

Research article**A new species of the genus *Smaris* (Acari: Smarididae) from Türkiye****İbrahim KARAKURT**^{ORCID}Department of Home Care, Vocational School of Health Services, Erzincan Binali Yıldırım University, Erzincan, Türkiye,
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Abstract: *Smaris erzincanensis* **sp. nov.** is described and illustrated based on two adult specimens from northeastern Türkiye. This increases the number of known *Smaris* Latreille, 1796 species from the Palaearctic from five to six. Diagnosis and morphological data for this species are given.

Keywords: Prostigmata, Parasitengonina, erythraeoid mites, distribution

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Introduction

The genus *Smaris*, currently represented by 17 nominal species (Mağol and Wohltmann, 2012; Dos Santos Costa et al., 2022), is distributed worldwide, except for Antarctica and Oriental regions. Of them, only one species is known in both postlarval and larval stages, including three larval and 13 active postlarval forms (Mağol and Wohltmann, 2012; Dos Santos Costa et al., 2022). The information about *Smaris* fauna in Türkiye is quite limited. So far, only one species (*S. squamata* (Hermann, 1804)) of this genus has been recorded from Türkiye (Karakurt, 2023). The present study contains a detailed description and illustrations of *S. erzincanensis* **sp. nov.**

Materials and Methods

Mite specimens were collected directly from Refahiye, Erzincan province (39°36'N 39°09'E 1162 m a.s.l., forest land, grass area, 24.VI.2023), Türkiye. The samples were transferred to 70 % ethyl alcohol. Specimens for microscope studies (2 adults) were fixed on slides in Hoyer's medium (Walter and Krantz, 2009). The morphological terminology follows Southcott (1963) and Wohltmann et al. (2007). For measurements, photographs and drawings an Olympus BX63 microscope was used. All measurements are given in

micrometers (µm). The slides (holotype and paratype) are deposited in the Acarology Laboratory of Erzincan Binali Yıldırım University, Erzincan, Türkiye (EBYU).

Results**Family: Smarididae Vitzthum, 1929****Genus: *Smaris* Latreille, 1796*****Smaris erzincanensis* sp. nov.**

Diagnosis. Adult. Idiosoma without extra smaller shield. Dorsum with anterior and posterior shields. Dorsal setae of one type, short, carina without spicules. The external surface of the tectum, only along the lateral sides, covered with prominent "sawtooth-like" spicules (serrate).

Description. Adult. Morphological measurement values in Table 1. Body medium-sized (Figure 1) and yellowish-red in living specimens.

Chelicerae (350-370) typical for genus. Palps slender (Figure 2) and quite sparsely setation. Palpal setal formula (trochanter to tibia): N-2(3)N-2N2B-6(5)N3B. Palp tarsus short and cylindrical, with a solenidion and with four eupathidia of which located in distal part.

Table 1. Morphometric data on adults of *Smaris erzincanensis* sp. nov (n=2).

Character	Min. – Max.	Character	Min. – Max.
PaTr	22 – 28	Ta I (L)	120 – 128
PaFe	60 – 70	Ta I (W)	45 – 50
PaGe	22 – 30	leg I	750 – 780
PaTi	20 – 25	Cx II	80 – 90
PaTa	13 – 15	Tr II	60 – 50
Odontus	18 – 22	bFe II	38 – 55
L	770 – 810	tFe II	68 – 75
W	430 – 515	Ge II	80 – 90
ISD	210 – 215	Ti II	106 – 115
ASens	50 – 55	Ta II	70 – 72
PSens	50 – 55	leg II	494 – 525
SBa	19 – 20	Cx III	75 – 85
SBp	15 – 16	Tr III	50 – 60
aO	14 – 27	bFe III	45 – 50
pO	10 – 15	tFe III	80 – 85
DS	15 – 30	Ge III	75 – 95
pDS	19 – 25	Ti III	100 – 110
VS	8 – 14	Ta III	65 – 85
GOP (L)	165 – 180	leg III	510 – 550
GOP (W)	80 – 82	Cx IV	160 – 180
AOP (L)	20 – 25	Tr IV	70 – 75
AOP (W)	10 – 12	bFe IV	50 – 60
Cx I	100 – 115	tFe IV	95 – 110
Tr I	40 – 60	Ge IV	140 – 145
bFe I	85 – 90	Ti IV	150 – 155
tFe I	118 – 130	Ta IV	75 – 82
Ge I	125 – 130	leg IV	770 – 790
Ti I	160 – 185	IP	2540 – 2575

