

Some oriental Aphididae (Hemiptera). I.

By Ryoichi Takahashi, Taihoku.

Macrosiphum holsti n. sp.

(Winged viviparous female) Green, somewhat pale brownish on the mesothorax, without patches on the abdomen. Antennae pale brown. Cornicles pale, slightly darker at the tip. Cauda pale green. Legs pale, apices of femora and tibiae, and tarsi somewhat dusky. Wings hyaline, veins and stigma pale. Head not imbricated, without spinules, but with 4 pairs of dorsal setae, which are rather long, straight, pointed apically, and much shorter than the 2nd antennal segment. Front convex at the middle above the front ocellus, with a pair of curved setae; space between the frontal tubercles distinctly narrower than the tubercles. Frontal tubercles well developed, the mesal sides moderately convex, somewhat shorter than the 2nd antennal segment, diverging especially on the distal half, with 2 curved setae. Antennae long, slender, with some short stout pointed setae; the 1st segment convex on the mesal side; the 2nd nearly as long as wide, a little broadened towards the base, with a very small circular pore near the tip; the 3rd imbricated, widened gradually on the basal part except at the base, with 60—110 small circular or oval sensoria scattered over the whole length except at the base; the sensoria a little protruding, surrounded with a broad rim, sometimes absent on the distal part; the 4th with 6 or 7 similar sensoria mostly on the basal half, which are sometimes absent; the 5th without secondary sensoria; the relative length of segments about as follows: III—75, IV—34, V—30, VI—15+30. Rostrum stout, not reaching the middle coxae. Abdomen wanting sclerotized parts on the dorsum, with a few dorsal setae, which are nearly as long as those on the head, and with many transverse rows of minute spinules on the dorsum of posterior part. Cornicles long, slender, cylindrical, straight, a little broadened on the basal part, not or very slightly swollen on

the distal half, scarcely or not imbricated, not reticulated, but a little striate on the apical small part, about 10 times as long as wide, shorter than the 3rd antennal segment, about twice as long as the cauda, shorter than the hind femora, with a distinct apical flange. Cauda long, normal in shape, a little constricted near the base, not much expanded basally, narrowed on the distal part, rounded at the apex, with about 5 pairs of long lateral setae. Anal plate normal. Legs very long, slender, with many setae, which are straight or a little curved; tibiae with more setae, front tibiae as stout as the basal part of the 3rd antennal segment; tarsi with transverse rows of short setae, the basal segment with a stout spine-like median seta and 2 pairs of a little longer stiff setae, the distal segment with a pair of setae at the middle and apex of dorsum and some setae on the venter; hind tarsi somewhat shorter than the 4th antennal segment; empodial setae stiff, pointed, shorter than the claws. Wings imbricated, with normal veins; stigma rather long, hind wings with 2 somewhat divergent oblique veins and 3 hooklets. Length of body — — — about 3.0 mm., antenna — — — about 3.4 mm., cornicle — — — about 0.92 mm., cauda — — — about 0.41 mm., hind tibia — — — about 2.2 mm., head — — — about 0.28 mm., width of head — — — about 0.43 mm. at hind margin excluding eyes.

(Wingless viviparous female) Green, cornicles pale brownish, cauda pale green. Oval, with numerous short papillae densely over the dorsum of abdomen, which are much wider than long and broadly rounded. Antennae with some short stout pointed setae; the 3rd segment imbricated on the distal part, a little broadened on the basal part except at the base, without sensoria; the 4th without sensoria; the relative length of segments about as follows: III—63, IV—29, V—22, VI—10+21. Cornicles large, long, cylindrical, much expanded on the basal part, not curved, scarcely or somewhat imbricated on the distal part, striate at the apex, as long as the 3rd antennal segment.

Host. — *Rhododendron* sp., attacking the lower side of young leaf.

Habitats. — Formosa: Miharashi (altitude about 2106 meters), Takao Prefecture; Taiheizan (altitude about 1400 meters).

An apterous female was taken by me at Taiheizan, May 21, 1931, and an incomplete apterous and 3 alate ones at Miharashi, May 17, 1935.

In Formosa 3 species of aphids are now known to occur on *Rhododendron*, viz. *Macrosiphum holsti* n. sp., *M. itoe* Takah. and *M. taiheisanum* Takah., which are related and have in common the following characters: Head protruding at the middle of front, the 3rd antennal segment has no sensorium in the apterous form. The present new species differs from *M. itoe* Takah. in the much larger body, the colour, the cornicles less imbricated, the presence of more sensoria on the antennae of the alate form, the presence of papillae on the dorsum of the apterous form, etc. This species has been named in the memory of the late P. A. Holst, who contributed to the zoology of Formosa and died in the south part of the island in 1895.

***Macrosiphum solidaginis* Fabr.**

This cosmopolite species is scarce in Formosa, having been found only twice by me on *Blumea balsamifera*: Riran, November 23. 1930; Heito, May 26. 1934. New to the fauna of Formosa.

