

Research articleSubmitted: November 8th, 2019 - Accepted: February 26th, 2020 - Published: April 15th, 2020**Spiders from Molise (Italy): state of knowledge, new faunistic data and taxonomic notes (Arachnida: Araneae)**

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Abstract

The spiderfauna of Molise includes 98 species belonging to 64 genera and 21 families; 48 species are firstly reported for this region, 19 are earlier record confirmed and 31 are earlier record to be confirmed. The following new combination and new synonymies are proposed: *Zelotes caprearum* (Pavesi, 1875) = *Zelotes caporiacoi* Denis, 1953 (not *Zelotes caporiacoi* Roewer, 1951) **syn. n.** = *Zelotes denapes* Platnick, 1993 **syn. n.**; *Cozyptila nigristernum* (Dalmás, 1922) **comb. n.** = *Cozyptila thaleri* Marusik & Kovblyuk, 2005 **syn. n.**

Key words: Araneae, Italy, Molise, faunistics, taxonomy, *Zelotes caprearum*, *Cozyptila nigristernum*.

rn:lsid:zoobank.org:pub:436946FD-DC7E-4CA2-8057-90D807BA0BEC

Introduction

Molise is undoubtedly the less studied Italian region about the spiderfauna (Pantini & Isaia 2019: 128, fig. 1); the present article is the first contribution devoted to the study of this region and updates the state of araneological knowledge.

No organic paper has ever been published on this region and the few known existing data have been taken from the following 26 articles published between 1964 and 2017: Alicata 1964; Tongiorgi 1966; Lugetti & Tongiorgi 1969; Blauwe 1973a, 1973b, 1975; Brignoli 1971, 1977, 1979a, 1979b; Brignoli & Gaddini 1979; Grimm 1985; Thaler 1994; Pesarini 2001; Helsdingen et al. 2001; Wang 2002; Muster & Thaler 2003, 2004; Gasparo 2004, 2010; Isaia et al. 2009; Knoflach et al. 2009; Trotta 2011; Bolzern et al. 2013; Decae et al. 2015; Bosmans et al. 2017.

The examined material, except very few cases otherwise reported, comes fully from the collections made in the LIPU Oasis of Casacalenda (Campobasso province) in the period from 1.IX.2005 to 30.V.2006, during the research conducted by Dr. Isa Battista for her thesis. The oasis, located 3 km SE of Casacalenda, extends on the slope of the Frentani Mountains between the Matese massif and the Adriatic coast, and occupies an area in the shape of a quadrilateral consisting of a mixed oak grove (prevalence of *Quercus cerris* L., with presence of *Carpinus betulus* L., *Ostrya carpinifolia* Scop. and *Acer campestre* L.) with of about 100 hectares surrounded by cultivated fields; the morphology is that of a plateau engraved by ditches and

valleys, descending from NE to SW, with altimetry between 614 and 844 meters above sea level.

In the twenties the area was included in the plan of coppices and the deforestation scheduled every 15 years stopped only in the early nineties, when the municipality of Casacalenda turned the forest into a protected area by establishing an oasis of wildlife protection, entrusted in management at LIPU, which in 1997 was recognized by the Ministry of the Environment in the national list of protected areas.

Materials and methods

All spiders from Molise are listed in the table published below (Table 1). In addition to the data of the examined material, it contains the bibliographic references of publications in which spiders have been formerly quoted for this region and their relative chorotype according to Pantini & Isaia (2018). Families are listed in alphabetical order and nomenclature follows the World Spider Catalog (2019).

Unless otherwise specified, all spiders were collected by I. Battista almost exclusively with pitfall traps (some species hand collected).

All species were identified by the author except for Dysderidae, identified by F. Gasparo (Trieste).

Specimens are lodged chiefly in the collection of the author.

Specimens and copulatory organs were photographed

using an Olympus BX51 compound microscope with an Olympus C7070 wide zoom digital camera; the images were generated using “Combine ZP” image stacking software.

Abbreviations:

- A** Casacalenda (Campobasso Province), Rocchia Moretti, 635–690 m a.s.l.
B idem, Rocchia San Vito, 700–720 m a.s.l.
C idem, Fonte Malfiglio, 680–690 m a.s.l.
D idem, Fonte Mazzocca, 640–650 m a.s.l.
E idem, Costa della Malve, 759 m a.s.l.
F idem, Macchia Puzzo, 650 m a.s.l.
G idem, unspecified location
MSNG Museo civico di Storia naturale “Giacomo Doria”, Genoa
***** New record for Molise
! Earlier record confirmed
§ Earlier record to be confirmed

Notes

GNAPHOSIDAE

Zelotes caprearum (Pavesi, 1875)(Figs 1–4)

1 ♂, 2 ♀♀,

Prothesima Caprearum Pavesi, 1875: 124 (♀)

