

*Dimensions*.—Abdomen, ♂ 34–42, ♀ 29–33·5 mm.; hind wing, ♂ 24·5–31·5, ♀ 27–32·5.

This species is very closely allied to *H. cruentata*, differing from it less than do some individuals of *H. americana* from each other. I have not, however, been able to find transitional forms between *H. cruentata* and *H. vulnerata* such as connect the varying individuals of *H. americana* into one species.

The chief differences of *H. vulnerata* from *H. cruentata*, Ramb., appear to be:—

♂. Inner inferior edge of the superior appendages with a median convex enlargement, which is not angular from any point of view; this enlargement is followed by a small acute tooth, usually not visible from directly above, but to be seen when the appendage is viewed from the inner side at an angle of 45° with the horizontal plane. In *H. cruentata* the corresponding enlargement is more pronounced, so as to form a tubercle, which appears angular at its distal side, and there is no small tooth following.

Of the other differences given in the 'Monographie des Calopterygines,' p. 130, none seem constant enough to be diagnostic. Thus some *H. vulnerata* males (*e. g.* from Dublan and Orizaba) have the epistoma metallic blue: many *H. cruentata* have it metallic green. *H. vulnerata*, ♂, usually has the thoracic dorsum dark coppery-red almost to the humeral suture (which is occupied by a narrow yellowish-brown stripe), and the mesepimeron dark brown, with a metallic coppery reflection; *H. cruentata*, ♂, has the dark mid-dorsal metallic band reaching only about halfway from the mid-dorsal carina to the humeral suture, and only the posterior half of the mesepimeron dark-coloured and metallic, so that there exists a wide brownish-yellow or brown non-metallic stripe between the two metallic ones, whose width is as great as that of the mesepimeron and of which the humeral suture forms the median line. Yet a *H. vulnerata*, ♂, from Orizaba, agrees with *H. cruentata* in this respect. The inner surface of all the femora is yellowish-brown in the younger individuals of both species, but disappears, giving place to blackish with increasing age in both. The tips of the front wings are distinctly edged with brown in some males of *H. vulnerata* (from Omilteme and Cuernavaca), while they are perfectly clear in some males of *H. cruentata* (from Caché and San Gerónimo), although other individuals from the same localities have the brown edging. I am unable to find any differences in the obtuseness of the basal red spot, or in the degree of complication of the postcostal reticulation. The area between the costa and the median on the front wing is in some *H. cruentata* as clear as it usually is in *H. vulnerata*. No more constancy exists in the degree of snowy whiteness of the reticulation of the under surface of the basal spot of the hind wings, which whiteness, indeed, seems to increase with the age of the individual.

♀. After having attempted to distinguish the females of *H. vulnerata* and *H. cruentata* according to the differences given in the 'Monographie,' with results quite improbable, when compared with the numbers and geographical distribution of the males of these two species, and noting that no previous authors have stated that they