Fauna and Systematics

Zoodiversity, 59(2): 101–112, 2025

DOI 10.15407/zoo2025.02.101
UDC 595.46(911.375.631:235.111:560)

ALPISCORPIUS VICTORI SP. N. FROM THE MURAT MOUNTAIN, KÜTAHYA AND UŞAK PROVINCES, TURKEY (SCORPIONES, EUSCORPIIDAE)

E. A. Yağmur

Manisa Celal BayarUniversity, AlaşehirVocational School,
Alaşehir, Manisa, 45600 Turkey

E-mail: ersen.yagmur@gmail.com

E. A. Yağmur (https://orcid.org/0000-0002-0396-3975)

urn:lsid:zoobank.org:pub:3341E535-7CDE-463D-944D-D5061EBED4B6

***Alpiscorpius victori* sp. n. from the Murat Mountain, Kütahya and Uşak Provinces, Turkey (Scorpiones, Euscorpiidae). Yağmur, E. A. —** A new scorpion species, *Alpiscorpius victori* sp. n., is described from Mount Murat, located in Kütahya and Uşak Provinces in the Aegean Region of western Turkey, based on morphological evidence. The species is classified within the genus *Alpiscorpius* Gantenbein et al., 1999, due to the presence of three trichobothria in the *em* series on the external surface of the pedipalp patella. With the addition of this species, the number of known species in the family Euscorpiidae rises to 23, while the genus *Alpiscorpius* now includes seven species in Turkey.

Key words: Anatolia, new species, description, scorpion taxonomy.

Introduction

The genus *Alpiscorpius*, originally described as a subgenus of *Euscorpius* by Gantenbein et al. (1999), is widely distributed across southern Europe, the Balkans, and Anatolia, occupying habitats ranging from sea level to elevations above 2,600 m a.s.l. (Tropea et al., 2015). This genus is characterized by the presence of three *em* trichobothria on the external surface of the pedipalp patella, as well as a relatively lower number of trichobothria in the *Pv* and *et* series compared to the genus *Euscorpius*. Kovařík et al. (2019) conducted a comprehensive review of Alpine populations, describing seven new cryptic species and elevating *Alpiscorpius* to genus rank, as well as *E. mingrelicus* (Caporiacco, 1950), *E. phrygius* (Bonacina, 1980), and *E. uludagen-*

sis (Lacroix, 1995) were transferred to the genus *Alpiscorpius* in that study. Currently, 23 species of *Alpiscorpius* are recognized across the Alps, the Balkans, and Turkey (Kovařík et al., 2019; Podnar et al., 2022; Tropea, 2021; Tropea et al., 2024; Yağmur, 2024 b; Yağmur & Sipahioğlu, 2025).

In Turkey, 22 species belonging to the family Euscorpiidae have been recorded (Birula, 1898, 1917; Bonacina, 1980; Fet, 1989; Lacroix, 1995; Tropea & Yağmur, 2015, 2016 a, b; Tropea et al., 2012, 2014, 2015, 2016 a, b, 2017, 2024; Yağmur, 2021, 2024 a, b; Yağmur et al., 2013; Yağmur & Tropea, 2013, 2015, 2017). Recently, *A. istanbulensis* and *A. orgeli* were described as new species from Turkey (Tropea et al., 2024; Yağmur, 2024b) and *E. idaeus* Yağmur & Tropea, 2017 was transferred to the genus *Alpiscorpius* (Yağmur & Sipahioğlu, 2025). *Euscorpius arikani Yağmur & Tropea, 2015, E. ciliciensis Birula, 1898, E. eskisehirensis* Tropea & Yağmur, 2015, *E. hakani Tropea & Yağmur, 2016, E. honazicus* Tropea et al., 2016, and *E. sultanensis* Tropea & Yağmur, 2015 bear three trichobothria in the em series and may be considered related to *Alpiscorpius.* Thus, they need to be reviewed at the genus level. Fet et al. (2016) used DNA barcoding to analyse some *Euscorpius* populations traditionally referred to as the "*E. mingrelicus* complex," which also exhibit three *em* trichobothria. Their study led to the discovery of a population with 4 trichobothria in the *em* series. Later, this population was described as *E. aladaglarensis* by Tropea & Yağmur (2016b), which may be more closely related to *Alpiscorpius*.

Western and northwestern Turkey have a rich Euscorpiidae fauna, most of which is endemic to mountainous areas. Several of these species are classified under the genus *Alpiscorpius* or are closely related to it due to the presence of three *em* trichobothria on the pedipalp patella. These species include *A. phrygius* (Ankara, Bolu, Düzce, Karabük, and Sakarya Provinces), *A. istanbulensis (İstanbul Province), A. uludagensis* (Bursa Province), *A. orgeli* (Manisa Province), *E. eskisehirensis* (Eskişehir Province), *E. hakani* (Denizli Province), *E. honazicus* (Burdur and Denizli Provinces), *E. idaeus* (Balıkesir and *Çanakkale* Provinces), and *E. sultanensis* (Afyonkarahisar and Konya Provinces) (Tropea et al., 2015, 2016 b, 2024; Tropea & Yağmur, 2015, 2016 a, b; Yağmur, 2024 b; Yağmur & Tropea, 2017; Yeşilyurt & Albayrak, 2023).

In this paper, I present the description of a new species of *Alpiscorpius* based on morphological analysis, increasing the total number of species in the genus recorded in Turkey to seven.

Material and Methods

The specimens were collected from under stones in the alpine zone of the Murat Mountain and pine forests during the daytime and using pitfall traps in pine forest. They were preserved in 96% alcohol. Photographs were taken with a Canon EOS 7D, and image stacking was performed using Helicon Focus software. The focus stacking method was adapted from the Canon-Cognisys system, as recommended by Brecko et al. (2014). The trichobothrial nomenclature follows Vachon (1974). Morphological measurements are provided in millimeters (mm), following Tropea et al. (2014). Morphological terminology adheres to Stahnke (1971), Hjelle (1990), and Sissom

(1990), while the chela carinae and dentition follow Soleglad and Sissom (2001). Sternum terminology is based on Soleglad and Fet (2003).

