

Toyohi Okada
Department of Biology
Faculty of Science
Tokyo Metropolitan University
Setagaya-Ku, Tokyo, JAPAN

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NEW SPECIES OF THE QUINARIA GROUP OF
DROSOPHILA (DIPTERA, DROSOPHILIDAE)

MARSHALL R. WHEELER

Department of Zoology, The University of Texas, Austin, Texas

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based upon true *transversa* from Switzerland using specimens sent to us by Dr. Hans Burla of Zurich.

The abdominal pattern of an average female is shown in Figure 1; the spots are noticeably weaker than those of *transversa* or *subquinaria* and tend to become fainter on posterior segments so that in some individuals, none is seen on the sixth segment. Figure 5 shows the shape of the capsule of the spermatheca and Figure 9 illustrates the tip of the aedeagus which is quite distinct from that of the other members of the species complex. We have checked males from Ontario, Quebec, Massachusetts, New Hampshire, Connecticut, Maryland, Virginia, District of Columbia, Tennessee, Missouri, Ohio, Wisconsin, Minnesota, Colorado, Alabama, Texas, and a single, unexpected, specimen from Robson, British Columbia.

Holotype male and 9 paratypes from Dexter, Missouri collected in August 1948 by the writer; 10 paratypes from Great Smoky Mountain National Park, Tennessee.

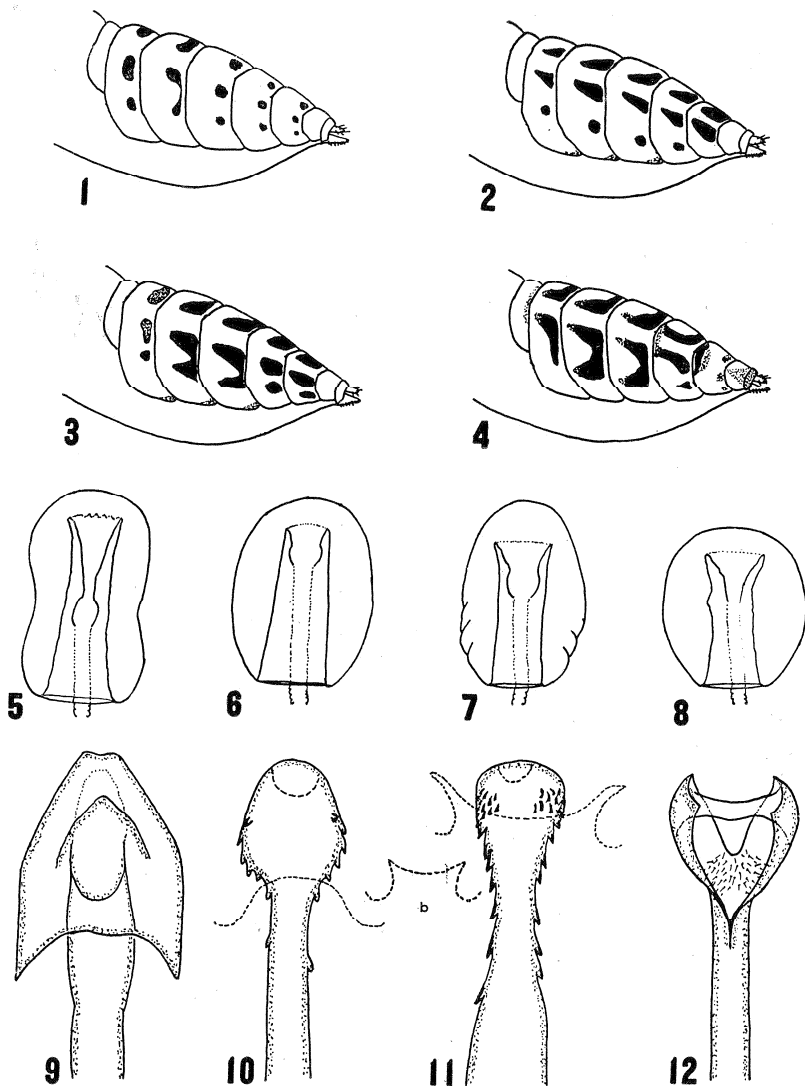
✓ *Drosophila recens*, new species

The abdominal pattern of an average female (from Maine) is shown in Figure 2; as in all members of this species complex some variation in pattern occurs. In contrast to *falleni*, with which it is sometimes sympatric, the more posterior segments show a stronger, darker pattern. *D. recens* is probably sympatric in the west with *subquinaria*; the most useful differences between them are found in the genitalia. Figure 6 shows the shape of the capsule of the spermatheca, and the tip of the aedeagus is shown in Figure 10. The distal end is larger than in *subquinaria*, the "dull barbs" are fewer, and the shelf of the hypandrium (dotted line) is of a different shape. Males agreeing in this genitalial pattern have come from North Dakota, Michigan, Maine, Ontario and Quebec. We suspect that the species is relatively common in the New England area and extends westward across the northern states to North Dakota. The genital arch and clasper were described by Hsu (1949), under the name *subquinaria*, using material from Lake Irvine, North Dakota.

Holotype male and 3 paratypes from Houghton Lake State Forest, 30 miles north of Clare, Clare Co., Michigan, collected in August 1948 by the writer; 9 paratypes from Mt. Desert Island, Maine.

Drosophila rellima, new species

This new species can usually be separated from *subquinaria* by its darker pigmentation. The abdominal pattern of a female from Nebraska is shown in Figure 4; the pattern on specimens from Oregon



Figs. 1-4, Female abdominal patterns of four species of *Drosophila*, shown in dorso-lateral view. Figs. 5-8, Inner sclerotized capsule of spermathecae. Figs. 9-12, Distal portion of aedeagus.

Figs. 1, 5, 9, *D. falleni*; Figs. 2, 6, 10, *D. recens*; Figs. 3, 7, 11, *D. subquinaria*; Figs. 4, 8, 12, *D. rellima*. The "shelf of the hypandrium" is shown in dotted outline on Figs. 10 and 11, the inset (Fig. 11b) representing, on a reduced scale, the shape of the shelf in typical European *transversa*.

and California is not quite so extensive. The mesonotum usually shows some darkening between and on each side of the dorsocentral bristles, the latter thus appearing to lie on a lighter line. The disc of the scutellum is typically darkened, the pleura shows some darker discoloration, and the sixth segment of the male abdomen is usually heavily darkened, showing very little or no pale interruption of the band medianly.

The capsule of the spermatheca is shown in Figure 8, and the distinctive tip of the aedeagus, which is somewhat like that of *magnaquinaria*, is shown in Figure 12. Males with this type of genital structure have been identified from Oakdale, Nebraska, Gold Beach, Oregon, and Montebello (near Pasadena), California. Holotype male and 11 paratypes from Oakdale, Nebraska, collected in August 1950 by the writer.

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