

## A NEW SPECIES OF *AMBLYSCIRTES* FROM MEXICO (HESPERIIDAE)

HUGH AVERY FREEMAN

1605 Lewis Drive, Garland, Texas 75041

**ABSTRACT.** *Amblyscirtes brocki* is described from Sonora, Chihuahua, Coahuila, and Oaxaca, Mexico, the type series consisting of 42 males and 14 females. This new species is differentiated from other species of *Amblyscirtes* primarily by characters of size, color and maculation. Holotype and genitalia of a paratype are illustrated.

**Additional key words:** *Amblyscirtes brocki*, *A. elissa*, *A. exoteria*, *A. folia*, *A. immaculatus*.

Jim P. Brock, Tucson, Arizona, sent me some skippers for determination that he and Douglas Mullins, Pat Savage, Mike Smith, and R. E. Wells had collected in Sonora, Mexico. At about the same time I received from John Kemner, Dripping Springs, Texas, some specimens of *Amblyscirtes* that he had collected in Coahuila and Oaxaca, Mexico. After closely examining all specimens of *Amblyscirtes* that Brock had sent, I found that they were the same as those from Kemner and represent a new species that is described here.

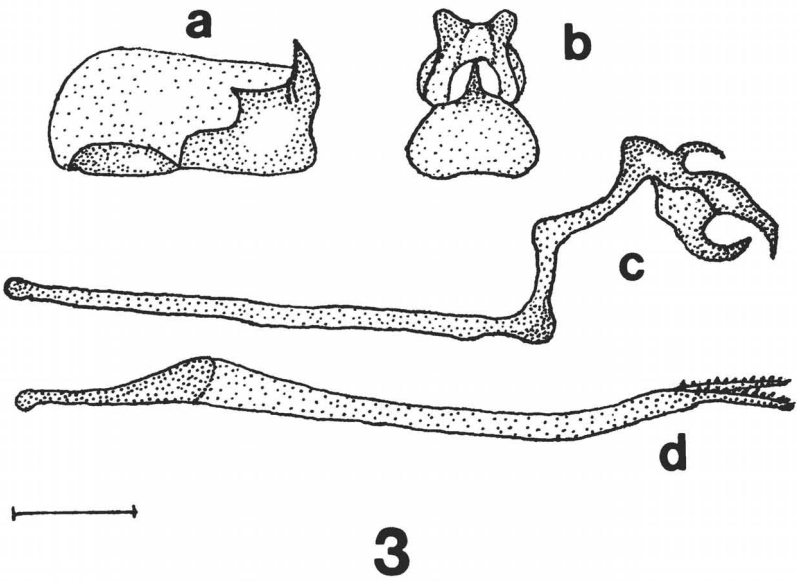
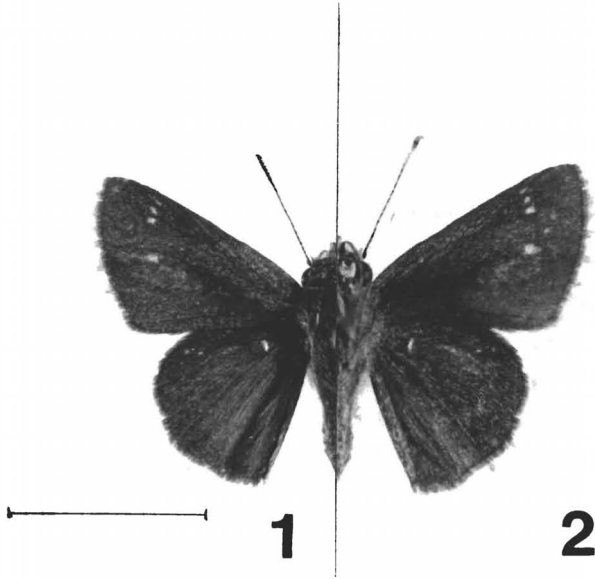
### *Amblyscirtes brocki* Freeman, new species (Figs. 1-3)

**Male upper side** (Fig. 1). Primaries: dark brown, overscaled with golden scales; usually a small, opaque, sordid yellow spot in space 3 and another in space 6, the other apical spots in spaces 7 and 8 faint or absent; when all apical spots are present they form a straight line directed from space 8 toward the outer angle; a narrow, tripartite, brown stigma, forms a curve from inside the origin of vein 3 to vein 1; fringe light brown, faintly checkered, darker brown at vein endings. Secondaries: dark brown, heavily overscaled with golden scales, especially the discal area; fringe pale brown, some specimens being slightly checkered as on the primaries.

**Male under side** (Fig. 2). Primaries: brown, with golden overscaling restricted to the discal and postdiscal areas forward of the cubitus and the apical area near the termen with gray overscaling; spots as above, but better defined and some specimens have faint spots in spaces 2, 4, and 5; fringe light brown, very faintly checkered. Secondaries: brown, overscaled with gray scales, some of the specimens from Oaxaca with golden scaling in space 2A-3A; a faint, curved band of gray, discal spots extends from space 2 to space 7, but may be absent in some specimens; fringe light brown, may be faintly checkered.

