

**SERRATOPPIA GUANICOLA SP. NOV.
FROM A CAVE IN CENTRAL SPAIN.
IBERIAN SPECIES OF GENUS *SERRATOPPIA*
(ACARIFORMES, ORIBATIDA, OPPIIDAE)**

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ACARI
ORIBATIDA
OPPIIDAE
SERRATOPPIA
TAXONOMY
CAVE SPECIES
SPAIN

ABSTRACT : *Serratoppia guanicola* sp. nov. is described from bat guano from a cave in Central Spain. Iberian species identity of genus *Serratoppia* are discussed. An identification key for them is given. *Serratoppia mitrofanovi* (Gordeeva et Karpinnen, 1988) comb. nov., described from Crimea (Ukraine) is included in this genus.

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RÉSUMÉ : Nous décrivons une nouvelle espèce du guano de chauve-souris d'une grotte d'Espagne Centrale, *Serratoppia guanicola* n. sp. Nous débattons des identités des espèces ibériques du genre *Serratoppia*, et nous donnons une clé d'identification. *Serratoppia mitrofanovi* (Gordeeva et Karpinnen, 1988) comb. nov., qui avait été trouvée en Crimée, est placée dans ce genre.

As part of a revision of the Oribatid Collections stored in the Cátedra de Entomología de la Facultad de Biología de la Universidad Complutense de Madrid (CEFBUCM) several specimens from a cave in Central Spain have been studied.

These samples are from bat guano. Mites were obtained using the Berlese-Tullgren method.

These specimens belong to a new species of the genus *Serratoppia* Subías et Mínguez, 1985, which belongs to the family Oppiidae Grandjean, 1951 (several cave species have been described in this family).

SUBÍAS & BALOGH (1989) included five species in the genus *Serratoppia*, four of which were described from Spanish samples. In this paper we try to

clarify the identities of these species showing their current geographical distribution. An identification key is also given.

***Serratoppia guanicola* sp. nov.**

Type material : 11 specimens have been studied. They were collected in bat guano from a cave called "La Escarigüela" situated in the town of Torrelaguna (Madrid Province), 27 January 1974, S. PÉREZ leg.

Holotype and paratypes are preserved in semi-permanent Hoyer slides and stored in CEFBUCM. The tegument is very slightly sclerotized, as is common in cave species.

