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A New Species of the *Drosophila auraria* Complex,
D. subauraria, from Northern Japan
(Diptera, Drosophilidae)

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Synopsis *Drosophila subauraria* n. sp. from northern Japan is described and illustrated. It belongs to the *auraria* complex, the *montium* subgroup, the *melanogaster* group, the subgenus *Sophophora*.

In the *Drosophila auraria* complex, *D. auraria* PENG, 1937, *D. biauraria* BOCK et WHEELER, 1972, and *D. triauraria* BOCK et WHEELER, 1972 have been known from Japan and Korea, and *D. quadraria* BOCK et WHEELER, 1972 from Taiwan (BOCK & WHEELER, 1972). Recently a new species was found in Tôhoku and Hokkaido, northern Japan. In this paper, the new species is described on specimens of culture stocks (iso-female lines each established by a single field-collected female) from Ônuma, Hokkaido (6 lines), Kitakami, Iwate Pref. (2 lines), and Iwanuma, Miyagi Pref. (2 lines).

Drosophila (Sophophora) subauraria n. sp.

(Fig. 1A-D)

Body length: ♂ about 2.5 mm; ♀ about 3.0 mm.

♂ and ♀. Head: Arista with 4 or 5 branches above, 3 below, plus a terminal fork. Face white in male, whitish yellow in female. Anterior reclinate orbital about 1/3 the other two. Carina small. Ocelli orange. Eyes red. Cheek 0.09-0.15 as broad as the greatest diameter of eye.

Thorax: Brown. Acrostichals in 6 rows in front of dorsocentrals, 4 irregular rows between dorsocentrals. Anterior scutellars parallel or slightly divergent; posterior scutellars crossed. Ratio anterior/posterior dorsocentrals 0.6-0.8. Stern-index 0.4-0.7. Apicals on fore and mid tibiae. Male fore leg with longitudinal sex-combs along entire lengths of metatarsus and second tarsomere; metatarsal comb consisting of 25-34 teeth, smaller above, larger below, the lowermost 2 displaced from the row of the remaining teeth; comb on second tarsomere consisting of 18-25 teeth.

Wing: Transparent. Costal index 2.0-2.7 in male, 2.5-3.0 in female; 4V index 2.0-2.9; 4C index 1.0-1.5; 5X index 1.9-2.5. Third costal section heavily setose on basal half to two-thirds.

Abdomen: Tergites of female yellowish with apical black bands. First 5 tergites of male yellowish with apical black bands; remainder of male abdomen black dorsally, yellowish laterally. Male sixth sternite with 0–18 (8 on average) hairs.

Periphallalic organs (Fig. 1A): Epandrium broad dorsally and laterally, black above level of lower margin of cercus, yellow below; toe with a few long bristles; narrow triangular process covering base of surstylus (primary clasper). Surstylus with a lateral row of 5–8 pointed teeth and a cluster of larger teeth. Secondary clasper large, with 3 large and 1–3 small curved black teeth, and several fine hairs ventrally and laterally. Cercus black, with long bristles. Median lobe of decasternum bicornute.

Phallic organs (Fig. 1B–C): Yellow. Aedeagus hirsute, apically with dorsal process, subapically with pointed lateral expansions. Anterior paramere small, with three tiny sensilla. Posterior paramere small. Caudal margin of hypandrium with notched median lobe bearing small submedian spines.

Egg-guide (Fig. 1D): Brown, with 15–18 teeth and a subterminal hair.

Internal structures: Intestinal coiling index 1.5–2.0. Rectal index about 1.5. Malpighian tubules yellow; 2 anterior free, common trunk less than 0.1 total length;

