

Revision of the genus *Zodarion* Walckenaer, 1833, part III. South East Europe and Turkey (Araneae: Zodariidae)

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Objektyp: **Article**

Zeitschrift: **Contributions to Natural History : Scientific Papers from the Natural History Museum Bern**

Band (Jahr): - **(2009)**

Heft 12/1

PDF erstellt am: **12.07.2024**

Persistenter Link: <https://doi.org/10.5169/seals-786968>

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Revision of the genus *Zodarion* WALCKENAER, 1833, part III. South East Europe and Turkey (Araneae: Zodariidae)

Robert Bosmans

ABSTRACT

Contrib. Nat. Hist. 12: 211–295.

The following new *Zodarion* species are described from South East Europe and Turkey: *Zodarion albipatellare*, *Z. arabelae*, *Z. arachnaio*, *Z. barbarae*, *Z. blagoevi*, *Z. christae*, *Z. deltshevi*, *Z. evvoia*, *Z. jansseni*, *Z. karpathos*, *Z. konradi*, *Z. kossamos*, *Z. mes-siniense*, *Z. morosoides*, *Z. noordami*, *Z. pacificum*, *Z. samos*, *Z. santorini*, *Z. van*, *Z. vankeerorum* and *Z. zorba*. The following new synonyms are proposed: *Zodarion geticum* WEISS, 1987 = *Z. aculeatum* CHYZER, 1897; *Zodarion aegaeum* DENIS, 1935 = *Z. morosum* DENIS, 1935; *Zodarion rhodiense* CAPORACCO, 1948 = *Z. granulatum* KULCZYŃSKI, 1908. *Zodarion rhodiense nigrifemur* CAPORACCO, 1948 is elevated to species rank, *Z. nigrifemur*. All *Zodarion* species occurring in South East Europe are redescribed, new distribution records are proposed and an identification key for males is presented.

Keywords: *Zodarion*, revision, Balkan, Turkey.

Introduction

The genus *Zodarion* WALCKENAER, 1833 appears to be very rich in species in the Mediterranean region. In the western part (Iberian Peninsula), 32 species were reported (Bosmans 1994; Pekár & al. 2003; Pekár & Cardoso 2005). In the Central Mediterranean region (France, Italy) 19 species were reported (Bosmans 1997).

In the present contribution, the species of South East Europe and Turkey are considered. The region covered is Slovenia, Croatia, Bosnia, Serbia, Montenegro, Macedonia, Albania, Romania, Bulgaria, Greece, Ukraine, Russia, Cyprus and Turkey. Actually, 20 species have been described or cited from this part of Europe: *Zodarion abantense* WUNDERLICH, *Z. aculeatum* CHYZER, *Z. aegaeum*

DENIS, *Z. attikaense* WUNDERLICH, *Z. aurorae* WEISS, *Z. emarginatum* (SIMON), *Z. epirensis* BRIGNOLI, *Z. frenatum* SIMON, *Z. geticum* WEISS, *Z. graecum* C. L. KOCH, *Z. hauseri* BRIGNOLI, *Z. korgei* WUNDERLICH, *Z. lutipes* (O. P.-CAMBRIDGE), *Z. morosum* DENIS, *Z. musarum* BRIGNOLI, *Z. ohridense* WUNDERLICH, *Z. pirini* DRENSKY, *Z. pythium* DENIS, *Z. rhodiense* CAPORACCO, *Z. rhodiense nigrifemur* CAPORACCO, *Z. scutatum* WUNDERLICH, *Z. spinibarbe* WUNDERLICH, *Z. thoni* NOSEK and *Z. turcicum* WUNDERLICH. The actual status, the known distribution data as well as new data on all these species are presented. The following new species are described: *Zodarion albigatellare*, *Z. arabelae*, *Z. arachnaio*, *Z. barbarae*, *Z. blagoevi*, *Z. christae*, *Z. deltshevi*, *Z. evvoia*, *Z. jansseni*, *Z. karpathos*, *Z. konradi*, *Z. kossamos*, *Z. messiniense*, *Z. morosoides*, *Z. noordami*, *Z. pacificum*, *Z. samos*, *Z. santorini*, *Z. van*, *Z. vankeerorum* and *Z. zorba*. Several species have been incorrectly cited from the Balkans: *Zodarion elegans*, *Z. fuscum*, *Z. italicum* and *Z. soror* (Bosmans 1997) and *Z. germanicum* does occur in the North of the Balkans, but was incorrectly cited from Macedonia and Greece.

Material and Methods

The material treated in this paper was for a great part collected by myself during several trips to Greece. Many colleagues and curators of museums also gave me the opportunity to study their collections.

Specimens were examined and illustrated using a Wild M5 stereomicroscope. Further details were studied using an Olympus CH-2 stereoscopic microscope with a drawing tube. Taxonomic descriptions follow the format of Bosmans 1994 and 1997.

Left structures are depicted. All morphological measurements are given in millimetres. Eye measurements were based on the lens at its widest point. Somatic morphology measurements were taken using a scale reticule in the stereo microscope.

Female genitalia were excised using sharpened needles. These were then transferred to clove oil for examination under the microscope. Male palps were detached and transferred to glycerol for examination under the microscope. Later, palps and epigynes were returned to 70% ethanol.

Type material and important reference material is deposited in different museums as listed in the descriptions of the species, the other material is deposited in the collection of the author or in one of the collections listed below.

Abbreviations

Institutes:

AMNH	American Museum of Natural History, New York
HECO	Hope entomological collection, Oxford
IZPAN	Instytut Zoologiczny, Polska Akademia Nauk, Warszawa
IZS	Institute of Zoology, Sofia
KBIN	Koninklijk Belgisch Instituut voor Natuurwetenschappen
MCZ	Museum of Comparative Zoology, Cambridge
MHNG	Muséum d'histoire naturelle, Genève
MNHNP	Muséum national d'Histoire naturelle, Paris
NMW	Naturhistorisches Museum, Wien
NMBE	Naturhistorisches Museum der Burgergemeinde Bern
NHRS	Naturhistoriska Riksmuseet, Stockholm
RMNH	National Museum of natural History, Leiden
SMF	Natur-Museum und Forschungsinstitut Senckenberg, Frankfurt
ZMB	Museum fur Naturkunde, Humboldt-Universität zu Berlin

Private collections:

CAN	Collection A. Noordam
CARS	Collection A. Russell-Smith
CBL	Collection P. Brignoli, L'Aquila
CJB	Collection J. Bosselaers
CJVK	Collection J. Van Keer
CJFM	Collection J. and F. Murphy
CJW	Collection J. Wunderlich
CKH	Collection K. Harms
CKT	Collection K. Thaler & B. Knoflach
CMAL	Collection Mark Alderweireldt
CMAS	Collection Martin Askins
CMJ	Collection M. Janssen
CPS	Collection P. Selden
CRB	Collection R. Bosmans
CRS	Collection Rowley Snazell

Abbreviations in descriptions:

Legs: Co, Fe, Ti, Mt, Ta= coxa, femur, tibia, metatarsus, tarsus

Eyes and their position: AM=anterior median eyes; diameter taken as base for all other calculations, always=1.0; the absolute diameter is given between brackets. AL, PM, PL=anterior lateral eyes, posterior median and posterior lat-

eral eyes; diameters expressed as fraction of AM diameter. a, b, c, d=distance between eyes: a=AM-AM, b=AM-AL, c=PM-PM, d=PM-PL, all expressed as fraction of AM diameter. MOQ=median ocular quadrangle, AW=anterior width, PW=posterior width, L=length.

Key to the *Zodarion* species of SE Europe (males only)

- 1 Basal part of median apophysis strongly developed, reaching the tibia (Figs. 15, 18) (*aculeatum* group) **2**
 - Median apophysis not reaching tibia (Figs. 3, 20, 32, 72, 124, 168, 184) .. **3**
- 2 Median apophysis denticulated in the middle (Fig. 15) ***Z. aculeatum***
 - Median apophysis not denticulated in the middle (Fig. 18) ***Z. scutatum***
- 3 Tibial apophysis elongated, basal part with nearly parallel margins, terminally slightly curved or forming a distinct hook (Figs. 1, 3, 5, 7) (*pusio* group) **4**
 - Tibial apophysis differently shaped, short or elongated but never with terminal hook (Figs. 20, 32, 72, 124, 168, 184) **7**
- 4 Embolus twisted (Fig. 5) ***Z. pacificum***
 - Embolus straight (Figs. 1, 3, 7) **5**
- 5 Tibial apophysis with large basal crest (Fig. 1), terminally rounded (Fig. 2)
..... ***Z. emarginatum***
 - Tibial apophysis without large basal crest, with terminal hook (Figs. 3, 7) **6**
- 6 Tibial apophysis terminally with large hook, at base strongly protruding (Fig. 4) ***Z. pusio***
 - Tibial apophysis with small terminal hook, without protruding base (Fig. 8)
..... ***Z. santorini***
7. Embolus very long, originating at baso-lateral side of tegulum (Figs. 184, 186, 188, 190) (*lutipes* group) **8**
 - Embolus not so long, originating at mesal side of tegulum (Figs. 20, 32, 72, 124, 168, 192) **11**
- 8 Tibial apophysis with small terminal hook (Fig. 185) ***Z. lutipes***
 - Tibial apophysis terminally pointed (Figs. 187, 189, 191) **9**
- 9 Distal part of tegular apophysis forming an angle of 90° with basal part (Fig. 186) ***Z. christae***
 - Distal part of tegular apophysis forming an angle of 60° with basal part (Figs. 188, 190) **10**
- 10 Tegulum with strong concavity at base of embolus (Fig. 190) ***Z. samos***
 - Tegulum gradually narrowing into bulbus (Fig. 188) ***Z. deltshevi***

11	Median apophysis a large, flat sclerite with retrolateral tooth (Fig. 192)	Z. frenatum
–	Median apophysis differently shaped (Figs. 20, 32, 72, 124, 168)	12
12	Median apophysis small, with basal, linear part and small distal, pointed part, forming an angle of 90° (Figs. 124, 126, 128, 130, 132, 134) (<i>graecum</i> group)	13
–	Median apophysis larger and differently shaped (Figs. 20, 32, 72, 168) .	18
13	Tegulum with large, basal boss (Fig. 135)	Z. messiniense
–	Tegulum without basal boss (Figs. 125, 127, 129, 131, 133)	14
14	Tibial apophysis elongated, as long as the tibia's diameter (Fig. 127, 129) ..	15
–	Tibial apophysis shorter than the tibia's diameter (Figs. 125, 131, 133) .	16
15	Embolus with broad base (Fig. 128)	Z. arachnaio
–	Embolus with relatively narrow base (Fig. 126)	Z. arabelae
16	Embolus with wide basal part, strongly narrowing towards the tip (Fig. 124)	Z. graecum
–	Embolus base less wide, gradually narrowing towards the tip (Figs. 130, 132)	17
17	Retrolateral margin of embolus forming an angularity with bulbus (Fig. 130)	Z. evvoia
–	Retrolateral margin of embolus nearly parallel to bulbus (Fig. 132)	Z. konradi
18	Embolus describing a semi-circle; median apophysis typically with very broad basal part and pointed distal part (Figs. 168, 170, 172, 174) (<i>thoni</i> group)	19
–	Embolus shorter; median apophysis differently shaped (Figs. 20, 32, 72) ...	22
19	Embolus terminally rounded (Fig. 171); thoracic part of prosoma distinctly reticulated	Z. granulatum
–	Embolus terminally pointed (Figs. 169, 173, 175); thoracic part of prosoma not distinctly reticulated	20
20	Tip of embolus with nearly symmetrical denticulation (Fig. 169)	Z. thoni
–	Tip of embolus with assymetrical denticulation (Figs. 173, 175)	21
21	Denticulation of embolar tip as in Fig. 173	Z. nigrifemur
–	Denticulation of embolar tip as in Fig. 175	Z. reticulatum
22	Median apophysis voluminous, with two basal prongs (Figs. 20, 23, 26, 29) (<i>morosum</i> group)	23
–	Median apophysis differently shaped (Figs. 32, 72)	26
23	Tibial apophysis elongated, bulging before the tip, terminally rounded (Figs. 21, 27)	24

- Tibial apophysis short, with small hook (Figs. 24, 30) 25
- 24** Tegulum wider than long in ventral view (Fig. 20) ***Z. morosum***
- Tegulum as wide as long in ventral view (Fig. 26) ***Z. morosoides***
- 25** Tibial apophysis sharply pointed in a hook of 30°; bulging part of tegulum flat (Fig. 24) ***Z. attikaense***
- Tibial apophysis nearly rectangular; bulging part of tegulum conical (Fig. 30) ***Z. pythium***
- 26** Tegulum strongly protruding in lateral view (Figs. 33, 36, 38, 41, 45, 49) (*germanicum* group) 27
- Tegulum flat, not protruding in lateral view (Figs. 73, 77, 81, 85, 89, 93, 97, 101, 105, 109, 113, 117, 121) (*spinibarbe* group) 32
- 27** Tibial apophysis elongated, 2 x as long as the tibia's diameter, with lateral groove (Figs. 41, 49) 28
- Tibial apophysis as long as the tibia's diameter, without lateral groove (Figs. 33, 36, 38, 45) 29
- 28** Median apophysis distally with 1 tooth (Fig. 43); tibial apophysis gradually narrowing, terminally pointed (Fig. 41) ***Z. musarum***
- Median apophysis distally with 2 teeth (Fig. 50); tibial apophysis suddenly narrowing with blunt tip (Fig. 48) ***Z. turcicum***
- 29** Tegular apophysis rounded in lateral view, protruding in ventral direction (Fig. 36) ***Z. aurorae***
- Tegular apophysis angular in lateral view, protruding in ventral or antero-ventral direction (Figs. 33, 38, 45) 30
- 30** Distal part of median apophysis with two teeth (Fig. 47); embolus with basal tooth (Fig. 46) ***Z. pirini***
- Distal part of median apophysis with one tooth (Figs. 34, 39); embolus without basal tooth (Figs. 32, 37) 31
- 31** Median apophysis with slender, gradually narrowing distal part (Fig. 39) ...
..... ***Z. korgei***
- Median apophysis with broad, bluntly pointed distal part (Fig. 34)
..... ***Z. abantense***
- 32** Embolus terminally bifid (Figs. 76, 78) ***Z. albiatellare***
- Embolus terminally not bifid (Figs. 72, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116, 120) 33
- 33** Distal part of median apophysis with two distinct teeth (Figs. 87, 91, 103, 111, 123) 34
- Distal part of median apophysis a more or less triangular tooth (Figs. 75, 83, 95, 99, 107, 115, 119)..... 38
- 34** Tibial apophysis twice as long as the tibia's diameter (Fig. 101)
..... ***Z. kossamos***

- Tibial apophysis shorter as the tibia's diameter (Figs. 85, 89, 109, 121) . **35**
- 35** Median apophysis with two strong teeth (Fig. 111) **Z. ohridense**
- Median apophysis with two small teeth (Figs. 87, 91, 123) **36**
- 36** Both teeth of median apophysis sharply pointed (Figs. 87, 91) **37**
- Basal tooth of median apophysis less pointed than upper tooth (Fig. 123) .
..... **Z. zorba**
- 37** Basal part of median apophysis large, strongly curved (Fig. 88, 91)
..... **Z. epireense**
- Basal part of median apophysis small, not curved (Fig. 84, 87) **Z. blagoevi**
- 38** Basal part of median apophysis with narrow, curved, prolateral tooth (Fig.
107) **Z. noordami**
- Basal part of median apophysis without such tooth (Figs. 75, 83, 95, 99,
115, 119) **39**
- 39** Median apophysis very large, nearly as long as bulbus (Fig. 112) **Z. van**
- Median apophysis less developed, shorter than 2/3 the length of the bul-
bus (Figs. 72, 80, 92, 96, 116) **40**
- 40** Median apophysis slender, with elongate basal and distal branches (Fig.
75) **Z. spinibarbe**
- Median apophysis with less elongate branches (Figs. 83, 95, 99, 119) **41**
- 41** Median apophysis with basal and distal part of about the same size, as in
figure 95 **Z. hauseri**
- Median apophysis with distal part smaller than basal part (Figs. 83, 99,
119) **42**
- 42** Distal part of median apophysis much smaller than basal part (Fig. 119)
..... **Z. vankeerorum**
- Distal part of median apophysis only slightly smaller than basal part (Figs.
83, 99) **43**
- 43** Basal part of median apophysis with one retrolateral concavity (Fig. 83)
..... **Z. barbarae**
- Basal part of median apophysis with two retrolateral concavities (Fig. 99) .
..... **Z. karpathos**

Systematics

Regarding male palps and female epigynes, the *Zodarion* species of the Balkans and Turkey can be classified in the following groups:

***rubidum* group**

Species included: *Z. rubidum* SIMON, *Z. alacre* (SIMON), *Z. andalusiacum* JOUQUÉ, *Z. costablancae* BOSMANS, *Z. couseranse* BOSMANS, *Z. fulvonigrum* BOSMANS, *Z. fuscum* (SIMON), *Z. machadoi* DENIS, *Z. minutum* BOSMANS, *Z. timidum* (SIMON) and *Z. viduum* DENIS.

Diagnosis: See Bosmans (1997).

Distribution: Western and Central Mediterranean, *Zodarion rubidum* recently expanded to Central Europe and the Balkans.

***pusio* group**

Species included: *Z. pusio* SIMON, *Z. emarginatum* (SIMON), *Z. pacificum* sp. nov., *Z. santorini* sp. nov.

Diagnosis: See Bosmans (1997).

Distribution: Central and Eastern Mediterranean.

***aculeatum* group**

Species included: *Z. aculeatum* CHYZER, *Z. sardum* BOSMANS, *Z. scutatum* WUNDERLICH.

Diagnosis: Males: Tibial apophysis triangular, gradually narrowing with curved tip; median apophysis with strongly elongated basal part, distal part with triangular tooth; embolus curved, gradually narrowing, terminally bluntly pointed. Females: epigyne with strongly sclerotised posterior margin, dorsal plate protruding and partly visible in ventral view (female of *Z. sardum* unknown).

Distribution: Central and Eastern Mediterranean.

***germanicum* group**

Species included: *Zodarion germanicum* (C. L. KOCH), *Z. abantense* WUNDERLICH, *Z. aurorae* WEISS, *Z. korgei* WUNDERLICH, *Z. musarum* BRIGNOLI, *Z. pirini* DRENSKY and *Z. turcicum* WUNDERLICH.

Diagnosis: Males: Tibial apophysis robust, as long or longer as wide; tegulum protruding as seen in lateral view; median apophysis of variable shape, completely or partly covered by protruding part of tegulum; embolus curved, linear or gradually narrowing. Females: epigyne with posteromedian incision, giving entrance to a central pouch.

Distribution: Eastern Mediterranean, some species reaching Central Europe.

***morosum* group**

Species included: *Zodarion morosum* DENIS, *Z. attikaense* WUNDERLICH, *Z. morosoides* sp. nov. and *Z. pythium* DENIS.

Diagnosis: Males: Tibial apophysis robust, with distinct basal boss, tip not much longer than basal boss; tegulum protruding as seen in lateral view; median apophysis a large, semi-circular sclerite, with two basal prongs; embolus threadlike, hidden by median apophysis. Females: epigyne slightly incised in the middle or with median protuberance.

Distribution: Eastern Mediterranean, some species reaching the Near East.

***graecum* group**

Species included: *Zodarion graecum* (C. L. KOCH), *Z. arabelae* sp. nov., *Z. arachnaio* sp. nov., *Z. evvoia* sp. nov., *Z. konradi* sp. nov., and *Z. messiniense* sp. nov.

Diagnosis: Males: Tibial apophysis triangular; tegulum more or less protruding as seen in lateral view; median apophysis small, basal part rectangular, distal part small and pointed; embolus curved, gradually narrowing. Females: Epigyne with posterior margin more or less incised, with anteromedian hood, representing a median pouch, vulva with semi-circular entrance ducts.

Distribution: Eastern Mediterranean.

***spinibarbe* group**

Species included: *Zodarion spinibarbe* WUNDERLICH, *Z. albipatellare* sp. nov., *Z. barbarae* sp. nov., *Z. blagoevi* sp. nov., *Z. epirensis* BRIGNOLI, *Z. hauseri* BRIGNOLI, *Z. karpathos* sp. nov., *Z. kossamos* sp. nov., *Z. noordami* sp. nov., *Z. ohridense* WUNDERLICH, *Z. van* sp. nov., *Z. vankeerorum* sp. nov. and *Z. zorba* sp. nov. Diagnosis: Males: Tibial apophysis triangular, as long or (rarely) longer than wide, terminally with incision or with concavity; tegulum not protruding as seen in lateral view; median apophysis obliquely U-shaped, with slender basal part, distal part produced into one or several teeth. Females: Epigyne

with posteromedian incision, limiting one central pouch; spermathecae small, at lateral side of the incision.

Distribution: Eastern Mediterranean.

***thoni* group**

Species included: *Zodarion thoni* NOSEK, *Z. granulatum* KULCZYŃSKI, *Z. nigri-femur* CAPORACCO and *Z. reticulatum* KULCZYŃSKI.

Diagnosis: Males: Tibial apophysis with elongated triangular apophysis; tegulum not protruding; median apophysis with flat, rectangular basal part and much smaller, twisted and pointed distal part; embolus semi-circular, linear, describing nearly half a circle, terminally widened into a small, species-specific knob. Females: epigyne with rectangular to trapezoid plate, with anteromedian hood, vulva with coiled, oblique entrance ducts.

***lutipes* group**

Species included: *Zodarion lutipes* (O. P.-CAMBRIDGE), *Z. christae* sp. nov., *Z. deltshevi* sp. nov., *Z. samos* sp. nov. and possibly *Z. frenatum*. Diagnosis: Males: Tibial apophysis robust, as long or (mostly) longer than wide; cymbium with retrolateral crest and sulcus; tegulum not protruding; median apophysis flat, with large basal part and small, pointed distal part; embolus long, rising at prolateral or basal part of tegulum. Females: Epigyne with incised posteromedian margin with median hood; spermathecae with several coiled ducts.

Distribution: Eastern Mediterranean, near East, *Zodarion frenatum* reaching Central Europe.

Description of species

***rubidum* group**

***Zodarion rubidum* SIMON, 1914**

Zodarion rubidum; Bosmans (1997): 277, figs. 30–32, 95–96, 101–102.

Description: See Bosmans (1997).

New material examined, not mentioned in Bosmans (1997):

ROMANIA

Caraş-Severin: Herculane, 3 ♂ 3 ♀, 29. V. 2008, I. Duma leg. (CRB).

Distribution: Originally and for a long time only known from France, but expanding to Central Europe including Hungaria, the USA and Canada (Bosmans 1997). Since then the species was also observed in Poland (Rozwałka & Gosik 2006), Denmark (Scharff & al. 2007) and Romania (Iona, pers. com.).

***pusio* group**

***Zodarion emarginatum* (SIMON, 1873)** (Figs. 1–2)

Enyo emarginata; Simon (1873): 61 (descr. male, female).

Zodarion mahnerti BRIGNOLI, 1984; Brignoli (1984): 315, figs. 46–47 (descr. male).

Zodarion emarginatum; Bosmans (1997): 276, figs. 20–21 (descr. male).

Description: See Bosmans (1997) and Figs. 1–2. Female unknown.

New material examined, not mentioned in Bosmans (1997):

GREECE

Ionian Islands: Kefalonia: Castle hill, 1 ♂, V. 1987 (CJFM).

Peloponnisos: Achaia: Rakita, 1 ♂, 31. V. 1998 (CRB).

Distribution: The south of France, Corsica, Malta, Greece.

***Zodarion pusio* SIMON, 1914** (Figs. 3–4, 9–10)

Zodarion pusio; Simon (1914): 229, 235, figs. 470, 483–484; Bosmans (1997): 274, figs. 18–19, 89–90.

Description: See Bosmans (1997) and Figs. 3–4, 9–10.

New material examined, not mentioned in Bosmans (1997): None.

Distribution: Coastal areas of France, Italy, Croatia and Bosnia.

***Zodarion pacificum* sp. nov.** (Figs. 5–6, 11–12)

Type material: Holotype ♂, 2 paratype ♂ from Croatia, Dalmatia, Peljesac peninsula, Prapatno bay, 50 m, stones in garrigue, 7. IV. 1966, K. Harms leg.; paratype ♀ from Bosnia, Neum, 50 m, in *Brachypodium* grassland, 9. IV. 1966, K. Harms leg.; all deposited in SMF.

Etymology: The males and the female were collected in the former republic of Yugoslavia at a distance of a few kilometers from each other. Nowadays these localities are situated in two different countries, Croatia and Bosnia, where after a long war, people and spiders can live now peacefully together, hence the name *pacificum*.

Diagnosis: A small species of the *pusio* group; males are distinguished by the twisted embolus, females by the shape of the epigynal ducts visible in transparency.

Description:

Measurements: Male: Total length 1.4–1.5; prosoma 0.64–0.72 long, 0.44–0.50 wide. Female: Total length 1.9; prosoma 0.76 long, 0.52 wide.

Colour: Prosoma brown reticulated with dark brown, anastomosing at sides; legs yellowish orange, femora darkened in some specimens; abdomen dark sepia, venter and posterodorsal spot whitish.

Eyes: AM=1 (0.045); AL=PM=PL=0.89; a=0.78; b=0.22; c=1.33; d=0.11; **MOQ:** AW=0.83PW; L=0.87PW.

Abdomen: Male without scutum; no conspicuous posteroventral row of setae.

Palp (Figs. 5–6): Tibial apophysis elongated, at its base with ventral boss, terminally with recurved tooth; median apophysis slender, basal part covered by triangular, pointed distal part; embolus linear, twisted in the middle.

Epigyne (Fig. 11): Posteromedian margin deeply incised; no exterior sclerotisations, but ducts as visible in transparency typical.

