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The enormous losses occurring yearly to agriculture in America from destructive insects are gradually awakening public attention in this direction, and also to the necessity of careful observations on the habits of these pests, with a view to their destruction or limitation. We were much gratified to learn that the late Congress of the United States, recognizing the importance of this subject, made a liberal appropriation to provide for the appointment of a commission of practical Entomologists to investigate and study the habits and life history of these insect pests, and thoroughly test such measures as have been or may be suggested with the view of lessening their ravages, the investigations to be carried on for several consecutive years. The Government has been particularly fortunate in securing the services of three eminently practical Entomologists to undertake this work, Prof. Riley, State Entomologist of Missouri, Dr. A. S. Packard, of Salem, Mass., and Prof. C. Thomas, State Entomologist of Illinois; Prof. Riley has been designated chief, Dr Packard secretary, and Prof. Thomas disbursing agent. While the destructive Rocky Mountain Locust, *Caloptenus spretus*, will specially engage the attention of the Commission during this year, careful observations will at the same time be made on other destructive pests. We desire to call particular attention to Dr. Packard's request in this present issue for specimens in all stages of the Hessian Fly, Joint Worm and Wheat Midge, and trust that all our members will endeavor to aid the Commission in their labors in every possible way.

The headquarters of the Commission will be at St. Louis, Mo.; there will also be an office, with a clerk to attend to certain routine business, at the rooms of the Geological and Geographical Survey of the Territories, at Washington, D. C., Dr. F. V. Hayden in charge.

The locust area assigned to each Commissioner the present year is as follows :—

1. Prof. Riley takes for his field the region east of the mountains and south of the 40th parallel, the west half of Iowa, and, conjointly with Dr. Packard, British America west of the 94th meridian, where the principal source of the devastating swarms will probably be found.

2. Dr. Packard will take for his field West Wyoming, Montana, Utah, Idaho, and the Pacific Coast.

3. Prof. Thomas takes all the region east of the mountains not enumerated, including Nebraska, Minnesota, etc.

The publications will consist of circulars, bulletins, memoirs, and the annual report of doings and results of the work of the Commission.

To Prof. Riley are assigned more particularly the following divisions of the subject : Biology, or Natural History ; Insect Enemies and Parasites ; Remedies and Devices for Destruction.

To Dr. Packard : Anatomy and Embryology.

To Dr. Packard and Prof. Thomas, conjointly : Meteorological Bearings and Migrations.

To Prof. Thomas : Geographical Distribution, Enemies not Entomological, Agricultural Bearings of the Subject.

The Commission expects to secure co-operation with the United States Signal Bureau in affording meteorological data in connection with a study of the migrations of the locust ; also, hopes to secure the aid of the Canadian Government in co-operating with it in its investigations in British America.

It is the determination of the Commission to confine its operations more particularly to the practical bearings of the subject, with a view to ascertain all possible remedies against these destructive insects. All else will be made subservient to the great object for which the appropriation was made, to wit :—

1. The best means of fighting the plague as it occurs in the States to which it migrates, but in which it is not indigenous.

2. The thorough investigation into its habits in its native home, with a view of preventing, if possible, its migrations therefrom.

The following are the topics on which data are requested from observers in all parts in reference to the destructive locust :—

1. Date, and time of day of the arrival of swarms.
 - 1*a*. Direction and force of the wind at the time.
 - 1*b*. Temperature and character of the weather at the time (clear or cloudy).
 - 1*c*. Direction of the flight, density, height and extent of the swarms.
2. Date and time of day of the departure of swarms.
 - 2*a*. Direction and force of the wind at the time.
 - 2*b*. Temperature and character of the weather at the time.
 - 2*c*. Direction of the flight, density and extent of the swarms.
3. Date when the first eggs, if any, were deposited the present year.
4. Date when the eggs were most numerous hatching the present year.
5. Date when the eggs were most numerous hatching in previous years.
6. Proportion of eggs that failed to hatch the present year, and probable causes of such failure.
7. Nature of the soil and situations in which the eggs were most largely deposited.
8. Nature of the soil and situations in which the young were most numerous hatched.
9. Date at which the first insect acquired full wings.
10. Date when the winged insects first began to migrate.
11. Estimate the injury done in your County and State.
12. Crops which suffered most.
13. Crops most easily protected.
14. Crops which suffered least.
15. The prevailing direction in which the young insects travelled, and any other facts in relation to the marching of the young.
16. The means employed in your section for the destruction of the unfledged insects, or to protect crops from their ravages, and how far these have proved satisfactory.
17. The means employed in your section for the destruction of the winged insects, or to protect crops from their ravages, and how far these have proved satisfactory.

