi)
Alta Murgia (unifi)
Apennino Tosco Emiliano (Carotti and Coviello)
Arcipelago Toscano (Pasquali et al., 2025)
Dolomiti Bellunesi (Sommaggio et al., 2022, 2023)
Foreste Casentinesi (Burgio et al., 2025)
Gran Paradiso (unibo, unimore)
Gran Sasso (unifi)
Maiella (unifi)
Sibillini (unifi)
Pantelleria (Coviello et al., 2025)
Pollino (unifi)
Stelvio (unibo)
Val Grande (unibo)
Vesuvio (Goglia et al in press.)



New records for Italian fauna

Anasimyia lunulata (Meigen, 1822)

Cheilosia pascuorum Becker, 1894

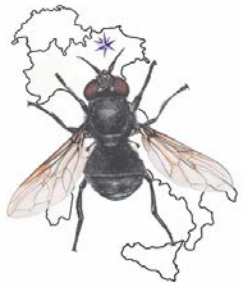
Dasysyrphus neovenustus Soszynski et al., 2013

Helophilus hybridus Loew, 1846

Orthonevra atlantica Zóralski & de Meutter, 2024

Syrphus rectus Osten Sacken, 1875

... many more

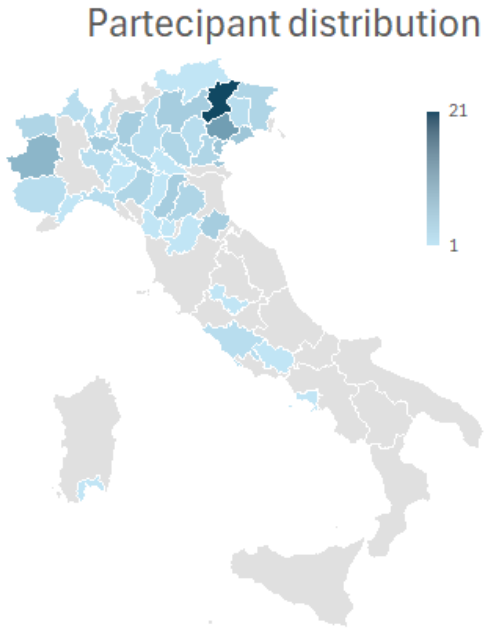


A growing community interested in hoverflies



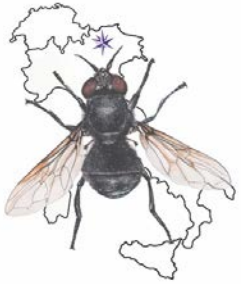
Identification (online) courses on hoverflies, realized in 2024 and 2025, in collaboration with Dolomiti Bellunesi National Park.

Number of partecipans: 120



Significant Italian participation in EPIC-FLY and ISS13.

