- spines; second cubital cell receiving the first recurrent nervure at or only a little beyond its middle.....(12) *Calopompilus*, Ashm., n. g.
(Type *P. maculipennis*, Smith.)
- Cubitus in hind wings originating *beyond* the transverse median nervure, or at least somewhat beyond it, never interstitial; clypeus squarely truncate anteriorly; second cubital cell receiving the first recurrent nervure *at* or a *little before* its middle.....(13) *Hemipogonius*, Sauss.
(Type *H. venustipennis*, Sauss.)
9. Submedian and median cells in front wings equal the transverse median nervure, *interstitial* with the basal nervure.
Pronotum as long or longer than the mesonotum 11.
Pronotum distinctly shorter than the mesonotum..... 10.
10. Eyes convergent above; pronotum anteriorly abruptly truncate; first recurrent nervure joining the second cubital cell a little beyond the middle; claws with a tooth beneath; cubitus in hind wings interstitial.....(14) *Calicurgus*, Lepel.
(Type *C. fasciatellus*, Lep.)
11. First recurrent nervure received by the second cubital cell *at* or *near* its middle; cubitus in hind wings interstitial, or nearly, with the transverse median nervure.....(15) *Ferreolomorpha*, Ashm, n. g.
(Type *Priocnemis pedestris*, Smith.)

THE GENUS CATOCALA.

BY G. H. FRENCH, CARBONDALE, ILL.

It is 16 years since the Rev. G. D. Hulst undertook a revision of this genus along the lines of "Structural Characters." As a new Check List of the moths is to be published soon, it seems proper that another arrangement of the genus be made. The structure of the genitalia as a basis of the separation of the species has been regarded by many eminent lepidopterists as of doubtful value. It is certain that in this genus its use was not warranted by larval characters or field observation. For these reasons the last revision has not been satisfactory to those who were familiar with many species in their native haunts, or who had bred them. The writer does not say, however, that the present revision will be faultless, for as yet too few of the species are known in their adolescent stages

to make this much of an aid in classification. It is now a question whether certain forms are valid species or mere varieties, and this can be settled only by further observation or breeding. Many species have a wide range of variation, such as *Lacrymosa*, but the intergrades and varieties in this species are all well known, and the characters are so strongly marked in all the forms that we need not hesitate with this species. Other species, as *Epione* and *Sappho*, are remarkably uniform in their markings, even when from widely-separated localities. Of the validity of these species there is no question, even without breeding. Of some of the others, it seems better to retain their names as species till they are proven otherwise. The closet naturalist is not always able to judge in such cases. Even so good a botanist as Dr. Asa Gray was led astray in at least one instance known to the writer by not knowing his plant in the field.

In regard to sequence, there seems to be no reason why the smaller species should be regarded as the highest. If activity counts for anything, then *Epione* certainly stands at the head of the list. Unless we change the usual generic description, *Allotria Elonympha*, *Andrewsia Belfragiana* and *Parthenos Nubilis* are not *Catocalæ*.

In the December number of the CANADIAN ENTOMOLOGIST for 1892, page 308 of Vol. 24, it was shown that too little was known of the larvæ to use them as a basis of classification in this genus. As a rule they are striped longitudinally, but one species, *Illecta*, has its larva striped transversely. Generally there is a lateral fringe along the sides of the larvæ, but three species, *Obscura*, *Innubens* and *Illecta*, were known not to have this fringe, 15 species having it. As these differed widely in size, colour and markings of the imagines, this character would be of little value in classification. For this and other reasons it seems best to follow the general practice and take the colour of the hind wings as the basis of division of the genus into groups. In this paper the writer will consider only the black-winged species.

As to the two species, *Viduata* and *Vidua*, we see no good reason for relegating the former to synonymy. There are numerous instances where names in the same genus in our catalogues are the same except for a slight difference in the termination. From Kirby's Catalogue of the Diurnal Lepidoptera we have *Anthocaris Ausonia* and *Ausonides*, and *Papilio Xuthus* and *Xuthulus*, and a number of others might be cited. In his Catalogue of the Heterocera, Vol. I, published in 1892, we find Kirby