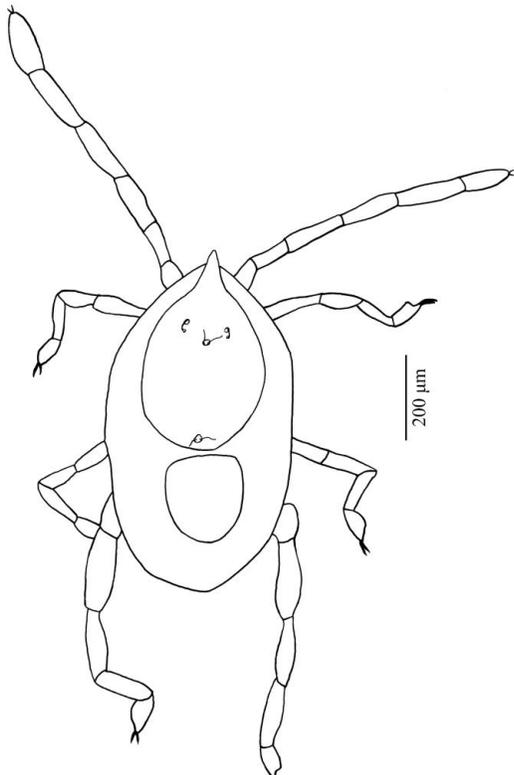


Figure 1. *Smaris erzincanensis* sp. nov (adult). General view (dorsal aspect).

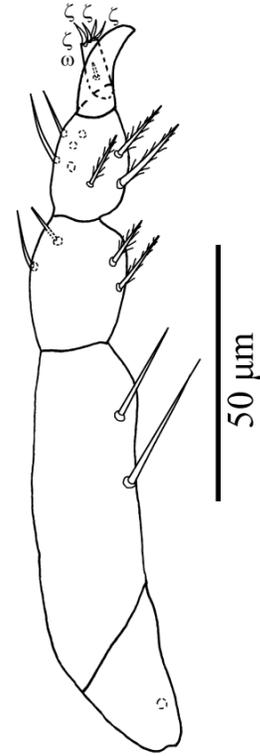


Figure 2. *Smaris erzincanensis* sp. nov (adult). Palp, dorsal view.

Dorsum with a large (435-440 x 300) anterior shield containing two sensillary areas and a pair of eyes. Both the anterior and posterior semicircular sensillary areas each bear two barbed sensillary setae. Double and sessile eyes located at slightly above of anterior sensillary area; anterior lens larger than posterior ones (Figures 3-4). Dorsal setae of one type, short, carina without spicules. The external surface of the tectum, only along the lateral sides, covered with prominent “sawtooth-like” spicules (serrate). All dorsal setae situated on punctated oval-shaped plates (Figure 5). Posterior dorsal shield smaller (195-225 x 165-190) than anterior one. Dorsum without extra smaller shield. Anterior ventral shield present, typically. Ventrum without extra smaller shield. Ventral setae shorter and slender than dorsal ones; entire surface covered with long and thin spicules. External genitalia typical for the genus and much bigger than anal sclerite. Epivalves with many barbed setae in a single row and centrovalves with many smooth setae in a single row. Anal sclerite without seta (Figure 6).

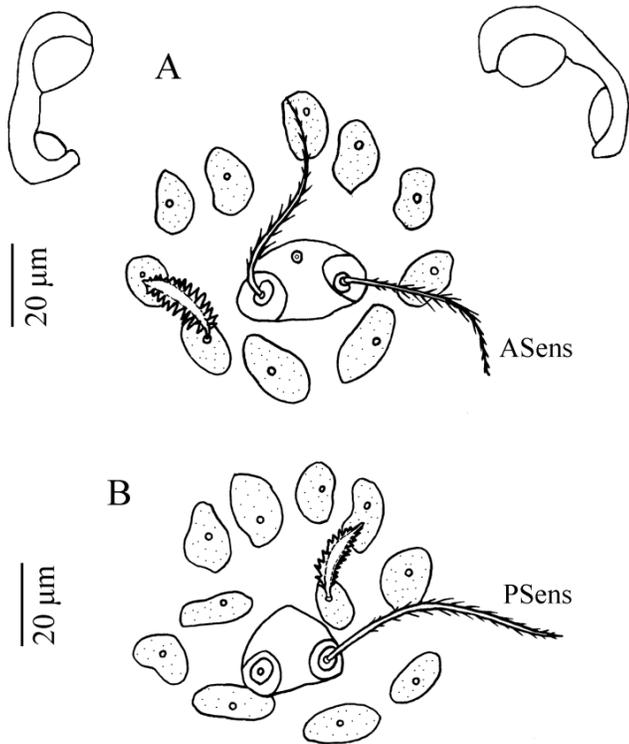


Figure 3. *Smaris erzincanensis* sp. nov (adult). A. Anterior sensillary area, B. Posterior sensillary area

