

ART. V. NOVA SCOTIAN LEPIDOPTERA. BY THE REV. CHAS. J. S. BETHUNE, M. A., *Secretary to the Entomological Society of Canada*, WITH ADDITIONAL NOTES BY J. MATTHEW JONES, F. L. S.

[*Read February 8, 1869.*]

IT is always a pleasure to a naturalist to examine a collection of specimens from a distant part of his own country, particularly if they belong to his own special department of study. This pleasure was kindly afforded me last year by the President of the Institute, J. Matthew Jones, Esq., who sent me for examination and identification a box of Lepidoptera collected in Nova Scotia. The specimens were chiefly *Heterocera*, though a few interesting little butterflies were also included amongst them. So little has been published (as far as I am aware) respecting the Insect Fauna of Nova Scotia, that I have been led to prepare the following list of the species sent me, in the hope that it may prove a small contribution towards a complete and systematic history of the order to which they belong.

Regarded as a whole the species corresponded to a remarkable extent to those taken in the neighbourhood of Toronto, and other parts of the Province of Ontario; so much so that one would hardly have imagined that they came from so far distant, and in many respects, so different a locality as the Maritime Province of Nova Scotia. It is interesting to find—if one may judge from so limited a collection—that the insects of the whole Dominion present so much similarity in their specific forms.

The following is a list of the species that I was able to determine, with the special Nova Scotian localities appended by Mr. Jones:—

RHOPALOCERA.

Fam. LYCÆNIDÆ.

*Thecla* —?—This specimen corresponds very nearly to the description in Morris' synopsis of Lepidoptera of *T. iris*, Godt,—an insect taken in the State of Georgia; but the account is too brief to enable me to identify the species with certainty.

*Polyommatus porsenna*, Scudder.—A rare butterfly in Canada;

I have taken it occasionally in June on the Humber and Credit Plains near Toronto.

[This butterfly, which is the only one of the species I have seen during a residence of nine years in Nova Scotia, was captured by my friend, the late Rev. J. B. Freer, in September, 1863, on an open sunny spot near the house at Ashbourne.—J. M. J.]

Fam. HESPERIDÆ.

*Nisoniades brizo*, Boisd. and Lec.—Not uncommon in Canada and the United States.

[This specimen is very abundant about the end of June in open spots in the forest to the westward of Halifax, regaling itself upon the blossoms of the blueberry (*Vaccinium Canadense*).—J. M. J.]

*Hesperia hobomok*, Harris.—Our commonest skipper.

[The same in Nova Scotia.—J. M. J.]

*Hesperia Peckii*, Kirby.—This species I have found common about white clover blossoms on the sparsely wooded plains of the Credit, as well as in other parts of Canada.

[Frequents old log roads, and other open sunny spots in the forest near Halifax.—J. M. J.]

*Hesperia mystic*, Edwards.—Rare; taken in Connecticut, Michigan, Ontario. (Pro. Ent. Soc. Phil. ii. 15, plate 1.)

[Not uncommon about Halifax.—J. M. J.]

*Hesperia nemoris*, Edwards.—Only recorded as having been taken at Portsmouth, Ohio. (Pro. E. S. Phil. ii. 507, & vol. iv. plate 1.)

HETEROCERA.

Fam. SPHINGIDÆ.

*Sesia diffinis*, Boisd.—Common throughout Ontario, about flowers in the heat of the day.

[Common about Halifax. Frequents the flowers of the lilac at mid-day.—J. M. J.]

*Hæmorrhagia thysbe*, Fabr (*Sesia pelasgus*, Crane.)—Not uncommon with the preceding.

[Taken with *S. diffinis*, but not so common about Halifax.—J. M. J.]

*Darapsa choerilus*, Cram.—Common in Ontario.



*Deilephila Chamænerii*, Harris.—Some years I have taken numbers of this species hovering at twilight about the flowers of the lilac, but it is generally rare in Canada; *D. lineata*, Fab.—is a much more common species with us.

