

A NEW SPECIES OF *RAMUSELLA* HAMMER, 1962 (ACARI, OPPIIDAE), FROM FARS PROVINCE, IRAN

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SUMMARY

M. A. Akrami, L. S. Subías & M. Behmanesh. 2011. A new species of *Ramusella* Hammer, 1962 (Acari, Oppiidae), from Fars province, Iran. *Graellsia*, 67(2): 199-203.

A new species of oribatid mite of the family Oppiidae, *Ramusella (Insculptoppia) farsi* **sp. nov.**, is described from Fars province, southern Iran. The new species is characterized by the fusiform sensillus, with ten long ciliae on its head; smooth notogastral setae, presence of seta c_2 , and four pairs of genital setae.

Key words: Oribatida; Oppiidae; *Ramusella (Insculptoppia)*; new species; Fars province; Iran.

RESUMEN

M. A. Akrami, L. S. Subías & M. Behmanesh. 2011. Nueva especie de *Ramusella* Hammer, 1962 (Acari, Oppiidae), de la provincia de Fars, Irán. *Graellsia*, 67(2): 199-203 (in English).

Se describe una nueva especie de ácaro oribátido de la familia Oppiidae, *Ramusella (Insculptoppia) farsi* **sp. nov.**, procedente de la provincia de Fars, sur de Irán. La nueva especie se caracteriza por el sensilo fusiforme con 10 largos cilios en su cabeza, setas notogastrales delgadas, presencia de seta c_2 y cuatro pares de setas genitales.

Palabras clave: Oribatida; Oppiidae; *Ramusella (Insculptoppia)*; nueva especie; provincia de Fars; Irán.

Introduction

Fars province, southern Iran, covers a land area of about 125,000 km² (7.6% of total area of Iran) and is located between latitudes 27°-31°N and longitudes 50°-55°E. The elevational range in this province extends from about 450 m in the southern

part to 4050 m in the northern part, with a mean of 1491 m a.s.l. The mean annual precipitation ranges from 150 to 1200 mm. Fars is one of the few totally unknown provinces in Iran in relation to the taxonomic study of oribatid mite fauna. In the course of a preliminary faunistic survey of oribatid mites in this province, a number of oppiid mites (family

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Oppiidae) were collected. Here, we describe one new species belonging to the subgenus of *Ramusella* (*Insculptoppia*).

According to Subías (2004, online version 2011), this subgenus has been represented until now by 33 species and prior to this study there were only three records of this subgenus from Iran. Bayartogtokh & Akrami (2000) described *Ramusella abarkouhiensis* from central Iran (Yazd province). In his catalogue, Subías (2004) synonymized this species and *Ramusella* (*I.*) *elliptica* (Berlese, 1908), due to the shape of the rostral setae. Akrami & Subías (2007) reported *Ramusella* (*I.*) *insculpta* (Paoli, 1908) and in 2008, described *Ramusella* (*I.*) *iranica* from northern Iran (Mazandaran province). The fourth Iranian species of this subgenus is presented in this paper.

Material and methods

During the course of a faunistic survey of oribatid mites in Fars province over 2009-2010, soil and litter samples were taken from the surface to a soil depth of 10 cm under fruit and forest trees, crop and ornamental plants and weeds. Mites were extracted from soil samples using Berlese-Tullgren funnels fixing in 75% ethanol, cleared in lactophenol and mounted in Hoyer's medium on glass microscopic slides. The slides were placed in an oven at 45 °C for one week and then the specimens were examined using a light microscope (Zeiss Standard 20). Figures were made by using a drawing tube attached to the microscope.

Results

Family Oppiidae Sellnick, 1937

Ramusella (*Insculptoppia*) *farsi* sp. nov. (figs. 1-5)

MATERIAL EXAMINED. Four adults. Holotype: Sepidan, Fars province, soil, 29°97'N, 52°40'E, 1606 m.a.s.l., 24-VII-2009, M. A. Akrami leg. Three paratypes, one specimen: same data as holotype; two specimens: Badjgah village, Shiraz, Fars province, soil of poplar trees (*Populus* sp.), 29°32'N, 52°35'E, 1810 m.a.s.l., 6-IX-2009, M. Behmanesh leg.