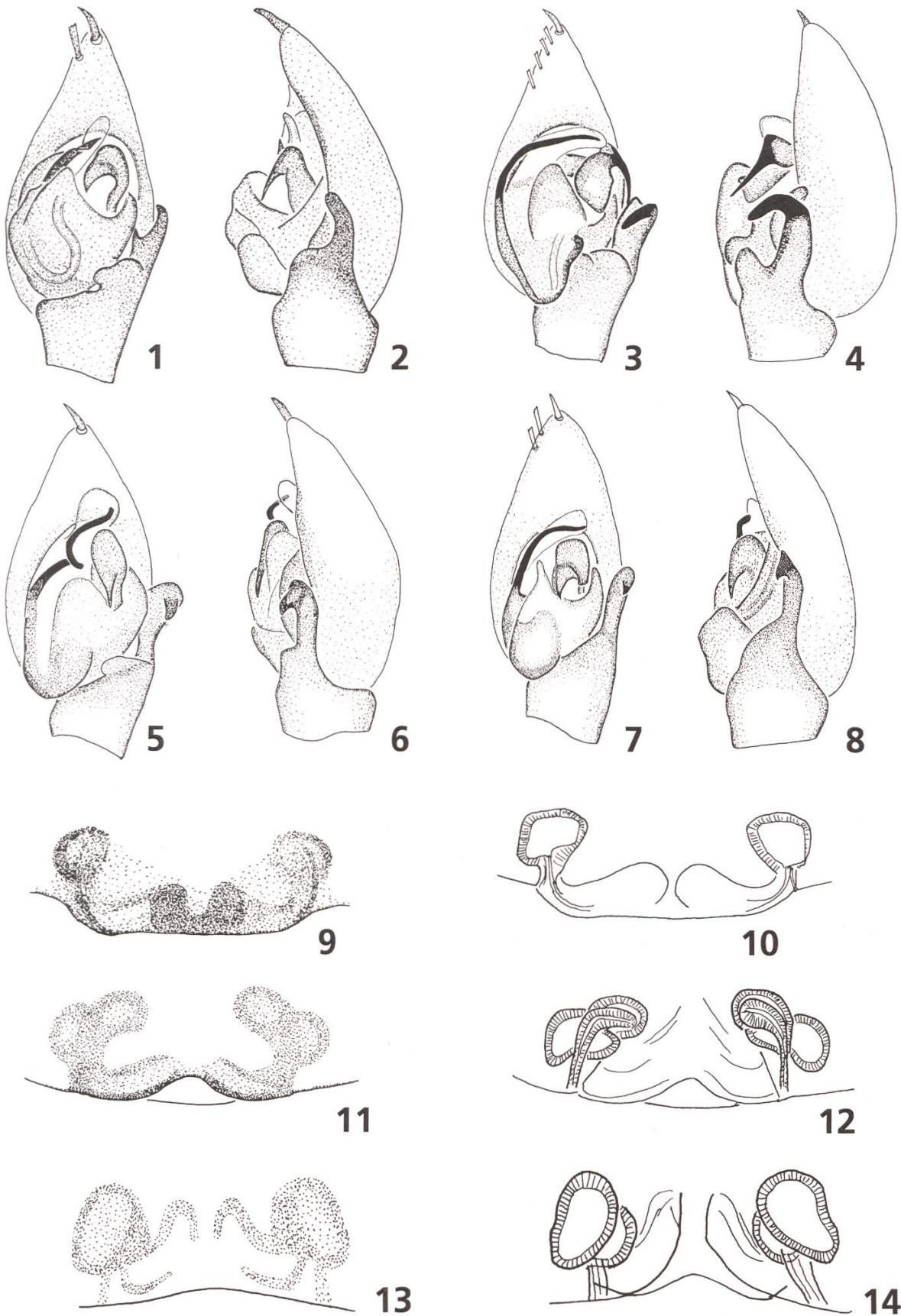
Vulva (Fig. 12): Spermathecae relatively large, with two pouches, connected by semi-circular ducts to the copulation pores.

Further material examined:

CROATIA:

Dubrovnik: Petnaok Gor, 3 ♂, stony area, 16. IV. 1976 (CJFM).

Distribution: The south of Croatia and the nearby coastal part of Bosnia.



Figs. 1-14. – 1-2: *Zodarion emarginatum* (SIMON). – 1: Male palp, ventral view; – 2: Idem, lateral view; – 3-4: *Zodarion pusio* SIMON; – 3: Male palp, ventral view; – 4: Idem, lateral view; – 5-6: *Zodarion pacificum* sp. nov.; – 5: Male palp, ventral view; – 6: Idem, lateral view; – 7-8: *Zodarion santorini* sp. nov.; – 7: Male palp, ventral view; – 8: Idem, lateral view. – 9-10: *Zodarion pusio* SIMON; – 9: Epigyne; – 10: Vulva; – 11-12: *Zodarion pacificum* sp. nov.; – 11: Epigyne; – 12: Vulva; – 13-14: *Zodarion santorini* sp. nov.; – 13: Epigyne; – 14: Vulva.

Zodarion santorini sp. nov. (Figs. 7–8, 13–14)

Type material: Holotype ♂ from Greece, Kyklades, Santorini (Thira), in pitfall at border of road, V.1991, Schmalfusz leg. (SMF); paratypes: same data, 38 ♂, deposited in SMF, 5 ♂, deposited in KBIN; 1 ♀ paratype from Santorini, surroundings of Perissa, Ch. Rieger leg.; deposited in SMF.

Etymology: The name is a noun in apposition and refers to the type locality.

Diagnosis: A small species of the *pusio* group, males differing from other members of this group by the hooked apophysis of the tibia without basal boss or crest, females by the shape of the spermathecae which are visible in transparency.

Description:

Measurements: Male: Total length 1.3–1.6; prosoma 0.70–0.80 long, 0.48–0.58 wide. Female: Total length 2.1; prosoma 0.78 long, 0.56 wide.

Colour: Prosoma yellowish white, eye region black; legs pale yellowish; abdomen dorsally sepia, with small whitish spots and stripes, ventrally whitish.

Eyes: AM=1 (0.065); AL=PM=PL=0.62; a=0.85; b=0.31; c=1.23; d=0.31; MOQ: AW=0.89PW; L=0.86PW.

Abdomen: Male without scutum; no conspicuous posteroventral row of setae.

Palp (Figs. 7–8): Tibial apophysis with broad base, first gradually narrowing, then with parallel margins to the terminal hook; tegulum strongly protruding, forming a deep incision around the median apophysis; median apophysis with narrow base, distal part triangular and pointed; embolus nearly linear, gently curved, terminally pointed.

Epigyne (Fig. 13): Posterior margin slightly incised; without exterior sclerotisations.

Vulva (Fig. 14): Spermathecae oval, with two lobes; copulation ducts relatively short and wide.

Further material examined: None.

Distribution: Only known from the island Santorini.

aculeatum group

Zodarion aculeatum CHYZER, 1897 (Figs. 15–17, 51–52)

Zodarion aculeatum; Chyzer, in Chyzer & Kulczyński (1897): 149, pl. 6, figs. 5 (descr. female); Stojićević (1929): 41; Drensky (1936): 30.

Zodarion aculeatum; Denis (1937): 39, pl. 8, figs. 67; Fuhn & Oltean (1970): 160; Tzonev & Lazarov (2001): 75; Deltshev & al. (2005): 189, map 418.

Zodarion geticum WEISS, 1987; Weiss (1987): 103 (descr. male); Deltshev & Blagoev (1992): 28; Tzonev & Lazarov (2001): 75; Antov & al. (2004): 359 (syn. nov.).

Type material: Holotype ♀ of *Z. aculeatum* from Romania, Wallachia, Orsova (Hungarian national History Museum, Budapest, Coll. CHYZER 1187); examined.

Holotype ♂ of *Z. geticum* from Romania, Wallachia, Mihai Bravu, Padurea Ceagau, Kreis Ilfov (Museum Sibiu); not examined, unavailable.

Diagnosis: By the elongated median apophysis, *Z. aculeatum* is closely related to *Z. vicinum*. *Z. aculeatum* has typical small denticles in the median part of the median apophysis, and in females, the posterior margin of the epigyne has a typical sclerotisation.

Remarks on synonymy: *Zodarion geticum* WEISS, 1987 (female unknown) appears to be the unknown male of *Z. aculeatum* CHYZER, 1897, and thus becomes a junior synonym. Both sexes were collected together by Deltshev in Bulgaria.

Description:

Measurements: Male: Total length 3.4; prosoma 1.79 long, 1.34 wide. Female: Total length 4.4–6.1; prosoma 2.02–2.40 long, 1.42–1.69 wide.

Colour: Prosoma reddish brown, cephalic part reticulated with dark brown, locally forming larger spots; legs orange brown, Fe I brown, Fe II pale brown; abdomen dark sepia, venter and elongated posterodorsal spot whitish.

Eyes: AM=1 (0.1); AL=0.8; PM=PL=0.7; a=0.7; b=0.4; c=2.3; d=0.1; MOQ: AW=0.77PW; L=0.86PW.

Abdomen: Male with large dorsal scutum.

Palp (Figs. 15–17): Tibial apophysis gently curved, pointed terminally; cymbium with basal gland; basal part of median apophysis strongly elongated in posterior direction, carrying basal, median and distal denticulations; embolus linear, terminally somewhat widened.

Epigyne (Fig. 51): Posterior margin of epigyne strongly sclerotised, with two rounded incisions, showing part of the dorsal plate; no other exterior sclerotisations.

Vulva (Fig. 52): Dorsal plate rectangular; spermathecae separated by 1.5x their diameter.

Previous records:

BULGARIA

Blagoevgrad: Struma valley, Zemen gorge (Deltshev & Blagoev 1992).

Kyuestendil: Osogovo Mountains (as *Z. aculeatum* and *Z. geticum*; Tzonev & Lazarov 2001).

Pernik: Bresnik (Drensky 1936).

Sofia: Vitoscha mountain, Vladaya (Antov & al. 2004).

MACEDONIA

Stip: Stip-Kotschani (Stojićević, 1929; Drensky 1936).

ROMANIA

Ilfov: Ilfov, type locality of *Z. geticum* (Weiss 1987).

Mehedini: Wallachia, Orsova (type locality of *Z. aculeatum*; Chyzer & Kulczyński 1897); Svinita (Fuhn & Oltean 1970).

SERBIA

Beograd; Brus; Jelak, Mt. Kopaonik; Niš; Pleš; Suvo Rudište (Stojićević 1929; Drensky 1936).

New material examined:

BULGARIA

Blagoevgrad: Zemen gorge, 1 ♂ 1 ♀, 3.V.1986, C. Deltshev leg. (IZS).

ROMANIA

Timisoara: Lugoj, 24.V.2008, 6 ♀, I. Duma leg. (CRB).

Distribution: Romania, Bulgaria, and unverified records in Serbia and Macedonia.

***Zodarion scutatum* WUNDERLICH, 1980** (Figs. 18–19, 53)

Zodarion scutatum; Wunderlich (1980b): 113, figs. 1–6 (descr. male, female).

Type material: Holotype ♂, 4 ♂ 2 ♀ paratypes from Slovenia, N. Istria, Mount Slavnik (SMF 3096, 3097; examined).

Diagnosis: Males of this species are easily recognised by the strongly elongated median apophysis without small denticulations in the median part; females by the epigyne with large, transverse median plate.

Description:

Measurements: Male: Total length 3.6; prosoma 1.8 long, 1.4 wide. Female: Total length 3.3; prosoma 2.4 long, 1.69 wide.

Colour: Prosoma reddish brown, reticulated with dark brown, locally forming larger spots; legs orange brown, Fe I brown, Fe II pale brown; abdomen dark sepia, with elongated pale spot above spinnerets.

Eyes: AM=1 (0.14); AL=0.57; PM=0.43; PL=0.5; a=0.5; b=0.43; c=86; d=0.71; MOQ: AW=0.81PW; L=0.88PW.

Abdomen: In males with dorsal scutum.

Palp (Figs. 18–19): Tibial apophysis elongated, distally abruptly narrowing and rounded; cymbium with basal gland; median apophysis with strongly elongated basal part with retrolateral tooth, anterior part with large, triangular tooth; embolus linear, somewhat constricted before the rounded tip.

Epigyne (Fig. 53): With deep median incision; large part of dorsal plate visible.

Vulva: Spermathecae separated by twice their diameter.

Previous records:

SLOVENIA

N. Istria, Mount Slavnik (Wunderlich, 1980b).

New material examined:

CROATIA

Primorsko-Goranska: Bakar (as Buccari), 1 ♀ (Coll. Kulczyński, IZPAN, sub *Z. gallicum*).

Distribution: Slovenia, Croatia.

***germanicum* group**

***Zodarion germanicum* (C. L. Koch, 1837)**

Lucia germanica; C. L. Koch (1837): 19.

Zodarion germanicum; Bosmans (1997): 273, figs. 16–17, 87–88.

Description: See Bosmans (1997).

New material examined, not mentioned in Bosmans (1997): None.

Distribution: Central Europe, from south Germany in the West to Romania in the East. All records from the Ukraine proved to be incorrect and refer to *Z. morosum* (Kovblyuk 2003).

***Zodarion abantense* WUNDERLICH, 1980** (Figs. 32–34, 60–61)

Zodarion abantense; Wunderlich (1980a): 236, figs. 19–24 (descr. male, female); Dunin & Nenilin (1987): 192, figs. 1–2; Marusik (2005): 90.

Type material: Holotype ♂ from Turkey, Bolu province, Abant Mountains (SMF). Paratypes: 20 ♂ 1 ♀ with missing epigyne, same data (SMF 30056; examined).

Diagnosis: Males of this species are easily recognised by the strong tegular apophysis of the tegulum, females by the small, but relatively larger posteromedian incision in the epigyne than in the related *Zodarion korgei*.

Description:

Measurements: Male: Total length 3.1–3.9; prosoma 1.44–1.80 long, 0.96–1.28 wide. Female: Total length 4.8; prosoma 1.90 long, 1.34 wide.

Colour: Prosoma dark brown, reticulated with black; legs yellowish-brown, Fe I dark brown, Fe II–IV somewhat paler; abdomen dark violet brown, ventrally with rounded, whitish spot.

Eyes: AM=1 (0.08); AL=PL=0.75; PM=0.5; a=0.75; b=0.44; c=2; d=0.5. MOQ: AW=0.84PW; L=0.84PW.

Palp (Figs. 32–34): Tibia with elongated, gradually narrowing apophysis, its tip gently curved; tegulum with strong, triangular apophysis, pointing in anteroventral direction; median apophysis largely covered by the tegular apophysis, small, hook-like; embolus gently curved, with subterminal oblique crest.

Epigyne (Fig. 60): With small, rounded posteromedian incision; without exterior sclerotisations.

Vulva (Fig. 61): Posteromedian incision delimiting a small, rounded pouch; spermathecae small, separated by 2.5x their diameter.

Previous records:

GEORGIA

Abkhazia: Gepuvishi (Dunin & Nenilin 1987); Pitsunda (Marusik 2005); Sukhum (Marusik 2005).

RUSSIA

Kràsnodar: Adler (Marusik 2005).

TURKEY

Bolu: Abant Mountains (type locality; Wunderlich, 1980a).

New material examined: None.

Distribution: Turkey, Caucasus, S. Russia.

***Zodarion aurorae* WEISS, 1982** (Figs. 35–36, 62–63)

Zodarion aurorae; Weiss (1982): 77, figs. 1–8 (descr. male, female).

Type material: Holotype ♂, 18 ♂ 10 ♀ paratypes from Romania, Dobruja, Galati, Hanu Conachi (not examined, unavailable).

Diagnosis: Closely related to *Zodarion korgei* from Turkey; males differ by the more voluminous tibial apophysis, females by the larger posteromedian incision of the epigyne

Description (after Weiss 1982):

Measurements: Male: Total length 2.5; prosoma 1.16 long, 0.92 wide. Female: Total length 2.9; prosoma 1.35 long, 1.01 wide.

Colour: Prosoma brown suffused with dark brown, with darker spot before fovea; coxae pale yellowish, Fe I–III entirely, Fe IV only distally dark brown, other segments yellowish brown.

Palp (Figs. 35–36): Tibial apophysis elongated, with subterminal bend, terminally rounded; tegulum with voluminous, rounded tegular apophysis; median apophysis with pointed distal part; embolus pointed.

Epigyne (Fig. 62): Posterior margin distinctly incised, with large median hood; no further exterior sclerotisations.

Vulva (Fig. 63): Incision giving entrance to a large, oval pouch; copulation ducts relatively short; spermathecae separated by 2.5 times their diameter.

Previous records:

ROMANIA

Galati: Hanu Conachi (type locality; Weiss 1982).

New material examined: None.

Distribution: Only known from SE Romania.

***Zodarion korgei* WUNDERLICH, 1980** (Figs. 37–39, 64–65)

Zodarion korgei; Wunderlich (1980a): 234, figs. 12–18 (descr. male, female).

Type material: Holotype ♂, 2 paratypes ♂, 2 paratypes ♀ from Turkey, Bolu province, S. Akçakoca (SMF 30054; examined).

Diagnosis: Closely related to *Zodarion abantense*, males differing by the larger, vertical tegular apophysis and by the larger median apophysis, females by the hardly incised posterior epigynal border.

Description:

Measurements: Male: Total length 2.8–3.0; prosoma 1.54–1.58 long, 1.16–1.22 wide. Female: Total length 4.0–4.2; prosoma 1.62–1.70 long, 1.18–1.22 wide.

Colour: Prosoma yellowish brown, region of fovea reticulated with grey; legs pale yellowish, femora slightly darkened, contrasting with coxae and other segments; abdomen dark violet brown, ventrally and short oblique lateral stripe whitish.

Palp (Figs. 37–39): Tibia with elongated apophysis, its tip gently curved; tegulum with broad, obtuse apophysis, pointing in ventral direction; median apophysis large, with narrow stem, anteriorly with an obtuse tooth, distal part triangular with rounded tip; embolus gently curved, gradually narrowing.

Epigyne (Fig. 64): Posterior margin of epigyne with very small median incision and small hood, without exterior sclerotisations.

Vulva (Fig. 65): Posteromedian incision delimiting a small, rounded pouch; spermathecae small, separated by 2.5 x their diameter.

Previous records:

Bolu: S. Akçakoca (type locality; Wunderlich, 1980a).

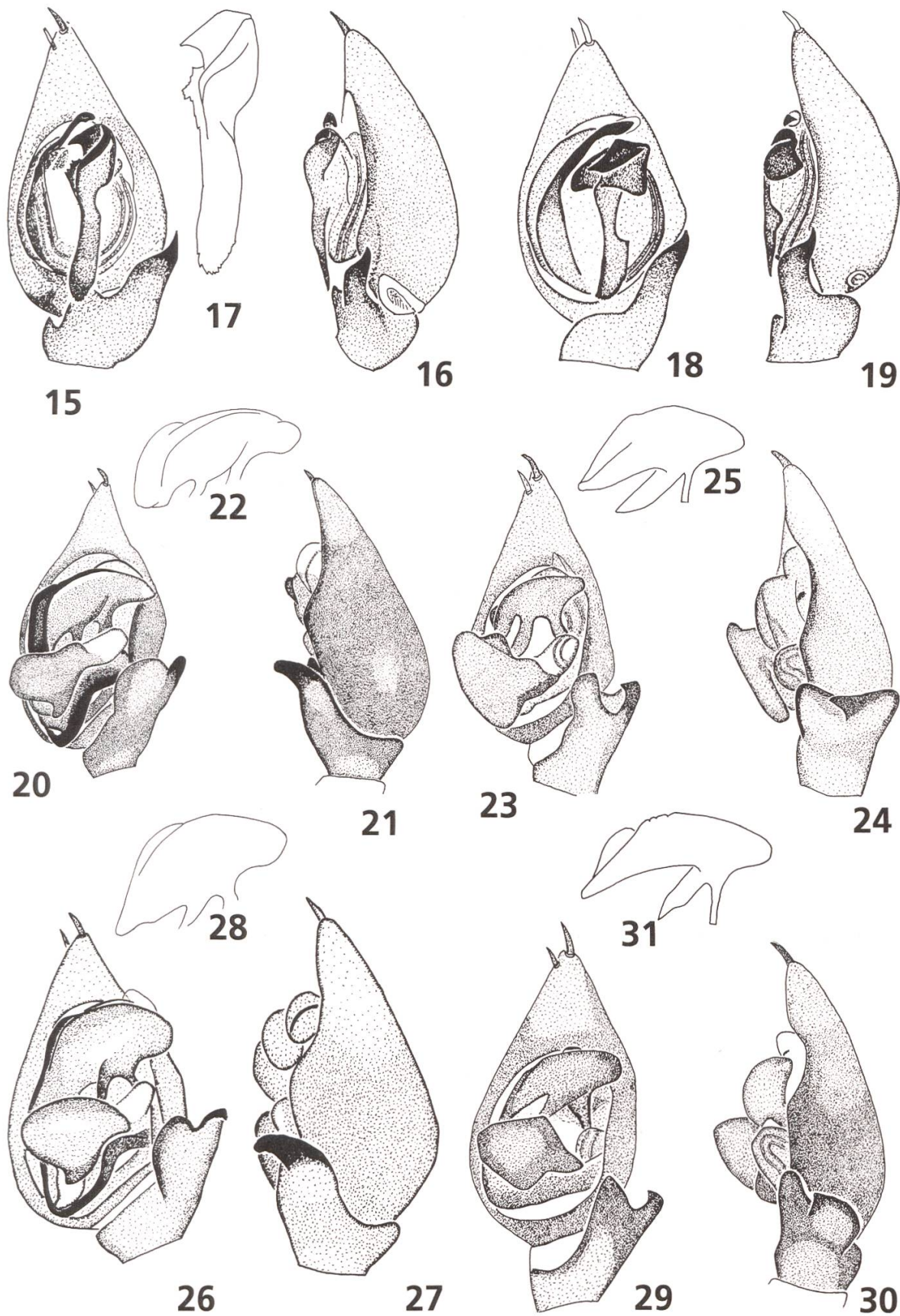
New material examined: None.

Distribution: Only known from the type locality.

***Zodarion musarum* BRIGNOLI, 1984** (Figs. 40–43, 66–67)

Zodarion musarum; Brignoli (1984): 315, figs. 48–49 (descr. male).

Type material: Holotype ♂ from Greece, Attiki-Piraeus, Oros Parnis, N. slope, B. Hauser leg. (MHNG The 76/20); examined.



Figs. 15–31. – 15–17: *Zodarion aculeatum* CHYZER; – 15: Male palp, ventral view; – 16: Idem, lateral view; – 17: Median apophysis; – 18–19: *Zodarion scutatum* WUNDERLICH; – 18: Male palp, ventral view; – 19: Idem, lateral view; – 20–22: *Zodarion morosum* DENIS; – 20: Male palp, ventral view; – 21: Idem lateral view; – 22: Median apophysis; – 23–25: *Zodarion attikaense* WUNDERLICH; – 23: Male palp, ventral view; – 24: Idem, lateral view; – 25: Median apophysis; – 26–28: *Zodarion morosoides* sp. nov.; – 26: Male palp, ventral view; – 27: Idem, lateral view; – 28: Median apophysis; – 29–31: *Zodarion pythium* DENIS; – 29: Male palp, ventral view; – 30: Idem, lateral view; – 31: Median apophysis.

Diagnosis: This large species is closely related to *Zodarion abantense*. Males are distinguished from this species by the wider and longer tibial apophysis with oblique groove, females by the much larger posteromedian incision of the epigyne.

Description:

Measurements: Male: Total length 3.8–5.0; prosoma 1.80–2.38 long, 1.34–1.79 wide. Female: Total length 4.4–6.0; prosoma 2.14–2.62 long, 1.52–1.95 wide.

Colour: Prosoma reddish brown, strongly reticulated with dark brown; legs yellowish brown, Fe broadly streaked with dark brown; abdomen dark sepia, small posterodorsal spot and oblique lateral stripe whitish, some specimens with a pair of elongated pale spots behind the epigastric groove.

Eyes: AM=1 (0.14); AL=0.71; PM=0.59; PL=0.71; a=0.71; b=0.33; c=2.13; d=0.68; MOQ: AW=0.86PW; L=0.91PW.

Abdomen: Males dorsally with narrow, poorly defined sclerotised region; row of setae in front of spinnerets consisting of 24–26 setae in females, 15–16 in males, 0.11 mm long, as long as normal ventral hairs.

Palp (Figs. 40–43): Tibial apophysis strongly elongated, very long, with an oblique groove, terminally bluntly pointed; tegulum strongly protruding in anteroventral direction; median apophysis relatively small, in ventral view partly covered by the tegulum, with narrow base and strong prolateral tooth; base of embolus with strong basal tubercle, with rounded apophysis in the median part, terminally rounded.

Epigyne (Fig. 66): With deep posteromedian incision and smaller, rounded hood.

Vulva (Fig. 67): Incision giving entrance to a rounded pouch; spermathecae small and widely separated; copulation ducts short.

Previous records:

GREECE

Attiki-Saronic Islands: Attiki: Oros Parnis, N. slope (type locality; Brignoli, 1984).

New material examined:

GREECE

Evvoia-Voroies Sporades: Evvoia: Aghios Vlasios, 1 ♀, 20. IX. 1997 (CKT); Steni E., 1200 m, 1 ♀, 21. IX. 1997 (CKT).

Ipeiros: Ioannina: Oros Pindos, Katara pass, 1 ♂, 18. IX. 1995 (CKT); Papigo, 970 m, pitfalls in mixed forest, 11. VII. 2007, B. Vandenberghe leg. (CRB).

