

A NEW RACE OF *ÆNEIS CHRYSUS* FROM THE
OLYMPIC MOUNTAINS OF WASHINGTON (SATYRIDÆ)

by WILLIAM N. BURDICK

A number of years ago this writer collected a series of specimens of *Æneis* upon the high, misty ridges of the Olympic Range above Port Angeles, Washington that seemed analogous to *Æneis chryxus* Doubleday & Hewitson. This locality is at an elevation of about 7,000 feet above sea level, which in this region is above timberline. The recent study of these specimens reveals the fact that they are substantially different from *Æ. chryxus*. Similar material has recently been observed that was obtained upon Vancouver Island, B. C., Canada, where the climatic conditions resemble those of the Olympic Peninsula. It is likely that these two populations represent the same race. The Vancouver Island material has been confused with other material collected adjacent to Whitehorse, Alaska, and the Yukon Territory which has in turn been mis-

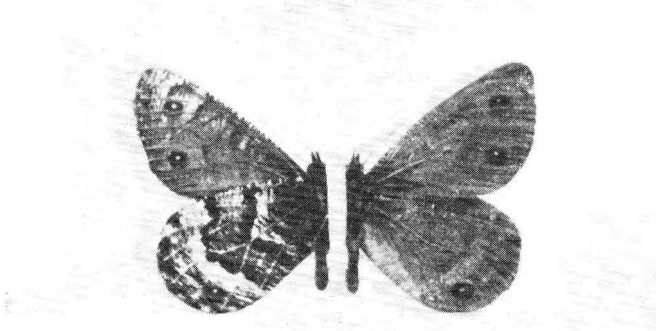


Fig. 1. Upperside (right) and underside of the type of *Æneis caryi* Dyar. Smith Landing Athabasca, Canada, 13 June 1903. No. 8046, U. S. National Museum.

identified as *Æneis caryi* Dyar. The Alaskan population, which should be identified, at best, as a form close to *Æ. chryxus*, is quite atypical of *Æ. caryi*. Figures in this paper will show the difference between it and *Æ. chryxus*. *Æneis caryi* was described from a single male taken at Smith Landing, Athabaska, Canada, a location many miles distant from either Whitehorse or the Vancouver Island area. The picture of it is here reproduced, and it shows that it does not resemble either the Olympic Mountain race, described below, or *Æ. chryxus*. The description of *Æ. caryi* states that it features large black ocelli with white pupils and that the mesial band on the underside of the secondaries is externally strongly white-edged. These characters, as will be ob-

served below, are as foreign to *Æ. chryxus chryxus* as they are to the new race.

The description of this previously unnamed race is as follows:

Æneis chryxus valerata Burdick, new subspecies

MALE. Upperside of primary: discal area, costal margin, and apex dull dark brown; outer margin from apex to near third interspace shaded with brown; limbal area yellowish-tan crossed by brown veins, somewhat shaded with brown; one small weak ocellus at the apex, consisting of a thin dark brown ovoid ring with white pupil; occasionally a black pin-point speck in the first interspace of the wing; dark hair-like marginal lines internal to the alternately brown and white fringes; slight brown and white sprinkling on the costa.

Upperside of secondary: discal area tan, veiled with brownish scales, more intense near the inner margin; limbal area of a slightly lighter shade of tan, not as bright as that in the submarginal area; sometimes pin-point black dots in the first interspace; often some brownish shading along outer margin.

Underside of primary: discal cell light grayish-tan overlaid with brownish-red striation; two parallel, short, irregular brownish lines at each end of cell, the outer one more reddish; discal area below the cell light tan devoid of striation; limbal area light tan washed with light gray, decreasingly grayish on the lower half of the wing; apex and costa whitish, speckled with brown atoms which extend along the margins, decreasing in intensity and terminating at about the middle of the wing; apical ocellus reproduced as small white dot with slight brown shadowing.

Underside of secondary: basal area heavily maculated with dark brown striae on white background; somewhat tortuous broad, dark brown mesial band, slightly mottled with white; borders of mesial band rather truncate, not crenulate as characteristic of *Æ. chryxus chryxus*; narrow, slight light area external to the mesial band; limbal portion external to mesial band whitish, densely impregnated with dark brown striation over the entire surface, slightly more intense along the outer margin; veins white and conspicuous.

