

***Zelominor* (Araneae, Gnaphosidae), a new genus of zelotine spider from the Western Mediterranean region**

R. Snazell

Furzebrook Research Station,
Wareham, Dorset BH20 5AS

and

J. A. Murphy

323 Hanworth Road, Hampton, Middlesex TW12 3EJ

Summary

A new genus, *Zelominor*, is established for three rather small, dark, zelotine species, ranging in length from 2.1–2.7 mm, collected in the Western Mediterranean region during the period 1982–1990. The type species, *Zelominor malagensis*, was collected at Maro, Prov. Malaga, Spain both in pine litter and in low garrigue. The second species, *Z. algarvensis*, was collected at Monte Gordo, Algarve, Portugal in eucalyptus litter, whilst the third species, *Z. algericus*, was collected at Zemmouri, Algeria amongst sand dunes. Reasons for establishing the new genus are discussed.

Introduction

On 8 April 1982, whilst on a spider-collecting visit to southern Portugal, the second author and his wife collected two small, dark spiders from bark litter, under a small clump of eucalyptus trees at the side of a country track near Monte Gordo. From their size, general appearance and movements, these spiders were assumed to be immature specimens of a *Zelotes* species. However, on examination they proved to be a mature male and female. From experience gained elsewhere, it was known that certain species of eucalyptus trees — those that produce stiff, curled flakes of bark which eventually fall to the ground — are much favoured by certain species of spider. Later, during the same trip, on 13 April, an area marked on the map as “Mata Nacional” was visited. This was not, as had been hoped, a remnant of natural forest, but a dense, commercial plantation of eucalyptus trees. Here, among the bark litter on the ground were found four more females which subsequently proved to belong to the same species. These spiders proved to be zelotines, i.e. gnaphosids which possess preening combs on metatarsi III and IV.

Some years later, whilst studying a small collection of gnaphosids taken in an area of dunes at Zemmouri, Algeria on 23 September 1983 by Dr Robert Bosmans, a further pair of small zelotines was found which proved to be closely related to but distinct from those from Portugal. This species has also been found in four other localities in Algeria during 1987–1990 (R. Bosmans, pers. comm.).

Specimens of a third congeneric species were found between 23 March and 11 April 1987. These were collected both in pine litter and in low garrigue near the coast at Maro, in the province of Malaga, Spain. The three species described here form a closely related group of zelotines with a number of distinctive characters

(especially in the female genitalia), which warrant the establishment of a new genus, *Zelominor*. All measurements are in mm. Abbreviation: AMNH = American Museum of Natural History, New York.

Genus *Zelominor*, new genus

Type species: Zelominor malagensis, new species.

Etymology: The generic name is derived from the well-known gnaphosid genus *Zelotes* and *minor*, Latin for smaller. The gender is masculine.

Diagnosis: Females are distinguished by their small size, the conformation of the vulva (Figs. 16, 18, 20), which appears to have an additional pair of seminal receptacles, and the epigyne (Figs. 15, 17, 19). Males are distinguished by their small size and the general conformation of the palp which appears to lack a median apophysis (Figs. 6–14). They can be distinguished from *Camillina* and *Drassyllus* by the lack of large, almost contiguous PM eyes in both sexes and the lack of a bifid terminal apophysis in the male palp (Platnick & Shadab, 1982a,b); from *Setaphis* by the lack of a coiled palpal embolus (Platnick & Murphy, 1996); from *Trachyzelotes* by the lack of stiff, anterior setae on the chelicerae (Platnick & Murphy, 1984); from *Urozelotes* by the lack of both a pointed terminal apophysis in the male palp and the elongate, triangular median plate of the epigyne (Platnick & Murphy, 1984), and from *Zelotes* by the lack of a pronounced intercalary sclerite in the male palp (Platnick & Shadab, 1983).

