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Contribution to the knowledge of the spider fauna (Arachnida Araneae) of the Maltese Archipelago

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ABSTRACT In this paper, new spiders (Arachnida Araneae) from the Maltese Archipelago are reported. Particularly, 3 genera and 5 new species found during a recent trip to Malta and Gozo islands are reported here. The presence in these islands of another species is confirmed. Additional biological and taxonomic notes are provided.

KEY WORDS Araneae; new data; first records; Malta.

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INTRODUCTION

According to recent work, the species of spiders (Arachnida Araneae) present in the Maltese Archipelago are 141. Of these, 4 species are classified only for the genus, and other 4 species only for comparison with other species. Overall, they are divided into 108 genera and 33 families (Pfliegler et al., 2017).

In this paper 3 genera and 5 species for the Maltese Archipelago are cited for the first time; the presence in these islands of another species is confirmed; the first images of the species that is probably *Ozyptila leprieuri* Simon, 1875, found during a recent trip to this island, are provided.

MATERIAL AND METHODS

All the samples were collected on sight, some under the rocks, others on their webs, and the majority during the evening and night hours. The samples have been treated with ethyl acetate in the laboratory, observed with binoculars, and photographed with a Nikon D90 and a 100 mm macro lens. They were then stored in centrifuge containers, of different sizes, in 75% ethanol.

All samples were collected by the author and are kept in his collection.

The classification, taxonomic order and nomenclatural arragement, follow World Spider Catalog (2018).

For each species, literature, chorotype, and biological notes are provided (see also Roberts, 1995; Nentwig et al., 2018).

RESULTS

Systematics

Ordo ARANEAE Clerck, 1757
Familia AGELENIDAE C.L.Koch, 1837
Genus *Tegenaria* Latreille, 1804

Tegenaria pagana C.L. Koch, 1840

EXAMINED MATERIAL. GOZO, Nadur, 36°03'22.7"N 14°18'20.1"E, 18.XI.2017, 1 male and 1 female subadult.

DISTRIBUTION. Europe to Central Asia. Introduced to USA, Mexico, Brazil, Chile.

REMARKS. New species for the Maltese Archipelago. The specimen was sampled on its canvas, inside a small cave. Despite the presence of several canvases, in one of which I found the moult of a female specimen, I have not found other specimens. The male was collected while walking on the walls, perhaps looking for a female.

Familia ARANEIDAE Clerck, 1757
Genus *Siwa* Grasshoff, 1970

Siwa dufouri (Simon, 1874)

EXAMINED MATERIAL. Malta, Mellieħa, 35°57'29.3"N 14°21'55.0"E, 17.XI.2017, 1 female.

DISTRIBUTION. Western Mediterranean.

REMARKS. New genus and new species for the Maltese Archipelago. The determination of this species was made following the description of Levy (1986), despite the absence of the male and the impossibility of comparing the specimen with another of the same species, the author determines it as written.

Familia DICTYNIDAE O. P.-Cambridge, 1871
Genus *Nigma* Lehtinen, 1967

Nigma walckenaeri (Roewer, 1951)

EXAMINED MATERIAL. Malta, Lord Strickland, Ħ'Attard, 35°53'44.7"N 14°26'47.0"E, 17.XI.2017, 1 male and 1 female.

DISTRIBUTION. Europe, Turkey, Caucasus.

REMARKS. New genus and new species for the Maltese Archipelago. In Sicilian samples I could see the opportunism in conserving one's own silk. Day 14.I.2017 I observed two specimens of *N. walckenaeri*, a male and a female, living in two separate cells of a beehive *Polistes* sp., probably abandoned. I took the hive with its tenants in the laboratory, and I put a container inside. Day 20.I.2017 the female has spawned in a simple cocoon, outside the hive, in one of the container walls. Day 22.II.2017 the eggs hatched, and I counted 38 spiderlings. All samples were released the next day in the same place of capture.