Ionian Islands: Kefalonia: Oros Aeneos, 1600 m, 1 ♀, 20. IX. 1999 (CKT).
Kerkyra: Pantokrator, 1 ♂, 10. IV. 1983 (CJFM).
Makedonia: Chalkidiki: Kallithea, 2 ♀, 13. VI. 1997 (CRB)
Peloponnisos: Achaia: Kalavrita, Oros Chelmos, 1200 m, 4 ♂ 17 ♀, 20. IX. 1993
(CKT, CRB); S. Mesorougi, Oros Chelmos, 1 ♂ 1 ♀, 29. IX. 1985 (CKT); Kala-
vrita, Xirokampos, 1 ♂ 1 ♀, 21. IX. 1987 (CKT); Oros Aroania, 2 ♀ (CRB).
Arkadia: S. Vitina, Oros Mainalon, 1 ♂, 30. IX. 1992 (CKT). Korinthia: Kasta-
nia, Pheneos, 1 ♂ 1 ♀, 22. IX. 1987 (CKT); Killini Oros above Ano Trikkala,
1 ♂ 2 ♀, 21. IX. 1993 (CKT). Lakonia: Between Sparti and Kalamata, Oros
Taightos, 1400 m, 2 ♂ 1 ♀, 23. IX. 1992 (CKT); idem, M. Panaghia Giatrissa,
1100 m, 1 ♀, 30. IX. 1991 (CKT).
Stereia Elada: Voiotia: Oros Parnassos, 1750 m, 1 ♀, 24. IX. 1995 (CKT).
Thessalia: Magnisia: Oros Pileo, Milies, 2 ♀, 21. IX. 1998 (CKT).

Distribution: Previously only known from the type locality in Attiki. Records
are added here from Makedonia in the north to the Peloponnisos in the south,
and also from the island Evvoia.

***Zodarion pirini* DRENSKY, 1921** (Figs. 44–47, 68–69)

Zodarium gallicum pirini; Drensky (1921): 35, 77, pl. 1, figs. 8 (descr. female);
Drensky (1940): 173.

Zodarium germanicum; Drensky (1913): 60 (misidentification).

Zodarium timidum; Drensky (1913): 61 (misidentification).

Zodarium elegans; Drensky (1915): 151 (misidentification).

Zodarion pirini; Deltshv (1987): 20, figs. 2.1–3, 3.1–3 (n. stat.); Deltshv
(1995): 220; Deltshv (1997b): 277; Deltshv (1998): 218; Lazarov (1998):
30; Lazarov & al. (2001): 21; Dimitrov & Lazarov (2002): 50; Deltshv & al.
(2004): 190.

Type material: Lectotype ♀, 6 ♀ paralectotypes from Bulgaria, Pirin Mountains,
designated by Deltshv, 1995; not examined.

Diagnosis: Males of *Z. pirini* are recognised by the two black teeth in the
median apophysis, females by the large, obtuse incision of the posterior margin
of the epigyne.

Description:

Measurements: Male: Total length 3.7; prosoma 1.73 long, 1.29 wide.
Female: Total length 3.6.0–4.3; prosoma 1.88–2.05 long, 1.28–1.44 wide.

Colour: Prosoma marbled, pale to dark brown, thoracic part often more yellowish brown; legs yellowish brown, with femora dark brown and tibiae laterally streaked with dark brown; abdomen dark brown with violet sheen, venter, oblique lateral stripe and small posterodorsal spot whitish.

Eyes: AM=1 (0.095); AL=0.71; PM=0.6; PL=0.94; a=0.94; b=0.47; c=2.23; d=0.88; MOQ: AW=0.8PW; L=0.88PW.

Palp (Figs. 44–47): Tibia with long, pointed retrolateral apophysis, dorsally with some strong spines; tegular apophysis bulging in anteroventral direction; median apophysis deeply incised at its prolateral margin, provided with two black teeth; embolus with strong tooth and small tubercle at its base, with parallel margins, bluntly pointed.

Epigyne (Fig. 68): Posterior margin with obtuse incision and wide hood; dorsal plate partly visible.

Vulva (Fig. 69): Incision giving entrance to a wide pouch; spermathecae rounded, separated by 1.8x their diameter, with short copulation ducts.

Previous records:

BULGARIA

Blagoevgrad: Pirin Mountains (Deltshev 1997b).

Khaskovo: Vulchepole, Ivaylovgrad (Deltshev & al. 2004).

Kürdzhali: Boynik, Krumovgrad (Deltshev & al. 2004).

Kyustendil: Rila Mountain, Rila monastery (Deltshev 1987); Eastern Rila, near Granchar cottage (Deltshev 1995).

Lovech: Central Stara Planina Mountain, Zlatishko-Tetrenska region, Troyanska region, Kaloferska region (Deltshev 1998).

Plovdiv: Rhodopes, Backovo Monastery (Drensky 1915, sub *Z. elegans*; Deltshev 1987).

Sofiya: Sushtinska Sredna Gora Mountains, Fetentsi (Lazarov 1998; Lazarov & al. 2001).

Wradza: Wradza (Drensky 1913, sub *Z. germanicum*; Deltshev 1987).

GREECE

Thraki: Evros: near Alexandroupoli (Deltshev & al. 2004).

New material examined:

BULGARIA

Blagoevgrad: Pirin Mountains: Bansko, 1 ♀, 6. VIII. 2005 (CRB); Demjanica, 2200 m, 1 ♂ 2 ♀, 26. VII. 1985, C. Deltshev leg. (CRB); Vihren, 1 ♀, 6. VIII. 2005 (CRB).

Plovdiv: Sopot, 5 ♀, 8. VIII. 2005 (CRB).

Smolyan: Dospat S, 1400 m, 1 ♀, 15. VII. 1984 (CKT).

Stara Zagora: Sipka pass, 3 ♀, 8. VIII.2 005 (CRB).

Distribution: Bulgaria and Northern Greece.

***Zodarion turcicum* WUNDERLICH, 1980** (Figs. 48–50, 70–71)

Zodarion turcicum; Wunderlich (1980a): 238, figs. 25–28 (descr. female); Dimitrov (1996): 157, figs. 1–2 (descr. male).

Type material: Holotype ♀ from Turkey, Bolu province, Abant Mountains, epigyne lost (SMF); examined.

Diagnosis: Closely related to *Zodarion musarum* and *Z. pirini*. Males are recognised by the broader tibial apophysis and the 2 large teeth in the median apophysis, females by the rectangular posteromedian incision of the epigyne.

Remarks: The epigyne of the holotype female of *Z. turcicum* is lost and the figures of epigyne and vulva are here based on a female from the AMNH.

A male specimen found in the collection of the MNHNP is labeled '*Zodarion tauricum* Simon, AR2848'. It belongs to *Z. turcicum*. A species with such a name has never been described and *Z. tauricum* is therefore a nomen nudum.

Description:

Measurements: Male: Total length 3.2; prosoma 1.64 long, 1.21 wide. Female: Total length 4.7–5.0; prosoma 2.18–2.28 long, 1.60–1.61 wide.

Colour: Prosoma dark brown; legs with dark brown Fe I–II and dark yellowish brown Fe III–IV, other segments yellowish brown; abdomen dark sepia brown, with posteromedian spot, oblique lateral stripe and venter whitish.

Eyes: AM=1 (0.13); AL=0.88; PM=0.64; PL=0.72; a=0.72; b=0.32; c=2.4; d=0.64; MOQ: AW=0.98PW; L=0.98PW.

Palp (Figs. 48–50): Tibial apophysis elongated, twice as long as the tibia's diameter, distal part with a longitudinal groove, terminally rounded; tegulum with blunt apophysis, strongly protruding in anterior direction; median apophysis relatively small, largely covered by the tegular apophysis, with two pro-lateral teeth; embolus pointed.

Epigyne (Fig. 70): With large, rectangular posteromedian incision.

Vulva (Fig. 71): Spermathecae very small, separated by more than three times their diameter.

Previous records:

TURKEY

Bolu: Abant mountains (type locality; Wunderlich 1980a).

BULGARIA

Dobrich: Albena (Dimitrov 1996).

Yambol: Strandza mountains, Isperetz (Dimitrov 1996).

New material examined:

TURKEY

Adiyaman: Taurus mountains (MNHNP AR 2848, sub *Zodarion tauricum*, nomen nudum).

Bolu: 20 to 70 miles east of Bolu, 1 female, 22. VII. 1956 (AMNH).

Distribution: Turkey, Bulgaria.

***morosum* group**

***Zodarion morosum* DENIS, 1935** (Figs. 20–22, 54–55)

Zodarion morosum; Denis (1935): 78, figs. 22–24 (descr. male, female); Denis (1937): 35; Karol (1969): 201, figs. 1–11; Deltshev (1987): 19, figs. 1.1–2; Deltshev (1997a): 59; Deltshev (1997b): 277; Deltshev & Blagoev (1997): 28; Kovblyuk (2003): 177, figs. 1–8, 14–16; Deltshev (2004): 75; Deltshev & al. (2004): 190; Lazarov (2005): 150; Marusik & al. (2005): 147; Lazarov (2007): 140.

Zodarion aegaeum DENIS, 1935; Denis (1935): 82 (descr. female); Denis (1937): 14 (syn. nov.)

Type material: Type series of *Zodarion morosum* from Greece, Kiklades, Tinos and Syros (BM 5990-91, coll. Koch).

Holotype ♀ of *Z. aegaeum* from Greece, Kiklades, Syros (NMW 1884-I-260), and paratype ♀ Tinos (NMW 1892-II-68); examined.

Diagnosis: Males of this species are easily recognised by the shape of the tibial apophysis, and by the very large median apophysis; females are distinguished by the shallow posteromedian incision of the epigyne, and by the small, widely separated spermathecae.

Remarks: *Zodarion morosum* DENIS, 1935 (page 78) and *Z. aegaeum* DENIS, 1935 (page 82) are apparently synonyms. By page priority, the former has pri-

ority. Both species were described from the Cyclad islands Syros and Tinos, *Z. morosum* from both sexes, *Z. aegaeum* only from the female. No diagnostic characters to distinguish the species were given. The differences in Denis' figures of the epigynes are only due to differences in pigmentation.

Description:

Measurements: Male: Total length 2.6–3.4; prosoma 1.40–1.76 long, 1.33–2.04 wide. Female: Total length 3.8–6.3; prosoma 1.59–2.48 long, 1.10–1.72 wide.

Colour: Prosoma brown to dark brown, speckled; legs pale yellowish to yellowish orange, coxae and basal part of Fe white, distal part of Fe dark brown; abdomen dark sepia brown, venter and small posero-dorsal spot whitish; females often paler than males, with only Fe I–II infuscated.

Eyes: AM=1 (0.12); AL=0.66; PM=0.5; PL=0.66; a=0.5; b=0.29; c=1.5; d=0.33; MOQ: AW=0.95PW; L=0.92PW.

Abdomen: Male with dorsal coriaceous region, covering 2/3 of its length; row of setae before spinnerets present but not much longer than abdominal pubescence.

Palp (Figs. 20–22): Tibial apophysis with very wide base, subterminally suddenly narrowing, terminally rounded; tegulum protruding but flattened, in ventral view wider than long; median apophysis very wide, with distinct retro-lateral groove; embolar base at basal part of bulbus, embolus describing half a circle, linear from the base, for its larger part covered by tegulum and median apophysis.

Epigyne (Fig. 54): No exterior sclerotisations; posterior margin with obtuse median incision; a somewhat pale, transverse band runs parallel to the posterior margin.

Vulva (Fig. 55): Incision giving entrance to a rectangular pouch; spermathecae separated by 1.5 x their maximal diameter, with several lobes.

Previous records:

BULGARIA

Blagoevgrad: Kresna gorge (Blagoev & al. 2001); Melnik (Deltshev 1987); South Pirin, Kalimantsi (Lazarov 2005); Maleshevska Mountain, Kamenitsa (Lazarov 2005, 2007); Pirin Mountains (Deltshev 1997b); Sandansky-Petrich valley (Deltshev 2004); Struma valley, Zemen gorge (Deltshev & Blagoev 1992).

Dobric: Shabla-Ezerets Lake (Deltshev 1997a).

Khaskovo: Rodopi Mts, Madjarovo (Deltshev & al. 2004); Meden Buk, Ivaylovgrad (Deltshev & al. 2004).

Kürdzhalı: Rodopi Mts, Gorni Yurutsi (Deltshev & al. 2004).

GREECE

Kyklades: Syros (type locality; Denis 1935, sub *Z. aegaeum* and *Z. morosum*).

Tinos (type locality; Denis 1935, sub *Z. aegaeum* and *Z. morosum*).

TURKEY

Ankara: Keciören (Karol 1969); Kayas (Karol 1969); Abidinpasa (Karol 1969).

UKRAINE

Crimea: Simferopol, Sevastopol, Kerch, Saky, Yalta (Kovblyuk 2003); Martyan Cape Reserve (Kovblyuk & al. 2008).

New material examined:

BULGARIA

Blagoevgrad: Zemen gorge, 1 ♂ 1 ♀, 31. VIII. 1987, C. Deltshev leg. (IZS).

GREECE

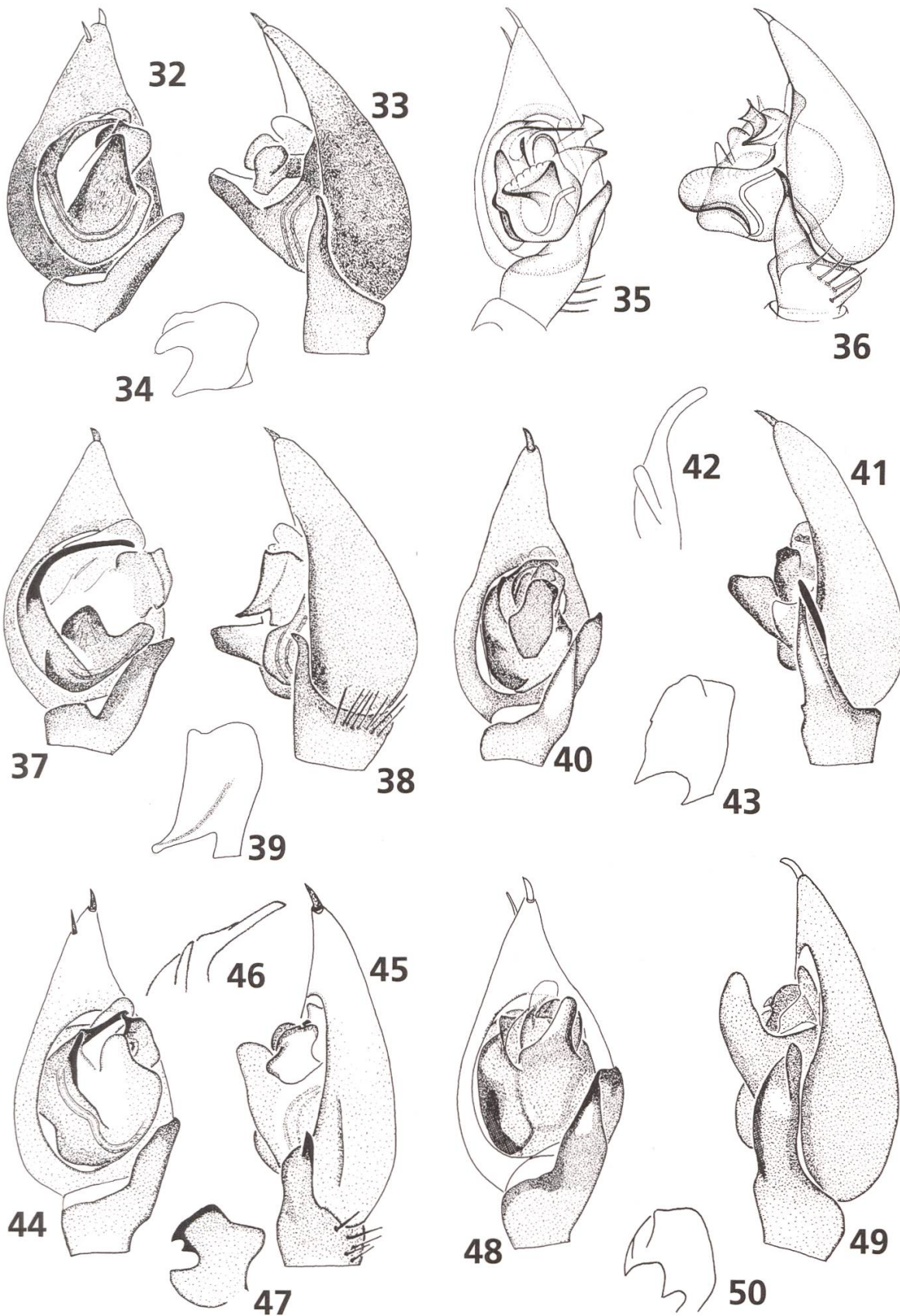
Eastern Aegean Islands: Chios: Kallavassi, 1 ♂, 30. VI. 1985, P. & C. Deeleman leg. (RMNH); Kato Fano, 1 ♀, 1. V. 2006 (CMAS). Lesvos: Aghia Paraskevi, Kremasti bridge, stones in neglected olive yard, 3 ♀, 3. VI. 2008 (CRB); Agiassos, 1 ♀, 21. V. 1994 (CAN); Agra N., stones in dry grassland, 3 ♀, 8. X. 2005, 1 ♂ 3 ♀, 1. VI. 2008 (CRB); Agra NE, Rousso Vounari, stones in *Pinus* forest, 2 ♀, 1. VI. 2008 (CRB); Ancient Andissa, stones and litter near small dune pond, 8 ♀, 5. VI. 2008 (CRB); Kalloni, 1 ♂ 4 ♀, 17–18. V. 1994 (CAN); Lapsarna beach, stones and spiny bushes near the beach, 1 ♂ 1 ♀, 6. VI. 2008 (CRB); Meladia valley between Sigri and Eresos, stones along rivulet, 5 ♂ 7 ♀, 6. VI. 2008 (CRB); Moni Pithariou, stones in small *Typha* marsh, 2 ♂ 6 ♀, 7. VI. 2008 (CRB); Mytilini, 1 ♂, 26. V. 1994 (CAN); Oros Lepetymos, 700–950 m, stones in dry grassland, 5 ♀, 4. VI. 2008 (CRB); Parakila and surroundings, 8 ♂ 3 ♀, 14. V. 1994 (CAN); Petra, Lafionas N., stones in open forest, 2 ♀, 5. VI. 2008 (CRB); Skala Sykoundas NE, pitfalls in small dunes near salt marsh, 8 ♂ 3 ♀, 8. VI. 2008 (CRB); Stavros, 700 m, 1 ♀, 25. V. 1994 (CAN); Vasilika 3 km NE, stones in dry grassland, 8 ♀, 5. X. 2007 (CRB); Vatera, 1 ♂ 1 ♀, 17. V. 1994 (CAN).

Evvoia-Voroies Sporades: Evvoia: Karistos, Castelrosso, 2 ♀, 15.V.2001 (CJVK, CRB). Skiathos: Troulos, 2 ♂, 27. IV. 1986, P. & C. Deeleman leg (RMNH).

Crete: Chania: Amigdalokefali, 1 ♂, stones in grassland, 12. V. 1994 (CJVK); Georgioupoli, 1 ♀, garrigue on slope, 20. V. 2004 (NHRS); Imbros gorge, 1 ♂ 2 ♀, maquis, 1. VI. 1993 (CARS).

Kyklades: Mykonos: lake Marathi, 1 ♀, 8. VIII. 2006 (CRB). Paros, 4 ♂ 2 ♀, IV–V. 1994 (CRB). Santorini : Kamari, 7 ♂ 3 ♀, 3. VI. 1990, H. Segers leg. (CRB).

Makedonia: Chalkidiki: Gerakina, 1 ♀ 1 subadult ♂, 13. VI. 1997 (CJFM); Kallithea, 1 ♂ 9 ♀ (CRB). Florina: Lake Mikri Prespa, 2 ♂ 3 ♀ (CRB). Pieria: Litorchoro Plaka, 17 ♂ 37 ♀, 7. VI. 1997(CRB).



Figs. 32–50. – 32–34: *Zodarion abantense* WUNDERLICH; – 32. Male palp, ventral view; – 33: Idem, lateral view; – 34: Median apophysis; – 35–36: *Zodarion aurorae* WEISS (after Weiss 1982); – 35: Male palp, ventral view; – 36: Idem, lateral view; – 37–39: *Zodarion korgei* WUNDERLICH; – 37: Male palp, ventral view (with expanded median apophysis); – 38: Idem, lateral view; – 39: Median apophysis; – 40–43: *Zodarion musarum* BRIGNOLI; – 40: Male palp, ventral view; – 41: Idem, lateral view; – 42: Embolus; – 43: Median apophysis; – 44–47: *Zodarion pirini* DRENSKY; – 44: Male palp, ventral view; – 45: Idem, lateral view; – 46: Embolus; – 47: Median apophysis; – 48–50: *Zodarion turcicum* WUNDERLICH; – 48: Male palp, ventral view; – 49: Idem lateral view; – 50: Median apophysis.

Thessalia: Trikala: Kalambaka, Meteora monastery, 500 m, 1 ♂, 3. X. 1986, K. Harms leg. (CKH).

TURKEY

Denizli: Denizli, 1 ♀, H. Schatz leg. (CKT).

Şanlıurfa: Kultepe, SE. Kayseri, 2 ♂ 3 ♀, 17. VI. 1961, R. Walsh leg. (AMNH).

Distribution: Bulgaria, Greece including Crete, Turkey, Ukraine (Crimea only).

***Zodarion attikaense* WUNDERLICH, 1980** (Figs. 23–25)

Zodarion attikaense; Wunderlich (1980a): 231, figs. 6–7 (descr. male).

Zodarion fuscum; Hadjissarantos (1940): 34 (misidentification).

Type material: Holotype ♂ from Greece, Attiki, Oros Pendeli, VI. 1926 (R114028, ZMF); examined.

Diagnosis: Closely related to *Zodarion pythium*, males differing by the sharply pointed tibial apophysis and the much larger tegular apophysis.

Description:

Measurements: Male: Total length 2.4–2.9; prosoma 1.26–1.76 long, 0.88–1.19 wide.

Colour: Prosoma reddish to dark reddish brown suffused with paler brown; legs pale yellowish with contrasting cream white coxae and dark brown to black femora; abdomen dorsally dark sepia, with scutum covering 3/4 of its length; venter sepia brown.

Eyes: AM=1 (0.11); AL=PM=PL=0.59; a=0.64; b=0.36; c=1.6; d=0.32; MOQ: AW=0.91PW; L=0.88PW.

Palp (Figs. 23–25): Tibial apophysis voluminous, composed of a dorsal hooked tooth, and a ventral rounded process; tegulum strongly protruding, flattened in lateral view; median apophysis flattened, with broad basal part which is strongly incised basally, strong anterolateral lobe and triangular distal part, partly covered by the bulging tegulum; embolus threadlike, covered by the median apophysis.

Female: Unknown.

Previous records:

GREECE

Attiki-Saronic Islands: Attiki: Ekali (Hadjissarantos 1940, sub *Z. fuscum*); Oros Pendeli (type locality; Wunderlich 1980a).

New material examined:

GREECE

Attiki-Saronic islands: Attiki: Thoriko, 1 ♂ in pitfall, 16. V. 1974, P. Goemaere leg. (CRB).

Peloponnisos: Argolida: Thermisia, 11 ♂ in pitfalls in abandoned field, 25. VI. 1993, N. Chatelet leg. (CRB).

Distribution: Only known from localities in Attiki and Argolida.

***Zodarion morosoides* sp. nov.** (Figs. 26–28, 56–57)

Type material: Holotype ♂, 1 ♂ 2 ♀ paratypes from Greece, Dodekanisa, Rhodes, Apolakia, virgin Zoodochos Pigi, 2. V. 2006, J. Van Keer leg.; deposited in KBIN.

Diagnosis: Closely related to *Zodarion morosum*, males differing by the more recurved tibial apophysis, and the less wide tegulum, females by the deeper posteromedian incision of the epigyne.

Description:

Measurements: Male: Total length 2.5–3.3; prosoma 1.32–1.76 long, 0.90–1.41 wide. Female: Total length 4.2–5.6; prosoma 1.68–2.12 long, 1.10–1.59 wide.

Colour: Prosoma dark brown; legs: coxae I in males dark brown, with small basal whitish spot, coxae II–IV whitish with small dark brown distal spot, in females coxae I with small dark distal spot, coxae II–IV entirely whitish; femora in males dark brown, in females basal half of femora IV whitish; tibiae in males dark brown, in most females laterally somewhat paler; patellae, metatarsi and tarsi yellowish brown; abdomen dark sepia, venter somewhat paler.

Eyes: AM=1 (0.11); AL=0.72; PM=0.59; PL=0.67; a=0.45; b=0.5; c=1.36; d=0.54; MOQ: AW=0.96PW; L= 0.96PW.

Abdomen: As in *Z. morosum*.

Palp (Figs. 26–28): Tibial apophysis with very wide base, subterminally suddenly narrowing, terminally recurved and rounded; tegulum protruding but flattened, in ventral view as wide as long; median apophysis very large, transverse, with retrolateral groove; embolar base at basal part of bulbus, embolus describing half a circle, linear from the base, for its larger part covered by tegulum and median apophysis.

Epigyne (Fig. 56): With rounded posteromedian incision; posterior margin sclerotised, at least in the middle, mostly for the greatest part; a somewhat pale, transverse band runs parallel to the posterior margin; spermathecae visible in transparency.

Vulva (Fig. 57): Incision giving entrance to a rectangular pouch; spermathecae widely separated, with several lobes.

Further material examined:

GREECE

Dodekanisa: Rhodes: Filerimos, 1 ♂ 1 ♀, 23. V. 1996 (CRB, CJVK); Kalavarda, 1 ♂, gravel along rivulet, 15. V. 2006 (CJVK); Ladiko Bay, 1 ♀, 15. V. 1996 (CRB); Lardos beach, stones on rocky shore, 1 ♂ 10 ♀, 17. V. 2006 (CJVK, CRB); Petaloudes, 1 ♂, 16. V. 1996 (CRB).

Distribution: Only known from Rhodes.

***Zodarion pythium* DENIS, 1935** (Figs. 29–31, 58–59)

Zodarion pythium; Denis (1935): 81, figs. 26–27 (descr. male, non female, = *Z. graecum*).

Type material: ♂ holotype and ♀ paratype from Greece, Fokida, Delphi; incorrectly matched, paratype female = *Z. graecum* (MNHNP, examined).

Diagnosis: A species of the *morosum* group, closely related to *Z. attikaense*. Males differ from this species by the more obtuse tibial apophysis and the more bulging tegulum, as visible in lateral view. Females differ from all other species of the *morosum* group by having an epigyne with very particular median extension over the epigastric furrow, unknown in any other species, but the unknown females of *Z. attikaense* may have a similar epigyne.