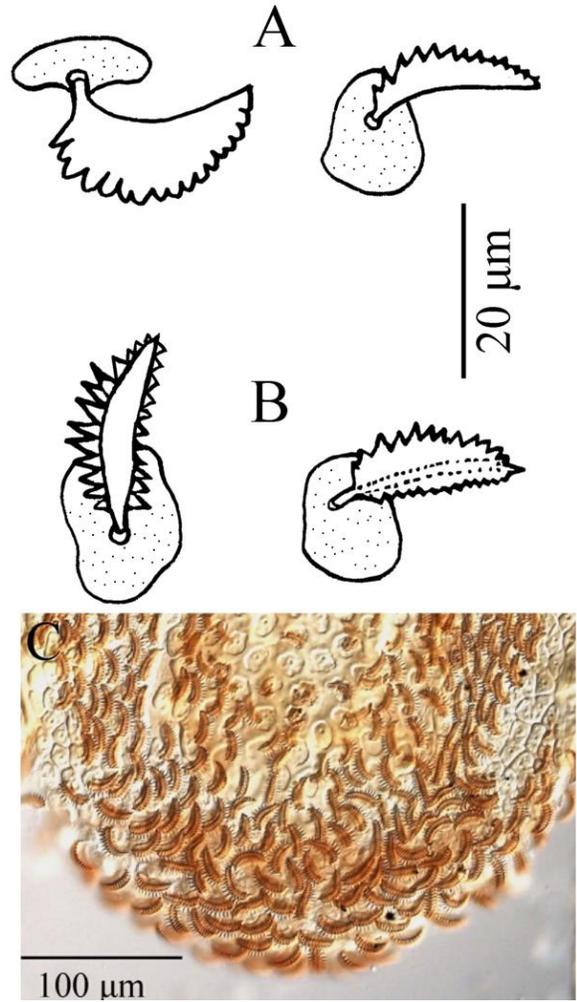


Figure 5. *Smaris erzincanensis* sp. nov (adult). A. Dorsal setae, lateral view, B Dorsal setae, dorsal view, C. Dorsal setae, dorsal view (microphotograph).

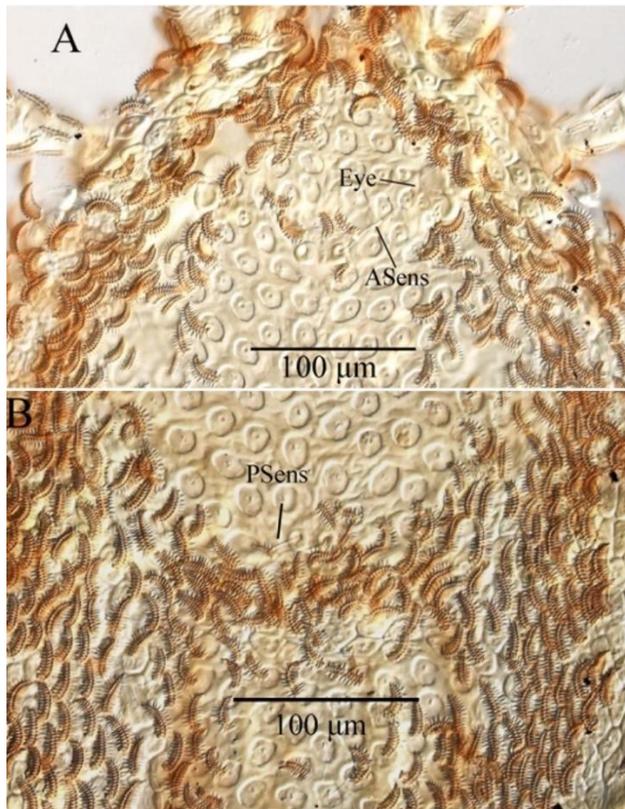


Figure 4. *Smaris erzincanensis* sp. nov (adult), microphotographs. A. Anterior sensillary area, B. Posterior sensillary area