Description: Small spiders of total length 2.10–2.74. Males rather larger and darker than females. Carapace yellow-brown. PM eyes reduced, oval in shape. Chelicerae (Fig. 4) with three teeth in outer row, two in inner row. Leg formula IV, I, II, III, yellow-brown with tibiae, metatarsi and tarsi darker, especially on legs I and II. Preening comb present on metatarsi III, IV. Several long, curved trichobothria present on tibiae, metatarsi and tarsi I–IV. Abdomen yellow-brown with small antero-dorsal scutum in male. Palpal tibia with characteristic hooked apophysis; tibia and patella with patches of hairs.

Included species: The type species, and *Zelominor algarvensis*, new species and *Zelominor algericus*, new species.

Taxonomic position: The size and pattern of the eyes (Fig. 3) and the form of the spinnerets (Fig. 5) indicate that *Zelominor* is closely related to *Zelotes*. However, the shape of the retrolateral tibial apophysis and the stiff hairs on the palpal tibia and patella (Figs. 7, 8, 10, 11, 13, 14) are strongly reminiscent of *Drassyllus*.

Distribution: Known from Portugal, Spain and Algeria.

***Zelominor malagensis*, new species (Figs. 1–8, 15, 16)**

Type: Male holotype from pine litter, Maro, prov. Malaga, Spain, 23 March–11 April 1987 (leg. J. A. Murphy). Deposited in AMNH.

Etymology: The specific name is derived from the province of Malaga in which the type locality is situated.

Diagnosis: The female is distinguished by the shape of the epigynal plate and the median epigynal ducts (Figs. 15, 16). The male is distinguished from *Z. algarvensis* by the lack of a distal tegular apophysis (Fig. 7 cf. Fig. 10) and from *Z. algericus* by the lack of a blade-like process on the embolar projection in the palp (Fig. 7 cf. Fig. 13). There are also small differences in the shape of the tibial apophysis and arrangement of hairs on the palpal tibia (Figs. 6–8).

Male: Total length 2.70–2.74. Carapace (Fig. 1): length 1.04–1.05, width 0.75–0.78. Yellow-brown suffused with darker striae, with darker margin. Some fine hairs, mostly pointing towards mid-line. Few strong, erect hairs postero-laterally. Fovea short, red longitudinal line. Eyes: anterior row slightly recurved, posterior row straight. PMs oval, AMs dark. Ocular area 0.28 width of carapace. Clypeus width less than 0.5 diam. of AL eye. Chelicerae: with three small teeth in outer row and two smaller teeth in inner row. Sternum (Fig. 2): pale yellow-brown, with hairs sparse except round margin. Labium not fused to sternum. Legs: IV, I, II, III. Yellow-brown, with tibiae, metatarsi and proximal part of tarsi darkened, particularly on legs I and II. Claws with 4 teeth. All legs with several long, curved trichobothria dorsally on tibiae, metatarsi and tarsi. Spination rather variable even from side to side. Metatarsi III, IV with distal, ventral preening comb. Abdomen (Fig. 1): length 1.43–1.52. Mid-brown dorsally, pale yellow-brown ventrally, with small weak antero-dorsal scutum. Covered with fine adpressed

hairs. Some strong curved hairs antero-dorsally. Palp (Figs. 6–8): tibia with hooked retrolateral apophysis, dense patch of short hairs on ectal surface; patella with patch of longer hairs on ectal surface.

Female: Total length 2.30–2.70. Carapace: length 0.91–0.95, width 0.64–0.70. Pale yellow-brown with faint darker striae, otherwise as in male. Eyes, chelicerae and sternum as in male. Legs as in male but paler, with tibiae, metatarsi and proximal part of tarsi less heavily darkened. Abdomen: length 1.10–1.53, as in male but with no scutum, less dark in colour. Epigyne: as in Fig. 15. Vulva: as in Fig. 16.

Material examined: 1 ♂ 2 ♀ paratypes taken with holotype (deposited in AMNH). Also 2 ♀ from low garrigue and pine litter in same area, 30 March–10 April 1987 (leg. Murphy).

