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Spiders from the Arganeraie Biosphere Reserve of Souss-Massa region (Morocco), and descriptions of two new species (Arachnida: Araneae: Gnaphosidae, Salticidae)

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Abstract. This study presents a preliminary faunistic survey of spiders from the Arganeraie Biosphere Reserve in the Souss-Massa region of Morocco covering 39 species across 17 families collected between January 2022 and June 2025. Two species are new to science: *Cesonia africana* Lecigne & Ouakri sp. nov. and *Menemerus currens* Lecigne sp. nov. Five other species are new records for Morocco, i.e., *Nemesia uncinata* Bacelar, 1933, *Phlegra yaelae* Prószyński,1998, *Mogrus sahariensis* Berland & Millot, 1941, *Cebrennus laurae* Jäger, 2014 and *Polenecia producta* (Simon, 1873). Several other species, already known from Morocco, are noteworthy taxa, e.g., *Aelurillus hirtipes* Denis, 1960, *Cebrennus rungsi* Jäger, 2000, *Eresus elhennawyi* Řezáč, Vaněk & Střeštík, 2023, *Oecobius machadoi* Wunderlich, 1995, *Olios pictus* (Simon, 1885) and *Steatoda ingeae* Van Keer, 2024. The following new synonym is proposed: *Zelotes oryx* (Simon, 1880) = *Zelotes tragicus* (O. Pickard-Cambridge, 1872) syn. nov. Our findings expand our knowledge of Moroccan spiders and highlight the biodiversity of historically poorly studied habitats, thus warranting further, targeted research.

Keywords. Agadir, biodiversity, new records, survey, synonymy.

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Introduction

Located on the North Atlantic coast of the African continent, Morocco lies in a transition zone between the Palearctic and Afrotropical ecoregions and is recognised as a major biodiversity hotspot of the Mediterranean Basin (Zhao *et al.* 2019). Its great biological diversity is reflected in numerous ecosystems and overall high levels of endemism in both flora and fauna (Rankou *et al.* 2013; El Alami 2022).

Despite this exceptional biodiversity, the spider fauna of Morocco remains poorly studied (Benhalima & Bosmans 2024). Early contributions to Moroccan arachnology were made between the mid-19th to the mid-20th centuries by naturalists such as Simon and Denis (Simon 1909, 1911, 1912; Denis 1952, 1954, 1956a, 1956b, 1961), but these studies were geographically and taxonomically restricted. Since the early 21st century, additional systematic research has increased our knowledge of Moroccan spiders and resulted in numerous descriptions of new species and taxonomic revisions (Bosmans & Janssen 1999; Bosmans & Van Keer 1999; Bosmans 2007; Jäger 2014; Lecigne *et al.* 2023, 2025). Nevertheless, comprehensive habitat-specific inventories remain scarce, and large areas are still insufficiently explored.

The Souss-Massa region in Southwest Morocco, located between the Atlas and the Anti-Atlas Mountains, represents one such poorly documented area. This large natural valley extends across semi-arid to arid climatic zones and comprises a mosaic of habitats over a surface area of 53789 km^2, including the UNESCO-designated Arganeraie Biosphere Reserve (Wahid 2018).

The Arganeraie is characterised by a semi-dry ecosystem dominated by *Argania spinosa* (L.) Skeels, an endemic species of major ecological, economic and cultural importance (Msanda *et al.* 2005). Although the flora and vertebrate fauna of this area have been relatively well studied (Vernonah *et al.* 2005; Msanda *et al.* 2021), taxonomic and distribution data on invertebrate fauna, including spiders (Araneae), remain limited.

Spider ecological requirements in Morocco range from ubiquitous species to specialized endemic species restricted to a single ecological niche, such as *Dysdera caeca* Ribera, 1993 (Dysderidae C.L. Koch, 1837), *Cebrennus rechenbergi* Jäger, 2014 (Sparassidae Bertkau, 1872) and *Tapinocyba ifrane* Lecigne, 2025 (Linyphiidae Balckwall, 1859). Considering this ecological diversity and the lack of systematic inventories, spider diversity in Morocco is likely underestimated (Benhalima & Bosmans 2024).

The aim of this study is to document the spider fauna of the Arganeraie Biosphere Reserve, identify taxa of particular scientific interest and describe two species new to science, based on surveys conducted between January 2022 and June 2025.

Material and methods

Sampling was carried out in the Arganeraie of the Souss-Massa region (Southwestern of Morocco) within the prefecture of Agadir Ida Outanane and the province of Chtouka Aït Baha (Fig. 1, Table 1). A total of eight sites were selected based on their accessibility within the Arganeraie, their distance from the Atlantic coast (to encompass both coastal and continental habitats), and their altitude (ranging from 20–600 m a.s.l). The two coastal sites (located approximately 300–850 m from the Atlantic Ocean) are dominated by strong oceanic influence, resulting in cooler mean temperature and higher ambient humidity. The remaining six sites (located approximately 8–53 km from the Atlantic Ocean) present a range of continental influences marked by low rainfall and larger thermic amplitude between seasons from West to East. Two sites (Azrarag and Alma) were visited only once, whereas the remaining sites were sampled repeatedly (up to 50 visits per site) between January 2022 and June 2025. Specimen collection was performed by hand, checking under stones, rocks and logs, and using a beating tray. Several immature specimens were collected and kept in captivity until they reached maturity; as specified

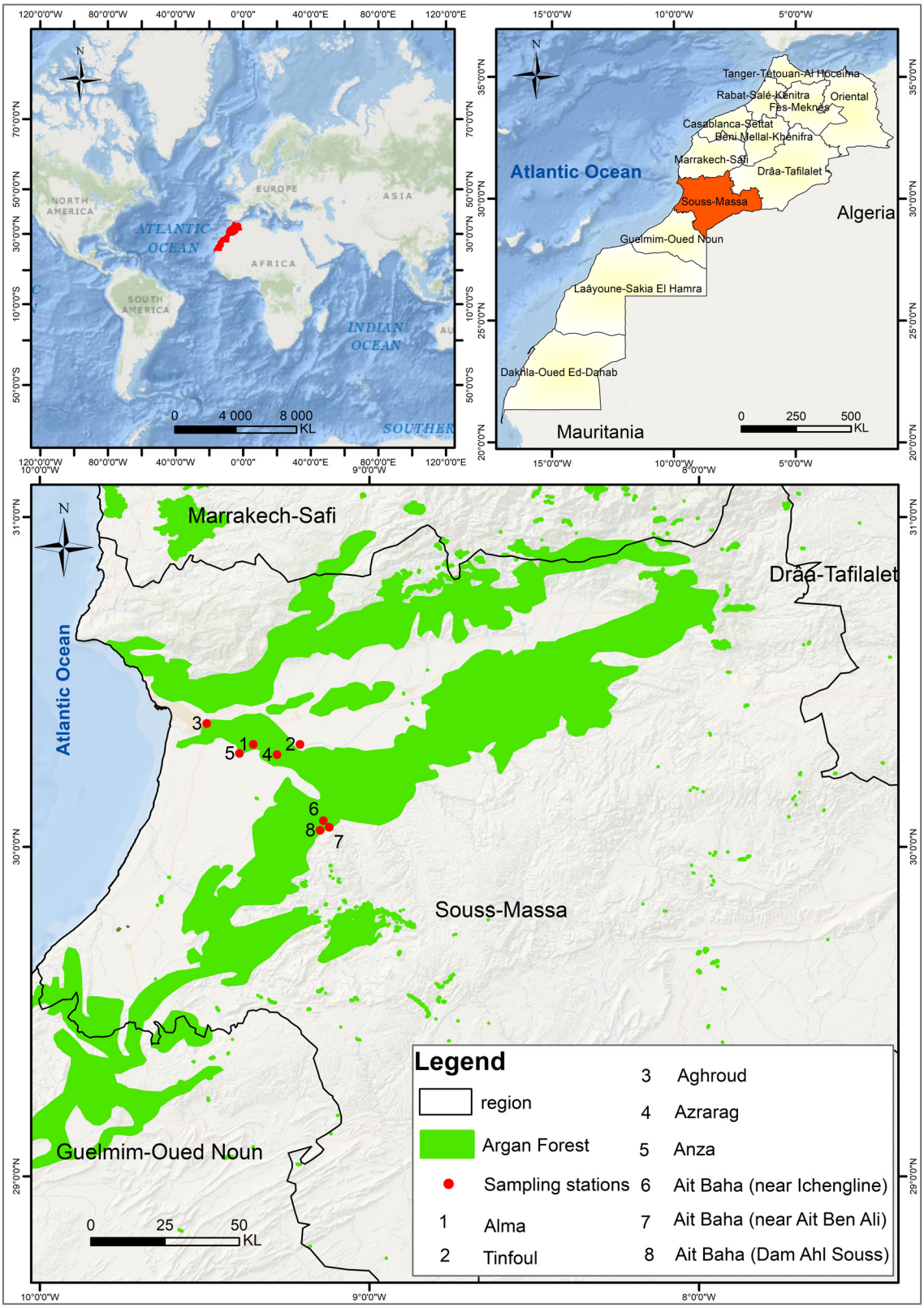

Fig. 1. Top left: location of Morocco in relation to the African continent. Top right: map of the administrative divisions of Morocco. The region of Souss-Massa is shown in red. Bottom: location of sampling sites in relation to the Argan forest (in green).

Table 1. Characteristics and coordinates of the sampling stations surveyed.

Prefecture or province	Locality	Latitude	Longitude	Altitude (m a.s.l.)	Vegetation	Date
Agadir Ida Outanane	Aghroud	30.62920° N	9.82606° W	24	Argan grove, *Euphorbia*	3 Mar. 2024 and 19 May 2024
Agadir Ida Outanane	Anza	30.47800° N	9.66281° W	41	Argan grove, *Euphorbia*	Jan. 2022–Jun. 2025
Agadir Ida Outanane	Azrarag	30.46878° N	9.46733° W	231	Argan grove	6 Feb. 2022
Agadir Ida Outanane	Tinfoul	30.51986° N	9.35192° W	337	Argan grove, palm trees, olive trees	Jan. 2022–Apr. 2025
Agadir Ida Outanane	Alma	30.51117° N	9.59297° W	410	Argan grove, olive trees	2 Jul. 2022
Chtouka Aït Baha	Aït Baha (near Ichengline)	30.11556° N	9.23131° W	324	Argan grove	Jan. 2022–Apr. 2025
Chtouka Aït Baha	Aït Baha (near Aït ben Ali)	30.10399° N	9.21561° W	530	Argan grove	Jan. 2022–Apr. 2025
Chtouka Aït Baha	Aït Baha (Dam Ahl Souss)	30.06279° N	9.12406° W	619	Argan grove	Jan. 2022–Apr. 2025

in each case. Position and elevation of sampling localities were recorded using a smartphone GPS (Huawei P30 pro) in the WGS 84 datum format. Geographical coordinates and attributes of each site are provided in Table 1. Maps were produced using ArcGIS 10.8. Unless stated otherwise, specimens were preserved in 70% ethanol for identification purposes. Specimens were examined using a Nikon SMZ800N and a Nikon SMZ1270 stereo microscopes. Most of the photographs of genitalia were taken using an Olympus CH-2 microscope. Wherever possible, specimens were photographed in their habitat or in the laboratory. Some photographs were taken using a Huawei P30 pro smartphone mounted on the ocular piece of a stereo microscope (Nikon SMZ800N).

Somatic measurements were made with a scaled eyepiece mounted on a stereo microscope and are expressed in mm. Type material will be deposited at the Senckenberg Museum, Frankfurt am Main (SMF). Unless otherwise specified, all examined non-type material is conserved in the private collection of Sylvain Lecigne, Fressies, France (CSL). Taxonomy follows the World Spide Catalog (2025). The taxonomic references cited are either those pertaining to Morocco, or from the original description of the species, or used to confirm the identity of the specimens examined.

Furthermore, several samples from at least 22 species are still under study, including four new species that require more material to be described.

Abbreviations for morphological terms

C = conductor
CL = carapace length
CW = carapace width
CO = copulatory opening
E = embolus
ET = epigynal tooth
FD = fertilisation duct

Fe = femur
GL = globular lobe
LH = lateral head
PLE = posterior lateral eyes
PLE–PLE = interdistance between PLE
RTA = palpal retrolateral tibial apophysis
Sp = spermatheca
St = subtegulum
Te = tegulum
TP = tegular protuberance
VTA = ventral tibial apophysis

Other abbreviations

loc. typ. = locus typicus
sub. = subadult
WSC = World Spider Catalog

Institutional abbreviations

CSL = private collection of Sylvain Lecigne, Fressies, France
HECO = Hope Entomological Collections, Oxford, Great Britain
MNHN = Muséum national d'Histoire naturelle de Paris, Paris, France
SMF = Senckenberg Forschungsinstitut und Naturmuseum Frankfurt, Frankfurt am Main, Germany

Results

In total, 119 specimens belonging to 39 species and 17 families were examined in this study (Table 2). Two new species to science are described in detail, namely *Cesonia africana* Lecigne & Ouakri sp. nov. and *Menemerus currens* Lecigne sp. nov. Five species are endemic to Morocco. More widely, 17 species (more than 40%) are considered to be of particular interest due to their restricted range or micro-habitat, endemism, poorly documented ecology, low number of records or very old previous citations. We also propose *Zelotes oryx* (Simon, 1880) as a junior synonym of *Zelotes tragicus* (O. Pickard-Cambridge, 1872).

Taxonomy

Class Arachnida Cuvier, 1812
Order Araneae Clerck, 1757
Family Cheiracanthiidae Wagner, 1887
Genus *Cheiracanthium* C.L. Koch, 1839

Cheiracanthium furculatum Karsch, 1879
Table 2

Cheiracanthium furculatum – Bayer 2014: 20, figs 1a–c, 2a–d, 3a–g, 4a–e (♂♀). — Rozwalka *et al.* 2017: 61, fig. 1d–e. — Lecigne *et al.* 2025: 28, fig. 14a–b (♀).

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Ichengline; 30.11556° N, 9.23131° W; 324 m a.s.l.; 20 Apr. 2025; N. Ouakri leg.; by hand, Argan grove, under stone in retreat; CSL, MOR_1973.

Table 2 (continued next page). Spider species from the Arganeraie Biosphere Reserve of Souss-Massa region. The species are presented in alphabetical order. The name of the locality and the number of individuals are also specified. The marked species are those which are new to Morocco (M) (absent in Benhalima & Bosmans 2024) or to science (S). The species endemic to Morocco, or presumed as such, are marked (*).

Family / Species		Locality (number of specimens)
Cheiracanthiidae		
Cheiracanthium furculatum Karsch, 1879		Aït Baha (near Ichengline) (1)
Eresidae		
Eresus elhennawyi Řezáč, Vaněk & Střeštík, 2023		Aït Baha (near Aït Ben Ali) (1)
Gnaphosidae		
Cesonia africana Lecigne & Ouakri sp. nov.*	S	Anza (6)
Drassodes lutescens (C.L. Koch, 1839)		Anza (1); Tinfoul (3); Aït Baha (near Aït Ben Ali, Dam Ahl Souss) (5)
Echemus escalerai Simon, 1909		Aït Baha (near Ichengline) (1)
Haplodrassus dentifer Bosmans & Abrous, 2018		Aït Baha (near Aït Ben Ali) (5)
Nomisia aussereri (L. Koch, 1872)		Aït Baha (near Aït Ben Ali) (5)
Scotophaeus validus (Lucas, 1846)		Aït Baha (near Aït Ben Ali) (1)
Setaphis simplex (Simon, 1885)		Aït Baha (near Aït Ben Ali) (1)
Zelotes erythrocephalus (Lucas, 1846)		Aït Baha (near Aït Ben Ali) (1); Alma (1)
Zelotes tragicus (O. Pickard-Cambridge, 1872)		Aït Baha (near Ichengline) (1); Tinfoul (2)
Hersiliidae		
Hersiliola simoni (O. Pickard-Cambridge, 1872)		Aït Baha (near Ichengline) (3); Alma (1); Anza (1)
Linyphiidae		
Acartauchenius mutabilis (Denis, 1967)		Anza (6); Tinfoul (4)
Styloctetor romanus (O. Pickard-Cambridge, 1873)		Anza (7)
Liocranidae		
Mesiotelus mauritanicus Simon, 1909		Tinfoul (3)
Nemesiidae		
Nemesia uncinata Bacelar, 1933	M	Anza (1)
Oecobiidae		
Oecobius machadoi Wunderlich, 1995		Anza (1); Tinfoul (2)
Pholcidae		
Holocnemus reini (C. Koch, 1873)		Anza (1)
Salticidae		
Aelurillus blandus (Simon, 1871)		Aït Baha (near Ichengline) (1)
Aelurillus hirtipes Denis, 1960		Anza (1); Tinfoul (3)
Euophrys gambosa (Simon, 1868)		Anza (4)
Menemerus currens Lecigne sp. nov.*	S	Anza (3)
Mogrus sahariensis Berland & Millot, 1941	M	Tinfoul (1)

Table 2 (continued).

Family / Species		Locality (number of specimens)
Phlegra yaelae Prószyński, 1998	M	Tinfoul (4)
Salticus propinquus Lucas, 1846		Tinfoul (1)
Thyene imperialis (Rossi, 1846)		Tinfoul (1)
Scytodidae		
Scytodes velutina Heineken & Lowe, 1832		Aghroud (1); Aït Baha (near Aït Ben Ali) (3); Anza (2)
Segestriidae		
Segestria florentina (Rossi, 1790)		Aït Baha (near Ichengline) (2); Tinfoul (1)
Sparassidae		
Cebrennus laurae Jäger, 2014	M	Anza (1)
Cebrennus rungsi Jäger, 2000*		Aït Baha (near Aït Ben Ali and Dam Ahl Souss) (2); Anza (2)
Eusparassus fritschi (C. Koch, 1873)*		Aghroud (1)
Olios pictus (Simon, 1885)		Azrarag (1)
Theraphosidae		
Ischnocolus mogadorensis Simon, 1909		Anza (1)
Theridiidae		
Enoplognatha franzi Wunderlich, 1995		Tinfoul (3)
Lasaeola testaceomarginata Simon, 1881		Tinfoul (1)
Steatoda ingeae Van Keer, 2024*		Anza (9); Tinfoul (1)
Steatoda latifasciata (Simon, 1873)		Aït Baha (near Aït Ben Ali) (2); Tinfoul (1)
Thomisidae		
Bassaniodes lalandei (Audouin, 1826)		Aït Baha (near Ichengline) (1)
Uloboridae		
Polenecia producta (Simon, 1873)	M	Tinfoul (1)

Distribution and habitat

During the survey, *Cheiracanthium furculatum* Karsch, 1879 was sampled at only one station. This new record extends the known distribution range of the species (Lecigne *et al.* 2025: 28, fig. 14c) to southwestern Morocco. Apart from the present record, there is currently insufficient information to specify the habitat of this species.

Family Eresidae C.L. Koch, 1845
Genus *Eresus* Walckenaer, 1805

Eresus elhennawyi Řezáč, Vaněk & Střeštík, 2023
Fig. 2, Table 2

Eresus elhennawyi Řezáč *et al.*, 2023: 341, figs 1a–e, 2a–b, 3 a–b, 4 a–b, 5 a–b, 6a–c, 8a–f, 9a, c, e (d♂♀).

Eresus albopictus – El-Hennawy, 2016: 108, figs 1–5 (♀; misidentified per Řezáč *et al.* 2023: 341).

