penniforms or Plannipennians are *permaturative*, it might be questioned whether the latter groups should not rank before the Termitideans, among Neuropters. If so, then the groups considered as Dipteroid and Lepidopteroid would stand above the Hymenopteroid. But since Hymenopters are the highest of Apipens (and the highest therefore of Insects), and consequently occupy a level far above that of the Dipters (the second subdivision of Apipens), or that of the Lepidopters (the first of Amplipens), it is natural that the descent required to bring the Hymenopterous type down to a Neuropterous level should be much the greatest; and hence comes apparently this sinking to the *pre*maturative characteristic,—the *Hymenopteroid* division *prematurative*, being not below the Dipteroid or Lepidopteroid *permaturative.*

c. Perattenuates or *Typical Attenuates.*—The body and wings in these species are narrow or long-amplificate, the posterior wings sometimes small or wanting. The species are *semiaquatic* and *prematurative.*

They include: (1) the *Libellulideans*, which have the wings nearly equal, and the mandibles stout; and (2) the *Ephemerideans*, which have the posterior wings smallest and sometimes obsolete, and the mouth organs in the adult atrophied. The latter show their inferiority in being short-lived and in eating nothing or but little in the adult state; the functions of the adult are almost solely those of the *posterior* portion of the body.

II. PTERO-METASTHENICS, OR ELYTROPTERS.

a. Coleopters.—Coleopters, in their compact structures consisting of well-adjusted parts, their comparatively limited diversity of form, and their being imitated by many species of other tribes while never themselves imitators,[8] exhibit the characteristics of a type of the highest grade in its subdivision. At the same time they show inferiority to the Hymenopters in their

[8] A. S. Packard brings out this fact, in his pamphlet, in connection with the corresponding one with regard to Hymenopters already cited. He says "There is a similar parallelism of analogous forms between the Coleoptera, Hemiptera, Orthoptera and Neuroptera, which seem bound together by affinities such as those that unite by themselves the Bees, Moths, and Flies." "The suborders below reach up and connect themselves by these remarkable analogies with the Coleoptera, which do not in turn assume any of their forms. Some Orthoptera are very Coleopterous-like, and some Hemiptera are very Coleopterous-like. The reverse cannot be said."

Mr. Packard, adopting, yet it would seem from his words provisionally, the two grand divisions of Insects of *Mandibulates* and *Haustellates*, remarks that they *culminate* in the Coleopters and Hymenopters, respectively. As the Hemipters are *haustellate*, the facts respecting their relations above mentioned go against this old division of Insects and sustain fully the new arrangement proposed in which the Hemipters follow the Coleopters although the latter are mandibulate,—the distinction of mandibulate and haustellate, as the system shows, being one of minor importance.