

Two new species and a new subspecies of aphids
(Hemiptera, Aphididae) from Japan, and
redescription of *Myzus inuzakurae* Shinji

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摘要： 日本産アブラムシの2新種、ウスバコブアブラムシ *Tuberocephalus usubai* Sorin (寄主植物：イヌザクラ) とアズキナシアブラムシ *Muscaphis japonica* Sorin (寄主植物：アズキナシ) および1新亜種 サクラオオアブラムシ *Pyrolachnus imbricatus nipponicus* Sorin (寄主植物：ソメイヨシノ) を記載した。併せてイヌザクラコブアブラムシ *Myzus inuzakurae* Shinji (寄主植物：イヌザクラ) の採集された記録と形態の再記載をした。

Abstract: Two new species of aphids, viz, *Tuberocephalus usubai* sp. nov. infesting *Prunus buergeriana*, *Muscaphis japonica* sp. nov. infesting *Sorbus alnifoliae*, and *Pyrolachnus imbricatus nipponicus* ssp. nov. infesting *Prunus yedoensis* collected from the central part of Japan, are described and illustrated, and *Myzus inuzakurae* Shinji is redescribed in this paper. The genera *Muscaphis* and *Pyrolachnus* are recorded for the first time from Japan.

Introduction

I received some interesting aphids from my colleagues, Mr. Shigeshi Usuba of Saitama Pref., Mr. Ichirô Kogure of Gunma Pref. and Mr. Norio Hirukawa of Chiba Pref. with the requests for identification. Four species were identified from these aphids. *Tuberocephalus usubai*, *Muscaphis japonica*, and *Pyrolachnus imbricatus nipponicus* are described here as new to science, and another one species agrees well with the original description of *Myzus inuzakurae* Shinji.

Myzus inuzakurae Shinji, 1930, was originally described from *Prunus buergeriana* at Morioka, Iwate Pref., Japan, but the type specimen of the species is not found at present, and also there was not a collection record afterwards. Therefore, I report the collected data of this species and redescrib based on the above materials in this paper.

The genera *Muscaphis* Börner and *Pyrolachnus* Basu and Hille Ris Lambers are recorded for the first time from Japan.

The type specimens treated in this paper will be preserved in the collection of the Insect Museum, National Institute for Agro-Environmental Sciences, 3-1-3, Kannondai, Tsukuba-shi, Ibaraki-ken, Japan.

Tuberocephalus usubai, sp. nov. (Fig. 1)

(Japanese name: Usuba-kobu-aburamushi)

Alate viviparous female (Emigrant): In macerated specimens, head, antennae and thorax blackish brown; femora blackish except for basal small part which are pale brown; apices of tibiae, and tarsi blackish. Abdomen pale, with brown dorsal and marginal sclerites; 1st and 2nd segments with pale brownish spinopleural sclerites or narrow bands and a pair of spinal small sclerites; 3rd with a pair of spinal and pleural

sclerites; bands on 4th to 5th segments partly fused and forming a large patch; 6th and 7th each with a distinct bands; 8th segment pale; 2nd to 6th segments each with large marginal sclerites. Cornicles and cauda brown. Head almost smooth on dorsum with 4 pairs of dorsal setae which are pointed, about 0.018-0.022 mm long and nearly as long as basal diameter of 3rd antennal segment; frontal tubercle small, with 3 setae; venter of head smooth, with about 8 pairs of fine setae which are about 0.8-1.17 times as long as dorsal ones. Antennae 6-segmented, about 0.78 times as long as body length and 3.31-3.44 times as long as width of head across eyes; 3rd segment a little shorter than 4th and 5th together, with 7-12 sensoria and about 16 setae, longest seta about 0.022 mm and as long as basal diameter of the segment; 4th and 5th segments without secondary sensoria; primary sensoria ciliated; processus terminalis about 2.86-3.33 times as long as base of 6th segment, with 2 secondary setae. Rostrum about 0.365 mm long, reaches middle coxae; ultimate segment about 1.88 times as long as its basal width and 1.2 times as long as 2nd segment of hind tarsus, with 2 secondary setae. Pronotum with about 9 setae. Mesoscutum with many short striae and about 12-15 setae which are about 0.5-0.83 times as long as basal diameter of 3rd antennal segment; mesoscutellum smooth with 0-2 setae; mesosternum smooth, with about 14 setae, on each side. Abdomen pale, dorsal sclerotized bands pale brown, small ones of which are presented on 1st to 3rd segments; 4th and 5th segments each with a pair of large dorsal sclerites; 6th, 7th and 8th segments with dorsal sclerotized bands respectively; marginal sclerites of abdomen large, present on 1st to 5th segments, each with 4-6 setae; dorsal setae variable in length, longest seta on anterior tergites about 0.012-0.029 mm and 1.2-1.33 times as long as basal diameter of 3rd antennal segment; 6th segment with about 14 setae between cornicles;

