BEITR. ARANEOL., 19 (2026) JOERG WUNDERLICH

FIVE PAPERS ON FOSSIL AND EXTANT SPIDERS (ARANEAE)

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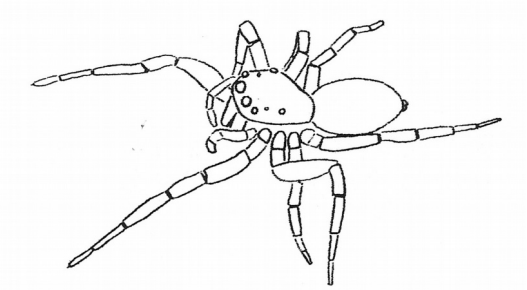
Photo on the front cover: Dorsal aspect of the beautiful, preserved male fossil spider, kept in 100 million year old Kachin (Burmese) amber from Myanmar, *Autotomiana patrickmuelleri* n. sp, body length 9 mm; see p. 79.

In this vol. 19 of the Beitraege zur Araneologie (Beitr. Araneol.) five papers by JOERG WUNDERLICH on extant and fossil spiders as well as some corrections are united.



Acknowledgement: I thank very much my dear wife Ruthild Schöneich as well as Andrew Ross for correcting parts of my manuscripts and furthermore Alexander Beigel for taking the photos except no. 6 which was taken by Jonas Damzen.

Material: Most of the present spider material is stored in the collection of Joerg Wunderlich (CJW) and will most probably be given to the Leibniz Institution Hamburg, Danilo Harms, Museum of Nature (Zoology) (the extant spiders) as well as Ulrich Kotthoff, Palaeontolgy of the University of Hamburg (the fossil spiders).

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SEXUALLY DIMORPHIC BATESIAN MIMICRY BY MALE SPIDERS OF THE GENUS *NERIENE* BLACKWALL (ARANEAE: LINYPHIIDAE) – A SHORT NOTE

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Abstract: A sexually dimorphic kind of “unisex” Batesian mimicry is reported in short from the male sex of some species of the genus *Neriene* BLACKWALL 1833 (Araneae: Linyphiidae).

In April 2026 I found a quite unusual male spider on the wall of our house in Campeiros in Portugal N Altura. It looked very much like a larger ant, its body length is about 4.5 mm, it is kept now in 75% alcohol in the coll. JW no. R386/CJW, later kept in the Museum of Nature (Danilo Harms) in Hamburg. The spider was identified as *Neriene furtiva* (O. PICKARD-CAMBRIDGE 1871). Its myrmecomorphy in alcohol (fig. 1, photo 1) – the long, slender and dark brown body and legs, the distinctly transversely inclined opisthosoma in the middle (*) - is less distinct recognizable than in a living and moving spider. I regard the spider as an example of Batesian mimicry.

(*) This pattern causes the illusion of a tree-partite body of an ant in such spiders in contrast to the two-partite body of a spider.

Batesian mimicry – defence against ant-averse predators – is well-known and not rare in myrmecomorphic spider species of various families including Linyphiidae, e. g., in *Cresmatoneta mutinensis* (CANESTRINI 1868). Myrmecomorphy concerns usually both sexes. I know “unisex” male myrmecomorphy also from Theridiidae, from certain species of *Asagena*, *Coleosoma* and *Neottiura*. From some species of the genus *Neriene* BLACKWALL 1833. I know such a special - “unisex” - kind of myrmecomorphy restricted to the male sex:

(1) If ant-mimicry in the genus *Neriene* - e. g., in *furtiva* - exists it exists in the male sex only (see above, fig. 1, photo 1); it is completely absent in the female sex (fig. 2). In the female sex the colour of body and legs is lighter than in the male sex, the legs are less slender and the opisthosoma is oval but not at all inclined (*).

(2) In most species of *Neriene* a male (and female) ant-mimicry is completely absent – such as in the six European species besides *furtiva* and in most Asian species known to me. In certain Asian species a distinct male mimicry exists, e. g., in *N. macella* and in *N. oidedicata* (**). In some further Asian species the same body shape exits in the male sex but it is more or less weakly developed.

(**) See the photos of the European *Neriene furtiva* on the internet: Les araignees de Belgique et de France as well as the photos of the Asian *N. macella* (THORELL 1898) and *N. oidedicata* HELSDINGEN 1969: LI et al. (2018: photos 44-46, 50f).

I consider the basically slender body and legs of members of *Neriene* to be important dispositions for the evolution of ant-myrmecomorphy in this genus.

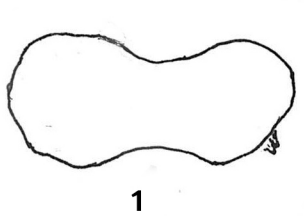
The existence of the present ant-mimicry in different species-groups of *Neriene* as well as in quite different regions indicate convergent developments.

Studies are needed to find out the behaviour of these myrmecomorphic spiders as well as the ant models of this mimicry.

Final note: Sexual dimorphism exists in various myrmecomorphic spider taxa, e. g., in numerous salticid taxa like *Myrmarachne,* in which the *male* chelicerae may be powerful elongated in contrast to the normal sized female chelicerae. In severally respects this kind of sexual dimorphism is quite different from the example described above: (1) the conspecific females are also distinctly myrmecomorphic and (2) only or mainly a single character, the chelicerae, are concerned. In such spiders the powerfull male chelicerae are used in courtship and agonistic behaviour

Reference

LI, J. Y. , LIU, J. & CHEN, J. (2018): A review of some *Neriene* spiders (Araneae, Linyphiidae) from China. -- Zootaxa, 4513 (1): 1-90.



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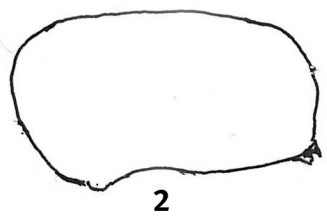

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Figs. 1-2: *Neriene furtiva* (O. PICKARD-CAMBRIDGE 1871), lateral aspect of the opisthosoma, outline; 1) present ♂ from Portugal, body length 2.7 mm; 2) ♀, body length 3 mm.

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FURTHER NEW AND RARE SPIDERS (ARANEAE) FROM THE ALGARVE, PORTUGAL

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Abstract: Agelenidae: *Enoplognatha minuscula* WUNDERLICH 2023 is regarded as a junior synonym of *Enoplognatha mandibularis* (LUCAS 1846) **n. syn**. (Theridiidae), the relationships of *Lycosoides* LUCAS 1846 and *Lycosoides coarctata* (DUFOUR 1831) (Agelenidae) are discussed. Specimens treated under *coarctata* by various authors may be a cluster of species of *Lycosoides*, probably including undescribed species but *L. coarctata* (DUFOUR 1831) in the sense of BOSMANS et al. (2022) is a well established name. The following taxa are described: Filistatidae: *Pritha serrata* **n. sp.**; Oonopidae: *Oonops furcatus* **n. sp***., Oonops gibber* **n. sp**.; Linyphiidae: *Centromerus paracinctus* **n. sp**., *Neriene myrmecomorpha* **n. sp**.; Lycosidae: *Arctosa personata* (L. KOCH 1872); Zodariidae: *Zodarion campeirosense* **n. sp**.; Gnaphosidae (The genus *Zelotes* is regarded in a wide sense): *Zelotes nonscutatus* **n. sp.**, *Zelotes novus* **n**. **sp.** and *Zelotes (Marinarozelotes) stridulans* **n. sp.** In the male sex of this species a ventral opisthosomal field of club-shaped stridulatory spines is reported. *Zelotes latapophysis* WUNDERLICH 2024 = *Z. ibericum* SENGLET 2012 (**n. syn**.), Liocranidae: The male of *Apostenus crespoi* LISSNER 2017 is described for the first time; a simple key to the most frequent liocranid European genera is provided. - Furthermore members of the following families are treated in short: Haloproctonidae, Linyphiidae, Gnaphosidae, Theridiidae and Thomisidae. *Cheiraignotum macedonicum* (DRENSKY 1921) (Cheiracanthiidae) is reported as new to the fauna of Portugal and of the Iberian Peninsula.

Key words: Agelenidae, Dysderidae, Gnaphosidae, Haloprocteidae, Linyphiidae, Lycosidae, Cheiracanthiidae, Liocranidae, Oonopidae, Scytodidae, Theridiidae, Zodariidae.

A part of the **material** of my private collection (CJW) will be given to the Museum of Nature (Danilo Harms) in Hamburg.

Family HALOPROCTONIDAE

Ummidia algarve DECAE 2010

Material: SE-Portugal, ca. 13 km NE of Altura and 5 km E of Campeiros, pit fall in a stony area, in the slope at the margin of a small road below young pines, 1♂ JW leg. in the first half of XII 2025, CJW.

The body length of the male is 14 mm.

Note: Usually the genus *Ummidia* was previously listed under Ctenizidae.- *U*. *algarve* from Portugal is related to *U. picea* THORELL 1875 from Spain; both species are Iberian endemics.

Distribution: S-Portugal.

Family FILISTATIDAE

Pritha LEHTINEN 1967

In the small members of the cribellate genus *Pritha* of the ancient Family Filistatidae the cribellum consists of three rows of hairs and the cymbium is strongly reduced. Like in other “primitive” families males live for a short time only in contrast to long-living females. The web-building spiders live mainly in tropical and subtropical regions and occur, e. g. in cracks and gaps of rocks or of bark of trees. In the Algarve I collected a single male in a trap in an open, dry and hot environment.
The determination of most species is quite difficult and even experienced experts failed; see LEGITTIMO et al. (2017).

Two species of *Pritha* are reported from the Iberian Peninsula: *nana* SIMON 1868) and *pallida* (KULCTYNSKI 1892); here I add *P. serrata* n. sp. from Portugal.

***Pritha serrata* n. sp.** (figs. 1-3), photo 2.

Etymology: The name of the species refers to the dorsally-distally serrated (saw-edged) lamella, from serratus (lat,).

Material: Portugal: E-Algarve, 1 km S of the village Campeiros, ca. 11 km N Altura, pit fall in an open stony area within low plants and bushes like different species of Liliaceae; holotype ♂ JW leg. in V/VI 2026, R384/CJW. Arachnid taxa in the pit falls of the same locality are, e. g., *Alopecosa* sp. (Lycosidae), *Zodarion campairosensis* n. sp. (Zodariidae) and *Xysticus nubilus* (Thomisidae) as well as few Solifugae.

Diagnostic characters (♂, ♀ unknown): Pedipalpus (figs. 2-3): Tibia stout, only two times longer than wide, embolus bent downwards distally and bearing a serrated (saw-edged) dorsal lamella; bristles of leg I: See fig. 1, colour of body and legs mainly dark brown, body length 1.7 mm; tiniest European species of *Pritha* besides *parva*.
Note: Especially the embolus needs a study by SEM.

Description (♂):
Measurements (in mm): Body length 1.7: prosoma: Length 0.8, width 0.6; opisthosoma: Length 1.0, width 0.65; leg I: Femur 0.65 patella 0.3, tibia 0.7, metatarsus 0.5, tarsus 0.45, tibia II 0.5, tibia III 0.3, tibia IV 0.6; pedipalpal tibia: Length 0.32, height 0.17.
Colour (photo) of body and legs mainly dark brown, clypeus with a light patch, sternum light brown, spinnerets yellowish, opisthosoma ventrally grey, dorsally dark brown, anteriorly of the middle with a larger patch of white hairs, in the posterior half bearing three pairs of patches of white hairs, sternum, coxae, trochanters, patellae, tarsi and metatarsi light brown to yellowish.
Prosoma oval, most hairs rubbed off, existing around the eye field, thoracic fissure quite small, 8 eyes on a small field which is weakly elevated, posterior row procurved, anterior median eyes smallest, anterior lateral eyes largest, posterior median transverse spaced by almost two times of their diameters, basal cheliceral articles small, fangs very small, no visible sternal sigillae. - Legs fairly robust, order I/IV/II/III, partly covered with very long (up to almost bristle-shaped) hairs, bristles numerous, leg I (fig. 1) only on the femur distally, and on the tibia two lateral pairs and ventrally a pair in the basal half as well as a single one in the distal half. - Opisthosoma oval, no visible sigillae. - Pedipalpus: See the diagnostic characters.

Relationships: In the also small male of *P. vestita* (SIMON 1873) from Corsica and in the tiny *P. parva* LEGITTIMO et al. (Italy, Switzerland and France) the tibia of the pedipalpus is more slender and the embolus is less bent downwards distally, the dorsal-distal membrane of the embolus is apparently not serrated and the position of the ejaculatory duct is different, see LEGITTIMO et al. (2017).

Relationships: Portugal, E-Algarve.

Family **OONOPIDAE**

Members of these small and usually pale spiders are easily overlooked; surly these species are more frequent and diverse in Europe than known today. Here I describe two new species of the genus *Oonops* TEMPLETON 1835, caught by me in traps north of Altura, Portugal. The ecological preferences of these species are quite different, see below.

***Oonops furcatus* n. sp.** (fig. 4)

Etymology: The name of the species refers to its fork-shaped male copulatory organ, from furca (lat.) = fork.

Material: Portugal, E-Algarve, ca.14 km N of Altura; (1) E border of the Lake Beliche, near the houses of Terra Mada, ancient remains/relic of a – now - light Pine forest with few remains of *Orchis* sp. (Orchidaceae) and *Arbutus unedo* (Ericaceae) as well as a female of *Orchestina* sp. indet. Oonopidae) and a male of *Microctenony subitaneus* (O. PICKARD-CAMBRIDGE 1875 (Linyphiidae), pit fall; holotype ♂ JW leg. in IV 2026, R373/CJW; (2) ca. 3 km E Campeiros, stony biotope in a *Pine* forest, pit fall, ♂ parapype JW leg. in V 2026 (1 right leg is lost, 1 right leg is loose), R379/CJW.

Diagnostic characters (♂, ♀ unknown): Pedipalpus (fig. 4): Embolus consisting of a longer tube-shaped bent basal part as well as a hair-shaped distal part besides a spaced longer and pointed conductor; hair-shaped distal part of the embolus not very long.

Description (♂):
Measurements (in mm): Body length 1.3: prosoma: Length 0.65, width 0.5; opisthosoma: Length 0.75, width 0.6; leg I: Femur 0.6, patella 0.22, tibia 0.6, metatarsus 0.45, tarsus 0.25; tibia IV 0.65.
Colour pale yellowish.
Prosoma (fig**.** 4) and legs quite similar to *O. pulcher* TEMPLETON 1835, dorsally bearing few long hairs, thoracic part strongly raised, cephalic part narrowish, thoracic fissure absent, 6 large eyes in a narrow group, posterior row strongly recurved, anterior median eyes smallest, posterior median eyes almost touching, basal cheliceral articles slender, sternum spacing coxae IV by more than their diameter. - Legs robust and bearing long hairs, bristles long, thin, partly rubbed off, number on the articles apparently variable: Femora dorsally 1 or 1/1, patellae none, tibia I ventrally 4 pairs, metatarsus I ventrally 2 pairs, tibia IV with several bristles; position of the metatarsal trichobothrium I-IV near the end of the article. - Opisthosoma oval, hairs short. - Pedipalpus see above; the articles are robust, bulbus higher than long (not shown in fig. 4.).

Relationships: In the strongly related *O. pulcher* TEMPLETON 1835 and *O. tubulatus* DALMAS 1916 chaetotaxy and shape of the embolus are similar but the basal part of their embolus is shorter and the conductor is smaller, its position quite close to the embolus in its full length.

Distribution: Portugal, E-Algarve.

***Oonops gibber* n. sp**. (figs. 5-9)

Etymology: The name of the species refers to the dorsal hump (hillock) of the prosoma which is quite similar in related species.

Material: Portugal, E-Algarve, ca. 3 km E of Campeiros and 12 km NE Altura, open and stony slope,pit falls, JW leg. in III 2026; holotype ♂ R369/CJW; 2♂2♀ paratypes R370/CJW. - Notes: The voluminous opisthosoma of one of the females indicates the existence of several well developed eggs. The left pedipalpus of the holotypus is kept separately in a small tube. In contrast to the right pedipalpus two scinny appendices exist on the left pedipalpus.

Diagnostic characters: ♂-pedipalpus (figs. 5-7): Embolus thin, distinctly bent, bearing dorsally-basally a large flat/leaf-shaped outgrowth. ♀: Genital field (fig. 9): A small and almost circular dark pit far in front of the epigastral furrow, inclined anteriorly.

Description:
Measurements (♂/♀ in mm): Body length (ca. 1.25 /ca. 1.5; prosoma: Length ca. 0.55./0.55 opisthosoma: Length 0.6/ 0.6-1.0, width .0.6/ >0.6; leg I ♂: Femur 0.43, patella 0.18, tibia 0.42, metatarsus 0.38, tarsus 0.2; tibia IV 0.43; ♀: Tibia I 0.5, tibia IV 0.6.
Colour: Prosoma and legs usually yellow, prosoma of the holotype a bit orange, opisthosoma light grey.
Prosoma (fig. 8) and legs quite similar to *O. pulcher* TEMPLETON 1835, dorsally strongly raised, bearing few long hairs, cephalic part narrowish, thoracic fissure absent, 6 large eyes in a narrow group, posterior row strongly recurved, anterior median eyes smallest, posterior median eyes almost touching, basal cheliceral articles slender, sternum spacing coxae IV by more than their diameter. - ♀-pedipalpus with long and slender articles. - Legs robust, fairly long and slender, bearing distinct hairs and few bristles (several bristles are apparently rubbed off): Femora dorsally 1 or 1/1 and prolaterally 1 or 1/1, tibia I 4 ventral pairs, metatarsus I 2 ventral pairs. Position of the metatarsal trichobothrium I-IV near the end of the article. - Opisthosoma oval, hairs short.- Copulatory organs: See the diagnostic characters and the material. The bulbus is longer than high.

Relationships: In the widely distributed *O. pulcher* TEMPLETON 1835 a leaf-shaped outgrowth of the basal part of the embolus is absent, in *O. pulcher* and *O. pulcher hispanicus* DALMAS 1916 (Spain, ♂ of *hispanicus* unknown) the female genital field is different.

Distribution: Portugal, E-Algarve.

Family DYSDERIDAE

***Harpactea spacus* n. sp.** (figs. 10-15)

Etymology: The name of the species refers to shape and position of the split sclerites of the left bulbus, from spacus (lat.) = split, spagat.

Material: Portugal, E-Algarve, ca. 12 km N of Altura and 3 km E of Campeiros, in an open, stony and dry biotope, pit falls 2♂1♀ JW leg. in IV 2026; holotype ♂ R372/CJW, 1♂1♀ paratypes R376/CJW. - Notes: The right leg I of the holotype is lost beyond the coxa by autotomy, the right pedipalpus is expanded in contrast to the left pedipalpus which is cut off and kept separately. The vulva of the paratype is kept separately in a small tube and is probably hidden in a lump of oil.

Diagnostic characters: ♂-pedipalpus (figs. 10-13): Conductor shorter than embolus and bent, its base is near the base of the embolus which is strongly bent at its end, modified and bearing a small tooth. Anterior margin of the fang furrow with a row of 7-10 tiny teeth, posterior margin with 2-4 larger teeth. ♀-genital field and vulva (figs. 14-15) with a stronly sclerotized and wide posterior margin and a longitudinal medial sclerite.

Description:
Measurements (in mm): Body length ♂/♀ 4.0/4.2; prosoma: Length ♂/♀ 1.7/1.85, width ♂/♀ 1.3; ♂: opisthosoma: Length 2.7, width 1.05; leg I: Femur 1.3, patella 0.8, tibia 1.25, metatarsus 0.95, tarsus 0.4; tibia II 1.2, tibia III 0.75, tibia IV 1.2; pedipalpus: Femur 0.9, patella 0.53, tibia 0.35, cymbium 0.55, bulbus 0.65; ♀: Tibia I 1.1, tibia IV 1.2.
Colour:Prosoma medium brown, legs light yellow brown, opisthosoma light grey.
Prosoma distinctly narrowed anteriorly, cuticula finely wrinkled, fovea fairly long, 6 eyes of medium size in a narrow group, anterior eyes largest, posterior row strongly procurved, posterior median eyes close together, basal cheliceral articles, fangs, labium and gnathocoxae long and slender, teeth of the fang furrow see above, sternum spacing coxae IV by half of their diameter. - Legs fairly long and slender, order IV/I/II/III, hairs short and indistinct, 3 tarsal claws, claw tufts and scopulae absent, bristles rather short; leg I: Femur 1 prolaterally in the distal half, apicals absent, remaining articles none, III-IV with numerous bristles, femur IV only 0-1 dorsally in the basal half; further bristles may be rubbed off; metatarsus III with ventral preening hairs in the distal third, all metatarsi bear a trichobothrium, position in ca. 0.85. - Opisthosoma long oval, hairs short and thin. - ♂-pedipalpus: See above, bulbus oval. - ♀-genital field and vulva: See above.

Relationships: In the most related *H. fontetareja* WUNDERLICH 2024 (Algarve, too) embolus and conductor are similar but their bases are widely spaced and the embolus is not modified.

Distribution: Portugal, E-Algarve.

Family SCYTODIDAE

Scytodes fusca WALCKENAER 1837 (fig. 16)

Material: Portugal: Algarve: Ca 1 km S of the houses of the village Campeiros, ca. 11 km N Altura, open, stony slope, pit fall, 1♀ JW leg. in V 2026 together with Solifugae, R380/CJW.

The colour of the prosoma of the spider is medium to light brown, slightly violet, with a pair of indistinct dark longitudinal bands, the legs are light brown, tibia and metatarsi are distinctly annulated, the opisthosoma is dorsally light to medium brown with some dark patches and bands; the epigynal pits (fig. 16) are not widely spaced from each other.

Scytodes fusca is mainly reported from the tropics as well as from warm houses. Free living spiders are known from the Northern Mediterranean, the southernmost part of the Iberian Peninsula: The East Algarve, Monte Gordo (MURPHY leg., see SESTAKOVA et all. (2014: 5/6)). The presence of free-living specimens of this species outside the tropics – and outside the subtropics - is a surprise for me.

Distribution: Widely spread mainly in the tropics, see the WSC, type locality in South America (French Guiana), introduced in warm houses in numerous countries like Germany, free-living also in the northern Mediterranean: Portugal: E-Algarve: Campeiros N of Altura (see above) and Monte Gordo.

Family THERIDIIDAE

Enoplognatha mandibularis (LUCAS 1846) (= *Enoplognatha minuscula* WUNDERLICH 2023 (**n. syn**.) (figs. 17-19)

Material: Portugal, E-Algarve, 11 km N of Altura, around Campeiros, below stones, ♂♀ JW leg. in 2026, CJW; 3♂ R361/CJW.

Based on new material, collected below stones, I recognized the new synonymy; the structures of the bulbus of both are identical. Usually specimens of *mandibularis* are found below stones but the two subadult males of the type material of *minuscula* were collected in higher strata of the vegetation. The ecological and morphological variability of *mandibularis* is higher than recognized earlier by me: The legs may be not annulated up to distinctly annulated, I found the pedipalpal tibia about as long as the cymbium in freshly moulted males but twice as long as the cymbium in other males of the same population. Size, shape and position of the cheliceral teeth are very variable (besides malformations of the type material!): the base of the posterior medial cheliceral tooth may be strongly or only weakly thickened, both teeth may be smaller or larger (apparently connected with allometric growth), and – probably most important – the distance of these two large teeth from each other may be only quite low, see WUNDERLICH (2023: 89, fig. 39, the holotype of *minuscula,* probably a malformation?) or smaller than the length of the lateral (distal) tooth (fig. 17) or even larger than the length of the lateral tooth (fig. 18); the latter is apparently the most frequent modification. According to its light colour of body and legs I regard one of three males (R361/CJW), collected in Campeiros in I 2026, body length 2 mm, as freshly moulted; in both chelicerae its two large teeth are touching (fig. 19). It seems to me that the position of these teeth is depending on the time after moulting, at first they are close together.

Family LINYPHIIDAE

***Centromerus paracinctus* n. sp.** (figs. 20-24)

Etymology: The species name points to the related species *C. cinctus* SIMON 1884; para- (gr.) = besides.

Material: Portugal, SE-Algarve, ca. 11 km NNE of Altura and 5 km E of Campeiros, below a stone and a bush, holotype ♂ JW leg. in II 2026, R365/CJW; the left pedipalpus is kept separately.

Diagnostic characters (♂, ♀ unknown): Pedipalpus (figs. 20-24): The quite long and well developed dorsal bristles of patella and tibia are about equal in size, cymbium prodorsally basally with a straight and fairly slender outgrowth, paracymbium large, simple, bearing numerous hairs, anterior branch entire, ventral margin not folded, bearing numerous tiny teeth, dorsal margin more strongly sclerotized, lamella characteristica toothed, with a long distal branch. Body length 2.1 mm.

Description (♂):
Measurements (in mm): Body length 2.1; prosoma: Length 1.0, width 0.8; opisthosoma: Length 1.1, width 0.9; leg I: Femur1.0, patella 0.3, tibia 0.95, metatarsus 0.85, tarsus 0.5; tibia II 0.9, tibia III 0.72, tibia IV 1.1.
Colour: Prosoma and legs light to medium brown, prosomal margin black, legs not annulated, opisthosoma uniformly dark grey.
Prosoma: Cephalic part weakly elevated, hairs short, fovea of medium size, 8 large eyes, posterior row very slightly procurved, lenses of the posterior median eyes spaced by ca. their diameter, basal cheliceral articles robust, lateral files existing, fangs of medium size, posterior margin of the fang furrow bearing a single tiny tooth, anterior margin with 3 large teeth, sternum about wide as long, quite narrow posteriorly. - Legs robust, hairs short, bristles long, femora I-II bear 1 dorsal bristle, I additionally a prolateral one, sequence of the dorsal tibial bristles 2/2/2/1, I bears additionally a prodorsal bristle in the distal half, metatarsi I-II bear a dorsal bristle in the distal half, position of the metatarsal trichobothrium in ca. 0.2. - Opisthosoma oval, hairs fairly short. - Pedipalpus: See the diagnostic characters; patella and tibia ca. as long as high.

Relationships: A member of the *C. sylvaticus* species-group in which the ventral margin of the simple paracymbium bears numerous tiny teeth in a long row, see DELTSHEV (1983). In the probably most related *C. cinctus* SIMON 1884 the body length is reported to be only 1.3-1.8 mm in the male sex, the dorsal bristle of the pedipalpal patella and tibia are distinctly shorter, the retrodorsal outgrowth of the cymbium is more compact (as in other related species), the ventral margin of the paracymbium is distinctly folded (as in other related species), and the teeth of the lamella are different/longer (as in other related species). The body length of *C. sylvaticus* (BLACKWALL 1841) is reported to be 2.2-3.5 mm in the male sex, and the lamella characteristica bears some long and slender teeth.

Distribution: Portugal, SE-Algarve.

Erigone dentosa O. PICKARD-CAMBRIDGE 1894

Material: Portugal, E-Algarve, near Campeiros, 10 km N Altura, 1♂ JW leg. in I 2026, CJW.

Distribution: North and Central America, introduced, e. g., to Europe.

Micrargpelecopsis ascutata WUNDERLICH 2025 and *M. spinosa* WUNDERLICH 2025

Material of *ascutata*: Portugal. E-Algarve, ca. 5 km E of Campeiros, N of Altura, several males ad females, e. g. at the E border of the Lake (reservoir) Beliche - together with

Zodarion campeirosensis n.sp. (Zodariidae) and *Scotolytys simplex* SIMON 1885 (Dictynidae), CJW -; several ♂♀ JW leg. in traps in XII 2025 - I 2026, CJW.

Distribution: Portugal, Algarve.

Palliduphantes juliao WUNDERLICH 2022 (fig. 25)

Material: Portugal, E-Algarve, ca. 5 km E of Campeiros N of Altura, below stones in the shadow of bushes, 1♂1♀ JW leg 10. II. 2026, R366/CJW.

The legs of the spiders are only slightly darkened – compare WUNDERLICH (2023: 92, fig. 61), the basal part of the lamella characteristica bears a wide and weakly sclerotized ("scinny") part (fig. 25).

Distribution: Portugal, S-Algarve.

Sintula furcifer (SIMON 1912)

Material: Portugal. E-Algarve, ca. 5 km E of Campeiros N Altura, 1♂ JW leg. in XII 2025, CJW.

Distribution: SW-Europe, NW-Africa.

Theonina cornix (SIMON 1881)

Material: Portugal. E-Algarve, ca. 5 km E of Campeiros, ca. 12 km N Altura, 1♂ JW leg. in XII 2025, CJW.

Distribution: Europe, N-Africa, Georgia?

Family **TITANOECIDAE**

Titanoeca praefica (SIMON 1870)

Material: Portugal, E-Algarve, Campeiros, ca. 12 km N of Altura, in the garden of our house, on a wall, 1♂ JW leg. 26. IV. 2026, CJW.

