A new species of Sintula (Linyphiidae), redescription of Brigittea innocens (Dictynidae) and eight spider species newly recorded for Turkey (Araneae)

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The araneofauna of Turkey currently comprises 1129 species (Danışman et al. 2021). Although this number might appear to be high, the Turkish spider fauna is still only poorly known and several dozen species (including species new to science) are added to the national checklist every year (Nentwig et al. 2020). The paper presents the results of a survey that took place in spring 2019. Although sampling was limited in time and restricted to a few localities, the results add several new species to the Turkish spider fauna, including a species new to science. Other records concern species that are already documented for Turkey, but are of overall interest because of a very low number of known localities and/or a poorly known ecology.

Material and methods

Sampling was carried out from 13 to 20 April 2019 at several places, mainly near the shoreline (Fig. 1). The sampled localities are located in the province of Antalya (Kemer district), specifically in the municipalities of Beldibi, at the foothills of the Taurus Mountains, Tekirova (archaeological site of Phaselis) and to a lesser extent in Antalya, Beşkonak, Göynük and Taşağıl. Fig. 2 shows the main habitats surveyed.

The main techniques used were hand capture (especially under stones but also in herbaceous layers and on the trunks), beating, as well as pitfalls. Several juvenile specimens were raised in captivity until they reached maturity (see Annex).

All specimens were preserved in alcohol (70% ethanol) for identification purposes. Species were examined by using a Zeiss Stemi 305, a Nikon SMZ1270 stereo microscope or an Olympus CH-2 microscope.

Wherever possible, specimens were photographed in their natural habitat or, if this was not possible, at a differ-
ent, more suitable place outside. Some photographs were also
taken through a stereo microscope ocular with a Samsung S6
smartphone.

Somatic measurements were made with a scaled eye piece
in the stereo microscope and are expressed in mm. Measure-
ments of the legs are taken from the dorsal side.

Position and elevation of localities were recorded using a
smartphone’s GPS; geographic coordinates are presented in
the WGS 84 system.

To validate identifications primarily Wesołowska (1986),
Deeleman–Reinhold & Deeleman (1988), Bayram et al. (2007),
Marusik (2008), Hepner & Paulus (2009), Le Peru (2011),
Logunov (2012), Marusik et al. (2015), Uyar & Dolejší (2017),
Bosselaers (2018), Varol & Danışman (2018), Bosmans et al.
(2019), Nentwig et al. (2020) and Oger (2020) was used.

Type material has been deposited at the Senckenberg Mu-
seum Frankfurt (SMF). Unless otherwise specified, non-type
material is conserved in the private collection of the author.

The nomenclature of species and authors follows the
WSC (2020).

Abbreviations
AME – anterior median eyes; AME–AME – distance be-
tween AMEs; AME–ALE – distance between AME and
ALE; ALE – anterior lateral eyes; Cd – copulatory duct; Co
– conductor; des. – description; E – embolus; j – juvenile; Mt
– metatarsus; PL – prosoma length; PME – posterior median
eyes; PME–PME – distance between PMEs; PME–PLE –
distance between PME and PLE; PLE – posterior lateral eyes;
PW – prosoma width; SD – sperm duct; SMF – Senckenberg
Museum Frankfurt; Sp – spermatheca; TA – tibial apophysis.

Results
The sampling period was short (7 days) and involved both a
small number of sampling techniques and a very small vari-
ety of habitats. Nevertheless, it allowed the collection of 368
specimens (about a third of which were immature), yielding a
total of 95 spider species. Eleven of them (i.e. about 11%) are
new for the Turkish fauna (Danışman et al. 2021, Nentwig et
al. 2020); three of them have already been mentioned at least
once for the country, but are not yet included in the national

Fig. 2: Habitats at the collecting sites. a. Pine grove in a park, Beldibi; b. Pine
grove, Beldibi; c. Meadow in an ancient orange grove, Beldibi; d-f. Phaselis
archaeological site, Tekirova; d. Reedbed and pine litter; e. Ancient ruined
structure with mircocaves; f. Pine forest and stony slope. g. Habitat of Bright-
tea innocens. Male and female were collected from thorny bushes (photos: S. Lecigne)
checklist of Danışman et al. (2021) and one species is new to science and described in detail. This confirms the fact that the spider fauna of Turkey is still poorly known. The complete list of species is presented in the annex (Tab. I). I present below one species new to science, several new species for the spider fauna of Turkey as well as a number of other interesting records, e.g. recently described species with a poorly known ecology or distribution, or taxa with only a few citations in the WSC (2020).

**Description of the new species**

**Sintula Simon, 1884** (Linyphiidae)
The genus includes 17 species (WSC 2020) of which three are recorded in Turkey (Danışman et al. 2021): *Sintula corniger* (Blackwall, 1856), *Sintula cristatus* Wunderlich, 1995 and *Sintula retroversus* (O. Pickard-Cambridge, 1875).

**Sintula karineae spec. nov.** (Fig. 3a–f)

**Type material.** Holotype: 1 ♀, TURKEY: province of Antalya, Kemer district, Beldibi (30.56327°E, 36.70980°N, 8 m a.s.l.) (Fig. 1), pitfall, 14.–20. Apr. 2019, deposited at the SMF. Remarks: opisthosoma slightly damaged and partially discoloured due to the capture method. Paratype: 1 ♀, same locality, same data as the holotype, deposited at the SMF. Remarks: opisthosoma damaged, epigyne detached, right legs fragmented.

**Etymology.** The species name refers to the first name of my wife Karine, who has supported my scientific projects and my work on spiders for many years.

**Diagnosis.** The new species shows the typical chaetotaxy and genital characters of the genus *Sintula* Simon, 1884, according to Bosmans (1991) and Gnelitsa (2012): tibial spination 2-2-1-1; metatarsi I–II with a dorsal spine; metatarsus IV without trichobothrium; epigyne consisting of a large plate extending significantly beyond the epigastric furrow.

By the length and shape of the genital plate and by the dorso-median process of the scape, entering the epigynal cavity (Fig. 3c), this new species does not resemble any other *Sintula*.

It differs from *Sintula penicilliger* (Simon, 1884) mainly by the shape of the mid-ventral septum. In *S. karineae spec. nov.*, the terminal part of the septum is clearly narrowed and its anterior part does not extend over the entire width of the epigyne. In *S. penicilliger*, the terminal part is visibly enlarged; the anterior part is equal to the entire width of the epigyne.

**Description.** Measurements (n = 2): total length 1.9–2.0, PL 0.75, PW 0.57; sternum 0.44 long, 0.40 wide; chelicerae 0.30 long.

Colour (from specimens in alcohol): prosoma brown with darkened blotch in front of the fovea, margin blackish; chelicerae yellowish brown; sternum dark grey; legs yellowish brown, a black mark under articulations (femora, patellae and tibiae); opisthosoma uniformly dark grey.

**Prosoma.** Eyes: posterior eyes row straight. Chelicerae: with three promarginal and two retromarginal teeth.

Legs: tibiae I, position of first spine 0.27–0.28, relative length 2.3–2.5, position of second spine 0.76–0.77; position of trichobothrium on Mt I 0.28–0.32; trichobothrium on Mt IV absent.

**Opisthosoma.** Epigyne (Fig. 3b–c): scape visibly longer than wide, undivided, rather broad at the base, obviously narrowed in its distal part. Vulva (Fig. 3f): copulatory ducts associated with the dorso-median process and consisting of a circular coil forming one loop and a quarter, spermathecae elongated, slightly oblique. See also diagnosis.

**Male.** Unknown.

**Comment.** *Sintula karineae spec. nov.* is the fourth member of the genus in Turkey.

**Distribution and habitat.** Only known from the type locality in Beldibi (Turkey), grasslands, in an ancient orange grove in peri-urban area (Fig. 2c).

