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Two new species of *Heteromurus* s. str from Portugal
and Romania
(Insecta, Collembola,
Entomobryidae)

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Two New Species of *Heteromurus* s. str.
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(Insecta, Collembola, Entomobryidae)

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Trough the courtesy of Dr. MARIA M. DA GAMA of the University of Coimbra, Portugal, the senior author received a lot of *Heteromurus* collected from bark litter in the vicinities of Coimbra. All 47 specimens belonged to a new species (*Heteromurus gigans*) which is described below.

The junior author received from Dr. J.-M. THIBAUD of the National Museum of Natural History, Brunoy, France, five specimens collected by Dr. THIBAUD in a Romanian cave. These individuals belong to the second species described herein (*Heteromurus noseki*). Both new species belong to the subgenus *Heteromurus* s. str.

HETEROMURUS (*Heteromurus*) GIGANS n. sp.

Habitus typical of subgenus. Dark-blue pigment on antennae very scarce, visible only under high magnifications; at low magnifications pigment is conspicuous only on eye patch. Length of adults, excluding antennae and furcula, up to 5.0 mm. All tibiotarsi scaled, large specimens

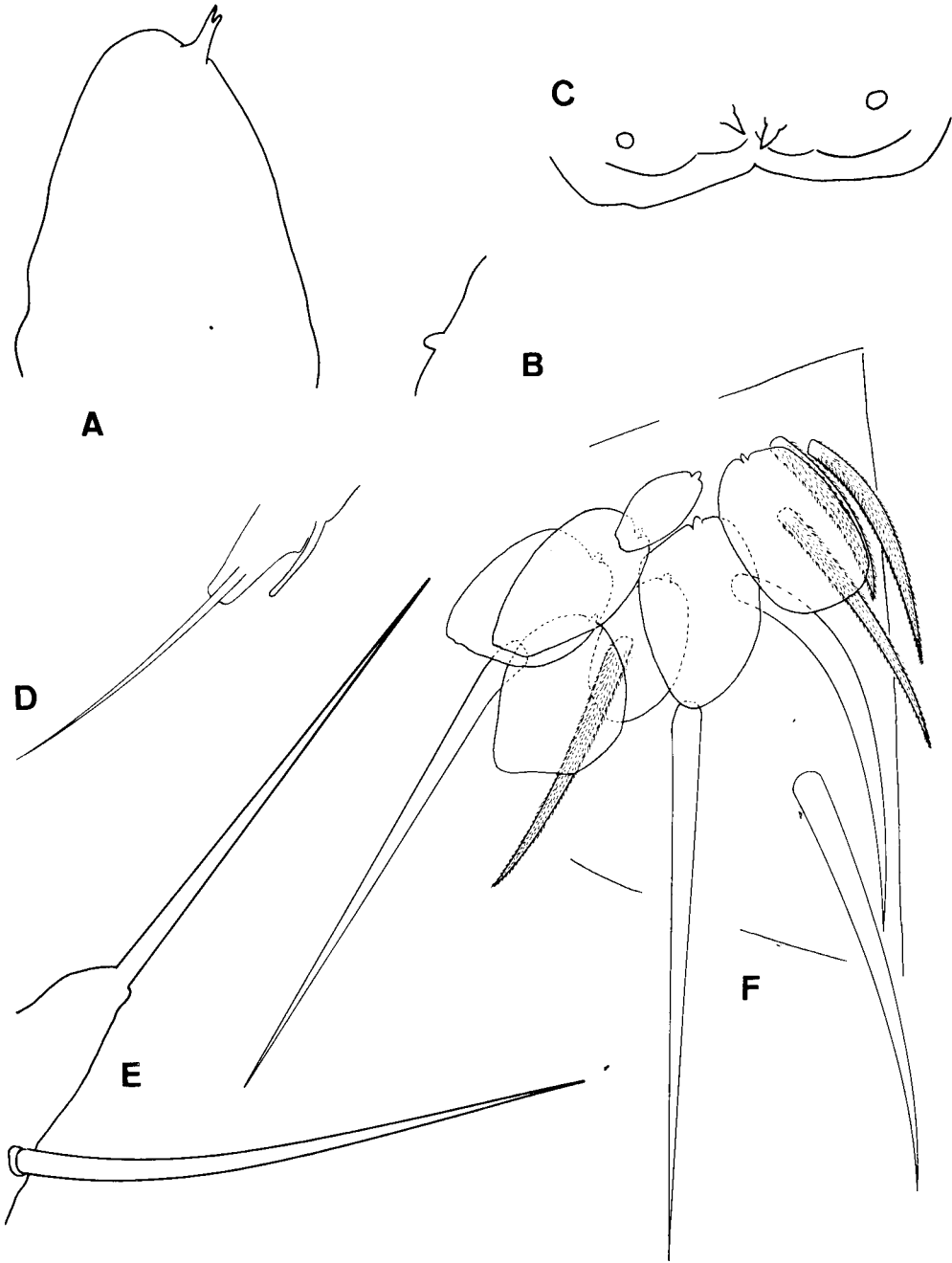


Fig. 1 — *Heteromurus gigans n. sp.*

A: Apex of Ant. 5 showing pin seta; B: Lateral view of one of the outer labral papillae;
 C: Dorsal view of labral papillae; D: Outer labial papilla with its differentiated seta;
 E: Maxillary palp; F: Chaetotaxy of labial triangle of holotype (4.3 mm long)

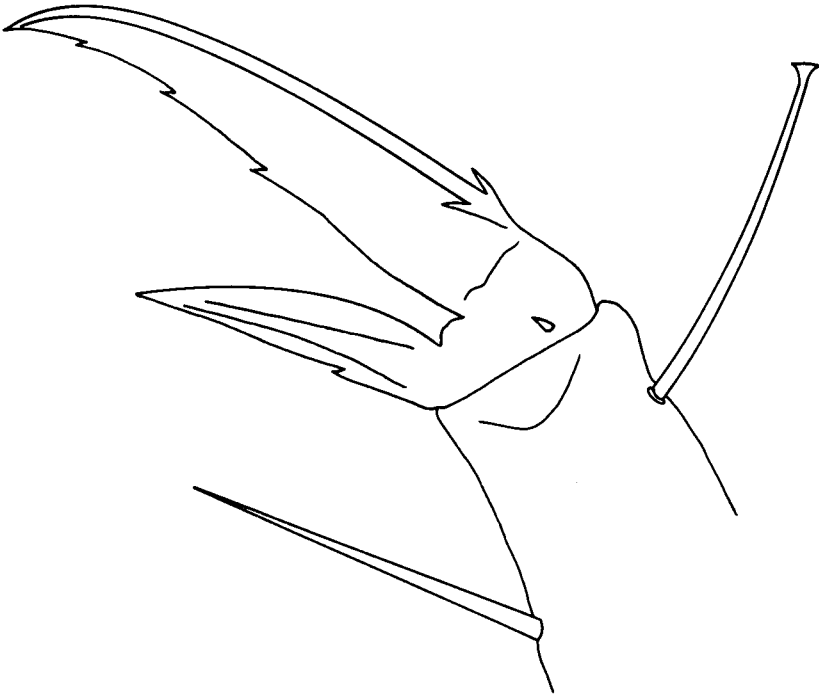