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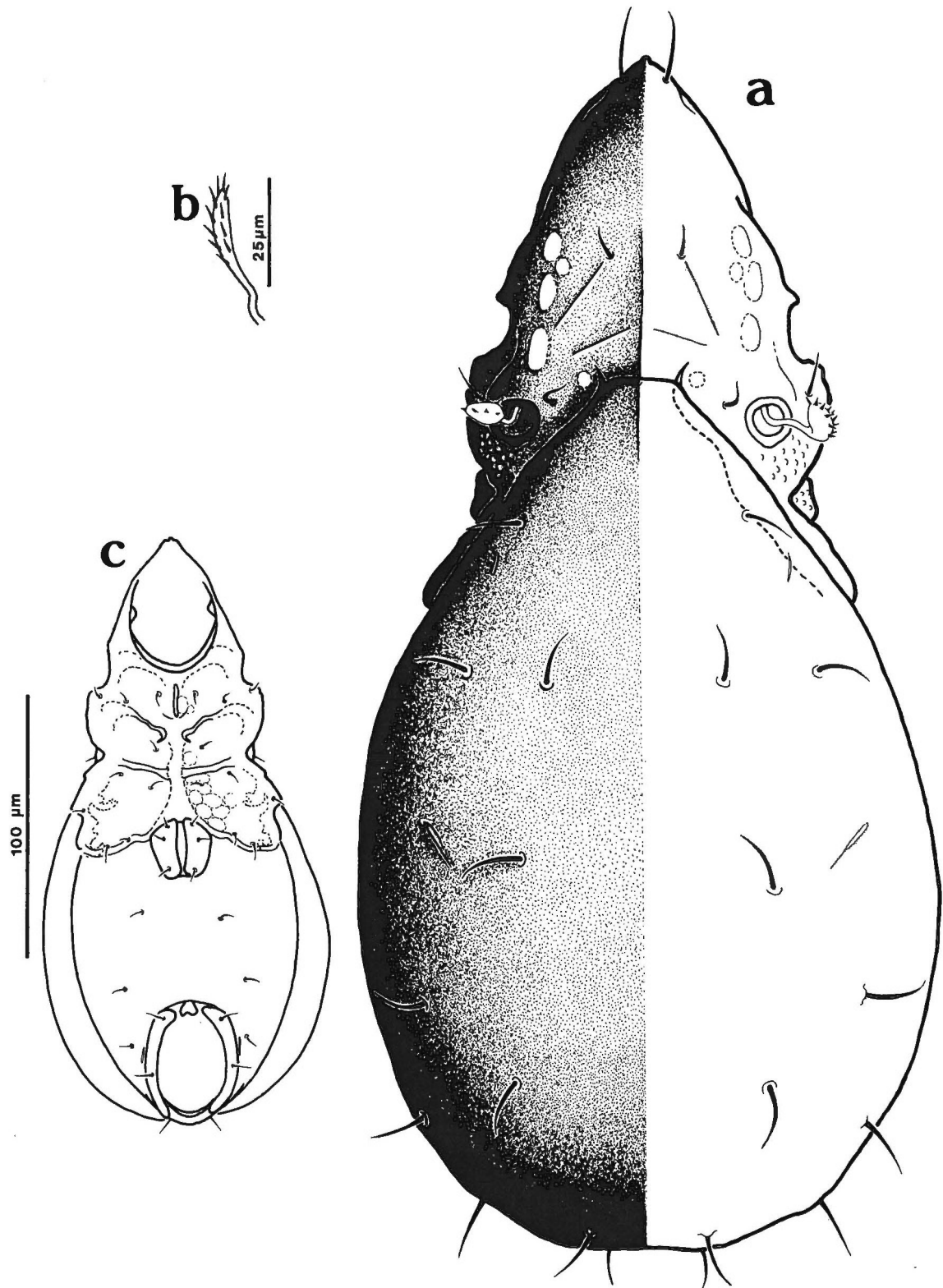


FIG.1. *Serratoppia guanicola* n. sp.
a — Dorsal view. b. — Sensillus. c. — Ventral view

Dimensions : The specimens have a small, long and flattened shape, 220-230 µm long and 110-115 µm wide (twice as long as wide).

Prodorsum (Fig. 1a) : Rostrum with a well-developed medial tooth. Lateral teeth absent. Rostral setae long, straight, slim and smooth. The characteristic cross-shaped lines of the genus *Serratoppia* are present. Lamellar setae very short, slim and smooth. Apophysis of anterior margin of notogaster running from dorsosejugal suture to prodorsum, surpassing the bothridium. Interlamellar setae similar to lamellar. The sensillus has a short tail with a fusiform caput with two lines of short cilia in its external side (Fig. 1B). Exobothridial setae short, slim and smooth and exobothridial area granulated.

Notogaster (Fig. 1a-2a) : The anterior margin of notogaster is very narrow, with the apophysis on each side running to prodorsum. Ten pairs of notogastral setae, short, slim and smooth, *c2* setae with same form as the others. Near *c2* setae, the fissurae *ia* are present. Fissurae *im* well-developed, out of *lp* setae.

Ventral side (Fig. 1c) : Epimeral setae very short, with the characteristic formula (3-1-3-3). Discidium rounded, genital plates with three pairs of setae, very short, slim and smooth. One pair of adgenital setae, two pairs of anal setae and three pairs of adanal setae, all similar to genital setae. Adgenital pair *ad1* is postanal and adgenital pair *ad3* is preanal. Fissurae *iad* in paraanal position.

Legs (Fig. 3) : Tarsus II with only 13 setae, as it occurs in *S. serrata* (Mihelcic, 1956), *S. intermedia* Subías et Rodríguez, 1988 and *S. minima* Subías et Rodríguez, 1988. It is difficult to know which seta has been lost, probably one *ft* or *pl*. Tarsus III has lost both *ft* setae, while in *S. serrata*, *S. intermedia* and *S. minima* only one *ft* setae has been lost. Femur III has also lost the *l* setae, as occurs in *S. minima* (*S. serrata* and *S. intermedia* have the three characteristic setae in femur III).