7th with 8-13 dorsal setae and 2 marginal ones; 8th segment with 4-7 setae, longest one about 0.044 mm and about twice as long as basal diameter of 3rd antennal segment. Cornicles about 2.9 times as long as its basal diameter, about 1.43 times as long as cauda, with spinulose imbrications and a faint reticulation just below expanded flange, and with 1-2 setae which are about 0.015 mm long. Cauda almost triangular, rounded at tip, distinctly spinulose, with 5-11 (usually 9-10) setae. Genital plate pale brown, with spinulose imbrications and about 17-21 setae. Gonochaetae in 3 clusters, each with 6-10 setae. Marginal tubercles absent. Hind coxae somewhat spinulose, with about 10 setae; trochanter smooth, with a seta; hind femora with some short setae, longest one about 0.37 times as long as its middle width; hind tibiae almost smooth, but somewhat imbricated at middle; first tarsal chaetotaxy 3:3:2; 2nd segment of hind tarsus with a pair of upper setae, apical setae shorter than empodial setae which are about half as long as claws. Wings hyaline, with normal venation and pale stigma, having 4 very minute hooklets at costa.

Measurements of the *holotype* in mm: Body length 1.98; antenna 1.55, antennal segments III -0.453, IV -0.285, V -0.197, VI -0.131+0.387; ultimate rostral segment 0.11; hind femur 0.54; hind tibia 1.03; hind tarsus 0.09; cornicle 0.157; cauda 0.11; longest seta on head and on antennal segment III 0.022, on abdominal segment VIII 0.044.

Alatoid nymph (Examined one specimen): Body pale in cleared specimen; setae on body pale brown, a little stout, pointed, with small elevation; each segment of body has small wart shaped spots on dorsum except for head and 8th abdominal segment, there are 1-3 setae on each spot. Head smooth on dorsum and venter, with 4 pairs of dorsal setae which are nearly as long as middle diameter of 3rd antennal segment, venter of head with a pair of setae; frontal tubercles

developed, with 3 setae. Antennae 6-segmented, faintly imbricated, longer than half body length; 3rd segment with 8 setae, longest one as long as basal diameter of the segment; processus terminalis about 2.4 times as long as base of 6th segment, with a minute secondary seta; relative length of segments about as follows: III-30, IV-21, V-19, VI-17+41. Rostrum pale, ultimate segment about 1.21 times as long as 2nd segment of hind tarsus, with a pair of secondary setae. Hind tibiae smooth. Cornicles pale brown, somewhat spinulose with small flange, without seta. Sternite distinctly spinulose. Body length about 0.97mm.

Type series. Holotype: Alate viviparous female, Shinano-machi, Nagano Pref., Japan, 25.VI.2008, Shigeshi Usuba leg. Paratypes: 18 alate viviparous females and one alatoid nymph (25.VI.2008) were collected at the same locality of the holotype; all specimens were collected by S. Usuba.

Host plant: *Prunus buergeriana*.

Distribution: Japan (Honshû).

Remarks: This species closely resembles *Tuberocephalus naumanni* Sorin and Remaudière, but it is distinguished from the latter in the following characters: Third antennal segment with more sensoria (7 in *naumanni*), ultimate rostral segment much longer (0.68 times as long as 2nd segment of hind tarsus in *naumanni*), cornicles with 1-2 setae and body with more setae.

The specific name is dedicated to Mr. Shigeshi Usuba who collected and sent me the precious specimens.

