

of bristles, its cephalic margin angularly convex, subacute at the meson. Metanotum normal. Abdomen short and stout, subtriangular, not quite as long as the thorax, flat dorsad and not pubescent, shining, but with the squammose sculpture of the thorax, which, however, is more delicate on the abdomen. Sheaths of the ovipositor slightly exerted, ochraceous. Fore and hind wings densely ciliate in the disk; marginal vein of the fore wing short and thick, but slightly longer than wide, the stigmal vein nearly as long as the marginal and postmarginal veins combined; the latter slightly shorter than the marginal vein; fore wings extending for nearly one-half their length beyond the abdomen; a subcuneate hairless line with its apex just caudad of the stigmal vein runs from that vein cauda-proximad through the fuliginous area to the caudal wing margin, where it is widest; this hairless line is not conspicuous; joining it, or originating from it, near the caudal margin, is a narrow, curved white line, which runs apicad through the fuliginous area to its apical margin, where it splits into two; also, this line is not very conspicuous. There is also in the fore wing an inconspicuous, more deeply-coloured spot beneath the submarginal vein, just proximad of the oblique hairless line, and running somewhat parallel to it. Immediate base of fore wing naked.

Antennæ 11-jointed, inserted at the clypeal border; scape with a conspicuous, dorso-ventral, leaf-like dilatation or expansion, the dilatation appearing just beyond a short peduncle and extending to the apex, and of itself hemi-pyriform; scape longer than pedicel and joints 1 and 2 of funicle combined, the expansion with some punctures; flagellum normal, cylindrical and regularly clavate, and the club normal. Pedicel obconical, longer than any of the following joints, and slightly shorter than the combined lengths of joints 1 and 2 of the funicle; first funicle joint two-thirds the length of the pedicel, and slightly shorter and narrower than funicle joint 2; funicle joints 2 and 3 subequal, joint 3 slightly thicker, both longer than joint 1, and still more so than the three following joints; joints 4, 5, 6 of the funicle quadrate, subequal, one-third shorter and wider than joint 3; the club regularly conical, about the same length as the combined lengths of joints 4, 5 and 6 of the funicle, its basal joint one-third longer and slightly wider than funicle joint 6, and as long as, and much wider than, funicle joint 3; the intermediate joint is one-third shorter and slightly narrower than the basal joint, and narrows cephalad; the apical joint of the club conic, equal in length to the basal joint. Antennæ hispid.

May 1911.

Mandibles 3-dentate, the two inner (mesal) teeth, however, shallow, equal, and taken together like a single broad tooth notched at the centre of its apical margin; the outer (lateral) tooth acute, but very slightly longer.

(From eight specimens, two-thirds-inch objector, two-inch optic. Bausch and Lomb.)

Male.—Unknown.

This beautiful species was described from eight females reared June 23 (seven ♀s) and July 7th, 1908 (one ♀) from the same lot of *Kermes pubescens* Bogue.

Types: Accession Nos. 37,561 (five ♀s, tag-mounted) and 37,593 (♀ head and antenna, one slide, xylol-balsam), Illinois State Laboratory of Natural History, Urbana, Illinois. *Co-type*: No. 12,166, United States National Museum, Washington, D. C., two ♀s, tag-mounted.

A NEW ALASKAN MOSQUITO.

BY C. S. LUDLOW,

Army Medical Museum, Washington, D. C.

For several years there appeared in the collections of mosquitoes from Alaska what were evidently two distinct species, but in such bad condition that it was impossible to be sure just what the differences were. Now, after some four years of indcision, specimens have been received that allow of differentiation and description, and I give below the description of what seems to be a new species:

Culex borealis, n. sp.

Female.—Head very dark brown, covered with broad, curved ochraceous scales in a comparatively narrow median space from vertex to occiput, broad, flat ochraceous scales laterad and extending as lateral scales, a few fork scales, light and dark, at the nape; brown bristles projecting forward over and between the eyes; antennæ brown, verticels brown, pubescence light, basal joint testaceous, with flat pale ochraceous scales on the median aspect; palpi dark brown, with a very few light scales, mostly on the ventral side; proboscis very long (about seven times longer than the palpi), almost black; eyes reddish-brown; clypeus dark, and in some specimens the contiguous mouth-parts much distended, rather pouch-like on the ventral side.