EPIC
European Pollinator Identification Courses

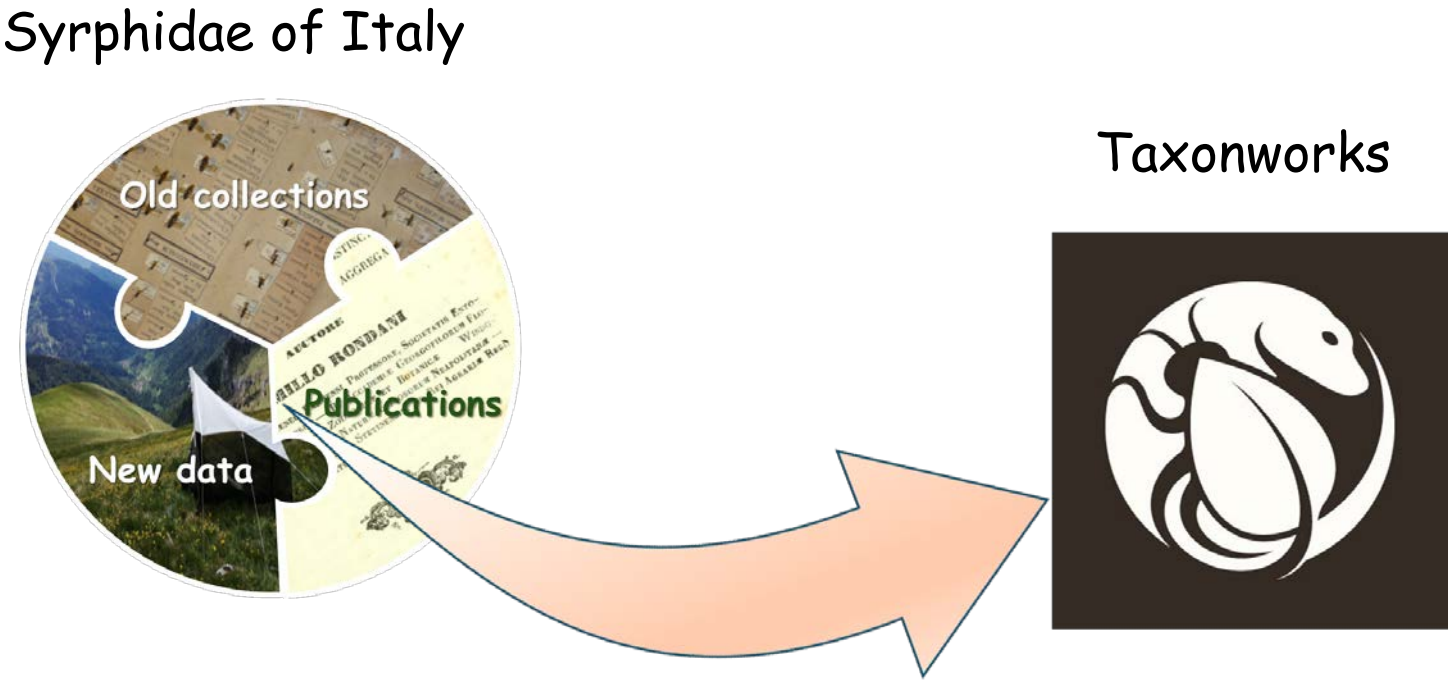


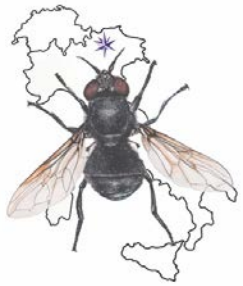
Syrphidae of Italy

Organizing and Making All This Information Accessible



In 2023, the *Syrphidae of Italy* (SoI) project was launched in TaxonWorks.

