

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Continuous pagination/
Pagination continue
- Includes index(es)/
Comprend un (des) index
- Title on header taken from: /
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
- Caption of issue/
Titre de départ de la livraison
- Masthead/
Générique (périodiques) de la livraison

Additional comments: /
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
						/					

The Canadian Entomologist.

VOL. V.

LONDON, ONT., NOVEMBER, 1873.

No. 11

ON SOME OF OUR COMMON INSECTS.

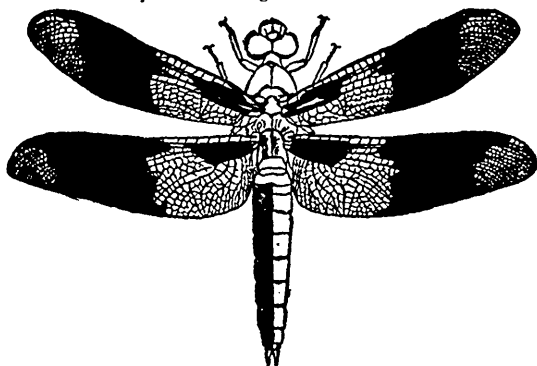
9. THE DRAGON FLY—*Libellula trimaculata*, DeGeer.

BY J. WILLIAMS, LONDON, ONTARIO.

This insect belongs to the order Neuroptera, which term signifies nerve-veined, so called in consideration of the netted structure of the wings. The members of the particular family (*Libellulidæ*) to which our specimen belongs, rival many of the Butterflies in their graceful shapes and brilliant colouring, while they excel them in rapidity of flight. These insects have received various popular names in different countries—the French call them Demoiselles, the Germans Florfliegen or Gauze-flies, or Wasserjungfern or Virgins of the Water, while the English style them Dragon-flies, Horse-stingers or Devil's Darning-needles. The English terms, although less poetical than those of our European friends, are, we believe, in a measure, more appropriate to the private character of these insects, who fully earn the title of Dragon-flies, although they are not Horse-stingers; of the third title we can say nothing.

Our specimen, *Libellula trimaculata* (fig. 19) when full grown, may

Fig. 19.



be described as follows:—The body is much elongated and cylindrical, and attains a length of two inches, in average specimens. The head is

large and bears two very large and prominent compound eyes. These eyes, which consist of many thousand facettes each, are so large that they meet on the upper surface of the head. This great power of vision is still increased by three simple eyes, or ocelli, situate on the upper surface of the head. From the front part of the head project two short, tapering antennae. The mouth occupies the front under surface of the head, and is a most formidable structure. The upper lip is broad, and conceals very powerful toothed organs, called mandibles; other organs of the mouth are also armed with strong teeth which enable the creature to satisfy its carnivorous desires. The most remarkable portion of the mouth, however, is the lower lip, a large, flat, lobed organ, closing the mouth from the under side, and which may be projected forward to a comparatively great distance when attacking other insects.

The thorax, or middle portion of the body, is three or four times as long as the head, and very much greater in diameter. It resembles the head in colour, being a medium chocolate shade, and is sparsely clothed with very short hairs of the same hue.

The abdomen, or posterior part of *L. trimaculata* tapers very gradually to the end, and is much smaller in diameter than the thorax, but more than twice its length. The colour is slightly paler, and is relieved by a line of pale yellowish blotches along each side, which gradually become smaller in size toward the end of the body. The upper surface is arched, while the under is flattened.

The legs are six in number, and are attached three to each side of the lower surface of the thorax.

The wings, which are four in number, are attached two to each side of the upper surface of the thorax, and are about one and a quarter inches long, and three eighths to nearly half an inch in breadth; the front ones being slightly the narrowest. The substance of the wings is a very delicate net-work covered by a thin transparent membrane having a shining surface. From the place of attachment of each wing there proceeds a narrow elongated patch of a deep brown colour, while from about the middle of the wings there is a large irregular patch of the same colour, which extends completely across. The structure of the wings combines great strength with lightness, thereby enabling the insect to fly with very great rapidity. Their shining surface, transparency, and brilliant colouring in this and other members of the same order, combine to give them a

beautiful appearance when flying in the bright sunshine, and evidently suggested the popular names given to them by the French and Germans.

The Dragon-fly is usually found in the vicinity of small streams or ponds, for reasons we will soon give. On bright and warm days in July and August it may be seen skimming over the surface of the water or ascending in graceful curves into the air, in search of food. When it rests, its wings are expanded horizontally.

Notwithstanding their graceful and "Demoiselle" appearance, they are most bloodthirsty creatures. Their rapid flight and enormous range of vision enable them to capture other insects with ease, while, their taste not being limited, they can consume butterflies, moths and other insects without compunction, and they are known to destroy and eat each other, as well as very small fishes (Figuier). However, it is this ravenous propensity which makes this insect so very valuable to man, as they destroy immense numbers of other insects which are injurious to vegetable and other products, and do not injure these substances themselves. A few of them shut in a house will soon rid it of flies, bugs and mosquitoes, and therefore their presence should be welcomed. The popular opinion that they are dangerous to man is without foundation, as they can neither bite, sting, or poison him.

