

***CTENOBELBA APATOMORPHA* N. SP.**
(ACARI, ORIBATIDA, CTENOBELBIDAE)
FROM THE IBERIAN PENINSULA

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ACARI
ORIBATIDA
CTENOBELBIDAE
TAXONOMY
IBERIAN PENINSULA

ACARI
ORIBATIDA
CTENOBELBIDAE
TAXONOMIA
PENINSULA IBERICA

ACARI
ORIBATIDA
CTENOBELBIDAE
TAXONOMIE
PÉNINSLUE IBÉRIQUE

SUMMARY: A new species of the family Ctenobelidae Grandjean, *Ctenobelba apatomorpha* n. sp., is described. Its main diagnostic characters are the length of the sensillus, which ranges between 80 and 100 µm, presenting a long stalk (about 2/5 the length of the sensillus) and 8 to 13 branches of equal length (15 µm). This new taxon was previously recorded in 1970, by PÉREZ-IÑIGO, as *Ctenobelba pectinigera*. Morphological differences separating these two taxa and the similar European species, *Ctenobelba brevipilosa* Mahunka, 1964 and *Ctenobelba cisiszarae* Mahunka, 1977 are discussed. *Ctenobelba fenestrata* Pérez-Iñigo Jr, 1990 is synonymized with *Ctenobelba pectinigera* Berlese, 1908.

RESUMEN: En el presente trabajo se describe una nueva especie perteneciente a la familia Ctenobelidae Grandjean, 1965: *Ctenobelba apatomorpha* n. sp. Su principal carácter diagnóstico es, con respecto a otras especies afines, su sensilo, cuya longitud oscila en un rango de 80 a 100 µm, presentando un tallo largo (aprox. 2/5 de la longitud total del sensilo) así como, de 8 a 13 ramas de similar longitud (15 µm). Este nuevo taxón ya fue citado en el año 1970 por Pérez-Iñigo como *Ctenobelba pectinigera*. En consecuencia, discutimos y valoramos las diferencias morfológicas que separan a ambas especies y a otras especies europeas próximas, *Ctenobelba brevipilosa* Mahunka, 1964 y *Ctenobelba cisiszarae* Mahunka, 1977, además de revisar las citas previas existentes. Por último, se propone la sinonimia de *Ctenobelba fenestrata* Pérez-Iñigo Jr, 1990 en *Ctenobelba pectinigera* Berlese, 1908.

RÉSUMÉ : Nous décrivons une nouvelle espèce de Ctenobelidae, *Ctenobelba apatomorpha* n. sp. Son principal caractère, comparé aux autres espèces semblables, est le sensillus dont la longueur varie de 80 à 100 µm, et qui présente une tige longue (environ les 2/5 de la longueur du sensillus) avec de 8 à 13 branches de longueurs tout à fait semblables (15 µm). Ce nouveau taxon a déjà été cité en 1970 par PÉREZ-IÑIGO sous le nom *Ctenobelba pectinigera*. Par conséquent, nous étudions et discutons toutes les différences entre les deux taxons et d'autres espèces européennes similaires, comme *Ctenobelba brevipilosa* Mahunka, 1964 et *Ctenobelba cisiszarae* Mahunka, 1977, mises à part la révision des données préexistantes. Finalement, nous mettons en synonymie *Ctenobelba fenestrata* Pérez-Iñigo Jr, 1990 avec *Ctenobelba pectinigera* Berlese, 1908.

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The present paper describes a new species of *Ctenobelba*. It was found as a result of the study of several specimens of the family *Ctenobelbidae* Grandjean, 1965, from samples collected in Vizcaya and Alava and from material provided by Dr C. PÉREZ-IÑIGO.

This new species, was recorded for the first time in the Iberian Peninsula as *Ctenobelba pectinigera* by PÉREZ-IÑIGO (1970), being confused with this species due to their similarity. Nevertheless, the differences between them are considered to be sufficient to separate them. We therefore describe this new species and compare it with closely related species. The name proposed for the new species, *apatomorpha*, means 'form that induces confusion', due to the resemblance between it and *Ctenobelba pectinigera*.

Ctenobelba apatomorpha n. sp.