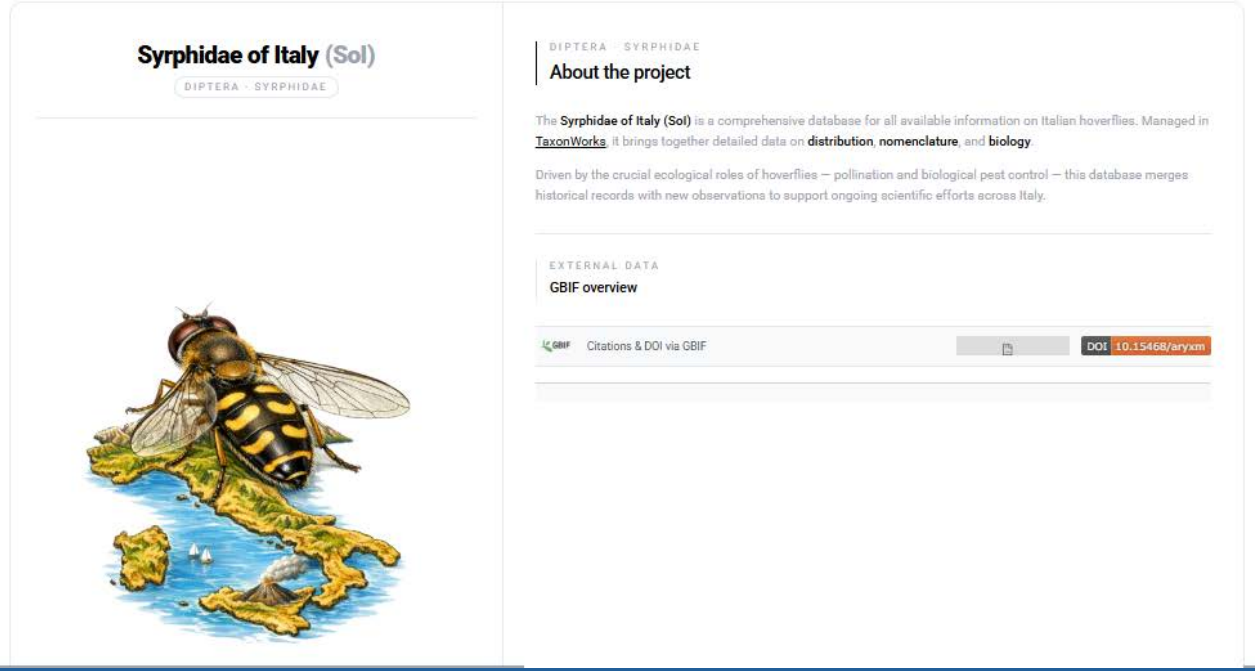


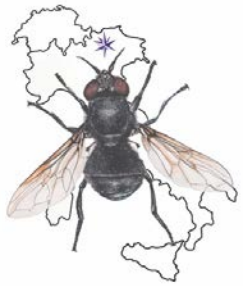


https://syrphidaeitaly.com/#/

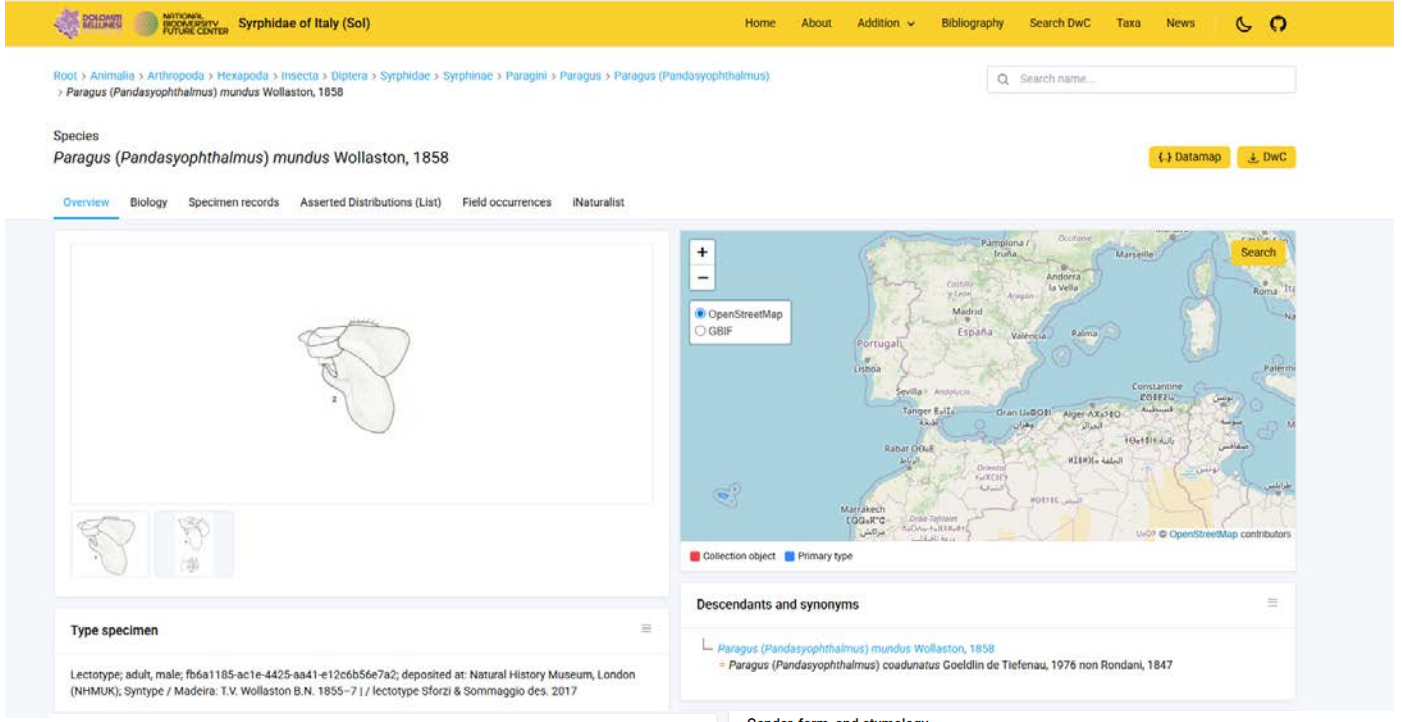


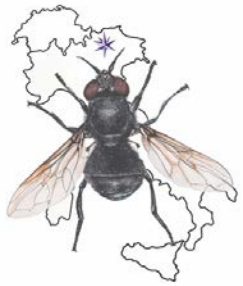




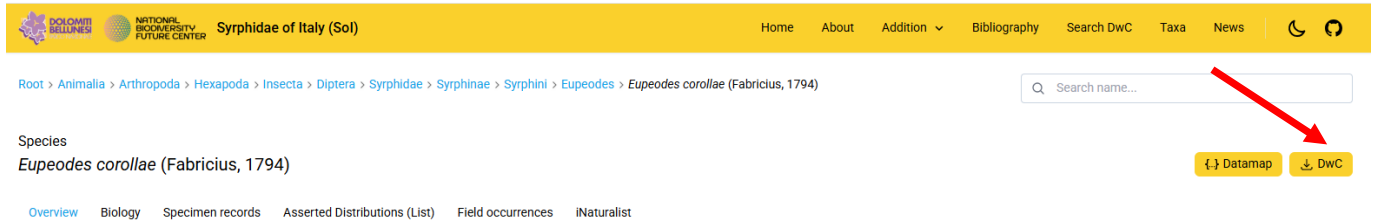


Nomenclature details



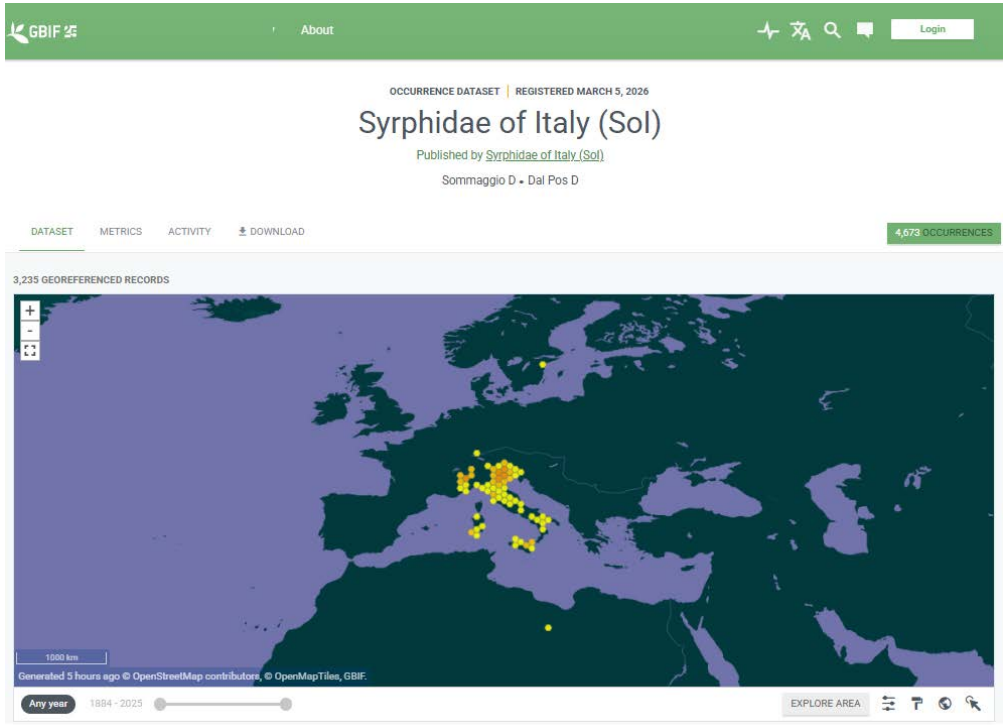


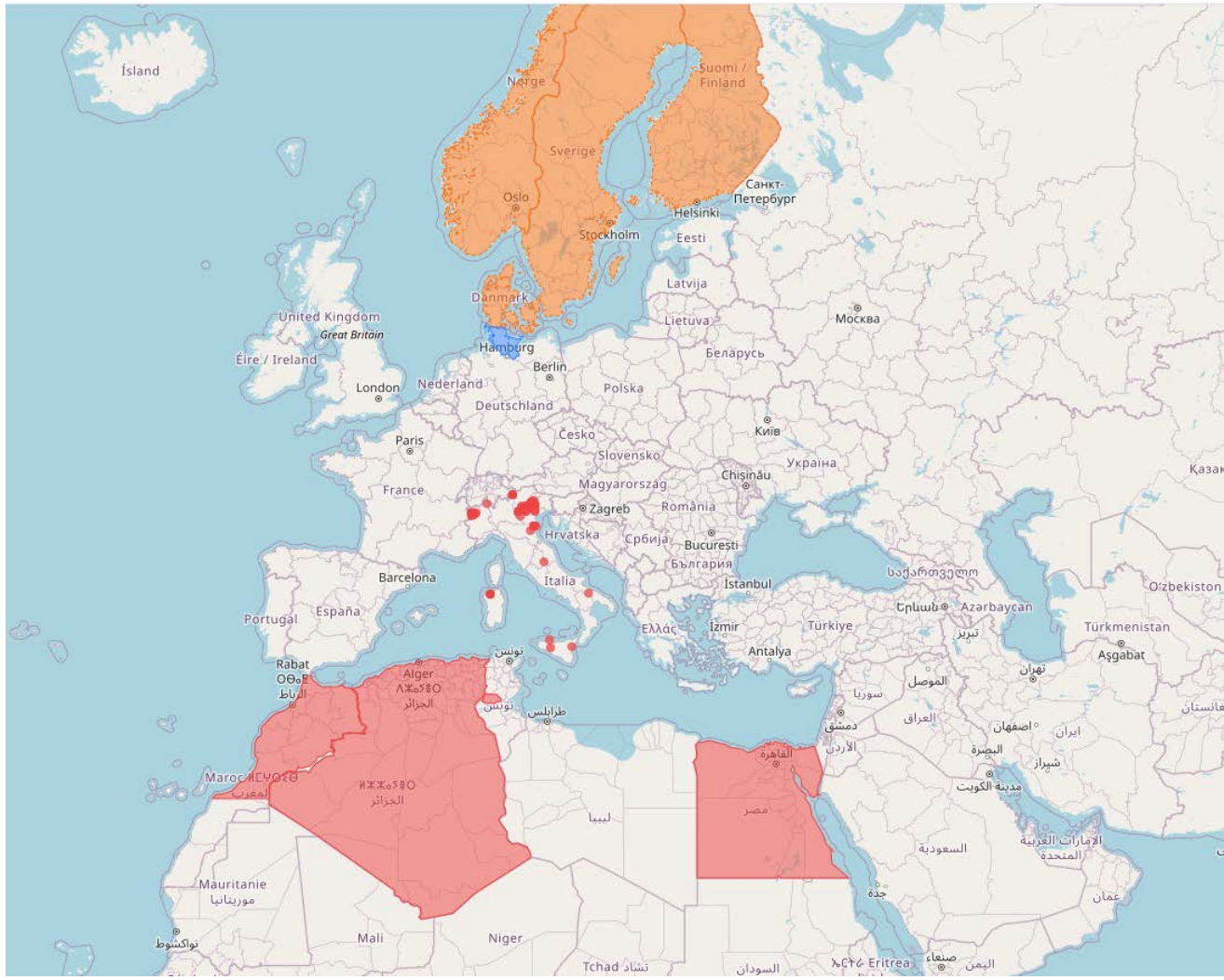
Distribution

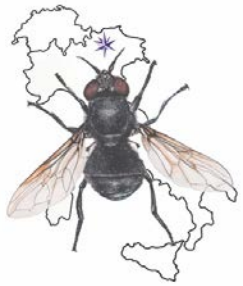




SoI is publisher in GBIF







Identification key



Syrphidae of Italy (SoI) | Home | About | Addition | Bibliography | Search DwC | Taxa | News

Chiave ai generi italiani di Syrphidae

Humeri non pelosi, al massimo con peluria diffusa ma di lunghezza minore rispetto ai peli presenti nel mesonoto. Gli humeri possono essere poco visibili perché il capo è molto ravvicinato al torace. Addome con 6 tergiti visibili nelle femmine e 5 nei maschi



Next

[2] Faccia e scutello interamente neri

[3] Addome molto allungato, peziolato, con piccole macchie gialle. Alula ridotta.[Baccha elongata (Fabricius, 1775)]

[3] Addome non peziolato oppure se ristretto alla base allora i tergiti 2 e 3 sono rossi. Alula normalmente sviluppata.