18. Descriptions, and if possible, figures of such mechanical contrivances as have proved useful in your locality for the destruction of either the young or the winged insects.

19. If your section was not visited in 1876, please state this fact.

20. If visited any previous year, please give the dates.

21. To what extent have birds, domestic fowls, and other animals, domestic or wild, been useful in destroying these insects?

As the successful prosecution of this work is as deeply important to the western portions of our Dominion (where immense damage is often inflicted by this destructive foe) as to any part of the United States, it is hoped that our Government will render all possible aid to the work of this Commission, either by instructions to parties engaged in surveys and other Government work in the western regions, to make the necessary observations, or otherwise by appointing suitable co-operating agencies to aid in the work.

NOTES AND DESCRIPTIONS OF NEW MOTHS.

BY A. R. GROTE,

Director of the Museum, Buffalo Society Natural Sciences.

Every student knows how much depends on the careful handling and perfect condition of specimens of moths for the cabinet. Especially in the *Noctuæ*, where the scale tufts on the body are used for generic characters, is it necessary to have well preserved material in order to give a definite determination. In this respect the collections of Prof. Lintner, Mr. Hill, Dr. Bailey and (though last by no means least) Mr. Otto Von Meske are to be very highly praised. The students of Albany have shown themselves excellent collectors, and it is a great pleasure to examine their specimens. I do not say that Mr. Von Meske's collection is the best in the country in this respect, but I do say that it is the best I have yet seen. Sugaring for *Noctue* in April and May has been found very remunerative in the vicinity of Albany. Beautiful specimens of *Lithophane pexata*, *fagina*, *Bethunci*, *disposita*, *tepida* and *Thaxteri* have been taken in

this way. Dr. Bailey has captured in this manner *Scopelosoma devia*, *Graefiana*, and *tristigmata*; also *Morrisonia vomerina* and *evicta*. Species of the genus *Homoptera* have also occurred not unfrequently; among these I may mention *unilincata*, a species easily recognized by its strongly dentate pale brown wings, the exterior line deep brown on primaries, blackish on secondaries. It is to be hoped that this method of capturing moths will be more extensively used; it will infallibly reveal unexpected varieties in every neighborhood.

Dasychira Lintneri, n. s.

♂. Dark gray, shaded with ochrey at the base of primaries, on the median space and along subterminal line. Basal line dark, narrow, dentate on costa, slightly outwardly projected below median vein. Extra basal space wide. Interior line very distinct, perpendicular, black, toothed on subcostal vein, thence inwardly excavate to median vein at the point of origin of vein 2, thence again excavate to vein 1, diffuse on the margin. Exterior line faint, with whitish included shade. Subterminal line irregular. Fringes blackish, white externally and interrupted with white. Hind wings gray with a mesial shade line followed by whitish and shaded with blackish on external margin at anal angle, where the commencement of a second outer line is indicated; fringe as on fore wings. Body stone gray; antennæ with lengthy pectinations. Beneath the wings are paler; hind wings whitish with a sinuate blackish mesial common line. Body paler beneath. Expanse 40 mil. Centre, N. Y., in May, several specimens in the collections of the State Museum, Mr. Hill and Dr. Bailey.

Euchaetes Spraguei Grote.

The female of this fine species is contained in Mr. Von Meske's collection from Texas. The stripes on costa and internal margin are paler than in the male.

Endlea incisa Harvey.

The female is in Mr. Meske's collection from Texas. The hind wings are paler, more yellowish than in *paenulata*, there is no red stain at the angulation of the green space near internal margin on primaries, the angulation is not so deep and the terminal brown space is narrower. I regard the two as different species. Both forms are in the collection of the Buffalo Society of Natural Sciences and of Mr. Von Meske.

Lithophane Baileyi, n. s.

♂ ♀. Greenish gray and resembling at first sight *querquera* from its color, but with the usual markings of the genus distinct, and with narrower wings. Fore wings rather dark greenish gray. Basal dash black, surmounted by the usual pale shade. T. a. line double. Orbicular concolorous. Reniform large, rounded, with a remarkably bright red stain and shaded with blackish. Median shade blackish, diffuse between the spots. T. p. line double, denticulate, a little more outwardly exerted than in *querquera*, opposite the cell. Subterminal line more or less evident by its fuscous preceding shade. Terminal line black, sub-continuous. Hind wings fuscous with dark fringes. Beneath fuscous with a ruddy hue, a common line and discal spots. Expanse 36 mil. Two specimens taken near Albany in September, by Mr. Geo. J. Bailey, for whom the species is named. One male also from Canada.