(= *Ctenobelba pectinigera* sensu PÉREZ-IÑIGO, 1970)

Diagnosis: Rostrum nose-like, elongated, usually with a small tooth along the sides. Sensillus length 80–100 µm. Sensillus presents a long stalk (about 2/5 total length of sensillus) and 8–13 branches of similar length (15 µm). Prodorsal and notogastral setae smooth, the latter rather long (40–45 µm).

Size: Length 440–480 µm, width 230–250 µm.

Prodorsum (Fig. 1A): Rostrum nose-like, elongated, usually with a small tooth along the sides (Fig. 1C), presenting smooth and arched rostral setae, placed slightly anterior margin of the rostrum, insertion points well separated. Lamellar setae long and smooth, generally straight; interlamellar setae slightly shorter, smooth and arched. Prodorsum with long, parallel lamellar ribs, most apparent, originating at level of bothridia, interrupted at level of interlamellar setae, projecting towards insertions of lamellar setae. However, these lamellar ribs sometimes seem to originate next to the interlamellar setae, not reaching to bothridia, as occurs in the holotype (Fig. 1). A reticulate area is present between the interlamellar setae, reaching base of lamellae. Sensillus (Fig. 1B) 80–100 µm long, consisting of a long stalk (about 2/5 length of sensillus), and an undifferentiated head bearing 8–13 branches along external margin, all of similar length (15 µm). This length is

slightly larger than the distance between them.

Notogaster (Fig. 1A): Notogaster with a pair of dorsally slightly developed apophyses on the anterior margin, projecting against the bothridia as a strongly sclerotized protuberance. Ten pairs of smooth setae (average length 30 µm) are present. Lyrifissures *im* evident, arranged obliquely under setae *te*.

Ventral region: Epimeral formula (3-1-3-3), setae smooth and of medium length. Epimeres III and IV fused, with border obscure. Sejugal furrow ventrally with enantiophysis, the larger, posterior one bearing seta *3c*. Number of genital setae typically 6 pairs: 2 anal, 2 adgenital and 3 adanal. Setae *ad1* postanal, whereas *ad3* and even lyrifissures *iad* are adanal.

Material studied: 19 specimens of the new species have been studied, 3 of which were provided by Dr C. PÉREZ-IÑIGO QUINTANA, preserved in semi-permanent preparations in Hoyer's liquid. The rest of the material is from samples taken in the summer and autumn of 1989, in the province of Alava, and in the spring of 1992, in the province of Biscay. The three specimens sent by Dr PÉREZ-IÑIGO, taken in a locality called Los Molinos (Madrid) in 1953, have been designated as the types and are deposited in the Museo de Ciencias Naturales, Madrid.

The samples, localities and number of specimens assigned to the new species are as follows:

- T17. – (3 ex.), Los Molinos (Madrid), PÉREZ-IÑIGO leg., 5 May 1953 (holotype and two paratypes).
M11. – (11 ex.), Villamanca, Cuartango (Álava). Xerophilous meadow, 640 m, 7 Sept. 1989 and 30 Nov. 1989.
M14. – (2 ex.), Peñacerrada, Sierra de Cantabria (Álava). Xerophilous meadow with *Buxus sempervirens*, 770 m, 8 June 1989 and 1 Dec. 1989.
M12. – (2 ex.), Carranza (Vizcaya). Moorland with regenerating *Ulex cantabricus* (gorse), 29 May 1992.
M25. – (1 ex.), Lemóniz (Vizcaya). Moorland with regenerating *Ulex cantabricus* (gorse), scattered oaks and *Arbutus unedo* (strawberry trees), 3 July 1992.

DISCUSSION

The genus *Ctenobelba* was first revised by MAHUNKA (1964), who described two new species—*Ctenobelba brevipilosa* and *Ctenobelba serrata*—and provided a brief key for 5 species, including *Ctenobelba pectinigera* Berlese, 1908. A more extensive revision

