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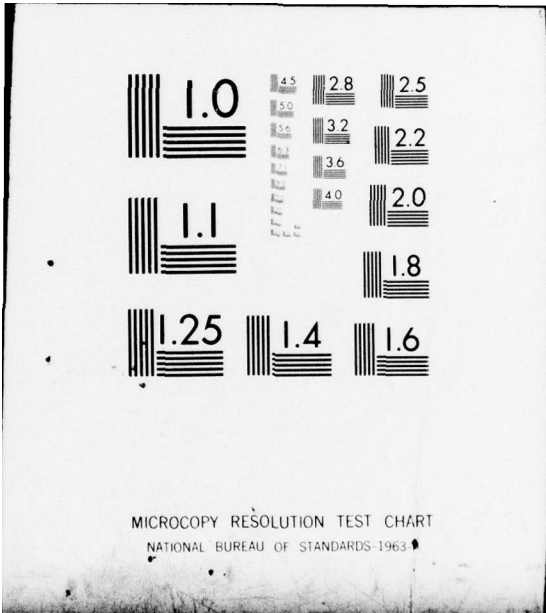
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MOSQUITOES OF COCHIN CHINA AND SOUTH ANNAM

NEOMYZOMYIA LEUCOSPHYRA - DONITZ, 1901

Syn.: A. leucosphyrus Dönitz, 1901; Myzomyia elegans James, 1903.

N. leucosphyra is a wild mosquito that is only found in Cochin China in wooded areas. The areas in which it is found are quite extensive, but it is most common in the Terres Rouges. Its larvae are sometimes encountered in great numbers during the rainy season in the puddles of roads and forest paths. These are, it seems, its preferred homes; aquatic vegetation can be non-existent or sparse but never abundant. The adult is suspected to one of the carriers of Malaria, because of the prevalence of endemic disease in the eastern regions in which the species occurs in greatest numbers. Its dimensions are average, its color is generally dark, the femurs and tibiae are dotted with pale spots; the feelers of the female have four light-colored bands; the abdomen does not have lateral clusters of scales on its segments; there are more than three spots, dark in color, on the sixth N.L.; a large pale band circles the apex of the tibiae and the base of the first tarsal joints of the posterior legs.

The very closely connected species N. leucosphyra var. hackeri Edw., 1921, has never been encountered. This fact should be noted; it should be considered with the fact that none of our searches have permitted us to ascertain the presence of the larvae of N. leucosphyra in sites composed of the hollows of broken bamboo. Hacker in his Reports to the Malaria Bureau of the Malaysian States put forth, without direct proof, the possibility of two variations of A. leucosphyra, var. hackeri and N. watsoni following the uncharacteristic aspect of its larvae sites. Stanton expressed the opinion verbally that because the A. watsoni was known only through 2 or 3 sporadic adult specimens this species could only be a variation of, or mutation of, A. leucosphyra.

In the same publication Hacker returns (1922) to the same topic and adds his observations showing that larvae of the leucosphyra type, but collected in sites such as broken bamboo and canned goods, produced the N. leucosphyra var. hackeri.

Female

Head. --Vertex and neck: spiral scales, bristled, brown at the back, white in front, the latter are organized in a triangular patch whose anterior point falls between the eyes from which point it is extended by white scales as well, but of a different shape, lanceolated, lengthened, narrow, and by bristles that are tawny at the base and white at the apex, and anteverted.

Sides: spiral scales, bristled, brown.

Eyes: black.

Antennae: twisted, amber with a silvery cast. Brown joints, white at pubescence, then pale at the level of intersection of the bristles that are tawny brown in color. Cluster of lanceolated scales, white, erect, on the internal face of the second joint. Feelers shorter than the proboscis of the length of the labella only. At the apex of all of these joints there is an pale narrow ring on the first three continuing briefly on the base of the following joint, the largest band on the apex of the distal (fig. 36).

Proboscis: tawny brown at the level of the labella.

Thorax. --Dorsally: grey slate-colored teguments, with a brown median line that widens on the central portion of the scutellum and a brown lateral ocellus at the union of the third anterior and the middle third. Golden tawny setiform scales and brown bristles; these scales and bristles are sparse and are found on the scutellum. Immediately in front a cluster of narrow scales, rather long, white, that the median line separates in half, and on the shoulders white lanceolated scales above and inside, brown below and on the outside.

Laterally: amber teguments, with a pale grey anterior-posterior line. Cluster of lanceolated brown scales on the prothoracic lobes.

Wings. --Broad, thickset scales in the basal wing area; smaller in size on ~~fourth~~ M.L.; beyond they are lanceolated. They are brown and tawny and the meeting of scales of the same hue forms patterns that can be classified as follows:

**Costa:** two narrow brown patches within the transverse humeral; another narrow patch outside; then four brown broad spots, the second of which is the largest in size. Rather narrow lighter color intervals.

**Sub-costa:** pale on its basal area with some brown scales at the level of the apex of the third costal spot; then similar to the costa to the point where they join.