This species differs from *querquera* by the narrower wings, with the costal angulation more pronounced, the more grayish color, the scalloped terminal line, less deeply waved subterminal, and the distinct median lines; the secondaries and their fringes are not reddish above.

Apatela (Acronycta) falcula, n. s.

♀. Allied to *tritona* and *grisca*. The external margin is sinuate, not straight, sweeping inwardly below the apices and bulging opposite the median nervules. Fore wings dark purple gray, very like *tritona*. A black basal dash lined above with pale, furcate. Internal margin at base with a patch of light brown scales. Ordinary spots concolorous, faintly outlined, orbicular larger than in *tritona*. Median shade obsolete; median space very wide. T. a. line evident above the basal dash (which slightly exceeds the line) and here blackish; beneath the dash obsolete. T. p. line shaped as in *tritona*, but without the discal incision, blackish, sub-dentate, edged outwardly with brown, inwardly with whitish. Black dash on submedian fold not extending within the line. Hind wings whitish at base, outwardly vaguely and largely blackish. Fore wings beneath fuscous; hind wings whitish with a faint discal spot and external sinuate macular band. Thorax like fore wings, edged on the sides and behind with light brown. Body beneath whitish; abdomen above light gray. Expanse 35 mil. Illinois, Mr. Thos. E. Bean.

This form differs from its allies in the shape of the external margin of

primaries, the bright brown edging to the thorax, and in the details of the ornamentation throughout.

Mamestra Beanii, n. s.

♂. Allied to *purpurissata* in color, but not quite so large, about the size of *grandis*. Body tufts improminent. Eyes hairy. Antennæ with a white dot at base, simple, ciliate; in *purpurissata* they are serrate and bristled. Purple gray brown, darker than *purpurissata*, median space tinged with reddish. Ornamentation not distinct. Ordinary lines double, lunulate or waved; t. a. line with its outer line more distinct and blackish. Claviform small, black-edged. Orbicular large, paler than the wing. Reniform rather narrow, with an internal shaded ring, stained with ochrey red. T. p. line not much indented below the median vein. Sub-terminal line continuous, nearly even, with a notch on the interspace between veins 3 and 4, indicating the usual W-mark. Apices with a whitish shade. Fringes concolorous. Hind wings dark fuscous with whitish fringe. Beneath paler, fuscous, with the costal and terminal spaces powdered with gray, reddish or purplish. Double exterior common shade lines and faint discal dots. Expanse 45 mil.

I name this fine species for its discoverer, who has collected some rare moths with the present species at Galena, Illinois. Mr. Bean has taken there *Calymnia calami* Harvey, previously only known from Texas; also *Lithophane semiusta*, *Scopelosoma tristigmata*, *devia* and *Pettiti*.

Gortyna rigida Grote.

♂ ♀. I have alluded to this species in the Proceedings of the Ent. Soc. of Phil., 4, 324, as being allied to *cataphracta*, and differing chiefly in the straight transverse posterior line, much as *purpurifascia* differs from *rutila*. It is paler yellow than *cataphracta*, with less purple and dark shades. The stigmata are concolorous. The base of primaries is pale; there is a faint terminal purplish washing in the male. My female specimen does not show but very faint traces of it. The moth is a little slighter than its ally, and can be quickly known by the rigid purple t. p. line not bent opposite the disc as it is in *cataphracta*. ♂ Penn.; ♀ Illinois (Mr. Bean).

The following species is the first Eastern representative of the genus *Ochria*, which contains the European *flavago* and the Californian *sauzalitæ*.

Ochria Buffaloensis, n. s.

♀. The clypeus has a frontal horn, else the insect looks like *Gortyna rutila* and allies. The primaries are brownish red with the extra-basal and subterminal spaces washed with purple. T. a. line geminate, waved, with rather a deep sinus on vein 1, its inner line purple, its outer dark brown red. Orbicular spherical, yellow white. The accessory spots are totally wanting; this last superficial character will separate the moth from any N. Am. species of *Gortyna* allied to *rutila*, known to me or described by Gueneé. Reniform moderate, yellowish, interlaced with a double brown curved line. T. p. line double, nearly straight, not exerted opposite the cell, but prolonged on costa as in *purpurifascia*; its outer line is dark purplish, more diffuse. S. t. line dark, distinct, irregularly dentate. External margin even, bulging opposite median nervules. Veins obscurely purplish. Hind wings pale red, with a mesial straight dark line. Beneath light purple red, with a distinct common line; on hind wings a narrow lunule. Body beneath concolorous with wings; thorax above darker, more purplish. Expanse 40 mil. Miss Mary Walker, Buffalo.