Affinities : The new species is very similar to *S. minima* because of its small size, the sensillus with a short tail and the short notogastral apophysis, but there are some differences : the anterior margin of notogaster is narrower, similar to *Micropoppia minus* (Paoli, 1908), the sensillus has a double line of cilia

instead of one (as is characteristic in this genus), tarsus III has lost both *ft* setae, instead of one, and there are only three pairs of genital setae (in *S. minima*, as in the others species of *Serratoppia* there are four pairs of genital setae, but sometimes, as SUBÍAS & RODRÍGUEZ (1988) indicate in the original description of *S. minima*, there can be specimens with only three pairs of genital setae). Moreover the presence of only one rostral tooth and the absence of lateral teeth is characteristic of the new species.

DISCUSSION

The Iberian Peninsula seems, at the moment, the centre of dispersion of the genus *Serratoppia* ; five out of the six species known to date were described from Spanish samples : *S. serrata*, *S. toletana* Muñoz-Mingarro, 1987, *S. intermedia*, *S. minima* and *S. guanicola*. The other species *S. duffyi* (Evans, 1954) was described from Ireland. (*S. serrata* was later found in several European localities.) It appears that *Berniniella mitrofanovi* Gordeeva et Karppinen, 1988, described from Crimea (Ukraine) could be included in this genus (*Serratoppia mitrofanovi* comb. nov.).

Serratoppia toletana was described by MUÑOZ-MINGARRO (1987) (year of volume : the real date of publication could be later). In the original description *S. toletana* is distinguished from *S. minima* for its larger dimensions, and from *S. intermedia* by the shape of rostral teeth (although this is a very variable character in *Serratoppia* species).

If we follow the original description (the specimen of the description has lost setae *c2*) because of the dimensions and the other characters *S. toletana* is identical to *S. intermedia*. Moreover there is a specimen stored in the Museo Nacional de Ciencias Naturales de Madrid, collected by MUÑOZ-MINGARRO from the same place as the holotype ; this specimen belongs to *S. intermedia*.

However MUÑOZ-MINGARRO has sent us another specimen which belongs to the type series, and this particular specimen belongs to *S. minima*. Hence we think that the material studied by MUÑOZ-MINGARRO in her original description was a mixture of *S. intermedia* and *S. minima* specimens. We think