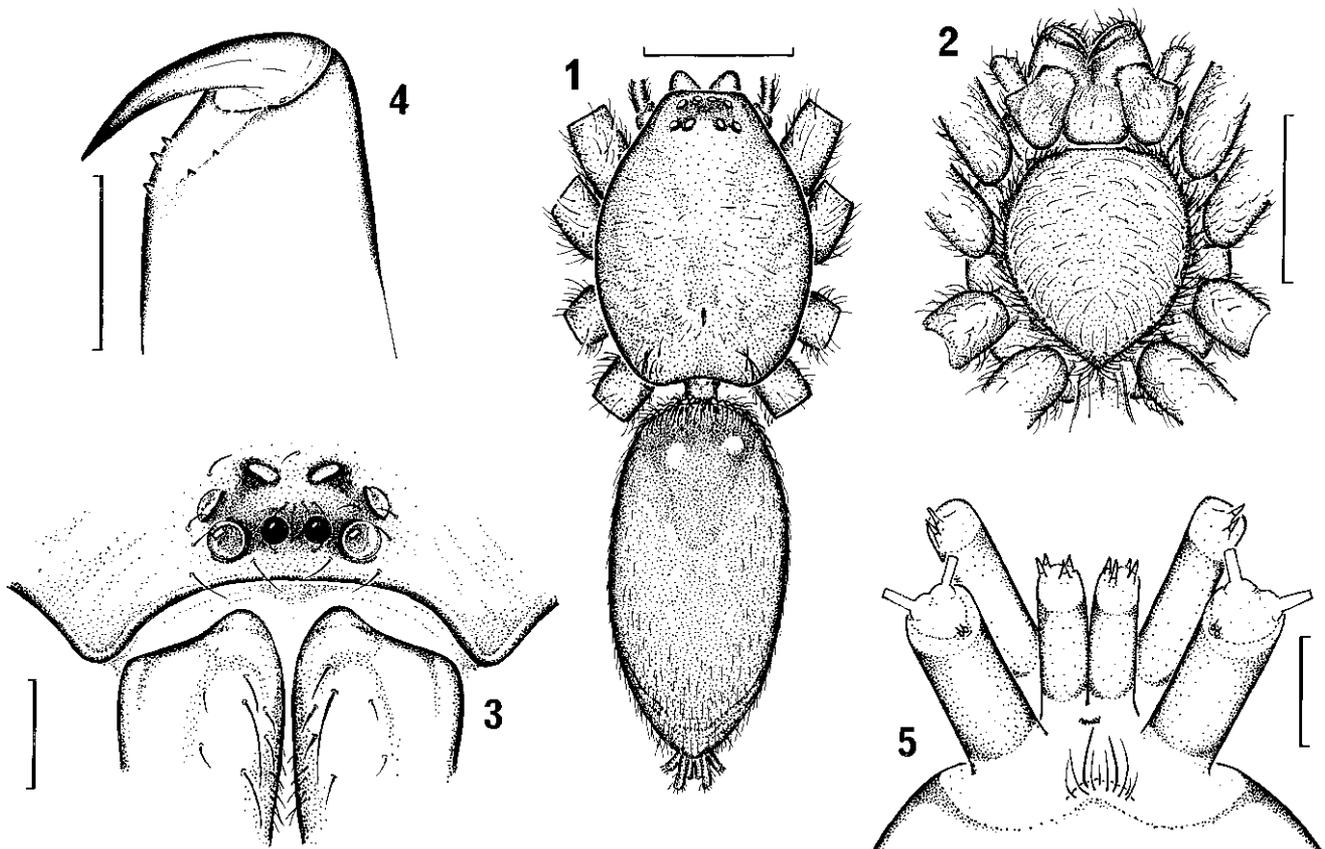
Distribution: Known only from the type locality.

