

GREDOSELLA FRATERNALIS N. GEN., N. SP., A NEW ORIBATID MITE
(ACARI, ORIBATIDA, MACHUELLIDAE) FROM A BURNED PINE FOREST
IN THE SIERRA DE GREDOS (AVILA, SPAIN)

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ACARI
ORIBATIDA
MACHUELLIDAE
TAXONOMY
SIERRA DE GREDOS
SPAIN

SUMMARY: A new genus and species of the oribatid mite family *Machuellidae* Balogh, 1983 is described under the name *Gredosella fraternalis* n. gen., n. sp. The specimen studied was extracted from a soil sample collected in a burned pine forest at Arenas de San Pedro (Sierra de Gredos, Province of Avila, Central Spain). Its most important distinguishing character is that it bears a fused tibia and tarsus on all its legs. *Machuella capitata* Kuliev, 1967 is transferred to *Gredosella*.

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RÉSUMÉ : Le nouveau genre *Gredosella* est représenté par *G. fraternalis* n. sp. Oribate appartenant à la famille des Machuellidae Balogh, 1983. Elle provient d'une pinède brûlée des alentours d'Arenas de San Pedro (Sierra de Gredos, Province d'Avila, Centre de l'Espagne). La nouvelle espèce est caractérisée par la fusion tibio-tarsale de toutes les pattes. *Machuella capitata* Kuliev, 1967 est transférée au *Gredosella*.

INTRODUCTION

As part of a study of oribatid mites carried out in burned pine forests on the southern slopes of the Sierra de Gredos—a centrally located Mountain Range in the Iberian Peninsula—(GIL-MARTIN & SUBIAS, 1997), an undescribed species was collected from an area that had burned two years earlier. A complete description of this new oribatid mite is given below.

The area in question, the town of Arenas de San Pedro (Province of Avila), like the rest of the sampled area, clearly corresponds to a temperate, warm and wet Mediterranean climate. Hence, it is not surprising to find elements of fauna normally regarded as “sub-

tropical” or characteristic of warm regions, like that of this study. As SUBIAS & ARILLO (1993) indicate in their revision of the family Machuellidae Balogh, 1983, the two species groups of *Machuella* (the single genus of the family) are essentially circum-Pacific and Mediterranean in distribution, although this genus has occasionally been cited in other areas.

Gredosella n. gen.

Machuellidae characterized by long body shape, lamellar setae closer together than rostral setae, and a radiating sensillus. Anterior rim of notogaster truncated and hollow. Ten pairs of epimeral setae of