**First N. L.** Pale in the basal region; an uninterrupted spot in the center corresponds to the first large spot of the costa; the second is equally uniform immediately after its beginning point and towards the apex; then a narrow brown spot corresponding to a light area on the costa, the following brown spot does not have half or two-thirds of the size of the apicals of the corresponding costal spot; apical spot has the same dimensions as that of the costa.

**Second N. L.** Scaled brown stem with pale spottings at the level of the supernumerary transverse; light-colored forking; anterior branch with three brown spots uniform in size; posterior branch also has three brown spots of which the basal is the largest.

**Third N. L.** Seven narrow brown spots, tiered along its length.

**Fourth N. L.** Scaled brown stem with lighter interstices at the level of the transverses; pale stem; anterior branch with two brown spots, inner broad; posterior stem with two brown spots equal in color.

**Fifth N. L.** Stem with five brown spots whose apical point is at the stem; anterior branch, with six brown the basal of which is inside the M<sub>1</sub>Cu; posterior branch with four brown spots.

**Sixth N. L.** With five to six tiered brown spots. The alar fringe shows a broad pale interstice at the point of its intersection with the posterior branch of the second and third N.L., narrow at the level of its intersection with the anterior branch of the fourth N.L.; another at the level of intersection with the posterior branch; a last at the height of its intersection with the anterior branch of the fifth N.L. Stems of the second N.L. and the fourth N.L. are nearly on the same plane.

M<sub>1</sub>Cu much closer to the base of the wing than RM, more than three times the importance of the latter.

**Balancers.** --Pale stem; end with miniscule scales, flat, brown, on the cap.

Abdomen. -- Tergites and sternites, with slate teguments; with tawny brown bristles. Rare scales of a golden yellow at the apex of segment 7; numerous over the area of segment 8. These scales are rather narrow and long. On the cerci hardly noticeable scales which have the same color but which are larger in size.

Legs. --Anterior pair: swollen femurs; ten or more pale **dottings** on the anterior, external, posterior faces. Tibiae: same **dottings**. Tarsi: with **dottings** on the first joint, a light distinct circle at the apex of joints 1, 2, 3; at the base of joints 2, 3, 4.

Middle pair: pattern differs from that of the anterior by the absence of the light basal circle of the 2, 3, 4 joints of the **tarsus**.

Posterior pair: femurs and tibiae with tawny **dottings** larger in size than those of the middle and anterior pairs; clearly tawny knees; broad pale ring, nearly white at the apex of the tibia which continues also on the base of the first joint of the tarsus. Body of this first joint with pale **dottings**, more distinct in the basal half; some pale points at the center of the next; apex of joints 1, 2, 3, 4, lightly circled.

Nails: small, equal in size without teeth.

#### Male

Differences between the male and the female are the following:

Head.--With antennae, long bristles, light tawny.

Feelers: longer than the proboscis half the length of the apical segment. Long segment with median bare constriction, on this side of which can be noted on the upper face a linear spot of light scales; at the widened apex a large patch of yellowish scales; the two distal segments are spatulated and on their upper face are covered with yellowish scales bounded at the base by a transversal striation of brown scales.

Legs.--On the anterior tarsi, the apical band of joints 1, 2, 3, 4 is rather broad; there is no light basal band on 2, 3, 4.

On the posterior tarsi, the light apical band of the third joint overlaps the base of the fourth.

Nails: anterior, very uneven, the largest has a tooth; middle and posterior, even, small and toothless.

Genitalia.--General type of the Myzomyia (Fig. 37, I, A). In the parbasal area only four stout bristles, three on a single line of which the outermost is longer than the others, the last stands outside and slightly to the rear of the group.

Harpago: apical bristle of average size; an accessory short bristle within it. Average club.

Phallosome: rather broad folioles of an average length.

#### Larvae

Larvae of average size, generally pale in color on which intrude the dark color of webbed bristles located on the abdominal segments III to VI (fig. 37).

Head.--Antennae: slight sharp scales on the body; lateral bristle at the union of the 3/7 basals with the 4/7 apicals.

Clypeus bristles: anterior inside, simple, long; outside anterior, simple, short; posterior, simple, inserted outside the implantation line of the inside anterior.

Occipital bristles: inside, simple, external, bifid, or nearly as frequent, simple.

Thorax.--- Without webbed bristles.

Abdomen.--On segment I, rudimentary webbed bristles, visible only when greatly enlarged and whose invariability we have noted. There are only 4 or 5 transparent folioles, lanceolated, without indentations or epaulements. The webbed bristles of segment II are of the same type with nearly double the number of folioles. On segments III, IV, V, VI, the bristles assume their normal appearance, the body is dark, the flagellum broad, large at the base where the indentations mark the epaulements. The number of folioles is from 16 to 18. On segment VII, the webbed bristles have a number of slighter folioles, without indentations or epaulements.

