

On the whole *H. petiveranus* is fairly constant in its markings; but the more northern specimens have the yellow band of the secondaries very narrow, but do not otherwise differ.

This species is quite characteristic of the hot regions of Central America, being always to be seen in the forest-paths of the tierra caliente. It is never to be met with in the temperate region, its home lying between an elevation of about 2000 feet and the sea-level. In such localities we found it everywhere in Guatemala.

The nearest allies to *H. petiveranus* are *H. phyllis* and *H. beskii*, both of South-eastern Brazil. In Guiana and the Amazons valley no allied species is found.

### 17. *Heliconius melpomene*.

*Papilio melpomene*, Linn. Mus. Ludov. Ulr. p. 232<sup>1</sup>; Cr. Pap. Ex. t. 191. f. C<sup>2</sup>.

*Heliconius melpomene*, Bates, Trans. L. S. xxiii. p. 557<sup>3</sup>.

Alis fusco-nigris, anticis fascia irregulari lata transversa per cellulæ finem coccinea; subtus dilutioribus, punctis ad basin coccineis, posticis costa flavo notata.

*Hab.* NICARAGUA, Greytown (*Muncaster*); PANAMA, Santa Fé and Calobre (*Arcé*), Lion-Hill station (*M·Leannan*).—NORTH COLOMBIA; VENEZUELA; GUIANA<sup>2</sup>; AMAZONS, Obydos and Santarem<sup>3</sup>; NORTH BRAZIL, Maranham.

Linnæus's description<sup>1</sup> seems to apply to this species; and Cramer's figure<sup>2</sup> certainly does; but the plates referred to by the former do not support his description, that in Edwards's 'Natural History of Birds,' t. 38, representing one of the forms of *A. melpomene* with red at the base of the primaries, and that in Sloane's 'History of Jamaica' being of very doubtful application. The name *H. melpomene*, however, has now a well-established meaning, and we use it in the same sense as Cramer and Mr. Bates. It is a butterfly of wide range throughout the northern parts of South America, and passes into Central America as far as the port of Greytown in Nicaragua. Except that the average size of Central-American specimens is rather small, we see no difference between them and Southern examples. In all the shape of the red spots of the primaries is very variable. In Colombia an allied form with a blue gloss on the wings has been described by Mr. Reakirt as *H. guarica*\*; but this has not yet been certainly found in Central America, though Boisduval includes it under the name *H. euryas*†. In Western Colombia, too, a species somewhat intermediate in its markings between *H. melpomene* and *H. petiveranus* occurs, which Mr. Butler described under the name *H. vulcanus*‡, giving Panama as its habitat. We believe, however, that it, in fact, hardly occurs within our limits, but just beyond them; for from San Buenaventura on the west coast of Colombia we have specimens supplied us by Dr. Staudinger, the species being unknown to our collectors on the isthmus itself.

\* Pr. Ac. Phil. 1868, p. 91.

† Lép. Guat. p. 29.

‡ P. Z. S. 1865, p. 433.