Zelotes caporiacoi Denis, 1953: 59, Figs 1–4 (♂♀) (not

Zelotes caporiacoi Roewer, 1951); **syn. n.**

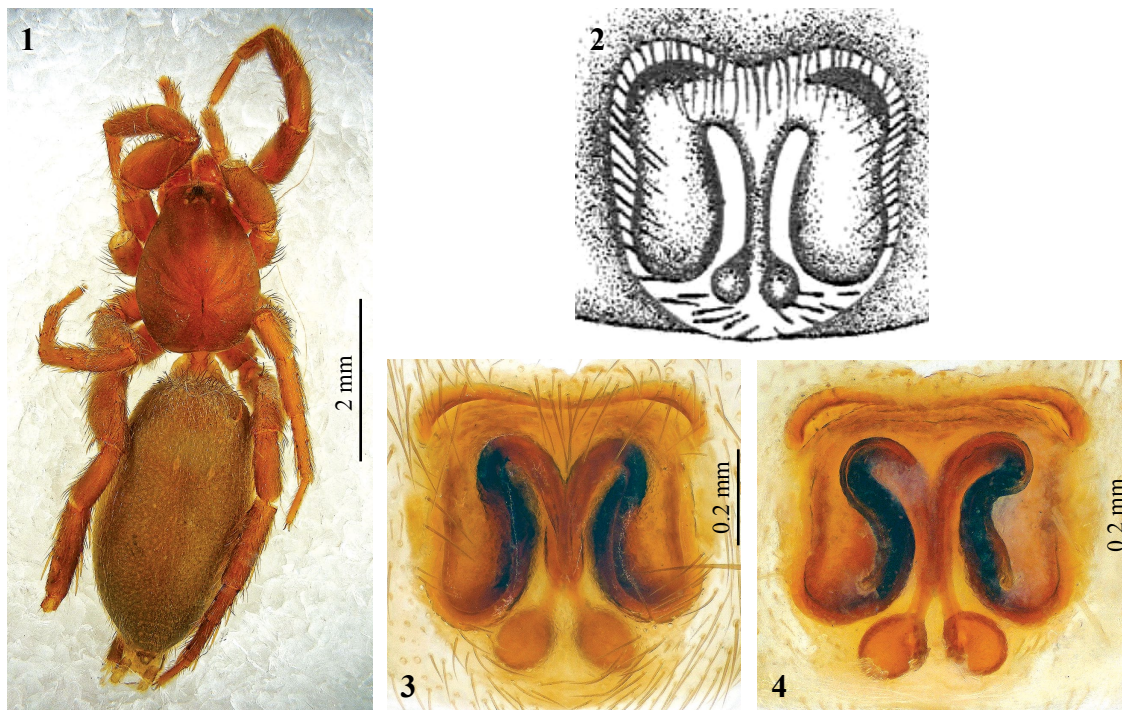
Zelotes denapes Platnick, 1993: 669 (replacement name for *Zelotes caporiacoi* Denis, 1953 not *Zelotes caporiacoi* Roewer, 1951); **syn. n.**

Type material examined. Pavesi described this species upon three specimens (3 ♀♀). I examined 3 syntypes (♀♀) stored in MSNG labelled “*Prothesima Caprearum* Pavesi Typus! Is. Capri leg. Cerio” [white, rectangular and handwritten label].

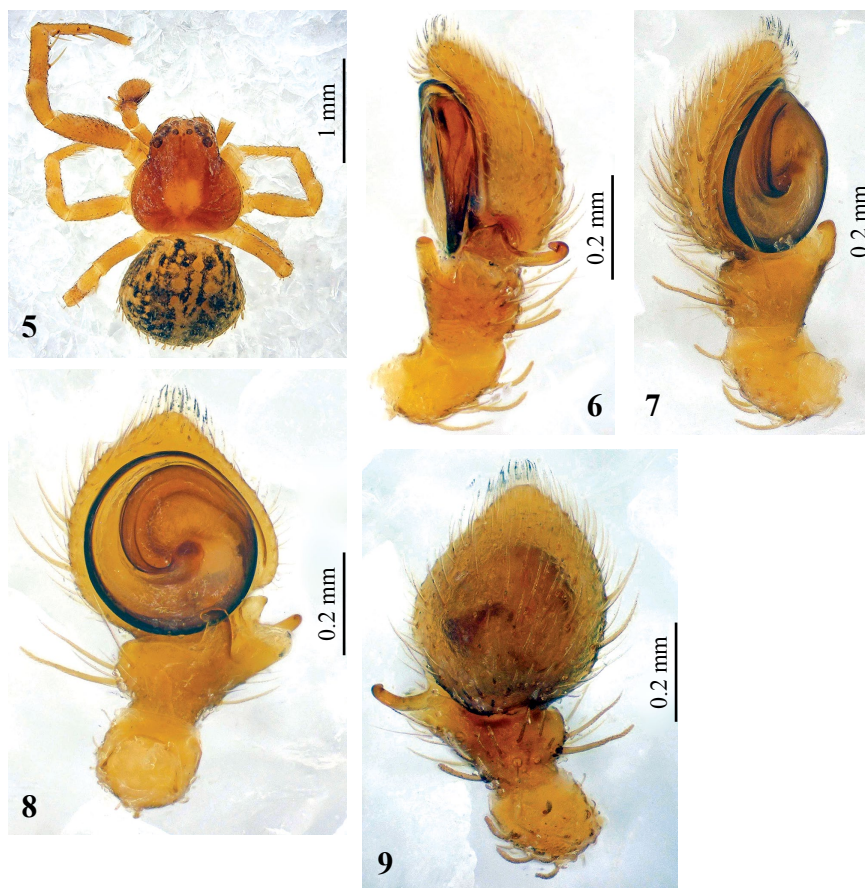
Zelotes caporiacoi has been described by Denis upon two specimens (1 ♂ holotype and 1 ♀ allotype), but no type material has been found.

