

under the former (the Dipters) have the *posterior* wings obsolescent, and those under the latter (Strepsipters) the *anterior*.<sup>2</sup>

Insects of the first of these grand divisions are eminently *pterosthenic* or *strong in the wing*—Hymenopters, Dipters, Lepidopters and Neuropters being relatively good flyers. Those of the second are as decidedly *podosthenic*—Coleopters, Hemipters and Orthopters being relatively poor flyers, and strong in the leg. Consequently the terms *Pterosthenics* and *Podosthenics* might be employed for the two grander divisions of Insects, as well as for those of Birds (Art. I, p. 343). Yet their use in the two cases would be different; for in Birds the wings and legs are relatively *anterior* and *posterior* members, and not *dorsal* and *ventral* as in Insects. But since the dorsal and ventral parts have a similar opposite relation to the systemic centre as the anterior and posterior, as just now remarked, the difference is one of degree rather than of kind.

As there are *pteroprosthentic* and *pterometasthenic* Insects, so there are *podoprosthentic*, or those in which the *anterior* legs are stronger than the posterior, and *podometasthenic*, or those in which the *posterior* are the main organs of locomotion. Fleas and Grasshoppers, as they use their hind-legs for leaping, are examples of the latter. This sthenic difference in the feet, though of less weight as a mark of grade than that in the wings, is of real value among inferior subdivisions.

The *Thysanures* or *Apters*, which constitute the third grand division, are *urosthenic*, most of the species having even the power of leaping by means of the caudal extremity.

After these observations on the grander subdivisions of Insects, I present a synopsis of the general system of classification arrived at by the aid of the principles explained; and following this, some of the characteristics of the groups, especially those which are marks of grade on the basis of these principles. To the names in the synopsis are added only the two characteristics of (1) *perterrestrial* (terrestrial in both larval and adult life) or *semiaquatic* (aquatic in larval life), and (2) *permaturative* or *pre-maturative*.

### I. Ptero-prosthentics, or Ctenopters.

1. APIPENS (from *Apis* bee and *penna* wing, the wings being approximately like those of the Bee).

a. *Hymenopters*.—Perterrestrial. Permaturative.

b. *Dipters*.—Mostly perterrestrial. Permaturative.

c. *Aphanipters* (Fleas).—Perterrestrial. Permaturative.

<sup>2</sup> As the anterior pair (or that which is obsolescent in the Strepsipters) is of little functional value in the *Pterometasthenics*, the distinction of two-winged or four-winged among them is of much less importance than among the *Pteroprosthentics*. Moreover, there is a line of gradation from ordinary Coleopters to the Strepsipters through the Rhipiphoridae.