Depositories: AZMM — Holotypes and paratypes were deposited in the Zoology Museum of Alaşehir Vocational School, Manisa Celal Bayar University, Manisa, Turkey.

Abbreviations are as follows: *D1* — Digital carina; *D4* — Dorsal carina; *V1* — Ventroexternal carina; *V3* — Ventrointernal carina; *Pv* — trichobothria on the ventral aspect of pedipalp patella; *Pe* — trichobothria on the external surface of pedipalp patella; *et* — external terminal; *est* — external subterminal; *em* — external median; *esb* — external suprabasal; eb_a — external basal-*a*; *eb* — external basal; *Dp* — pectinal teeth number; *L* — length; *D* —depth; W — width; *DD* — distal denticle; *MD* — median denticles; *OD* — outer denticles; *ID* — inner denticles; *IAD* — inner accessory denticles.

Results

Family Euscorpiidae
Subfamily Euscorpiinae
Genus *Alpiscorpius* Gantenbein, Fet, Largiader & Scholl, 1999
***Alpiscorpius victori* sp. n.** (Figs 1–33, table 1)

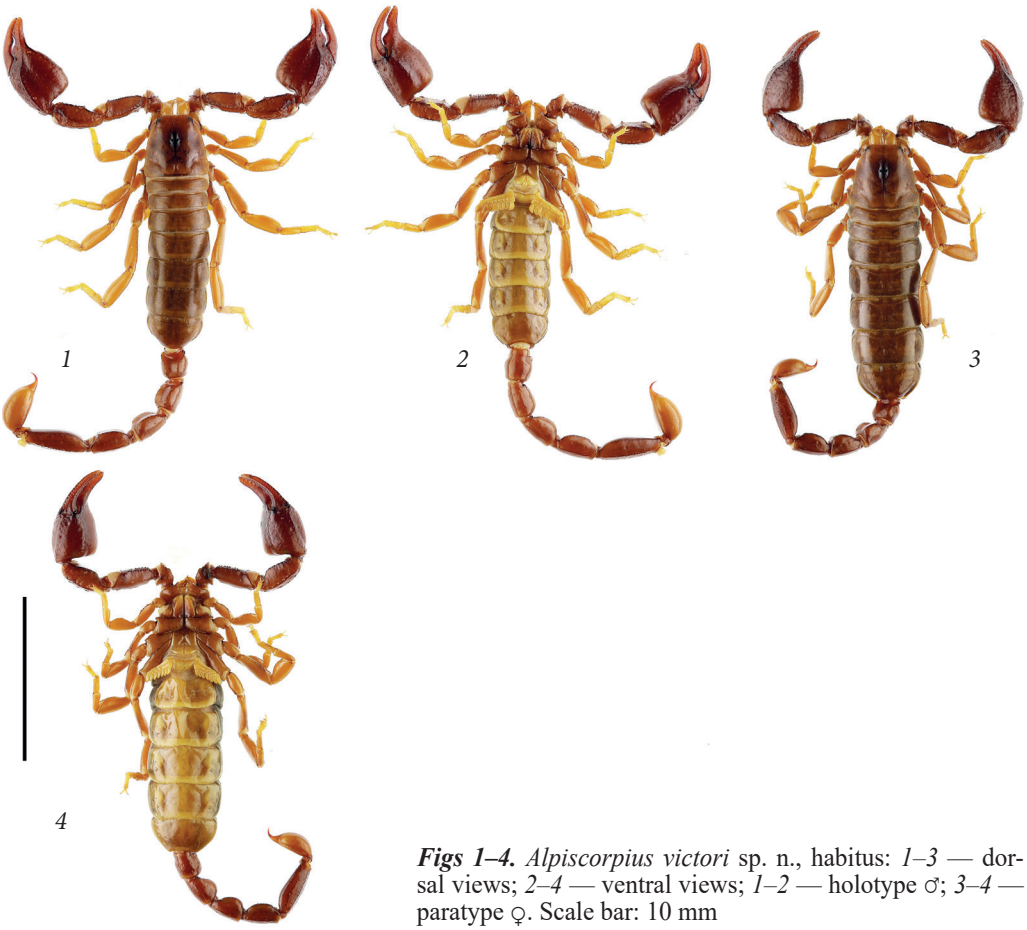
urn:lsid:zoobank.org:act:172C5AA9-F47C-46A6-8483-5D6680788764

Material **Type**. **Holotype** ♂:Turkey: Kütahya, Gediz, Murat Mountain Ski Center, 1.5 km Northeast, 38°56'48" N, 29°38'37" E, 2073 m a.s.l., 05 May 2015, leg. E.A. Yağmur & S. *Örgel* (AZMM/Sco-2015:02). **Paratypes** (212 specimens: 112 ♂, 100 ♀)**.** Turkey: Kütahya, Gediz, *Çukurören* Village, Bileğlik Hill, 38°59'21" N, 29°43'10" E, 1589 m a.s.l., 14.05.2014, 2 ♀, leg. E. A. Yağmur & S. *Örgel* (AZMM/Sco-2014:3-4); Gediz, Murat Mountain Ski Center, 38°56'30"N, 29°38'00"E, 1880 m a.s.l., 09.09.2020–13.08.2021, 78 ♂, 31 ♀ (AZMM/2021:164-272); idem, 13.09.2021–10.07.2022, 18 ♂, 17 ♀, Pitfall Tarps, leg. E.A. Yağmur & Ö. Sipahioğlu (AZMM/Sco–2023:19–53); Gediz, Murat Mountain Ski Center, 1.5 km Northeast, 38°56'48" N, 29°38'37" E, 2073 m a.s.l., 19.06.2013, 1 ♂, leg. E .A. Yağmur & S. *Örgel* (AZMM/Sco-2013:1); idem, 15.04.2015, 2 ♂, 12 ♀, leg. E. A. Yağmur & S. *Örgel* (AZMM/Sco-2015:53–66); idem, 05.05.2015, 13 ♂, 37 ♀, leg. E. A. Yağmur & B. Keskin (AZMM/Sco-2015:03–52); Uşak, Banaz, Küçükler, Murat Mountain, 38°52'48" N, 29°35'35" E, 1354 m a.s.l., 27.09.2009, 1 ♀, leg. R. S. Kaya (AZMM/Sco-2009:18).

