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# The Canadian Entomologist.

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VOL. VII.

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No. 4

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## SUGARING FOR NOCTUÆ.

BY GEO. NORMAN, ST. CATHARINES, ONT.

Having been requested by the worthy Editor of this journal to contribute a few hints on sugaring for Noctuæ, I have endeavored to put together a few notes that may prove serviceable to those who may not have been successful in this method of capture. To begin with, it ought to be a golden rule never to abandon a locality, even should it yield nothing for a few nights. Often have I sugared a new locality night after night, with absolutely no results, but by persevering the moths have become attracted to the place, and, in course of time, were swarming on every tree.

The mixture I have found to answer best is either the common black treacle (not refined syrup), or the very coarsest brown sugar, called, I believe, by the trade, "Jamaica foots." In either case, the sugar or treacle must be thinned down to a proper consistency by means of stale ale, or, what is still better, the thick yeasty residuum from an ale or stout cask. Some collectors add a drop or two of oil of aniseed, and just before brushing on to the trees, a small quantity of rum, but I have really found no benefit from either addition. My receptacle for the mixture is made of zinc, flattened at the sides and rounded at the corners, so as easily to slip into my shooting-coat pocket. It has a brass screw at the neck, with a leather washer, the handle being attached to the brush—an ordinary painter's "sash tool,"—and goes inside the neck and is screwed tight when in the pocket. By this means all soiling the fingers is avoided.

On arriving at my ground, I look for a round with plenty of young trees with stems under twelve inches in diameter, selecting a place interspersed, if possible, by walks and footpaths. The thick, dense portions of woods are of no use, but the outside trees will do very well, provided the trees are not too large and the trunks too rough and corky; choose the trees

of medium roughness, for perfectly smooth ones, such as beech and young poplars, are as bad as those too rough, and rarely pay for the trouble. Spread the mixture on the leeward side of the tree, in a longish patch, at about the height of your face from the ground, as near sun set as possible as to time. Then comes a quiet pipe or two until it is dark enough to light the lantern. Never smoke when examining for moths, or you will lose many a rarity. When quite dark, light the lamp and go carefully over the trees.

My lantern is a portable flat one, burning the vapor of benzoline, and is, I believe, called a "sponge spirit lamp." It is far more cleanly than oil. The lantern has a drawer for matches, and instead of having a "bull's eye" in front, has a circular piece of plate glass, with bevelled edges. This arrangement allows the light to spread more than the "bull's eye," and enables one more easily to take the moth with the net, should it try to escape. No one ought to rely upon his chip boxes or cyanide bottle alone, when he goes his round; some moths are proverbially skittish, or fall to the ground and are lost among the herbage, if a hand net is not placed beneath them. The old plan of using a chip box for each specimen is, I think, the best, but many prefer the cyanide bottle. If the moths are left for twelve hours in the bottle they lose much of their rigidity.

In barren places, without trees, the sugar may be applied to stones and rocks, and on the sea shore or on sand hills, pieces of chip or wood may be sugared and stuck in the ground; or, in the event of these being not procurable, heads of thistles or bents (*Ammophila*) may be tied into bundles and smeared with the enticing lure; such localities often yield rare *Agroti*. I have generally found damp, dark nights, with a soft breeze blowing, the best, but have also had most excellent collecting even during the most brilliant moonshine. Some writers recommend sugaring a tree every ten yards or so; my plan has been to sugar every suitable and accessible tree, however near each other. In the spring the catkins of willows and sallows ought to be visited and carefully examined by means of a bull's-eye lantern. Many hibernated moths will be found in company with the *Tæniocampidæ*. Again, in the autumn the flower spikes of the common reed (*Arundo phragmites*) should be visited after nightfall. In my excursions I usually carry my apparatus, lamp, &c., in a leathern wallet, which is suspended by rings to a stout leather waist belt. This arrangement leaves the shoulders and chest free.

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## HINTS ON COLLECTING COCOONS OF THE LUNA MOTH—*Tropæa luna*.

BY ROBERT BUNKER.

Many Entomologists are under the impression that the cocoons of this species and *polyphemus* are exactly alike in appearance. This is a mistake ; and the collector who has been misled by writers on the subject and has got together by careful searching a dozen cocoons, expecting at least to get a small share of *lunas* from them, is greatly disappointed when they change to find them all *polyphemus*.

Having had some experience in collecting cocoons of both species, I will endeavor to point out the differences. The *polyphemus* cocoons are white, or dirty white, 1.25 to 1.75 in. long (those producing females the largest), with rounded ends ; sometimes angular, caused by leaves being moulded unevenly to the surface ; generally coated with white powder ; firm in texture, and producing silk of a coarse quality.

The *luna* cocoons are chestnut brown, a little larger than *polyphemus* ; egg shaped ; very thin, and frequently rough on the surface, covered with warts and excrescences ; they seldom show the print of leaves on their surface.

From my own observations, I am strongly inclined to the opinion that the larva of this fair queen of the night seldom spins its cocoon between leaves in the tree, but crawls to the ground and fastens it to any object that comes in its way. This belief has been strengthened by frequently finding cocoons with grass moulded to their surface ; furthermore, last fall I found a cocoon firmly attached to a tuft of grass six or eight inches from the ground, and another fastened to a twig or sucker about the same distance from the ground ; add to the above the fact that cocoons are almost always found on the ground near the trunk of the tree, and we have a pretty clear case that the habits of this elegant species are quite different from those of *polyphemus*.