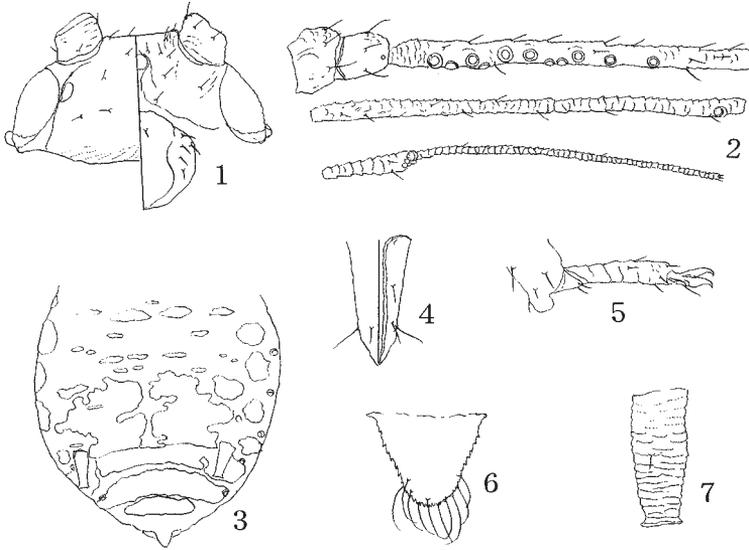


Fig. 1. *Tuberocephalus usubai* sp. nov.

Alate viviparous female: 1, head; 2, antenna; 3, pattern of abdominal sclerites; 4, ultimate rostral segment; 5, apices of tibia and whole of hind tarsus; 6, cauda; 7, cornicle.

Muscaphis japonica sp. nov. (Fig. 2)

(Japanese name: Azukinashi-aburamushi)

Alate viviparous female: Body blackish brown in life. In cleared specimens, head, thorax and antennae black; legs and cornicles deep brown; abdomen pale, marginal sclerites pale brown. Head almost smooth on dorsum, somewhat spinulose on anterior small part of venter; frontal margin flat with a pair of setae which are blunt and a little carved, about 0.02 mm long and 1.38 times as long as basal diameter of 3rd antennal segment; lateral frontal tubercles small with 2 setae. Dorsum of head with 5 pairs of setae, anterior ones a little stouter, about 0.018 mm long and 1.0-1.25 times as long as basal

diameter of 3rd antennal segment; ventral setae of head fine, pointed, nearly as long as dorsal ones. Antennae 6-segmented, a little shorter than body, 1st and 2nd segments a little longer than wide, scabrously imbricated, each with 5 and 3 setae; 3rd to 5th segments somewhat imbricated, with many protuberant and transversely oval sensoria distributed over entire length; 3rd segment about 1.12 times as long as processus terminalis, with 4-9 setae which are as long as basal diameter of the segment, with about 44-46 sensoria which are irregular in shape and size, largest one about 0.54 times as long as middle diameter of the segment in length; 4th segment with about 27 similar sensoria; 5th about 1.16 times as long as 4th, with 15-21 sensoria; primary sensorium on 5th extremely larger than width of the segment, without cilia; primary sensorium on 6th a little smaller than that on 5th, with 6 auxiliary sensoria; antennal setae like those on body, about 0.015 mm long and as long as basal diameter of 3rd antennal segment; processus terminalis about 1.89-2.09 times as long as base of the segment. Clypeus with a pair of anterior setae; mandibular lamina with 4 setae; ultimate rostral segment not reaching middle coxae, about 2.7 times as long as its basal width, nearly as long as 2nd segment of hind tarsus, with a pair of secondary setae. Scutum with about 15 setae on each side; scutellum usually without seta, but in a specimen with only a seta; mesosternum with about 14 setae. Marginal sclerites of abdomen each with about 2-3 setae; dorsal setae short and bluntly pointed, about 0.015 mm long; 6th abdominal segment with about 13 setae between cornicles; 7th with 4 setae; 8th segment with 4-5 setae, longest one about 0.018 mm, and about 1.25 times as long as basal diameter of 3rd antennal segment. Cornicles cylindrical with suddenly widened very base, nearly as long as basal part of 6th antennal segment, with a few preapical striae and small flange which is about 1.22 times as wide as

middle diameter of cornicle. Cauda dusky, a little shorter than basal width, distinctly spinulose, with a finger tip shaped small tubercle at tip, with 4 setae. Anal plate spinulose, with about 10-15 setae. Genital plate pale brown, spinulose, with about 5-6 anterior setae and 20-21 setae along hind margin. Coxae with spinulose imbrications and 4 setae; femora spinulosely imbricated on distal two-thirds; hind tibiae somewhat imbricated on distal part, but not spinulose, slightly curved outwards, with 8-10 sound pegs which are stout about 0.018 mm long, with a minute spiny seta of double; first tarsal chaetotaxy 3: 3: 2; second segment of hind tarsus usually without secondary setae, but sometimes with a seta. Wings hyaline, pterostigma pale with 2-5 short setae; media once-branched; hind wings with usual veins and hooklets 2-3.

