

## SOME NEW BUTTERFLIES (Lepid., Rhopalocera)

By J. D. GUNDER, *Pasadena, Calif.*

ANTHOCHARIS SARA Bdv., tr. f. **corcorani** new transition form.

The usual red or reddish-orange of the apical area of the primaries is here a light yellow. Classification: chromatism; red to yellow (as in *reakirtii sternitzkyi* Gun.)

Holotype ♀; expanse 46 mm. Griffith Park, Los Angeles, Calif. April 14, 1931. Type in Author's coll. Named after a local collector, Mr. J. A. Corcoran of Los Angeles. Note: *Reakirtii* Edw. should be given the status of a race in future check lists.

ANTHOCHARIS SARA Bdv., race *julia* Edw., tr. f. **sulfuris** new transition form.

Red patch at apical area on primaries here becomes a bright yellow. Almost lack of or thin or broken black transverse bar under red patch on upper side primaries determines race *julia*, as compared to *sara*, *reakirtii*, etc. Classification: chromatism; red to yellow (as in *reakirtii sternitzkyi* Gun.).

Holotype ♂; expanse 38 mm. Kellogg, Idaho. June 1, 1931. Type in Author's coll.

EURYMUS HARFORDII Hy. Edw., form ♀ **martini** new ♀ form.

The white female of *harfordii*. Primary apical and outer marginal black maculation areas as in Fig. 4, Pl. 15 of Comstock's "Butterflies of Calif."; however all female *harfordii* vary in the amount of marginal darkness. There is a slight yellowish tinge only at outer and inner margins on upper side secondaries and nearer apex along costal margin on upper side primaries; whether this is an attribute of the white female form remains to be seen.

Holotype ♀, expanse 46 mm. South side of Arrowhead Lake, San Bernardino Co., Calif. Sept. 2, 1931. Type in Author's coll. Named after Mr. Lloyd Martin of Roscoe, Calif.

EURYMUS CHIPPEWA Kirby, form ♀ **kohlsaati** new ♀ form.

The yellow female of *chippewa* (probably of syn. *helena* Edw.) A strong yellow in contrast to the white or slightly yellowed white of the usual white females. Marginal black border designs, greenish of upper and under sides of secondaries and darker basal flares of upper side secondaries as usual.

Holotype ♀, expanse 45 mm. Mt. McKinley Nat. Park, Alaska. July 14, 1930. Taken by Mr. Frank Morand of Los Angeles and named after my good friend and expedition associate, Mr. John E. C. Kohlsaati of Carpenteria, Calif. Type in Author's coll.



ARGYNNIS **dodgei** new species.

*Argynnis irene* Bdv. is well illustrated by Chas. Oberthur in "Etudes de Lepidopterologie Comparee," pl. CCLXII, fig. 2197. The figure shows a lightly marked ♀ example; light yellow-brown upper side and light chocolate-brown maculation under side. Comstock in "Butterflies of California," Pl. 26, Figs. 4, 5 and 6, also shows correctly this light *irene*. Boisduval's type then, must have come from the region around Truckee or north through Sierra or Plumas Counties of California. This summer Mr. F. W. Friday of Hollywood secured a good series in both sexes for me from the high Gold Lake region of Sierra County which are all constant and light as the original type. Now as *irene* proceeds northward and up the coast it becomes darker and as found on Mt. Shasta and the nearby Castle Lake region most of the examples are a purple-brown color on underside and darker shade on upper side, though an occasional light specimen can be found. At this point in that part of California they are not all truly dark. Getting north into Oregon and at Diamond Lake, in Douglas County, which is just north of Crater Lake, all the specimens are dark, having a reddish-brown upperside and a dark purplish-brown or reddish-brown under side, and they are constant in this respect, being of quite different appearance from the Boisduval type in the California Sierra mountains. To this race (species for the time being) I apply the name *dodgei*. They average larger in both sexes than *irene*. The maculation of the upper sides is heavier aside from the ground color being darker. On the under sides the characteristics of the prominent white spots remain; instead of the two fine lines found at the outer margin on the secondaries, as in *irene*, they here become practically a dark band. Like *irene*, *dodgei* is unsilvered. Mr. E. A. Dodge of Santa Cruz, Calif., first sent me several examples which were taken at Diamond Lake in 1930 by Mr. Strohbeen and this year Mr. Fred Lawrence secured long series in both sexes from the same locality.

