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NOTES ON GRINNELL'S TYPES OF *ERYNNIS* SCHRANK (LEPIDOPTERA, HESPERIIDAE)

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While rearranging some species of *Erynnis* Schrank (1801) in the author's collection, the proper placement of specimens representing Grinnell's names proved puzzling and led to a study of their status. That investigation eventually involved one of Dyar's names and has resulted in the following notes concerning the synonymy of the insects.

Erynnis callidus callidus (Grinnell)

Thanaos callidus GRINNELL, 1904, Ent. News, vol. 15, p. 114, figs. 1-3.

Nisoniades lacustra WRIGHT, (*partim*), 1905, The butterflies of the West Coast, p. 253, pl. 32, figs. 480, a.

Thanaos callidus, DYAR, 1905, Jour. New York Ent. Soc., vol. 13, p. 121.

Nisoniades callidus GRINNELL, 1905, Ent. News, vol. 16, p. 339.

Thanaos callidus, SKINNER, 1914, Trans. Amer. Ent. Soc., vol. 40, p. 202.

Thanaos callidus, BARNES AND McDUNNOUGH, 1916, Contributions, vol. 3, p. 122.

Thanaos callidus, McDUNNOUGH, 1917, Ent. News, vol. 28, p. 232.

Thanaos callidus, LINDSEY, 1921, Univ. Iowa Studies Nat. Hist., vol. 9, p. 52.

Thanaos callidus, SKINNER AND WILLIAMS, 1924, Trans. Amer. Ent. Soc., vol. 50, p. 195.

Erynnis callidus, COMSTOCK, 1927, Butterflies of California, p. 213, pl. 59, figs. 7-8.

Thanaos callidus, McDUNNOUGH, 1927, Canadian Ent., vol. 59, p. 162.

Thanaos callidus, HOLLAND (*nec* Grinnell), 1931, The butterfly book, revised ed., p. 350.

Erynnis callidus, LINDSEY, BELL, AND WILLIAMS, 1931, Denison Univ. Bull. Jour. Sci. Lab., vol. 26, p. 62.

Thanaos callidus, FORBES, 1936, Psyche, vol. 43, p. 104.

This insect was described from a series said to consist of four males and one "female" taken on Mount Wilson, Sierra Madre Mountains, Los Angeles County, California, at 5886 feet on June 6, 1903. The original description furnishes a figure

of the genitalia, but the most interesting clasp, i.e., the left one, is not shown. However, the right clasp agrees quite well with the author's dissection of one of the cotypes of *callidus*.

When the American Museum of Natural History purchased the Gunder collection it acquired three of the five cotypes of *callidus*, i.e., two males and one "female." One of the males was without an abdomen. It is possible that this abdomen was dissected by Grinnell in order to draw the figures for the original description. The "female" cotype is actually a male of a different species, i.e., *lacustra* Wright. A third male cotype, possibly a female *lacustra*, was sent to Dyar (1905, p. 121). This specimen does not appear to be in the United States National Museum. Although it is possible that the fourth male cotype was given to the California Academy of Sciences, it has not been found in that collection. Therefore, it must be presumed that these two specimens have been lost or destroyed. Whether or not the two missing cotypes were the same species as the ones figured by Grinnell and dissected by the present author, it is possible to fix the name definitely from the male cotype, of which a slide has been made.

The attempt of Skinner and Williams (1924, pp. 195-196) to restrict the name *callidus* to the "female," subsequently described by Wright as *lacustra*, cannot stand because Barnes and McDunnough (1916, p. 123) had already restricted the name to the male. The male in the American Museum of Natural History (genitalic slide No. 241, C. F. dos Passos), is hereby designated the lectotype of *Thanaos callidus* Grinnell, and labeled accordingly. The other male cotype thus becomes a

paratype, and will be deposited with the California Academy of Sciences. The "female" paratype remains in the American Museum of Natural History.

***Erynnis callidus pernigra* (Grinnell)**

Thanaos pernigra GRINNELL, 1905, Ent. News, vol. 16, p. 34.

Thanaos pernigra, DYAR, 1905, Jour. New York Ent. Soc., vol. 13, p. 121.

Thanaos persius var. *pernigra*, SKINNER (nec Grinnell), 1914, Trans. Amer. Ent. Soc., vol. 40, p. 207.

Thanaos pernigra, McDUNNOUGH, 1917, Ent. News, vol. 28, p. 232.

Thanaos persius race *pernigra*, LINDSEY, 1921, Univ. Iowa Studies Nat. Hist., vol. 9, p. 52.

Thanaos persius race *pernigra*, SKINNER AND WILLIAMS (nec Grinnell), 1924, Trans. Amer. Ent. Soc., vol. 50, p. 198.