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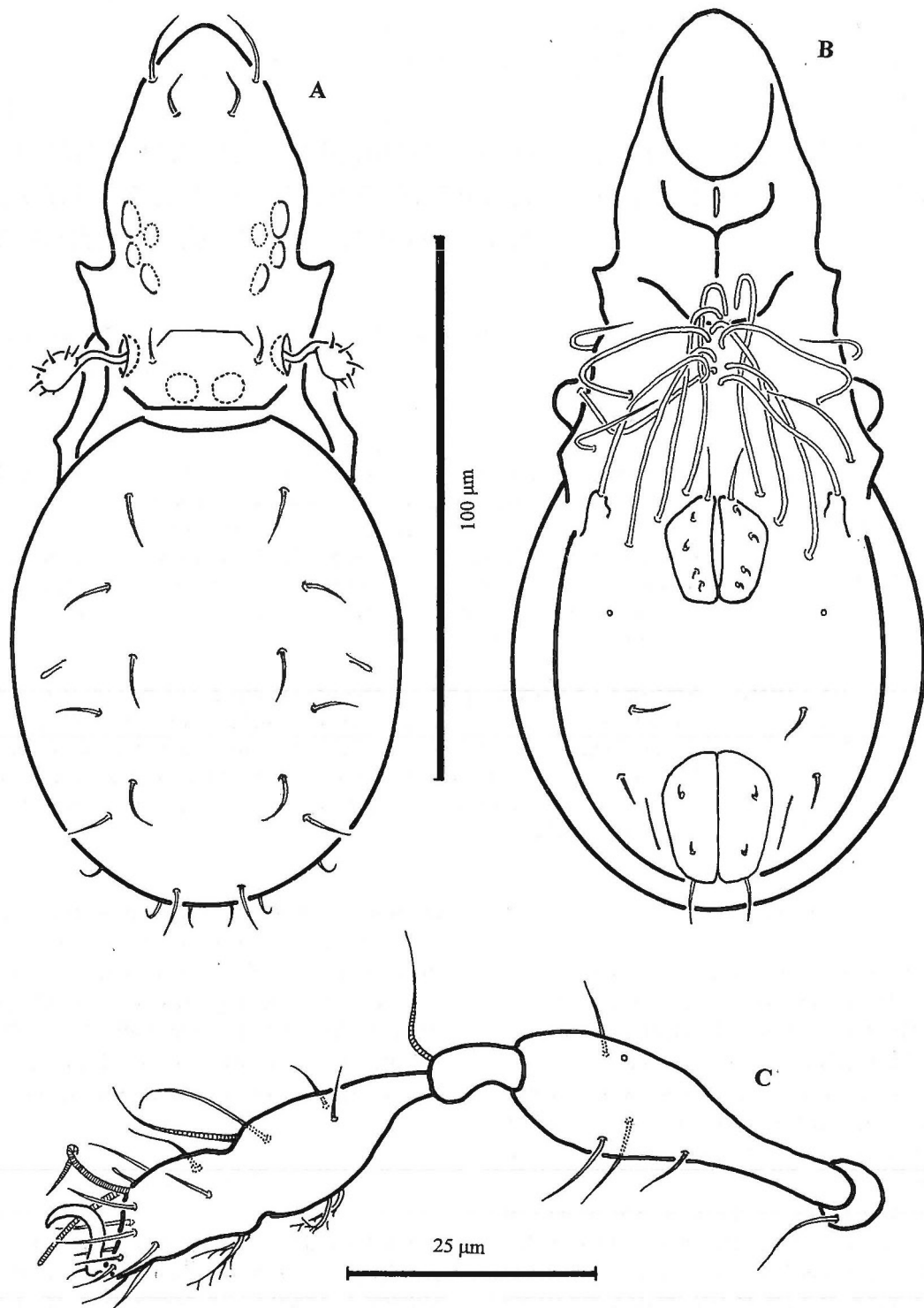


Fig. 1: *Gredosella fraternalis* n. gen., n. sp. A. — Dorsal view. B. — Ventral view. C. — Leg I.

apodeme 4 extending from a distinct teat. Tibia-tarsus suture present on all legs, a characteristic previously unknown among oribatids. These characters clearly distinguish this genus from *Machuella* Hammer, 1961, which until now has been the only known genus of the family Machuellidae Balogh, 1983.

Type species: *Gredosella fraternalis* n. sp.

Gredosella fraternalis n. sp.

Measurements and integument: The specimen studied is very small: $163 \times 75 \mu\text{m}$. Colour of body whitish, due to weak sclerotization.

Prodorsum (Fig. 1 A): Full rostrum with long, smooth, curved setae inserted on far sides. Lamellar setae smooth, shorter and slightly elbow-shaped and with alveoli closer together. Interlamellar setae similarly short and smooth. Exobothridial setae not visible. Sensillus with a rather short stem and a radiated, spherical-shaped head, with well-developed cilia. A line present in front of interlamellar setae and another, more distinct, behind bothridium. There are also a few large, clear interbothridial areas.

Notogaster (Fig. 1 A): Elliptical in shape, anterior ridge truncated or slightly hollow. Ten pairs of notogastral setae smooth, with c_2 same as others. Fissurae *im* well developed.