[4] Occhi pelosi. Addome con macchie gialle ovali. Maschi con tarsi e tibie anteriori non modificati[Melangyna quadrimaculata (Verrall, 1873)]

[4] Occhi nudi. Addome interamente nero o colorato. Maschi con tarsi e tibie anteriori normali oppure modificati

[5] Addome largo e piatto (tergite 2 a forma di trapezio); tergite 2 con 2 macchie tonde molto caratteristiche. Esemplari più grandi, di 10-13 mm[Xanthandrus comtus (Harris, 1780)]

[5] Addome stretto, a margini generalmente paralleli; tergite 2 nero o con macchie, ma mai tonde. Dimensioni minori, inferiori a 10 mm, in poche specie fino a 11 mm

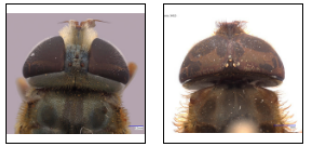
[6] Addome nero con grandi macchie giallo o rossastre sul terzo tergite[Pyrophaena rosarum (Fabricius, 1787)]

[6] Addome interamente nero, oppure nero con secondo e terzo tergite interamente rossi, o con macchie simili che si ripetono almeno sul terzo e quarto tergite

[7] Femmine (occhi separati dorsalmente)

[15] Addome non peziolato, interamente nero o nero con macchie gialle o rosse che

Humeri pelosi; i peli sono della stessa lunghezza di quelli del torace. Il capo è ben separato dal torace e quindi gli humeri si vedono con maggiore facilità. Addome con 5 o meno tergiti visibili nelle femmine, 4 nei maschi



Next

[49] Vena R4+5 con evidente piega (Fig. ….)

[50] Femori posteriori ingrossati, con evidente ispessimento apicale di forma triangolare (Fig ….)

[51] Vena M1 ricorrente (ossia piega apicalmente verso la base dell'ala) (Fig. ….). Occhi pelosi[Merodon Meigen, 1803]

[51] Vena M1 non ricorrente; la vena M1 incontra la vena R4+5 quasi sul margine alare (Fig. ….). Occhi nudi[Tropidia fasciata Meigen, 1822]

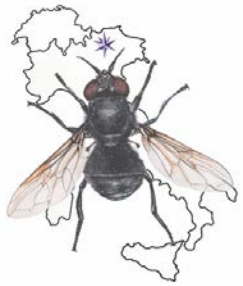
[50] Femori posteriori privi di ingrossamento apicale di forma triangolare

[52] Antenne allungate con il secondo articolo antennale lungo almeno quanto il terzo; nel maschio l'arista è apicalmente allargata (Fig. ….) Occhi nudi[Platynochaetus Wiedemann, 1830]

[52] Antenne non allungate; il terzo segmento antennale è più lungo del secondo. Arista nel maschio non allargata apicalmente. Occhi pelosi o nudi

[53] Vena M1 con tipica piegatura, quasi ricorrente (Fig. …). Femori alla base senza un evidente gruppo ben definito di peli corti, neri. Vena trasversa r-m obliqua rispetto al margine anteriore dell'ala e posizionata nel terzo apicale della sottostante cellula discale (Fig. …). Occhi nudi[Palumbia bellieri (Bigot, 1861)]

[53] Vena M1 senza tipica piegatura, non ricorrente (Fig. ….). Femori alla base con un evidente gruppo ben definito di peli corti, neri (Fig. …). Vena trasversa r-m perpendicolare rispetto al margine anteriore dell'ala e posizionata nella metà basale della sottostante



Syrphidae of Italy (SoI)

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Root › Animalia › Arthropoda › Hexapoda › Insecta › Diptera › Syrphidae › Syrphinae › Syrphini › Eupeodes › *Eupeodes nielseni* (Dusek & Laska, 1976)

Search name...

