

## Contributions to the knowledge of the genus *Oecobius* Lucas, 1846 from Turkey (Araneae: Oecobiidae)

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**Abstract:** The characteristic features of *Oecobius rhodiensis* Kritscher, 1966 and *Oecobius teliger* O.P.-Cambridge, 1872, which are recorded for the first time in Turkey, are presented in this paper. Identification keys for the Turkish species, digital and SEM photographs, and drawings of genitalia of the new recorded species are also given together with their zoogeographical distributions.

**Key words:** Oecobiidae, Araneae, new record, *Oecobius rhodiensis*, *Oecobius teliger*, Turkey

### Türkiye *Oecobius* Lucas, 1846 cinsine katkılar (Araneae: Oecobiidae)

**Özet:** Türkiye'den ilk kez kaydedilen *Oecobius rhodiensis* Kritscher, 1966 ve *Oecobius teliger* O. P.-Cambridge, 1872 türlerinin karakteristik özellikleri sunuldu. Türkiye türlerinin teşhis anahtarları, yeni kayıt edilen türlerin dijital ve SEM fotoğrafları, genital organlarının çizimleri ile ayrıca zoocoğrafik dağılımları verildi.

**Anahtar sözcükler:** Oecobiidae, Araneae, yeni kayıt, *Oecobius rhodiensis*, *Oecobius teliger*, Türkiye

### Introduction

The *Oecobius* Lucas, 1846, also known as wall spiders, is the biggest genus of Oecobiidae Blackwall, 1862, and contains 79 species worldwide (Platnick, 2008). The members of this genus are all very small spiders that make small flat webs over crevices both on walls in houses and under stones in fields. The *Oecobius* genus in Turkey requires further study. Recently, only 2 species, *O. maculatus* Simon, 1870 and *O. cellariorum* (Dugès, 1836), have been recorded from Turkey (Kaya et al., 2006, 2007). This genus was

well studied in the Mediterranean region and hitherto 14 species have been known from this region (Wunderlich, 1994; Platnick, 2008). These species are *O. affinis* O.P.-Cambridge, 1872, *O. albipunctatus* O.P.-Cambridge, 1872, *O. amboseli* Shear & Benoit, 1974, *O. annulipes* Lucas, 1846, *O. cambridgei* Wunderlich, 1995, *O. cellariorum* (Dugès, 1836), *O. maculatus* Simon, 1870, *O. navus* Blackwall, 1859, *O. paolomaculatus* Wunderlich, 1995, *O. machadoi* Wunderlich, 1995, *O. putus* O.P.-Cambridge, 1876, *O. rhodiensis* Kritscher, 1966, *O. teliger* O.P.-Cambridge,

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1872, and *O. templi* O.P.-Cambridge, 1876. We add 2 species of these Mediterranean species, *O. rhodiensis* Kritscher, 1966 and *O. teliger* O.P.-Cambridge 1872, as new records for the Turkish araneofauna.

## Materials and methods

The specimens were collected inside buildings in the campus of Erciyes University and Gazi University and under stones from different places in Kayseri, a province of Turkey. The specimens were preserved in 70% ethanol and deposited in the Niğde University Arachnology Museum. During the preparation of the identification key, data from Kaya et al. (2006, 2007), Wunderlich (1994) and original data on our specimens were used.

In photograph studies, the male palp was mounted using double-sided tape on SEM stubs, coated with gold in a Polaron SC 502 Sputter Coater, and examined with a JEOL JSM 5600 Scanning Electron microscope at 15 kW. All measurements are in millimeters. Abbreviations used in the text are as follows: ALE, anterior lateral eyes; AME, anterior median eyes; PLE, posterior lateral eyes; PME, posterior median eyes; NUAM, Niğde University Arachnology Museum.

