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ON THREE APHIDS OF *LACHNINAE* FROM HOKKAIDO AND SAGHALIEN

By

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(With two Textfigures)

1. ***Stomaphis ulmicola*** sp. nov.

Wingless viviparous female (Apterous virgogenia)

Body shiny brown to black. Abdominal segments with six dusky spots arranged in a longitudinal row on the ventral side and with a dark patch before the cauda. Antennae, eyes, cornicles, cauda, anal plate, femora and tarsi dark brown to black.

Body oblong, covered with many fine hair. Head divided, wider than long, provided with fine hair. Eyes small, not protuberant, with the ocular tubercles somewhat protruding. Antennae slenderer than the tibiae, covered with many fine hair; the first joint much longer and a little wider than the

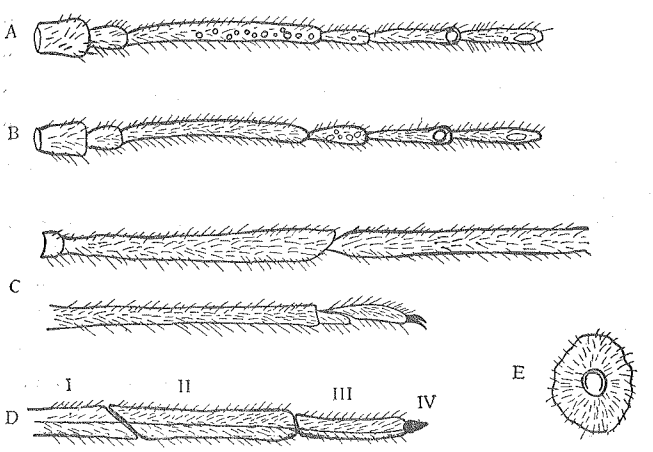

Fig. 1

Stomaphis ulmicola sp. nov.

A, B. Antenna of wingless viviparous female; C. Hind leg of wingless viviparous female; D. Rostrum of wingless viviparous female; E. Cornicle of wingless viviparous female.

second; the third sometimes provided with certain small or medium-sized sensoria which are not protuberant and are arranged in a row over the whole length except on the basal portion; the fourth sometimes with certain small sensoria arranged in a single row; the fifth at the apex with a very large circular sensorium which is protuberant; the sixth with a large oval sensorium and sometimes with a small circular one. Relative length of the antennal joints and number of sensoria as in the following table:

Specimen Number	Date of collection	Relative length of antennal joints						Number of Sensoria			
		I	II	III	IV	V	VI	III	IV	V	VI
No. 1	12. VII, 1936	25	19	100	27	42	48	3	0	1	1
		25	19	97	25	40	48	4	1	1	1
No. 2	"	26	19	100	27	48	50	5	0	1	1
		27	20	103	27	47	52	1	2	1	1
No. 3	"	27	19	103	24	48	47	12	1	1	1+1
		25	20	105	25	49	46	11	1	1	1
No. 4	17. VIII, 1937	27	19	102	32	45	50	0	1	1	1
		27	19	102	31	46	50	0	1	1	1
No. 5	"	26	18	99	31	43	47	0	5	1	1
		27	18	99	31	43	48	0	6	1	1
No. 6	"	26	18	100	30	44	49	0	0	1	1+1
		25	18	99	31	44	50	0	0	1	1+1
No. 7	"	27	18	100	30	45	50	1	1	1	1
		27	18	100	31	44	50	1	1	1	1
No. 8	11. X, 1937	28	18	103	31	44	56	0	0	1	1
		27	18	102	32	43	57	0	0	1	1
No. 9	"	27	17	110	31	42	55	0	0	1	1
		27	17	108	32	43	57	0	0	1	1
No. 10	"	27	17	102	32	42	53	0	0	1	1
		26	17	98	32	42	52	0	0	1	1
Average		26	18	102	30	44	51				

Rostrum very long, reaching far beyond the end of the abdomen; the third segment of the rostrum shorter than the second. Cornicles on small dark cones, with many fine hair. Cauda very short, wider than long. Anal plate larger than the cauda, broadly rounded, with many rather long fine hair. Legs slender, rather short, covered with many fine hair. Hind tarsi very short, a little shorter than half the length of the third antennal joint, providing many rather long fine hair.

