

## Research Note

### FIRST RECORDS OF PROTURA (INSECTA) FROM CUBA, JAMAICA AND HAITI AND A SYNOPSIS OF *DELAMARENTULUS TRISTANI* (SILVESTRI) (ACERENTOMIDAE)<sup>1</sup>

The first record of Protura from the West Indies is that of Nosek,<sup>2</sup> who describes *Eosentomon puertoricoense* and *E. mutti* from Puerto Rico. Nosek and Mari Mutt<sup>3</sup> recorded *E. puertoricoense* and *Bolivaridia perissochaeta* Bonet from the Dominican Republic.

The two acerentomids reported in this paper represent the first records of the order from Cuba, Jamaica, and Haiti. The specimens were collected by the late Dr. Harlow B. Mills in these islands in 1950. All specimens are deposited in the Illinois Natural History Survey with the exception of a female *Delamarentulus tristani* kept in the Museum d'Histoire Naturelle, Genève, Switzerland.

#### SPECIES AND LOCALITIES

*Delamarentulus tristani*. Jamaica, St. Andrew Parish, trail from Mt. Airy to Second Breakfast Springs, 0.5 km above town, about 740 m. el., cloud forest, May 10, 1950, on moss-lichen ground cover; four females.

*Delamarentulus tristani*. Jamaica, St. Andrew Parish, Hermitage Dam, about 580 m. el., May 10, 1950, leaf mold at base of a large tree; one male and one maturated junior.

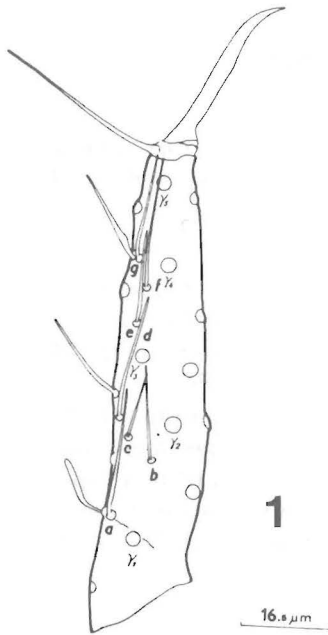
*Bolivaridia perissochaeta*. Haiti, 9 kms below Fond Verrettes at Morne Fea., about 500 m. el., May 28, 1950, fine leaf mold along roadside; one female.

*Bolivaridia perissochaeta*. Cuba, Santa Clara Province, Soledad, near Cienfuegos, Atkins Gardens, June 2, 1950, from very moist pile of decayed fig leaves, several years accumulation under tree; one male, one female and one male praeimago.

<sup>1</sup> Manuscript submitted to Editorial Board February 16, 1979.

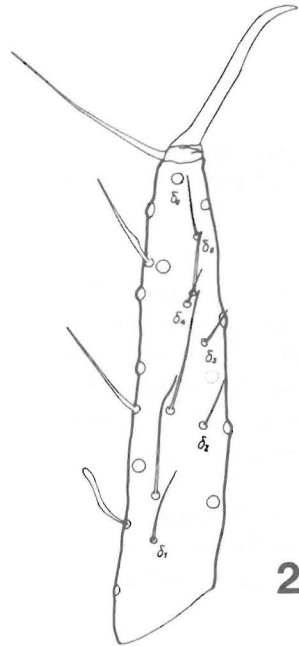
<sup>2</sup> Nosek, J., Protura: A new insect order record for Puerto Rico, with descriptions of new species, J. Agri. Univ. P. R., 62(2): 133-138, 1978.

<sup>3</sup> Nosek, J. and Mari Mutt, J. A., First two records of Protura (Insecta) from the Dominican Republic with synopses of both species, J. Agri. Univ. P. R. 62(3): 305-8, 1978.

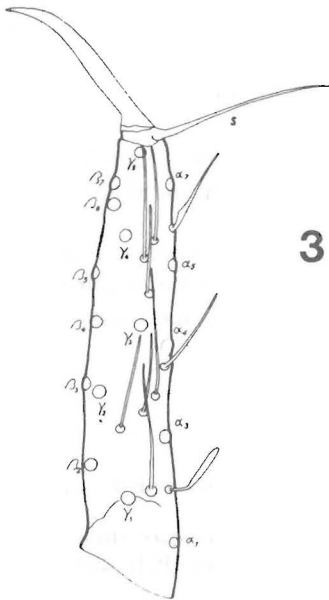


1

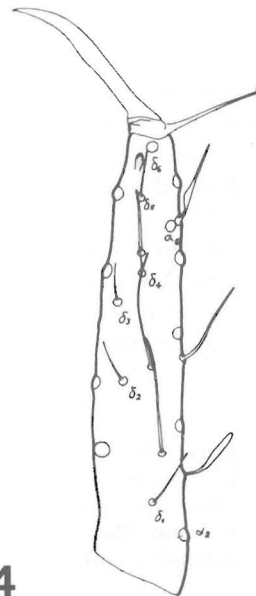
16.8 μm



2



3



4

Plate I.—*Delamarentulus tristani* (Silvestri) 1. Foretarsus in external view. 2. Foretarsus in internal view. 3. Foretarsus in external view. 4. Foretarsus in internal view.

