

received a similar statement from the eminent naturalist, M. de Quatrefages. Captain Hutton also says⁷⁶ that the moths of all kinds vary much in colour, but in nearly the same inconstant manner. Considering how much the cocoons in the several races differ, this fact is of interest, and may probably be accounted for on the same principle as the fluctuating variability of colour in the caterpillar, namely, that there has been no motive for selecting and perpetuating any particular variation.

The males of the wild Bombycidæ "fly swiftly in the day-time and evening, but the females are usually very sluggish and inactive."⁷⁷ In several moths of this family the females have abortive wings, but no instance is known of the males being incapable of flight, for in this case the species could hardly have been perpetuated. In the silk-moth both sexes have imperfect, crumpled wings, and are incapable of flight; but still there is a trace of the characteristic difference in the two sexes; for though, on comparing a number of males and females, I could detect no difference in the development of their wings, yet I was assured by Mrs. Whitby that the males of the moths bred by her used their wings more than the females, and could flutter downwards, though never upwards. She also states that, when the females first emerge from the cocoon, their wings are less expanded than those of the male. The degree of imperfection, however, in the wings varies much in different races and under different circumstances. M. Quatrefages⁷⁸ says that he has seen a number of moths with their wings reduced to a third, fourth, or tenth part of their normal dimensions, and even to mere short straight stumps: "il me semble qu'il y a là un véritable arrêt de développement partiel." On the other hand, he describes the female moths of the *André Jean* breed as having "leurs ailes larges et étalées. Un seul présente quelques courbures irrégulières et des plis anormaux." As moths and butterflies of all kinds reared from wild caterpillars under confinement often have crippled wings, the same cause, whatever it may be, has probably acted on silk-moths, but the disuse of their wings during so many generations has, it may be suspected, likewise come into play.

The moths of many breeds fail to glue their eggs to the surface on which they are laid,⁷⁹ but this proceeds, according to Capt. Hutton,⁸⁰ merely from the glands of the ovipositor being weakened.

As with other long-domesticated animals, the instincts of the silk-moth have suffered. The caterpillars, when placed on a mulberry-tree, often commit the strange mistake of devouring the base of the leaf on which they are feeding, and consequently fall

⁷⁶ 'Transact. Ent. Soc.,' ut supra, p. 317.

⁷⁷ Stephen's Illustrations, 'Haustellata,' vol. ii. p. 35. See also Capt. Hutton, 'Transact. Ent. Soc.' ibid., p. 152.

⁷⁸ 'Études sur les Maladies du Ver à Soie,' 1859, pp. 304, 209.

⁷⁹ Quatrefages, 'Études,' &c., p. 214.

⁸⁰ 'Transact. Ent. Soc.,' ut supra, p. 151.