

## WATER MITES NEW FOR THE IBERIAN PENINSULA (ACARI, HYDRACHNELLAE)

A. G. Valdecasas (\*)

### ABSTRACT

Five genera and ten species of water mites are reported as new for the Iberian Peninsula. Some belong to the interstitial environment and other may inhabit both the interstitial and the superficial layer of benthos. This fauna is poorly known, although total species number in the Iberian Peninsula could reach more than 500. Drawings and not authority criteria are used to confirm the goodness of species identification.

**Key words:** Water mites, Iberian Peninsula, new findings.

### RESUMEN

#### Ácaros acuáticos nuevos para la Península Ibérica (Acari, Hydrachnellae)

Cinco géneros y diez especies de ácaros acuáticos son señalados por primera vez para La Península Ibérica. Algunos pertenecen al medio intersticial y otros pueden encontrarse tanto en el medio intersticial como en la parte superior del benthos de los arroyos. Esta fauna es poco conocida, aunque el total de especies en la Península Ibérica puede alcanzar más de 500 especies. Se usan profusamente dibujos, y no el criterio de autoridad, para confirmar la corrección de las identificaciones.

**Palabras clave:** Ácaros acuáticos, Península Ibérica, nuevos taxa.

### Introduction

Grey literature has its shortcomings. It can be an efficient way to accumulate information but at the same time it has its difficulties to reach the adequate audience due to poor distribution. This is the case of PhD dissertations when only a few specimens are copied (usually less than 10). Unless they give way to a proper publication, the only witness left are one or two specimens in the University Library. In the case of taxonomic dissertations, they are not considered adequate way for providing descriptions of new species by the ICZN (IVth edition, 1999)

unless properly published. New distribution of taxa, specially if they are of rare organisms have a status similar to new taxa. It is not enough to say that a taxon already described has been found in a new locality, specially if the taxon is rare and the new locality is very far from the previous localities. The new finding has to be justified with a minimum accompanying description to get the credit of the others specialists in the group.

This is the spirit of this paper. I presented a dissertation in 1981 on the water mites of the centre of Spain. The new taxa found has been included in the checklist of the Iberian Peninsula water mites

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\* Museo Nacional de Ciencias Naturales. c/ José Gutiérrez Abascal, 2. 28006-Madrid. Spain.  
E-mail: valdeca@mncn.csic.es

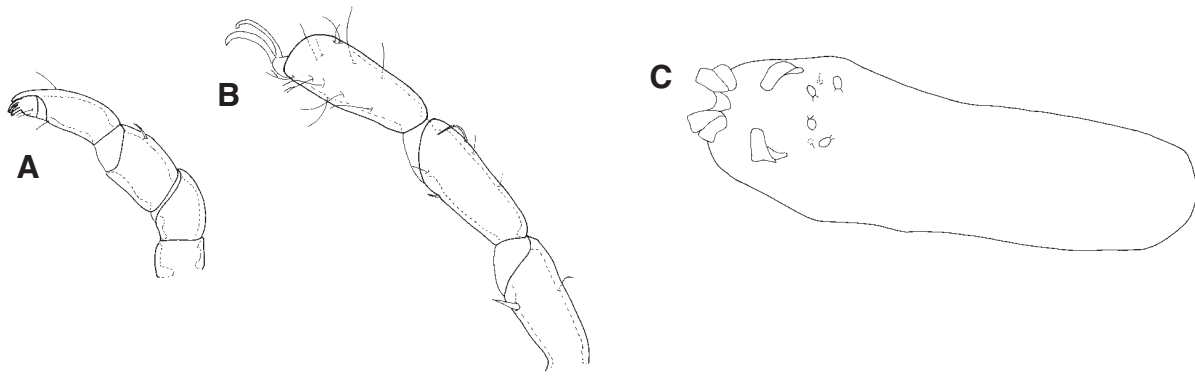


Fig. 1.— *Wandesia thori*, nymph: palp (A), distal segments of first leg (B) and ventral surface (C).

Fig. 1.— *Wandesia thori*, ninfa: palpo (A), últimos segmentos de la primera pata (B) y superficie ventral (C).