Hickory, Beech and Oak are the food plants of this species ; *polyphemus* has a much wider range, and is, consequently, far more numerous. In collecting I find about six of the latter to one of the former.

Spring is the best time to search for cocoons, as most of the leaves blow away during the winter, leaving the cocoons exposed to view ; it is best, however, to look for them both in fall and spring.

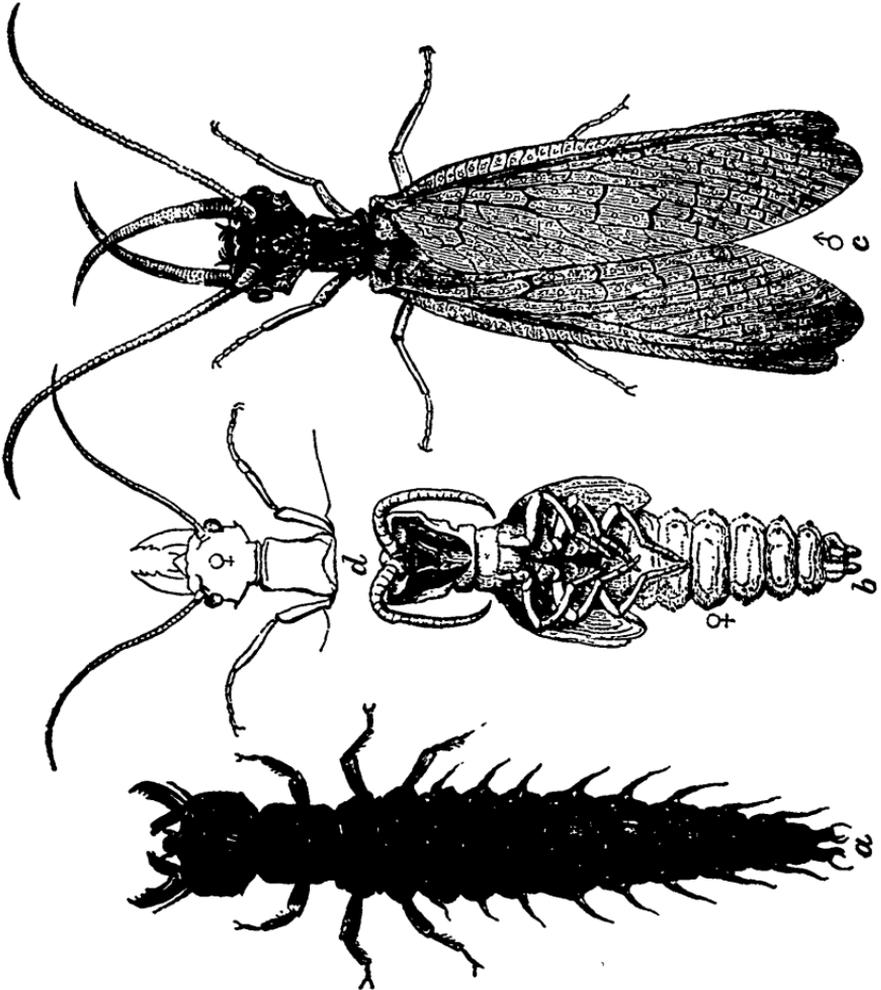
## ON SOME OF OUR COMMON INSECTS.

*THE HELLGRAMMITE FLY—Corydalis cornutus* Linn.

BY THE EDITOR.

This insect is common throughout Ontario, and wherever found, either in its larval or perfect state, excites astonishment and curiosity, owing to

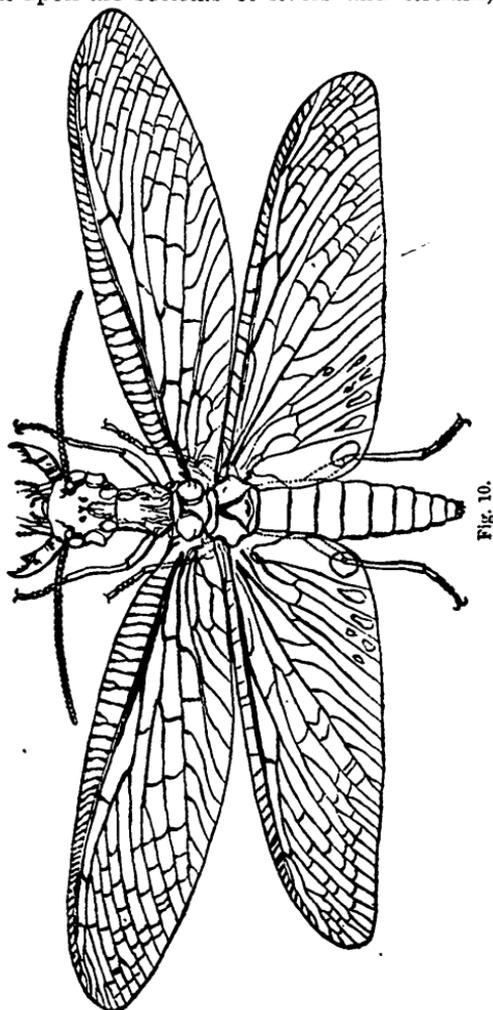
Fig. 9.