Thorax: Prothoracic lobes dark, with pale ochraceous flat scales; mesothorax very dark, covered with large curved scales, a narrow median

May, 1911

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SMITHSONIAN INSTITUTION
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WASHINGTON, D. C. 20560

line of ochraceous scales with a very broad stripe of black ones on each side, extending from the nape to the "bare space," bordered laterally by ochraceous and black scales mixed, ochraceous scales predominating to the lateral margin of the mesothorax; near laterad of the "bare space" is often a short dark stripe, extending only a little way cephalad from the caudad margin of the mesonotum, but in some specimens this is lacking, or nearly so; scutellum covered with ochraceous broad curved scales; metanotum very dark; pleura very dark, mostly covered with flat pale ochraceous scales.

Abdomen covered with almost black scales and basal pale ochraceous bands, which vary greatly, being usually broad, somewhat widened laterally as "lateral spots," but sometimes these basal bands are narrow; the first segment has pale scales apically and mostly in the median portion, and sometimes the apical segment is mostly light-scaled; venter mostly with pale ochraceous scales, sometimes showing apical black bands, very narrow on the median part, broader laterally.

Legs: Coxæ and trochanters mostly light-scaled; femora all pale basally and ventrally, dorsally darker toward the apex, but speckled with ochraceous scales, light knee spot; tibiæ dark, but some light scales sprinkled through; 1st and 2nd tarsals also slightly speckled with ochraceous scales, the remainder of the legs usually entirely dark-scaled; unguis heavy, uniserrate.

Wings clear, brown-scaled, except at the very base, where the subcosta, at least, has, on many specimens, bright ochraceous scales. Cells large; 1st submarginal a little longer than 2nd posterior, and about $\frac{1}{3}$ longer than its petiole, the bases nearly on a line; root of the 3rd longitudinal vein about as long as the mid cross-vein which it meets nearly in a straight line; posterior cross-vein about the same length as the mid and its own length distant.

Length, 10 mm., of which 3.5 is proboscis.

Habitat.—Alaska. Taken June, July, August.

The dark submedian thoracic stripes are nearly black, and do not suggest in any way the brown markings of *Currei*, *latavittata* or *pretans* nor do they resemble the brown stripes of Felt's *absobrinus*, of which Dr. Felt kindly sent me specimens for comparison, and it seems likely it is a new species. It occurs in great numbers, sometimes with an apparently closely-related species, which, however, lacks thoracic markings, and is most likely *nigripes* (or *impiger*). So far this new species has never been sent in with *T. alaskaensis* Mihi, which has apparently a much more restricted distribution.

BOOK NOTICE.

"THE CODLING MOTH": L. Cæsar. Bulletin 187, Ontario Department of Agriculture. 40 pp., 21 figs. (Toronto, Ont., Jan., 1911.)

To say that this publication "fills a long felt want," if it has the disadvantage of echoing the words of hurriedly written notices and reviews of books, is only expressing our firm conviction. Every entomologist in Eastern Canada, we say "eastern" advisedly, has realized the need of a clearly written and practical bulletin on this insect, which is, of all insects attacking the apple, the most universally destructive. It has remained, however, for Mr. Cæsar to endeavour to supply that need, and he is to be congratulated on the successful manner in which he has accomplished his task. He has added to the increasing list of valuable publications written by members of the staff of the Ontario Agricultural College one which is second to no other in its manner of treatment, simplicity of expression, so important in these bulletins of an educational character, and in the description of the practical methods of control.

The account of the life-history of the moth, which succeeds the introduction, contains many original observations. These, together with the observations of other investigators, increase the utility of the bulletin to no small extent, as so many accounts are mere compilations, and inapplicable to local conditions, which must, of necessity, be studied. The author's experience of orchard conditions in Ontario, and his intimate acquaintance with the practical work of spraying, give the bulletin the impress of authority and a markedly increased value. We are pleased to note his insistence on thorough spraying. In view of the debated question as to the efficacy of the single-spraying for controlling the Codling Moth, the author's experience, in which this method resulted in an average of 90 per cent. worm-free fruit, is worthy of note. As we presume the author is not responsible for the inversion of Figure 4, we will not criticize the only one of twenty-one excellent illustrations to which reference might be made.

We hope that the free distribution of the bulletin by the Department of Agriculture for Ontario will result in a marked increase in the practice of judicious and thorough spraying, the beneficial effect of which will be incalculable.

C. G. H.

Mailed May 12th, 1911.