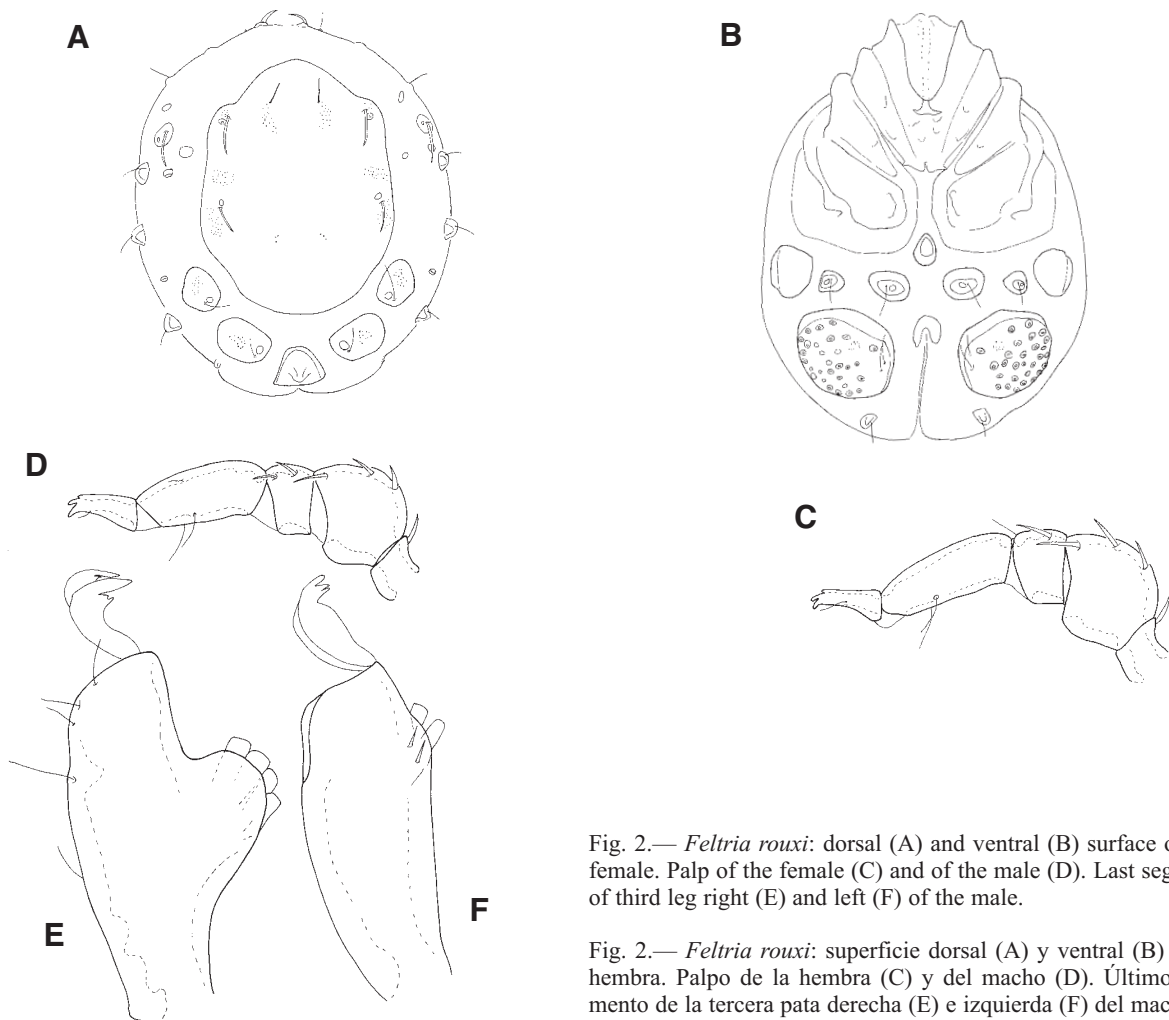


Fig. 2.— *Feltria rouxi*: dorsal (A) and ventral (B) surface of the female. Palp of the female (C) and of the male (D). Last segment of third leg right (E) and left (F) of the male.

Fig. 2.— *Feltria rouxi*: superficie dorsal (A) y ventral (B) de la hembra. Palpo de la hembra (C) y del macho (D). Último segmento de la tercera pata derecha (E) e izquierda (F) del macho.

