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APHIDS INFESTING *LONICERA MORROWII*  
 ASA GRAY IN HOKKAIDO,  
 WITH DESCRIPTION OF A NEW SPECIES  
 (STUDIES ON *APHIDIDAE* OF THE NORTHERN  
 PART OF JAPAN, II)

BY

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(With Plate III)

Up to the present time three species of *Aphididae* have been recorded in Hokkaido as infesting *Lonicera Morrowii* which is one of the peculiar plants of Japan. On this occasion one new species should be added to the Aphid pests of this plant. It is an interesting fact that all the species belong to different genera, being distinguishable as in the following key:—

- |    |  |   |
|----|--|---|
| 1. | Body covered with white woolly secretion .....                                   | 2 |
| -  | Body not covered with such matter .....  | 3 |
| 2. | Body yellowish green; feeding on leaves .....                                    |   |
|    | <i>Prociphilus (Stagona) kônoi</i> HORI  |   |
| -  | Body dark reddish or greenish brown; feeding on tender shoots and twigs .....    |   |
|    | <i>Amphicercidus japonicus</i> (HORI)  |   |
| 3. | Body yellowish; feeding on leaves ... <i>Amphorophora lonicericola</i> TAKAHASHI |   |
| -  | Body greenish brown or dark brown; feeding on twigs and sprouts .....            |   |
|    | <i>Aulacorthum loniceræ</i> sp. nov.   |   |

1. ***Amphorophora lonicericola*** TAKAHASHI

*Amphorophora lonicericola* TAKAHASHI, Japanese Aphididae I, p. 29 (1921); id., Trans. Nat. Hist. Soc. Formosa, XX, p. 274 (1930); YEN, Pek. Nat. Hist. Bull. VI, p. 69 (1931); CHEO, Pek. Nat. Hist. Bull. X, p. 33 (1933); TSENG et TAO, Ent. & Phytopath., IV, p. 180 (1936).

Locality—Sapporo.

General Distribution—Japan (Hokkaido); China (Kiangsu).

Biology and Notes—This aphid feeds on the underside of the leaves of *Lonicera Morrowii*, and never curls the leaves like *Prociphilus kônoi*. The affected leaves turn yellow, showing purplish dots. The stem mother matures in the latter part of June and begins to deposit her living young, which are always alate forms according to the present writer's observation. During July all the aphids leave *Lonicera*, but no definite information with regard to the alternate

host plant has been reported. From the latter part of September the autumn migrants, including gynoparae and males, fly back to the primary host plant.

Japanese name—*Kiwayama-aburamushi*.

Taxonomy—This species is closely allied to *Amphorophora lonicerae* (SEIBOLD) in colour and structure, but can easily be distinguished from the latter by the absence of the secondary sensoria on antennal joints IV and V of the alate viviparous female.

2. ***Amphicercidus japonicus*** (HORI)

*Anuraphis japonica* HORI, Ins. Mats., I, p. 193 (1927).

Locality—Sapporo.

Gen. Distr.—Japan (Hokkaido).

Notes—This aphid feeds on tender shoots and twigs, rarely on young fruits. The white masses produced by this aphid on the twigs are very conspicuous as in the case of the woolly apple aphid (*Eriosoma lanigerum*).

Jap. name—*Kinginboku-no-wataaburamushi*.

Taxonomy—This species is closely allied to *Amphicercidus flocculosa* (GILLETTE et PALMER), but differs from the latter in the absence of sensoria of antennal joint V and in having a large number of sensoria on joint III of the alate viviparous female.

3. ***Prociphilus (Stagona) kônoi*** HORI

*Prociphilus (Stagona) kônoi* HORI, Ins. Mats., XII, p. 109 (1938).

Locality—Sapporo.

Gen. Distr.—Japan (Hokkaido).

Notes—This aphid alternates between *Lonicera Morrowii* and *Picea Glehnii* (Akaezomatsu). It feeds on the rootlets of the latter plant in the nursery stage, causing great damage to them.

Jap. name—*Kôno-ôwatamushi*.

4. ***Aulacorthum lonicerae*** sp. nov.

**Apterous viviparous female (Fundatrix)**

Colour: Generally greenish brown. Antennae dark brown except the basal two-thirds of joint III pale brown. Legs light brown, with the apical halves of femora, the apices of tibiae and the whole of tarsi blackish. Cornicles and cauda concolorous with the body.