Remarks. Despite the impossibility of examining the type material of *Z. caporiacoi* Denis, the distinctive shape of the epigynal margins allows to propose the following new synonymies: *Zelotes caprearum* (Pavesi, 1875) = *Zelotes caporiacoi* Denis 1953, **syn. n.** = *Zelotes denapes* Platnick 1993, **syn. n.**

Italian distribution. Latium: Zannone island (Caporiacco & Denis 1953, 1954; both as *Z. caporiacoi* Denis), Campania (Trotta 2007; IJland & Helsdingen 2014; both as *Z. denapes* Platnick) and Capri island (Pavesi 1875), Apulia (IJland et al. 2012; Lucia et al. 2013; both as *Z. denapes* Platnick), Basilicata (IJland & Helsdingen 2016, as *Z. denapes* Platnick) and Calabria (IJland & Helsdingen 2016; Pantini & Mazzoleni 2018; both as *Z. denapes* Platnick).



Figs 1–4 – *Zelotes caprearum* (Pavesi, 1875). **1**, syntype female, habitus in dorsal view; **2**, epigyne in ventral view of *Zelotes caporiacoi* in Caporiacco & Denis 1953; **3**, syntype female, cleared epigyne in ventral view; **4**, syntype female, cleared epigyne in dorsal view.



Figs 5-9 – *Cozyptila nigristernum* (Dalmás, 1922) syntype male. **5**, habitus in dorsal view; **6, 7** palp in lateral view; **8**, palp in ventral view; **9**, palp in dorsal view.

THOMISIDAE

Cozyptila nigristernum (Dalmás, 1922) **comb. n.** (Figs 5-9)

Oxyptila nigristernum Dalmás, 1922: 92 (♂♀)
Cozyptila thaleri Marusik & Kovblyuk, 2005: 156, figs 1–4, 15–16, 19, 25–26, 30, 33–34, 40, 45 (♂♀); **syn. n.**

Type material examined. Dalmás described this species upon two specimens (1 ♂ and 1 ♀). I examined 1 syntype (♂) stored in MSNG (♀ not found) labelled “*Oxyptila nigristernum* Is. Giglio (M.se Doria) types Dalmás” [white, rectangular and handwritten label].

Cozyptila thaleri has been described by Marusik & Kovblyuk upon seventeen specimens (1 ♂ holotype, 12 ♂♂ and 4 ♀♀ paratypes; not examined); type locality Ukraine, Crimea, Yalta, Massandra Park.

Remarks. This species is quoted in the World Spider Catalog 2019 as *Oxyptila nigristerna*. Considering that “*nigristernum*” is a noun in apposition (see Articles 11.9.1, 31.2.1 and 34.2.1 of the International Code of Zoological Nomenclature) and that in the World Spider Catalog there is no explicit statement about the change of spelling,

Oxyptila nigristerna must be considered an incorrect subsequent spelling (see Article 33.5 of the International Code of Zoological Nomenclature).

The lack of tegular apophyses, the tegular thickening thin (thinner than embolus) and short, the embolus cylindrical without any turns and the shape of tibial apophyses of the palpal male allow to propose the following new combination and new subjective synonymy: *Cozyptila nigristernum* (Dalmás, 1922) **comb. n.** = *Cozyptila thaleri* Marusik & Kovblyuk, 2005 **syn. n.**

Italian distribution. Tuscany: Giglio island (Dalmás 1922, as *Oxyptila nigristernum*) and Apulia (Lucia et al. 2013, as *Cozyptila thaleri*).

Acknowledgments – I am grateful to Isa Battista (Casacalenda) for giving me the opportunity to study the collected material; to Fulvio Gasparo (Trieste) who identified the Dysderidae; to Giuliano Doria (MSNG) that allowed me to examine the types of *Cozyptila nigristernum* and *Zelotes caprearum*; to Carlo Giusto (Genoa) and Giulio Gardini (Genoa) for the very helpful and precious comments and suggestions which they made on the manuscript; to Francesco Ballarin (Verona) for taking the digital photos and for sharing his unpublished data.

Table 1 – Spider species list of Molise.

