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Drosophila Survey of Hokkaido IV. On a New Member of “*robusta* Group” Common in Woodlands¹⁾

With 5 Text-figures

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(Communicated by S. MAKINO)

Several species of *Drosophila*, new to science or new to the fauna of Hokkaido, have been obtained in the survey being made by the present author and his co-workers. Among them, a new species was described by Momma and Takada (1954), and some species new to Hokkaido by Wakahama (1956).

In one of the papers the present author (1954) described a species of *Drosophila* which possessed a karyotype not recorded so far. Further study made it clear that this species is rather common in woodlands of Hokkaido. Reference to the literature (Patterson 1943) indicates that this species is closely allied to *Drosophila robusta* in many characteristics but distinguishable from the latter by several differences. In the near future this species will be described as *Drosophila lacertosa* by Dr. T. Okada. The present paper deals with descriptions of the bodily and cytological characteristics of this species and its distribution.

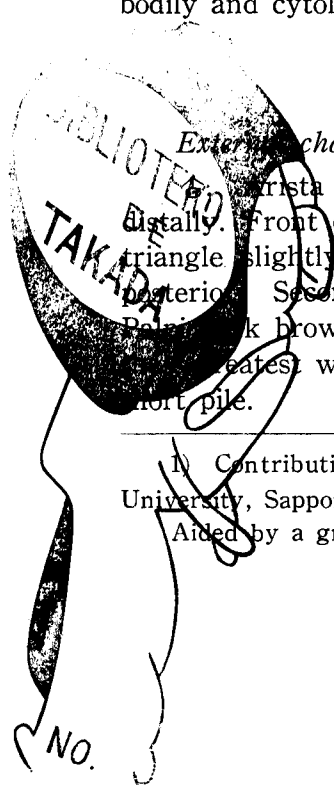
DESCRIPTION OF THE SPECIES

External characteristics of imagines.

Antenna with about 9 branches. Antennae dark brown; third joint pollinose distally. Front over 1/3 width of head, wider above, dark brown. Orbits and triangle slightly grayish pollinose. Middle orbital about 1/3 anterior and 1/2 posterior. Second oral about 2/5 first. A few prominent bristles on each palpus. Palpi dark brown. Carina high, slightly sulcate; face brown. Cheek dark brown; greatest width about 1/4 diameter of eyes or less. Eyes dark red, with short pile.

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Acrostichal hairs in 6 rows; no prescutellars. Anterior scutellars convergent. Mesonotum dull brown, with a dark indistinct longitudinal stripe in the median line. Scutellum dull brown with darkish area on the anterior margin. Legs brown; several transverse rows of stout blackish bristles on the central surface of the first femur. Sterno index about 0.9. Apical and preapical bristles on the first and second tibiae, preapical on the third.

Abdomen brown, each segment with a very broad dark brown band interrupted in the middle from the second to fifth segment. Sixth and seventh segments entirely brown.

Wings dusky; subterminal part of the first vein dark. Third costal section with heavy bristles on its basal 1/2 or more. Costal index about 3.8; 4v index about 1.5; 5x index about 1.2; 4c index about 0.8 (Fig. 1).

Length of body, 3.5 mm; of wings, 3.5 mm (in alcohol specimen).