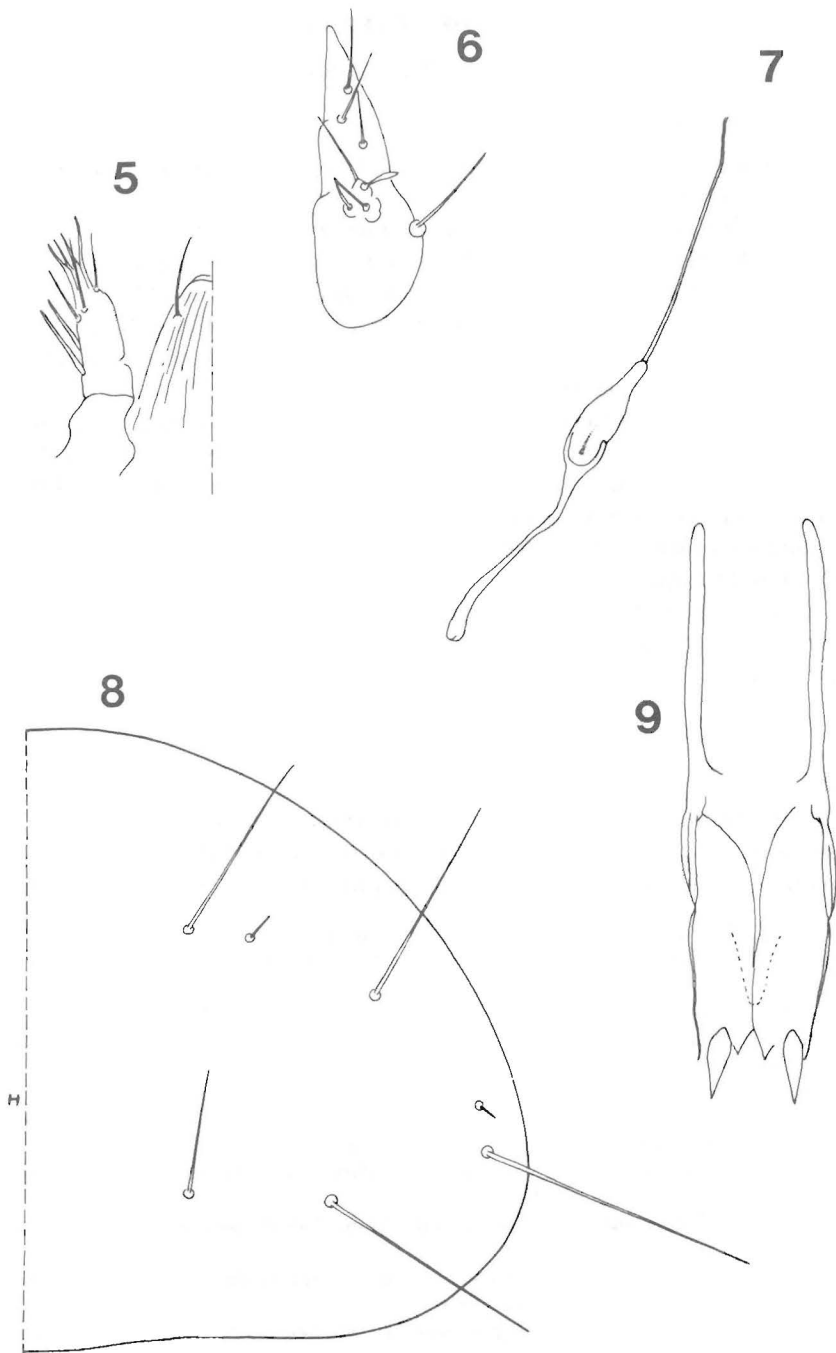


Plate II.—*Delamarentulus tristani* (Silvestri) 5. Labrum with labral setae and maxillary palp. 6. Labium with labial palp. 7. Canal of maxillary gland. 8. Chaetotaxy of metanotum. 9. Female squama genitalis.

## SYNOPSIS OF THE SPECIES

*Delamarentulus tritani* (Silvestri)<sup>4</sup>

Details are added to the previous descriptions of this species (Silvestri<sup>5</sup>, Conde<sup>6, 7, 8</sup>, Tuxen<sup>9, 10, 11, 12, 13</sup>).