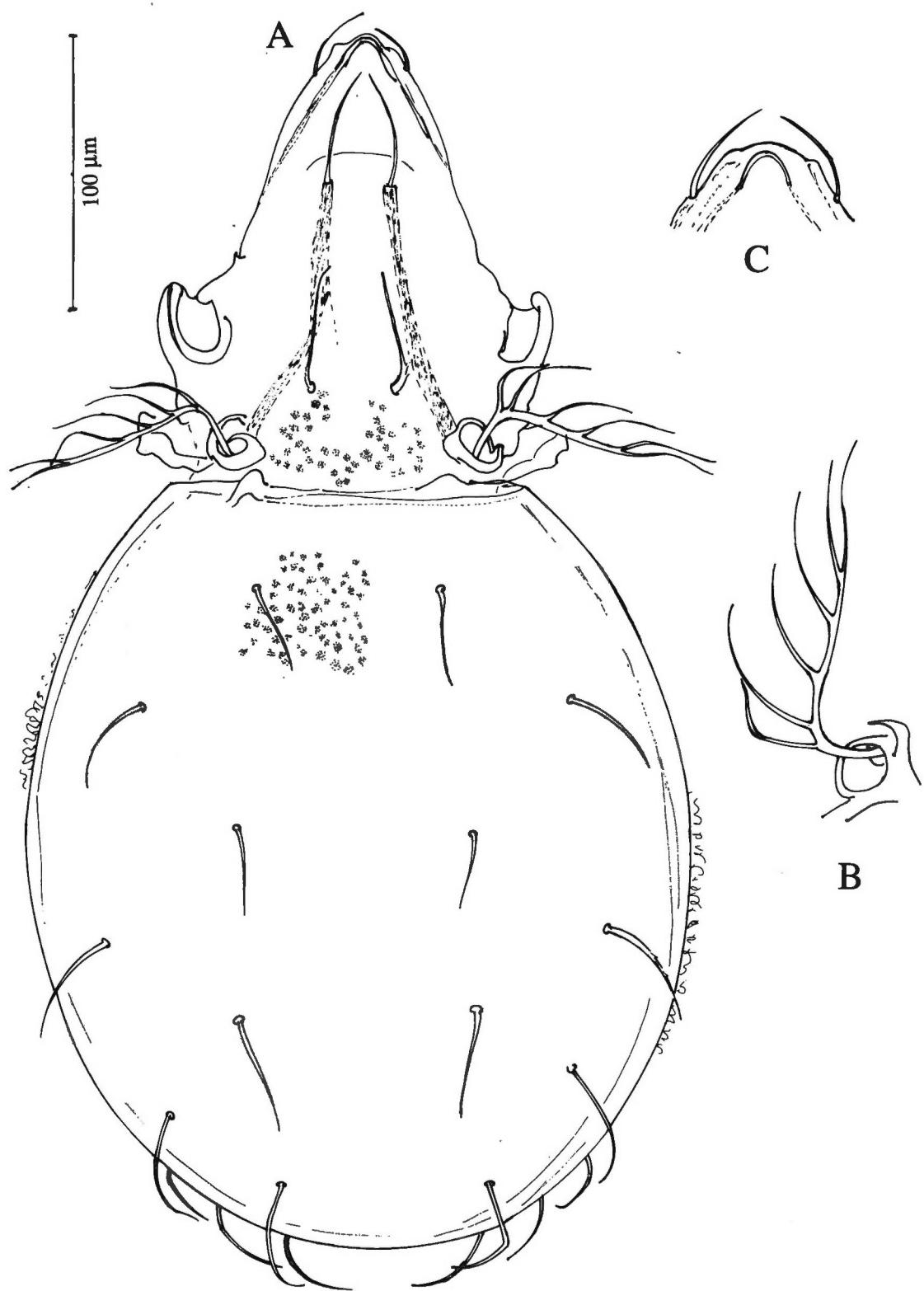


FIG. 1: *Ctenobelba apatomorpha* n. sp.
A. – Dorsal view without legs. B. – Sensillus. C. – Rostrum.

was later carried out by the same author (MAHUNKA, 1977), who provided a key to 10 species and describing a new species, *Ctenobelba csiszarae*. The species *C. pectinigera* was redescribed, with detailed drawings of the sensillus and leg chaetotaxy, by WOAS (1986) in his wide revision of the Oppioidea *sensu* Balogh, 1972. A recent revision of this genus was carried out by MIKO (1990), who included a brief key and detailed drawings of the body, sensillus, leg chaetotaxy and bothridial region. However, his proposed synonymy of *C. pectinigera* with *Ctenobelba obsoleta* (C. L. KOCH, 1841) seems questionable following a study of the holotype of *Ctenobelba pectinigera* (Fig. 2), and because of the difficulty in confirming the entity of KOCH's species.

