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Authors: Iturrondobeitia, Juan Carlos, and Saloña, Marta Inés

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# A New Species of *Corynoppia* (Acari, Oribatida, Oppiidae) from Biscay (The Basque Country, Northern Spain)

Juan Carlos Iturrondobeitia\* and Marta Inés Saloña

Facultad de Ciencias, Universidad del País Vasco, B° Sarriena s/n,  
E-48940, Leioa, Vizcaya, Spain

**ABSTRACT**—A new oribatid mite belonging to the family Oppiidae is described from the province of Biscay in the Basque Country, Northern Spain. We propose the name *Corynoppia papillisetigera* for it, whose shape and size of setae *ta* ( $c_2$ ) bearing papillae is the main and distinctive feature to separate it from allied species, such as *Corynoppia foliatoides* Subías et Rodríguez, 1986. For the moment it has been found in a coastal meadow and eucaliptus, evergreen-oak, and pine forests.

## INTRODUCTION

Some years ago, specimens of an oppiid oribatid mite, which has been remained unnamed up to now and being recorded as *Corynoppia* sp, were collected (Iturrondobeitia and Saloña, 1988). Although this species has appeared in a few occasions (Echevarría, 1980; Saloña, 1988; and recently, unpublished results) we have decided to record it as a new for science today due to the clear distinctive features in comparison with its related species. The description of the shape of the main structures has been done according to the nomenclature of Mahunka and Zombori (1985).

*Corynoppia papillisetigera* n. sp.

## DESCRIPTION

### Dimensions, colour and covering of body

Size of 270–285  $\mu\text{m}$  length and 128–140  $\mu\text{m}$  width. Colour light brown. Body covered by an irregular rugose-like cerotegument, formed by not very thick irregular wrinkles, mixed with dirt, spread specially over the anterior and posterior parts of the dorsal side and, to a lesser extent, on the ventral plate, which does not allow to discern well the tegument and other body structures. Once it is removed a foveolated tegument all over body, including the legs, can be distinguished.

### Prodorsum

Rostral and lamellar setae foliate, racquet shaped and covered with small papillae, or spicules, sometimes scale-like papillae depending on the view positions (Figs. 1A and 2). Interlamellar and exobotridial setae small and setiform. Sensillus fusiform, curved and laterally ciliated as it is typical in most

species of the genus. Interbotridial space with four spots and soft lines as the remains of lamellar and translamellar structures. Foveolated tegument is easily distinguished in laterals whereas a rugose cerotegument covers the rest.

### Notogaster

Anterior border with two small humeral spines and setae *ta* ( $c_2$ ) of a club-form structure bearing papillae as the foliated ones (Figs. 1A and 2). This is the main character of differentiation with its closest species *C. foliatoides*, character that has been used by the authors to name the new species: “*papillisetigera*” which means “...carrying setae with papillae” in reference to the setae *ta* ( $c_2$ ) and the rest of the foliated setae. Notogaster bearing 9 pairs of setae like the widened ones described for the rostral and lamellar setae. Surface of this body part with a rugose cerotegument and under it a foveolated tegument.

### Ventral region

Epimeral region has usual chaetotaxy 3:1:3:3 and apodeme *apo*<sub>4</sub> softly marked (Figs. 1B and 3). Genital plates bear 5 pairs of setae and anal ones 2. The latter with ciliation hardly visible using non-contrast microscope. Fissures *iad* located in paraanal position. Adanal *ad*<sub>3</sub> and adgenital *ag* setae small and setiform and arranged in a line, while adanals *ad*<sub>1</sub> and *ad*<sub>2</sub> widened similarly to those of notogaster and prodorsum. Softly foveolated tegument of the epimeral region well seen due to the absence of cerotegument whereas a softly rugose cerotegument appear in the ventral plate.

### Legs

We have no general comments about the legs and their chaetotaxy because the lack of material to compare with. So, we refer to figures as they explain themselves. Particularly remarkable are the following comments. All legs monodactile with a softly foveolated tegument (Fig. 3). Chaetotaxy fitting

\* Corresponding author: Tel. +344-4647700;  
FAX. +344-4648500.