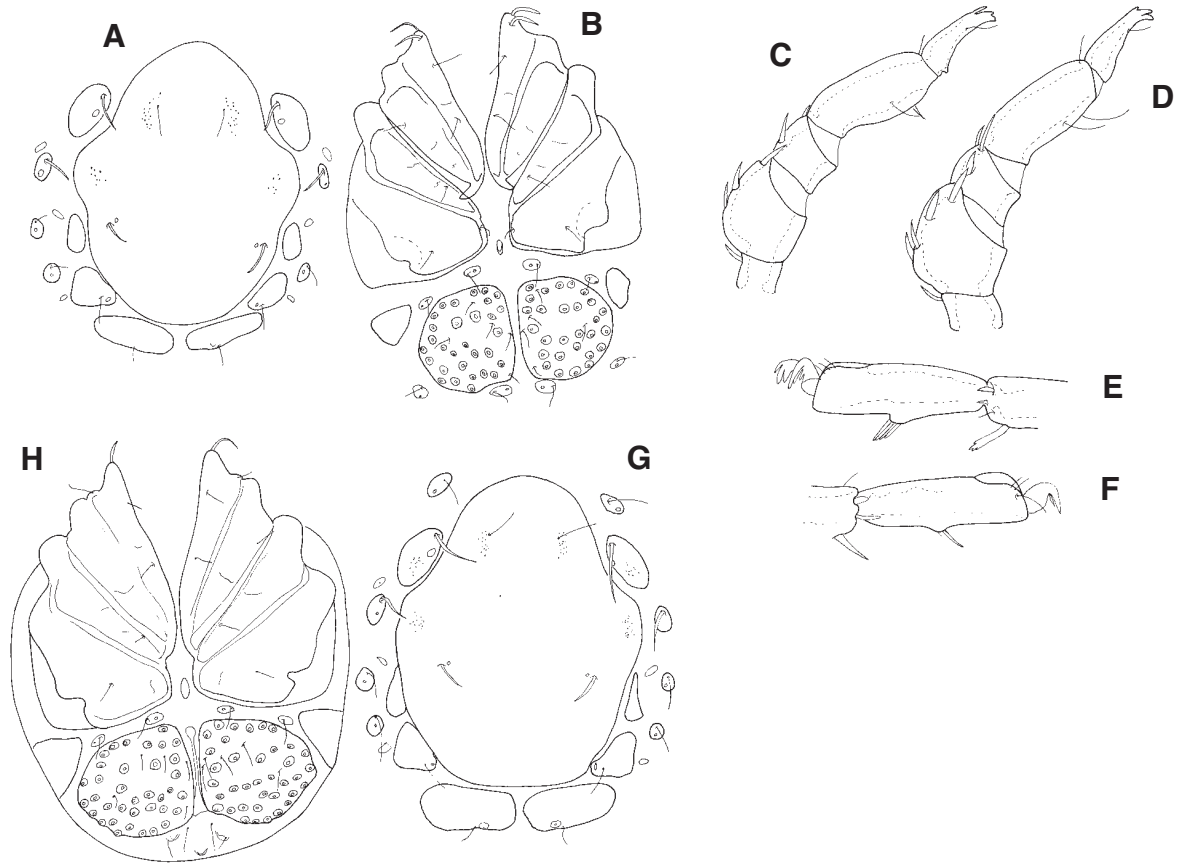


Fig. 3.— *Feltria minuta*. Ventral and dorsal surface of the female (A, B) and of the male (G, H). Palp of the female (C) and of the male (D). Last segment of third leg right (E) and left (F) of the male.

Fig. 3.— *Feltria minuta*. Superficie ventral y dorsal surface de la hembra (A, B) y del macho (G, H). Palpo de la hembra (C) y del macho (D). Último segmento de la tercera pata derecha (E) e izquierda (F) del macho.

(Valdecasas, 1988), but it seems that it doesn't get the approval of the community of specialists, specially when one reads as new records to the Iberian Peninsula taxa for which locality were given (e. g. *Feltria minuta* Koenike, 1892 by Gil Quile & Roca-Rosell, 1991).

Herewith I give summary descriptions, mainly based in drawings, of new taxa found in the Iberian Peninsula in the already mentioned works (Valdecasas, 1981, 1988).

***Wandesia (Wandesia) thori* Schechtel, 1912**

(Valdecasas, 1981, page 167; Valdecasas, 1988, page 16)

Until now has been found only in Central Europe.

There are four species of described in Europe, mainly from the interstitial environment although occasionally they are found by methods implied to sample more superficial mites, like kicking, that is generally used for benthonic mites. The genera and the species are new for the Iberian Peninsula.

Twelve nymphs were found and the external morphology agree with Schechtel (1912) and Laska (1957) descriptions based on nymphs too (Fig. 1). All the specimens were found between 1440 m and 1660 m altitude and water temperature ranging between 1°C and 5.5°C. pH: 6.7-8.1. D. Oxygen: 102.33%-120%. All were sampled by removing the sediment with the feet (kicking).

