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## A New Nearctic Species of the Genus *Tomocerus* (Collembola: Entomobryidae).

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*Tomocerus (Plutomurus) grahami* n.sp. is described from Terrero Cave, Terrero, Santa Fe Co., New Mexico. It is the fourth species of the subgenus recorded from North America.

INDEX DESCRIPTORS: Collembola, *Tomocerus (Plutomurus) grahami*, North America, speleology.

Many new species of Collembola were discovered in the course of preparing a monograph on the Collembola of North America. One of these was a southwestern cave form belonging to the genus *Tomocerus*, subgenus *Plutomurus*. The subgenus is widespread in Asia but does not occur east of the great plains in North America. The new species represents the easternmost cave record of the subgenus.

### DESCRIPTION

*Tomocerus (Plutomurus) grahami* n.sp.

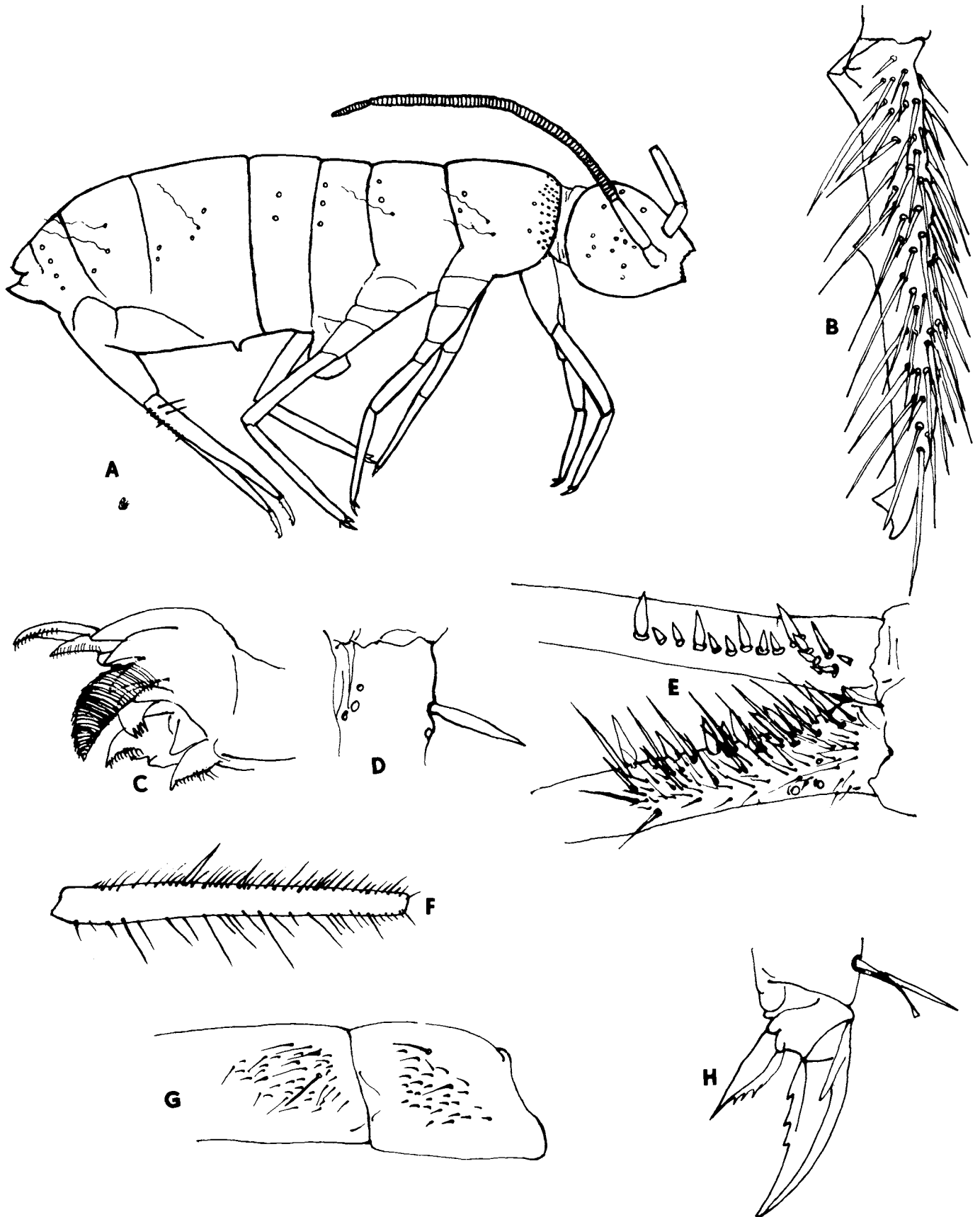
Color white with suffusion of blue grey pigment over tergites of body and dorsum of head. Antenna normal for genus, about 3 times as long as cephalic diagonal. Corneas absent but eye regions may have pair of small patches of blue pigment (1 specimen) where eyes normally occur. Labrum with anterior marginal setae short stout and curved upward. Prelabial setae 3 + 3. Feet with pseudonychia well developed, 1/3 to