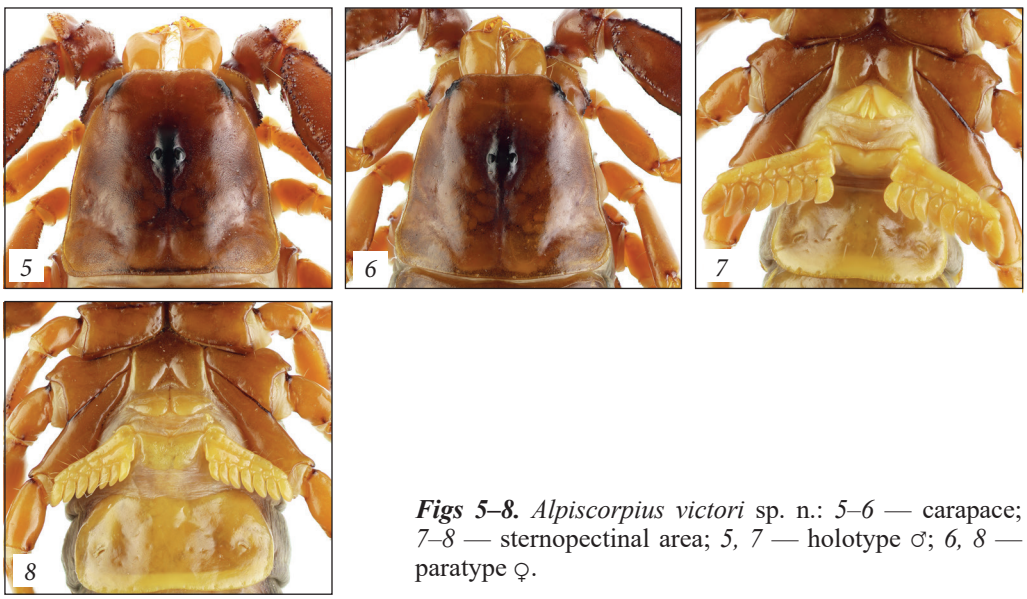
Etymology. The specific epithet is a patronym dedicated to the Dr. Victor Fet (Marshall University, USA), scorpiologist and a friend of the author, for his great contributions to the knowledge and taxonomy of the genus Euscorpius.

Geographic range. This new species is recorded only on Murat Mountain, located on the border of Kütahya and Uşak Provinces.

Diagnosis. A small Euscorpius species, total length is 29.2-29.75. Colour of adults light reddish brown or dark reddish. The number of trichobothria on the pedipalp manus ventral surface 4 (*V1–3+Et1*). Trichobothrium et on fixed finger is located distally to the notch of the fixed finger; *est* is located above the notch but located proximally to midpoint; and *dsb* is located proximally to est and the notch. The number of trichobothria on the pedipalp patella ventral surface is usually 6 (6 in 88.94%). The number of trichobothria on pedipalp patella external surface: *em* = 3 and usually *et* = 5 (5 in 78.84%). Tricho-



Figs 1–4. *Alpiscorpius victori* sp. n., habitus: *1–3* — dorsal views; *2–4* — ventral views; *1–2* — holotype ♂; *3–4* — paratype ♀. Scale bar: 10 mm



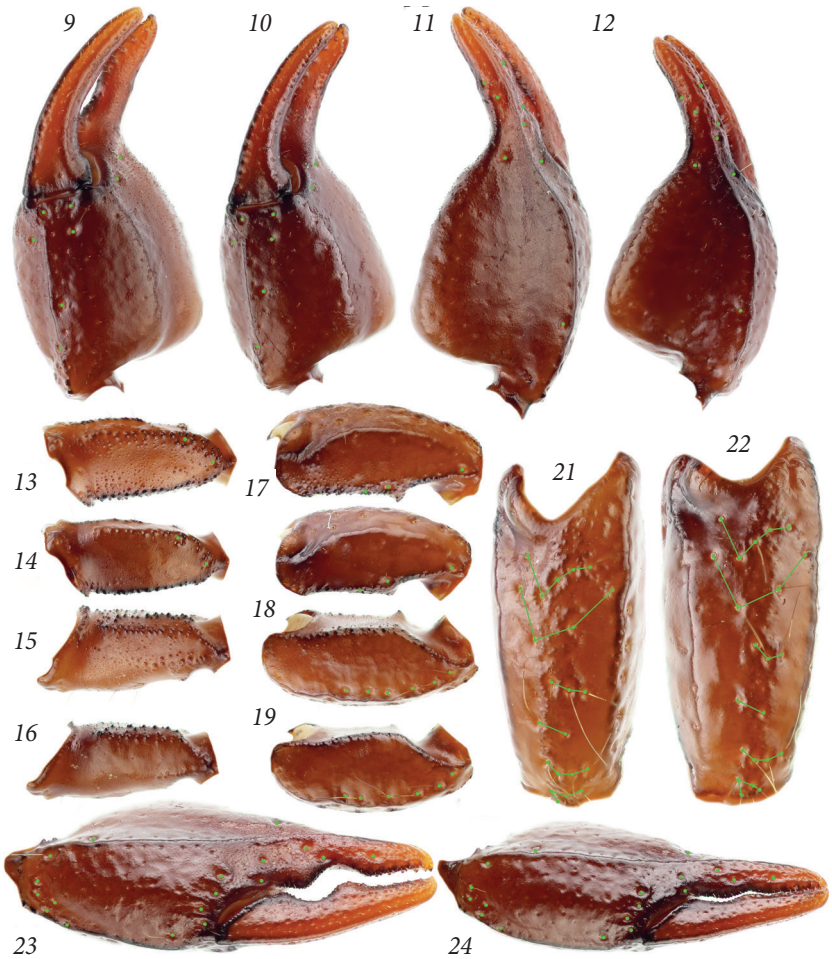
Figs 5–8. *Alpiscorpius victori* sp. n.: *5–6* — carapace; *7–8* — sternopectinal area; *5, 7* — holotype ♂; *6, 8* — paratype ♀.