We may now consider the development of *L. trimaculata* from the egg, as it furnishes some very curious and interesting information.

When the female is about to deposit her eggs, she attaches herself to some plant growing out of the water, and pushing her abdomen beneath the surface, glues a bunch of eggs to the submerged stem or leaf (Uhler). These eggs produce larvæ which have a distant and ugly resemblance to the perfect insect. The larva is active and passes its existence in the water, feeding on numerous weaker insects. It possesses a curious syringe like apparatus situated in the end of the body, by which it discharges a stream of water for a distance of two or three inches behind it, thereby propelling the insect forward. The motion thus given is most irregular and appears to be beyond the control of the larva. This curious arrangement serves for respiration as well as locomotion.

The larva soon reaches the pupa state (corresponding to the chrysalis state of a butterfly), in which it is also active, crawling over the bottom of the stream preying on other insects. In this state it is longer than the

larva, and still more resembles the perfect insect. The accompanying

Fig. 20.

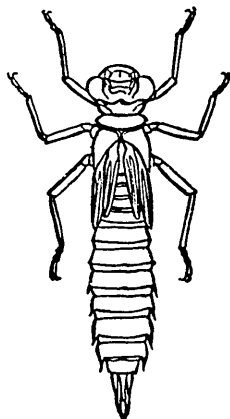


figure (No. 20) of a pupa of a species of *Æschna*, nearly allied to *L. trimaculata*, will give an idea of the appearance of that of our Dragon-fly.

When about to become a perfect insect, the pupa climbs up some suitable plant near the surface of the water and attaching itself firmly awaits the last great change. In a short time the skin opens down the back, and the adult Dragon-fly, by bending backwards and forwards for some time, emerges. It only requires to remain a few hours till its wings attain their full size and hardness, when it starts off on a life long expedition of plunder.

REMARKS ON RECENT NAMES GIVEN TO SOME LEPIDOPTEROUS INSECTS.

BY H. K. MORRISON, OLD CAMBRIDGE, MASS.

Looking over some recent papers, by one of our most careful and distinguished naturalists, well known by his contributions to all branches of Natural History, but more particularly to Lepidopterists by his *exhaustive* studies on the genera of North American Bombycidae, we were surprised to see the numerous and apparently unnecessary repetitions of the same specific name in closely allied genera and families.

In a single article on the Phalaenidæ of California, there are in this group alone *ten* species named *Californiaria* or *Californiata*. If the Phalaenidæ were an immense group, containing many distinct generic types but loosely connected by intermediate forms, so large a number of species of the same name would be opposed to all precedent in nomenclature. But, on the contrary, there is no group so compact, none in which the genera are so difficult to define, and united by stronger and

more conspicuous characters. Such being the nature of this group, we would expect at least to find *Californiaria* distributed among the different families, but it occurs in the same family; and in two genera *Tephrosia* and *Boarmia*, so intimately related that only an expert Entomologist can separate them correctly in every instance.

This is not the only case in which this name is repeated by the same author, for in "Contributions towards a Monograph of the Bombycidae of the United States," *Californica* occurs four times, in the genera *Pyrrarctia*, *Leucarctia*, *Phyganidia* and *Clisiocampa*, the first three of which are in the same family, and would have been referred to the same genus, *Arctia*, ten years ago. Here are fourteen species described by one author under one name, which should not properly have been used at all, for there already exist nine species of Lepidoptera described by previous Entomologists as *Californica*. In a paper on Geometridae in the 5th Report of the Peabody Academy of Science, we find three species having the name of *Sulphuraria*, which has already been much used in Lepidoptera.

It seems to us that this repetition in species of the same group and country cannot fail to cause confusion, and to render our nomenclature, the condition of which is at present deplorable, still more difficult to straighten out.

There certainly is no warrant in the works of the writers on Lepidoptera for such a proceeding, and Guenee, the great authority for Noctulites and Phalaenites, is scrupulously careful in this regard, and of the hundreds of species which he described, in not a single instance is the name repeated.

NOTES ON COSMIA ORINA, GUENEE.

BY AUG. R. GROTE., BUFFALO, N. Y.

Mr. Wm. Saunders has sent me, under the number 115, specimens of a Noctuid "from larvae found on oak, imago July 19th," which I regard as this species. The moth is variable in general colour and the appearance of the discal spots, and hence Guenée's description will not always literally apply. The only difference of importance I can see is that the two median trapezoidal lines on the fore wings are wider apart on the internal margin than in my specimens of the European *trapezina*. Guenée

mentions this character in his description of *C. orina* in the following words: "les deux lignes medianes fines, blanches, disposees en trapeze plus ouvert par le bas que chez *Trapezina*." Except that the hind wings are paler, I hardly see any other difference and I do not see the discal point beneath. In one specimen the "points terminaux" are "bien marqués," as in the var. A of *trapezina*, but the wings are not "teintés de rouge—brique clair."