Length of body 1150  $\mu\text{m}$ , length of foretarsus 94  $\mu\text{m}$ . Labral setae present. Maxillary palpi with distinct spindleshaped sensillae (Plate II, Fig. 5). Labial palpus with lateral sensilla and three setae (Plate II, Fig. 6). Canal of maxillary gland dilated on the cover (Plate II, Fig. 7). Pseudoculus broader than long. PR = 14. Metanotum with two anterior and five marginal setae (Plate II, Fig. 8). Foretarsus characteristic, with lanceolate and extremely long sensilla  $t_3$ , with spindleshaped  $t_2$ , and claviform  $t_1$  sensillae. Ratio of sensillae on exterior side of foretarsus as a: b: c as 40: 41: 21 (Plate I, Figs. 1-4). TR = 2.6-2.7 BS = 0.34. Empodium of adults very reduced to a small tubercle. Abdominal legs II & III with one long subapical and one very short apical seta. Comb VIII with 8-9 teeth. Female squama genitalis with strong pointed acrostyli (Plate II, Fig. 9). Survey of chaetotaxy in Tuxen's<sup>14</sup> system:

	I	II-III	IV-V	VI	VII	VIII	IX-X	XI	XII
terg.	$\frac{6}{12}$	$\frac{6}{16}$	$\frac{8}{16}$	$\frac{8}{16}$	$\frac{6(8)}{16}$	$\frac{4}{17}$	12	4	9
	$\frac{3}{4}$	$\frac{3}{5}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	4	4	4	6

All the specimens are identical with *Delamarentulus tristani* (Silvestri 1938) and differ from it only in the presence of  $a_1$  on terg. VI (sometimes also on terg. VII, cf. Tuxen<sup>15</sup>). The senior author has examined specimens

<sup>4</sup> Silvestri, F., Primo contributo alla conoscenza del Protura (Insecta) del Brasile e di Costa Rica, Livro Jubilar Prof. Travassos, Rio, pp. 441-445, 1938.

<sup>5</sup> op. cit.

<sup>6</sup> Condé, B., Protoures de Côte d'Ivoire, Bull. Soc. Ent. France, 51: 84-86, 1946.

<sup>7</sup> Condé, B., Protoures de L'Angola, Afrique Occidentale Portugaise (1<sup>re</sup> note), Publ. Cult. Diaman. Angola, 6: 89-93, 1949.

<sup>8</sup> Condé, B., Protoures du Cameroun, Bull. Mus. Hist. Nat., Paris, 26: 511-514, 1954.

<sup>9</sup> Tuxen, S. L., Results from the Danish expeditions to the French Cameroons 1949-1950. XVIII, Protura, Bull. I. F. A. N., 18(A): 1122-1129, 1956a.

<sup>10</sup> Tuxen, S. L., Neues über die von Silvestri beschriebenen Proturen, Boll. Lab. Zool. Gen. Agr. Portici, 33: 718-729, 1956b.

<sup>11</sup> Tuxen, S. L., Ergänzendes über die von Silvestri und Berlese beschriebenen Proturen, Ent. Medd., 29: 294-303, 1960.

<sup>12</sup> Tuxen, S. L., The Protura, a revision of the species of the world with keys for determination, Hermann, Paris, 360 pp., 1964.

<sup>13</sup> Tuxen, S. L., Protura of Colombia (Insecta), Studies on Neotropical Fauna and Environment, 11: 25-36, 1976.

<sup>14</sup> Tuxen, S. L., 1964; loc. cit.

<sup>15</sup> Tuxen, S. L., Ecology and Zoogeography of the Brazilian Protura (Insecta), Studies on Neotropical Fauna and Environment, 12: 225-247, 1977.

of this species from High Volta collected by Dr. Athias, Paris, and presently wishes to state that Condé<sup>16</sup>, Fig. D, has correctly drawn an empodium in larva I from Ivory Coast. The presence of a small empodium has been recorded also by Tuxen<sup>17</sup> in a larva I from Colombia. The variability of *D. tristani* has been studied by Tuxen<sup>18</sup>.

Distribution: Costa Rica, Brazil (Amazonas, Pernambuco), Jamaica (St. Andrew), Angola, Cameroon, High Volta, Ivory Coast, Nigeria.

*Bolivaridia perissochaeta* Bonet<sup>19</sup>

All specimens of this species agree with the original description. The species is known from Mexico, the Dominican Republic, Cuba, and Haiti.

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<sup>16</sup> Condé, B., 1954; loc. cit.

<sup>17</sup> Tuxen, S. L., 1976; loc. cit.

<sup>18</sup> Tuxen, S. L., 1977; loc. cit.

<sup>19</sup> Bonet, F., Sobre algunos proturos de México (nota preliminar), *Ciencia*, 3: 14-17, 1942.