Taxon	n° exx.	Casacalenda locality	Molise	Phenology	Chorotype
Agelenidae					
* <i>Aterigena ligurica</i> (Simon, 1916)	88 ♂♂, 23 ♀♀	A, B, D, E		May, Sep–Oct	PAL
§ <i>Coelotes italicus</i> Kritscher, 1956			Blauwe 1973a; Brignoli 1977		END
! <i>Eratigena fuesslini</i> (Pavesi, 1873)	63 ♂♂, 16 ♀♀	A, B, C, D, E, F	Brignoli 1977, as <i>Tegenaria fuesslini</i>	Mar–May, Sep–Nov	EUR
§ <i>Histoipona italica</i> Brignoli, 1977			Brignoli 1977; Bolzern et al. 2013		END
! <i>Tegenaria hasperi</i> Chyzer, 1897	1 ♀	D	Brignoli 1971, as <i>T. nemorosa</i> Simon	Sep	S-EUR
! <i>Tegenaria parvula</i> Thorell, 1875	20 ♂♂, 1 ♀	A, B, C, D, E, F	Blauwe 1975	Mar–May, Oct–Nov	END
* <i>Textrix caudata</i> L. Koch, 1872	1 ♀	D		Oct	S-EUR
* <i>Textrix denticulata</i> (Olivier, 1789)	1 ♀	F		Oct	EUR
! <i>Urocoras matesianus</i> (Blauwe, 1973)	105 ♂♂, 9 ♀♀	A, B, C, D, E, F	Blauwe 1973a, 1973b, as <i>Coelotes matesianus</i> ; Wang 2002	Mar–Apr, Sep–Oct	END
Araneidae					
§ <i>Aculepeira ceropegia</i> (Walckenaer, 1802)			Brignoli 1979a		PAL
! <i>Araneus diadematus</i> Clerck, 1757	1 ♀	F	Brignoli 1979a	Oct–Nov	HOL
§ <i>Araneus triguttatus</i> (Fabricius, 1775)			Brignoli 1979a		ASE
§ <i>Argiope bruennichi</i> (Scopoli, 1772)			Brignoli 1979a		PAL
! <i>Cercidia prominens</i> (Westring, 1851)	1 ♀	A	Brignoli 1979a	Apr	HOL
§ <i>Gibbaranea bituberculata</i> (Walckenaer, 1802)			Brignoli 1979a		PAL
§ <i>Mangora acalypha</i> (Walckenaer, 1802)			Brignoli 1979a		PAL
§ <i>Neoscona adianta</i> (Walckenaer, 1802)			Brignoli 1979a		PAL
§ <i>Singa nitidula</i> C. L. Koch, 1844			Brignoli 1979a		SIE
§ <i>Zilla diodia</i> (Walckenaer, 1802)			Brignoli 1979a		SIE
§ <i>Zygiella x-notata</i> (Clerck, 1757)			Brignoli 1979a		HOL
Atypidae					
* <i>Atypus affinis</i> Eichwald, 1830	6 ♂♂	A, C, E		Sep–Nov	EUR
Clubionidae					
§ <i>Clubiona aducta</i> Simon, 1932			Bosmans et al. 2017		EUR
! <i>Clubiona comta</i> C.L. Koch, 1839	5 ♂♂	B, D	Bosmans et al. 2017	Mar–Apr	EUR
* <i>Clubiona terrestris</i> Westring, 1851	1 ♂	C		May, Sep	EUR
Cybaeidae					
§ <i>Cryphoea silvicola</i> (C. L. Koch, 1834)			Blauwe 1973a		PAL
Dysderidae					
! <i>Dasumia taenifera</i> Thorell, 1875	7 ♂♂, 7 ♀♀	G	Gasparo 2010	Apr–May, Sep–Oct	END
§ <i>Dysdera aberrans</i> Gasparo, 2010			Gasparo 2010		END
! <i>Dysdera apenninica</i> Alicata, 1964	2 ♂♂	G	Alicata 1964, as <i>D. apenninica apenninica</i> ; Gasparo 2010	Nov–Mar	END
! <i>Dysdera bottazziae</i> Caporiacco, 1953	7 ♂♂, 2 ♀♀	G	Gasparo 2010	Apr–May, Nov–Mar	END
! <i>Dysdera flagellifera</i> Caporiacco, 1947	1 ♂	G	Gasparo 2010	Sep–Oct	END
! <i>Dysdera rullii</i> Pesarini, 2001	10 ♂♂, 1 ♀	G	Pesarini 2001; Gasparo 2010	Apr–May, Nov–Mar	END
! <i>Harpactea gridellii</i> (Caporiacco, 1953)	4 ♂♂	A, C, G	Gasparo 2010	May, Sep–Oct	END
! <i>Parachtes andreinii</i> Alicata, 1966	1 ♂	G	Gasparo 2010	Nov–Mar	END
! <i>Rhode biscutata</i> Simon, 1893	15 ♂♂, 22 ♀♀	A, B, D	Gasparo 2010	Sep–Oct	W-MED
Gnaphosidae					
* <i>Callilepis schuszeri</i> (Herman, 1879)	4 ♂♂	A		May	PAL

