

Article XIX. — NOTES ON SOME SPECIES OF CATOCALA.

By WILLIAM BEUTENMÜLLER.

In advance of a contemplated monograph of the genus *Catocala* the following notes on some species are presented, based mainly on material loaned to me by Mr. O. C. Poling and Dr. William Barnes, who have kindly placed at my disposal their extensive collections of *Catocala*.

***Catocala aspasia* Strecker.**

On examination of the type of this species, I find it to be not a variety of *C. junctura* as it was placed in our list, but a distinct species, of which *C. augusta* Hy. Edw., *C. sara* French, and *C. sierræ* Beut. are varieties. A series of many examples before me vary considerably in the color of the fore wings, from gray to almost blackish, with a more or less clay yellow or pinkish tint. *C. augusta* has the transverse lines and shade heavily marked; *C. sara* more so; and *C. sierræ* is the almost blackish form. My determination of *C. aspasia* and *sara* were made from type specimens in the Strecker collection, and *C. augusta* from the type in the Edwards collection. I propose that the species and varieties be listed as follows:

Catocala aspasia Strecker.

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| “ | “ | var. <i>augusta</i> Hy. Edwards. |
| “ | “ | var. <i>sara</i> French. |
| “ | “ | var. <i>sierræ</i> Beutenmüller. |

***Catocala relictæ* Walker.**

Walker's description of this well known species agrees with the variety *bianca* Hy. Edwards. Through the kindness of Sir George F. Hampson I obtained a colored figure of Walker's type in the British Museum, and it is identical with the variety *bianca*.

Catocala relicta var. **clara**, var. nov.

Fore wings almost uniform chalky white; basal area, spaces between the median shade lines and posterior geminate lines, creamy white. Transverse lines black, but not prominently. Reniform black with a white central ring, more or less broken. The black of the median shade contiguous on the costa with the reniform. Hind wings, abdomen, and thorax like the type form.

This is the common white form heretofore known as *C. relicta*.

The species and varieties now stand as follows:

Catocala relicta Walker (= *bianca* Hy. Edw.).

“ “ var. *phrynia* Hy. Edw.

“ “ var. *elda* Behrens.

“ “ var. *clara* Beuten.

Catocala herodias *Strecker*.

This certainly is a valid species and not a variety of *Catocala ultronia*, as placed by various authors. It is more closely related to *C. coccinata* than to *C. ultronia*. The wings are longer and are differently marked. A beautiful fresh example was taken by Mr. W. T. Davis at Lakehurst, New Jersey, which does not at all agree with *ultronia*, but with the type which I examined in the Strecker collection. I propose that the form be restored to specific standing. Strecker has already correctly pointed out this fact (Rhop. and Het., Supp. 3, 1900, p. 35).

Catocala arizonæ *Grote*.

After a careful examination of the type of this species in the collection of the American Entomological Society, I fail to find sufficient characters to separate *C. babayaga* from it. The only observable differences between the two are, *babayaga* is a trifle redder and has the markings on the fore wings less heavy than *arizonæ*. Dr. Barnes and Mr. O. C. Poling kindly placed in my hands a large series of *arizonæ*, which verify my conclusions. *Arizonæ* is subject to variation as regards the color and markings of the fore wings, which vary

in tone from grayish to reddish, with the markings more or less distinct.

***Catocala aholibah* var. *coloradensis*, var. nov.**

Differs from the dark type form from California in having the fore wings light gray brown, covered with white scales, giving a light and somewhat faded appearance. The posterior transverse line is very distinct in this variety, and the hind wings are like the type form.

Habitat. — Glenwood Springs, Colorado. September 24–30.

Several specimens of this climatic variety are in the collection of Dr. William Barnes, Decatur, Illinois.

***Catocala luciana* Hy. Edw.**

Dr. William Barnes and Mr. O. C. Poling kindly sent me for study a large series of this species. It varies considerably in color of the fore wings from light drab (type form), with heavy black, transverse lines, to almost uniform black, with the lines obscured by the dark ground color (var. *somnus*).

***Catocala violenta* Hy. Edw.**

I consider this to be a valid species and not a variety of *Catocala verrilliana*, as it has been placed by certain authors. It is larger and longer winged, and the female is much more heavily marked than the male. The species described by Mr. Poling as *C. chiricahua* looks suspiciously like the female of *violenta*, and is probably the same. Mr. Doll has taken in Arizona a number of *violenta*, and the female agrees very well with *C. chiricahua* Poling.

***Catocala jessica* Hy. Edw.**

The type of this species is in the collection of the American Museum of Natural History. It certainly is not a variety of *Catocala stretchii* as it was placed by the late Rev. George D. Hulst. In general appearance it looks somewhat like *C. arizonæ*, but it is much smaller. I would suggest that *C. jessica* be given specific rank until more material and evidence are at hand to show it to be merely a variety of *stretchii*.