Table 1. **Measurements (in mm) of *Alpiscorpius victori* sp. n.**

Dimensions, mm		*Alpiscorpius victori sp. n.*	*Alpiscorpius victori sp. n.*
		♂, holotype	♀, paratype
Carapace	L / W	3.69 / 3.85	3.95 / 4.15
Mesosoma	L	10.50	11.50
Tergite VII	L / W	1.82 / 3.32	2.27 / 3.91
Metasoma + telson	L	15.01	14.30
Segment I	L / W / D	1.67 / 1.68 / 1.44	1.63 / 1.64 / 1.31
Segment II	L / W / D	1.85 / 1.47 / 1.33	1.93 / 1.39 / 1.29
Segment III	L / W / D	2.05 / 1.46 / 1.26	1.92 / 1.37 / 1.31
Segment IV	L / W / D	2.65 / 1.39 / 1.25	2.21 / 1.26 / 1.28
Segment V	L / W / D	2.93 / 1.36 / 1.33	3.54 / 1.29 / 1.24
Telson	L / W / D	3.86 / 1.62 / 1.60	3.07 / 1.17 / 1.12
Vesicle	L	3.26	2.58
Aculeus	L	0.68	0.59
Pedipalp	L	12.24	9.21
Femur	L / W	2.85 / 1.22	2.82 / 1.20
Patella	L / W	3.14 / 1.34	3.24 / 1.33
Chela	L	6.26	6.08
Manus	L / W / D	3.57 / 2.68 / 1.82	3.15 / 2.70 / 1.68
Movable finger	L	3.10	3.00
Total	L	29.2	29.75

bothrium *d* is barely proximal to *i*, while trichobothrium *e* is well distal to both *d* and *i*. The pectinal teeth number 7–10 (8 in 74.28% and 9 in 18.57%) in males, and in females 5-8, usually 6 (6 in 46.71% and 7 in 49.63%). Dorsal patellar spur well developed in male barely developed in females. Femur shorter than patella (*Lfem/Lpat* ratio on average is 0.90). Carapace slightly wider than long. Dorsal carinae moderate with spaced granules on segments I–IV; smooth and rounded with scattered fine granules on segment V; ventrolateral carinae absent on segment I–III, obsolete on segments IV, well-marked with non-pointed spinoid granules on segment V; ventromedian carinae absent on segment I–IV, weak and granular on segment V. Intercarinal are smooth in all surfaces, only dorsal surface of segment I and lateral surfaces of segment V finely granular and ventral surface of segment V densely granular with moderate granules..

Affinities. *Euscorpius* (*Polytrichobothrius*) *italicus* has 8–12 trichobothria on the ventral surface (*V*) of the pedipalp manus (according to Gantenbein et al. (2002)), whereas *Alpiscorpius victori* sp. n. has 4 trichobothria. The trichobothrial series *em* = 3 on the pedipalp patella external surface in *A. victori* sp. n., whereas *em* = 4 in *E. aladaglarensis*, *E. alanyaensis*, *E. avcii*, *E. gocmeni*, *E. gulhanimae*, *E. koci*, *E. lesbiacus*, *E. lycius*, and *E. tauricus*. *A. victori* sp. n. has granular ventrolateral carinae on segment V of the metasoma, whereas *A. mingrelicus*, *E. arikani*, *E. idaeus*, and *E. ciliciensis* either lack ventrolateral carinae or have only small, spaced granules instead. The trichobothrial series *Pv* = 6 is usually on the pedipalp patella ventral surface in *A. victori* sp. n., whereas *Pv* = 5 is usually in *A. uludagensis*, and *Pv* = 7 is usually in *E. hakani*. The trichobothrial series *et* = 5 is usually on the pedipalp patella external surface in *A. victori* sp. n., whereas *et* = 4 is



Figs 9–24. *Alpiscorpius victori* sp. n. *9–10* — chela, ventral views; *11–12* — chela, dorsal views; *13–14* — femur, dorsal views; *15–16* — femur, ventral views; *17–18* — patella, dorsal views; 19–20 — patella, ventral views; *21–22* — patella, external views; *23–24* — chela, external views; *9, 11, 13, 15, 17, 19, 21, 23* — holotype ♂; *10, 12, 14, 16, 18, 20, 22, 24* — paratype ♀. Trichobothrial pattern is indicated by green circles

usually in *A. phrygius*, *E. eskisehirensis*, and *E. sultanensis*. The pectinal tooth count ranges from 7–10, usually 8 (74.28%) in males and 5–8, usually 6–7 (6 in 46.71% and 7 in 49.63%) in females of *A. victori* sp. n., whereas it ranges from 8–10, usually 8–9 (8 in 56.52% and 9 in 39.13%) in males and 6–8, usually 7 (7 in 83.33%) in females of *E. honazicus*. The trichobothrium *est*3 is distal to *est*2 in *A. victori* sp. n., whereas *est*3 is nearly at the same level as *est*2 in the trichobothrial series *est* on the pedipalp patella external surface in *A. orgeli*. The internal surface of the chela in *A. victori* sp. n. has dense, minute conical granules in males and minute, flattened granules in the anterior portion in females, whereas *A. orgeli* and *E. honazicus*have less dense, coarser, rounded granules in both sexes. The colour of adults is brownish red in *A. victori* sp. n., whereas it is yellowish-red or light brown in *A. orgeli* and *E. honazicus*. The intercarinal area of ventral surface of segment V of metasoma in *A. victori* sp. n. with several medium granules, whereas *A. orgeli* and *E. honazicus*with scattered small granules.