Holotype ♂, expanse 53 mm., July 10, 1930; allotype ♀, expanse 57 mm., July 17, 1931. Diamond Lake, Douglas Co., Oregon. Types in Author's coll. Paratypes—10 ♂, and 3 ♀; same place and dates. One pair deposited in the Canadian Nat. Coll. at Ottawa and one pair in the Nat. Museum (Barnes Coll.) at Washington. Unfortunately Dr. Holland in his revised "Butterfly Book" places *luski* B. & McD. as a synonym of *irene* Bdv. and figures a *luski* for an *irene*; but they are quite different and belong in separate groups.



EUPHYDRYAS EDITHA Bdv., race **fridayi** new race.

A small alpine race very similar in color and pattern arrangement to race *monoensis* Gun. which is figured correctly for size and color in Holland's revised "Butterfly Book," Pl. LVII, Figs. 26 and 27. In size they average the same as *nubigena* Behr. whose type locality is Tuolumne Meadows, Yosemite Nat. Park, near by. (*nubigena* Behr. is not found in Colorado). The clear cut design of pattern and color is not lost by the smallness of the specimens which places them at once as near *monoensis*.

Holotype ♂, expanse 31 mm. Allotype ♀, expanse 33 mm. Near auto road on left between June and Silver Lakes, Mono Co., Calif. June 14, 1930. Some 60 pairs in type lot, all similar. Paratypes 3 ♂ and 3 ♀; one pair to Canadian Nat. Coll. at Ottawa and one pair to Nat. Museum (Barnes coll.) at Washington. Types in Author's coll. Named after that steady collector, Mr. F. W. Friday of Hollywood, Calif.

EUPHYDRYAS EDITHA Bdv., race **lawrencei** new race.

A small, dark alpine race similar in size and color to *beani* Skin. whose type locality is Bamff, Alb., Can. and in pattern arrangement to *nubigena* Behr. whose type locality is Tuolumne Meadows in Yosemite, Calif. Less white maculation than on upper side *nubigena* with black dominating. *Beani* is inclined to have a submarginal row of white spots on upper side secondaries while *lawrencei* is lacking in this respect. The dark red color also separates it from *nubigena*. In most of the series of the specimens of *lawrencei* the basal half on the upper side secondaries is exceedingly dark. The maculation of the under sides averages like *nubigena*, except for the dark red color. In the type lot of some 80 specimens there are some very small dark males; several averaging only 23 mm. These are probably the smallest *Euphydryas* on record. Females larger, but similar.

Holotype ♂, expanse 30 mm. Allotype ♀, expanse 32 mm. Near timber line on trail between Diamond Lake (Camp) and summit of Mt. Thielsen at about 9,000 feet, Douglas Co., Oregon. July 17-18, 1931. Types in Author's coll. Paratypes—10 ♂ and 10 ♀, same place and date. One pair sent to Canadian Nat. Coll. at Ottawa and one pair to Nat. Museum (Barnes coll.), Washington, D. C. Named after Mr. Fred Lawrence of Central Point, Oregon, whose collecting efforts in new regions is hereby rewarded.



EUPHYDRYAS EDITHA Bdv., race *lawrencei* Gun., tr. f. **diamond-ensis** new transition form.

Having the white spots (and in this case some of the red also) suffused and elongated inwardly through their interspaces on both upper and under sides after the fashion of *chalcedona fusimacula* Barnes and others. As there is not much white spotting to be found on the upper sides of race *lawrencei*, this tendency is better shown on the under sides in well developed specimens. Classification: albifusism; a semi-final development.

Holotype ♂, expanse 30 mm. Timber line on Mt. Thielsen, Douglas Co., Oregon. July 17, 1930. One paratype male, primaries only showing albifusism; same location and date. Named after Diamond Lake at base of Mt. Thielsen. Types in Author's collection. Specimens taken by Mr. Fred Lawrence.

EUPHYDRYAS EDITHA Bdv., race *lawrencei* Gun., tr. f. **thielsens-ensis** new transition form.

On the upper and under sides of the primaries, the inner half of the wings are solid black with only the two red cell spots showing. The basal areas of the secondaries are also considerably darkened on both surfaces. Classification: melanifusism; here only a semi-final development.

Holotype ♀, expanse 36 mm. Timber line on Mt. Thielsen, Douglas Co., Oregon. July 17, 1931. One female paratype with less melanifusism over same area with same date and locality. Types in Author's coll. Named after the mountain which is the type locality of the parental race. Taken by Mr. Fred Lawrence.



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