Colors—(a) dark brown, (b) whitish, (c) and (d) light brown.

its immense size and formidable appearance ; it is not, however, in any way poisonous, as some imagine. In fig. 9 this insect is represented in

its several stages, while in fig. 10 the perfect female is shown with wings expanded. The larva, which is a diabolical looking creature, is seen at *a*, fig 9; it spends the earlier portion of its life in the water, crawling and swimming about upon the bottoms of rivers and streams, feeding upon



the larvae of various other insects inhabiting the water. Mr. Riley has published an excellent paper on this insect in the first volume of the *American Entomologist*, from which most of the remarks following are condensed.

Most aquatic larvae spend the period of their chrysalis state in the water, and only emerge therefrom when ready to pass into the perfect or winged state; but the insects forming the group to which this larva belongs, leave the water while they are still in the larval state, and do not usually become pupae for several days or even weeks thereafter. Hence the Creator, to meet their necessities, has given them a double system of respiration—a set of gills to breathe with in the water, and a set of breathing holes, or spiracles, to breathe with upon land. In this larva the gills assume the form of paddle-like appendages, and are placed one pair upon each of the seven front segments of the abdomen, while the spiracles are arranged in the usual manner along the sides of the body. After leaving the water the larva crawls rapidly about, chiefly in the night time, in search of a safe and suitable place in which to spend the chrysalis stage of its existence, usually selecting the under surface of a flat board or log, or burrowing under some large stone. Before attaining its object, it sometimes wanders as much as a hundred feet from the water's edge, and an instance is given of one which crawled up the wall to the roof of a one-story building, and then tumbled accidentally down the chimney, to the great dismay of the good woman of the house. At this stage of their existence they are sometimes used by fishermen for bait, and having a very tough skin, one larva often suffices to catch several fish. They can pinch pretty sharply with their strong jaws, and they use the processes at their tail to assist them in climbing.

After a suitable hiding place has been selected, the larva forms a rude cell in the earth, and here changes to an inactive chrysalis (see fig. 9, *b*.) In this figure the wing cases are slightly spread apart from the body to show their shape and structure, whereas in nature they are closely appressed to the sides of the body. The larva leaves the water usually about the beginning of June, and by the end of that month, or the beginning of July, the perfect insect bursts its bonds and appears in the winged state.

In this form it measures, when its wings are spread, from four and a half to five inches; these, as shown in the figure, are gauze-like and covered with an intricate network of veins. The forewings are streaked with dark brown and sprinkled with whitish dots, of which latter there are also a few on the hind wings. The male (fig. 9, *c*) is remarkable for its enormous jaws, which are very long and hook-like, while the female (fig. 9, *d* and fig. 10) has short jaws. The flies hide themselves in obscure holes and corners during the day, and become active as the shades

of evening gather. They frequently fly into houses situated near running water, soon after dusk, attracted probably by the light.

The eggs of the Hellgramite Fly are oval, about the size of a radish seed, and of a pale color, with some dark markings. They are usually deposited in patches, upon reeds or other aquatic plants overhanging the water, where, when hatched, the young larva may find ready access to that element which is destined to be its home until the end of the following spring.

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## PRELIMINARY LIST OF THE NOCTUIDÆ OF CALIFORNIA.

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### Part V.

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BY AUG. R. GROTE, A. M.,

*Director of the Museum, Buffalo Society Natural Sciences.*

105. *Agrotis vittifrons* Grote, Proc. Ent. Soc. Phil., 3, 527, pl. 5, fig. 6.

Nevada, Mr. Hy. Edwards, No. 5645, one ♀ specimen. I think I may have mistaken the sex of my original type, and that it is a male. The present specimen seems to differ by the costal band and collar being leathern brown, the orbicular tolerably distinct, and the cell suffused with blackish. The hind wings are blackish fuscous.

106. *Agrotis silens*. *N. sp.*

♂. The antennæ are brush-like. Fore wings hoary over fuscous, with the costal region and stigmata gray. A black basal dash and black shading on the cell between the ordinary spots, which are moderately sized, sub-equal, the orbicular incomplete superiorly. Ordinary lines obsolete. The t. p. line indicated by geminate marks on costa above the reniform, and elsewhere feebly noticeable. Veins indistinctly darker marked. The black cell shading less distinctly continued to s. t. line between veins 4 and 5. Subterminal line indistinct, gray, preceded by more or less distinct black interspaceal marks. Apical shade gray; terminal space darker, fuscous. Terminal line black, fringes pale fuscous tipped with a faintly brown basal shade, and improminently interlined with

pale. Hind wings whitish, smoky about the margin, with white fringes. Thorax and head like fore wings, Collar with a black line. Front with two short black lines. Lower portion and tips of palpi pale. Abdomen griseous, with a stigmatal black line. *Exp.* 35 m. m.

This species is stouter than *rudens*, of a rougher appearance, and it differs by the more deeply stained hind wings, the open orbicular and the general color. The fore tibiae are wanting in the specimen.