SPANISH LOCALITIES: VL483483 (Arroyo de la Solana, la Acebeda, 1160 m); VL162138 (Arroyo de la Barranca, 1600 m); VL076165 (source of Rio Moros, 1600 m); VL01146 (1st

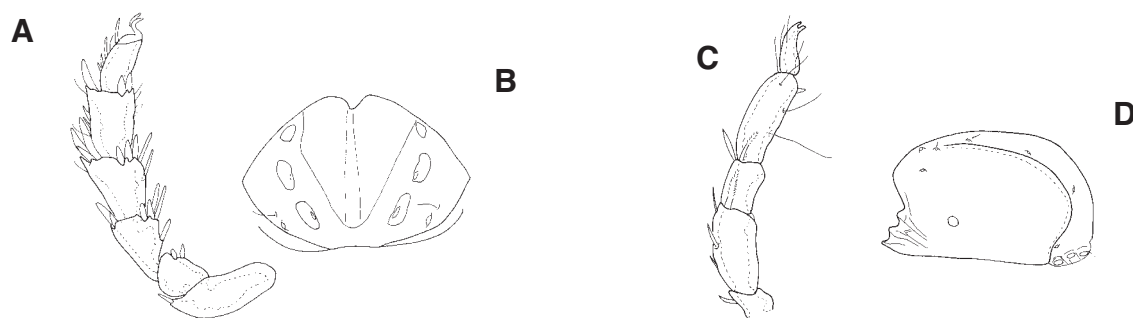


Fig. 4.— *Frontipodopsis reticulatifrons*. Fourth leg (A), palp (C) and lateral surface (D) of the male. Genital area of the female (B).

Fig. 4.— *Frontipodopsis reticulatifrons*. Cuarta pata (A), palpo (C) y superficie lateral (D) del macho. Área genital de la hembra (B).

tributary to the Arroyo de los Acebo, Fuenfría, 1440 m); VL101153 (Arroyo en Peñalara, 1540 m).

***Feltria rouxi* Walter, 1907**

(Valdecasas, 1981, page 303; Valdecasas, 1988, page 39)

There are many species of this genus in Europe and they are typically found in musci. The finding of this species in the I.P. is not surprising as it has

been found previously as near as the French Pyrenees.

Six males and twelve females have been found in four localities all of them submerged musci. Morphology clearly fits the description of the species (Fig. 2).

Altitude range: 1150 m–1720 m; water temperature: 8°C–15°C; pH: 6.9–7.8; DO<sub>2</sub>: 95.92%–115.46%.

SPANISH LOCALITIES: VL257274 (Río Lozoya, Rascafría, 1160m); VL440484 (source near La Horizontal, musci, 1640m); VL144270 (third stream between S. Ildefonso and