PÉREZ-IÑIGO (1970) assigned a number of individuals found in the Iberian Peninsula to *Ctenobelba pectinigera*, despite presenting a sensillus different to the one found in that species. Following an extensive revision of the genus, we have decided to assign these individuals to the new species, *C. apatomorpha* n. sp.

Comparing the characteristics of *Ctenobelba pectinigera* and *C. apatomorpha* n. sp. (the main objective of our study), the most significant differences between them are found in the form of the sensillus (Figs. 1B, 2B). In *Ctenobelba apatomorpha* n. sp., the sensillum has very short branches of approximately equal length (15 µm), with a larger number than in *C. pectinigera*. In addition, the sensillus stalk is rather larger in the new species. In contrast, the sensillus of *C. pectinigera* has a lower number of branches (5–8) which are longer (Fig. 2B), especially the proximally ones (25 µm) compared to the distal ones (10–15 µm), though their length is always greater than the distance between them. Another difference is found in the width of the notogaster, which is greater than 250 µm in *C. apatomorpha* n. sp. (Fig. 1), whereas this is the maximum value observed for *C. pectinigera* (Fig. 2). Finally, the mean length of notogastral setae in the holotype of *C. apatomorpha* is approximately 40–45 µm, compared to a mean length of 35 µm in *C. pectinigera*.

Once these differences were observed, it was decided to revise all similar species in order to confirm the species was indeed new. We therefore studied the following material:

- 1) *Ctenobelba pectinigera* (Berlese, 1908): Holotype, Florence.
- 2) *Ctenobelba fenestrata* Pérez-Iñigo Jr, 1990: Material kindly sent by Dr PÉREZ-IÑIGO, containing two preparations: 3 specimens found in Los Molinos, Madrid and 7 specimens from Monte de Agua, Tenerife. In addition, he sent two more preparations, labelled as *Ctenobelba fenestrata*, the paratype from Arguis (sample P3) and 4 specimens from the type-locality, La Almunia del Romeral (P15).
- 3) *Ctenobelba pectinigera*: Two specimens from the region of Remoulins (SE France), kindly sent by Dr SUBÍAS.
- 4) *Ctenobelba brevipilosa* Mahunka, 1964: Two paratypes (Budapest Museum).
- 5) *Ctenobelba csiszarae* Mahunka, 1977 (Budapest Museum).
- 6) *Ctenobelba pectinigera*: 3 specimens from the Basque Country, Vizcaya.

Undoubtedly, the species nearest to *C. apatomorpha* n. sp., in terms of morphology, are *Ctenobelba csiszarae* Mahunka, 1977 and *Ctenobelba brevipilosa* Mahunka, 1964. Based on the original descriptions of these species and our examination of two paratypes of *C. brevipilosa*, provided by Dr MAHUNKA, as well as specimens of *C. csiszarae*, several characters were found to clearly separate these two Hungarian species from *C. apatomorpha*. The body length is 320–354 µm in *C. csiszarae* and the notogaster width is 186–202 µm, less than that of *C. apatomorpha*. The dimensions of the specimens sent to us by MAHUNKA are 370–410 × 200–220 µm. Its sensillus presents 9 or 10 branches. The length of the notogastral setae of this species ranges between 30 and 40 µm.

Concerning *C. brevipilosa*, the dimensions of the two paratypes examined by us are 470 × 280 µm, falling within the ranges of 461–490 × 270–343 µm reported by MAHUNKA. The sensillus also presents very short branches, which are even greater in number, varying from 10 and 16. In one of the paratypes examined by us, the number of branches is 14. Finally, the notogastral setae are considerably shorter, with a length of 15 µm.

