HOKKAIDO UNIVERSITY

Title	Descriptions of two new or a little known species of root-aphids from Japan
Author(s)	Moritsu, Magoshiro
Citation	Insecta matsumurana, 17(1), 11-16
Issue Date	1949-07
Doc URL	http://hdl.handle.net/2115/9501
Type	bulletin (article)
File Information	17(1)_p11-16.pdf

Instructions for use

Hokkaido University Collection of Scholarly and Academic Papers : HUSCAP

DESCRIPTIONS OF TWO NEW OR A LITTLE KNOWN SPECIES OF ROOT-APHIDS FROM JAPAN

By MAGOSHIRO MORITSU

Entomological Laboratory, Kyushu University

In this paper the author gives descriptions of two new species and a correction of his recent paper read at the General Meeting of the Entomological Society of Nippon in 1947 under the title "Notes on the root-aphids in Japan."

In that paper the author described a new root-aphid of potato, *Rhopalosiphum fukanoi*, from the specimens taken at the Fukuoka Agricultural Experiment Station. But, in the course of the author's careful re-examination of the specimens, it has become apparent that *Rhopalosiphum fukanoi* is synonymous with *Pseudocerosipha pruni* SHINJI.

The Genus *Pseudocerosipha* SHINJI, 1932, lacks both the generic description and the designation of the type species. *Pseudocerosipha pruni* SHINJI is, however, the only described species of the genus then, it should become the type of *Pseudocerosipha*. Moreover the original description of *Pseudocerosipha pruni* is very brief and insufficient. So far as the author understands, the only generic important character of the genus is the four-segmented antennae in the winged viviparous female, which may be regarded as a character occasionally represented in an individual variation within a species. Thus the validity of the Genus *Pseudocerosipha* is doubtful, and further material is necessary in order to elucidate the problem. However there is apparently little doubt that the Genus *Pseudocerosipha* SHINJI will prove to be identical with *Rhopalosiphum* KOCH.

The author wishes to express his heartiest thanks to Professor TEISO ESAKI for his kind guidance rendered in the present study, also to Professor KEIZÔ YASUMATSU for his advice and for determining the associated ants.

Aphis sumire sp. nov.

Winged viviparous female—Body black, oval. Head black, with some short spines,

frontal tubercles small but distinct, with a short spine on the inner side. Eyes deep brown or black. Antennae almost black except the pale yellow basal half of the fourth, stout and distinctly imbricated, with a few very short spines, the first much wider than the second, slightly longer than wide, the third with five to six rather large sensoria which are arranged in a row on the whole length except the basal parts, the fourth with two to three sensoria and the fifth with nought to one similar sensorium respectively. The length of each segment is as follows: I, 0.05 mm., II, 0.06 mm., III, 0.23 mm., IV, 0.16 mm., V, 0.15 mm., VI, 0.09 + 0.31 mm. Rostrum long, reaching the hind coxae or extending slightly beyond them, distal segment 2.8 times as long as wide. Thorax shinny black, with a pair of lateral papillae on the prothorax. Abdomen deep green or blackish, with four pairs of black lateral spots, of which one at the base of cornicles, and black transverse bands one each on the seventh and eighth segments (those appear only in specimens treated with potash). Cornicles black, moderately long, stout and imbricated. Cauda dark green, conical, not at all constricted, with four or five curved bristles on each side. Legs brownish yellow, rather stout, distal half of femora, apical portion of tibiae and the tarsi black, tarsi scarcely imbricated. Wings somewhat graysh, stigma gray, veins black.

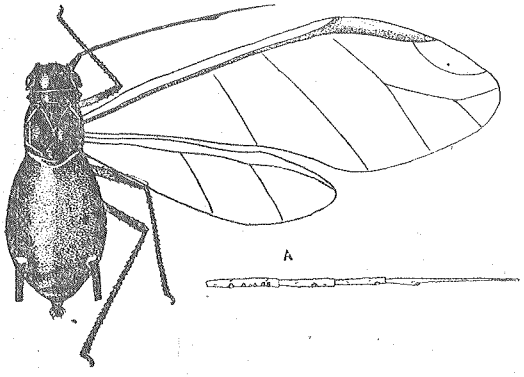

Fig. 1. *Aphis sumire* sp. nov.
Winged viviparous female.
A. Third—sixth segments of antenna.