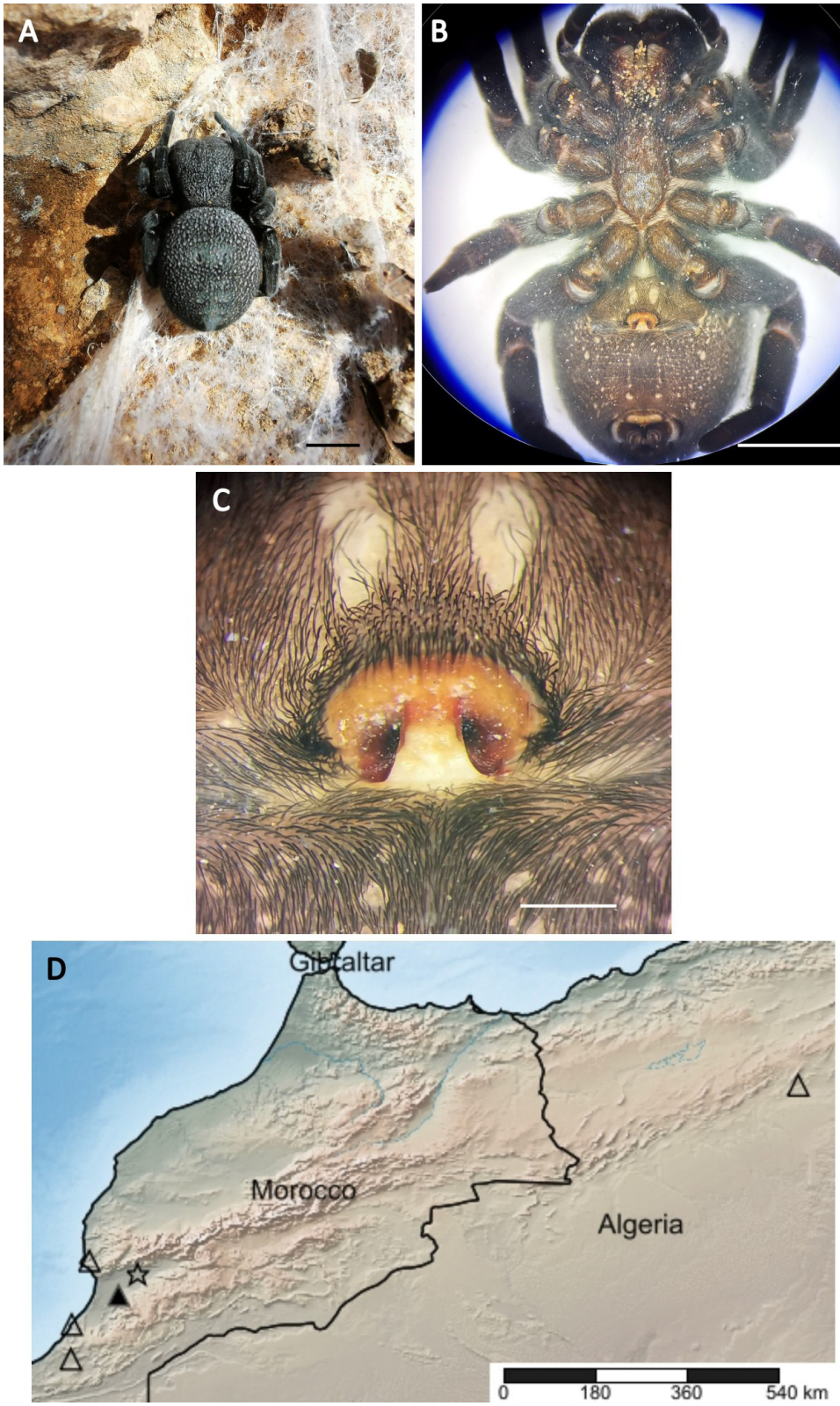

Fig. 2. *Eresus elhennawyi* Řezáč, Vaněk & Střeštík, 2023, ♀ (CSL, MOR_1707). **A**. Dorsal view. **B**. Ventral view. **C**. Epigyne. **D**. Distribution map; open star = loc. typ.; open triangles = other previous citations; solid triangle = new record (source: Shorthouse 2010). Photos by S. Lecigne. Scale bars: A–B = 5.0 mm; C = 0.5 mm.

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, under stone; CSL, MOR_1707.

Distribution and habitat

Eresus elhennawyi Řezáč, Vaněk & Střeštík, 2023 was recently described (Řezáč *et al.* 2023). The species is currently only known from few locations in semi-desert habitats of Morocco (Taroudant, Agadir; Guelmim; Mirleft; Ouassif) and Algeria (Laghouat). Unlike most representatives of the genus, which are found mostly in burrows, *E. elhennawyi* has been found mostly under stones (Řezáč *et al.* 2023). Its discovery at the Aït Baha site is consistent with the known ecology and distribution of the species in Morocco (Fig. 2D; approximate location for Guelmim; Mirleft and Ouassif records).

Family Gnaphosidae Banks, 1892
Genus *Cesonia* Simon, 1893

Cesonia africana Lecigne & Ouakri sp. nov.
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Figs 3–4, Table 2

Diagnosis

The new species resembles *Cesonia aspida* Chatzaki, 2002 in the conformation of the genitalia, but males can be distinguished by the hook-like RTA. The embolus is long, evenly tapered and curved outwards, consisting of a single branch, tip not bifid and the conductor lacks a sclerotized ventral tip. In *C. aspida* the RTA is claw-like, the embolus small and curved inwards and the slender side branch has a bifid tip. The conductor has a sclerotized ventral tip (cf. Fig. 3C–H and Chatzaki *et al.* 2002: 626, figs 63–65). The females of the two species differ in the relative position of the spermathecae. In *C. africana* Lecigne & Ouakri sp. nov., they are separated by about a third of their diameter, but in *C. aspida* by about 0.56 × of their diameter. The globular lobes are smaller than the spermathecae in *C. africana* but in *C. aspida* they are larger than the spermathecae (cf. Fig. 4C–F and Chatzaki *et al.* 2002: 626, figs 66–67). Moreover, the lateral heads are larger in the new species.

Finally, the two species can also be distinguished by the shape of the dark median band on the abdomen, which in *C. africana* Lecigne & Ouakri sp. nov. tapers towards the spinnerets but is expanded posteriorly in *C. aspida* and the two light dorsal strips which are not connected at the posterior end whereas connected at the posterior end in *C. aspida* (cf. Fig. 3A and Chatzaki *et al.* 2002: 627, fig. 68).

Etymology

We name these specimens of both sexes as the first representative of the genus *Cesonia* in Africa.

Type material

Holotype

MOROCCO – **Agadir Ida-Outanane Prefecture** • ♂ (left pedipalp detached); Agadir, Anza; 30.47808° N, 9.66300° W; 80 m a.s.l.; 22 Mar. 2025; S. Lecigne and N. Ouakri leg.; sparse Argan grove and *Euphorbia* L., on arid rocky ground, under stones; by hand; SMF, MOR_1677.

Paratypes

MOROCCO – **Agadir Ida-Outanane Prefecture** • 1 ♂ (abdomen and epigyne separated, abdomen lost); same data as for holotype; SMF, MOR_1677 • 1 ♀; same data as for holotype; 5 Jun. 2025; N. Ouakri leg.; SMF, MOR_1963.

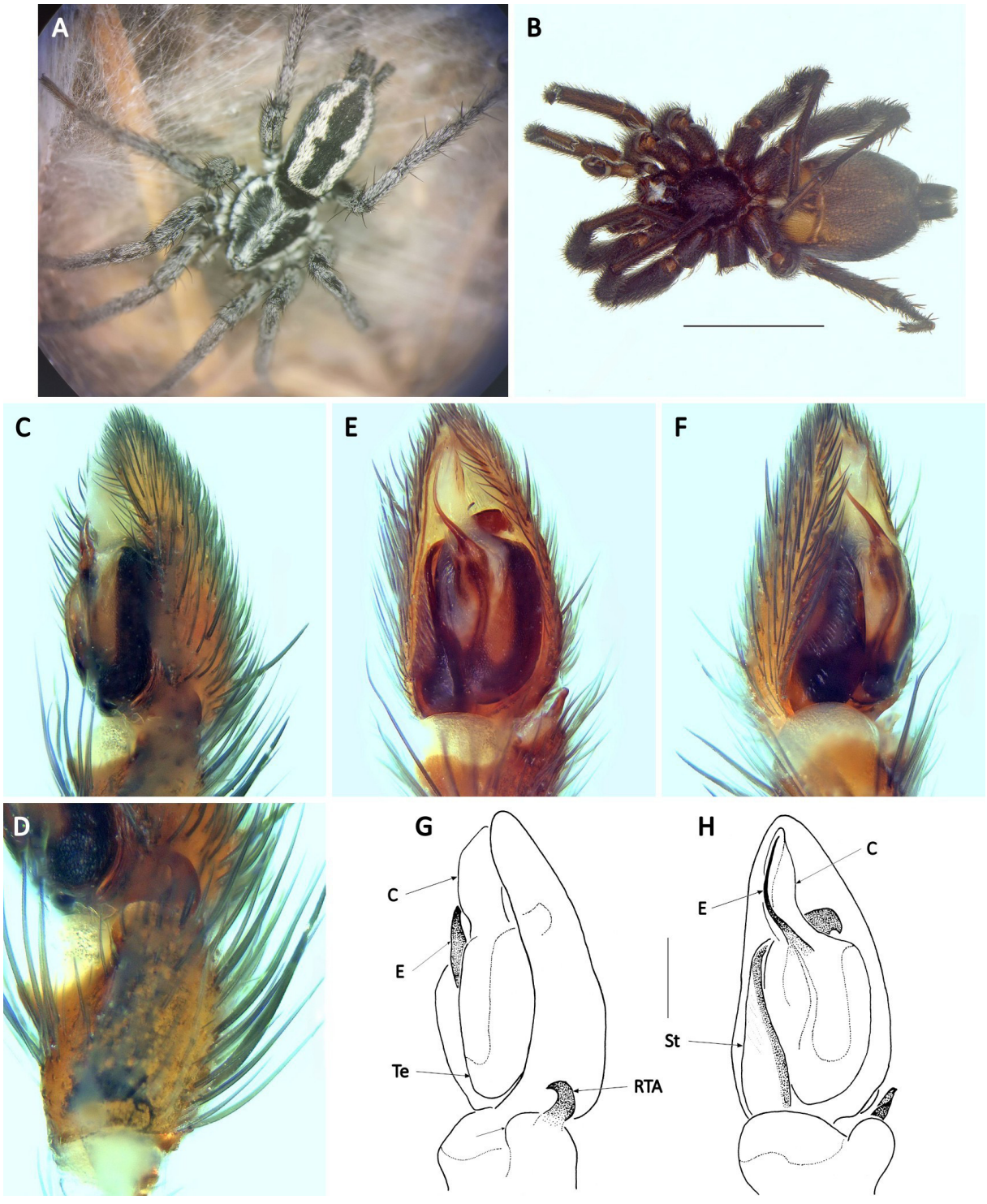


Fig. 3. *Cesonia africana* Lecigne & Ouakri sp. nov., holotype, ♂ (SMF, MOR_1677). **A**. Dorsal view. **B**. Ventral view. **C**. Palp, retrolateral view. **D**. RTA, lateral view. **E-F, G–H**. Palp. **E, H**. Ventral views. **F**. Prolateral view. **G**. Retrolateral views (black arrow: protrusion supporting the RTA). Photos: A = S. Lecigne; B–H = P. Oger. Abbreviations: see Material and methods. Scale bars: B = 3.0 mm; G–H = 0.2 mm.

Description

The specimens feature the characters listed by Chatzaki (2002: 626), i.e., dark longitudinal bands covering the entire length of the abdomen dorsally and laterally, separated by intervening light bands (see Fig. 3A compared with Chatzaki 2002: 627, fig. 68); PME closer to PLE than to each other; embolus close to the membranous conductor, protruding beyond the tegulum. We therefore assign these specimens to the genus *Cesonia*.

Male (holotype; Fig. 3)

Measurements. Total length 6.35; carapace length 2.83, width 2.35, CL/CW 1.20; scutum length 0.9.

Colour of live specimen (Fig. 3A). Carapace dorsally with three light and two dark longitudinal strips, the light median band joining the two light marginal bands posteriorly. Legs dark brown, covered with white hairs. Abdomen with two light dorsal strips not connected at posterior end, one median and two lateral longitudinal dark strips, one on each side.

Colour in ethanol (Fig. 3B). Chelicerae brown, distal part paler. Sternum dark brown to brown. Legs dark brown except sides of Fe I, yellowish and all metatarsi and tarsi paler. Abdomen ventrally pale brown.

Carapace. PME closer to PLE than to each other. Chelicerae: outer cheliceral margin armed with three small teeth, increasing in size distally.

Leg spination. Tibiae I–II, 3 pairs of ventral spines; metatarsi I–II, 1 pair of ventral, proximal spines, other segments with variable number of spines, more numerous on legs III–IV.

Abdomen. Anterior scutum occupying 27–28% of its length.

Palp (Fig. 3C–H). Tibial apophysis short, hook-like, supported by rounded protrusion (Fig. 3G, RTA). Subtegulum striated on its prolateral side, ending behind conductor in broad flat process, curved and pointed (Fig. 3H, St). Embolus fairly long, evenly tapered, slightly curved outwards, extending beyond edge of cymbium, at about 12 o'clock position. Conductor, membranous projection close to embolus.

Female (paratype; Fig. 4); as in male except as noted

Measurements. Total length 6.33; carapace length 2.65, width 2.18, CL/CW 1.21.

Colour in ethanol (Fig. 4B). Sternum brown, central area paler; chelicerae pale brown.

Epigyne/vulva (Fig. 4C–F). Inner margins sclerotized, S-shaped (Fig. 4F, dotted arrows). Median part forming a translucent V-shaped plate reaching lateral margins (Fig. 4F, black arrow). Copulatory openings located laterally. Spermathecae rounded, separated by about ⅓ of their diameter, surmounted by two lateral heads and then by two globular lobes in contact with each other, inclined towards each other (Fig. 4G, L).

Variation

Measurements. Male (n = 2): total length 5.40–6.35, carapace length 2.53–2.83, width 2.05–2.35, CL/CW 1.20–1.23; scutum length 0.80–0.90.

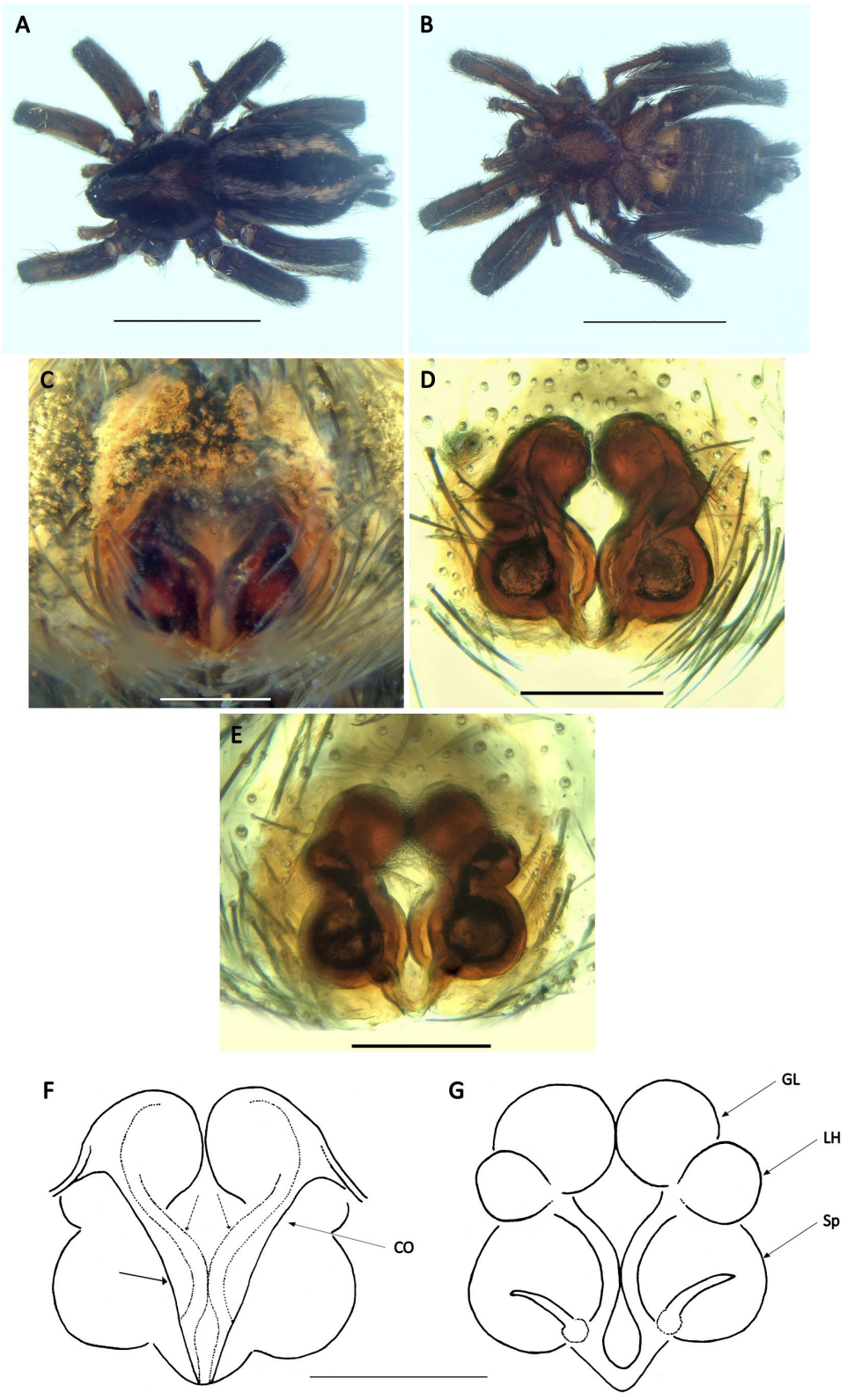


Fig. 4. *Cesonia africana* Lecigne & Ouakri sp. nov., paratype, ♀ (SMF, MOR_1963). **A**. Dorsal view. **B**. Ventral view. **C**. Epigyne. **D–E, G**. Vulva. D. Ventral view. **E, G**. Dorsal views. **F**. Epigyne (black arrow: translucent V-shaped plate; dotted arrows: inner sclerotized S-shaped margins). Photos by P. Oger. Abbreviations: see Material and methods. Scale bars: A–B = 3.0 mm; C–G = 0.2 mm.

Distribution and habitat

Only recorded from Morocco. To date, only known from a single station (Anza), in the coastal zone north of Agadir, in a xerothermophilic habitat facing west. It was recorded under stones, close to *Euphorbia* in an Argan grove.

Genus *Drassodes* Westring, 1851

Drassodes lutescens (C.L. Koch, 1839)
Table 2

Drassodes lutescens – Simon 1909: 15. — Lecigne *et al.* 2025: 131.

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 13 Mar. 2022; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, under stone in retreat; CSL, MOR_1546 • 1 ♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 21 Jan. 2024; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1500 • 1 ♀; same data as for preceding; 18 Feb. 2024; N. Ouakri leg.; by hand, Argan grove, on ground; CSL, MOR_1503. – **Chtouka Aït Baha Province** • 1 ♂; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 23 Oct. 2022; N. Ouakri leg.; by hand, Argan grove, under stone; CSL, MOR_1518 • 1 ♀; same data as for preceding; 15 Mar. 2024; N. Ouakri leg.; by hand, Argan grove, under stone with its egg sac in retreat; CSL, MOR_1527 • 1 ♀; same data as for preceding; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, under stone; CSL, MOR_1787 • 1 ♀; Aït Baha, near Dam Ahl Souss; 30.06279° N, 9.12406° W; 619 m a.s.l.; 11 Jan. 2022; N. Ouakri leg.; by hand, Argan grove, under stone; CSL, MOR_1519 • 1 ♀; same data as for preceding; 4 Feb. 2024; N. Ouakri leg.; by hand, Argan grove, under stone with its egg sac in retreat; CSL, MOR_1499.

Distribution and habitat

Drassodes lutescens (C.L. Koch, 1939) is a common and widely distributed species, from the Mediterranean region to Central Asia and Nepal (Nentwig *et al.* 2025). It is present at all the sites surveyed in this study. No further habitat information is available beyond the present records.

Genus *Echemus* Simon, 1878

Echemus escalerai Simon, 1909
Table 2

Echemus escalerai Simon, 1909: 18 (d♀).

Echemus escalerai – Bosmans & Alioua 2024: 1120, figs 2b–c, 3d–e (♀). — Lecigne *et al.* 2025: 54, fig. 30a–i (♂♀).