following the same practice: as *Amorpha Populi* and *Populeti*, *Miltochrista Rosaria* and *Rosacea*, etc. It is also not a very uncommon thing to see the same name used in a family in related genera without any change. As an instance of this, in Dr. Skinner's new catalogue of "North American Rhopalocera," 1898, we find *Diadema Misippus*, and in the next genus *Limenitis Misippus*. In these species the female of the first is coloured and marked so much like the second in both sexes that they might easily be mistaken for each other by an amateur. Yet the writer has seen no criticism on Dr. Skinner's course in the use of these names. The same thing was found in a catalogue of Star Fishes, where the specific name *Miliaris* was used in two related genera of the same family. However much we may regret that names with only a slight difference in termination have been used, or the same name for two species in related genera of a family, when the names have been published and used it seems best to the writer to let them alone. Indeed, I do not believe any one has a right to change them. In the case before us there is no danger of confounding *Viduata* and *Vidua*, for the two insects are very different.

In regard to the two names, *Judith*, Strecker, and *Levettei*, Grote, the dates of the published papers in which the descriptions occur give Strecker's name the priority. We have decided to take the "face of the returns" as evidence in this case without taking up the differences of the two authors.

In looking over the collection of Dr. William Barnes, of Decatur, Ill., a new species was found which the Doctor kindly placed at my disposal. In the description that follows, the writer has dedicated the species to its owner by the use of his name for the species.

Catocala Barnesii, nov. spec.

Expanse, 2.63 inches. General or ground colour of the fore wings rather dark olive gray, not so dark as that of *Obscura*, but between that species and the colour of *Robinsonii*, the lines faint and much the same as they are in the latter species, the insect in general reminding one of *Robinsonii*, but it is smaller and darker, standing in size between *Robinsonii* and *Judith*. Comparing the markings with those of *Robinsonii*, the t. a. line is oblique, reaching the posterior margin close to the t. p. line as in *Robinsonii*, but the costal portion is heavier; the shade over the reniform is rather heavy; the reniform with only the inner part of its ring visible. This portion black, the rest concolorous, while in *Robinsonii* the reniform is brown; subreniform whitish, closed or nearly so, in colour paler than in *Robinsonii*, and in that species it is wide open; t. p. line

with its two extra-discal teeth about half as acuminate as in *Robinsonii*, in the latter the anterior often extends across the subterminal space; s. t. line scarcely discernible, much less brown in the s. t. space than in its ally, almost concolorous. The ground colour of *Robinsonii* is pale gray with a slight bluish sheen as seen in its side light, that of *Barnesii* has a slight purplish sheen in a side light.

Hind wings black, fringe white with a slight ochraceous tinge at base, black at the ends of the veins. The under side as in *Robinsonii*, but more smoky in tinge.

Described from two examples from San Antonio, Texas; in the cabinet of Dr. Wm. Barnes, Decatur, Ill.

The writer would arrange the black-winged species of the Catocalæ of the United States as follows :

Catocala, Schrank.	10. Flebilis, Grote.
1. Epione, Drury.	11. Robinsonii, Grote.
2. Sappho, Strecker.	var. Curvata, French.
3. Agrippina, Strecker.	12. Barnesii, French, nov. sp.
4. Subviridis, Harvey.	13. Obscura, Strecker.
5. Lacrymosa, Guenée.	var. Simulatilis, Grote.
var. Ulalume, Strecker.	14. Residua, Grote.
var. Paulina, Hy. Edw.	15. Insolabilis, Guenée.
var. Emilia, Hy. Edw.	16. Angusi, Grote.
var. Evelina, French.	var. Lucetta, Hy. Edw.
var. Zelica, French.	17. Judith, Strecker.
6. Viduata, Guenée.	Levettei, Grote.
Maestosa, Hulst.	var. Miranda, Hy. Edw.
7. Vidua, A.-S.	18. Tristis, Edw.
Desperata, Guenée.	19. Elda, Behrens.
8. Dejecta, Strecker.	20. Relicta, Walker.
9. Rectora, Grote.	var. Bianca, Hy. Edw.
var. Luctuosa, Hulst.	var. Phrynica, Hy. Edw.

A NEW CATOCALA FROM TEXAS.

BY A. RADCLIFFE GROTE, ROEMER MUSEUM, HILDESHEIM, GERMANY.

Catocala moderna, n. sp.

Allied to *C. viduata*, Guenée, but very much smaller, and at once distinguished by the pale angulated band of the under surface of hind wings reflecting through on upper surface, where it appears as a faintly yellowish mesial shade, distinctly outlined. Fore wings like *C. viduata*, of the same pale gray, with the black oblique shading running from costa at centre of median space outwardly to below apices, less marked than