Fig. 2 — *Heteromurus gigans* n. sp.: Metathoracic claws

with scales on basal half of Ant. 4. Antennae about 0.4 times length of head and body combined. Apex of Ant. 5 with pin seta (Fig. 1,A), without apically knobbed setae. Eyes 8 + 8 on a dark patch, eyes g & h reduced in diameter. Head macrochaetotaxy typical of subgenus (e.g. Fig. 3,D). Labral papillae as in figures 1,B & 1,C; inner pair strongly developed, conelike; outer pair slightly conelike in lateral view, rounded in dorsal aspect. Labial chaetotaxy extremely variable with size of specimen; individuals over 2.3.mm long with some ciliated setae substituted by scales (Fig. 1,F), the number of scales upon labial triangle increases with age of specimen. Setae of maxillary palp typical of subgenus (Fig. 1,E). Differentiated seta of outer labial papilla not surpassing apex of its papilla (Fig. 1,D). Venter of head with smooth and ciliated, setae, most, setae ciliated; setae of quadrangle found immediately behind labial triangle along median cleft are ciliated. Tibiotarsi devoid of smooth setae with exception of opposite seta to tenent hair present on metathoracic legs (of all species). Structure of claws as in figure 2, unguis tridentate in small specimens. No bidentate unguis found. Tenent hairs apically clavate. Body macrochaetotaxy as in *H. noseki* (Fig. 3,A). Furcula without smooth setae. Mucro with basal spine.

Diagnosis

The species is most similar to *Heteromurus major* (MONIEZ) but may be separated from it by its size (up to 5.0 mm in *gigans*, up to 3.0 mm in *major*); labral papillae absent in *major* (e.g. see STACH 1967, Plate 33, Fig. 2); labial triangle with scales in *gigans* of over 2.3. mm long, never with scales in *major*; and by the color pattern.

