

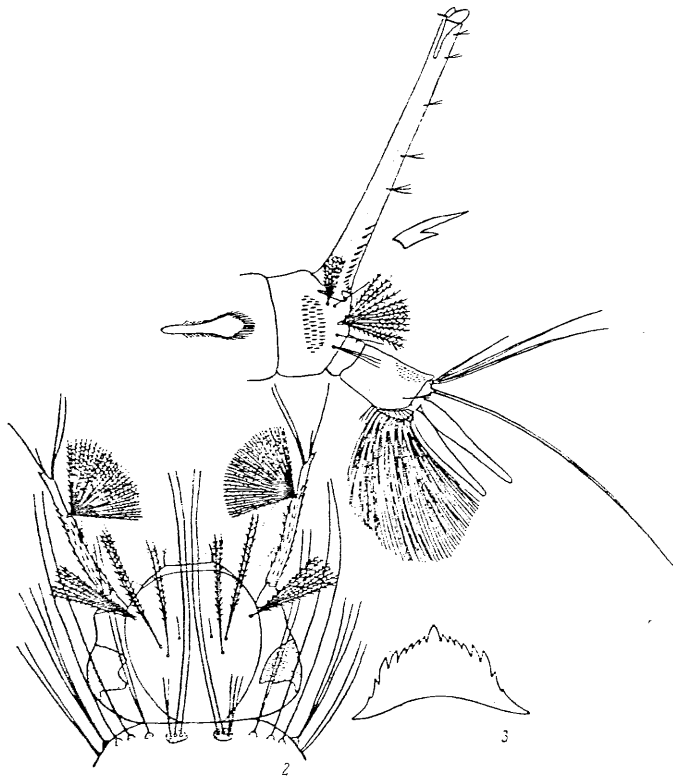
DESCRIPTION OF THE LARVA OF CULEX (NEOCULEX) RUBENSIS SASA ET TAKAHASHI (DIPTERA, CULICIDAE), A MOSQUITO SPECIES NEW TO THE FAUNA OF THE USSR

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Twelve larvae of the mosquito Culex (Neoculex) rubensis, previously known only from Japan and the south of the Korean Peninsula (Sasa and Takahashi, 1948; La Casse and Yamaguti, 1955; Lee and Lien, 1970), were found in collections made by one of the authors (Ye. S. Kupriyanova) in the Maritime Territory in the years 1962-1963. Since there are no data on this species in the literature in Russian, and since the sources referred to are not very accessible, we give below a description of the larvae found.

Fourth instar larva (Figs. 1-3) of medium size, yellow or light brown. Width of head 1.3-1.6 (on average 1.5) times length. Median frontal hairs consisting of 2-3 branches and located in front of 2-

branched inner hairs (according to published data these may also be 3-branched); both pairs of practically the same length (median hairs exceeding inner hairs by no more than 1/6); outer hairs consisting of 6-9 (most often 7-8) branches. Posterior hairs of clypeus short, simple, located between bases of median frontal hairs. Antennae long, their length 0.7-0.9 of the length of the head, apically narrowed, pigmented basally and in the narrowed part; dorsal side of antennae covered with fairly long spinules, except apically. Immediately in front of the narrowed part of the antenna there is a tuft of 24-34 branches; 2 long pigmented subapical setae originate at a distance of 1/8 - 1/5 of the length of the narrowed part of the antenna from the apex. Labial plate (Fig. 3) bearing a fairly large central



Figs. 1-3. Culex rubensis, larva.

- 1) Posterior end of body in side view; 2) head and prothorax from above; 3) labial plate from above.

tooth and 7-8 teeth on each side, of which the 3-4 teeth nearest the apex and the tooth at the base of the plate are smaller than the others.

Thorax sparsely covered with microsetae. Prothoracic hairs: 1st and 2nd very long, simple; 3rd short, consisting of 2-4 branches; 4th long, 2-branched; 5th and 6th long, simple; 7th long, consisting of 2-3 branches.

Brush of 36-54 (on average 45) scales in a triangular spot on abdominal segment VIII; row of fine spinules on apex and along sides of scales. Hairs behind brush: upper hair consisting of 4-6 branches, middle hair of 6-12, lower hair of 3-5; intermediate hairs simple.

Siphon long, slender; its basal width 1.9-2.6 (on average 2.2) times its apical width. Siphonal index 6.0-8.1, on average 7.2. A crest consisting of 11-17 (on average 14) teeth occupies between 1/6 and 1/3 (most often 1/4) of the length of the siphon; its extent on different sides of the siphon is frequently not the same. Each tooth has one subsidiary basal denticle. Distance between teeth increasing gradually distad, last tooth only occasionally set noticeably farther apart than the neighboring teeth. Clusters of 1-4 (most often 2) branches no wider than the siphon at their points of origin situated on posterior surface of siphon and strongly converged toward the median line in pairs or zigzagged, 5-6 on each side, all distad of the crest; their length and the extent of their branching decrease toward the distal end of the siphon. Length of basal clusters 0.4-0.7 (on average 0.55) of basal width of siphon and between 1/10 and 1/16 of its length. Distal end of siphon not dilated; subapical seta short and straight. Main tracheal trunks narrow, less than half diameter of siphuncle, rounded in section. Stigma plate of the type found in "Culex territans".

Length of saddle equal to its width or 1.5 times width; upper part covered with considerably larger microspinules than remaining surface. Lateral hair short, consisting of 2-5 (most often 3) branches. Outer caudal hairs simple and long; inner hairs shorter, consisting of 3-5 (most often 4) branches, of which 1-2 are longer and thicker than the rest; length of branches usually increasing distad. Float consisting of 10-14 tufts of hairs united by a common base, and 1-3 in front of them, of which 1-2 may pass through the saddle; the former consist of 4-8 branches, the latter of 1-4 branches; some specimens may lack tufts that are not connected by a common base. Gills narrow, terminally narrowed and rounded, equal in length to the saddle or up to 2.5 times its length; upper pair slightly longer than lower pair.

Biology. Breeding grounds of C. rubensis have been discovered in the vicinity of Ussuriysk (Suputa reservation), Arsen'yev and Kraskino. They are temporary bodies of water, but bodies that do not apparently dry out for a long time (semi-permanent - ruts, roadside ditches, water-filled pits), with or without vegetation, in the forest or in the open, but most often very shady. Fourth-instar larvae were found in July-August, along with C. territans and C. orientalis larvae.

The discovery of C. rubensis immediately adjacent to the Chinese and Korean frontiers suggests that it is also to be found in the regions of these countries bordering on the USSR.

Comments on systematics. In the opinion of Gutsevich et al. (1970), C. rubensis is a Far Eastern subspecies or even a synonym of C. territans, but we are unable to accept this. These authors, who refer to La Casse and Yamaguti (1955), assert that adults and larvae of the two forms are indistinguishable (p. 331). However, La Casse and Yamaguti themselves compare C. rubensis to C. apicalis, rather than to C. territans, and note a number of differences between their larvae. Confusion between the two last-mentioned species is here excluded, since the work in which they were revised (Bohart, 1948) is cited by La Casse and Yamaguti (1955). No geographical or ecological isolation has been noted between C. rubensis and C. territans, and their larvae are even better discriminated than, for example, those of C. territans and C. martinii.

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