Species

Eupeodes nielseni (Dusek & Laska, 1976)

{.} Datamap DwC

Overview Biology Specimen records Asserted Distributions (List) Field occurrences iNaturalist

Type specimen

Holotype; male, adult; 2e6cf2e1-1a0f-488a-ae8a-1e7d62b2c32d; deposited at: Zoological Museum, Finnish Museum of Natural History, University of Helsinki, Helsinki, Finland (MZH); Finland Ks., Salla (Mus. Hels. 8126) Leg. R. Frey

Nomenclature (3)

Metasyrphus nielseni Dusek & Laska, 1976: 266.
Holotype; male, adult; 2e6cf2e1-1a0f-488a-ae8a-1e7d62b2c32d; deposited at: Zoological Museum, Finnish Museum of Natural History, University of Helsinki, Helsinki, Finland (MZH); Finland Ks., Salla (Mus. Hels. 8126) Leg. R. Frey

Metasyrphus (*Metasyrphus*) *nielseni* Dusek & Laska, 1976 in Peck, 1988: 35.

Eupeodes nielseni (Dusek & Laska, 1976) in Bartsch, Binkiewicz, Rådén & Nasibov, 2009: 253.

Search

OpenStreetMap GBIF

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Asserted distribution Collection object Primary type



Biology

Habitat & Conservation

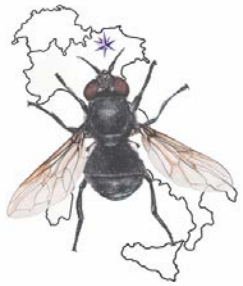
Preferred habitat	Red List Category
Subalpine Shrubs; Pinus Shbrus; Pinus sylverstris Woods; Humid Pinus sylvestris Woods; Caledonian Forest; Mountain Pine Woods; Non Calcareous Mountain Pine Woods; Western Taiga; Subalpine Acidophilous Grasslands; Aapamire	LC Least Concern

Adult

Min Length (mm)	Max Length (mm)	Adult phenology
08	11	May, June, July, August
Voltinism	**Overwintering stage**	**Altitudinal minimum (m)**
Univoltine	Larva	700
Altitudinal maximum (m)	**Migratory status**	**Commensalism**
1900	Non migrant	No

Larva

Larval Trophism	Larval microhabitat
Zoophagous	Foliage



Syrphidae of Italy (SoI)

Home About Addition Bibliography Search DwC Taxa News

Root › Animalia › Arthropoda › Hexapoda › Insecta › Diptera › Syrphidae › Syrphinae › Syrphini › Episyrphus › *Episyrphus balteatus* (De Geer, 1776)

Search name...

Species

Episyrphus balteatus (De Geer, 1776)

{..} Datamap DwC

Overview Biology Specimen records Asserted Distributions (List) Field occurrences iNaturalist





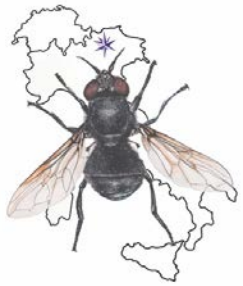
Biological associations

Biological associations (12)

« ‹ 1 › »

Subject			Biological	Object			Metadata		
Family	Label	Properties	Relationship	Properties	Family	Label	Depictions	Area	Citations
Ichneumonidae	*Diplazon laetatorius*		Parasitoid of	Larva	Syrphidae	*Episyrphus balteatus*			Sommaggio, Burgio & Guerrieri, 2014:8
Ichneumonidae	*Syrphoctonus tarsatorius*		Parasitoid of	Larva	Syrphidae	*Episyrphus balteatus*			Sommaggio, Burgio & Guerrieri, 2014:8
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Sitobion avenae*			Tenhumberg, 1995
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Metopolophium dirhodum*			Tenhumberg, 1995 Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Cavariella sp.*			Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Aphis grossulariae*			Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Macrosiphum rosae*			Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Eriosoma sp.*			Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Brevicoryne brassicae*			Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Aphis fabae*			Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Hyalopterus sp.*			Almohamad, Verheggen & Haubruge, 2009:473
Syrphidae	*Episyrphus balteatus*	Larva	Predator of		Aphididae	*Rhopalosiphum sp.*			Almohamad, Verheggen & Haubruge, 2009:473