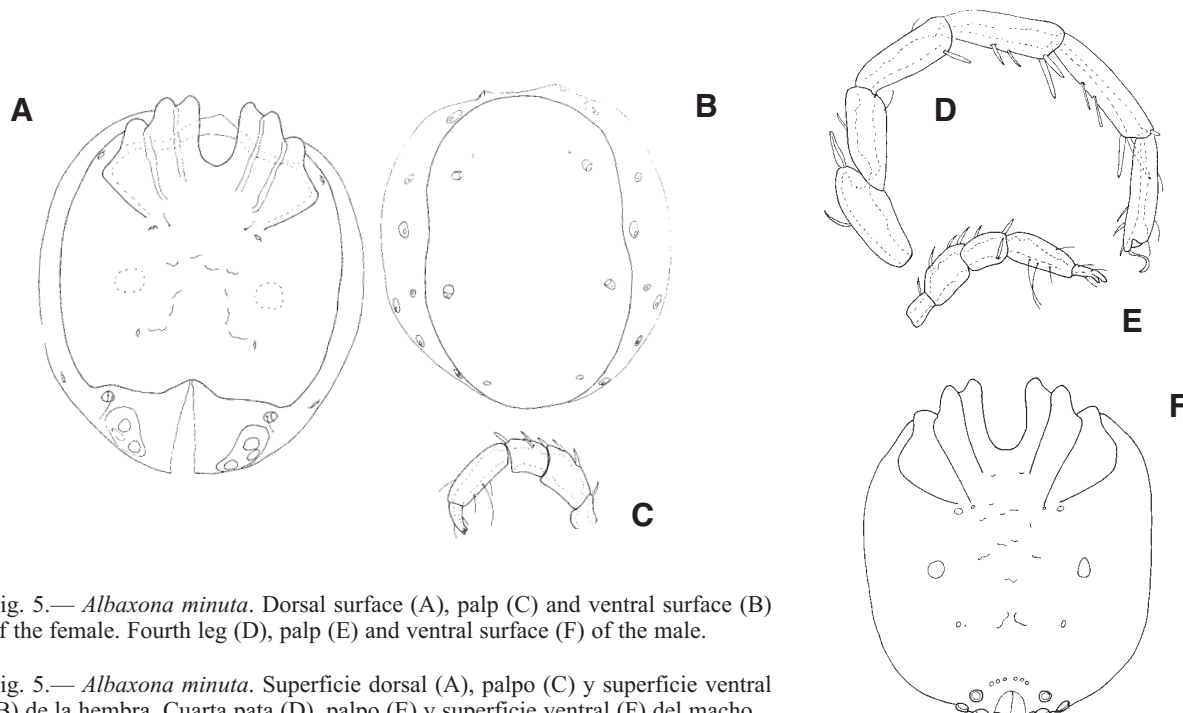


Fig. 5.— *Albaxona minuta*. Dorsal surface (A), palp (C) and ventral surface (B) of the female. Fourth leg (D), palp (E) and ventral surface (F) of the male.

Fig. 5.— *Albaxona minuta*. Superficie dorsal (A), palpo (C) y superficie ventral (B) de la hembra. Cuarta pata (D), palpo (E) y superficie ventral (F) del macho.

