## A Review of the genus Ebusus Evans (Lepidoptera: Hesperiidae), with the description of a new subspecies from Mexico

Lee D. Miller

Allyn Museum of Entomology, Florida State Museum, 3701 Bay Shore Rd., Sarasota, Florida 33580

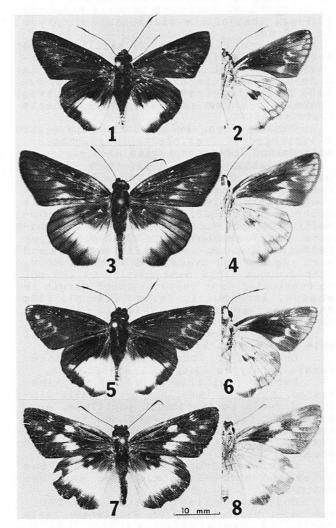
Evans (1955: 205, 219) established the genus Ebusus on the basis of characters defined on page 219 to accomodate a single species, Papilio ebusus Stoll ([1780], in Cramer 1775-[1790]: 20; pl. 300, figs. C, D). Stoll described this insect from a female from Surinam, and later in the same volume he (Stoll [1781], in Cramer 1775-[1790]: 101; pl. 342, figs. F, G) redescribed ebusus from a Surinam male as Papilio psecas. Still later, the insect was described from a male from Para, Brasil as Hesperia belistida by Hewitson ([1866]: 491) and by Plötz (1882: 339) as Hesperia aurora. The plethora of names gives some indication of the sexual dimorphism and individual variation involved in this species. The species generally was carried in Carystus Hübner prior to Evans' erection of Ebusus.

Specimens have been recorded previously from Panama, Venezuela, the Guianas, Brasil, Peru and Bolivia (Evans 1955: 220; Godman 1900, [in Godman and Salvin 1879-1901]: 485; Draudt 1924 [in Seitz 1907-1925]: 979). It was a not totally unexpected surprise to obtain specimens of E. ebusus from Veracruz and Chiapas, Mexico. Many species that are southern Central American and northern South American have been found on both the Atlantic and Pacific sides of southern Mexico without intervening records. This disjunction either may be real or an artifact of the lack of collecting in most parts of Central America: because such a distribution is so common in conspicuous, as well as drab, butterflies, I am inclined to accept the former alternative. The Mexican series is sufficiently distinct to warrant its description as a new subspecies.

## Ebusus ebusus nigrior, new subspecies

Male (Figs. 1-2, nominate subspecies illustrated in Figs. 5-6): Head, thorax and abdomen clothed with fuscous hairs dorsad and white ones ventrad and laterad (the fuscous dorsal portion on abdomen reduced to a longitudinal stripe). Eyes brown. Antennae fuscous above and below, slightly gray overscaled on nudum. Palpi clothed with fuscous dorsal and white lateral and ventral hairs. Legs clothed with white scales.

Upper surface of forewing nearly uniform dull fuscous (the spots from  $M_1-M_2$  through  $Cu_2-2A$  that are more or less prominent in nominate ebusus either absent or only very faintly indicated in present subspecies). Upper surface of hindwing



Figs. 1-8: Ebusus ebusus subspecies. 1-2, E. e. nigrior, new subspecies, holotype male, upper (1) and under (2) surfaces (Allyn Museum photos 052576-5/6); MEXICO: VERACRUZ: Catemaco, viii. [19]47 (T. Escalante). 3-4 E. e. nigrior, new subspecies, paratype female, upper (3) and under (4) surfaces (Allyn Museum photos 052576-7/8); MEXICO: VERACRUZ: Catemaco, ix.[19]57 (T. Escalante). 5-6, E. e. ebusus (Stoll), male, upper (5) and under (6) surfaces (Allyn Museum photos 052576-9/10); TRINI-DAD: Rio Claro, Jan. Feb., 1926 (W. J. Kaye). 7-8, E. e. ebusus (Stoll), female, upper (7) and under (8) surfaces (Allyn Museum photos 052576-11/12); TRINIDAD: N. Hills (A. Hall). All specimens in Allyn Museum of Entomology collection.

fuscous with a much reduced tornal white patch extending anteriad only as far as  $\rm M_3$  (this patch extends at least into  $\rm M_2-M_3$  in e. ebusus, as well as much further proximad along inner margin of wing and intrudes into hindwing cell).