**Redescription of a poorly known species**

**Brigittea innocens** (O. Pickard–Cambridge, 1872)

(Figs 4a–i, 5a–h, 6a–e) (Dictynidae)

**Dictyna innocens**: Pickard-Cambridge (1872): p. 262 (descr. (Fig. 3: *Sintula karineae* spec. nov. a-e. Female holotype: a. Dorsal view; b. d. Epigyne, ventral view; c, e. Idem, lateral view; f. Female paratype, vulva, dorsal view (photos f: S. Lecigne; a–c: P. Oger). Scale line = 0.1 mm. Abbreviations: CO – copulatory opening; Sp – spermatheca)**
Kulczyński, (1911): p. 13, pl. 1, fig. 3 (♀); Dictyna abaronii: Strand (1914): p. 174 (descr. ♂); Dictyna jacksoni: Bristowe (1935): p. 778, figs 1-3 (descr. ♂); Haddissarantos (1940): p. 49, figs 16-17 (♂, descr. ♂); Brigittea innocens: Lehtinen (1967): p. 219, figs 309, 323 (♂, ♂); Dictyna innocens: IJland et al. (2012): p. 5, figs 4-5 (♂).

Comments. The identification of the specimens from Italy (IJland et al. 2012) is erroneous; they probably belong to Brigittea varians (Spassky, 1952) (IJland pers. comm.). Brigittea varians is known only from South Russia and Central Asia (Nentwig et al. 2020), and it remains questionable if this species is distributed in the Mediterranean region.

The original description of Pickard-Cambridge’s female (1872) is insufficient because it is essentially based on the opisthosomal pattern, which is not usable for a reliable identification in Dictynidae.

Kulczyński (1911) described Dictyna innocens based on a female from Beirut (Lebanon) and presented a drawing of the epigyne. His assignment was only tentative, as indicated by a “?” after the species name.

Strand (1914) described Dictyna abaronii, now a junior synonym of B. innocens, and specified that it is related to D. innocens, but nevertheless explained through a diagnosis how his species differs in minor details from the female tentatively assigned to this name by Kulczyński, in particular by its size and the shape of the genital opening.

Bristowe (1935) described Dictyna jacksoni from females from several localities in Greece, but without any further indication about the deposition of the types.

At this time, the only description of the male was the one by Haddissarantos (1940), whose two drawings (ventral view and tibial apophyses view) show only very a few visible details.

Lehtinen (1967), who potentially had access to the Oxford collection (and therefore to the holotype) as stated in the list of museums in his work, synonymized D. abaronii and D. jacksoni with D. innocens. In addition, he synonymised the male by Pickard-Cambridge (1876) with Brigittea vicina (Simon, 1873). Lehtinen also shows a male pedipalp of B. innocens (Lehtinen 1967; fig. 323) and states that the depicted material is a syntype. The latter is not possible, because Pickard-Cambridge (1872, p. 262) explicitly mentions in the first description that he had no male material available (“Examples (all females) were found on low-growing plants on the plains of the Jordan.”). However, the drawing in Lehtinen agrees with the pedipalp of the male collected together with the female in Turkey and is considered to indeed represent the male of B. innocens.

Given the uncertainties recalled by IJland et al. (2012) with respect to the descriptions of the species in the past (drawings or descriptions that are not sufficiently precise, misidentifications, female and male descriptions of the same author not conspecific), I present a detailed redescription of the species – including the first illustration of the vulva structures – based on both sexes collected from bushes on the same rocky slope (Fig. 2g). The identification of the pair from Turkey agrees with the description in Pickard-Cambridge (1872: p. 262), Kulczyński (1911: p. 13, pl. 1, fig. 3), Bristowe (1935: p. 778, figs 1-3) and Lehtinen (1967: figs 309, 323), as well as the examined female type material of the junior synonym B. abaronii.

Material examined. TURKEY: Antalya (province), Kemer (district), Göynük, 30.56811°E, 36.67889°N, 4 m a.s.l., coastal area, on a rocky slope in thorny dry bushes, 1 ♂, 1 ♀, 1 j, beating, 19. Apr. 2019, deposited at the SMF. Remarks: left male pedipalp detached; female’s opisthosoma detached from body, as well as the epigyne.

Other material examined. Holotype female of Dictyna abaronii Strand, 1914 from Israel, Jaffa – Rehoboth, 14. Jul. 1913,

Fig. 4: Brigittea innocens, male from Turkey. a. Dorsal view; b. Ventral view; c. Frontal view; d. Pedipalp, retrolateral view; e. ♂, ventral view; f. ♂, ventro-prolateral view; g. ♂, dorsal view; h. ♂, conductor and tibial apophysis, retrolateral view (arrow: terminal part of the conductor, almost straight from this view); i. ♂, conductor, ventro-prolateral view (arrow: indentations on the apical part of the conductor) (photos: P. Oger)
1 ♀ (SMF 2742-94). Remarks: specimen discoloured, pattern not analysable.

**Diagnosis.** Males of *B. innocens* are distinguished by the shape of both the conductor and the tibial apophysis and by the size of the tibial apophysis.

Females of *B. innocens* can be mainly distinguished by the position of the genital openings and by the shape of the spermathecae.

**Description.**

**Male.** Measurements (n = 1): total length 2.9, PL 1.34, PW 1.10; sternum 0.73 long, 0.67 wide; chelicerae 0.63 long.

Colour: prosoma, chelicerae and sternum dark brown, legs brown, tibiae and Mt distally darkened; opisthosomal pattern consisting of a median dark band which narrows in front, barely widened in the middle, the rear part formed by three blocks of different thickness whose sides converge towards the spinnerets, this dark band bordered on both sides by a whitish band, flanks dark, ventral part formed by a wide brown band reaching the spinnerets and bounded by a lighter area (Fig. 4a-b).

**Prosoma.** Cephalic part markedly elevated, covered with white flat-lying hairs; chelicerae in frontal view close set (Fig. 4c), posterior margin with one tiny tooth, the anterior margin with a series of five small teeth and outwards (towards the base of the hook) with four bristles inserted on a small chitinous knob.

Legs: covered with both white and black hairs; without spines; the calamistrum extending almost over the entire length of Mt IV.

**Opisthosoma.** Cribellum divided by thin median line.

**Pedipalp:** bulb almost round (Fig. 4c); conductor twisted, wide at its base, apically, the outer margin with numerous small indentations (arrow, Fig. 4i), retro-laterally, this part appearing thin and almost straight (arrow, Fig. 4h); tibial apophyses (ctenidia) short, aligned at their bases, the first retro-lateral one straight and with broad base, the second prolateral one a little longer and slightly tilted forward (Fig. 6a).

**Female.** Measurements (n = 1): total length 2.9, PL 1.30, PW 1.07; sternum 0.75 long, 0.63 wide; chelicerae 0.49 long.

Overall very similar to the the male, unless otherwise specified.

Colour: prosoma and sternum dark brown; chelicerae olive brown; legs brown, first half of femorae lighter, tibiae darkened distally, Mt and tarsi yellowish, darkened distally; opisthosomal pattern similar to that of male but the median dark band is visibly widened in the middle on both sides forming 2 lobes (Fig. 5a-b).

**Prosoma.** Cephalic part less visibly elevated than in male.

**Opisthosoma.** Division of cribellum hardly visible.

**Epigyne:** consisting of two genital openings rounded posteriorly, widening anteriorly with oblique anterior margin (Figs 5c, 6d) or ovoid (Fig. 5h; Kulczyński 1911: pl. 1, fig. 3). Sper-
mathecae partly visible through the genital openings, at their posterior edge (Fig. 6d).

Vulva: spermathecae elongated and turning outwards at an angle of 45°. Copulatory ducts consisting of a semi-circular coil, widening towards their openings (Figs 5d–e, 6e).

**Distribution.** Eastern Mediterranean species, known from Greece, Cyprus, Turkey, Syria, Israel and from Kazakhstan; to be removed from the Italian species list (see above).

**Documentation of an unknown specimen of the genus Ozyptila** Simon, 1864

*Ozyptila* sp. (Fig. 7a–j) (Thomisidae)

**Material examined.** TURKEY: Antalya (province), Kemer (district), Tekirova, site of Phaselis, scattered pine forest by the sea, under a stone (30.56811°E, 36.67889°N, 3 m a.s.l.), 1♀, hand collecting, 18. Apr. 2019.