Measurements

Body: Length, 6.30 mm.; Width, 3.14 mm. Length of antenna, 2.38 mm. (I, 0.232 mm.; II, 0.160 mm.; III, 0.892 mm.; IV, 0.259 mm.; V, 0.388 mm.; VI, 0.446 mm.) Length of femora: fore, 1.02 mm.; middle, 0.94 mm; hind, 1.42 mm. Length of tibiae: fore, 1.33 mm.; middle, 1.35 mm.; hind, 2.11 mm. Length of tarsi: fore, 0.35 mm.; middle, 0.35 mm.; hind, 0.38 mm. Length of the first joint of hind tarsi, 0.04 mm. on the outer side, 0.13 mm. on the inner side. Length of the second joint of hind tarsi, 0.35 mm. Diameter of cornicles at the base of cone, 0.41 mm. Length of hair of hind tibiae, 0.09 mm. Length of hair on body and tibiae, 0.08 mm. Length of hair of antenna, 0.07 mm. Length of hair on rostrum, 0.07 mm. Length of hair on head, 0.09 mm. Length of rostrum, 7.87 mm., the second joint, 0.80 mm., the third joint, 0.52 mm. Cauda: Length, 0.21 mm.; Width, 0.45 mm.

Host—*Ulmus propinqua* KOIDZ.

This species attacks the stem of the host plant.

Type-locality—Hokkaido (Nopporo).

The type-specimens are in the Entomological Institute of the Hokkaido Imperial University and in the Hokkaido Forestry Experimental Station.

Nom. Jap: *Nire-kuchinaga-ô-abura.*

This species is easily distinguished from *Stomaphis quercus* LINNAEUS and *Stomaphis longirostris* FABRICIUS by the relative length of the antennal joints, especially by the fourth joint which is a little shorter than one-third the length of the third.

2. ***Cinara shinjii*** nom. nov.

Lachnus fasciatus SHINJI, Dobutsugaku Zasshi, XXXIV, p. 534 (1922) (non BURMEISTER, 1835).

Wingless viviparous female (Apterous virgogenia)

Head and thorax pale brown. Abdomen brown to dark brown. Antennae yellow, the third to fifth joints at each distal end and the sixth dark brown. Eyes black. Rostrum pale, the apex darkened. Cornicles black. Legs dark brown; femora at the base and tibiae at the middle pale. Cauda and anal plate dark brown. Body slightly covered with a pattern of white secretion, and sometimes visible a longitudinal dorsal line due to white secretion in fresh specimens. In the specimens treated with potash, many dark brown patches visible on the dorsum of the abdomen.

Body oval. Head divided, with many long stout hair. Eyes with ocular tubercles. Antennae covered with many long hair, the third joint sometimes with one small sensorium near the apex, the fourth near the apex with one

medium-sized circular sensorium which is sometimes obsolete, the fifth often with one medium-sized circular sensorium below the large apical one, and the sixth with a large sensorium which is surrounded by much smaller ones. Relative length of the antennal joints as follows:— I+II–20, III–42, IV–16, V–23, VI–17 (12.5+4.5).

Rostrum attaining the middle of the abdomen. Cornicles bearing only one kind of hair. Hair of the hind tibiae pointed, fine, rather numerous. Cauda short, rounded, wider than long, with many long hair. Anal plate broadly rounded, with many long hair.

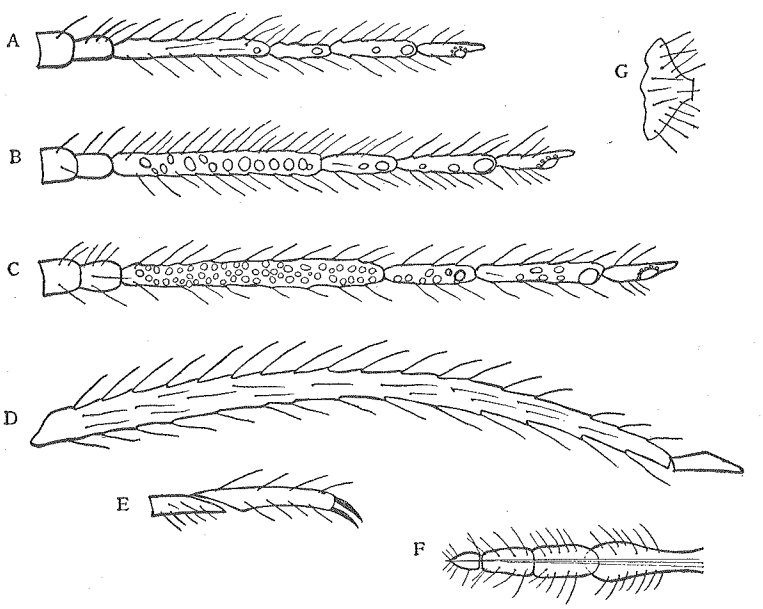

Fig. 2

Cinara shinjii nom. nov.