Nevada, Mr. Hy. Edwards, No. 5603.

107. *Agrotis excellens* Grote, Proc. Am. Ent. Soc. (1875).

Vancouver's Island, Mr. Hy. Edwards, No. 5570.

108. *Agrotis intrita* Morrison, Proc. Bost. S. N. H., 1874, 164.

♂. Antennae coarsely brush-like. All the tibiae spinose. Rich deep brown, with an olive ochre stain, which tinges the thorax and the markings of the fore wings. Thorax and head concolorous with fore wings. These latter are of so intense and even a color that the markings are obscured. The ordinary lines are deep blackish, geminate, with paler fillings. Orbicular round, the black annulate with a pale interior lining. Claviform rather large and pointed. Reniform moderate, with an indistinct interior annulus, the stigmata well separated and without discal suffusion. T. p. line lunulate, even in its general course, not inwardly bent below the median vein. Subterminal line indistinct, pale, of the usual irregular shape, continuous. The dark fringes are interlined with pale. Hind wings and fringes unicolorous, light fuscous, without marks. Abdomen like hind wings, with ruddy lateral and inferior tinting. Beneath the wings are without lines, clouded, subirrorate, hind wings with an obsolete point and largely pale inferiorly. *Exp.* 30 to 32 m. m.

Mr. Hy. Edwards, Nos, 5646, 5640, 5607, Vancouver Island.

Mr. Morrison has identified a specimen without which I could not have known his species, since he compares it briefly with *phyllophora*, to which it bears no near resemblance.

109. *Agrotis pastoralis*. *N. sp.*

♀. Antennae simple; all the tibiae spinose. Wings elongate. Thorax and fore wings dull black. All the markings faint. Orbicular small, spherical, interlined with pale powdery scales. Reniform of the usual shape, well removed from the orbicular, more prominently interlined with

pale powdery scales than the orbicular. Lines obsolete. Hind wings wide, blackish fuscous, without marks. Fringes white outwardly. Beneath paler, irrorate, with shaded faint common band and discal marks. *Exp.* 42 m. m.

Vancouver Island, Mr. Hy. Edwards, No. 5638.

This is a large species, differing decidedly from *velleripennis*.

A specimen sent by Mr. Theo. L. Mead, collected in Colorado, differs by the general tone being more fuscous, less blackish, with the t. p. line faintly legible. I think it is the same. Mr. Mead's number is 51.

*Agrotis gagates*. *N. sp.*

♀. A single specimen collected by Mr. Mead, in Colorado, and sent to me under the number 56, is closely allied to *pastoralis*, but differs by the color of the fore wings and thorax being of an intense red brown, very much like that of *Hadena lateritia* (*dubitans* Walk). The abdomen is red tinted beneath. The subterminal line is pale, distinct, powdery, continued, of the usual irregular shape. There is no trace of it in *pastoralis*. *Expause* 43 m. m.

In this Coloradian species the t. p. line is visible through a lighter succeeding tinting; it is not bent down below the cell, and is slightly and regularly lunulate.

110. *Bolina hadeniformis* Behr, Trans. Am. Ent. Soc., 3, 25.

Downieville (Behr.) Unknown to me. Dr. Behr also describes specimens doubtfully under the names *jucunda* and *cinis*.

111. *Syneda Edwardsii* Behr, Trans. Am. Ent. Soc., 3, 28.

California, Mr. Hy. Edwards, No. 89. Two specimens.

112. *Syneda ochracea* Behr, Trans. Am. Ent. Soc., 3, 25.

California, Mr. Hy. Edwards, No. 1267.

113. *Syneda socia* Behr, Trans. Am. Ent. Soc., 3, 27.

California, Mr. Hy. Edwards, No. 52. One specimen from Santa Barbara.

114. *Syneda Howlandii* Grote, Proc. Ent. Soc. Phil., 3, 533, pl. 6, fig. 7.

Mr. Edwards sends me a specimen of *Syneda Stretchii* Behr, from Nevada, which will, I think, prove identical with my previously described Coloradian species.

115. *Syneda divergens* Behr, Trans. Am. Ent. Soc., 3, 27.

Sierra Nevada, Mr. Hy. Edwards, No. 4307.

116. *Syneda adumbrata* Behr, Trans. Am. Ent. Soc., 3, 27.

Sierra Nevada, Mr. Hy. Edwards, No. 2262.

I do not think that either of these two latter species is the same as our Eastern *graphica*. *Divergens* is nearer to *hudsonica*. If the differences which separate these Californian forms are really of specific value, it may eventuate that the specimen figured as the ♀ *hudsonica* is a distinct species. Having only single specimens of the Californian species, and without my types of *hudsonica*, I cannot attempt to offer any conclusions.

117. *Syneda Tejonica* Behr, Trans. Am. Ent. Soc., 3, 26.

Fort Tejon (Behr.) Unknown to me.

118. *Syneda nubicola* Behr, Trans. Am. Ent. Soc., 3, 25.

Tuolumne River (Hoffman.) Unknown to me.

119. *Syneda maculosa* Behr, Trans. Am. Ent. Soc., 3, 26.

Tuolumne River (Behr.) Unknown to me. These two species may belong to a different genus.

120. *Lita sexsignata* Harvey, Bul. Buff. S. N. S., 2.