**Comments.** Following recent taxonomic changes that have affected several genera of crab spiders including *Xysticus*, *Ozyptila*, *Bassanioides* and *Psammitis* (Breitling 2019), and pending consistent morphological definition of the genera involved, I have compared the specimen from Turkey to available diagnoses of these and other crab spider genera.

The specimen does not have the characteristics of the genus *Cozyptila*, and lacks in particular a massive outgrowth of the epigynal plate (Marusik et al. 2005), neither it has an unpaired central epigynal cavity like in *Psammitis* (Lehtinen 2002) and also lacks the characters of the genus *Psammitis* defined by Pocock (1903), namely the spine armature of the anterior legs and the disposition of the eyes. The specimen also has no posteriorly concave, well sclerotized anterior hood like in *Bassanioides* (Lehtinen 2002).

I attribute the specimen to the genus *Ozyptila* based on the description by several authors including Dondale & Redner (1978). I excluded the species of the *rauda* group, as the specimen does not display the characteristics of this group defined by Hippa & Koponen (1986), especially a "pit-like epigyne" (Fig. 2a–b).

I also excluded most of the species for which only males are known and that do not converge with the female specimen presented herein. The only exception is *O. spirembola* Wunderlich, 1995, with which it has many similarities (e.g. PL/PW ratio, leg spination, general colouration, nature and distribution of the opisthosomal bristles). Thus, the specimen from Turkey could be the unknown female of *O. spirembola* or a related species not yet described. This will remain to be confirmed with the collection of both sexes.

**Diagnosis.** The species differs distinctly from other *Ozyptila* species by the form, simple structure (see description) and the arrangements of the epigynal (no anterior process – scape or hood – neither any groove) and spermathecal structures.

**Description.** Measurements: female (n = 1): total length 4.3; PL 2.10, PW 2.00, ratio PL/PW = 1.05; sternum 1.00 long, 0.87 wide; opisthosoma length 2.93; median ocular quadrangle, slightly longer than wide (0.38 long, 0.33 wide), eye inter-distances: AME–AME 0.20, AME–ALE 0.13, PME–PME 0.20, PME–PLE 0.29, PME spaced 3 times their diameter.

Colour (from specimens in alcohol): prosoma dark brown, the longitudinal median band lighter (yellowish) in its posterior part, marked by a thin brown median line (Fig. 7b); lighter, orange ring around the eyes, AME underlined with a thick brown mark (Fig. 7d); sternum yellowish, provided with a broad V-shaped brown pattern on the rear side; maxillae and labium brown, clearer in the anterior part; chelicerae brown, the basal part with darker patches; opisthosoma dark brown with small lighter spots; legs brown to brown-yellowish, leg I: femora, patella and tibia noticeably darker, leg II: idem but less distinct shade, coxae, trochanters and femorae II–III–IV with dark brown patches (Fig. 7b), tibia IV basally with a wide dark brown ring.

**Prosoma.** Chelicerae: on the anterior margin, a series of 5 bristles inserted on a small chitinous knob, the size of the bristles increases towards the base of the hook.

Legs: robust, with few spines, mainly: tibiae I–II, 2 pairs of ventral spines; Mt I–II, 3 pairs of ventral spines and 1 prolateral, Mt I with 1 additional retrolateral spine.
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Opisthosoma. Wrinkled dorsum and sides, with a few clavate setae (a few sharp spines at the back) and very sparse, short, plated bristles (Fig. 7e).

Epigyne: simple, not very legible, formed by a discrete, sclerotized transverse structure between the 2 small lateral copulatory openings (Fig. 7i). These are only visible in the vulva, on the ventral view. See also diagnosis.

Vulva: massive, bean-shaped spermathecae, barely longer than wide (Fig. 7h).

New species and new interesting records for the spider fauna of Turkey

*Berinda cooki* Logunov, 2012 (Fig. 8a-b) (Gnaphosidae)

**Identification.** Logunov (2012): p. 375, figs 1-2.

**New records.** Beldibi, under a stone, on the edge of the meadow of an ancient orange grove (30.55252°E, 36.52397°N, 9 m a.s.l.), 1 subad. (raised to maturity), hand collecting, 14. Apr. 2019. Tekirova, site of Phaselis, pine forest, on the ground on a grassy slope (30.56293°E, 36.70976°N, 3 m a.s.l.), 2 subad. (raised to maturity), hand collecting, 18. Apr. 2019.

**Comments.** *Berinda cooki* has only recently been described, from a single male; so far the species is only known from the type locality (near Kalkan, Antalya Province, Turkey). During the time of the survey, the species were collected twice, at two localities, suggesting that it might be locally well distributed.

*Canariphantes nanus* (Kulczyński, 1898) (Linyphiidae)

**Identification.** Gnetitsa (2009: 191, fig. 1a-g); Nentwig et al. (2020).

**New record.** Beldibi, on a stony path at the edge of the pine forest (30.56226°E, 36.70926°N, 3 m a.s.l.), 1♀ (photos: P. Oger), 16. Apr. 2019. Beldibi, grasslands, in an ancient orange grove (30.56327°E, 36.70980°N, 3 m a.s.l.), 1♀, pitfall, 20. Apr. 2019.
Comments. The species is known from Central to Eastern Europe and from Israel (WSC 2020). *Canariphantes nanus* is a species of the epigean fauna that appears to be quite rare throughout its range (Grbić et al. 2021). It colonises grasses and litter in a fairly wide variety of habitats (open to shrubby and forested areas), suggesting that its ecological valence is fairly broad (see also Gnelitsa (2009) and Grbić et al. (2021) for notes on the habitat). *Canariphantes nanus* is new to Turkey and it is the only species of the genus currently known for the country.

*Cheiracanthium pelasgicum* group (Fig. 9a–c) (Cheiracanthiidae)

**Records.** Beldibi, on the perimeter wall of a hotel park (30.56581°E, 36.71052°N, 3 m a.s.l.), 3 ♀, hand collecting, 14. Apr. 2019.

**Comments.** The number of teeth (7) on the posterior margin and the small size (4–4.3 mm) exclude *C. pennyi* O. Pickard-Cambridge, 1873. A high number of teeth is typical for a complex of species near *C. pelasgicum*, but specimens from Turkey are quite unusual (Dolanský pers. comm.), i.e. they have a very wide cymbium spur (without a thin end) and the bifurcation on the tip of the RTA is more significant. According to Dolanský, the description of the characteristic male pattern of *C. pelasgicum* is that defined by Koch (1839, fig. 436) and seems to correspond to Simon’s (1932) description of *C. pennatum*. Simon’s (1932) description of the pattern of *C. pelasgicum* could correspond to the specimen from Turkey. According to Simon (1932), *C. abbreviatum* Simon, 1878 would be a local form of *C. pelasgicum*, but smaller in size. Moreover, the opisthosomal band does not extend beyond the middle, which does not correspond to the pattern of the specimens from Turkey. Thus, it appears that *C. pelasgicum* and related species merit extensive revision and it is possible that a single polymorphic species or complex of many closely related species are present in the Mediterranean region (Dolanský pers. comm.). In the meantime, I assign the specimens collected in Turkey to the *pelasgicum* group.

*Cyclosa algerica* Simon, 1885 (Fig. 10a–d) (Araneidae)

**Identification.** Levi (1977): p. 79, figs 34–37.

**New records.** Göynük, coastal zone, in tall grass in a meadow, in a pine forest clearing (30.56939°E, 36.68153°N, 2 m a.s.l.), 1 ♂, beating, 19. Apr. 2019; Göynük, coastal zone, on a rocky slope, in dry, young coniferous bushes (30.56811°E, 36.67889°N, 4 m a.s.l.), 1 ♀, beating, 19. Apr. 2019. Tekirova, site of Phaselis, pine forest, under rocks (30.55277°E, 36.52342°N, 3 m a.s.l.), 1 ♂, 1 subad. ♀, hand collecting, 18. Apr. 2019; Göynük, pine forest, in holly boughs (30.55071°E, 36.67889°N, 3 m a.s.l.), 1 ♂, 1 ♀, beating, 18. Apr. 2019.