Zelominor algarvensis, new species (Figs. 9–11, 17, 18)

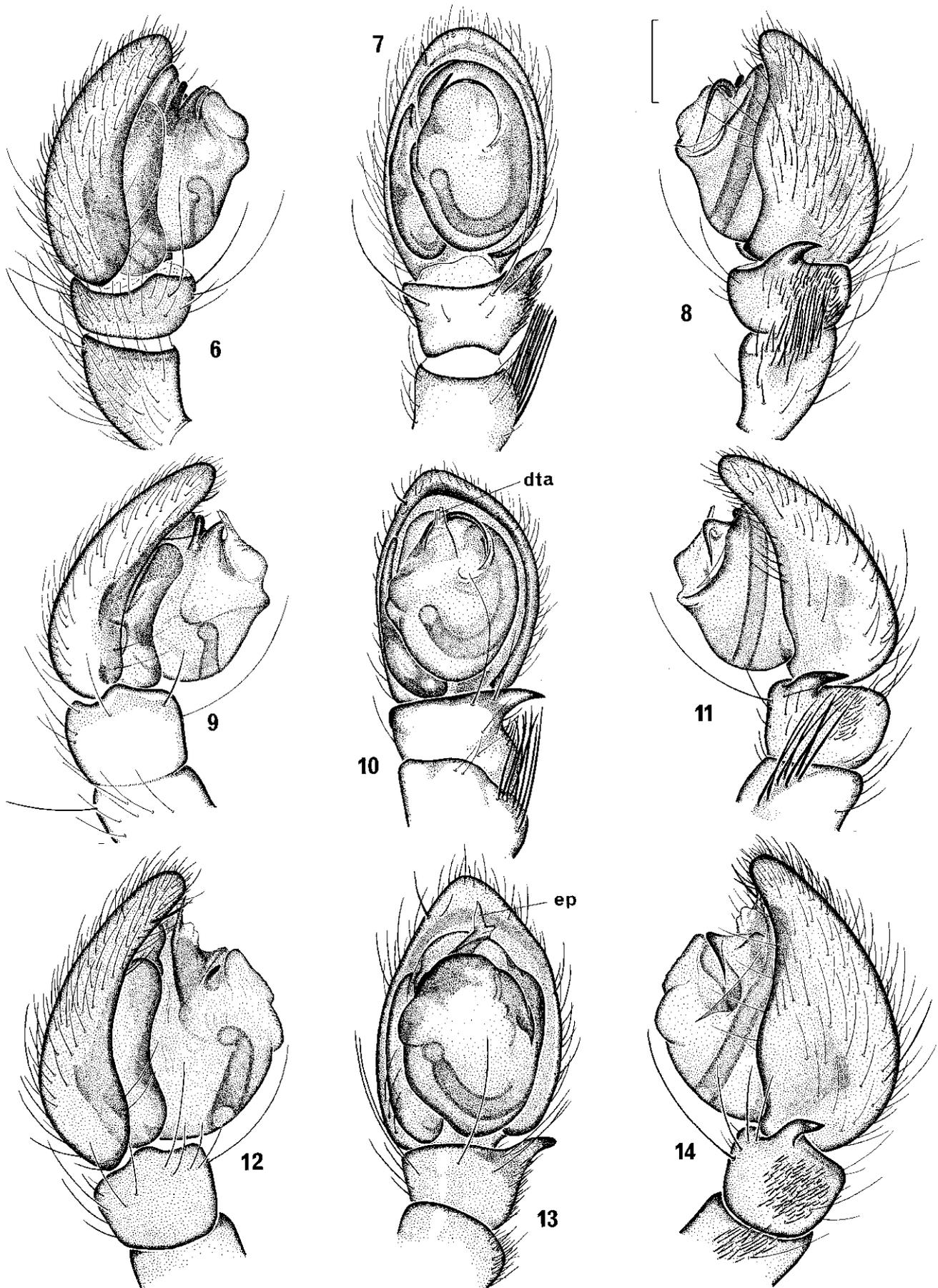
Type: Male holotype from eucalyptus litter, Monte Gordo, Fonie, Algarve, Portugal, 8 April 1982 (leg. J. A. Murphy). Deposited in AMNH.

Etymology: The specific name is derived from the type locality, the Algarve.

Diagnosis: The female is distinguished by the shape of the epigynal plate and the median epigynal ducts (Figs. 17, 18). The male is easily distinguished by the presence of a distal projection on the tegulum (Fig. 10). There are also small differences in the shape of the tibial



Figs. 1–5: *Zelominor malagensis*, n.sp. 1 Habitus of male, dorsal view; 2 Sternum; 3 Facies; 4 Left chelicera, posterior view; 5 Spinners, ventral view. Scale lines=0.5 mm (1, 2), 0.1 mm (3–5).