Body 1.20 mm. Cornicle 0.21 mm. Cauda 0.09 mm. Hind leg, femur 0.39 mm., tibia 0.68 mm., tarsus 0.08 mm.

Wingless viviparous female—Body deep green, oval. Head black, frontal tubercles distinct, each adorned with a spine, slightly projected on the inner side. Eyes blackish brown. Antennae imbricated, black, except the third and the basal half of the fourth, which are brownish yellow, the length of each segment is as follows: I, 0.06 mm., II, 0.06 mm., III, 0.23 mm., IV, 0.15 mm., V, 0.14 mm., VI, 0.09 + 0.30 mm. Thorax black, distinctly reticulated on the dorsum, prothorax with a pair of rather large lateral papillae. Rostrum very long, reaching beyond the third coxae, distal segment 2.8 times as long as wide. Abdomen deep green, with some black lateral spots, which are distinctly reticulated, each segment with a few short spines in a transverse row, the first and seventh segments with distinct lateral papillae. Cornicles black, long and stout, slightly expanded towards the base, imbricated. Cauda pale dusky, conical, rounded at the apex, not constricted at any part, with four to five bristles on each side. Legs pale yellow, distal portion of femora and tibiae and the tarsi blackish brown.

Body 1.30 mm. Cornicle 0.32 mm. Cauda 0.11 mm. Hind leg, femur 0.47 mm., tibia 0.68 mm., tarsus 0.09 mm.

Host plant: *Viola mandshurica* var. *glabra*.

Habitat: Japan (Kyushu).

Associated ant: *Tetramorium caepitum* LINNÉ.

This species closely resmbles *Anuraphis valerianae* TAKAHASHI, but differs from it in the following points: Frontal tubercles distinct, secondary sensoria on the antennae of the winged viviparous female much fewer, prothoracic lateral papillae much smaller, and cornicles long and conspicuously imbricated.

Pseudocerosipha pruni SHINJI

1932 *Pseudocerosipha pruni* SHINJI, Jissai Engei, xiii, p. 289.
1938 *Pseudocerosipha* TAKAHASHI, Tenthredo, ii, no. 1, p. 9.
1941 *Pseudocerosipha pruni* SHINJI, Monogr. Japanese Aphid., p. 1011.

As mentioned above, this species is still doubtful and I give the descriptions based on the specimens before me as being provisionally identified to this species.

Winged viviparous female—Head black. Eyes blackish brown. Antennae black, basal small part of third segment somewhat paler. Thorax black. Abdomen greenish yellow or green, with four black spots on the sides, one of which is situated at the base of cornicles, sometimes with a dark transverse band one each on the posterior segments. Cornicles and cauda black. Hind legs brownish yellow, femora except the basal part, distal part of tibiae and entire tarsi black. Wings hyaline, stigma dark yellow, veins dark brown. Rostrum dark yellow, distal half black. Head smooth on the dorsum, with long hairs, which are normal in number. Frontal tubercles indistinct. Eyes large, ocular tubercle rather large. Antennae rather short, stout, with some long hairs, third stouter than the hind tibiae, basal part the narrowest, with fifteen to twenty large, circular, slightly protuberant sensoria, which are scattered over the whole length, fourth much shorter than third, imbricated, with three to five similar sensoria, fifth imbricated, with one to three sensoria, primary sensorium rather large, situated at one-fourth from the apex and somewhat protruded, sixth the longest, spur six times as long as basal part. The length of each segment is as follows: I, 0.08 mm., II, 0.05 mm., III, 0.28 mm., IV, 0.15 mm., V. 0.15 mm., VI, 0.08 + 0.47 mm. Rostrum not reaching third coxae, distal segment long, slightly longer than hind tarsi, but obtuse. Thorax and abdomen with long hairs, but few in number. Prothorax with rather large lateral