Nevada, Mr. Hy. Edwards, No. 5536; California, Mr. Crotch in Mus. Comp. Zoology, Cambridge.

*Behrensia*. Ng.

Allied to *Plusia*. The head is sunken; eyes naked, lashed; labial palpi with obtuse terminal article, second joint loosely haired. Maxillae stout. Collar produced in front so as to stand off from the prothorax. Thorax tufted behind, but apparently without the large dorsal tuft of *Plusia*. Abdomen with a fan-shaped mesial tuft, which is concave on the face, directed towards the abdominal tip; sides tufted; body pilose. Antennae pubescent, simple. Ornamentation resembling *Abrostola*.

121. *Behrensia conchiformis*. N. s.

♂. Thorax and fore wings blackish gray. Median lines deep black, distinct, sinuous, geminate; a fine line precedes the t. a. and succeeds the t. p. line. T. a. line with a costal tooth, rather deeply undulate. Median space much shaded with black, obscuring the rounded claviform. Orbicular large, round, whitish, with dark centre. A white shade obtains between the spots, extending below the median vein, and touches the large reniform, which has a dark central streak touched with green. Green and slightly orange scales are scattered along the subcostal vein, along the obsolete basal half line, beyond the t. p. line, and the scalloped terminal line is green, of the light hue of copperas. Subterminal line faint, pale. Hind wings pale in the disc, the pale portion neatly defined by a mesial black streak. Beneath the mesial black line is distinct and denticulate, and the white disc shows a black streak less noticeable above. A second, sub-basal line is costally visible. Fore wings show a black curved extra mesial line, else both wings are blackish gray. The body hairs beneath are tinged with reddish, as in some species of *Plusia*. *Expanse* 29 m. m.

Mr. Behrens, No. 226, California (Sausalito).

The handsome species appears to me to differ generically from any of the forms included by Lederer in *Plusia*, by the obtuse, dependent third article of the loosely held, hanging palpi. The collar is unusually projected, without being broad. The head is more sunken than in any species of *Plusia* known to me. The base of the antennae are shielded by long hair tufts.

122. *Graphiphora Behrensiana*. N. s.

The eyes are hairy. The fore wings are coarsely irrorate with black, of a dull brown ground color, darker to the pale subterminal line, beyond which they are paler, with the veins pale marked. The costal edge is carneous. The lines are pale, tolerably approximate on internal margin, rather even, with blackish margins, the t. a. line outwardly oblique, the t. p. line flexuous. Ordinary spots large, pale margined, fused, so that there is a resemblance to some species of *Glaca*. Hind wings soiled white, sparsely irrorate, with a discal dot, concolorous fringes and a broken terminal line. Beneath whitish, a continuous line on primaries, dotted on the hind wings; discal marks double on fore wings; very distinct on secondaries. *Expanse* 35 m. m.

Mr. Behrens, Sauzalito, No. 227.

ERRATA.—Page 27, for “*illaudibilis*” read “*illaudabilis*.” Page 28, dele “*atlantica, subjuncta*,” and insert “*mactata*.”

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### PARASITIC DIPTERA.

By the kindness of Baron Osten-Sacken, of Cambridge, Mass., we have been favored with the following notes :

*Gaurax anchora* Loew., Centur., vii, 94.

Numerous specimens of this insect have been bred by Baron Osten-Sacken from a cocoon of *S. cecropia*.

*Blepharopeza adusta* Loew., Cent., x, 67.

Examples of this species have been reared from the caterpillars of *Spilosoma acrea* by Mr. H. Edwards.

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### LOCAL LISTS OF BUTTERFLIES.

All our American readers who are collecting Diurnal Lepidoptera, in whatever part of the country they may reside, would confer a great favor on us by sending lists of the names of such species as are found in their neighborhoods, stating at the same time whether the species are abundant or otherwise. If a general response can be obtained to this request, we shall be able to present our readers with a tabulated list, showing more correctly and completely than has heretofore been known, the distribution of the various species of butterflies throughout America. Such information is very desirable, and would save those at present engaged in the study of this interesting family, as well as any who may hereafter enter on it, an immense amount of correspondence. Mr. W. H. Edwards, of Coalburgh, W. Va., has kindly undertaken to tabulate all the lists that may be sent in, and when completed, publish the material in our pages. We hope our friends will all aid in this desirable undertaking, and each contribute his mite, sending the lists as complete as possible. Lists will be acknowledged in the ENTOMOLOGIST in the order in which they are received.

## TINEINA FROM TEXAS.

BY V. T. CHAMBERS, COVINGTON, KENTUCKY.

(Continued from page 56.)

## DRYOPE.

*D. luteopulvella*. *N. sp.*Pale yellow, sprinkled with pale fuscous. *Al. ex.*  $\frac{1}{7}$  inch.

I have also taken it in Kentucky, and have received it from Miss Murtfeldt from St. Louis.

AETOLE, *gen. nov.*Belongs to the Elachistidæ, but is quite distinct from any genus known to me, approaching perhaps as near to *Heliozella* as to any other.Tongue long and naked; no maxillary palpi; labial palpi *very* short, drooping, the third joint pointed, about as long as the second; forehead wide, obtuse; face wide but little retreating; scales of the head appressed. Eyes moderate, scarcely visible in front; antennae about as long as the body, simple, rather thick, the basal joint short.