continued

Taxon	n° exx.	Casacalenda locality	Molise	Phenology	Chorotype
§ <i>Drassodes lapidosus</i> (Walckenaer, 1802)			Blauwe 1973a; Grimm 1985		PAL
* <i>Drassyllus villicus</i> (Thorell, 1875)	10 ♂♂	A, B, D		Apr–May	EUR
* <i>Haplodrassus macellinus</i> (Thorell, 1871)	2 ♂♂	A, F		Mar, Oct	MED
! <i>Haplodrassus signifer</i> (C.L. Koch, 1839)	4 ♂♂, 1 ♀	A	Blauwe 1973a, as <i>Drassodes signifer</i> ; Grimm 1985	Apr	HOL
* <i>Trachyzelotes fuscipes</i> (L. Koch, 1866)	2 ♂♂, 3 ♀♀	A, B, D		Sep–Oct	CAE
* <i>Trachyzelotes pedestris</i> (C.L. Koch, 1837)	14 ♂♂, 3 ♀♀	A, B, D		Apr–May	EUR
* <i>Zelotes aeneus</i> (Simon, 1878)	13 ♂♂, 15 ♀♀	A, F		Sep–Oct	EUR
* <i>Zelotes apricorum</i> (L. Koch, 1876)	18 ♂♂, 19 ♀♀	A, B, C, D, F		Mar–May, Sep–Oct	SIE
* <i>Zelotes caprearum</i> (Pavesi, 1875)	1 ♀	D		Oct	END
* <i>Zelotes khostensis</i> Kovblyuk & Ponomarev, 2008	52 ♂♂, 81 ♀♀	A, B, C, D		Sep–Nov	EUR
§ <i>Zelotes latreillei</i> (Simon, 1878)			Grimm 1985		SIE
* <i>Zelotes longipes</i> (L. Koch, 1866)	16 ♂♂, 4 ♀♀	D, F		Mar, Sep–Oct	PAL
! <i>Zelotes oblongus</i> (C.L. Koch, 1833)	37 ♂♂, 18 ♀♀	A, B, C, D, F	Brignoli & Murphy 1984; Grimm 1985	Mar–May, Sep–Oct	S-EUR
Hahniidae					
§ <i>Antistea elegans</i> (Blackwall, 1841)			Isaia et al. 2009		PAL
Linyphiidae					
§ <i>Bolyphantes lamellaris</i> Tanasevitch 1990			Helsdingen et al. 2001		S-EUR
* <i>Frontinellina frutetorum</i> (C.L. Koch, 1834)	1 ♀	G*		Jul	PAL
* <i>Linyphia triangularis</i> (Clerck, 1757)	2 ♂♂	A		Sep	PAL
§ <i>Mansuphantes auruncus</i> (Brignoli, 1979)			Thaler 1994		END
* <i>Mecopisthes latinus</i> Millidge, 1978	1 ♂	A		Apr	S-EUR
* <i>Metopobactrus verticalis</i> (Simon, 1881)	3 ♂♂	A		Apr	END
* <i>Tenuiphantes herbicola</i> (Simon, 1884)	1 ♂, 1 ♀	G**		Jul	MED
* <i>Trichoncus ambrosii</i> Wunderlich, 2011	16 ♂♂, 1 ♀	A, E		Apr	END
* <i>Walckenaeria furcillata</i> (Menge, 1869)	1 ♂	E		Apr	PAL
Liocranidae					
* <i>Agroeca cuprea</i> Menge, 1873	10 ♂♂	A, B, F		Sep–Nov	ASE
* <i>Liocranum rupicola</i> (Walckenaer, 1830)	1 ♂, 1 ♀	B		May, Sep	EUR
§ <i>Mesiotelus tenuissimus</i> (L. Koch, 1866)			Brignoli & Gaddini 1979		MED
! <i>Scotina celans</i> (Blackwall, 1841)	7 ♂♂, 1 ♀	A, C, E	Isaia et al. 2009; Trotta 2011	Mar–Apr, Oct–Nov	EUR
Lycosidae					
* <i>Alopecosa cuneata</i> (Clerck, 1757)	34 ♂♂, 2 ♀♀	A, B, C, D, F		Mar–May	PAL
* <i>Alopecosa farinosa</i> (Herman, 1879)	3 ♂♂, 7 ♀♀	A, F		Oct–Nov	SIE
§ <i>Alopecosa solitaria</i> (Herman, 1879)			Lugetti & Tongiorgi 1969		E-EUR
* <i>Hogna radiata</i> (Latreille, 1817)	2 ♂♂, 2 ♀♀	A, F		Sep–Oct	TUM
§ <i>Pardosa aenigmatica</i> Tongiorgi, 1966			Tongiorgi 1966		CAE
§ <i>Pardosa amentata</i> (Clerck, 1757)			Tongiorgi 1966		SIE
§ <i>Pardosa blanda</i> (C.L. Koch, 1833)			Tongiorgi 1966		S-EUR
* <i>Pardosa hortensis</i> (Thorell, 1872)	33 ♂♂, 4 ♀♀	A, D		Mar–Apr	PAL
* <i>Pardosa lugubris</i> (Walckenaer, 1802)	78 ♂♂, 65 ♀♀	A, B, C, D, E, F		Mar–May, Sep–Oct	SIE
* <i>Trochosa hispanica</i> Simon, 1870	40 ♂♂, 5 ♀♀	A, B, D, E, F		Mar	TUM
* <i>Trochosa ruricola</i> (De Geer, 1778)	4 ♂♂	A		Oct	HOL
Mimetidae					
* <i>Ero furcata</i> (Villers, 1789)	1 ♂	D		May	PAL