Measurements of the holotype in mm: Body length 1.49; antenna 1.40, antennal segments III-0.35, IV-0.21, V-0.24, VI-0.16+0.34; ultimate rostral segment 0.08; hind femur 0.41, hind tibia 0.81, hind tarsus 0.09; cornicle 0.18; cauda 0.06; longest seta on head 0.02, on tergite VIII 0.02.

Alatoid nymph (examined 7 specimens). Blackish brown in life. When cleared, body pale; head, clypeus, wing pads and cornicles blackish brown; antennae, rostrum and legs brown; body distinctly spinulose both dorsally and ventrally; setae on body much longer, longest one on head about 0.058 mm; base of 6th antennal segment with about 3 long setae; sound pegs on hind tibia very small and rounded; hind femur with a small sound peg on innerside of distal part; 1st tarsal chaetotaxy 2:2:2. Body length about 1.44-1.47mm.

Type series. Holotype: Alate viviparous female, Shinano-machi, Nagano Pref., Japan, 25. VI. 2008, Shigeshi Usuba leg. Paratypes: 18 alate viviparous females and 4 alatoid nymphs (25. VI. 2008) and 3 alatoid nymphs (15. VI. 2008) were collected at the same locality of the

holotype; all specimens were collected by S. Usuba.

Host plant: *Sorbus alnifoliae*.

Distribution: Japan (Honshū).

Remarks: This species closely resembles *Muscaphis stroyani* (Smith), but it is distinguished from the latter in the following characters: Alate viviparous female: Body a little smaller (1.646-1.911 mm in *stroyani*); setae on body longer, subequal to, or about 1.25 times as long as basal diameter of 3rd antennal segment (0.33-0.5 times of that diameter in *stroyani*); antennal setae as long as basal diameter of 3rd antennal segment (0.25-0.33 times of that diameter in *stroyani*); 5th antennal segment about 1.14-1.3 times as long as 4th antennal segment (nearly as long as 4th in *stroyani*); processus terminalis about 1.75-2.09 times as long as the base of 6th antennal segment (3.8-4.0 times in *stroyani*); ultimate rostral segment nearly as long as 2nd segment of hind tarsus (1.33-1.36 times in *stroyani*); scutellum without seta (with about 10 setae in *stroyani*).

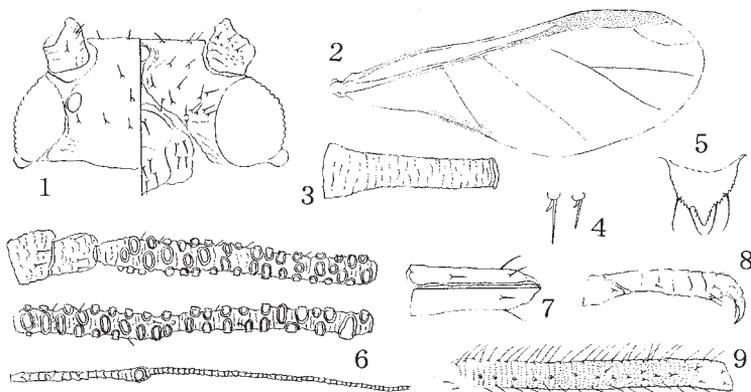


Fig. 2. *Muscaphis japonica* sp. nov.

Alate viviparous female: 1, head; 2, fore wing; 3, cornicle; 4, sound pegs; 5, cauda; 6, antenna; 7, ultimate rostral segment; 8, hind tarsus. Alatoid nymph: 9, hind tibia.