Remarks: In the original description, Denis (1935) mentions that males and females are quite different in colour, and that the epigyne resembles the one of *Zodarion graecum* ("l'épigyne est peu nette et n'est pas sans présenter une grande analogie avec celle de *Z. graecum*"). Comparison of this female with *Z. graecum* females showed that they are identical; the female of *Z. pythium* is described here for the first time.

Description:

Measurements: Male: Total length 2.5–3.3; prosoma 1.32–1.76 long, 0.90–1.41 wide. Female: Total length 4.2–5.6; prosoma 1.68–2.12 long, 1.10–1.59 wide.

Colour: Prosoma dark brown; coxae whitish, femora dark brown, basal half of Fe IV often whitish as coxae, tibiae dark brown to yellowish brown, metatarsi and tarsi yellowish brown; abdomen dark sepia brown; venter purplish brown.

Eyes: AM=1 (0.13); AL=PM=PL=0.46; a=b=d=0.31; c=1; MOQ: AW=1.01PW; L= 0.94PW.

Abdomen: Male with dorsal scutum, covering half to 3/4 the abdomen.

Palp (Figs. 29–31): Tibial apophysis wide, composed of a hooked dorsal branch and a rounded ventral one; tegulum with large, rounded prolateral apophysis; median apophysis with narrow base and large distal part, covering the embolus; embolus thread-like.

Epigyne (Fig. 58): With rounded, posteromedian extension over the epigastric furrow; without exterior sclerotisations.

Vulva (Fig. 59): Spermathecae oval, connected by straight ducts to the median process of the epigyne.

Previous records:

Stereia Elada: Fokida: Delphi (Denis 1935).

New material examined:

GREECE

Attiki-Saronic islands: Attiki: Lagonisi, stones in camping near the sea, 3 ♀, 2. VI. 1998 (CRB). Saronic Islands: Spetses, 1 ♀, litter near the beach, 25. V. 1998 (CRB).

Peloponnisos: Argolida: Oros Arachnaio, between Arachnaio and Gatzia, 1 ♀, stones in grassland, 24. V. 1998 (CJVK); Epidavros, 4 ♂, 2 ♀, 12. VIII. 1984, 13. IX. 1984, Paraschi leg. (CJW). Korinthia: Sofiko, 1 ♀ in *Pinus* forest, 23. V. 1998 (CRB).

Stereia Elada: Fokida: 1.5 km W. Delfi, 450 m, 1 ♂ 2 juv., 25. IV. 1994 (CAN); 2 km E. Itea, 3 ♂, 5 subadults (CAN).

Distribution

Central Greece, Peloponnisos.

spinibarbe group

Zodarium spinibarbe WUNDERLICH, 1973 (Figs. 72–75, 136–137)

Zodarium spinibarbis; Wunderlich (1973): 173, figs. 4–10 (descr. male, female); Brignoli (1984): 319, fig. 45 (partly, female from Crete only).

Type material: Holotype ♂ from Greece, Crete, Lake Kournas and Ierapetra, H. Malicky leg. (SMF 28306); idem, 10 ♂ 1 ♀ paratypes (SMF 28307); examined.

Diagnosis: This species can be recognised by the curved distal part of the median apophysis in the male, and by the epigyne with large triangular hood in the female.

Remark: The male specimen cited by Brignoli (1984) from the Peloponnisos, Oros Taigetos was misidentified and is in fact a new species, described below. The species is limited to Crete.

Description:

Measurements: Male: Total length 2.2–3.6; prosoma 1.10–1.52 long, 0.76–1.01 wide. Female: Total length 3.2–4.0; prosoma 1.32–1.80 long, 0.84–1.34 wide.

Colour: Prosoma yellowish orange to orange brown, margin and spot before fovea greyish; legs yellowish orange; abdomen dorsally dark sepia brown, venter and small posterodorsal spot whitish.

Eyes: AM=1 (0.12); AL=0.67; PM=PL=0.5; a=0.42; b=0.17; c=1.33; d=0.15; MOQ: AW=0.96PW; L=0.92PW.

Abdomen: Male with dorsal scutum.

Palp (Figs. 72–75): Tibial apophysis bifid, dorsal branch narrower and pointed, ventral branch broader and rounded; median apophysis slender, with basal and distal part gently curved and of about equal length, terminally rounded; embolus gradually narrowing, terminally slightly twisted.

Epigyne (Fig. 136): With posteromedian incision and triangular hood, situated in a trapezoid structure, formed by two oblique sutures.

Vulva (Fig. 137): Incision giving entrance to a triangular pouch; spermathecae rounded, separated by 1.5x their diameter.

Previous records:

GREECE

Crete: Chania: Lake Kournas (Wunderlich 1973). Lasithi: Ierapetra (Wunderlich 1973); between Kroustas and Prina (Brignoli 1984).

New material examined:

GREECE

Crete: Chania: Aghia Irini, 1 ♀, stones along rivulet, 15. V. 1994 (CJVK); Aghios Matheos, 1 ♂ 2 ♀, 21. III. 1981, P. & C. Deeleman leg. (RMNH); Frangokastello, 1 ♂, 1 ♀, 14. IV. 1979 (CJFM); Georgioupoli, 1 ♀, stones near the beach, 15. IV. 1996 (CJB), 1 ♂, among stones near the shore, 6. V. 2001, 1 ♀, grassy edge, 14. V. 2001, 15 ♂ 6 ♀, pitfalls and hand collected in dense *Juncus* and grasses vegetation, 8–19. V. 2004 (NHRS), 1 ♂ 1 ♀, stones around pond, 11. IV. 2002 (CJVK), 1 ♀, 27. III. 1999 (CKT); Imbros gorge, 1 ♂ 2 ♀, open forest, 9. IV. 2002 (CJVK); Kefali, 370 m, 1 ♀, riverine *Platanus* forest, 5. IV. 2002 (CJVK); Koundouras, Aghia Kiriaki, 1 ♂, dunes, 5. IV. 2002 (CJVK); Lake Kourna, 2 ♀ (CJW); Omalos, 1 ♂, stones in grassland, 2. V. 2000 (NHRS); Papadiana, 1 ♂, stones in maquis, 4. IV. 2002 (CJVK); Topolia, 1 ♀, 3. III. 1984, P. & C. Deeleman leg. (RMNH); Kontokinigi-Tsaliana, 190 m, 1 ♂, litter in riverine *Platanus* forest, 5. IV. 2002 (CHD).

Irakleio: Afratos, 1 ♂, 5. IV. 1998 (CKT); Karteros, 1 ♀, 17. III. 1978 (CRB); Karteros E., Eleithya Spilia, 9 ♀, entrance of cave, 17. V. 2003 (CJVK); Knossos, 1 ♂ 2 ♀, 6. III. 1984, P. & C. Deeleman leg. (RMNH); Malia, 1 ♂, 8. IV. 1972 (CJFM); Matala, 50 m, 1 ♀, stones in abandoned fields, 15. IX. 2004 (CRB); Mesochori, 1 ♀, 19. V. 1994 (CJVK); Phaestos, 1 ♂, 14. VI. 1977 (AMNH); Potamies, 1 ♀, 9. V. 2003 (CJVK).

Lasithi: Aghios Nikolaos, 1 ♂, 11. III. 1978 (CRB); idem, 1 ♂ 2 ♀, 10. IV. 1972 (CJFM); Flamouriana, Lato ruins, 1 ♂, 10. V. 2003 (CRB); Karidi E., 600 m, 1 ♀, stones in maquis, 12. V. 2003 (CJVK); road Kritsa-Lato, 1 ♂ 1 ♀, 5. IV. 1972 (CJFM); Kato Metochi, 1 ♂, 24. IX. 1998 (CKT); Kato Chorio, 1 ♀, 26. IX. 1998 (CKT); Mesa Potami, 950 m, 1 ♀, grassland along rivulet, 10. V. 2003 (CRB); Milatos, 1 ♂, 5. V. 1986, P. & C. Deeleman leg. (RMNH); Lastros, 1 ♂, 29. IX. 1998 (CKT); Moni Toplou, 1 ♀, stones in wasteland, 11. V. 2003 (CJVK); Makrogialos, 4 ♂ 1 ♀, gorge, 2. VI. 1984 (CARS).

Rethymno: Aghios Vasilios NE, 1 ♀, 30. IV. 1981 (CKH); Armeni, 1 ♀, 11. II. 1981, and 3 ♀, 3. VI. 1986, P. & C. Deeleman leg. (RMNH); Itanos, 25 m, 1 ♂ 3 ♀, stones in dunes, 12. V. 2003 (CRB); Lefkovia, 1 ♂, stones in olive grove, 5. VI. 1993 (CARS); Nea Kria Vrissi, 1 ♀, 17. V. 1994 (CJVK); Perama, Bali, 1 ♀, 20. IX. 1998, G. Delmastro leg. (CRB); Moni Preveli, 1 ♂, 13. IV. 1972, 3 ♀, 2. IV. 1972 (CJFM), 1 ♂, 15. IV. 1995 (CJB), 1 ♀, 10. IV. 2002 (CMAL); Plakias, 1 ♀, near the beach, 12. V. 1995 (CJB); Rethymno, 2 ♂, 13–15. IV. 1981 (CKH).

Distribution: A common species all over Crete. Erroneously cited from the Peloponnisos by Brignoli (1984); the record concerns *Z. barbarae*.

***Zodarion albipatellare* sp. nov.** (Figs. 76–79)

Type material: Holotype ♂ from Greece, Crete, Irakleio, Afrata, stones in dry river bed near the sea, 11. V. 1994, J. & K. Van Keer leg.; deposited in KBIN.

Etymology: The name of the species refers to the white colour of the patellae of all legs.

Diagnosis: Easily distinguished by the white colour of the patellae of the legs, contrasting with the dark brown femora; the supplementary tooth on the embolus and the shape of the median apophysis provide further diagnostic characters.

Description:

Measurements: Male: Total length 2.8–3.8; prosoma 1.12–1.88 long, 0.79–1.33 wide.

Colour: Prosoma dark brown, striae and margin blackish brown; coxae, patellae and basal part of femora III–IV white, femora I–II and distal part of femora III–IV dark brown; tibiae brown, metatarsi and tarsi pale brown; abdomen coriaceous dorsally, dark sepia brown, ventrally with two rounded pale spots separated by a brown stripe.

Eyes: AM=1 (0.12); AL=0.75; PM=PL=0.67; a=0.33; b=0.17; c=1.46; d=0.62; MOQ: AW=0.82PW; L=0.96PW.

Palp (Figs. 76–79): Tibial apophysis broad, at first with parallel margins, near the tip suddenly narrowed into a blunt tooth; median apophysis relatively small, nearly quadrangular, distal part only marked by a small prolateral tooth; embolus gradually narrowing, pointed terminally, at its ventral side accompanied by a strong, linear, terminally rounded apophysis.

Female: Unknown.

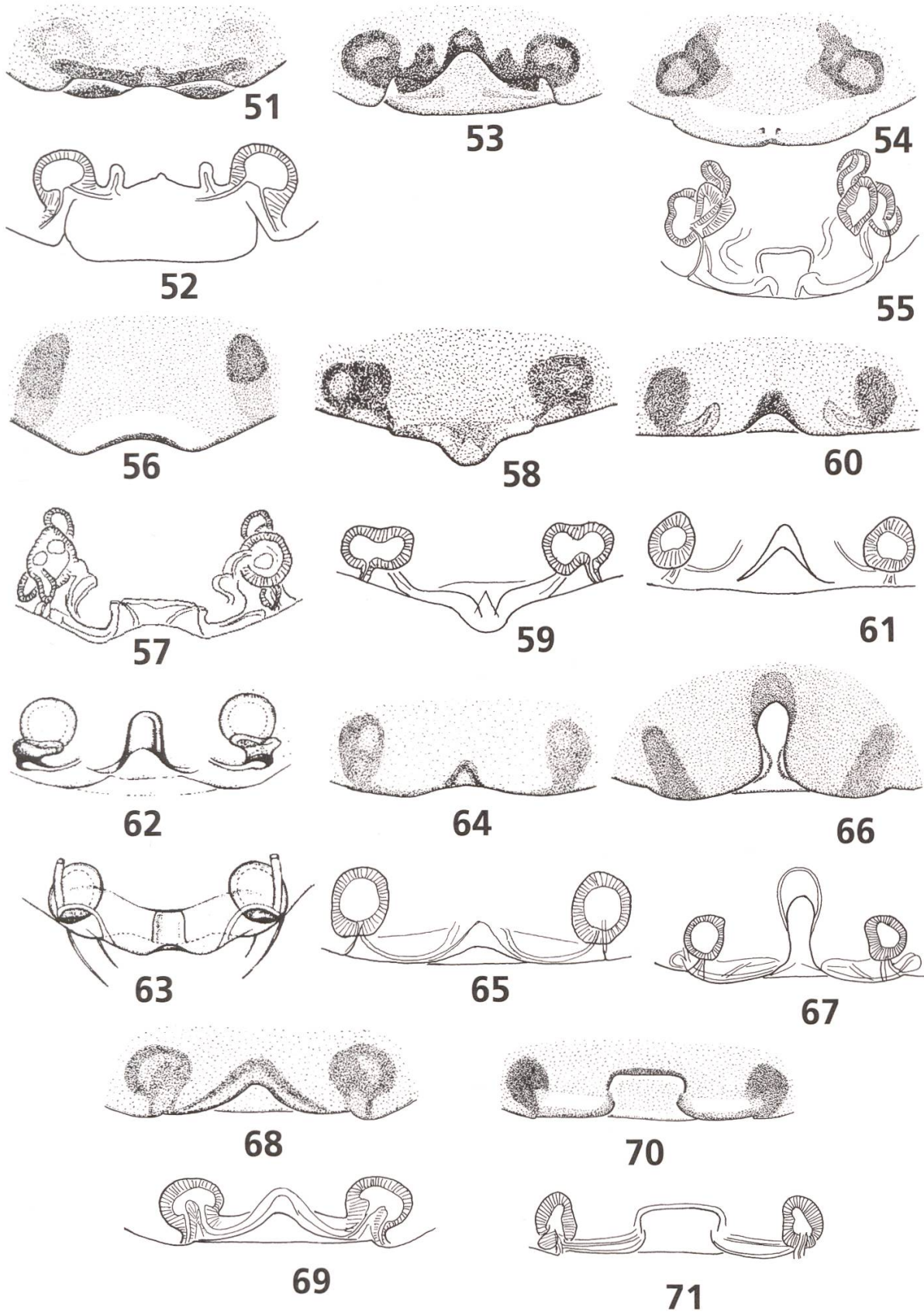
Further material examined:

GREECE

Crete: Chania: Lentas, 1 ♂, dry rock coast with scattered vegetation, 18. V. 1994, J. & K. Van Keer leg. (CJVK).

Lasithi: Stavrochori N., 1 ♂, 1. VI. 1984, stones in olive grove (CARS).

Figs. 51–71. – 51–52. *Zodarion aculeatum* CHYZER; – 51: Epigyne; – 52: Vulva; – 53: *Zodarion scutatum* WUNDERLICH, epigyne; – 54–55: *Zodarion morosum* DENIS; – 54: Epigyne; – 55: Vulva; – 56–57: *Zodarion morosoides* sp. nov.; – 56: Epigyne; – 57: Vulva; – 58–59: *Zodarion pythium* DENIS; – 58: Epigyne; – 59: Vulva; – 60–61: *Zodarion abantense* WUNDERLICH; – 60: Epigyne; – 61: Vulva; – 62–63: *Zodarion aurorae* WEISS (after Weiss 1982); – 62: Epigyne; – 63: Vulva; – 64–65: *Zodarion korgei* WUNDERLICH; – 64: Epigyne; – 65: Vulva. – 66–67: *Zodarion musarum* BRIGNOLI; – 66: Epigyne; – 67: Vulva; – 68–69: *Zodarion pirini* DRENSKY; – 68: Epigyne; – 69: Vulva; – 70–71: *Zodarion turcicum* WUNDERLICH; – 70: Epigyne; – 71: Vulva.



Distribution: A rare, endemic species of Crete, recorded at three discarded localities in Chania, Irakleio and Lasithi.

***Zodarion barbarae* sp. nov.** (Figs. 80–83, 138–139)

Zodarion spinibarbe; Brignoli (1984): 319, figs. 43–44 (partly, male specimen from Sparti only).

Type material: Holotype ♂, 2 paratypes ♀ from Greece, Peloponnisos, Oros Taigetos, Moni Panaghia Giatrissa, 1100 m, 30. IX. 1991, B. Knoflach & K. Thaler leg.; deposited in NMBE.

Etymology: The species is dedicated to my good friend Barbara Knoflach, also an excellent specialist of Mediterranean spiders and co-collector of the type material.

Diagnosis: *Zodarion barbarae* is very close to *Z. karpathos* from the island Karpathos. Males differ by the narrower base of the embolus and small differences in the median apophysis; females differ from all other species by the deeply incised posterior margin of the epigyne.

Remark: The specimen cited as *Zodarion spinibarbe* by Brignoli (1984) from Sparti belongs to the new species described here. *Z. spinibarbe* only occurs on Crete.

Description:

Measurements: Male: Total length 2.3; prosoma 1.08 long, 0.82 wide. Female: Total length 3.3–3.9; prosoma 1.38–1.44 long, 0.96–1.01 wide.

Colour: Prosoma yellowish orange, slightly suffused with grey; legs yellowish to orange brown; abdomen dorsally dark sepia, in male with shiny scutum, venter and small posterodorsal spot pale yellowish white.

Eyes: AM=1 (0.09); AL=PL=0.69; PM=0.57; a=0.29; b=0.11; c=1.49; d=0.40; MOQ: AW=0.91PW; L=0.86PW.

Abdomen: With a row of 13 setae before spinnerets, individual seta 0.07 long.

Palp (Figs. 80–83): Tibia with pointed apophysis with strong ventral concavity; basal branch of median apophysis with deep retrolateral incision, distal part triangular with keel; embolus gradually narrowing, terminally slightly twisted.

Epigyne (Fig. 138): Deeply incised posteriorly, with small median hood; large part of dorsal plate visible.

Vulva (Fig. 139): Incision giving entrance to triangular pouch; spermathecae rounded, separated by 1.5x their diameter.

Previous records:

GREECE

Peloponnisos: Lakonia: Oros Taigetos near Sparti, 1 ♂ (MHNG Pel 74/9; Brignoli 1984, sub *Z. spinibarbe*).

Further material examined

GREECE

Peloponnisos: Arkadia: Oros Parnonas, Kosmas, 1 ♀, stones in *Juniperus* forest, 26. V. 1998 (CJVK).

Distribution: The Greek Peloponnisos.

***Zodarion blagoevi* sp. nov.** (Figs. 84–87, 140–141)

Type material: Holotype ♂, 3 ♂ 1 ♀ paratypes from SW Bulgaria, Petrich district, General Todorov village, 400 m, under stones, 4. III. 1996, G. Blagoev leg.; 2 ♀ paratypes, 1 subadult ♂ from Bulgaria, Belasitsa Mountains, Peak Kongur, 1200 m, under stones, 14. 06. 1988, C. Deltshv leg.

Depository: holotype ♂, 1 ♀ paratype from General Todorov vill. deposited in SMF; 1 ♂ paratype from General Todorov vill. deposited in ZMB; 1 ♀ paratype from Belasitsa Mt. deposited in CRB; 2 ♂ paratypes from General Todorov vill. and 1 ♀ paratype from Belasitsa Mt. deposited in IZS.

Etymology: The species is dedicated to Gergin Blagoev, one of the collectors of the type material.

Diagnosis: *Zodarion blagoevi* is closely related to *Z. epirense* and *Z. zorba*. Males differ by the unequal size of the teeth on the median apophysis, the dorsal one being the smallest, and the larger dorsal lobe of the same median apophysis; females differ by the epigyne with posteromedian pouch and oblique sutures accompanied by a whitish area.

Description:

Measurements: Male: Total length 2.5; prosoma 1.44 long, 0.64 wide. Female: Total length 4.0; prosoma 1.62 long, 1.01 wide.

Colour: Prosoma dark sepia brown; legs brown to yellow-brown; abdomen dark to dark brown, venter whitish.

Eyes: AM=1 (0.07); AL=0.86; PM=0.57; PL=0.71; a=b=0.57; c=2.57; d=0.71; MOQ: AW=0.69PW; L=0.84PW.

Palp (Figs. 84–87): Tibia with broad, triangular apophysis, bluntly pointed; tegulum with distinct, basal boss; median apophysis with small and narrow basal part with a crest, a larger distal part with two unequal sharp teeth, the dorsal one being the largest, and a pronounced anteromedian lobe; embolus gradually narrowing, gently curved and terminally rounded.

Epigyne (Fig. 140): Posterior margin with large, median hood, laterally accompanied by two oblique sutures with anterior pale region.

Vulva (Fig. 141): With rounded anteromedian pouch; spermathecae rounded, separated by twice their diameter.

Further material examined: None.

Distribution: Only known from SW Bulgaria.

***Zodarion epirense* BRIGNOLI, 1984** (Figs. 88–91, 142–143)

Zodarion epirense; Brignoli (1984): 309, figs. 34–36 (descr. male, female); Lazarov (2005): 150; Lazarov (2007): 140.

Type material: Holotype ♂ from Greece, Ipeiros, Ioannina, Metsovo pass, 1620 m, 28. IV. 1973, V. Mahnert leg (MHNG Ep. 73/32); examined. Paratypes: Ioannina, Eleousa, 2 ♀, 28. VII. 1969, P. Brignoli leg. (1 ♀ in MHNG, examined, 1 ♀ in CBL, not examined); near Ioannina, 2 ♀, 2. VIII. 1966, R. Argano leg. (CBL, not examined).

Diagnosis: For the diagnosis of the male, see *Zodarion blagoevi*. Females are recognized by the large posteromedian incision of the epigyne. Males and females of *Z. epirense* were, however, not found together and I somewhat doubt their conspecificity. A female discovered at the same site as the holotype of *Zodarion epirense* is described as *Zodarion* sp. further on in this paper (Figs. 166–167). Further research is necessary.

Description:

Measurements: Male: Total length 2.3–2.8; prosoma 1.12–1.39 long, 0.78–0.96 wide. Female: Total length 4.0–4.5; prosoma 1.71 long, 1.08 wide.

Colour: Prosoma brown, striae, margin, and foveal spot blackish brown; legs pale yellowish, femora dark brown; abdomen dark sepia brown, venter with oval transverse whitish spot.

Eyes: AM=1 (0.07); AL=0.86; PM=0.57; PL=0.5; a=0.71; b=0.57; c=2.14; d=0.86; MOQ: AW=0.75PW; L=0.88PW.

Palp (Figs. 88–91): Tibia with triangular apophysis, in lateral view gently curved; tegulum with distinct, basal boss; median apophysis U-shaped, distal part with a crest and with two terminal, sharp teeth; embolus gradually narrowing, gently curved and pointed.

Epigyne (Fig. 142): Posterior margin with large, triangular incision, laterally to that two small incisions.

Vulva (Fig. 143): Incision giving entrance to a wide pouch; spermathecae rounded, separated by twice their diameter; copulation ducts following the posterior border of the epigyne.

Previous records:

BULGARIA

Blagoevgrad: Maleshevska mountain (Lazarov 2007); Pirin Mountains, Kamenitsa (Lazarov 2005).

GREECE

Ipeiros: Ioannina: Metsovo pass (type locality; Brignoli 1984); Eleousa (Brignoli 1984); near Ioannina (Brignoli 1984).

New material examined:

GREECE

Ipeiros: Ioannina: Konitsa, Aaos Gorge, 690 m, 3 ♂, pitfalls in mixed forest, 18. VII. 2007, B. Vandenberghe leg.; Trapezitsa, 1080 m, 2 ♂, pitfalls in pine forest, 15. VII. 2007, B. Vandenberghe leg.

Thessalia: Karditsa: Pindos mountain range, between Ano Paleokaria and Anthiro, 1500 m, 1 ♂, 8. X. 1986, K. Harms leg. (CKH).

Distribution: Continental Greece (Ipeiros and Thessalia), South Bulgaria.

***Zodarion hauseri* BRIGNOLI, 1984** (Figs. 92–95, 144–145)

Zodarion hauseri; Brignoli (1984): 312, figs. 40 (descr. female).

Type material: Holotype ♀ from Greece, Sterea Ellada, Voiotia, Oros Elikon, road Kiriaki-Koukoura (MHNG Cy77/19); examined.

Remark: Until now, only the female of *Zodarion hauseri* was known. In Thessaloniki, females were found together with males and these are described here for the first time.

Diagnosis: *Z. hauseri* is closely related to *Z. barbarae* sp. nov. Males differ by the larger distal part of the median apophysis, females by the small receptacula and pronounced median plate.

Description:

Male:

Measurements: Male: Total length 2.1–2.3; prosoma 0.96–1.08 long, 0.70–0.74 wide. Female: Total length 2.9–3.5; prosoma 1.41 long, 0.98 wide.

Colour: Prosoma chocolate brown mottled with yellowish brown, especially between the striae in the thoracic part, females much paler; legs yellowish orange, Fe I and somewhat less Fe II streaked with chocolate brown; abdomen dorsally dark sepia brown, venter and elongate spot above spinnerets whitish.

Eyes: AM=1 (0.08); AL=PM=PL=0.5; a=0.5; b=0.9; c=1.75; d=0.25; MOQ: AW=0.82PW; L=0.9PW.

Abdomen: In males with shiny scutum; posteroventral setae present but not pronounced.

Palp (Figs. 92–95): Tibial apophysis wide and elongated, suddenly narrowing into a sharp, dorsal tooth; median apophysis with broad basal branch with retrolateral concavity, distal branch of about the same size, terminally obtuse; embolus gradually narrowing, terminally slightly twisted.

Epigyne (Fig. 144): With slightly incised posterior margin, showing part of the dorsal plate; no exterior sclerotisations.

Vulva (Fig. 145): Incision giving entrance to a rounded pouch; spermathecae relatively small, widely separated.

