

## PRELIMINARY STUDIES IN SIPHONAPTERA.--III.

BY CARL F. BAKER, FORT COLLINS, COLO.

*Genus Pulex (continued.)*

## DIVISION II.

Mandibles short, not reaching ends of anterior coxæ ; spines in pronotal comb, 14 to 26. Group 1.

Mandibles long, reaching to or beyond ends of anterior coxæ ; spines in pronotal comb, 16 to 20. Group 2.

## TABLE OF SPECIES OF GROUP 1.

Spines in pronotal comb, 14 to 20. . . . . A.

Spines in pronotal comb, 24 to 26 : hind femora with a row of minute bristles on side ; first two or three abdominal segments with minute teeth on disc above ; first claspers of male without short black teeth ; bristles on second antennal joint shorter than third joint ; length, 3-3.5 mm. ; colour dark brown . . . . . *avium*.

A. Abdominal segments each with one row of bristles ; eyes very large, longer than third antennal joint, the upper edge extending above middle of head ; bristle on second antennal joint reaching to end of or beyond third joint ; maxillary palpi with joint 2 shorter than 4 in male, as long as 4 or longer in female ; head in female evenly rounded from occiput to mouth, in male flat on top, rounded in front ; pronotal comb of 14 spines ; first two or three abdominal segments without minute teeth on disc above ; in anterior tarsi joint 5 is as long or longer than 1 and 2 together and longer than 3 and 4 together ; in middle tarsi joint 5 is three times 4 and as long as 2 or longer, while 2 is longer than 1 and as long or longer than 3 and 4 together ; in posterior tarsi last three joints are very slender, 5 about equal to or shorter than 3 and 4 together, 2 equals three times 4, as long or longer than 5 and longer than 3 and 4 together, while 1 is much longer than 5 and nearly three times as wide ; hind femora with a row of minute bristles on side ; colour dark brown ; length: male, 2 mm. ; female, 2.25-2.5 mm. *glacialis*.

AA. Abdominal segments each with two rows of bristles ; spines in pronotal comb, 16 to 20. . . . . B.

B. Hind femora with a row of minute bristles on side ; eyes small, near lower edge of head ; antennal groove in anterior half of head ; in anterior tarsi joint 5 is shorter than 1 and 2 together and shorter