Figs 25–32. *Alpiscorpius victori* sp. n.: *25–26* — metasoma and telson, lateral views; *27–28* — segment V of metasoma, lateral views; *29–30* — segment V of metasoma, dorsal views; *31–32* — telson, lateral views; *26, 27, 29, 32* — holotype ♂; *25, 28, 30, 31* — paratype ♀

Description (holotype ♂ and paratype ♀)

Colouration. Carapace reddish brown with reddish black reticulations and reddish brown marblings, anterior area without reticulations and marblings; between median eyes and around lateral eyes black; around median eyes reddish black (Figs 5–6). Chelicerae lustrous dark yellow, teeth yellowish red (Figs 5–6). Coxae reddish brown. Sternum reddish brown anteriorly, yellowish brown posteriorly. Genital operculum and pectins dark yellow (Figs 7–8). Femur and patella reddish light brown, large granules and dorsal internal and

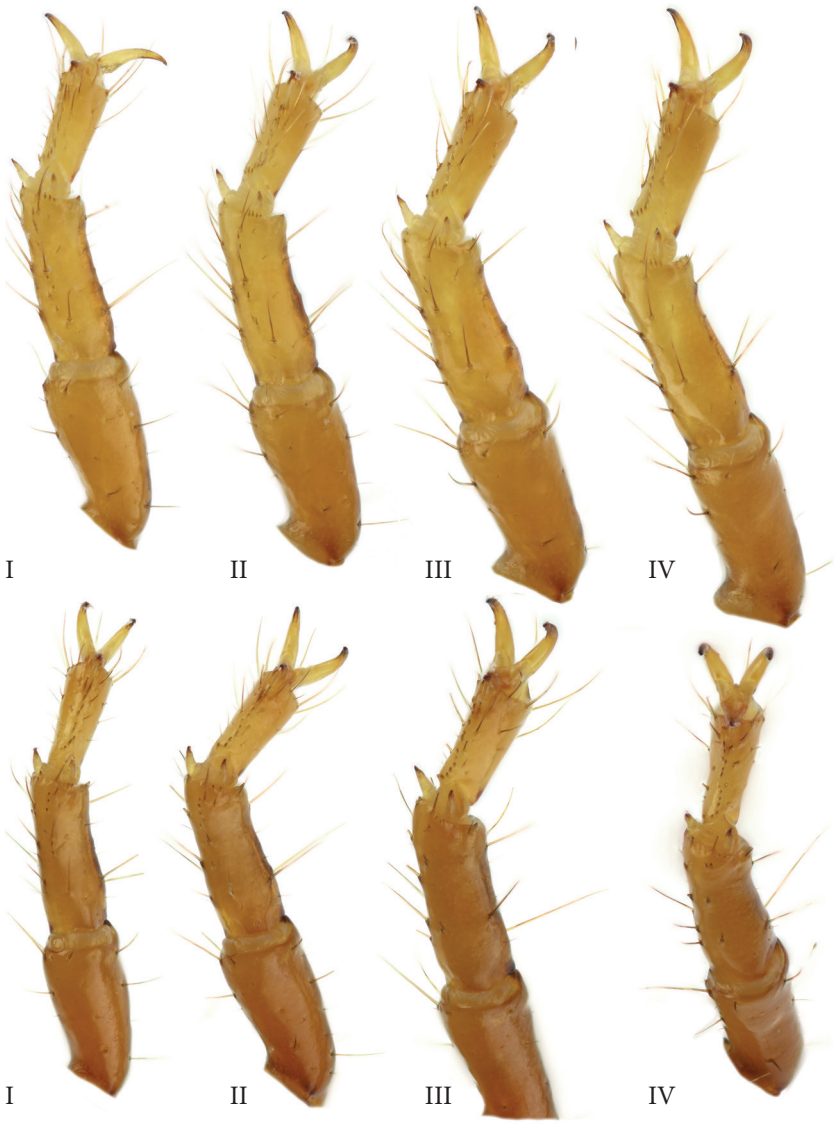


Fig. 33. *Alpiscorpius victori* sp. n., right legs I–IV, male holotype (top) and female paratype (bottom)

ventral internal carinae reddish black; chela reddish brown, condyles and dental margins on fingers reddish black (Figs 9–24). Legs dark yellow (Fig. 33). Mesosoma light reddish brown in male, brilliant dark reddish brownwith small light reddish brown marblings in females (Figs 1, 3). Sternit III–VI lustrous reddish yellow dark yellow bands; sternit VII brownish yellow (Figs 2, 4). Metasoma reddish brown,telson yellowish brown (Figs 25–32).

Carapace shagreened with some smooth patches, anterior area is smooth in male, medial and anterior area of carapace smooth and lateral area of carapace finely granular in females. Anterior margin slightly concaveand slightly crenulate. Posterior lateral, posterior median, and anterior median furrows present but shallow. Two pairs of lateral eyes, and a pair of median eyespresent, median eyes situated distally of the middle; distance from centre of median eyes to anterior margin is 42.81% of carapace length in male and 41.01% in female (Figs 5–6).

Pectines. Teeth number 8/8 in male, 5/8 in females; middle lamellae number 4/5; several microsetae exist on proximal area of teeth, marginal lamellae, middle lamellae and fulcra(Figs 7–8).

Genital operculum. The genital operculum is formed by two longitudinally separated subtriangular sclerites; genital papillae distinct and distally protruding; a few microsetae are present (Figs 7–8).

Sternum. Pentagonal in shape, type 2; lustrous, slightly wider than long, with a deep posterior emargination (Figs 7–8).