Comb of the eighth segment: 12 to 13 subequal teeth; the external and the internal strongest; basal denticulations.

Chitin plaques of the segments, small, except on segment VIII where the size is double that of the others (Fig. 37P).

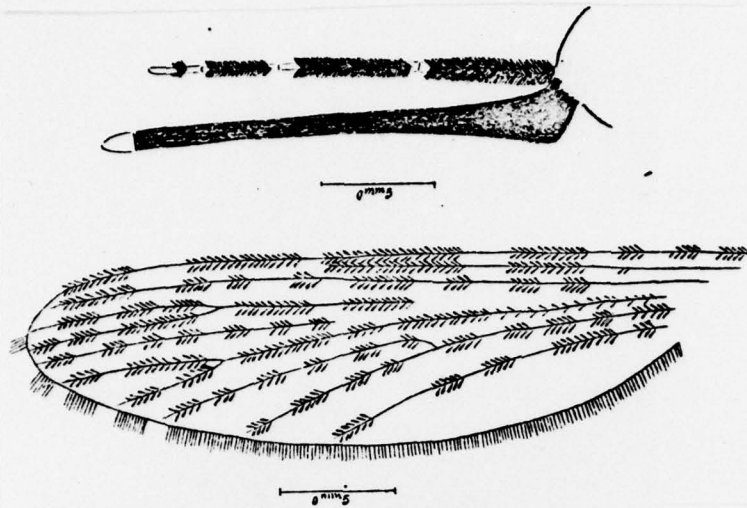


Fig. 36. — *Neomyzomyia leucosphyra*.

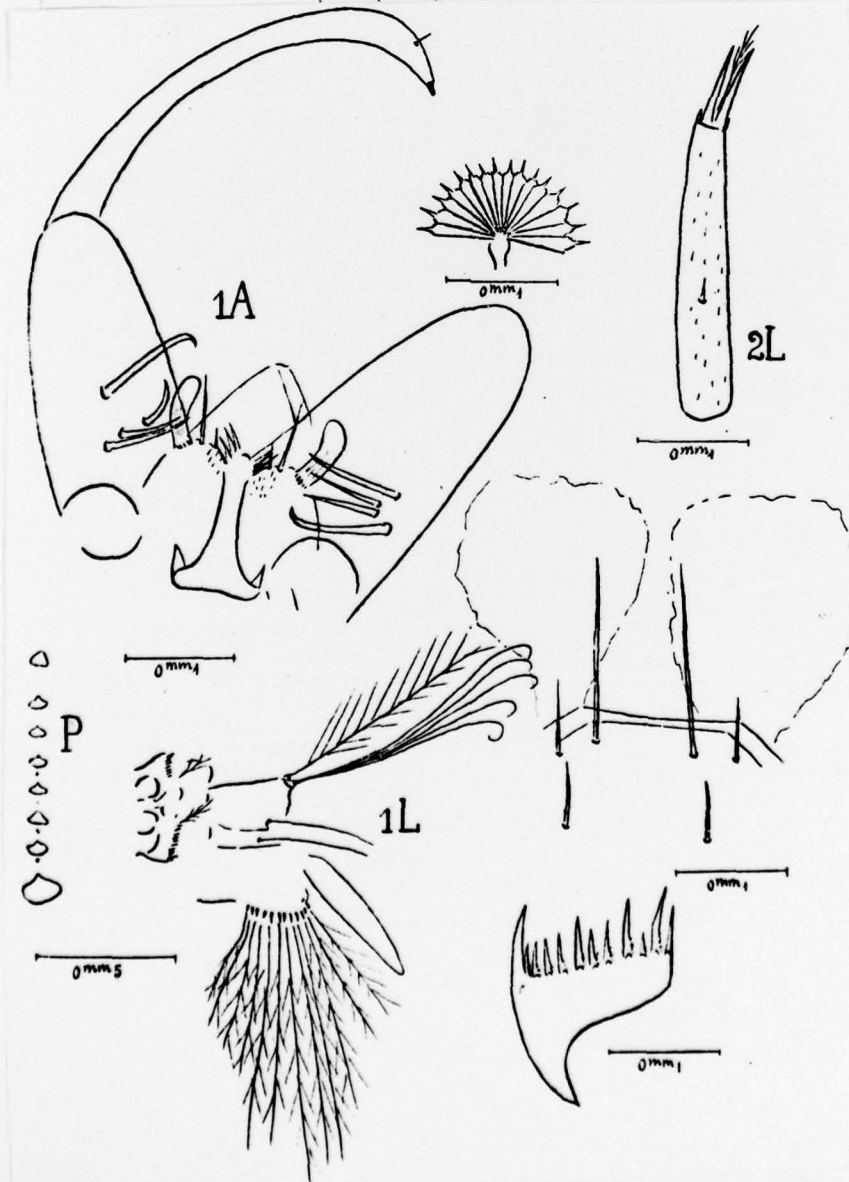


Fig. 37. — *Neomyzomyia leucosphyra*.