Figs. 6–8: *Zelominor malagensis*, n.sp. **6** Male palp, mesal; **7** Ditto, ventral; **8** Ditto, ectal.
 Figs. 9–11: *Zelominor algarvensis*, n.sp. **9** Male palp, mesal; **10** Ditto, ventral; **11** ditto, ectal.
 Figs. 12–14: *Zelominor algericus*, n.sp. **12** Male palp, mesal; **13** Ditto, ventral; **14** Ditto, ectal. Abbreviations: dta=distal tegular apophysis, ep=embolar projection. Scale line=0.1 mm.

apophysis and arrangement of hairs on the palpal tibia (Figs. 9–11).

Male: Total length 2.34. Carapace: length 1.00, width 0.72. Yellow-brown suffused with darker striae, with darker margin. Some sparse fine hairs, mostly pointing towards mid-line. Few strong, erect hairs postero-laterally. Fovea short, red longitudinal line. Eyes: anterior row slightly recurved, posterior row straight. PMs oval, AMs dark. Ocular area 0.26 width of carapace. Clypeus width less than 0.5 diam. of AL eye. Chelicerae: with three small teeth in outer row, two smaller teeth in inner row. Sternum: pale yellow, with some hairs round margin, particularly posteriorly; otherwise hairs extremely sparse. Labium not fused to sternum. Legs: IV, I, II, III. Yellow-brown, with tibiae, metatarsi and tarsi slightly darkened, particularly on legs I, II. Tarsi pale distally with pair of claws, each with 4 teeth. All legs with several long, curved, dorsal trichobothria on tibiae, metatarsi and tarsi. Spination variable even from side to side. Metatarsi III, IV with distal, ventral preening comb. Abdomen: length 1.2, yellow-brown with small, weak, antero-dorsal scutum. Covered with fine adpressed hairs, some longer, stronger hairs antero-dorsally. Palp (Figs. 9–11): with distal projection on tegulum, tibia with hooked retrolateral apophysis and small patch of short hairs ectally (finer than in *Z. malagensis*); patella with small patch of long hairs ectally.

Female: Total length 2.1–2.7. Carapace length 0.88–1.04, width 0.62–0.76. Coloration, hairs, fovea, eyes and chelicerae as in male. Sternum as in male, but with

rather more hairs. Legs as in male. Abdomen: length 1.2–1.6, similar to male, but with no scutum. Epigyne: as in Fig. 17. Vulva: as in Fig. 18.

Material examined: 1 ♀ paratype taken with holotype, and 4 ♀ paratypes from eucalyptus litter, Monte Gordo, Mata Nazionale, 13 April 1982 (all leg. Murphy, deposited in AMNH).

Distribution: Known only from the type locality.