Previous records:

GREECE

Stereia Elada: Voiotia: Oros Elikonas, road Kiriaki-Koukoura (type locality; Brignoli 1984).

New material examined:

GREECE

Attiki-Saronic islands: Attiki: Thoriko, Velatouri, 2 ♂, 13. VIII. 1973, P. Goemaere leg. (CRB).

Makedonia: Chalkidiki: Fourka, 20 m, 2 ♂, pitfalls in dry river bed with *Phragmites*, 12. VI. 2004, L. Provoost leg. (CRB). Thessaloniki: Epanoumi, 2 ♂, 2 ♀, 13. VI. 1997 (CRB).

Distribution: Continental Greece, from Chalkidiki and Thessaloniki in the north to Attiki in the south.

***Zodarion karpathos* sp. nov.** (Figs. 96–99)

Type material: Holotype ♂, 1 paratype ♂ from Greece, Dodekanisa, Karpathos, Volada, in *Pinus* forest with *phrygiana*, 20. IX. 2000, B. Knoflach & K. Thaler leg.; deposited in NMBE.

Etymology: The name refers to the type locality and is a noun in apposition.

Diagnosis: *Zodarion karpathos* is closely related to *Z. spinibarbe* from Crete in colour, size and shape of the tibial apophysis, but differs clearly by the more compact median apophysis and the different tip of the embolus.

Description:

Measurements: Male: Total length 2.4–2.6; prosoma 1.24–1.32 long, 0.89–0.98 wide.

Colour: Prosoma orange brown with darker reticulations; legs yellowish orange, coxae whitish; abdomen dark sepia, venter and small anterodorsal spot whitish.

Eyes: AM=1 (1.0); AL=PM=PL=0.6; a=0.4; b=d=0.25; c=1.6; MOQ: AW=0.92PW; L=0.86PW.

Abdomen: Coriaceous dorsally; posteroventral row of setae poorly developed, with 14 setae.

Palp (Figs. 96–99): Tibial apophysis bifid, dorsal branch narrow and pointed, ventral branch broader and rounded; median apophysis with large basal branch with 2 small retrolateral concavities, distal branch smaller, gradually narrowing, bluntly pointed; embolus gradually narrowing, terminally slightly twisted.

Female: Unknown.

Further material examined: None.

Distribution: Only known from the type locality in Karpathos.

***Zodarion kossamos* sp. nov.** (Figs. 100–103, 146–147)

Type material: Holotype ♂, 1 paratype ♂, 1 paratype ♀ from Greece, Dodekanisa, Kos, Aghias Mamas, 14. XI. 2001, S. Sherif leg.; deposited in KBIN.

Etymology: The name is a noun in apposition and is a contraction of the names of the two islands where the species was discovered.

Diagnosis: Males of *Zodarion kossamos* are easily distinguished by the large distal teeth on the distal branch of the median apophysis, females by the epigyne with trapezoid incision.

Description:

Measurements: Male: Total length 3.1–3.8; prosoma 1.62–1.88 long, 1.14–1.42 wide. Female: Total length 5.8; prosoma 2.41 long, 1.66 wide.

Colour: Prosoma brown suffused with chocolate brown, eye region and margin darker; legs yellowish orange, Fe I brown, Ti laterally somewhat streaked with brown; abdomen dark sepia, ventrally pale sepia to whitish.

Eyes: AM=1(0.1); AL=PL=0.82, PM=0.59; a=0.72; b=d=0.41; c=2.09; MOQ: AW=0.83PW; L=0.81PW.

Legs: Fe with 3 dorsal spines, and 10–11 pairs of ventral spines; Ti with 4 pairs of ventral spines.

Abdomen: Anterior half coriaceous; with a row of 19–20 posteroventral setae, 0.9 long, shorter than the normal abdominal hairs.

Palp (Figs. 100–103): Tibial apophysis elongated, 1.5 x as long as its diameter, straight, gradually narrowing, terminally pointed; median apophysis with two strong prolateral teeth; embolus rising at prolateral side of bulbus, gently curved, distal part slightly twisted, terminally pointed.

Epigyne (Fig. 146): Posterior margin with trapezoid incision, showing a broad part of the dorsal plate.

Vulva (Fig. 147): Spermathecae small, separated by 2.5 x their diameter.

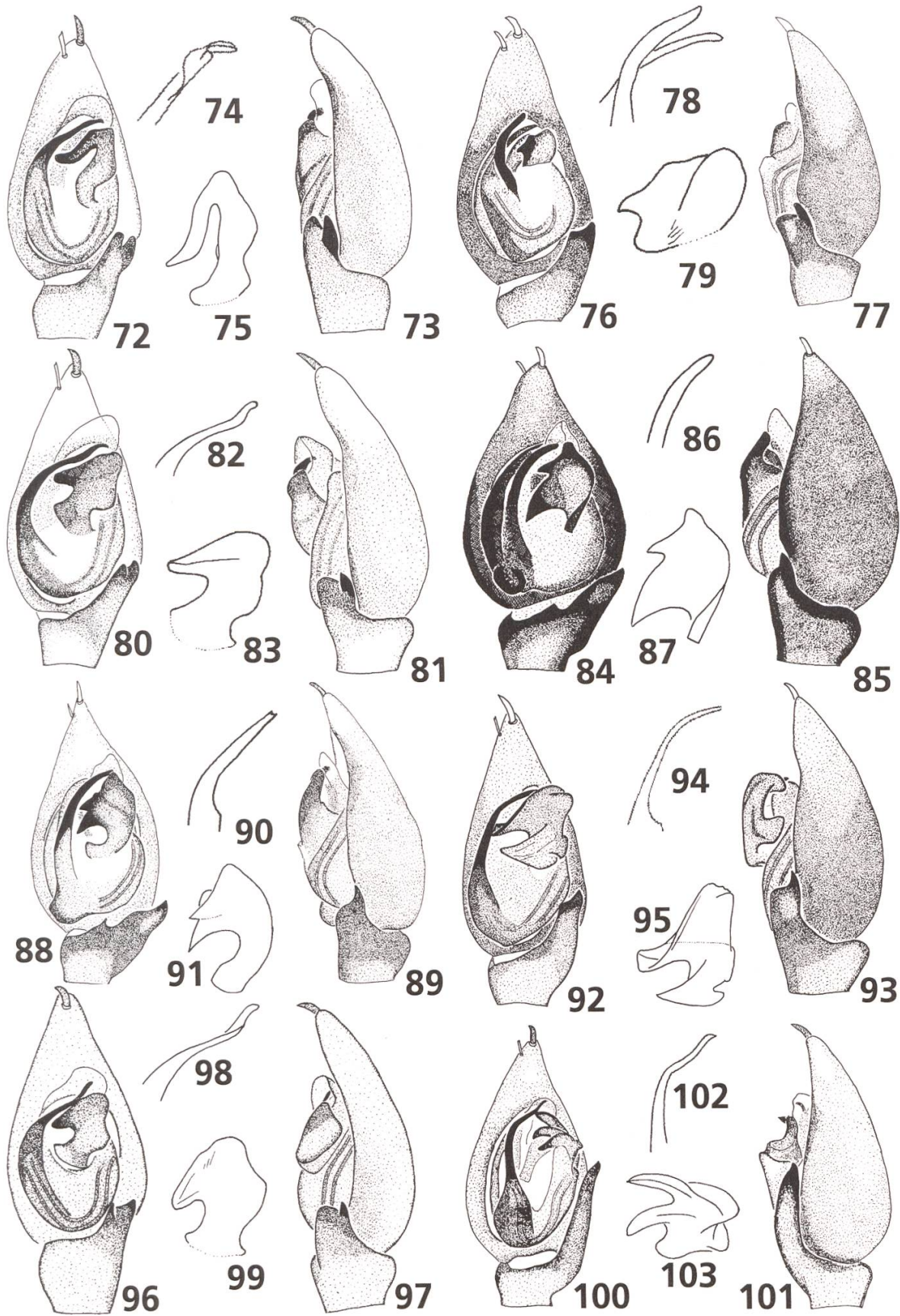
Further material examined:

GREECE

Eastern Aegean Islands: Samos: Koutsis, 1 ♂, P. R. & C. L. Deeleman leg., 10. IV. 1983 (CRB); Valeondates, 1 ♂, 9. IV. 1983, C. Deeleman leg. (RMNH).

Distribution: The Greek islands Kos and Samos.

Figs. 72–103. – 72–75: *Zodarion spinibarbe* WUNDERLICH; – 72: Male palp, ventral view; – 73: Idem lateral view; – 74: Tip of embolus; – 75: Median apophysis; – 76–79: *Zodarion albipatellare* sp. nov.; – 76: Male palp, ventral view; – 77: Idem lateral view; – 78: Tip of embolus; – 79: Median apophysis; – 80–83: *Zodarion barbarae* sp. nov.; – 80: Male palp, ventral view; – 81: Idem, lateral view; – 82: Tip of embolus; – 83: Median apophysis; – 84–87: *Zodarion blagoevi* sp. nov.; – 84: Male palp, ventral view; – 85: Idem lateral view; – 86: Tip of embolus; – 87: Median apophysis; – 88–91: *Zodarion epirense* BRIGNOLI; – 88: Male palp, ventral view; – 89: Idem lateral view; – 90: Tip of embolus; – 91: Median apophysis; – 92–95: *Zodarion hauseri* BRIGNOLI; – 92: Male palp, ventral view; – 93: Idem lateral view; – 94: Tip of embolus; – 95: Median apophysis; – 96–99: *Zodarion karpathos* sp. nov.; – 96: Male palp, ventral view; – 97: Idem lateral view; – 98: Tip of embolus; – 99: Median apophysis; – 100–103: *Zodarion kossamos* sp. nov.; – 100: Male palp, ventral view; – 101: Idem lateral view; – 102: Tip of embolus; – 103: Median apophysis.



Zodarion noordami sp. nov. (Figs. 104–107, 148–149)

Type material: Holotype ♂, paratype ♀ from Greece, Sterea Elada, Fokida, 1 km E. Itea, sand beach with *Lagurus*, 30. IV. 1994, A. Noordam leg.; deposited in KBIN.

Etymology: The species is dedicated to Aart Noordam and his son, collectors of the type material.

Diagnosis: *Zodarion noordami* is one of the smallest species of the *spini-barbe* group. Males are recognised by the presence of a curved tooth on the basal branch of the median apophysis, females by the triangular postero-medial incision of the epigyne with small rounded median hood.

Description:

Measurements: Male: Total length 1.6; prosoma 0.80 long, 0.58 wide. Female: Total length 3.0; prosoma 1.41 long, 1.01 wide.

Colour: Prosoma brown, foveal spot, striae, margin and clypeus dark brown; legs yellowish, Fe streaked with dark brown; abdomen dark sepia, venter greyish white; female paler than male.

Eyes: AM=1 (0.04); AL=PM=PL=0.62; a=0.5, b=0.37; c=2; d=0.37; MOQ: AW=0.71PW; L=0.82PW.

Palp (Figs. 104–107): Tibial apophysis triangular, oblique, gradually narrowing; tegulum with prolateral angularity; basal branch of median apophysis with small but distinct, curved retrolateral tooth, distal branch wrinkled, pointing at embolus; embolus a relatively short, gently curved black tooth.

Epigyne (Fig. 148): Posterior margin of epigyne with broad, triangular posteromedial incision, and small hood; no exterior sclerotisations.

Vulva (Fig. 149): Posteromedial incision bordering a small semi-circular pouch; spermathecae oval, relatively wide, having an oblique position, separated by 1.5x their diameter.

Further material examined: None.

Distribution: Only known from the type locality in Central Greece.

Zodarion ohridense WUNDERLICH, 1973 (Figs. 108–111, 150–151)

Zodarion ohridense; Wunderlich (1973): 174, figs. 11–13 (descr. male); Lazarov (2004): 162; Tzonev & Lazarov (2001): 75; Komnenov (2002): 107; Deltshv (2004): 75; Lazarov (2007): 134, figs. 6–9 (descr. male, female).

Type material: Holotype ♂ from Macedonia, near lake Ohrid, J. Wunderlich leg. (SMF 28308); examined.

Diagnosis: Males of *Zodation ohridense* are distinguished by the presence of a large, prolateral basal tooth in the median apophysis, females by the shape of the two oblique sutures and median hood.

Description:

Measurements: Male: Total length 2.5–3.2; prosoma 1.24–1.56 long, 0.92–1.10 wide. Female: Total length 3.4–4.5; prosoma 1.40–1.76 long, 0.96–1.34 wide.

Colour: Prosoma reddish brown, region of fovea and margin darkened; legs yellowish brown with exception of the dark brown femora; abdomen dark sepia brown, venter with oval whitish spot.

Eyes: AM=1 (0.06); AL=0.62; PM=PL=0.33; a=1; b=0.5; c=2.67; d=0.5; MOQ: AW=0.75PW; L=0.83PW.

Abdomen: In male dorsally coriaceous; posteroventral row of 18–20 setae poorly developed.

Palp (Figs. 108–111): Tibial apophysis rather short, with broad base, terminally pointed; tegulum with angularity at base; median apophysis with two large prolateral teeth; embolus linear, with subterminal bend.

Epigyne (Fig. 150): With two oblique sutures forming a wide triangle with median hood.

Vulva (Fig. 151): With median pouch; spermathecae rounded, separated by nearly twice their diameter.

Previous records:

BULGARIA

Blagoevgrad: Kresna gorge (Blagoev & al. 2001); Maleshevska mountain (Lazarov 2007); Sandansky Mountains (Deltshev 2004).

Kyuestendil: Osogovo Mountains (Tzonev & Lazarov 2001).

MACEDONIA

Lake Ohrid (type locality; Wunderlich 1973); Pelister Mountains, near Malo-vishte (Lazarov 2004); Šar Planina mountain (Komnenov 2002).

New material examined:

GREECE

Ipeiros: Ioannina: Aristi, Voidomatis river, 430 m, 1 ♂, pitfall in riverine forest, 11. VII. 2007, B. Vandenberghe leg. (CRB); Monodendri, Vikos gorge, 600 m, 1 ♀, sweeping in deciduous forest, 17. VII. 2007, B. Vandenberghe

leg. (CRB); Papigo, Astraka, 1910 m, pitfall in grassland, 12. VII. 2007, B. Vandenberghe leg. (CRB).

MACEDONIA

Ohrid: Resen-Ohrid, 700 m, 1 ♂ in oak litter, 17. X. 1982, P. & C. Deeleman leg. (RMNH).

CROATIA

Zljob, 1 subadult ♂, 11 ♀, 1916, J. Penther leg. (NMW 440).

Distribution: Bulgaria, Macedonia, and cited here for the first time for Greece and Croatia.

Zodarion van sp. nov. (Figs. 112–115, 152–153)

Type material: Holotype ♂, paratype ♀ from Turkey, Van province, Van Gölü, N. Timar, mud flakes on steep bank above beach, 25. VIII. 1956, J. A. L. Cooke leg.; deposited in AMNH.

Etymology: The species name is a noun in apposition taken from the type locality, the Van lake in the Van province in eastern Turkey.

Diagnosis: This species is clearly distinguished from all other members of the *spinibarbe* group by the very large median apophysis in the male and by the double incision of the posterior margin of the epigyne. The female from Nemrut Dag is much larger, but the epigynes are very similar.

Description:

Measurements: Male: Total length 2.6; prosoma 1.31 long, 0.95 wide. Female: Total length 2.7–3.9; prosoma 1.21–1.74 long, 0.88–1.29 wide.

Colour: Prosoma yellowish brown, region of fovea, margin and eye region grey brown; legs with Fe grey brown, other segments yellowish brown, abdomen dark sepia brown.

Eyes: AM = 1 (0.08); AL=PL=0.75; PM=0.63; a=0.75; b=d=0.38; c=2; MOQ: AW=0.75PW; L= 0.58 PW.

Abdomen: Row of setae before spinnerets well-developed but incomplete, individual seta 0.07 long.

Palp (Fig. 112–115): Tibia with broad apophysis, somewhat shorter than the tibia's diameter, terminally levelled off, with small dorsal denticle; median apophysis very large, almost covering the entire ventral side of bulbus, basal part rectangular, distal part gradually narrowing and pointed; embolus long and linear, with subterminal bend.

Epigyne: (Fig. 152): Posterior margin with larger median and smaller submedian incisions; spermathecae and rounded hood, laterally accompanied by a darker spot, visible in transparency.

Vulva (Fig. 153): Posteromedian incision giving entrance to a small pouch, laterally with curved ducts leading to the spermathecae; spermathecae oblique and oval, separated by 1.5 times their maximal diameter.

Further material examined:

TURKEY

Bitlis: Nemrut Dağ, 2200 m, loose stones by crater lake, 1 ♀, 12. VIII. 1956, J. A. L. Cooke leg. (AMNH).

Distribution: Only known from two localities in Eastern Turkey.

***Zodarion vankeerorum* sp. nov.** (Figs. 116–119)

Type material: Holotype ♂ from Greece, Attiki, Alepohori, pitfall in *Pinus* forest, 1. VI. 1998, J. Van Keer leg.; deposited in KBIN.

Etymology: The species is dedicated to the famous Van Keer brothers, eminent Belgian arachnologists, collectors of the type material and good friends.

Diagnosis: This species is remarkable by having a double row of spine-like hairs on femora, tibiae and metatarsi; the male is further diagnosed by the shape of the relatively small median apophysis, and the linear embolus.

Description:

Measurements: Male: Total length 2.5; prosoma 1.42 long, 0.96 wide.

Colour: Cephalic part of prosoma yellow, thoracic part yellowish orange, slightly suffused with some grey; legs pale yellowish, coxae whitish; abdomen dark sepia, posterodorsal spot, lateral stripe and venter whitish.

Eyes: AM = 1 (0.09); AL=PM=PL=0.22; a=0.22; b=0.11; c=0.83; d=0.22; MOQ: AW=0.88PW; L=0.92PW.

Abdomen: With dorsal scutum covering half the length of the abdomen; with a row of 11 poorly expressed setae before spinnerets.

Legs: Femora, tibiae and metatarsi with a double row of respectively 8, 6 and 4 ventral spine-like hairs, slightly longer than the tibia's maximal diameter.

Palp (Figs. 116–119): Tibia with pointed tibial apophysis, as long as the tibia's diameter; median apophysis relatively small, with small, pointed distal part; embolus linear, describing one quarter of a circle, terminally pointed.

Female: Unknown.

Further material examined: None.

Distribution: Only known from the type locality.

***Zodarion zorba* sp. nov.** (Figs. 120–123)

Type material: Holotype ♂ from Greece, Peloponnisos, Achaia, Oros Aroania, 31. V. 1998, R. Bosmans leg.; deposited in KBIN.

Etymology: The name refers to the protagonist of Nikos Kazantzakis' most famous book 'Zorba the Greek' a symbol of the Greek life style.

Diagnosis: *Zodarion zorba* sp. nov. is closely related to *Z. epirense* in colour and size and differs only by the thicker tibial apophysis of the male palp and the differently shaped median apophysis.

Description:

Measurements: Male: Total length 2.4–2.6; prosoma 1.24–1.32 long, 0.89–0.98 wide.

Colour: Prosoma orange brown with darker reticulations; legs yellowish orange, coxae whitish; abdomen dark sepia, venter and small anterodorsal spot whitish.

Eyes: AM=1 (1.0); AL=PM=PL=0.6; a=0.4; b=d=0.25; c=1.6; MOQ: AW=0.92PW; L=0.86PW.

Abdomen: Coriaceous dorsally.

Palp (Figs. 120–123): Tibial apophysis bifid, dorsal branch narrow and pointed, ventral branch broader and rounded; median apophysis with large basal branch with retrolateral concavity, distal branch smaller, gradually narrowing, pointed; embolus gradually narrowing, terminally slightly twisted.

Female: Unknown.

Further material examined: None.

Distribution: Only known from the type locality.

graecum group

***Zodarion graecum* (C. L. Koch, 1843)** (Figs. 124–125, 154–155)

Enyo graeca; C. L. Koch (1843): 83, fig. 811 (descr. female); O. P.-Cambridge (1872): 270.

Zodarium graecum; Simon (1884): 336; Chyzer & Kulczyński (1897): 150, pl. 6, fig. 2; Stojićević (1929): 41; Drensky (1932): 330; Drensky (1936): 31.

Zodarion graecum; Strand (1916): 162; Roewer (1928): 119; Bristowe (1932): 754; Caporiacco (1935): 287; Denis (1935): 77; Denis (1937): pl. 6, figs. 52–54; Hadjissarantos (1940): 34; Kritscher (1958): 569; Karol (1967): 14; Levy (1992): 97, figs. 90–92; Deltshv & al. (2005): 189, map 651.

Zodarion pythium DENIS, 1935; Denis (1935): 81, fig. 28 (descr. female, non male, misidentified).

Type material: *Z. graecum* was described by C. L. Koch from the Peloponnisos, but the type material could not be traced. Paratype ♀ of *Zodarion pythium* from Greece, Fokida, Delphoi (MNHNP, examined, misidentified).

Diagnosis: *Zodarion graecum* is closely related to the sympatric *Z. konradi*. I captured both species in the same habitats and in the field they are clearly recognisable as a larger species with yellowish brown prosoma (*Z. graecum*) and a smaller species with dark brown prosoma (*Z. konradi*). These differences are however not obvious in alcohol material and then they can be distinguished by examining male palps and female epigynes. Males differ readily by the angularity between the prolateral margin of the embolus and the tegulum, the distal part of the median apophysis that is much smaller than the basal part and the wide distal part of the embolus; females differ by an epigyne with a more anterior position of the triangular hood.

Description:

Measurements: Male: Total length 2.4–2.9; prosoma 1.27–1.52 long, 0.88–1.11 wide. Female: Total length 3.44–3.55; prosoma 1.47–1.61 long, 0.97–1.14 wide.

Colour: Prosoma orange brown, reticulated with dark brown, especially at clypeus, margin and region of fovea; legs yellowish brown, Fe and Ti with darker stripes or rarely in males completely dark brown; abdomen sepia to dark sepia, venter, oblique lateral stripe and posterodorsal circular spot whitish; female generally paler than male, with legs rarely darkened.

Eyes: AM=1 (0.08); AL=PM=PL=0.75; a=0.5; b=0.25; c=1.75; d=0.3; MOQ: AW=0.83PW; L=1.04PW.

Abdomen: Dorsally with narrow anteromedian coriaceous stripe.

Palp (Figs. 124–125): Tibial apophysis with broad base, gradually narrowing, terminally pointed; prolateral margin of tegulum in an oblique angle with embolus; median apophysis relatively small, basal part rectangular, distal part much smaller and developed as a sharp tooth; embolus semi-circular with broad base, forming an angularity with tegulum, distal part covered by a small membrane.

Epigyne (Fig. 154): With triangular median notch situated at same level as the spermathecae, as visible in transparency; notch and posterior margin forming an equilateral triangle.

Vulva (Fig. 155): Posteromedian notch bordering a rounded semi-circular pouch; ducts gently curved; leading to spermathecae separated by 1.5 x their diameter.

Previous records:

GREECE

Attiki-Saronic Islands: Attiki: Athina (Simon 1884); Ekali (Hadjissarantos 1940); Kato Souli (Hadjissarantos 1940); Paleo Faliro (Hadjissarantos 1940); Oros Parnitha, Mola (Hadjissarantos 1940); Oros Parnitha, Paleochori (Hadjissarantos 1940); Oros Pendeli (Roewer 1928; Hadjissarantos 1940); Podoniftis (Hadjissarantos 1940).

Dodekanisa: Kos (Strand 1917).

Evvoia-Voroies Sporades: Evvoia: Karystos (Strand 1917); Steni (Simon 1884).

Ipeiros: Arta: Katafigio (Reimoser 1958).

Peloponnisos: Without further locality (type locality; C. L. Koch 1843). Lakonia: Oros Taigetos (Brignoli 1984).

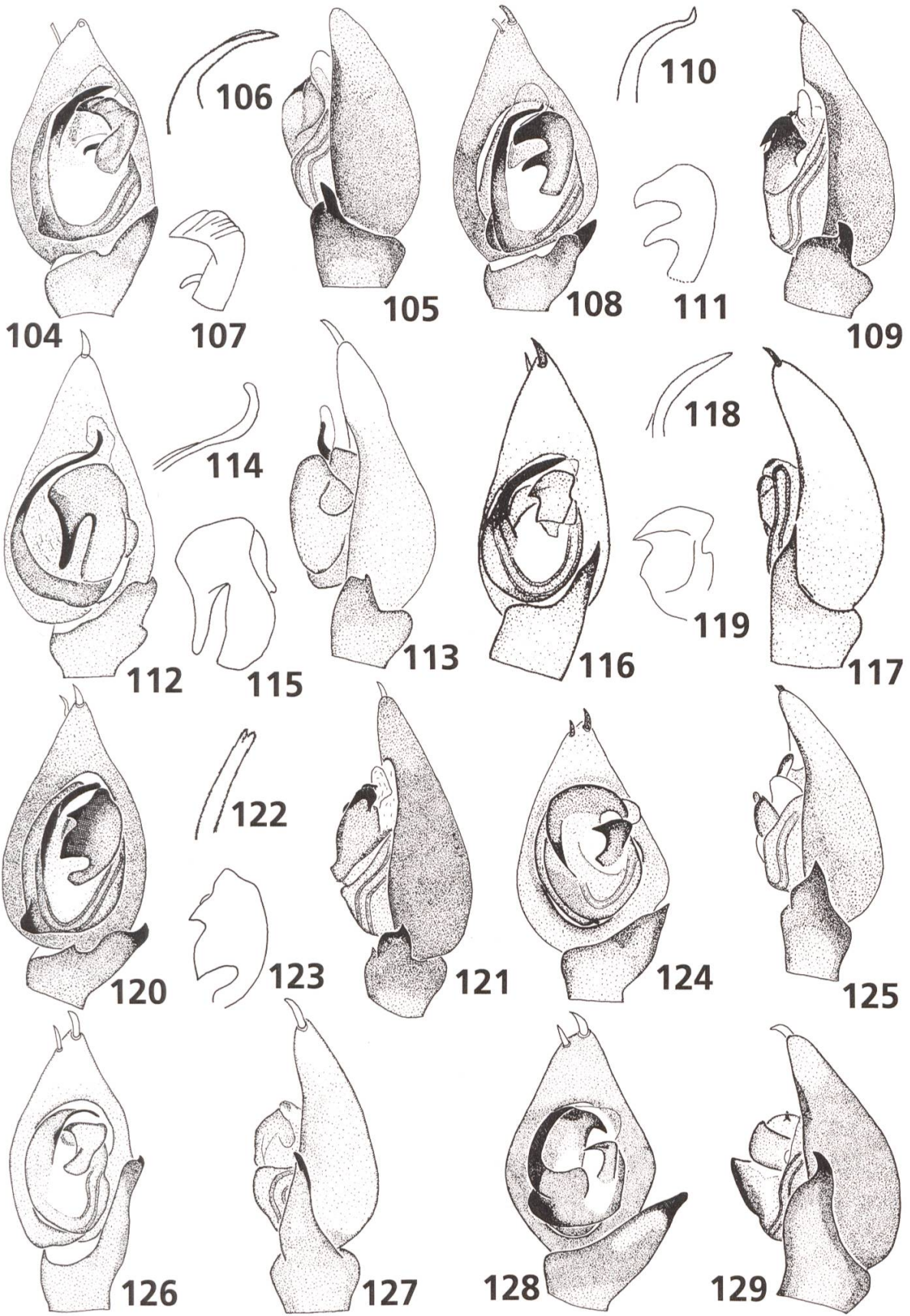
Stereia Elada: Fokida: Delfoi (Bristowe 1935).