## Results

### *Oecobius* Lucas, 1846

#### Identification key for the Turkish species:

1. Males .....2
  - Females .....6
2. Prosoma brown or dark brown .....3
  - Prosoma pale yellow or yellow .....5
3. Radix apophysis with a cut and largest in the distal half, terminal apophysis without a slender apophysis .....*O. maculatus*
  - Radix apophysis largest in the basal half, terminal apophysis with a slender apophysis 4
4. Radix apophysis longer and bent distally .....
  - .....*O. rhodiensis*
  - Radix apophysis shorter and not bent distally...
    - .....*O. teliger*

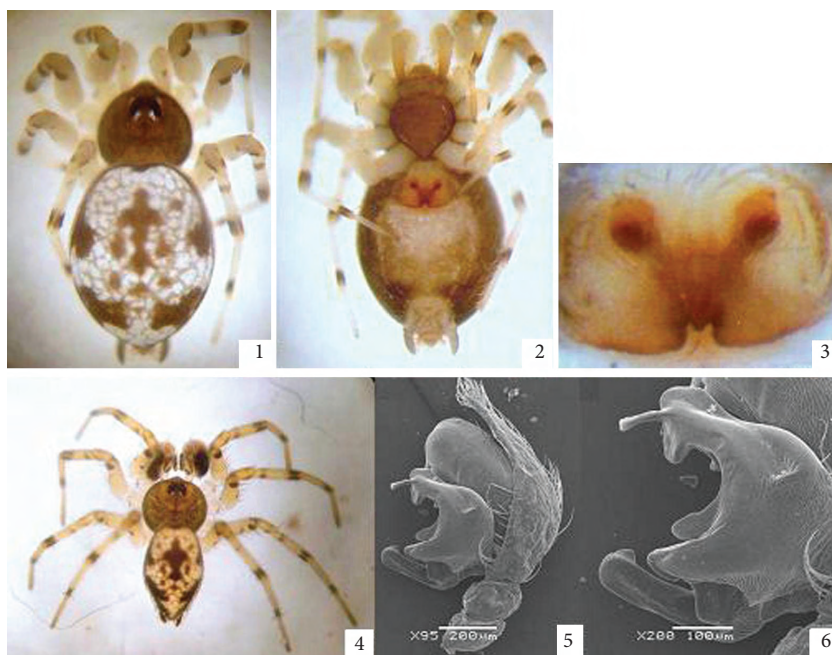
5. Radix apophysis longer than the terminal apophysis .....*O. cellariorum*
6. Epigyne without a scape and bowl shaped ..... *O. cellariorum*
  - Epigyne with a short scape .....7
7. Scape in medially and its position far in front of the epigastric furrow .....*O. maculatus*
  - Scape in basally and its position near the epigastric furrow .....8
8. The position of the frontal lobes and short scape "V" shaped .....*O. teliger*
  - The position of frontal lobes and short scape "T" shaped .....*O. rhodiensis*

### *Oecobius teliger* O.P.-Cambridge 1872

**Material examined:** Seven males and 9 females (NUAM) were collected inside buildings in the campus of Erciyes University, Kayseri, Turkey (leg. Osman Seyyar; 12.V.2007, 4♂♂ 5♀♀; 06.V.2008, 3♂♂ 4♀♀). Of the collected specimens, 3 males and 4 females (NUAM) were found from their nest under stones in Talas, Kayseri (leg. Osman Seyyar; 06.VI.2007, 4♂♂ 5♀♀); 2 males and 2 females (NUAM) were found while they were walking on the wall inside buildings in the campus of Gazi University, Ankara, (leg. Hakan Demir; 26.V.2007, 2♂♂ 2♀♀).