***Toxoptera cyperi* van der Goot.**

Many apterous and a few alate females were taken by me on *Cyperus* sp., August 21. 1935, at Taihoku, Formosa. Hitherto known from Java (*Contrib. Fauna Indes Néerland.*, I, 3, p. 81, 1917), and recently collected in Sumatra by Prof. J. C. van der Meer Mohr. The Formosan specimens can not be distinguished from the Sumatran forms.

(Wingless viviparous female) Head short, with a distinct median protuberance on the front, a pair of short stiff dorsal setae between the antennae, and 4 similar setae between the eyes. Rostrum with many minute granules arranged in longitudinal and oblique rows on the basal segment. Abdomen reticulated, lacking sculptures behind the cornicles. Cornicles not imbricated on the distal part. Cauda with 2 or 3 bristles on the side. Tibiae with many long bristles.

***Prociphilus formosanus* n. sp.**

(Winged viviparous female) Dark green. Head, antennae, thorax and legs black. Wings hyaline. Body oblong. Head with a longitudinal stout median suture and about 10 very small setae on the dorsum, wanting distinct waxplates, but with a pair of

small paler parts on the median area of dorsum, which are nearly circular, not well defined, sometimes hardly discernible, indistinctly reticulated, smaller than the dorsal ocelli, and each with a seta a little longer than other dorsal setae on the head. Eyes normal. Antennae 6-segmented, with a few very small setae; the 1st segment wider than long; the 2nd as long as or slightly longer than wide, somewhat constricted about the middle; the 3rd constricted at the base, usually a little so also near the base, with 32—39 sensoria irregularly arranged over the whole length except on the basal small part; the 4th a little narrowed basally with 7—11 sensoria over the whole length; the 5th with 7—9 secondary sensoria over the whole length and a large transverse wide primary sensorium; the 6th imbricated, without secondary sensoria, but with a circular primary one, the distal part distinct, slightly curved, much longer than wide; secondary sensoria transversely narrow, occupying half the circumference of the segments or shorter, surrounded with many minute black granules in a row, narrower than the spaces between themselves; the relative length of segments about as follows: III—85, IV—30, V—35, VI—25+7; the 4th segment sometimes subequal in length to the 5th. Mouth parts without granules, rostrum not reaching the middle coxae. Prothorax with a large circular wax-plate on each side, which is not provided with setae; pronotum with a pair of oval reticulated areas on the median part, which are not distinctly defined, large, not reticulated at the center, and with 2 setae; meso- and metathoraci wanting wax-plates. Abdomen with 6 large wax-plates on each side and about 5 pairs of dorsal wax-plates, the last pair of the dorsal wax-plates much larger, as large as the lateral ones; these wax-plates reticulated, with 1 or 2 long setae arising from themselves. Cornicles represented as rings, adjacent to the lateral wax-plates, which are nearly semilunar. Cauda triangular, much wider than long, broadly rounded apically, corrugated, with a pair of rather long setae on the distal part. Gonapophyses 3, with 5 or 6 very small setae. Wings long, imbricated on the distal part; the 1st oblique vein on the fore wings stout, straight; the 2nd slightly curved distally; the 3rd obsolete on the basal more than one-third, simple, thinner than the 2nd; stigmatic vein or radial sector a little curved; stigma normal; hind wings with 2 oblique veins, which are divergent and rather close at the bases; hooklets 3—6. Legs slender, with some rather long setae; trochanters distinctly defined; front

tibiae nearly as stout as the 3rd antennal segment; tarsi with some transverse rows of minute spinules, the basal segment with a pair of rather long setae and sometimes also 1 or 2 much shorter setae besides the long setae, the distal segment with some short setae and a pair of longer distal setae. Length of body — — — about 4.0 mm., antenna — — — about 1.05 mm., hind tibia — — — about 1.1 mm., hind tarsus — — — about 0.22 mm., fore wing — — — about 4.5 mm., head — — — about 0.28 mm. long (excluding front ocellus), about 0.42 mm. wide at hind end (excluding eyes).

(Grown nymph of winged viviparous female) Yellow, with cottony wax on the posterior half. Elongate, with well-developed wax-plates on the head, thorax and abdomen.

Hosts. — — — *Fraxinus insularis*, attacking and somewhat distorting the leaf; *Picea morissonicola*.

Habitats. — — — Formosa: Kotobuki (altitude about 1122 meters), Taito-Cho; Izumo (altitude about 2220 meters), Taito-Cho.

Many winged females and the grown nymphs were found densely grouping on the lower sides of the leaves of *Fraxinus* by me, May 15, 1935, at Kotobuki, and 3 winged females were collected on *Picea* by me, May 16, 1935, at Izumo. This species apparently migrates between these plants. Differs from other species in the absence of distinct dorsal wax-plates on the head and thorax, resembling *Thecabius*, but the secondary sensoria are surrounded with minute granules. The genus *Prociphilus* is new to Formosa.

A single winged form of another species of the genus was found by me at Taihoku, Formosa, April 3, 1928, on *Pinus thunbergi* transplanted from Japan, which is very small in size and may be one of the species described from winter hosts in Japan.

The type specimens are in the Department of Agriculture, Government Research Institute, Taihoku, Formosa, Japan.

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