*Smerinthus geminatus*, Say.—Common in Ontario.

*Smerinthus excæcatus*, Smith.—Not so common with us, occasionally attracted by light into houses, like many other Sphinges and Bombyces.

*Sphinx kalmiæ*, Smith.—Common in Ontario.

[Very common on the flowers of the honeysuckle at night in July about Halifax.—J. M. J.]

*Sphinx gordius*, Cramer.—Rare in Ontario.

[Not so common as the preceding species about Halifax.—J. M. J.]

#### Fam. ZYGAENIDÆ.

*Ctenucha virginica*, Charp. (*latreillaria*, Kirby)—Common in Canada; larva feed on the white poplar.

*Lycomorpha (Glaucopis) pholus*, Drury.—Quite common in Canada. The specimen sent me was an excessively tiny one, not more than half the usual size.

[Rare about Halifax.—J. M. J.]

#### Fam. BOMBYCIDÆ.

*Crocota rubicundaria*, Hübn.—A common species in neglected fields on the borders of woods; taken in the day time.

[Rare about Halifax.—J. M. J.]

*Platarctia (Arctia) parthenos*, Harris.—This very beautiful species is excessively rare in Ontario; though on our Society's list I had never seen a specimen of it before receiving the one sent for inspection by Mr. Jones. I should be very thankful for specimens of it both for myself and my correspondents; other species would willingly be given in exchange for it.

[It is by no means common about Halifax, but a few specimens may be obtained during the summer at lamp-light.—J. M. J.]

*Pyrrharctia (Spilosoma) Isabella*, Smith.—Very common in Ontario; the image of the familiar red and black "woolly bear" caterpillar.

[Common about Halifax.—J. M. J.]

*Orgyia leucostigma*, Smith.—Common in Ontario.

[Not common about Halifax.—J. M. J.]

*Ichthyura (Clostera) albosigma*, Fitch.—Rare in Ontario.

[Rare about Halifax.—J. M. J.]

*Ichthyura (Clostera) inversa*, Pack.—I have taken a specimen of this rare moth in the neighbourhood of Toronto, and Mr. E. B. Reed, at London, Ontario. Dr. Packard (Pro. Ent. Soc. Phil iii. 352), only mentions Maryland as its habitat.

[One specimen taken at lamp-light in room, at Ashbourne, near Halifax July 4, 1863.—J. M. J.]

*Datana ministra*, Drury.—The larvæ of this moth are frequently very destructive to the foliage of apple-trees towards the close of summer, in many parts of Ontario, New York, etc.

[Common about Halifax.—J. M. J.]

*Nadata gibbosa*, Smith.—A very rare insect in Canada; it is recorded to have been taken in Maine, Mass., and New York; the larva is said to feed on oak-leaves.

[Common.—Taken at lamp-light in room, in July.—J. M. J.]

*Lophodonta ferruginea*, Pack. ?—I am not quite sure as to the identity of this specimen, but I think it is correctly determined; it was quite new to me. Dr. Packard gives Massachusetts as its habitat.

[Rare about Halifax.—J. M. J.]

*Edema albifrons*.—Not uncommon throughout Canada.

[Rare about Halifax.—J. M. J.]

*Dryopteris rosea*, Walk. (var. *marginata*, Walk.)—This and the following species, both new to me, have not been taken in Ontario, so far as I am aware.

[Common about Halifax, coming to lamp-light in room.—J. M. J.]

*Dryopteris irrorata*, Pack.—“Brunswick, Maine, taken at light in August,” (Packard, Pro. E. S. Phil. iii. 377).

[Halifax, not so common as the former.—J. M. J.]

*Anisota (Dryocampa) stigma*, Hübn.—Rather rare in Ontario.

[Also rare at Halifax.—J. M. J.]



*Anisota (Dryocampa), rubicunda*, Fabr. — Also rare in Ontario; *A. senatoria* is our commonest species.

