

A NOTE ON *PYRGUS COMMUNIS* AND
PYRGUS ALBESCENS (HESPERIIDAE)

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The status of *Pyrgus communis* Grote and *Pyrgus albescens* Ploetz is one of the unsettled problems in the study of American HesperIIDae. *P. albescens* has been considered a form or a subspecies of *P. communis*, or a distinct species. *P. communis* occupies a more northern range than does *P. albescens*, a range that comprises most of temperate Canada, the whole of the United States except the lower elevations of the southwest, and the Gulf Region of Texas. *P. communis* also occurs in Mexico, as noted by Evans (1953). *P. albescens* occupies areas in the southwest, in the southern Gulf Region of Texas, and south into Mexico.

A large number of specimens was examined in the course of this study. Specimens from east of the Great Plains proved to be *P. communis*, as did those from Colorado, Utah, and localities north of these states. Brown *et al.* (1956) did not find *P. albescens* in Colorado, but Evans (1953) mentions a specimen in the British Museum from that State. Specimens from northern Arizona, northern and central California, and western Texas were *P. communis*.

Specimens from southern and southeastern California were usually *P. albescens*. *P. albescens* has been recorded from Baja California by Rindge (1948), Powell (1958), and MacNeill (1962). Powell notes that a specimen from Descanso (about 35 miles south of the United States border) is intermediate between *P. albescens* and *P. communis* in genitalic structure, as is characteristic of populations in the San Diego area.

In Arizona, specimens from north of the Mogollon Rim were *P. communis*, as were those from higher elevations in the isolated ranges to the south. The higher elevations of such ranges as the Santa Catalina Mountains and the Santa Rita Mountains yield *P. communis*, while the open desert usually is inhabited by *P. albescens*. At Sycamore Canyon, Santa Cruz County, Arizona, specimens with genitalia of both types were taken. This is a locality of intermediate elevation.

Specimens from the Davis Mountains, Cuesta de Burro Mountains, and other mountains in western Texas (Trans-Pecos) were *P. communis*. East of the Pecos River, at Del Rio, Laredo, Rio Grande City, and on to Brownsville, only *P. albescens* was found. *P. albescens* seems to be the only one along the Gulf Coast, from at least San Patricio County

in the north, south to the Mexican border. This species was recorded from Bayside, Refugio County; Welder Wildlife Refuge, San Patricio County, and Lake Corpus Christi, Live Oak County, south to Brownsville, Port Isabel, Southmost and Boca Chica, all Cameron County. *P. albescens* thus occupies the entire Rio Grande Plains region. Apparently *P. communis* is absent from this region entirely. This is Plant Area 3 of Kendall & Freeman (1963) and all of Vegetational Area 6 plus the southern half of Vegetational Area 2, of Gould (1962).

P. albescens was also taken on the Off-Shore Islands [Mustang Island, Nueces County, 15 October 1963, Kendall & Tilden; Padre Island, Nueces County, same date and collectors; Lower Padre Island (offshore from Port Isabel), Cameron County, 24 October 1963, Tilden].

However, specimens examined from San Antonio, Bexar County, and from Palmetto State Park, Gonzales County, were *P. communis*.

On the basis of available data, it appears that *P. communis* occupies cool and temperate regions, even when such areas occur as islands surrounded by deserts. *P. albescens* seems to be adapted to low-elevational warm areas, which may be either dry (Arizona, southern California) or humid (Gulf Region of Texas).

Most specimens are not difficult to discriminate by genital characters. By brushing away the hairs from the tip of the abdomen of the male, the tip of the valve (cucullus; cuiller of Evans) can be seen easily. If necessary a thin piece of paper may be thrust between the two valvae enabling better visual examination. The tip of the cucullus is prolonged and bidentate in *P. communis* but is very short and monodont in *P. albescens*. Occasional specimens are intermediate, or tend to vary somewhat. Most specimens seem to be recognizably one or the other, and some populations seem quite homogeneous, especially in the northern and eastern parts of the range. However, intermediate populations occur, as in the San Diego region of California, and presumably others might be found with further study.