Pedipalp. Coxa and trochanter with granulated carinae, granules distinctand rounded. Femur: Dorsal internal and ventral internal carinae strong with coarse androunded granules. Dorsal external carinae moderate with coarse rounded granules. Ventral external carinae rounded with irregular moderate granules at proximal portion of femur in male, with small granules in females. External median carinae formed by spaced and spinoid granules at distal portion in male, nearly smooth with a few indistinct spinoid granules in females. Interior median carinae with irregular coarse, conical, pointed and spaced tubercles. Dorsal and ventral surfaces densely granular with varied sized granules on dorsal surface in male, and finely granular with smooth patches in females (Figs 13–16). Patella: Dorsal internal carinae strong, trichobothrium d_2 located on this carina, with coarse and rounded granules in male, moderate and fused in female. Ventral internal carinae strong with coarse and rounded granules in male, granules less distinct and flattened in females. Dorsal external carinae rounded, moderate to weak and smooth. Ventral external carinae strong, bumpy and smooth. Dorsal and ventral surfaces finely granular but internal area with several moderate granules in male, smooth in females. Dorsal patellar spur well developed in male barely developed in females. External surface rough with flattened granules medially in male, bumpy and smooth in females (Figs 17–20). Chelal carina *D1* strong and smooth; *D4* is rounded, rough and granular at proximal ¼ part in male, smooth in females; *V1* strong and smooth, granular at proximal ¼ part, before trichobothrium V_4, following an oblique direction toward the internal of trichobothrium Et_1; *V3* rounded and smooth; external carina indistinct, smooth without granules. Dorsal, ventral and external surfaces rough and smooth. Internal surface rough with minute distinct conical granules on internal surface in male, rough with scattered minute and conical granules at anterior portion in females. The fixed finger with a notch and movable finger with a well-developed lobe. Trichobothrium *et* on fixed finger is located distally to the notch of the fixed finger; *est* is located above the notch but located proximally to mid-point; and *dsb* is located proximally to *est* and the notch (Figs 9–12, 23–24).

Finger dentition. In the most distal part bears a *DD* on the tip; *MD* is formed by a row of very small denticles closely spaced forming an almost straight line, discontinued at each 5–6 denticles at level of the *OD*, fixed finger has 6/6 *OD*, 5/5 *ID,* and 5/5*IAD;* movable finger has 7/7 *OD*, 6/6 *ID*, and 6/6 *IAD.*

Trichobothria. Chela: trichobothria on the pedipalp manus ventral surface (*V*) is 4/4 ($V_{1\text{-}3}$+Et_1); trichobothrium V_4 situated on the carina *V1*; trichobothrium on fixed finger *est* situated in proximal half of the notch of the fixed finger. Patella: *Pv* = 6/7; *et* = 5/5, *est* = 4/4, *em* = 3/3, *esb* = 2/2, eb_a = 4/4, *eb* = 4/4. Femur: trichobothrium *d* is barely proximal to *i,* while trichobothrium *e* is well distal to both *d* and *i,* situated on dorsal surface barely on dorsal external carina.

Legs. Two pedal spurs present and no tarsal spur; ventral row of tarsus III with a total of 12/12 spinules, of increasing size from proximal to distal, ending with 2 spinule that form like a "Y"; 3 main lateral tarsal setae present. Tubercles present on ventral and dorsal surface of all leg femora; they are more marked and darker ventrally (Fig. 33).

Mesosoma. Tergites I–VI smooth and glossy without carinae, tergit VII smooth but finely granular posteriorly withoutsmall granules. Sternites shiny and smooth with scattered setae. Spiracles small and inclined about 45° downward towards outside (Figs 1, 3).

Metasoma. Dorsal carinae moderate with spaced granules on segments I–IV; smooth and rounded with scattered fine granules on segment V; ventrolateral carinae absent on segment I–III, obsolete on segments IV, well-marked with non-pointed spinoid granules on segment V; ventromedian carinae absent on segment I–IV, weak and granular on segment V. Intercarinal are smooth in all surfaces, only dorsal surface of segment I and lateral surfaces of segment V finely granular and ventral surface of segment V densely granular with moderate granules in male, scattered moderate granules in females (Figs 25–30).

Telson. Vesicle slightly elongated and bulging, surface lustrous and smooth, with ventral setae of different size, especially near the vesicle/aculeus juncture in male, elongated and not bulged in females. Aculeus short and abruptly curved(Figs 31–32).

Chelicera. Typical of the genus *Alpiscorpius.*

Trichobothrial and pectinal teeth count variation. Pedipalp patella ventral (*Pv*) and external (*Pe*) trichobothria and pectinal teeth count (*Dp*) variations observed in 213 studied specimens (113 ♂, 100 ♀) are given below. — *Pv* (*n* = 213): 5/5 (1), 5/6 (20), 6/6 (179), 6/7 (12) and 7/7 (1); collectively, 5 in 5.39%, 6 in 91.31% and 7 in 4.29%; mean = 5.97, SD = 0.2943. — *Pe* (*n* = 104): *et* = 4/4 (17), 4/5 (48) and 5/5 (148); collectively, 4 in 19.24% and 5 in 80.75%; mean = 4.80, SD = 0.3947; *em* = 3/3 (15); *esb* = 2/2 (15); eb_a = 4/4 (15); *eb* = 4/4 (15). — Male *Dp* (*n* = 113): 7/7 (2), 7/8 (8), 8/8 (75), 8/9 (19), 9/9 (5) and 9/10 (4); collectively, 7 in 5.30%, 8 in 78.31% 9 in 14.60% and 10 in 1.76%; mean = 8.12, SD = 0.5045. — Female *Dp* (*n* = 100): 5/6 (1), 6/? (1), 6/6 (35), 6/7 (14), 6/8 (1), 7/7 (44), 7/8 (3) and 8/8 (1); collectively, 5 in 0.50%, 6 in 43.71%, 7 in 52.76% and 8 in 3.01%; mean = 6.58, SD = 0.5613.

