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New Records of Three Leafhoppers (Homoptera, Cicadellidae) from Japan

Masami HAYASHI

Department of Biology, Faculty of Education,
Saitama University, Urawa, 338 Japan

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Through my recent field researches to the Ryukyus, I was able to recognize some remarkable leafhoppers new to Japan. At first, I express my hearty thanks to Mr. M. TOMOKUNI (National Science Museum, Tokyo; NSMT), Mr. T. OKA (Irabu High School, Miyako, Okinawa) and my colleagues of Saitama University for their kind help to my study.

Agalliinae

Austroagallia nitrobei (MATSUMURA, 1912) (Fig. 1)

This leafhopper has been known from Taiwan southward to India (VIRAKTAMATH, 1973), and it is newly recorded from the Ryukyus (Tokunoshima, Okinoerabujima and Miyako), Japan. This species inhabits rather dry grasslands over coastal cliffs, probably feeding on the Korean lawn grass, *Zoysia tenuifolia* WILLD. (Gramineae).

Total length (to tip of folded forewing): ♂, 2.9–3.2 mm; ♀, 3.0–3.5 mm.

Specimens examined. [Tokunoshima Is.] Hetono, Amagi: 1 ♀ (NSMT), 29. IX. 1988, M. TOMOKUNI; 17 ♂ 8 ♀, 2–3. IX. 1992, M. HAYASHI *et al.*; 16 ♂ 8 ♀, 16. VII. 1993, M. HAYASHI & K. SEKINE. [Okinoerabujima Is.] Tamina-misaki, China: 1 ♀, 14. VII. 1993, M. HAYASHI & K. SEKINE. [Miyako Is.] Cape Higashi-hennazaki, Gusukube:

113 ♂ 66 ♀, 22. XI. 1992, M. HAYASHI; 15 ♂ 8 ♀, 6. XII. 1992, T. OKA; 32 ♂ 17 ♀, 13. XII. 1992, T. OKA; 12 ♂ 2 ♀, 19. XII. 1992, T. OKA; 31 ♂ 10 ♀, 3–4. I. 1993, T. OKA; 61 ♂ 15 ♀, 11. X. 1993, M. HAYASHI *et al.*

Aphrodinae

Chiasmus mustelinus (DISTANT, 1908) (Figs. 2–3)

This species, hitherto known throughout India, is collected from the Ryukyus for the first time. It is most probable that the host plants are *Digitaria* grasses (*D. henryi* RENDLE in Miyako Is.) of Gramineae growing on dry open lands. Only a brachypterous form has been known, but a macropterous one rarely appears (Fig. 3); it seems that this form is certainly identical with *Chiasmus alata* described from India (SINGH-PRUTHI, 1930).

Body length: ♂, 2.6–2.9 mm; ♀, 3.1–3.6 mm.

Specimens examined. [Amami-Oshima Is] Mt. Yuwan-dake, Uken: 1 ♂ 4 ♀, 5. IX. 1992 (light trap), M. HAYASHI *et al.* [Tokunoshima Is.] Inutabu-misaki, Isen: 74 ♂ 39 ♀, 16. VII. 1993, M. HAYASHI & K. SEKINE. [Okinoerabujima Is.] Tamina-misaki, China: 77 ♂ 65 ♀ (1 ♀; *macropt. f.*), 14. VII. 1993, M. HAYASHI & K. SEKINE. [Miyako Is.] Cape Higashi-hennazaki, Gusukube: 5 ♂ 8 ♀, 22. XI. 1992, M. HAYASHI; 5 ♂ 2 ♀, 13. XII. 1992, T. OKA; 2 ♂, 19. XII. 1992, T. OKA; 29 ♂ 8 ♀, 3–4. I. 1993, T. OKA; 34 ♂ 22 ♀ (4 ♀; *macropt. f.*), 11. X. 1993, M. HAYASHI *et al.*—Kugai, Hirara: 5 ♂ 6 ♀, 3. I. 1993, T. OKA. [Iriomote Is.] Shirahama: 1 ♂, 13. V. 1993, M. HAYASHI & Y. HASEGAWA. [Yonaguni Is.] Cape Agari-zaki: 79 ♂ 25 ♀ (1 ♂ 9 ♀; *macropt. f.*), 8. X. 1993, M. HAYASHI *et al.*—Sonai: 3 ♂, 6. X. 1993, M. HAYASHI *et al.*—Cape Iri-zaki: 8 ♂ 6 ♀, 6. X. 1993, M. HAYASHI *et al.*

