

CLASSIFICATION.

The members of the order Plecoptera, or stoneflies, have four reticulate, membranous wings; the hind wings are generally much broader than the fore wings, are usually folded, and together with the fore wings mostly lie flat upon the abdomen when at rest. The mouthparts are of the biting type of structure, but are frequently poorly developed. The metamorphosis is incomplete.

Adult stoneflies, as a rule, are of a dark brown color; some (*Chloroperla*, *Alloperla*, *Isoperla*) are yellow or greenish. The body is elongate and flat. The head bears a pair of long, slender, filamentous, many-segmented antennae. The last segment of the abdomen bears two many-segmented cerci or tails, except in the *Nemouridae*, where the cerci are composed of a few segments or of only one. The legs are slender with three-jointed tarsi and two tarsal claws. There is a pair of compound eyes and there are three, in some genera, two ocelli. In some species the wings of the male are considerably reduced and in a few instances (*Capnella*) the males are wingless. The venation of the wings varies considerably, especially on the outer half of the wing, and can be used for distinction of genera. The hind wing is peculiar in that the radial sector at its base is fused with the median vein. The structure of the genitalia is fairly constant within the species and in most genera the genitalia of both males and females furnish excellent characters for specific determinations.

The stoneflies constitute one of the smaller orders of Neuropteroid insects. In North America, north of Mexico, we find the following four families represented: *Pteronarcidae*, *Perlidae*, *Nemouridae* and *Capniidae*. Originally these families were considered as tribes or subfamilies under the single family *Perlidae*; of late, however, there has been a tendency to multiply the number of families.

In the following pages are described 207 species, grouped in 24 genera. We have not adopted all the genera that have been proposed of late. Many of the new ones, bearing cumbersome names, are based on secondary sexual characters peculiar to one sex and so trivial they can hardly be considered as of more than specific value. Insofar as we have been able to recognize these nominal genera and to assign species to them we have retained the names of all as subgenera, and have so included them all in the systematic list at the end of the volume.