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Ichengline; 30.11556° N, 9.23131° W; 324 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, under stone; CSL, MOR_1704.

Distribution and habitat

Echemus escalerai Simon, 1909 is apparently endemic to Morocco where so far it appears to be found in the south-west, especially in Essaouira, Marrakesh, Agadir (Lecigne *et al.* 2025), and is now also found in Aït Baha. This species is known from dry environments, whether in open or wooded areas,

under stones or in litter (Argania steppe, palm groves, rocky slopes, including urban parks) (Bosmans & Alioua 2024).

Genus *Haplodrassus* Chamberlin, 1922

Haplodrassus dentifer Bosmans & Abrous, 2018
Table 2

Haplodrassus dentifer Bosmans & Abrous in Bosmans *et al.*, 2018: 15, figs 30–40, 49–53 (d♂♀).

Haplodrassus dentifer – Lecigne *et al.* 2025: 59, fig. 32a–e (♂).

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♂; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 11 Dec. 2022; N. Ouakri leg.; by hand, Argan grove, on ground; CSL, MOR_1510 • 1 ♀; same data as for preceding; CSL, MOR_1564 • 1 ♂; same data as for preceding; CSL, MOR_1753 • 1 ♂; same data as for preceding; CSL, MOR_ 1757 • 1 ♀; same data as for preceding; CSL, MOR_1971.

Distribution and habitat

Haplodrassus dentifer Bosmans & Abrous, 2018 is present in Morocco, Algeria, Tunisia and was also reported once from southern Spain. The specimens collected at the Aït Baha site were found on the ground in an Argan grove, which is consistent with the known species ecology and the distribution in Morocco, where it typically inhabits arid and low-rainfall environments (see Bosmans *et al.* 2018).

Genus *Nomisia* Dalmas, 1921

Nomisia aussereri (L. Koch, 1872)
Table 2

Nomisia aussereri – Denis 1956b: 276, (♂). — Di Franco 1994: 196 (♂♀). — Lecigne *et al.* 2025: 132, fig. 73k (♀).

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 11 Sep. 2022; N. Ouakri leg.; by hand, Argan grove, under stone; CSL, MOR_1520 • 1 ♀; same data as for preceding; MOR_1559 • 1 ♀; same data as for preceding; CSL, MOR_1562 • 1 ♂; same data as for preceding; CSL, MOR_1542 • 1 ♀; same data as for preceding.; 23 Oct. 2022; N. Ouakri leg.; by hand, Argan grove, under stone; CSL, MOR_1509.

Distribution and habitat

Nomisia aussereri (L. Koch, 1872) is one of the largest species in the genus. It is found in a wide area of the Palearctic Mediterranean regions, Eastern Europe, Turkey, the Middle East, the Caucasus stretching eastwards to Southern Siberia, Kazakhstan and China (WSC 2025). The species is widespread in dry, warm areas, on open ground and under stones.

Genus *Scotophaeus* Simon, 1893

Scotophaeus validus (Lucas, 1846)
Fig. 5, Table 2

Scotophaeus validus – Lissner 2017: 54, figs 6a–b, 7a–b, 8a–b (♀). — Lecigne *et al.* 2025: 132.

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, under stone; CSL, MOR_1713.

Distribution

So far, *Scotophaeus validus* (Lucas, 1846) is known from southern Europe and northern Africa including Morocco, Algeria, Tunisia and Libya (Nentwig *et al.* 2025; WSC 2025).

Fig. 5. *Scotophaeus validus* (Lucas, 1846), ♀ (CSL; MOR_1713), epigyne. Photo by S. Lecigne. Scale bar: 2 mm.

Genus *Setaphis* Simon, 1893

Setaphis simplex (Simon, 1885)
Table 2

Setaphis simplex – Platnick & Murphy 1996: 13, figs 29–32 (d♂) — Bosmans & Janssen 1999: 88, figs 13–16 (♂♀).

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 25 Dec. 2022; N. Ouakri leg.; by hand, Argan grove, on ground; CSL, MOR_1962.

Distribution and habitat

Setaphis simplex (Simon, 1885) is only known to occur in North Africa, notably Morocco, Algeria, Tunisia and Libya. It is mainly found in dry forests on mountains in sub-humid and semi-arid regions (e.g., Melilla and Djbel Tazekka in Morocco) (Bosmans & Janssen 1999). The specimens were collected only at the Aït Baha site, in an arid and xerothermic environment.

Genus *Zelotes* Gistel, 1848

Zelotes erythrocephalus (Lucas, 1846)
Fig. 6, Table 2

Zelotes erythrocephalus – Marinaro 1968: 691, fig. 7 (♀). — Lecigne *et al.* 2025: 72, fig. 41a–f (♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Alma; 30.51117° N, 9.59297° W; 410 m a.s.l.; 2 Jul. 2022; N. Ouakri leg.; by hand, Argan grove and olive trees, under stone; CSL, MOR_1744. – **Chtouka Aït Baha Province** • 1 ♂; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 26 May. 2024; N. Ouakri leg.; by hand, Argan grove, under stone, in retreat; CSL, MOR_1525.

Distribution and habitat

Zelotes erythrocephalus (Lucas, 1846) is only known from Spain, Morocco and Algeria (WSC 2025). It was first recorded in Morocco from Marrakesh "la Palmeraie" (Lecigne *et al.* 2025), this is only the second record of the species.

Zelotes tragicus (O. Pickard-Cambridge, 1872)
Fig. 7, Table 2

Melanophora tragica O. Pickard-Cambridge, 1872: 243, pl. 16 fig. 22 (d♂).
Prosthesima oryx Simon, 1880: 260 (D♂♀). **Syn. nov.**

Zelotes oryx – Caporiacco 1932: 234 (♀). — Denis 1952: 121, figs 13–15 (♂♀). — Alioua & Bosmans 2024: 311 (♂).
Zelotes tragicus – Alioua & Bosmans 2024: 311, figs 6a–f, 7a–c (♂♀). — Lecigne *et al.* 2025: 133, fig. 74m–p (♂).

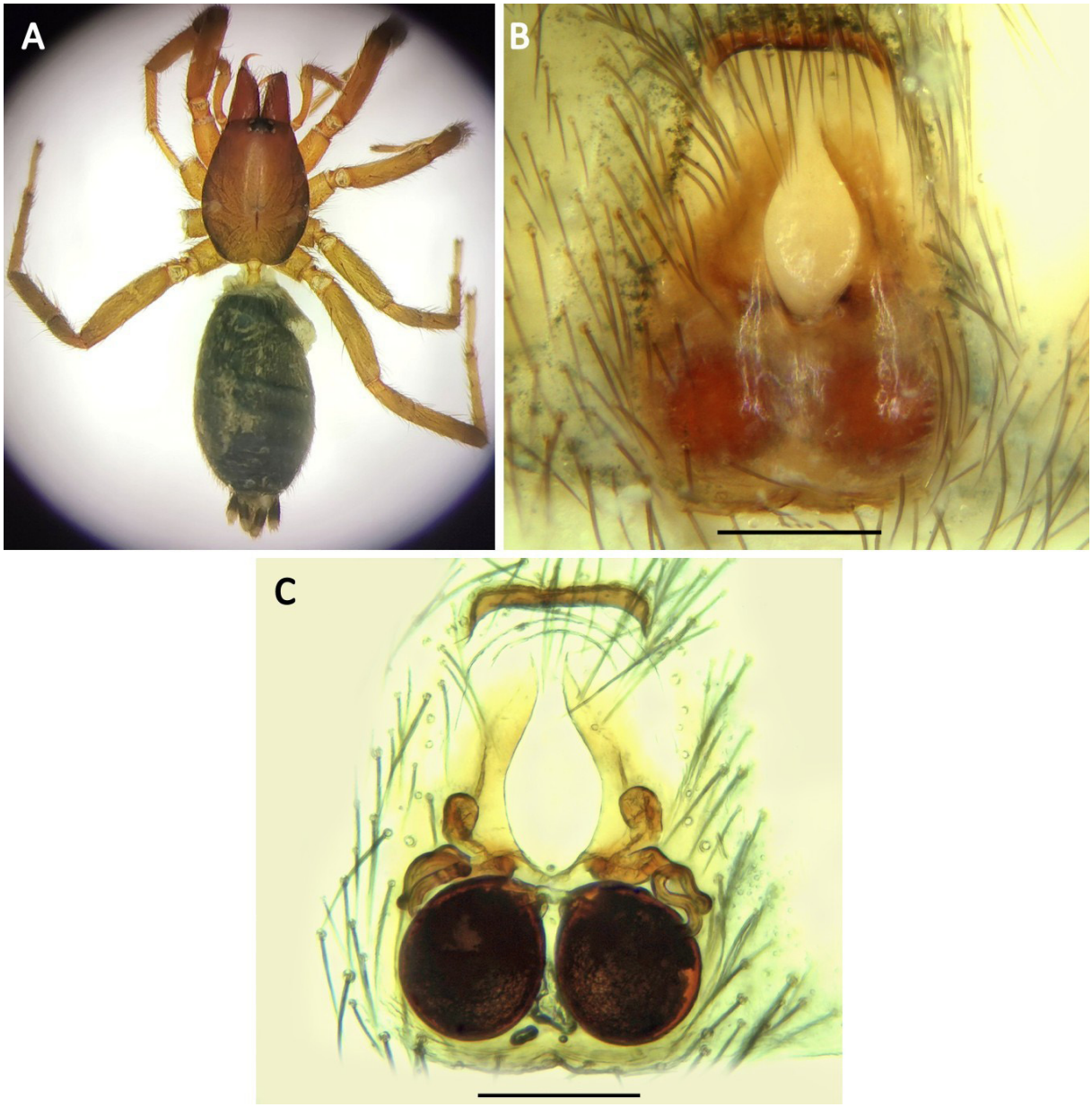


Fig. 6. *Zelotes erythrocephalus* (Lucas, 1846), ♀ (CSL, MOR_1744). **A**. Dorsal view. **B**. Epigyne/vulva, ventral view. **C**. Vulva, dorsal view. Photos by: A = S. Lecigne; B–C = P. Oger. Scale bars: B–C = 0.2 mm.

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2023; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1531 • 1 ♂; Tinfoul; 30.51986° N, 9.35192 W; 337 m a.s.l.; 21 Jan. 2024; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, on ground; CSL, MOR_1496. – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Ichengline; 30.11556° N, 9.23131° W; 324 m a.s.l; 11 Dec. 2022; N. Ouakri leg.; by hand, Argan grove, under stone; CSL, MOR_1517.

Other material examined

Zelotes oryx (Simon 1880)

ALGERIA? – **Biskra?** • 1 ♂, 1 ♀; (remark: without specified locality, probably the type series from Algeria, Biskra (Bosmans, 1995, pers. comm.), examination based on photos); repos. ident., MNHNP AR 1992.

Remarks

The original description of *Zelotes oryx* (Simon, 1880) is very brief and provides no useful details on the conformation of the bulbus nor any illustrations. Denis (1952) does not provide any further details, but does produce two figures based on specimens from the MNHNP. It is not clear whether these specimens correspond to those in Simon's collection. However, his figures (Denis 1952: 121, figs 13–15, partly reproduced here in Fig. 7E, J)) are consistent with the male (MNHNP AR 1992) whose photos are presented (Fig. 7D, K).

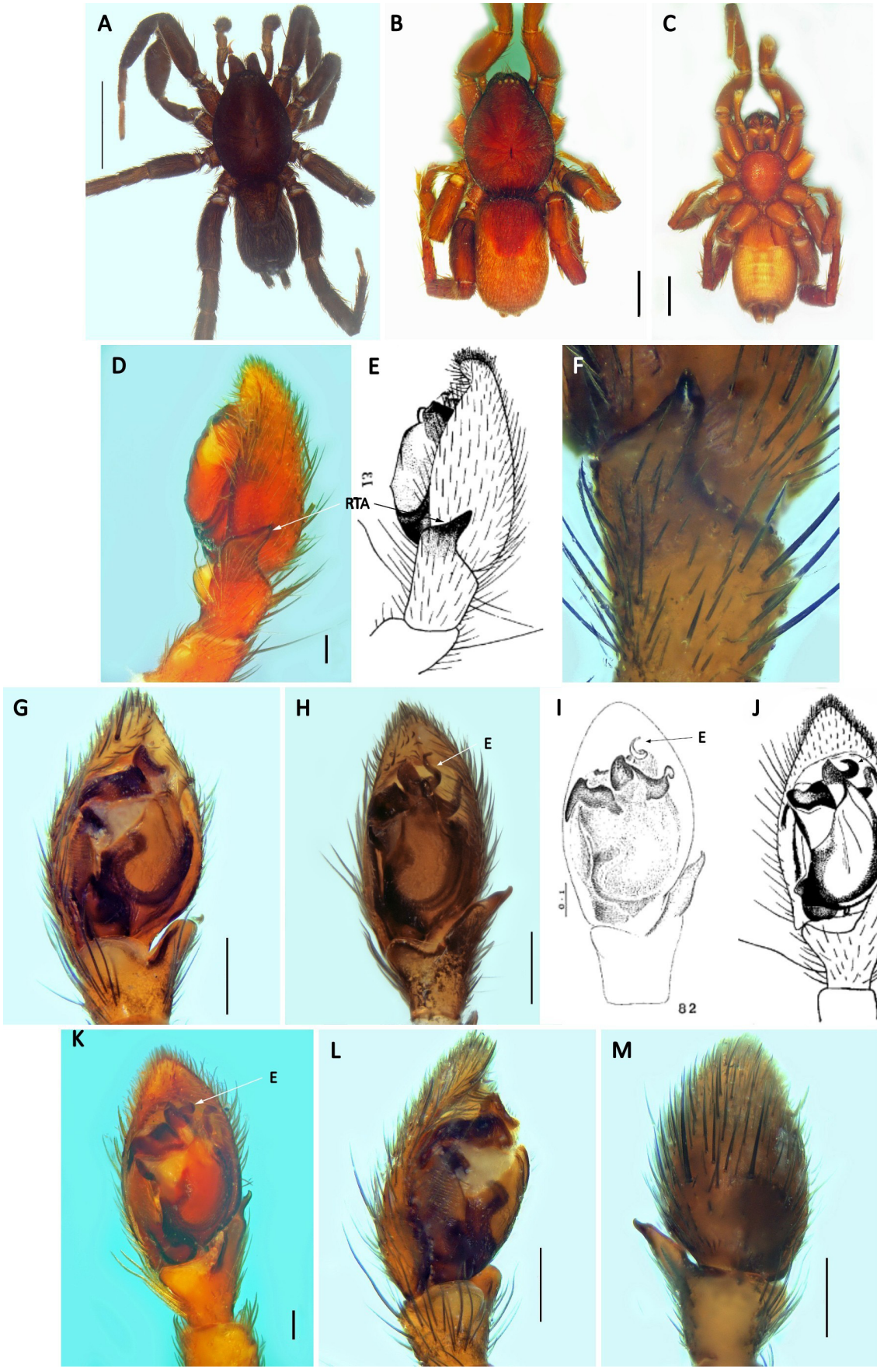
The original description of *Zelotes tragicus* (O. Pickard-Cambridge 1872) focuses mainly on somatic characters. Regarding the palpus, only the tibial apophysis is described, but the drawing shows only the ventral view and remains imprecise.

However, the descriptions of the tibial apophyses of both species are convergent: regarding *Z. oryx* "… apophyse (vue de profil) presque aussi longue que l'article, très-épaisse, non atténuée, légèrement dirigée en bas, tronquée très obliquement avec l'angle supérieur prolongé en pointe aiguë relevée en haut et un peu infléchie en dehors" (Simon 1880) ["... the apophysis (viewed in profile) is almost as long as the article, very thick, not attenuated, slightly directed downwards, truncated very obliquely with the upper angle prolonged into a sharp point raised at the top and slightly bent outwards"]; regarding *Z. tragicus* '… this is broad and strong at its commencement, but at about the middle of its length from the underside it goes off abruptly into a tapering sharp-pointed form on the upper-side, with a rather upward direction' (O. Pickard-Cambridge 1872).

Specimens of both sexes sampled during the survey in the vicinity of Agadir (Tinfoul and Aït Baha) were compared with what we consider to be the type series of *Zelotes oryx*. Direct examination of the type series was not possible (loan and examination not permitted); however, we were able to study photographs of the specimens (Fig. 7B–D, K). They clearly match the figures of *Zelotes tragicus* according to Alioua & Bosmans (2024) and Levy (1998) (Fig. 7I), specifically the shape of the tibial apophysis, broad and robust (Fig. 7D–F, RTA) and the spiral embolus (Fig. 7H–K, see E). Thus, we consider *Zelotes oryx* as a junior synonym of *Zelotes tragicus*.

The epigyne of the female illustrated by Marinaro (1968) belongs to another, unknown species.

Fig. 7 (next page). **A–D, F–J**. *Zelotes tragicus* (O. Pickard-Cambridge, 1872), ♂♂. **A, E–H**. Specimen from Morocco (CSL, MOR_1496). **B–D, K**. Specimen probably from Algeria, as *Zelotes oryx* (Simon, 1880) (MNHNP AR 1992), right palp; D, K rotated horizontally to facilitate comparisons. **E, J**. *Zelotes oryx* (Denis, 1952: figs 13–14) (MNHNP AR 1992?), right palp; figures rotated horizontally to facilitate comparisons. **H**. Specimen from Morocco (Lecigne et al. 2025) (CSL MOR_0377). **I**. *Zelotes tragicus* (Levy, 1998: 134, fig. 82) (HECO, B. 262, t. 63). **A–B**. Dorsal views. **C**. Ventral view. **D–E**. Palp, retrolateral views. **F**. RTA, lateral view. **G–J**. Palp, ventral views. **K–L**. Palp. **K**. Ventro-prolateral view. **L**. Dorsal view. Photos: A, F–H, L–M = P. Oger; B–D, K = Y. Montardi. Abbreviations: see Material and methods. Scale bars: A = 2.0 mm; B–C = 1.0 mm; D, K, I = 0.1 mm; G–H, L–M = 0.2 mm.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Distribution and habitat

Zelotes tragicus (O. Pickard-Cambridge, 1872) is known from North Africa (Morocco, Algeria, Tunisia, Libya and Egypt), Chad, Ethiopia, Israel and Palestine (WSC 2025). The species appears to be fairly common in the Maghreb where it inhabits a wide range of open, xero-thermic habitats.

Family Hersiliidae Thorell, 1869
Genus *Hersiliola* Thorell, 1869

Hersiliola simoni (O. Pickard-Cambridge, 1872)
Table 2

Hersiliola simoni – Foord & Dippenaar-Schoeman 2005: 261, fig. 3a–g, (♀♂). — Lecigne *et al.* 2025: 133, fig. 75g–j (♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂; Alma; 30.51117° N, 9.59297° W; 410 m a.s.l.; 2 Jul. 2022; N. Ouakri leg.; by hand, Argan grove and olive trees, under stone; CSL, MOR_1556 • 1 ♂; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 14 Aug. 2022; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*; under stone; CSL, MOR_1513. – **Chtouka Aït Baha Province** • 1 ♂, 2 juvs; Aït Baha, near Ichengline; 30.11556° N, 9.23131° W; 324 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, under stone; CSL, MOR_1705.

Distribution and habitat

A species with a wide Palearctic distribution. See Levy (2003); see Marusik & Fet (2009) for distribution and habitat preferences.

Family Linyphiidae Blackwall, 1859
Genus *Acartauchenius* Simon, 1884

Acartauchenius mutabilis (Denis, 1967)
Table 2

Trachelocamptus mutabilis Denis, 1967: 795, figs 1–8 (d♂♀).
Trachelocamptus prominens Denis, 1967: 798, figs 9–10 (d♀).

Acartauchenius mutabilis – Bosmans 2002: 11, figs 32–38 (♂♀) — Lecigne *et al.* 2025: 134, fig. 76a–j (♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 5 ♀♀, 1 ♂; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; by hand, sparse Argan grove on arid rocky soil, under stone; CSL, MOR_1678 • 2 ♀♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; Argan grove, palm trees and olive trees, under stone; CSL, MOR_1721 • 1 ♀; same data as for preceding; CSL, MOR_1774 • 1 ♀; same data as for preceding; N. Ouakri leg.; Argan grove, palm trees and olive trees, under stone; CSL, MOR_1977.