From *Heteromurus variabilis* Martynova, the new species may be separated by the type of labral papillae (all four papillae strongly conelike in *variabilis*, only inner pair strongly conelike in *gigans*); labial triangle never with scales in *variabilis*; third seta of anterior row of labial triangle most often ciliated in *variabilis*, always smooth in *gigans*; and by the absence of smooth setae on the posterior row of the labial triangle in *variabilis*.

Comments

This new species is only the second entomobryid s. l. found that possesses scales on the base of the labium, the first being *Heteromurus (Alloscopus) tenuicornis* Börner (see MARI MUTT 1978: 244, Fig. 7). Gisin's well known system for naming setae of the labial triangle will have to be modified to make place for species that possess scales on the base of the labium. Several species of *Dicranocentrus* exhibit this characteristic.

It is possible that this species has been confused with *Heteromurus major*, especially if later *gigans* proves to be more widely distributed. Labial chaetotaxy and the structure of the labral papillae have entered the taxonomy of *Heteromurus* only recently and knowledge of these structures is important to separate both species.

Material Examined and Repository

The collection of Dr. MARIA M. DAGAMA, Department of Zoology, University of Coimbra, Portugal, has the following material: Portugal, surroundings of Coimbra, March 1961, under bark, A. MOURA, col. *Holotype* and eight paratypes. As preceding but 1966, M.M. DAGAMA, col. 26 paratypes. The Illinois Natural History Survey, Urbana, Illinois, U.S.A., and the collections of both senior and junior authors have each one paratype from the first entry and three paratypes from the second entry.

HETEROMURUS (*Heteromurus*) NOSEKI n. sp.

Habitus as in figure 3,C. Length excluding antennae and furcula up to 2.4 mm. Pigment absent but specimens look grey due to heavy cover of grey scales. Metathoracic tibiotarsi with few scales, pro- and meso-