Structural characters: Body oval, imbricated especially on the front of head and frontal tubercles. Antennae as long as the body, with a few rather short bristles; joint I longer and broader than II; III slightly shorter than IV and V taken together, with one or two secondary sensoria at the basal part; IV longer than V; VI very long, as long as III and V taken together; flagellum of VI

eight times as long as the basal part. Hind tarsi shorter than the cauda. Cornicles slightly longer than antennal joint III, conspicuously imbricated, strongly expanded towards the base, and abruptly swollen at the apical portion. Cauda conical, longer than broad, with four moderately long bristles on each side.

Measurements: Body,  $2.0 \times 1.6$  mm.; antennae, 2.04 mm. (I-0.12, II-0.08, III-0.54, IV-0.34, V-0.24, VI-0.72, (0.08 + 0.64)); cornicles, 0.58 mm.; cauda, 0.22 mm.; hind femora, 0.80 mm.; hind tibiae, 1.40 mm.; hind tarsi, 0.16 mm.

**Alate viviparous female (Emigrant)**

Colour: Generally dark brown. Head and antennae black. Rostrum pale greenish brown with the apex blackish. Legs pale brown except the apical halves of femora, the apices of tibiae and the whole of tarsi dusky. Abdomen with six blackish spots on each side. Cornicles and cauda light brown with the base and apex of the former blackish.

Structural characters: Frontal tubercles distinct but weakly developed, imbricated, not provided with spinules. Ocular tubercles normal, not large. Antennae imbricated with short non-capitate bristles, slightly shorter than the body; joint I longer and stouter than II; III nearly as long as IV and V taken together, with 30 to 33 circular sensoria irregularly scattered over the whole surface; IV with 4 or 5 sensoria arranged irregularly on the distal portion; VI longer than III and V taken together; flagellum of VI very long, about ten times the length of the basal part. Rostrum reaching to a point near the 3rd coxa. Hind tarsi slightly shorter than the cauda. Wing venation normal. Abdomen rather oval, without lateral tubercles. Cornicles long and slender, as long as antennal joint III, imbricated, expanded towards the base, and abruptly swollen at the apical portion. Cauda short, with four rather long bristles on each side.

Measurements: Body,  $2.12 \times 0.96$  mm.; antennae, 1.78 mm. (I-0.11, II-0.08, III-0.46, IV-0.13, V-0.20, VI-0.80 (0.07 + 0.73)); cornicles, 0.45 mm.; cauda, 0.15 mm.; hind femora, 0.72 mm.; hind tibiae, 1.36 mm.; hind tarsi, 0.14 mm.

**Alate viviparous female (Gynopara)**

Colour: Generally dark greenish brown. Antennae black except the extreme base of joint III pale. Legs paler in colour than the body, with the greater part of femora except at the bases, the apices of tibiae and the whole of tarsi blackish. Several lateral black spots visible on the dorsum. Cornicles pale brown with the apices blackish. Cauda concolorous with the body. Abdomen with a large black area on the dorsum and with several black spots on the sides.

Structural characters: Frontal tubercles weakly developed. Antennae imbricated; joint III slightly longer than or as long as IV and V taken together,

broad, with 57 to 62 irregularly sized secondary sensoria; IV longer than V, with 20 to 22 sensoria; V two times the length of the base of VI, with 4 or 5 sensoria; flagellum very long, eight times as long as the basal part. Cornicles longer than antennal joint IV, nearly two times the length of the cauda. Cauda short, with three pairs of lateral bristles.

Measurements: Body, 2.00 mm. in length; antennae, 2.06 mm. (I-0.10, II-0.08, III-0.54, IV-0.28, V-0.20, VI-0.86 (0.10 + 0.76)); cornicles, 0.40 mm.; cauda, 0.13 mm.; hind femora, 0.72 mm.; hind tibiae, 1.52 mm.; hind tarsi, 0.14 mm.

#### **Alate male**

Structural characters: Smaller and slenderer than the gynopara. Antennae slightly longer than the body; joint III as long as IV and V taken together, with 75 to 80 secondary sensoria; IV about two times the length of V, with 30 to 35 sensoria; V longer than the base of VI, with 5 to 7 sensoria; flagellum very long, over ten times the length of the base, and longer than III and V taken together. Cornicles as long as the antennal joint IV. Cauda conical, shorter than one-third the length of the cornicles, with three pairs of bristles on the sides.