« ‹ 1 › »



A Continuously Evolving System — still growing, still improving



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GENUS	AUTHOR	# SPECIES	# ITALY	DISTRIBUTION	KEY
Dasysyrphus	Enderlein, 1938	50	11	Ind Pal	EN IT
Didea	Macquart, 1834	8	3	Ind Pal	EN IT
Doros	Meigen, 1803	4	2	Nea Pal	EN IT
Epistrophe	Walker, 1852	53	7	Ind Nea Pal	EN IT
Epistrophella	Dušek & Láska, 1967	4	2	Nea Pal	EN IT
Episyrphus	Matsumura, 1917	19	1	Afr Ind Pal	EN IT
Eriozona	Schiner, 1860	19	1	Afr Ind Pal	EN IT
Eupeodes	Osten-Sacken, 1877	85	12	Afr Aus Ind Nea Neo Pal	EN IT
Ischiodon	Sack, 1913	4	1	Afr Aus Ind Pal	EN IT
Lapposyrphus	Dušek and Láska, 1967	2	1	Nea Pal	EN IT

Epistrophe Walker, 1852

Key to Species | Explore SoI Data

53 # Species Worldwide

7 # Species in Italy

Nearctic | Palearctic | Indomalayan

Distribution



General

Although the genus *Epistrophe* was introduced by Walker (1852), it has traditionally been regarded as a junior synonym of *Syrphus* Fabriucius, 1775 (e.g. Verrall, 1901; Bezzi & Stein, 1907). Later authors recognized *Epistrophe* as a valid genus, albeit in a broader sense than it is understood today. For example, Sack (1930) included within *Epistrophe* several species that are now classified under *Parasyrphus*, *Episyrphus*, *Meligramma* and *Melangyna*.

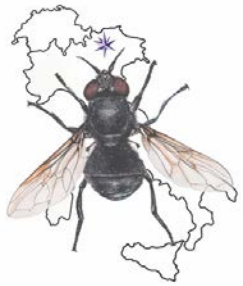
It was only through the revision of *Syrphus* and allied genera—primarily based on male genitalia—that the boundaries of *Epistrophe* became more clearly defined (Dušek & Láska, 1967; Hippa, 1968; Vockeroth, 1969). The genus is often divided into two subgenera: *Epistrophe* and *Epistrophella* (Peck, 1988; van Veen, 2004; Bertollo & Sommaggio, 2012). Recent molecular studies have not only confirmed the validity of *Epistrophe* as a monophyletic group but have also highlighted that *Epistrophella* should be considered a distinct genus (Mengual et al., 2008; 2023). *Epistrophe* undoubtedly belongs to the tribe Syrphini, but its phylogenetic position remains unresolved. Mengual et al. (2008) proposed a clade consisting of (*Epistrophe* + *Chrysotoxum*) + (*Xanthogramma* + *Epistrophella*). More recently, Mengual et al. (2023) suggested a different arrangement: (*Epistrophe* + *Afrosyrphus*) + *Epistrophella*) + *Leucozona*.

Diagnosis

Italian Biodiversity

Only 7 of the 12 European species are present in Italy. Among these, *E. eligans* is the most common, occurring throughout the country, including the major islands. Another widespread species is *E. nitidicollis*, although no records currently exist for the major islands. The remaining five species are less frequent and are found primarily in northern and central Italy. *Epistrophe leiophthalma*, *E. diaphana*, and *E. glossulariae* are predominantly montane, while the other species are associated with lowland woodlands.

For species identification, the available European keys (e.g., van Veen, 2004; Bot & van de Meutter, 2023) include all Italian species. Particular caution should be exercised when interpreting records predating the work of Doczkal & Schmid (1994), as considerable confusion previously existed within the genus. For example, Italian records of *E. ochrostoma* are likely erroneous, as this species is native to central and northern Europe.



Far from complete, but getting better every week



Thank you for your attention

