

MAYFLIES FROM JAPANESE TORRENTS. II. FURTHER
NOTES ON THE GENUS AMELETUS¹

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TWO PLATES

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Two years ago I described one new species of the genus *Ameletus* from Japan, *Ameletus montanus*². As I have discovered thereafter three more new species belonging to the same genus, I wish to report on them here. A synonymous species is also dealt with in the text.

I am very grateful to Prof. Dr. Hachiro Yuasa for his constant interest and advices in my work and also to Mr. M. Tokunaga for his invaluable suggestions.

Ameletus kyotensis n. sp.

This species is similar to *A. montanus* Imanishi but differs from it in much larger size and the unpaired markings on the sternites 3-6.

Measurement :	Male	Female
Body, length	13.5 mm.	13.0 mm.
Fore wing, length	12.0	12.5
Cerci, length	15.5	14.0

Description. Male:—General colour brownish; eyes pale brownish, head and thorax blackish brown. Fore legs blackish brown, middle and hind legs pale yellowish with somewhat smoky tarsi; in the fore leg femur: tibia: tarsus = 10.5: 10: 15; tarsal joints of the fore leg rank 2, 3, 4, 1, 5. Wings hyaline, near the base brown; veins brownish. Abdomen: segment 1 blackish brown; tergites 2-7 yellowish, each of them having a brownish band; tergites 8-10 shaded brown. Venter paler; sternite 2 with two brownish spots; each of the sternites

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² Trans. Nat. Hist. Soc. Formosa, 20: 265-266, 1930.

3-8 with one brownish spot on its median line; sternites 7-10 appearing pruinose. Forceps pale yellowish brown; penis-lobes not spinulated as in *A. montanus*; cerci brownish with darker margin on each joint; median caudal filament rudimentary.

Female:—General colour paler than in the male. Eyes smaller. Sternite 9 produced backward into a subtriangle, slightly longer than sternite 10 and its point truncated.

Holotype:—Male; Nishigamo, Kyoto; April 18, 1932,

Allotype:—Female; April 19, 1932,

obtained by rearing the nymphs captured in Nishigamo, Kyoto; emerged April 18-19, 1932.

Type-specimens: alcoholic; deposited in the Entomological Laboratory, Kyoto Imperial University; collected by K. Imanishi.

Ameletus sapporensis (Matsumura), 1904.

Siphurulus sapporensis Matsumura, Thousand Insects of Japan, Tokyo, vol. 1, p. 160, pl. 10, fig. 9, 1904.

Siphurulus sapporensis Matsumura, Systematic Entomology, Tokyo, vol. 1, p. 37, figs. 18 & 21, 1907.

Cinygma sapporense Matsumura, 6000 Illustrated Insects of Japan-Empire, Tokyo, p. 1476, 1931.

Chimura costalis Matsumura, Ibid., p. 1474, 1931.

This species is different from any allied species on account of the spinulated fore tibiae and the wing coloration. The seasonal appearance of this species is earliest in season among the Japanese *Ameletus*-species, and its swarming in the sunny valley is common around Kyoto.

Measurement:	Male	Female
Body, length	11.5-13.5	13.0
Fore wing, length	11.5-13.0	14.0
Cerci, length	20.0-22.5	15.5

Description. Male:—General colour brownish; eyes gray; head and thorax blackish brown. Fore legs blackish brown, middle and hind legs pale yellowish; tibiae and first segment of tarsi of fore legs spinulated; in the fore leg femur: tibia: tarsus = 11: 11: 21.5; ranks

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of tarsal joints: fore leg, 2, 3, 4, 1, 5; hind leg, 2, 1, 5, 3, 4. Wings hyaline, near the base brown; veins brownish; in the fore wing cross-veins of cells *C*, *Sc* and *R* bordered with a brownish tint; pterostigmatic portion infuscated; in the hind wing basal half of the costal area broadly brownish, infuscated. Abdomen: segment 1 blackish brown; tergites 2-7 above pale yellowish, side brownish, each of them with a brownish band and a pair of brownish longitudinal markings interposing a brownish median striation; tergites 8-10 brownish. Venter paler: sternites 2-7 with a pair of brownish longitudinal markings as on tergites, but much paler and indistinct; sternite 9 bordered brownish along the anterior and lateral margins. Cerci and forceps brownish.

Female:—General colour paler than in the male and dull: markings of tergites 2-7 indistinct; cross-veins much heavily infuscated.

Ameletus croceus n. sp.

This species is similar to *A. kyotensis*, but differs from it on the much numerous cross-veins and the brownish coloration of the basal halves of wings.