**Comments.** *Cyclosa algerica* is a Mediterranean species whose records for Europe so far concern only Portugal, Spain, France and Bulgaria (Nentwig et al. 2020). The species is new to Turkey. It seems to be locally well distributed. The new records suggest a preference for open and xerothermorphilic habitats.

*Dysdera longimandibularis* Nosek, 1905 (Fig. 11a–g) (Dysderidae)

**Identification.** Deeleman-Reinhold & Deeleman (1988): p. 163, figs 39–41.

**New record.** Beldibi, under a stone, on the edge of a country lane (30.56321°E, 36.70945°N, 5 m a.s.l.), 1 ♂, hand collecting, 15. Apr. 2019.
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Comments. The species is only known from Cyprus and Turkey. Le Peru (2011) stated that this species is usually found in the forest, under stones. This is consistent with my observation and with Bosmans et al. (2019). Found in altitudes up to 1300 m.

_Evarcha jucunda_ (Lucas, 1846) (Fig. 12) (Salticidae)

**Identification.** Logunov (2015)

**New record.** Beldibi, shrub, on the edge of a man-made path on a wasteland (30.56277°E, 36.70944°N, 8 m a.s.l.), 1 subad. ♀ (raised to maturity), beating, 18. Apr. 2019.

**Comments.** _Evarcha jucunda_ is not yet included in the national checklist (Danışman et al. 2021), but has already been mentioned several times for Turkey (Logunov 2015). For differentiation from the closely related species _Evarcha patagiata_ (O. Pickard–Cambridge, 1872), see Logunov (2015).

_Heriaeus setiger_ (O. Pickard–Cambridge, 1872) (Fig. 13a-c) (Thomisidae)

**Identification.** Loerbroks (1983): p. 110, figs 41-42; Levy (1985): p. 49, figs 65-66.

**New records.** Göynük, coastal area, in coniferous branches (thuyas) (30.56939°E, 36.68153°N, 2 m a.s.l.), 1 subad. ♀ (raised to maturity), beating, 19. Apr. 2019. Tekirova, site of Phaselis, pine forest (30.55277°E, 36.52342°N, 3 m a.s.l.), 1 subad. ♀ (raised to maturity), hand collecting, 18. Apr. 2019.

**Comments.** The distribution of _Heriaeus setiger_ is currently under discussion, e.g. with regard to its presence in Romania and in Ukraine (Nentwig et al. 2020). In addition, Loerbroks (1983) demonstrated that literature records of _H. setiger_ from North Africa belong to _Heriaeus numidicus_ Loerbroks, 1983. According to Levy (1973), _H. setiger_ is quite common in the northern and central parts of Israel. Specimens examined by Loerbroks (1983) are only known from Israel and Lebanon.
Demircan & Topçu (2016) reported the first record of the species for Turkey (locality of Tekirdağ: Saray).

Very little data are available on its ecology. Only Pickard-Cambridge (1872) provides the following indication of a habitat: “found on the ground in barren places near the sea”. The two recent observations from Turkey were made in beachside environments, found on coniferous branches.

**Hogna effera** (O. Pickard-Cambridge, 1872) (Fig. 14a-c) (Lycosidae)

**Identification.** Logunov (2020): p. 354, figs 39-43.

**New record.** Antalya, on the parking area of an urban building, at the foot of a hedge under a stone (30.66100°E, 36.87953°N, 32 m a.s.l.), 1 ♀, 1 subad. ♂, hand collecting, 17. Apr. 2019.

**Comments.** The taxonomy of several species of the genus *Hogna* and in particular *H. effera* has been clarified recently by Logunov (2020), who also specified that this species is very close to *H. ferox*. The author’s diagnosis of *H. effera* allows assigning the specimen observed in Antalya to this species. The species seems to be relatively widespread, from the eastern Mediterranean to Western Asia (Iran) and the United Arab Emirates (Zamani et al. 2020). The species is new to Turkey.

**Errata:** a specimen from Crete recorded under *Hogna ferox* (Lucas, 1838) (Lecigne 2016) should be assigned to *H. effera*, its citation in the WSC (2020) and in Nentwig et al. (2020) needs to be corrected. Another specimen from Spain was initially recorded as *Hogna cf. ferox* (Lecigne 2012, figs 3, 10-11; Fig. 41a-b). It appears to be close to *Hogna effera*; I propose to list this record for the moment as *Hogna* sp. (close to *effera ferox*) until both sexes can be sampled and the distribution of *H. ferox* is clarified.

**Improphantes turok** Tanasevitch, 2011 (Fig. 15a-g) (Linyphiidae)

**Identification.** Tanasevitch (2011): p. 69, figs 65-69; Bosmans et al. (2019): p. 18, figs 9g-k, 10c-g.

**New records.** Beldibi, grove of a park hotel, in the litter of pine needles (30.56720°E, 36.71018°N, 5 m a.s.l.), 1 ♀, hand collecting, 14. Apr. 2019; Beldibi, pine forest, in the litter of pine needles (30.56277°E, 36.70944°N, 8 m a.s.l.), 1 ♂, 1 ♀, hand collecting, 14. Apr. 2019. Beşkonak, under a rock by the river “Köprüçay” (31.19735°E, 37.13813°N, 173 m a.s.l.), 1 ♀, hand collecting, 16. Apr. 2019.

**Comments.** So far, *Improphantes turok* is only known from Turkey (one record) and Cyprus from where the female has been described recently (Bosmans et al. 2019). Most of the records (including a new one from Turkey) comes from (pitfall traps, sifting) litter or under stones in pine forest. It was also caught occasionally in the following habitats: peat marsh, former carob plantation, mixed *Pinus* and *Quercus* forest, deciduous wood. Found on altitudes up to 1900 m.

**Lepthyphantes magnesiae** Brignoli, 1979 (Fig. 16a-d) (Linyphiidae)

**Identification.** Brignoli (1979), Thaler (1986)

**New record.** Tekirova, site of Phaselis, undergrowth of a pine forest, on the ground under a stone ledge in a dark place of...
a ruined stone trogloidyte shelter (30.55071°E, 36.52772°N, 3 m a.s.l.), 1 ♀, hand collecting, 18. Apr. 2019.

**Comments.** *Lepthyphantes magnesiae*, currently known only from Albania and Greece, is new to Turkey. There are very few records for this species, which is close to *L. notabilis*. Brignoli (1979) and Thaler (1986) each reported two observations of *L. magnesiae* in caves, and the new record for Turkey in an artificial underground environment suggests that the species may be troglobilic. Several other records correspond to dark and/or shaded (micro-)habitats: Thaler (1986) also indicated one observation of the species on a forest edge (pines, firs) in mountainous areas, under stones in a limestone environment and Helsdingen & IJland (2015) mention its presence both on very steep slopes with unstable stony debris and coniferous trees, and in a stony riverbed with a vegetation belt (*Platanus orientalis*). Found on altitudes up to 1200 m.

*Mermessus denticulatus* (Banks, 1898) (Fig. 17) (Linyphiidae)

**Identification.** van Helsdingen (2009)

**New record:** Antalya, on the ground, in parking areas (30.67963°E, 36.88474°N, 55 m a.s.l., 1 ♂, hand collecting, 17. Apr. 2019; Antalya, same habitat (30.66100°E, 36.87953°N, 32 m a.s.l.), 1 ♂, hand collecting, 17. Apr. 2019.

**Comments.** Recently, *Mermessus denticulatus* has been mentioned for the first time from Turkey (Muğla Province, in a garden) (Danışman & Coşar 2019). The new records are the first for the province of Antalya. *Mermessus denticulatus* is an alien species that continues to expand its range since its introduction to Europe.

*Nomisia orientalis* Dalmas, 1921 (Fig. 18) (Gnaphosidae)

**Identification:** Seyyar et al. (2009): 65, figs 19-20.

**New record:** Tekirova, site of Phaselis, undergrowth of a pine forest, in pine needles (30.55071°E, 36.52772°N, 3 m a.s.l.), 1 ♀, 1 subad. ♂, hand collecting, 18. Apr. 2019; Tekirova, site of Phaselis, same habitat (30.55071°E, 36.52772°N, 3 m a.s.l.), 1 ♀, hand collecting, 18. Apr. 2019.