Erynnis persius pernigra, COMSTOCK, 1927, Butterflies of California, p. 213, pl. 59, figs. 5-6.

Erynnis persius race *pernigra*, LINDSEY, BELL, AND WILLIAMS, 1931, Denison Univ. Bull. Jour. Sci. Lab., vol. 26, p. 61.

Thanaos pernigra, FORBES, 1936, Psyche, vol. 43, p. 104.

Erynnis persius pernigra, FREEMAN (nec Grinnell), 1943, Ent. News, vol. 54, p. 73.

This insect was described from a single male taken in Mill Valley, on the slopes of Mount Tamalpais, Marin County, California, on May 19, 1904. The pertinent parts of the original description read as follows: "Upperside: primaries entirely blackish-slate, with a very thin sprinkling of grayish hairs; three very small, white dots arranged diagonally, in the costo-apical part of the wing. Secondaries: entirely seal-brown, with long hairs along the inner margin and basal part of wing. Underside of both wings entirely Van Dyke brown; the three costo-apical white spots visible through the wing. Abdomen and thorax same color as adjacent parts of the wings. Palpi clothed with long hairs. Antennae entirely of same color as the primaries on the upperside."

This type also was received by the American Museum of Natural History when it acquired the Gunder collection. Unfortunately the genitalia were missing, the abdomen having been cut in two. Grinnell in his original description wrote that he intended to figure the genitalia, so it seems probable that he removed them from this specimen for that purpose. How-

ever, he never did figure them. Fordyce Grinnell, Jr., died on July 20, 1943, prior to which time his collection was purchased by Dr. John A. Comstock and is now in the Los Angeles County Museum. Mr. Lloyd M. Martin, Assistant Curator of Entomology of that institution, very kindly made a diligent search for this slide, but it has not been found. Neither has Gunder accounted for it. Apparently the slide, if it ever existed, has been lost or destroyed.

Fortunately a topotype of *pernigra* exists in the Barnes collection in the United States National Museum. It was taken by the same collector on the same day and at the same locality as the type. Through the courtesy of Mr. W. D. Field of the United States Department of Agriculture, it has been possible to examine this specimen and a slide of its genitalia. The specimen agrees perfectly with the type, being only slightly smaller and in better condition. The genitalia are similar to that of *callidus*, but owing to minor differences in maculation and the very different habitat in which *pernigra* occurs, the rainfall being twice as heavy as where *callidus* flies, it is deemed advisable to give the name subspecific standing for the present. Perhaps an examination of long series of topotypes of *callidus* and *pernigra* will result some day in sinking the latter name.

Various authors, commencing with Skinner, expressed the opinion that *pernigra* was a race of *Erynnis persius* (Scudder) (1863, Proc. Essex Inst., vol. 3, p. 170). Upon what evidence some of them reached this conclusion is not apparent, because they could not have examined the genitalia of the type. Mr. H. A. Freeman of Pharr, Texas, kindly lent me the specimen of "*pernigra*," together with a drawing of the genitalia thereof, upon which he reached the conclusion that *pernigra* is a subspecies of *persius*. However, the specimen, although topotypical of "*pernigra*," is in fact a western subspecies of *persius*, not *pernigra*, as is conclusively shown by the wing pattern and the drawing of its genitalia.

***Erynnis callidus lilii* (Dyar)**

Thanaos lilii DYAR, 1904, Proc. U. S. Natl. Mus., vol. 27, p. 788

Thanaos lilius DYAR, 1905, Jour. New York Ent. Soc., vol. 13, p. 121.

Thanaos lilius, SKINNER, 1914, Trans. Amer. Ent. Soc., vol. 40, p. 207.

Thanaos lilius, SKINNER AND WILLIAMS, 1924, Trans. Amer. Ent. Soc., vol. 50, pp. 196, 198.

Thanaos lilius, LINDSEY, BELL, AND WILLIAMS, 1931, Denison Univ. Bull. Jour. Sci. Lab., vol. 26, p. 62.

Thanaos lilius, FORBES, 1936, Psyche, vol. 43, p. 104.

This insect was described from two specimens taken in the Kootenai District of British Columbia.

Shortly after publishing this name, Dyar expressed doubt concerning its validity. However, an examination of the type in the United States National Museum, obligingly undertaken by Dr. C. D. Michener

and Mr. W. D. Field, and of northern Californian material in the author's collection, leads to the conclusion that the name is perfectly valid in a subspecific sense, and is applicable to the population of *callidus* occurring between northern California and British Columbia. These insects are considerably larger than *callidus* and *pernigra* (33 mm. against 29 mm.), and are more distinctly marked on the upper side of the primaries.

As a result of this study, the foregoing names will stand in check list order as follows:

- callidus* (Grinnell)
- a. *pernigra* (Grinnell)
- b. *lilius* (Dyar)