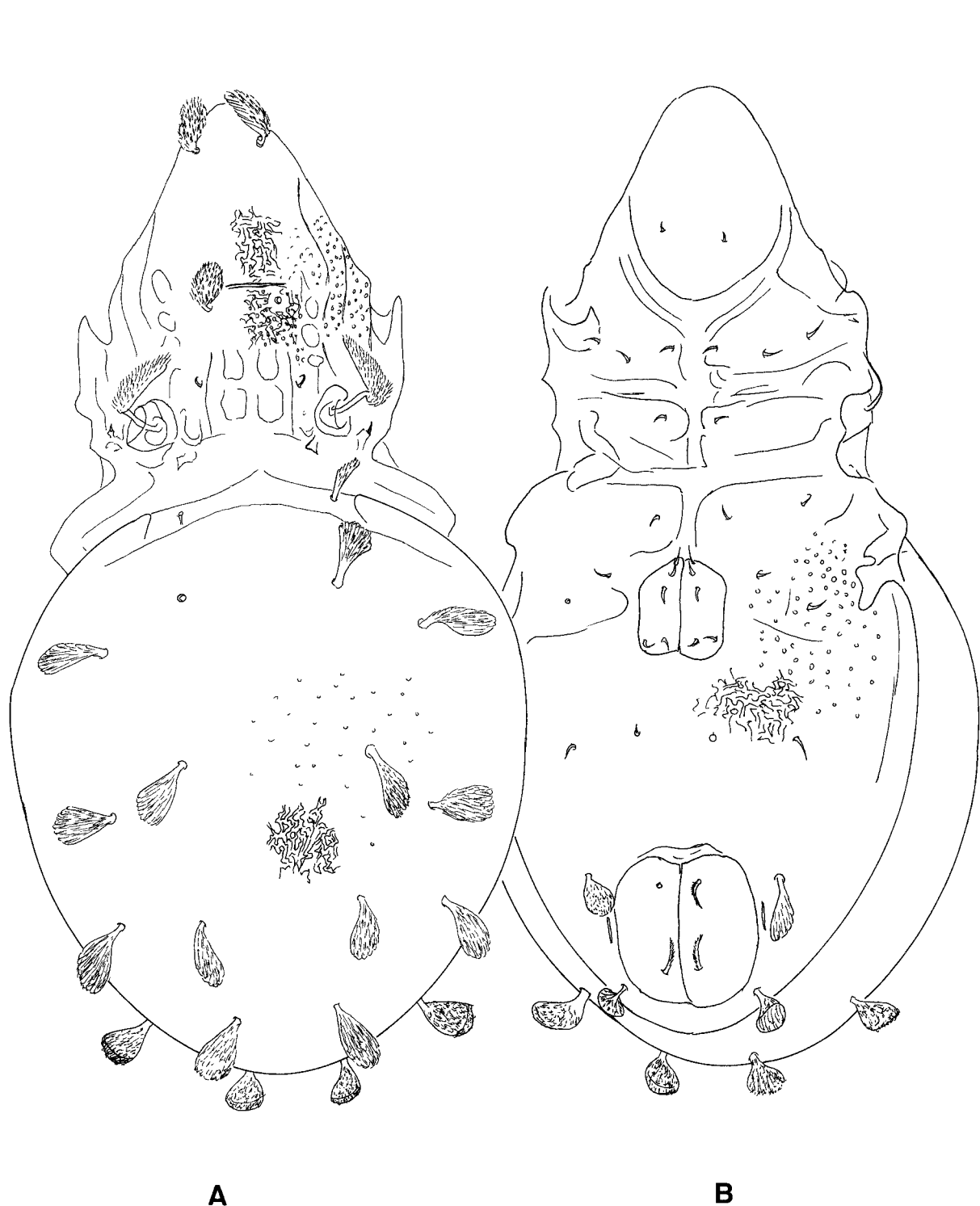


Fig. 1. Dorsal and ventral side of *Corynoppia papillisetigera* n.sp. (scale bar, 100  $\mu$ m).

into the model proposed by Arillo (1995) for the family Oppiidae, based, at the same time, on the nomenclature proposals and setae positions given by Norton (1977) for the family Damaeidae. A possible formula is the following:

I: 1-5-2(1)-4(2)-20(2).