Family **AGELENIDAE**

Lycosoides LUCAS 1846

The genus *Lycosoides* is characterised by the strongly recurved posterior eye row, the usual number of 3 teeth on both cheliceral margins, the absence of tarsal I-II bristles and the structures of the copulatory organs, e. g., the frequently existing humps (or even a distinct outgrowth) of the male pedipalpal patella and the quite complex structures of the multipartite conductor which are most important for distinguishing closely related species. The long and thin (hair-shaped) embolus (fig. 26) is guided by a very long and band-shaped flattened seam (an outgrowth of the conductor). A posterior outgrowth of the epigyne is absent.
In the strongly related genus *Textrix* SUNDEVALL 1833 the posterior eye row is also strongly recurved but humps/tubercles or even an outgrowth of the male pedipalpal patella are absent, the structures of the conductor are simple and the epigyne bears posteriorly a tongue-like outgrowth.
More than a dozen species is known, see below. The West-Palaearctic distribution of the species is of special interest: Most species are known – and some more will have to be described in the future - from the Southern Mediterranean (apparently the genus originated in North Africa), only very few species exist in southernmost parts of Europe, e. g., in the Algarve (Portugal) which is close to Morocco: coarctata and flavomaculata LUCAS 1846. Most species seem to be restricted to a small area but *L. coarctata* and flavomaculata have spread from N-Africa to southernmost parts of Europe. The (all?) species are not adult in the summer; I collected specimens of *coarctata* in October and November.
The taxonomic situation of *Lycosoides* appears problematic to me. A typical example is *Lyc-*

osoides coarctata (DUFOUR 1831), described from Spain first under *Aranea*, later transferred to *Textrix* and now listed under *Lycosoides*. Unfortunately the original material is most probably lost. DE BLAUWE (1980) designed two “neotypes” from different localities (!) not recognising that DUFOUR (1831) described spiders of most probably more than a single species - and probably more than a single genus (!) – but surely not of the genus *Lycosoides* in the sense of this paper: The position of the eyes is characterized by DUFOUR (1831) as absolutely (!) as in (*Tegenaria*) *domestica*, and fig. 1a shows no strongly recurved eyes of the posterior row like in *Lycosoides*. Therefore I regard *coarctata* in the sense of DUFOUR (1831) as a **dubious name**, similar to a “sampling species”. Under these circumstances the designation of neotypes by DE BLAUWE (1980) has no taxonomical value. According to the different structures of the copulatory organs - drawings of the specimens are treated under *coarctata* by various authors - “*coarctata*” may be a cluster of species of *Lycosoides*, most probably including several undescribed species. *L. coarctata* (DUFOUR 1831) in the sense of BOSMANS et al. (2022) is a well established name, has been used for a long time and is well diagnosed, see BOSMANS et al. (2022, figs.).
In my opinion a - very time-consuming - revision of certain species of *Lycosoides* is needed.

Material of *L. coarctata*: S-Portugal (Algarve): (1) ca. 7 km NW of Tavira, 6♂2♀♀ JW leg. in X-XI 2017 in a swimming pool, CJW; (2) Campeiros, 10 km N of Altura, 1♀ and 1 small ♂ (body length only 5 mm in contrast to the other spiders whose body length is about 7 mm) in a house and 1 ♀ below a stone in a garden nearby below, JW leg in XI 2025, CJW.

Family LYCOSIDAE

Arctosa C. L. KOCH 1847

Arctosa personata (L. KOCH 1871) (figs. 27-33)

Material: Portugal, E-Algarve 11 km N of Altura, Campeiros, in our house, on the bottom of two rooms and outside the main entrance to the house, 3♂1♀ JW leg. in XII 2025 – I 2026, CJW.
Note: Two males were collected dead, not dried out; apparently they died not by hunger and only recently after invading the house because of the low temperature in the winter season in the garden, about 6° C at night.

Diagnostic characters: Colour: Prosoma dorsally mainly light brown and irregularly darkened by patches, margin dark beside a wide light band, sternum (fig. 28) light, usually

with a medium dark band which may be quite indistinct, opisthosoma dorsally brown, medially bearing a lanceolate light band as well as some short obliquely transverse light stripes, laterally and ventrally uniformly light brown like the spinnerets in the males but anterior spinnerets dark brown in the female.. - Posterior margin of the fang furrow usually with 2 large teeth but in one male with an additional smaller lateral tooth (fig. 27). Male genital area (fig. 29) with an epiandrous spinning organ – see WUNDERLICH (2023) – possessing remarkable structures similar to related species and even to certain other lycosid genera like *Hogna*: A dense field of epiandrous gland spigots exists just in front of the epigastral furrow as well as a pair of tiny rectangular sclerotized sclerites and furthermre anteriorly a pair of widely spaced long oval sclerites placed just below the shiny skin. Body length about 1 cm.
Male pedipalpus (figs. 30-32): Cymbium of medium length, scopula absent, apical bristles absent but stronger hairs existing, bulbus with a large and tripartite median apophysis, a well developed synembolus and a not sclerotized distal tegular apophysis which is more or less bent at its end, distal part of the embolus hidden but its tip may be freely observable.
Female: Epigyne (fig. 33) with a pair of quite large depressions whose margins are distinctly narrowish sclerotized and posteriorly with a sclerotized structure like a v in an upside down position.
Leg bristles:existing on all femora to metatarsi, numerous on III-IV; leg I: Femur dorsally 1/1 and a short distal pair, patella none, tibia 2 pairs in the basal half and a short subapical pair, metatarsus with 2 ventral pairs and a short subapical pair, patellae III-IV bear a lateral pair as well as dorsally a long and strong basal and distal hair.
Male genital area: epiandrous spinning organ – see WUNDERLICH (2023) – possessing remarkable structures similar to related species and even to certain other lycosid genera like *Hogna*: A dense field of epiandrous gland spigots just in front of the epigastral furrow as well as a pair of tiny rectangular sclerotized sclerites and furthermore anteriorly a pair of widely spaced long oval sclerites placed just below the shiny skin.

Relationships: In the closely related *A. fulvolineata* (LUSAS 1846) the anterior margin of the fang furrow also bears usually two large teeth but the lateral light bands beside the dark marginal bands are *quite narrow;* the large paired depressions of *fulvolineata* are similar but the upside down posterior structure of the epigyne is absent.
Note: A separation of the species in question based on the number of teeth of the margins of the fang furrow – see the key in the “Araneae of Europe” - is not possible.

Distribution: SW-Europe, Switzerland, Slovenia, Turkey, Causasus.

Family ZODARIIDAE

Discovering species of the genus *Zodarion* WALCKENAER 1826 is actually an “endless story”; apparently a rapid radiation is still going on and several local Iberian endemics exist like, e. g., in the genus *Harpactea* (Dysderidae). The validity/synonymy of some *Zodarion* species is still disputed. Most species of the male sex – e. g., of the present new species - can clearly be determined by the shape of the pedipalpal tibial apophysis but in the female sex a preparation and close study of the vulva is often needed.

***Zodarion campeirosense* n. sp.** (figs. 34-40)

Etymology: The name of the species refers to the name of the village Campeiros north of Altura (Algarve), the type locality of the species.

Material: Portugal, SE-Algarve; (1) 1 km S of the village Campeiros, ca. 11 km N Altura, pit falls in an open stony area within low plants and bushes like different species of Liliaceae as well as spiders like *Pritha serrata* n. sp. (Filistatidae), *Alopecosa* sp. (Lycosidae) and *Xysticus nubilus* (Thomisidae) as well as few Solifugae (a further Solifugae was collected in our house in Campeiros in IV 2026); CJW. - Pit falls, 2♂ (pedipalpi more or less expanded) 2♀ JW & SVEN WUNDERLICH leg. in IV-V 2026; holotype ♂ with separated right pedipalpus (separated in the smallest tube), R374/CJW, 1♂ 2♀ paratype (one tube). r. pedipalpus and epigyne (another tube) R375/CJW; (2) at the E border of the Lake (reservoir) Beliche, open and stony slope, together with *Scotolatys simplex* SIMON 1885 (Dictynidae), CJW; 1♂paratype, pit fall, JW leg. in VI 2026, R383/CJW. The left pedipalpus is kept separately.

Diagnostic characters: Colour of the small body and fairly long legs pale, prosoma and legs uniformly yellowish, opisthosoma dorsally anteriorly more or less weakly bluish. ♂-pedipalps (figs. 34-38): Tibial apophysis long, bent retrolaterally near the end in a right angle and bearing a blunt knob, median apophysis of medium size, embolus long and slightly bent, median apophysis medium large, sperm duct thin and long. Epigyne (fig. 39) with a large and indistinct pit and a pair of strongly sclerotized bent structures, vulva (fig. 40) with small receptacula seminis.

Description:
Measurements (♂/♀ in mm): Body length ca. 1.7/ ca. 2.0; prosoma: Length 0.95/0.9, width 0.65/0.65; opisthosoma: Length 0.9/up to 1.5 (egg-bearing), width 0.6/ca. 1.0; leg I: Femur 0.75/0.65, patella 0.25/0.25, tibia 0.6/0.45, metatarsus 0.6/0.5, tarsus 0.5/0.35; tibia IV 0.8/0.75.
Colour: See above.
Prosoma distinctly longer than wide, as in *Z. andalusiacum* JOCQUE 1991, hairs and fovea short, 8 eyes, posterior row distinctly procurved, observable size of the lenses quite variable, anterior eyes by far the largest in the holotype, fangs quite stout, sternum spacing coxae IV by almost half of their diameter, basal cheliceral articles quite robust, fangs quite stout. -♀-pedipalpus with robust articles, tarsal claw well developed. - Legs fairly slender, bearing short hairs, bristles absent, order VI/I/II/III, position of the metatarsal I-IV trichobotrium near the end of the article. - Opisthosoma oval, hairs fairly short, thin, not flattened, - Copulatory organs: See above.

Relationships: In the apparently most related *Z. andalusiacum* (Iberian Peninsula) prosoma and legs are also uniformly pale but the opisthosoma is dorsally partly dark brown and bears white patches, the tibial apophysis of the ♂-pedipalpus bears two points which are directed anteriorly, epigyne and vulva are different. In *Z. minutum* BOSMANS 1994 (Spain) body and legs are uniformly pale, see STEFAIE et al. (2025), the structures of the copulatory organs are distinctly different, e. g., the tibia apophysis of the ♂-pedipalpus possesses a single apical point.

Distribution: Portugal: SE-Algarve.

Family CHEIRACANTHIIDAE

Cheiraignathum macedonicum (DRENSKY 1921)

Material: Portugal, SE-Algarve, ca. 12 km NNE of Altura and 5 km E of Campeiros, dry and stony slope, only few low plants, pit fall, JW leg. in II 2026, R364/CJW.

Distribution: North Macedonia, Slovenia, Slovakia, Romania, Hungary and Italy, new to Portugal and the Iberian Peninsula.
Note: The species was first described more than a hundred years ago from SE Europe. Did it spread west up to the Iberian Peninsula during the last decennia?

Family GNAPHOSIDAE

To my experience the very diverse gnaphosid fauna of Portugal – and the whole Southern Europe – is (besides the linyphiid fauna) still quite incompletely known, even new genera were described during the last years. Here I describe several species for the first time and add information to some further species.

Drassodes balneum WUNDERLICH 2025 (figs. 41-42)

Material: Portugal, SE-Algarve, 11 km N of Altura, Campeiros, under a stone of a sunny wall in the garden of our house; 1♂ JW leg. 17. II. 2026, R363/CJW. - Note: The male was collected only ca. 10 m away from the locus typicus of the species which is inside the house. I

suppose that members of a population of *D. balneum* live in the stony wall quite near the house and may active mainly at night.

The body length of the present male is 8 mm, femur I bears 5 bristles, the left tibia I is bristle-less, the right tibia I as well as both tibiae II bear a proventral bristle, the left metatarsus I is bristle-less, the remaining I-II metatarsi bear ventrally a basal pair of bristles. The number of leg bristles of the present and related species is intraspecific distinctly variable.

In the present male most structures of the pedipalpus are as in the holotype, the distal part of the cymbium is almost as long as the cymbium and the sperm duct enters the fairly bent embolus also in a *straight* and *retro*lateral position (fig. 41), but position and size of the sperm duct are different: The retrolateral part is distinctly wider and basally nearer to the prolateral part in contrast to the holotype, see WUNDERLICH (2025: 31, figs. 16-17).

Relationships: In *D. luteomicans* SIMON 1878 the distal part of the cymbium is distinctly shorter than the bulbus and more close to the median apophysis; position and size of the sperm duct are intraspecifically variable and may be similar in both species, contra WUNDERLICH (2025: 13, key). In *D. arenosus* WUNDERLICH 1923 the distal part of the cymbium is distinctly shorter than the bulbus and the sperm duct enters the embolus from the *pro*lateral side, see WUNDERLICH (2025: 31, fig. 19).

Distribution: Portugal, SE-Algarve.

?***Drassodex unusdens* n. sp**. (figs. 43-47)

Etymology: The name of the species refers to the single tooth of the cheliceral retromargin, from unus (lat.) a single and dens (lat.) tooth.

Material: Portugal: E-Algarve, ca. 14 km N of Altura, E border of the Lake (reservoir) Beliche, near the east end of the dam, open and stony slope, pit fall, holotype ♀ JW leg. in V 2026, R382/CJW. Its epigyne is kept separately.

Diagnosis (♀; ♂ unknown): Posterior margin of the fang furrow with a single tooth (fig. 44), anterior margin with two teeth; posterior eye row straight (fig. 43). Epigyne/vulva (figs. 46-47) with a large pit (atrium) bordered by a strongly sclerotized margin, receptacula seminis small and widely spaced, ducts winding and not elongated anteriorly.

Description (♀):
Measurements (in mm): Body length 5.0; prosoma: Length 2.3, width 1.8; opisthosoma: Length 2.5, width 1.8; leg I: Femur 1.65, patella 0.8, tibia, 1.15, metatarsus 0.75, tarsus 0.65; tibia II 1.0, tibia III 0.9, tibia IV 1.35.
Colour: Prosoma and legs light brown, legs partly a bit darker, opisthosoma medium to dark grey.
Prosoma (figs. 43-44) bearing short hairs, thoracic fissure of medium length, 8 eyes of medium size, posterior row straight, posterior median eyes spaced by less of their diameter,

posterior margin of the fang furrow with a single tooth, anterior margin with two teeth, fangs slender, labium a free sclerite, sternum not elongated between coxae IV. - Pedipalpal tarsus with a small claw. - Legs (fig. 45) fairly robust, order IV/I/II/III, hairs not long, trochanters not notched, claw tufts as well as tarsal and metatarsal I-II scopulae well developed, metatarsal III-IV preening combs well developed, bristles of medium length, I-II: Femora dorsally 1/1 and 1 prolaterally in the distal half, remaining articles none, III-IV bear numerous bristles on femora to metatarsi, patellae: I-II none, III-IV 1 retrolaterally. - Opisthosoma oval, most hairs fairly short but anterior-dorsal hairs quite long; spinnerets not studied. - Epigyne/vuva: See above.

The relationships are quite unsure; a male is needed for more conclusions. Mainly according to the existence of a metatarsal III-IV preening comb, the position of the eyes and the light colour *Drassodex* MURPHY 2007 is most related, but species of *Drassodex* are larger, body length ca. 8-18 mm, the margin of the fang furrow bears 2/4 (anterior) teeth, the border of the anterior-medium margin of the epigynal atrium bears a hood and in most species the ducts of the vulva extend far more anteriorly.

Distribution: Portugal: E Algave.

Nomisia celerrima (SIMON 1914) (under *Pterotricha*)

Material: Portugal, Algarve, ca. 1 km N of Altura, 1 km S of Campeiros, stony, dry and mostly open locality, pit fall, 1♂ JW leg. in V 2026, CJW; 1♀ Campeiros, in our house, JW leg. in V. 2026, CJW.
Note: The colour of body and legs of the present ♂ is much darker than published in the original description of the species: Dark brown, almost black; the colour of the present ♀ is manly median grey.

Zelominor SNAZELL & MURPHY 1997

Zelominor contains some of the tiniest spiders of the family Gnaphosidae, their body length is only 2 to (rarely) 3 mm. The genus is only known from the southern part of the Iberian Island (two species) and from North Africa (a single species).
In *Zelominor* the eyes are small, the thoracic fissure is quite indistinct, the anterior margin of the fang furrow bears 3 tiny teeth, the posterior margin bears 2 tiny teeth, the legs beyond the patellae are – frequently quite distinct – darkened, the colouration of the prosoma is light yellow brown, the male opisthosoma bears an indistinct dorsal scutum; in *both* sexes the copulatory organs are quite uniform: Articles of the ♂-pedipalpus (fig. 48) bear long black

and bristle-like hairs retroventrally on the femur, retrolaterally of the patella and – only weak developed - retrolaterally on the tibia, the tibia bears a smaller and strongly dorsally bent retrolateral apophysis, the bulbus is strongly protruding. The epigyne possesses anteriorly a pair of sickle-shaped sclerites or a sclerite describing half a circle; a pair of rather small globular and touching receptacula seminis is observable which has a specific – more anterior or more posterior – position in each species. A metatarsal III-IV "preening comb" exists like in other members of the subfamily Zelotinae.
Because of their tininess as well as probably of their more subterranean life style these spiders were only rarely collected. During more than 15 years I collected only few specimens, see below.

Zelominor algarvensis SNAZELL & MURPHY 1997 (fig. 48)

Material: Portugal, South Algarve, (1) Fonte Tareja near Alportel, pit fall in a light oak forest, 1♀ JW leg. in V. 2024; (2) 5 km E of Campeiros, 11 km NNE of Altura, 1♂ JW leg. alive 9. III. 2026, adult 19. III. 2026; R367/CJW. - Notes: The left ♂-pedipalpus is kept separately, the right pedipalpus is expanded. - I collected few further specimens near Campeiros, CJW.

The males are 2 mm long, the female 2.6 mm. ♂-pedipalpus fig. 48.

Distribution: Portugal, South Algarve.

Zelotes GISTEL 1848 s. l.

Zelotes s. l. is the most diverse and most complicated gnaphosid genus in Europe which splitting is still not finished. Until a worldwide revision I prefer the use of the genus in a wide sense, including *Civizelotes*, *Marinazelotes* and *Trachyzelotes;* these taxa may to be regarded as subgenera or species-groups.
In this paper I treat several species including four new species.

Zelotes (*Civizelotes*) *ibericus* SENGLET 2012 (= *latapophysis* WUNDERLICH 2024 **n.syn**.)

Material: Portugal, E-Algarve, Campeiros, ca. 11 km N of Altura, in the house of the locus typicus and in the garden outside the house, 3♂ JW leg. in IV 2025 and III 2026, CJW.

Notes: (1) In contrast to the brown body of the holotype, which was dried out, the colour of body and legs of the new material is uniformly black. - (2) Besides weak differences of the shape of the sclerites of the bulbus a slight different aspect of the bulbus may cause a quite different shape of these sclerites. Therefore the figs.71-72 of the sclerites provided by WUNDERLICH (2024: 51) may be not typical for *costatus* in contrast to the circular embolus which may partly be hidden in certain specimens.

Distribution: Iberian Peninsula, France.

***Zelotes* s. l., subgenus *Marinarozelotes* PONOMAREV 2020**.
See PONOMAREV & SHMATKO (2020) as well as WUNDERLICH (2023: 66 and 67-68: provisional key).

In the subgenus *Marinarozelotes* (=*Trachyzelotes*) the basal cheliceral articles bear anteriorly a cluster of quite strong bristles in contrast, e. g., to other gnaphosid genera or subgenera of *Zelotes* s. l. in which thin bristles in this position exist; the indistinct fang "furrow" bears no strong teeth but several - ca. 4 to a dozen – denticles; tarsal claw tufts and tarsal/metatarsal scopulae may exist on legs I-II (e. g. in *stridulans* n. sp.) or are absent (e. g., in *novus* n. sp.), the embolus describes a long retrolateral loop and the epigyne is M-shaped. The opisthosoma of *Marinarozelotes* males bears ventrally usually normal hairs (fig. 51) but in the male sex of *stridulans* exists strong, black and club-shaped stridulatory bristles (fig. 49) which may be absent in the unknown female. Club-shaped bristles are absent in both sexes of other congeneric species known to me. Stridulatory bristles exist in males of several spider families like Liocranidae (some species of *Agroeca* and *Apostenus*) in some Lycosidae as well as in *Drassyllus* CHAMBERLIN 1922 of the Gnaphosidae.

***Zelotes* (*Marinarozelotes*) *stridulans* n. sp**. (figs. 49-50b)

Zelotes (*Marinazelotes*) (lapsus for *Marinarozelotes*) *bardiae*: WUNDERLICH (2024), Beitr. Araneol., 17: 29, 49: Figs. 63-64) (♂).

Etymology: The species name refers to the ventral opisthosomal stridulatory bristles, from lat. stridulus.

Material: Portugal, Algarve; (1) ca. 3 km E of Campeiros and 12 km N of Altura, open and stony locality, pit falls, 5♂ JW leg. in III-IV 2026; holotype ♂ R368/CJW, 4♂ paratypes (3 loose pedipalpi, loose cheliceae) R377/CJW; (2) 5 km SE of Sao Bras de Alportel, 2♂ (1 loose pedipalpus), paratypes, pit falls, JW leg. 2023, R378/CJW.

Note: At the same locality in V 2026 I collected each a male of the gnaphosid species P*haeocedus mikha* LEVY 2009 and *Trichothyse furcata* (SIMON 1914), CJW.

Diagnostic characters (♂; ♀ unknown): Opisthosoma bearing ventrally a large field of club-shaped stridulatory bristles (fig. 49); pedipalpus (fig. 50- 50b); WUNDERLICH (2024: 49.figs. 63-64): Tibia apophysis long, almost straight, tip not pointed, position of the retrolateral tip of the terminal apophysis nearer to the distal embolic loop than to the median apophysis, embolus quite long.

Description (♂):
Measurements (in mm): Body length. ca. 6.0; prosoma: Length 2.9, width 2.35; opisthosoma: Length 4.0, width 2.1; leg I: Femur 2.1, patella 1.2, tibia, 1.7, metatarsus 1.0, tarsus 0.9; tibia II 1.4, tibia III 1.2, tibia IV 2.0.
Colour of body, legs and spinnerets black; the opisthosoma bears dorsally two longitudinal rows of ca. 5 small white spots which may be distinct or quite indistinct. In some males the distal articles of legs I-II are medium brown.
Prosoma quite similar to *Z. novus* n. sp. (fig. 51) distinctly longer than wide, hairs indistinct, fovea well developed, not long, 8 eyes of medium size, posterior row straight, shape of the posterior median eyes more or less oval, their lenses spaced by about half of their diameter, basal cheliceral articles bearing more than two dozen strong bristles each, large teeth of the low fang “furrow” absent but about a dozen denticles exist, labium longer than wide, a free sclerite, sternum hairy, not elongated between coxae IV. - Legs only fairly long, robust, bearing longer hairs, order IV/I/II/III, claw tufts and dense tarsal and metatarsal scopulae exist on I-II, claws with long teeth, metatarsal preening combs well developed, bristles not numerous, short on I-II, femora dorsally 1/1 and few laterally, I-II, tibia and metatarsi I-II usually bearing a short ventral bristle, III-IV with several bristles, usually including 3 ventral pairs, patellae smooth. - Opisthosoma, oval, dorsal scutum well developed in the basal quarter, ventrally bearing a large and dense field of black club-shaped stridulatory bristles (fig. 49). - Pedipalpus: See the diagnostic characters.

Relationships: To my knowledge *stridulans* is the only known species of the genus *Zelotes* s. l. possessing ventral opisthosomal club-shaped bristles. According to the structures of the bulbus *bardiae* (CAPORIACCO 1928) (= *costatus* DENIS 1952) is most related; in *bardiae* - besides the absence of ventral opisthosomal bristles – the position of the pedipalpal sperm duct is different.

Distribution: Portugal: Algarve.

***Zelotes* (*Marinarozelotes*) *novus* n. sp**. (figs. 52-55)

Etymology: The species name refers to the freshly moulted holotype, from novus (lat.) new.

Material: Portugal, E-Algarve, ca. 11 km N of Altura and ca. 3 km E of Campeiros, below a stone at the margin of a small road within an open young pine forest, subadult ♂, JW leg. 30. III. 2026; adult (freshly moulted): 7. IV. 2026, R371/CJW. Note: Both pedipalpi are kept separately.

Diagnostic characters (♂; ♀ unknown): Pedipalpus (figs. 53-55): Tibia apophysis long, not narrowed distally, with a blunt and black tip, median apophysis small, retrolateral point of the terminal apophysis nearer to the median apophysis than to the distal loop of the thin embolus, shape of the embolus in retrolateral position almost s-shaped and wide, retrolaterally distinctly protruding.

Description (♂):
Measurements (in mm): Body length 4.8; prosoma: Length 2.0, width 1.5; opisthosoma: Length 3.7, width 1.4; leg I: Femur 1.35, patella 0.9, tibia, 1.2, metatarsus 1.0, tarsus 0.9; tibia II 1.0, tibia III 0.75, tibia IV 1.2.
Colour of the freshly mounted spider: Prosoma and legs medium grey, opisthosoma dark grey.
Prosoma (fig. 52) distinctly longer than wide, hairs indistinct, fovea short, 8 eyes of medium size, posterior row straight, shape of the posterior median eyes almost circular, their lenses spaced by about half of their diameter, basal cheliceral articles bearing more than 20 strong distinct bristles each, large teeth of the low fang “furrow” absent but more half a dozen denticles exist, labium longer than wide, a free sclerite, sternum hairy, not elongated between coxae IV. - Legs only fairly long, robust, bearing longer hairs, scopulae and claw tufts absent, claws with long teeth, bristles not numerous, short on I-II, femora dorsally 1/1, I-II additionally a prodorsal bristle, III-IV with variable additional bristles, patellae smooth, tibia I-II smooth, tibia III-IV with 3 pair ventral and other bristles, metatarsus I smooth, metatarsus II with 1 pair ventral bristles and a prodistal bristle on the left metatarsus, metatarsi III-IV with numerous bristles. - Opisthosoma, oval, dorsal scutum not yet hardened in the freshly moulted spider, leathery, short; ventral hairs thin and only fairly long (fig. 52). - Pedipalpus (see the diagnostic characters): Bulbus with small median and terminal apophyses which are widely spaced; the long embolus is guided by a large “seam”, hiding the distal part of the conductor.

Relationships: In *Z. minutus* CRESPO 2010 from Portugal the shape of the wide pedipalpal tibia apophysis is similar but the body length of the male is only 2.38 mm, the terminal apophysis is nearer to the median apophysis and the shape of the embolus is different. In *Z. bardiae* CAPORIACCO 1928 and *Z. stridulans* n. sp. the retrolateral pedipalpal tibial apophysis is narrowing distally and the sclerites of the bulbus are different, in *stridulans* exist thickeneded ventral opisthosomal bristles in the male sex (fig. 49). In *Z. fuscipes* L. KOCH 1866 the retrolateral pedipalpal tibial apophysis is narrowing distally, the sclerites of the bulbus are different and the embolus is twisted retrolaterally, see WUNDERLICH (2023: 108, fig. 164).

Distribution: Portugal, E-Algarve.

***Zelotes beliche* n. sp.** (figs. 56-57)

Etymology: The name of the species refers to its type locality, the border of the Lake (reservoir) Beliche.

Material: Portugal: E-Algarve, ca. 14 km N of Altura, E border of the Lake (reservoir) Beliche, near the east end of the dam, open and stony slope, pit fall, holotype ♀ JW leg. in III-IV 2026, R383/CJW. - Note: the left legs I-II as well as the distal articles of both pedipalpi are lost, the epigyne is kept separately.

Diagnosis (♀, ♂ unknown): Epigyne (fig. 56) yellowish, longer than wide, bearing anteriorly a wide and strongly sclerotized band, medially an indistinct longitudinal small furrow, receptacula seminis fairly well visible, in a posterior position. Vulva (fig. 57) complicated, medially with a slightly sclerotized transverse band which is thickened at both ends, receptacula seminis small, their position posteriorly a v-shaped structure, apparently two pairs exist, the median pair probably divided. Colour of body and legs dark brown, prosomal length 1.7 mm.

Description (♀):
Measurements (in mm): Body length 5.2; prosoma: Length 1.7, width 1.3; opisthosoma: Length 2.9, width 1.5; leg I: Femur 1.4, patella 0.65, tibia, 1.05, metatarsus 0.85, tarsus 0.75; tibia II 0.8, tibia III 0.65, tibia IV 1.15.
Colour: Body and legs dark brown, legs mainly dark brown, ventrally - femora also laterally - partly yellowish.
Prosoma: Shape quite similar to *Zelotes novus* n. sp. (fig. 51) but posterior median eyes distinctly oval and spaced by only half of their radius; most hairs are rubbed off, posterior margin of the cheliceral furrow with 5 teeth, the medial tooth is distinctly spaced from the remaining teeth, sternum not elongated between coxae IV. - Legs fairly robust, order IV/I/II/III, hairs not long, claw tufts and scopulae absent, metatarsal III and IV combs well developed, bristles short and thin; I: Femur dorsally 1/1 and 1 prolaterally in the distal half, patella none as on the remaining patellae, tibia none, metatarsus ventrally 3 pairs and an apical pair, legs III-IV with numerous bristles. - Opisthosoma oval, almost cylindrical, most hairs are rubbed off. - Epigyne/vulva: See above.

Relationships: A member of the genus *Zelotes* s. l. I do not know a closely related species.

Distribution: Portugal: E-Algarve.

Zelotes egregioides SENGLET 2011

Material: Portugal: Campeiros, ca. 12 km N of Altura, in our house, 1♂ JW leg. 8. XI. 2025, CJW.

Note: The body length of the present male is only 4 mm in contrast to the usual length of 5-6 mm.

Distribution: France, Iberian Peninsula.

***Zelotes nonscutatus* n. sp**. (figs. 58-61)

Etymology: The name of the species refers to the absence of an opithosomal scutum in the male sex, from lat. non (not) and scutatus (scutate).

Material: Portugal: East Algarve, ca. 12 km N of Altura, in our house in the small village Campeiros, holotype ♂ JW leg. 17. IV. 2026, R385/CJW. The left pedipalpus is kept separately.