***Catocala amica* var. *suffusa*, var. nov.**

Fore wings gray like the type form but with the lower half almost entirely black from the base, thence obliquely to the apex. Upper half grayish white with the transverse lines and median shade black. In the black area the transverse lines and shade are scarcely or not at all evident. Hind wing like *C. amica*.

Habitat. — Florida, Texas, Iowa.

Described from two males and one female from the collection of Dr. William Barnes.

***Catocala olivia* Hy. Edw.**

In shape and color of the wings like *Catocala alabamæ*, of which it is probably a variety. It differs from *alabamæ* only by the presence of a large subquadrate brown patch on the inner margin.

***Catocala alabamæ* Grote.**

This certainly is not a variety of *Catocala grynea* as it is placed in our lists. The fore wings are less elongate and broader, and the transverse lines are different. It is apparently a valid species.

***Catocala innubens* var. *flavidalis* Grote.**

Mr. Charles Dury tells me that this variety is based on a specimen in which the color has been changed by the action of heat or exposure to light. He has an example in which the color has been changed by heat in an oven, and which agrees with Grote's type in the British Museum.

***Catocala barnesii* French.**

The type of this species was kindly loaned to me by Dr. Barnes. I consider it nothing more than a diminutive specimen of *Catocala agrippina*, hardly worthy of varietal rank.

***Catocala amestris* Strecker.**

Larva. — Head bluish white with four black stripes on the front, not reaching the vertex; sides with irregular black spots; top with

more regular black spots. On each lobe on the top is a canary yellow patch. Sides at mouth parts also yellow. In shape it is narrower at mouth parts than on top; flattened in front, rounded at sides and on top. Body: Dorsal region yellowish; subdorsal region bluish white; sides bright yellow. On each side from dorsum to lateral parts are six black longitudinal lines, the two lower ones at the sides broader than the rest. In the yellow lateral region is a black line broken into spots. All the warts are bright yellow surrounded by a circle of the same color, giving the warts a large appearance. First segment edged in front and behind with bright yellow. Underside deep black. Abdominal legs black, yellowish inside. Thoracic feet black. Anal legs marked with yellow. Length, 50 mm.

Food-plant.—Locust (*Robinia pseudacacia*).

Described from living specimens found in the valley of the Black Mountains, North Carolina. The larvæ pupated July 19, and the imagos emerged July 9 and 10. Heretofore the larva was known only from an inflated specimen in the collection of the U. S. National Museum. The larva has no filaments at sides of the body or elevation on the eighth segment.

Catocala insolabilis.

Larva.—Head large, rounded, whitish, with lilac gray lines connected by fine reticulations. The lines become confluent in front near the top. On each side above the antennæ is a small black patch. Mouth parts lilac gray. Body smooth, lilac gray with numerous fine black irrorations, forming a band on each side of the dorsum and one on each side. Warts somewhat prominent, red. No elevation on the eighth segment. Eleventh segment with two short, blunt prominences directed backward. Sides with rather long grayish filaments. Underside a dirty white with a reddish tint. On each segment is a large black patch. Thoracic feet grayish. Length, 60 mm.

Described from a living specimen taken on hickory. The larva eats the soft part of the leaf on each side, leaving the ribs untouched. Found in the valley of the Black Mountains, North Carolina, June 4. Imago emerged July 10.

***Catocala unijuga* var. *fletcherii*, var. nov.**

Fore wings with the markings as in *unijuga*, but much darker and heavier, especially the transverse anterior and posterior lines. Hind wings deep brown instead of red, with the median band and outer margin black. Fringes white, to the anal angle. Under side: Fore

wings brown black, white at base, and with a white oblique band before and one behind the middle; the former not reaching the inner margin. Apex gray. Hind wings similar to the upper side but the brown median black band is white above the middle to the costa. Thorax dark gray mixed with black. Expanse, 84 mm.

Habitat.—Regina, Assiniboia, Canada.

This remarkable form was collected by Mr. T. N. Willing, and kindly sent to me for study by Dr. James Fletcher.

***Catocala hippolyta* Hy. Edw.**

This species was described from a single worn specimen, and the type is in the collection of the American Museum of Natural History. Mr. Poling sent me eight specimens which agree fairly well with the type. The fore wings are very pale ashen white, finely covered with darker scales. The transverse lines, reniform and subreniform, are more or less distinct, but not contrasting. The subterminal line is white. The hind wings are brick red with the median band variable in length and width, and it does not reach the inner margin. In some specimens this band is very much abbreviated and linear and has a tendency to disappear. The outer margin is broad, black, and the fringes are white. In general appearance *C. hippolyta* looks somewhat like *C. pura*.

Habitat.—Pasadena, California.

***Catocala andromache* Hy. Edw.**

This species was described from a single broken specimen from California, and the type is in the collection of the American Museum of Natural History. A specimen labelled "type *C. andromache*" in the Neumoegen collection is not this species, but *C. ultronia*. Mr. O. C. Poling was fortunate enough to rediscover *andromache* in numbers in Southern Arizona in 1902. Two examples from Los Angeles, California, are also in the collection of the U. S. National Museum.