Pyrolachnus imbricatus nipponicus ssp. nov. (Fig. 3)

(Japanese name: Sakura-ôaburamushi)

Apterous viviparous female: In cleared specimens, head, thorax, antennae, legs, cones, genital plate and rostrum deep brown; abdominal dorsal spots brown. Head with a longitudinal suture, almost smooth on dorsum; with a few minute spinules on posterior part of venter; with many fine setae both dorsally and ventrally, longest one about 0.11 mm and 3.75 times as long as basal diameter of 3rd antennal segment. Antennae about 0.39 times as long as body length; 1st segment nearly as long as wide, with about 15 setae; 2nd segment longer than wide, with about 35 setae; 3rd almost smooth, somewhat wrinkled on basal part, with many setae, longest one 0.091 mm, about 3.13 times as long as basal diameter of the segment, with a small secondary sensorium on apical part; 4th with 0-2 sensoria; 5th somewhat paler on apical part; 6th with 5 auxiliary sensoria, 4 of which are distinct, contiguous to each other, and other one is separated; processus terminalis about 2.1 times as long as wide, with 4 short and 2 spine setae; relative length of segments: III-100, IV-30, V-35, VI-35+16. Clypeus with about 9 setae; mandibular lamina with about 17 setae. Rostrum reaches 3rd abdominal sternite; ultimate segment about 2.95 times as long as basal width, about 0.63 times as long as 2nd segment of hind tarsus, with about 18 secondary setae. Coxae with a few spinulose imbrications and many setae; trochanter distinct, with about 15 setae; femora smooth, with many setae, longest seta 0.62 times as long as middle width of femur; hind tibiae faintly wrinkled, a little swollen at distal part, with many setae which are subequal to, or a little longer than middle diameter of tibia; tarsi almost smooth, 1st segment with about 12 setae and 2-3 sensory setae in hind pair; 2nd

segment of hind tarsus with about 40 secondary setae which are about 1.13 times as long as middle diameter of the segment, apical upper and apical middle primary setae nearly as long as secondary setae of the segment, lower primary setae very short about 0.2 times as long as middle width of the segment; empodial setae subequal to, or a little shorter than lower primary setae; claws 0.36 times as long as 2nd segment of hind tarsus; 1st tarsal chaetotaxy 18-20: 18-20: 12-13. Abdomen reticulated and spinulose on dorsum, with 2 rows of broken dorsal sclerites and many fine setae which are with or without basal sclerite, longest seta about 0.11 mm and 3.88 times as long as basal diameter of 3rd antennal segment; 7th tergite with large sclerite and about 24 setae except for marginal ones; 8th segment with a dorsal band and about 30 setae including marginal ones, longest seta 0.106 mm, about 3.6 times as long as basal diameter of 3rd antennal segment. Sternite reticulated, without sclerites, ventral setae fine, about 0.1 mm long. Cornicles about 0.074 mm in apical diameter, on sclerotic cones which are about 0.612 mm in basal diameter and sometimes broken on basal part, with many fine setae, longest seta about 0.106 mm. Genital plate sclerotized with spinulose imbrications and many long, fine setae, longest seta about 0.11 mm. Cauda semicircle, dusky brown, sclerotized, basal width about 0.292 mm, with over 20 setae.

Measurements of the holotype in mm. Body length 2.952; width of head across eyes 0.702; antenna 1.152, antennal segments III-0.432, IV-0.108, V-0.144, VI-0.126+0.09; ultimate rostral segment 0.18; hind femur 1.116, hind tibia 1.836, hind tarsus 0.288; cornicle (diameter) 0.074; cone (basal diameter) 0.612; cauda 0.09.

Alate viviparous female: Head, thorax, legs and rostrum deep brown; antennae, intersegmental sclerites, spiracular sclerites, cones, dorsal band of 8th abdominal segment and cauda brown in cleared