Distribution and habitat

There is only one relatively old record of *A. mutabilis* (Denis, 1967) in both Algeria (northwest, Tlemcen, in 1984; Bosmans 2002) and Tunisia (northeast, Kairouan, in 1915, Thaler 1977). In Morocco, the species is fairly common (Bosmans 2002). It inhabits open arid habitats, under stones and detritus. It is also found in wooded areas, mainly under stones (Denis 1967).

Genus *Styloctetor* Simon, 1884

Styloctetor romanus (O. Pickard-Cambridge, 1873)
Table 2

Styloctetor romanus – Denis 1956a: 204, (♀) — Bosmans 2007: 139, figs 148–152 (♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 5 ♀♀; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; by hand, sparse Argan grove on arid rocky soil, under stone; CSL, MOR_1686 • 2 ♀♀; same data as for preceding; 1 Apr. 2025; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, under stone; CSL, MOR_1969.

Distribution and habitat

Styloctetor romanus (O. Pickard-Cambridge, 1873) is a Palearctic species (Bosmans 2007) which was first documented in Morocco by Denis (1956a) in Taounate. The specimens in this study were only collected in Anza (coastal zone), under stones in an Argan grove. This habitat corresponds to a dry and xerothermic environment.

Family Liocranidae Simon, 1897
Genus *Mesiotelus* Simon, 1897

Mesiotelus mauritanicus Simon, 1909
Table 2

Mesiotelus mauritanicus Simon, 1909: 33 (d♂).

Mesiotelus mauritanicus – Lecigne *et al.* 2023: 71, fig. 23 (♀) — Lecigne *et al.* 2025: 137, fig. 81l–o (♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 13 Nov. 2022; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, on the ground; CSL, MOR_1552 • 1 ♀; same data as for preceding; 21 Jan. 2024; N. Ouakri leg.; by hand, Argan grove and olive trees, on the ground; CSL, MOR_1498 • 1 ♀; same data as for preceding; under stone; CSL, MOR_1504.

Distribution and habitat

Mesiotelus mauritanicus Simon, 1909 is a Mediterranean species; it has been recorded in Spain, Portugal, France, Italy (Sicily), Morocco and Algeria (WSC 2025). In Morocco, the species is fairly common and is found in caves, forests, on rocky slopes with bushes and also in wooded coastal dunes, at altitudes ranging from 162 m to 1884 m. This species is mainly found in the centre and south-west of the country (e.g., Asni, Amizmiz, Essaouira, Ourika, Agadir, Aghlef) (Lecigne *et al.* 2023, 2025). These habitats, mainly forested, are characterised by a semi-arid to arid climate. The discovery of the species at the

Tinfoul site is consistent with these climatic conditions and this type of habitat, confirming its ecological preferences.

Family Nemesiidae Simon, 1889
Genus *Nemesia* Audouin, 1826

Nemesia uncinata Bacelar, 1933
Fig. 8, Table 2

Nemesia uncinata Bacelar, 1933: 285, figs 1–3 (d♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 4 Dec. 2022; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, in a burrow under stone; CSL, MOR_1537.

Distribution and habitat

Until now, *Nemesia uncinata* Bacelar, 1933 was only recorded from Spain and Portugal (WSC 2025). Its finding at the Anza site significantly extends its range southward. Apart from the present record, there is currently insufficient information to specify the habitat of this species.

Remarks

Regarding the identification of the male specimen from Anza: in addition to the two keels i.e., superior prolateral and apical, we note the presence of the large tooth (an angular process = third keel) in the subapical part of the embolus in *N. uncinata* which does not occur in other members of the BE group, defined by Decae (2012) (after Zonstein 2017: 155–156).

The species is new to Morocco.

Family Oecobiidae Blackwall, 1862
Genus *Oecobius* Lucas, 1846

Oecobius machadoi Wunderlich, 1995
Table 2

Oecobius machadoi – Lecigne *et al.,* 2025: 100, fig. 59a–g (♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 28 May 2025; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, under stone; CSL, MOR_1968 • 1 ♀,1 ♂; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1724.

Distribution and habitat

According to Le Peru (2011), *Oecobius machadoi* Wunderlich, 1995 is recorded from various localities in Portugal and southern Spain. Its ecology remains poorly documented; Machado (1949) noted that the species occurs in arid, sun-exposed habitats, under stones.

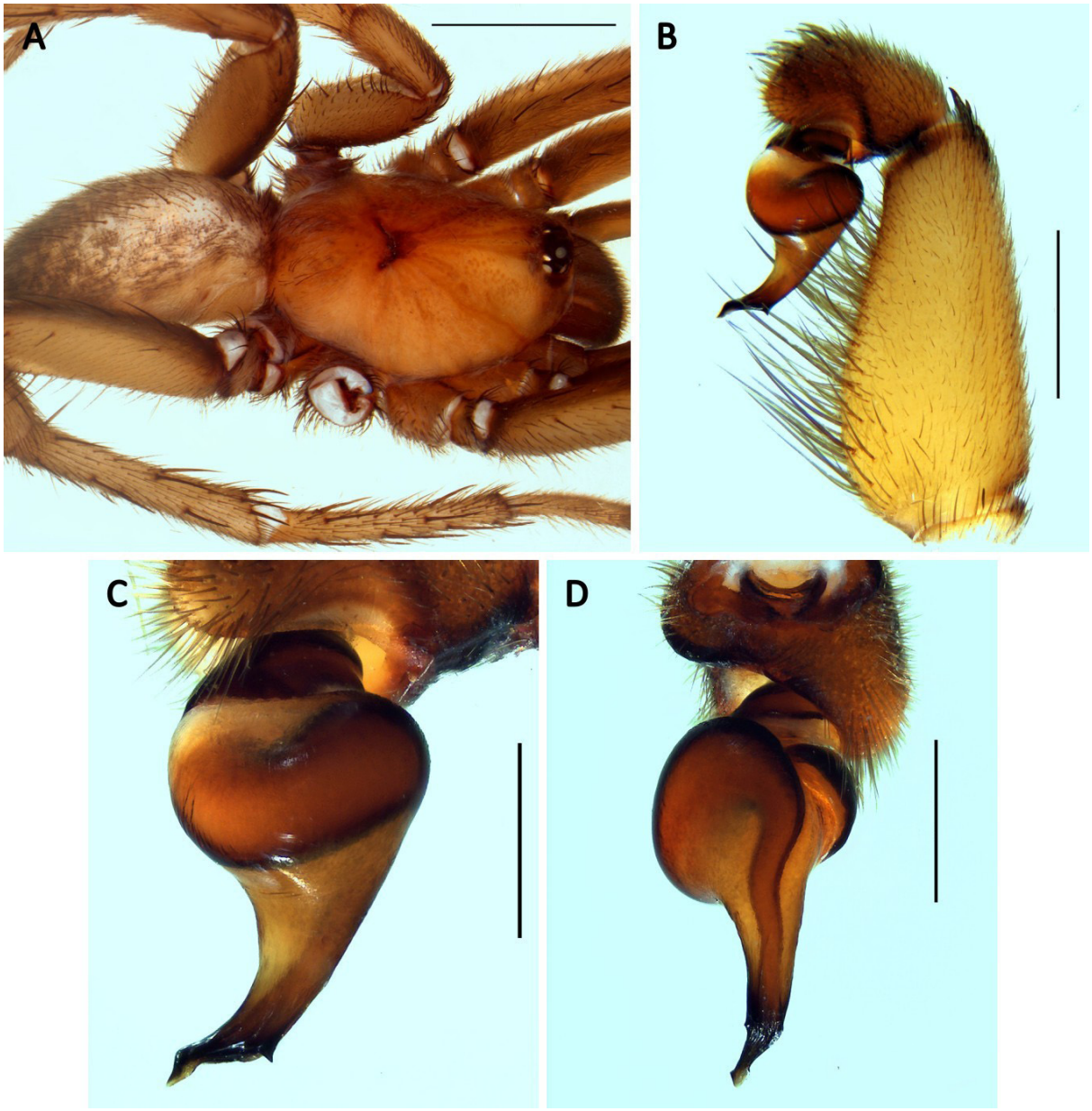

Fig. 8. *Nemesia uncinata* Bacelar, 1933, ♂ (CSL, MOR_1537). **A**. Dorsal view. **B**. Palp, retrolateral view. **C–D**. Bulb. **C**. Retrolateral view. **D**. Prolatero-ventral view. Photos by P. Oger. Scale bars: A = 3.0 mm; B = 1 mm; C–D = 0.5 mm.

Remarks

Oecobius machadoi was recently reported for the first time from Morocco, i.e., Marrakech (Lecigne *et al.* 2025). Its range extends southward with the present record in Agadir Ida Outanane.

Family Pholcidae C.L. Koch, 1850
Genus *Holocnemus* Simon, 1873

Holocnemus reini (C. Koch, 1873)
Table 2

Holocnemus reini – Huber 2022: 29, figs 7–8, 59–96 (♂, d♀) — Lecigne *et al.* 2023: 66, fig. 18a–i (♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; by hand, sparse Argan grove on arid rocky soil, between stones, on web, with cocoon; CSL, MOR_1689.

Distribution and habitat

Holocnemus reini (C. Koch, 1873) is distributed in northwestern Africa (e.g., Morocco, Algeria and Tunisia) (WSC 2025). For further details on the species distribution and habitat, refer to Huber (2022).

Family Salticidae Blackwall, 1841
Genus *Aelurillus* Simon, 1885

Aelurillus blandus (Simon, 1871)
Table 2

Attus blandus Simon, 1871: 155 (d♂).

Aelurillus blandus – Lecigne *et al.* 2025: 142, fig. 87a–e (♂).

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♂; Aït Baha, near Ichengline; 30.11556° N, 9.23131° W; 324 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, under stone; CSL, MOR_1706.

Distribution and habitat

The discovery of *Aelurillus blandus* (Simon, 1871) at the Aït Baha site is the second report of the species in Morocco, following its first mention with collections made on the Atlantic coast (Beddouza) and in Marrakesh under a typically dry Mediterranean climate (Lecigne *et al.* 2025). It is consistent with the Aït Baha site, also characterised by a xerothermic environment. This new observation further extends the known range of *Aelurillus blandus* towards the southwest, previously limited to the Iberian Peninsula and Greece (including Cyprus).

Aelurillus hirtipes Denis, 1960
Fig. 9, Table 2

Aelurillus hirtipes – Azarkina & Loguno 2006: 237, figs 33–45 (♂, d♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 28 May 2025; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, on ground; CSL, MOR_1975 • 1 ♂; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 12 May 2024; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1767 • 2 ♂♂ same data as for preceding; 19 Mar.

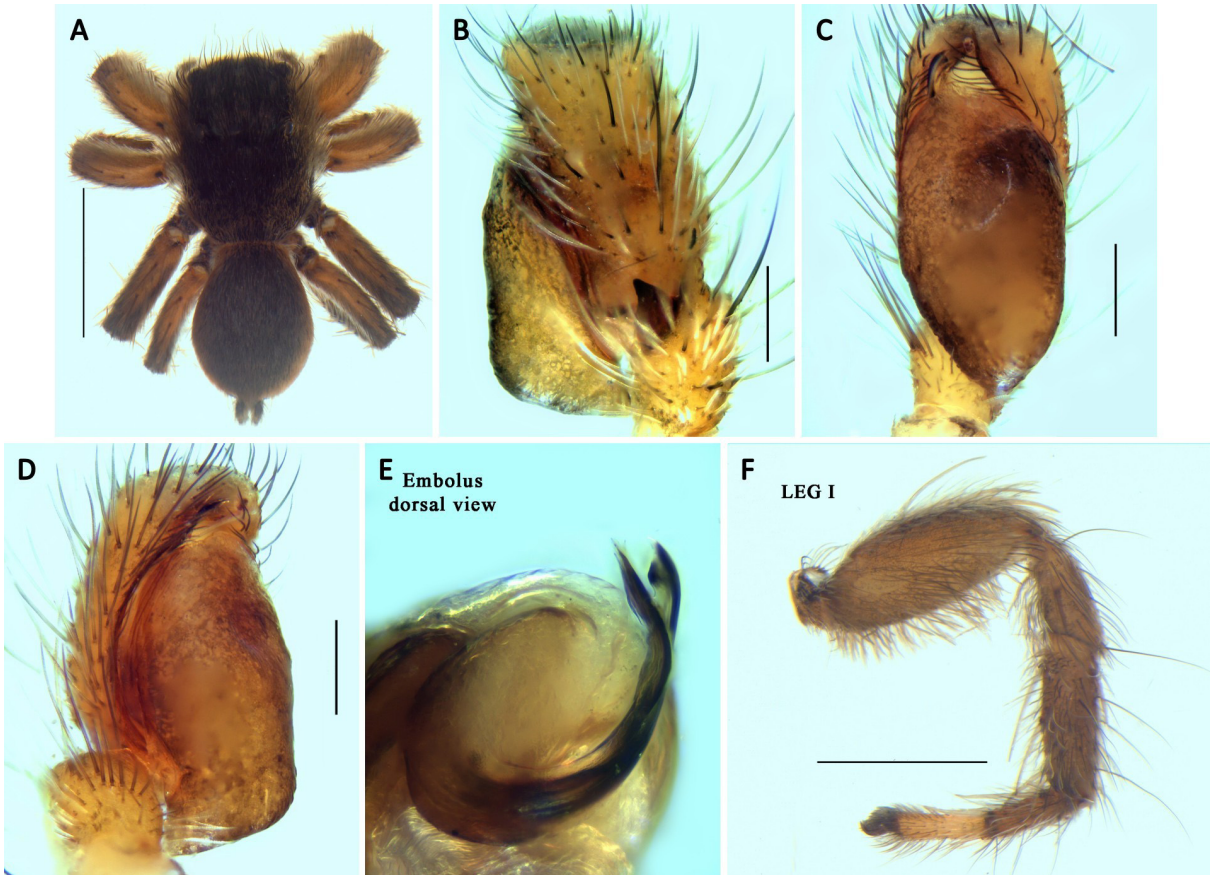

Fig. 9. *Aelurillus hirtipes* Denis, 1960, ♂ (CSL, MOR_1727). **A**. Dorsal view. **B–D**. Palp. **B**. Retrolateral view. **C**. Ventral view. **D**. Prolateral view. **E**. Embolic division, dorsal view. **F**. Leg I, lateral view. Photos by P. Oger. Scale bars: A = 2.0 mm; B–D = 0.2 mm; F = 1.0 mm.

2025; S. Lecigne leg.; by hand Argan grove, palm trees and olive trees, on ground and under stone; CSL, MOR_1727.

Distribution and habitat

Aelurillus hirtipes Denis, 1960 is known from Algeria, Morocco, NW Chad and Egypt (Azarkina & Logunov 2006). The literature does not provide precise information on the ecological preferences of the species. However, our observations show that it is adapted to dry areas with a hot climate. In Morocco, it was already reported from Errachidia (Azarkina & Logunov 2006), confirming its affinity for these dry environments.

Genus *Euophrys* C.L. Koch, 1834

Euophrys gambosa (Simon, 1868)
Table 2

Euophrys gambosa – Simon 1876: 181 (♂♀). — Lecigne *et al.* 2025: 142, fig. 88b–h (♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 3 ♂♂, 1 juv; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; by hand, sparse Argan grove on arid rocky soil, under stone; CSL, MOR_1694.

Distribution and habitat

Euophrys gambosa (Simon, 1868) occurs across the Mediterranean region, including southern Europe, North Africa, Greece and Crete (Metzner 1999). Apart from the present record, there is currently insufficient information to specify the habitat of this species.

Genus *Menemerus* Simon, 1868

Menemerus currens Lecigne sp. nov.
urn:lsid:zoobank.org:act:6AA3C964-3A75-4D08-9492-568C002D4E57
Figs 10–11, Table 2

Diagnosis

The new species most resembles *Menemerus davidi* Prószyński & Wesołowska, 1999 but the male differs in the shape of the palpal retrolateral lobe, large and not bilobed in *M. currens* Lecigne sp. nov. The palpal ventral tibial apophysis is bent retrolaterally in the new species and pointed ventrally in *M. davidi*. *Menemerus currens* lacks both palpal dorsal tibial apophysis and basal femoral process; *M. davidi* has a flat dorsal tibial apophysis and a big process at base of femur (cf. Fig. 10B–F and Wesołowska 1999: 280, figs 78–85). The female of the new species can be distinguished by the presence of two large postero-lateral epigynal teeth, absent in those of *M. davidi*. The spermathecae of *M. currens* are higher than wide, subcircular in *M. davidi* (cf. Fig. 11D–G; Wesołowska 1999: 281, figs 86–88).

Etymology

The specific epithet of this new species refers to the behaviour of the specimens observed in their environment, fleeing by running quickly on the ground rather than jumping.

Type material

Holotype

MOROCCO – **Agadir Ida-Outanane Prefecture** • ♂ (left pedipalp detached); Agadir, Anza; 30.47808° N, 9.66300° W; 80 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; sparse Argan grove and *Euphorbia*, on arid rocky ground, under stone; by hand; SMF, MOR_1684.

Paratype

MOROCCO – **Agadir Ida-Outanane Prefecture** • 1 ♀ (abdomen and epigyne separated; abdomen damaged); same data as for holotype; SMF, MOR_1684.

Description

Male (holotype; Fig. 10)

Measurements. Total length 6.80; carapace length 3.00, width 2.29, CL/CW 1.31; PLE–PLE 1.50.

Colour in ethanol (Fig. 10A). Carapace dark brown with broad median band of long white flattened hairs, widening anteriorly to anterior eye line, edged with orange hairs. Marginal bands of white hairs narrowing anteriorly and interrupted at level of PLE. Clypeus with white hairs, thicker under AME; anterior eyes surrounded by long orange setae. Sternum pale brown. Legs yellowish except coxae, trochanters and femora of first legs brown but femora distally paler; tibiae and metatarsi of first legs

darker; retrolateral side of femora of second pair of legs with large greyish marks. Pedipalps brown, femora dorsally covered with long white hairs, denser distally. Abdomen yellowish with two lateral wide longitudinal dark strips, converging at rear towards spinnerets, but without joining.

