

however, more produced, there are no white spots on the costa near the apex, beneath the wings have a more metallic sheen, and there are other slight differences which, taken with the difference of habitat, seem of some importance.

This butterfly is included in our fauna on the strength of a single male specimen sent us by Mr. H. K. Morrison from the United States and Mexican frontier, between Southern Arizona and Northern Sonora.

Mr. W. H. Edwards has given an interesting account of the relationships of the North-American butterflies of this form, showing that distinguishing characters between *L. astyanax* (= *L. ursula*), *L. proserpina*, and even the white-banded *L. artemis*, cannot always be traced*. With these *L. arizonensis* will probably have to be placed, unless it be proved to have a definite area in which its distinctive characters though slight are fairly constant.

CHLORIPPE.

Chlorippe, Boisduval, Lép. Guat. p. 47 (1870).

In this genus we place, with a few exceptions, the Neotropical species hitherto included by most writers in *Apatura*. The neuration of the primaries is much as in that genus, the subcostal emitting two branches before or at the end of the cell. The difference from *Apatura* consists in the shape of the front legs of the male, which have the tibia and tarsus flattened and divided into three longitudinal sections by two grooves running along each of these joints. These legs are always of a pale green colour, and this, too, seems to be characteristic †.

Chlorippe thus considered contains about twenty-three species, which are distributed over the Neotropical region, some, such as *C. cyane*, having a very wide range.

There seem to be three sections at least of this genus, one represented by *C. laure* and *C. cyane*, the second by *C. vacuna*, and the third by *C. zunilda*, the two former having the same neuration and structure of front legs; in the latter the second subcostal branch starts at the end of the cell and the joints of the legs are less flattened. The secondary male sexual organs in *C. laure* have a tegumen with a central somewhat depressed spine, below which, in the anal cavity, is a strong slightly upturned central spine; the harpagones are hairy at the end and on the outer surface, but are without spines. In *C. vacuna* the tegumen is shorter and stouter, and the central piece below is also shorter and pointed downwards and not upwards; the sexual armature in *C. zunilda* is much as in *C. laure*. The palpi in *Chlorippe* vary in the length of the terminal joint, which is short in *C. laure*, not above one fifth the middle joint, which is slightly

* 'Butterflies of North America,' second series, part viii. *Limenitis* I.

† Messrs. Butler and Druce in noticing this genus of Boisduval's speak as if the describer had said the palpi were green, and finding that they were not so, at once rejected the name *Chlorippe*. But it was the front legs and not the palpi which Boisduval rightly describes as green.