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The type of *Copaeodes chromis* Skinner, 1919
(Lepidoptera: Hesperidae: Hesperinae)

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The type of *Copaeodes chromis* Skinner, 1919
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Abstract. The holotype of *Copaeodes chromis* Skinner, 1919 (Lepidoptera: HesperIIDae), housed at the Carnegie Museum of Natural History, is a typical specimen of *Zariaspes mytheucus* Godman, 1900.

Additional key words: Mexico, misidentification, *Pseudocopaeodes*.

Skinner (1919) briefly described *Copaeodes chromis* (HesperIIDae: HesperIIDae) from Colima, Mexico, based upon a single male specimen (Fig. 1-2). That specimen, here identified as the holotype originally deposited at the Academy of Natural Sciences of Philadelphia (Gillham and Ehrlich 1954) and later transferred to the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania (Brown 1974), has the following labels: white, handwritten - / COLIMA / MEXICO / and red, printed and handwritten - / TYPE No. 7100 / *Copaeodes* / *chromis* / Henry Skinner / (Fig. 3). The type number was that assigned at the Academy of Natural Sciences (Gillham and Ehrlich 1954).

Evans (1955) placed this taxon as a subspecies of *Pseudocopaeodes eunus* (W. H. Edwards, 1881) where it had nearly universally been placed subsequently, either as *Pseudocopaeodes eunus chromis* (e.g., see synonymy in Mielke 2005; also Okano 1981, de la Maza et al. 1991, Llorente Bousquets et al. 1996) or as *Pseudocopaeodes chromis* (see synonymy in Mielke 2005). Austin and Emmel (1998) noted the incorrect generic placement of *C. chromis*, but did not elaborate. Warren (2000) cautioned that the status of *P. eunus chromis* was uncertain. Hoffmann (1941) appears to have been the only one to identify this taxon correctly as *Zariaspes mytheucus* Godman, 1900, until Mielke and Casagrande (2002) reestablished that synonymy. The type of *C. chromis* confirms this, leaving *Pseudocopaeodes* Skinner and Williams, 1923, as a monotypic genus endemic to the southwestern United States in California and Nevada.

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Literature Cited

- Austin, G. T., and J. F. Emmel. 1998.** New subspecies of butterflies (Lepidoptera) from Nevada and California. p. 501-522 *In*: T. C. Emmel (ed.). Systematics of Western North American Butterflies. Mariposa Press; Gainesville, FL. 878 p.
- Brown, F. M. 1974.** The types of butterflies in the Academy of Natural Sciences, Philadelphia, Pennsylvania. Proceedings of the Academy of Natural Sciences of Philadelphia 126: 51-54.
- de la Maza, E., J. A. White L, and R. de la Maza E. 1991.** La fauna de mariposas de México. Parte II. Hesperioidea (Lepidoptera: Rhopalocera). Revista de la Sociedad Mexicana de Lepidopterología 14: 3-44.
- Evans, W. H. 1955.** A catalogue of the American HesperIIDae indicating the classification and nomenclature adopted in the British Museum (Natural History). Part IV (groups H to P), HesperIIDae and Megathyminae. British Museum; London. 499 p.

Gillham, N. W., and P. R. Ehrlich. 1954. The butterfly types of Henry Skinner and co-authors in the Academy of Natural Sciences of Philadelphia (Lepidoptera: Papilionoidea and Hesperioidea). *Transactions of the American Entomological Society* 80: 91-117.

Hoffmann, C. C. 1941. Catálogo sistemático y zoogeográfico de los Lepidópteros Mexicanos. Segunda Parte. Hesperioidea. *Anales del Instituto de Biología, Universidad Nacional de México* 12: 237-294.

Llorente Bousquets, J., A. D. Warren, I. Vargas Fernández, and A. Luis Martínez. 1996. Mariposas diurnas de Colima. *Dugesiana* 3(2): 1-18.

Mielke, O. H. H. 2005. Catalogue of the American Hesperioidea: Hesperiiidae (Lepidoptera). Vol. 5. Hesperiiinae 2: *Megaleas - Zenis*. Sociedade Brasileira de Zoologia; Curitiba, Paraná, Brazil. 325 p.

Mielke, O. H. H., and M. M. Casagrande. 2002. Notas taxonômicas em Hesperiiidae neotropicais com descrições de novos taxa (Lepidoptera). *Revista Brasileira de Zoologia* 19 (supl. 1): 27-76.

Okano, K. 1981. Studies on the Mexican butterflies (1). Additions and revisions to the Hoffmann's "Catalogo Sistemático y Zoogeográfico de los Lepidopteros Mexicanos" Part 1: Hesperiiidae (Lepidoptera: Rhopalocera). *Tokurana* 1: 23-139.

Skinner, H. 1919. A new species of *Copaeodes* (Lep.). *Entomological News* 30: 100.

Warren, A. D. 2000. Hesperioidea (Lepidoptera). p. 535-580 *In*: J. E. Llorente Bousquets, E. González Soriano, and N. Papavero (eds.). Biodiversidad, Taxonomía y Biogeografía de Artrópodos de México: Hacia una Síntesis de su Conocimiento. Vol. II. UNAM and CONABIO; Mexico City. 676 p.



Figure 1-3. Holotype of *Copaeodes chromis* Skinner, 1919. 1) Dorsal surface. 2) Ventral surface. 3) Labels.