ERRATA ET ADDENDA TO MR. GROTE'S PAPERS.

P. 143, line 19, for *Basilarchia* read *Basilarchia*.

" " 31, add "Polygonum had been previously used in Botany."

P. 144, line 29, add "Hubner's *cereus* is a South American species. Westwood's *caeniis* is our very distinct *pumila*. Hubner does not, in fact, refer to *pumila* at all. It is no part of his genus *Polystichtis*."

i

NOTES ON THE LARVA OF *COSMIA ORINA*, GUEN.

BY THE EDITOR.

A smooth, yellowish green larva, found feeding on oak, taken by bush beating, June 20th.

Length nine tenths of an inch, form cylindrical.

Head rather smooth, flattened in front, slightly bilobed, pale whitish green, with a few fine yellowish hairs not visible without a magnifier.

Body above pale yellowish green, with a dorsal line of yellow, less distinct on the anterior segments, and covered with fine dots and short streaks of yellow, less numerous on second and terminal segments. There are a few fine short yellowish hairs scattered over the surface similar to those on the head. Spiracles small, oval, whitish, encircled with dull red.

Under surface of a slightly darker shade of green sprinkled with many minute yellowish white dots; feet pale and shining, prolegs green, both faintly tipped with brown.

One specimen which entered the chrysalis state on the 24th of June produced the imago on the 18th of July.

THE MILCH-COWS OF THE ANTS.

BY THOMAS G. GENTRY, GERMANTOWN, PA.

The above title, which forms the subject-matter of the present article, is one that has claimed the attention of the most eminent naturalists of all time. Although much has been said and written upon the subject, still there is room for more. As science advances in its onward march new facts are developed; some of these have a tendency to subvert long established principles, others to confirm pre-existent notions.

It is well known to naturalists and others that the Aphides secrete, or rather excrete a sweet, viscid fluid, which affords a rich repast for various species of ants. Ordinarily these little creatures are visited by the ants upon the tender branchlets and leaves of plants; but it has been asserted that they even keep them as human beings do cows. By many this has been deemed partly imaginary.

Formerly I was disposed to drift with the popular opinion in this particular, but latterly some few facts, which accidentally fell under my notice whilst searching for Carabs, have confirmed me in the opinion that such is the case in at least one species of *Formica*.

Whilst exploring a neighboring thicket lately, I was led to raise every stone that lay across or on the side of my path, as experience had taught me that the objects of my search were generally to be found in such concealed places. It was on one of these occasions that I noticed a nest of *Formica sanguinea*. Disturbed by this unexpected intrusion, the colony soon presented a scene of activity. My interest being at once excited, I decided to change my occupation for the time, and instantly seated myself down upon a slight mound where I could command a view of the nest, and observe the minutest details of ant life. I was not long in perceiving that the community consisted of full-grown neuters, larvæ in various stages of development, and a small species of white Aphis that is ordinarily found adherent to the roots of plants. Not a single male or female was to be seen, they doubtless were occupying at the time the subterranean galleries. The working portion of the community was evidently divided into three classes, each having a separate and distinct part to perform. The first class had the exclusive care

of the more matured larvæ; the second the comparatively feeble, and the third the charge of the herds. On the disturbance alluded to, each class immediately set to work in the discharge of its prescribed duty. But as it is to the third class that I shall particularly call attention, I shall be compelled to pass over the two preceding classes, referring your readers to the forthcoming Proceedings of the Philadelphia Academy of Natural Sciences, where their habits will be found minutely detailed.

But now to the third class. When the disturbance took place, its individual members were so intent upon soliciting by their caresses the much coveted sweet, most likely to be used as food for the young larvæ (but this I could not determine at the time), that they did not seem to notice the invasion of their jurisdiction. When fully aware of the fact instead of leaving their flocks at the mercy of the invader, and seeking their own personal safety by flight, each manifested the deepest concern for the little creatures who pandered so willingly to their temporal welfare. As if conscious of the debt of gratitude which they owed to them, they carried them down into their underground dwellings, where they found them comfortable quarters. Here it is plain that these tender creatures receive as much, if not infinitely more, care and attention than man is apt to bestow upon his flocks. Whether they bring the food to them or not it is not my province to say; but this I do affirm, that the galleries of *F. sanguinea*, whenever I have observed plant-lice therein, have always been constructed where these little creatures can find an ample supply of natural food. It may be probable that the lice are carried to the food; but that they are escorted to it by the ants is highly certain, as the slightest disposition to stray away by the more roving ones, is instantly checked. But on the whole, it cannot be denied that under the rule of their peaceful masters—the ants—they lead happy and prosperous lives.

NOTES ON COLLECTING.

BY W. V. ANDREWS, NEW YORK.

