

A NEW SUBSPECIES OF *PYRRHOPYGE CREON*
(HESPERIIDAE) FROM PANAMA

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The genus *Pyrrhopyge* is represented in the Republic of Panama by approximately six species and/or subspecies, depending upon the terms of reference and the sources of material. None are common and most are rather local. One of the most beautiful and distinctive of these is *Pyrrhopyge creon* Druce. The shining dark blue brilliance of the upper surface of the forewings and single sub-tornal dark red spot of the hindwings makes recognition of this species relatively easy.

In 1963, Gordon Small took several specimens of a large *Pyrrhopyge* that did not agree with existing illustrations or written descriptions. Continued collecting by Mr. Small during the ensuing years has produced an excellent series of specimens. Concurrent search of the literature, perusal of available museum collections and genitalic study has been made by the senior author. We have reached the conclusion that we have an undescribed subspecies of *Pyrrhopyge creon*.

***Pyrrhopyge creon lilliana* Nicolay and Small, new subspecies**

Male: Length of forewing, 30 mm \pm 1 mm; holotype 29 mm.

Upperside: Forewings very dark, shining purple-blue with a vague darker bordering area. Hindwings with discal area of the same dark shining blue; the single dark red tornal spot of *P. c. creon* increased to from three to five dark orange-red spots following the curve of the outer margin from interspace 1b to interspace 4, the largest and always most prominent in interspace 1, triangular to strigiform in 1b, becoming progressively smaller and less definitive from interspace 2 through 4 (Fig. 1).

Underside: Dark blue coloring same as upperside, but less shining and brilliant; orange-red spots of hindwings repeated, more quadrate and slightly larger and more definitive than on upper surface. Fringes, head, palpi and pectus, black; collar, tegulae, pronotum, and abdomen, dark blue-black.

Female: Length of forewing, 35 mm \pm 1 mm; allotype 34 mm.

Upper and undersides: All coloring and maculation same as in male, orange-red spots proportionately enlarged (Fig. 2).

Holotype male: Republic of Panama, Cerro Campana, Panama Province, 2,500 feet, 24 December 1964. Allotype female, same locality, 20 August 1963. Eighty-nine male paratypes and sixteen female paratypes all from the same locality with dates of July thru September and November-December being most prevalent. One male bears the date 15 February and another, 28 June. Holotype male and allotype female deposited

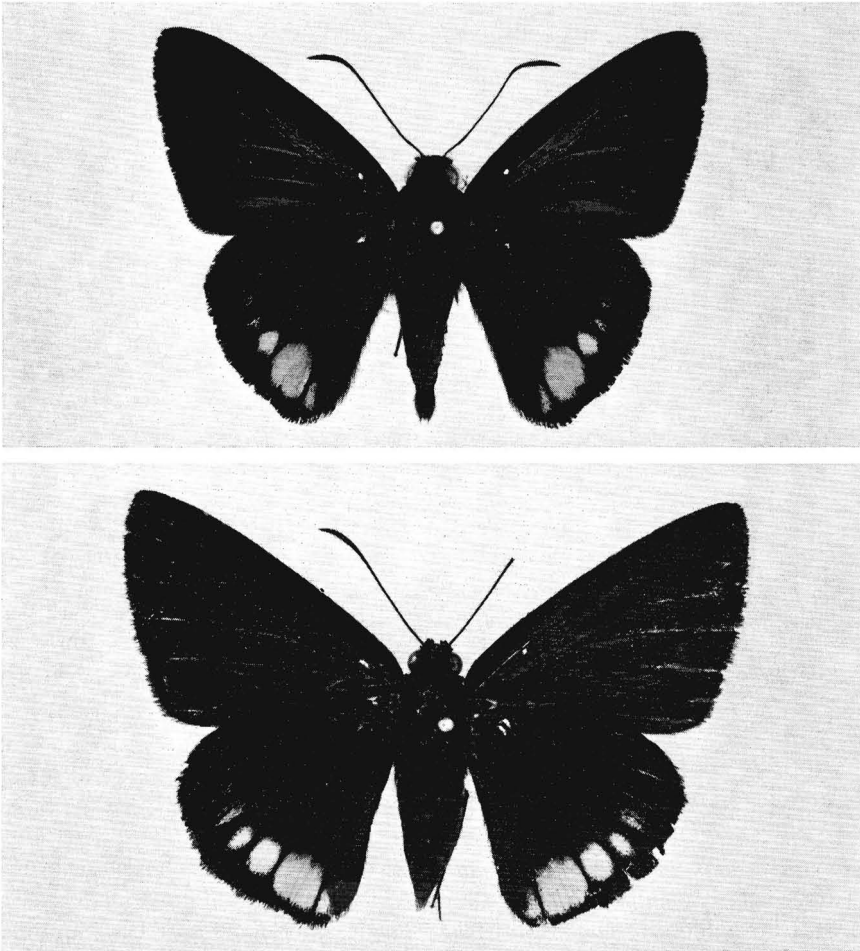
in the U. S. National Museum. Paratypes deposited in the following institutions: American Museum, New York, New York; Carnegie Museum, Pittsburgh, Pennsylvania; California Academy of Sciences, San Francisco; the remainder in the authors' collections.