specimen. Head smooth with many long and fine setae, longest one about 0.091 mm and 2.78 times as long as basal diameter of 3rd antennal segment; venter of head with a pair of setae. Antennae 6-segmented, about 0.38 times as long as body length; 1st segment a little longer than wide, constricted at base, with about 17 setae; 2nd a little longer than 1st segment, with about 33 setae; 3rd with 7 large sensoria and 1-3 small ones, with many fine setae, longest seta about 0.095 mm and 2.89 times as long as basal width of the segment; 4th with 1-2 large sensoria and a small one; 6th with 5-6 auxiliary sensoria, one of which is separated, other ones contiguous to each other and placed along primary sensorium; processus terminalis about 0.41 times as long as base of the segment, with 7 short setae; relative length of segments as follows: III-100, IV-33, V-35, VI-26+11. Clypeus with 7 pairs of setae anteriorly, mandibular laminae with about 18 setae. Rostrum reaching middle coxae; ultimate segment about 1.92 times as long as basal width, about 0.6 times as long as 2nd segment of hind tarsus, with about 16 secondary setae. Hind coxae almost smooth; setae on hind tibiae about 1.2-1.3 times as long as middle width of tibia; 1st segment of hind tarsus with 11-12 fine setae, upper side about 0.71 times as long as basal width; 2nd segment of hind tarsus almost smooth, about 6.93 times as long as wide at middle, with many setae. Cone nearly as long in longitudinal diameter as 3rd antennal segment, with many short and long setae mixed. Cornicles about 1.3 times as long in diameter as wide at middle of hind tibiae. Cauda semioval, about 2.73 times as wide as long, with many long and short setae mixed. Genital plate broader than long, sclerotic, with spinulose imbrications and many setae. Abdominal dorsum pale, faintly wrinkled, with some small sclerites; dorsal setae fine, those on 1st segment about 0.095 mm long, on 7th and 8th 0.095-0.102 mm long; 8th tergite with a dorsal band and 26

setae on posterior side, longest seta about 0.102 mm; 3 marginal sclerites present on 2nd to 4th abdominal segments, each with about 19-20 setae. Wings dark, but not pigmented; pterostigma elongate, straight, never reaching tip of the wing; radial sector a little curved at basal part; media twice branched; hind wings with two obliques, hooklets 5-6.

Measurements in mm. Body length 3.78; width of head across eyes 0.72; antenna 1.44, antennal segments III-0.576, IV-0.18, V-0.198, VI-0.18+0.072; ultimate rostral segment 0.216; hind femur 1.44, hind tibia 2.664, hind tarsus 0.36; cornicle in diameter 0.075; cauda 0.12.

Type series. Holotype: Apterous viviparous female, collected at Matsushiro, Nagano-ken, Japan, 15. IX. 1992, ex *Prunus yedoensis*, N. Hirukawa leg.

Paratypes: 33 apterous viviparous females, 2 alate viviparous females and many larvae were collected at the same locality and on the same host plant as the holotype, 15. IX. 1992 and 18. VI. 1993 (N, Hirukawa and M. Sorin leg.).

Host plant : *Prunus yedoensis* (twigs).

Distribution : Japan (Honshū).

Remarks : This new subspecies differs from the main species in the smaller body 2.7-2.952 mm long (4.38-5.2 mm in *imbricatus*), the longer setae on 3rd antennal segment 0.091-0.095 mm (0.05-0.07 mm in *imbricatus*), and having the more secondary setae on the ultimate rostral segment (IV+V) 16-18 (6-8 in *imbricatus*) and 8th abdominal tergite with 26-30 setae (16 in *imbricatus*).

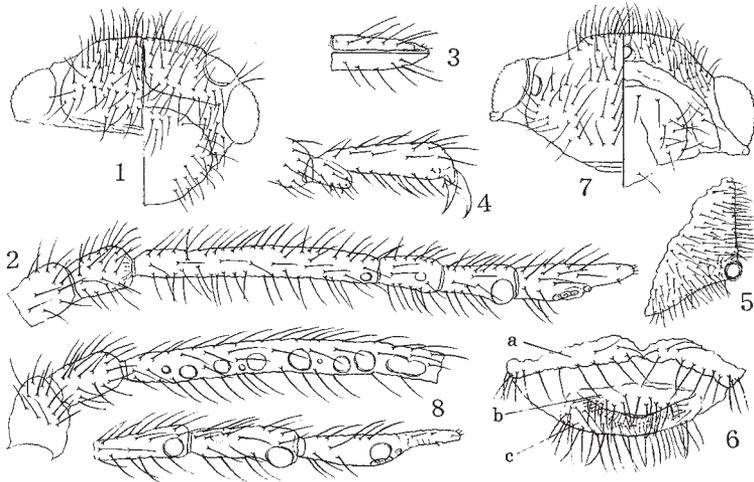


Fig. 3. *Pyrolachnus imbricatus nipponicus* ssp. nov.
Apterous viviparous female: 1, head; 2, antenna; 3, ultimate rostral segment; 4, hind tarsus; 5, cornicle; 6, hind end of body (a- 8th abdominal segment, b- cauda, c- anal plate). Alate viviparous female: 7, head; 8, antenna.

