

URBANUS PROCNE AND URBANUS SIMPLICIUS
(HESPERIIDAE)

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While working with *Urbanus* from both Mexico and the United States, the author found that specimens from the United States previously referred to *Urbanus simplicius* (Stoll) would not key to that species in Evans (1952), but rather to *U. procne* (Ploetz). A large number of specimens has been examined including those in the collections of the California Academy of Sciences, the Los Angeles County Museum, and the collections of H. A. Freeman, Roy O. Kendall, and the author. Included are 150 or more specimens taken in the lower Rio Grande Valley of Texas in October and November, 1963, by Roy and Connie Kendall and the author. None of these specimens is *simplicius*.

Evans (1952) gives a synonymy for each species. Lindsey, Bell, & Williams (1931) list *procne* in the synonymy of *simplicius*, as does Bell (1938). The figure of Lindsey, Bell, & Williams is apparently a copy of that of Skinner and Williams (1922), which is indeed of *simplicius*, but the specimen is from Puerto Barrios, Guatemala. If specimens from the United States had been critically examined, the differences between *U. simplicius* and *U. procne* should have become evident at that time. Both species are listed for the Nearctic area by dos Passos (1964). Evans (1952) mentions specimens of *simplicius* in the British Museum from Texas and Arizona, to Argentina.

Ploetz described *Goniurus procne* from Brasil in 1880. Since that time most authors prior to Evans have considered *procne* a synonym of *simplicius*. However, the two species are easily separable. The genitalic differences appear too great to regard as individual. The vinculum of *U. procne* is even in outline from a lateral view, while that of *U. simplicius* is markedly curved. This is well shown in the figure by Skinner & Williams. In *procne* the dorsal edge (crista) of the valve has a dense brush or scopa which is lacking in *simplicius*. The dorsodistal spine of the cucullus (cuiller of Evans) is double in *procne*, and of only moderate length. In *simplicius* this spine is longer and single. The lower (ventral) edge of the valve bears a dense and more or less continuous fringe of hairs in *simplicius* (purposely omitted from Skinner & Williams' figure—see introduction to that paper). This feature is nearly absent in *procne*.

There seem to be dependable differences in general appearance and

markings as well as in genitalia. The forewing of *procne* is narrower than that of *simplicius*. Representative measurements for *procne* forewing are: Forewing costa 22 mm, outer margin 15 mm, inner margin, 15 mm. Comparable measurements for *simplicius* would be: Forewing costa, 22 mm, outer margin 17 mm, inner margin 15 mm. *Procne* usually has the tails of the hind wing shorter and directed more laterally, a feature that shows up in pinned specimens. This difference should be used with caution, comparing males with males and females with females, since all female *Urbanus* tend to have shorter tails than the males.

There are two markings of value in separating these species. Firstly, near the apex of the forewing underside there is a dark smudge on the wing of *simplicius*. This is reduced to a narrow curved line or row of spots in *procne*. Secondly, the basal line of the hind wing, underside in *simplicius* connects directly to the second costal spot, forming a continuous line. This basal line in *procne* is directed between the first and second costal spots and does not connect with either. This marking alone is diagnostic and will enable one to separate specimens rapidly in a mixed series.

The genitalia of both species are figured by Evans (1952). Evans' figures do not show all the differences mentioned above. Evans also uses the color marking mentioned in the previous paragraph, but as far as I can find, the differences in wing width and the length of the tail are characters not previously used. Since these are qualitative, several specimens of one sex should be compared. One should not attempt to place a single specimen on tail length.

So far the author has seen no specimens of *U. simplicius* from north of the Mexican border. It is possible that this species may occur in the United States. The great majority of records of *simplicius* from the United States have resulted from the belief that *procne* is synonym of *simplicius*.

The present author feels that *U. procne* should be raised from the synonymy as has been done by Evans, and this name used for the brown *Urbanus* with costal fold and uncheckered fringes which is so frequently taken in the lower Rio Grande Valley of Texas, less often elsewhere along the Mexican border, and for some distance northward. It remains to be proven that true *Urbanus simplicius* occurs in the United States.

LITERATURE CITED

- BELL, E. L., 1938. The Hesperioidea. Bull. Cheyenne Mountain Mus., 1, Part 1.
DOS PASSOS, C. F., 1964. A synonymic list of the Nearctic Rhopalocera. Mem. Lepid. Soc., New Haven, Conn., No. 1.

- EVANS, W. H., 1952. A catalogue of the American HesperIIDae, Part II. British Museum (Natural History), London.
- LINDSEY, A. W., E. L. BELL, & R. C. WILLIAMS, JR., 1931. The Hesperioidea of North America. Denison Univ. Bull., Jour. Sci. Lab., Vol. XXVI.
- SKINNER, H., & R. C. WILLIAMS, JR., 1922. On the male genitalia of the larger HesperIIDae of North America. Trans. Amer. Ent. Soc., 48: 109-127.

MULTIPLE CAPTURE OF *HYPAUROTIS CRYDALUS* AT LIGHT

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In recent years several notes and short papers have been published in the *Journal of the Lepidopterists' Society* concerning captures of Rhopalocera at lights. I have on occasion observed *Leptotes marina* (Reakirt), *Hemiargus isola* (Reakirt), and *Hylephila phyleus* (Drury) attracted to lights at my home in Tucson. Since these three species abound in the immediate vicinity, I attached no special significance to their presence at lights. I accepted the suggestion of Throne (1961) and Welling (1963) that the butterflies had merely been awakened from their nearby resting sites.

Therefore, when John F. Burger, a graduate student in entomology at the University of Arizona, reported the capture of a female *Hypaurotis crysalus* (Edwards) at a black light he had operated on 26 June 1964 at 6,700 feet in the Pinaleno Mts. of Arizona, I dutifully recorded the information and forgot about it.

My memory was severely jolted when, on the night of 8 Aug. 1964, while collecting at a 6-watt G.E. black light at 6,050 feet in the Pinaleno Mts. my companion, Norman Seaborg, discovered a specimen of *H. crysalus* resting on the window of my car about 20 feet from the light. Since there was little activity at the light, the night being rather cool, I retired to my sleeping bag and left the vigil to Seaborg. When I awoke at 1:00 A.M. he told me that he had taken a second *H. crysalus*. While he was speaking a third specimen landed on the sheet. By 3:00 A.M. two more had been captured, making a total of five specimens of which two were females and three males. With the exception of the report of "6 or 7" *Pieris rapae* (L.) at a street light mentioned by Phillips (1962), this represents the largest number of a single species of butterfly at a light on one night which I have seen recorded.

A superficial search of the immediate area early the next morning