Under surface of forewing much as in nominate subspecies, but discal and subapical spots much smaller and less clearly defined. Ventral hindwing marked much as in e. ebusus except tornal whitening less extensive in present subspecies.

Length of forewing of male holotype 19.6 mm, that of the single male paratype is 19.9 mm.

Male genitalia (Fig. 9) as illustrated and identical with those on nominate subspecies examined (also the illustration in Godman and Salvin 1901 [1879-1901]: pl. 102, fig. 9). Configuration of valva, convergent uncus arms and massive penis characteristic.

Female (Figs. 3-4 nominate subspecies illustrated in Figs. 7-8): Head, thorax, abdomen and appendages as in male.

Dorsal forewing dull, dark fuscous with discal and subapical white markings reduced and overscaled with brown; only the two spots in  $\operatorname{Cu}_1$ - $\operatorname{Cu}_2$  at all prominent (all spots very well defined in nominate ebusus); cell spot (usually prominent in nominate subspecies) not indicated. Upper hindwing fuscous with white median band much reduced and overscaled anteriad of  $\operatorname{M}_3$  with fuscous (this band continuous and not so overscaled from costa to inner margin in ebusus, as shown in Seitz 1924: pl. 188g and Godman and Salvin 1901: pl. 102 [dark southern morph]).

Under surface as in e. ebusus, but all pale forewing markings reduced.

Lengths of forewings of the three female paratypes 23.1, 23.1 and 21.8 mm. Female genitalia (Fig. 10) as illus-

Female genitalia (Fig. 10) as illustrated, massive, lamella antevaginalis simple, lamella postvaginalis papillose, area around sterigma convoluted and somewhat complex; ductus bursae broad leading into a corpus bursae that is not very much broader.

Described from five specimens, two males and three females, from southern Mexico.

Holotype male: MEXICO: VERACRUZ: Catemaco, viii. [19]47 (T. Escalante); male genitalia preparation M4009v (Lee D. Miller).

Paratypes: same locality as holotype; iv.1952 (one female), vi.1957 (one male); ix.1959 (one female); MEXICO: CHIAPAS: Santa Rosa Comitan (actually, Sta. Rosa de las Margaritas), iv.1967 (one female); all collected by T. Escalante.

Disposition of types: entire typeseries in the collection of the Allyn Museum of Entomology.

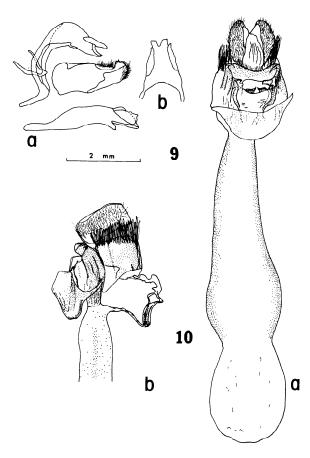
The name refers to the darker coloration the upper surface of this subspecies.

Diagnosis: Ebusus ebusus nigrior is separable from the nominate subspecies particularly by the lack of pale marking on the dorsal forewing and the restricted white patch of the dorsal hindwing. Appa-

rently these features are somewhat clinal in nature. The Chiapas female paratype is perhaps the darkest of the lot, and Panamanian material is intermediate between typical nigrior and typical ebusus (the figure in Godman and Salvin 1901: pl. 102, figs. 7-8 is an example of a male in Staudinger's collection collected at Chiriqui). The Panamanian specimens have broader white hindwing dorsal patches than Mexican specimens, but the restricted forewing patches are more reminiscent of those of Mexican material; I have seen no specimens from intervening areas.