Myzus inuzakuræ Shinji, 1930 (Fig. 4)

(Japanese name: Inuzakura-kobu-aburamushi)

Myzus inuzakuræ Shinji, 1930, *Lansania*, Tokyo, Vol. 2, No.19 : 141;
Shinji, 1941, *Monogr. Japan. Aphid.*: 927; Shinji, 1944, *Insect galls and gall insects*: 527; Takahashi, 1965, *Mushi*, Vol. 38, Pars 9: 44;
Miyazaki, 1971, *Insecta Matsumurana*, Vol. 34, Part 1: 208; Eastop and Hille Ris Lambers, 1976, *Survey of the world's aphids*: 298;
Remaudière G. and M. Remaudière, *Catalogue of the world's Aphididae*, 1997: 124.

Redescription:

Fundatrix: When cleared, head blackish brown; antennae deep brown; rostrum brown; legs deep brown, except for tarsi which are pale brown; cornicles and cauda pale brown. Head distinctly scabrous over whole surface, with a pair of setae on frontal margin and 3 pairs of dorsal setae which are as long as to less than basal diameter of 3rd antennal segment; venter of head with or without a seta on each side. Antennal tubercles small, without seta. Antennae 5-segmented, about 0.31 times as long as body length including cauda; 1st segment scabrous, a little longer than wide, with 3 setae; 2nd segment longer than wide, with 3 setae; 3rd imbricated, nearly as long as fore femur, without seta; 4th with 3 minute setae, primary sensorium without cilia; 5th with a seta on basal part, processus terminalis about 1.21 times as long as basal part of the segment. Clypeus with 2 pairs of setae anteriorly; mandibular lamina almost smooth with a seta; rostrum reaching beyond fore coxae; ultimate rostral segment about 1.36 times as long as its basal width, about 0.86 times as long as 2nd segment of hind tarsus, with a pair of secondary setae. Hind coxae spinulose, with 6 short setae; femora roughly imbricated on distal half, with some short setae; hind tibiae somewhat broadened on apical part, almost smooth, with some setae which are variable in length, longest seta about 0.029 mm, a little shorter than middle width of hind tibia. First tarsal chaetotaxy 2-3:2:2; 2nd segment of hind tarsus with a secondary seta. Abdominal segments distinctly spinulose; anterior segments each with 2-3 dorsal setae, without marginal tubercles; 6th segment with 2 setae between cornicles; 7th with about 5-6 setae; 8th tergite somewhat scabrous with 2-3 setae, longest one about 0.015 mm, and 0.67 times as long as basal diameter of 3rd antennal segment. Cornicles distinctly spinulose, cylindrical, imbricated, a little swollen on basal part, with

small flange, about 4.7 times as long as middle width, about 0.8 times as long as 3rd antennal segment, about 1.34 times as long as cauda. Cauda triangular, spinulose, with 3 long setae on each side. Anal plate rounded with about 10 setae on hind margin. Gonochaetae in 3 clusters, each with 2-4 setae. Genital palatte large, with about 16 setae.

Measurement of one specimen in mm: Body length 1.955; width of head across eyes 0.382; antenna 0.61, antennal segments III-0.221, IV-0.088, V-0.088+0.11; ultimate rostral segment 0.066; hind femur 0.353, hind tibia 0.235, hind tarsus 0.081; cornicle 0.176; cauda 0.154.