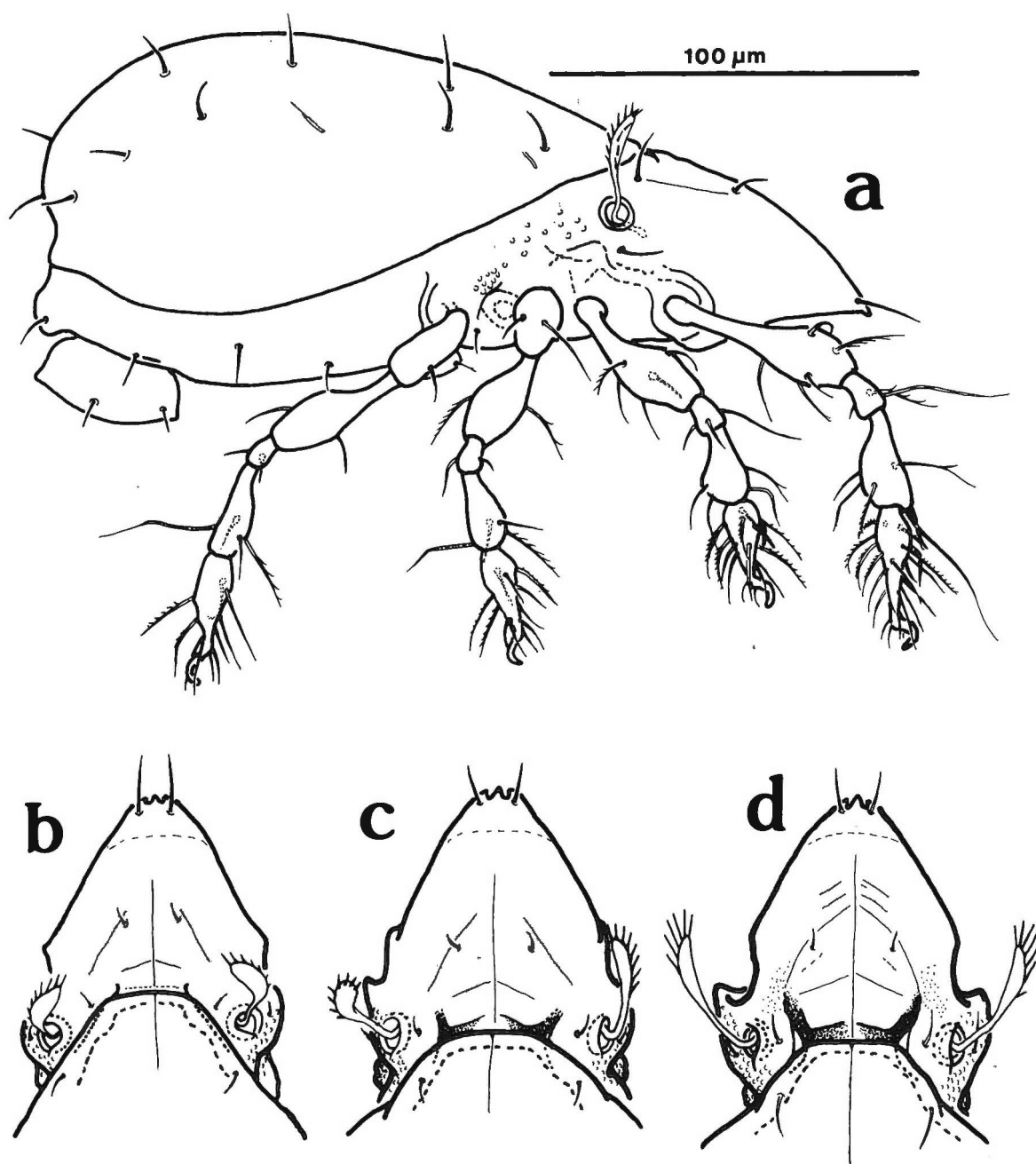


FIG.2 : a. — *Serratoppia guanicola* n. sp., lateral view. b. — *Serratoppia minima* Subias et Rodriguez, prodorsum. c. — *Serratoppia intermedia* Subias et Rodriguez, *idem*. d. — *Serratoppia serrata* (Mihelcic).

that it would be advisable to consider *S. toletana* as a *species inquirenda*.

The following identification key is valid for Iberian species. The dimensions given in the key are the median value of each species, because exceptionally there are specimens or even populations which are slightly smaller or larger ("minor" or "gigas" forms).

- 1 — Sensillus with two lines of short cilia. Rostrum with only one well-developed medial tooth. Anterior margin of notogaster very narrow. Three pairs of genital setae. Small dimensions (220-230 × 110-115 µm)..... *S. guanicola*
- Sensillus with only one line of cilia. Four pairs of genital setae (exceptionally three)..... 2
- 2 — Anterior margin of notogaster with apophysis poorly developed. Sensillus with a short tail and