continued

Taxon	n° exx.	Casacalenda locality	Molise	Phenology	Chorotype
Miturgidae					
* <i>Zora nemoralis</i> (Blackwall, 1861)	15 ♂♂, 1 ♀	A		May	PAL
* <i>Zora spinimana</i> (Sundevall, 1833)	12 ♂♂, 5 ♀♀	A, B, E		Mar–May, Oct	PAL
Nemesiidae					
§ <i>Nemesia pedemontana</i> Decae, Pantini & Isaia, 2015			Decae et al. 2015		END
Nesticidae					
§ <i>Kryptonesticus eremita</i> (Simon, 1880)			Brignoli 1979b, as <i>Nesticus eremita</i>		S-EUR
Philodromidae					
! <i>Philodromus dispar</i> Walckenaer, 1826	2 ♂♂	A	Trotta 2011	May	HOL
§ <i>Philodromus fuscolimbatus</i> Lucas, 1846			Muster & Thaler 2004		MED
§ <i>Philodromus longipalpis</i> Simon, 1870			Muster & Thaler 2004		MED
§ <i>Philodromus praedatus</i> O. P.-Cambridge, 1871			Muster & Thaler 2004		SIE
§ <i>Thanatus atratus</i> Simon, 1875			Muster & Thaler 2003		PAL
Phrurolithidae					
* <i>Liophrurillus flavitarsis</i> (Lucas, 1846)	11 ♂♂	A, D		Apr–May	W-MED
Pisauridae					
* <i>Pisaura mirabilis</i> (Clerck, 1757)	1 ♀	B		Apr–May	ASE
Salticidae					
* <i>Marpissa nivoyi</i> (Lucas, 1846)	1 ♂	F		Apr	TUM
Theridiidae					
* <i>Episinus truncatus</i> Latreille, 1809	11 ♂♂, 13 ♀♀	A, B, D, E		Sep–Nov	PAL
§ <i>Heterotheridion nigrovariegatum</i> (Simon, 1873)			Knoflach et al. 2009		PAL
Thomisidae					
* <i>Cozyptila blackwalli</i> (Simon, 1875)	1 ♂	B		May	SIE
* <i>Cozyptila nigristernum</i> (Dalmis, 1922)	2 ♂♂	A		Apr–May	TUM
* <i>Ozyptila atomaria</i> (Panzer, 1801)	1 ♂	F		Apr–May	EUR
* <i>Ozyptila sanctuaria</i> (O. P.-Cambridge, 1871)	1 ♂	B		Sep	EUR
* <i>Xysticus acerbus</i> Thorell, 1872	2 ♂♂	A, D		Mar–Apr, Oct	SIE
* <i>Xysticus kempeleni</i> Thorell, 1872	5 ♂♂	A, D		Mar–Apr	CAE
* <i>Xysticus kochi</i> Thorell, 1872	13 ♂♂, 1 ♀	A, D, F		Mar–May	SIE
* <i>Xysticus lanio</i> C.L. Koch, 1835	17 ♂♂	A, B, C, D		Mar–May	SIE
Zodariidae					
* <i>Zodarion caporiaccoi</i> Roewer, 1942	14 ♂♂, 5 ♀♀	A, B, D		Apr–May, Oct	EUM
* <i>Zodarion frenatum</i> Simon, 1884	15 ♂♂, 4 ♀♀	A, B, D, F		Apr–May, Sep–Oct	E-MED

G* Roccamandolfi, Matese mount, F. Ballarin leg. & det.

G** Roccamandolfi, Masseria di Rio, Matese mount, F. Ballarin leg. & det.

References

- Alicata P. 1964. Le *Dysdera* del gruppo *andreinii* della fauna italiana (Araneae, Dysderidae). Atti dell'Accademia gioenia di Scienze naturali in Catania, (6) 16: 67–86.
- Blauwe R. de 1973a. Contribution à l'étude des Agelenidae et Drassidae des collections du Musée d'Histoire naturelle de Vérone. Memorie del Museo civico di Storia naturale di Verona, 20: 263–273.
- Blauwe R. de 1973b. Révision de la famille des Agelenidae (Araneae) de la région méditerranéenne. Bulletin de l'Institut royal de Sciences naturelles de Belgique, 49 (2): 1–111.

