

the Dipterous order, almost every Hymenopterous genus having its representative in the latter." The analogies as well as affinities are so many and close that there can be no question as to the union of the Hymenoptera and Diptera in the one group of Apipens.

c. *Aphaniptera*.—Fleas have a suctorial or haustellate mouth like Diptera, and firm shining integuments like Hymenoptera; and, as with the higher species of both tribes, they are permatulative in the highest degree, and perterrestrial. But while thus related to the Hymenoptera and Diptera, they differ from both, not only in the less important fact of having no wings, but in being metapodosthenic, for the hind-legs are not merely the longest pair, but the main reliance in leaping. They show that they are an independent type, also, in the structure of the haustellate mouth, which is different from that of the Diptera; and also in their strength and agility. DeFrance asserts that the female places with the eggs some bits of dried blood; and if so, there is a degree of nursing among Fleas which is an additional relation to the Hymenoptera. The body is amplificate behind. The absence of wings is to be attributed to ellipsis through decephalization.

2. *Amplipens*.—The Amplipens are amplificate species, being eminently broad- or long-amplificate in their wings, and usually either long- or gross-amplificate, or both, in body; and among them there is a very wide diversity in shape and size, in which respect they are quite in contrast with the Hymenoptera. The wings in the more typical species are slow in motion and are covered with scales and variously colored, often seeming like a wide spread of canvas for the display of pretty colors. The mouth in the adult is rostrate (except in a hypotypic group of species that eat nothing in the adult state) and has no function besides that of feeding. The species are all perterrestrial, except in the hypotypic group referred to. Those of the highest subdivision are permatulative, and the rest are prematurative; and when permatulative they are so only in the second degree (Char. VI, A. b.), the larvae being very active, and furnished with strong jaws and feet.

a. *Lepidoptera*.—The wings of Lepidoptera are typically very broad-amplificate, scale-covered and variously colored, with the anterior pair the larger; in inferior species the wings are comparatively narrow, but through degradation of type. The amplificate character of the tribe is also apparent in the fact that the *smallest* species are far larger than the smallest of Apipens and of most other tribes of Insects. The mouth is haustellate, with the mandibles atrophied or nearly so.⁶ The species are all

⁶ It has been argued that since the larvae of Lepidoptera have mandibles, while the butterflies have these organs only in a rudimentary state, the latter condi-