Diagnostic characters (♂; ♀ unknown): Opisthosomal *scutum absent*; pedipalpus (figs. 59-61): Tibial apophyis *short*, basally wide, pointed, *tip bent to the cymbium*, sperm duct wide, tip of the terminal apophysis pointed anteriorly, terminal apophysis and median apophysis spaced rather wide from each other, median apophysis consisting of three parts which are sclerotized in a different kind, embolus long, strongly (almost s-shaped) bent, retrolaterally partly hidden by the cymbium.

Description (♂):
Measurements (in mm): Body length 3.7; prosoma: Length 1.7, width 1.3; opisthosoma: Length 2.1, width 1.1; leg I: Femur 1.2, patella 0.6, tibia, 0.9, metatarsus 0.7, tarsus 0.6; tibia II 0.75, tibia III 0.53, tibia IV 0.9.
Colour: Prosoma dorsally dark brown, sternum orange, legs mainly dark grey, coxae, femur I prolaterally in the basal two third and pedipalpal femur yellowish, opisthosoma dark grey (almost black), lung covers yellow, spinnerets dark grey.
Prosoma (fig. .58) only fairly narrowed anteriorly, hairs indistinct, fovea long, 8 small eyes in a rather narrow field, posterior row straight, posterior median eyes almost circular, spaced by about their diameter, basal cheliceral articles robust, fangs long, anterior margin of the fang furrow with three teeth, the median one longest, posterior margin with a single tooth in a median position, sternum not elongated between coxae IV. - Legs only fairly long, order IV/I/II/III, hairs of medium length, claw tufts and scopulae absent, metatarsal comb III-IV well developed (comb IV less). Bristles thin, femora dorsally 1/1, I-II additionally 1 prodistally, III-IV 1 retrodistally, patellae smooth, tibia and metatarsus I-II smooth, tibia III-IV with several bristles. - Opisthosoma oval, scutum absent, hairs short besides the long ones anteriorly, anterior and posterior spinnerets long. - Pedipalpus: See above; patella and tibia short, cymbium retrobasally fairly widened to the tibial apophysis.

Relationships: A member of the *Zelotes puritanus* species-group. In the probably most related *Z. puritanus* CHAMBERLIN 1922 (widely distributed in the Northern Hemisphere but not reported from the Iberian Peninsula) exists a dorsal scutum of the ♂-opisthosoma, the tibial apophysis of the ♂-pedipalpus is small, too but its tip – according to the drawings. published – is straight and the structures of the bulbus are different, e. g., terminal apophysis and median apophysis are less spaced from each other, the tip of the terminal apophysis is directed retrolaterally and the structure of the median apophysis is different. - In *Z. potanini* SCHENKEL 1963 (Russia to far East) also a short tibial apophysis of the ♂-pedipalpus exists but a scutum of the ♂-opisthosoma exists, the structures of the bulbus are different, the diameter of the sperm duct is smaller. - In *Z. nigropunctatus* WUNDERLICH 2025 (Algarve, too, male sex unknown) femur I possesses a distinct yellow prolateral *spot* in the basal half.

Distribution: Portugal: E-Algarve.

Family **LIOCRANIDAE**

Note: I do not want to exclude that Liocranidae SIMON 1897 has to regard as subfamily of Miturgigae SIMON 1885 which also includes Zorinae (O. PICKARD-CAMBRIDGE 1893.

More than a dozen liocranid genera are known from Europe. Some genera are difficult to be recognized or only based on peculiar structures like sclerotized praecoxal triangles, existing in *Liocranum* and *Mesiotelus* or the number of tennent hairs of the tip of the tarsus or the structure of the eyes. Therefore I provide the following more simple key which may be usable not only for experts:

Simple **key** to the European genera of the family Liocranidae with focus on the Central European taxa.

Notes: (1) A high number of 7-10 pairs of ventral bristles of tibia I-II exist in *Drapena*, *Liocranum* and *Scotina*. - (2) Further European members of the rare genera *Arabeilia, Cybaeodea, Oedignatha, Sestakovaia, Turkucranum* and *Vankeeria* - which are restricted mainly to South-East Europe - are excluded in the key. See BOSSELAERS (2024) and the Internet: *Spiders of Europe*, the World Spider Catalogue.

1 Tarsi and metatarsi ventrally densely covered with spatulate hairs (scopulae); tibia I-II ventrally with numerous - more than 4 - pairs of bristles. *D. caucasicus, concolor* and *rutilans* (*rutilans* was excluded from *Liocranum* and exists in almost all parts of Europe) ..... *Drapeta* (= *Sagana*)

- Tarsi and metatarsi with normal thin hairs; number of ventral tibial I-II bristles frequently less than 4 but see *Apostenus* and the high number in *Scotina* and *Liocranum*, nos. 3 and 4 2

2(1) Posterior eye row clearly recurved (fig. 62), metatarsus I-II with 3 pairs of ventral bristles, tibia I-II with 4-6 pairs of ventral bristles. ♂: Cymbium only slightly longer than the tip of the bulbus (fig. 66), opisthosoma in some species ventrally with a dense field of spines similar to *Agroeca.* Epigyne/vulva, e. g., as in figs. 67-69 ..... *Apostenus*

- Posterior eye row straight, metatarsus I-II with 2-3 pairs of ventral bristles, cymbium slender, elongated and distinctly longer than the tip of bulbus and embolus 3

- Posterior eyes row procurved, metatarsus I-II with 2 pairs of ventral bristles (*Agraecina* and *Liocranoeca*, no. 6) or more pairs. (If not sure: go both ways: nos. 3 and 4) 4

3(2) Tibia I-II usually with 4-10 pairs of ventral bristles (similar to *Drapeta* and *Scotina*). ♂-pedipalpus ventrally-apically not protruding. ♀: Median spinnerets distinctly laterally compressed. - E. g., *rupicola* ..... *Liocranum*

- Tibia I-II usually with 2 to (rarely) 5 pairs of ventral bristles. Tibia of the ♂-pedipalpus ventrally-apically distinctly protruding with a sclerotized area enclosing a large scinny part. ♀: Median spinnerets laterally not compressed area enclosing a large scinny . - E. g., *mauritanicus* and *tenuissimus* ..... *Mesiotelus*

4(2) Tibia I-II with 7-10 pairs of ventral bristles (similar to *Drapeta* and *Liocranum*), metatarsus I-II with ca. 4 pairs of ventral bristle. Small spiders, body length 2.0-3.5 mm ..... *Scotina*

- Tibia I-II with 2-4 pairs of ventral bristles, metatarsus I-II with 2-3 pairs of ventral bristles; body length usually more than 4 mm 5

5(4) Metatarsus I-II with 3 pairs of ventral bristles. ♂: Pedipalpus: Tibial apophysis robust, distal structures of the bulbus complex, opisthosoma ventrally in some species with numerous short stridulatory spines like in *Apostenus* (no. 6). ♀: Epigyne quite variable darkened/sclerotized ..... *Agroeca*

- Metatarsus I-II with 2 pairs of ventral bristles. ♂: Pedipalpus: Tibial apophysis quite long and slender, bulbus distally simple, ventral opisthosomal spines absent. ♀: Epigyne not darkened .....,..... 6

6(5) ♂: Pedipalpal median apophysis very long and thin, similar to *Apostenus* (fig. 65). ♀: Epigyne long, anteriorly with a pair of helmet-shaped structures or a medium septum, with long oval receptacula seminis. - E. g., *lineata* ..... *Agraecina*

- ♂: Median apophysis short. ♀: Epigyne with a long grove and anteriorly with an unpaired helmet-shaped structure. - E. g., *strata* ..... *Liocranoeca*

Apostenus WESTRING 1851

The following species of *Apostenus* are known from the Iberian Peninsula: *crespoi* LISSNER 2017, *fuscus* WESTRING 1851 and *humilis* SIMON 1932 Most species of this nocturnal spiders were captured by pit falls.
The clearly recurved eyes of the posterior row (fig. 62) are typical for this genus in which a distinct sexual colour dimorphism exists.

Apostenus crespoi LISSNER 2017 (figs. 62-69), photo 3.

Notes: The species has been described from SW-Portugal (near Azeitao) and is apparently widely spread and not rare in the SE-Algarve. The rare capturing in the Algarve may well be the result of its main (sexual) activity during the winter season. - Epigyne/vulva seem to be

rather variable – see figs. 67-68 and the figs. provided by LISSNER (2017) -, and I regard the present material as most likely to be conspecific with the holotype of *crespoi*. The male is described here for the first time.

Material: S-Portugal, SE-Algarve, ca. 10 km N and NNE of Altura, around and East of Campeiros: 37.248985N 7.531581W, open dry and stony slopes, pit falls, 8♂ 3♀ JW leg. in XI/XII 2025 – I 2026, CJW, later Museum of Nature (Danilo Harms) in Hamburg.

Diagnosis: Tibia I with 4-6 pairs of ventral bristles; ♂: opisthosoma (photo) dorsally with a pair of longitudinal light bands, ventral opisthosomal spines absent (normal hairs exist); pedipalpus (figs. 64-66) with a robust and not pointed retrolateral tibial apophysis which bears a small hump at its base as well as with a large proapical hump, median apophysis quite long and thin, longer than the embolus which is of medium length and obliquely directed retrolaterally. ♀: Epigyne (figs. 67-68) quite variable, medially with a more (rarely) or weakly sclerotized v-shaped structure, vulva (fig. 69) two pairs of thin-walled receptacula seminis which anteriorly are connected by a thin band.

Description:
Measurements (in mm): Body length ♂ 2.0-2.5, ♀ ca. 2.6; prosomal length/width ♂ 1.0/0.8, ♀ 1.0/0.9; opisthosomal length/width ♂ 1.1/0.7, ♀ 1.5/1.0 ; leg I (♂/♀): Femur 0.75/ 0.8, patella 0.3/0.35, tibia 0.6/0.7, metatarsus 0.55/0.5, tarsus 0.5/0.45; tibia II 0.6/0.7, tibia III 0.5/0.6, tibia IV 1.1/1.0.
Colour (photo): ♂♀: Prosoma partly and medially light brown, with a pair of dark longitudinal bands, with a thin black marginal band; ♀: Legs uniformly light brown, opisthosoma uniformly light grey; ♂: Legs variably darkened, tibia I-II almost black, tibia and metatarsus III-IV annulated, remaining legs mainly yellowish, metatarsus IV partly darkened, opisthosoma dorsally medially dark grey brown, sided bearing a pair of narrow longitudinal light bands (not unlikely to *Agraecina lineata*), laterally and ventrally light grey brown.
Prosoma (fig. 62, photo) not much longer than wide (see above), scarcely covered with longer hairs, thoracic fissure long, 8 well developed eyes, posterior row clearly recurved, clypeus short, labium wide, a free sclerite, gnathocoxae and basal cheliceral articles robust, fangs long, margins of the fang furrow with few tiny teeth, sternum spacing coxae IV by ca. 3/4 of their diameter, laterally and posteriorly bearing long and strong hairs. - Tarsus of the ♀-pedipalpus with a long claw. - Legs (photo) only fairly long, order IV/I/II/III, hairs short, bristles long, femora dorsally with 3 bristles as well as distal bristles, tibia I-II with 4-6 pairs of ventral bristles, metatarsi I-II with 3 pairs of ventral bristles, lateral bristles of tibia and metatarsus I-II absent. - Opisthosoma (photo) long oval, bearing normal hairs in both sexes, spinnerets short. - ♂-pedipalpus (figs. 62-65) (see the diagnosis): Patella and tibia short, cymbium distally with a dense field of short hairs (scopula) and a large paracymbium. - Epigyne/vulva: See the diagnosis. In one female the epigyne looks quite similar to the dorsal aspect of the vulva.

Relationships: In the related *A. humilis* SIMON 1932 the ♂-colour of legs and opisthosoma, the structures of the copulatory organs are distinctly different, the introducing openings of the vulva are distinctly spaced, the retrolateral tibia apophysis of the ♂-pedipalpus is slender and pointed and the position of the embolus is more longitudinal.

Distribution: Portugal.

Family THOMISIDAE

Xysticus nubilus SIMON 1875

Material: Portugal: Campeiros, 11 km N of Altura, stony meadow, pit fall, 1♂ 1♀ JW leg. in I 2026, CJW.

Measurements (♂/♀ in mm): Body length 3.2/9.5, prosomal length 1.8/5.0.

The enormous size dimorphism of the present specimens and species is remarkable. A similar huge size dimorphism exists also in the family Araneidae. - In contrast to related species the tip of the embolus of *nubilus* is usually guided by a retrolateral outgrowth of the cymbium ("paracymbium") but the embolus is free in the present male.

Distribution: Mediterranean, Macaronesia.

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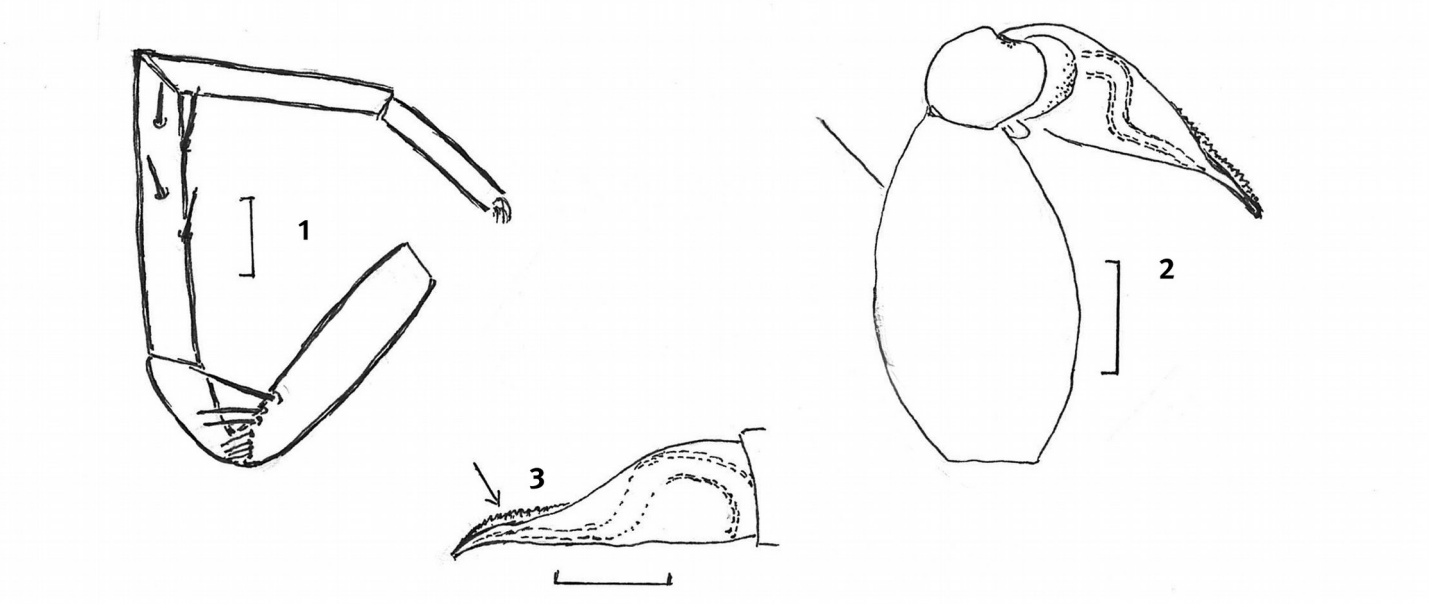


Figs. 1-3: *Pritha serrata* **n. sp**., ♂; 1) prolateral aspect of the left leg I; 2) retrolateral aspect of the right pedipalpus. A single trichobothrium is drawn but no hairs; 3) prolateral aspect of the bulbus of the right pedipalpus. The arrow points to the serrate lamella.- Scales 0.2, 0.1 and 0.1 mm.

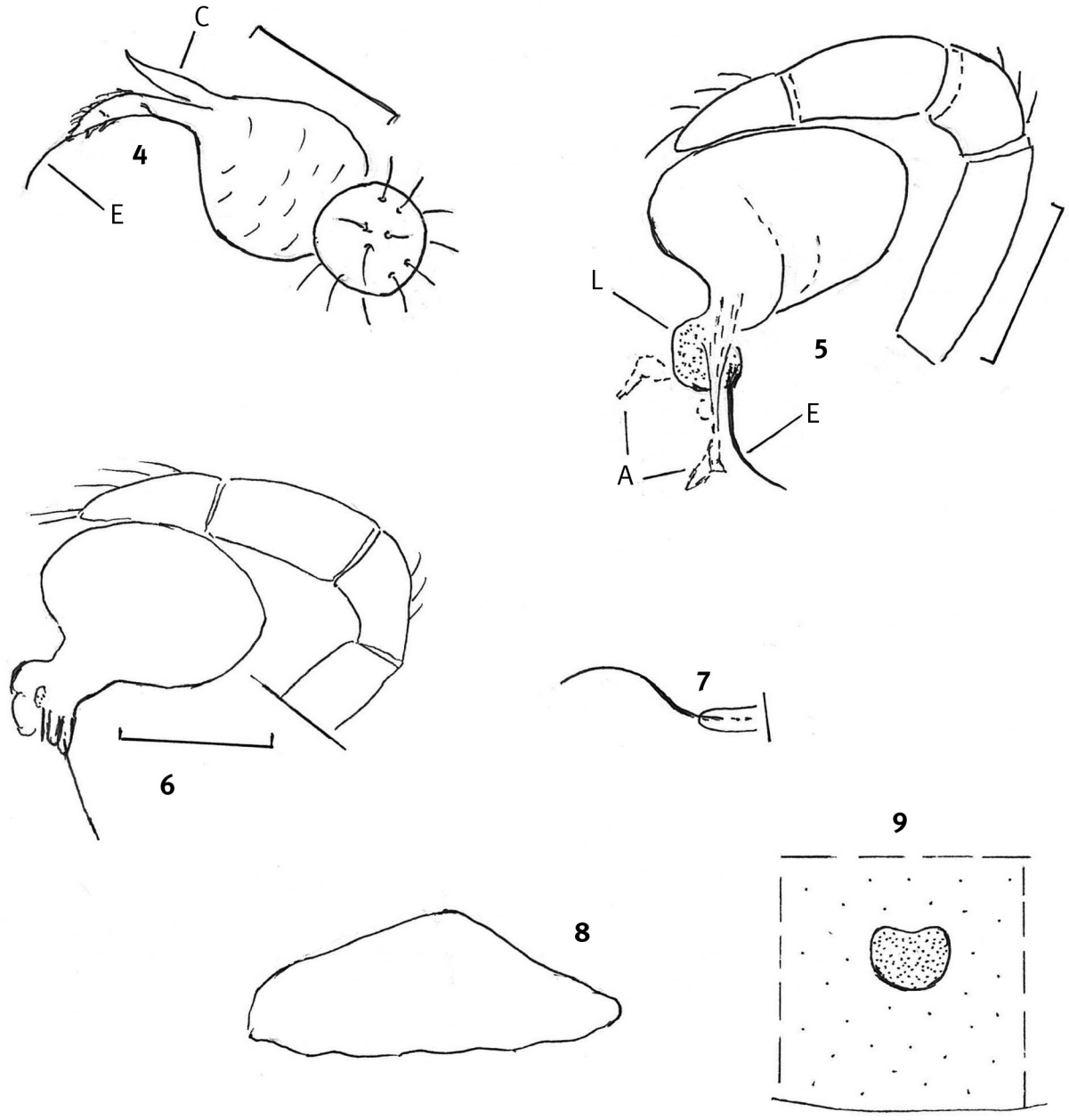
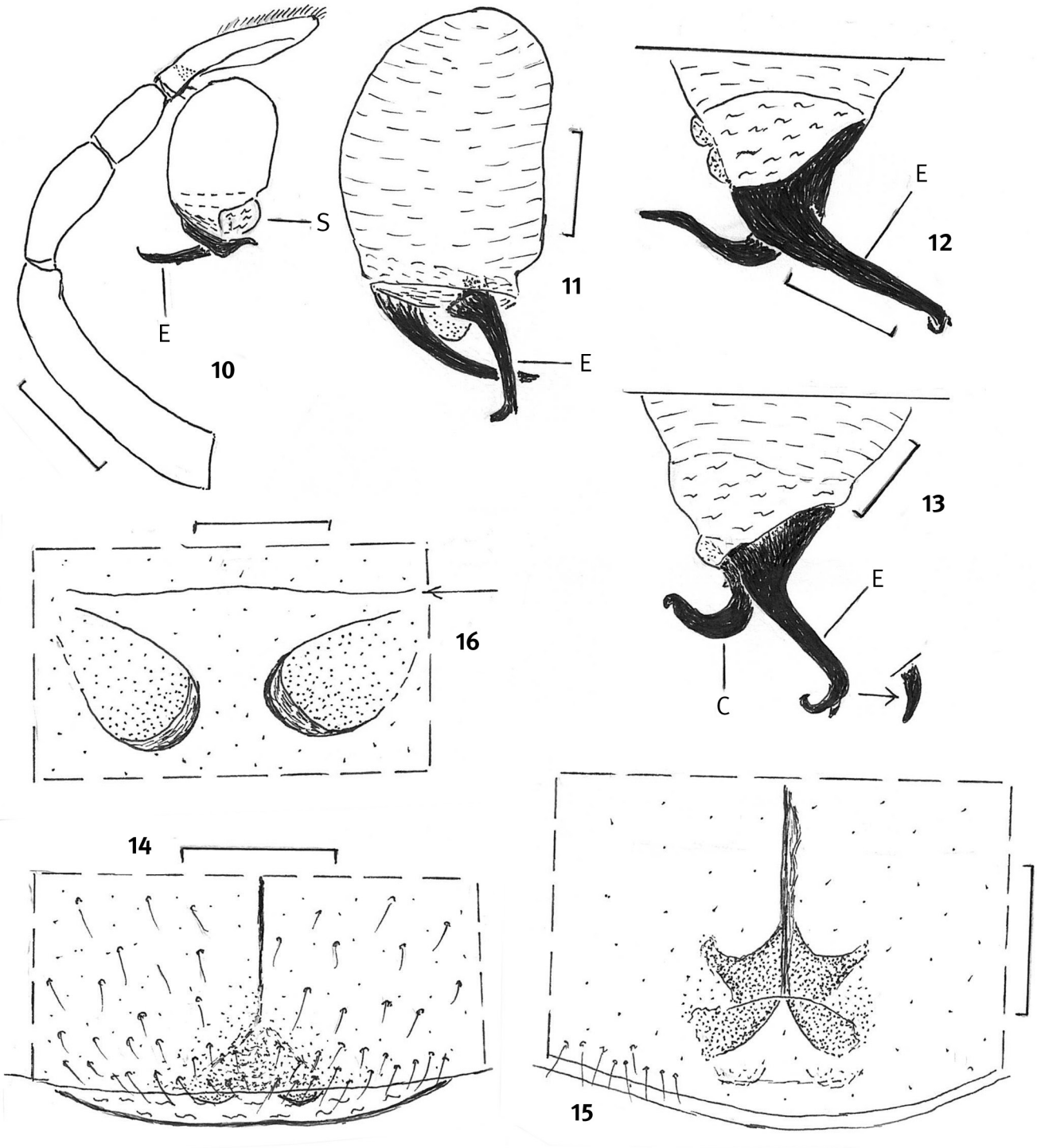


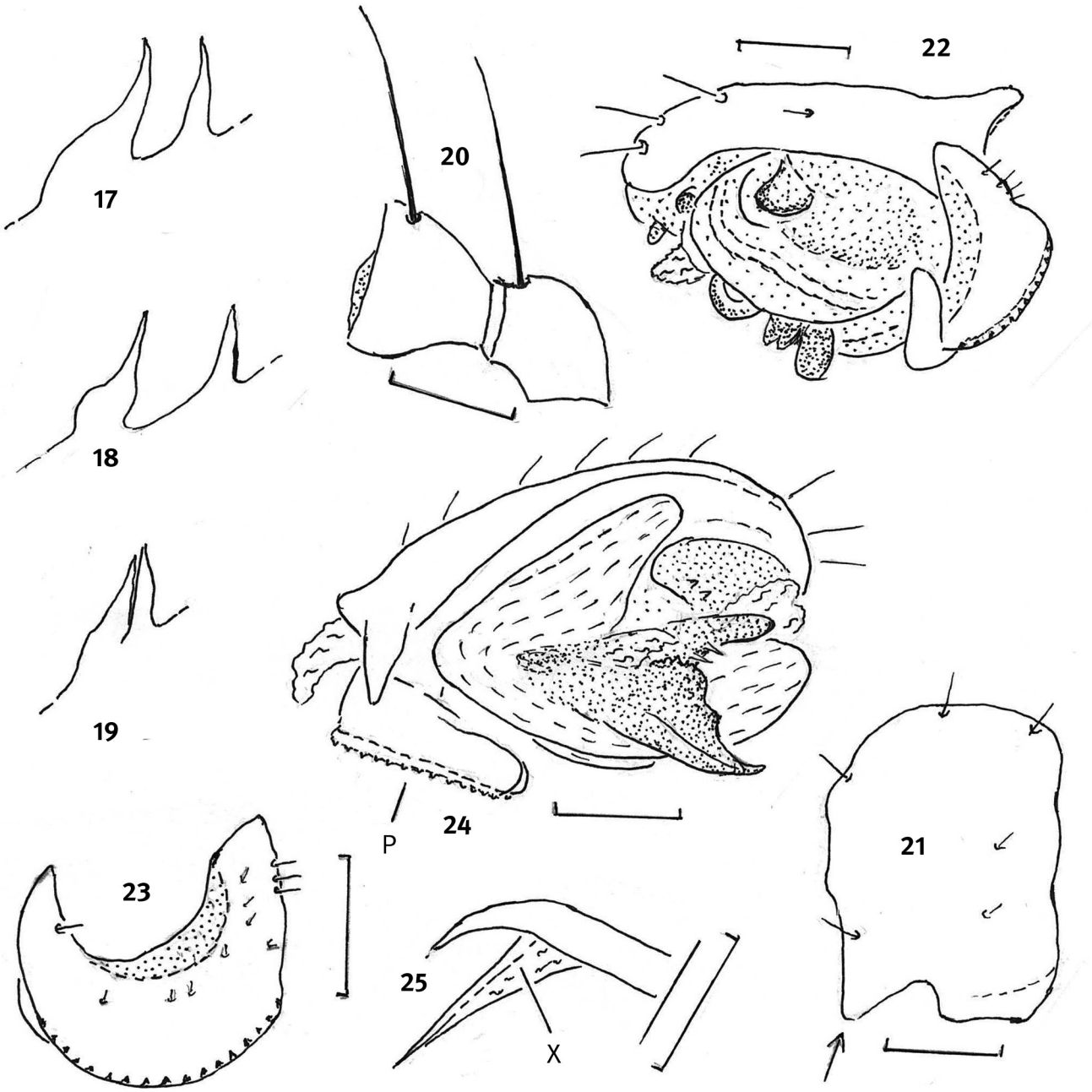
Fig. 4) *Oonops furcatus* **n. sp**., ♂ holotype, prodorsal and slightly distal aspect of the right pedipalpus. Only few hairs are drawn.- C = conductor, E = embolus, Scale 0.1 mm.

Figs.5-9: *Oonops gibber* **n. sp**.; 5) ♂ holotype, retrolateral aspect of the left pedipalpus; 6) retrolateral aspect of the left pedipalus; 7) ♂ paratypus, retrolateral aspect of the embolus of the right pedipalpus; 8) ♀, lateral aspect of the prosoma; eyes and hairs are not drawn; 9) ♀, genital field with pit. - A = artefact or secretion, existing only on the left pedipalpus of the holotype.- E = embolus, L = leaf-shaped outgrowth. Scales 0.1 mm in figs. 5-6; no scale in figs.7-9.



Figs. 10-15: *Harpactea spacus* **n. sp.**; 10) ♂ holotype, prolateral aspect of the not expanded left pedipalpus; 11) ♂ holotype, dorsal aspect of the not expanded bulbus with embolus and conductor; 12) ♂ holotype, dorsal aspect of the distal part of the expanded left pedipalpus; 13) ♂ slightly prodorsal aspect of the distal part of the expanded left pedipalpus. The arrow points to the tip of the embolus in dorsal aspect; 14) ♀, genital field. Not all hairs are drawn; 15) ♀, dorsal aspect of the vulva. - C = conductor, E = embolus. Scales (in mm): 0.5 in fig. 10, 0.2 in figs. 11 and 14-15, 0.1 in figs. 12-13.

Fig. 16) *Scytodes fusca* WALCKENAER 1837, ♀ from SE-Portugal, epigynal pits/plates. The arrow points to the epigastral furrow. - Scale 0.2 mm.



Figs. 17-19: *Enoplognaha mandibularis* (LUCAS 1846), males from Campeiros (Portugal), posterior aspect of the teeth of the left chelicerae; freshly moulted ♂ in fig. 19). - No scale.

Figs. 20-24: *Centromerus paracinctus* **n. sp.**, ♂; 20) retrolateral aspect of patella and tibia of the left pedipalpus; 21) dorsal aspect of the cymbium of the left pedipalpus. The arrow points to the retrobasal outgrowth. Only few hairs are drawn. - P = paracymbium. Scale 0.1 mm. 22) and 24) retrolateral and prolateral aspect of the left pedipalpus; 23) lateral aspect of the left paracymbium.

Fig. 25) *Palliduphantes juliao* WUNDERLICH 2021, ♂ (Portugal, Campeiros), distal part of the lamella characteristic of the left pedipalpus. X = “scinny” part of the basal branch. - Scale 0.1 mm.