FEMALE. Primary a little more rounded than that of male. Upperside of primary: uniform yellowish-tan over the entire surface; apex washed with brown atoms which extend down the wing submarginally and taper gradually to termination at about the middle of the wing; costa speckled with brown and white; base dark; two short, rather obscure, parallel lines at the end of the cell; almost imperceptible brownish shadows across the middle of the wing vertically; three weak ocelli, apical one an ovoid brownish-black ring with white pupil, smaller round one, often obsolete, in the second interspace, black dot in the first interspace; dark hair-line marginal border; fringes like the male.

Underside of primary: similar to that of male but usually distinguished by more dense red striation throughout the limbal area; apical ocellus reproduced as white dot; other ocelli absent.

Underside of secondary: similar to that of male.

Characters common to both sexes: body dark brown, sometimes slightly grayish on the underside of abdomen; legs light brown; palpi medium brown with some black hairs; antennæ fuscous, minutely annulated with brown and gray; club gradually enlarged, elongated, brown, grayish below.

HOLOTYPE male: (expanse 45 mm.) Hurricane Ridge, Clallam Co., Washington, 11 August 1936.

ALLOTYPE female: (expanse 49 mm.) same location and date.

The HOLOTYPE and ALLOTYPE will be deposited in the collection of the Los Angeles County Museum at Los Angeles, California.

PAPATYPES: Disposition of the twenty PARATYPES with same date and locality as the HOLOTYPE and ALLOTYPE will be made as follows: one pair, each, in the United States National Museum, Washington, D. C., the American Museum of Natural History, New York, N. Y., and the Canadian National Museum, Ottawa, Canada. The remaining PARATYPES consisting of thirteen male and one female specimens will remain in the collection of the author. The average measurement of the sixteen male PARATYPES from base to wing tip is 26+ mm. The average like measurement of the four female PARATYPES is 28 mm.



Fig. 2. Male genitalia of *Aeneis chryxus valerata*.

Inasmuch as *Ae. chryxus chryxus* is the closest relative of *Ae. chryxus valerata*, an analytical comparison is here offered. In a long series of *Ae. c. chryxus* from Wyoming and Colorado the outstanding differences have been noted as follows:

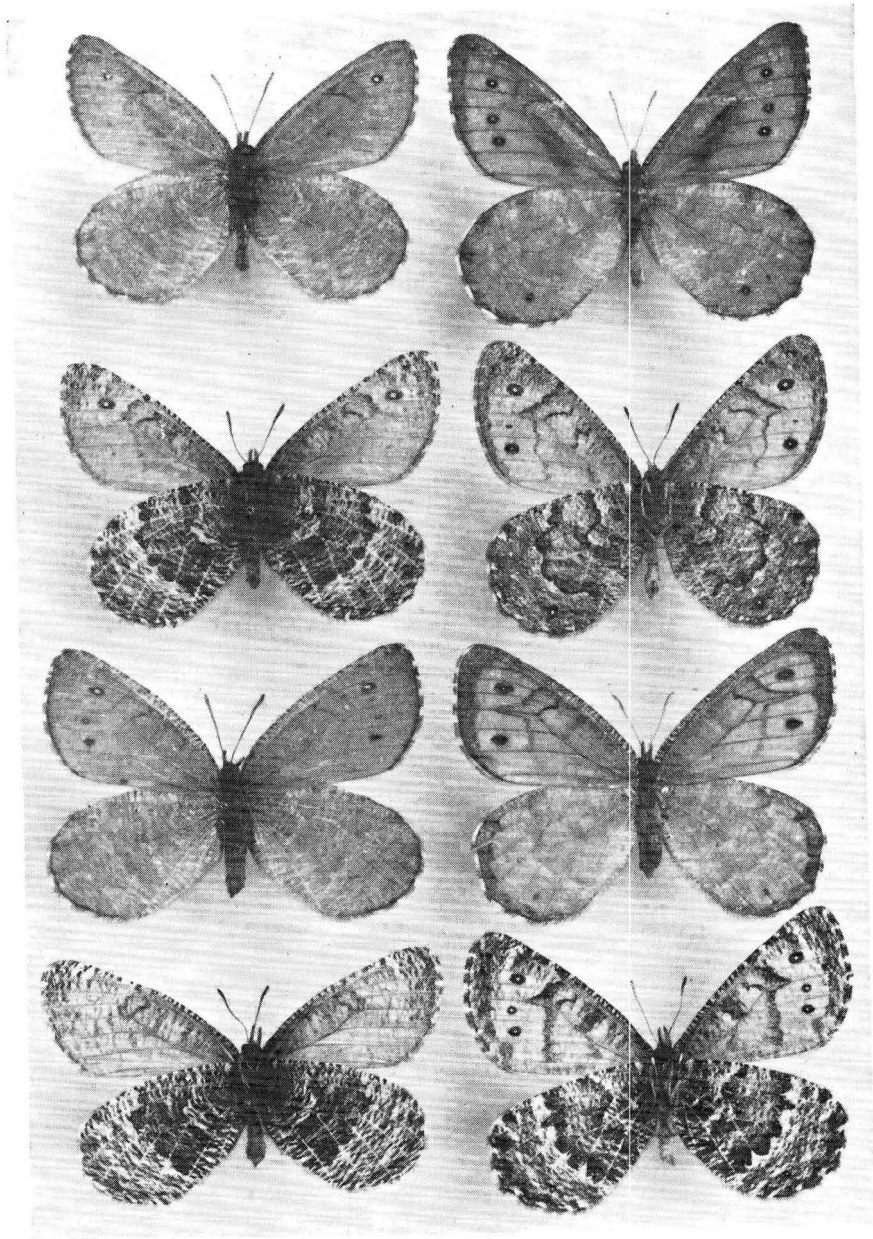
A. MALE

1. Upside of primary: *chryxus* features a clearly defined dark brown submarginal border about 2 mm. in width, extending from the apex to near the submedian interspace, diminishing in width to the latter point; *valerata* has a lesser border, consisting of dark shading of indistinct definition.

Fig. 3. Left row, *Aeneis chryxus valerata* Burdick. Top, holotype male, upper-side; 2nd, holotype male, underside; 3rd, allotype female, upper-side; bottom, allotype female, underside.

Right row, *Aeneis chryxus chryxus* Dbldy. & Hew. Top, male, upper-side (Teton Pass, Wyo., 16 July 1937); 2nd, same, underside; 3rd, female, upper-side (Mt. Wheeler, Nev., 19 July 1935); bottom, female, underside, Estes Park, Colo., 16 July 1950).

(Figures natural size; photos by PAUL HOLLOWAY)



2. *chryxus* has distinct dark veins intersecting the limbal area of the primary; *valerata* shows less conspicuous veins here, and the shadings along the veins are obvious.

3. The tan color in the limbal area of *chryxus* on the upperside of the primary is more intense than in *valerata*.

4. The underside of the primary of *chryxus* shows heavy, dark brown margins; *valerata* has only obscure shading along the margins.

5. The underside of the primary of *chryxus* features a prominent irregular, dark brown line crossing the center of the wing perpendicularly from the inner margin to the costal margin, and this line breaks outward in a sharp V-shaped figure at the end of the cell; this character is absent in *valerata*.

6. The two or three robust ocelli or dots on both surfaces of the primary of *chryxus* are represented by one weak apical ocellus in *valerata*.

B. FEMALE

1. The upperside of the primary of *chryxus* shows heavy dark brown margins, with the internal margin of these borders accentuated by a series of small subrescenscentic dark brown spots; the margins of *valerata* consist of a dark hair-like line adjacent to the fringe and a thin sprinkling of brown atoms at the apex and along the margin to about the center of the wing.

2. The distinct brown transverse line embracing the acute V, that crosses the center of the primaries on both sides of *chryxus*, is not distinguishable in *valerata*.

3. The heavily crenated borders of the mesial band that are typical of *chryxus* are absent in *valerata*.

4. The distinct white dots along the margin of underside of the secondary, that are nearly always evident in *chryxus*, are absent in *valerata*.

CARL W. KIRKWOOD, who is a specialist in the study of the genitalia of Lepidoptera, has assisted the author by making a number of slides of the male genitalia of both *A. c. chryxus* and *A. c. valerata*. His flat line drawing of the genitalia of *valerata* is figure 3. They differ from those of *chryxus* in the following respects: the uncus is heavier, the claspers are wider, there are deeper excavations between the tooth and base of costa, and due to a membranous flap the claspers appear to be notched. These characters were constant in all specimens of *valerata*. Otherwise the genitalia of these two insects appear to be alike.

1108 South Harvard Blvd., Los Angeles 6, Calif., U. S. A.