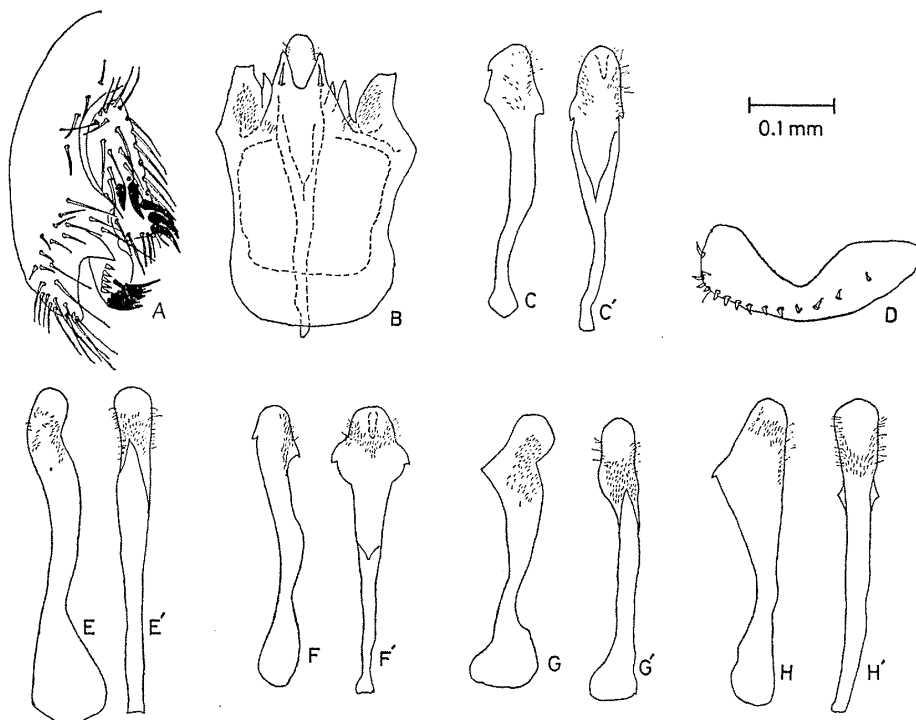


Fig. 1. Male and female genitalia of *Drosophila* spp. — A–D, *D. (Sophophora) subauraria* n. sp. A, Periphallalic organs; B, phallic organs (ventral view); C, aedeagus (lateral view); C', aedeagus (ventral view); D, egg guide. — E, E', Aedeagus of *D. auraria*. — F, F', Aedeagus of *D. biauraria*. — G, G', Aedeagus of *D. triauraria*. — H, H', Aedeagus of *D. quadraria*.

2 posterior free, common trunk less than 0.1 total length; anterior and posterior equal in length.

Internal genitalia, ♂: Testes yellow, with 3–4 outer coils and an uncoiled arm, and 3 inner coils. Accessory glands large, curved. Ejaculatory bulb globular.

Internal genitalia, ♀: Spermatheca vestigial. Parovaria minute. Ventral receptacle long, coiled.

Egg filaments: 2 slender filaments, not flattened apically.

Pupae: Anterior spiracles with 6–9 branches.

Holotype: A male of a culture stock established by a single female collected at Ônuma, Hokkaido, on August 8, 1982 by KIMURA.

Paratypes: A male and female for each of iso-female lines established by females collected at Ônuma, Hokkaido, on August 8, 1982 (6 lines), Kitakami, Iwate Pref., on August 6, 1982 (2 lines), and Iwanuma, Miyagi Pref., on August 5, 1982 (2 lines) by KIMURA.

Type depository: Entomological Institute, Faculty of Agriculture, Hokkaido University.

Distribution. Japan; Tôhoku (Iwanuma, Kitakami, Shimoda, Aomori Pref., Noshiro, Akita Pref., Sakata, Yamagata Pref.) and Hokkaido (Ônuma, Sapporo, Kamiotoineppu).

Remarks. Aedeagus of this species resembles that of *D. biauraria* in the presence of the subapical lateral expansions and the apical dorsal process, but the subapical lateral expansions are smaller in this species (Fig. 1C, F). The male of this species is also distinguishable from *D. biauraria* males with the shape of anterior and posterior parameres; this species has small anterior and posterior parameres, while *D. biauraria* has apically bifurcated anterior paramere and vestigial posterior paramere. Males of this species usually have several bristles on the sixth sternite, but *D. biauraria* males have no bristles. The male of this species is clearly distinguishable from *D. auraria*, *D. triauraria*, and *D. quadraria* males by the presence of the submedian spines on notched median lobe of hypandrium, the shape of anterior paramere (smaller in this species), and the shape of aedeagus (Fig. 1C, E, G, H: *D. auraria*, *D. triauraria*, and *D. quadraria* males have no subapical lateral expansions and apical dorsal process on aedeagus). The female of this species is morphologically indistinguishable from *D. triauraria* females (cf. OKADA, 1956 for egg-guide).

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References

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