

from the type, and approach the more northern *H. zuleika* in coloration. *H. zuleika*, on the other hand, is also subject to variation in the colour of the spots of the primaries, and thus approaches *H. jucundus*; so that there seems to be almost a gradual passage from one to the other.

The most obvious distinction between the two is the black transverse band of the secondaries, present in *H. jucundus*, but absent in *H. zuleika*. In some specimens of the former this is evanescent, and in one entirely wanting. The colour of the spots of the primaries is another distinctive character, those of *H. jucundus* being white, and those of *H. zuleika* yellow; but we have specimens of the former in which some spots are yellow and others white; and in some, as in the type of *H. xanthicus*, they are all yellow. In *H. zuleika*, on the other hand, the same thing occurs in a few specimens from the southern extremity of its range; some of the spots are white, and some yellow; and in one from the western part of the State of Panama all the spots are white, as in *H. jucundus*. The best guide to distinguish these insects seems to be the colour of the base of the cell of the primaries. This part in *H. jucundus* is orange-tawny, the costa alone and a spot in the middle of the cell being black, whereas in *H. zuleika* the costa, this spot, and the whole of the base of the cell are uniform black, which colour unites with the black of the apex of the wing.

As regards *H. xanthicus*, which Mr. Bates separated from *H. jucundus* with some hesitation¹, we are now of opinion that it is not deserving of this distinction, as it is found with *H. jucundus*, and a series of specimens in our collection unites it with that species by almost insensible steps.

H. jucundus seems to be common about the line of railway across the isthmus of Panama, whence the late James M'Leannan sent us a quantity of specimens. In its typical coloration it seems almost restricted to this limited district, as in the western portions of the State of Panama *H. zuleika* entirely supplants it.

7. *Heliconius zuleika*.

Heliconia zuleika, Hew. Ex. Butt., Hel. t. 3. f. 10¹; Boisd. Lép. Guat. p. 30².

Heliconius zuleika, Butl. & Druce, P. Z. S. 1874, p. 351³.

H. jucundo similis, sed maculis anticarum flavis, nec albis, cellula ad basin tota nigra nec aurantiaco-fulva, et fascia transversa posticarum absente, diversus.

Hab. GUATEMALA, Yzabal (*F. D. G. & O. S.*); NICARAGUA^{1 2} (*Bridges*), Chontales (*Janson*); COSTA RICA (*Van Patten*³), Volcan de Irazu (*Rogers*); PANAMA, Volcan de Chiriqui, 2000 to 3000 feet (*Champion*), Veraguas (*Arcé*).

As will be seen above, this species has a much wider range than *H. jucundus*, extending as far north as Guatemala, where, however, it is rare, the only specimens we have from there having been captured by ourselves in the forests close to Yzabal. In Nicaragua and thence southwards to the State of Panama it is much more common,