- Blauwe R. de 1975. Deuxième contribution à l'étude des Agelenidae des collections du Musée d'Histoire naturelle de Vérone. Bollettino del Museo civico di Storia naturale di Verona, 2: 145–154.
- Bolzern A., Pantini P., Isaia M. 2013. Revision of the *Histopona italica* group (Araneae: Agelenidae), with the description of two new species. Zootaxa, 3640 (1): 23–41.
- Bosmans R., Henrard A., Benhalima S., Kherbouche–Abrous O. 2017. The genus *Clubiona* Latreille, 1904 (Araneae: Clubionidae) in the Maghreb, with notes on the *genevensis* group and new records from the Mediterranean Region. Zootaxa 4353 (1): 1–28.

- Brignoli P.M. 1971. Contributo alla conoscenza degli Agelenidae italiani (Araneae). *Fragmenta entomologica*, Roma, 8: 57–142.
- Brignoli P.M. 1977. Ragni d'Italia XXVII. Nuovi dati su Ageleidae, Argyronetidae, Hahniidae, Oxyopidae e Pisauridae cavernicoli ed epigei (Araneae). *Quaderni del Museo di Speleologia "V. Rivera"*, 4: 3–117.
- Brignoli P.M. 1979a. Ragni d'Italia XXX. Nuovi dati corologici ed ecologici su alcuni Araneidae (Araneae). *Fragmenta entomologica*, Roma, 15: 17–41.
- Brignoli P.M. 1979b. Ragni d'Italia XXXI. Specie cavernicole nuove o interessanti (Araneae). *Quaderni del Museo di Speleologia "V. Rivera"*, 5 (10): 3–48.
- Brignoli P.M., Gaddini A. 1979. Nuovi dati su alcuni Anyphaenidae, Liocranidae e Gnaphosidae italiani. *Bollettino dell'Associazione romana di Entomologia*, 34: 10–15.
- Brignoli P.M., Murphy J. 1984. Nuovi dati su alcuni Gnaphosidae italiani. *Bollettino dell'Associazione romana di Entomologia*, 38: 1–4.
- Caporiacco L. di, Denis J. 1953. Descrizione di tre specie di aracnidi dell'isola di Zannone. *Bollettino zoologico*, 20: 59–63.
- Caporiacco L. di, Denis J. 1954. Arachnida, pp. 264–270. In: Zavattari E. (ed.), *Biogeografia dell'Isola di Zannone (Arcipelago Pontino)*. Fauna. *Rendiconti dell'Accademia nazionale dei XL*, 4–5 (serie 4): 201–299.
- Dalmas R. de 1922. Catalogue des araignées récoltées par le Marquis G. Doria dans l'île Giglio (Archipel toscan). *Annali del Museo civico di Storia naturale di Genova*, 50: 79–96.
- Decae A., Pantini P., Isaia M. 2015. A new species-complex within the trapdoor spider genus *Nemesia* Audouin 1826 distributed in northern and central Italy, with descriptions of three new species (Araneae, Mygalomorphae, Nemesiidae). *Zootaxa*, 4059: 525–540.
- Denis J. 1953 [new taxon]. In: Caporiacco L. di, Denis J., Descrizione di tre specie di aracnidi dell'isola di Zannone. *Bollettino di Zoologia*, 20: 59–63.
- Gasparo F. 2010. Una nuova straordinaria specie del genere *Dysdera* dell'Italia meridionale (Araneae, Dysderidae). *Fragmenta entomologica*, Roma, 42 (2): 369–378.
- Grimm U. 1985. Die Gnaphosidae Mitteleuropas (Arachnida, Araneae). *Abhandlungen des Naturwissenschaftlichen Vereins in Hamburg*, 26: 1–318.
- Helsdingen P.J. van, Thaler K., Deltshv C., 2001. The European species of *Bolyphantes* with an attempt of a phylogenetic analysis (Araneae Linyphiidae). *Memorie della Società entomologica italiana*, 80: 3–35.
- IJland S., Helsdingen P.J. van 2014. On some spiders (Arachnida, Araneae) from the surroundings of Castellabate, Italy. *Nieuwsbrief Spined*, 34: 16–33.
- IJland S., Helsdingen P.J. van 2016. On some spiders (Arachnida, Araneae) from Basilicata and Calabria, Italy. *Nieuwsbrief Spined*, 36: 25–44.
- IJland S., Helsdingen P.J. van, Miller J. 2012. On some spiders from Gargano, Apulia, Italy. *Nieuwsbrief Spined*, 32: 2–20.
- International Commission on Zoological Nomenclature 1999. *International Code of Zoological Nomenclature*, 4th edition. xxix, 306 pp. The International Trust for Zoological Nomenclature, London.
- Isaia M., Osella G., Pannunzio G. 2009. Hygropterid and litter-inhabiting spiders (Araneae) from Abruzzo Apennines (Central Italy). *Arachnologische Mitteilungen*, 37: 15–26.