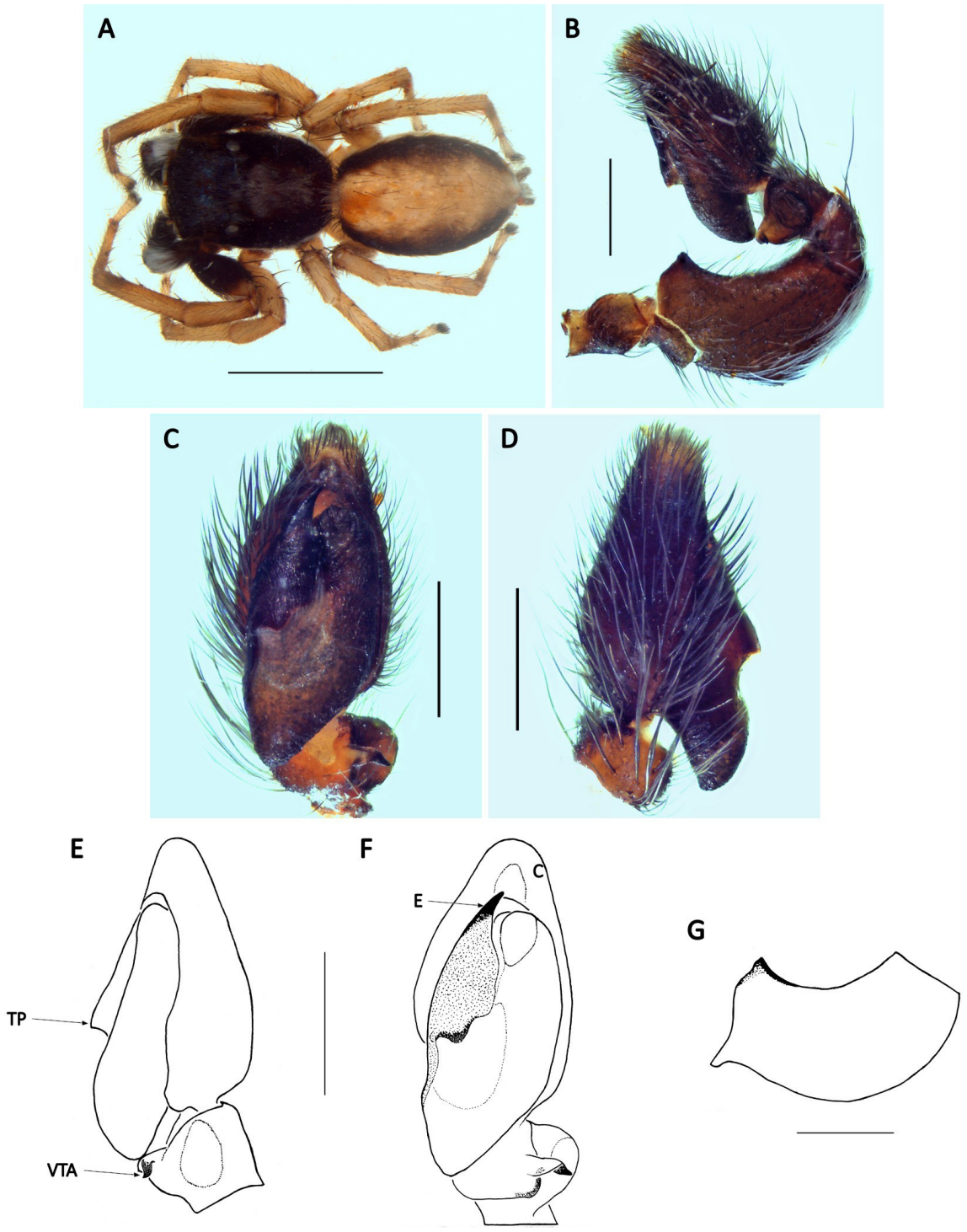

Fig. 10. *Menemerus currens* Lecigne sp. nov., holotype, ♂ (SMF, MOR_1684). **A**. Dorsal view. **B–F**. Palp. **B, E**. Retrolateral views. **C, F**. Ventral views. **D**. Dorsal view. **G**. Femur, retrolateral view. Photos by P. Oger. Abbreviations: see Material and methods. Scale bars: A = 3 mm; B–G = 0.5 mm.

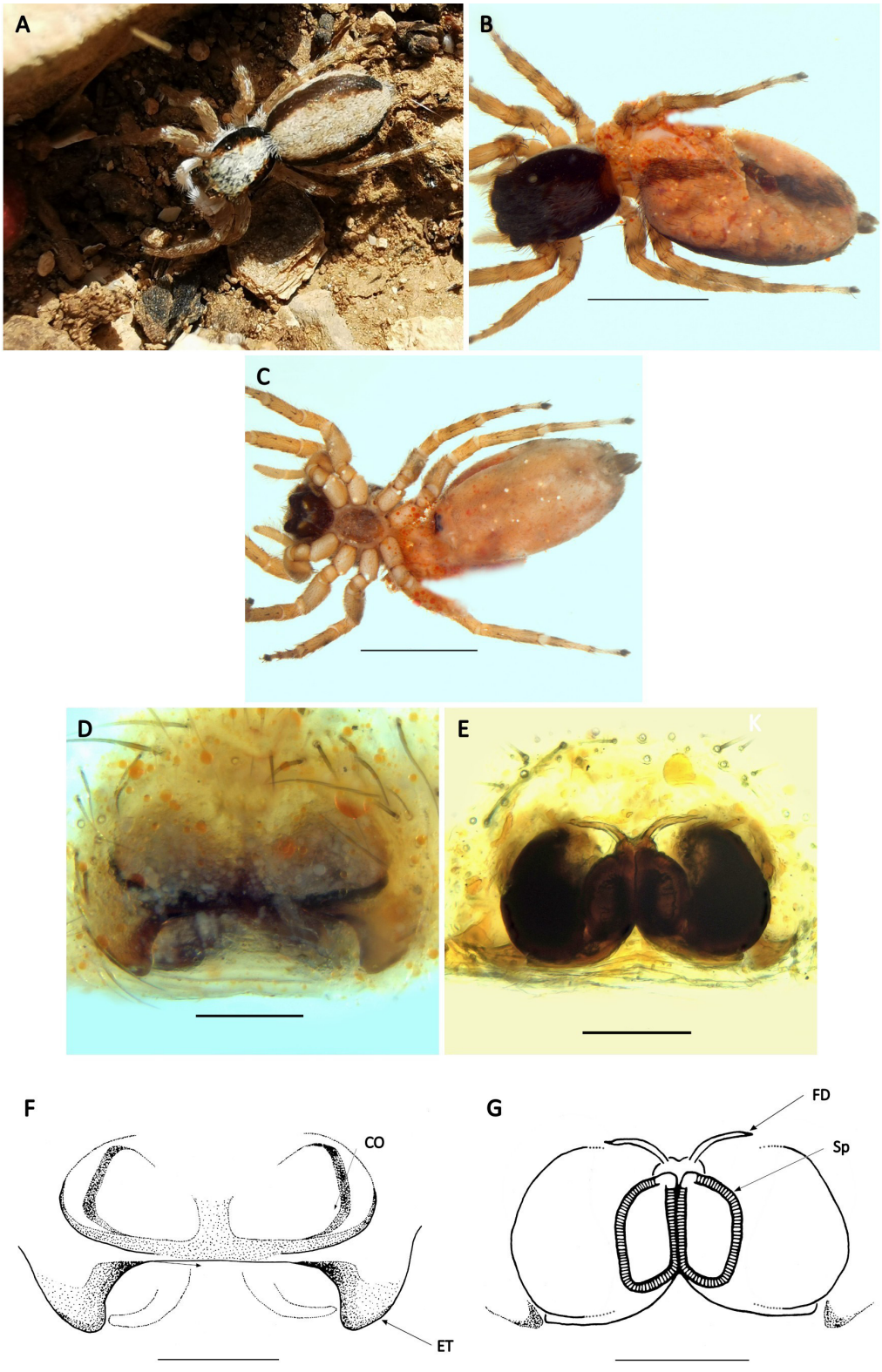

Fig. 11. *Menemerus currens* Lecigne sp. nov., paratype, ♀ (SMF, MOR_1684). **A–B**. Dorsal view. **C**. Ventral view. **D, F**. Epigyne/vulva, ventral views. **E, G**. Vulva, dorsal views. Photos: A = S. Lecigne; B–G = P. Oger. Abbreviations: see Material and methods. Scale bars: B–C = 3 mm; D–G = 0.2 mm.

Carapace. Chelicerae: outer cheliceral margin armed with two teeth, distal one largest.

Leg spination. Tibiae II and metatarsi I–II, with 2 pairs of ventral spines; other segments with variable number of spines.

Palp (Fig. 10B–G). Ventral apophysis directed outwards, tip slightly curved ventrally (Fig. 10E). Retrolateral side of palpal femur with sub-circular depression and ventro-apical area of femur pointed and sclerotized (Fig. 10G). Ventro-retrolateral edge of tegulum straight. Embolus short and stout, strongly sclerotized, slightly and evenly curved outwards, oriented towards 1 o'clock position (Fig. 10C, F).

Female (paratype; Fig. 11); as in male except as noted
Measurements. Total length 9.20; carapace length 3.05, width 2.30, CL/CW 1.33.

Colour on live specimen (Fig. 11A). Silvery appearance of broad median white band on carapace and abdomen, contrasting with dark brown lateral stripes.

Colour in ethanol (Fig. 11B–C). Legs yellowish with greyish areas giving vaguely ringed appearance, particularly on tibiae and metatarsi of third and fourth legs. Pedipalps yellow, tibiae and tarsi with long, sparse white hairs, mainly on sides.

Leg spination. Metatarsi I–II, 2 pairs of ventral spines; other segments with variable number of spines.

Epigyne/vulva (Fig. 11D–G). Epigyne wide, with large atria, provided with two large blunt postero-lateral teeth (Fig. 11F, ET). Internal structure strongly sclerotized (Fig. 11E); spermathecae (Sp) higher than wide (Fig. 11G).

Distribution and habitat

Currently only recorded from Morocco. To date, only known from the type locality, from a single station, in the coastal zone north of Agadir (Anza), in a xerothermophilic habitat facing west. It was observed under stones, close to a *Euphorbia* in an Argan grove.

Genus *Mogrus* Simon, 1882

Mogrus sahariensis Berland & Millot, 1941
Fig. 12, Table 2

Mogrus sahariensis Berland & Millot, 1941: 307, fig. 8 (d♀).

Type material

Holotype
NIGER – **Sahara Gangana** • ♀ (examination based on photos); MNHNP, jar 2662 ("X. 37; rec. Berland, det. J. Millot").

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1730.

Distribution and habitat

Until recently, *Mogrus sahariensis* Berland & Millot, 1941 was only known from the type locality in Niger (Gangana; Berland & Millot 1941). It was recently discovered in northern Egypt (Al Mansoureyah region, near Giza, in vineyards and under fruit trees; El-Helbawy *et al.* 2025).

Remarks

The specimen found in Tinfoul corresponds to the original description (Berland & Millot 1941). However, the lateral edges of the epigyne of our specimen (Fig. 12C vs Berland & Millot 1941: 307, fig. 8c) do not show any apparent convergence, as is the case for the type specimen. The description by these authors does not detail the internal genital structures. The photos of the vulva of the Egyptian specimen (El-Helbawy *et al.* 2025: fig. 3b–c) do not provide sufficient detail of the internal structures to provide certainty. Nevertheless, we were able to compare our specimen both with another individual from Morocco featuring the same convex shape of the lateral margins of the epigyne as the type drawn by Berland & Millot (1941), and with the holotype itself (see supra material examined). Our two specimens from Morocco display the same conformation of the vulva.

Consequently, we assign the specimen from Tinfoul to *Mogrus sahariensis*.

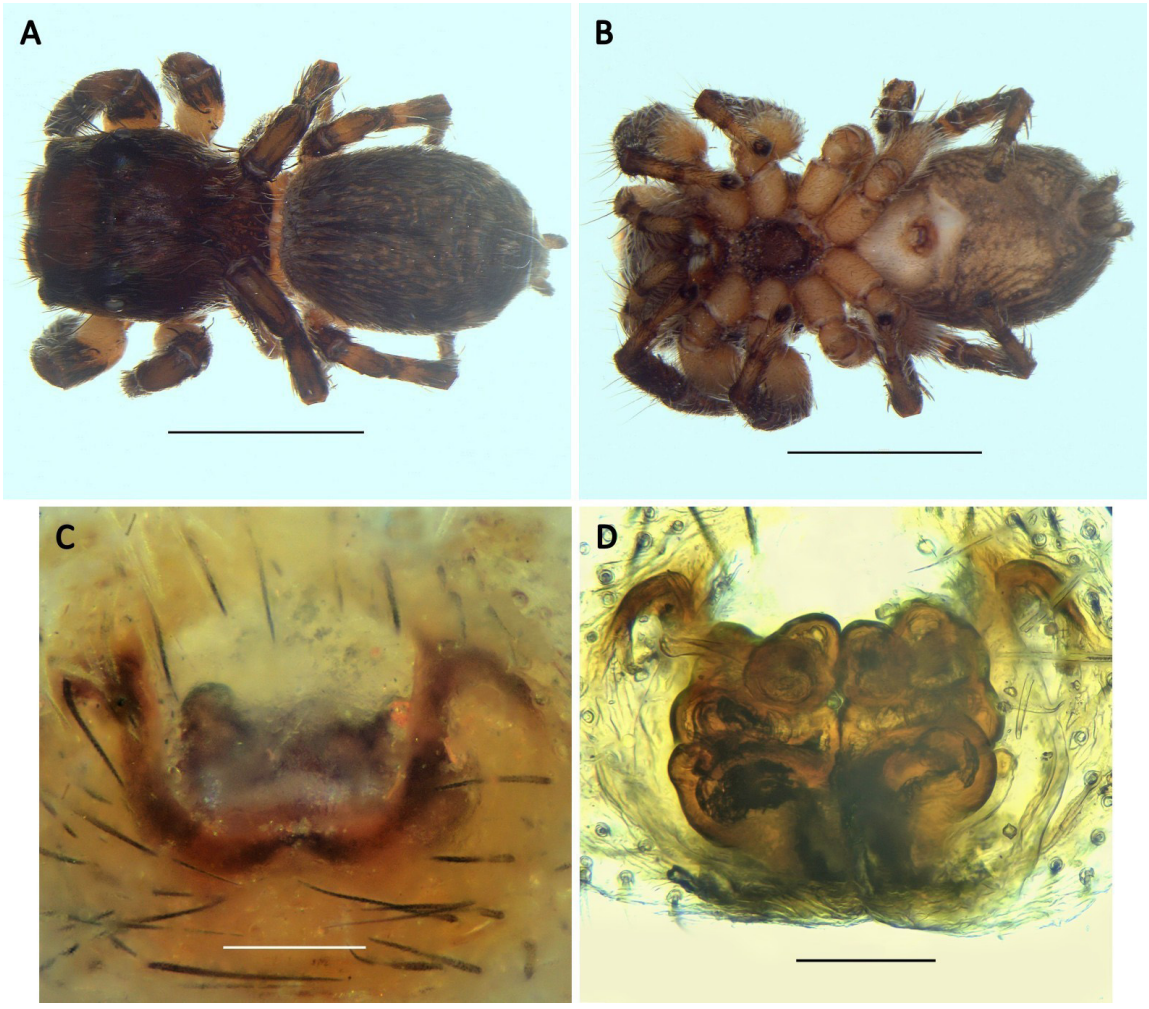

Fig. 12. *Mogrus sahariensis* Berland & Millot, 1941, ♀ (CSL, MOR_1730). **A**. Dorsal view. **B**. Ventral view. **C**. Epigyne. **D**. Vulva, dorsal view. Photos by P. Oger. Scale bars: A–B = 2.0 mm; C–D = 0.1 mm.

Genus *Phlegra* Simon, 1876

Phlegra yaelae Prószyński, 1998
Fig. 13, Table 2

Phlegra yaelae Prószyński, 1998: 183, figs 30–36 (d♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2023; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1758 • 1 ♀; same data as for preceding; 18 Feb. 2024; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, on ground; CSL, MOR_1523 • 1 ♀; same data as for preceding; 23 Jun. 2024; N. Ouakri. Leg.; Argan grove and olive trees, under stone in retreat; CSL, MOR_1522 • 1 ♀; same data as for preceding; 19 Mar. 2025; S. Lecigne leg.; Argan grove, palm trees and olive trees, under stone; CSL, MOR_1726.

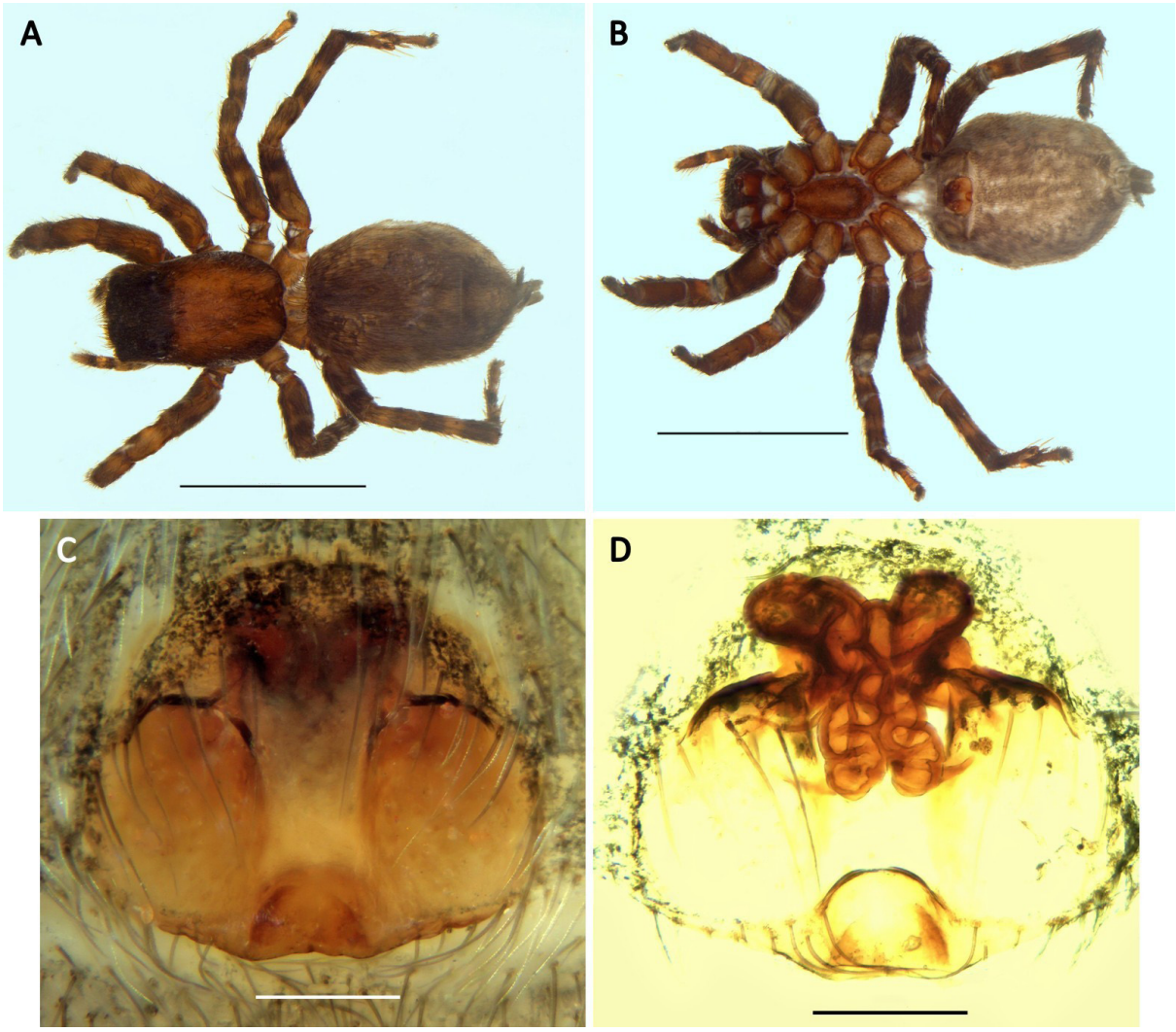

Fig. 13. *Phlegra yaelae* Prószyński, 1998, ♀ (CSL, MOR_1523). **A**. Dorsal view. **B**. Ventral view. **C**. Epigyne. **D**. Vulva, dorsal view. Photos by P. Oger. Scale bars: A–B = 3.0 mm; C–D = 0.2 mm.

Distribution and habitat

Described from Israel by Prószyński (1998) (Negev, records from 1996) and also mentioned from Iran (WSC 2025). No new observations of the species have been published since. In 2004, Azarkina mentioned its presence in Tunisia (Hammamet, 1997). During the present survey, *Phlegra yaelae* Prószyński, 1998 was only recorded in the Argan grove of Tinfoul, on four occasions between February and the end of June.

Its distribution area is not a priori disjunct, but the species is probably both uncommon and under-surveyed within its range, the limits of which remain to be defined. Its ecology remains poorly understood, but records from Israel and Tinfoul seem to indicate an adaptation to arid or even desert conditions.

Phlegra yaelae is new to Morocco.

Genus *Salticus* Latreille, 1804

Salticus propinquus Lucas, 1846
Table 2

Salticus propinquus – Denis 1956a: 200. — Lecigne *et al.* 2025: 144, fig. 88n–o (♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by beating thorny bushes in Argan grove; CSL, MOR_1733.

Distribution and habitat

Salticus propinquus Lucas, 1846 is a species with a mainly Mediterranean distribution, it was reported from Albania, Algeria, Spain, France, Greece, Italy, Croatia, Morocco, North Macedonia, Portugal, Turkey, Cyprus (Schäfer 2021) and the Middle East (Metzner 1999).