[Halifax rare.—J. M. J.]

## NOCTUINA.

### TRIFIDÆ. BOMBYCIFORMES.

#### Fam. CYMATOPHORIDÆ.

*Pseudo-thyatira cymatophoroides*, Guèn.—A rare insect in Canada.

[Halifax; rare.—J. M. J.]

#### Fam. BRYOPHILIDÆ.

*Grammophora trisignata*, Walk.—Also rare; another specimen of this genus was sent me, whose species I have not yet determined.

[Halifax; very rare.—J. M. J.]

#### Fam. BOMBYCOIDÆ.

*Diphthera fallax*, H. Sch.—This beautiful black and green moth is quite rare with us. *D. Graefii*, Grote, being much more common.

*Acronycta oblinita*, Smith.—Taken in various parts of Canada but not so common as several other species of the genus.

[Halifax; common.—J. M. J.]

*Acronycta* ———?—This and two other species of the genus which I was unable to determine with certainty.

### TRIFIDÆ. GENUINÆ.

#### Fam. LEUCANIDÆ.

*Leucania pallens*, Linn.—A common species of this destructive genus.

[Halifax; far too common.—J. M. J.]

#### Fam. APAMIDÆ.

*Hydræcia lorea*, Guèn.—This and the following species are quite common in Canada.

[Halifax; common.—J. M. J.]

*Hydræcia nictitans*, Walk.—Common in Ontario.

[Halifax; common.—J. M. J.]

*Nephelodes minians*, Guén.—Not common; I have taken it at Cobourg, Ontario.

[Halifax; not uncommon.—J. M. J.]

*Nephelodes, rubeolans*, Guén.—Very rare in Canada.

[Halifax; not uncommon.—J. M. J.]

*Xylophasia lignicolora*, Guén.—Quite common in Ontario.

[Halifax; not common.—J. M. J.]

*Xylophasia lateritia*, Esp.—Taken by me at sugar in June, at Cobourg, Ontario; not common.

[Halifax; common.—J. M. J.]

*Mamestra arctica*, Encyc.—Only too common. It is a nuisance to collectors who try 'sugaring,' and its larvæ, well known as 'cutworms,' are a plague to gardeners.

[Halifax; common.—J. M. J.]

*Mamestra adjuncta*, Guén.—Rather an uncommon moth with us.

[Halifax; not common.—J. M. J.]

*Celæna herbimacula*, Guén.—Very common.

#### Fam. NOCTUIDÆ.

*Agrotis jaculifera*, Guén.—Excessively common; larvæ very destructive.

[Halifax; not very common.—J. M. J.]

*Agrotis devastator*, Harris.—As common and noxious as the preceding.

[Halifax; common.—J. M. J.]

*Graphiphora bicarnea*, Guén.—Rather rare in Ontario.

[Halifax; common.—J. M. J.]

*Graphiphora lubricans*, Guén.—Excessively common.

[Halifax; very common.—J. M. J.]

#### Fam. ORTHOSIDÆ.

*Ceramica exusta*, Guén.—Not uncommon; larvæ injurious to turnip crops.

[Halifax; common.—J. M. J.]



## Fam. HADENIDÆ.

*Phlogophora iris*, Guén.—Not at all common in Ontario.

[Halifax ; common.—J. M. J.]

*Philogophora anodonta*, Guén. ?—Quite new to me ; not having Guénee's works at hand I do not like to assert positively that this is a correct determination.

[Halifax ; not common.—J. M. J.]

*Eurois herbida*, Den.—Not common,

[Halifax ; uncommon.—J. M. J.]

*Hadena xylinoides*, Guén.—Excessively common.

[Halifax ; not very common.—J. M. J.]

## Fam. XYLINIDÆ.

*Cucullia asteroides*, Guén.—Rare ; it has been taken at Toronto.

[Halifax ; not uncommon.—J. M. J.]