TYPE DEPOSITORY. The specimens are deposited in the Acarological Collection, Department of Plant Protection, College of Agriculture, Shiraz University, Shiraz, Iran.

DIAGNOSIS. The new species is characterized by the fusiform sensillus, with ten long barbs on its

head; smooth notogastral setae; seta c_2 developed; four pairs of genital setae present.

DESCRIPTION. Measurements: Holotype: body length 259 μm , width of notogaster 111 μm ; paratypes (n= 3): body length 199-240 μm (mean 213), width of notogaster 102-104 μm (mean 103).

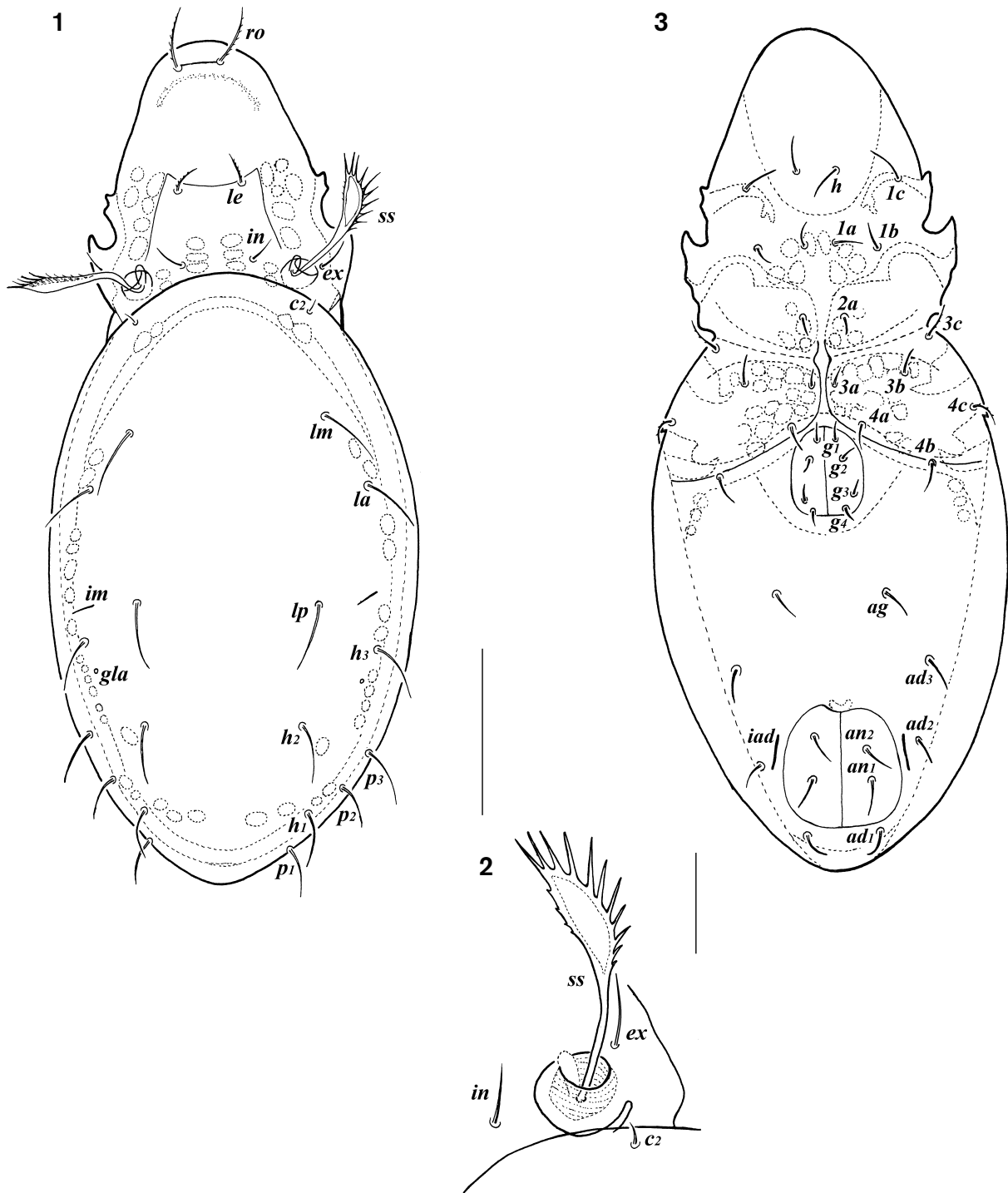
Prodorsum (figs. 1-2). Rostrum rounded at tip; rostral setae (*ro*) long, arched, inserted far to each other on the dorsolateral sides of the rostrum, slightly longer than their mutual distance, with fine ciliae unilaterally; lamellar setae (*le*) short, about half as long as *ro*, finely ciliate; interlamellar setae (*in*) short, as long as lamellar setae, glabrous; exobothridial setae (*ex*) also short and glabrous, slightly longer than *in*; sensillus (*ss*) long, fusiform, its head with ten long barbs unilaterally; bothridia round, with wide opening; three pairs of muscle sigillae situated between the interlamellar setae in two longitudinal rows, two sigillae between each interlamellar seta and bothridium, and some sigillae anterior to each bothridium; lamellar and translamellar lines well developed.