We also compared the new species with *Ctenobelba perezinigoi* Moraza, 1984, which is also known from

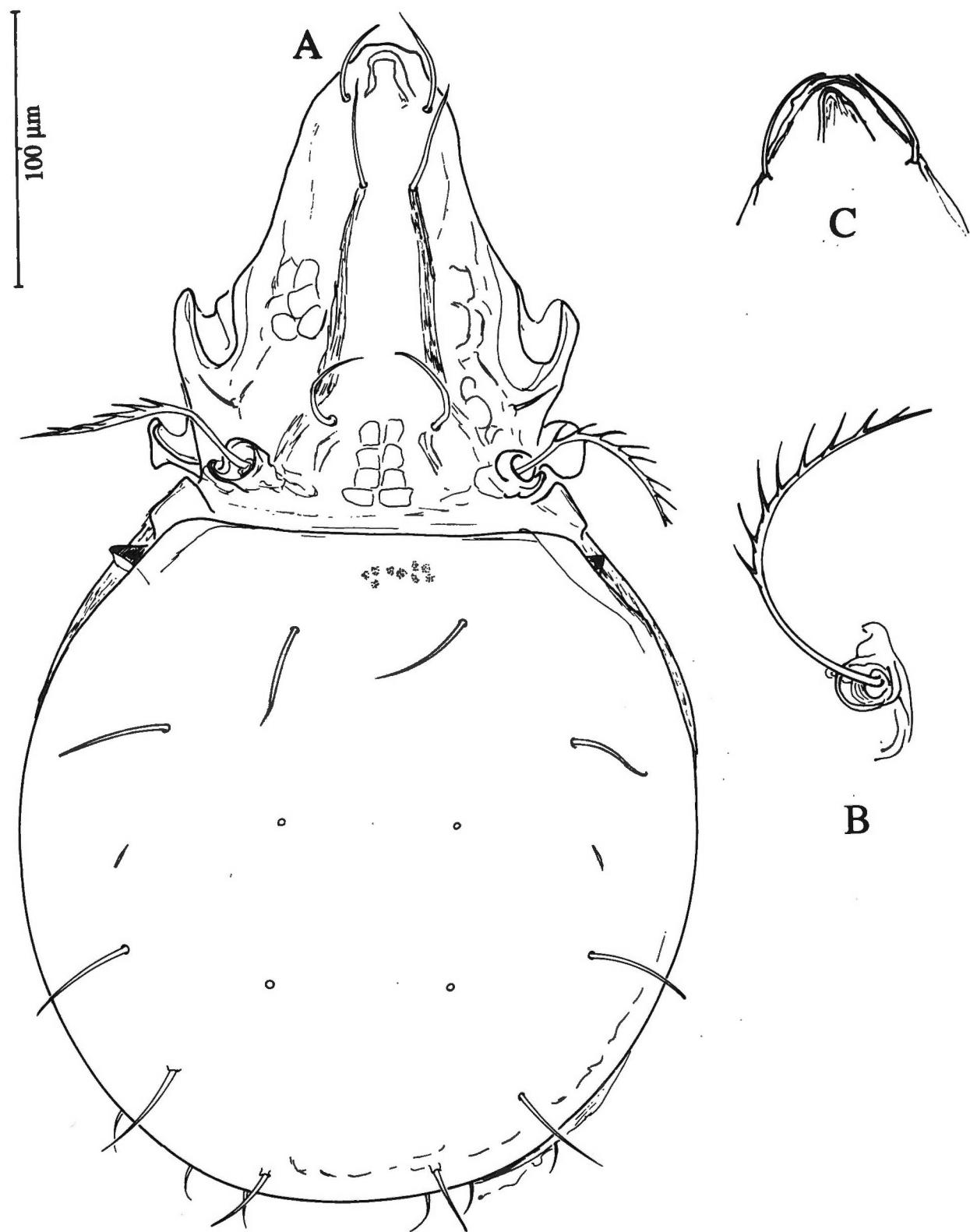


FIG. 2: *Ctenobelba pectinigera* Berlese, 1908.
A. – Dorsal view without legs. B. – Sensillus. C. – Rostrum.

the Iberian Peninsula. These species are difficult to confuse, since *C. perezinigoi* has the prodorsal and notogastral setae barbed, whereas they are completely smooth in the new species. *C. perezinigoi* is also slightly larger, with dimensions of 526 × 296 µm (recorded by MORAZA) and 475 × 215 µm (observed by Dr SALOÑA). However, the sensillus is very similar to that of *C. pectinigera*, showing a similar number of branches, the first of which is longer than the others.

As a final comparison, we should mention that PÉREZ-IÑIGO Jr (1990) has recently described a new species, *Ctenobelba fenestrata*, which, according to the original description and the material that we have studied, is identical to *C. pectinigera*. We therefore synonymize these two species here.

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