Polia pallifera, n. s.

♀. This species resembles Herrich-Schaeffer's figures of *platinea*. Fore wings whitish gray with the median space washed with olivaceous beyond the olive median shade line. Claviform olivaceous, very large, finely lined with black. Reniform and orbicular gray, shaded with olive, the former white narrowly margined with black. Median lines geminate, of the usual shape. Beyond the t. p. line the wing is whitish gray, cut by the olivaceous shaded s. t. line. Fringes obscure with an interrupted dark line. Hind wings fuscous, paler at base with a sinuate mesial line and a pale subterminal shade. Beneath dirty whitish with double lines and discal marks. Body beneath and abdomen obscure whitish or dusty gray; thorax more purely gray. Expanse 42 mil. Illinois, Mr. Bean.

I cannot identify this with any of Mr. Morrison's descriptions under this genus. It has the fascies of European species of the group. It recalls the Californian *Dian. insolens*, but the eyes are naked.

Homoptera Woodii, n. s.

♂. This species is more strigate than any other known to me. Collar brown with a black mesial line, tipped with gray. Wings dentate, covered with dark strigae. Base of primaries blackish, defined by a broad velvety

black bent interior line. Orbicular wanting. Median space pale anteriorly, blackish posteriorly, where this last color includes the narrow pale reniform with its distinct central black streak, and extends beyond the line narrowly and over costal region to apices. T. p. line fine, black, even, undulate, bent inwards opposite the cell in the centre of its superior exerted portion. Subterminal line defined by the margin of the blackish mesial shading, excavate opposite the cell and more widely so inferiorly. Terminal space pale like the anterior half of median, showing the strigae very plainly. Hind wings pale fuscous, covered with dark strigae, with a more or less determinate mesial line, beyond which the wing is paler. Beneath pale fuscous, strigose; the discal mark indicated on primaries, as also a common mesial line. Expanse 38-40 mil. Several specimens taken at Centre, N. Y., by Dr. J. S. Bailey, and his assistant, Mr. W. C. Wood, of Wayne Co., N. Y., for whom the species is named.

The Albany collectors are studying this difficult genus, and Mr. Hill has called my attention to the fact that *edusa* and *lunata* are possibly sexes of one species.

I am indebted to Mr. Bean for an Illinois specimen of *Homoptera pennae* Morrison.

Endropia homuraria G. & R., Tr. Am. Ent. Soc., ii., 80.

Dr. Packard gives this as a synonym of *duaria*, but erroneously. A comparison of our description shows that it applies to a form with "the angles of the external margins of the wings more determinate" than *hypochraria*. Now *duaria* has the external margins rounded. *E. homuraria* is more intensely colored than its allies; beneath it is "intense deep orange, the common line followed externally by a bright purplish shade." The species is well described and cannot be mistaken for *duaria*. It is very near to *hypochraria*; the median lines are angulated as in that species. The discal sinus of the exterior line on the wings above seems to be shallower in *homuraria*, of which I have seen no female specimens as yet.

Lozogramma lactispargaria.

Cidaria lactispargaria Walk., Can. & Geol., 6, 41.

Tephrosia disconventa Walk., C. B. M., 21, 404.

Lozogramma disconventa Pack., 243, pl. 9, fig. 56. Albany (Lintner); Quebec (Belanger).

These different names refer to the same species. The wings are scalloped, not entire, and I accept Dr. Packard's generic determination with hesitation.

Tornos infumataria, n. s.

♀. Larger and stouter than *robiginosaria*, with the wings more elongate. Entirely smoky blackish. Fore wings with two sub parallel, oblique, irregular, black median lines, the exterior partly lined on the outside with whitish, but very faintly so. Hind wings with an indistinct mesial line, which is seen to be scalloped in the best marked specimens; beneath without markings. This concolorous species differs from its ally by the course of the waved median lines on primaries. Expanse 30 mil. June 3, 5; Texas (Belfrage, No. 604).

Aspilates pervaria var. *interminaria* Grote.

♂ ♀. Both sexes of this form, which is smaller than the type and differs at once by the absence of the lines on primaries, have been collected by Mr. Belfrage in Texas (male, June 5, No. 602; female, May 22, No. 653). It is paler than the type and looks like a different species.

LIST OF BOMBYCIDÆ OCCURRING ON THE ISLAND OF
MONTREAL, P. Q.

BY F. B. CAULFIELD AND C. W. PEARSON, MONTREAL, P. Q.

BOMBYCIDÆ.

Lithosiinæ.