5/9 as long as inner unguis. Unguis with 3, rarely 4, inner teeth. Tenent hairs weakly to moderately clavate. Unguiculus with 2-3 minute inner seta-like teeth. Prothoracic and mesothoracic tibiotarsi without spine-like setae. Metathoracic tibiotarsus with a single heavy inner spine-like seta. Trochanteral organ well developed on hind leg with 14-23 setae on trochanter and 25-49 on femur. All parts of ventral tube heavily setaceous. Tenaculum with 4 teeth and single heavy seta on corpus. Manubrium without spine-like setae. Dental formula 2-4, 1-2, 1-2, 1, 1-3, 1, 2, 1. Dental spines simple not striate. Inner dental scale absent. Outer margins of dens with 2 heavy spine-like setae. Base of den with 2 teeth, both on dorsal surface and equipped with small lamella. One or 2 intermediate teeth without lamellae, varying in position. Mucro with 1 seta projecting prominently beyond apex. Dorsal body with 2-3 anterior macrochaetae and 1 posterior microchaeta, frequently the anterior setae are knocked off or absent. Bothriotrichia with an anterior band of 5 microchaetae. Other organs as illustrated.

Table 1. Measurements of Type Specimens of *Tomocerus (P.) Grahami*.\*

|                   | Holotype male | Paratype male 1 | Paratype female 2 | Paratype female 3 | Paratype female 4 | Paratype male 5 | Paratype female 6 |
|-------------------|---------------|-----------------|-------------------|-------------------|-------------------|-----------------|-------------------|
| Cephalic diagonal | .56           | .728            | .714              | .840              | .672              | .700            | .570              |
| Thorax 2          | .509          | .560            | .605              | .580              | .637              | .616            | .448              |
| Thorax 3          | —             | .371            | .336              | —                 | .381              | .336            | .325              |
| Abdomen 1         | .224          | .185            | —                 | —                 | .235              | .280            | .224              |
| Abdomen 2         | .336          | .392            | —                 | .381              | .392              | .347            | .319              |
| Abdomen 3         | .515          | .549            | —                 | .616              | .504              | .515            | .471              |
| Abdomen 4         | .381          | .392            | —                 | .448              | .476              | .476            | .347              |
| Abdomen 5         | .179          | —               | —                 | .235              | .224              | .224            | .146              |
| Abdomen 6         | .101          | .115            | —                 | .112              | .123              | .123            | .101              |
| Hind femur        | .403          | .459            | .464              | .449              | .504              | .450            | .392              |
| Hind tibiotarsus  | .627          | .717            | .717              | .711              | .794              | .728            | .588              |
| Hind inner unguis | .090          | .095            | .096              | .095              | .098              | .095            | .078              |
| Hind unguiculus   | .050          | .055            | .058              | .050              | .053              | .051            | .045              |
| Hind tenent hair  | .039          | .045            | .045              | .045              | .050              | .042            | .037              |
| Manubrium         | .448          | .418            | .560              | .504              | .570              | .561            | .437              |
| Dens              | .706          | .773            | .895              | .773              | .773              | .806            | .644              |
| Mucro             | .146          | .146            | .157              | .152              | .151              | .146            | .128              |

\*All measurements in mm; segmental measurements taken along mid-line.