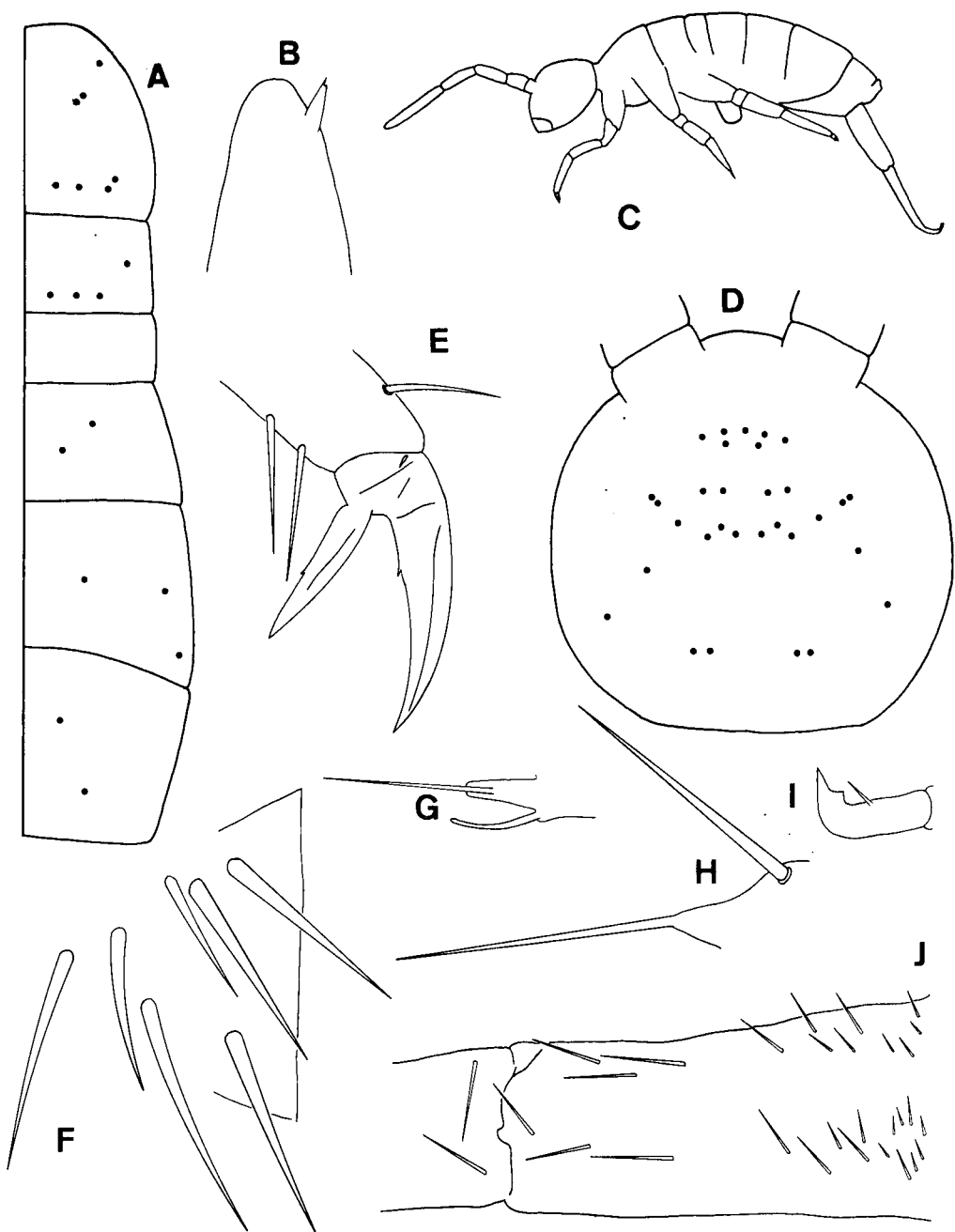


Fig. 3 — *Heteromurus noseki* n. sp.

A: Body macrochaetotaxy; B: Apex of Ant. 5 showing pin seta; C: Habitus; D: Head macrochaetotaxy, each dot represents one seta; E: Metathoracic claws; F: Chaetotaxy of labial triangle; G: Outer labial papilla with its differentiated seta; H: Maxillary palp; I: Mucro; J: Dorsal view of manubrium and proximal portion of dentes.

thoracic tibiotarsi unscaled. Antennae not over half as long as head and body combined. Apex of Ant. 5 with pin seta (Fig. 3,B), without apically knobbed setae. Eyes absent. Head macrochaetotaxy typical of subgenus (Fig. 3,D). Labral papillae absent. Labial chaetotaxy as in figure 3,F; all setae smooth, none substituted by scales. Setae of maxillary palp and differentiated seta of outer labial papilla as in figures 3,H & G respectively. All setae of venter of head, including those of quadrangle found immediately behind labial triangle, along median cleft, are smooth. Lateral portion of head mostly with ciliated setae. Distal two-thirds of inner margin of tibiotarsi with a double row of smooth setae. Ungues (Fig. 3,E) somewhat elongated, most frequently bidentate; when tridentate, unpaired tooth placed near basal pair. Unguiculus with a very small outer tooth which sometimes appears to be absent. Tenent hairs short, apically pointed. Body macrochaetotaxy as in figure 3,A. Dorsum of manubrium with smooth setae, their arrangement studied in detail in one specimen (Fig. 3,J). Dorsal proximal portion of dentes with a pair of these smooth erect setae. Mucro (Fig. 3,I) characteristic, shape of apical and subapical teeth constant even in immatures.

Diagnosis

The species is very similar to *Heteromurus nitidus* (Templeton) but may be readily separated from it by the shape of the mucro. Although in various characteristics *nitidus* is polymorphic, in no specimen have we seen a mucro like that of *H. noseki*; the mucro of this species is unique among all Heteromurini.

Comments

This species is dedicated to Dr. JOSEF NOSEK, BRATISLAVA in recognition of his important contributions to the taxonomy of Collembola and Protura.

Summary

Two species of *Heteromurus* s. str. are described and differentiated from their closest relatives. The new species are: *H. gigans*, an edaphic species from the surroundings of Coimbra, Portugal, and *H. noseki*, a cave species from Romania. *H. gigans* is the second entomobryid s. l. found to possess scales on the base of the labium. *H. noseki* has a mucronal structure unique among the Heteromurini.

Résumé

Description de deux nouvelles espèces de *Heteromurus* s. str. et mise en évidence des différences avec les espèces voisines: *H. gigans*

est une espèce édaphique des environs de Coimbra (Portugal) et *H. noseki* une espèce troglobie de Roumanie. *H. gigans* est le second représentant des *Entomobryidés* s. l. à posséder des écailles sur la base du labium. La structure du mucron chez *H. noseki* est unique parmi les *Heteromurini*.

Zusammenfassung

Beschreibung zweier neuer Arten von *Heteromurus* s. str. nebst den Unterschieden mit ihren nächsten Verwandten: *H. gigans* ist eine edaphische Art aus der Umgebung von Coimbra (Portugal); *H. noseki* stammt aus einer Höhle in Rumänien. *H. gigans* ist der zweite Vertreter der *Entomobryidae* s. e. welcher Schuppen an der Basis des Labiums besitzt. Die Form des Mukro von *H. noseki* ist einzigartig bei den *Heteromurini*.

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