Hypoprepia fucosa Hübn. Not common.

Euphanessa mendica Pack. Common; end of June, July.

Crocota Treatii Grote. Very rare; C. W. P.

“ *aurantiaca* Hübn. Very rare; C. W. P.

“ *brevicornis* Walk. Rare.

Utetheisa bella Linn. Rare.

Arctiinæ.

Callimorpha Lecontei Boisd. Common; end of June, July.

- Platarctia parthenos Harris. Very rare ; at light, 26th June, C. W. P.
 Euprepia americana Harris. Not uncommon ; end of July, August.
 Arctia virgo Harris. Rare.
 Arctia Saundersii Grote. Not common ; July and August.
 " nais Hübn. Very rare.
 " virguncula Kirby. Very rare ; June, C. W. P.
 Pyrrharctia isabella Abbott & Smith. Exceedingly common ; June, July.
 Phragmatobia rubricosa Harris. Rare ; July, 1876 ; May 12th, 1877.
 Leucarctia acra Drury. Common ; June, July, August.
 Spilosoma virginica Fabr. Very common ; June, July, August.
 Hyphantria textor Harris. Common ; June, July.
 Euchaetes egle Drury. Very rare ; bred from larva found on Burdock.
 C. W. P.
 " collaris Fitch. Not uncommon. June and beginning of July.
 " Oregonensis Streck. Rare ; June.
 Halesidota tessellaris Smith. Not common ; July, frequents blossoms of
Asclepias cornuti at twilight.
 " caryae Harris. Common ; June.
 " maculata Harris. Rare ; June.
 Dasychirinae.
 Orgyia nova Fitch. Not common ; end of July, August.
 " leucostigma Harris. Very common ; July and August.
 Parorgyia parallela G. & R. Very rare ; Mr. Kuetzing.
 Cochlidiinae.
 Euclea querceti Pack. Rare ; Mr. Lyman.
 Limacodes y-inversa Pack. ? Rare ; Mr. Kuetzing.
 Ptilodontinae.
 Datana ministra Drury. Not uncommon ; July.
 " Angusii G. & R. Rare ; July, Mr. Hibbins.
 Notodonta stragula Grote. Rare ; Mr. Hibbins.
 Lophodonta ferruginea Pack. Rare ; C. W. P.
 Pheosia rimosa Pack. Rare ; taken by Mr. Lyman.
 Nerice bidentata Walk. Rare ; Mr. Kuetzing.
 Edema albifrons Smith. Not uncommon ; June.
 Edemasia concinna Smith. Larvae, August ; rare.
 Coelodasys unicornis Smith. Not common ; July.
 " cinerofrons Pack. Rare ; Mr. Kuetzing.

in *fumipennis* the clytra particularly have the punctuation much more distinct; but the sexual characters will enable the two species to be more readily separated. In *T. axillaris* the males have the fourth abdominal ventral segment triangularly impressed; the fifth is broadly impressed, with the apex deeply emarginate. In my specimen there is also a slight impression on the tip of the third segment, which is not mentioned in the description of Erichson. The sixth segment is terminated by two long, somewhat curved spines. The males of *T. fumipennis* have the third and fourth segments not impressed; the fifth is broadly impressed, with the apex only slightly emarginate and the terminal spines of the last segment are less prominent.

The female of *fumipennis* differs from that of *axillaris* as described by Erichson (I have seen no females of the latter species) by having the two external laciniae of the last segment of the abdomen longer and more slender than the intermediate ones.

Tachinus colonus Sachse, from the Southern States, differs by the description from either of the above species, and will probably prove to be distinct. Besides the above, there is at least one, probably two, species as yet undescribed, agreeing in general appearance with these, and which would be confounded with them on a superficial examination.

As the description of Say will apply to all of these species, it is somewhat doubtful which is the one really intended by him; in fact, it is quite possible that he has confounded two or more species under the name of *fumipennis*, but the species which I have characterized under that name is apparently the most abundant in Pennsylvania, whence Say's specimens came. The description of Say reads "body minutely punctured," a phrase which is not used in the description of several allied species published at the same time, from which it is probable that the species intended by him was more coarsely punctured than the others, which also points to this species rather than either of the others mentioned above.

Languria inornata Rand., *gracilis* Newm. This species has been unfortunate in names; originally described by Latreille as *L. "bicolor* Fabr.," the name was changed by LeConte to *Latreillii*, and by Crotch to *gracilis* Newm., and *inornata* Rand. placed as a variety; but it appears that the description of Randall has priority over that of Newman, and the species should therefore bear the name *inornata* Rand.

