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ON TWO SPECIES OF
GENUS *EPHEDRUS* HALIDAY*
(TAXONOMIC NOTES ON *APHIDIIDAE* OF JAPAN, IV**)

By

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(With two Textfigures)

Ephedrus japonicus ASHMEAD

Ephedrus japonicus ASHMEAD, Proc. U. S. Nat. Mus., XXX, p. 187, ♀ ♂ (1906); CAHAN, Proc. U. S. Nat. Mus., Vol. 70, p. 7 (1926).

♀. Black; mouth-parts fusco-testaceous, sometimes dark brown; antennae dark brown, the two basal joints tinged with yellow, and the 3rd and 4th joints yellowish at the base. Legs rufo-testaceous, all the coxae more or less infuscated. Wings hyaline; stigma and veins pale brown; tegulae dark brown. Abdomen black, with a large pale spot on the 2nd tergite; 1st tergite sometimes fusco-testaceous.

Head transverse, smooth and shining, with whitish pubescence; antennae a little longer than the head and thorax united, 11-jointed; 3rd joint a little longer than the 4th. Thorax almost smooth and shining; parapsidal furrows impressed anteriorly. Propodeum nearly smooth and shining, strongly carinated, with a rather broad median pentagonal areola. Stigma rather large, slightly elongated towards the base, the distance from the extreme base to the junction of the stigma and the radius about 2.5 times the breadth of the stigma; 1st abscissa of the radius about one-third the length of the 2nd, which is a little less than twice the length of the intercubitus; recurrent nervure inserted in the 2nd cubital cell; nervulus postfurcal; nervus parallelus inserted in the 2nd discoidal cell, not interstitial with the medial nervure. Abdomen longer than the head and thorax united, lanceolate; 1st tergite linear, 3 times as long as broad, deeply excavated basally, smooth in the excavated portion, from which

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**III: Ins. Mats., XV, pp. 106-111 (1941).

the surface strongly convex, coarsely rugose, sometimes nearly smooth, with a median longitudinal carina dividing at the middle, enclosing a triangular area, and with a broad transverse impression near the apex; 2nd and following tergites smooth and shining; ovipositor sheath a little shorter than the hind metatarsus, slender, conical, truncate at the apex.

Length, 2.5-3 mm.

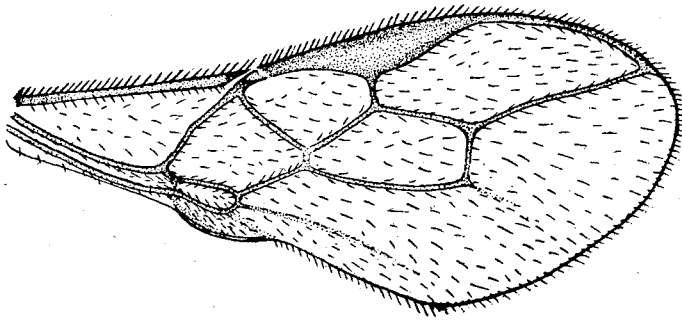


Fig. 1

Fore wing of *Ephedrus japonicus* ASHMEAD (♀)

♂. Closely resembles the female in general structure and colour, but differs from the latter in the following points:—

Darker than the female in colour; antennae rather shorter, 11-jointed, the 3rd joint as long as the 4th, which is stout, shallowly impressed at the inner side near the base. Length, 2-2.5 mm.

Described from a large series of specimens reared by the writer.

Host: This species has been reared from the following aphids:—

- 1) *Brachysiphoniella graminis* (TAKAHASHI).
Formosa (Taihoku, after GAHAN, 1926).
- 2) *Aphis rumicis* (LINNÉ).
Formosa (Taihoku, after GAHAN, 1926).
- 3) *Macrosiphum rosae* (LINNÉ) on *Rosa* spp.
Honshu (Hina, Shizuoka-ken, 2 ♀ ♀, 20. IV, 1941, C. WATANABE leg.); Hokkaido (Sapporo, 3 ♀ ♀, 2 ♂ ♂, 15. VI, 1938, 3 ♀ ♀, 7 ♂ ♂, 2. VII, 1938, 3 ♀ ♀, 4 ♂ ♂, 3. VII, 1938, C. WATANABE leg.).
- 4) *Hyalopterus arundinis* (FABRICIUS) on *Prunus salicina*.
Hokkaido (Sapporo, 3 ♀ ♀, 5 ♂ ♂, 15. VII, 1938, 18 ♀ ♀, 17 ♂ ♂, 18. VII, 1938, C. WATANABE leg.).
- 5) *Myzus persicae* (SULZER) on *Raphanus sativus*.