**Body.** Thorax: dark brown, heavily overscaled with golden hairs on the upper side, lighter beneath due to some tan scales present. Abdomen: dark brown above, lighter beneath. Head: dark brown, covered with light brown and black hairs. Palpi: first and second segments short and broad, covered with brown and black hairs above; third segment bare and fairly short; under side lighter due to numerous white, hair-like scales and only a few black ones. Legs: brown. Antennae: both shaft and club dark brown above; underside of shaft prominently checkered white between segments; club sordid white at base; apiculus black. Nudum count: 10.

**Wing measurements.** Holotype. Primaries: base to apex, 13 mm; apex to outer angle, 8.5 mm; outer angle to base, 11 mm. Secondaries: base to end of vein 3, 9 mm; center of costa to anal angle, 9 mm. Total expanse: 26 mm. Total expanse of male paratypes:  $\bar{x}$  = 26 mm (n = 41). Total expanse of female paratypes:  $\bar{x}$  = 26 mm (n = 14).



**Female.** Very similar to male except there is usually a minute dot in space 2, slightly basad from the spot in space 3, on the upper side of the primaries, which is usually also present on the under side. Apical spots are usually better developed and form a straight line directed to the outer angle.

**Types.** Holotype, male, MEXICO.—Sonora: Trinidad-Yecora Road, 16 km NW Yecora, 21 July 1985 (*leg.* Jim P. Brock), in the American Museum of Natural History, New York. There are 41 male and 14 female paratypes collected by the following: Jim P. Brock, MEXICO.—Sonora: Trinidad-Yecora Road, 8 km W Yecora, 21 July 1985, 3 males; Santa Rosa-Yecora Road, 8 km NW Yecora, 28–29 July 1987, 8 males, 4 females; 8 km W Yecora, plateau edge, 28 June 1987, 1 female; Creek at ca. 1500 m elev., Trinidad-Yecora Road, 9 km W Yecora, 31 July 1984, 1 female; 21 km E El Novillo, 11 Aug. 1985, 1 female; Trinidad-Yecora Road, 16 km W Yecora, 22 July 1985, 1 female; 10 km W Yecora, 31 July 1984, 1 male; 6 km NW Huicoche, 12–13 July 1989, 2 males, 1 female;—Chihuahua: 6.2 km NE Chinacas, 10–11 July 1989, 2 males, 1 female. Pat Savage, MEXICO.—Sonora: Plateau 16 km E Santa Rosa on Santa Rosa-Yecora Road, 28–29 July 1987, 7 males, 2 females. Douglas D. Mullins, MEXICO.—Sonora: new Rt. 16, W edge Sierra Plateau, 24 July 1988, 1 male. R. E. Wells, MEXICO.—Chihuahua: Hwy. 127, ca. 75 km SW Creel, 23–24 July 1989, 1 male, 1 female. Mike Smith, MEXICO.—Sonora: Santa Rosa-Yecora Road, ca. 8 km N Yecora at plateau edge, 28 June 1987, 1 male, 1 female. John Kemner, MEXICO.—Coahuila: near Los Lirios, San Rafael, elev. ca. 2280 m, 6 July 1988, 1 male; Oaxaca: 8 km N city of Oaxaca, elev. ca. 1800 m, 10 July 1988, 1 male; 22 July 1988, 1 male; 23 Aug. 1988, 1 male; 14 Aug. 1989, 1 male; 15 Aug. 1989, 1 male; 17 Aug. 1989, 1 male; 18 Aug. 1989, 1 male; 23 Aug. 1989, 1 male; 1 Aug. 1990, 1 male; Oaxaca: 16 km N city of Oaxaca, elev. ca. 2100 m, 24 May 1990, 3 males. In the Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, there are 2 males with the label, "Mexico: Chihuahua, 1 July. Townsend". Paratypes will be placed in the following museums and collections: four, American Museum of Natural History, New York; four, United States National Museum, Washington, D.C.; four, The Carnegie Museum of Natural History, Pittsburgh, Pennsylvania; four, Allyn Museum of Entomology, Sarasota, Florida; four, Natural History Museum of Los Angeles County, Los Angeles, California; 10, Jim P. Brock, Tucson, Arizona; two, Douglas D. Mullins, Tucson, Arizona; nine, Pat Savage, Saint George, Utah; two, R. E. Wells, Jackson, California; two, Mike Smith, Sacramento, California. The rest will remain for the present in my collection (HAF).

**Etymology.** I take pleasure in naming this new species for my good friend Jim P. Brock, Tucson, Arizona, who collected part of the type series and has furnished me with many skippers from Arizona and Sonora, Mexico.