I can endorse (not necessary of course) Mr. Mead's "Notes on Collecting," pub. p. 78, vol. 5 of the "Entomologist," with right good will, having used similar methods myself for several years. I think I got my idea from D. Girard Knaggs.

A little improvement, however, may be made. If the collector, instead of putting in his "Cyanide of Potassium" in "lumps," will pound it to a fine powder, intimately mix it with the necessary amount of Plaster of Paris, and then pour in water till the mixture has by stirring assumed the consistency of cream, he will have a more efficacious, as well as a more lasting box (or bottle). When lumps, particularly large lumps, are used, it is difficult without using too much plaster, to cover the cyanide so that it shall not deliquesce. Of course if it begins to do so more and more of the surface is exposed and the box is always damp, and is liable to act on the colors of the captured insects.

Mr. Mead uses a bottle. I use a box. For general purposes the box commonly used for putting up Baking Powders will answer all purposes except in the "Catocala" season. But a box of that size, or as I think of any size, necessitates the making of a larger one on the same plan. That is a "transfer box," which remains in the house, or remains on the hunting ground, according to circumstances.

After making two or three captures from one tree, I never think of injuring the plumage of those by making an addition to them by introducing a lively moth; but immediately remove these to the "transfer box." By the next morning they are in good setting order. Thus I go through the night, the "transfer box" ultimately containing all the captures.

Of course it matters little whether a box or a bottle is used. In fact, it may be well to have a bottle for home service, and a box for the field. A box, as described, is a much better collecting vessel for Coleoptera than any alcohol bottle.

The best "transfer box" that I have ever used is a tin one about six inches in diameter and about two and a half inches in depth—used legitimately, I believe, for holding coffee samples.

Now, all these supposed improvements are based on the idea that having two or more dead moths in your collecting box, the third one, when introduced, will be absurdly lively for a time. This, at any rate, is my experience. The little fellows seem to have no idea of the important part they have to fill in Entomological Science, and dart about in the most reckless manner. Mr. Mead seems not to have met with such an inconvenience, but my captures have been uniformly obstreperous. Besides, I cannot help thinking that to *boultverse* a box of dead moths, say a hundred times a night, must do some little damage to them.

I never met with any inconvenience from ants as Mr. Mead has, but I have met with a rather serious one (because it is almost "morally" impossible to remove it) in the various species of tree toads. Beautiful little fellows, with eyes like diamonds, that will mount your garden fences and snap up unwary Heterocera without compunction. Rather annoying but of course you cannot drive them away.

Mr. Mead says nothing about a light. I advise a *square* tin lantern with a good reflection and some means of shutting off the light, which should be turned on suddenly. A Bulls-eye concentrates the light too much. Strap the lantern around your waist. I like a little rum in the molasses for the moths, and a little for myself.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE REV. C. J. S. BETHUNE, M. A.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from Page 196.)

FAMILY DIAPERIDÆ.

320. *DIAPERIS (Arrhenoplita) BICORNIS*.—*Oliv.*—Length of body, male $1\frac{1}{2}$, female 2 lines. Several taken in the route from New York to Cumberland-house.

Body punctured, glossy; underneath black, above black-bronzed or green-bronzed. Head of the female transversely impressed between the eyes, unarmed; in the male just behind the eyes is a pair of long cylindrical vertical piceous horns rather paler at the apex, between which is a deep excavation; the nose also at the apex is armed with a pair of minute triangular teeth; mouth, in both sexes, rufous: antennae black with the three first joints attenuated and rufous; prothorax transverse with the sides rounded, posteriorly obtusangular but not lobed; scutellum

triangular ; elytra slightly furrowed with the furrows punctured ; interstices minutely punctured ; anus underneath with two transverse obtuse ridges ; legs rufous.

[Belongs to *Hoplocephala* Lap. ; quite common in Canada.]

[236.] FAMILY BOLITOPHAGIDÆ.

321. BOLITOPHAGUS CORNUTUS *Fabr.*—Length of body 5 lines. Taken in Canada by Dr. Bigsby, in a Boletus of the birch, near Lake Huron. [Quite common in old dry fungi on trees and stumps. For description and figures see Say's Amer. Entomology, vol. i, p. 114, plate 51. With regard to the orthography of this word, we may mention that the Greek term is *Bolites*, and the Latin *Boletus* ; as the termination *phagus* is Greek the generic name of the insect should be written as above, *Bolitophagus*, while *Boletus* is quite correct as applied to the fungus.]