Ventral side (Fig. 1 B): Epimeral region with well developed setae and the characteristic 'basket'-like shape. Setae of epimeral region 1 indiscernible. Setae 3_b , 3_c , 4_b and 4_c visible, with the rest (three pairs) neotrichous and probably corresponding to 4_3 . These setae are particularly long and distally blunt, except for 3_c and those that support most of the 'basket'-like structure. It is worth pointing out that setae 4_b extend from a teat. Likewise, it is interesting to note that a seta not from the epimeral region, but from the trochanter of leg III, forms part of the 'basket', although this only occurs on the right side of the body. Genital plates present five pairs of very small setae, except setae g_1 which are longer, extending to the epimeral region, and appear to be involved in the 'basket'. Of the adgenital setae, only the alveoli are visible. Two pairs of extremely small anal setae; three pairs of adanal setae, smooth and well developed,

with pair ad_1 postanal. Large fissurae *iad* in paraanal position.

Legs: All tarsi fused with corresponding tibia, with a visible narrowing in the suture region. This is particularly distinct in legs III and IV. Chaetotaxy of leg I as illustrated (Fig. 1 C). Trochanter and femur with characteristic formula. Solenidium discernible on genu, but the position of leg II partly concealed this region and the other two setae may also be present. With regards to the tibia-tarsus, the setae of both segments are clearly distinguishable. Tibia retains both its solenidia and the four characteristic setae. Tarsus has undergone chaetotaxic reduction, though less than the marked shortening of the segment might suggest. Both solenidia are very long, extending past the claw. Famulus well developed. Both *pl* setae have been lost, while only one *ad* seta has been lost. One *tc* seta has also been lost although this was probably due to handling of the specimen.

In Figure 2, the leg I of *Machuella draconis* Hammer, 1961, with tibia and tarsus not fused, is shown for comparison.

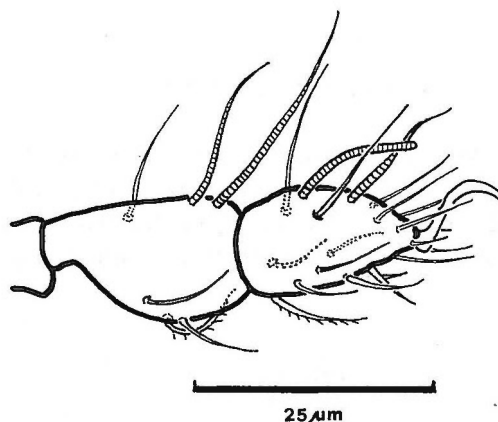


Fig. 2: *Machuella draconis* Hammer, 1961. Leg I.

TYPE MATERIAL. Holotype, collected from soil sample P2PP (at Arenas de San Pedro, Province of Avila, Spain) (ITURRONDOBEITIA & GIL-MARTIN, in press) during a study of the burned pine forests referred to in the introduction (GIL-MARTIN & SUBIAS, 1997). Preserved in 70% lactic acid and deposited in the collections of the Cátedra de Entomología del Departamento de Biología Animal I, Facultad de Biología de la Universidad Complutense, Madrid.

DERIVATIO NOMINIS. The genus is named after the mountain area where it was found and the species name is the first author's dedication to his siblings in simple appreciation of their existence... just as involuntary as comforting.

DISCUSSION

The generic characteristics of this species easily distinguish it from the remaining species of the

family, with the exception of *Machuella capitata* described by KULIEV (1967) from Crimea (Ukraine). Because of the shape of its body, the position of the lamellar setae and the presence of a pair of teats at the insertion of a pair of epimeral setae, we think that *M. capitata* belongs to the new genus, even though no data exists on its legs, for which we do not know if tibia and tarsus are sutured, as occurs in *G. fraternalis*. In any case, the characters of the rest of its body serve to distinguish *G. fraternalis* from *G. capitata* n. comb.

<i>G. fraternalis</i> n. sp.	<i>G. capitata</i> n. comb.
Epimere 1 without setae	Epimere 1 with two pairs of setae
Notogastral setae well-developed	Notogastral setae short
Anal setae short	Anal setae long
Genital setae g_1 very long	Setae g_1 similar in length to others
Five pairs of setae on epimere 4	Seven pairs of setae on epimere 4
Adgenital setae reduced to alveoli	Adgenital setae normally developed

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