## Description

**Female** (Figures 1–2): Total length 2.50–2.92. Prosoma length 0.85–0.90, wide 0.92–0.98; circular and reticular with its front slightly pointed and wider than long, light brown-brown, marginal line more dark; with dark brown area surrounding eyes and extending backwards to posterior margin of carapace, this area is anteriorly constricted between AME, extending down to tip of clypeus. The carapace did not have any dark/light spots, but had long setae in the middle of ocular area. The clypeus was prolonged and brownish with the chelicerae small and light brown. The ocular area was the highest point of carapace and the eyes in 2 rows, with an anterior row of eyes slightly procurved; posterior row was recurved, ALE and PME light (PME lighter than ALE), AME and PLE nearly equal, dark and have dark ridges, ALE smallest, PME irregular in shape and more separated distally. The labium and endites were lighter than capace, labium nearly triangular, wider at



Figures 1-6. *O. teliger* O.P.-Cambridge 1872: 1-Dorsal view of habitus in female; 2-Ventral view of habitus in female; 3- Epigyne; 4- Dorsal view of habitus in male; 5- Retrolateral view of male palp; 6- idem (enlargement).

the base. Sternum was heart-shaped, lighter than capace, bordered by a thin black line and densely covered by hairs. The legs yellowish with brown rings, densely covered by hairs. Palpi yellowish and on its femur with black striped towards distal end. Opisthosoma was rounded at the front and narrowed near the posterior point; densely covered with hairs. Dorsum of opisthosoma was whitish-yellow. The folium was brown, and some dark patches were located around it. Venter of the opisthosoma was yellowish light brown. Epigynum (Figure 3) had a short scape and with 2 lobes frontally. Spermatecae was oval, with position at superior and their ducts “V” shaped.

**Male (Figure 4):** Total length 1.95–2.05. Prosoma length 0.70–0.73, wide 0.90–0.92. It was similar to the female specimens, but abdomen slimmer, and carapace darker. Male palp matched the drawing by Wunderlich (1994) (Figures 5, 6).

**World distribution:** Lebanon (Platnick, 2008).

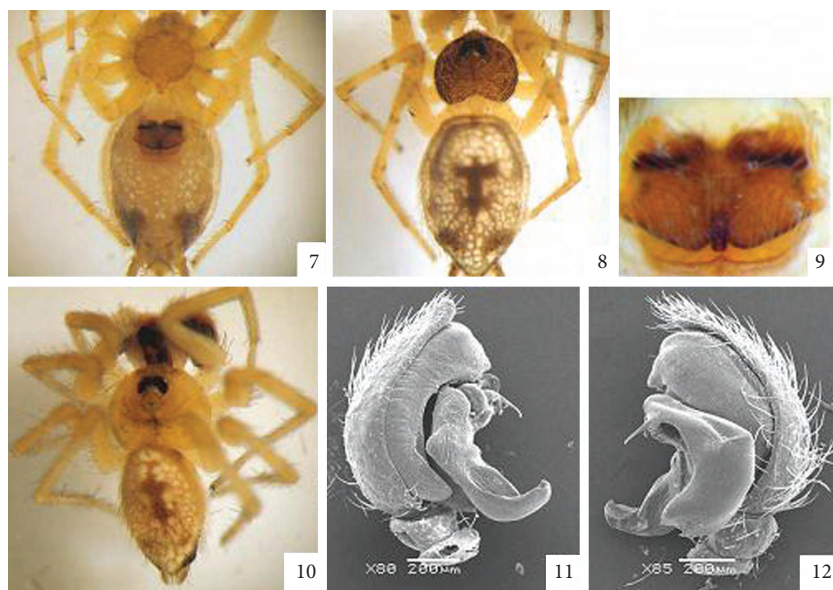
***Oecobius rhodiensis* Kritscher, 1966**

**Material Examined:** Four males and 6 females (NUAM); specimens were collected inside buildings

in the campus of Gazi University, Ankara, Turkey (leg. Hakan Demir, 03.VII.2006).