### Diagnosis

This new species does not seem to be closely related to any of the other species of *Amblyscirtes*, although it does fit into the portion of species that have stigmas. I follow Evans (1955) in making a distinction

←

FIGS. 1–3. **1, 2** (scale line = 1 cm), Upper side (Fig. 1) and under side (Fig. 2) of *Amblyscirtes brocki* Freeman, holotype, male, Mexico.—Sonora: Trinidad-Yecora Road, 16 km NW Yecora, 21 July 1985 (*leg.* Jim P. Brock) in the American Museum of Natural History, New York; **3** (scale line = 1 mm), *Amblyscirtes brocki*, male genitalia of paratype (Genitalia Vial-H-941) same location and collector as holotype, 28–29 July 1987 (HAF collection). a) right valva in lateral view of interior; b) uncus, gnathos, tegumen dorsal view; c) uncus, gnathos, tegumen, vinculum, saccus in lateral view; d) aedeagus in lateral view.

between the terms stigma and brand or brands, found on the primaries of males in certain species of Hesperidae. The term stigma applies to the specialized patch of tubular scales and androconia extending between and sometimes crossing the veins, whereas the term brand or brands applies to the same type of specialized patch or patches that extend parallel with the vein or veins. The following species of *Amblyscirtes* have a tripartite stigma: *exotera* (Herrich-Schaffer 1869), *folia* Godman (1900), *patriciae* (Bell 1959), *raphaeli* Freeman 1973, *immaculatus* Freeman 1970. Superficially, on the upper side, *A. brocki* slightly resembles a small specimen of *immaculatus* Freeman (Freeman 1970 illustrates the holotype and genitalia of a paratype); *brocki* primaries average, from base to apex, 13 mm, whereas *immaculatus* averages 18 mm; the wings on the upper side of *brocki* are dark brown, heavily overscaled with golden scales, whereas *immaculatus* is a lighter brown, overscaled with gray scales; the faint maculation is similar in both species; on the under side of the secondaries *brocki* has a faint, curved band of gray discal spots, extending from space 2 to space 7, slightly resembling the maculation of *Amblyscirtes oslari* (Skinner 1899), whereas *immaculatus* usually has three indistinct, sordid white discal spots and a faint cell spot. Some *brocki* females could be confused with females of *Amblyscirtes fluonia* Godman 1900, although the arrangement of the apical spots will easily separate the two species: *fluonia* has these spots forming a slight curve directed toward the end of vein 3, and the spot in space 3, if present, is never more distinct than the spot in space 2, whereas *brocki* has the apical spots forming a straight line directed toward the outer angle and the spot in space 3 is always more distinct than the spot in space 2. Members of true *Amblyscirtes* have very similar male genitalia, especially in the long saccus and aedeagus and basic shape of the valva, with the differences being small but always distinct. Some of the basic differences in *Amblyscirtes* genitalia are well illustrated in Burns (1990).

I have found that certain species of *Amblyscirtes* and *Piruna* that have an extensive range in Mexico have better developed maculation in the more northern part than in the southern. Specimens of *Amblyscirtes elissa* Godman 1900, from Arizona and Sonora, Mexico, have well developed maculation, whereas specimens from Guerrero, Oaxaca, and Chiapas, Mexico, are almost immaculate on the upper side, especially males. *Piruna polingii* (Barnes 1900) and *P. brunnea* (Scudder 1872) exhibit this same variation of reduced maculation in their southern range. The specimens of *A. brocki* from Sonora, Chihuahua, and Coahuila all have the spot in space 3 and space 6 on the upper side of the primaries present, whereas the specimens that John Kemner collected in Oaxaca have these spots faint or absent.

## ACKNOWLEDGMENTS

I thank Frederick H. Rindge of the American Museum of Natural History, New York, for making the photographs of the holotype used in this article, and John M. Burns of the National Museum of Natural History, Washington, D.C., and Stephen R. Steinhauser of the Allyn Museum of Entomology, Sarasota, Florida, for helpful comments on the manuscript. Thanks also to Jim P. Brock and Douglas D. Mullins of Tucson, Arizona, and Pat Savage of Saint George, Utah, for their loan of specimens, and to John Kemner of Dripping Springs, Texas, for collecting many fine species of HesperIIDae in Mexico for my study.

## LITERATURE CITED

- BURNS, J. M. 1990. *Amblyscirtes*: Problems with species, species groups, the limits of the genus, and genus groups beyond—A look at what is wrong with the skipper classification of Evans (HesperIIDae). *J. Lepid. Soc.* 44:11–27.
- EVANS, W. H. 1955. A catalogue of the American HesperIIDae indicating the classification and nomenclature adopted in the British Museum (Natural History). Part IV. HesperIIDae and Megathyminae. British Museum, London. 499 pp., pls. 54–88.
- FREEMAN, H. A. 1970. A new genus and eight new species of Mexican HesperIIDae. *J. N.Y. Entomol. Soc.* 78:88–99.

*Received for publication 29 April 1991; revised and accepted 29 August 1991.*