II: 1-5-2(1)-4(1)-14(2).

III: 2-3-1(1)-3(1)-12 or 13.

IV: 1-2-2-3(1)-9 or 10.

Long solenidion  $\sigma_1$  located on the extremity of an apophysis of tibia I, matter already described by Pérez-Iñigo (1967) in *Stachyoppia kosarovi matritensis*, whereas the smaller  $\sigma_2$  just behind it. Tibiae II, III and IV normal, without apophysis.

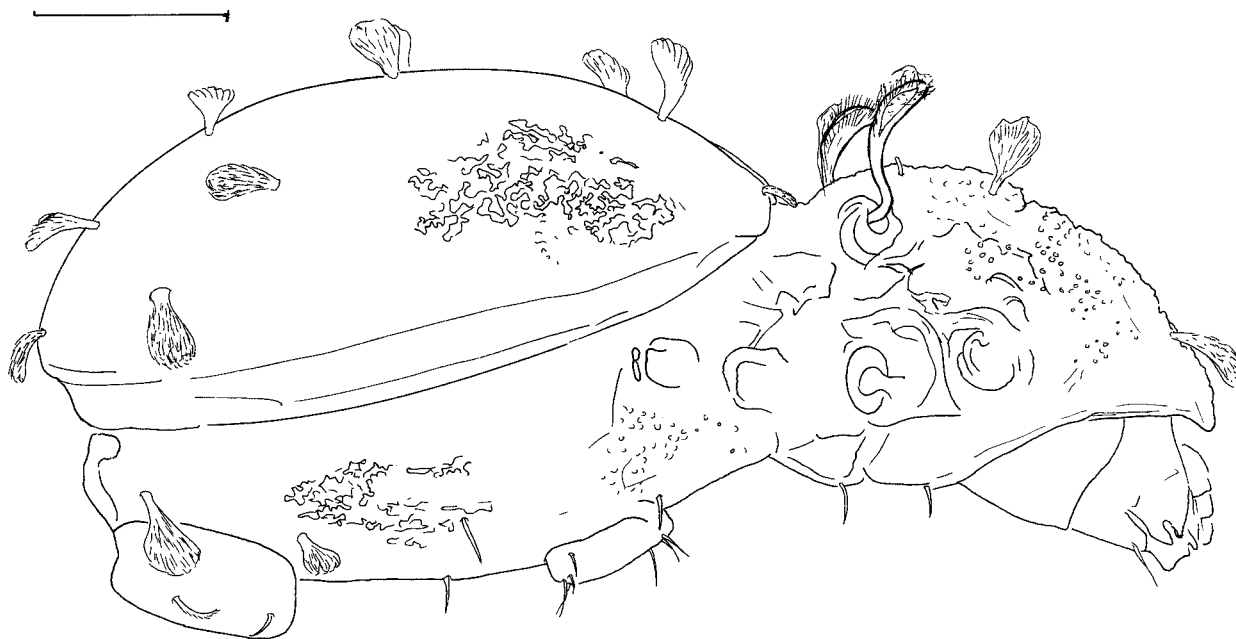


Fig. 2. Lateral side of *Corynoppia papillisetigera* n.sp.(scale bar, 50  $\mu$ m).

All solenidia short, not exceeding the length of podomere with the exception of  $\sigma_1$  which do not exceed the extreme of the leg. A lot of setae dilated like those of notogaster. This hypertrophy could be the cause of the relative displacement of the setae arranged in pairs, *ft* for example, and, probably, the secondary loss of setae. Hence the tibial chaetotaxy of legs III and IV instead of having 13 and 10 setae respectively, have 12 and 9 because the loss of one seta.

#### Studied material and habitat

Eight individuals collected in 1979 in a meadow situated in the locality of Somorrostro (Biscay Province), exactly in the small cape "Punta de Musques" in the seaboard facing north-west and in consequence bearing strong winds. The main vegetation composition covering the meadow is *Plantago maritima* (seaplantain) and grass. The pH is slightly alkaline and carbonate content is high. The studied area is surrounded by afforested eucalyptus lands.