Measurements: Body, 2.00 × 0.84 mm.; antennae, 2.18 mm. (I-0.10, II-0.08, III-0.54, IV-0.34, V-0.18, VI-0.94, (0.08 + 0.86)); cornicles, 0.34 mm.; cauda, 0.10 mm.; hind femora, 0.64 mm.; hind tibiae, 1.48 mm.; hind tarsi, 0.11 mm.

#### **Apterous oviparous female**

Colour: It resembles the fundatrix.

Structural characters: Body oval. Hairs very few and not capitate. Front of the head and frontal tubercles imbricated, not provided with spinules. Antennae slightly shorter than the body, without capitate hairs, imbricated; joint VI the longest, slightly longer than III and IV taken together; flagellum of VI six times the length of the basal part; IV and V almost equal in length. Hind tibiae much swollen, with numerous circular sensoria. Abdominal lateral tubercles on the dorsum obsolete. Rostrum reaching to a point near the 3rd coxa. Cornicles longer than antennal joint III, imbricated, expanded towards the base and slightly swollen at the apical portion. Cauda as long as antennal joint V, with four rather long hairs on each side.

Measurements: Body, 1.7 × 1.0 mm.; antennae, 1.33 mm. (I-0.10, II-0.08, III-0.30, IV-0.18, V-0.16, VI-0.51 (0.07 + 0.44)); cornicles, 0.34 mm.; cauda, 0.16 mm.; hind femora, 0.61 mm.; hind tibiae, 0.96 mm.; hind tarsi, 0.21 mm.

Type-locality: Sapporo.

Many examples were collected by the writer at the Botanical Garden of the

Hokkaido Imperial University and at the Hokkaido Agricultural Experiment Station in 1924.

Biology and notes—The eggs are laid on the bark of the twigs in the latter part of October. They hatch usually in the early part of the following May. The stem mother matures and begins to deposit the living young in the crevices of the twig. During June and July the alate females migrate to the secondary host plant, *Polygonum Blumei* (Inu-tade), and feed on the rootlets, forming numerous colonies. The autumn migrants, including gynoparae and males, return to the primary host plant (*Lonicera Morrowii*) in the beginning of October.

Jap. name—*Kinginboku-no-akaaburamushi*.

The greater part of the type-specimens are in the writer's collection, while the others are in the Entomological Institute of the Hokkaido Imperial University and in the Hokkaido Agricultural Experiment Station.

Taxonomy—This species is easily distinguished from the congeneric species by the shape of the frontal tubercles.

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### Explanation of Plate III

*Aulacorthum lonicerae* sp. nov.