Primaries lanceolate, scarcely caudate, but with the apical part narrow and pointed; cell closed by a somewhat oblique discal nervure; the subcostal gives off two branches before the end of the cell, and attains the margin before the apex; the discal gives off two branches, the superior being furcate before the apex, with one of the branches to each margin; the median is furcate from the end of the cell, and the submedian not furcate at the base.

Secondaries narrowly lanceolate; costal vein very short; median distinct; cell unclosed; subcostal obsolete to the middle of the wing, thence furcate with one branch to the apex and the other to the dorsal margin, and there is an independent discal? branch to the dorsal margin.

*A. bella*. *N. sp.*

Head, thorax, base of primaries, with a short basal streak near the margin, and the antennae, are dark slate brown, iridescent or silvery according to the light. Primaries reddish orange, with the base and basal streak, on the fold, a spot before the middle of the dorsal margin, another

a little further back near the costal margin, another on the dorsal margin about the middle, and a small costal one opposite to it, and a wide band around the apex of the ciliae, of the same iridescent brown with the head and thorax. Ciliae dark brown, of a different hue from the band at their base; this band and the costal and dorsal spots are margined by some deep maroon brown scales. Sides and under surface of the thorax reddish orange. Abdomen and legs of the same hue with the head and wing spots, and the metathoracic legs have a reddish orange patch on the anterior surface of the tibiae. *Al. ex.*  $\frac{1}{4}$  inch. Season, August. A very pretty little species.

Perhaps I am wrong in placing *Aetole* among the *Elachistidæ*, as I am not certain that it does not more properly belong with *Tinagma*, *Perittia*, *Douglasia*, &c., which Mr. Stainton, in *Ins. Brit.*, v. 3, has placed in the family *Glyphipterygidæ*. But neither in the brief accounts there given, nor in the figures can I discover any reason for separating these genera from *Elachistidæ*; nor, from the formation of such a heterogenous group as Mr. Stainton's *Glyphipterygidæ* seems to me to be, *Acrolepia*, *Roslerstammia*, *Glyphipteryx* and even *Aechmia* seem to me to belong as properly in *Gelechidæ* as *Butalis* does, and more properly than do either *Pleurota* or *Harpella*. On the other hand, *Douglasia*, *Perittia* and *Tinagma* might be placed in *Elachistidæ* with perhaps as much propriety as *Heliodines*, *Bedellia*, *Chrysoclista* or *Asychna*. As to some of these genera, as *Tinagma*, *Perittia*, *Antispila*, &c., it seems to me there is much force in the suggestion of Dr. Clemens in one of his letters, published by Mr. Stainton in his edition of the Clemens' Papers, to separate them from *Glyphipterygidæ*, and form, by their combination with some genera now included in *Lyonetidæ*, a new and more homogenous genus. As before hinted, *Lyonetidæ* does not seem to me to be a much more homogenous group than the *Glyphipterygidæ*.

But I do not pretend to criticise the work of much better Micro-Ledidopterists than I ever expect to be. These are simply my reflections on reading some of the writings of Mr. Stainton and Dr. Clemens, the only authorities within my reach. *Glyphipteryx impigritella* Clem., two, or at most, three species of *Lyonetia*, a few of *Antispila* and *Butalis*, are the only genera above named which are known to be represented in this country; and for the other genera above named I have no authority to consult but Mr. Stainton. *Aetole bella* resembles closely the European *Chrysoclista lineella*.

## GRACILARIA.

*G. (Corisceum) quinquistrigella. N. sp.*

Head, face and palpi white, except the outer surface of the tuft and an annulus about the middle of the third joint at its tip, which are grey brown. Primaries grey brown, margined all around by white, widely so on the dorsal margin, but confined to the extreme costa on the costal side, and about five short, oblique, white costal streaks in the apical part of the wing, some of them indistinct. *Al. ex.*  $\frac{1}{10}$  inch.

## NEPTICULA.

*N. Belfragrella. N. sp.*

Face pale yellowish; eye-caps white; antennae brown; thorax and primaries pale gray, darker towards the apex of the primaries, and with a fuscous spot at the apex. *Al. ex.* from  $2\frac{1}{2}$  to over three lines. Season, April.

## COLEOPHORA.

*C. bistrigella. N. sp.*

*Antennae and palpi simple.* The neurulation is that of *C. anatipendula*, Ins. Brit., v. 3, except that in the secondaries the subcostal goes to the apex, with a branch to the dorsal margin; and the median is three-branched, the last branch continued through the ccll, and its connection with the second branch is faint.

Pale sordid ochreous, with a slight reddish cast on the primaries; extreme costal margin white almost to the ciliae, and a white streak from the middle of the base almost to the dorsal ciliae; dorsal margin towards the base whitish, faintly tinged with ochreous; space between the veins in the apical part of the wing darker than the general hue. *Al. ex.* half inch.

*C. argentialbella. N. sp.*

*Palpi and stalk of the antennae simple; basal joint of the antennae tufted.*

Silvery white; apical part of the primaries very sparsely dusted with scattered dark brown scales. *Al. ex.* half inch. Season, June and July.