One individual collected in 1988 in an eucalyptus forest situated in the locality of Carranza (Biscay province) 18 km far away from the former site. This forest has a pH value next to 5 and it has almost no content in carbonates. Two individuals collected in 1992, within a Project of Wild Fire impact on oribatids, in an evergreen-oak forest sample situated in the locality of Carranza (Biscay Province). One individual collected in 1992, in the same Project of Fire impact on oribatids, in a pine forest sample situated in the locality of Bilbao (Biscay Province).

Although Biscay and Alaba provinces have been intensively sampled, no more individuals of this species have appeared up to now. So, it seems to be a rare, not very abundant, species.

#### Type-series

Individuals collected in "Punta de Musques" (locality of Somorrostro, Biscay Province, Northern Spain), on March of 1979 by María Pilar Echebarria Rotaeché, have been selected as the type - series. One of them has been selected as holotype and the remaining seven as paratypes. They have been deposited in the Laboratory of Zoology of the Sciences Faculty of the Basque Country University, located in Leioa (Biscay province, Northern Spain) mounted with Hoyer in semipermanent slides.

#### DISCUSSION

The new taxon belongs to the subfamily Mystroppiinae Balogh, 1983, and to the genus *Corynoppia* Balogh, 1983, according to the classificatory system of Balogh and Balogh (1992). There are four taxa inside this genus, three species and a subspecies (Subías and Balogh, 1989; Balogh and Balogh, 1992): *Corynoppia foliatus* (Mihelcic, 1957); the type species *Corynoppia kosarovi* (Jeleva, 1962); *Corynoppia kosarovi matritensis* (Pérez-Iñigo, 1967) and *Corynoppia foliatoides* Subías et Rodríguez, 1986.

Among all existing species, including the one proposed in this paper, we find differences affecting the following features: (1) mean values of body size (mean length and width in  $\mu$ m). (2) the shape and length of sensillus (the typical of the genus *versus* a longer one). (3) rostral setae (small and setiform *versus* foliated). (4) setae *ta* ( $c_2$ ) (small and setiform *versus* a larger, club-form one, bearing papillae). (5) adanal setae *ad*<sub>2</sub> (small and setiform *versus* foliated). (6) adanal setae *ad*<sub>3</sub> (small and setiform *versus* foliated) and (7) the relative position between *ag* and *ad*<sub>3</sub> (arranged in a line *versus* a position in which adanal setae are behind the adgenital ones,