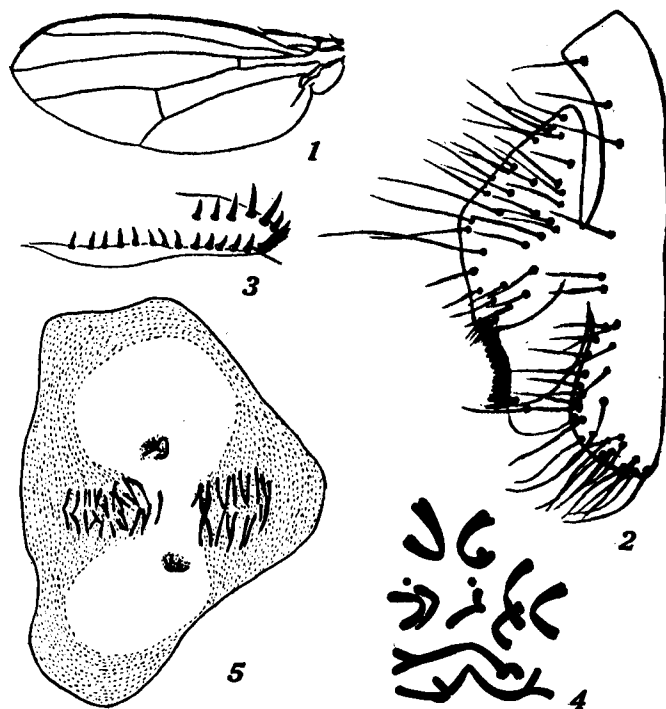
♀. Abdominal color a little lighter than that of male; posterior bands slender, median interruptions of bands rather narrow. Length: body 3.8 mm; wings 4.0 mm (in alcohol specimen).

Genital apparatus.

External genital apparatus. Male hypopygium. Genital arch narrow; anterior margin slightly sinuate, lower and middle portions with about 29 bristles, upper with about 3 bristles; heel absent; toe pointed downward. Anal plate lozenge shape with dense bristles. Clasper rather triangular, just below anal plate, primary teeth about 14 occupying almost entire part of the outer margin, marginal bristles about 2 (Fig. 2).

Female egg-guide. Yellow. Slightly pointed at end with a subterminal hair on the ventral edge of its end. Marginal teeth yellow, about 13 on ventral, and about 6 on dorsal. Ultimate marginal tooth stout. About 4 teeth run parallel with ventral margin from just above the ultimate marginal tooth, the first tooth longest and nearly as long as the ultimate marginal tooth (Fig. 3).

Internal genital apparatus. Male: Testes light orange with 5 inner and 7 outer coils or gyres. Female: Spermathecae vase-shaped; brownish in color; outer



Figs. 1-5. 1, Wing. 2, Hypopygium. 3, Egg-guide. 4, Oogonial chromosomes. 5, First telophase of male germ cells (side view).

transparent layer with chitinized central core. Ventral receptacle spiral with about 35 loosely arranged coils. Phallosomal index about 2.1.

Other characteristics.

Eggs—4 rather slender filaments.

Puparia—Reddish-brown; each anterior spiracle with about 12 branches; horn index about 4.0.

Cytological characteristics.

Chromosomes. Oogonial metaphase shows 12 chromosomes consisting of a pair of large V-shaped elements, four pairs of submedian elements of varying sizes, and a pair of very minute dot-like ones (Fig. 4).

The male germ cells are very large in size. They are characterized by the mitochondrial bodies of rod-shape surrounding the equatorial area of the spindle body at the first and second telophases (Fig. 5).

Relationship.

This species is a member of the subgenus *Drosophila*.

Distribution.

In August of 1951, a few specimens were collected in Otaru, Sapporo, Nopporo, Kamikawa and Abashiri. Then a considerable number of specimens were obtained from several localities as follows: Chitose and Rebun in 1952; Kushiro in 1953; Numanohata, Shizunai, Akan, Bihoro in 1954; Kamoinai and Yoichi in 1955. In the deciduous woods at Kamoinai (1955), this is the species which was caught at the highest frequency showing 66 per cent in a total of 114 specimens.

SUMMARY

The present paper describes bodily and cytological characteristics of *Drosophila lacertosa* which is a new species and rather common in the woodlands of Hokkaido.

Here, the author must express his cordial thanks to Professor Sajiro Makino for his keen interest in the subject and for going through the manuscript. Further thanks are extended to Dr. T. Okada, Tokyo Metropolitan University, for the determination of the species along with helpful advice.

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