322. BOLITOPHAGUS OBCORDATUS *Kirby.*—Length of body $6\frac{1}{4}$ lines. Taken in Nova Scotia by Capt. Hall.

Body linear-oblong, pollinose. Head brown-black, subtriangular ; labrum ciliated with yellow hairs ; antennae black-piceous, last joint smaller than the two antecedent ones, which are bigger than the rest : prothorax brown-black, obcordate with a larger anterior sinus for the head ; surface flat, uneven behind from five obtuse ridges, the lateral ones abbreviated, and before from several rounded tubercles : scutellum minute : elytra embrowned with a yellowish tint from luteous scales, anteriorly [237] with three obtuse ridges : the interior one very short ; the intermediate one discoidal, abbreviated at each end ; and the exterior one reaching from the base to the apical tubercles, of which there are two much elevated, the interior one being the largest and highest ; in the interstices there are four rows of deep impressions : the sides of the antepectus are verrucose ; the abdomen is black-brown with luteous sides ; the disk is longitudinally, densely, and thickly wrinkled, and the sides are verrucose ; legs black-brown.

This species differs from the preceding one in the form of the thorax and the clava of the antennae, and ought perhaps to form a subgenus.

[Belongs to *Nosoderma* Esch. : rather rare in Canada.]

FAMILY HELOPIDÆ.

Genus *MERACANTHA* *Kirby*.—Labrum transverse, scarcely emarginate; labium subtriangular, longitudinally and obtusely ridged in the middle with a deep impression on each side; mandibles bidentate? at the apex; maxillæ mutilated; maxillary palpi first joint minute: second longer than the rest, clavate; third obconical; fourth very large, securiform; labial palpi broken off; mentum trapazoidal; antennæ filiform, scape incrassated; pedicel obconical; third joint longer than the rest, subcylindrical, a little incrassated at the apex; fourth shorter than the fifth, subobconical; fifth longer than the subsequent ones, elongate, obconical; 6—10 obconical, gradually decreasing in length, and the 9th and 10th in thickness; 11th ovate acute.

Body ovate, convex, apterous. Head triangular; front elevated on each side at the eyes protecting the base of the antennæ; eyes large, lateral, internally emarginate. Prothorax rather wider than long, narrowest anteriorly, subquadrangular; margined on the sides and anteriorly, margin very slender. Scutellum an obtusangled triangle. Elytra with the epipleura narrow, falciform; shoulders incrassated, armed with a tooth; calcaria very short and scarcely visible.

[238.] 323. *MERACANTHA CANADENSIS* *Kirby*.—Length of body 6 lines. Taken in Canada by Dr. Bigsby.

Body black-bronzed, naked, glossy, punctured: on the upper side of the body the colour is more metallic. Head and prothorax confluent punctured, two last joints of the antennæ pale from hairs; elytra slightly furrowed, the sutural and the marginal furrows meeting at the apex and including the rest; furrows punctured; interstices very minutely and thinly punctured; sides of the abdomen longitudinally wrinkled: tooth of the shoulder short and wide, placed a little above the middle.

FAMILY STENOCHIADÆ.

Genus *ARTHROMACRA* *Kirby*.—Labrum transverse; labium dilated above the insertion of the palpi, subemarginate: mandibles bidentate at the apex; maxillæ bilobed; lobes thick, obtuse; maxillary palpi incurved, four-jointed; first joint minute; second longer than the rest, clavate; third shorter than the fourth, triangular; fourth very large securiform, with the truncature oblique: labial palpi three-jointed, last

joint securiform ; mentum obtriangular ; antennae filiform, eleven-jointed ; scape short, incrassated ; pedicel short, incrassated at the apex ; joints 3—8 obconical, nearly twice the length of the pedicel ; last joint cylindrical, downy, as long as the five antecedent ones taken together.

Body long and slender ; head triangular ; eyes kidney-shaped ; prothorax cylindrical, not wider than the head ; scutellum rounded ; elytra wider than the thorax, linear ; legs slender ; tarsi very long.

[239.] 324. *ARTHROMACRA DONACIOIDES* Kirby.—Length of body 5 lines. Taken in Canada, near Lake St. Clair, by Dr. Bigsby. Specimens also from Massachusetts.

Body black-bronzed with a greenish tint, glossy, with the whole upper surface thickly and irregularly punctured ; underneath, except the sides of the trunk, impunctured. Antennae much longer than the head and prothorax, scape and pedicel dusky, 3—8 joints tawny-yellow : last joint black, downy ; prothorax nearly cylindrical ; elytra wider than the prothorax, obtuse at the apex ; thighs a little incrassated ; apex of the cubit and tarsi tawny-yellow ; two last joints of the latter dusky.

This singular insect, at first sight, looks very like a *Donacia*, a resemblance merely given by its colour.

[Belongs to *Statyra* Latr. ; previously described as *Lagriæ acnea* by Say (Am. Ent. i, 191) ; not uncommon in Canada.]

FAMILY CISTELIDÆ.

325. *CISTELA ERYTHROPA* Kirby.—Length of body 5 lines. Taken in Canada by Dr. Bigsby.

Body elliptical, gloss obscured, especially on the elytra, by very short decumbent hairs. Head longitudinally and slightly impressed between the eyes ; antennae longer than the prothorax, reddish brown, with the three first joints rufous : prothorax transverse, anteriorly not wider than the head, posteriorly obsolete trilobed, and nearly as wide as the elytra ; lateral angles acute ; elytra slightly furrowed ; furrows scarcely punctured ; legs pale rufous ; posterior tarsi long, embrowned.