The phenotypes of the two are so similar that separation by size or color is untrustworthy. In long series, *P. communis* appears a bit larger, and with the ground color a rather dark gray. *P. albescens* in series appears somewhat smaller, the ground color a lighter gray, and in some specimens at least, the white markings more extensive. These differences will not hold for all specimens. No really reliable visual discrimination is possible in many instances.

The smaller average size and slightly lighter coloration of *P. albescens* might be expected of a desert population, as compared with a related population living in a more temperate climate. What significance the

relatively minor difference in shape of the valve of the male may have is certainly obscure, but the geographical manner in which the two conditions of the valve tend to segregate, even if incompletely, suggests some selective value.

There has been no general agreement as to what taxonomic level best expresses the slight but perceptible differences between the insects which have been named *P. communis* and *P. albescens*. One solution is to regard each as a valid species that replaces the other in the proper environment. This course has been taken by Klots (1951) and by Brown *et al.* (1956). The genitalic differences suggest this view. Yet it seems unlikely that this treatment would have been proposed by these workers had they been aware of the degree of intergradation that takes place along some of the interfaces.

A second course is to regard each as a subspecies that replaces the other in the proper environment. This view is taken by Evans (1953), by McDunnough (1938), and by dos Passos (1964). This interpretation also presents some problems. If the ranges are mapped in southern Arizona, we find the interesting condition of one subspecies (*P. communis communis*) existing as small islands surrounded by populations of the other (*P. communis albescens*).

P. communis and *P. albescens*, while perceptibly different, do not seem to exhibit the degree of differences usually associated with either specific or subspecific status. Since each occupies a range, with intergradation along the lines of meeting and in some instances over considerable areas as well, they do not seem to be forms of one another in the usual sense of the term. There seems to be no taxonomic category that expresses their relationship precisely.

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EREBIA DISA MANCINUS IN WASHINGTON STATE:
A CORRECTION

Leighton (1946)¹ recorded the satyrid *Erebia disa mancinus* Doubleday from Skyline Ridge, Mt. Baker, Whatcom County, Wash. This record was based on the J. F. G. Clarke collection. Leighton didn't mention that the Clarke records were taken from a set of file cards. Clarke had prepared a complete file of his *Lepidoptera* collection before leaving Washington State University. This file is now in the W.S.U. Entomology Department. Leighton never actually saw the specimens. The card with *E. disa* title bears the following information: "*Erebia disa mancinus* D. & H., #1573-1577, Skyline Ridge, Mt. Baker Dist, Wash., July 26, 1925. In coll. J. F. Clarke."

This determination was incorrect and rectified by Clarke in 1929. The W.S.U. Entomology Department reprint file contains a typed manuscript by Clarke.² In it he refers to *E. videri* Elwes from the Mt. Baker Dist. and the Olympic Mts. Also *E. epipsodea* Butler is recorded from Spokane. In addition to this the W.S.U. entomology collection contains four males of *E. videri* collected by Clarke in 1932. They are dated (two males) Aug. 26 and (two males) Aug. 27. All specimens are from Skyline Ridge, Mt. Baker Dist., Wash. The two specimens of *E. videri* (Clarke, 1929) from the Olympic Mts. are also in the W.S.U. collection.

Thus it appears that the *Erebia disa mancinus* from Washington are only misdetermined *E. videri*. Leighton obviously never saw the manuscript of Clarke. An unfortunate mistake was published and is corrected here.

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¹ B. V. Leighton, *The butterflies of Washington* (Univ. of Wash. Press, 1946), Vol. 9, p. 47-63.

² J. F. Clarke, *A preliminary list of the Lepidoptera of Washington*, 1929, 37 pages, typed manuscript.