### Description

**Female (Figures 7–8):** Total length 2.60–2.90. Prosoma length 0.60–0.70, wide 0.90–1.00. The specimens were circular and reticular with its front slightly pointed and wider than long, light brown, marginal line more dark. They had dark brown area surrounding eyes and without any dark/light spots on the carapace, but with a long setae in the middle of ocular area. The clypeus was prolonged and light brown. Chelicerae was small and yellowish. The ocular area was the highest point of carapace. The eyes were in 2 rows, anterior row of eyes slightly procurved, posterior row recurved, ALE and PME light (ALE lighter than PME), AME and PLE nearly equal, dark and have dark ridges, ALE smallest, PME irregular in shape and more separated distally. The labium and endites were lighter than capace, labium was nearly triangular, wider at the base. Sternum was heart-shaped, lighter than capace. The legs were yellowish densely covered by hairs. Opisthosoma was rounded at the front and narrowed near the posterior



Figures 7-12. *O. rhodiensis* Kritscher, 1966: 7-Ventral view of habitus in female; 8- Dorsal view of habitus in female; 9- Epigyne; 10- Dorsal view of habitus in male; 11- Prolateral view of male palp; 12- Retrolateral view of male palp.

point; densely covered with hairs. The dorsum of opisthosoma was whitish-yellow. The folium is light brown, and some dark patches are located around it. Venter of the opisthosoma was yellowish light brown. Epigynum (Figure 9) was a short scape and with 2 wide lobes frontally, the position of frontal lobes and short scape was “T” shaped.

**Male (Figure 10):** Total length 2.50–2.70. Prosoma length 0.55–0.60, wide 0.80–0.90. The male specimens were similar to the female, but abdomen slimmer, and carapace darker. Male palp (Figures 11, 12) matched the drawing by Wunderlich (1994)

**World distribution:** Greece (Platnick, 2008).

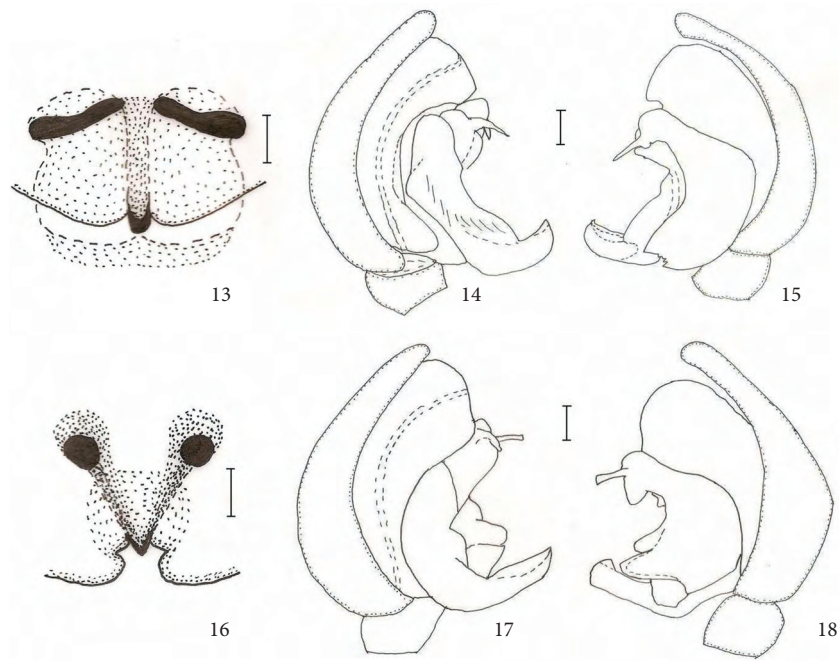
## Discussion

Many specimens of *O. rhodiensis* were collected inside buildings of the Science Faculty at Gazi University. The drawing of epigyne of this species is uncertain in Wunderlich 1994. Therefore, we added epigyne photographs and drawings of the female, which we collected from the same place with males

(Figures 13-15). This species is distributed all over the world, including the Greek islands; Rhodes and Naxos.