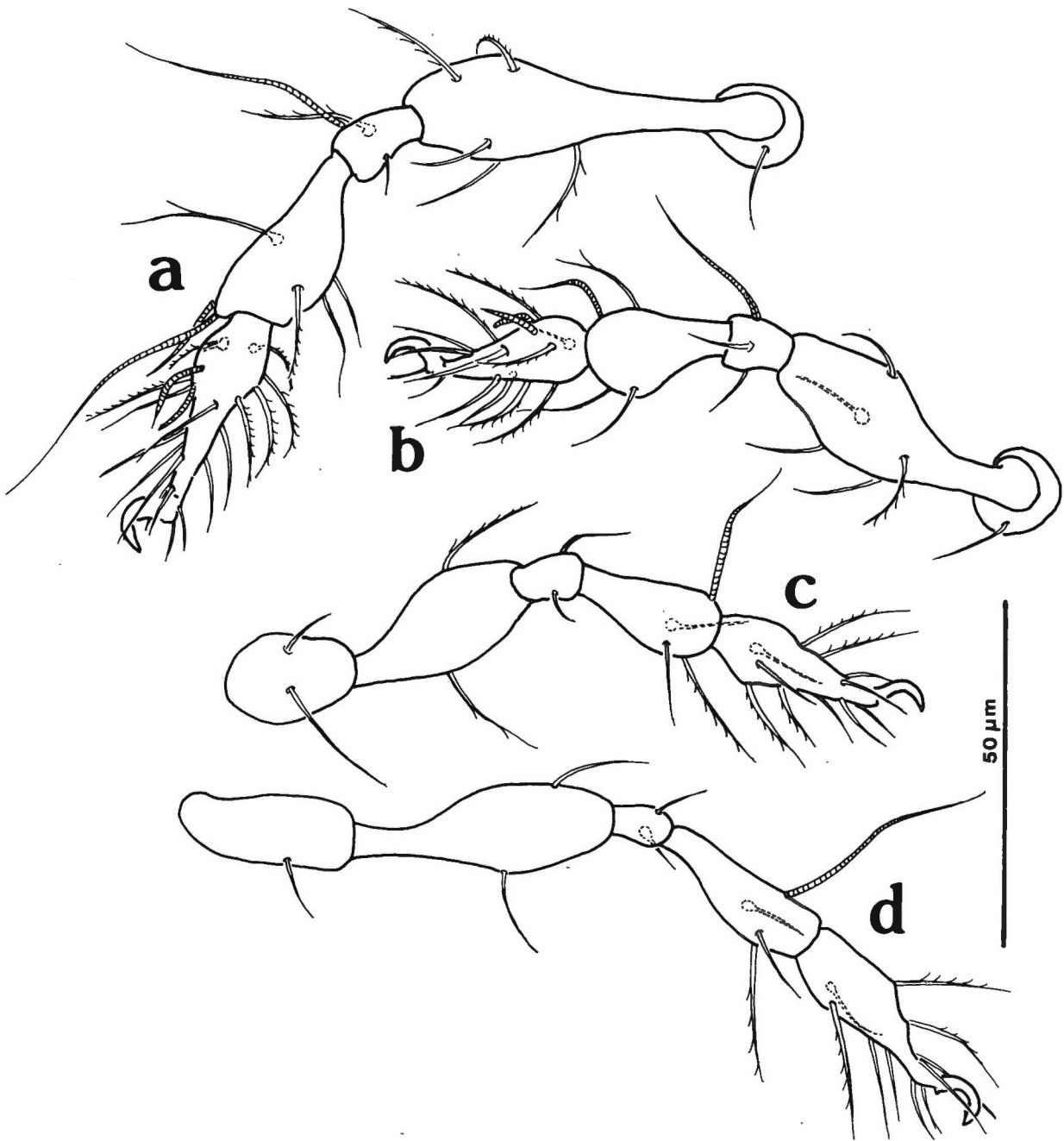


FIG.3. *Serratoppia guanicola* n. sp.
a. — Leg I. b. — Leg II. c. — Leg III. d. — Leg IV.

small size (190-210 × 95-110 μm) (with a minimum 175 × 85 mm and a maximum 225 × 120)
..... *S. minima* (Fig.2B)
— Anterior margin of notogaster with well-developed apophysis. Sensillus with a longer tail and more fusiform caput. Larger size..... 3
3 — Apophysis almost without a lateral rim. 230-265 ×

125-145 μm (with a minimum 210-115 and a maximum 285 × 155) *S. intermedia* (Fig.2C)
— Apophysis very developed with a lateral rim. Usually with oblique prodorsal ridges behind rostrum. 250-295 × 135-165 μm (with a minimum 225 × 120 and a maximum 320-180)
..... *S. serrata* (Fig.2D)

Some of *S. serrata* records probably belong to *S. intermedia*. Due to this confusion, the distribution of both species is difficult to know. *S. serrata* seems to be an Euroatlantic species, and appears in habitats rich in humus; *S. intermedia* coexists with *S. serrata*, but it also appears in Mediterranean vegetation environments; *S. minima* has a similar distribution to *S. intermedia* but is more frequent in edaphic and xeric habitats with less tree cover. *S. guanicola*, seems to be restricted to the bat guano habitat in caves.

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