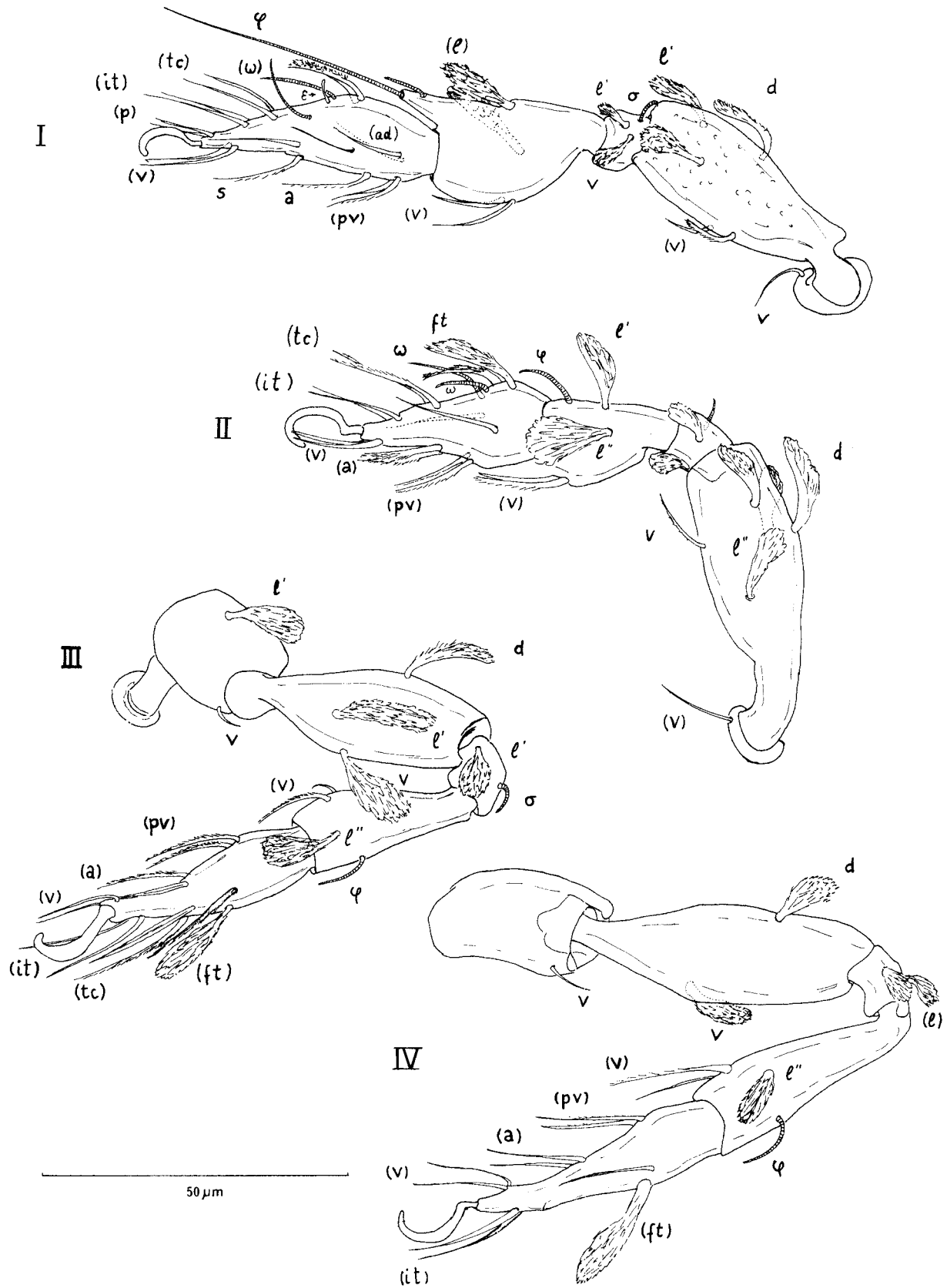


Fig. 3. Legs I, II, III and IV of *Corynopfia papillisetigera* n.sp. (scale bar, 50 μm).

**Table 1.** *Corynoppia* species definable characters

Species	Characters						
	1	2	3	4	5	6	7
<i>C. foliata</i>	265 × 130	typical	foliate	setiform	foliate	larger	displaced
<i>C. kosarovi</i>	325 × 165	typical	setiform	setiform	setiform	setiform	in line
<i>C. k. matritensis</i>	330 × 160	longer	setiform	setiform	setiform	setiform	displaced
<i>C. foliatoides</i>	260 × 140	typical	foliate	setiform	foliate	setiform	in line
<i>C. papillisetigera</i>	275 × 135	typical	foliate	clubed	foliate	setiform	in line

1: mean values of body size. 2: the shape and length of sensilli. 3: rostral setae. 4: setae *ta* ( $c_2$ ). 5: adanal setae  $ad_2$ . 6: adanal setae  $ad_3$ . 7: the relative position between *ag* and  $ad_3$  (see text).

that is longitudinally displaced).

Referring to other characters, there are great similarities and differences seem to be non-significative. These species definable characters are shown in Table 1.

It is evident, as commented on in the paper, that the closest species is *Corynoppia foliatoides* (Subías and Rodríguez, 1986) and all reviewed characters match in both species with the exception of the setae *ta*, which are setiform and small in *C. foliatoides* and significant larger and covered with papillae in *C. papillisetigera* as it has been already mentioned. The problem arises when discussing the importance of characters in separating species. For the case this paper is referring to only one feature, the shape and size of setae *ta*, appears to be different or discriminatory. Nevertheless, and without having an answer to solve the problem, we propose the creation of a new species because the setae *ta* ( $c_2$ ) have been traditionally considered as an important discriminatory feature. Moreover, the shape of this setae is constant in all individuals of the new taxon and, morphologically, very different from other species. *C. papillisetigera* seems to be a rare species, being collected only in 1980, 1988 and 1992, although many other samples have been taken later in the provinces of Biscay and Alaba. So, taking into account these reasons, we consider advisable the proposition of this new species.

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