**Comments.** *Nomisia orientalis* is a poorly known species. It is so far only mentioned from Turkey and the only available records (WSC 2020) are those of Dalmas (1921) for which no locality nor habitat is specified, and those of Seyyar et al. (2009). The latter reported the occurrence of *N. orientalis* in the provinces of Osmaniye, Mersin and Adana. The new record extends the known range of the species towards the south-west of the country. Concerning its ecology, there is very scarce information to assess possible ecological preferences; the species has already been found among litter under oaks, under stones, among litter under pines. Found on altitudes up to 1200 m.

*Oecobius navus* Blackwall, 1859 (Fig. 19) (Oecobiidae)

**Identification.** Roberts (1995)

**New record:** Beldibi, on the perimeter wall of a hotel park (30.56581°E, 36.71052°N, 6 m a.s.l.), 1 ♂, hand collecting, 14. Apr. 2019.
Comments. *Oecobius navus* is a widely distributed species with a still expanding range. It is already known from several countries close to Turkey (e.g. Greece, Cyprus, Georgia, Azerbaijan) (Nentwig et al. 2020). The species is new to Turkey.

**Philodromus femurostriatus** Muster, 2009 (Fig. 20a-c) (Philodromidae)

**Identification.** Muster (2009): 152, figs 12a-c, 29a-b.

**New record.** Tekirova, site of Phaselis, coastal area, on the trunk of a pine tree (30.55277°E, 36.52342°N, 3 m a.s.l.), 1♀, hand collecting, 18. Apr. 2019.

**Comments.** To date, *Philodromus femurostriatus* is only known from northern Greece and Turkey (provinces of Muğla, Adana and Mersin; holotype from 1964, no further details for the other material mentioned) and had not been cited again since. It is a cryptic species (Fig. 20a) and possibly rare, but perhaps also undersampled. As with the type material, the specimen found at the Phaselis site was observed on *Pinus* bark.

I noted a difference with the description given by Muster (2009): the specimen found at the Phaselis site shows conspicuous prolateral-ventral parallel black stripes that are not limited to the femora but, although they are less contrasted and less broad, they extend down to the metatarsi.

**Phrurolithus azarkinae** Zamani & Marusik, 2020 (Fig. 21a-j) (Phrurolithidae)

**Identification.** Zamani & Marusik (2020): p. 313, figs 1A-F, 2A-F, 3A-D.

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**Fig. 20:** *Philodromus femurostriatus*, female. a. Dorsal view; b. Epigyne; c. Vulva, dorsal view (photos a: E. Lecigne; b-c: P. Oger)

**Fig. 21:** *Phrurolithus azarkinae*. a-e. Male: a. Dorsal view; b. Pedipalp, retrolateral view; c. Idem, ventral view; d. Idem, prolateral view; e. Idem, tibial apophyses, dorsal view (arrow: retrolateral apophysis); f-j. Female: f. Dorsal view; g. Ventral view; h. Epigyne; i. Vulva, ventral view; j. Idem, dorsal view (Photos: P. Oger)
New records. Tekirova, site of Phaselis, on the banks of a reed bed (30.55016°E, 36.52669°N, 0 m a.s.l.), 1 ♀, 2 ♂, hand collecting, 18. Apr. 2019.

Comments. The species has recently been described from Iran and Azerbaijan where it is relatively widely distributed (Zamani & Marusik 2020); the new record greatly extends its known range eastwards. To date, there is insufficient data to characterize its ecology. Found on altitudes up to 2000 m. The species is new to Turkey.

_Pseudeuophrys rhodiensis_ Schäfer, 2018 (Fig. 22a-c) (Salticidae)

**Identification.** Schäfer & Breitling (2018): p. 65, figs 1-3, 4a-b, 5a-c, 6b, 7b.

**New record.** Tekirova, site of Phaselis, scattered pine forest by the sea, on a stone (30.55277°E, 36.52342°N, 3 m a.s.l.), 1 ♂, hand collecting, 18. Apr. 2019.

**Comments.** _Pseudeuophrys rhodiensis_, which has only recently been described (Schäfer 2018) from the male, was so far only known from Greece (Rhodes). The species is new to Turkey; the new record extends its range eastwards. The female remains unknown.

_Tegenaria faniapollinis_ Brignoli, 1978 (fig. 23a-c) (Agelenidae)

**Identification.** Deltchev (2008): p. 40, figs 9-16.

**New record.** Tekirova, site of Phaselis, undergrowth of a pine forest, between boulders and on a pine trunk (30.55071°E, 36.52772°N, 3 m a.s.l.), 1 ♂, 1 subad. (raised to maturity), hand collecting, 18. Apr. 2019.

**Comments.** _Tegenaria faniapollinis_ is only known from Greece (Rhodes: Aghia Nikolaos Fountoukli) and Turkey (provinces of Antalya: Patara and Geyikova Island and Muğla: Kıyıkışlacık) The female was recently described by Özkütük et al. (2017). To date, the species is infrequently recorded; the area of its current range is very small, extending at most about 300 km from the Turkish locality of Kıyıkışlacık (district of Marmaris) in the west, the historical site of Phaselis (district of Kemer) in the east and Rhodes in the south.

Its ecology remains poorly known; the only available description of the habitat is the one provided by Bolzern et al. (2013; “crevices in caves”) and that of the new record, which both suggest that the species may prefer dark and shaded environments.

_Iberidion helena_ Wunderlich, 2011 (Fig. 25a-c) (Theridiidae)

**Identification.** Nentwig et al. (2020)

**New records.** Beldibi, in a hotel park, on a metal cupboard (30.56890°E, 36.70985°N, 5 m a.s.l.), 1 ♂, 1 ♀, hand collecting, 13. Apr. 2019. Beldibi, under the rim of a hotel perimeter wall (30.56581°E, 36.71052°N, 6 m a.s.l.), 7 ♂, 4 ♀,
1 j, hand collecting, 14. Apr. 2019. Göynük, coastal area, in tall grass of a meadow, in a pine forest clearing, under pine bark (30.56939°E, 36.68153°N, 2 m a.s.l.) and in bushes (30.57016°E, 36.68408°N, 0 m a.s.l.), 4 ♂, 5 ♀♀, beating and hand collecting, 19. Apr. 2019. Tekirova, site of Phaselis, pines and shrubs on the edge of a reed bed (30.55016°E, 36.52669°N, 3 m a.s.l.) and under a pine bark (30.55071°E, 36.52772°N, 3 m a.s.l.), 2 ♀♀, beating and hand collecting, 18. Apr. 2019.

Comments. Until now, *Theridion helena* was only known from Greece (Crete) (Lecigne 2016, WSC 2020) and Cyprus, where it is very common (Bosmans et al. 2019). The species is new to Turkey. The numerous records suggest that the species is quite common in Turkey as well, colonizing a wide variety of natural and anthropogenic habitats. It is closely related to several species of the *melanurum* group (and particularly *T. melanurum*) and was most likely previously misidentified in many cases.

*Xysticus thessalicoides* Wunderlich, 1995 (Fig. 26a-c)

(Thomisidae)

**Identification.** Wunderlich (1995): p. 753, figs 8-15.

**New record.** Beldibi, on the edge of an alleyway in a hotel park, near a lawn (30.57077°E, 36.70955°N, 1 m a.s.l.), 1 ♂, hand collecting, 14. Apr. 2019.

**Comments.** *Xysticus thessalicoides* is also a species whose previously known distribution is limited to Greece (Chios, Crete, Lesbos, Santorin and Greek mainland) (Wunderlich 1995, Logunov & Demir 2006, Bosmans et al. 2009, Russel-Smith et al. 2011) and Turkey (Antalya Province, Kalkan; Ballidag Gecidi, Kastamonu; Bolu Province, Abant Mountains; Trabzon, Hamsikoy) (Logunov & Demir 2006). *Xysticus thessalicoides* appears to be very common on Chios and Lesbos. Found on altitudes up to 1270 m.
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Zaitunia kunti Zonstein & Marusik, 2016 (Fig. 27a-c) (Filistatidae)

Identification. Zonstein & Marusik (2016): p. 20, figs 10I-J, 43C.