CORRESPONDENCE.

DEAR SIR,—

In the September number of the "Entomologist" I find my name mentioned as one of a committee appointed by the entomologists at the late meeting of the American Association, at Portland, to codify rules of nomenclature for the guidance of entomologists.

I was not present when this action was taken, and immediately notified the Secretary that I declined to act upon any such committee, which, in my judgment, should only be selected by and among zoologists in general.

SAMUEL H. SCUDDER.

DEAR SIR,—

I have to respond to Mr. Andrews' remarks, by requesting you to publish one of Mr. Strecker's letters to me regarding the species of *Hemaris*. This will show that I could not have known anything of Mr. Andrews. Mr. Strecker, it will be seen, asks my assistance. Possibly Mr. Strecker may have expected I would determine the species as "new," or publish my observations in his very defective work. I knew nothing of the fact that Mr. Andrews expected a dedication, or that I was to do the work of determination to enable Mr. Strecker to perform that graceful office. Mr. Strecker, for his private gratification, has instigated Mr. Andrews to figure in a most absurd manner before the public, and the whole exhibition is arranged for the purpose of bringing Mr. Strecker's indifferent publication into notoriety, at the expense of Mr. Andrews' desires to figure as an Entomological, or other, authority. From the letter following it will appear that Mr. Strecker could not determine the species sent me. For, when the specimens came to hand, "No. 1 Diffinis" was *Hemaris tenuis*: "No. 2, like Diffinis," was *Hemaris diffinis*; "No. 6" was *H. uniformis*, and, in consequence of my determination, it is so cited in page 12 of Mr. Strecker's work. "No. 4" was not received by me; "No. 3" was my *Hemaris marginalis*; "No. 5, Thysbe," was not the usual form of that species. None of the species named by Mr. Strecker were correctly determined. Considering that I had written at length on the genera

Hemaris (*Sesia*, Grote, restr.) and Haemorrhagia, and had described six out of the nine species previously catalogued, I was not struck with any impropriety on the part of Mr. Strecker in submitting his material for determination to me. Mr. Strecker's letter is as follows * :

Reading, March 13, 1873.

DEAR MR. GROTE,—

I am in a muddle with my *Sesidæ*. In your catalogue you have *thetis*, *diffinis*, *axillaris*, *gracilis*, *buffaloensis*, *thysbe*, *fusicaudis*, *Floridensis*; those underscored I know, the others I don't know by a shot and a half. I have read your description of *axillaris*, and I think I have it, but ain't sure. Here is the way they are in my collection :

1. *Diffinis*.
2. Like *Diffinis*, but margin of fore wings slightly scolloped inside.
3. Like *Diffinis*, but margin acutely dentated inside and broader; from Michigan.
4. *Thetis*.
5. *Thysbe*.
6. Like *Thysbe*, but margin of wings not dentated inwardly; abdomen more robust, not so long; from Labrador. No. 6 may be *Buffaloensis*; I thought I had *Buffaloensis*, but if this^e be it not, then I have not that species; can't you get me an example of it and *gracilis*?

What are *fusicaudis* and *Floridensis*? Where can they be seen? If I could borrow the examples not in my collection I would figure the whole lot of them, all the N. Am. *Sesias* on one plate, and with your aid in the accompanying text the world might be set to rights on that bothersome genus as far as the N. Am. species are concerned. Can you help me to get the material for my plate? also, can you tell me what my Nos. 2 and 3 are by what I have written above.

Write soon to yours truly,

HERMAN STRECKER,
Box 111, Reading P. O., Berks C'y, Pa.

I wish, at least for the moment, to "let the whole thing drop together," as Mr. Andrews suggests, with the following note from Mr. Andrews, which is rather different in tone from those printed on pages

* This letter is set up from the original. In Mr. Grote's communication, pp. 176-177, for "Heman's" read everywhere "*Hemaris*."—ED. CAN. ENT.

177 and 178. It was occasioned by my sending him entire (by the hands of my friend) Strecker's letters to me, showing his entire concealment of Andrews' connection with the specimens, and absence of any restriction as to their use. While Mr. Andrews prints in one style, trying to justify an unprovoked attack, he writes in a different vein. I may be "public property," at least Mr. Andrews says I am, but I certainly am not the *private* property of either Mr. Andrews or Mr. Strecker, as which they would treat me. Mr. Andrews' simile of the five dollar bill enures to my credit, for Mr. Strecker sent me uncurrent ones and I returned good species that will pass current anywhere. Mr. Andrews would quarrel with a man who supplied him with the information by which his doubtful money became genuine. On further provocation I am prepared to furnish additional information relative to this absurdly disgusting plot in which Mr. Strecker is the most to blame, but in the exposure of which he has shrewdly placed Mr. Andrews in the position of suffering most. The "Press Copy" alluded to below was the letter on page 178.