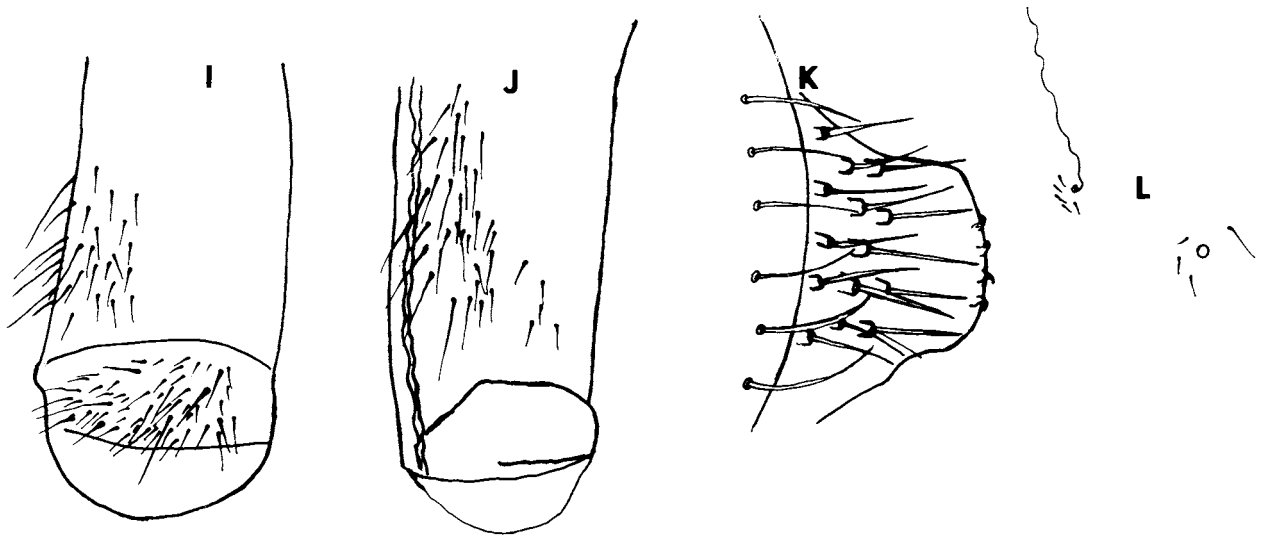


Figure 2. *Tomocerus (P.) grahami* n. sp. I) Ventral tube showing frontal setae, paratype 5; J) Ventral tube showing distal and posterior setae, paratype 1; K) Labrum as seen from above, paratype 6; L) Microchaetae surrounding bothriotrichium and macrochaeta of 4th abdominal segment, holotype.

Type Locality: Terrero Cave, Terrero, Santa Fe Co., New Mexico, 8-II-1975, N. Welbourn collector. Holotype male, 1st paratype male, and 2nd and 3rd paratype females deposited in the Museum of Comparative Zoology, Cambridge, Massachusetts; 4th paratype female deposited in the U.S. National Museum of Natural History, Washington, D.C.; 5th paratype male and 6th paratype female in the author's collection.

There are additional differences in the chaetotaxy of the body and foot structure. The tenaculum, anterior labral margin, and mucro of this species resemble those of *Tomocerus (P.) carpaticus* (Rusek and Weiner); however, it differs in most other characteristics. The chaetotaxy of the 7 specimens was not clearly seen so that there is some question about its distribution, particularly on the thoracic region. This new species is named in honor of my colleague Benjamin Graham.

### DISCUSSION

This is the fourth species of the subgenus *Plutomurus* known from North America. The new species bears some similarity to the Asiatic species described by Yosii (1967) and Martinova (1969); however, its closest relative is clearly *Tomocerus (P.) californicus* Folsom. It can readily be distinguished from this species by the small number of intermediate mucronal teeth. In addition, *californicus* has lateral manubrial spines (see Christiansen 1964) which are absent in *grahami*.

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Figure 1. *Tomocerus (P.) grahami* n. sp. A) Habitus, with distribution of dorsal macrochaetae and bothriotrichia, composite drawing; B) Mucro, paratype 5; C) Right maxilla, paratype 5; D) Basal outer dental spine right side, paratype 1; E) Base of dentes seen from one side and above, paratype 6; F) Hind tibiotarsus as seen from side, showing marginal setae, paratype 4; G) Trochanteral organ of hind leg, paratype 2; H) Forefoot complex, paratype 6.