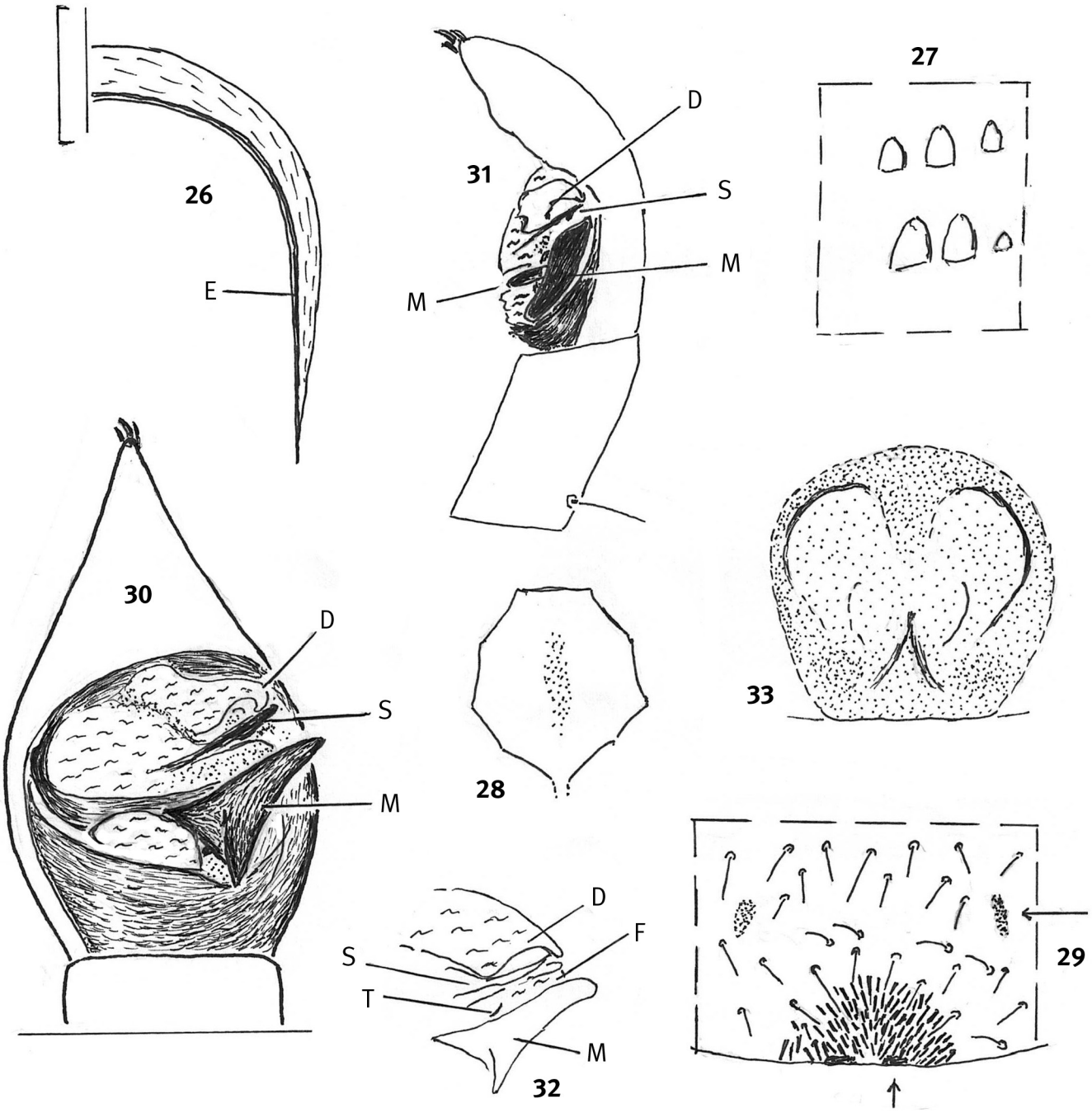
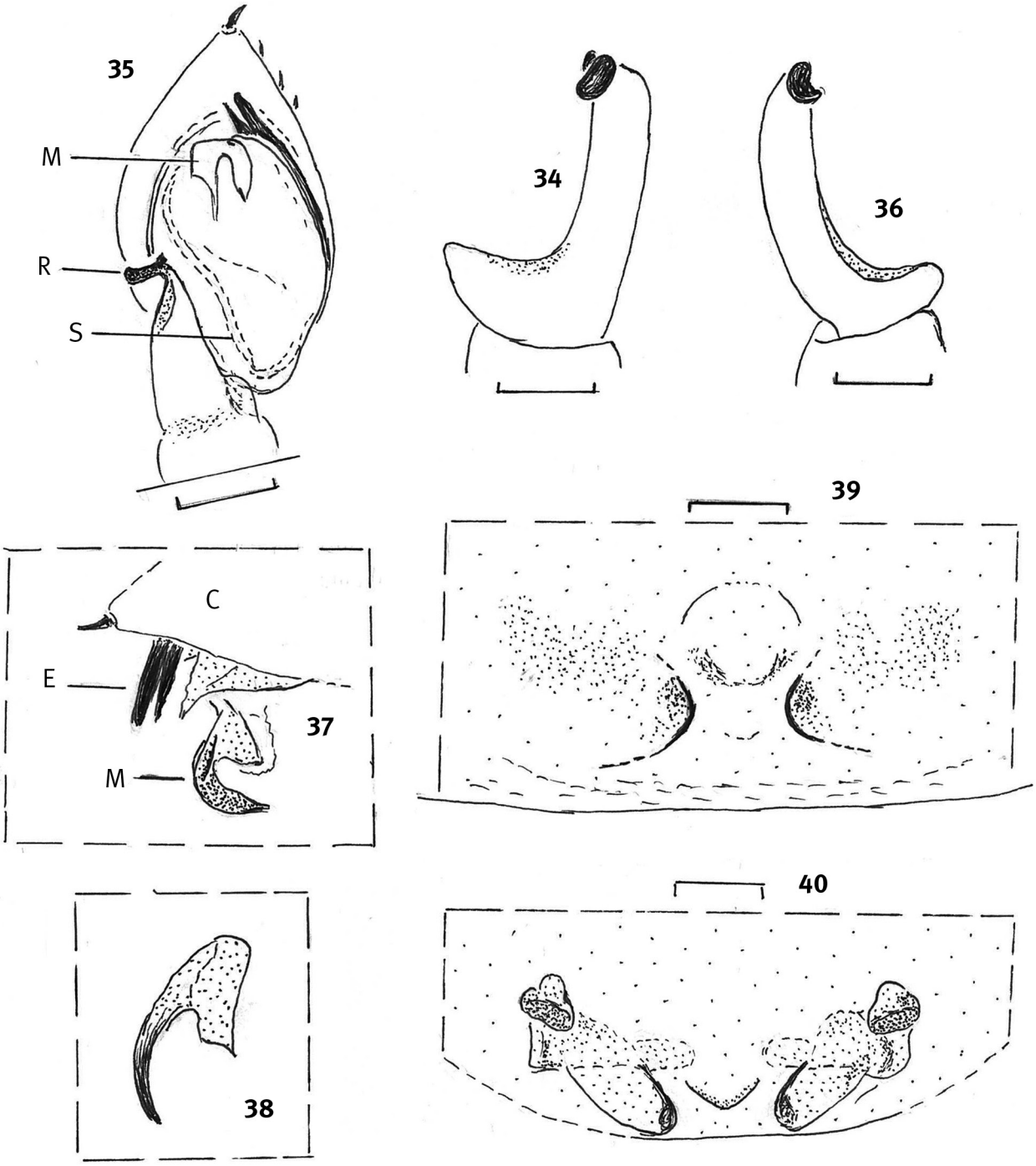
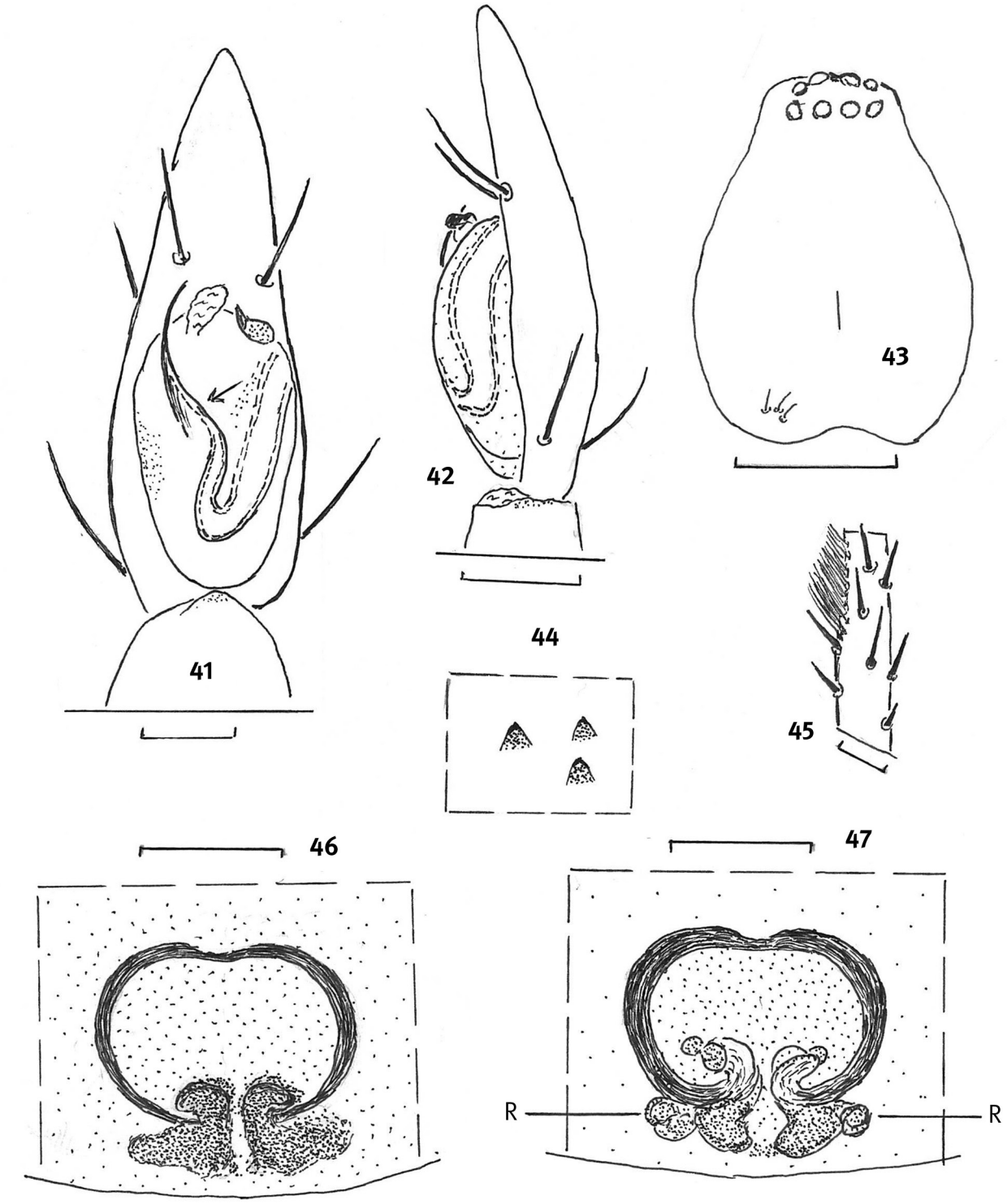


Fig. 26) *Lycosoides coarctata* LUCAS 1846, ♂, distal half of the embolus (E).- Scale 0.2 mm.

Figs. 27-33: *Arctosa personata* (L. KOCH 1872), 27-32) ♂; 27) ventral aspect of the left cheliceral teeth. Note: The small posterior lateral tooth exists only in a single of the four present specimens; 28) Sternum. Note: The dark longitudinal band is quite indistinct in one of the males, in another male exist grey lateral patches; 29) genital area. The short arrow points to the left sclerite at the border of the epigastral furrow, the long arrow points to the left anterior "sclerite"; not all of the long hairs and spinules are drawn; 30-31) ventral and retrolateral aspect of the left pedipalpus. Note: The tip of the cymbium bears some strong hairs but no claw; 32) bulbus sclerites. Notes: (1) Below the synembolus (S) exists a further, partly hidden, sclerite; (2) in the present male the tip of the embolus (T) is observable; 33) ♀, epigyne. - D = distal tegular apophyis, F = furrow, M = median apophysis, S = synembolus, T = tip of the embolus. No scales.



Figs. 34-40: *Zodarion campeirosense* **n. sp**; 34-38) ♂ from Campeiros; 34) holotype, retrolateral aspect of the tibia of the right pedipalpus; 35) holotype, ventral aspect of the slightly expanded right pedipalpus; 36) paratype from Beliche, retrolateral aspect of the tibia of the left pedipalpus (slightly different aspect to fig. 34); 37) paratype from Campeiros, retrodistal aspect of the sclerites of then left pedipalpus; 38) paratype from Beliche, ventral aspect of the median apophysis of the right pedipalpus; 39-40) ♀ from Campeiros, epigyne and dorsal aspect of the vulva. - C = cymbium, E = embolus, M = median apophysis, R = retrolateral tibial apophysis, S = sperm duct. Scales: 0.1 in figs. 34-36 and 39-40, no scales in 37-38.



Figs. 41-42: *Drassodes balneum* WUNDERLICH 2025, ♂, ventral and retrolateral aspect of the left pedipalpus. The arrow points to the sperm duct which enters the embolus *retro*basally. - Scale 0. 2 mm.

Figs. 43-47: ?*Drassodex unusdens* **n. sp.**, ♀; 43) dorsal aspect of the prosoma; 44) teeth of the left cheliceral margin; 45) retrolateral aspect of the left metatarsus III showing bristles and preening comb; normal hairs and trichobothria are not drawn; 46-47) epigyne and dorsal aspect of the vulva. - R = receptacula seminis. Scales 1.0 in 43), 0.2 in 45)-47).

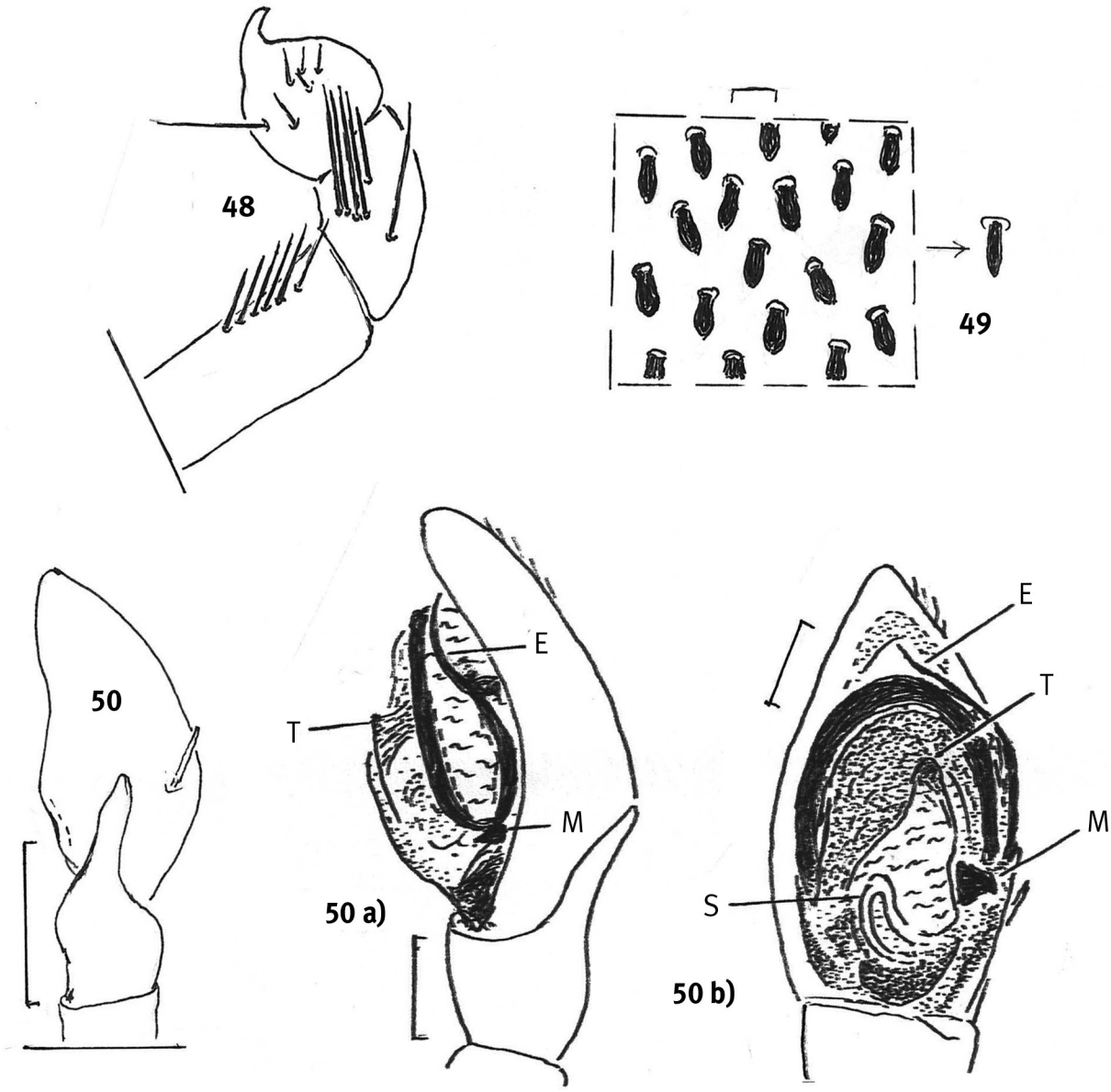


Fig. 48) *Zelominor algarvensis* SNAZELL & MURPHY 1997, ♂, retrolateral aspect of femur, patella and tibia of the left pedipalpus. - No scale.

Figs. 49-50b: *Zelotes* (*Marinarozelotes*) *stridulans* **n. sp**., ♂; 49) ventral part of the middle of the opisthosoma showing club-shaped stridulatory bristles. The arrow points to a more slender bristle of a male from the same locality; 50) retrolateral aspect of tibia and cymbium of the left pedipalpus; 50a-50b) retrolateral and ventral aspect of the left pedipalpus. - E = embolus, M = median apophysis, S = sperm duct, T = tegular apophysis. Scales 0.5 mm in fig. 50), 0.2 mm in the remaining figs.

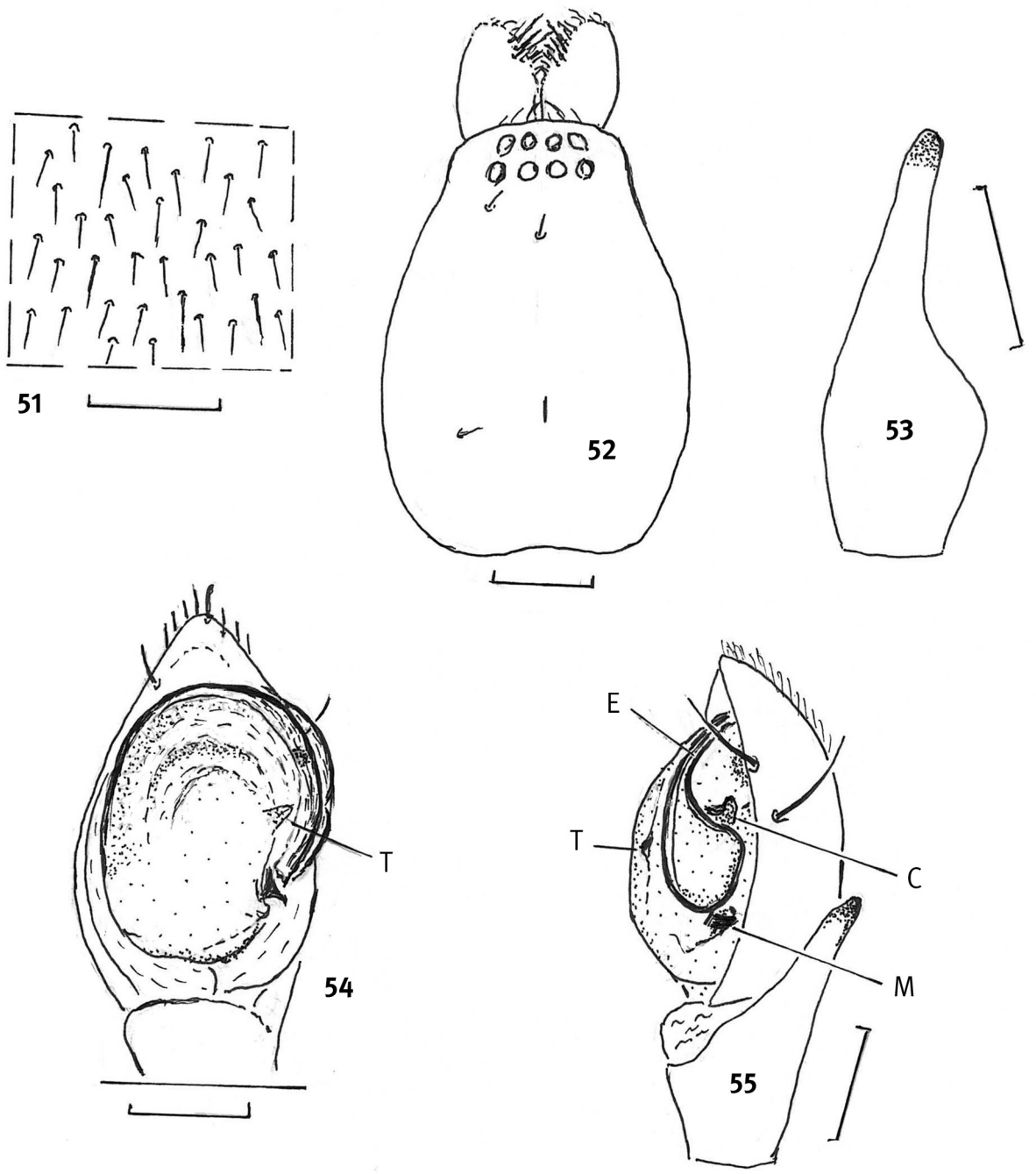
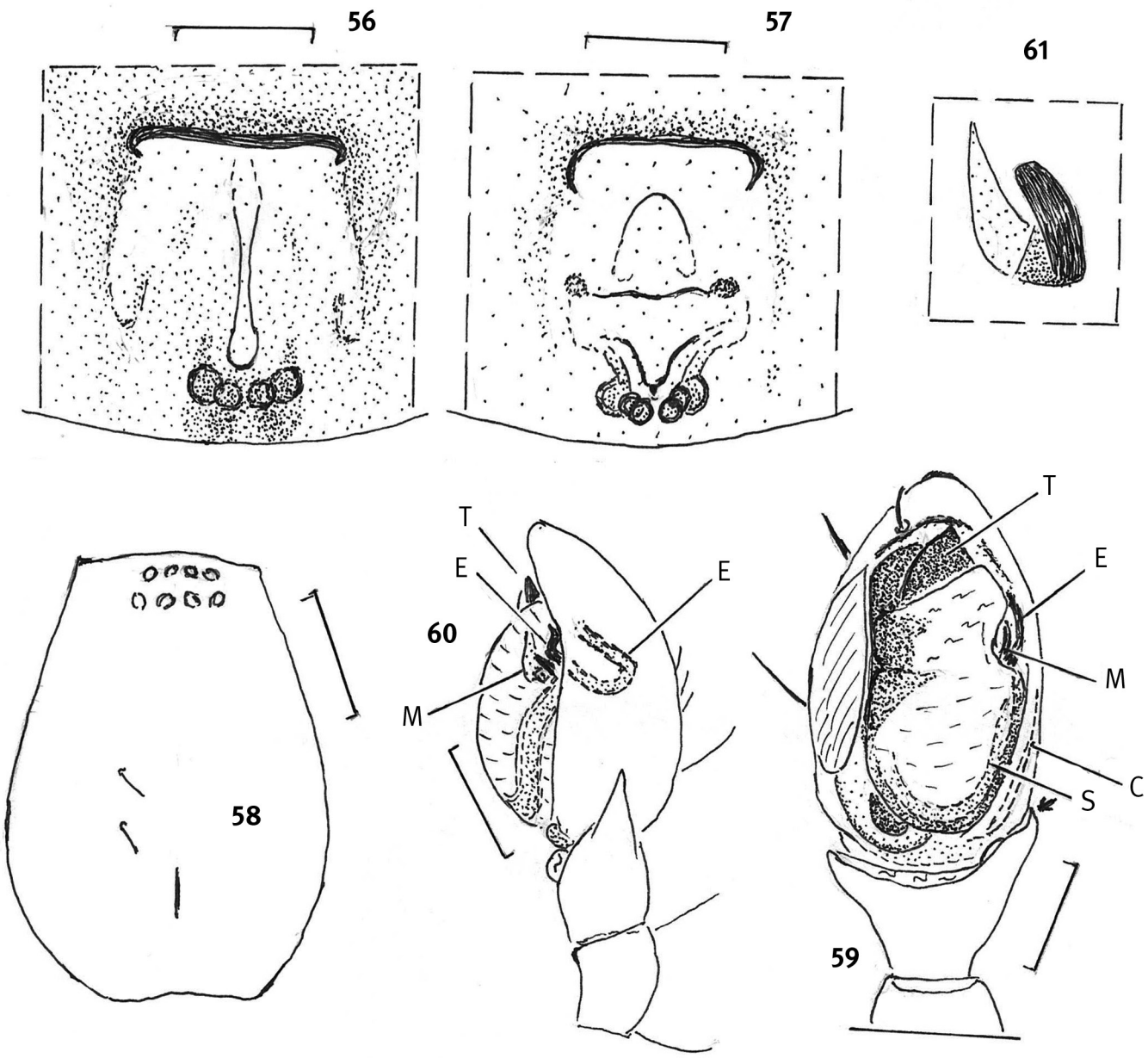


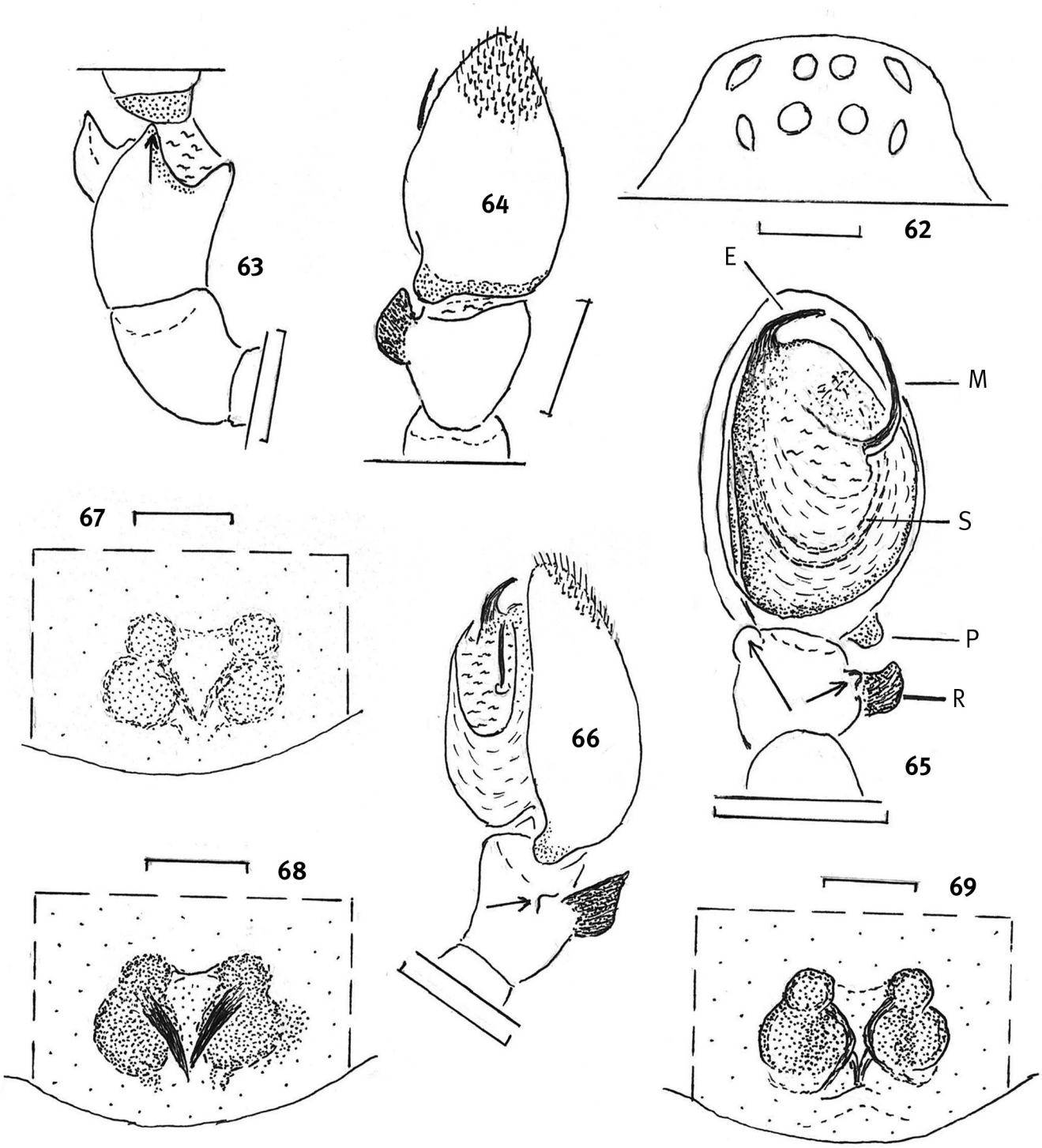
Fig. 51) *Zelotes* (*Marinarozelotes*) *lyonneti* (AUDOUIN 1827), ♂, small ventral section of the middle part of the opisthosoma showing thin bristles. - Scale 0.2 mm.