- Hokkaido (Sapporo, 1 ♀, 1 ♂, 13. VII, 1938, C. WATANABE leg.).
- 6) *Anuraphis numei* HORI on *Prunus mume*.
Hokkaido (Sapporo, 2 ♀ ♀, 13. VII, 1938, C. WATANABE leg.).
- 7) *Aphis laburni* KALTENBACH on *Phaseolus angularis*.
Hokkaido (Sapporo, 4 ♀ ♀, 2 ♂ ♂, 19. VII, 1938, 3 ♂ ♂, 30. VII, 1938, C. WATANABE leg.).
- 8) *Amphicercidus japonicus* (HORI) on *Lonicera Morrowii*.
Hokkaido (Sapporo, 5 ♀ ♀, 6 ♂ ♂, 10. VI, 1938, C. WATANABE leg.).
- 9) *Prociphilus konoii* HORI on *Lonicera Morrowii*.
Hokkaido (Sapporo, 3 ♀ ♀, 4 ♂ ♂, 20. VI, 1938, C. WATANABE leg.).
- 10) *Amphorophora magnoliae* (ESSIG et KUWANA) on *Sambucus Buergeriana*.
Hokkaido (Sapporo, 7 ♀ ♀, 4 ♂ ♂, 20. VI, 1941, C. WATANABE leg.).

Although this species is very polyphagous, the preferred host seems to be the Mealy Plum Aphid, *Hyalopterus arundinis* (FABRICIUS), at Sapporo, since as far as the writer's observations are concerned the other hosts are not so actively attacked by it as is this host.

Habitat: Honshu (Gifu and Hina); Hokkaido (Sapporo); Formosa (Tai-hoku).

General Distribution: Japan; Formosa.

Remarks: This species was originally described by Dr. ASHMEAD from one male and nine female specimens bred from an Aphis at Gifu, which are preserved in the United States National Museum, Washington, D. C., U. S. A. In spite of the fact, however, that Dr. ASHMEAD gives a table of genera (Proc. U. S. Nat. Mus., XXIII, p. 113, 1900), in which he recognizes the genus *Ephedrus* HALIDAY by the antennae having 11-joints in both sexes, the present species is described by him as having 11-jointed antennae in the female and 16-jointed antennae in the male. Furthermore, Dr. GAHAN has identified 24 specimens from Formosa with this species, and yet nothing is mentioned about the inconsistent matter of the antennal joints.

In the course of the present study, the writer's observations have convinced him that this species has really the same number of antennal joints in both sexes. It may, in the opinion of the writer, be considered that either Dr. ASHMEAD has miscounted the number of antennal joints in the male or the male specimen described by him is not the real allotype of this species, but may belong to a different species of another genus.

Moreover, judging from the descriptions, *Ephedrus plagiator* NEES from

Europe and *E. incompletus* PROVANCHER from North America are closely allied to the present species, *E. japonicus* ASHMEAD. It is, however, impossible to give a complete revision of the three related species in the present state of the writer's knowledge without an opportunity to compare authentic representatives of these species.

***Ephedrus interstitialis* sp. nov.**

♀. Black; mouth-parts fusco-testaceous; antennae dark brown to black, the three basal joints yellowish; wings hyaline; stigma and veins pale brown; tegulae fusco-testaceous; legs rufo-testaceous; hind coxae and all the tarsi more or less infuscated; abdomen black, the 2nd tergite pale medially.