Notogaster (fig. 1). Notogaster elongate oval and narrow, rounded in both anterior and posterior directions, dorsosejugal suture convex; nine pairs of notogastral setae long and glabrous, seta c_2 very short, weakly developed, the rest of setae almost equal in length, seta *la* situated more posterior to *lm*; Lyrifissure *im* and latero-opisthosomal gland (*gla*) opening well developed.

Epimeral region (fig. 3). With a few muscle sigillae; apodemes *I*, *II*, *Sj* and *IV* well developed; epimeral setal formula (I-IV) 3-1-3-3; epimeral setae mostly short, thin and smooth, only *3c* and *4c* finely barbed.

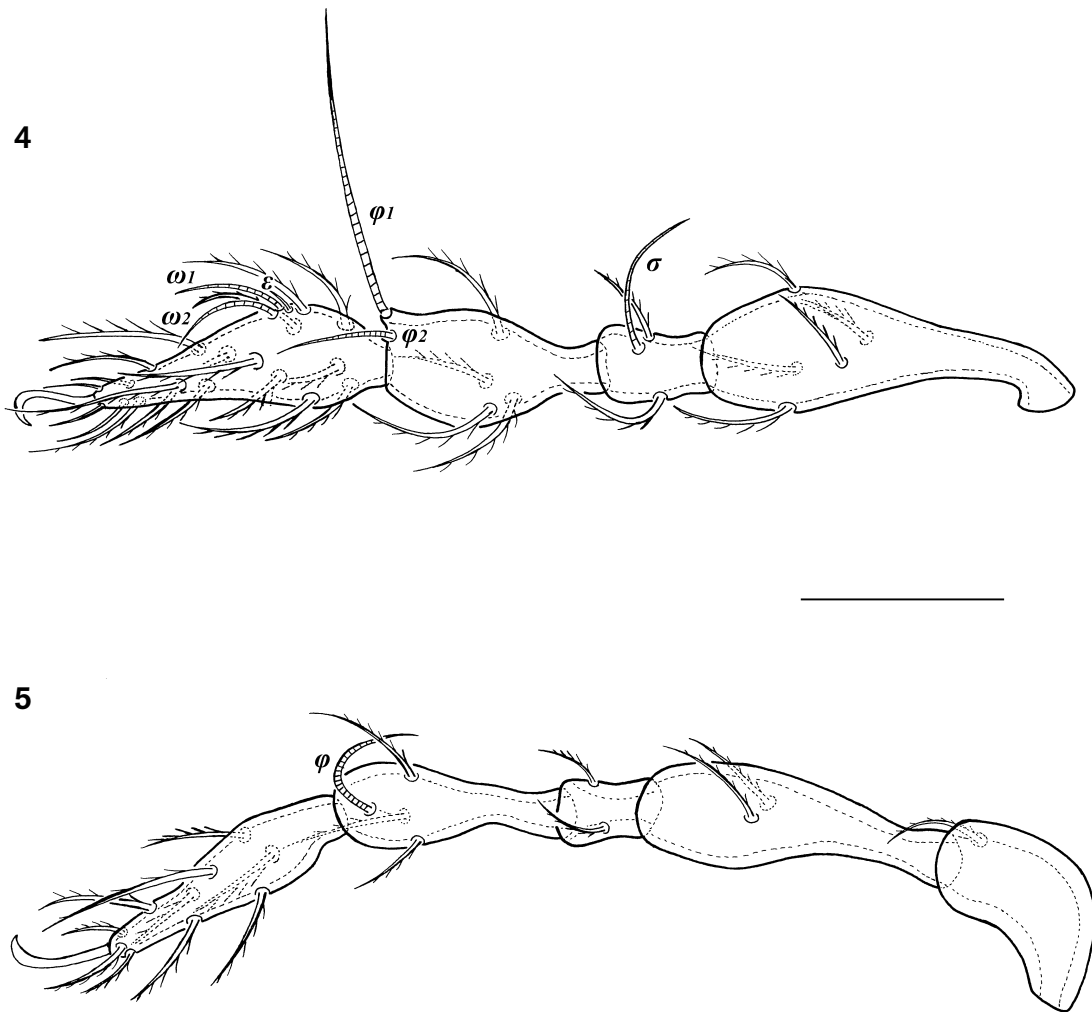
Anogenital region (fig. 3). Genitoanal plates with four pairs of genital (g_1 - g_4) (two arranged on anterior half and other two on posterior half the plates), one pair of aggenital (*ag*), two pairs of anal (an_1 - an_2) and three pairs of adanal setae (ad_1 - ad_3), ad_3 situated in preanal position near *ag*, all anogenital setae smooth; ano-genital region smooth with few small sigillae situated posterolaterad of each epimeral setae *4b*; *iad* fissures in adanal position and adjacent to anal plates.