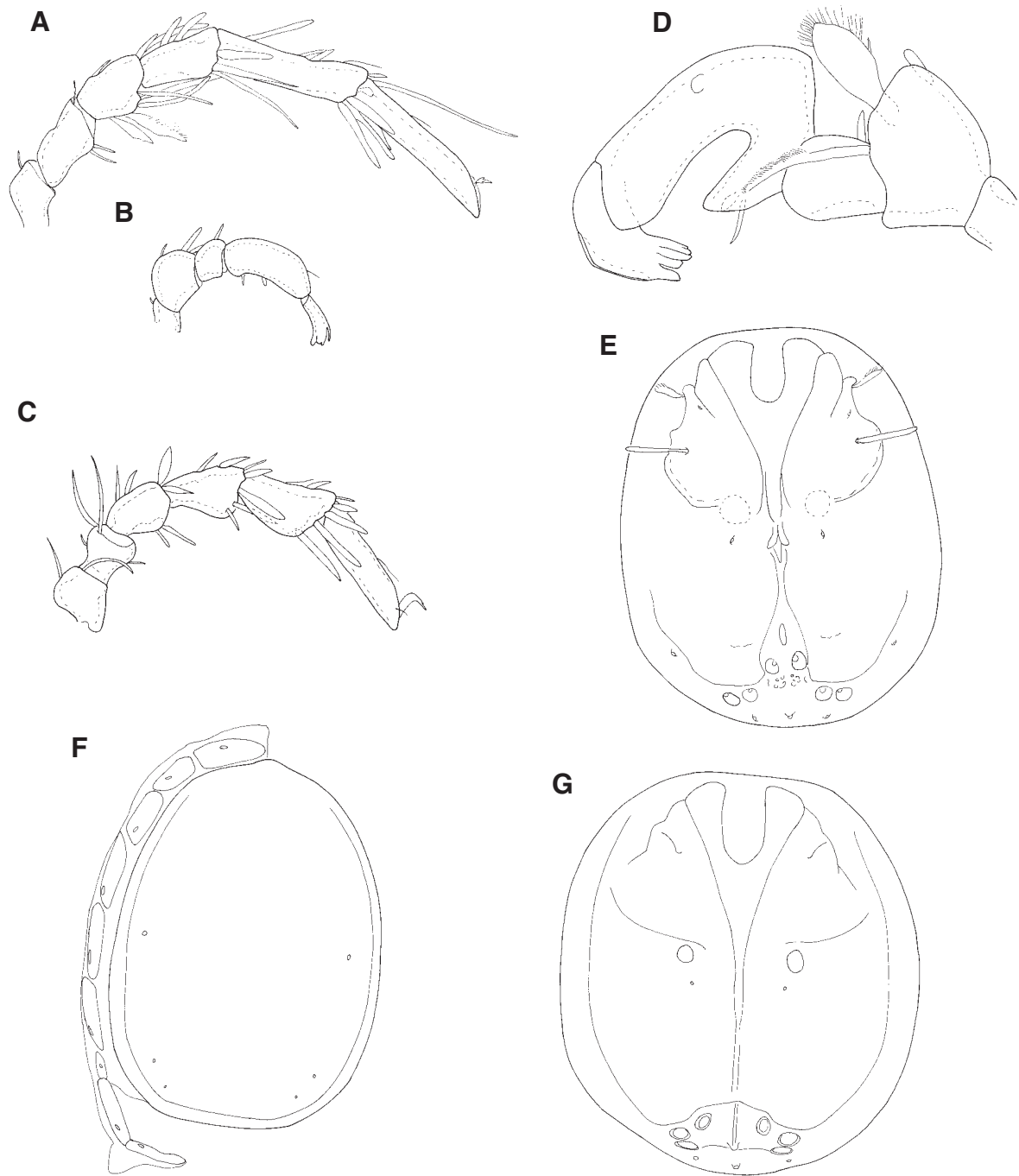


Fig. 6.— *Lethaxona pygmaea*. Third (A) and second (C) legs, palp (D) and ventral shield (E) of the male. Palp (B), dorsal shield (F) and ventral shield (G) of the female.

Fig. 6.— *Lethaxona pygmaea*. Tercera (A) y segunda (C) pata, palpo (D) y escudo ventral (E) del macho. Palpo (B), escudo dorsal (F) y ventral (G) de la hembra.

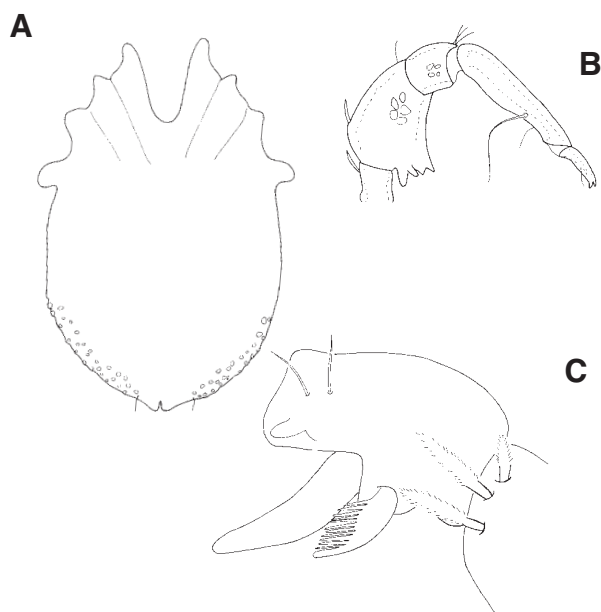


Fig. 7.— *Kongsbergia pectiniger*, male. Ventral surface (A), palp (B) and IV-leg-5 (C).

Fig. 7.— *Kongsbergia pectiniger*, macho. Superficie ventral (A), palpo (B) y IV-pata-5 (C).

Navacerrada); VL/L/382 (1<sup>st</sup> stream after Puerto de Navafria).

#### *Feltria minuta* Koenike, 1892

(Valdecasas, 1981, page 312; Valdecasas, 1988, page 39)

This is a very widespread taxon, found in Europe, Japan and North America: Previously found in the French Pyrenees too.

One male and seven females have been found in one locality. Morphology somewhat variable (Fig. 3).

Altitude 1720 m; water temperature: 12.4°C; pH: 7.8; DO<sub>2</sub> : 112.83%.

SPANISH LOCALITY: VL/L/382 (1<sup>st</sup> stream after Puerto de Navafria).

#### *Frontipodopsis reticulatifrons* Szalay, 1945

(Valdecasas, 1981, page 338; Valdecasas, 1988, page 43)

This genera is not new, *sensu stricto*, in the I.P. here as Cook (1974) mentions that it is found, but without saying which species. Not very surprising as it is very widely distributed in Europe including the French Pyrenees.