Room 4, No. 117 Broadway, New York, Sept. 18, 1873.

DEAR SIR,—

Enclosed herewith please find Press Copy of a letter I have addressed to the "Canadian Entomologist." In justice to both parties I do not think I can say more or less.

In writing to Mr. Grote you will be kind enough to express my great regret that any occasion should have existed justifying my action in the premises, and my confident belief that he has not wilfully done wrong to me.

Yours very truly,

W. V. ANDREWS.

E. L. Graef, Esq., 40 Court St., Brooklyn.

I apologize for taking up so much of your valuable room.

Yours truly,

AUG. R. GROTE.

Our limited space forbids any further continuance of this correspondence.—ED. C. E.

EDITORIAL SUMMARY.

HOW DO PARASITIC INSECTS DETECT THEIR PREY?—A variety of opinions have been expressed as to the means by which ichneumon flies and other parasitic insects discover the living objects upon which they seek to deposit their eggs. Some have inferred that this is done by sight, others by smell, or by the operation of some peculiar sense unknown to us. The rapid movements of some of the Hymenopterous parasites which attack caterpillars would rather lead one to suppose that the sense of touch is an agent, if not the sole agent. These flies may be noticed running rapidly up and down leaves and twigs, with vibrating antennae and palpi, sometimes going over very nearly the same ground again and again, which they would hardly do if they chiefly depended upon their eyes; and were any odour given forth which led them to their victims, these flies would hardly wander about in the manner we see. It is quite possible they may detect even the larvae of Tortrices by the feel of the leaf enclosing these, though the larvae themselves are screened.—*F. R. S. C. in Hardwick's Science Gossip.*

ANTS AND "THE TAINT OF THE HAND."—In *Nature*, July 24, Mr. James D. Hague, writing on the habits of ants, attributes their dislike to the place across which a finger has been drawn to "the taint of the hand."

Now, Sir, I have frequently drawn a line with a piece of chalk across the track of ants, and observed in them the same symptoms of dislike as Mr. Hague's ants showed to the finger-mark.

I have also drawn a small circle with chalk round one or more ants, who will seek a spot untouched by the chalk through which to make their escape; but should there be no such opening, they will presently cross the circle. If, however, this enclosure be made upon a perpendicular wall, &c., they will frequently drop to the ground rather than walk across the line.

Now, as I have never observed this same dislike—exhibited by dropping—of the "taint" when ants have been running over my hands, and as the chalk-line has the same effect as the finger-mark, may it not be something else than the "taint of the hand" to which the ants object when their usual track is interfered with?—*G. E. E., Nature.*

We quote the following from the excellent "Entomological Record," by Prof. Townend Glover, in the monthly report of the Department of Agriculture, Washington, for October, at the same time thanking our esteemed friend for his kindness in sending us so regularly this valuable report:—

"GRAPE-VINE BORERS.—Mr. Fred. J. Kron, of Albemarle, North Carolina, in a letter to the Department, complains bitterly of the injury done to all varieties of grape-vines by the grape-vine borer, *Aegeria polistiformis*, described and figured in former reports of the Department (1854, p. 80, and 1867, p. 72.) Mr. Kron states the insect has destroyed for him one hundred and seven varieties of grapes, derived from the Luxembourg, in Paris, including some five thousand vines; and adds that there is but one variety that has, so far, defied its ravages, and that is the Scuppernong, which flourishes in the midst of the devastation caused by the borer, all around it. Mr. Kron likewise states that he found a Phylloxera on Clinton root, and adds: "The insect has been noticed here for more than thirty years," but he does not complain of its doing much injury."

"In connection with this last-named insect, so destructive to the grape-vines of France, Mr. Gaston Bazille, vice-president of the Agricultural Society of Herault, publishes a remedy for the Phylloxera, which is translated and republished by Mr. Charles V. Riley, in the New York *Tribune*, as follows:—"

"Three holes are made around the injured or infested vine, varying the depth according to the nature of the soil, but generally $2\frac{1}{2}$ feet. These holes were made in the experiments reported by means of a pointed iron bar and a heavy maul. A tube, with a funnel attached, is placed in the hole, two ounces of sulphuret of carbon are poured into the tube, which is then closed with a cork. The vapor of the sulphuret of carbon permeates the soil and impregnates all the roots of the vine. The gas engendered (though not the case with the liquid) is not fatal to the vine, but is sure death to the insects. Four ounces of the liquid has been found sufficient for an ordinary vine; but sprinkling on the surface must be carefully avoided, as it is in such a case very injurious to the vine, whereas a pound may be used in the soil without injury to the roots."