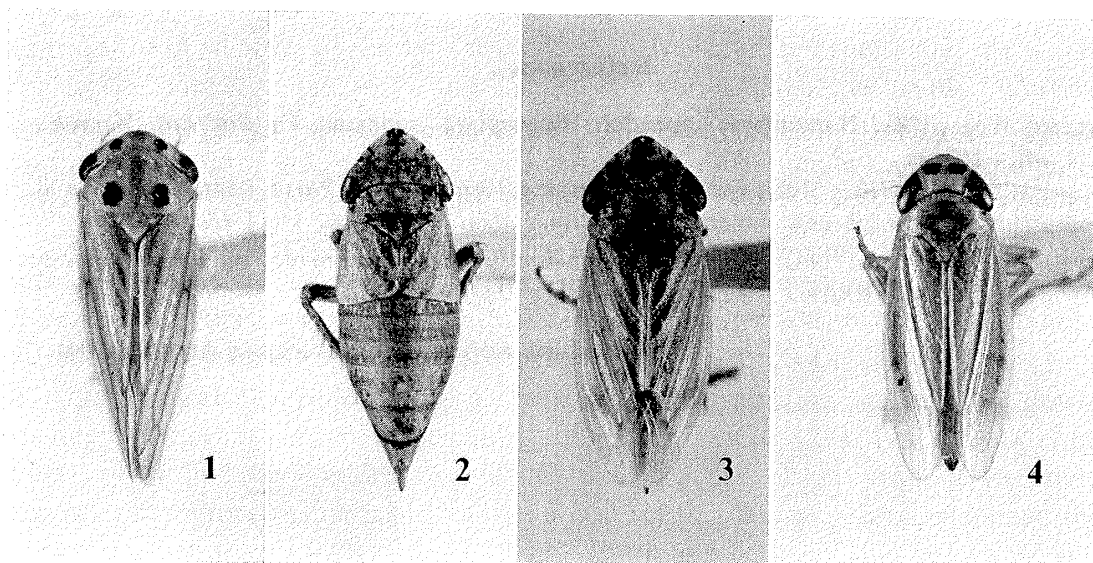


Fig. 1: *Austroagallia nitobei*, ♂. — Figs. 2, 3: *Chiasmus mustelinus* (2, brachypterous ♀; 3, macropterous ♀). — Fig. 4: *Paivanana indra*, ♂.

Deltoccephalinae

Paivanana indra (DISTANT, 1908) (Fig. 4)

This leafhopper, originally described from Bengal, India, is new to Japan (the Ryukyus northward to Amami-Oshima Is.). The host plants seem to be *Oplismenus undulatifolius* ROEM. et SCHULT., *Thuarea involuta* ROEM et SCHULT., *Sporobolus virginicus* KUNTH and *Spinifex littoreus* MERR. of Gramineae, growing on forest floors or littoral sandy areas. This leafhopper is usually brachypterous, but only a full-winged specimen, as illustrated by DISTANT (1918), is collected from Iriomote Is.

Body length: ♂, 2.5–3.1 mm; ♀, 3.0–3.8 mm.

Specimens examined. [Amami-Oshima Is.] Sakibaru, Kasari: 1 ♂, 18. V. 1993, M. HAYASHI & Y. HASEGAWA. [Kikaijima Is.] Onotsu: 1 ♂, 8. IX. 1992, M. HAYASHI.—Shito'oke: 12 ♂ 9 ♀, 8. IX. 1992, M. HAYASHI. [Yoron Is.] Ōganeku: 51 ♂ 38 ♀, 11. VII. 1993, M. HAYASHI & K. SEKINE. [Okinawa Is.] Ie, Kunigami: 8 ♂ 5 ♀, 13. X. 1993, M. HAYASHI *et al.*—Ada, Kunigami: 17 ♂ 7 ♀, 13. X. 1993, M. HAYASHI *et al.*—Kesaji, Higashi: 1 ♂, 17. II. 1993, M. HAYASHI. [Kumejima Is.] Ōhara, Gushikawa: 22 ♂ 21 ♀, 22. IX. 1991, M. HAYASHI. [Miyako Is.] Takano, Hirara: 36 ♂ 15 ♀, 22. XI. 1992, M. HAYASHI. [Irabu Is., Miyako Is.] Irabu: 116 ♂ 76 ♀, 10. X. 1993, M. HAYASHI *et al.* [Ishigaki Is.] Hirakubo: 2 ♂ 2 ♀, 18. III. 1993, M. HAYASHI *et al.*—Hoshino: 8 ♂ 9 ♀, 1. X. 1993, M. HAYASHI *et al.*—Itona: 2 ♂ 4 ♀, 1. X. 1993, M. HAYASHI *et al.*—Yonehara/Tomino: 1 ♀, 16. X. 1988, M. HAYASHI *et al.*; 2 ♂ 5 ♀, 7. V. 1991, M. HAYASHI; 2 ♂, 17. XI. 1992, M. HAYASHI *et al.*—Kabira: 1 ♂ 2 ♀, 7. V. 1991, M. HAYASHI. [Iriomote Is.] Haemida: 8 ♂ 3 ♀, 12. V. 1993, M. HAYASHI *et al.*; 60 ♂ 31 ♀, 29. IX. 1993, M. HAYASHI *et al.*—Funaura: 1 ♀, 12. X. 1988 (light trap), M. HAYASHI *et al.*—Urauchi: 1 ♀, 28. IX. 1993, M. HAYASHI *et al.* [Hateruma Is.] Kunari-zaki: 57 ♂ 42 ♀, 10. V. 1993, M. HAYASHI *et al.*—Pemuchihama: 17 ♂ 9 ♀, 10. V. 1993, M. HAYASHI *et al.*

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