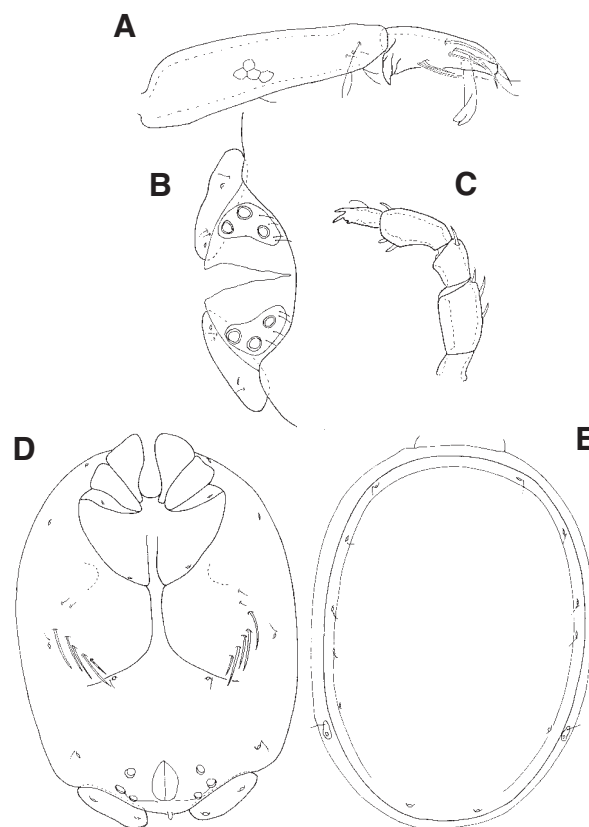


Fig. 8.— *Stygomonia latipes*. Distal segments of first leg (A), palp (C), ventral and dorsal shield (D, E) of the male. Genital area of the female (B).

Fig. 8.— *Stygomonia latipes*. Segmentos distales de la primera pata (A), palpo (C) y escudo ventral y dorsal (D, E) del macho. Área genital de la hembra (B).

Eight males and eleven females in five localities. Morphology is easily recognizable for this species (Fig. 4).

Altitude: 1150 m–1640 m; water temperature: 1°C–16°C; pH: 6.9–7.9; DO<sub>2</sub> : 112.31%–120.2%.

SPANISH LOCALITIES: VL483483 (Arroyo de la Solana, la Acebeda, 1160 m); VL440484 (source near La Horizontal, musci, 1640 m); VL312367 (3rd stream between Lozoya and Navafria); VL162138 (Arroyo de la Barranca, 1600 m); VL144270 (3rd stream between S. Ildefonso and Navacerrada).

#### *Albaxona minuta* Szalay, 1944

(Valdecasas, 1981, page 343; Valdecasas, 1988, page 44)

No other species of this genus (four in Europe) has been found in the I.P. Previously found in Eastern Balkan and the Carpathians.

Three males and five females found in two localities with the morphology typical of the species (Fig. 5).

Altitude: 1150 m–1200 m; water temperature: 16°C–16.5°C; pH: 7.6–7.8; DO<sub>2</sub>: 114.15%–133.27%.

SPANISH LOCALITIES: VL144270 (3rd stream between S. Idefonso and Navacerrada); VL141248 (Río Eresma, Navacerrada, 1200 m).

***Lethaxona pygmaea* Viets, 1932**

(Valdecasas, 1981, page 361; Valdecasas, 1988, page 46)

Three species of this genus in Europe. This species previously found in central Europe reaching the French Pyrenees.

One male and one female in two localities with the morphology of the species (Fig. 6).

The male comes from a Karaman-Chappuis sample and the female from a kicking sample. Abiotic measurements from the associated stream to the K-Ch sample are:

Altitude (both): 1200 m – 1640 m; water temperature: 13.8°C; pH: 7.4; DO<sub>2</sub>: 114.98%.

SPANISH LOCALITIES: VL312367 (3<sup>rd</sup> stream between Lozoya and Navafria, 1640 m); VL377232 (stream between Miraflores and Bustarviejo, 1200 m).

***Kongsbergia pectinigera* Motas and Tanasachi, 1946**

(Valdecasas, 1981, page 395; Valdecasas, 1988, page 49)

More than twenty species that belong to this genus in Europe.

Only one male specimen with the clear morphology of the species (Fig. 7).

Altitude: 1200 m; water temperature: 16.5°C; pH: 7.8; DO<sub>2</sub>: 114.15%.

SPANISH LOCALITY: VL141248 (Río Eresma, Navacerrada, 1200 m).

***Stygomonomia latipes***

(Valdecasas, 1981, page 413; Valdecasas, 1988, page 49)

This species is widely distributed in central Europe and also found in Great Britain and the French Pyrenees.

Three males and four females in one locality sampled by Karaman-Chappuis method. Morphology typical of the species (Fig. 8).