New record. Tekirova, site of Phaselis, pine forest, on a stone, on a grassy slope (30.55252°E, 36.52397°N, 3 m a.s.l.), 1 ♂, hand collecting, 18. Apr. 2019.

Comments. Zaitunia kunti is only known from Cyprus (mainly from Pinus forests) and Turkey (Zonstein & Marusik 2016, Bosmans et al. 2019). In Turkey its distribution appears to be limited (Province of Antalya, Alanya and Kemer districts), but there is only a small number of records.

Figs 28-34. Aulonia kratochvili, male pedipalp, ventral view; 29. Berinda ensigera, male pedipalp, ventro-retrolateral view; 30a-c. Canariphantes nanus, female. a. Epigyne, ventral view; b. Idem, lateral view; c. Vulva, dorsal view; 31. Crustulina scabripes, male pedipalp, ventral view; 32a-b. Dactylopistes digiticeps, male. a. Lateral view; b. Pedipalp, retrolateral view; 33. Ero flammeola, epigyne; 34a-d. Habrocestum latifasciatum; a. Female, dorsal view; b. Epigyne; c. Male, dorsal view; d. Male pedipalp, retrolateral view (photos 33, 34a,c: S. Lecigne; 28, 30-32, 34b,d: P. Oger)
Figs 35-41: 35a-c. Harpactea sturanyi, male; a. Dorsal view; b. Bulbus, retrolateral view; c. Bulbus, tip, anterior view; 36a-c. Heliophanus edentulus, male; a. Dorsal view; b. Pedipalp, ventral view; c. Pedipalp, tibial apophyses, retrolateral view; 37. Macaroeris nidicolens, female, dorsal view; 38. Menemerus semilimbatus, female, dorsal view; 39a-b. Mimetus laevigatus, male; a. Dorsal view; b. Pedipalp, ventral view; 40a-b. Neottiura herbigrada, male; a. Dorsolateral view; b. Pedipalp, retrolateral view; 41a-b. Hogna sp., vulva (specimen from Spain); a. Ventral view; b. Dorsal view (photos 35a, 36a, 37, 38, 39a, 40a, 41: S. Lecigne; 35b-c, 36b-c, 39b, 40b: P. Oger)
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Figs 42-47: 42a-g. Palliduphantes byzantinus; a. Male, dorsal view; b. Male pedipalp, retrolateral view; c. Female, dorsal view; d. Epigyne, ventral view; e. Idem, lateral view; f. Idem, aboral view; g. Vulva, dorsal view; 43a-b. Palpimanus sp., female; a. Dorsal view; b. Epigyne; 44a-c. Pardosa roscai, female; a. Dorsal view; b. Epigyne; c. Vulva, dorsal view; 45a-b. Pardosa tatarica, female; a. Dorsal view; b. Epigyne; 46. Pisaura mirabilis, female, epigyne; 47. Platnickina nigropunctata, female, dorsal view (photos 43, 44a, 47: S. Lecigne; 42, 44b-c, 45, 46: P. Oger)
Figs 48-56: 48. Scotophaeus blackwalli, female, epigyne; 49. Scotophaeus scutulatus, female, epigyne; 50a-e. Simitidion agaricographum; a. Male, dorsal view; b. Male pedipalp, retrolateral view; c. Idem, ventral view; d. Female, dorsal view; e. Epigyne; 51a-b. Theridion adrianopolis, female; a. Dorsal view; b. Epigyne; 52a-b. Tibellus macellus, male, pedipalp; a. Ventral view; b. Ventro-retrolateral view; 53a-b. Tmarus piochardi, female; a. Dorsal view; b. Epigyne; 54. Zelotes cingarus, female, epigyne; 55a-b. Zodarion thoni, male; a. Dorsal view; b. Pedipalp, ventral view; 56. Zoropsis lutea, female, epigyne (photos 48-49, 55a, 56: S. Lecigne; 50-54, 55b: P. Oger)
Conclusion
The Turkish fauna currently includes 1129 spider species in 54 families (Danışman et al. 2021). The survey, carried out in April 2019 over a very short period (7 days) and a very reduced area in Kemer district, recorded nearly one hundred species from 28 families.

Among them:
- two species are new to science: Sintula karinae spec. nov., described in the present manuscript and Philodromus mus- teri Lecigne & Oger, 2020 (see Lecigne & Oger 2020).
A third species, in the genus Canariphantes, requires ver- ification and comparison with other material and might therefore be the subject of a later paper;
- some appear to be very infrequently found or even rare. This is probably the case for Berinda cooki, Improphantes turtok or Heraeus setiger which are possibly well distributed on a local scale, but whose distribution is still unclear. The case of Cyclosa algerica is somewhat different. This species also seems to be locally well distributed, but is already known from several western European countries; the first record for Turkey extends its range considerably eastward. Several other cases concern recently described species such as Pseu- dewaphrys rhodensis or Pherorulithus azaraki, for which the already known range extends from southwestern Turkey to Azerbaijan and Iran.

For such species, undersampling, difficult detection due to rather effective camouflage (e.g. Philodromus femurostriatus) or confusion with closely related species may partially explain this apparent rarity.

Other species are probably indeed rare, mainly because of a very narrow ecological valence in relation to a strong habitat specialization. This concerns for example Leptyphantes magnesiac (whose known range appears to be limited) or Tegenaria faniapollinis, both species which are probably of troglobitic affinity, Tegenaria vankeerorum which could at least trogloxic, Nomisia orientalis and Zaitzienia kundtii, both species of forest environments. These hypotheses might be confirmed when more data can be analysed and in particular when the survey efforts can be considered sufficient.

The new findings give an impression of the still incom- pletely known richness of the spider fauna of Turkey. New species as well as new species records still remain to be found. The diversity in Turkey is probably very high, at the junction between Europe and Asia. This is caused by several geo- graphical and geological characteristics of the country (e.g. by the diverse relief, sheer size, different altitude levels, and the length of coasts) and the great diversity of biogeographical units.

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Annex: species list

The species are presented in alphabetical order of family and genus. The name of the locality, number, sex, developmental stage and habitat of the species are also specified.

The marked species are those which are new for the fauna of Turkey (*) and those which have already been mentioned at least once for the country but not yet included in the national list (Danışman et al. 2021)#.