Figs. 52-55: *Zelotes* (*Marinarozelotes*) *novus* **n. sp.**, ♂; 52) dorsal aspect of the prosoma; 53) retrodorsal aspect of the left pedipalpal tibia; 54-55) ventral and retrolateral aspect of the left pedipalpus. - C = conductor, E = embolus, M = median apophysis, T = terminal apophysis. Scales: 0.5 mm in fig. 52), 0.2 mm in the remaining figs.



Figs. 56-57: *Zelotes beliche* **n. sp.**, ♀; 56) epigyne, hairs are not drawn; 57) dorsal aspect of the vulva. - Scale 0.2 mm.

Figs. 58-61: *Zelotes nonscutatus* **n. sp.,** ♂; 58) dorsal aspect of the prosoma; 59-60) ventral and retrolateral aspect of the left pedipalpus; 61) retrolateral aspect of the median apophysis of the left pedipalpus. Note the strongly sclerotized basal part, the fairly sclerotized middle part and the weakly sclerotized distal part. The arrow in fig. 59) points to the bent tip of the tibia apophysis. - C = edge of the wide cymbium, E = embolus, M = median apophysis, S = sperm duct, T = terminal apohysis. Scales: 0.5 mm in fig. 59), 0.2 mm in figs. 59-60), no scale in fig. 61).



Figs. 62.-69: *Apostenus crespoi* LISSNER 2017; 62-66) ♂; 62) dorsal aspect of the eyes; 63) prolateral aspect of patella and tibia of the left pedipalpus; 64-66) dorsal, ventral and retrolateral aspect of the left pedipalpus. The short arrow points to the basal hump of the retrolateral tibia apophysis, the long arrow points to the proapical hump; 67-68) ♀, epigyne, variability; 69) dorsal aspect of the vulva. - E = embolus, M = median apophysis, P = paracymbium, R = retrolateral tibia apophysis, S = sperm duct. Scales: 0.2 mm in figs. 64-66), 0.1 mm in the remaining figs.

BEITR. ARANEOL., 19 (2026: 46–55)

NOTES ON THE RELATIONSHIPS OF THE SPIDER SUPERFAMILIES ARANEOIDEA AND NICODAMOIDEA AS WELL AS SELECTED ARANEOID FAMILIES AND CRETACEOUS FOSSILS (ARANEAE)

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Abstract: Notes on the relationships of the spider superfamilies Araneoidea, Nicodamoidea, fossils and selected families (Araneae) as well as a cladogram of these taxa are presented. Araneoidea and Nicodamoidea are regarded to be possible sister groups. Nicodamidae is well supported as sister group of Megadictynidae but not of the Araneoidea. The orb web of the Araneoidea is considered to have originated a single time. “Orbiculariae” and the “Spineless Femur-clade are considered not to be monophyletic groups. The diagnosis of the superfamily Araneoidea is modified. The families Theridiidae and Comaromidae are regarded probably to be sister groups as well as the most basal taxa of the Araneoidea. Based on Cretaceous taxa a revised and new diagnosis of the family Theridiidae is provided. The taxonomical value of certain morphological structures connected to the cribellum - or lost with it - are discussed.

Key words: Anapidae, Araneae, Araneidae, Araneoidea, Comaromidae, Cribellata, cribellum, cuticula, cymbium, feathery hair, labium, Lagonomegopidae, Linyphiidae, Megadictynidae, Megadictynoidea, Nicodamidae, Orbiculariae, orb web, paraymbium, space web, spiders, Spineless-femur clade, Symphytognathoid branch, Theridiidae, Zarqaraneidae.

For more than 40 years I have been trying to find out the tricky relationships of the most diverse spider superfamily, the Araneoidea, as well as of its families - really a long-term challenge! Numerous of my papers – (1986 up to 2023: 20, fig.A and 2025: 114, fig. B) – (as well as papers of other authors) are not satisfying, may include errors and reflect an intricate path.

Mainly (a) the discovery of fossil Cretaceous spiders – members of the "key family" Theridiidae as well as of the unusual extinct family Zarqaraneidae -, (b) new results - including phylogenomics, see, e. g., MAGALHAES et. al. (2020) - as well as (c) the surprising results of a recently published paper (abstract) by ESKOV & MARUSIK made me write this hopefully less incorrect/unrealistic paper. I focus on only few but – in my opinion – most important patterns. Fig. A includes a large branch which one may jokingly call the "paracymbial araneoid clade" because it is mainly based on the shape and position of the paracymbium besides the single origin of the orb web. I regard the paracymbium being not simply a quite important morphological structure; it also has an important function during the copulation of spiders, and is in my opinion of a quite great phylogenetic value!

Mainly the following erroneous suggestions have misled various investigators for many years:

(1) The alleged monophyly of cribellate spiders, see, e. g. SIMON (diverse papers), corrected by LEHTINEN (1967). Losses of the cribellum and connecting structures (see below) are numerous, e. g., two losses within the Nicodamoid-Araneoid Branch (fig. A): in (predecessors of) the Nicodamidae as well as in the Araneoidea.
(2) The alleged monophyly of the orb web, "Orbiculariae" in the sense of CODDINGTON.
(3) The alleged monophyly of the "Spineless-femur clade" in the sense of CODDINGTON; see, e. g., the different relationships and apomorphic characters of the family Theridiidae treated below.

(I) **The relationships of the superfamilies Araneoidea and Nicodamoidea**

While Nicodamoidea comprises only two relic extant families - the ecribellate Nicodamidae and the cribellate Megadictynidae - the very diverse and completely ecribellate Araneoidea comprises more than a dozen extant families as well as few extinct families; the latter are not included in fig. A besides the Zarqaraneidae
The superfamilies Nicodamoidea and Araneoidea are actually considered to be sister groups - see MAGALHAES et al. (2020) -, but ESKOV & MARUSIK (2025) regard Arane*oidea* to be the sister group of Nicodam*idae* (!): "Nicodamidae share scaly cuticle and serrate setae with Araneoidea, ..."... "Based on microstructure evidence we propose that 'Nicodamoidea' is paraphyletic, within the cribellate Megadictynidae representing the sister group to an ecribellate lineage comprising Nicodamidae + Araneoidea.".
The superfamily Nicodamoidea is well diagnosed mainly by two unusual apomorphic patterns, (1) a single tooth of the anterior margin of the cheliceral furrow as well as a smooth posterior margin and (2) by an unusual large dorsal tibial apophysis of the male pedipalpus, see also the plesiomorphic characters, fig. A. The orb web and the spinneret triad - both are absent in the Nicodamidoidea – as well as the loss of a cribellum are usually regarded as the main apomorphies of the Araneoidea. The Nicodamoid-Araneoid Branch (fig. A) is weakly diagnosed by the absence (loss) of feathery hairs and the strong reduction of the number of teeth of the cheliceral margin (see also the plesiomorphic characters considered here, fig. A).
ESKOV & MARUSIK based their findings mainly on the pattern of setae and the microstructures of setae, trichobothria and cuticle which are shared by Nicodamidae and Araneoidea. In my opinion the conclusion of these authors is incorrect for several reasons (see fig. A):

(1) The characters shared by the two nicodamoid families are obvious, quite unusual as well as unique in their combination: (a) their ♂♀-copulatory structures – e. g., the existence and peculiar shape of the *dorsal* tibial apophysis of the ♂-pedipalpus – and (b) the strongly reduced number of teeth of the margins of the cheliceral furrow (as stated above);

(2) The distribution of (micro)structures of the cuticle as well as of the trichobothria and hairs within certain spider taxa is *interpreted by me in a quite different way than by ESKOV & MARUSIK:* the derived structures (see above) are *not* regarded simply as synapomorphies of Nicodamidae + Araneoidea but these structures are connected with the existence or absence/loss of a cribellum.
As known from various taxa the existence of a cribellum is usually *linked* – besides a calamistrum of metatarsus IV – (a) with a ridged (ribbed or fingerprint-like) structure of the cuticle (b) with plumose-laminar hairs and (c) with a special structure of the bothrium of the trichobothria. In contrast the ecribellate state is generally linked with (a) a scaly cuticle, (b) serrate setae and (c) a different bothrium of the trichobothria. The latter is the case in the diverse (ecribellate) superfamily Araneoidea. (I don't know a single taxon possessing a ridged cuticula of the very diverse Araneoidea!). Thus it is not a surprise that a ridged cuticle exists in the Megadictynidae but a scaly cuticle in the Nicodamidae and the Araneoidea as well. One example of the numerous other comparable pairs of high taxa exists in the family Oecobiidae: Oecobiinae (cribellate) which possesses a ridged cuticle etc., and Urocteinae (ecribellate) which possesses a scaly cuticle. Examples of such structural differences were published by me already 40 years ago, see WUNDERLICH (1986: 107 -108) and demonstrated by REM-photos 18-20, 200-213. Apparently these – in no way new at that time - results were overlooked (*). In 1986 I also supposed a genetical connection/correlation of the structures in question as well as the possible functional value to be an “Anti-Adhäsions-Einrichtung” against the quite different kinds of sticky threads in the capture webs.
Thus the value of the distribution of the structures in question within spider taxa may be restricted and has to be regarded with reservation.

(3) The most prominent apomorphies of the Araneoidea – the existence of a triplett of the spinnerets, the absence/loss of a cribellum and the existence of a quite variable! and not monophyletic paracymbium – are completely absent in the Nicodamidae (see also below, e. g., the probably late origin of an orb web, fig. A). The spinneret triplett and the paracymbium are not treated in the paper (abstract) by ESKOV & MARUSIK (2025). I regard kind, size and shape of the araneoid paracymbium to be of very high value; it is connected with a copulatory function.

(*) In 1987 I sent my book to several colleagues like LEHTINEN and PLATNICK, who even sent me a review.

(II) **Diagnoses and relationships of the Theridiidae and notes on the Comaromidae**

The taxonomic position of the “key family” Theridiidae within the superfamily Araneoidea is enigmatic and has been controversially discussed, it was even regarded to be a superfamily of its own by LEHTINEN. Traditionally the family has been regarded to be a derived member of the Araneoidea and furthermore – because of the reduced number of leg bristles which exist only dorsally and only on patellae and tibiae - as part of the “spineless femur-clade”. Molecular-genetic studies contradict this opinion.

The diagnostic characters of the very diverse Theridiidae are difficult to be detected, and at first we have to go “back to the roots”: We have to know and to distinguish the apomorphic and plesiomorphic characters of the superfamily Araneoidea as well as of the Nicodamoid-Araneoid Branch, the possible sister group of the Araneoidea; my suggestions: see fig. A. If possible, we have to try to find, interpret, weigh and integrate the diagnostic patterns of the oldest known theridiid fossils; see the paper on Cretaceous spiders in Kachin amber in this volume.

Which are the most frequent, most important, typical, plesiomorphic or *actually apomorphic* characters of the Theridiidae? Previously – besides the absence/losses of certain structures like an epigynal scape – listed were mainly the following characters: The *ventral comb of tarsus IV, the not rebordered labium*, the existence of a special “*theridiid tegular apophysis*” of the male pedipalpus, the reduced number of leg bristles, the prosomal-opisthosomal stridulatory organ, the *distally widened tibia of the long male pedipalpal femur bearing a transverse row of long and bristle-shaped hairs* (fig. 6), the special kind of the capture web and the peculiar *two kinds of paracymbia*: a retrodistal (fig. 1) or an - in my opinion derived - “intern” one. Which of these characters may be considered to be plesiomorphic, which relics, which apomorphic, which are diagnostic for a single subfamily only? See, e. g., WUNDERLICH (2008).

In this connection the *oldest* known theridiid fossils are of special interest. Members of five extinct genera preserved in 100 million-year old Late (mid) Cretaceous amber from Myanmar (Burma), see the paper on spiders in Kachin amber by WUNDERLICH (2026) (this volume) may provide most important conclusions about the phylogeny of the family Theridiidae. Unfortunately we know only few “sand corns” of the numberless theridiid branches and taxa of the Cretaceous. Do certain of the only half a dozen discovered Cretaceous genera really possess apomorphic family patterns? - The characters of the fossils in question are: The absence (!) of a ventral comb of tarsus IV (as in certain extant theridiid taxa, too), a not rebordered labium, see WUNDERLICH & MÜLLER (2021: 245, fig. 292) - in my opinion a symplesiomorphy of Theridiidae and Comaromidae -, which stands in contrast to the rebordered labium in the “Derived Araneoid Branch”, see fig. A, the strongly reduced number of cheliceral teeth and of leg bristles (characters shared by several Araneoidea) and the absence of a prosoma-opisthosomal stridulatory organ. A distally widened tibia of the basically long femur of the ♂-pedipalpus bearing a subapical transverse row of long hairs (fig. 6) exists in *Cretotheridion* WUNDERLICH 2015 (fig. 6) and in *Triangulum* JANG & LI 2022. This pattern is *shared by* Eocene and (!) extant *Theridiidae*. Besides probably an only single epigynal opening and probably the existence of a theridiid tegular apophysis the distally widened pedipalpal tibia may be the most important apomorphic characters of the family Theridiidae, see fig. A. Notably in at least a single member of the genus *Cornutheridion* WUNDERLICH 2021: Figs. 296-297 the pedipalpal tibia is *not* widened but slender. - A retro*basal* paracymbium is absent in the Cretaceous taxa like in all extant Theridiidae (and Comaromidae), a retro*distal* paracymbium was not recognized by me in theridiid fossils (it may exist but be quite small or hidden!) (according to my hypothesis this kind of paracymbium is a synapomorphy of Theridiidae + Comaromidae). In the Cretaceous fossils I did not identify a sure “theridiid tegular apophysis”; this may be a further apomorphic theridiid character. A fossil theridiid female isstill unknown and thus (a) the existence of an epigynal scape – absent in almost all extant theridiid taxa – and (b) the existence of a single epigynal opening – existing in most extant taxa - are unknown. Therefore – compare also the characters being symplesiomorphic with the Comaromidae, fig. A – I regard the families Theridiidae + Comaromidae to be the most basal branch of the Araneoidea and both to be possible sister groups. In contrast to most previous authors Theridiidae is not regarded by me to be a member of the “Spineless Femur-Clade” which includes Cyatholipidae, Nesticidae and Synotaxidae and possess a *retrobasal* paracymbium.

Notes: The earliest branchings of the oldest araneoid spider taxa are still not surely documented by molecular-genetic investigations. Could the Theridiid-Comaromid Branch be more related to the Orb Web Weavers?

Possible branchings of taxa of the Nicodamoid-Araneoid Branch and their relationships (figs. A and 1-5)

The Nicodamoid-Araneoid Branch is only weakly diagnosed. Besides numerous plesiomorphic patterns I know only a single apomorphic - negative (!) - morphological character: The loss of feathery hairs.

The superfamily Nicodamoidea and its families, Megadictynidae and Nicodamidae, are well diagnosed, see above.

The superfamily Araneoidea is well diagnosed by the existence of a triplett of the spinnerets, the absence/loss of a cribellum and the existence of a paracymbium – a quite important and variable structure: (a) in a (retro)dorsal position in the Zarqaraneidae (fig. 2), (b) in a retrobasal position of the "Derived Araneoid Branch" (figs. 3-4) or (c) in a retrodistal position in the Comaromidae and the basal Theridiidae (fig. 1) or (d) in a hidden ventral-distal position within the cymbium in derived Theridiidae (not figured).
The existence of an orb web is actually usually also regarded as an apomorphic pattern of the Araneoidea. According to this opinion the orb web should have been lost in the "branch of the irregular capture web weavers" in the sense of WUNDERLICH (2025: 114, fig. B). In the present paper (fig. A) – and in a similar way already regarded by WUNDERLICH (2025: 114, Fig. B) – it is proposed that the orb web originated *not* at the base of the Araneoidea but in the (ancestor of) "Orb Web Dwellers", the sister group of the "Space-web Dwellers". The existence of the orb web is (basically) linked with taxa of a *small* retrobasal paracymbium. In this scenario (the ancestor of) the "Space-web Dwellers" as well as of the "Theridiid-Comaromid Branch" never possessed an orb web but an irregular space capture web which is regarded to be a plesiomorphic pattern of the "Nicodamoid-Araneoid Branch". In contrast to certain recent authors the araneoid orb web originated in this scenario only a single time and has not been (completely) lost.

According to my hypothesis the "Theridiid-Comaromid Branch" is united by two synapomorphies: The existence of a retro*distal* paracymbium (fig. 1) and the loss of femoral bristles. (Femoral as well as metatarsal bristles are lost several times within the Araneoidea, e. g. in a small branch of the "Space-web Dwellers", see fig. A). The capture web of the Theridiidae is basically an irregular three-dimensional web, the capture web of the Comaromidae is considered either to be a derived space web similar in some respect to the theridiid web or – less likely to me but I am far from being sure - to be a derived orb web. See also above.
Note 1: Did the *two*-dimensional orb web evolved - in connection with insects flying in higher strata – only later than the *three*-dimensional space web which was originally built near the ground like in certain Theridiidae, e. g., in most members of the genus *Eoplognatha*? The very rare reports of Theridiidae in Creteous amber may indicate their life style near the ground but not in higher strata of the vegetation.

Note 2: Comaromidae was formerly usually considered to be a subfamily of the Anapidae of the "Symphytognathoid Branch".

The extinct family Zarqaraneida: See below (fossils).

The "Derived Araneoid Branch" is diagnosed plesiomorphicly existences of a rebordered labium and apomorphicly by a retrobasal paracymbium (figs. 3-4) as well as an epigynal scape.

The branch of "Space-web Dwellers" is weaky diagnosed by a *large and complex* paracymbium which basically stands out from the cymbium (fig. 4) (apomorphy) and an epigynal scape (plesiomorphy).
(Families Cyatholipidae, Linyphiidae, Mimetidae, Nesticidae, Pimoidae, Sinopimoidae, Synotaxidae).

The branch of the "Orb-web Dwellers" is diagnosed by the (basical) existence of an orb web and basically a *small* paracymbium fairly *close to the cymbium* (fig. 3) (apomorphies).
(Anapidae, Araneidae, Mysmenidae, Symphytognatidae, Tetragnathidae and Theridiosomatidae).

Selected fossil taxa, from the Cretaceous if not noted otherwise
See MAGALHAES et al. (2020):

Note: The weak knowledge of old - Triassic, Jurassic, Early Cretaceous – spider fossils may give *hints* to the origin of higher taxa but not more. Of special interest is the actual absence of reports of the probably (in a geological sense) old and quite diverse araneoid family Linyphiidae in Cretaceous ambers. This faunal gap has unknown reasons and is not definitive; see the surprising recent discoveries of Cretaceous members of the families Theridiidae and Araneidae in Burmese Kachin amber; see WUNDERLICH (2026, this volume).

Megadictynoidea: Fossil members of this relic superfamily from the Australian Region are unknown.

Araneoidea: The following families (part). The oldest known taxon may be Jurarachnidae.

Araneidae: The oldest sure member known to me is the Cretaceous *Mesozygiella dunlopi* PENNEY & ORTUNO of the subfamily Zygiellinae which is a basal taxon of the Araneidae. Remarkably, the paracymbium of *Mesozygiella* is distinctly more simple than in the more evolved extant taxa of the Zygiellinae.
Recently a further Cretaceous *questionable* member of the – apparently advanced – araneid subfamily Gasteracanthinae has been reported; see WUNDERLICH (2026, this volume). - The extinct genera *Cretaraneus*, *Huergina* and *Macryphantes* may be members of the family Araneidae, too. - See also Juraraneidae below.

Burmascutidae WUNDERLICH 2008 is probably a member of the Araneoidea, see WUNDERLICH (2018: 98f). and the Megasetidae in which the legs are bristle-less, the body is heavily armoured and the spinnerets are set foreward, too.

Comaromidae: Cretaceous fossils of this relic - in my opinion quite old - family are unknown, the earliest report, a single genus, comes from Eocene Baltic amber; see WUNDERLICH (2004).

Cretamysmenidae WUNDERLICH 2018 is based on a female in Burmese Kachin amber, regarded as an ancient member of the "Symphytognathoid Branch". Its pedipalpus is not reduced and I do not exclude that it may be a member of the Theridiidae, similar *Lasaeola*.

Juraraneidae: The single species, *Juraraneus rasnitsyni* ESKOV 1984 in stone from the Jurassic of Russia, has been regarded by SELDEN (2012) as a cribellate (!) primitive araneoid (!) species. I am quite unsure about the actual existence of structures considered to be cribellum and calamistrum, and regard this taxon more likely to be a member of the family Araneidae (see above) or closely related (Juraraneidae). - Note: In my opinion a cribellate taxon cannot be a member of the superfamily Araneoidea, even not an ancient one.

Linyphiidae: The earliest report by SELDEN goes back to the Early Cretaceous, see MAGALHAES et al. (2020). It is an unnamed female. According to the large chelicerae and the leg bristles in my opinion it may be a member of the Zarqaraneidae or probably of the Araneidae. We still have to wait for a sure Cretaceous report of this probably old family.

Megasetidae WUNDERLICH 2021: See the paper by WUNDERLICH (2026) in this volume on Cretaceous spiders and the Burmascutidae.

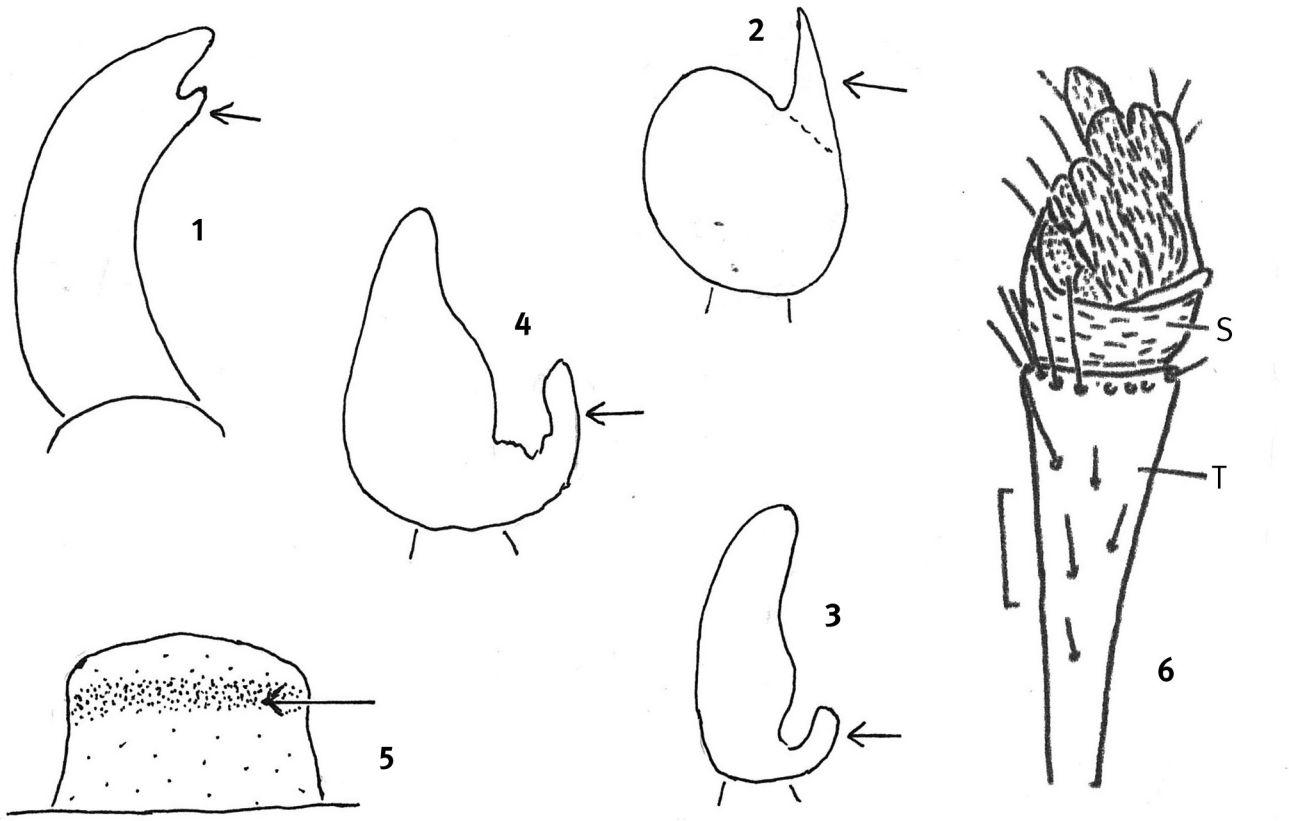
The relationships of the Praetheridiidae WUNDERLICH 2004 and Protheridiidae WUNDERLICH 2004 in *Palaeogene Baltic* amber remain dubious; I do not want to exclude relationships to the Tetragnathidae.

Tetragnathidae: No sure report from the Cretaceous. See Araneidae. *Mesarania* HONG 1984 from the Jurassic of China is regarded by me as an "incertae sedis" of the Araneoidea.

Theridiidae: Five Cretaceous genera are known in Cretaceous Kachin amber; see WUNDERLICH (2026, this volume).

Theridiosomatidae: To my knowledge no sure report of the Cretaceous exists.

Zarqaraneidae: Its members possess a large, simple and erect (retro)dorsal paracymbium (fig. 2) (autapomorphy). In my opinion the family is the member of the basal part of the Araneoidea, see fig. A. Unfortunately the kind of capture web – not an orb? - is unknown; the family may not be monophyletic. See also the family Linyphiidae above. - Related and not included in fig. A is the Cretaceous family Leviunguidae. - See WUNDERLICH & MÜLLER (2020).



Figs. 1-4: Paracymbia (arrows) of 4 groups of the superfamily Araneoidea, dorsal aspect; (1) retrodistal paracymbium close to the cymbium of the Theridiid-Comaromid Branch; (2) retro-*dorsal* erect paracymbium of the extinct family Zarqaraneidae; (3) simple small paracymbium of the Orb-web Dwellers (4) large, basically complicated paracymbium of the Space-web Dwellers standing out from the cymbium. - No scale bars.

Fig. 5) Distally rebordered labium (arrow) of the Derived Araneoid Branch and Zarqaraneidae.

Fig. 6) *Cretotheridion inopinatum* WUNDERLICH 2015 in Cretaceous Burmese Kachin amber, ventral aspect of the left male pedipalpus of the holotype - T = tibia. Scale bar = 0.1mm.

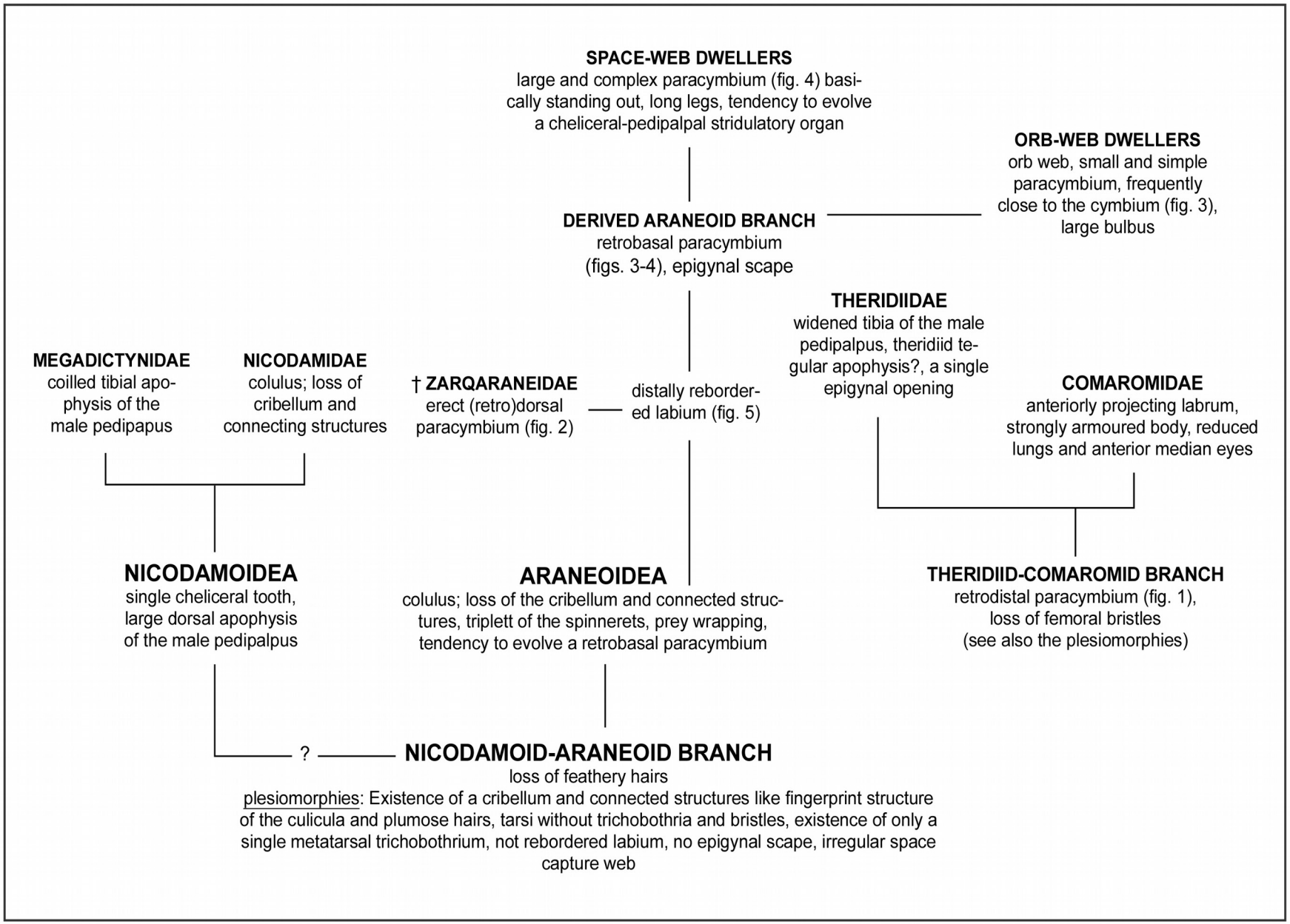


Fig. A. Possible relationships of the superfamilies Araneoidea and Nicodamoidea as well as of selected families.