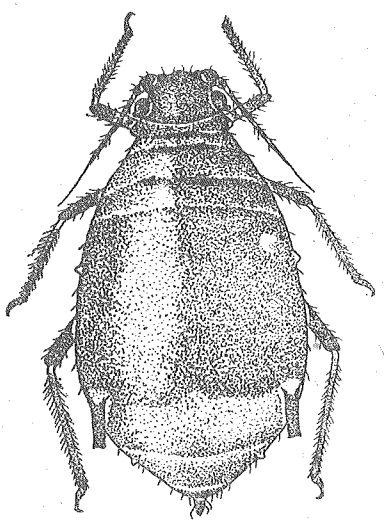

Fig. 2.
Pseudocerosipha pruni SHINJI
Wingless viviparous female.

papillae, which are developed, constricted near the base, and somewhat larger than ocular tubercles. First and seventh segments of abdomen with a pair of small lateral papillae. Cornicles short, stout, as second antennal segment, imbricated except the apical small part, slightly inflated at the middle, constricted near the apex, flange at the tip developed. Cauda rather small, rounded apically, with two pairs of long, curved bristles. Legs long with many long hairs, tibiae as stout as third antennal segment, tarsi rather stout. Wings with normal venation, stigma somewhat small, second furcal of media near the apical part of the first.

Body 1.70 mm. Cornicle 0.21 mm. Cauda 0.12 mm. Hind leg, fumer 0.50 mm., tibia 0.95 mm., tarsus 0.11 mm.

Wingless viviparous female—Body dark yellowish green, mottled with yellowish tinge, posterior part of abdomen reddish brown. Eyes reddish brown. Antennae dusky, first, second and basal part of third somewhat paler. Cornicles and cauda black. Hind legs black, basal small part of femora pale yellow. Body very slightly mealy. Body oval, with very long bristle-like hairs, but rather few in number, dorsum of thorax and abdomen reticulated. Frontal tubercles distinct, but not developed. Eyes normal. Antennae short, stout, with a few very long hairs, without secondary sensoria, primary sensorium of fifth segment is situated on one-third from apex. The length of each segment is as follows: I, 0.06 mm., II, 0.05 mm., III, 0.27 mm., IV, 0.11 mm., VI, 0.06 + 0.40 mm. Rostrum stout, extending far beyond second coxae, distal segment obtuse. Cornicles stout, imbricated, swelling at the middle, constricted near the apex, flange developed. Cauda small, rounded apically, somewhat constricted at the middle, with two curved, long lateral bristles on each side. Legs short, with many long bristle-like hairs.

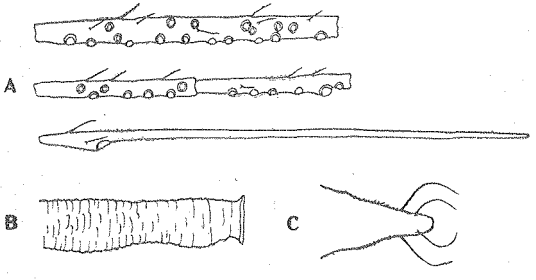

Fig. 3. *Pseudocerosipha pruni* SHINJI
Winged viviparous female.
A. Third—sixth segments of antenna.
B. Cornicle.
C. Cauda.

Body 1.80 mm. Cornicle 0.22 mm. Cauda 0.11 mm. Hind leg, fumer 0.45 mm., tibia 0.68 mm., tarsus 0.09 mm.

Host plant: *Solanum tuberosum, Prunus Mume, Prunus Persica, Prunus* sp., and *Pyrus Simonii*.

Habitat: Japan (Honshu, Kyushu).

Associated ant: *Tetramorium caepitum* LINNÉ.

This species is related to *Rhopalosiphum eriophori* WALKER, but easily distinguished from it by the antennal structure of the wingless form. This species also resembles *Aphis maidis* FITCH, but differs from it in having the longer rostrum and longer hairs on the body.

The specimens mentioned above were collected by Mr. H. FUKANO, a

plant pathologist of the Fukuoka Agricultural Experiment Station.

This species seems to migrate between the plants belonging to the Genus *Prunus* and potatoes, the latter may be regarded as its summer host.

Myzus nipponicus sp. nov.

