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ON SOME COLLEMBOLA FROM THE SOUTHERN KURILES

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The collection of Collembola upon which this paper is based was made by Dr. S. Kuwayama, then entomologist of the Hokkaido Agricultural Experiment Station and the Kuriles Investigation Bureau, and by his assistant, Mr. Y. Sugihara, in the Southern Kuriles in July and August, 1940. The five species comprising a new variety dealt with in the present paper will interest entomologists because nothing has hitherto been recorded concerning the Collembola of this district, and, because of suggesting some problems in geographical distribution and habits of these collembolans.

The specimens are preserved in the Hokkaido National Agricultural Experiment Station and the Biological Department of the Hirosaki University.

At this place the writer wishes to offer his cordial thanks to Dr. S. Kuwayama for submitting the valuable material for study and for generous information.

Family Isotomidae

1. *Isotoma viridis* Bourlet, 1839

Isotoma viridis Bourlet, Mém. Soc. Sci., Agric. Lille, T. 1 : 401, 1839.

Specimens examined: Shikotan I., Notoro, 31 VII '40, 1 ex. taken on the surface of rock in the seashore (no. 2139a); Kunashiri I., Uennai, 12 VII '40, 6 exs. taken from stems and leaves of pumpkin (*Cucurbita Pepo*) creeping in contact with the ground (no. 2140a, c).

Distribution: Holarctic. Japan (Hokkaido, Honshu), Europe, Siberia, Iceland, Greenland, Arctic Region, U. S. A., Mesopotamia.

Remarks: All of the specimens studied here are rather small, ranging 1.6 to 2.4 mm. in body length. Body uniformly dark violet, excluding venter and extremities. So the present specimens may be assigned to *I. viridis* var. *violacea* Lie Petersen, 1898, whose coloration is uniformly light or dark-violet, without light patches or lines dorsally.

Family Tomoceridae

2. *Tomocerus vulgaris* (Tullberg, 1871) var. *kurilensis* n. var.

Macrotona vulgaris Tullberg, Öfv. K. Vet.-Akad. Förh., 28 : 143-155, 1871.

Tomocerus vulgaris Tullberg, Öfv. K. Vet.-Akad. Förh., 33 : 23-42, 1876.

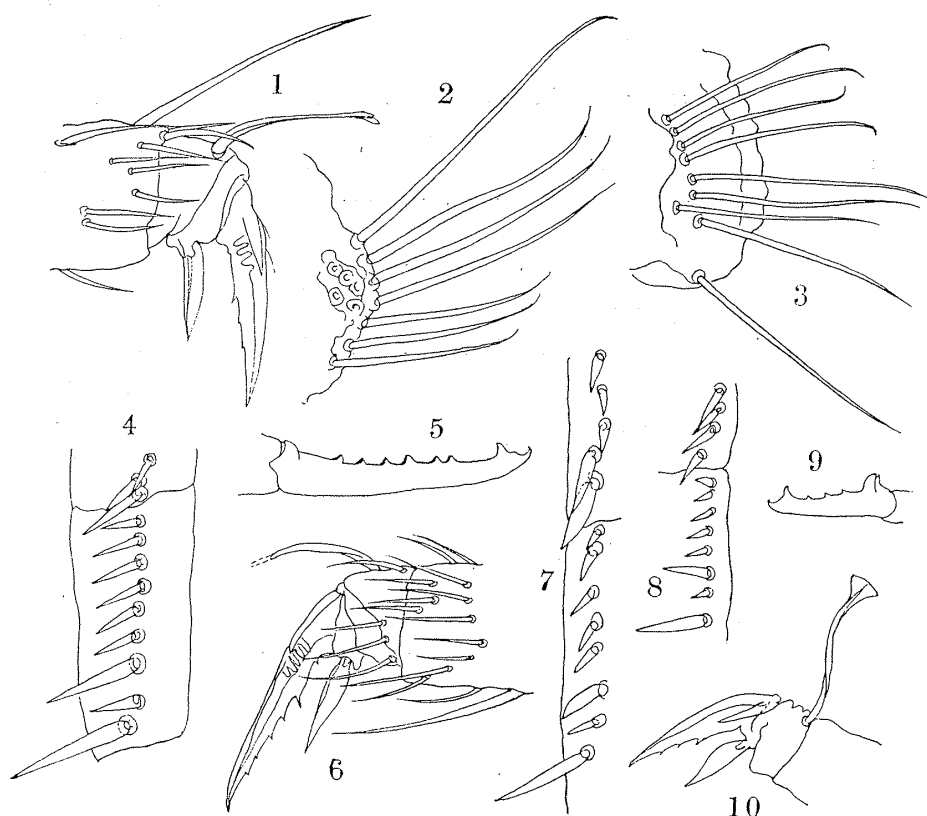
Specimens examined: Shikotan I., Chiboi, 27 VII '40, 1 ex. (no. 2137); Shikotan I., Chiboi, 27 VII '40, 1 ex. taken from shoots of *Betula Ermani* Cham. var. *communis* Koidz. (no. 2138); Shikotan I., Notoro, 31 VII '40, 1 ex. on the surface of rock