Genus *Thyene* Simon, 1885

Thyene imperialis (Rossi, 1846)

Thyene imperialis – Simon, 1909: 41.

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂ sub.; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by beating thorny bushes in Argan grove; CSL, MOR_1732.

Distribution and habitat

Thyene imperialis (Rossi, 1846) has a wide distribution, ranging from East Africa to the Mediterranean region (type locality in Sicily) and as far east as Indonesia (Metzner 1999). This distribution suggests that *T. imperialis* can adapt to varied ecological conditions. The species also shows variability in both body size and colouration (Metzner 1999), which may reflect adaptations to different microhabitats. It inhabits open, semi-arid environments.

Remark

Its discovery in Tinfoul Argan grove constitutes the second citation of the species in Morocco since Simon (1909).

Family Scytodidae Blackwall, 1864
Genus *Scytodes* Latreille, 1804

Scytodes velutina Heineken & Lowe, 1832
Table 2

Scytodes velutina delicatula – Simon 1909: 13.

Scytodes velutina – Denis 1961: 164 (♀). — Van Keer & Bosmans 2014: 137–138 (♂♀). — Lecigne *et al.* 2025: 144 (♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Aghroud; 30.62920° N, 9.82606° W; 24 m a.s.l.; 3 Mar. 2024; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, under stone; CSL, MOR_1506 • 1 ♀, 1 ♂; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; by hand, sparse Argan grove on arid rocky soil, under stone; CSL, MOR_1693. – **Chtouka Aït Baha Province** • 2 ♀♀; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand; Argan grove, under stone; CSL, MOR_1710 • 1 ♀; Same data as for preceding; CSL, MOR_1785.

Distribution and habitat

Scytodes velutina Heineken & Lowe, 1832 is a Mediterranean species and even reaching the Cape Verde Islands. For the distribution and habitat of the species, see Le Peru (2011).

Family Segestriidae Simon, 1893
Genus *Segestria* Latreille, 1804

Segestria florentina (Rossi, 1790)
Table 2

Segestria florentina – Simon 1909: 15. — Lecigne *et al.* 2025: 145 (♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 juv.; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 1 Apr. 2025; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, under stone in retreat; CSL, MOR_1964. – **Chtouka Aït Baha Province** • 1 juv.; Aït Baha, near Ichengline; 30.11556° N, 9.23131° W; 324 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, under stone; CSL, MOR_1700 • 1 ♀; same data as for preceding; 10 May 2025; N. Ouakri leg.; by hand, Argan grove, under stone; CSL, MOR_1966.

Distribution and habitat

Segestria florentina (Rossi, 1790) is distributed across Europe, Western Asia and North Africa, as well as in South America, where it occurs in south-eastern and southern Brazil, Uruguay and eastern Argentina (Giroti & Brescovit 2011). For the distribution and habitat of the species, see Le Peru (2011).

Family Sparassidae Bertkau, 1872
Genus *Cebrennus* Simon, 1880

Cebrennus laurae Jäger, 2014
Fig. 14, Table 2

Cebrennus laurae Jäger, 2014: 336, figs 101–108 (d♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 13 Mar. 2022; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, under stone in a silk retreat; CSL, MOR_1563.

Distribution and habitat

Until now, *Cebrennus laurae* Jäger, 2014 was an endemic species, only known from the Canary Islands (Jäger 2014). The exact type locality is unknown, but positioned approximately on Fig. 14E. During the study, it was found only once in an Argan grove of Anza in the same habitat as *C. rungsi* (Fig. 14E) under a rock. Its ecology remains unknown. The undescribed female will be the subject of targeted investigations as part of the ongoing study. The species is new to Morocco.

Cebrennus rungsi Jäger, 2000
Figs 14E–15, Table 2

Cebrennus rungsi Jäger, 2000: 172, figs 34–41, 89 (d♂♀).

Cebrennus rungsi – Jäger 2014: 324, figs 12–13, 92–93, 173 (♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; grove with sparse Argan, on arid rocky soil, by hand, under stone; CSL, MOR_1679 • 1 ♀; same data as for preceding; 28 May 2025; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, under stone in its retreat; CSL, MOR_1965. – **Chtouka Aït Baha Province** • 1 ♀; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 23 Oct. 2022; N. Ouakri leg.; by hand, Argan grove, under stone in its retreat; CSL, MOR_1549 • 1 ♀; Aït Baha, near Dam Ahl Souss; 30.06279° N, 9.12406° W; 619 m a.s.l.; 11 Jan. 2022; N. Ouakri leg.; by hand, Argan grove, under stone in a burrow; CSL, MOR_1548.

Distribution and habitat

Cebrennus rungsi Jäger, 2000 is endemic to the western area of the region of Souss-Massa in Morocco (historic records from 1946 for the type specimens from Souss, 1986 to 2011) (Jäger 2000). The type locality is positioned approximately on Fig. 14E (according to Jäger 2000: 174, note).

This study revealed its presence at two of the sites surveyed (Fig. 14E). This complements the phenological data for the species. Only females were found, between January and October, at altitudes between 80 and 620 metres.

Historical data mainly relate to males, between September (the majority of observations) and December, ranging from sea level to 1650 metres.

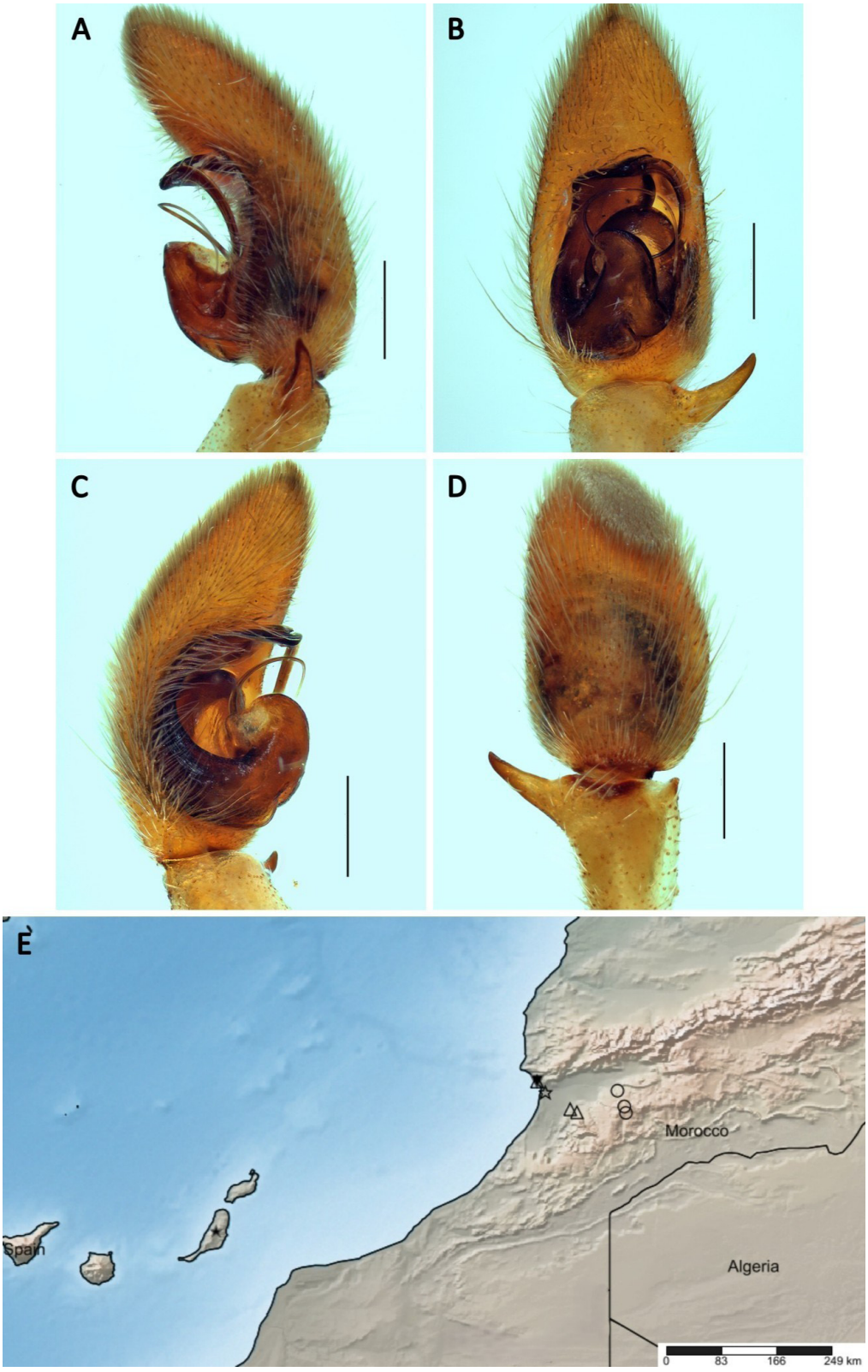

Fig. 14. *Cebrennus laurae* Jäger, 2014, ♂ (CSL, MOR_1563). **A–D**. Palp. **A**. Retrolateral view. **B**. Ventral view. **C**. Ventro-prolateral view. **D**. Dorsal view. **E**. Distribution map; solid symbol = *Cebrennus laurae*; open symbols = *C. rungsi*; star = loc. typ.; circles = other previous citations; triangles = new records (inspired by Shorthouse 2010). Photos by P. Oger. Scale bars: A–D = 0.5 mm.

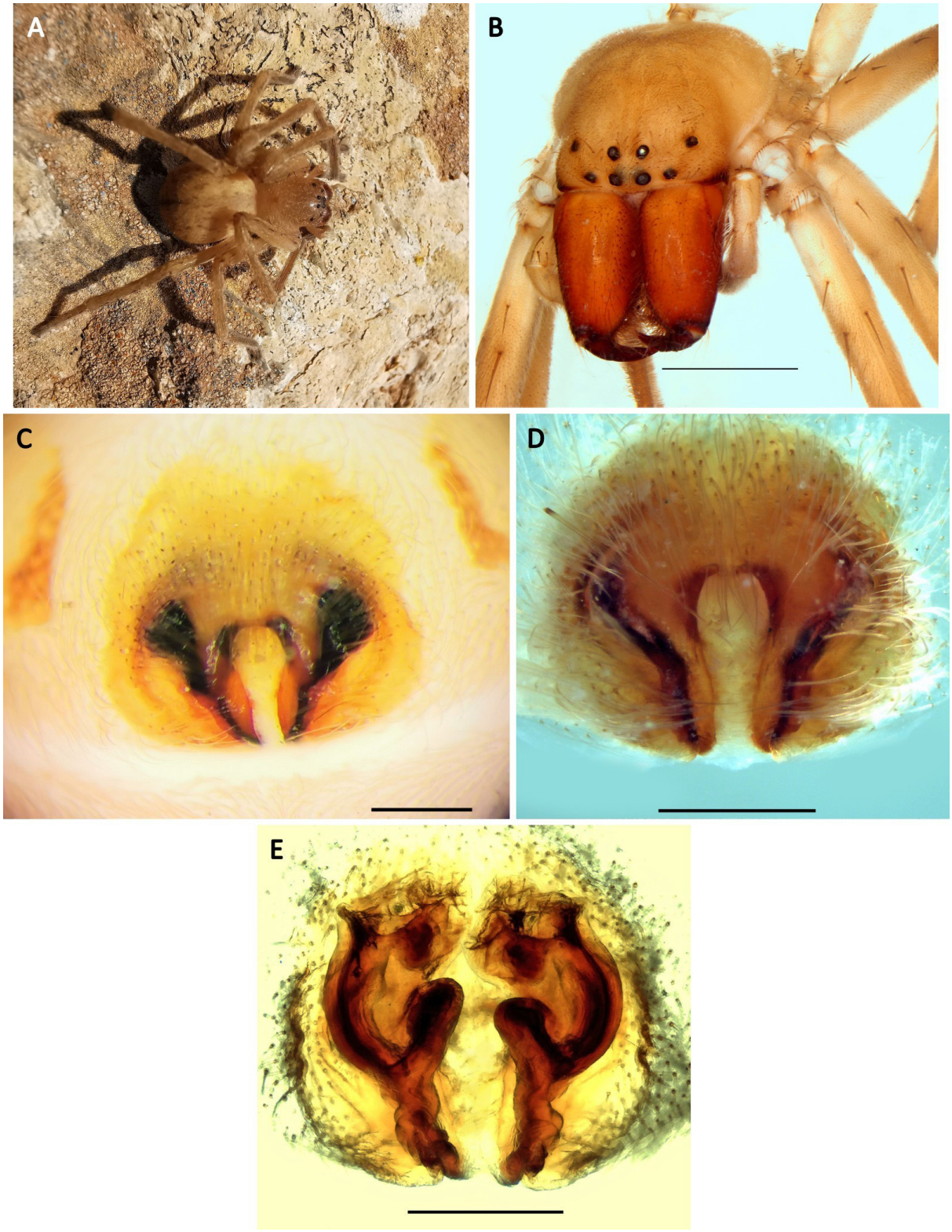

Fig. 15. *Cebrennus rungsi* Jäger, 2000, ♀ (CSL, MOR_1548). **A**. Dorsal view. **B**. Frontal view. **C**. Epigyne. **D–E**. Vulva. **D**. Ventral view. **E**. Dorsal view. Photos: A, C = S. Lecigne; B, D–E = P. Oger. Scale bars: B = 3.0 mm; C–E = 0.5 mm.

Genus *Eusparassus* Simon, 1903

Eusparassus fritschi (C. Koch, 1873)
Fig. 16A, Table 2

Ocypete fritschi C. Koch, 1873: 114 (d♀).

Eusparassus fritschi – Moradmand 2013: 36, figs 20a–c, 21a–e, 49c–d, 61c–d (d♂). — Lecigne *et al.* 2025: 145, fig. 89i–n (♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Aghroud; 30.62920° N, 9.82606° W; 24 m a.s.l.; 19 May 2024; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, under stone, in its retreat; CSL, MOR_1768.

Distribution and habitat

Eusparassus fritschi (C. Koch, 1873) is a species endemic to Morocco (WSC 2025). It has been recorded from several Moroccan regions, including the Souss-Massa region, Marrakesh-Safi region, Tangier-Tetouan El Hoceima region and Fez-Meknes region. See Moradmand (2013) for further details on its distribution and habitat.

Genus *Olios* Walckenaer, 1837

Olios pictus (Simon, 1885)
Fig. 16B–C, Table 2

Olios pictus – Jäger 2020: 16, figs 20–23 (♂♀, type from *Nonianus*).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Azrarag; 30.46878° N, 9.46733° W; 231 m a.s.l.; 6 Feb. 2022; N. Ouakri leg.; by hand, Argan grove, under stone in a silk retreat; CSL, MOR_1521.

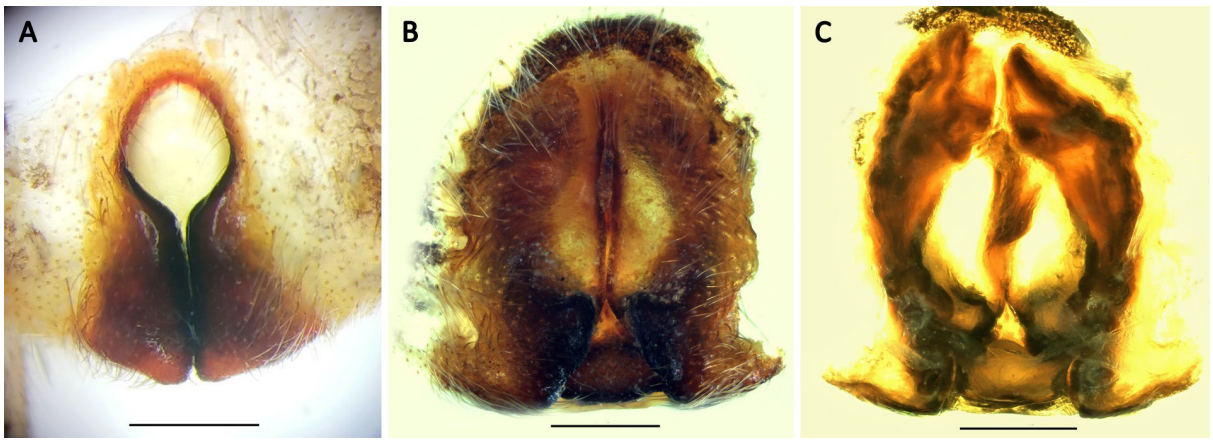

Fig. 16. A. *Eusparassus fritschi* (C. Koch, 1873), ♀ (CSL, MOR_1768). **B–C**. *Olios pictus* (Simon, 1885), ♀ (CSL, MOR_1521). **A**. Epigyne. **B–C**. Vulva. **B**. Ventral view. **C**. Dorsal view. Photos: A = S. Lecigne; B–C = P. Oger. Scale bars: A = 1 mm; B–C = 0.5 mm.

Distribution and habitat

This species is documented from North Africa (Morocco, Algeria, Tunisia) and the Middle East (Israel/Palestine, Saudi Arabia) (Jäger 2020). The species inhabits various types of microhabitats. According to Levy (1989), *Olios pictus* (Simon, 1885) generally builds small silk retreats on vegetation, and sometimes even in abandoned *Latrodectus* webs. The species is already known in Morocco, particularly in the Guelmim Oued Noun and Daraa Tafilalet regions (Jäger 2020). In Azrarag, we found a specimen under a stone in a silk retreat.

Family Theraphosidae Thorell, 1869
Genus *Ischnocolus* Ausserer, 1871

Ischnocolus mogadorensis Simon, 1909
Fig. 17, Table 2

Ischnocolus mogadorensis Simon, 1909: 10 (d♀).

Ischnocolus mogadorensis – Korba *et al.*, 2022: 860, figs 5c, 7.1a–e, 8.1a–e, 9b, 10b, 14a–n, 15a–g, 16a–d (d♂,♀, removed from S of *Ischnocolus valentinus*).

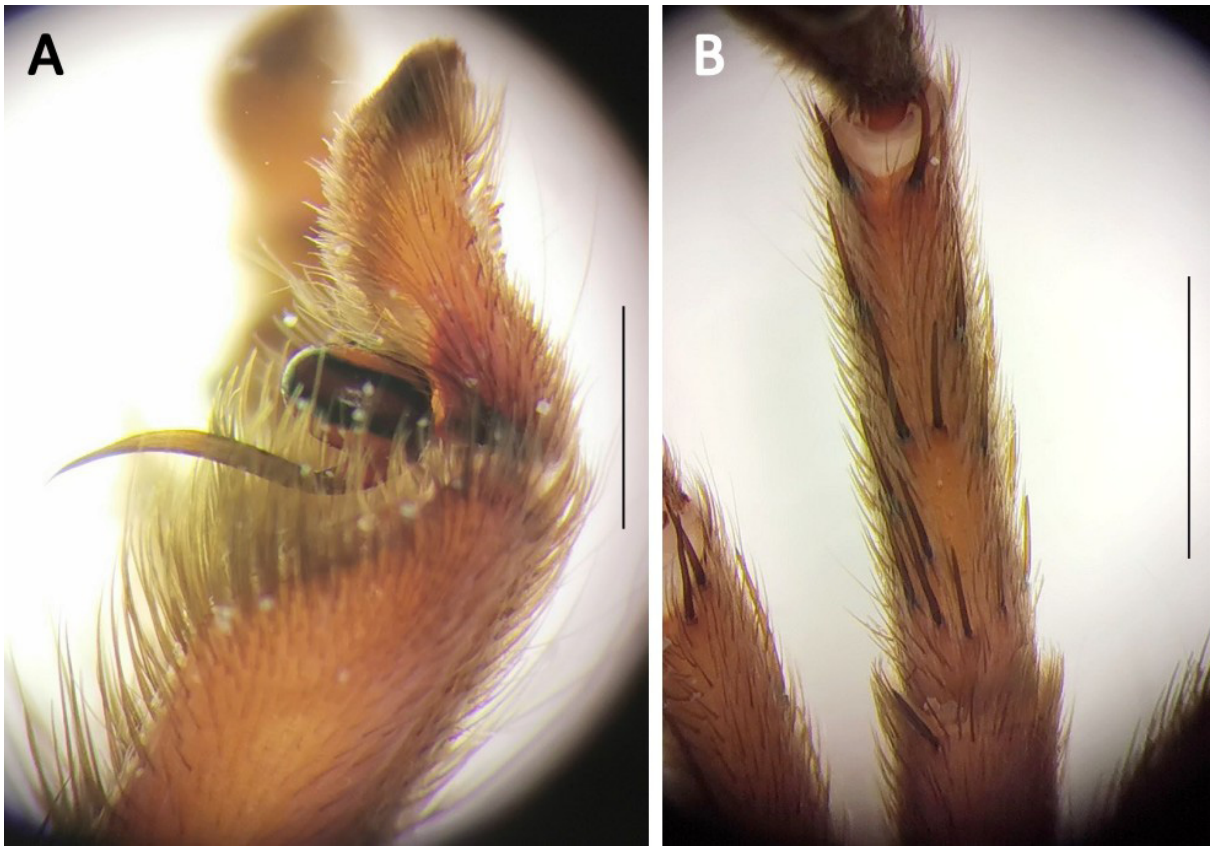

Fig. 17. *Ischnocolus mogadorensis* Simon, 1909, ♂ (CSL, MOR_1742). **A**. Palp, retrolateral. **B**. Tibia I, ventral view. Photos by S. Lecigne. Scale bars: A = 1.0 mm; B = 2 mm.