Familia THERIDIIDAE Sundevall, 1833
Genus *Episinus* Walckenaer, 1809

Episinus cfr. ***algiricus*** Lucas, 1846

EXAMINED MATERIAL. Malta, Cirkewwa, Mellieħa, 35°59'06.1"N 14°20'04.2"E, 18.XI.2017, 1 male subadult; Nadur, Malta, 36°03'19.8"N 14°18'10.9"E, 18.XI.2017, 1 male subadult.

DISTRIBUTION. Portugal, Spain, France, Italy, Northwest Africa.

REMARKS. New genus and new species for the Maltese Archipelago. *Episinus algiricus* is very similar to the *E. angulatus* Blackwall, 1836. However, in addition to the observation of the reproductive organs, that is not possible in the samples because still immature, *E. angulatus* differs for the color of the legs, which are dark brown. On the contrary, those of the *E. algiricus*, as well as its color overall, are tending to yellow/sand.

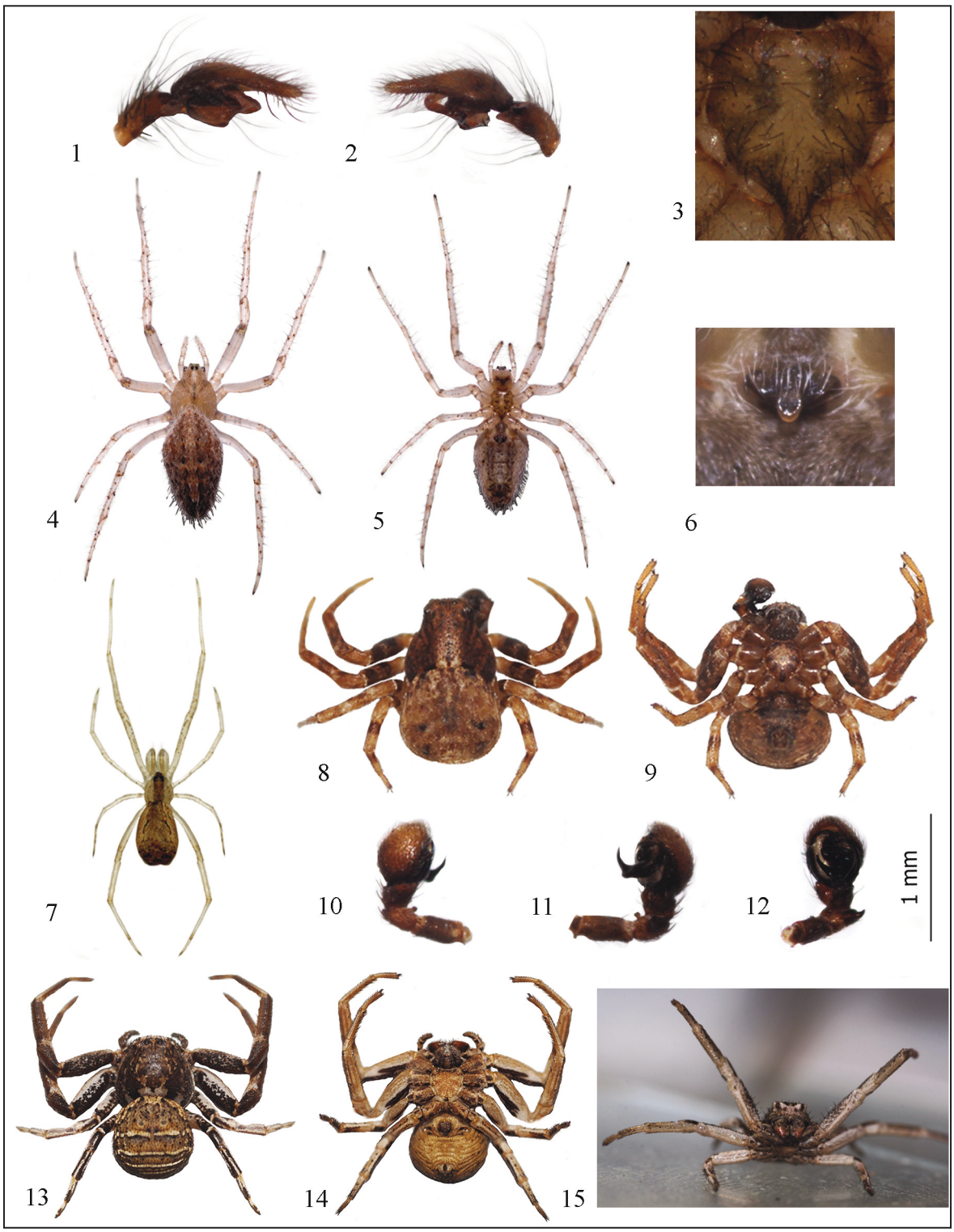
Familia THOMISIDAE Sundevall, 1833
Genus *Ozyptila* Simon, 1864