Hispa collaris Say, Jour. Ac. Phil., iii., 433, is without doubt the

species described as *Odontota Walshii* Crotch, Pr. Ac. Phil., 1873, 81, and the species should therefore be called *Odontota collaris* (Say).

Imatidium 17-punctatum Say, l. c. 435, is not a synonym of *Chelymorpha cribraria* Fabr., as stated by LeConte, Say's Writings, ii., 207, but is the species subsequently described by Crotch, l. c. 77, as *Ch. Lewisii*, which will therefore have to be considered a synonym.

Graptodera plicipennis Mannh. - *Haltica binarginata* Say; the description of Say has priority.

Leptura sphaericollis Say, Jour. Ac. Phil., v., 280 - *ruficollis* Say, l. c. iii., 421. Dr. LeConte has already noted, New Series Am. Col., pt. ii., 222, that the species are identical, but not that *ruficollis* has priority.

ON SPECIES OF MELIPOTIS.

BY LEON F. HARVEY, M. D., BUFFALO, N. Y.

I propose to designate by the varietal name *versabilis*, that form of *jucunda* in which the primaries are nearly unicolorously fuscous gray without the white shading on the median space, and without the contrasting black and white of the usual and typical form. Specimens of this are in the collection of the Buffalo Society of Natural Sciences, collected by Mr. Grote in Alabama. Where the t. p. line is at all discernible, it is seen to make the same sharp indentation below the median vein as in the type. The species described by me from Texas under the name *agrotipennis* may be distinguished by the t. p. line not running in so far at this point and making an obtuse instead of a pointed angle on vein 2.

Melipotis sinuatis, n. s.

♀. Belongs to the group of *jucunda*, but is larger, with the fore wings more pointed. Whitish gray; fore wings crossed by interrupted lines. T. p. line well toward the outer edge, partially obliterate and forming a distinct black sinuate streak from vein 3 (where it approximates to the margin) to vein 1 inwardly. A terminal wavy line. Discal mark obliterate, faintly yellowish. Hind wings pure glistening white, with a deep black border discontinued below vein 2. A black dot on the

submedian fold at its outer extremity. Fringes white notched with black opposite the median nervules. Body gray; tegulae lined within with black. Beneath white with broad black margin to the wings, discontinued below on secondaries; a black discal streak on fore wings. Palpi gray; second joint marked outwardly with fuscous.

Expanse 48 m. m. Aug. 6, Belfrage; No. 646, Bosque Co., Texas. Quite distinct in ornamentation and color from any species known to me.

ON AN AMERICAN SPECIES OF LOPHOPTERYX.

BY LEON F. HARVEY, M. D., BUFFALO, N. Y.

Among the more interesting European Ptilodontid genera not yet recognized as American (the species referred by Walker to *Stauropus* do not, according to Grote, belong to that genus) is Stephens' genus *Lophopteryx*, as restricted by Lederer. To this I would refer a species found by Mr. C. A. Blake in New Jersey, near Philadelphia, and which I do not find elsewhere described.

Lophopteryx americana, n. s.

♂. Eyes hairy; antennae short, with long pencils of bristly hair from each joint. Primaries with uneven external margin. Bright brown in color, allied to *camelina*, but less rusty or reddish. Nervules interruptedly marked in very dark brown. Transverse anterior line single, forming two approximate obtuse teeth on the cell, dentate below median vein. Transverse posterior line double, obliterate, with included paler shade which traverses the wing obliquely, marked on costal region; a series of ante-apical pale dots; a purplish brown subterminal shade. Median space diffused, shaded with purplish brown, more apparently so before the outer line and inferiorly where the median lines approximate; a terminal brown line, interrupted on the veins, opposite to the extremities of which the exerted fringe is dark brown. Hind wings ochrey, with concolorous fringes becoming brown toward anal angle; a median pale shade, which intersects at internal margin a blackish patch. Beneath yellowish immaculate, the dots on costa of primaries before apices

repeated; fringes brown. Body rusty brown. Tooth on internal margin of primaries not prominent. Expanse 36 m. m. Collection Buff. Soc. Nat. Sci.

This seems to be a shorter and broader-winged form than the European, in which it would conform to Dr. Speyer's law of variation in the Noctuæ. The outer line is less distinct than in the European species, of which it may be a modification.

ON PSEUDOHASIS HERA (HARRIS).

BY A. R. CROTE, BUFFALO, N. Y.