| Family: species               | Location, habitat, number gender, date                                                                 |
|------------------------------|-------------------------------------------------------------------------------------------------------|
| **Agelenidae**               |                                                                                                       |
| Lycosoides coarctata (Dufour, 1831) | Beldibi, in a grove of a hotel park, under stones in the pine needle litter, 3 ♀♀                    |
| Tegenaria faniapollinis Brignoli, 1978 | See above                                                                                            |
| Tegenaria vankeerorum Bolzern, Burckhardt & Hangi, 2013 | See above                                                                                            |
| **Anyphaenidae**             |                                                                                                       |
| Anyphaena sabina L. Koch, 1866 | Beldibi, ancient orange grove, in dead branches, 1 ♀. Göynük, shore, in bushes and in coniferous branches, 3 ♀♀. Tekirova, site of Phaselsis, pines and shrubs on the edge of a reed bed, 1 ♀ |
| **Araneidae**                |                                                                                                       |
| Cyclosa algerica Simon, 1885  | * See above                                                                                            |
| Mangora acalypha (Walckenaer, 1802) | Beldibi, anthropic wasteland, in grasses and inflorescences, 10 ♀♂                                   |
| Zilla diodia (Walckenaer, 1802) | Beldibi, in juniperus sp. in a hotel park, 1 ♀. Tekirova, site of Phaselsis, pine forest, 1 ♀           |
| **Cheiracanthiidae**         |                                                                                                       |
| Cheiracanthium mildei L. Koch, 1864 | Beldibi, under the rim of a hotel perimeter wall, 1 ♂. Göynük, shore, in bushes, 1 ♂                  |
| **Cheiracanthium pelagicum group** |                                                                                                       |
| **Dictynidae**               |                                                                                                       |
| Brigitta innocens (O. Pickard-Cambridge, 1872) | See above                                                                                            |
| Lathys humilis (Blackwall, 1855) | Tekirova, site of Phaselsis, in the branches of pines and shrubs, 2 ♀♀                               |
| **Dysderidae**               |                                                                                                       |
| Dydisera longimanidibularis Nosek, 1905 | See above                                                                                            |
| Harpactea sturanyi (Nosek, 1905) | Beldibi, pine forest, under a stone in a meadow, 1 ♂ (Fig. 35a-c).                                   |
| **Filistatidae**             |                                                                                                       |
| Zaitunia kanti Zonstein & Marusik, 2016 | See above                                                                                            |
| **Gnaphosidae**              |                                                                                                       |
| Berinda coski Logunov, 2012  |                                                                                                       |
| Berinda ensigera (O. Pickard-Cambridge, 1874) | Göynük, coastal area, on a rocky slope, under a stone, 1 ♂. Taşağıl, under a stone in a gravel parking lot on the side of the road, 1 subad. ♂, 1 subad. ♀ (raised to maturity) (Fig. 29) |
| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Drassodes lapidosus* (Walckenaer, 1802) | Taşağıl, under a stone in a gravel parking lot on the side of the road, 1 ♂. Tekirova, site of Phaselis, reed bed, under a piece of wood, 1 ♂ |
| *Marinarozenotes hybeneti* (Audouin, 1826) | Beldibi, under a stone, on the edge of a path near a wasteland, 1 subad. ♀ (raised to maturity) |
| *Nomisia orientalis* Dalmas, 1921 | See above |
| *Scotophaeus blackwalli* (Thorell, 1871) | Göynük, coastal area, in coniferous branches (thuyas), 1 ♀, (Fig. 48) |
| *Scotophaeus scutulatus* (L. Koch, 1866) | Beşkonak, under a rock by the river Köprüçay, 1 ♀. Göynük, coastal area, under a pine bark scale, 1 ♀ (Fig. 49) |
| *Zelotes cingarvs* (O. Pickard-Cambridge, 1874) | Beldibi, pine forest, under a stone in the meadow of a clearing, 1 ♀ (Fig. 54) |

**Linyphiidae**

| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Canariphantes nanus* (Kulczyński, 1898) | Tekirova, site of Phaselis, reed bed, 1 ♀, 1 subad. ♂ |
| *Batyphtantes gracilis* (Blackwall, 1841) | Tekirova, site of Phaselis, reed bed, 6 ♂♂, 7 ♀♀ |
| *Dactylopisthes digiticeps* (Simon, 1881) | Tekirova, site of Phaselis, reed bed, 6 ♂♂ (Fig. 32a-b), 7 ♀♀ |
| *Improphantes turok* Tanasevitch, 2011 | See above |
| *Leptophyantes magnesiae* Brignoli, 1979 | * See above |
| *Meremosus denticiulatus* (Banks, 1898) | # See above |
| *Pallidophantes byzantinus* (Fage, 1931) | Beldibi, in a grove in a hotel park, in the pine needle litter and on the ground, under a shrub, on the edge of a man-made path on a wasteland, 2 ♂♂, 1 ♀ (Fig. 42a-g) |
| *Sintula karineae* sp. nov. | * See above |
| *Tenuiphantes tenuis* (Blackwall, 1852) | Beldibi, under a stone on the edge of a meadow, 1 ♀; id., prairie, in an ancient orange grove, 2 ♀♀ |
| *Tenuiphantes zimmermanni* (Berti, 1890) | Beldibi, under a stone on the edge of a meadow, 1 ♀; id., prairie, in an ancient orange grove, 1 ♀ |

**Lycosidae**

| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Alepeus albofasciata* (Brulé, 1832) | Tekirova, site of Phaselis, reed bed and pine forest litter, 1 ♀, 3 ♀♀ |
| *Arctosa leopardus* (Sundevall, 1833) | Tekirova, site of Phaselis, reed bed, 2 ♂♂, 1 subad. ♂ |
| *Aulonia kratochvili* Dunin Buchar & Absolon, 1986 | Beldibi, prairie, in an old orange grove, 10 ♂♂, pitfall; id., pine forest, in the meadow of a clearing, 1 ♂ (Fig. 28). Tekirova, site of Phaselis, reed bed, 1 ♀ |
| *Hogna effera* (O. Pickard-Cambridge, 1872) | * See above |
| *Pardosa bortenesis* (Thorell, 1872) | Tekirova, site of Phaselis, reed bed, 4 ♂♂ |
| *Pardosa roxai* (Roewer, 1951) | Tekirova, site of Phaselis, reed bed, 5 ♀♀ (Fig. 44a-c) |
| *Pardosa tatarica* (Thorell, 1875) | Beşkonak, river bank (“Köprüçay”), 1 ♀ (Fig. 45a-b) |
| *Pirata piraticus* (Clerck, 1757) | Tekirova, site of Phaselis, reed bed, 1 ♂, 2 ♀ |

**Mimetidae**

| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Ero flammeola* Simon, 1881 | Beldibi, highway underpass, 1 ♀ |
| *Mimetes laevisgatus* (Keyserling, 1863) | Göynük, coastal area, in coniferous branches (thuyas), 1 ♂, 2 subad. ♀♀ (Fig. 39a-b) |

**Oecobiidae**

| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Oecobius maculatus* Simon, 1870 | Antalya, on the parking lot of an urban building, at the foot of a hedge under a stone, 2 ♀♀. Beldibi, on a stone of a low wall, on the edge of the beach., 1 ♂ |
| *Oecobius nasicus* Blackwall, 1859 | * See above |

**Palpimanidae**

| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Palpimanus* sp. | Beldibi, under the bark of a pine trunk, 1 ♀ (Fig. 43a-b) |

**Philodromidae**

| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Philodromus femurostriatus* Muster, 2009 | See above |
| *Thanatus vulgaris* Simon, 1870 | Taşağıl, on the ground of a gravel parking lot, on the side of the road, 1 ♂ |
| *Tibellus macellus* Simon, 1875 | Beldibi, wasteland, in tall grass, 1 ♀. Göynük, coastal area, in coniferous branches (thuyas), 1 subad. ♀ (raised to maturity). Tekirova, site of Phaselis, undergrowth of a pine forest, on the ground under a board of wood, 1 ♂ (Fig. 52a-b) |

