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CHARACTERISTIC DIFFERENCES BETWEEN THE MALES AND THE FEMALES OF LEPIDOPTERA.

The intention of the writer is not to examine these differences in all the species of Lepidoptera, but only to expose some general laws which govern this matter. Although few are absolute, they are however interesting enough to deserve the attention of entomologists. This paper will be restricted to the differences which are apparent to the most casual observer and will leave out those which are beyond the reach of easy observation.

The most characteristic difference between the two sexes of Lepidoptera is the size; the females are generally larger than the males in the four stages through which Lepidoptera pass (egg, caterpillar, chrysalis, and perfect insect). This character, very remarkable in *Satyrus Phædra*, *Thecla Betula*, *Bombyx quercus*, etc. belongs to nearly all the species. Exceptions are scarce; we know only two butterflies, *Nemeophila russula* and *Fidonia atomaria* of which the females are smaller than the males.

Another general difference is to be found in the color of the wings, which is in the females paler than in the males. As examples we may mention the female of *Colias Hyale*, which is yellowish white, while the male is of a sulphur yellow color. We may also name *Argynnis Aglaia*, *Erbia Medea*, *Spilothyrus althea*, *Lasiocampa populifolia*, etc. in which the male is always darker than the female. When the males have some spots or markings on the wings, it is noticeable that the females have generally larger and more numerous spots. This character can be easily seen in *Pieris Briassica*, *Erebia Cassiope*, *Chionobas Olle*, etc. Sometimes even the male has no markings, while the wings of the female are more or less spotted. This occurs in *Polyommatus Eurydice* and *Lycæna Argiolus*.

Besides these differences in size and in color, there is a marked

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