Through the kindness of Lieut. Carpenter, I have received from Yellowstone Park a ♂ specimen which agrees with Mr. Walker's description of *pica* (B. M. Lists, 1318), and must be the same, although outside of the common black outer fascia the wings are tinted with yellow, while appearing white at first glance. But Walker's description seems identical with Harris' *Hera*, and his specimen is from Doubleday also. Probably the *same* specimen has been made the type of both species. Walker's locality, "United States," is indefinite, and probably not as originally given by Doubleday. Further comparisons are needed to settle the differences between *eglanterina* and *Hera*, which I have considered (Am. Phil. Soc., 1874, p. 4) as specifically identical.

It is not necessary, at this time, to analyse Audubon's plate; for the two names, *Hera* and *pica*, are founded on *specimens*, and no name is attached by Audubon or others to the original figures. I would correct the synonymy of the two forms as previously given by me.

Pseudohasis G. & R. (1866).

(Type: *Saturnia eglanterina* Boisd.)

1. *Pseudohasis Hera* (Harris) G. & R., Ann. Lyc. N. Hist., N. Y., 8, 377; *Saturnia Hera*, Rep. Ins. Mass., 286, 1841; *Hemiluca pica* Walk., B. M. Lists, 6, 138.

Hab. Rocky Mountain Region.

2. *Pseudohasis eglanterina* (Boisd.) G. & R., Ann. Lyc. N. Hist., N. Y., 8, 377; *Saturnia eglanterina* Boisd., Ann. Soc. Ent. Fr., 2nd Ser., x, 323; *Telea eglanterina* H.-S., Exot. 60, fig. 445.

Hab. California.

CATALOGUE OF THE LEPIDOPTERA OF AMERICA NORTH
OF MEXICO.

Part I—Diurnals ; by W. H. Edwards.

Published by the American Entomological Society, Philadelphia, 8vo., pp. 68. Price, \$1 ; interleaved for additions, \$1.30.

This work of Mr. Edwards' is conservative in its character, and as such is most refreshing ; after having tried in vain to fathom the innovations with which we have for the past few years been perplexed, this excellent catalogue comes to our rescue, and will, we feel sure, be appreciated by all who do not believe in the excessive multiplication of genera and their establishment on minute and often variable characters. Here the dear old familiar names are nearly all in their places again, and we go back to the time-honored method of heading our collections with *Papilio*, and embracing in it some 22 species. For ourselves, we have for some time past been literally at sea in reference to names for butterflies, wandering about without chart or compass to direct us ; we scarcely knew the name of any species, and didn't expect ever to have the time or disposition to master the new names proposed, and hence we have been so discouraged that we have done really nothing to our collection of butterflies for a long time past. We are not disposed to object to changes in nomenclature where it can be made to appear that a *necessity* for such modifications exists, but we have been unable to see any good reason for adopting the wholesale changes which have been proposed, and we believe that the great bulk of working Entomologists hold the same view. With a catalogue now more to our mind, sufficiently progressive, and, at the same time, a most convenient help, we shall be able to classify our species under genera we can comprehend, and go to work with a will again.

In the general arrangement the author, while adopting and incorporating some of the work of later systematists, adheres mainly to the order of Doubleday and his associates in the "Genera of Diurnal Lepidoptera," and where the genera have numerous species, as in *Colias*, *Argynnis*, *Thecla*, *Lycaena*, *Pamphila*, &c., they are for the sake of convenience divided into sections. In crediting genera the author strictly follows the rules adopted by American Entomologists at the recent meeting in Buffalo, and appends the name of the party who first gave the genus a proper definition. For this reason Hübner's genera are excluded

and two of the genera made by Mr. Scudder in the Hesperidæ, *Amblyscirtes* and *Pholiosora*, have been credited to Dr. Speyer because his definition of them is the first published. With regard to Mr. Scudder's genera, we think he should have had credit for them. We all know what pains-taking and unsparing effort he has bestowed in laboring to introduce what he conscientiously believes to be needed reforms in Entomological nomenclature, and although the present generation of Entomologists is not disposed to adopt such wholesale reform as he proposes, he is undoubtedly *deserving of full credit* for any of his material which may be used. His work on New England Butterflies, in which all these genera are minutely defined, has long been written, but its expensive character has been an obstacle in the way of its publication. Under these circumstances, *which are very exceptional*, we regret that Dr. Speyer's references of these genera to Scudder have not been followed.

There are 506 species enumerated in this list, embraced in 64 genera. There are also references by the use of a system of special signs to all writers who have treated of the preparatory stages of our butterflies, no matter how briefly; we regard this as an excellent and valuable feature in the work. The catalogue is in every way well got up, and we hope all our readers will procure a copy of it, and if, after they have given it a careful perusal, they think as well of it as we do, they will set to work and arrange their collections in accordance with it, feeling profoundly thankful to the author for the timely relief he has afforded.