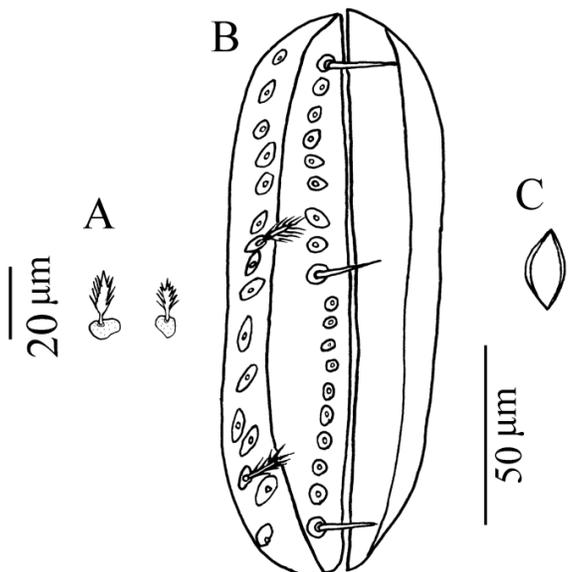


Figure 6. *Smaris erzincanensis* sp. nov (adult). A. Ventral setae, B. Genital opening, C. Anal opening.

Legs I-II longer than legs III-IV. All legs covered with serrate setae typical of the genus, shorter than the idiosoma. Serrate setae with 4 columns, each consisting of many spicules. All tarsal claws with onychotrichs (Figure 7).

Material examined. Specimens were collected from Refahiye, Erzincan province, 39°36'N 39°09'E, 1162 m a.s.l., forest land, grass area, 24.6.2023, Türkiye. The slides of holotype and paratype are deposited in EBYU.

Distribution. Türkiye.

Etymology. The epithet derives from the name of the province Erzincan, where the holotype specimen was collected.

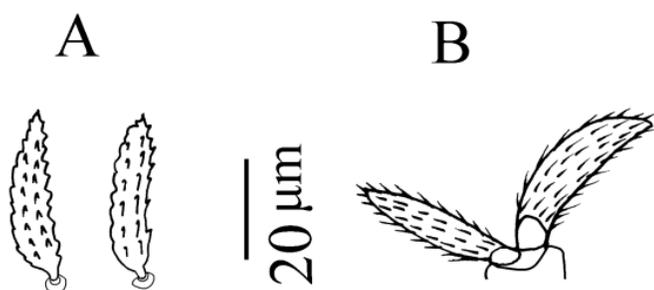


Figure 7. *Smaris erzincanensis* sp. nov (adult). A. Serrate setae on genu IV, B. Tarsal claws on leg IV.

Discussion

Smaris erzincanensis sp. nov. differs from the previously described postlarval species in the structure of the dorsal setae. The outer surface of the tectum in *S. erzincanensis* sp. nov. is covered with conspicuous “sawtooth-like” spicules only on the sides (two longitudinal rows). In other postlarval *Smaris* species, the dorsal setae are covered with more than two transverse and longitudinal rows of spicules (Grandjean, 1947; Southcott, 1961, 1963; Zhang, 1995).

In addition, the adults of *S. erzincanensis* sp. nov. are clearly distinguished from *Smaris zeteki*, *S. lanceolata*, *S. grandjeani*, *S. boneti*, *S. cooperi* and *S. prominens* by the absence of the small shields on the idiosoma, that are reportedly present in these species (Womersley and Southcott 1941; Southcott 1961, 1963; Zhang 1995); differ from *S. bipartite* by the shorter (15-30) dorsal setae, whereas they are longer (43) in *S. bipartite* (Mihelčič, 1958); from *S. biscutatus* by the presence of a posterior dorsal plate, which is reportedly absent in *S. biscutatus* (Meyer and Ryke, 1959); from *S. christensoni* by the longer (210-215) ISD, while it is shorter (118) in *S. christensoni* (Southcott, 1963); from *S. philopempta*

and *S. pinus* by the longer (50-55) anterior sensilla, which are statedly shorter (≤ 50) in these species (Grandjean, 1947; Zhang, 1995); from *S. squamata* by the absence of the lateral ventral shields and genital shield, which are reportedly present in these species (Womersley and Southcott, 1941).

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Ethical Approval

The author does not declare ethical approval.

Conflicts of Interest

The author declares that he has no conflict of interest.

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