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 13 Mar. 2022; N. Ouakri leg.; by hand, Argan grove and *Euphorbia*, in a burrow under stone; CSL, MOR_1742.

Distribution and habitat

Ischnocolus mogadorensis Simon, 1909 is endemic to southern Morocco. See Korba *et al.* (2022) for detailed information about its distribution and habitat preferences.

Family Theridiidae Sundevall, 1833
Genus *Enoplognath*a Pavesi, 1880

Enoplognatha franzi Wunderlich, 1995
Fig. 18, Table 2

Enoplognatha franzi – Bosmans & Van Keer 1999: 224, figs 73–77 (♂♀). — Lecigne *et al.* 2025: 146, fig. 91d–h (♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 2 ♀♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1780 • 1 ♀; same data as for preceding; 10 Apr. 2025; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1980.

Distribution and habitat

See Bosmans & Van Keer (1999) for the distribution of *Enoplognatha franzi* Wunderlich, 1995 and Rehfeldt & Cassar (2024) for data on its ecology.

Genus *Lasaeola* Simon, 1881

Lasaeola testaceomarginata Simon, 1881
Fig. 19, Table 2

Dipoena testaceomarginata – Denis 1956a: 203 (♂).

Lasaeola testaceomarginata – Lecigne *et al.* 2025: 147, fig. 91i–l (♂).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by beating, thorny bushes in Argan grove; CSL, MOR_1735.

Distribution and habitat

This species has a Mediterranean distribution, occurring both in southern Europe and parts of North Africa (WSC 2025). *Lasaeola testaceomarginata* Simon, 1881 is usually found in upper vegetation, for example on bushes (Wunderlich 2021). Its presence at the Tinfoul site is consistent with known information about its ecology; the specimen collected in this study was found by beating bushes among Argan trees.

Fig. 18. *Enoplognatha franzi* Wunderlich, 1995, ♀ (CSL, MOR_1780). **A**. Dorsal view. **B**. Ventral view. **C**. Vulva, dorsal view. Photos by P. Oger. Scale bars: A–B = 2.0 mm; C = 0.1 mm.

Genus *Steatoda* Sundevall, 1833

Steatoda ingeae Van Keer, 2024
Table 2

Steatoda ingeae Van Keer *et al.*, 2024: 6, figs 7a–i, 8a–f (d♂♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 5 ♀♀, 2 ♂♂, 2 juvs; Anza; 30.47800° N, 9.66281° W; 41 m a.s.l.; 22 Mar. 2025; S. Lecigne leg.; by hand, Sparse Argan grove and *Euphorbia*, on arid rocky soil, under stone; CSL, MOR_1688 • 1 ♀, Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, palm trees and olive trees, under stone; CSL, MOR_1720.

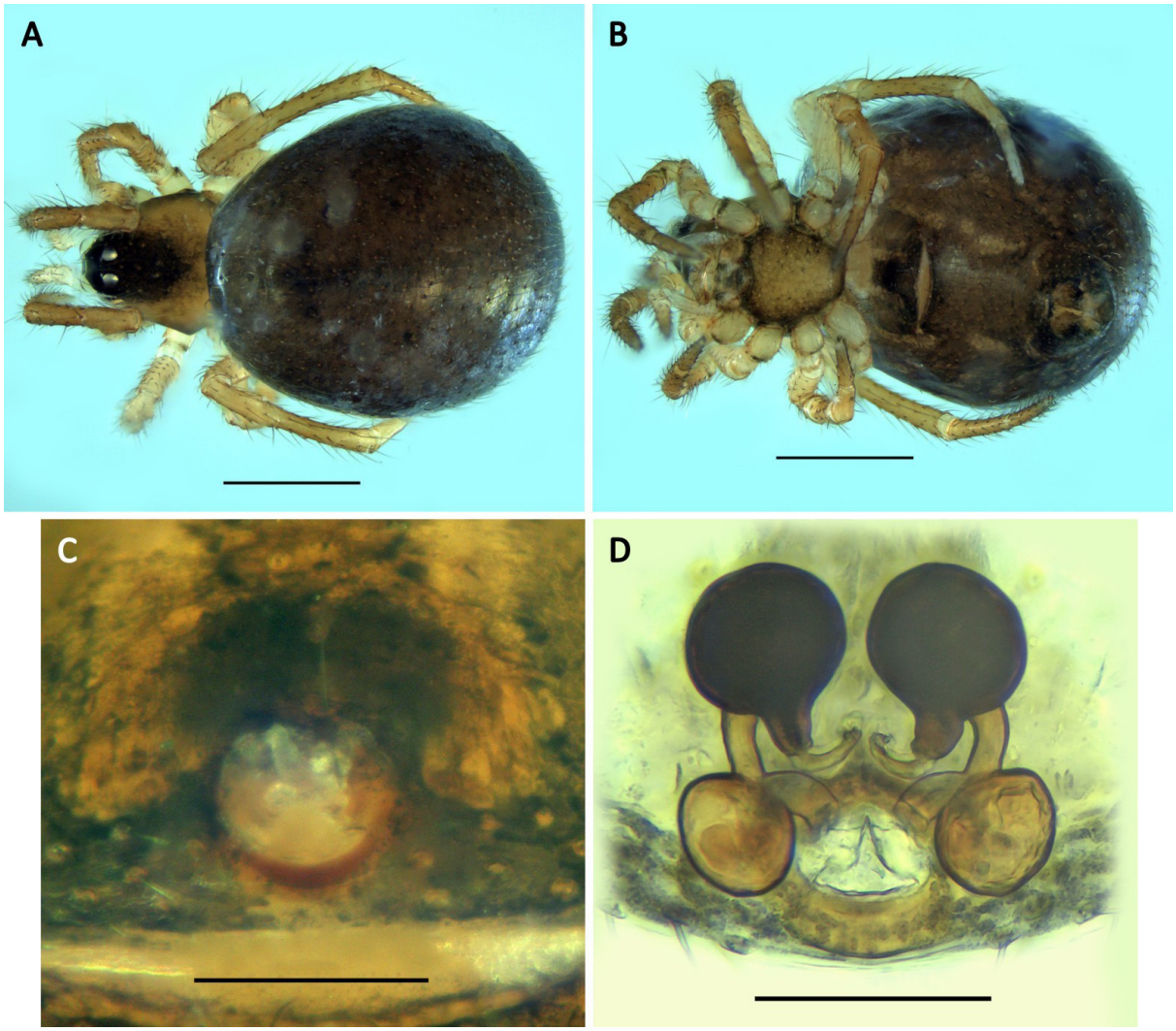

Fig. 19. *Lasaeola testaceomarginata* Simon, 1881, ♀ (CSL, MOR_1735). **A**. Dorsal view. **B**. Ventral view. **C**. Epigyne. **D**. Vulva, dorsal view. Photos by P. Oger. Scale bars: A–B = 0.5 mm; C–D = 0.1 mm.

Distribution and habitat

Steatoda ingeae Van Keer, 2024 is a species endemic to Morocco; it is present in several localities in the Souss-Massa region as far as the province of Ifrane. During the survey, it was found in the type locality, i.e., Anza (Van Keer *et al.* 2024), but also in Tinfoul. As reported by Van Keer (2024), specimens were mostly found under stones in arid habitats with an altitude ranging between 50 and 1790 m a.s.l. So far, adult males and females were observed in February and April; our specimens were collected in March.

Steatoda latifasciata (Simon, 1873)
Table 2

Lithyphantes latifasciatus Simon, 1909: 23 (♀).

Steatoda latifasciata – Van Keer *et al.* 2024: 20, figs 27a–e, 28a–i, 29a–e (♂♀, synonymy of *Steatoda moerens*). — Lecigne *et al.* 2025: 148, fig. 94a–d (♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♀; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 1 Apr. 2025; N. Ouakri leg.; by hand, Argan grove, palm trees and olive trees, in litter under stone; CSL, MOR_1974. – **Chtouka Aït Baha Province** • 1 ♀, 1 ♂; Aït Baha, near Aït Ben Ali; 30.10399° N, 9.21561° W; 530 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by hand, Argan grove, on arid rocky ground, under stone; CSL, MOR_1782.

Distribution and habitat

Steatoda latifasciata (Simon, 1873) occurs across the Canary Islands, Sicily, Morocco, Algeria and the Middle East (Levy & Amitai 1982; Van Keer *et al.* 2024). For further information about its habitats, see Levy & Amitai (1982).

Family Thomisidae Sundevall, 1833
Genus *Bassaniodes* Pocock, 1903

Bassaniodes lalandei (Audouin, 1826)
Table 2

Xysticus lalandei – Simon, 1912: 416.

Bassaniodes lalandei – Lecigne *et al.* 2025: 149.

Material examined

MOROCCO – **Chtouka Aït Baha Province** • 1 ♂; Aït Baha, near Ichengline; 30.11556° N, 9.23131° W; 324 m a.s.l.; 23 Oct. 2022; N. Ouakri leg.; by hand, Argan grove, in litter under stone; CSL, MOR_1511.

Distribution and habitat

Bassaniodes lalandei (Audouin, 1826) is a Mediterranean species, ranging as far East as Azerbaijan (Nentwig *et al.* 2025). This species occurs in sandy habitats and sometimes in stony desert areas (Levy 1999). A specimen found in Andalusia was collected on the ground in a cultivated area with dry vegetation (Martín & Adame 2024). In Morocco, the species is common and widely distributed. It inhabits a fairly wide variety of arid habitats, often found under stones.

Family Uloboridae Thorell, 1869
Genus *Polenecia* Lehtinen, 1967

Polenecia producta (Simon, 1873)
Fig. 20, Table 2

Uloborus productus Simon, 1873: 149 (d♀).

Material examined

MOROCCO – **Agadir Ida Outanane Prefecture** • 1 ♂; Tinfoul; 30.51986° N, 9.35192° W; 337 m a.s.l.; 19 Mar. 2025; S. Lecigne leg.; by beating, thorny bushes in Argan grove; CSL, MOR_1734.

Distribution and habitat

Polenecia producta (Simon, 1873) remains the only species in its genus. This species is found across the Mediterranean basin and as far as Azerbaijan. Confirmed records exist for Spain, Portugal, France, Italy, Algeria, Tunisia and Syria (Opell 1979).

This small species (male specimen sampled in Tinfoul: 2.5 mm length) prefers open habitats. In Sardinia, it was collected from young oaks, while in Lebanon it was found on tufts of tall grass in a sub-desert meadow, suggesting tolerance to xerothermic conditions and a preference for low to intermediate vegetation (Brignoli 1979).

This is the first record of *Polenecia producta* in Morocco.

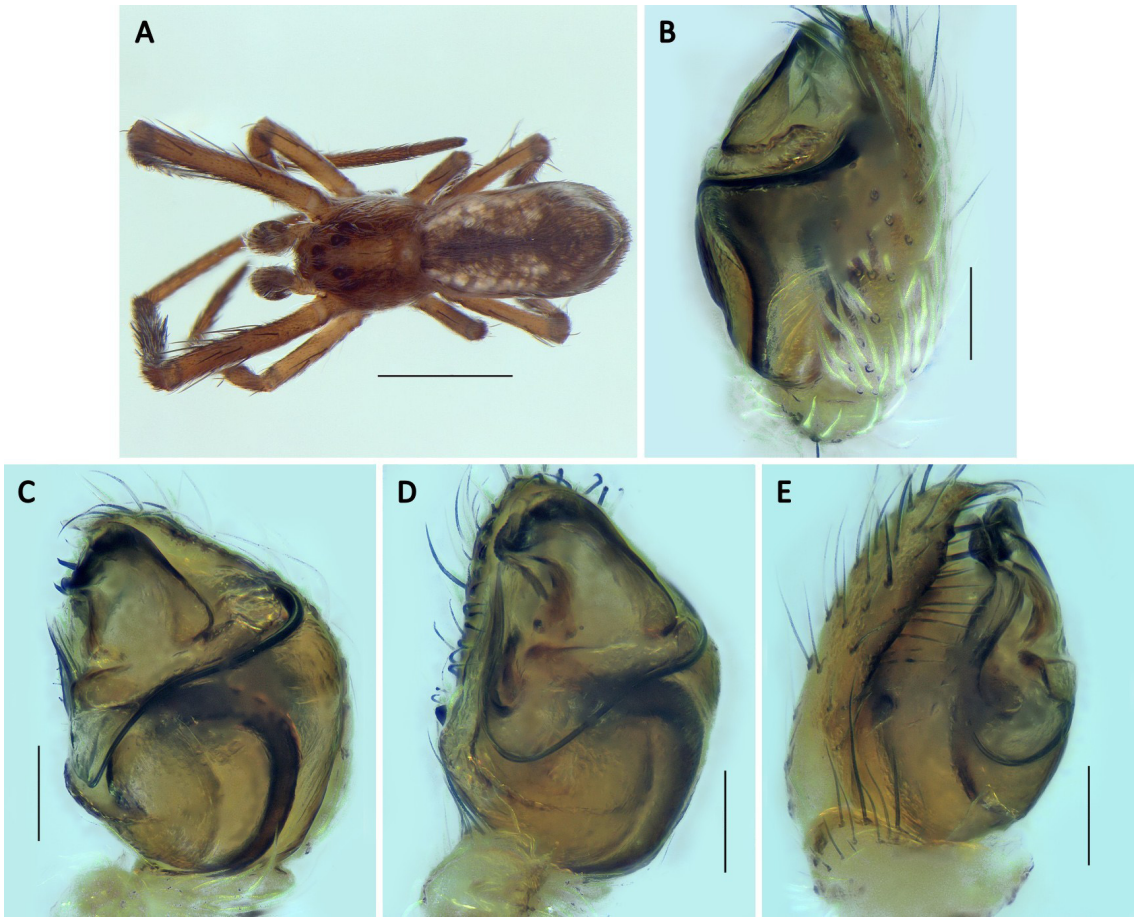

Fig. 20. *Polenecia producta* (Simon, 1873), ♂ (CSL, MOR_1734). **A**. Dorsal view. **B–E**. Palp. **A**. Retrolateral view. **C**. Ventro-retrolateral view. **D**. Ventral view. **E**. Prolateral view. Photos by P. Oger. Scale bars: A = 1 mm; B–E = 0.1 mm.

Discussion

The data presented herein represents only a selected subset of a broader sampling effort carried out as part of an ongoing PhD project on spider diversity in the Arganeraie Biosphere Reserve. The 39 species treated here correspond exclusively to taxa of particular scientific interest, including species new to science, new national records and other noteworthy taxa. The complete dataset, which comprises 1691 specimens belonging to 27 families, will be analysed and published separately. Consequently, the species richness reported in this study should not be considered exhaustive.

As shown in other studies from semi-arid and arid regions, spider assemblages are strongly influenced by rainfall patterns and sampling strategies (Carvalho *et al.* 2015; Langlands *et al.* 2006). Part of the fieldwork was conducted during a prolonged drought in Morocco, which likely limited adult activity and detectability. Moreover, the predominance of hand collecting may have introduced a sampling bias. Future analyses based on the full dataset are expected to provide a more comprehensive picture of the spider fauna of the region.

Despite these limitations, the results obtained provide valuable faunistic and taxonomic information and highlight the still insufficiently documented spider fauna of the Arganeraie Biosphere Reserve. Several of the records presented here contribute to refining the known distribution of species in North Africa and shows the importance of continued surveys to achieve a more comprehensive understanding of the regional araneofauna.

The identification of *Cesonia africana* Lecigne & Ouakri sp. nov. constitutes the first species of the genus *Cesonia* on the African continent, a genus mainly found in America (Platnick & Shadab 1980) and in the western Palearctic region (Chatzaki *et al.* 2002; Zamani *et al.* 2025). Two hypotheses may be put forward to explain this discovery. Either *Cesonia africana* is an endemic relict species, given that the closest species is *C. aspida* (see diagnosis) and/or it reflects the current lack of research on North African spiders, suggesting that other species of the genus *Cesonia* may await discovery in similar habitats across the Maghreb.

The genus *Menemerus* (Salticidae) currently comprises 63 species (WSC 2025) is naturally distributed across the Old World (Africa, Europe and Asia), with the majority of species recorded from Africa, particularly in sub-Saharan Africa. To date, only two species are known in Morocco (Benhalima & Bosmans 2024) and seven in Algeria (Beladjal *et al.* 2025).

We also report on five species new to Morocco, which extends our knowledge of their current distribution. *Nemesia uncinata* was only known from Spain and Portugal (Branco *et al.* 2019). This new record represents an interesting extension of its distribution on the African continent. The distribution of *Mogrus sahariensis* is still largely unknown, with limited records from Niger (Berland & Millot 1941) and Egypt (El Helbawy *et al.* 2025). Its presence in our study area (Tinfoul) therefore considerably extends its distribution westwards. *Phlegra yaelae* had already been reported from Italy (Sicily) (Nicolosi *et al.* 2024), Tunisia (Azarkina 2004) and Israel/Palestine (Prószyński 1998). Its discovery in the Arganeraie of Souss-Massa represents a significant extension of its known range westward. The report of *Cebrennus laurae* in Morocco is a remarkable addition to the Moroccan arachnological fauna. Until now, this species was considered endemic to the Canary Islands (Jäger 2014). Its discovery in Morocco calls this endemic status into question and suggests a wider distribution, possibly associated with the arid zones of the eastern Atlantic. The discovery of *Polenecia producta* is less surprising, given that it is a widespread species in the Mediterranean region (Opell 1979).

The results from this study open up new and interesting directions of research. From a taxonomic point of view, it would be useful to consistently supplement morphology-based taxonomy with molecular

analyses, such as DNA barcoding. Future revisions combining morphological and genetic work could reveal additional cryptic or highlight misidentified species.

From a biogeographical point of view, the discovery of new records for Morocco indicates that there is still much to explore. Larger-scale surveys, particularly in other parts of the country and even throughout the Maghreb, would provide a better understanding of the distribution of spiders and the biogeographical links between North Africa, Mediterranean Europe and sub-Saharan Africa.

Overall, our results suggest the presence of a distinctive, yet understudied assemblage of spiders within the Arganeraie of Souss-Massa, a unique environment recognized as a biosphere reserve by the UNESCO. This further emphasizes the importance of this ecosystem from a biogeographical and conservation perspective. The data presented here may contribute to international biodiversity databases and provide a valuable baseline for further taxonomic and ecological research in the region.

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References

Alioua Y. & Bosmans R. 2024. Spiders of arid lands: The Ghardaïa region (Northern Sahara) with seven new records for Algeria. *Zootaxa* 5497: 301–336. https://doi.org/10.11646/zootaxa.5497.3.1

Azarkina G.N. 2004. New and poorly known Palaearctic species of the genus *Phlegra* Simon, 1876. *Revue arachnologique* 14: 73–108.