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BEITR. ARANEOL., 19 (2026: 56–70)

FURTHER NEW FOSSIL SPIDER (ARANEAE) TAXA IN EOCENE EUROPEN BALTIC AND UKRAINIAN AMBERS

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Abstract: The following fossil new spider (Araneae) taxa are described: (a) in Eocene/Oligocene Ukrainian amber: *Rovnospermophoridus damzeni* **n. gen. n. sp.** (Pholcidae, family new to Rovno amber); (b) in Eocene Baltic amber: *Balticonesticus unguis* **n. sp**. (Nesticidae), *Lamellaphantes eozaen* **n. gen. n. sp**. (Linyphiidae) and *Esuritor baltica* **n. sp**. (Pisauridae)

Key words: Araneae, Eocene, fossils, Linyphiidae, Nesticidae, Oligocene, palaeo-biogeography, Pholcidae, Pisauridae, spiders.

In this paper I describe the first member of the family Pholcidae in Eocene/Oligocene Ukrainian amber as well as a new species each of the families Linyphiidae, Nesticidae and Pisauridae in Eocene Baltic amber. The material is kept in the collection of the author (CJW) and will be given to the Palaeontology of the University of Hamburg (Ulrich Kotthoff).

Family PHOLCIDAE

Fossil members of the family Pholcidae are known from Eocene Baltic amber, see WUNDERLICH (2004) and are new to Rovno amber from the Ukraine. An eight-eyed Pholcidae indet. is in short described below.

Rovnospermophoridus n. gen.

Etymology: The genus name refers to the Rovno amber from the Ukraine as well as to the varied name of the similar or even related genus *Spermophora* HENTZ, especially to *S. senoculata.*

The gender of the name is masculine.

Type species (by monotypy): *Rovnospermophoridus damzeni* n. sp.

Diagnostic characters (♂; ♀ unknown): Legs (figs. 1, 5, photo) extremely long, tibia I 6.2. times the length of the prosoma, opisthosoma (figs. 1-2, photo) oval, eye field (figs. 2-3) fairly raised, number of the eyes unknown, proximal cheliceral “horns” (fig. 4) existing, existence of distal cheliceral “horns” unknown; pedipalpus (figs. 6): Procursus large and complicated, bulbus oval, bearing only a long and distally thin embolus as well as a slender basal tegular apophysis.

Relationships: According to its patterns I regard *Rovnospermophoridus* as a member of the Spermophorini; see the discussion by HUBER et al. (2018). The bulbus is similar to *Spermophora senoculta* (DUGES 1836). In *Spermophora* the legs are usually much shorter and the opisthosoma is globular. In the Eocene genus *Paraspermophors* WUNDERLICH 2004 in Baltic amber the shape of the opisthosoma is globular, the legs are much shorter, embolus and procursus are quite different. - An only ca. 1 mm long Pholcidae indet. in Baltic amber, a probably juvenile female, F1450/BB/CJW, possesses also extremely long and thin legs, femur I is ca. 2.2 mm long, the deformed opisthosoma may be ovoid, the eight (!) eyes possess apparently a position similar to the genus *Pholcus* WALCKENAER 1805.

Distribution: Eocene/Oligocene Rovno amber forest of the Ukraine. - Note: *Rovnospermophoridus* is only known from Rovno amber (Ukraine); it is unknown from Baltic amber in which members of *Paraspermophora* WUNDERLICH2004 are not too rare. Although *Rovnospermophoridus* is only known from a single specimen this difference may be a further conformation for independent Baltic and Rovno amber faunas.

***Rovnospermophoridus damzeni* n. gen. n. sp**. (figs. 1-6), photo 4.

Derivatio nominis: It is a pleasure for me to name this species after Jonas Damzen in Vilnius (Lithunia) who provided the holotype to me.

Material: Holotype (♂) in Rovno amber (Eocene/Oligocene) from the Ukraine, F4023/RA/CJW.

Preservation and syninclusions: The spider is well preserved in most of its parts in a mainly clear quite *light* yellowish (almost copal-like) piece of amber which is 23 mm long, hard and dusty (not smearing) during dry grinding. Fissures exist directly right above and left behind the spider's opisthosoma which is ventrally largely hidden by an partly lucent white bubble (fig. 2, photo). Only the tip of the right tarsus II as well parts of tibia and metatarsus I of the left leg I are cut off. - Syninclusions are a larger thin hair-shaped structure behind the spider's opisthosoma, numerous tiny particles of detritus but none of the tiny stellate plant hairs which are typical and frequent in Baltic and Rovno ambers.

Diagnostic characters and relationships: See above.

Description (♂; ♀ unknown):
Measurements (in mm): Body length ca. 2.5; prosoma: Length 1.0, width unknown; opisthosoma: length 1.5, height 0.7; leg I: Femur 5.5, patella 0.35, tibia 6.2, metatarsus ca. 11.5, tarsus 1.5 (?) , tibia II 4.0, tibia III 2.2, tibia IV 3.5, femur IV 3.5.
Colour (photo) medium brown, legs not annulated.
Prosoma (figs. 1-4, photo; most parts like most eyes are hidden): Eye field fairly raised, number of the eyes unknown (probably 6), clypeus long, proximal cheliceral “horns” existing, existence of distal cheliceral “horns” unknown. - Legs (figs. 1, 5, photo) thin and extremely long, tibia 6.2 times longer than the prosoma, tarsi distinctly pseudo-segmented, hairs short, bristles absent, position of the metatarsal trichobothria unknown, paired claws large, bearing teeth. - Opisthosoma (figs. 1-2, photo; most parts are hidden by a larger bubble) oval, dorsal hairs short. - Pedipalpus (fig. 6, photo; see the diagnostic characters of the genus) with thick article, a wide cymbium and a complicated procursus which is partly hidden and hard to observe.

Distribution: Eocene/Oligocene Rovno amber forest of the Ukraine.

Family NESTICIDAE

Balticonesticus WUNDERLICH 1986
The genus *Balticonesticus* is only known from Eocene Baltic amber, see WUNDERLICH

(1986), (2004: 1240-1244) and (2025: 74-76). In *Balticonesticus* tibia I is 3-4 times longer than the prosoma, and in one of three known species – *flexuosus* WUNDERLICH 1986 see below - metatarsus I is distinctly bent. Here I describe the third species of this genus.

***Balticonesticus unguis* n. sp.** (figs. 7-8), photo 5.

Etymology: The spider's name refers to the claw-shaped distal part of its paracymbium, from unguis (lat.) = claw.

Material: Holotype (♂) in Eocene Baltic amber, F4022/BB/CJW.

Preservation and syninclusions: The spider (photo) is completely and fairly well preserved in a 3 x 1.5 x 1.2 cm large, partly clear yellow orange piece of amber, placed on a layer in the amber, so that its ventral side is hidden, parts of the dorsal side of the spider are covered by a white emulsion; on parts of the surface of the piece of amber fissures exist caused by oxidation. - Syninclusions are 2 tiny Diptera as well as several tiny Acari and tiny stellate plant hairs.

Diagnostic characters (♂; ♀ unknown): Metatarsus I straight (photo), tibia I .ca. 3 times longer than the prosoma; pedipalpus (figs. 7-8): Patella and tibia spiny and about as long as wide, paracymbium with a wide basal part as well as a slender long and claw-shaped distal part.

Description (♂):
Measurements (in mm): Body length 2.5; prosoma: Length 1.2, width 1.0; opisthosoma: Length 1.6, width 1.15; leg I: Patella 0.55, tibia 3.5, metatarsus 3.6, tarsus 1.15; femur III 2.0.
Colour: Prosoma dark brown, legs medium to dark brown, not annulated, opisthosoma light grey.
Prosoma (photo) about as long as wide, cuticula smooth, covered with short and some longer hairs, fovea well developed, 8 large eyes in a very wide field, anterior median eyes smallest, posterior median eyes largest, spaced by a little more than their diameter, posterior row slightly procurved, chelicerae and ventral parts hidden. - Legs (photo) quite long and slender, order I/II/III/IV, tibia I ca. 3 times longer than the prosoma, tarsi short, hairs not long, bristles indistinct and short, all patellae and tibiae bear 1/1 dorsal bristles, comb of tarsus IV existing, paired tarsal claws long, their teeth as well as metatarsal trichobothria not studied.- Opisthosoma (photo) oval, bearing longer hairs. - Pedipalpus (figs. 7-8) see above; tegulum bearing several apophyses, embolus long, in an almost circular position.

Relationships: In *B. flexuosus* metatarsus I is distinctly flexible as well as bent, and the paracymbium is apically widely u-shaped, see WUNDERLICH (2025: 86, figs. 21); in *B. rectus* WUNDERLICH 2025 metatarsus I is straight as in *unguis* but the paracymbium is different, especially apically more slender, u-shaped divided.

Distribution: Eocene Baltic amber forest.

Family **LINYPHIIDAE**

Eight extinct linyphiid genera in Eocene European – usually Baltic – ambers were described by WUNDERLICH (2004: 1292-1374). Here I describe a further genus in Baltic amber:

Lamellaphantes **n. gen.** (fig. 9), photo 6.

Etymology: The name of the genus refers (a) to the quite large lamella characteristica of its bulbus and (b) to the related con-familiar genus *Lepthyphantes*.

The genus of the name is masculine.

Type species (by monotypy): *Lamellaphantes eozaen* n. sp.

Diagnostic characters (♂; ♀ unknown): Femur I-II with a short prolateral bristle, sequence of the dorsal tibial bristles 2/2/2/2, at least tibia I with a prolateral bristle, metatarsi I-III (IV, too?) with a dorsal bristle in the basal half; pedipalpus (fig. 9): Tibia and patella stout, both bearing a well developed long dorsal bristle, cymbium without modifications, paracymbium without teeth (only with tiny hairs), lamella characteristica very large, in a ventral position of the bulbus, suprategular apophysis stout, embolus unknown.

Relationships: In the not strongly related fossil genus *Agynetiphantes* WUNDERLICH 2004 in Baltic amber the chaetotaxy is similar and the pedipalpal tibia is stout but the pedipalpal tibia possesses a short spine, the cymbium is modified and the lamella characteristica is compact.

Distribution: Eocene Baltic amber forest.

Lamellaphantes eozaen **n. gen. n. sp**. (fig. 9), photo 6.

Etymology: The species name refers to its existence in the Eocene.

Material: Holotype ♂ in Eocene Baltic amber, F4025/BB/CJW.

Preservation and syninclusions (photo): The spider is well and completely preserved in a yellowish to light brown piece of amber which is 4.5 cm long; only few dorsal parts of the spider are covered with a white emulsion, the ventral side is partly hidden by fissures in the

amber. - Syninclusions are numerous tiny stellate plant hairs, 4 Diptera, a tiny questionable Hymenoptera, several Collembola, remains of insect and plants including a questionable needle, a well preserved stamen and particles of insect excrement.

Diagnostic characters: See the new genus.

Description (♂):
Measurements (in mm): Body length 1.8; opisthosoma: Length ca. 1.1, width 0.8; leg I: Femur 1.4, patella 0.25, tibia 1.45, metatarsus 1.3, tarsus 0.75.
Colour medium brown, legs not annulated.
Prosoma (photo) longer than wide, area of the thoracic fissure hidden, hairs indistinct, 8 eyes are partly hidden, posterior row procurved, its eyes large, clypeus long and bulging, chelicerae and mouth parts hidden. - Legs (photo) fairly long and slender, order I/II/IV/III, hairs quite short, bristles (see also above) partly long, patellae dorsally with a short basal and a long distal one, position of the metatarsal trichobothria unknown, tarsal claws not studied. - Opisthosoma (photo) oval, bearing few short hairs, spinnerets hidden. - Pedipalpus (fig. 9; see also above): Tibia probably slightly higher than long, paracymbium simple and sickle-shaped.

Distribution: Eocene Baltic amber forest.

Family **PISAURIDAE**

Esuritor PETRUNKEVITCH 1942

The species of the extinct genus *Esuritor* were revised by WUNDERLICH (2023: 124-128). Here I add a further new species, in Baltic amber, too.

***Esuritor baltica* n. sp.** (figs. 10-13), photos 7-8.

Etymology: The species name refers to the kind of amber which includes the holotype of the new species, the Baltic amber.

Material: Holotype ♂ in Eocene Baltic amber, F4026/BB/CJW.

Preservation and syninclusions: The spider is partly very well preserved in a clear yellow-orange piece of amber which is 2.5 cm long. Most probably the piece of amber has been heated, a white emulsion is only weakly ventrally preserved on the chelicerae and anteriorly on the opisthosoma. The right patellae I and II are cut off. - Syninclusions like tiny stellate plant hairs are absent.

Diagnostic characters (♂; ♀ unknown): Tibia I bears 6 pairs of ventral bristles, metatarsus I bears 2 pairs of ventral bristles; pedipalpus (figs. 10-13, photos): Femur with a retroventral apical outgrowth almost as long as the diameter of the femoral diameter, the retrodorsal tibial apophysis is divided, the tibia possesses an additional retroventral apical apophysis, the embolus is guided by a large conductor which tip is directed basally; the loop of the embolus describes about half of a circle.

Description (♂):
Measurements (in mm): Body length 3.5; prosoma: Length 1.8, width ca. 1.55; opisthosoma: Length 2.1, width 1.25; leg VI: Femur 1.8, patella 0.4, tibia 1.6, metatarsus 1.6, tarsus 0.6.
Colour: Prosoma dark brown, opisthosoma and legs medium brown, legs not annulated.
Prosoma (photo) longer than wide, bearing short hairs, 8 large eyes which are partly hidden by an emulsion, posterior row fairly recurved, posterior median eyes largest, basal cheliceral articles and fangs of medium size, labium a free sclerite, gnathocoxae stout, sternum fairly longer than wide, spacing weakly the coxae IV. - Legs (photo) fairly long and slender, IV longest, hairs short, most bristles of medium length and not numerous, femora with few short bristles, tibia I-II bear 6 ventral pairs (the apical bristles short), metatarsi I-II bear 2 ventral pairs, tibia I-II bear dorsally 2 thin bristles, legs III-IV bears few thin bristles, trochanteral notches, scopulae and claw tufts absent, paired tarsal claws with long teeth. - Opisthosoma (photo) long oval, bearing short indistinct hairs, spinnerets short. - Pedipalpus (see also above): The cymbium bears a retrobasal bristle and apically probably a pair of shorter claws.

Relationships: According to the absence of a trochanteral notch on III-IV, the chaetotaxy - Metatarsus I bears also only 2 pairs of ventral bristles and tibia I bears also 6 pair of ventral bristles including a short apical pair, see WUNDERLICH (2022: 151, fig. 22) (not only 2 pairs as erroneously noted in the original description) - as well as the structures of the ♂-pedipalpus *Esuritor nonincisio* WUNDERLICH 2023 is most related but in *nonincisio* the femoral outgrowth is shorter than half of the femoral diameter, the loop of the embolus describes a bit more than half of a circle and the tip of embolus and conductor are less bent..

Distribution: Eocene Baltic amber forest.

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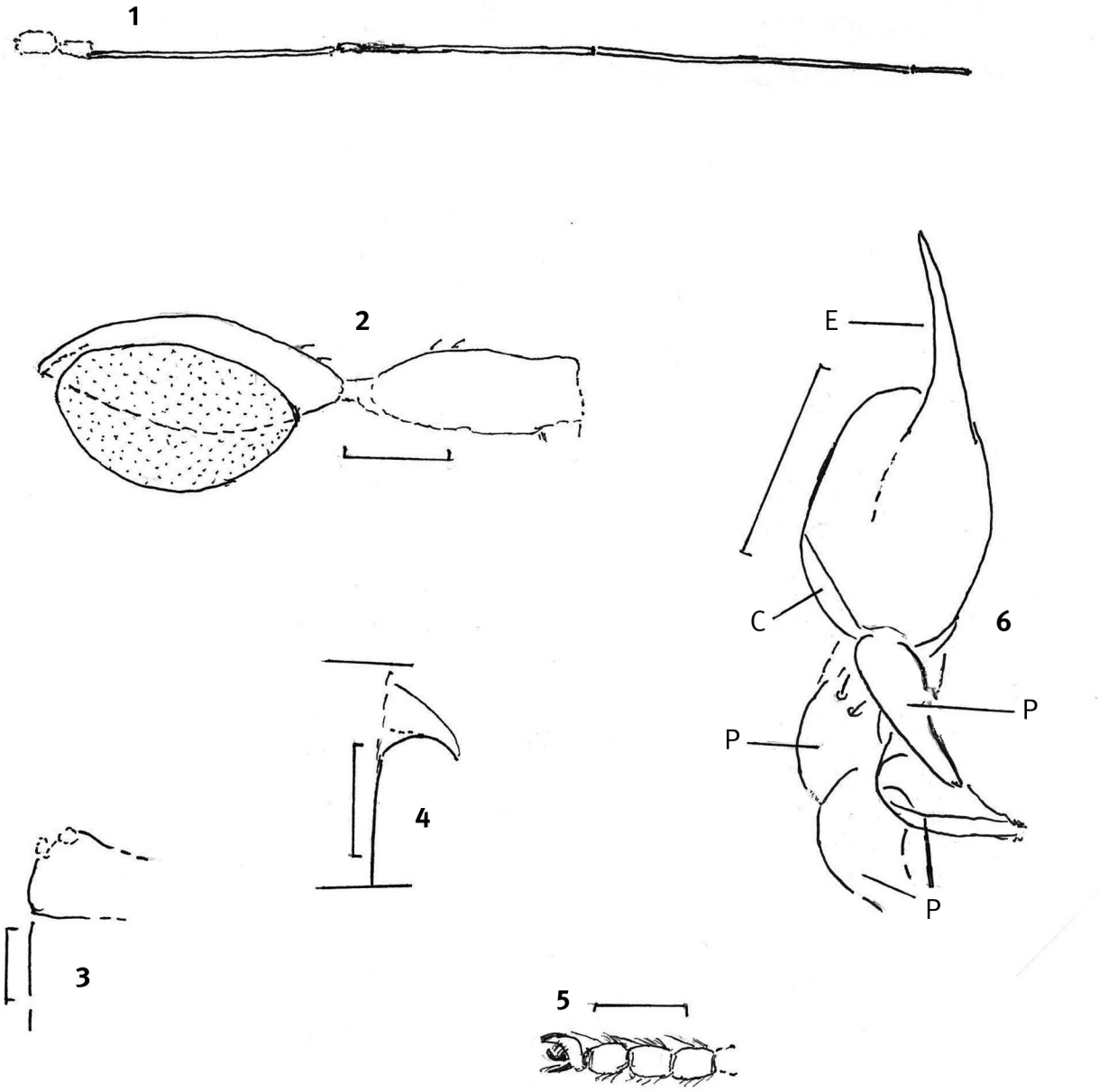
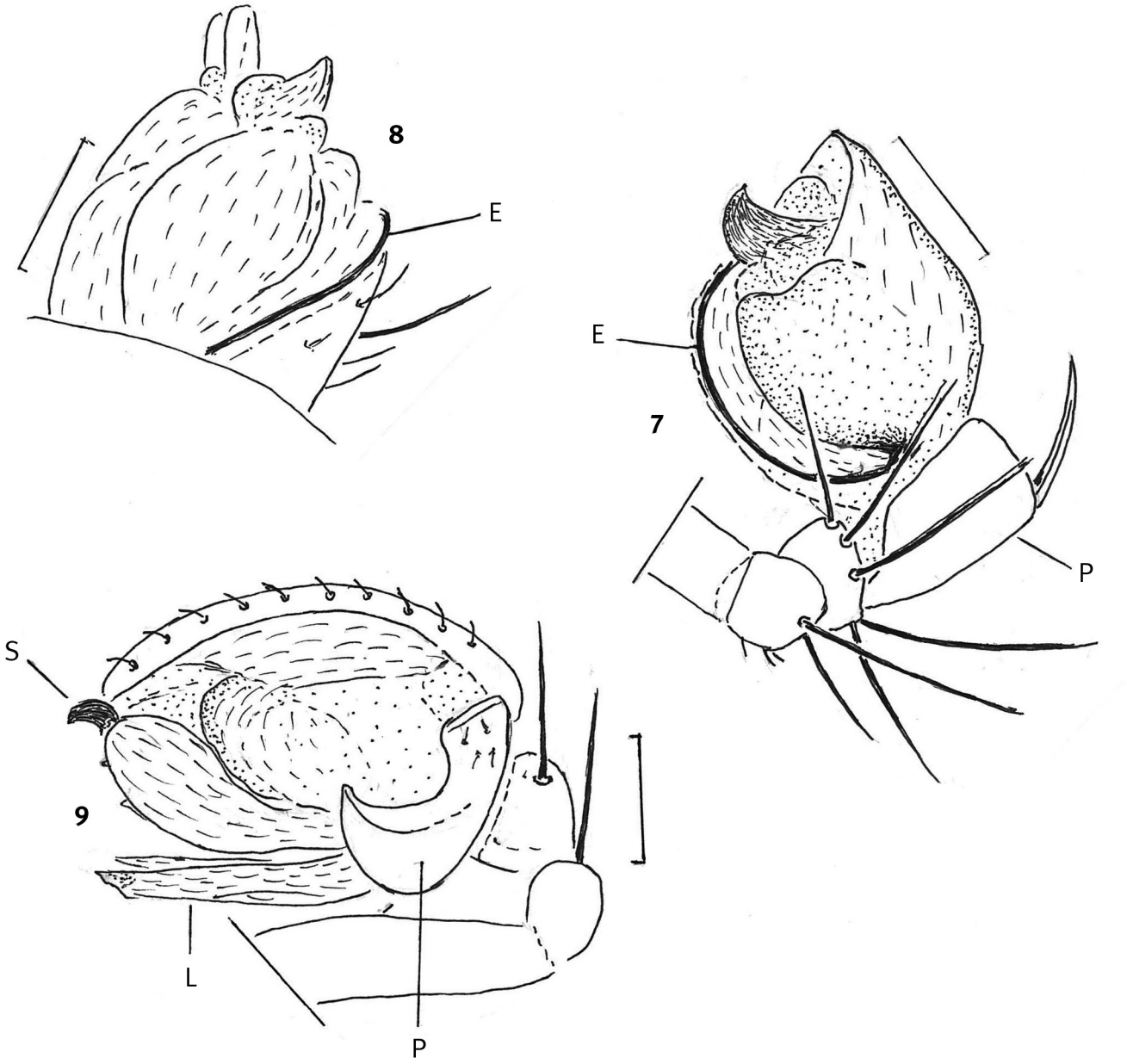
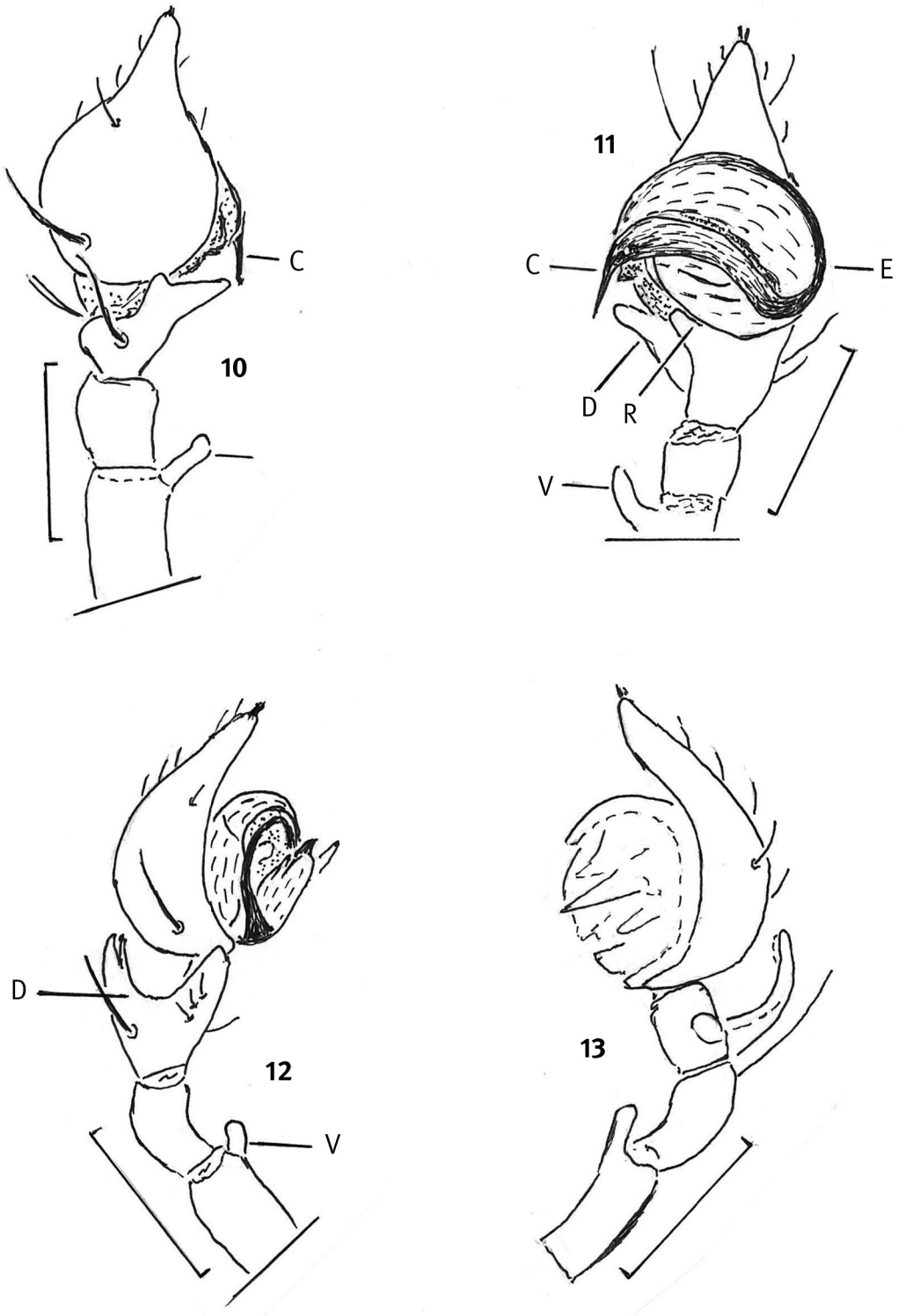


Figs. 1-6: *Rovnospermophoridus damzeni* **n. gen. n. sp.**, ♂; 1) rough drawing of the lateral aspect of the body as well as the extremely long and artificially straightened right leg I which is thickened drawn. The body is 2.5 mm long; 2) lateral (the opisthosoma more ventral) aspect of the body. The opisthosoma is partly hidden by a large bubble; 3) left aspect of the anterior part of the prosoma which is partly (e. g. the eyes) strongly hidden; 4) retrolateral aspect of parts of the right chelicera and its "horn"; 5) lateral aspect of the distal part of a tarsus showing the claw and three pseudosegments; 6) ventral aspect of the right pedipalpus. - B = basal tegular apophysis, C = cymbium, E = embolus, P = procursus which is only partly observable. Scales 0.5 mm in figs. 2) and 6), 0.1 mm in 3-5), no scale in fig.1).



Figs. 7-8: *Balticonesticus unguis* **n. sp**., ♂; 7) ventral-basal aspect of the bulbus and retro-dorsal aspect of patella and tibia of the left pedipalpus; 8) retro-ventral and basal aspect of the right bulbus which basally is hidden. - E = embolus, P = paracymbium. Scales: 0.2 mm.

Fig. 9) *Lamellaphantes eozaen* **n. gen**. **n. sp**., ♂, retrolateral aspect of the left pedipalpus. Some parts are covert with an emulsion. - L = lamella characteristica, P = paracymbium, S = suprategular apophysis. Scale: 0.1 mm.



Figs. 10-13: *Esuritor baltica* **n. sp.**, ♂; 10-11) dorsal and ventral aspect of the right pedipalpus; 12-13) prolateral and retrolateral aspect of the left pedipalpus. - C = conductur, D = dorsal tibial apophysis, E = embolus, R = retroventral tibial apophysis, V = ventral femoral outgowth. Scales: 0.5 mm.