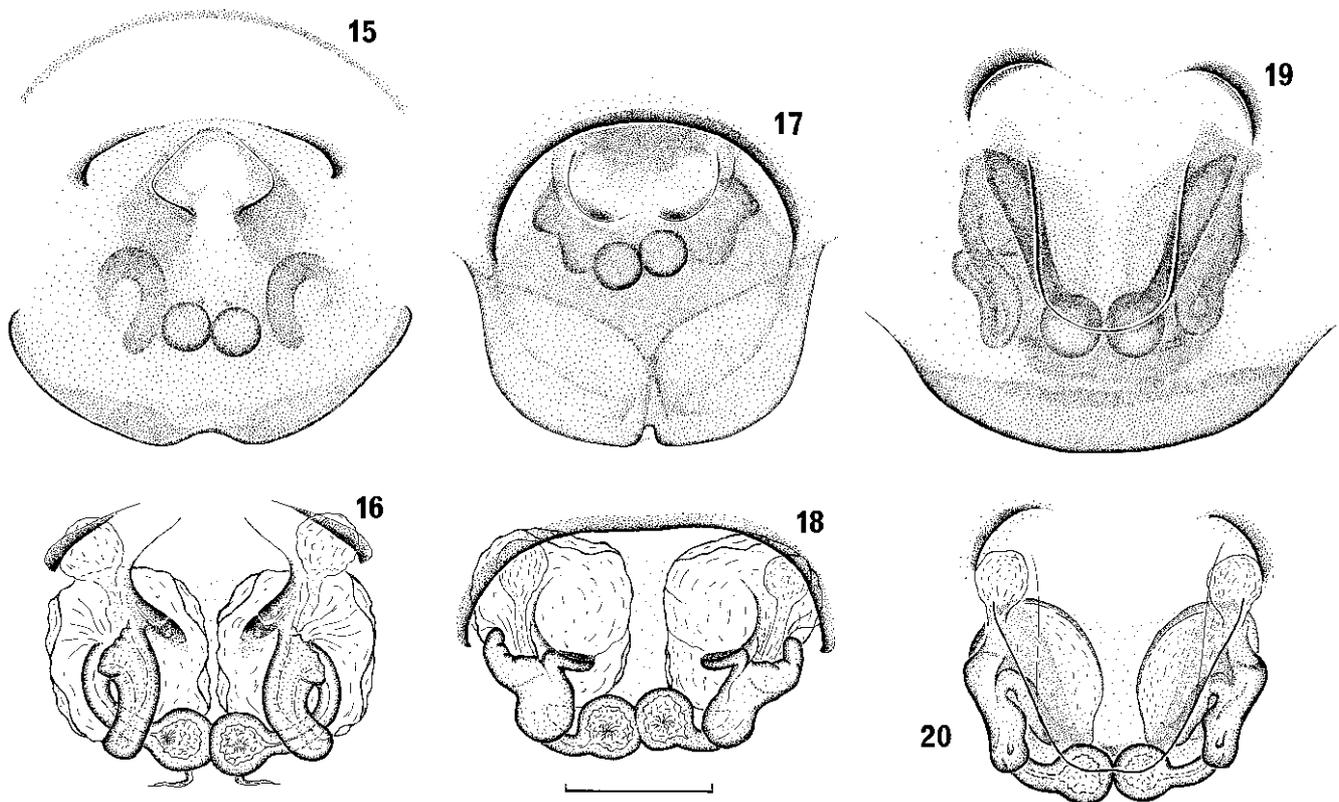
Zelominor algericus, new species (Figs. 12–14, 19, 20)

Type: Male holotype from sand dunes, Zemmouri, Wilaya Boumerdes, Algeria, 23 September 1983 (leg. R. Bosmans). Deposited in AMNH.

Etymology: The specific name is derived from the type locality, Algeria.

Diagnosis: The female is distinguished by the rather larger U-shaped epigynal plate and vulva (Figs. 19, 20). The male is distinguished by the presence on the embolar projection of a distally pointing blade-like process (Fig. 13). There are also small differences in the shape of the tibial apophysis and arrangement of hairs on the palpal tibia (Figs. 12–14).

Male: Total length 2.6. Carapace: length 1.0, width 0.8. Yellow-brown suffused with faint darker striae, with darker margin. Some fine hairs, mostly pointing towards mid-line. Few strong, erect hairs postero-laterally. Fovea short, red longitudinal line. Eyes: anterior row slightly recurved, posterior row straight. PMs oval, AMs dark. Ocular area 0.29 width of carapace. Clypeus width less than 0.5 diam. of AL eye. Chelicerae: with three



Figs. 15–16: *Zelominor malagensis*, n.sp. **15** Epigyne, ventral; **16** Vulva, ventral.

Figs. 17–18: *Zelominor algarvensis*, n.sp. **17** Epigyne, ventral; **18** Vulva, ventral.