Measurement:	Male
Body, length	12.5 mm.
Fore wing, length	12.0
Cerci, length	18.0

Description. Male:—General colour brownish; eyes ash gray; head and thorax brownish. Fore legs brownish, middle and hind legs pale brownish; in the fore leg femur: tibia: tarsus = 10.5: 9.5: 19.5; tarsal joints of the fore leg rank 2, 3, 4, 1, 5; those of the hind leg rank 2, 1, 5, 3, 4. Wings hyaline, tinged with a saffron colour along the pterostigmatic portion and the costal and basal areas of both wings. Abdomen light brownish, side much darker; tergite 1 blackish brown; each of the tergites 2-9 with a brownish band on its caudal margin; last two tergites brownish; sternite 1 blackish brown; sternite 2 with two brownish spots; each of the sternites 3-8 with one brownish spot on its median line; sternite 9 produced backward and brownish antero-laterally; sternite 10 brownish

on its sides; sternites 7-9 appearing pruinose. Forceps brownish; penis-lobes not spinulated; cerci brownish, median caudal filament rudimentary.

Holotype:—Male; Gorozawa, Northern Japanese Alps, altitude ca. 2400 mtr.; Aug. 17-18, 1931.

Paratopotype:—Male; Aug. 17-18, 1931.

Type-specimens: alcoholic; deposited in the Entomological Laboratory, Kyoto Imperial University; collected by K. Imanishi.

Ameletus subalpinus n. sp.

This species is very much similar to *A. montanus* but is easily distinguishable from it by the brownish-bordered cross-veins.

Masurement:	Male
Body, length	11.5 mm.
Fore wing, length	13.0
Cerci, length	18.5

Description. Male:—General colour brownish. Eyes grayish; head and thorax chestnut brown; mesonotum light brownish. Fore legs brownish; fore tarsus pale yellowish apically; in the fore leg femur: tibia: tarsus = 10.2: 10.3: 19.5; tarsal joints of the fore leg rank 2, 3, 4, 1, 5; middle and hind legs pale yellowish; tarsal joints of the hind leg rank 1, 2, 5, 3, 4. Wings hyaline, pterostigmatic portion semitranslucent; longitudinal veins yellowish; all cross-veins bordered with a brownish tint as usually seen in the subimagos of this genus. Abdomen: tergite 1 brownish; each of the tergites 2-7 pale brownish; each of the tergites 2-9 with a brownish band on its caudal part; tergite 10 brownish. Venter paler; segments 1-2 brownish of which segment 1 darker; each of the sternites 2-9 with a pair of indistinct brownish striations, between which a pale brownish spot as in *A. kyotoensis* appearing on sternites 3-7; sternites 7-9 appearing pruinose. Forceps brownish, paler apically; penis-lobes spinulated postero-ventrally; cerci pale yellowish; median caudal filament rudimentary.

Holotype:—Male; the Kurobe Pass, Northern Japanese Alps, altitude ca. 2400 mtr., Aug. 19, 1931.

Paratopotype:—Male; Aug. 19, 1931.

Type-specimens : alcoholic ; deposited in the Entomological Laboratory, Kyoto Imperial University ; collected by K. Imanishi.

APPENDIX

A key to the males of the species hitherto known of
the Genus *Ameletus* in Japan

1. Penis-lobes spinulated underside..... 2.
 Penis-lobes not spinulated 3.
2. All the cross-veins bordered with a brownish tint... *subalpinus* n. sp.
 Cross-veins not bordered with a brownish tint..... *montanus* n. sp.
3. Tibiæ of forelegs distinctly spinulated*sapporensis* (Matsumura).
 Tibiæ of forelegs not spinulated 4.
4. Cross-veins numerous, basal halves of both wings brownish.....
 *croceus* n. sp.
 Cross-veins few, basal halves of both wings not brownish.....
 *kyotensis* n. sp.

PLATE 31

- Fig. 1. Wings of *Ameletus sapporensis* (Matsumura).
Fig. 2. „ „ *A. kyotensis* n. sp.
Fig. 3. „ „ *A. croceus* n. sp.
Fig. 4. „ „ *A. subalpinus* n. sp.