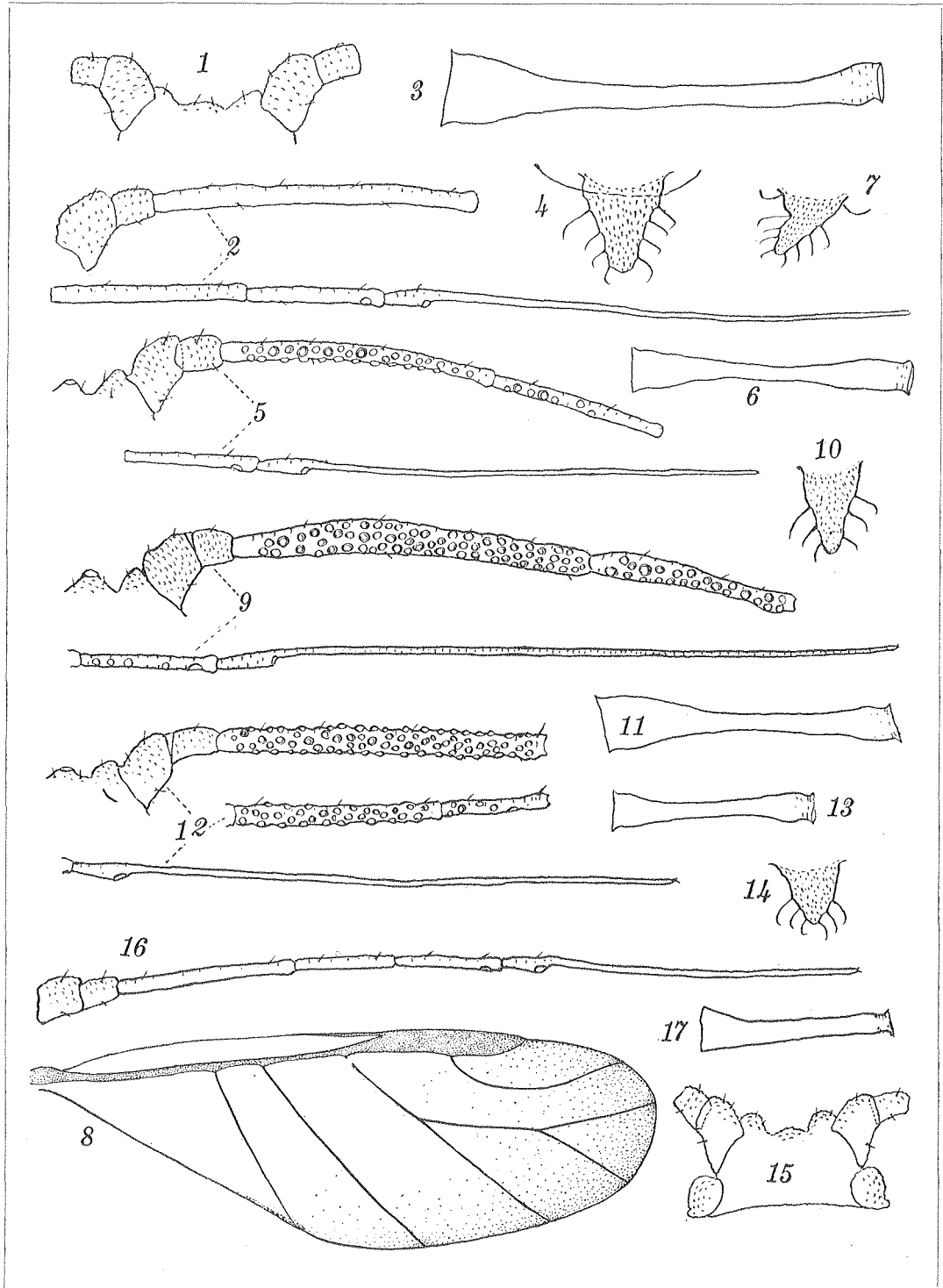
Apterous viviparous female (Fundatrix): 1, frontal tubercle; 2, antenna; 3, cornicle; 4, cauda.

Alate viviparous female (Emigrant): 5, frontal tubercle and antennae; 6, cornicle; 7, cauda; 8, fore wing.

Alate viviparous female (Gynopara): 9, frontal tubercle and antenna; 10, cauda; 11, cornicle.

Male: 12, frontal tubercle and antennae; 13, cornicle; 14, cauda.

Apterous oviparous female: 15, head; 16, antennae; 17, cornicle.



摘 要

北海道に於けるキンギンボクに寄生する蚜蟲類

並に 1 新種の記載

(北日本産蚜蟲科の研究 II)

本邦特産植物の 1 たるキンギンボク (*Lonicera Morrowii*) に寄生する蚜蟲類は従來北海道に於ては次の 3 種が知られてゐる。

- |   |                |
|---|----------------|
| 1) <i>Amphorophora lonicericola</i> TAKAHASHI | クワヤマアブラムシ      |
| 2) <i>Amphicerculus japonicus</i> (HORI)      | キンギンボクノワタアブラムシ |
| 3) <i>Prociphilus (Stagona) kônoï</i> HORI    | コウノオホワタムシ      |

尙コウノオホワタムシはアカエゾマツの根にも寄生しこれに大害を與へる注目すべき種類である。

筆者は更に従來記録されなかつた珍稀な 1 種を發見したので茲にこれを發表した。本種は新種と認むべきもので次の如く命名した。

- 4) *Aulacorthum lonicerae* HORI (sp. nov.) キンギンボクノアカアブラムシ (新種新稱)

叙上の如く北海道に於てはキンギンボクに 4 種の蚜蟲の寄生を見るが、是等 4 種が各異つた屬に隸屬してゐるのは興味深きことである。