Habitat. Specimens of *A. victori* sp. n. were collected under stones or using pitfall traps in pine forests. Additionally, specimens were collected from the alpine zone of Mount Murat. This area is covered with thorny plants and fir trees in bush form, spreading across the surface. All these habitats are cool and humid. The specimens were found at altitudes ranging from 1354 to 2073 m.

Discussion

The Euscorpiid fauna of Turkey consists of 23 species within the genera *Alpiscorpius* and *Euscorpius* (Kovařík et al., 2019; Tropea & Yağmur, 2015, 2016a, 2016b; Tropea et al., 2012, 2014, 2015, 2016a, 2016b, 2017, 2024; Yağmur, 2021, 2024a, 2024b; Yağmur et al., 2013; Yağmur & Tropea, 2013, 2015, 2017). The genus *Alpiscorpius* includes *A. istanbulensis* (İstanbul Province), *A. mingrelicus* (Amasya, Artvin, Karabük, Kastamonu, Rize, Samsun, Sinop, Trabzon, and Zonguldak Provinces), *A. orgeli* (Manisa Province), *A. phrygius* (Ankara, Bolu, Düzce, Karabük, and Sakarya

Provinces), *A. uludagensis* (Bursa Province), and *A. victori* sp. nov. Only *A. orgeli* is known from a place close to the locality of *A. victori* sp. nov.

Acknowledgments. I would like to thank Dr. Bekir Keskin, Dr. Rahşen S. Kaya, Dr. Semih Örgel, and Özgün Sipahioğlu for their help during the field trips.

REFERENCES

Birula, A. A. 1898. Ein Beitrag zur Kenntniss der Skorpionen fauna Kleinasiens. *Horae Societatis Entomologicae Rossicae,* **33**, 132–140.

Byalynitskii-Birulya, A. A. 1917. Arachnoidea Arthrogastra Caucasica. Pars 1. Scorpiones. *Zapiski Kavkazskago Muzeya. Series A,* (5). Imprimerie de la Chancellerie du Comité du Transcaucasie, Tiflis, 1–253 [In Russian]. (English translation: Byalynitskii-Birulya, A. A. 1964. *Arthrogastric Arachnids of Caucasia. Part 1. Scorpions. 5*. Israel Program for Scientific Translations, Jerusalem, 1–170).

Bonacina, A. 1980. Sistematica specifica e sottospecifica del complesso "*Euscorpius germanus*" (Scorpiones, Chactidae). *Rivista del museo civico di scienze naturali "Enrico Caffi" (Bergamo),* **2**, 47–100.

Brecko, J., Mathys, A., Dekoninck, W., Leponce, M., Vanden Spiegel, D. & Semal, P. 2014. Focus stacking: Comparing commercial top-end set-ups with a semi-automatic low budget approach. A possible solution for mass digitization of type specimens. *ZooKeys,* **464**, 1–23. https://doi.org/10.3897/zookeys.464.8615

Fet, V. 1989. A catalogue of scorpions (Chelicerata: Scorpiones) of the USSR. *Rivista del Museo Civico di ScienzeNaturali "Enrico Caffi" (Bergamo),* **13** (1988), 73–171.

Fet, V., Graham, M. R., Blagoev, G., Karataş, A. & Karataş, A. 2016. DNA barcoding indicates hidden diversity of *Euscorpius* (Scorpiones: Euscorpiidae) in Turkey. *Euscorpius,* (216), 1–12.

Gantenbein, B., Fet, V., Largiadèr, C. R. & Scholl, A. 1999. First DNA phylogeny of *Euscorpius* Thorell, 1876 (Scorpiones: Euscorpiidae) and its bearing on taxonomy and biogeography of this genus. *Biogeographica (Paris),* **75**(2), 49–65.

Gantenbein, B., Soleglad, M. E., Fet, V., Crucitti, P. & Fet, E. V. 2002. *Euscorpius naupliensis* (C. L. Koch, 1837) (Scorpiones: Euscorpiidae) from Greece: elevation to the species level justified by molecular and morphological data. *RevistaIbérica de Aracnología*, **6**, 13–43.

Hjelle, J. T. 1990. Anatomy and morphology. *In:* Polis, G. A., ed. *Biology of Scorpions*. Stanford University Press, Stanford, Ca., 9–63.

Kovařík, F., Štundlová, J., Fet, V. & Šťáhlavský, F. 2019. Seven new Alpine species of the genus Alpiscorpius Gantenbein et al., 1999, stat. n. (Scorpiones: Euscorpiidae). *Euscorpius*, 287, 1–29.

Lacroix, J.-B. 1995. *Euscorpius (E.) mingrelicus* Kessler, 1876 en Turquie anatolienne (Arachnida: Scorpionida). *Arachnides*, **26**, 4–6.

Podnar, M., Tvrtković, N., Vuković, M., Rebrina, F., Grbac, I. & Hörweg, C. 2022. *Alpiscorpius liburnicus* sp. n. with a note on the "*Alpiscorpius croaticus* group" (Scorpiones: Euscorpiidae) in Croatia. *Natura Croatica: Periodicum Musei Historiae Naturalis Croatici*, **31**, 265–282. https://doi.org/10.20302/NC.2022.31.19

Sissom, W. D. 1990. Systematics, biogeography and paleontology. *In:* Polis, G. A., ed. *The Biology of Scorpions.* Stanford University Press, Stanford, Ca., 64–160.

Soleglad, M. E. & Fet, V. 2003. The scorpion sternum: structure and phylogeny (Scorpiones: Orthosterni). *Euscorpius,* 5, 1–34.

Soleglad, M. E. & Sissom, W. D. 2001. Phylogeny of the family Euscorpiidae Laurie, 1896: a major revision. *In:* Fet, V. & Selden, P. A., eds. *Scorpions 2001. In memoriam Gary A. Polis.* Burnham Beeches, Bucks, UK. British Arachnological Society, 25–112.