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PLATE 31

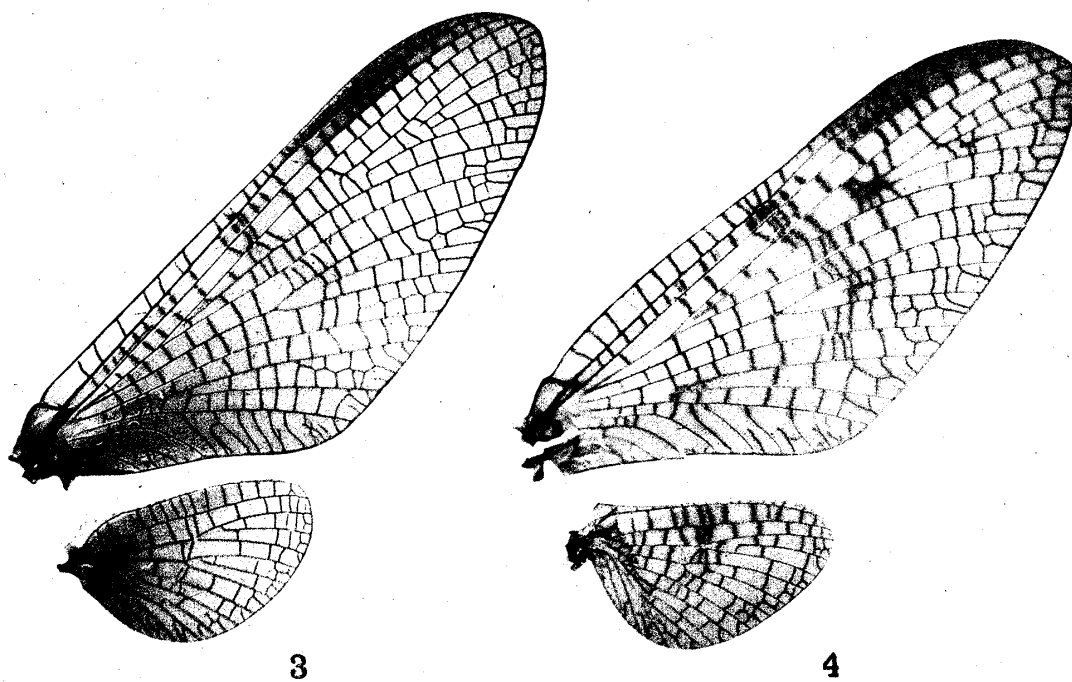
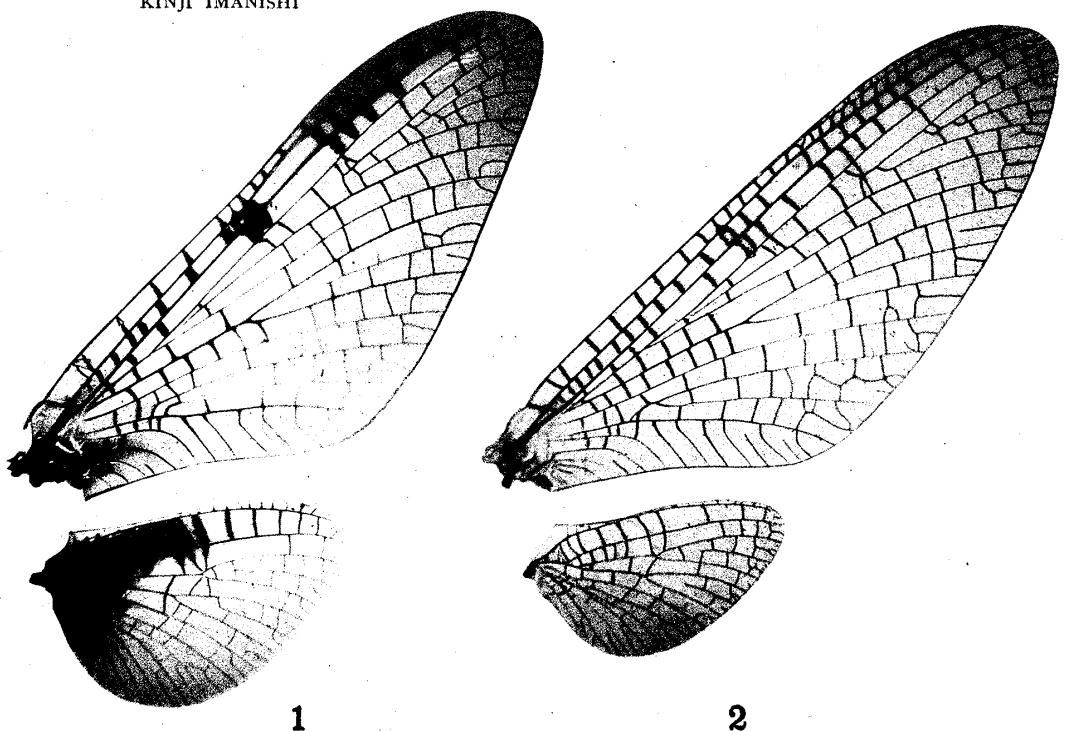


PLATE 32

- Fig. 1. End of abdomen of *Ameletus sapporensis* (Matsumura), male, ventral view.
Fig. 2. " " " " " " " " , lateral view.
Fig. 3. " " " " " *A. kyotensis* n. sp., male, ventral view.
Fig. 4. " " " " " *A. subalpinus* n. sp., male, ventral view.

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PLATE 32