A. Antenna of wingless viviparous female; B. Antenna of winged viviparous female; C. Antenna of winged male; D. Hind tibia of wingless viviparous female; E. Hind tarsi of wingless viviparous female; F. Rostrum of wingless viviparous female; G. Cornicle of wingless viviparous female.

Measurements

Body: Length, 2.67 mm.; width, 1.50 mm. Length of antenna, 1.04 mm. Length of femora: fore, 0.66 mm.; middle, 0.63 mm; hind, 1.02 mm. Length of tibiae: fore, 0.90 mm.; middle, 1.02 mm.; hind, 1.62 mm. Length of tarsi; fore. 0.21 mm.; middle, 0.21 mm.; hind, 0.21 mm. Length of the first joint of

hind tarai, 0.04 mm. on the outer side, 0.08 mm. on the inner side. Length of the second joint of hind tarsi, 0.18 mm. Diameter of cornicle at the base of cone, 0.25 mm. Length of hairs of hind tibiae, 0.11 mm. Diameter of hind tibiae, 0.08 mm. Length of hair on head and body, 0.10 mm. Length of hair of antenna, 0.13 mm.

Described from 10 examples collected on the 19th of July and the 30th of August, 1937 at Shirikishinai in Hokkaido.

Winged viviparous female (Alate virgogenia)

Body brown to chocolate brown. Venter pale brownish gray due to white secretion. Antennae pale brown, the third to fifth joints at the distal and the sixth dark brown. Eyes black. Rostrum pale, the apex darkened. Cornicles black. Cauda brown. Legs brown; femora at the base and tibiae at the middle pale yellow. A longitudinal dorsal line visible due to white secretion in fresh specimens.

Body oblong. Head divided, with many long stout hair. Eyes with ocular tubercles. Antennae covered with many long hair, the third joint provided with 7 to 13 medium-sized or rather large subcircular sensoria, arranging in a row over the whole length, the fourth with 2 medium-sized subcircular sensoria near the apex, the fifth with 1 or 2 medium-sized or rather small sensoria plus the large primary one, and the sixth with a large sensorium which is surrounded by much smaller ones. Relative length of the antennal joints as follows: I+II–20, III–56, IV–20, V–26, VI–20 (15+5).

Wings hyaline; stigma greyish brown; veins pale yellow; radial sector straight or slightly curved; the third oblique faintly indicated, twice forked; hind wings with two obliques.

Rostrum attaining the middle of the abdomen. Cornicles bearing only one kind of hair. Cauda short, semi-rounded, with many long hair. Anal plate broadly rounded, with many long hair.

Measurements

Body: Length, 3.50 mm.; width, 1.41 mm. Length of antennae, 1.24 mm. Length of fore wing, 4.50 mm. Width of fore wing, 1.44 mm.; Length of hind wing, 2.55 mm. Width of hind wing, 0.81 mm. Length of hair on head, 0.10 mm.; on body and antenna 0.11 mm. Cornicles 0.32 mm. in diameter at the base of cone.

Described from 3 examples collected on the 19th of July, 1936, at Shirikishinai in Hokkaido.

Oviparous female

In colour and structure it is closely allied to the wingless viviparous female.

Antennae covered with many long hair, the third joint provided near the apex with one small circular sensorium, the fourth with one medium-sized circular sensorium near the apex, the fifth with one medium-sized circular sensorium below the large circular one which is surrounded by much smaller ones. Relative length of the antennal joints as follows: I+II-21, III-50, IV-21, V-27, VI-19 (15+4). Hairs of the hind tibiae pointed, fine, numerous, as long as the diameter of the tibiae.