*O. teliger* is not a common species. It has been collected from Lebanon and may be distributed in Israel, but this knowledge is not exact given that the collected materials from Israel of this species are juveniles (Wunderlich, 1994; Platnick, 2008). The former record of this species and this new one shows that this species is distributed in the eastern part of the Mediterranean. We also added genitalia photographs and drawings based on collected materials of this species (Figures 16-18). The members of this species live both under stones in fields and inside buildings as synanthropic species. This species builds its web on wall corners inside buildings and under stones in fields; sometimes it is mobile on walls. Many specimens were collected in their circular sheet webs while others were mobile. Specimens, especially female, were collected from their star-shaped nests. They crawled very quickly when disturbed.





Figures 13-18. Drawings of both species. *O. rhodiensis* Kritscher, 1966: 13- Epigyne; 14- Prolateral view of male palp; 15- Retrolateral view of male palp. *O. teliger* O.P.-Cambridge 1872: 13- Epigyne; 14- Prolateral view of male palp; 15- Retrolateral view of male palp. Scale bar: 0.1 mm.

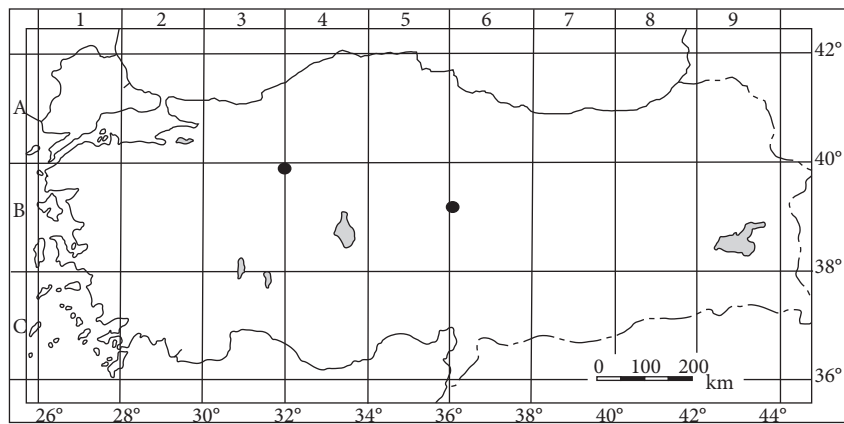


Figure 19. Records of *Oecobius teliger* O.P.-Cambridge 1872 in Turkey.

The recording of these species from Turkey widens their distribution. The locations of the collecting sites are plotted on the map below (Figures 19 and 20). It is expected that careful searching will reveal further localities in the Mediterranean region.

### Acknowledgments

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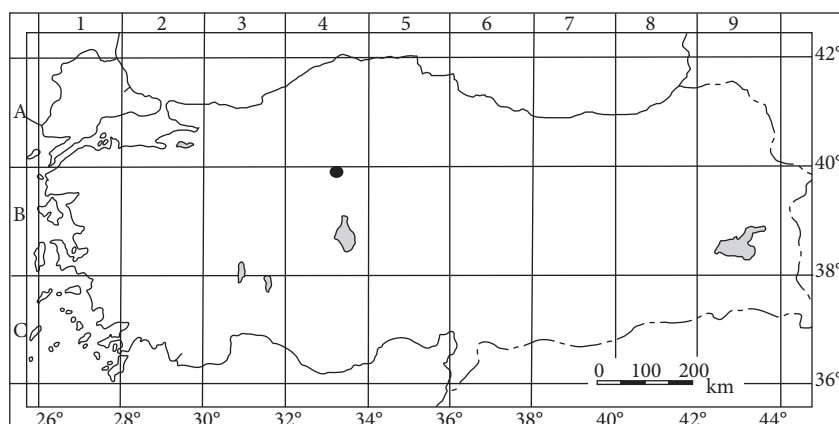


Figure 20. Record of *Oecobius rhodiensis* Kritscher, 1966 in Turkey.

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