Within the type series, the number of red spots on the secondaries varies from three to five. Of 90 male specimens, 12 have three spots, 25 have four spots and 53 have five spots. One female has four spots, the remainder, five.

The conspecific character of *lilliana* with *creon* is clearly indicated by the male genitalia (Fig. 3). Evans' (1951) figure, although rather rough and with only the inside view of the left valva shown, is recognizable. The valve of *P. creon* are asymmetrical, this feature clearly shown in Bell's (1931) treatment of the genus and in the earlier treatment by Godman and Salvin (1879-1901). A close comparison of the male genitalia of *P. c. lilliana* was made with those from specimens of *P. c. creon* collected in Costa Rica. Small variations between individuals occur but are considered within the limits of specific variation to be expected within a species complex.

Thus far, *lilliana* has been taken only in the type locality—the cloud forest clothing the upper slopes of Cerro Campana and the neighboring ridges at elevations of 2,000-3,000 feet. This mountain is located about 40 miles southwest of the Canal Zone. Northeast of this point (toward South America as one travels by land), the mountains forming the Continental Divide rapidly diminish in altitude, and similar environments are not to be found for at least 60 miles. The intervening area of low altitudes, of which the Canal Zone is a part, very likely acts as an effective barrier, preventing the species from spreading toward South America. In the opposite direction, one would suspect that *creon* has a clinal distribution along the slopes of the ridges forming the Continental Divide. True *creon* has been found from Calobre, Veraguas Province, Panama, westward through Chiriqui Province, Panama, and into Costa Rica. Unfortunately, due to the lack of collections made in the area between Calobre and Cerro Campana and also in the area east of the Canal Zone, it is impossible to make a definite statement about the distribution of *creon* and its subspecies at this time.

The subspecies *lilliana* has two chief flight periods, one in July, August and into September and again in November-December. Both flights occur in the wet season, but at those times in which the average precipitation is least. It is not uncommon during its flight periods, and one can usually expect to see three or four specimens in a given day. Unfortunately, mists and clouds frequently envelope the mountains, and like



Figs. 1-2. *Pyrrhopyge creon lilliana* Nicolay & Small. Fig. 1 (upper), holotype male. Fig. 2 (lower), allotype female.

most lepidopterous species *lilliana* is active during those intervals in which the sun is shining. These intervals tend to be frustratingly few and far between. Furthermore, *lilliana* only flies from about 9:30 A.M. to 12:30 P.M. so that the actual time available to collect individuals of this species in any given day is rather small.

Although *lilliana* is undoubtedly capable of extremely swift flight, it flies with only moderate speed in a skipping and, at times, buzzing manner. The male is prone to rest with outstretched wings on the tips of



Fig. 3. *Pyrrhopyge creon lilliana* Nicolay & Small; male genitalia; lateral aspect.

leaves 8–16 feet above the ground. Certain particular trees and shrubs are definitely preferred, and an individual will often post itself on a leaf, from which it makes short forays after other species of Lepidoptera, only to return to the same, or a neighboring spot a few moments later. One individual was observed to “attack” a perched hummingbird. The female is much more directional in her flight, apparently in search for the foodplant. Both sexes are unwary, and thus easy to capture. Nothing is known of the early stages.

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