BULGARIA

Blagoevgrad: Belasitsa Mountains (Drensky 1936).

Sofiya: Rila Mountains, Tscham Koriija (Drensky 1932).

Figs. 104–129. – 104–107: *Zodarion noordami* sp. nov.; – 104: Male palp, ventral view; – 105: Idem lateral view; – 106: Tip of embolus; – 107: Median apophysis; – 108–111: *Zodarion ohridense* WUNDERLICH; – 108: Male palp, ventral view; – 109: Idem lateral view; – 110: Tip of embolus; – 111: Median apophysis; 112–115: *Zodarion van* sp. nov.; – 112: Male palp, ventral view; – 113: Idem lateral view; – 114: Tip of embolus; – 115: Median apophysis; – 116–119: *Zodarion vankeerorum* sp. nov.; – 116: Male palp, ventral view; – 117: Idem lateral view; – 118: Tip of embolus; – 119: Median apophysis; – 120–123: *Zodarion zorba* sp. nov.; – 120: Male palp, ventral view; – 121: Idem, lateral view; – 122: Tip of embolus; – 123: Median apophysis; – 124–125: *Zodarion graecum* (C. L. Koch); – 124: Male palp, ventral view; – 125: Idem, lateral view; 126–127: *Zodarion arabelae* sp. nov.; – 126: Male palp, ventral view; – 127: Idem, lateral view; – 128–129: *Zodarion arachnaio* sp. nov.; – 128: Male palp, ventral view; – 129: Idem, lateral view.



CROATIA

Primorsko-Goranska: Crkvenica (Chyzer & Kulczyński 1897); Senj (Chyzer & Kulczyński 1897).

MACEDONIA

Gevgelija: Chudowo (Stojićević 1929).

SERBIA

Dubravica, near Požarevac (Stojićević 1929); Kopaonik-Srebrnac (Drensky 1936); Rogot, near Kragujevac (Stojićević 1929).

LEBANON

Beyrouth: Beyrouth (Simon 1884).

ISRAEL/PALESTINE

Hazafon: Nain, near Giv'at Hamore (O. P.-Cambridge 1872; Levy 1992).

New material examined:

CROATIA

Primorsko-Goranska: Senj, 3 ♂ 1 ♀ (IZPAN).

Splitsko-Dalmatinska: Split, 1 ♀, 18. VII. 1962 (CKT).

GREECE

Attiki-Saronic Islands: Attiki: Kaledzi, near lake Marathon, 1 ♂ 1 ♀, stones in maquis, 19. IV. 2000 (CMJ); Kifisia, 1 ♀, 1. VII. 1974, V. Carrie leg. (MCZ); Legrena, 2 ♀, 11. IV. 1979, M. Dethier leg. (CKT).

Evvoia-Voroies Sporades: Alonnisos: Aghios Dimitriou W., 3 ♀, stones in maquis, 15. VII. 2005 (CRB); Gerakas, 2 ♀, stones in maquis, 15. VII. 2005 (CRB); Paralia Megali Amos, 1 ♀, litter in olive grove, 15. VII. 2005 (CRB).
Evvoia: Paralia Chiladou, 10 m, 1 ♂ 3 ♀, grassland and riverine *Platanus* forest, 9. V. 2001 (CRB); Lake Distos, 100 m, 4 ♂ 4 ♀, grassland around the lake, 16. V. 2001 (CRB); NE Karistos, 150 m, 1 ♂, stones in *Platanus* forests around chapel, 15. V. 2001 (CRB); N. Kimi, 200 m, 3 ♂ 2 ♀, stones in *Olea* orchard, 13. V. 2001 (CRB); between Kimi and Paralia Kimi, 50 m, 2 ♂ 6 ♀, stones in grassland around chapel, 13. V. 2001 (CRB); Loutra Gialtron, 10 m, 2 ♀, stones in *Olea* plantation, 11. V. 2001 (CRB); Psachna E., 100 m, 7 ♀, stones around ruins, 10. V. 2001 (CJVK, CRB); Stira-Marmari, 500 m, 5 ♂ 3 ♀, stones in grassland, 14. V. 2001 (CRB); Velos S., Prasino, 400 m, 2 ♂ 3 ♀, stones in maquis along dry river bed, 14. V. 2001 (CRB). Skantzoura, 1 ♀, 7. VI. 1981, Geisthardt leg (CJW).

Ionian Islands: Kerkyra: Aghios Spiridou, 1 ♀, stones in olive grove, 4. VI. 2000 (CARS); Avlaki, 2 ♂ 2 ♀, stones near the beach, 3. VI. 2000 (CARS). Lefkada: Mikros Yalos, 3 ♂ 2 ♀, under stones, 23. V–3. VI. 1993 (CARS).

Ipeiros: Ionnina: Konitsa, Aoos gorge, 530 m, 27 ♂ 18 ♀, pitfalls in shrubland, 13. VII. 2007, B. Vandenberghe leg. (CRB); Konitsa, Mavrovouni, 1 ♀, pitfalls in phrygiana, 15. VII. 2007, B. Vandenberghe leg. (CRB).

Makedonia: Grevena: Eleftherohori, 1 ♂, stones along potamos Alia, 12. VI. 1997 (CRB).

Peloponnisos: Arkadia: Oros Parnonas, Kosmas, 1 ♂ 2 ♀, stones in *Juniperus* forest, 26. V. 1998 (CRB). Ileia: Lambia S., 2 ♂, stones at border of *Quercus suber* forest, 30. V. 1998 (CRB, CJVK); Simopoulo, 8 ♂ 6 ♀, litter in old *Quercus* forest, 30. V. 1998 (CRB, CJVK). Korinthia: Isthmia, 1 ♀, stones in wasteland, 24. V. 1998 (CRB). Lakonia: Metamorfofi NE, Kalogerovouni, 1 ♀, 27. IX. 1992 (CKT); Vathia, 1 ♀, 25. IX. 1992 (CKT).

Remarks: Due to confusion with related, formerly undescribed species, all anterior citations should be verified.

Specimens identified by Reimoser as *Zodarion graecum* were later described by Denis (1935) as *Z. aegaeum* and this appears to be a junior synonym of *Z. morosum* (see there).

The specimens cited and figured by Brignoli (1984) from the Peloponnesos concern another species, described below as *Zodarion konradi*.

Distribution: *Zodarion graecum* has often been misidentified and some new closely related species are described, so earlier citations should all be reviewed. Certified records are given here from Greece and Croatia only.

***Zodarion arabelae* sp. nov.** (Figs. 126–127, 156–157)

Type material: Holotype ♂, paratype ♀ from Greece, Lesvos, Agiassos NW, Voula, in litter of mixed forest, 1. IV. 2008, L. Baert & R. Bosmans leg.; deposited in KBIN.

Etymology: The species was collected during an excursion of the Belgian arachnological society ARABEL to Lesvos and is named after this society.

Diagnosis: *Zodarion arabelae* is a very small species of the *graecum* group. Apart from its small size, males are easily distinguished by the tibial apophysis that is more elongate than in all other species and females by the small, widely separated spermathecae and the slight incision in the posterior margin of the epigyne.

Description:

Measurements: Male: Total length 1.6; prosoma 0.84 long, 0.61 wide. Female: Total length 2.0–2.8; prosoma 0.91–1.16 long, 0.67–0.85 wide.

Colour: Prosoma yellowish brown, eye region, fovea, striae and margin suffused with grey; legs with orange brown femora, other segments yellowish brown; abdomen dark sepia, venter and rounded posterodorsal spot whitish.

Eyes: AM=1 (0.06); AL=PM=PL=0.88; a=0.5; b=d=0.33; c=1.5; MOQ: AW=0.82PW; L=0.94PW.

Abdomen: Posteroventral setae poorly developed; males and females without scutum.

Palp (Figs. 126–127): Tibial apophysis strongly elongated, 1.5x as long as its diameter, tip slightly curved and pointed; median apophysis small, distal part triangular and shorter than basal part; embolus describing one quarter of a circle, gradually narrowing, with short subterminal crest.

Epigyne (Fig. 156): Posterior margin with rounded incision; hood wide; no exterior sclerotisations.

Vulva (Fig. 157): Incision giving entrance to a wide pouch; spermathecae small, separated by 2.5x their diameter.

Further material examined:

GREECE

Eastern Aegean Islands: Lesvos: Evriaki NE, Lefkakia beach, stones in salt marsh, 4 ♂ 1 ♀, 2. IV. 2008, L. Baert, R. Bosmans and J. Van Keer leg. (CJVK, CRB, KBIN); Mytilini, 1 ♀ in pine litter, 29. III. 1982, P.L. & C.L. Deeleman leg. (RMNH)

Distribution: Only known from the island Lesvos.

***Zodarion arachnaio* sp. nov.** (Figs. 128–129, 158–159)

Type material: Holotype ♂, 4 paratypes ♀ from Greece, Peloponnisos, Argolida, Oros Arachnaio, NE Arachnaio, 24. V. 1998, R. Bosmans leg.; deposited in KBIN.

Etymology: The name is a noun in apposition, derived from the type locality.

Diagnosis: *Zodarion arachnaio* is a species of the *graecum* group. Males are distinguished by the elongated tibial apophysis and the compact embolus, females by the small median notch and the widely separated spermathecae.

Description:

Measurements: Male: Total length 2.4–2.5; prosoma 1.16–1.18 long, 0.88–0.89 wide. Female: Total length 3.6–4.2; prosoma 1.28–1.41 long, 0.86–1.16 wide.

Colour: Prosoma yellowish brown to brown, margin and region of fovea darkened; legs yellowish brown, coxae and base of femora IV yellowish white; abdomen sepia to dark sepia, posterodorsal oval spot, venter, and lateral oblique stripe whitish.

Eyes: AM=1 (0.09); AL=PM=0.8; PL=0.7; a=0.4; b=0.2; c=1.6; d=0.3; MOQ: AW=0.88PW; L=0.92PW.

Abdomen: In males dorsally slightly sclerotised; posteroventral setae poorly developed.

Palp (Figs. 128–129): Tibial apophysis much longer than the tibia's diameter, gradually narrowing, with subterminal bend; tegulum with median part slightly prominent, in lateral view visible as a median angularity; median apophysis small and slender, branches of nearly equal length; embolus gently curved, with broad base, gradually narrowing and with a crest along its pro-lateral margin.

Epigyne (Fig. 158): With relatively small, triangular anteromedian notch and hood, situated level with the spermathecae.

Vulva: (Fig. 159): Receptula rounded, separated by 1.5x their diameter.

Further material examined:

GREECE

Peloponnisos: Argolida: Oros Arachnaio, between Arachnaio and Gatzia, 1 ♀, stones in grassland, 24. V. 1998 (CJVK).

Distribution: Only known from the Oros Arachnaio in the Peloponnisos, Greece.

***Zodarion evvoia* sp. nov.** (Figs. 130–131)

Type material: Holotype ♂ from Greece, Evvoia, NE Limni, Damia, 300 m, stones in grassland, 10. V. 2001, R. Bosmans leg.; deposited in KBIN.

Etymology: The species name is a noun in apposition derived from the type locality.

Diagnosis : *Zodarion evvoia* is closely related to *Z. graecum* but differs clearly by the much narrower, oblique embolar base.

Description:

Measurements: Male: Total length 2.2; prosoma 1.06 long, 0.81 wide.

Colour: Prosoma orange brown, margin and region of fovea darkened; legs yellowish brown, tarsi whitish; abdomen dark sepia, posterodorsal oval spot, venter and lateral oblique stripe whitish.

Eye disposition as in *Z. graecum*.

Abdomen: In males with anteromedian, coriaceous region; posteroventral row of setae poorly developed.

Palp (Figs. 130–131): Tibial apophysis gradually narrowing, with subterminal bend, terminally pointed; tegulum and embolus forming an angle; median apophysis small and slender, distal part pointed; embolus gently curved, gradually narrowing towards the top.

Female: Unknown.

Further material examined: None.

Distribution: Only known from one locality on the Greek Island Evvoia.

***Zodarion konradi* sp. nov.** (Figs. 132–133, 160–161)

Zodarium graecum; Brignoli (1984): 311, figs. 37–39 (descr. male, female; misidentified).

Type material: Holotype ♂, paratype ♀ from Greece, Peloponnisos, Lakonia, Oros Taigetos, Aghios Elias, 2400 m, 26. IX. 1985; paratype ♀ from Oros Taigetos, Moni Panaghia Giatrissa, 1100 m, 30. IX. 1991, B. Knoflach & K. Thaler leg.; deposited in NMBE.

Remark: A female from Oros Taigetos, illustrated by Brignoli (1984) as *Z. graecum*, apparently belongs to another species and is described here as new.

Etymology: The species is dedicated to the late Konrad Thaler, eminent specialist of Mediterranean spiders and collector of the type material.

Diagnosis: Closely related to *Zodarion graecum* (see there). Males differ by the slender apical part of the median apophysis and the narrower basal part of the embolus, females by the large triangular mark in the female epigyne.

Description:

Measurements: Male: Total length 2.3–2.8; prosoma 1.04–1.28 long, 0.84–0.90 wide. Female: Total length 3.0–4.9; prosoma 1.30–1.41 long, 0.90–1.01 wide.

Colour: Generally a dark species, but paler specimens were captured as well. Prosoma dark sepia brown, legs yellowish brown, Co I and Fe I–IV dark sepia, Ti often streaked with brown; abdomen dark sepia, venter, oblique lateral stripe and posterodorsal spot whitish.

Eye disposition as in *Z. graecum*.

Abdomen dorsally coriaceous in male.

Palp (Figs. 132–133): Tibial apophysis as in *Z. graecum*; median apophysis with slender basal part and pointed triangular distal part; embolus semi-circular, gradually narrowing, distal part covered by a large membrane, lateral margin of basal part parallel with tegulum.

Epigyne (Fig. 160): With small median notch and strong oblique sutures, forming an isosceles triangle.

Vulva (Fig. 161): Anteromedian pouch small and oval; copulation pores situated near the base of the oblique sutures; spermathecae rounded, separated by 1.5x their diameter.

Further material examined:

GREECE

Attiki-Saronic Islands: Attiki: Thoriko, Velatouri, 1 ♀, 10. VIII. 1973, F. Goemaere leg. (CRB). Spetses: Spetses, 2 ♀, litter along dry rivulet, 25. V. 1998 (CRB).

Evvoia-Voroies Sporades: Evvoia: Karistos, Castelrosso ruins, 400 m, 4 ♂ 4 ♀, 15. V. 2001 (CRB); Ilia-Aghias Georgiou, 300 m, 1 ♀, stones in grassland, 11. V. 2001 (CRB); NE Karistos, 150 m, 2 ♂ 2 ♀, stones in *Platanus* forest around chapel, 15. V. 2001 (CRB); Psachna E., 100 m, 5 ♀, stones around ruins, 10. V. 2001 (CJVK, CRB); Steni E., 1200 m, 1 ♀, 21. IX. 1997 (CKT).

Peloponnisos: Achaia: Rakita, 1 ♂, stones in montane grassland, 31. V. 1998 (CRB).

Arkadia: Megalopoli, Thersileio, 1 ♂, 29. V. 1999, G. Delmastro leg. (CRB); Oros Likeo, Ano Karies, N., 4 ♂ 2 ♀, stones in montane grassland, 29. V. 1998 (CRB); Paradisio, 2 ♂ 9 ♀, stones in open old *Quercus* forest, 29. V. 1998 (CRB). Korinthia: Akrokorinth, 1 ♀, 25. IV. 1994, E. Heiss leg. (CKT). Lakonia: Flomohori, 6 ♀, stones in olive grove, 27. V. 1998 (CRB, CJVK); Mavrovouni, litter in *Populus* forest, 26. V. 1998 (CRB); Mistras, 1 ♂ 2 ♀, stones in ruins, 28. V. 1998 (CRB, CJVK); Oros Taigetos, 1070 m, 1 ♂ 1 ♀, 8. V. 1974, B. Hauser leg. (MHNG Pel 74/9, sub *Z. graecum*; Brignoli 1984); Vathia N., 1 ♂, stones in dry maquis, 27. V. 1998 (CRB).

Makedonia: Pieria: Litochorou plaka, 3 ♀, stones around camping site, 7. VI. 1997 (CRB).

Thessalia: Magnissia: Kata Gadzea, 50 m, 1 ♀, stones in olive grove, 10. VI. 1997 (CRB).

Distribution: Continental Greece, except for the northwest, and the nearby islands Evvoia and Spetses.

***Zodarion messiniense* sp. nov.** (Figs. 134–135)

Type material: Holotype ♂ from Greece, Messinia, SW Pilos, west side of mountain Aghios Nikolaos, 150 m, 25. IV. 1984, K. Harms leg.; deposited in SMF.

Etymology: The species is named after the Greek province where it was discovered.

Diagnosis: *Zodarion messiniense* is closest to *Z. arachnaio* but is easily recognised by the conical bulge of the tegulum.

Description:

Measurements: Male: Total length 2.2; prosoma 1.51 long, 0.92 wide.

Colour: Prosoma dark brown, with very small paler spots; legs yellowish, Fe I–II dark brown, Fe III–IV brown, tibiae distally slightly infuscated; abdomen dark sepia, nearly black, lateral stripe, small posteromedian spot and venter whitish.

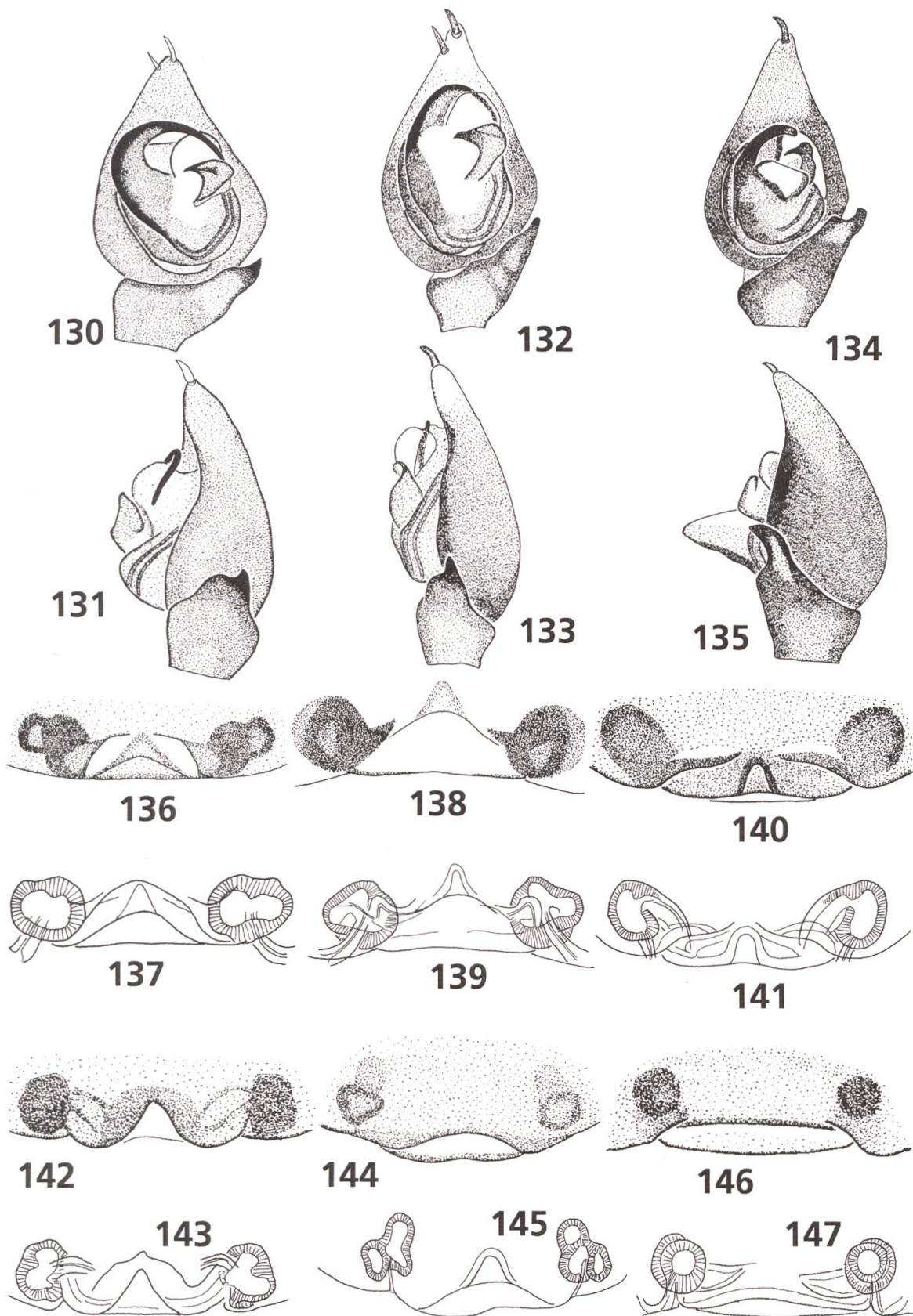
Eyes: AM=1 (0.095); AL=0.88, PM=0.82, PL=0.71; a=0.71; b=0.35, c=1.88; d=0.47; MOQ: AW=0.82PW, L=0.86PW

Palp (Figs. 134–135): Tibial apophysis elongated, slightly curved in antero-ventral direction, terminally pointed; tegulum with strong, conical apophysis pointing in ventral direction; median apophysis small, hook-like, distal part pointed and much smaller than basal part; embolus with crest parallel to its prolateral margin, terminally rounded.

Female: Unknown.

Further records: None.

Distribution: Only known from the type locality in the south Peloponnisos.



Figs. 130–147. – 130–131: *Zodarion evvoia* sp. nov.; – 130: Male palp, ventral view; – 131: Idem, lateral view; – 132–133: *Zodarion konradi* sp. nov.; – 132: Male palp, ventral view; – 133: Idem, lateral view; – 134–135: *Zodarion messiniense* sp. nov.; – 134: Male palp, ventral view; – 135: Idem, lateral view; – 136–137: *Zodarion spinibarbe* WUNDERLICH; – 136: Epigyne; – 137: Vulva; – 138–139: *Zodarion barbarae* sp. nov.; – 138: Epigyne; – 139: Vulva; – 140–141: *Zodarion blagoevi* sp. nov.; – 140: Epigyne; – 141: Vulva; – 142–143: *Zodarion epirense* BRIGNOLI; – 142: Epigyne; – 143: Vulva; – 144–145: *Zodarion hauseri* BRIGNOLI; – 144: Epigyne; – 145: Vulva; – 146–147: *Zodarion kossamos* sp. nov.; – 146: Epigyne; – 147: Vulva.

thoni group

Remark: This is a group of closely related species with very similar sexual organs but often with quite different somatic characters. At the moment, I redescrbe only the formerly known species. It is possible that material included here in *Z. thoni* belongs to more than one species.

***Zodarion thoni* NOSEK, 1905** (Figs. 168–169, 176–177)

Zodarion thoni; Nosek (1905): 128, fig. 10 (descr. male); Spassky (1914): 90 (descr. female); Spassky (1919): 152; Drensky (1936): 31.

Zodarion thoni; Denis (1937): 36 pl. 7, figs. 60–61 (descr. male); Deltshv (1987): 22, figs. 5, 1–3 (descr. male, female); Dunin & Nenilin (1987): 193, figs. 3–6 (synonymy with *Z. thoni cyprium*).

Zodarion thoni var. *cypria* KULCZYŃSKI, 1908; Kulczyński (1908): 57, pl. 2, fig. 39 (descr. male); Charitonov (1932): 23; Denis (1937): 37; Minoranskiy & al. (1977): 93; Ponomarev & Minoranskiy (1981): 197, figs. 1–3; Dunin (1984): 53; Minoranskiy & Ponomarev (1984): 85.

Zodarion graecum; Simon (1884): 186 (misidentification).

Zodarion kochi DENIS, 1937; Denis (1937): 35.

Zodarion cyprium; Wunderlich (1980a): 232, figs. 8–11 (elevated from subspecies); Brignoli (1984): 308; Levy (1992): 97, figs. 85–89; Kovblyuk (2003): 181, figs. 18–26; Marusik & al. (2004): 147.

Zodarion gallicum; Drensky (1913): 61; Drensky (1936): 30 (misidentifications).

Type material: Holotype ♂ of *Z. thoni* from Turkey, Capadocia, Kaiseri province, Northern slope of Mount Erciyes ('Erdschias Dagh'); not examined, unavailable. Holotype ♂ of *Z. thoni cyprium* from Cyprus (not examined, unavailable).