Four specimens, only one of which exhibits the dusting, and it also shows in some lights a very faint, pale golden tinge; possibly it ought to be considered specifically distinct, but I think not.

## ANNUAL MEETING OF THE LONDON BRANCH.

The annual meeting of the London Branch of the Entomological Society of Ontario was held at the residence of Mr. A. Puddicombe, on the 21st January, 1875.

The following officers were elected :

President, H. B. Bock ; Vice-President, G. Geddes ; Secretary-Treasurer, J. M. Denton ; Curator, C. Chapman ; Auditors, J. H. McMechan and J. Griffiths.

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## SYNOPSIS OF NEUROPTERA.

Dr. H. A. Hagen, of Cambridge, Mass., is working on a new and largely augmented edition of his Synopsis of the Pseudo-Neuroptera and Neuroptera of North America, and would like the co-operation of all those interested in this department of Entomology. Collectors having undetermined specimens would aid in this good work by forwarding them to Dr. H. A. Hagen, Museum Comparative Zoology, Cambridge, Mass., who will willingly name them ; the only privilege he claims is to retain for the Museum new, or rare species, which he would find necessary to describe.

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## CORRESPONDENCE.

## ON CALOCAMPA.

DEAR SIR,—

In a paper published in the Annals of the Lyceum of New York, Mr. Morrison discusses my views on the relationship between the North American and European species of this genus. So far as they relate to the resemblance between the American *nupera* and the European *vetusta*, Mr. Morrison may be correct, and my later statement that the species cannot be regarded as "representative," incorrect. Mr. Morrison, however, charges me with saying that "*nupera* is more closely allied to *exolcta*" (i. e., than to *vetusta*), which I have never stated. I say in the

Proc. of the Academy of Natural Sciences, that "*C. nupera* appears to me to resemble the European *C. exoleta*, rather than *C. curvimacula*, in opposition to Mr. Morrison's opinion on the subject." I intended to dissent from Mr. Morrison's assertion that *C. curvimacula* may stand for the American representative of *C. exoleta*, by showing that *C. nupera* was nearer both the European species than *C. curvimacula*. In regard to the position of *solidaginis*, I consider it the type of a distinct genus, following Hübner and Stephens. Gueneé refers the species to *Cloantha*, Lederer to *Calocampa*. Now that we have a closely allied North American representative, and that Mr. Morrison himself gives us at least a single "material structural difference," I feel warranted in considering my adoption of *Lithomia* for *solidaginis* and *germania* authoritative and reasonable.

A. R. GROTE.

ON ADITA.

DEAR SIR,—

Mr. Morrison recently corrects my statement that the tibiae are spinose in this genus. Mr. Morrison says that "the only spines visible are the pair before the spurs on the middle tibiae and a single spine (there possibly may have been two) between the two pair of spurs on the hind tibiae." I have re-examined my specimen, and I find on the outside of the middle tibiae a series of eight spines in irregular pairs before the spur, besides several finer spines, and on the hind tibiae three spines are plainly visible. The spines frequently break off, as has been noticed by European Entomologists. Perfectly fresh specimens will probably show the presence of more spines on the hind tibiae. The fore tibiae are furnished with a stout, terminal claw.

A. R. GROTE.

In reply to Mr. Morrison's enquiry as to the propriety of retaining *Cirroedia* Guen. (1839) instead of *Atethmia* Hubn. (1816) for a genus of Noctuidae, I would state that I gave the subject careful consideration when preparing my "List." I was finally led to adopt the older name from the following considerations. Dr. Herrich-Schaeffer (Corr.-Bl., 75) remarks that he doubts the validity of Gueneé's genus *Atethmia* for the South American species. The point is here as to *subusta*, of which Mr. Morrison says that it is "South American," as if he were giving a structural character. Again, *Atethmia* is dated 1816, and although Hübner

adds a species "*subusta*" to the genus, such a species was not then published. Hübner's *Atethmia subusta* is given later, in 1823, in his Zutraege, under the numbers 205, 206. Now, Hübner cites in the Verzeichniss "105—106." Perhaps he had intended a different and earlier publication of *subusta* than that which was ultimately carried out. There is also some evidence that Hübner considered the European, and not the South American species as typical of the genus *Atethmia*, to be gathered from the text of the Zutraege itself.

Again, Mr. Morrison says that Gueneé "takes out" of Hübner's genus the European *Xerampelina*. Gueneé, however, in his Essai takes no cognizance whatever of Hübner's generic reference of his species. Gueneé says of *Xerampelina*: L'unique espèce qui compose ce genre a été placée jusqu'ici dans les Xanthies. Again, Gueneé in his "Species General" does not, as Mr. Morrison states, refer *subusta* as the typical species of Hübner's genus. Gueneé there does not know *subusta* at all, and says of the genus: "Ce petit genre, dont je n'ai emprunté a Hübner que le nom, puis que dans son Verzeichniss, il se compose principalement (!) de mes *Cirroedia*," etc.

The question is one to which I had devoted considerable study, and in a more general List of our moths, upon which I am engaged, I expect to have occasion to note further evidence as to the use of *Atethmia* in European works for *Xerampelina*. I shall be glad always to note corrections to my List, which deviates so greatly from its predecessors that it should not be expected to be everywhere exhaustively correct. And although Mr. Morrison may not always be able "to see the necessity of this change," yet he will find that no generic title is there adopted without a reason.