Winged viviparous female—Head yellowish black or almost black. Antennae black, not pale at the basal part of third segment. Eyes deep red. Thorax black. Abdomen deep green, posterior part blackish, with four lateral dark patches. Cornicles black. Cauda brilliant yellow, sometimes with a reddish tinge. Wings transparent, stigma dark yellow, veins brownish black, cubitus and anal veins of fore wing somewhat stout. Hind legs, with femora black except basal yellow part, tibiae brownish yellow, apical part black, tarsi entirely black. Head smooth, with long spine-like hairs, which is normal in number, frontal part of the dorsum sparsely adorned with very small spinules. Eyes large, but not protruding. Frontal tubercles distinct, mesal side not projecting, with two long hairs. Antennae stout, with a few long spines, first much larger than second, third stout, much longer than the fourth, with about twenty seven large, slightly protruding sensoria which are scattered over the whole length, fourth imbricated, with one to five similar sensoria which are arranged in a row and situated on the distal part, fifth with one secondary sensorium on the distal part in some specimens, primary sensorium medium-sized, slightly protuberant, sixth slender and the longest. The length of each segment is as follows: I, 0.08 mm., II, 0.06 mm., III, 0.43 mm., IV, 0.28 mm., V, 0.18 mm., VI, 0.09 +0.58 mm. Rostrum long, reaching the third coxae, distal segment long, three times as long as wide at the base. Thorax and abdomen with a few long spine-like hairs, lateral papillae inconspicuous. Cornicles long, longer than fourth antennal segment, slightly stouter than third antennal segment, imbricated, with a few polygonal reticulations near the apex, flange developed. Cauda small, nearly as long as the distal segment of rostrum, conical, somewhat acute apically, with three to four long lateral bristles on each side. Legs long, femora with many long spines, tibiae slender, with rather few spines, tarsi striated, much shorter than cauda. Wings with normal venation, stigmatic vein moderately curved, hind wing rather small.

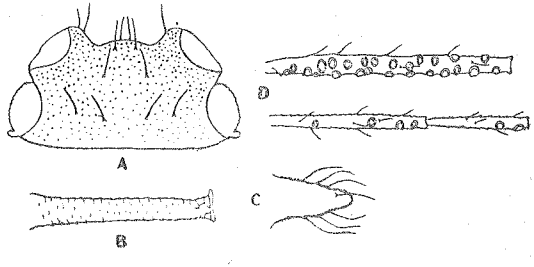

Fig. 4. *Myzus nipponicus* sp. nov.
Wingless viviparous female:
A. Head. B. Cornicle. C. Cauda.
Winged viviparous female:
D. Third—sixth segments of antenna.

Body 1.50 mm. Cornicle 0.33 mm. Cauda 0.14 mm. Hind leg, fumer 0.44 mm., tibia 1.05 mm., tarsus 0.10 mm.

Wingless viviparous female—Head dark yellow, with a greenish tinge. Frontal tubercles dusky. Eyes brownish black. Antennae black, second and basal part of third somewhat

paler. Rostrum pale yellow, distal two segments dusky. Thorax and abdomen yellowish green. Head with many very small spinules, hairs normal in number, long, as long as second antennal segment. Eyes developed, slightly protruding. Frontal tubercles somewhat diverging, inner side convex, with one or two long hairs. Antennae stout, imbricated, shorter than the body, with a few long hairs, without secondary sensoria. The length of each segment is as follows: I, 0.08 mm., II, 0.06 mm., III, 0.27 mm., IV, 0.17 mm., V, 0.14 mm., VI, 0.09+0.42 mm. Rostrum long, reaching the third coxae. Thorax and abdomen with very long, bristle-like hairs. Cornicles long, imbricated, flange at the tip much developed, not dilated near the base. Cauda rather small, conical, rounded apically, with three or four bristles on each side. Legs short, with many long, bristle-like hairs.

Body 1.50 mm. Cornicle 0.34 mm. Cauda 0.14 mm. Hind leg, fumer 0.44 mm., tibia 0.84 mm., tarsus 0.09 mm.

Host plant: *Perilla frutescens* var. *crispa*.

Associated ant: *Tetramorium caepitum* LINNÉ.

This species is easily distinguished from all the known species of this genus in the following points, viz., in the winged viviparous female the third to fifth antennal segments are with secondary sensoria and the body with long hairs, while in the wingless viviparous female the rostrum is long and the antennae are without secondary sensoria.