**Pholcidae**

| Family: species | Location, habitat, number gender, date |
|----------------|-----------------------------------------|
| *Holocnemus pluchei* (Scopoli, 1763) | Taşağıl, under the ceiling of a highway underpass, at one of the openings, 5 ♂♂, 5 ♀♀. Taşağıl, under a stone on a gravel parking lot, on the side of the road, 1 ♀ |
| Family: species | Location, habitat, number gender, date |
|----------------|----------------------------------------|
| Pholcus phalangioides (Fuesslin, 1775) | Beldibi, on the perimeter wall of a hotel, 1 ♂ |
| Spermophora senculata (Dugès, 1836) | Beldibi, under the ceiling of a highway underpass, at one of the openings, 1 ♂ |
| Pholcidae | |
| Pseudosphyrus rhodiensis Schäfer, 2018 | * See above |
| Pisauridae | |
| Pisaura mirabilis (Clerck, 1757) | Beldibi, pine forest, in the meadow of a clearing, 1 ♂, 1 ♀ (Fig. 46). Tekirova, site of Phaselis, pine forest, on the ground on a grassy slope, 1 ♀ |
| Salticidae | |
| Bianor albimaculatus (Lucas, 1846) | Tekirova, site of Phaselis, reed bed, 1 ♀ |
| Cymba algicornis (Lucas, 1846) | Tekirova, site of Phaselis, pine forest, 1 j |
| Euphryia rufa var. (Simon, 1868) | Tekirova, site of Phaselis, sparse pine forest by the sea, on the ground on a stone, 1 ♀ |
| Evarcha jucunda (Lucas, 1846) | # See above |
| Habrocestum latifasciatum (Simon, 1868) | Tekirova, site of Phaselis, pine forest and reed bed, 3 ♂♀, 3 ♀♀, 1 j (Fig. 34a-d) |
| Heliophanus dentulus Simon, 1871 | Tekirova, site of Phaselis, reed bed, 2 ♂ (Fig. 36a-c) |
| Heliophanus flavipes (Hahn, 1832) | Beldibi, shrub, on the edge of a man-made path on a wasteland, 1 ♀ |
| Antalya, on the car park of a shop, in a small grassy area at the foot of a palm tree and on a stone of a path on the edge of a cliff, 2 ♂♀. Beldibi, pine, on the edge of a grove and under a stone at the entrance of a highway underpass lined with pine forests, 1 ♂, 1 ♀. Göynük, coastal area, in tall grasses in a pine forest clearing, under a stone and on a rocky slope, under a stone, 4 ♀♀, 1 subad. ♀, 1 j. Tekirova, site of Phaselis, pine forest, on the ground on a grassy slope, 1 ♂, 1 ♀ |
| Heliophanus kochi Simon, 1868 | |
| Macaroeris nidicolens (Walckenaer, 1802) | Göynük, coastal area, in coniferous branches (thuyas), 1 subad. ♀ (raised to maturity) (Fig. 37) |
| Martpisa niveyi (Lucas, 1846) | Antalya, on the parking lot of an urban building, at the foot of a hedge under a stone, 1 ♀ |
| Menemerus semilimbatus (Hahn, 1829) | Beldibi, on the perimeter wall of a hotel, 1 ♀, 2 jj (Fig. 38) |
| Myrmarachne formicaria (De Geer, 1778) | Tekirova, site of Phaselis, reed bed, 1 ♀ |
| Philaeus cherops (Poda, 1761) | Tekirova, under a stone in a wasteland and in a pine forest, 4 jj. Tekirova, site of Phaselis, pine forest, on a stone, in the vegetation, in the shrubs and in the branches of the pines, 5 ♂♀, 5 ♀♀, 1 subad. ♂ |
| Phlegra lineata (C. L. Koch, 1846) | Beldibi, under a stone in a meadow and in a pine forest, 1 ♀, 1 j. Taşağıl, on the ground of a gravel parking lot, on the side of the road, 1 subad. ♂ (raised to maturity) |
| Phlegra lineata (C. L. Koch, 1846) | |
| Pseudeuophrys rhodensis Schäfer, 2018 | |
| Pseudosphyrus rhodensis Schäfer, 2018 | |
| Pseudosphyrus rhodensis Schäfer, 2018 | |
| Pseudeuophrys rhodensis Schäfer, 2018 | |
| Sicariidae | |
| Loxosceles rufescens (Dufour, 1820) | Tekirova, site of Phaselis, undergrowth of a pine forest, under a stone, 1 ♂ |
| Tetragnathidae | |
| Metellina mengei (Blackwall, 1869) | Beldibi, at the entrance of a highway underpass lined with pine forests, 1 ♀ |
| Tetragnatha obtusa C. L. Koch, 1837 | Beldibi, shrub, on the edge of a man-made path on a wasteland, 1 ♂. Tekirova, site of Phaselis, pines and shrubs at the edge of the reed bed, 5 ♂♀, 7 jj. |
| Theridiidae | |
| Anelosimus viittatus (C. L. Koch, 1836) | Göynük, coastal area, in coniferous branches (thuyas), 2 ♂♀, 1 j. Tekirova, site of Phaselis, undergrowth of a pine forest, in shrubs, 1 ♀ |
| Crustulina scabripes Simon, 1881 | Tekirova, site of Phaselis, sparse pine forest by the sea, on the ground under a stone, 1 ♂ (Fig. 31), 2 jj. |
| Euryopis episinoides (Walckenaer, 1847) | Beldibi, in the grove of a hotel park, in the litter of pine needles, 1 ♂, 1 subad. ♂, 1 subad. ♀; id., prairie, in an old orange grove, under a stone, 1 ♀. Tekirova, site of Phaselis, sparse pine forest by the sea, on the ground under a stone, 1 ♀ |
| Family: species | Location, habitat, number gender, date |
|----------------|----------------------------------------|
| **Kochiura aulica** (C. L. Koch, 1838) | Göynük, coastal area, in coniferous branches (thuyas), 2 ♂♀ |
| **Neospintharus syriacus** (O. Pickard-Cambridge, 1872) | Beldibi, under the ceiling, at the entrance of a highway underpass lined with pine forests, 1 ♂, 1 ♀, 1 ♀. Göynük, coastal area, in dry bushes, 1 ♀. Tekirova, site of Phaselis, undergrowth of a pine forest, in shrubs, 1 ♀ |
| **Netttiura berbigardae** (Simon, 1873) | Beldibi, pine forest, in pine needle litter, 1 ♂ (Fig. 40a-b) |
| **Netttiura cf. uncinata** (Lucas, 1846) | Beldibi, high grass, on the edge of a man-made path on a wasteland, in a shaded area, 1 ♂ |
| **Parasteatoda simulans** (Thorell, 1875) | Tekirova, site of Phaselis, pines and shrubs, 1 ♂, 1 ♀, 1 subadult ♂ |
| **Platnickina nigropunctata** (Lucas, 1846) | Beldibi, on the frame of a metal panel, on the edge of a path near a wasteland, 1 ♀; id., ancient orange grove, in dead branches, 1 ♂, 1 ♀, 2 ♀. Göynük, coastal area, in coniferous branches (thuyas), 1 ♀. Tekirova, site of Phaselis, pine forest, under a wooden fence, in shrubs, 3 ♀♀ |
| **Simitidion agaricographum** (Levy & Amitai, 1982) | Göynük, coastal area, on a rocky slope, in dry, young coniferous bushes, 1 ♂, 2 ♀ (Fig. 50a-e); *S. agaricographum* has recently been recorded from Turkey in the province of Bursa (Orhaneli, Sadak canyon) (Uyar & Dolejš 2017). |
| **Steatoda paykulliana** (Walckenaer, 1806) | Taşağıl, under a stone of a gravel parking lot, on the side of the road, 2 ♀. Tekirova, site of Phaselis, sparse pine forest by the sea, on the ground under a stone, 1 ♂, 1 ♀ |
| **Steatoda triangulosa** (Walckenaer, 1802) | Beldibi, on the perimeter wall of a hotel, 1 ♀ |
| **Theridion adrianopoli** Drensky, 1915 | Göynük, coastal area, in coniferous branches (thuyas), 1 ♀ (Fig. 51a-b) |
| **Theridion helena** Wunderlich, 2011 | * See above |

**Thomisidae**

| Family: species | Location, habitat, number gender, date |
|----------------|----------------------------------------|
| **Heriaeus setiger** (O. Pickard-Cambridge, 1872) | See above |
| **Monaenes cf. israelensis** Levy, 1973 | Beldibi, ancient orange grove, in dead branches, 1 subadult ♂ |
| **Ozyptila sp.** | ? See above |
| **Tmarus piochardi** (Simon, 1866) | Beldibi, ancient orange grove, in dead branches, 2 subadult ♀ (raised to maturity) (Fig. 53a-b) |
| **Xysticus thessaloids** Wunderlich, 1995 | See above |

**Uloboridae**

| Family: species | Location, habitat, number gender, date |
|----------------|----------------------------------------|
| **Uloborus plumipes** Lucas, 1846 | Beldibi, at the entrance of a highway underpass lined with pine forests, 4 ♀♀. Tekirova, site of Phaselis, undergrowth of a pine forest, in shrubs, 2 ♀♀ |

**Zodariidae**

| Family: species | Location, habitat, number gender, date |
|----------------|----------------------------------------|
| **Zodarion thoni** Nosek, 1905 | Beldibi, on a gravel path between a pine forest and an ancient orange grove, 3 ♂♂; id., pine forest, under a stone in a meadow, 1 ♂ (Fig. 55a-b) |

**Zoropsidae**

| Family: species | Location, habitat, number gender, date |
|----------------|----------------------------------------|
| **Zoropsis lutea** (Thorell, 1875) | Beldibi, under a stone, on the edge of an ancient orange grove, 1 ♀ (Fig. 56) |