A. R. GROTE.

DEAR SIR,—

Mr. Grote's letters in your last issue seem to contain, in the main, the reasons why he made certain errors in regard to my work, and a repetition of his former statement, to the effect that I had made five synonyms in one of my papers containing descriptions of about sixty species; the former statement does not call for any word from me, but perhaps it would not be out of the way (since we are on the subject of re-descriptions of old species) to ask why Mr. Grote has re-described within six months the common *Agrotis incivis* Guen. as a new genus and species, under the title of *Anicla Alabama*; or why the well-known *Orthosia ferruginoides*

Guen. is re-described as *Xanthia ralla* G. & R. ; or *Acronycta brumosa* Guen. and *innolata* Guen. as *A. verrilli* G. & R. and *Diphthera graefii* Grote ; or *Celiptera frustulum* Guen. as a new genus and species, *Litomitus elongatus* Grote ; or *Plusia ou* Guen. as *Plusia fratella* Grote ; or —but we say no more. It is only human for the best of naturalists to make mistakes occasionally.

In regard to the latter statement of Mr. Grote, it is perhaps unnecessary to repeat again that of the five species of mine which Mr. Grote considers as synonyms, three were published in papers contemporaneous with mine, having priority by one day, and which I could not have foreseen ; one was published on the authority of Mr. Grote himself (*Mamestra illabefacta*), and the other (*Hadena rasilis*) is not a synonym, but a distinct species, and Mr. Grote is in error in considering it identical with *Elaphria grata* Hübn.

In ignoring Mr. Grote's genera *Eucoptocnemis*, *Exyra* and others, I simply follow the example of Dr. Speyer and the best European authorities in not recognizing catalogue names unaccompanied by a generic description.

With regard to Mr. Grote's remarks on my genus *Eutricopis*, I consider *Tricopis* (which, by the way, is a synonym of *Euleucyptera*, founded by the same author) as a generic term covering all the characters of the insect or group of insects which it was founded to contain ; the three-clawed tibiae is but one of many characters. Therefore, when I discovered a genus which approached *Tricopis* in many of its characters, but was sufficiently distinct from it, I very properly gave it the name of *Eutricopis*.

Mr. Grote does not agree with me when I unite *Bolina nigrescens* G. & R. with *fasciolaris* Hübn. *Bolina fasciolaris* is a very common and variable species ; I have examined a large series, among which many agree with Grote and Robinson's excellent figure, and as they are from the same locality, Texas, I have no doubt that it is their species which I have identified. I have also carefully examined several copies of Hübner's figures, and am confident that the two species are identical.

Mr. Grote closes with some remarks in regard to his "List," the great value of which I cheerfully acknowledge ; however, it is open to criticism in many particulars ; for instance, the omission of several of M. Guenee's species, one of the omitted species being described by Mr. Grote under a different name, and is in addition placed in a genus to which it by no means belongs. I also object to the admission at present of the genus

*Ammoconia* to our fauna. *A. badicollis* Grote, referred to that genus, in the List, is a true *Agrotis*. I have examined the two European species of this genus, and am satisfied that it can not be retained there.

I remain yours truly,

H. K. MORRISON.

Dr. Harris, writing to Hentr. (Harr. Cor., p. 11), says: "Have you ever seen a *Rhagium*? In January I obtained from beneath the bark of a tree nearly twenty males and females of *R. lineatum* Oliver."

My object in writing is to ask your readers if they have ever found *R. lineatum* at such a time of the year and in such a situation. In the summer of 1873 (being absent from home I cannot give the exact dates but probably in May or June) I spent a week in Baltimore, Md., and every morning captured several examples of this species on the walls of a church—none elsewhere. I learned from Mr. Baumhauer, of that city, that he also had taken the same species at the same place several years, in succession.

W. V. ANDREWS, New York.

#### RARE CAPTURES.

On the 15th Sept., as my brother and myself were returning from an Entomological foray, I saw something like a flash of orange light flit past me, and turning, I saw an insect which I did not know was found here, viz., *Colias eurytheme*. Away it was flying like a ray of sunlight, flitting from flower to flower, resting only for about the smallest conceivable portion of time, and it was only after a long and exciting chase that I managed to capture my prize. It was in beautiful condition, apparently just fresh from chrysalis, and I consider myself very lucky in obtaining it.

Among our rarities, I would also mention a very fine specimen of *Smerinthus modesta* which I obtained from a friend who found it clinging to the eaves of his cottage. We have also among our Catocalidæ, a specimen of *C. concumbens* with abdomen of a bright pink on the upper surface, closely resembling the European *C. pacta* in this respect, only the color is not quite so vivid.

C. W. PEARSON, Montreal.

CORRECTIONS.—Gaspé is on the south shore of the St. Lawrence, opposite Anticosti. In my note on p. 18 regarding *P. brevicanda*, you make it north. Also, Mr. Edward's name should have been inserted as the writer of the leading quotation in the article on *Glaucopsyche Couperi*.—WM. COUPER, 67 Bonaventure St., Montreal.