NOTES ON APHIDS FOUND NEAR THE SUMMIT OF MT. NIITAKA, FORMOSA. (HOMOPTERA).

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The island of Formosa is traversed from north to south by a mass of mountains, many of which are over 10000 feet in altitude. The aphids of these high mountains had been little explored, and in the summer of 1936 I made trips[1] to some of them to study the alpine aphid life.

In the following lines, only the aphids found near the summit of Mt. Niitaka (Mt. Morrison), the highest peak in the Japanese Empire, are dealt with. The Niitaka Mountain rises to an altitude of about 13035 feet, being clad with magnificent forests except on the top and cliffs, and is nearly at the center of the island. Although the aphid fauna of the mountain comprises many species, only 3 were detected on the upper part over 10000 feet above sea level.

Myzocallis arundinariae Essig.

This species was not uncommon on the lower surface of the leaves of Arundinaria niitakayamensis Hayata at the altitudes of 10000~12000 feet; it was, however, found in very small colonies. The species occurs also in the lowlands of Formosa, attacking bamboo, and is distributed in Japan, China and North America. In the lowlands of the island only the alate viviparous females are found throughout the year, but both the alate and the apterous viviparous females were discovered on the high places over 9400 feet. The apterous form is described below.

(Apterous viviparous female) Colour like the alate form. Head with 4 stout dorsal capitate setae in a row between the eyes, which are a little shorter than the basal antennal segment, each arising from a very small

1) The trips have been carried out by the financial help of the Foundation for the Advancement of Science in Japan (日本學術振興會).

tubercle; 2 pairs of similar, but longer, setae present between the antennae, which are as long as the basal antennal segment, each arising from a small, but distinct tubercle, and a pair is on the front. Small ocelli present, the frontal one on the venter. Thorax with some long stout dorsal capitate setae; the 8th abdominal segment with a pair of similar setae at the middle, each of other abdominal segments with a lateral similar seta and a pair of similar dorsal ones; these thoracic and abdominal setae as long as those on the head. The 3rd antennal segment with 1~4 (usually 3) small, oval or circular sensoria in a row near the base. Other characters as in the alate form.

The apterous form is peculiar in possessing ocelli and is not entirely apterous in nature, and may be considered as an intermediate form between the alate and apterous. A few apterous forms were collected also on Mt. Kwanzan (9400 feet).

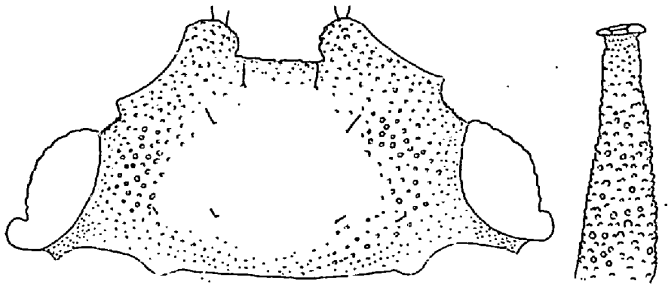
Macrosiphum holsti TAKAHASHI.

The winged and wingless viviparous females are common on high mountains (over 6900 feet) in Formosa, attacking the young leaves of Rhododendron morii Hayata and other plants of Rhododendron. On Mt. Niitaka the species was taken even at 13000 feet elevation, the highest record of the occurrence of aphids in the world. Not found in the lowlands.

Myzus niitakaensis n. sp.

(Apterous viviparous female) Black; cornicles and cauda black; antennae black on the basal 2 segments, pale on the 3rd and 4th, dusky on the 5th and 6th; legs pale, dusky on the tarsi. Body oval. Head with numerous granules except on a large median area of dorsum and on a small part behind each frontal tubercle on the venter, and with 8 short simple dorsal setae. Front straight, the space between the frontal tubercles much narrower than the tubercles. Frontal tubercles converging, convex and with 2 stiff setae on the mesal side. Antennae slender, roughly imbricated, with a few very small setae; the 1st segment wider than long; the 2nd longer than wide; the 3rd not curved, lacking sensoria, with about 10 setae; the relative length of segments about as follows: III—67, IV—40, V—30, VI—20+70. Rostrum reaching beyond the middle coxae, obtuse; the distal segment a little longer than the penultimate, with a pair of long stout setae on the distal

part; the penultimate as long as wide, wider than other segments. Thorax and abdomen corrugated and sclerotised on the dorsum, with some very small setae; metathorax and basal 7 abdominal segments fused together, the 8th abdominal segment separated, small.. Cornicles cylindrical, slightly or not curved, stout, broadened towards the base, not expanded at the base, densely imbricated, neither striate nor reticulate, over twice as long as the cauda, as long as or a little longer than the 3rd antennal segment, about 3.5 times as long as wide, as stout as the cauda at the base, directed posteriorly, reaching beyond the cauda. Cauda stout, constricted on the distal part, rounded apically, with 5 curved setae on the distal part. Legs slender; femora imbricated on the distal part; tibiae stouter than the 3rd antennal segment, with many short stiff simple setae, which are much shorter than the diameter of tibiae; tarsi slightly striate, with 2 short setae on the basal segment; hind tarsi slightly longer than the basal part of the last antennal segment.



Myzus niitakaensis n. sp.
Head and cornicle of apterous viviparous female.

Body—about 1.52 mm. long; head—0.185 mm. long (excluding frontal tubercle), 0.27 mm. wide across frontal tubercles, about 0.45 mm. wide across eyes; frontal tubercle—0.11 mm. wide; antenna—1.2 mm. long, 3rd segment —0.3 mm. long, 0.028 mm. wide; cornicle—0.32 mm. long, 0.083~0.09 mm. wide at base, 0.037~0.04mm. wide at apex (excluding flange); cauda—0.12mm. long; hind tibia—0.83 mm. long, 0.037 mm. wide at middle; dorsal seta on head—about 0.014 mm. long.

Host.—Polygonum sp.

A single specimen was collected by the writer on Mt. Niitaka at 10050 feet elevation, on August 25, 1936. The apterous forms were also taken at Miharashi (2913 feet), Taito Prefecture, March 22, 1934; and Arisan (7496 feet), April 25, 1931. Allied to *Myzus formosanus* TAKAHASHI, but differs as follows: Head not granular on the median large area of dorsum. Thorax and abdomen corrugated on the dorsum instead of with transverse rows of

minute spinules. Cornicles longer, prominently imbricated instead of possessing transverse rows of prominent spinules. Frontal tubercles more distinctly converging. Femora imbricated on the distal small part only. Body setae shorter.

Easily differentiated from *Myzus momonis* MATSUMURA by the thorax and abdomen corrugated on the dorsum, the cornicles without setae, and the cauda rounded at the apex.

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