The subspecies of E. ebusus may be distinguished by the following key:

Male forewing upper surface fuscous with white postdiscal spots well developed from M<sub>1</sub>-M<sub>2</sub> to Cu<sub>2</sub>-2A; white patch on upper hindwing enters cell; Central and South America. . . . . . . . . ebusus.



Figs. 9-10: genitalia of Ebusus ebusus nigrior, new subspecies. 9, holotype male (genitalia preparation M-4009-v [Lee D. Miller]); a, lateral view of genitalia; b, ventral view of uncus, gnathos and tegumen. 10, paratype female (genitalia preparation M-6753-v [Jacqueline Y. Miller]); a, ventral view of entire genitalia; b, lateral view of sterigmal area.

1'. Male upper forewing with pale markings absent to obsolescent; white patch on upper hindwing does not enter cell; Mexico. . .

. . . . . . . . nigrior

I know of material of the nominate subspecies from Panama (AME, USNM), Trinidad (AME, BM, USNM), Guyana (BM, AMNH, USNM), French Guiana (AME, AMNH, BM), Brasil (BM, AMNH, CM), Peru (BM, AMNH), Bolivia (BM). The subspecies nigrior is known only from the states of Veracruz and Chiapas in Mexico; it should be sought in at least Oaxaca. None of the synonyms of ebusus mentioned in the first paragraph of this paper can be applied to the Mexican subspecies (see above).

Apparently the butterfly is not very common, except perhaps in Para, Brasil, whence Evans (1955: 220) recorded 27 specimens.

## ACKNOWLEDGMENTS

I am indebted to the curators of Various museum collections for allowing me to examine material in their care: National Museum of Natural History (USNM, Dr. J. M. Burns), American Museum of Natural History (AMNH, Dr. F. H. Rindge), Carnegie Museum of Natural History (CM, Dr. C. W. Young). The British Museum (Natural History) ius abbreviated BM. My wife, Jacqueline, helped prepare the illustrations and criti-

cally read the manuscript. S. R. Steinhauser read and commented upon the manuscript.

## LITERATURE CITED

- Draudt, M. 1924. Family Hesperiidae, in A. Seitz (ed.) 1907-1925, The Macrolepidoptera of the World 5, The Macrolepidoptera of the American Faunal region: 833-1011.
- Evans, W. H. 1955. A catalogue of the American Hesperiidae. . Part 4, Hesperiinae and Megathyminae. London, Trustees British Mus. (Nat. Hist.): 499 pp. + pls. 54-88.
- 499 pp. + pls. 54-88.
  Godman, F. D., and O. Salvin 1879-1901.
  Biologia Centrali-Americana, Lepidoptera: Rhopalocera. London, John Van
- Voorst: 3 vols., illust.

  Hewitson, W. C. 1866. Descriptions of new Hesperidae. Trans. Ent. Soc. London (3)2: 479-501.

  Plötz, C. 1882. Die Hesperiinen-Gattung
- Plötz, C. 1882. Die Hesperiinen-Gattung Hesperia Aut. und ihre Arten. Stettiner Ent. Ztg. 43: 314-344: 436-456.
- tiner Ent. Ztg, 43: 314-344; 436-456.
  Seitz, A. 1907-1925. The Macrolepidoptera of the World. Vol. 5, The Macrolepidoptera of the American Faunal Region. Stuttgart, Alfred Kernen Verlag: v-viii + 1139 pp.: illust.
- Verlag: v-viii + 1139 pp.; illust.
  Stoll, C. [1780-1790], in P. Cramer 1775[1790]) Uitlandsche Kapellen. . .,
  vol. 4. Amsterdam, priv. publ.: 246
  pp.; pls. 289-400.