HOW TO SEND OBJECTS THROUGH THE POST.—I am often grieved, on reading your "notices to correspondents," to see the complaints of articles being received in such a "smashed" state as to be useless; and

in your number for this month it is recommended to enclose them in a tin box to withstand the energy of the post-office officials. But even that is not safe; for though the said box itself may not be broken by the tremendous whack the said officials usually lay on, yet still, very delicate objects inside may be injured by concussion. In short there is a better way, by which I have sent microscopic objects hundreds of miles and numerous times, without the slightest injury. It is as follows: It is quite a mistake to place stamps upon the box itself. They should be fixed to one of the common luggage labels, which is then attached to the box by a reliable piece of string, so as to separate it from the box by about two inches. The "official" may then whack away at the luggage label to his heart's content, and no harm be done. In this case the box need not be strong; and, to prove this I now send, for your acceptance, a very fine specimen of the *Chirodota violacea*, popularly known as "Pharaoh's chariot-wheels." The containing box, you see, is purposely slight; and yet, I will venture to say, you will receive the slide uninjured; and, if so, I hope you will inform your readers of the fact, and draw their attention to the impropriety of placing their stamps on the box. I will merely add that by the "common luggage label" I mean those made of paper pasted on cloth, and having a small ring at one end. They are sold by the dozen at almost every stationer's shop. I must add that I do not claim the merit of the invention. It is by no means new, but, nevertheless, does not appear to be known to many. One more remark. The address should be written (as you see I have) on the label itself; and, though not absolutely needful, it is a good plan to wrap the box in black paper, which prevents all temptation to stamp it, as in that case the stamp will not be seen.—H. U. J.

[Our correspondent is quite right. His frail box reached us safely, and we cannot but be glad of the post-office energy which has happened so fortunately for us!—Ed. *Science Gossip*.]

We heartily concur in the remarks of H. U. J. It is most grievous to have fine specimens so ruthlessly smashed, as we sometimes receive them, beyond any possibility of recognition. We are glad to state that this method of attaching a stout paper-and-cloth label, which we know in this country as a tag, and putting the address and stamps on it, instead of the box, has already been adopted by some of our correspondents. We received a few days since from a friend in San Francisco a box containing

several delicate moths, which, packed with this provision, reached us unhurt.

Having given at pp. 199, on the authority of the "Gardener's Monthly" for October, some remarks on Phylloxera said to have been made by Mr. C. V. Riley, we gladly make room for the following correction in the "Monthly" for November, just at hand:—

"PHYLLOXERA—CORRECTION.—Friend Meehan: In your October issue, speaking of some remarks of mine before the Academy of Natural Sciences, you have the following, the italics being mine:

Prof. Leidy inquired of Mr. Riley the true position of the insect in scientific classification; Prof. Riley replied that it was not yet well settled. *Its appearance brought it somewhere near the aphids, but it did not have successive broods from one impregnation; aphids did.* In this respect it approaches *acacus*. He thought it between the two families.

I am sure I said no such foolish thing. What I did say was that the insect belonged to the sub-order *Hemiptera*, and that while it was at present classed with the plant-lice (*Aphididae*) it bears close relation to the bark-lice (*Coccidae*.) *Phylloxera* multiplies agamically like all the *Aphididae*, and therefore does produce successive broods from one impregnation.

Yours truly,
C. V. RILEY."

BOOKS RECEIVED.

- Die Larven von Ascalaphus, von Dr. H. Hagen, Svo., pp. 64.
 On the Larvæ of the Hemerobina, by Dr. H. A. Hagen, Svo., pp. 6.
 On the Butterflies of Anticosti, by Aug. R. Grote, Svo., pp. 1.
 Report on Pseudoneuroptera and Neuroptera of North America in the Collection of the late Th. W. Harris. By H. A. Hagen, Svo., pp. 39.
 Revision of the Genera and Species of the Tribe Hydrobiini, by George H. Horn, M. D. Svo., pp. 20.
 Revision of the Several Genera of Meloidæ of the United States, by George H. Horn, M. D. Svo., pp. 29.
 Contributions to Entomological Bibliography up to 1862, by Albert Muller, F. L. S. Nos. 1 and 2. Svo., pp. 24.
 Catalogue of the Pyralideæ of California, with Descriptions of new Californian Pterophoridaæ, by A. S. Packard, jr. Svo., pp. 15. (From Ann. Lyc. Nat. Hist., N. Y., vol. x, No. 9, 1873.)
 Le Naturaliste Canadien, Sept., 1873.
 Nature, to October 30th, 1873.
 Monthly Reports of the Department of Agriculture, August, September and October.
 Bulletin of the Buffalo Society of Natural Sciences, vol. i, No. 3. August, 1873.
 Scottish Naturalist, April, July, October, 1873.
 Newman's Entomologist, July, August and September, 1873.
 Journal of Education, October, 1873.
 The Zoologist, August and September, 1873.
 Proceedings of the Academy of Natural Sciences, Philadelphia, January and February, 1873.
 The Horticulturist, October, 1873.
 Entomologist's Monthly Magazine, August, 1873.
 American Naturalist, September, October, 1873.