Diagnosis: *Zodarion thoni*, *Z. granulatum*, *Z. nigrifemur* and *Z. reticulatum* form a closely related group, with very similar sexual organs, but quite different in size or colour. *Z. thoni* is distinguished by its intermediary size, the nearly symmetric tip of the male embolus and the shape of the entrance ducts in the epigyne.

Remarks: *Zodarion thoni* NOSEK, 1905, described from Turkey and *Z. thoni* var. *cyprium* KULCZYŃSKI, 1908, described from Cyprus have already a long and complex history. In his revision of the genus *Zodarion*, Denis (1937) mentions them as *Zodarion thoni* and *Z. thoni* var. *cypria*, just like Kulczyński did. On studying material from Crete, Wunderlich (1980) elevated *Zodarion*

cyprium to species rank, supported by Brignoli (1984). On studying material from the Caucasus, Dunin & Nenilin (1987) on the contrary considered *Zodarion thoni* and *Z. thoni* var. *cypria* as synonyms. On studying material from Lebanon, Levy (1992) followed Wunderlich's view and accepted the existence of two species. So none of these authors studied material from Turkey, the type locality of *Zodarion thoni* nor material from Cyprus, the type locality of *Z. thoni cyprium* (*Z. cyprium*). Yet they all had opinions on the status of the two.

I was able to examine specimens from Turkey near the type locality of *Zodarion thoni* and specimens from Cyprus, the type locality of *Z. thoni cyprium*. I could not find any constant diagnostic differences between them, so I consider them here synonyms. Examination of larger series of specimens should confirm this. I further examined material from Greece and Romania (see New material examined) and consider this material conspecific, although specimens from Lesvos have a slightly different tip of the embolus and the specimens from Chalkidiki are much paler. The species is further cited from Russia, Azerbaijan, Armenia and Lebanon but material from there was not examined.

Description:

Measurements: Male: Total length 2.9–3.8; prosoma 1.32–1.92 long, 0.85–1.29 wide. Female: Total length 4.0–4.2; prosoma 1.82–1.90 long, 1.19–1.32 wide.

Colour: Prosoma brown, thoracic part and border mostly densely marbled with dark brown; legs yellowish orange, Fe I dark brown with or without lateral yellowish stripe, Fe II–IV gradually becoming nearly entirely yellowish orange; abdomen dark sepia brown, a rounded posterodorsal spot and a pair of ventral spots whitish, separated by a median dark ventral stripe of variable width, from nearly absent to very wide in dark specimens.

Eyes: AM=1 (0.1); AL=0.8; PM=0.6; PL=0.6; a=0.6; b=0.4; c=2.1; d=0.65; MOQ: AW=0.82PW; L=0.85PW.

Abdomen: In male with shiny scutum covering 2/3 of the abdomen's length; 16–18 setae in front of spinnerets in males, 20–21 in females, each seta 0.11 long.

Palp (Figs. 168–169): Tibia with triangular apophysis, with black, upright pointed tip; median apophysis very large, leaflike, with large blunt prolateral process; embolus semi-circular, terminally slightly widened into a typical tooth.

Epigyne (Fig. 176): Median plate trapezoid, relatively narrow; windings of spermathecae clearly discernible.

Vulva (Fig. 177): Spermathecae with three coils; copulatory ducts short, diamond-shaped.

Previous records:

GREECE

Crete: Lasithi: Ierapetra (Wunderlich 1980a; sub *Z. cyprium*); Sitia (Brignoli 1984; sub *Z. cyprium*).

CYPRUS

Without precise locality (Kulczyński 1908; sub *Z. thoni cyprium*).

BULGARIA

Burgas: Poda (Drensky 1913, sub *Z. gallicum*; Deltchev 1987); Strandza Mountain, Malko Tarnovo (Drensky 1936, sub *Z. gallicum*; Deltchev 1987).

RUSSIA

Kalmyk (Minoranskiy & al. 1977; Minoranskiy & Ponomarev 1984); Rostov-on-Don area (Spassky 1914, 1919).

UKRAINE

Donetsk Area: Berda River (Prokopenko 2002); Crimea: Simferopol, Yalta (Kovblyuk 2003).

ARMENIA

Ashtarak ((Dunin & Zacharian 1991); Berdavan (Dunin & Zacharian 1991); Khosrov state reserve (Dunin & Nenilin 1987); Shorzha (Dunin & Zacharian 1991).

AZERBAIJAN

Amburdara (Dunin & Nenilin 1987); Apsheron peninsula (Dunin 1984); Avash (Dunin & Zacharian 1991); Baku (Dunin & Nenilin 1987); Bichenek river (Marusik & Kovblyuk, 2004, sub *Z. cyprium*); Bina (Dunin & Nenilin 1987); Djafarkhan (Dunin & Nenilin 1987); Galabyn (Dunin & Nenilin 1987); Gobustan (Dunin & Nenilin 1987); Gosmalyan (Dunin & Nenilin 1987); Lerik area (Dunin & Nenilin 1987); Pirkuli (Dunin & Nenilin 1987); Shirvan reserve (Dunin & Zacharian 1991); Shusha (Dunin & Zacharian 1991); Vandam (Dunin & Nenilin 1987); Ziuvand area (Dunin & Nenilin 1987).

GEORGIA

Kvareli (Dunin & Zacharian 1991).

TURKEY

Kaiseri: Mount Erciyes (Erdschias-Dagh), type locality (Nosek 1905).

LEBANON

Beirut (Simon 1884, sub *Z. graecum*; Levy 1992).

New material examined:

GREECE

Dodekanisa: Kasos: Poli, 1 ♂ 1 ♀, 3. III. 1973, P. & C. Deeleman leg. (RMNH).
Kos: Aghios Mamas, 1 ♀, 14. XI. 2001, S. Sherif leg. (CRB); Kos town, 12 ♂
2 ♀, 14. XI. 2001, S. Sherif leg. (CRB).

Eastern Aegean Islands: Chios: Gridia, 1 ♀, 14. V. 2006 (CMAS). Lesvos: S. Agiassos, 700 m, 3 ♀, 21. V. 1994 (CAN); Ambeliko, 1 ♂, stones in *Pinus* forest, 1. IV. 2008, L. Baert leg. (KBIN); Stavros-Ambeliko, 500 m, 1 ♂ in *Pinus* forest, 25. V. 1994 (CAN); Vatera, 3 ♂ 2 ♀, beach, 24. V. 1994 (CAN).
Crete: Irakleio: Malia, 1 ♂, 3. IV. 1972 (CJFM); idem, 1 ♂, stones in ruins, 18. X. 1998 (CRB). Lasithi: Itanos, 1 ♂, stones in dunes, 12. V. 2003 (CRB); Kalivitis, 1 ♀, 11. IV. 1994 (CJB); Kavousi N., Tholos, 10 m, 1 ♂, stones in dunes, 11. V. 2003 (CRB); Moni Toplou, 1 ♀, stones in wasteland, 11. V. 2003 (CJVK); Pilalimata, 1 ♀, 13. IV. 1994 (CJB); Schinokapsala, 1 ♂, 19. IV. 1994 (CJB).
Macedonia: Chalkidiki: Vourvourou E., cape Armenistis, 50 m, 9 ♂ in open *Pinus* forest, 17. VI. 2004, L. Provoost leg. (CRB).

CYPRUS

Larnaca: Larnaca, 2 ♂, 1 ♀, 10. XI. 1932 (KBIN).
Limassol: Evdhimou coast, 1 ♀, 9. IV. 1993 (CPS).
Nicosia: Agios Sozemenos, 6 ♂, stones in dry grassland, 30. IV. 2007, R. Snazell leg. (CARS, CRS); Nicosia, 1 ♀, 29. III. 1989, H. K. El Hennaway leg. (CPS).
Paphos: Paphos, Coral Bay, 1 ♂, 12. VI. 1995 (CKT).

ROMANIA

Constanța: Agigea, 50 m, 2 ♂, pitfalls in dune shrub, 13. IV. 2004, W. De Spiegelaere leg. (CRB).

TURKEY

Konya: Zanapa, 1450 m, 1 ♂ 2 ♀, 3. III. 1973, R. Jocqué leg. (CRB).
Mersin: Arslankoy, N.W. Mersin, 1600 m, 1 ♂, 12. VI. 1983 (CKT).
Van: Artos Dag, 1 ♂, 2. IX. 1956 (AMNH).

Distribution: NE Greece, Dodekanisa, Crete, Bulgaria, Romania, Macedonia, Russia, Ukraine, Azerbaijan, Armenia, Georgia, Turkey, Cyprus, Lebanon.

***Zodarion granulatum* KULCZYŃSKI, 1908** (Figs. 170–171, 178–179)

Zodarion granulatum; Kulczyński (1908): 59, pl. 2, figs. 4, 10 (descr. male).

Zodarion granulatum; Denis (1937): 35; Levy (1992): 92, figs. 72–84 (descr. male, female).

Zodarion rhodiense rhodiense CAPORACCIO, 1948; Caporiacco (1948): 47 (descr. male, female). nov. syn.

Zodarion rhodiense; Brignoli (1984): 317, figs. 50–53.

Type material: Holotype ♂ of *Z. granulatum* from Cyprus (IZW 46/51U; not examined). Type series of *Z. rhodiense* from Rhodes (deposition unknown; not examined).

Diagnosis: Closely related to *Z. thoni*, but differing by its smaller size, the granulated, reddish brown thoracic part of the prosoma, the rounded terminal part of the male embolus and the configuration of the female spermathecae.

Remarks: I agree with Levy (1992) that Denis erroneously synonymized *Z. granulatum* KULCZYŃSKI, 1908 with *Z. reticulatum* KULCZYŃSKI, 1908. Both are valid species. *Zodarion rhodiense rhodiense* CAPORIAMCO, 1948, redescribed with excellent figures by Brignoli (1984), is a junior synonym of *Z. granulatum*. In a paper on the Zadariidae of Israel, Levy (1992) considered Brignoli's specimens misidentified, but he did not suggest the synonymy. *Zodarion rhodiense nigrifemur* on the other hand is a distinct species, described below.

Description:

Measurements: Male: Total length 1.9–2.8; prosoma 1.02–1.36 long, 0.70–0.92 wide. Female: Total length 2.2–2.6; prosoma 1.04–1.21 long, 0.72–0.84 wide.

Colour: Prosoma reddish brown, striae, margin and spot before fovea often suffused with grey; legs yellowish orange; abdomen glossy black, venter and spot above spinnerets white.

Prosoma with several erect hairs on front and median line behind PME; cephalic part reticulated, thoracic part densely granulated.

Eyes: AM=1 (0.09); AL=PM=PL=0.55; a=0.33; b=0.28; c=1.78; d=0.66; MOQ: AW=0.88PW; L= 0.88PW.

Abdomen: Males with shiny dorsal scutum, covering 4/5 of the abdomen's length; 9–10 setae in front of spinnerets, each seta 0.9 long.

Palp (Figs. 170–171): Tibial apophysis with black, upright pointed tip; median apophysis with large, leaflike prolateral process; embolus linear, semi-circular, with freely undulating tip which is only slightly widened.

Epigyne (Fig. 178): With anteromedian, hardly sclerotised transparent hood, and coils of posterolateral spermathecae clearly discernible.

Vulva (Fig. 179): Entrance duct diamond-shaped; spermathecae wound.

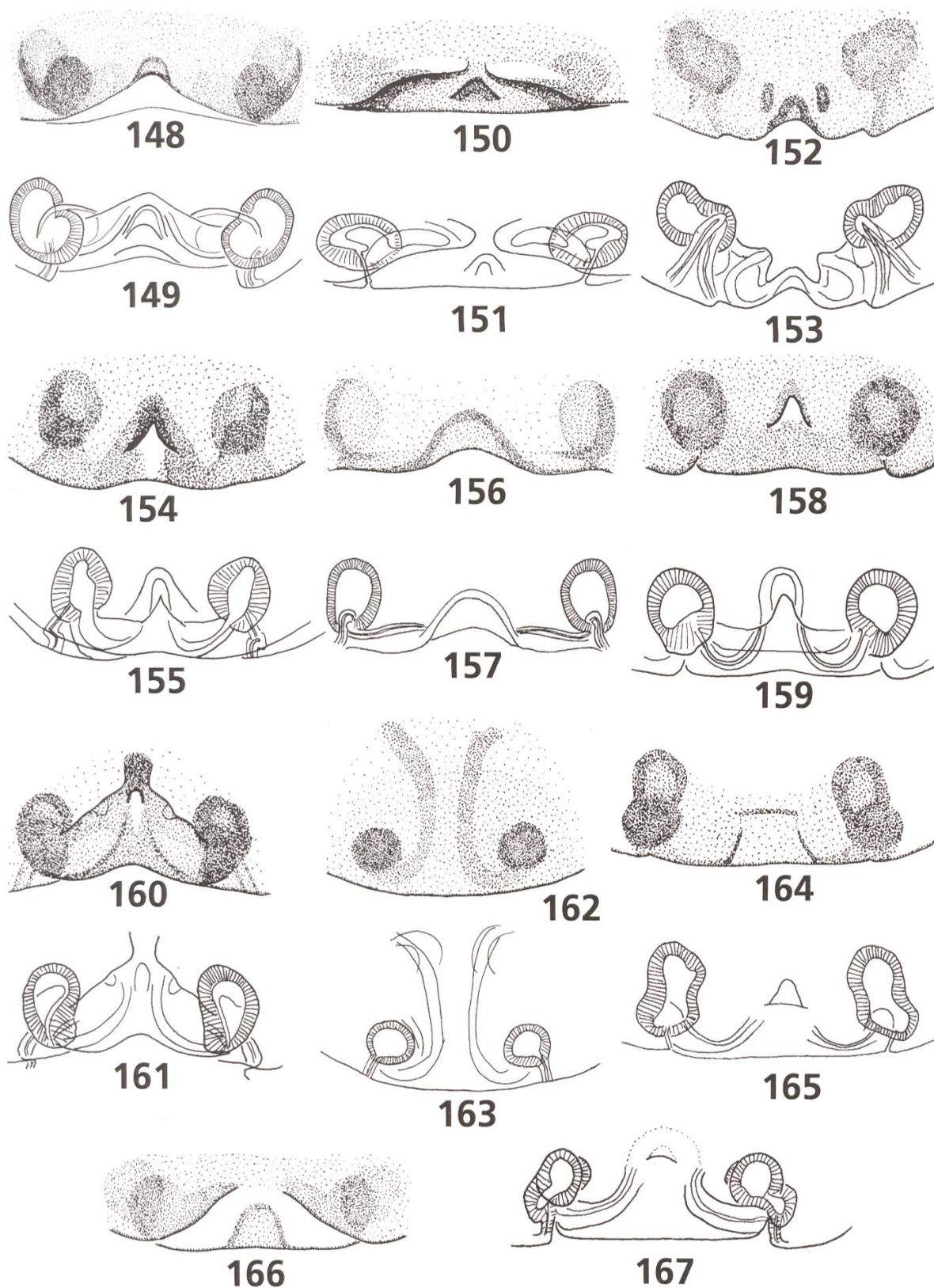
Previous records:

CYPRUS

Without further locality (Kulczyński 1908).

GREECE

Dodekanisa: Karpathos: Oros Lastos, road Aperi-Spoa (Brignoli 1984, sub *Z. rhodiense*). Rhodes: Aghios Demetrios (Caporiamco 1948, sub *Z. rhodiense*); Apollona (Caporiamco 1948, sub *Z. rhodiense*); Scafe (Caporiamco 1948, sub *Z. rhodiense*).



Figs. 148–167. – 148–149: *Zodarion noordami* sp. nov.; – 148: Epigyne; – 149: Vulva; – 150–151: *Zodarion ohridense* WUNDERLICH; – 150: Epigyne; – 151: Vulva; – 152–153: *Zodarion van* sp. nov.; – 152: Epigyne; – 153: Vulva; – 154–155: *Zodarion graecum* (C. L. KOCH); – 154: Epigyne; – 155: Vulva; – 156–157: *Zodarion arabelae* sp. nov.; 156: Epigyne; – 157: Vulva; – 158–159: *Zodarion arachnaio* sp. nov.; – 158: Epigyne; – 159: Vulva; – 160–161: *Zodarion konradi* sp. nov.; – 160: Epigyne; – 161: Vulva; – 162–163: *Zodarion jansseni* sp. nov.; – 162: Epigyne; – 163: Vulva; – 164–165: *Zodarion killini* sp. nov.; – 164: Epigyne; – 165: Vulva; – 166–167: *Zodarion* sp. – 166: Epigyne; – 167: Vulva.

Peloponnisos: Arkadia: Between Vitina-Levidi and Daras, 590 m, 1 ♂ 1 ♀, 21. IV. 1977, B. Hauser leg. (MHNG Cy 27-28; Brignoli 1984, sub *Z. rhodiense*).

ISRAEL

Haifa: Mount Carmel (Levy 1992).

Hazafon: Nahal Bezet (Levy 1992).

New material examined:

GREECE

Dodekanisa: Karpathos: Aperi, 1 ♀, 18. IV. 1984, P. & C. Deeleman leg. (RMNH); Monte Lastos, road Aperi-Spoa, 430 m, 1 ♀, B. Hauser leg. (MHNG Kar 798b; Brignoli 1984, sub *Z. rhodiense*). Rhodes: Laerma, 1 ♂, 20. IV. 1987, P. & C. Deeleman leg. (RMNH); Katavia N., 1 ♂ 1 ♀, stones along road, 11. V. 2006 (CJVK).

Eastern Aegean Islands: Lesvos: 3 km W. Kalloni, 4 ♂ 2 ♀ in humid valley, 18. V. 1994 (CAN).

Crete: Chania: Aghios Mathios, 1 ♂, 20. III. 1981, P. & C. Deeleman leg. (RMNH); Akrotiri, Kalathas, 1 ♀, 7. IV. 1981 (CJFM); Armeni, 1 ♀, 11. IV. 1981, P. & C. Deeleman leg. (RMNH); Georgioupoli, 1 ♂ 2 ♀, 15. IV. 1981 (CJFM); Melidoni, 1 ♂, 16. III. 1981, P. & C. Deeleman leg. (RMNH); Samaria gorge, 1 ♀, 25. IV. 1994, E. Heiss leg. (CKT); Topolia, 1 ♂, 3. III. 1984, P. & C. Deeleman leg. (RMNH); Vrisses E., 1 ♀, sifting dry moss, 18. V. 2004 (NHRS). Irakleio: Kato Gournes, 1 ♂, pitfalls in Aposelemi marsh, 9–16. V. 2003 (CJVK); Knossos, 1 ♂ 1 ♀, 6. III. 1984, P. & C. Deeleman leg. (RMNH); Malia, 1 ♀, 8. IV. 1972 (CJFM). Lasithi: Achladia, 1 ♂, stones in maquis, 6. VI. 1993 (CARS); Kalamafka, Kefalovriski spring, 550 m, 1 ♀, litter in *Platanus* forest, 13. V. 2003 (CRB); Makrogialis, 1 ♂ 1 ♀, gorge, 2. VI. 1984 (CARS). Rethymno: Preveli palm beach, 1 ♂ 1 ♀, 15. IX. 1998, G. Delmastro leg. (CRB).

Kyklades: Naxos: 1 ♂ 1 ♀, 22. IV. 1984, P. & C. Deeleman leg. (RMNH).

Makedonia: Chalkidiki: Gerakina, 2 ♂, 12. IV. 1978 (CJFM).

Peloponnisos: Argolis: Thermisia, 1 ♂ in pitfalls in olive grove, 25. VI. 1993, N. Chatelet leg. (CRB). Lakonia: Vathia N., 1 ♂, maquis along dry rivulet, 22. V. 1998 (CRB). Messinia: Triphylias, 10 km NNE Kyparissia, 2 km S. Agiannaki, 1 ♀ in dunes, 12. X. 1982, K. Harms leg. (CKH).

CYPRUS

Limassol: Apollo Hylates, 1 ♂, 17. II. 1981 (CKT).

Paphos: Saranta Colones, 1 ♀, 13. IV. 1994 (CPS).

TURKEY

Van: 30 km W. Hoşap, near Asbaşın, 1 ♂, 25. VII. 1956 (AMNH).

N.W. Anatolia, 1 ♀, Kinzelbach leg. (CJW).

LEBANON

Qartaba: Mont Liban, 1200 m, 1 ♂ 2 ♀, V. 1964, G. Fagel leg. (KBIN).

Distribution: Continental Greece and islands, Cyprus, Israel, and cited for the first time for Turkey and Lebanon.

***Zodarion nigrifemur* CAPORIAMCO, 1948 stat. nov.** (Figs. 172–173, 180–181)
Zodarion rhodiense nigrifemur; Caporiamco (1948): 49 (descr. male, female).

Type material: Type series from Greece, Rhodes, Lardos region, Draco; not examined, unavailable; recollected at the type locality.

Diagnosis: A species of the *Z. thoni* group, closely related to *Z. reticulatum* by its similar size, differing by the darkened femora, by the asymmetric tip of the male embolus, and the entrance ducts of the female epigyne.

Remarks: Type material of this species was not available. As pointed out above, *Zodarion rhodiense rhodiense* CAPORIAMCO, 1948 is a junior synonym of *Zodarion granulatum* (see there). *Zodarion rhodiense nigrifemur* is elevated to species rank.

Description:

Measurements: Male: Total length 3.8–4.2; prosoma 2.02–2.06 long, 1.40–1.57 wide. Female: Total length 4.2–6.2; prosoma 2.16–2.38 long, 1.44–1.79 wide.

Colour: Prosoma dark brown, thoracic part marbled with yellowish orange, gradually becoming entirely yellowish orange, except for the dark border; legs yellowish orange, Fe I–II nearly entirely dark brown, Fe III–IV laterally streaked with dark brown, less brown in females; abdomen dark sepia brown, small posterodorsal spot, medio-ventral region and lateral oblique stripe whitish.

Eyes: AM=1 (0.12); AL=0.7; PM=0.6; PL=0.7; a=0.7; b=0.3; c=2; d=0.7; MOQ: AW= 0.84PW; L= 0.76PW.

Abdomen: Males with shiny dorsal scutum, covering 4/5 of the abdomen's length; 10 setae in front of spinnerets in males, 19 in females, each seta 0.11 long.

Palp (Figs. 172–173): Only differing from the palp of *Z. reticulatum* by the asymmetric tip of the embolus, slightly incised at its prolateral side, angularly incised at its retrolateral side.

Epigyne, vulva (Figs. 180–181): Only differing from *Z. reticulatum* by the wider entrance ducts.

Previous records:

GREECE:

Dodekanisa: Rhodes: Lardos (type locality; Caporiacco 1948).

New material examined:

GREECE

Dodekanisa: Rhodes: Aghios Nikolaos, 2 ♂, stones near cave, 9. V. 2006 (CJVK); near Appollonia, 1 ♀, 15. IV. 1984, P. & C. Deeleman leg. (RMNH); between Appollonia and Laerma, 1 ♀, 10. X. 1984, P. & C. Deeleman leg. (RMNH); Fourni beach, 1 ♂, stones near the beach, 12. V. 2006 (CJVK); Katavia N., 1 ♂ 3 ♀, stones along road, 11. V. 2006 (CJVK); Lardos, 5 ♂, stones on rocky shore, 17. V. 2006 (CJVK); Prasimonis beach, 1 ♀, stones on slope, 11. V. 2006 (CJVK); Salakia, Profitis Illias, 800 m, 1 ♂, 3. I. 1985, 1 ♂ 1 ♀, 10. IV. 1987, P. & C. Deeleman leg. (RMNH), 1 ♂ 5 ♀, 12–13. IV. 1996 (CKT), 1 ♀, stones in *Pinus* forest, 9. V. 2006 (CJVK); W. Moni Skiadi, 3 ♂, stones in wasteland, 16. V. 2006 (CJVK).

Distribution: Only known from Rhodes.

***Zodarion reticulatum* KULCZYŃSKI, 1908** (Figs. 174–175, 182–183)

Zodarion reticulatum; Kulczyński (1908): 61, pl. 2, figs. 16 (descr. female).

Type material: Holotype ♀ from Cyprus; not examined, deposition unknown, according to Levy (1992) not in the IZPAN.

Diagnosis: This species differs from the related *Z. cyprium* and *Z. granulatum* by its larger size and by its colour. *Z. nigrifemur* is another closely related species, but this species has darkened anterior femora, and there are small differences in the distal part of the male embolus and the entrance ducts in the female epigyne.

Remarks: The specimens collected in Cyprus agree in size and colour with Kulczyński's (1908) description of *Z. reticulatum* and are therefore described as such. The male is described for the first time.

Description:

Measurements: Male: Total length 5.0; prosoma 2.42 long, 1.64 wide. Female: Total length 6.2–6.6; prosoma 2.28–2.46 long, 1.78–1.79 wide.

Colour: Prosoma yellowish orange, thoracic part mottled with grey; legs uniformly yellowish brown; abdomen dorsally dark sepia brown, with pale spots anterior to spinnerets, ventrally uniformly whitish.

Eyes: AM=1 (0.12); AL=0.75; PM=0.6; PL=0.7; a=0.7; b=0.4; c=2.3; d=0.7; MOQ: AW=0.9PW; L=0.76PW.

Abdomen: Males with shiny dorsal scutum, covering 4/5 the abdomen's length; 30–31 setae in front of spinnerets in males, each seta 0.12 long.

Palp (Figs. 174–175): Tibial apophysis and median apophysis as in *Z. nigri-femur*; tip of embolus strongly asymmetrical, with deep prolateral and retro-lateral incisions.

Epigyne (Fig. 182): Median plate with relatively wide septum.

Vulva: As in figure 183, with relatively wide entrance ducts.

Previous records:

CYPRUS:

Cyprus, without further locality (type locality; Kulczyński 1908).

New material examined:

CYPRUS:

Limassol: Apollo Hylates, 1 ♀, 17. II. 1981 (CKT); Curium, 1 ♀, 15. II. 1994 (CKT); Episkopi, 1 ♀, 31. X. 1981, P. & C. Deeleman leg. (RMNH); Evdhimou coast, 1 ♀, 9. IV. 1993 (CPS); between Platres and Kalidonia falls, 1 ♂, stone in mixed woodland, 26. IV. 2007, R. Snazell leg. (CRS); Trodos mountains, road Platres-Trodos, 2 ♀, stones in pinewoods, 1. V. 2007, R. Snazell leg. (CRS).