BEITR. ARANEOL., 19 (2026: 67–86)

NEW AND RARE FOSSIL SPIDER (ARANEAE) TAXA IN LATE (MID) CRETACEOUS KACHIN (BURMESE) AMBER FROM MYANMAR

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Abstract: The extinct Cretaceous tribe Autotomianini WUNDERLICH 2015 of the superfamily Deinopoidea and its confusing published relationships are treated. The tribe is upgraded from tribus to family rank, Autotomianidae (**n. rank**). Deinopidinae WUNDERLICH 2021 of the Eodeinopidae WUNDERLICH 2021 is regarded as junior synonym of the Autotomianidae (**n. syn**.). The family Autotomianidae – as a probable case of "palaeo-relationship" - is regarded as a taxon which may be well related to the precursor of the family Deinopidae. Deinopidae is known from Eocene to extant taxa. - *Deinopedes* WUNDERLICH 2017 is regarded as junior synonym of *Autotomiana* WUNDERLICH 2015 (**n. syn**.), *Deinopedes tranquillus* WUNDERLICH 2017 is transferred to *Autotomiana* (**n. comb**.), *Autotomiana brevisetosa* WUNDERLICH 2021 is considered to be the genus of an unknown family but not of *Autotomiana* nor of the family Uloboridae (**quest. relat**.). The genus *Microuloborus* WUNDERLICH 2021 is regarded as not being a member of the family Uloboridae (**quest. relat.)** and probably not being monophyletic. The extinct genera Megasetae WUNDERLICH 2021 and Parvimegasetae WUNDERLICH 2023 are regarded to be probably well related and members of the – from family level - downgraded subfamily Megasetinae of the very diverse family Araneidae. The following taxa are described: *Antemicrothele parva* **n. gen. n. sp.** (Hexathelidae s. l.: ?Macrothelidae); ?*Telemophila* sp. indet. (Telemidae), *Autotomiana patrickmuelleri* **n. sp**. (Autotomianidae), *Megasetae* indet. (?Araneidae) and ?*Cretotheridion aculeatum* **n. sp**. (Theridiidae). A provisional key to the fossil genera of the Theridiidae (♂) is provided.

Key words: Araneae, Araneidae, *Autotomiana*, Autotomianidae, Cretaceous, Deinopidae, Deinopidinae, Deinopoidea, Eocene, Eodeinopedidae, fossils, Hexathelidae, *Linoptes*, Mac-

rothelidae, Megasetidae, Mygalomorpha, orb web, palaeobiogeography, *Palaeomicromenneus*, palaeo-relationships, *Parvimegasetae*, Pholcochyroceridae, Praeterleptonetidae, precursor, spiders, Telemidae, Theridiidae, Uloboridae.

Taxon HEXATHELIDAE (s. l.): ?MACROTHELINAE

Based on molecular-genetic studies several families of the Mygalomorpha are regarded as not monophyletic, are split off, and some subfamilies got family rank. An example is the family Dipluridae (which may be restricted to South America): Years ago Hexathelidae has been excluded, and certain authors upgraded its subfamily Macrothelinae SIMON 1892 to family rank, Macrothelidae. RAVEN & DOUGLAS (2025:13) re-included Macrothelidae in the Hexathelidae, and I follow these authors with some hesitation. This new ranking is not accepted by other authors. Strong differences exist between morphologic and molecular-genetic findings.
As a result of newer studies I recognized that my alleged fossil Dipluridae in Kachin amber – including *Alterphyxiochemoides spicula* WUNDERLICH 2021 and *Phyxiochemoides collembola* WUNDERLICH 2019 - are members of other families, probably members of the family Hexathelidae s. l., including Macrothelinae. See also WANG et al (2025). A questionable juv. Hexathelidae in Kachin amber - see WUNDERLICH (2021: 40-41) -, has to be revised.
Here I describe a new mygalomorph genus and species in Kachin amber, one of the smallest species of the infraorder Mygalomorpha, the smallest known member of the Macrothelinae, body length of the male sex only 5.5 mm. It may be of special evolutionary value, see below: “Relationships”.

Antemicrothele **n. gen.**

Etymology: The name refers to the similar extant macrotheline genus *Microthele* as well as to its much earlier existence, from ante (lat.) = early.

The gender of the name is feminine.

Type species (by monotypy): *Antemicrothele parva* n. sp.

Diagnostic characters (♂; ♀ unknown): Opisthosoma dorsally with quite long and strong hairs similar to bristles (photo); fovea pit-shaped (circular), leg I (fig. 1, photo), tibia I bears

some strong ventral-subapical bristles on a low hump (fig. 4) which may have functioned as a mating structure, pedipalpus (figs. 8-9): Tibia long and basally thickened, bulbus with a straight and quite long embolus, body length only 5.5 mm.

Relationships: According to RAVEN (1980) Hexathelidae possesses – besides numerous labial and gnathocoxal cuspules like the present fossil - a transverse fovea and a digitiform terminal article of the posterior lateral spinnerets. - The similar extant genus *Microthele* SHAO et al. 2025 from China, whose members are also small – body length not very much longer, at least 12 mm – is probably most related to *Antemicrothele* but the shape of the fovea is transverse and the dorsal opisthosomal hairs are short. I do not want to exclude that the dwarf genus *Antemicrothele* of Myanmar is related to the precursor of the extant genus *Microthele* of China. Probably during the Cretaceous this Asian region was an "evolutionary hot spot" of the diverse Macrothelinae.

Distribution: Mid Cretaceous Kachin amber forest of Myanmar (Burma).

***Antemicrothele parva* n. gen. n. sp.** (figs. 1-9), photo 9.

Etymology: The name of the species refers to its small body size, from parvus (lat.) = small.

Material: Holotype ♂ in mid Cretaceous Kachin (Burmese) amber from N-Myanmar, F4021/KA/CJW.

Preservation and syninclusions: The spider is well preserved in a clear yellow-orange piece of amber which is 1.7 cm long and fairly flat, its left leg III is lost beyond the coxa by autotomy, the tip of the left tarsus IV is cut off, the prosoma is fairly deformed, mouth parts and sternum are partly hidden by an emulsion, the lung covers are hidden by an air bubble. - Syninclusions are 2 Collembola.

Diagnosis and distribution: See the new genus.

Description (♂):
Measurements (body length 5.5, prosoma: Length 2.7, width 2.3; opisthosoma: Length 3.0, width 1.5; tarsus I 1.5, tibia III 1.9, tibia IV 2.4.

Colour (photo): Prosoma and legs light to median brown, legs not annulated, opisthosoma light grey.
Prosoma (figs. 1-2, photo) slightly longer than wide, flat, hairs short, eye region only fairly raised, fovea well developed, pit-shaped (circular), 8 eyes in a rather wide field, posterior row slightly recurved, posterior median eyes widely spaced, clypeus short, basal cheliceral articles small and protruding, fangs and teeth hidden, labium and gnathocoxae bearing numerous cusps (fig. 2, some cusps are hidden), sternum longer than wide, not elongated between coxae IV, most sigilla hidden, their position apparently near the margin of the sternum. - Legs (figs. 3-7, photo) fairly long and robust, order IV/I/II/III, III relatively long, hairs partly long, scopulae and claw tufts absent, bristles numerous and partly quite long, existing from femora to metatarsi as well as ventrally on tarsus IV, femora with numerous

thin dorsal bristles, patellae with several dorsal and lateral bristles, tibiae and metatarsi with numerous long bristles, tibia I bears some strong ventral-subapical bristles on a low hump which may have functioned as a mating structure. Paired tarsal claws large, bearing about a dozen partly long teeth originating on the inner margin, unpaired claw well developed, trichobothria numerous, not studied. - Opisthosoma (photo) oval, bearing short hairs as well as dorsally numerous strong, long and bristle-shaped hairs, ventrally partly hidden/ covered by a large air bubble and an emulsion; posterior lateral spinnerets long, slender, hairy and pointed. - Pedipalpus (figs. 8-9): Femur robust, bearing a single short bristle, patella longer than wide, bearing a long thin dorsal bristle, tibia long and basally thickened, bearing a long ventral bristle and long thin dorsal hairs, cymbium short and divided, the bulbus bears a quite long and straight embolus.

Distribution: Mid Cretaceous amber forest of N-Myanmar.

Family TELEMIDAE

Telemidae is one of the most rare spider families reported in Burmese Kachin amber from North Myanmar: Only two species and two tiny males have been described which probably are members of the extant genus *Telemophila* WUNDERLICH from Indonesia, see WUNDERLICH (2017: 160) and WUNDERLICH (2021: 64). Here I report a further specimen, a male of an undetermined species..

?***Telemophila*** sp. indet.

Material: 1♂ in Late (mid) Cretaceous Kachin amber from North Myanmar, F4024/KA/CJW.

The spider is – including its pedipalpi – badly preserved/deformed in a clear yellow-orange piece of amber; its body is ca. 0.6 mm long, the large colulus bears few hairs, femur I is fairly thickened; the left one bears 1/1 prolateral bristles, the right one is smooth, the opisthosoma bears few long hairs dorsally.

The **relationships** are not sure. In ?*Telemophila ovalis* WUNDERLICH 2021 femur I is not thickened and the dorsal opisthosomal hairs are short. In ?*Telemophila crassifemoralis* WUNDERLICH 2017 femur I is thickened as in the present male and the opisthosoma bears

few long hairs dorsally but femur I bears 1 *retro*lateral bristle. Leg bristles of fossil spiders can be broken off; their number and position may be intraspecifically variable.

Distribution: Mid Cretaceous amber forest of N-Myanmar.

Superfamily DEINOPOIDEA

The cribellate (*) Deinopoidea - in the wide sense of this paper: including Uloboridae and related families - was one of the most diverse superfamilies in the Cretaceous Kachin amber forest of Myanmar (Burma); in this kind of amber it is known by ca. a dozen families (**). To my knowledge within this superfamily on family level only Uloboridae survived, see WUNDERLICH (2021: 101-168) as a relic, being nothing else than a weak remain of the huge and quite diverse Mesozoic deinopoid fauna (*). The family Deinopidae has to be deleted from the list of Kachin amber families, see below. The geologically oldest sure report of the Deinopidae is the taxon ?*Menneus pietrzeniukae* WUNDERLICH 2004 in Eocene Baltic amber.

Almost all extant – and most probably all extinct - members of the Deinopoidea build orb webs although the capture web may be strongly modified.

The taxonomy of the fossil Deinopoidea is still at its very beginning; even most of the family diagnoses have to be revised according to new material and by the use of advanced methods and technics. The limitation as well as the level of higher deinopoid taxa (genera, families) will be an immense work for the future. - Note: A huge amount of material of still undetermined deinopoid spiders is stored in my private collection.

Recently I got the loan of an excellently preserved and partly very well observable male spider - preserved in a quite helpful/useful position - of the enigmatic genus *Autotomiana* WUNDERLICH 2015 of the extinct family Autotomianidae which is described below. Its partly quite well preserved structures allow revised diagnoses of genus and family as well as important hints for solving its relationships and the relationships of related taxa as well.

(*) See below and the taxa listed by WUNDERLICH (2021: 107). Notes on this list: (1) The extinct family Autotomianidae WUNDERLICH 2015 and its characters have to be added: Cribellum/calamistrum existing (well developed even in the male sex), femoral trichobothria most probably absent, posterior eye row distinctly recurved, feathery hairs existing, pectun-

culus strongly reduced, strong apophyses of pedipalpal articles absent. - (2) Mainly because of the absence of leg bristles and the short legs I now regard the genus *Microuloborus* WUNDERLICH 2021 as not a member of the family Uloboridae (**quest. relat.)** and probably not being monophyletic.

(**) The reverse is true for the superfamily Araneoidea which is known from the Kachin amber forest by only few taxa of at most half a dozen families but it is very diverse today: At least fifteen families including hundreds of genera are known.

Family **AUTOTOMIANIDAE** WUNDERLICH 2015 (**n. rank**) and ***Autotomiana***

Synonym: Deinopedinae WUNDERLICH 2021 (**n. syn**.), extinct type genus by monotypy: *Deinopedes* WUNDERLICH 2017 (excluded from the extinct family Eodeinopedidae WUNDERLICH 2021 in Kachin amber of Myanmar).

Type genus (by monotypy): *Autotomiana* WUNDERLICH 2015.

Relationships and distribution: See *Autotomiana* directly below.

Autotomiana WUNDERLICH 2015

Type species (by monotypy): *Autotomiana hirsutipes* WUNDERLICH 2015.
Holotype ♂ F2766/CJW; probably conspecific ♂ F3563/CJW.

Further species: *Autotomiana tranquillus* (WUNDERLICH 2017) **n. comb.** (under *Deinopedes*) and *Autotomiana patrickmuelleri* n. sp. - Doubtful specimens: See directly below.

Doubtful material and relationships (see also below): (1) The relationships/congenerity of two ?juv. females, ?*Autotomiana* sp. 1 (F2768/CJW) (stout legs) and ?*A*. sp. 2 (F2769/CJW) - see WUNDERLICH (2015: 180-181) - are quite unsure. In both specimens a patella-tibia autotomy exists, their body length is 3.75 and 4.7 mm. - (2) According to the structures of legs and pedipalpus I regard the holotype of *Autotomiana brevisetosa* WUNDERLICH 2021 as a member of another family whose relationships are unsure, and the same is considered for the females F3615/CJW and 3616/CJW in the sense of WUNDERLICH (2021: 71).

Diagnostic characters of the genus *Autotomiana* and family Autotomianidae (♂, ♀ unknown); See WUNDERLICH (2015: 178, figs. 135-139) and (2021: 69): Order of the long legs I/II/IV/III, I and II about equal in length, III distinctly the shortest, IV of medium length, legs densely covered with long hairs, unpaired tarsal claws quite large (fig. 12), feathery hairs existing (fig. 13), metatarsus IV straight (fig. 11), opisthosoma slender (photo) and elongated beyond spinnerets, distinct in *patrickmuelleri* n. sp. (fig. 14); pedipalpus (figs. 15-17): Bulbus with several long sclerites, questionable embolus long, strongly bent, retrolaterally strongly standing out. Larger spiders, body length ca. 7-9.0 mm. - Note: Leg autotomy between patella and tibia is known in the holotype of the generotype *hirsutipes* as well as in two probably congeneric ?juv. females but not (!) in the unsure ♂ F3563/CJW of this species nor in the holotypes of *A. tranquillus* and *A. patrickmuelleri*.

General/plesiomorphic and certain further characters: Cribellate (figs. 10, 14); posterior eye row strongly recurved, lateral eyes distinctly spaced from each other (fig. 10),numerous leg bristles (photo) and reduced tarsus III-IV, pectunculus existing (fig. 12), all metatarsi with a single trichobothrium (in *A. patrickmuelleri* in a basal position, fig. 11), femoral trichobothria absent (if not strongly reduced or overlooked by me).

The **relationships** remain unsure. According to the diagnostic characters – see above – I now consider *Autotomiana* to be a peculiar member of the superfamily Deinopoidea. Therefore I upgrade Autotomianini WUNDERLICH 2015 to family level: Autotomianidae (**n. rank**). *Autotomiana* was based on badly/incompletely preserved specimens - and was published in a confusing way by WUNDERLICH: Originally (2015 178) I regarded *Autotomiana* – the single member of the tribe Autotomianini - as a member of the Praeterleptonetidae, later on (2017: 218) as a doubtful member of the Deinopidae, and (2021) (a) p. 67-69 as a questionable member of the Pholcochyroceridae: the not (!) to *Autotomiana* related *A. hirsutipes* WUNDERLICH 2021 and (b) p. 121-122 *Deinopedes* Wunderlich 2017 as a member of the subfamily Deinopedinae WUNDERLICH 2021 of the family Eodeinopidae WUNDERLICH 2021. Notes: (1) p. 122 in this paper the embolus of *Deinopedes tranquillatus* WUNDERLICH 2017 was erroneously called “cymbial bristle”. (2) The diverse extinct family Ochyroceratidae may not be a monophyletic taxon; I do not know a single apomorphic character, see WUNDERLICH (2021: 67).
If Cretaceous taxa are taken into consideration – see the tab. provided by WUNDERLICH (2021: 107) - the relationships/limits of Deinopidae, Uloboridae and numerous related extinct taxa/families are problematic, will have to be discussed in the future and studied by better preserved material and advanced methods: The existence of poison glands – they exist in the Deinopidae but are absent in the Uloboridae – is still unknown in extinct taxa like the genus *Autotomiana*. The cribellum, femoral trichobothria and the pectunculus may be absent in certain deinopoid taxa of that tab. 2.
A particular character of the legs, frequently easily to be studied in fossils, may be important for distinguishing some taxa of a higher level like Uloboridae and Deinopidae: In Deinopidae a quite special pattern of the leg length exists: leg II is about as long as leg I, both leg pairs handle the specialized capture web, leg IV (it holds spider and web hanging vertically on a plant) may be about as long as I and III, not much shorter (*). Within the Kachin amber deinopoid families I found leg II about as long as I only in the Autotomianidae (the genus *Autotomiana*) like in the Deinopidae. Deinopidae are large spiders (see below), too, and also possess a long/slender opisthosoma. The relative length of legs, position and size of the eyes as well as the bulbus structures are quite different in the Deinopidae: The eyes are uniquely specialized and the embolus possesses a spiral position. - Is the mid Cretaceous Autotomianidae strongly related to the precursor of the highly specialized Deinopidae which has survived in tropical regions/forests up to now? And did members of the Autotomianidae use their capture web already in a similar way as the Deinopidae, holding their two-dimen-

sional web spread by the two long anterior pair of legs? How many branches may exist during the long way from the unknown Cretaceous relative of *Autotomiana* to the Eocene questionable *Menneus*? Finally: May it be justified to unite Autotomianidae and Deinopidae in a single family? Because of their differences and the unknown number of branches (and unknown ancestors) I prefer the use of two different families but this opinion is subjective and probably arbitrary.
Actual “palaeo-relationships” of the presumed present kind are frequently unsure and apparently difficult to be documented in spiders. (I would like to know precursors or fossil relatives, e. g., of the families Pholcidae, Araneidae, Linyphiidae, Zoropsidae, Lycosidae, Sparassidae and Salticidae). As shown by the spectacular and surprising recent discovery of the extinct family Chimerarachnidae in Kachin (Burmese) amber this kind of amber – about 100 million year old - is not too young for the discovery of further possible palaeo-relationships.
Two fossil genera - possessing unsure relationships and apparently not strongly related to Autotomianidae and Deinopidae - are (1) the large members of *Linoptes* MENGE in KOCH & BERENDT 1854 in Eocene Baltic amber, see WUNDERLICH (2004: 892) and the small member of *Palaeomicromenneus* PENNEY 2003 in Cretaceous Lebanese amber, see WUNDERLICH (2017: 120).

(*) Contrary to the Deinopidae in the extant and fossil Uloboridae leg II is – usually distinctly - shorter than I and leg III is distinctly shorter than IV. A quite similar leg order exists in most spider taxa, e. g., in members of the superfamily Araneoidea.
Note on the male body length: It is reported (WSC) in the Uloboridae as 2-10 mm, in the Deinopidae as 6-20 mm; in male Autotomianidae I found a body length of 7-9 mm.

Distribution: Mid Cretaceous Kachin amber forest of Myanmar (Burma).

***Autotomiana patrickmuelleri* n. sp**. (figs. 10-17), photos 10-11.

Derivatio nominis: It is a great pleasure to me to name this important and well preserved species after Patrick Müller who is firm with arthropod taxa - including numerous spiders - in Kachin amber, who made the present holotype available for a scientific study and soon will give it to a scientific institution, probably the Palaeontology of the University of Hamburg.

Material: Holotype ♂ in Mid Cretaceous Kachin (Burmese) amber from N-Myanmar, coll. Patrick Müller B u B 5190.

Preservation and syninclusions (photo): The spider is preserved in an oval, flat yellow orange piece of amber which is 4.5 x 3.8 x 1.9 mm large; a fissure runs obliquely through the amber and the prosoma of the spider. The male is well preserved but it seems fairly decomposed, parts of the body, the eyes, chelicerae and mouth parts are strongly deformed, the opisthosoma is ventrally partly hurt, dorsal anterior parts are cut off within the amber, several parts of the legs are also cut off: parts of the left up to tibia I, the left patella IV and the distal part of the femur, the tip of the left tarsus and the right metatarsus and tarsus I; autotomy is absent. - Syninclusions are several tiny Diptera: Nematocera, a small Hymenoptera, a tiny

bug below the left tibia IV, 2 tiny Coleoptera, a small Thysanoptera, remains of few Coccinea and some tiny plant hairs.

Diagnosis (♂; ♀ unknown): Opisthosoma elongated beyond cribellum and spinnerets, densely bearing long hairs (fig. 14); pedipalpus (figs. 15-17) with long articles, tibia ca. 3 times as long as wide and ventrally-distally bearing 3 humps, embolus distinctly bent, bulbus deformed, bearing several sclerites which stand out.

Description (♂):
Measurements (in mm): Body length 9.0; prosoma: Length 3.5, width 2.6; leg I: Femur ca. 8.5, patella ca. 2.0, tibia ca. .8.0; leg II: Femur 7.2, patella 1.8, tibia ca. 7.0, metatarsus ca. 6.2, tarsus ca. 2.2; leg III: Femur 4.4, femur IV ca. 5.6; pedipalpus: Femur 1.5, patella 0.8, tibia 0.8, cymbium 1.0.
Colour (photo; the spider appears fairly decomposed) mainly median brown, partly light, partly distinctly darkened.
Prosoma (photo, fig. 10) narrowed anteriorly, hairs indistinct, fovea weak, 8 strongly deformed eyes of medium size, lateral eyes distinctly spaced from each other, posterior row strongly recurved, clypeus fairly short, basal cheliceral articles long and slender, fangs long, mouth parts and most parts of the sternum deformed/hidden, sternum posteriorly elongated and hairy. - Legs (photo, figs. 11-12) long and slender (especially I and II), order I/II/IV/III, II almost as long as I, III distinctly shorter than IV. Hairs partly quite long, numerous feathery hairs and bristles existing. Femora with numerous long and more or less straight hairs which possess small bothria in contrast to trichobothria. Bristles existing on femora to metatarsi on all legs; very few short ventral bristles on tarsi III-IV are remains of a reduced pectunculus. Femora I-II bear 7 bristles in a more or less prolateral position, ca. 3-5 dorsal as well as about 5 retrolateral bristles. The number of bristles on III-IV is a bit lower. The patellae bear dorsal and lateral bristles, tibiae and metatarsi bear numerous bristles. Tarsal claws well developed, paired claws with several long teeth, unpaired claw quite long, calamistrum well developed in the basal half of the straight metatarsus IV, position of the metatarsal IV trichobothrium in ca. 0.18. - Opisthosoma (figs.13-14, photo) distinctly deformed, long and slender, most hairs short, feathery hairs numerous and tiny, apically distinctly elongated beyond the well developed spinnerets and bearing long hairs, cribellum wide, probably folded. - Pedipalpus (figs. 15-17, photos) with long and slender articles, tibia distally-ventrally bearing 3 humps, embolus long and slender, distinctly bent, bulbus deformed, bearing several sclerites which stand out.

Relationships: In *A. hirsutipes* WUNDERLICH 2015 and *A. tranquillus* WUNDERLICH 2017 the pedipalpal tibia is quite short, in *hirsutipes* the embolus is almost straight (the posterior part of the opisthosoma is not preserved), in *tranquillus* long apical hairs of the opisthosoma are absent.

Distribution: Mid Cretaceous Kachin amber forest of Myanmar (Burma).

Superfamily ARANEOIDEA

Questionable ARANEIDAE and the probably related extinct family MEGASETIDAE

See the paper above in this volume on the superfamilies Araneoidea and Nicodamoidea.

Very few and most often badly/incompletely preserved fossil specimens of dubious araneid taxa in Burmese Kachin amber have been found; below I describe an unnamed second female of the family Megasetidae. Well preserved – especially male – spiders are needed for taxonomic and phylogenetic studies/conclusions in the future.
Special interesting fossil taxa of the Araneidae are members of the family Megasetidae WUNDERLICH 2021, the genera *Megasetae* WUNDERLICH 2021 (based on a single female) and *Parvimegasetae* WUNDERLICH 2023 (based on a single dwarf male). I now will not exclude (1) that both genera may be well related to each other; a strong intraspecific size and shape dimorphism may exist like in numerous (other) taxa of the family Araneidae but opisthosomal outgrowths are absent in *Parvimegasetae* and the spinnerets are not set forwards, and (2) that Megasetidae has to be regarded as a subfamily of the very diverse family Araneidae. Furthermore its relationship to the Gasteracanthinae of the Araneidae – which are similar in some respect – has to be checked as well as the relationship to the extinct Burmascutidae WUNDERLICH 2008, see WUNDERLICH (2023: 98f).

?***Megasetae* sp. indet.** (figs. 18-19)

Material: 1 ?ad. ♀ in Late (mid) Cretaceous Kachin amber from Myanmar (Burma) and a larger separated piece of amber, coll. PATRICK MÜLLER in 66894 Käshofen, no. B u B 5191.

Preservation and syninclusions: The spider is completely and rather badly preserved in a small clear orange piece of amber, cut off from a larger piece; a thin light grey emulsion covers its opisthosoma. - Syninclusions in the larger piece: 1 Coleoptera, 1 Thysanoptera and numerous tiny plant hairs.

Description (?ad. ♀):
Measurements (in mm): Body length 2.3; prosoma: Length ca. 1.05, width 0.85; opisthosoma: Length 1.2, width 1.8; femora: I ca. 0.65, II >0.6, III 0.55, IV ca. 0.9; metatarsus IV 0.47, tarsus IV 0.32.
Colour: Prosoma and legs medium to dark brown, opisthosoma medium grey.
Prosoma distinctly longer than wide, anteriorly distinctly narrowed, dorsal bristle absent, 8 small eyes in a very wide field, posterior row recurved, posterior median eyes probably

widely spaced, anterior and posterior lateral eyes close together, clypeus fairly long (not short), basal cheliceral articles short, not diverging, fangs long and thin (?), mouth parts hidden/deformed. - Pedipalpus not reduced. - Legs only fairly long and slender, order IV/I/II/III, IV clearly the longest, tarsi shorter than metatarsi, metatarsus IV straight, hairs of medium length to fairly long, bristles, femoral trichobothria and calamistrum absent. - Opisthosoma (figs. 18-19) distinctly wider than long, leathery and scutate, bearing three pairs of sigillae, bristles absent, posteriorly strongly widened, bearing three pairs of lateral outgrowths, ventrally strongly folded, spinnerets hidden, their area strongly transferred posteriorly, surrounded by a sclerotized ring.

Relationships: Mainly according to the shape of the opisthosoma, the anterior position of the spinnerets and the absence of leg bristles I regard the spider with some hesitation as a member of the genus *Megasetae* WUNDERLICH 2021. In the generotype, M. *colphepeiroides*, the body bears dorsal bristles, leg I is longer than leg IV and the ventral structure of the opisthosoma is different. The present specimen is apparently the member of an unnamed species.

Distribution: Late (mid) Cretaceous tropical Burmese amber forest.

Family THERIDIIDAE

See the paper above in this volume on the superfamilies Araneoidea and Nicodamoidea.

Extant and fossil (*) members of the Theridiidae may be recognized by the combination of the following **characteristics** (some characters are very variable!):
Ecribellate, entelegyne, unpaired tarsal claw existing, position of the chelicerae “labidognath”, usuall 8 *eyes* (rarely 6).
*Few thin **leg bristles** existing only dorsally and only on patellae and tibiae* (not, e. g., in the subfamilies Argyrodinae and Phoroncidiinae) *or leg bristles completely absent*, *tarsal trichobothria absen*t, metatarsi bearing *a single trichobothrium* at least on I-II, usually on III, too, ***comb of tarsus IV** usually existing*, more or less reduced, e. g., in the Phoroncidiinae; coxatrochanter **autotomy.** ***Labium flat*** (**not rebordered)** (hard to be recognized in fossil spiders). Shape of the **opisthosoma** very variable (see sexual dimorphism and body shape below), usually oval, almost globular in, e. g., some derived extant taxa like Theridiinae. C**ololus** frequently reduced or even completely absent (e. g. in the derived subfamily Theridiinae). **Sexual dimorphism**: Size: Females usually larger than males, female gigantism existig in *Latrodectus* in which dwarf males exist); in some species of *Asagena* and *Enoplognatha* **prosoma** of males longer than of females. Body shape: Anterior prosomal or clypeal modifications/outgrowths may exist in the male sex of different subfamilies, compare WUNDERLICH (2008: 150-152); dorsal opisthosomal outgrowths exist, e. g., in females of Gasteracanthine (spiny) in which dwarf males exist. *Copulatory organs*: ***Male pedipalpal tibia plate-shaped widened distally***, usually long and *bearing apically a transverse row of*

long hairs (fig. 23) (but see the not widened pedipalpal tibia in a Cretaceous species, figs. 25-26), *retrobasal* ***paracymbium*** *absent*, *internal or retrodistal paracymbium* existing (hard to be recognized in fossils or even absent in fossils?); **epigynal scape** usually absent, usually a single **epigynal opening**. - Usually capture web builders, webs quite variable, derived spiders like Theridiidae construct "irregular" **capture webs** bearing sticky threads near the ground in a vertical position which can tear apart easily and lift the helpless prey like in a catch trap. Ants are a frequent **prey**.

(*) A theridiid female from the Cretaceous is still unknown.

The phylogenetical importance of the Cretaceous theridiid fossils is discussed by WUNDERLICH (2026) in a paper on the superfamilies Araneoidea and Nicodamoidea in this volume, Beitr. Araneol., 19. Late Cretaceous reports in Kachin amber are - in the geological sense – the earliest known of the family Theridiidae. In my opinion this family should be much older.

Fossil/extinct Cretaceous Theridiidae are known from the most diverse subfamily Cretotheridiinae WUNDERLICH 2015 (3 genera), the dubious monotypic genus *Triangulum* (subfamily unknown) and the dubious monotypic genus *Microtheridion* (subfamily Microtheridiinae).