- Knoflach B., Rollard C., Thaler K. 2009. Notes on Mediterranean Theridiidae (Araneae) – II. In: Stoev P., Dunlop J., Lazarov S. (eds), *A life caught in a spider's web*. *Papers in arachnology in honour of Christo Deltshv*. *ZooKeys*, 16: 227–264.
- Lucia M., Loverre P., Addante R. 2013. Indagine sull'araneofauna della riserva naturale regionale orientata "Laghi di Conversano e Gravina di Monsignore", pp. 71–76. In: Calabrese G., Pacucci C., Occhialini W., Russo G. (a cura di), *Atti del IX Convegno nazionale di biodiversità*, Vol. 3, Territorio, paesaggio e servizi eco-sistemici, 5–7 settembre 2012, Istituto agronomico mediterraneo di Bari, Valenzano (BA).
- Lugetti G., Tongiorgi P. 1969. Ricerche sul genere *Alopecosa* Simon (Araneae–Lycosidae). *Atti della Società toscana di Scienze naturali*, (B); 76: 1–100.
- Marusik Y.M., Kovblyuk M.M. 2005 [new taxa]: In: Marusik Y.M., Lehtinen P.T., Kovblyuk M.M., *Cozyptila*, a new genus of crab spiders (Aranei: Thomisidae: Thomisinae: Coriarachnini) from the western Palearctic. *Arthropoda Selecta*, 13: 151–163.
- Muster C., Thaler K. 2003. The *Thanatus striatus* species group in the eastern Alps, with description of *Thanatus firmetorum* sp. n. (Araneae: Philodromidae). *Bulletin of the British arachnological Society*, 12: 376–382.
- Muster C., Thaler K. 2004. New species and records of Mediterranean Philodromidae (Arachnida, Araneae): I. *Philodromus aureolus* group, pp. 305–326. In: Thaler K. (ed.), *Diversität und Biologie von Webspinnen, Skorpionen und anderen Spinnentieren*. Denisia, 12.
- Pantini P., Isaia M. 2018. Checklist of Italian spiders. Version May 2018. http://www.museoscienzebergamo.it/web/index.php?option=com_content&view=category&layout=blog&id=96&Itemid=94
- Pantini P., Isaia M. 2019. Araneae.it: the online Catalog of Italian spiders, with addenda on other Arachnid Orders occurring in Italy (Arachnida: Araneae, Opiliones, Palpigradi, Pseudoscorpionida, Scorpiones, Solifugae). *Fragmenta entomologica*, 51(2): 127–152.
- Pantini P., Mazzoleni F. 2018. I ragni di Calabria (Arachnida, Araneae). *Rivista del Museo civico di Scienze naturali "E. Caffi"*, Bergamo, 31: 11–70.
- Pavesi P. 1875. Note araneologiche. I. Catalogo dei ragni di Capri. *Atti della Società italiana di Scienze naturali*, 18: 113–130.
- Pesarini C. 2001. Sei nuove specie di Dysderidae d'Italia e di Grecia (Araneae). *Atti della Società italiana di Scienze naturali e del Museo civico di Storia naturale di Milano*, 141: 291–301.
- Platnick N I. 1993. *Advances in spider taxonomy 1988–1991, with synonymies and transfers 1940–1980*. The New York Entomological Society, New York, 846 pp.
- Thaler K. 1994. Vikariante Verbreitung im Artenkreis von *Lepthyphantes mansuetus* in Mitteleuropa (Araneida: Linyphiidae). *Entomologia Generalis*, 18 (3/4): 171–185.
- Tongiorgi P. 1966. Italian wolf spiders of the genus *Pardosa* (Araneae: Lycosidae). *Bulletin of the Museum of comparative Zoology, Harvard*, 134: 275–334.
- Trotta A. 2007. Short notes 1. Arachnida, Araneae, pp. 378–384. In: Nardi G. & Vomero V. (eds), *Artropodi del Parco nazionale del Vesuvio: ricerche preliminari*. *Conservazione Habitat Invertebrati*, 4. Cierre edizioni, Verona, 496 pp.
- Trotta A. 2011. Second contribution to the knowledge of the spiders of Sardinia (Arachnida, Araneae), pp. 137–161. In: Nardi G., Whitmore D., Bardiani M., Birtele D., Mason F., Spada L. & Cerretti P. (eds), *Biodiversity of Marganai and Montimannu (Sardinia)*. *Research in the framework of the ICP Forests network*. *Conservazione Habitat Invertebrati*, 5.
- Wang X.-P. 2002. A generic-level revision of the spider family Coelotinae (Araneae, Amaurobiidae). *Bulletin of the American Museum of Natural History*, 269: 1–150.
- World Spider Catalog 2019. *Natural History Museum Bern*, online at <http://wsc.nmbe.ch>, version 20.5, accessed 30 August 2019.