Alate viviparous female: In life, head and thorax blackish brown; antennae brown; legs brownish yellow; abdomen yellow; wings hyaline with blackish veins. When cleared, antennae dusky, 1st and 2nd segments dark brown; abdomen with dorsal brownish sclerites on middle and posterior segments; cornicles blackish brown; cauda pale brown. Head almost smooth, but somewhat scabrous on frontal part; lateral frontal tubercles well developed with 2 setae which are blunt at tip; dorsal cephalic setae very short and blunt, about 0.007-0.013 mm long and 0.39 times as long as basal diameter of 3rd antennal segment; venter of head with about 6 setae, longest seta 0.022 mm. Antennae 6-segmented, about 1.16 times as long as body length; 1st and 2nd segments a little longer than wide, with 5 and 3 setae; 3rd imbricated, gradually constricted at base, with 4-6 circular sensoria in a row on about basal half, with about 4 minute setae which are about 0.23 times as long as basal diameter of the segment; 4th without sensoria; processus terminalis about 4.06 times as long as base of the segment. Ultimate rostral segment 1.58 times as long as its basal width, and about 0.83 times as long as 2nd segment of hind tarsus, with a pair of secondary setae. Abdomn with a broken dorsal sclerites on 1st-3rd segments; 4th-5th segments with a large blackish fused patch which is

broken and separated on central part longitudinally, but slightly fused on hind part; 6th segment with a pair of dorsal small sclerites between cornicles; 7th and 8th segments each with a broad band; 2nd to 4th segments each with paired marginal sclerites which are spinulose with a seta; antesiphuncular sclerite much smaller, without seta; postsiphuncular sclerite large, with 1-2 setae; dorsal setae minute, nearly as long as dorsal setae on head; 8th tergite with 4 much longer setae which are 0.024 mm long, nearly as long as basal diameter of 3rd antennal segment. Cornicles longer, cylindrical, somewhat broadened to base, about 3.8 times as long as basal width, about 1.63 times as long as cauda, spinulose on basal one-third, roughly imbricated on other part, with small flange. Cauda about 1.4 times as long as its basal width, gradually tapering distal half, blunt at apex, with 6-7 setae. Genital plate with 4-5 setae along hind margin on each side, and a pair of anterior setae. Wings hyaline, with normal veins, media twice branched, stigma pale brown, hamuli having 2 very minute hooklets.

Measurement of one specimen in mm: Body length 1.544; width of head across eyes 0.39; antenna 1.793, antennal segments III-0.441, IV-0.353, V-0.279, VI-0.118+0.485; ultimate rostral segment 0.066; hind femur 0.544, hind tibia 1.073, hind tarsus 0.074; cornicle 0.198; cauda 0.132.

Specimens examined: 2 fundatrices and 3 alate viviparous females, Ôyaba, Saitama-ken, 20. IV. 2007, ex *Prunus buergeriana*, S. Usuba leg.; one fundatrix and 2 alate viviparous females, 8. V. 2010 and 19. V. 2010, Koaiji-machi, Maebashi-shi, Gunma-ken., ex *Prunus buergeriana*, I. Kogure leg.

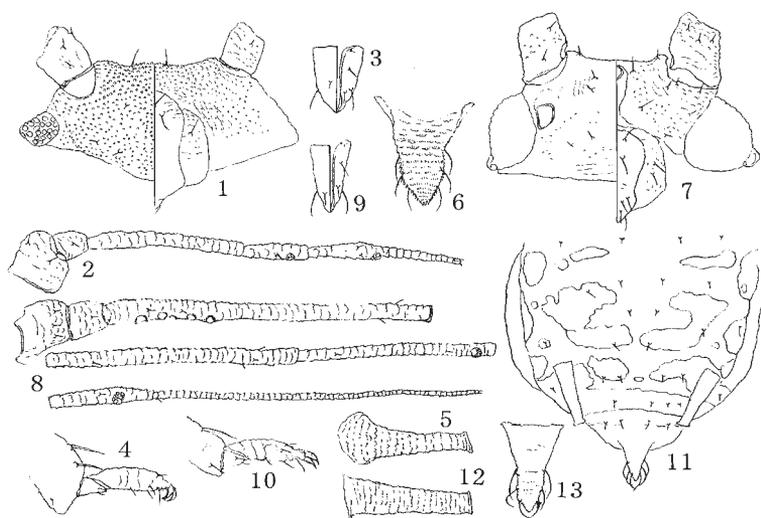


Fig. 4. *Myzus inuzakuræ* Shinji.

Fundatrix: 1, head; 2, antenna; 3, ultimate rostral segment; 4, apices of tibia and whole of tarsus of hind leg; 5, cornicle; 6, cauda. Alate viviparous female: 7, head; 8, antenna; 9, ultimate rostral segment; 10, apices of tibia and whole of hind tarsus; 11, pattern of abdominal sclerites.

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