Paphos: Panayia, 800 m, 1 male, 23. II. 1987, P. & C. Deeleman leg. (RMNH); Pegia, 1 female, 14. II. 1994, 1 female 18. II. 1994 (CKT).

Distribution: Only known from Cyprus.

***lutipes* group**

***Zodarion lutipes* (O. P.-CAMBRIDGE, 1872)** (Figs. 184–185, 194–195)

Enyo lutipes; O. P.-Cambridge (1872): 272 (descr. male, female).

Zodarium lutipes; Kulczyński (1911): 26, pl. 1, Figs. 25–26 (descr. male).

Zodarion lutipes; Denis (1937): 38, pl. 8, Figs. 64 (descr. male, female); Levy, (1992): 89, Figs. 67–71 (descr. male, female).

Type material: Type series with 4 ♂ and 4 ♀ from Israel/Palestine, Jerusalem (HECO B. 441).

Diagnosis: *Zodarion lutipes* is distinguished from the related *Z. nitidum* and *Z. luctuosum* by the distinct hook of the tibial apophysis and the long, arched embolus in the male, and by the strongly coiled spermathecae of the female.

Description:

See Levy 1992 and figures 184–185, 194–195.

Previous records:

ISRAEL/ PALESTINA

Jerusalem (type locality; O. P.-Cambridge 1872; Kulczyński 1911); along the Dead Sea (Kulczyński 1911); Coastal plain and along the sea of Galilee, southwards up to the northern Negev (Levy 1992); Emmaus (Kulczyński 1911); Jericho (Denis 1937).

LEBANON

Ein Arab (Levy 1992).

New material examined:

CYPRUS

Aghios Georgios, Cape Drepanum, 1 ♂, 18. IV. 1995 (CPS); Akrotiri Peninsula, 1 ♂, under *Salicornia* at edge of central salt pan, 27. IV. 2007 (CARS).

ISRAEL/ PALESTINA

Jericho, 4 ♂ 3 ♀ (KBIN).

'Palestina', 1 ♂, Brühl leg., 30. XII. 1911 (ZMB).

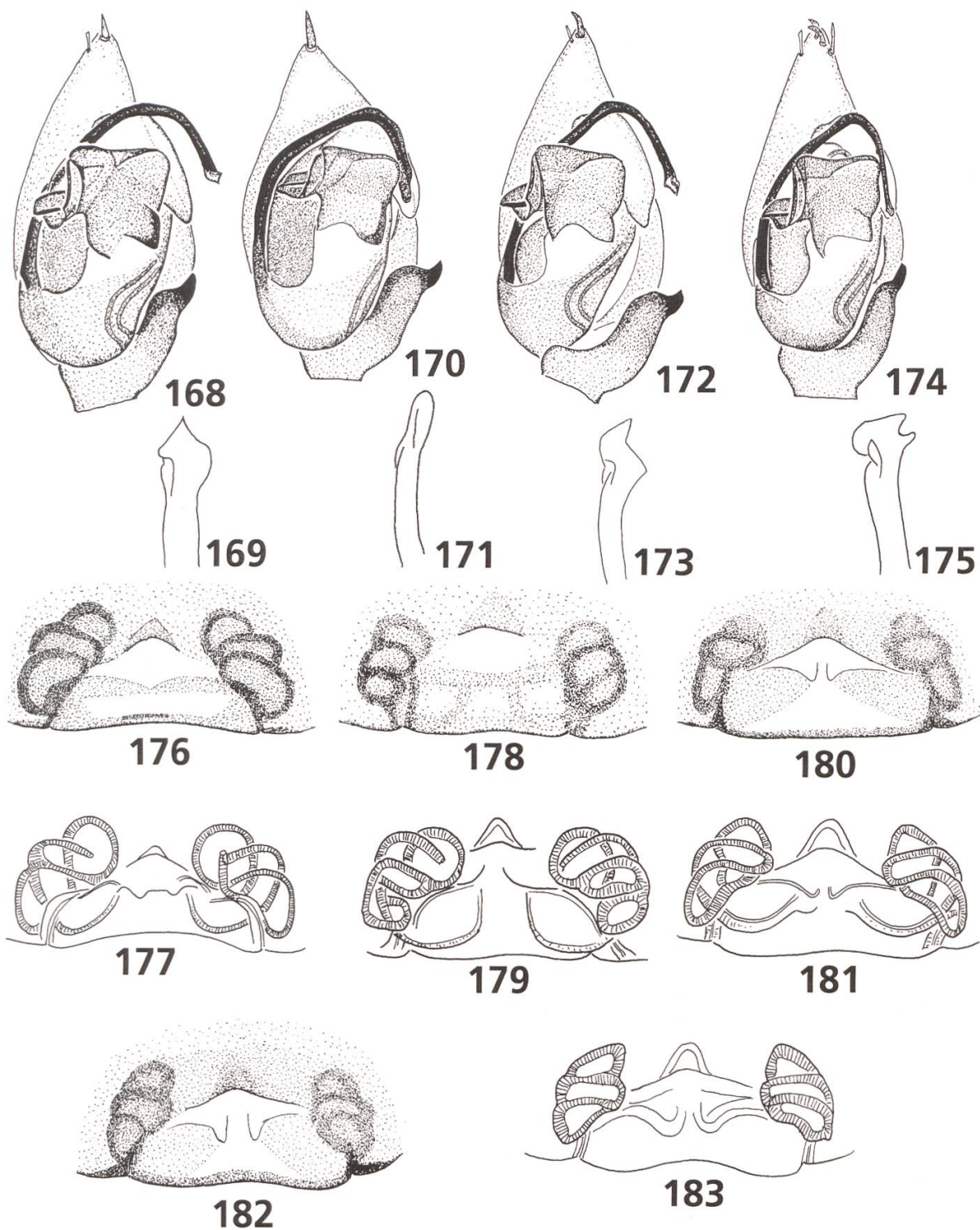
JORDAN

Ajlun: Zjlun E., 3 ♀, stones in *Pinus* forest, 19. XI. 2007 (CRB).

Al Karak: Shawbak castle, 3 ♂ 2 ♀, stones on slopes to the castle, 17. XI. 2007 (CRB).

At-Tafila: Dhana village, 1 ♂ 1 ♀, litter in flooded gardens, 17. XI. 2007 (CRB).

Distribution: Israel, Lebanon, probably Syria (Levy 1992). New to Cyprus and Jordan.



Figs. 168–183. – 168–169: *Zodarion thoni* NOSEK; – 168: Male palp, ventral view; – 169: Tip of embolus, ventral view; – 170–171: *Zodarion granulatum* KULCZYŃSKI; – 170: Male palp, ventral view; – 171: Tip of embolus, ventral view; – 172–173: *Zodarion nigrifemur* CAPORACCO; – 172: Male palp, ventral view; – 173: Tip of embolus, ventral view; – 174–175: *Zodarion reticulatum* KULCZYŃSKI; – 174: Male palp, ventral view; – 175: Tip of embolus, ventral view; – 176–177: *Zodarion thoni* NOSEK; – 176: Epigyne; – 177: Vulva; – 178–179: *Zodarion granulatum* KULCZYŃSKI; – 178: Epigyne; – 179: Vulva; – 180–181: *Zodarion nigrifemur* CAPORACCO; – 180: Epigyne; – 181: Vulva; – 182–183: *Zodarion reticulatum* KULCZYŃSKI; – 182: Epigyne; – 183: Vulva.

***Zodarion christae* sp. nov.** (Figs. 186–187, 196–197)

Type material: Holotype ♂, paratype ♀ from Greece, Rhodes, Archipolis, under stone, 12.X.1984, P. R. Deeleman leg.; deposited in RMNH.

Etymology: The species is dedicated to my most respected friend and colleague Christa Deeleman.

Diagnosis: Easily distinguished by the shape of the long tibial apophysis, and by the complicated spermathecae of the epigyne.

Remark: A female from Chios is much smaller than the females from Rhodes, and is here tentatively identified as *Z. christae*.

Description:

Measurements: Male: Total length 4.8–5.0; prosoma 2.24–2.56 long, 1.52–1.92 wide. Female: Total length 5.1–6.2; prosoma 2.60–2.82 long, 1.74–1.96 wide, female from Chios total length 3.3; prosoma 1.42 long, 1.06 wide.

Colour: Prosoma yellowish orange, suffused with grey; legs yellowish orange; abdomen dark sepia brown with very small oval posterodorsal spot, venter whitish.

Eyes: AM=1 (0.17); AL=0.65; PM=0.53; PL=0.59; a=0.59; b=0.24; c=1.76; d=0.36; MOQ: AW=0.82PW; L=0.82PW.

Abdomen: Without scutum or coriaceous region in males; 21 setae in front of spinnerets in males, 26 in females, set into two unequal rows, each seta 0.14 long.

Palp (Figs. 186–187): Tibial apophysis elongated, with basal boss, gradually narrowing, with subterminal and terminal blunt teeth; median apophysis with hooked distal part, terminally with a groove lodging the distal part of the embolus; embolus linear, semi-circular, originating from the retrolateral side of the tegulum.

Epigyne (Fig. 196): Posterior margin with semi-circular incision with large median hood.

Vulva (Fig. 197): Posteromedian incision is the entrance of a deep, oval pouch; spermathecae consisting of several, wide loops.

Further material examined:

GREECE

Dodekanisa: Rhodes: between Archipolis and Platania, 2 ♀, stones in dry *Pinus* forest, 20. V. 1996 (CRB, CJVK); Attaviros, Aghios Isidoros, 1 ♂, 10. IV. 1996 (CKT); NW Laerma, 3 ♂ 1 ♀, stones along river Xerivrissi, 21. V. 1996 (CRB); Lardos, 1 ♀, stones along *Pinus* forest, 10. V. 2006 (CJVK);

Profitis Ilias, 2 ♀, stones in dense *Pinus* and *Oxycedrus* forest, 20. V. 1996 (CRB, CJVK); Psinthos, 5 km. E., 1 ♀, 16. V. 1996 (CRB).

Eastern Aegean Islands: Chios: Nea Monia monastery, 1 ♀ in pine litter, 15. II. 1982, P.R. Deeleman leg.; Pelinaeon, 1 female, 9. V. 2006 (CMAS).

Distribution: Only known from the islands of Rhodes and Chios.

***Zodarion deltshevi* sp. nov.** (Figs. 188–189)

Type material: Holotype ♂ from Turkey, Antalya province, ancient Arikanda, Arif, 700 m, 10. V. 1981, B. Malkin leg.; deposited in AMNH.

Etymology: The species is dedicated to my good friend and Bulgarian colleague, Christo Deltshev.

Diagnosis : This species clearly belongs in the *lutipes* group and is closely related to the following species. For the diagnosis, see there.

Remark: The only specimen is completely damaged but the two male palps can readily be distinguished and recognized. As the diagnosis of male *Zodarion* species is mainly based on palpal structure, the species can be described as new.

Description:

No measurements and colour can be given (see remark).

Palp (Figs. 188–189): Tibial apophysis with broad base and pointed dorso-lateral tooth; median apophysis with wide basal part and slender, rectangular distal part; embolus linear, semi-circular, originating from the basal part of the tegulum.

Further material examined: None.

Distribution: Only known from the type locality.

***Zodarion samos* sp. nov.** (Figs. 190–191)

Type material: Holotype ♂, 1 paratype ♂ from Greece, Eastern Aegean Islands, Samos, Valeondates, litter in pine forest, 9. IV. 1983, P. R. and C. L. Deeleman leg.; deposited in RMNH.

Diagnosis: A species of the lutipes group with semi-circular embolus, and closely related to *Z. deltshevi*. Both species differ by the gradually narrowing tibial apophysis in *Z. samos*, with strong concavity in *Z. deltshevi*, and by the presence of a strong concavity at the base of the embolus, absent in *Z. deltshevi*.

Description:

Measurements: Male: Total length 3.0–3.3; prosoma 1.58–1.73 long, 1.16–1.22 wide.

Colour: Prosoma and legs orange brown; abdomen dark sepia brown, very small posteromedian spot and venter whitish.

Eyes: AM=1 (0.13); AL=PM=PL=0.56; a=0.28; b=d=0.32; c=1.43; MOQ: AW=0.91PW; L=0.88PW.

Abdomen: Male with dorsal scutum and with ventral row of 19–20 well-developed setae, each seta 0.10–0.11 long.

Palp (Figs. 190–191): Tibial apophysis with basal boss, rectangular, terminally bluntly rounded; cymbium with round sulcus; median apophysis with broad basal part and much smaller rectangular, terminally truncate distal part; embolus linear, originating from retrolateral side of tegulum, describing a semi-circle.

Female: Unknown.

Further material examined:

Eastern Aegean Islands: Chios: Kampia Gorge, 1 ♂, 10. V. 2006, B. Blumson leg. (personal communication A. Russel-Smith).

Distribution: Only known from the islands of Samos and Chios.

***Zodarium frenatum* SIMON, 1884** (Figs. 192–193, 198–199)

Zodarium frenatum; Simon (1884): 336; Bosmans (1997): 271; Deltshv (2004): 75; Lazarov (2005): 150; Lazarov (2007): 140.

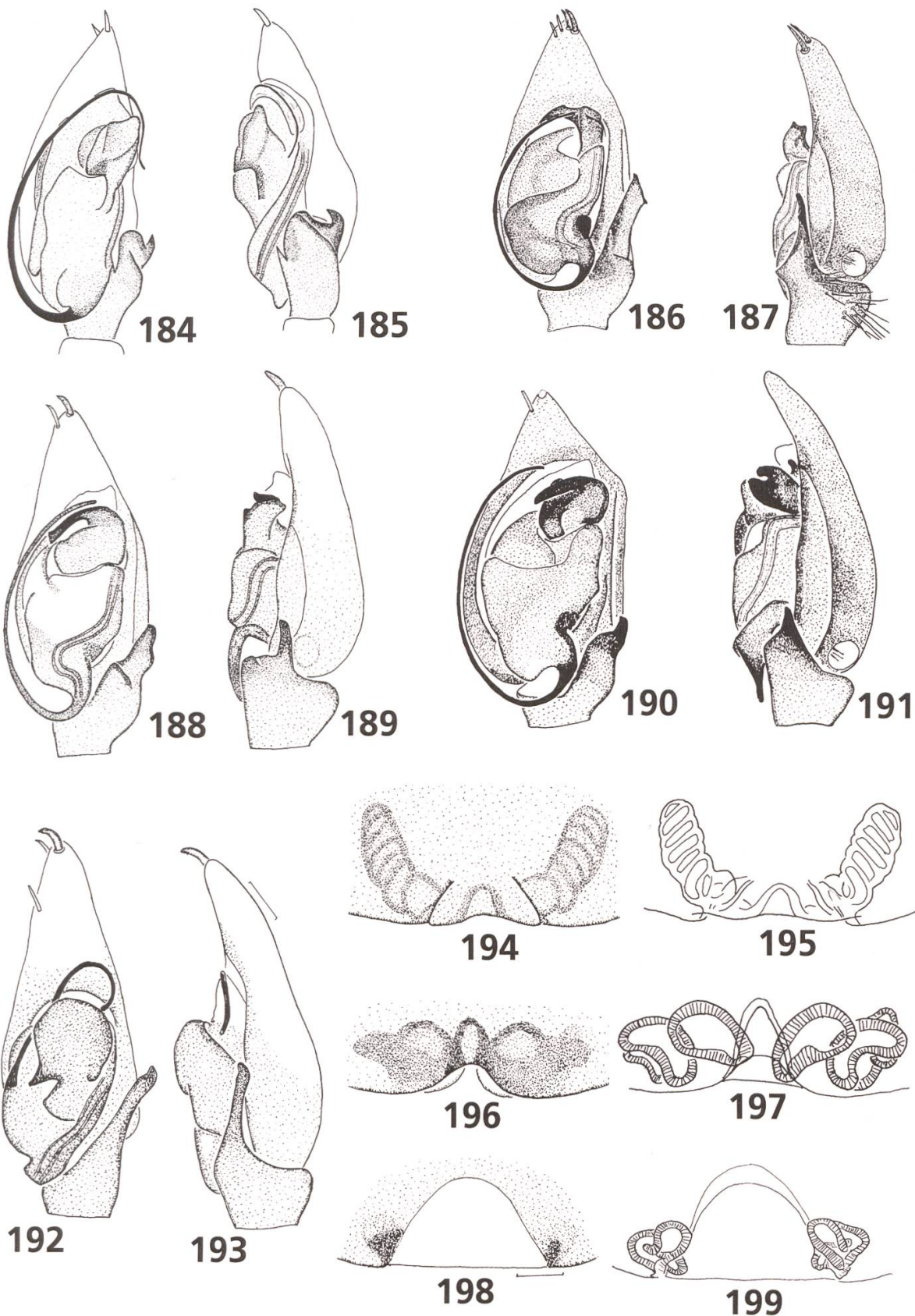
Zodarium ionicum BRIGNOLI, 1984; Brignoli (1984):314 (descr. female).

Description and Previous records:

See Bosmans (1997) and Figs. 188–165, 194–195. Since then also cited for the first time in Bulgaria (Blagoev & al. 2001; Deltshv 2004; Lazarov 2005, 2007).

New material examined:

GREECE



Figs. 184–199. – 184–185: *Zodarion lutipes* (O. P.–CAMBRIDGE); – 184: Male palp, ventral view; – 185: Idem, lateral view; – 186–187: *Zodarion christae* sp. nov.; – 186: Male palp, ventral view; – 187: Idem, lateral view; – 188–189: *Zodarion deltshevi* sp. nov.; – 188: Male palp, ventral view; – 189: Idem, lateral view; – 190–191: *Zodarion samos* sp. nov.; – 190: Male palp, ventral view; – 191: Idem, lateral view; – 192–193: *Zodarion frenatum* SIMON; – 192: Male palp, ventral view; – 193: Idem, lateral view; – 194–195: *Zodarion lutipes* (O. P.–CAMBRIDGE); – 194: Epigyne; – 195: Vulva; – 196–197: *Zodarion christae* sp. nov.; – 196: Epigyne; – 197: Vulva; – 198–199: *Zodarion frenatum* SIMON; – 198: Epigyne; – 199: Vulva.

Dodekanisa: Rhodes: Katavia N., 1 ♀, stones along road, 11. V. 2006 (CJVK).
Eastern Aegean Islands: Lesvos: Aghios Pavlos E., pitfall in *Juncus* marsh, 2 ♀, 11. X. 2007 (CRB); Lisvori Spa, litter and stones in garden, 1 ♀, 2. VI. 2008 (CRB).
Evvoia-Voroies Sporades: Evvoia: Katheni, 250 m, 1 ♀, litter in *Platanus* forest, 9. V. 2001 (CRB); Psachna E., 100 m, 2 ♀, stones around ruins, 10. V. 2001 (CJVK, CRB). Skopelos: between Elios and Platanakia, 1 ♂, stones in *Pinus* forest, 18. VII. 2005 (CRB).
Ionian Islands: Kerkyra: Kalamares, 1 ♀, 8. IV. 1983 (CJFM); Nidri, near waterfall, 2 ♀, 15. IX. 1997 (CKT). Kefalonia: Korission, 1 ♀, 8. IV. 1983 (CJFM).
Crete: Chania: Akrotiri, Kalathas, 1 ♀, 10. IV. 1981 (CJFM); Akrotiri, Moni Gouvernetou, 250 m, 1 ♀, stones in maquis, 9. IV. 1996, 1 ♀, 6. IV. 2002 (CJB, CMAL); Azogires, 1 ♀, 6. IV. 2002 (CJB); Georgioupoli, 1 ♀, pitfalls in *Phragmites* bordering Potamos Almiros, 6–18. V. 2001 (NHRS); Kathania, 9 ♀, pitfalls in olive grove, 3–11. IV. 2002 (CJVK). Irakleio: Kato Gournes, 1 ♀, pitfalls in Aposelemi marsh, 9–16. V. 2003 (CJVK). Rethimno: Anogia, 1 ♀, stones in olive grove, 15. V. 2003 (CJVK).
Makedonia: Pieria: Litorhorou Plaka, 1 ♀, 7. VI. 1997 (CRB).
Peloponnisos: Achaia: Oros Aroania, 1 ♀, 31. V. 1998 (CRB). Korinthia: Alepohori, 1 ♀, 1. VI. 1998 (CRB). Ileia: Simopoulo, 1 ♀, 30. V. 1998 (CRB).

Distribution: Southern Italy, Greece, Bulgaria, West Turkey.

Unclassified species

The material studied contains several females that cannot be attributed to any of the known species. In the absence of males, it is difficult to place them in any of the groups described above. Two of them have very typical epigynes and only these are described here as new. I leave the other females undescribed.

Zodarion jansseni sp. nov. (Figs. 162–163)

Type material: Holotype ♀ from Greece, Ipeiros, Sterea Elada, Paleros S., Moni Aghiou Dimitriou, 17. IV. 2000, M. Janssen leg.; deposited in KBIN.

Etymology: The species is dedicated to my friend and eminent specialist of Belgian spiders Mark Janssen, also collector of the type specimen.

Diagnosis: *Zodarion jansseni* is recognised by its small size, the yellowish-orange colour of the prosoma and the nearly square epigyne with elongated, parallel ducts.

Description:

Measurements: Female: Total length 2.0; prosoma 0.93 long, 0.63 wide.

Colour: Cephalic part of prosoma yellowish orange suffused with some brown, thoracic part yellowish; legs yellowish to yellowish orange; abdomen dark sepia, large posterodorsal spot and venter whitish.

Eyes: AM = 1 (0.07); AL=PM=PL=0.86; a=d=0.43; b=0.29; c=1.71; MOQ: AW=0.8PW; L=0.8PW.

Abdomen: Posteroventral row of spines poorly developed, only slightly longer than the normal hairs; no scutum.

Epigyne: (Fig. 162): Nearly square, with a pair of longitudinal ducts and small spermathecae visible in transparency.

Vulva (Fig. 163): Spermathecae small, separated by twice their diameter.

Further material examined: None.

Distribution: Only known from the type locality in Ipeiros.

***Zodarion killini* sp. nov.** (Figs. 164–165)

Type material: Holotype ♀, 2 ♀ 1 subadult ♂ paratypes from Greece, Peloponnisos, Korinthia, Oros Killini, Pheneos pass, 880 m, 19. IX. 1993, B. Knoflach leg.; deposited in NMBE.

Etymology: The name is a noun in apposition, derived from the type locality.

Diagnosis: The species is recognised by the trapezoid posteromedian plate.

Description:

Measurements: Female: Total length 2.5–2.6; prosoma 1.15–1.26 long, 0.82–0.97 wide.

Colour: Prosoma yellowish orange, eye region and fovea suffused with grey; legs yellowish to yellowish orange; abdomen dark sepia, large posterodorsal spot and venter whitish.

Eyes: AM = 1 (0.09); AL=PM=PL=0.67; a=0.44; b=0.22; c=1.78; d=0.55; MOQ: AW=0.73PW; L=0.83PW.

Abdomen: Ventrally with a row of 13 setae before spinnerets, each seta 0,08 long, not longer than normal pubescence.

Epigyne: (Fig. 164): With trapezoid posteromedian plate, with anterior median pouch, which is however not sclerotised and only visible in the cleared epigyne.

Vulva (Fig. 165): Spermathecae oval, separated by 1.5x their maximal diameter.

Male: unknown.

Further material examined: None.

Distribution: Only known from the type locality in the Greek Peloponnisos.

***Zodarion* sp.** (Figs. 166–167)

Material examined:

GREECE

Ipeiros: Ioanina: Metsovo E., Katara pass, 1600 m, 1 ♀, 18. IX. 1995, Knoflach & Thaler leg. (CKT); Konitsa, Aaos gorge, 550 m, 1 ♀, 9. IX. 1996, Knoflach & Thaler leg. (CKT).

Remark: The females described below are possibly the females of *Zodarion epiense*, as mentioned in the description of this species.

Description:

Measurements: Female: Total length 2.6–3.1; prosoma 1.06–1.42 long, 0.72–0.96 wide.

Colour: Prosoma with yellowish orange cephalic part, suffused with some brown, and yellowish thoracic part; legs yellowish to yellowish orange; abdomen dark sepia, large posterodorsal spot and venter whitish.

Eyes: AM = 1 (0.08); AL=0.63; PM=PL=0.5; a=0.5; b=d=0.25; c=2; MOQ: AW=0.78PW; L=0.83PW.

Abdomen: With a row of 13–14 setae before spinnerets, each seta 0.08 long.

Epigyne: (Fig. 166): With two oblique sutures and a posteromedian pouch visible in transparency.

Vulva (Fig. 167): Spermathecae separated by twice their diameter.

Acknowledgements

I am very much obliged to the following curators of collections, who most generously helped me with the loan of types and other material, some of them now already retired: Léon Baert (KBIN), Christo Deltshev (IZS), Manfred Grasshoff and Peter Jäger (SMF), Jürgen Gruber (NMW), Torbjörn Kronestedt (NHRS), Laura Leibensperger (MCZ), Volker Mahnert (MHNG), Manfred Moritz and Jason Dunlop (ZMB), Norman Platnick (AMNH), Christine Rollard (MNHNP) and Anna Stojewska (IZPAN). The following persons are thanked for allowing to examine specimens from their personal collections: Mark Alderweireldt, Jan Bosselaers, Christa Deeleman, Herman De Koninck, Giovanni Delmastro, Ward De Spiegelaere, Ioan Duma, Karl-Hermann Harms, Mark Janssen, John and Frances Murphy, Aart Noordam, Lore Provoost, Anthony Russell-Smith, Paul Selden, Soufia Sherif, Rowley Snazell, Konrad Thaler, Breght Vandenberghe, Johan Van Keer and Jörg Wunderlich. Special thanks are to Christo Deltshev, who kindly forwarded the material of a new species from Bulgaria to incorporate its description in this revision.

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