NEW SPECIES OF NOCTUIDÆ.

BY W. V. ANDREWS, BROOKLYN, N. Y.

Acronycta Walkeri, n. s.

F. W., upper side--Wing-stretch,* 1.5 in. General color brownish gray. The costal edge has ten small, dark brown, irregular marks, and

* Perhaps I ought to apologize for coining a word in the above description—"wing-stretch." I hold it, however, to be a legitimately formed word, and I believe that in giving a description in English no foreign word or abbreviation should be used, if an English word, with the same meaning, can be found or formed.

four of these, those nearest the base of wing, are nearly enclosed by a dark brown, semi-circular line, which also encloses a basal patch, not distinct in color from the rest of the wing. Fringe of the wing light gray. A row of seven or eight dark brown, oblong spots on outer margin, probably lying betwixt the nervules, and very distinct. The "Acronycta mark" is almost of the shape of an anchor. Reniform stig. light ochrey brown; orb. stig. light gray.

All the transverse lines are very dark brown, edged interiorly with white or light gray, very zigzag; the subterminal and elbowed lines coalesce.

H. W., upper side—Light gray, nearly white, with a small discal brown spot, probably sometimes absent. Fringes and outer marginal spots as in f. w., except that the spots are less distinct, and almost form a line. Under sides of both wings light gray, growing darker toward the margins. The marginal spots as on the upper side. Fore legs annulated; the others gray with dark patches. Head, antennæ, patagia and thorax dark brown. Abdomen of a lighter color, but slightly darker than its under side, which, as well as the under thorax and palpi, are concolorous with the under side of wings. Last joints of palpi dark brown, and it is very probable that in some specimens all the "dark browns" may be "blacks."

With the exception of *funeralis*, this is the prettiest *Acronycta* that I know. N. J., Coll. W. V. A.

Orthosia lutosa, n. s.

F. W.—Wing-stretch 1.5 in. Color brownish gray, slightly darker on the outer margin, where the nervule interspaces are ornamented with seven dark brown, Y-shaped marks, sometimes confluent. A black or dark brown spot at apex of discal cell. Under side rather lighter in color. A brown crescent mark open towards costal edge—25. in. from apex.

H. W.—Basal space rather lighter in color than the f. w.; marginal space nearly as dark. A small, faint, brown discal spot. Under side concolorous with upper, the discal spot much more distinct. All fringes brownish gray and short.

Antennæ concolorous with f. w. Head, thorax and palpi densely clothed with light gray hairs. Abdomen .5 in. long, concolorous with h. w., darker underneath. N. J., Coll. W. V. A., 3 specimens.

CORRESPONDENCE.

THE HESSIAN FLY, JOINT WORM AND WHEAT MIDGE.

Specimens of these destructive insects in all their stages of maggot (*larva*), chrysalis (*pupa*) and fly, are earnestly desired by the undersigned from all parts of the country, particularly the south and west, in order that he may ascertain their distribution and study their natural history, with reference to their ravages. Specimens may be sent alive in stout paste-board boxes, or better, in tin boxes. The soft maggots should be forwarded in vials containing cotton soaked in alcohol, by mail. It may be remembered that the Hessian Fly and Joint Worm live near the roots of the wheat plant, causing swellings in the stalk, while the Midge lives in the ear. Accounts of these insects, with a map showing their distribution in the United States, will soon be published by Hayden's United States Geological Survey of the Territories, and extra copies of the report may be obtained of the author. Address parcels containing specimens and requests for the report to

A. S. PACKARD, JR., Salem, Mass.

I have great pleasure in informing you that a new Entomological Society has been formed in this city, under the title of "The Long Island Entomological Society." The following are the officers:—

Rev. Geo. D. Hulst, President; John Akhurst, Vice-President; Thos. Stearns, Treasurer; P. Elbert Nostrand, Rec. Secretary; W. V. Andrews, Cor. Secretary; Fred. Baldwin, Librarian; Chas. Leng, Curator.

W. V. ANDREWS, Cor. Sec'y L. I. E. S.,
187 State St., Brooklyn, N. Y.

I captured a *Meloe* on the 17th of April. I have also in two instances this spring found a male *Cicindela purpurea* paired with a female *C. vulgaris*. May not this sort of thing account for some of the remarkable variations among the *Cicindelidæ*? J. A. MOFFAT, Hamilton, Ont.

Notes on "Fondness of Larvæ for Water" would have appeared in this issue, but we have mislaid the letter containing the name of our correspondent. Would he kindly furnish it again?—ED. C. E.