Stahnke, H. L. 1971. Scorpion nomenclature and mensuration. *Entomological News*, **81**, 297–316.

Tropea, G. 2021. Concerning some Balkan Euscorpiidae populations (Scorpiones: Euscorpiidae). *Biologia Serbica,* **43**, 22–54. https://doi.org/10.5281/zenodo.5807261

Tropea, G. & Yağmur, E. A. 2015. Two new species of *Euscorpius* Thorell, 1876 from Turkey (Scorpiones: Euscorpiidae). *Rivista Aracnologica Italiana,* **4**, 13–32.

Tropea, G. & Yağmur, E. A. 2016 a. A new species of *Euscorpius* Thorell, 1876 from Sultan Mountains in western Turkey (Scorpiones: Euscorpiidae). *Rivista Aracnologica Italiana,* **2**, 32–43.

Tropea, G. & Yağmur, E. A. 2016 b. Two new species of *Euscorpius* Thorell, 1876 from Southern Turkey (Scorpiones: Euscorpiidae). *Euscorpius,* 234, 1–19.

Tropea, G., Yağmur, E. A. & Yeşilyurt, F. 2014. A new species of *Euscorpius* Thorell, 1876 (Scorpiones, Euscorpiidae) from the Antalya Province, Southern Turkey. *Euscorpius*, 184, 1–13.

Tropea, G., Yağmur, E. A. & Fet, V. 2015. A revision of the Anatolian-Caucasian *"Euscorpius mingrelicus* complex" (Scorpiones: Euscorpiidae). *Euscorpius,* 203, 1–32.

Tropea, G., Yağmur, E. A., Karampatsou, L., Parmakelis, A. & Yeşilyurt, F. 2016 a. A new species of *Euscorpius* Thorell, 1876 from Mount Honaz in Southwestern Turkey (Scorpiones: Euscorpiidae). *Euscorpius*, 222, 1–14.

Tropea, G., Yağmur, E.A., Koç, H., Yeşilyurt, F. & Rossi, A. 2012. A new species of Euscorpius Thorell, 1876 (Scorpiones, Euscorpiidae) from Turkey. *ZooKeys*, **219**, 63–80. https://doi.org/10.3897/zookeys.219.3597

Tropea, G., Yağmur, E. A. & Parmakelis, A. 2024. A new *Alpiscorpius* from İstanbul Province of Turkey (Scorpiones: Euscorpiidae). *Biologia Serbica*, **46** (1), 67–77. https://doi.org/10.5281/zenodo.13925830

Tropea, G., Yağmur, E. A., Parmakelis, A. & Kunt, K. B. 2016 b. Another new species of *Euscorpius* Thorell, 1876 from the Taurus Mountains in Antalya Province, southern Turkey (Scorpiones: Euscorpiidae). *Euscorpius,* **231**, 1–15.

Tropea, G., Fet, V., Parmakelis, A., Kotsakiozi, P. & Stathi, I. 2017. Redescription of *Euscorpius tauricus* (C. L. Koch, 1837), with the description of two new related species from Greece (Scorpiones: Euscorpiidae). *Ecologica Montenegrina*, **7**, 614–638. https://doi.org/10.37828/em.2016.7.29

Vachon, M. 1974. Etude des caractéres utilisés pour classer les familles et les genres de scorpions (Arachnides). 1. La trichobothriotaxie en arachnologie. Sigles trichobothriaux et types de trichobothriotaxie chez les scorpions. *Bulletin du Museum National d'Histoire naturelle, Paris,* 140, 859–958.

Yağmur, E. A. 2021. The first record of *Euscorpius lesbiacus* Tropea et al., 2020 (Scorpiones: Euscorpiidae) in Turkey. *Euscorpius*, **333**, 1–5.

Yağmur, E. A. 2024 a. *Euscorpius gulhanimae* sp. n. from the Konya Province, Turkey (Scorpiones: Euscorpiidae). *Euscorpius,* **393**, 1–13.

Yağmur, E. A. 2024 b. *Alpiscorpius orgeli* sp. nov. from Manisa Province, Turkey (Scorpiones: Euscorpiidae). *Zoology in the Middle East*, **70** (4), 361–373. https://doi.org/10.1080/09397140.2024.2411748

Yağmur, E. A. & Sipahioğlu, Ö. 2025. The first record of Alpiscorpius idaeus (Yağmur & Tropea, 2017), comb. n. from the Lesvos Island, Greece (Scorpiones: Euscorpiidae). Euscorpius, 409, 1–6.

Yağmur, E. A. & Tropea, G. 2013. A new species of *Euscorpius* Thorell, 1876 (Scorpiones, Euscorpiidae) from Marmara Region of Turkey. *ZooKeys*, **281**, 91–105.

Yağmur, E. A. & Tropea, G. 2015. A new species of *Euscorpius* Thorell, 1876 from southwestern of Turkey (Scorpiones: Euscorpiidae). *Rivista Aracnologica Italiana,* **1**, 14–26.

Yağmur, E. A. & Tropea, G. 2017. A new species of *Euscorpius* Thorell, 1876 from Mountain Kazdağı in northwestern Turkey (Scorpiones: Euscorpiidae). *Arachnida,* **15**, 2–17.

Yağmur, E. A. Tropea, G. & Yeşilyurt, F. 2013. A new species of *Euscorpius* Thorell, 1876 (Scorpiones, Euscorpiidae) from south western Turkey. *ZooKeys*, **348**, 29–45. https://doi.org/10.3897/zookeys.348.5943

Yeşilyurt, F. & Albayrak, İ. 2023. Bioecology and systematic of scorpions in Southwestern Anatolia Region (Arachnida: Scorpiones). *Bitlis Eren Üniversitesi Fen Bilimleri Dergisi*, **12** (2), 508–523. https://doi.org/10.17798/bitlisfen.1251481

Received 18 Decemder 2024
Accepted 23 April 2025