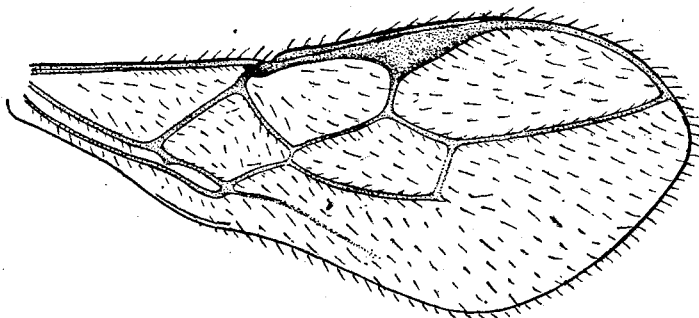


Fig. 2

Fore wing of *Ephedrus interstitialis* sp. nov. (♀)

Head transverse, smooth and shining, with whitish pubescence; antennae a little shorter than the head and thorax united, 11-jointed; 3rd joint the longest, 1.5 times as long as the 4th. Thorax almost smooth and shining; prothorax rugulose laterally; mesonotum weakly punctate anteriorly, the parapsidal furrows strongly impressed, extending from the apex to the middle, weakly crenulated. Propodeum almost smooth, more or less rugulose posteriorly, with a median transverse carina and a median longitudinal carina, the latter dividing at half its length and forming a pentagonal areola. Stigma narrow and slender, attenuated and much elongated towards the base, the distance from the extreme base to the junction of the stigma and the radius about 3.3 times the breadth of the stigma; 1st abscissa of the radius about half the length of the 2nd, which is 1.3 times as long as the intercubitus; recurrent nervure inserted in the 2nd cubital cell; nervulus very short, postfurcal; nervus parallelus interstitial with the medial nervure. Abdomen lanceolate, longer than the head and thorax united;

1st tergite subrectangular, 1.5 times as long as broad, convex, deeply excavated basally, slightly rugulose, with two longitudinal carinae; 2nd and following tergites smooth and shining; ovipositor sheath rather slender, conical, and truncate at the apex as in the preceding species.

Length, 2-2.5 mm.

♂. Unknown.

Holotype (♀): Sapporo, 10. VI, 1939, reared from *Myzus mumecola* by C. WATANABE. **Paratypes**: 12 ♀♀, 12. VI, 1938, 10 ♀♀, 10. VI, 1939, 11 ♀♀, 20. VI, 1941, Sapporo, reared from *Myzus mumecola* by C. WATANABE; 33 ♀♀, 20. VI, 1941. Sapporo, reared from *Myzus momonis* by C. WATANABE.

All the type-specimens are preserved in the Entomological Institute of the Hokkaido Imperial University, Sapporo.

Host: *Myzus mumecola* MATSUMURA; *Myzus momonis* (MATSUMURA).

This species has been reared at Sapporo from *Myzus mumecola* infesting *Prunus americana* and from *Myzus momonis* infesting *Prunus donarium* var. *sachalinensis*. As many as 100 specimens have been reared from these aphids, but not one male has been found.

Remarks: The new species comes near *Ephedrus validus* HALIDAY from Europe, but may be distinguishable from the latter by the structure of the ovipositor sheath. Furthermore, this species is readily recognized by the nervus parallelus which is interstitial with the medial nervure. It is also easily distinguished from *E. japonicus* ASHMEAD by the venation of the fore wing and by the structure of the 1st tergite.

摘 要

本邦産アブラバチ科の分類学的研究の第4報としてクロアブラバチ属 (*Ephedrus*) の2種を報告する。

1. ***Ephedrus japonicus* ASHMEAD クロアブラバチ (改稱) (クロアリマキヤドリ*)**

寄主: *Brachysiphoniella graninis* (TAKAHASHI) (ミヅコナアブラ), *Aphis rumicis* (LINNÉ) (ギシギシアブラ), *Macrosiphum rosae* (LINNÉ) (バラヒゲナガアブラ), *Hyalopterus arundinis* (FABRICIUS) (モモコフキアブラ), *Myzus persicae* (SULZER) (モモアカアブラ), *Anuraphis mumei* HORI (ウメクロアブラ), *Aphis laburni* KALTENBACH (マメアブラ), *Amphicercidus japonicus* (HORI) (キンギンボクノワタアブラ), *Prociphilus kônoi* HORI (コウノオホワタムシ), *Amphorophora magnoliae* (ESSIG et KUWANA) (ニハトコフクレアブラ)。

2. ***Ephedrus interstitialis* WATANABE (sp. nov.) ヒメクロアブラバチ (新稱)**

寄主: *Myzus mumecola* (MATSUMURA) (ウメコブアブラ), *Myzus momonis* MATSUMURA (モモコブアブラ)。

終りに研究費の一部を援助せられたる日本學術振興會に對し深謝の意を表する次第である。

* 松村松年: 日本益蟲目錄 94頁 (明治41年)。