SOME COLLEMBOLA NEWLY RECORDED FROM JAPAN

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In this paper one species and two forms of Sminthuridae are added to the Japanese Collembolan fauna. In many points the notes may be of particular interest, as the species and forms have been

![Fig. 1. Sminthurinus aureus (Lbk.) f. signatus Krausbauer
unknown from Asia.

Sminthurinus aureus (Lubbock, 1862) f. signatus (Krausbauer, 1898)

*Sminthurinus aureus* var. *signatus* Krausbauer, 1898, 1901
*Sminthurinus aureus* var. *signata* Börner, 1901—Axelson, 1904, 1905
*Sminthurinus aureus* var. *signatus* Womersley, 1939

Average length of the body 0.78 mm., up to 0.85 mm. Ground color pale yellow to brownish yellow; dorsum darker. All around the body, pleural side is margined by a broad bluish black band whose serrated edges indicate clearly the segmentations of the body. Eye patches black; interocular spot brownish black connecting both eye patches by a bluish black stripe transversally. Posterior border of the head with bluish black pigment. Antennae pale orange, ant. IV pale purple. Legs, sternum, and ventral tube paler. Furcula almost transparent.

**Measurements**

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Body length</th>
<th>Head diagonal</th>
<th>Antennal length</th>
<th>Relative length of antennal segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.80</td>
<td>0.59</td>
<td></td>
<td>0.04 : 0.09 : 0.13 : 0.33</td>
</tr>
<tr>
<td>B</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>0.69</td>
<td>0.29</td>
<td>0.56</td>
<td>0.04 : 0.09 : 0.13 : 0.34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Furcula</th>
<th>Ma : De : Mu</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>0.27</td>
</tr>
<tr>
<td>C</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Remarks. In coloration and markings, the present specimens agree perfectly with Linnaniemi’s description (1912, p. 282) of European specimens. As shown in Fig. 1, F, the mucrones of all Japanese examples are of rather weak structure, with both smooth margins.

According to Linnaniemi, in Finland, this form is found frequently in dead leaves, among moss, in swamps, on the surface of stagnant pools, between moist timbers layed on the ground, and rarely under the debris on the seashore.

Distribution. Japan (Honshū), Northern Europe, and Western Australia.

_Smynthurus viridis_ (Linné 1758) _f._ _irroration_ (Reuter, 1900)

_Sminthurus viridis var. irroration_ Reuter, 1900—Axelson, 1905

![Fig. 2. Smynthurus viridis (L.)](image)


Remarks. Twelve specimens examined agree satisfactorily with Linnaniemi's description of European examples in color pattern.

Locality. Odake (1584 m), Mt. Hakkoda, Aomori Pref. (eleven examples collected on the ground covered with bushes of _Pinus pumila_ Regel, at the summit of Odake, 29. VII. 1951, N. Nara; no. 1473); Daishaka, Minamitsugaru-gun, Aomori Pref. (one example, 8. X. 1951, R. Narumi, no. 1523).
Distribution. Japan (Honshū) and Northern Europe.

**Ptenothrix marmorata** (Packard, 1873)

*Papirius marmoratus* Packard, 1873—MacGilliVray, 1891
*P. testudinaratus* Folsom, 1896
*Ptenothrix marmoratus* Folsom, 1928
*P. marmorata* Folsom, 1934—Maynard, 1951

Length, 2.3 mm. Dark purple, with conspicuous light yellow patterns, as shown in

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**Fig. 3. Ptenothrix marmorata** (Packard)

A. Specimen, dorsel. B. End of antenna. C. Left forefoot.
D. Genital appenedage. E. Left aspect of left macro and end of dens. F. Serrated seta of dens.
Fig. 3, A. Anterior half of sturnum, collar of ventral tube, manubrium, and dente
darkish purple. Legs darkish purple, the joining parts of the segments excepted. Ant.
I and III darkish purple; ant. II reddish brown, becoming darker towards the end; ant.
IV violet, spindle-shaped, divided into four subsegments, whose intermediate two are
small and subequal. Unguiculus moderately stout, slightly curved at the apex, provided
with two inner teeth, an outer tooth, and a pair of lateral teeth. Unguiculus
about half as long as unguis; inner lamella feeble, unidentate, having an unknobbed
subapical filament. Furcula well developed; Ma : De : Mu = 31 : 80 : 27. Dentes with
distinctly serrated setae and four outstanding bothriotrichae. Dental formula: D₁A₁₋₈B₁₋₄
C₁₋₇E₁₋₈. Mucro about one third as long as dens, 30 inner teeth evident, 25 outer ones
obscure. Hair very stiff and coarse; bristles long and spine-like (0.30 mm.) on the anterior
dorsum, becoming shorter and weaker posteriorly. Genital appendages of female (Fig. 3,
D) simple, slightly curving, about one half as long as mucro.

Remarks. Although only one example has been examined by the
author, it agrees with *P. marmorata* from North America, conforming
satisfactorily with Folsom's description (1934, p. 475). This species
is distinguishable from any other species of *Ptenothrix*, by the darkish
purple coloration with the remarkable light yellowish patterns.

Locality. Nopporo, Ishikari Prov., Hokkaidō (one female, 30. IX.
1949, K. SAITOR, no. 1344 b).

Distribution. Japan (Hokkaidō) and North America.

Literature cited.

Sci., 8 (4) : 461-511.

Linnaniemi, W. M. 1912 Die Apterygotenfauna Finlands. t. II. Helsingfors.


Womersley, H. 1939 Primitive Insects of South Australia. Adelaide.