

NOTES ON SOME POPULATIONS OF *HELICONIUS HEURIPPA* IN COLOMBIA (LEPIDOPTERA: NYMPHALIDAE: HELICONIINAE)

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ABSTRACT.— The aim of this work is to give some information about the habitat and habits of *Heliconius heurippa* Hewitson, 1854, in Colombia, with a population from Eastern Cordillera. This species is comparatively studied in relation to genealogy and taxonomic status with *Heliconius cydno* Doubleday, 1847, and *Heliconius melpomene* Linnaeus, 1758.

KEY WORDS: behavior, Brazil, distribution, Neotropical, Passifloraceae, South America.

Heliconius heurippa Hewitson, 1854 (Fig. 1) is a very localized species of Heliconiinae, mentioned by Fassl (1910, 1912), Apolinar (1927), Smart (1976), Brown (1977), and D'Abbrera (1984), among others. Its habitat is in the Eastern Andes of Colombia. The geographic site for Brazil, mentioned by Lewis (1975) and D'Abbrera (1984), will have to be verified. The largest populations have been reported in the area of Villavicencio (Meta) and Medina (Cundinamarca), at altitudes between 1200 and 1900m above sea level (Fassl, 1910). *Heliconius heurippa* comprises a separate species, very much related to *Heliconius cydno* Doubleday, 1847, and its subspecies. As occurs with the above mentioned group, *H. heurippa* has colonized areas of medium altitudes of the Andes. Towards the northern side of the Eastern Andes, this magnificent species is replaced biogeographically by *Heliconius cydno cordula* Neustetter, 1913 (Fig. 2), so that the possibility exists that *Heliconius heurippa* is of a more primitive nature, which has been isolated in its distribution by a biological dissemination due to Pleistocene influences, although this is only speculation. The wing pattern of this butterfly is quite similar to some forms of *H. cydno*, such as *Heliconius cydno emilius* Weymer, 1912 and *H. cydno wernickei* Weymer, 1906 (Fig. 3), which are encountered in their habitat in the tropical forests of the Magdalena Medio (part of the Central Andes), as well as *Heliconius rubellius* Grose-Smith & Kirby, 1892 (Fig. 4-6), very likely a hybrid between *H. cydno* and *Heliconius melpomene* (Linnaeus), as stated by Brown, Jr., and E. W. Schmidt-Mumm (pers. comm.). On the other side, Fig. 7 exhibits an apparent hybrid which seems to prove that *H. melpomene* has an extensive polymorphic (Müllerian) evolution, as it shares the same habitat with *H. heurippa*, and was collected in Chirajara, on the road to Villavicencio.

HABITAT AND BEHAVIOUR

The foremost habitat of *H. heurippa* is the transitional premontane and very humid tropical forest (Holdridge, 1971), characterized by high humidity, steep topography that descends sharply towards the jungle, surrounding the Guavio River (Medina) and

the Rio Negro (Cundinamarca-Meta).

The hostplant, as for all Heliconiinae, is a Passifloraceae. Besides the imago, pupae and eggs were recorded by Fassl (1910). The adults are mostly active in the morning hours (9AM to noon), or quite frequently again around 3PM in the afternoon, usually flying around their food plant. The habitats of the Guavio and Rio Negro ravines belong to the presumed refuge of Villavicencio (Brown, 1976, 1977), which includes the upper Rio Negro, Medina, and part of the southern mountainside of the Eastern Andes, up to the "Sierra de la Macarena". *Heliconius heurippa* is clearly indicative of marked endemism, and should be protected as such, if we consider its limited distribution and small populations wherever it is to be found, knowing also that most areas where *H. heurippa* lives are being deforested at a fast pace.

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REFERENCES

- Apolinar, H.**
1927. Nuevos heliconios colombianos. *Bol. Soc. Col. Cienc. Nat.* (Bogota), 16(92): 117-120.
- Brown, K. S., Jr.**
1976. Geographical patterns of evolution in neotropical Lepidoptera. Systematics and derivation of known and new Heliconiini (Nymphalinae). *J. Ent.* (London), (B) 44(3):201-242.
1977. [In Descimon]. Geographical patterns of evolution in neotropical forest Lepidoptera (Lep: Ithomiinae and Nymphalinae: Heliconiinae). *Publ. Lab. Zool. École. Norm. Super.* (Paris), 9:118-160.



Fig. 1-3. 1. *Heliconius heurippa* Hewitson, ♂, Rio Negro, Meta (Schmidt-Mumm, leg.). 2. *Heliconius cydno cordula* Neustetter, ♂, Santander (Schmidt-Mumm, leg.). 3. *Heliconius cydno wernickei* Weymer, ♂, Victoria, Caldas (Schmidt-Mumm, leg.).

Fig. 4-5. *Heliconius rubellius* Grose-Smith & Kirby, hybrids, Otanche, Boyaca (Schmidt-Mumm, leg.).

Fig. 6-7. 6. *Heliconius rubellius* Grose-Smith & Kirby, hybrid, Macarena (Schmidt-Mumm, leg.). 7. *Heliconius melpomene* (Linnaeus), hybrid, Chirigara, Cundinamarca (D. Silva, leg.).



D'Abrera, B.

1984. *Butterflies of the Neotropical Region, Part II*. Victoria: Hill House. Pp. 173-384.

Fassl, H.

1910. Jugendzustände tropischer Tagfalter. *Soc. Ent.*, 25(10):37-39.
1912. Neue Nymphaliden aus Südamerika. *Ent. Rundsch.*, 29(19):
121-123.

Holdridge, L. R.

1971. *Life Zone Ecology*. San Jose, Costa Rica: Trop. Sci. Ctr.
214pp.

Lewis, H. L.

1975. *Las Mariposas del Mundo*. Barcelona: Omega. 228pp.
[Spanish transl.]

Smart, P.

1976. *Encyclopédie des Papillons*. Paris: Elsevier Séquoia. 264pp.
[French transl.]