Figs. 19–20: *Zelominor algericus*, n.sp. **19** Epigyne, ventral; **20** Vulva, ventral. Scale line=0.1 mm.

small teeth in outer row, two very small teeth in inner row. Sternum: pale yellow, with hairs round margin, elsewhere few fine hairs. Labium not fused to sternum. Legs: IV, I, II, III. Yellow-brown, with tibiae, metatarsi and proximal part of tarsi darkened. Tarsi pale distally, claws with 4 teeth. All legs with several long, curved, dorsal trichobothria on tibiae, metatarsi and tarsi. Spination rather variable. Metatarsi III, IV with distal ventral preening comb. Abdomen: length 1.5, yellow-brown with small, weak, antero-dorsal scutum. Covered with fine adpressed hairs, some longer, stronger hairs antero-dorsally. Palp: (Figs. 12–14): embolar projection with blade-like process distally; tibia with hooked retrolateral apophysis and patch of short hairs on ectal surface; patella with patch of short hairs on ectal surface.

Female: Total length 2.46. Carapace length 0.96, width 0.72. Coloration, hairs, fovea, eyes, chelicerae, sternum and legs as in male. Abdomen: length 1.25, similar to male, but lacking scutum. Epigyne: as in Fig. 19. Vulva: as in Fig. 20.

Material examined: 1 ♀ paratype taken with holotype (deposited in AMNH).

Distribution: Known from the type locality and four other localities in Algeria: Wilaya Blida, Atlas Blidéen, Chrea, 1200 m, 1 ♂ in pitfall trap in mixed *Cedrus* and *Quercus ilex* forest, 17 May 1987; Wilaya Tipasa, Zeralda, 1 ♀ in pitfall trap amongst maquis in dunes, 24 June 1988; Wilaya Tiaret, Frenda, M.F. Aïn Halouf, 1050 m, 1 ♀ in pitfall trap in degraded *Quercus ilex* forest, 22 June 1990; Wilaya Djelfa, Djelfa, Djebel Senalba, 1300 m, 1 ♀ in pitfall trap in *Pinus halepensis* forest, 1990–91 (all leg. R. Bosmans).

Discussion

The three species described here appear to form a discrete group of zelotines with a number of characters, especially in the female genitalia, sufficiently distinct from those of other zelotine genera to warrant establishing a new genus to accommodate them. Hitherto, six zelotine genera were recognised from Europe and the Mediterranean region, namely *Camillina*, *Drassyllus*, *Setaphis*, *Trachyzelotes*, *Urozelotes* and *Zelotes*. Of these, *Camillina* is mainly a tropical genus, but an undescribed species has recently been collected on Crete, whilst *Urozelotes* is synanthropic (Platnick & Murphy, 1984).

Zelominor lacks the following diagnostic characters: (i) the large and almost contiguous posterior median eyes, as well as the bifid terminal apophysis of the male palps, of both *Camillina* and *Drassyllus*; (ii) the coiled embolus of the male palp of *Setaphis*; (iii) the stiff, anterior setae on the chelicerae of *Trachyzelotes*; (iv) the pointed terminal apophysis of the male palp and the

elongate, triangular median plate of the epigyne of *Urozelotes*; (v) the pronounced intercalary sclerite of the male palp of *Zelotes*.

Of these genera, *Zelominor* appears to be closest to *Zelotes*. The sizes and arrangement of the eyes are nearest to those of *Zelotes*, but the carapace of *Zelominor* appears to be rather more elongated. The general shapes of the labium and maxillae also differ somewhat from the other six genera. Although the spinnerets are closest to *Zelotes* in relative size and shape, the various spigots and glands (Platnick, 1990) appear to be different from those of *Camillina*, *Drassyllus*, *Urozelotes* and *Zelotes* (and probably *Setaphis* and *Trachyzelotes* as well).

Although the shape of the retrolateral tibial apophysis combined with the stiff hairs on the palpal tibia and femur are strongly reminiscent of *Drassyllus*, the general conformation of the male palp of *Zelominor* differs from that of all the other six genera and in particular appears to lack the median apophysis which is clearly present in the others. There is a pointed, membranous structure present in all three species in which the tip of the embolus lies. This might be interpreted as a very reduced and modified median apophysis. If so it appears to have the function of a conductor. The female genitalia appear to have an additional pair of seminal receptacles, but these structures may have some glandular function. This feature distinguishes *Zelominor* from all the other six genera.

For the reasons discussed above we feel justified in establishing the new genus *Zelominor*.

Acknowledgements

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