In this paper I describe a new species of the genus *Cretotheridion* in Kachin amber and provide a provisional **key** of the genera for the male sex:

1 Body length only 0.7 mm, ventral tubercles or "thorns" of leg I-II absent, legs and opisthosoma covered with very long hairs, field of the spinnerets set forward, embolus long, thin and bent in a semicircle ..... *Microtheridion longissispinae* WUNDERLICH 2021

- Body length ca. 1.3 mm, *cephalic part strongly elevated*, ventral tubercle or "thorns" of leg I-II articles absent, opisthosoma dorsally with long hairs. Embolus in a central position of the bulbus, quite large in its basal part, similar to extant Theridiidae like *Theridion* …..... *Triangulum thutai* JANG & LI 2022

- Body length ca. 1.3 – 2 mm, tubercles or "thorns" of leg I-II (at least ventrally on tibia I) (see, e. g., fig. 24) existing, quite long hairs of the body absent. - Subfamily Cretotheridiinae 2

2(1) Leg bristles absent. tibia of the ♂-pedipalpus short and distally distinctly widened .... *Burmatheridion* WUNDERLICH 2018

- Leg bristles existing, at least 1/1 thin dorsal tibial bristles 3

3(2) Pedipalpal tibia distinctly widened distally (figs. 20, 23) .... *Cretotheridion* WUNDERLICH 2018

- Pedipalpal tibia long and slender but not widened distally (figs. 25-26). At least in *C. concavum* WUNDERLICH 2021 the clypeus bears probably a “horn” (an artefact?) ..... *Cornutheridion* WUNDERLICH 2021

?***Cretotheridion aculeatum* n. sp.** (figs. 20-22)

Etymology: The species name refers to the spiny sclerites of its bulbus, from acus (lat.) = thorn.

Material: Holotype ♂ in Late (mid) Cretaceous Kachin (Burmese) amber from Myanmar, F4020/KA/CJW.

Preservation and syninclusions: The spider is completely and fairly well preserved, partly deformed (e. g., the prosoma is dorsally-basally distinctly inclined and opisthosoma is ventrally inclined), in an orange piece of amber which is up to 10 mm long. - Syninclusions are a tiny Collembola, several tiny air bubbles mainly in front below the spider as well as a larger flattened bubble above the cephalic part of the spider.

Diagnostic characters (♂; ♀ unknown): Leg thorns well developed only ventrally on tibia I; pedipalpus (figs. 20-22): Femur distally fairly widened, bulbus bearing a plate-shaped tegular apophysis as well as – if correctly named - a slender and pointed theridiid questionable tegular apophysis.

Description (♂):
Measurements (in m): Body length 1.7; prosomal length 0.75; opisthosoma: Length 1.0, width 0.75; leg IV: Femur ca. 1.1, patella 0.25, tibia 0.65, metatarsus 0.7, tarsus 0.6.
Colour light to medium brown, legs not annulated.
Prosoma deformed and partly hidden, fairly longer than wide, most probably 8 eyes. - Legs long and slender, order I/IV/II/III, hairs fairly short, tarsal IV comb absent, metatarsal trichobothria not studied, bristles thin and fairly long, only dorsally 1/1 on all patellae and tibiae, ventral “thorns” partly quite similar to *Cornutheridion concavum* WUNDERLICH 2021 (fig. 24), wll developed only ventrally on tibia I. - Opisthosoma oval, hairs not long, spinnerets short, partly hidden and deformed. - Pedipalpus: See the diagnostic characters; tibia not very long; a probably existing retrodistal paracymbium is not recognizable.

The **relationships** are unsure. In *Cretotheridion concavum* WUNDERLICH 2021 and *C. champoi* JIANG & LI 2022 the structures of the bulbus are quite different, in *inopinatum* (fig. 23) the pedipalpal femur is longer.

Distribution: Late (mid) Cretaceous Burmese amber forest of NE-Myanmar (Burma).

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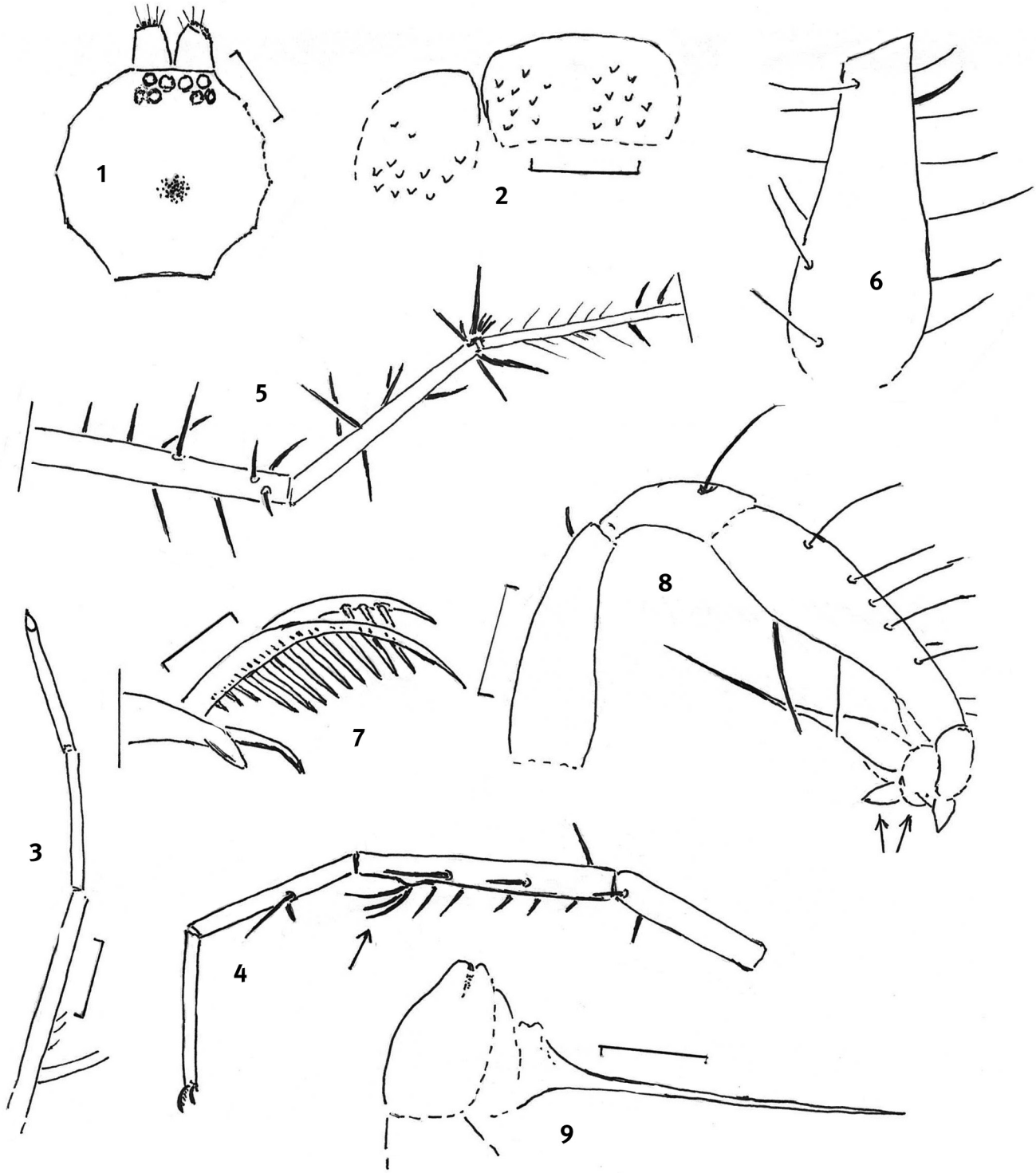
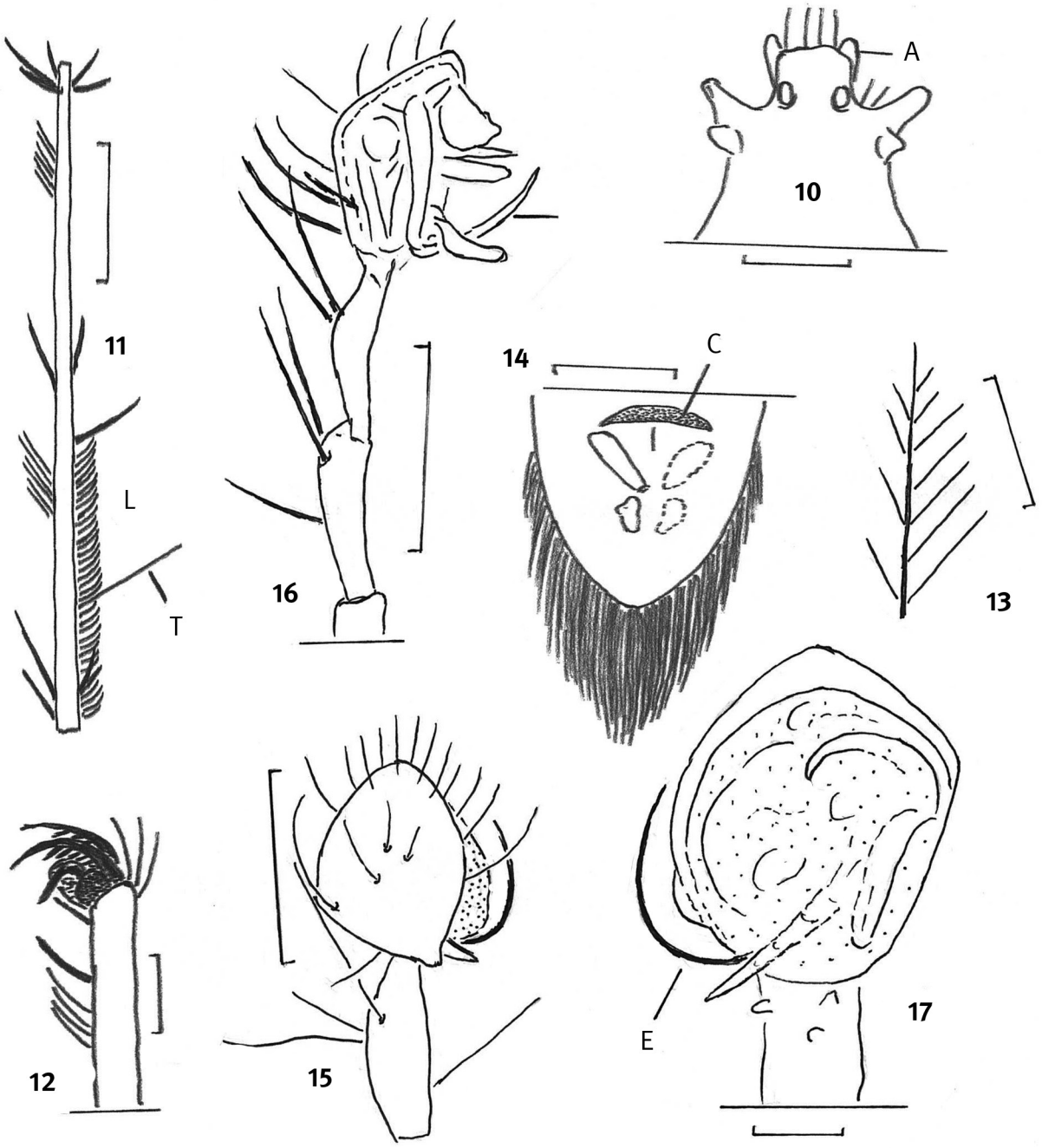
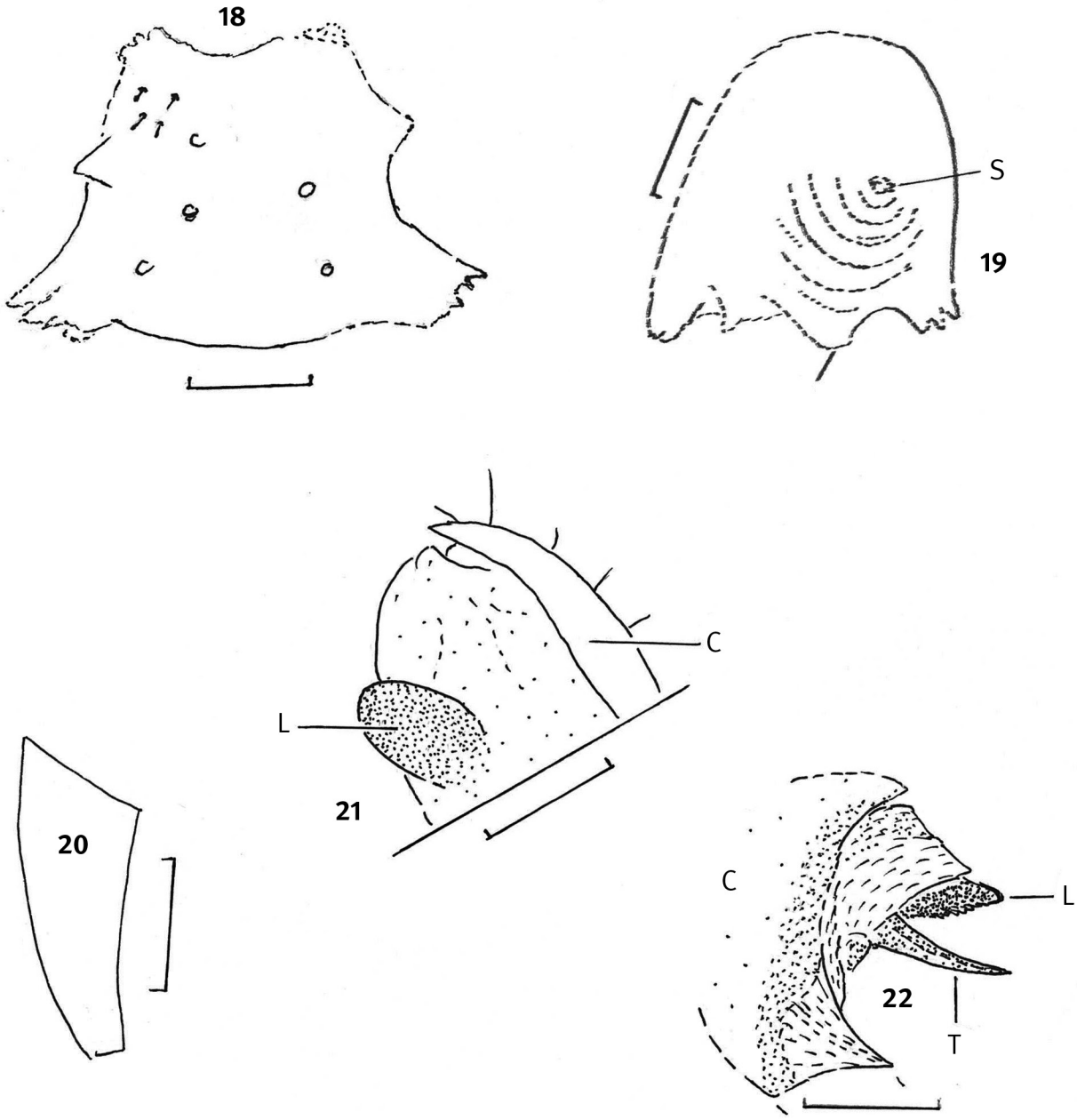


Figs. 1-9: *Antemicrothele parva* **n. gen. n. sp.**, ♂; 1) dorsal aspect of the prosoma; 2) labium and basal part of the left gnathocoxa. Only some of the numerous cuspules are surely recognizable and drawn; 3) proventral aspect of the right posterior spinneret; 4) prolateral aspect of tibia, metatarsus and tarsus as well as retrodorsal aspect of the patella of the right leg I. The arrow points to the tibial mating bristles on a hump. Hairs are not drawn; 5) oblique proventral aspect of the right tibia, metatarsus and tarsus IV. Not all bristles and only few hairs are drawn; 6) retrolateral and slightly apical aspect of the left femur I. Not all (macro)seta are drawn; 7) retrolateral aspect of the right tarsal claws IV; 8) prolateral aspect of the deformed left pedipalpus. The arrows point to an artefact. Only few hairs are drawn; 9) retrolateral aspect of cymbum, bulbus and embolus of the deformed right pedipalpus.- Scales 1.0 mm in fig. 1), 0.5 in fig. 8), 0.2 in figs. 2) and 9), 0.1 in fig. 7), no scale in figs. 4-6).



figs. 10-17: *Autotomiana patrickmuelleri* **n. sp**. (Autotomianidae), ♂; 10) dorsal aspect of the strongly deformed eye region. Only few hairs are drawn; 11) prodorsal aspect of the right metatarsus IV. Only few hairs are drawn; 12) prolateral aspect of the distal third of the right tarsus III and apical artefacts; 13) feathery hair of the dorsal side of the opisthosoma; 14) ventral aspect of the distal part of the deformed opisthosoma; 15) dorsal aspect of the left pedipalpus; 16) retroventral aspect of the deformed right pedipalpus; 17) ventral and slightly anterior aspect of the deformed left pedipalpus. The bulbus sclerites are insufficiently observable.- A= right anterior median eye, C = cribellum, E = questionable embolus, L = calamistrum, T = trichobothrium. Scales: 0.5 mm in fig. 13), 0.1 in fig. 12), 0. 2 in fig. 17, 1.0 in the remaining figs.



Figs. 18-19: Megasetae *i*ndet. (Megasetidae), ?ad. ♀; 18) dorsal aspect of the deformed opisthosoma; 19) ventral and slightly left aspect of the deformed and partly hidden opisthosoma. - A = area of the anal tubercle, Scale = 0.2 mm.

Figs. 20-22: ?*Cretotheridion aculeatum* **n. sp**. (Theridiidae), ♂; 20) retrodorsal aspect of the femur of the left pedipalpus; 21) proventral aspect of the distal part of the right pedipalpus which is quite difficult to observe; 22) prolateral aspect of the distal part of the left pedipalpus.

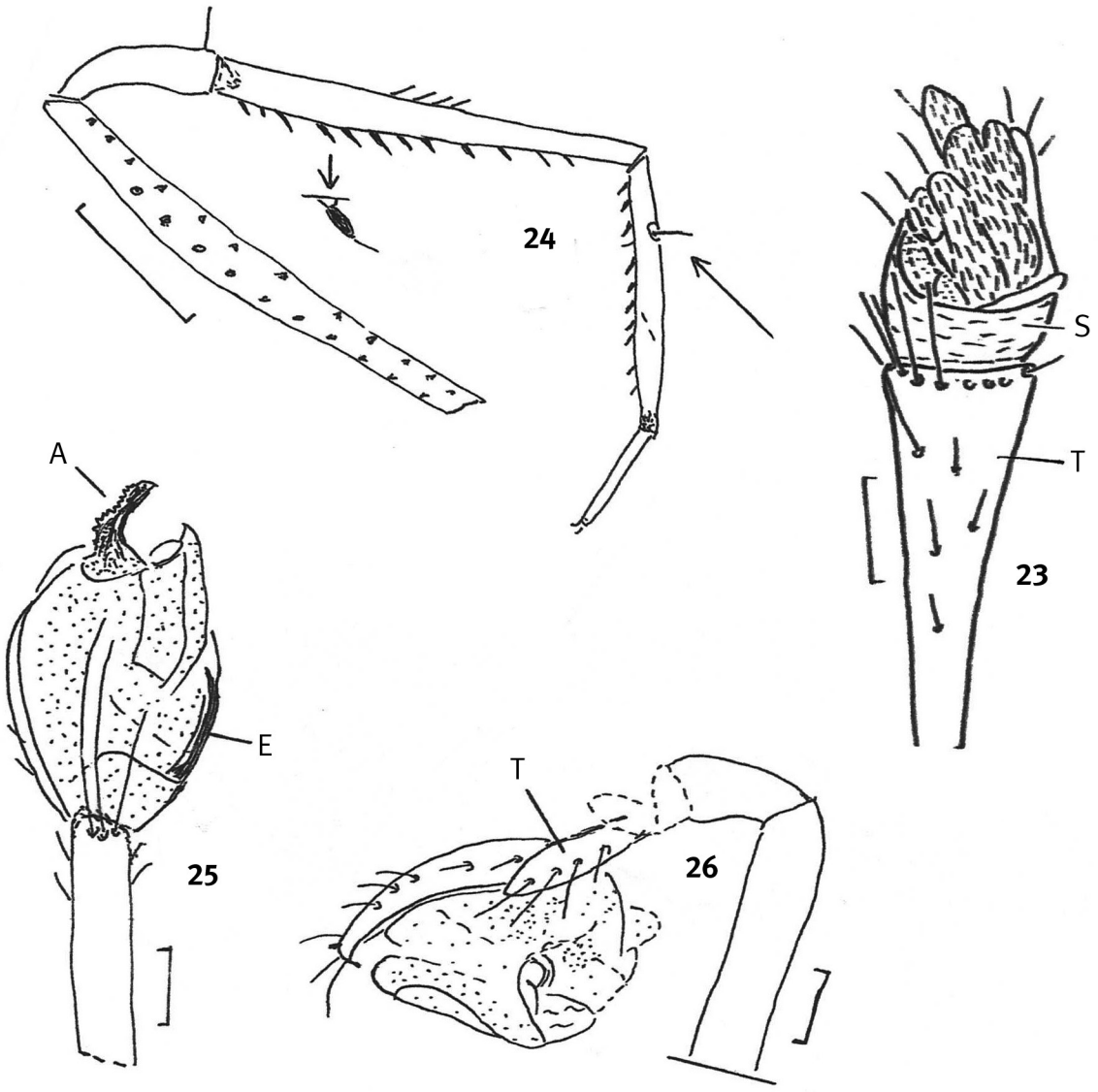


Fig. 23): *Cretotheridion inopinatum* WUNDERLICH 2015, ♂, ventral aspect of the left pedipalpus.

Figs. 24-26: *Cornutheridion concavum* WUNDERLICH 2921, ♂; 24) retrolateral – the femur retroventral – aspect of the slightly deformed right leg I. The long arrow points to the metatarsal trichobothrium, the short arrow points to a hair-bearing “thorn”; 25) retroventral aspect of the right pedipalpus; 26) retrolateral aspect of the left pedipalpus.. - A = tegular apophysis, C = cymbium, E = questionable embolus, L = plate-shaped sclerite, S = subtegulum, T = tibia, TT = questionable tegular apophysis. Scales 0.1 mm.

BEITR. ARANEOL., 19 (2026: 87)

Corrections regarding vol. 18 (2025) of the Beitr. Araneol.

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D-69493 Hirschberg; *e-mail*: joergwunderlich@t-online.de.
Website: joergwunderlich.de. Here a digital version of this paper can be found.

I thank Andrew Ross – e-mail in XII 2025 - for corrections regarding mainly my paper *Contribution to Taxonomy and Phylogeny of the Archaoid Branch of the superfamily Palpimanoidea (Araneae), with new descriptions of fossil taxa.*

(1) P. 47f: *Planarchaea* WUNDERLICH 2015 = *Filiauchenius* WUNDERLICH 2008; *Filiauchenus* is the correct name due to the Principle of Priority.

All the species currently in *Planarchaea* should be moved to *Filiauchenius*. *Filiauchenius* becomes the type genus of the family Planarchaeidae WUNDERLICH 2017.

P. 49, spelling mistake: *crassichelas* = *crassichelae*.

Furthermore in the same volume under *Corrections* p. 123 exists a spelling mistake: *Myannemesis* = *Myannemesia*.

BEITR. ARANEOL., 19 (2026: 88–91)

THE PHOTOS

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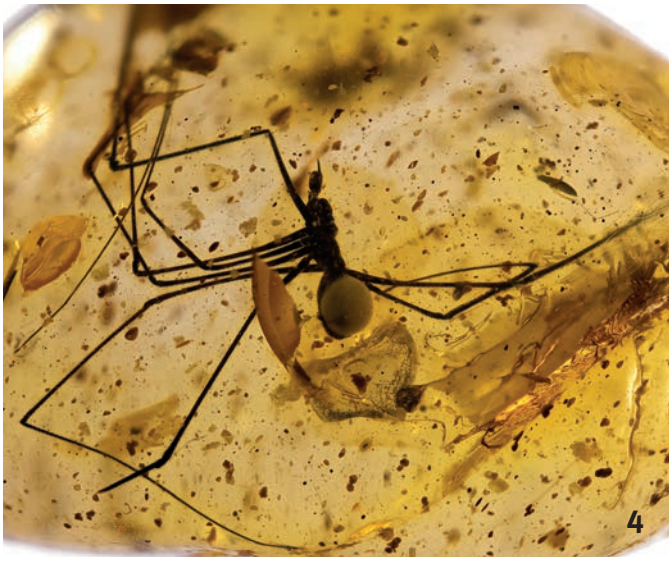


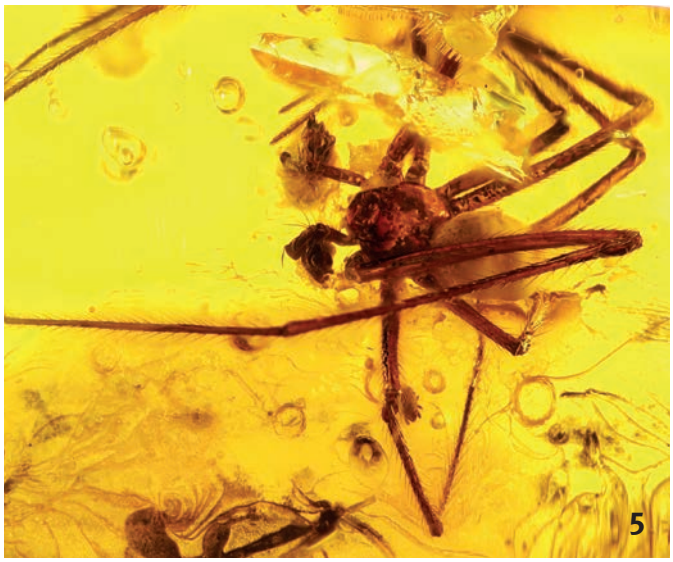
4

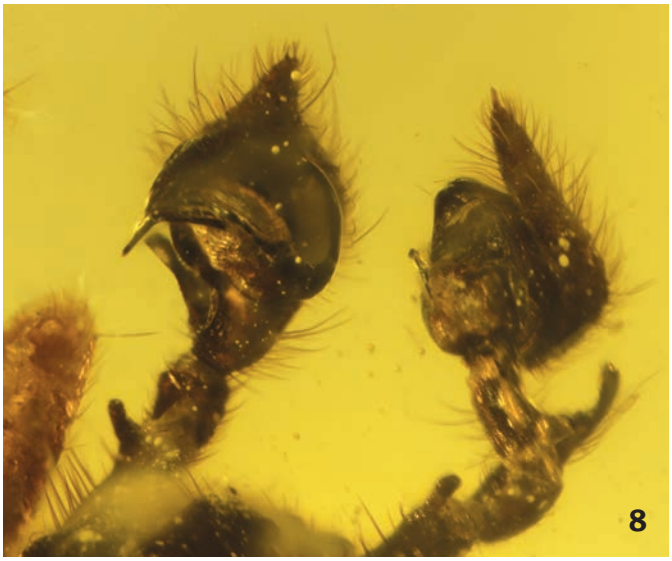
1) *Neriene furtiva* (O. PICKARD-CAMBRIDGE 1871) (Linyphiidae, Portugal), ♂ in alcohol, body length 2.7 mm, lateral aspect. Note the strong inclination of the opisthosoma; a case of Batasian mimicry.

2) *Pritha serrata* **n. sp.** (Filistatidae, Portugal), ♂ in alcohol, body length 1.7 mm, dorsal aspect.

3) *Apostenus crespoi* LISSNER 2017 (Liocranidae, Portugal), ♂ in alcohol, body length 2.3 mm, dorsal aspect.

4) *Rovnospermophoridus damzeni* **n. gen. n. sp.** (Pholcidae, Eocene Baltic amber), ♂, body length 2.5 mm, lateral aspect.





5) *Balticonesticus unguis* **n. sp.** (Nesticidae, Eocene Baltic amber), ♂, body length 2.5 mm, dorsal aspect.

6) *Lamellaphantes eozaen* **n. gen. n. sp.** (Linyphiidae, Eocene Baltic amber), ♂, body length 1.8 mm, dorsal-anterior aspect.

7-8) *Esuritor baltica* **n. sp.** (Pisauridae, Eocene Baltic amber), ♂, body length 3.5 mm, dorsal aspect and enlarged.

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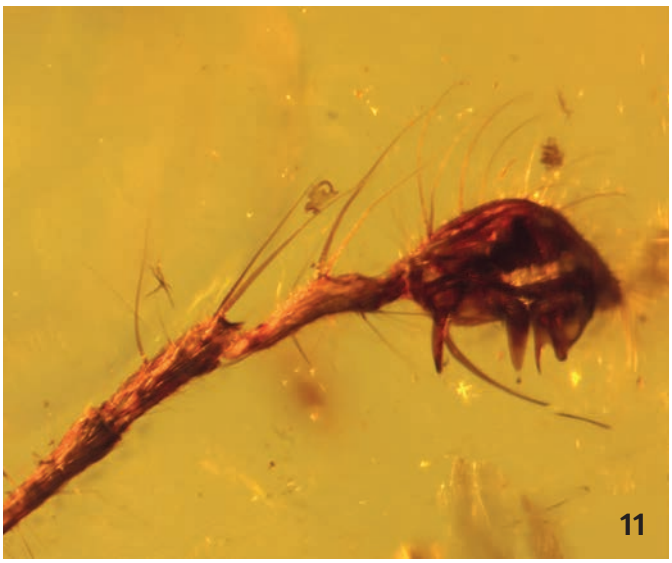

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9) *Antemicrothele parva* **n. gen. n. sp.** (Hexathelidae: ?Macrothelinae, Cretaceous Kachin amber), ♂, body length 5.5 mm, dorsal aspect.

10-11) *Autotomiana patrickmueller* **n. sp.** (Autotomianidae, Cretaceous Kachin amber), ♂, body length 9.0 mm, dorsal aspect and retrolateral aspect of the right pedipalpus.