Ozyptila cfr. ***leprieuri*** Simon, 1875

EXAMINED MATERIAL. Malta, Cirkewwa, Mellieħa, 35°59'06.1"N 14°20'04.2"E, 18.XI.2017, 1 male.

DISTRIBUTION. Marocco, Algeria.

REMARKS. New species for the Maltese Archipelago. The sample was collected under a stone, in a garigue environment. Its cryptic colors can be confused with the color of the earth and when it felt it was in danger, clutching its paws towards the breastbone, it remained still. In literature, there is not an image of the species. The specimens have been attributed to *O. leprieuri* following Simon's description (1875). This species is similar to *O. claveata* (Walckenaer, 1837), but although very similar, some characteristics related to male genital parts, leads us to think that it is attributable, with reservation, to *O. leprieuri*. I will report below the translation of Simon (1875) regarding the apophysis



Figures 1–3. *Tegenaria pagana*: palp (length 1.4 mm) (Figs. 1, 2) and sternum (length 1.8 mm) (Fig. 3). Figures 4–6. *Siwa dufouri* female (length 7 mm): dorsal view (Fig. 4), ventral view (Fig. 5), epigyne (width 0.4 mm) (Fig. 6). Figure 7. *Episinus* cfr. *algiricus* male subadult (length 3.8 mm). Figures 8–12. *Ozyptila* cfr. *leprieuri* male (length 3 mm): dorsal view (Fig. 8), ventral view (Fig. 9), palpus: internal side view (Fig. 10), side view (Fig. 11), frontal view (Fig. 12). Figures 13–15. *Xysticus bufo* female (length 6.2 mm): dorsal view (Fig. 13), ventral view (Fig. 14), defensive behaviors (Fig. 15).

of the male bulb of both species. For *O. claveata* this is the description: "*the black bulb, presents, towards the inner center, a very strong apophysis, thick at the base, acute at the extremity, directly obliquely to the back, almost to the lower tibial apopliysis*". For *O. leprieuri* this is description: "*bulb with a rather large vertical medial apophysis, divided into two equal branches, acute and divergent at the extremity*".

Following Simon's description (1875), in which the specimen reflects dimensions and approaches the anatomical description, it is attributed to the species mentioned above with reserve that these are the first images of the species and this is the first European reporting of this species.

Genus *Xysticus* C.L. Koch, 1835

Xysticus bufo (Dufour, 1820)

EXAMINED MATERIAL. Cirkewwa, Mellieħa, Malta, 35°59'06.1"N 14°20'04.2"E, 18.XI.2017, 1 female.

DISTRIBUTION. Mediterranean.

REMARKS. *Xysticus bufo* was already reported for the Maltese islands, through a male sample of the species and only for comparison, by Baldacchino et al. (1993) and Pfliegler et al. (2017). This is the confirmation that the species has been present on the Maltese Archipelago.

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