

NOTES ON SOME SPECIES OF *ASTRAPTES*  
HÜBNER, 1819 (HESPERIIDAE)

*Astraptes fulgerator* (Walch) 1775

**Synonymy:** *mercatus* Fabricius, 1793; *fulminator* Sepp, 1848; *misitra* Ploetz 1881; *albifasciatus* Rober, 1925; *catemacoensis* Freeman, 1967, NEW SYNONYMY.

**Type locality:** (?)

**Distribution:** U.S.A. (Texas), through Mexico, Central America to Argentina in South America.

**Remarks:** Apparently there are two subspecies involved here, *A. fulgerator fulgerator* (Walsh) and *A. fulgerator azul* (Reakirt). Typical *fulgerator* occurs from southern Mexico (Oaxaca and Chiapas) to Argentina. *A. fulgerator* has the following characteristics: wing bases greenish-blue; the hind termen convex; the upper and lower surfaces dark brown; the central band on the primaries dislocated at vein 3, and spot 2 not conjoined to the cell spot; usually 3 apical spots in the males, 4 in the females; cilia in space 1b white; the white basal streak on the lower surface of the secondaries short and broad, with a black streak at the extreme base present; and one of the most important characteristics is the broad, distinct, white suffusion in space 1b on the lower surface of the primaries. *A. fulgerator azul* (Reakirt), 1866 is the subspecies that occurs in Texas and most of Mexico, extending into South America. *A. f. azul* has the following characteristics: the wing bases are blue or violet-blue; the hind termen straight or convex; the upper and lower surfaces dark to pale brown; the central band on the primaries usually compact, with the spot in space 3 present or absent; usually 4 apical spots but may be 3 or 5; cilia in space 1b brown or white; the white basal streak on the lower surface of the secondaries may be short and broad or long and narrow, with the black streak at the extreme base of the costa present or absent; and there is usually no white suffusion in space 1b on the lower surface of the primaries; however, in the blend zone of *fulgerator* and *azul* in Oaxaca and Chiapas, Mexico and in Central America, this suffusion will be present but never as broad and distinct as is found in typical *fulgerator*. Most of the specimens of *azul* that I have examined from South America have this white suffusion fairly well developed.

When I described *A. catemacoensis* from specimens collected at Catemaco, Veracruz, Mexico (Freeman, 1967, J. Lepid. Soc. 21:115-119), the description was based on individuals that were generally larger and darker than normal *fulgerator azul* from other Mexican localities and also by their having the termen of the secondaries straight. At the time I had not examined as many hundred specimens of *azul* from Mexico as I have since and can readily detect that *azul* is extremely variable and *catemacoensis* should have never been named. With this information I place *A. catemacoensis* as a synonym of *A. fulgerator azul*.

*Astraptes crana* Evans, 1952

**Synonymy:** *escalantei* Freeman, 1967, NEW SYNONYMY.

**Type locality:** San Geronimo, Guatemala.

**Distribution:** Southern Mexico to Panama.

**Remarks:** There are apparently five species or subspecies involved in the *creteus* (Cramer) complex; however, I have not actually examined some of them and am basing my information on data stated by Evans (1952, A Catalogue of the American Hesperidae, Part II, Pyrginae, Sec 1, London, 170 pp.). They may actually all turn out to be subspecies of *creteus*, but for the present I am going to consider them to be separate species. The five are *creteus* (Cramer), 1780; *siges* (Mabille), 1903; *crana* Evans, 1952; *crilla* Evans, 1952; and *cyprus* Evans, 1952. In describing *escalantei* I was misled by Evans' discussion of *crana*, in which he states that on the under-surface of the primaries of that species the extreme base of the costa is brown, followed by white to mid-wing. This applies to the two females that I have from Rio Santa Domingo, Chiapas, and Presidio, Veracruz, Mexico; however, it did not apply to the two males used in the description of *escalantei* from Ocozingo, Chiapas, Mexico, as the costa on the under-

surface of the primaries was brown throughout with no white present. There was no trace of green iridescence at the base that Evans indicated might be present in *siges*; thus, indicating it was not that species. The genitalia are somewhat similar to Evans' figure of *creteus*. Since describing *escalantei* I have acquired another male specimen from E. C. Welling, collected at Musté, Chiapas, Mexico, 31 July 1968, which has the same characteristics as the two males from Ocozingo used in the original description. S. R. Steinhauser (1975, Bull. Allyn Mus. No. 29:1-34) indicated in his article "An Annotated List of the Hesperidae of El Salvador," that the females that he had collected were definitely *crana*, but the males were somewhat similar to *escalantei*. With the available information it appears as if the females of Evans' *crana* have the characteristics that he indicated, but the males of that species lack the white on the costa of the lower surface of the primaries. With the available information present, I place *escalantei* as a synonym of *crana*.

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PROLONGED PUPAL DIAPAUSE OF *ALYPYA OCTOMACULATA*  
(AGARISTIDAE)

A recent note by C. Brook Worth (1979, J. Lepid. Soc. 33(3):166) concerning pupae of *Citheronia regalis* Fabricius, which overwintered twice, prompts this additional note on pupal longevity. During the twenty years I have been rearing various species of moths I have found that a small percentage of the pupae of some species will diapause for two years. I have experienced this phenomenon in some broods, though not in every brood, of *Hemileuca maia* Drury, *Ceratonia amyntor* Hübner, *Eupackardia calleta* West., *Callosamia promethea* Drury, *C. angulifera* Walker, hybrids of *promethea* × *angulifera*, and even three and four year diapause in *Saturnia pyri* Denis & Schiffermuller (Bryant, 1980, Maryland Entomologist 1(4):8-9). *Alypia octomaculata* Fabricius represents the first instance of an agaristid with a protracted diapause.

On 30 April 1977, while on a collecting trip to the Green Ridge Mountain area of western Maryland with the Maryland Entomological Society, I caught a female *Octomaculata* ovipositing on *Vitis* sp. Upon returning home, the moth was placed in a plastic bag containing leaves of *Parthenocissus quinquefolia* (L.), where it deposited approximately eighty ova. The larvae were reared to maturity on *P. quinquefolia* and fifty pupae were obtained (Bryant, *in litt.*). Since the Baltimore population is double brooded, I had expected the moths to begin emerging in July. Apparently, however, the western Maryland population is univoltine, as no moths issued from the pupae that summer nor have any emerged during the mid-season flight period in the ensuing years.

The pupae were left, in plastic shoe boxes at ambient temperatures, throughout the summer, fall, and winter of 1977 and on 20 May 1978 moths began emerging. Only nine adults were obtained in 1978. The pupae remained in the plastic boxes for the rest of 1978 and on 2 May 1979 activity was noticed in the boxes. Twenty-five adults emerged in 1979. On the chance that there might still be a few viable pupae among the remaining sixteen unhatched individuals, they were left undisturbed for a third year. Moths were again noticed flying in the boxes on 23 May 1980. Four adults were obtained during the spring flight period in 1980. Convinced that I had seen the last live moths from those old pupae, I decided to clean out the boxes but luckily never followed through. To my astonishment, a single living female was discovered in one of the boxes on 18 May 1981. The boxes will now be observed regularly until a season passes with no new emergences, at which point any remaining pupae will be dug out of their pupal chambers and examined.

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