Legs (figs. 4-5). Leg setation normal for the family, all tarsi monodactylos. Formula of leg setation including famulus (trochanter to tarsus): I (1-5-2-4-20); IV (1-2-2-3-10) and the formula of solenidia: I (1-2-2); IV (0-1-0). On tarsus I solenidia ω_1 and ω_2 nearly equal in length; famulus ε



Figs. 1-3.— *Ramusella (Insculptoppia) farsi* sp. nov. 1) Dorsal view and 3) ventral view of holotype (scale bar 50 μ m). 2) Sensillus of holotype (scale bar 15 μ m).

Figs. 1-3.— *Ramusella (Insculptoppia) farsi* sp. nov. 1) Vistas dorsal y 3) ventral del holotipo (escala 50 μ m). 2) Sensilo del holotipo (escala 15 μ m).



Figs. 4-5.— *Ramusella (Insculptoppia) farsi* sp. nov. 4) Leg I of holotype. 5) Leg IV of holotype. Scale bar 25 μ m.

Figs. 4-5.— *Ramusella (Insculptoppia) farsi* sp. nov. 4) Pata I del holotipo. 5) Pata IV del holotipo. Escala 25 μ m.

short and slender, situated behind ω_1 , tibia I with extremely long solenidion φ_1 and short φ_2 , φ_2 just under half length of φ_1 ; genu I with solenidion σ slightly longer than ω and φ_2 ; also tibia IV with solenidion φ about same length as dorsolateral setae.

ETYMOLOGY. The specific name “*farsi*” refers to the region of the type locality of this species, Fars province of Iran.

REMARKS. The new species resembles the Turkish species, *Ramusella (Insculptoppia) luxtoni* (Ayyildiz, 1989) in the shape of the sensillus, by

having four pairs of genital setae and approximately equal body length (250-280 μ m in *Ramusella (I.) luxtoni*), but this species differs from the new species by the absence of setae c_2 , shorter sensilli, and same transverse level of setae la (= te) and lm (= ti). In the shape of sensillus, the presence of short, but well developed setae c_2 , and anterior location of setae lm close to la , *Ramusella (I.) farsi* sp. nov. is also similar to *Ramusella (I.) elmela* Subías & Rodríguez, 1986 (= *Oppia* sp. Hammer, 1977) from Pakistan, but the latter is distinguishable from the new species by having five pairs of genital setae, and barbulated notogastral, anal and

adanal setae. The Iranian species, *Ramusella* (*I.*) *iranica*, has the notogastral setae c_2 similarly to the new species, but the former species differs in having five pairs of genital setae, barbulated notogastral and adanal setae, far larger body size (390-445 μm in length, 155-180 μm in width), and sensilli only with six barbs.

Acknowledgements

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