Measurements

Body: Length, 3.36 mm.; width, 2.10 mm. Length of antenna, 1.21 mm. Length of femora: fore, 0.81 mm.; midele, 0.75 mm.; hind, 1.23 mm. Length of tibiae: fore, 1.08 mm.; middle, 1.23 mm.; hind, 1.95 mm. Length of tarsi: fore, 0.24 mm.; middle, 0.24 mm.; hind, 0.24 mm. Length of the first joint of hind tarsi, 0.04 mm. on the outer side, 0.09 mm. on the inner side. Length of the second joint of hind tarsi, 0.21 mm. Diameter of colnicle at the base of cone, 0.34 mm. Length of hair of hind tibiae, 0.12 mm. Diameter of hind tibiae, 0.12 mm, Length of hair on head and body, 0.12 mm. Length of hair of antenna, 0.11 mm.

Described from one example collected on the 4th of October, 1937, at Shirikishinai in Hokkaido.

Alate male

Closely resembles the winged viviparous female in colour.

Body oblong. Antennae rather longer than those of the winged viviparous female, the third joint with 43 to 53 medium-sized or rather small subcircular secondary sensoria, the fourth with 7 to 10 medium-sized or rather small subcircular sensoria, the fifth with 3 to 6 medium-sized or small subcircular sensoria below the large apical one, and the sixth with a large sensorium which is surrounded by much smaller ones. Relative length of the antennal joints as follows: I+II-22, III-70, IV-24, V-34, VI-19 (14+5). Hair of hind tibiae pointed, fine, numerous, 0.12 mm. long, almost twice as long as the diameter of the tibiae. Wings resemble those of the winged viviparous female.

Measurements

Body: Length, 2.79 mm.; width, 0.90 mm. Length of antenna, 1.48 mm. Length of fore wing, 3.96 mm; width of fore wing, 1.23 mm. Length of hind

wing, 2.43 mm; width of hind wing, 0.63 mm. Length of femora: fore, 0.84 mm.; middle, 0.63 mm.; hind, 1.14 mm. Length of tibiae: fore, 1.14 mm.; middle, 1.14 mm.; hind, 1.89 mm. Length of tarsi: fore, 0.24 mm.; middle, 0.24 mm.; hind, 0.24 mm. Length of the first joint of hind tarsi, 0.05 mm. on the outer side, 0.08 mm. on the inner side. Length of the second joint of hind tarsi, 0.21 mm. Diameter of cornicle at the base of cone, 0.26 mm. Length of hair on hind tibiae, 0.12 mm. Diameter of hind tibiae, 0.06 mm. Length of hair: on head, 0.06 mm.; on body, 0.09 mm.; on antenna, 0.11 mm.

Described from one example collected on the 30th of September, 1937, at Shirikishinai in Hokkaido.

Host—*Pinus Himekomatsu* MIYABE et KUDO.

This species attacks the twig, branch and stem of the host plant in Hokkaido.

Habitat—Hokkaido (Shirikishinai).

General Distribution: Japan (Honshu and Hokkaido).

Nom. Jap.: *Goyômatsu-ô-abura.*

3. ***Cinara piceicola*** (CHOLODKOVSKY)

Lachnus piceicola CHOLODKOVSKY, Horae Soc. Ent. Rossicae, vol. 31, pp. 659–662 (1898).

Lachnus piceicola VAN DER GOOT, Beit. z. Kennt. Holl. Blattläuse, pp. 402–403 (1915).

Cinara piceicola BÖRNER et SCHILDER, SORAUER's Handb. d. Pflanz.-Krankh., V (4 Aufl.), p. 568 (1932).

Host—*Picea jezoensis* CARR.

This species attacks the twig and the young shoot of the host plant.

Habitat—Saghalien (Toyohara).

Two examples of the stem-mother on the 8th and 24th of May, 1937, one example of the wingless viviparous female on the 24th of May, 1937, and four examples of the winged viviparous females on the 17th and 24th of May, 1937, were reared from the twigs of *Picea jezoensis* CARR., which were sent to the writer from Mr. M. HORI of the Saghalien Central Experiment Station, Konuma, Saghalien.

Gen. Distr.: Europe (Holland and Russia); Saghalien.

Nom. Jap.: *Hori-ô-abura.*

Here the writer wishes to express his best thanks to Mr. M. HORI for the kindness in sending him the valuable material.