Altitude: 1340 m; water temperature: (K-Ch) 4.5°C – (stream) 3°C; pH: (K-Ch) 8 – (stream) 7.9;

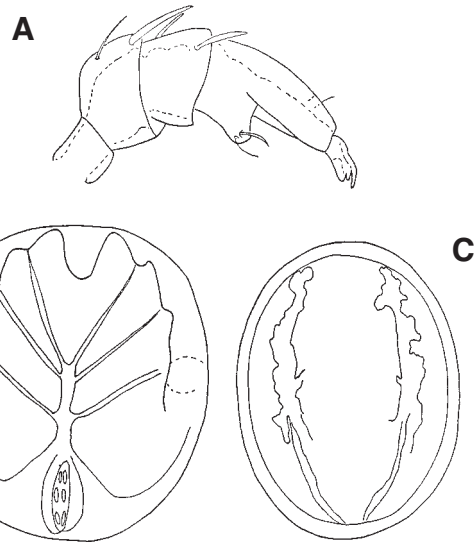


Fig. 9.— *Mideopsis willmani*, male. Palp (A), ventral shield (B) and dorsal shield (C).

Fig. 9.— *Mideopsis willmani*, macho. Palpo (A) y escudos ventral (B) y dorsal (C).

DO<sub>2</sub>: (K-Ch) 57.44% - (stream) 122.77%.

SPANISH LOCALITY: VL027119 (río Moros, Estación del Espinar, 1340 m).

***Mideopsis willmani* (Viets, 1920)**

(Valdecasas, 1981, page 420; Valdecasas, 1988, page 50)

Species widely distributed in central Europe and Great Britain.

Only one male found in musci, in one locality with the morphology of the species (Fig. 9).

SPANISH LOCALITY: VL329198 (source in the road toward Puerto de la Morcuera, 1300m).

***Chappuisides hungaricus* Szalay, 1943**

(Valdecasas, 1981, page 424; Valdecasas, 1988, page 50)

Pyrenees and Central Europe distribution of a species mainly found in the interstitial environment.

One male and one female from the same locality with the morphology of the species (Fig. 10)

Abiotic measurements of the K-Ch sample and associated stream are:

Altitude: 1340 m; water temperature: (K-Ch) 4.5°C – (stream) 3°C; pH: (K-Ch) 8 – (stream) 7.9;

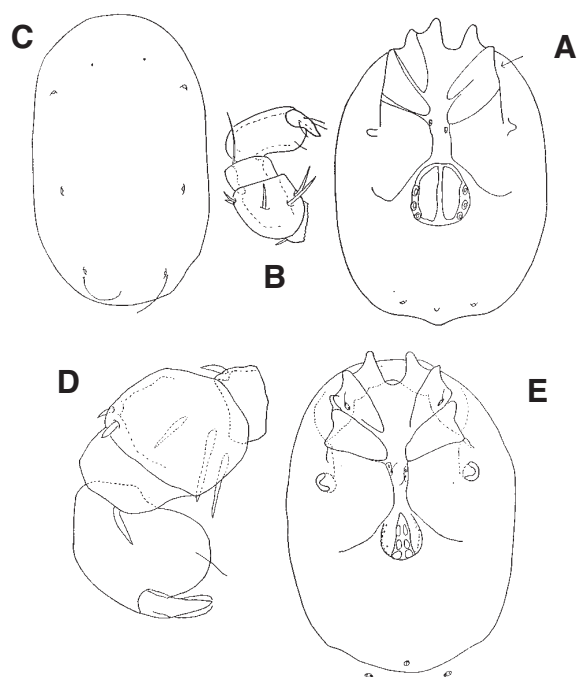


Fig. 10.— *Chappuisides hungaricus*. Dorsal surface (A), palp (B) and ventral surface (C) of the female. Palp (D) and dorsal surface (E) of the male.

Fig. 10.— *Chappuisides hungaricus*. Superficie dorsal (A), palpo (B) and superficie ventral (C) de la hembra. Palpo (D) y superficie dorsal (E) del macho.

DO<sub>2</sub>: (K-Ch) 57.44% – (stream) 122.77%.

SPANISH LOCALITY: VL027119 (Río Moros, Estación del Espinar, 1340 m).

## Conclusions

As a result of the 1981 work five genera and eleven species are here reported. Another species, *Hungarohydracarus subterraneus* Szalay, 1943 has been the object of a special work (Valdecasas, 1984). Some other taxa mentioned in Valdecasas (1981) like *Arrenurus (Truncaturus) haplurus* Viets, 1925, *Aturus spatulifer* Piersig, 1904, and *Acherontarcarus* sp. deserve further study. Future work will emphasize sampling in the interstitial environment and associated streams.

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