Azarkina G.N. & Logunov D.V. 2006. Taxonomic notes on nine *Aelurillus* species of the western Mediterranean (Araneae: Salticidae). *Bulletin of the British Arachnological Society* 13: 233.

Bacelar A. 1933. Araignées theraphoses nouvelles ou peu connues de la faune ibérique. *Boletim da Sociedade Portuguesa de Ciencias naturais* 11: 285–290.

Bayer S. 2014. Miscellaneous notes on European and African *Cheiracanthium* species (Araneae: Miturgidae). *Arachnologische Mitteilungen* 47: 19–34. https://doi.org/10.5431/aramit4704

Beladjal L., Bouseksou S., Kherbouche-Abrous O., Alioua Y. & Bosmans R. 2025. First exhaustive catalog of spiders of Algeria (Arachnida: Araneae). *Zootaxa* 5598: 1–185. https://doi.org/10.11646/zootaxa.5598.1.1

Benhalima S. & Bosmans R. 2024. First historical checklist of spiders (Arachnida: Araneae) from Morocco, between 1840–2024. *Zootaxa* 5555: 407–435. https://doi.org/10.11646/zootaxa.5555.3.5

Berland L. & Millot J. 1941. Les araignées de l'Afrique Occidentale Française: Les Salticides. *Mémoires du Muséum national d'Histoire naturelle de Paris (N.S.)* 12: 297–423.

Bosmans R. 2002. Les genres *Acartauchenius* Simon et *Thaumatoncus* Simon en Afrique du Nord: Etudes sur les Linyphiidae africaines, n° IX (Araneae, Linyphiidae, Erigoninae). *Revue arachnologique* 14: 1–24.

Bosmans R. 2007. Contribution to the knowledge of the Linyphiidae of the Maghreb. Part XII. Miscellaneous erigonine genera and additional records (Araneae: Linyphiidae: Erigoninae). *Bulletin & Annales de la Société entomologique de Belgique* 143: 117–163.

Bosmans R. & Alioua Y. 2024. On two little-known Gnaphosidae from North Africa (Araneae). *Arachnology* 19: 1118–1121. https://doi.org/10.13156/arac.2024.19.8.1118

Bosmans R. & Janssen M. 1999. The ground spider genus *Setaphis* in the Maghreb countries (Araneae Gnaphosidae). *Bulletin & Annales de la Société entomologique de Belgique* 155: 82–90.

Bosmans R. & Van Keer J. 1999. The genus *Enoplognatha* Pavesi, 1880 in the Mediterranean region (Araneae: Theridiidae). *Bulletin of the British Arachnological Society* 11: 209–240.

Bosmans R., Kherbouche-Abrous O., Benhalima S. & Hervé C. 2018. The genus *Haplodrassus* Chamberlin, 1922 in the Mediterranean and the Maghreb in particular (Araneae: Gnaphosidae). *Zootaxa* 4451: 1–67. https://doi.org/10.11646/zootaxa.4451.1.1

Branco V.V., Morano E. & Cardoso P. 2019. An update to the Iberian spider checklist (Araneae). *Zootaxa* 4614: 201–254. https://doi.org/10.11646/zootaxa.4614.2.1

Brignoli P.M. 1979. Contribution à la connaissance des Uloboridae paléarctiques (Araneae). *Revue arachnologique* 2: 275–282.

Caporiacco L.D. 1932. Aracnidi. *In*: *Escursione Zoologica All'Oasi di Marrakesch Nell'Aprile 1930*. *Bollettino di Zoologia* 3: 233–238. https://doi.org/10.1080/11250003209429227

Carvalho L.S., Sebastian N., Araújo H.F., Dias S.C., Venticinque E., Brescovit A.D. & Vasconcellos A. 2015. Climatic variables do not directly predict spider richness and abundance in semiarid Caatinga vegetation, Brazil. *Environmental Entomology* 44: 54–63. https://doi.org/10.1093/ee/nvu003

Chatzaki M., Thaler K. & Mylonas M. 2002. Ground spiders (Gnaphosidae, Araneae) of Crete and adjacent areas of Greece. Taxonomy and distribution. II. *Revue suisse de Zoologie* 109: 603–633. https://doi.org/10.5962/bhl.part.79612

Decae A.E. 2012. Geography-related sub-generic diversity within the Mediterranean trapdoor spider genus *Nemesia* (Araneae, Mygalomorphae, Nemesiidae). *Arachnologische Mitteilungen* 43: 24–28. https://doi.org/10.5431/aramit4304

Denis J. 1952. Notes d'aranéologie marocaine. I. Les *Zelotes* du Maroc. *Revue française d'Entomologie* 19: 113–126.

Denis J. 1954. Notes d'aranéologie marocaine. III. Quelques araignées du massif de l'Ayachi, avec une étude sur les Textrix du Maroc. *Revue française d'Entomologie* 21: 132–144.

Denis J. 1956a. Notes d'aranéologie marocaine.VI. Bibliographie des araignées du Maroc et addition d'espèces nouvelles. *Bulletin de la Société des Sciences naturelles du Maroc* 35: 179–207.

Denis J. 1956b. Spiders collected in French Morocco by the Durham Colleges Expedition Club, 1952. *Proceedings of the Zoological Society of London* 126: 275–281. https://doi.org/10.1111/j.1096-3642.1956.tb00437.x

Denis J. 1961. Notes d'aranéologie marocaine. IX. Les araignées du Maroc I. *Orthognatha* et *Haplogynae*. *Bulletin de la Société des Sciences naturelles du Maroc* 41: 141–167.

Denis J. 1967. Notes sur les érigonides (araignées) XXXV. Remarques sur le genre *Trachelocamptus* Simon, avec la description de nouvelles espèces marocaines. *Bulletin du Muséum national d'Histoire naturelle de Paris* 38: 793–800.

Di Franco F. 1994. Contributo alla conoscenza degli Gnaphosidae (Arachnida, Araneae) del Maghreb. *Animalia* 19: 193–211.

El Alami A. 2022. Biodiversity loss in the Moroccan central High Atlas, its impact on local ecosystems and national economy, and wildlife conservation strategy: Findings from 20 years of research. *Journal of Analytical Sciences and Applied Biotechnology* 4: 81–96.

El Helbawy N., Sallam G., Hassan M. & Nawar M. 2025. New first record of *Mogrus sahariensis* in Egypt. *Arab Journal of Plant Protection* 43: 276–278. https://doi.org/10.22268/AJPP-001308

El Hennawy H. 2016. A note on *Eresus albopictus* Simon, 1873 (Araneae: Eresidae). *Serket* 15: 107–111.

Foord S. & Dippenaar-Schoeman A. 2005. A revision of the Afrotropical species of *Hersiliola* Thorell and *Tama* Simon with the description of a new genus *Tyrotama* (Araneae: Hersiliidae). *African Entomology* 13: 255–279.

Giroti A.M. & Brescovit A.D. 2011. The spider genus *Segestria* Latreille, 1804 in South America (Araneae: Segestriidae). *Zootaxa* 3046: 59–66. https://doi.org/10.11646/zootaxa.3046.1.3

Huber B.A. 2022. Revisions of *Holocnemus* and *Crossopriza*: the spotted-leg clade of Smeringopinae (Araneae, Pholcidae). *European Journal of Taxonomy* 795: 1–241. https://doi.org/10.5852/ejt.2022.795.1663

Jäger P. 2000. The huntsman spider genus *Cebrennus*: four new species and a preliminary key to known species (Araneae: Sparassidae: Sparassinae). *Revue arachnologique* 13: 163–186.

Jäger P. 2014. *Cebrennus* Simon, 1880 (Araneae: Sparassidae): a revisionary up-date with the description of four new species and an updated identification key for all species. *Zootaxa* 3790: 319–356. https://doi.org/10.11646/zootaxa.3790.2.4

Jäger P. 2020. The spider genus *Olios* Walckenaer, 1837 (Araneae: Sparassidae) – Part 1: species groups, diagnoses, identification keys, distribution maps and revision of the argelasius-, coenobitus-and auricomis-groups. *Zootaxa* 4866: 1–119. https://doi.org/10.11646/zootaxa.4866.1.1

Koch C. 1873. Beiträge zur Kenntniss der Arachniden Nord-Afrikas, insbesondere einiger in dieser Richtung bisher noch unbekannt gebliebenen Gebiete des Atlas und der Küsten-Länder von Marocco. *Beiträge der Senckenbergischen naturforschenden Gesellschaft* 1873: 104–118.

Korba J., Opatova V., Calatayud-Mascarell A., Enguidanos A., Bellvert A., Adrian S., Sanchez-Vialas A. & Arnedo M.A. 2022. Systematics and phylogeography of western Mediterranean tarantulas (Araneae: Theraphosidae). *Zoological Journal of the Linnean Society* 196: 845–884. https://doi.org/10.1093/zoolinnean/zlac042

Langlands P., Brennan K. & Pearson D. 2006. Spiders, spinifex, rainfall and fire: Long-term changes in an arid spider assemblage. *Journal of Arid Environments* 67: 36–59. https://doi.org/10.1016/j.jaridenv.2006.01.018

Lecigne S., Moutaouakil S. & Lips J. 2023. Contribution to the knowledge of the spider fauna of Morocco (Arachnida: Araneae) – first note – on new records of cave spiders. *Arachnologische Mitteilungen* 66: 44–71. https://doi.org/10.30963/aramit6607

Lecigne S., Moutaouakil S. & Lips J. 2025. Contribution to the knowledge of the spider fauna of Morocco (Arachnida: Araneae) – Second note. *Journal of the Belgian Arachnological Society* 40: 1–152.

Le Peru B. 2011. The spiders of Europe, a synthesis of data: Atypidae to Theridiidae. *Mémoires de la Société Linnéenne de Lyon* 2: 1–522.

Levy G. 1989. The family of huntsman spiders in Israel with annotations on species of the Middle East (Araneae: Sparassidae). *Journal of Zoology* 217: 127–176. https://doi.org/10.1111/j.1469-7998.1989.tb02480.x

Levy G. 1998. The ground-spider genera *Setaphis*, *Trachyzelotes*, *Zelotes*, and *Drassyllus* (Araneae: Gnaphosidae) in Israel. *Israel Journal of Zoology* 44: 93–158.

Levy G. 1999. New thomisid and philodromid spiders (Araneae) from southern Israel. *Bulletin of the British Arachnological Society* 11: 185–190.

Levy G. 2003. Spiders of the families Anyphaenidae, Hahniidae, Ctenidae, Zoridae, and Hersiliidae (Araneae) from Israel. *Israel Journal of Ecology and Evolution* 49: 1–31.

Levy G. & Amitai P. 1982. The cobweb spider genus *Steatoda* (Araneae, Theridiidae) of Israel and Sinai. *Zoologica Scripta* 11: 13–30. https://doi.org/10.1111/j.1463-6409.1982.tb00515.x

Lissner J. 2017. New records of spiders (Araneae) from Portugal. *Arachnologische Mitteilungen* 54: 52–58. https://doi.org/10.5431/aramit5412

Machado A.d.B. 1949. Araignées nouvelles pour la faune portugaise (III). *Memorias e Estudos do Museu Zoologico da Universidade de Coimbra* 191: 1–69.

Marinaro J. 1968. Les araignées d'Afrique du Nord. I. Sur une collection de Drassidae à peigne metatarsal d'Algérie. *Bulletin de la Société zoologique de France* 92: 687–704.

Martín D.F. & Adame F.R. 2024. Nuevas adiciones a la fauna aracnológica de Andalucía. *Revista Ibérica de Aracnología* 45: 150–166.

Marusik Y.M. & Fet V. 2009. A survey of East Palaearctic *Hersiliola* Thorell, 1870 (Araneae, Hersiliidae), with a description of three new genera. *ZooKeys* 16: 75–114. https://doi.org/10.3897/zookeys.16.229

Metzner H. 1999. Die Springspinnen (Araneae, Salticidae) Griechenlands. *Andrias* 14: 1–279.

Moradmand M. 2013. The stone huntsman spider genus *Eusparassus* (Araneae: Sparassidae): systematics and zoogeography with revision of the African and Arabian species. *Zootaxa* 3675: 1–108. https://doi.org/10.11646/zootaxa.3675.1.1

Msanda F., El Aboudi A. & Peltier J.P. 2005. Biodiversité et biogéographie de l'arganeraie marocaine. *Cahiers Agricultures* 14: 357–364

Msanda F., Mayad E.H. & Furze J.N. 2021. Floristic biodiversity, biogeographical significance, and importance of Morocco's Arganeraie Biosphere Reserve. *Environmental Science and Pollution Research* 28: 64156–64165. https://doi.org/10.1007/s11356-020-11936-0

Nentwig W., Blick T., Bosmans R., Hänggi A., Kropf C. & Stäubli A. 2025. Spiders of Europe. Version 06.2025. Available from https://araneae.nmbe.ch/ [accessed Aug. 2025]. https://doi.org/10.24436/1

Nicolosi G., Pantini P., Devincenzo U., Guariento L., Italiano V., Zanca L., Sarà M. & Isaia M. 2024. New data on spiders (Arachnida, Araneae) from the islands of the Strait of Sicily (Southern Italy) with taxonomic notes on *Poecilochroa loricata* Kritscher, 1996 (Araneae, Gnaphosidae) and eight new records for Europe. *The European Zoological Journal* 91: 1009–1034. https://doi.org/10.1080/24750263.2024.2390869

Opell B.D. 1979. Revision of the genera and tropical American species of the family Uloboridae. *Bulletin of the Museum of Comparative Zoology* 148: 443–549.

Pickard-Cambridge O. 1872. General list of the spiders of Palestine and Syria, with descriptions of numerous new species and characters of two new genera. *Proceedings of the Zoological Society of London* 40: 212–354. https://doi.org/10.1111/j.1469-7998.1872.tb00489.x

Platnick N.I. & Murphy J.A. 1996. A review of the zelotine ground spider genus *Setaphis* (Araneae, Gnaphosidae) *American Museum Novitates* 3162: 1–23.

Platnick N.I. & Shadab M.U. 1980. A revision of the spider genus *Cesonia* (Araneae, Gnaphosidae). *Bulletin of the American Museum of Natural History* 165: 335–386.

Prószyński J. 1998. Description of new species of *Phlegra* (Araneae: Salticidae) from Israel. *Israel Journal of Ecology and Evolution* 44: 159–185.

Rankou H., Culham A., Jury S.L. & Christenhusz M.J. 2013. The endemic flora of Morocco. *Phytotaxa* 78: 1–69. https://doi.org/10.11646/phytotaxa.78.1.1

Rehfeldt S. & Cassar T. 2024. A contribution to the arachnofauna (Arachnida: Araneae, Opiliones) of the Maltese Islands, with two new records for Europe. *Arachnologische Mitteilungen* 67: 18–47. https://doi.org/10.30963/aramit6704

Řezáč M., Vaněk O. & Střeštík V. 2023. *Eresus elhennawyi* sp. n. (Araneae: Eresidae), a new velvet spider mimicking mutilid wasps from north-western Africa. *Serket* 19: 340–354.

Ribera C. 1993. *Dysdera caeca* n. sp. y *Harpactea stalitoides* n. sp.(Aranerae), dos nuevas especies cavernícolas de Marruecos y Portugal. *Revue arachnologique* 10: 1–7.

Rozwałka R., Rutkowski T. & Bielak-Bielecki P. 2017. New data on introduced and rare synanthropic spider species (Arachnida: Araneae) in Poland (II). *Annales Universitatis Mariae Curie-Sklodowska, Sectio C–Biologia* 71: 59–85. https://doi.org/10.17951/c.2016.71.1.59

Schäfer M. 2021. Ein Beitrag zur Springspinnenfauna (Araneae: Salticidae) der griechischen Insel Korfu mit vier Erstnachweisen für die Insel und Anmerkungen zur Gattung *Salticus*. *Arachnologische Mitteilungen* 61: 84–97. https://doi.org/10.30963/aramit6114

Shorthouse D.P. 2010. SimpleMappr, an online tool to produce publication-quality point maps. Available from https://www.simple-mappr.net [accessed 20 Mar. 2026].

Simon E. 1871. Révision des Attidae européens: Supplément à la monographie des Attides (Attidae Sund.). *Annales de la Société entomologique de France* 1: 125–230, 329–360.

Simon E. 1873. Aranéides nouveaux ou peu connus du midi de l'Europe: 2e mémoire. *Mémoires de la Société royale des Sciences de Liège* 5: 1–174. https://doi.org/10.5962/bhl.title.124166

Simon E. 1876. *Les Arachnides de France: Tome Troisième*. Librairie Encyclopédique de Roret Paris.

Simon E. 1880. Arachnides nouveau de France, d'Espagne et d'Algérie. Premier mémoire. *Bulletin de la Société zoologique de France* 4 (5–6, 1879): 251–263.

Simon E. 1909. Étude sur les Arachnides recueillis an Maroc par M. Martinez de la Escalera, en 1907. *Memorias de la Real Sociedad española de Historia natural* 6: 5–43.

Simon E. 1911. Catalogue raisonné des Arachnides du Nord de l'Afrique: (1re partie). *Annales de la Société entomologique de France* 79: 265–332. https://doi.org/10.1080/21686351.1910.12279477

Simon E. 1912. Récoltes entomologiques dans les Beni-Snassen (Maroc oriental). *Annales de la Société entomologique de France* 80: 414–419. https://doi.org/10.1080/21686351.1911.12279536

Thaler K. 1977. Einige Linyphiidae (sensu lato) aus Tunisien (Arachnida, Aranei). *Revue suisse de Zoologie* 84: 557–564. https://doi.org/10.5962/bhl.part.91407

Van Keer J. & Bosmans R. 2014. A new species of *Scytodes* from Algeria (Araneae: Scytodidae), with a review of the species from the Maghreb. *Zootaxa* 3894: 131–140. https://doi.org/10.11646/zootaxa.3894.1.10

Van Keer J., Bosselaers J. & Oger P. 2024. Description of four new *Steatoda* species (Araneae: Theridiidae) from the Mediterranean region with notes on some related species. *Journal of the Belgian Arachnological Society* 39: 1–77.

Vernonah R., Thévenot M., Bergierc P. & Rousseau E. 2005. Argan woodland: an important bird habitat in Morocco. *Bulletin of the African Bird Club* 12: 134–146. https://doi.org/10.5962/p.309751

Wahid N. 2018. The argan tree: the exploitation of the genetic potential and adaptation situation in Morocco. *Research Journal of Agriculture and Forest* 6: 6–11.

Wesołowska W. 1999. A revision of the spider genus *Menemerus* in Africa (Araneae: Salticidae). *Genus* 10: 251–353.

WSC. 2025. World Spider Catalog. Version 26.0. Natural History Museum Bern. Available from http://wsc.nmbe.ch [accessed Aug. 2025]. https://doi.org/10.24436/2

Wunderlich J. 2021. Few new, rare or special species of spiders from the Algarve, Portugal (Arachnida: Araneae). *Beiträge zur Araneologie* 14: 3–24.

Zamani A., Nuruyeva T., Snegovaya N., Freyhof J., Mustafayev N. & Marusik Y.M. 2025. New records of spiders (Arachnida: Araneae) from Azerbaijan, including the first record of Nephilidae from the Western Palaearctic. *Arachnology* 20: 132–137. https://doi.org/10.13156/arac.2024.20.1.132

Zhao X., Dupont L., Cheddadi R., Kölling M., Reddad H., Groeneveld J., Ain-Lhout F.Z. & Bouimetarhan I. 2019. Recent climatic and anthropogenic impacts on endemic species in southwestern Morocco. *Quaternary Science Reviews* 221: 1–15. https://doi.org/10.1016/j.quascirev.2019.105889

Zonstein S. 2017. Notes on *Nemesia* and *Iberesia* in the J. Murphy spider collection of the Manchester Museum (Araneae: Nemesiidae). *Israel Journal of Entomology* 47: 141–158. https://doi.org/10.5281/zenodo.1068674

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