in the seashore (no. 2139b) ; Kunashiri I., Uennai, 12 VII '40, 5 exs. taken from stems and leaves of pumpkin (*Cucurbita Pepo*) creeping in contact with the ground (no. 2140b).

Distribution: Holarctic or boreal. Japan (Hokkaido, Honshu), Europe, Canada, U. S. A.

In the original species the dental spines are simple, usually 13 to 15, less often 12 or 16, and rarely 17 or 18 in number, on each side of dentes. Its dental spine formula is usually expressed as 4-6, 1/2-5, 1, 2, 1=11-16, extreme formula as 4-7, 1/2-5, 1, 1-3, 1=10-18. Large dental spines are constant in number and arrangement.

Concerning the dental spines of the distal series, the present specimens have the constant number and arrangement, no matter what their ages; 1, 1, 1 as in the extreme formula of the original species. Expressing more precisely, one small spine is intercalated between two large spines. And so the full formula of the present



Figs. 1-10. *Tomocerus vulgaris* Tullberg var. *kurilensis* n. var.

Figs. 1-5: mature individual. 1: fore claw. 2: trochanteral setae of mid leg. 3: ditto, fore leg. 4: dental spines. 5: mucro. Figs. 6, 7: other mature individual. 6: fore claw. 7: dental spines. Figs. 8-10: young individual. 8: dental spines. 9: mucro. 10: fore claw.

specimens is expressed as 3, 1-2/5-6, 1, 1, 1=12-14. On the other hand, the bristles of trochanter of each leg are much longer than those of the original species. Considering these characteristics as local tendency, the writer would like to create a new variety under the name of *kurilensis*.

It is also noticeable that the adult animals are very dark and the smaller or juvenile ones light yellow in coloration.

Structural details of the mucrones and claws of this variety agree with those of the original species.

Family Sminthuridae

3. *Bourletiella hortensis* (Fitch, 1863)

Smynthurus hortensis Fitch, Eighth rep. on noxious and other insects of New York, 668-675, 1863.

Sminthurus pruinus Tullberg, Öfv. Kongl. Vet.-Akad. Förh., 33 (5), 1871.

Bourletiella pruinosa Börner, Sitzb. Naturh. Freund. Berlin, 133, 1909.

Specimens examined: Shikotan I., Shakotan, 25 VII '40, 26 exs. collected on the leaves of radish and spinach (no. 2135); Shikotan I., Shakotan, 26 VII '40, 44 exs. collected on the leaves of various vegetables (no. 2136).

Distribution: Cosmopolite. Japan (Hokkaido, Honshu, Shikoku, Kyushu), Saghalien, Korea, Manchuria, Europe, North America, South America (Antarctic Region), Australia.

Remarks: All of the specimens studied are considerably small, 0.3-1.0 mm. in length. Their coloration seems to be darker than that of specimens of Honshu.

4. *Sminthurus viridis* (Linné, 1758)

Podura viridis Linné, Syst. Nat. Ed. X, T. I: 608, 1758.

Smynthurus viridis Tullberg, Öfv. Kongl. Vet.-Akad. Förh., 28 (1): 144, 1871.

Specimens examined: Etorofu I., Rubetsu, 28 VIII '40, 14 exs. (no. 2141) and 12 exs. (no. 2142) taken from leaves and stems of pumpkin (*Cucurbita Pepo*) creeping in contact with the ground.

Distribution: Cosmopolite. Japan (Hokkaido, Honshu, Shikoku, Kyushu), Manchuria, China, Siberia, Europe, North America, South America, Australia.

Family Dicyrtomidae

5. *Ptenothrix* sp.

Specimens examined: Kunashiri I., Uennai, 12 VII '40, 1 ex. (no. 2140d), host plant—pumpkin (*Cucurbita Pepo*).

Unfortunately the specimen is dry and brittle, so that it is not possible to make out any structural details.

Selected Literature

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 （平嶋義宏）