*Cucullia*——?—This species seems to agree with the descriptions of the European *C. verbasci*, Linn. I am unable to determine it with certainty at present.

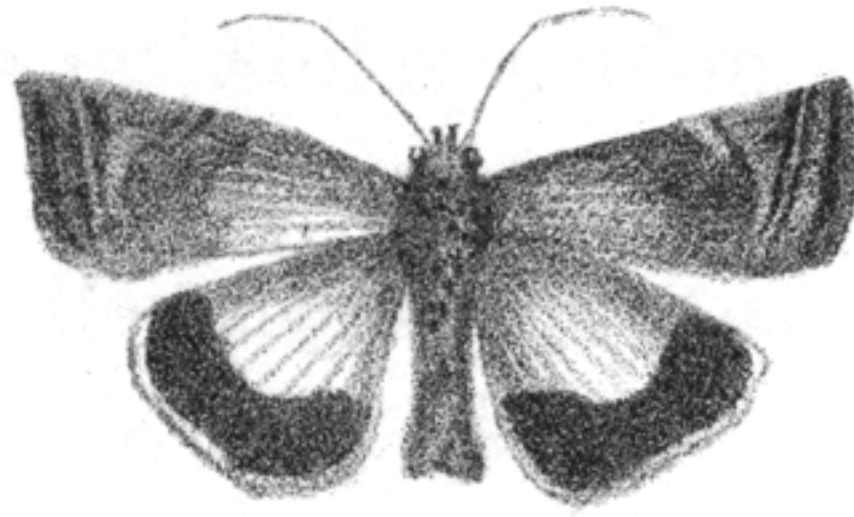
## Fam. HELIOTHIDÆ.

*Heliothis exprimens*, Walk.—Not uncommon in Canada and the United States.

[Halifax ; rare.—J. M. J.]

*Anarta Acadiensis*, new species.—The pretty little species of this genus are chiefly confined to mountainous and sub-arctic regions ; one, however, is taken all over England, and another *A. luteola*, Grote & Rob., has been found in the neighborhood of Quebec ; Dr. Packard (Pro. Boston Soc. Nat. Hist. Oct. 17, 1866), has described several species taken in Labrador. The following is a description of our species :—

Anterior wings dull brick-red, sparsely powdered with black scales. Basal line indistinct, doubled, slightly dentate, black ; transverse anterior line black, perpendicular to costa for nearly half its length, then curved outwards forming an irregular arc to the inner margin. Median space darker, with a transverse central



ANARTA ACADIENSIS, BETHUNE.



black shade; orbicular spot very conspicuous, creamy white, with a few scattered ferruginous scales in the middle, narrowed posteriorly and produced till it meets the edge of the reniform; this spot is of the normal shape, concolorous with the rest of the wing, conspicuously bordered with white, except inferiorly where it is open and encroached upon by the dark central shade. Transverse posterior line, black, fine, forming a very convex arc outside of the reniform spot. Subterminal and terminal spaces paler; subterminal line rather broad, distinct, black, arising from a triangular black spot on the costa, slightly wavy, parallel to the outer margin; terminal line deep black, very distinct; fringes concolorous with the wing.

Posterior wings shining, straw-yellow, with a broad well-defined black border, which is slightly excavated interiorly just before the anal angle; costa, base and inner margin broadly discolored with black scales; fringes golden yellow at apex, pale yellow inferiorly.

Under side of anterior wings shining, the costa narrowly, and the outer margin broadly, reddish-yellow, especially at the apex; inner margin rather broadly pale yellow; all the rest uniformly deep black. Posterior wings shining, pale yellow, with the costa and apex broadly irrorate with bright ferruginous scales, and a narrow ill defined submarginal band; fringes pale yellow.

Antennæ pale ferruginous, with a slight pubescence. Head and thorax ferruginous. Abdomen cinereous above, darker from numerous black scales below; anal tuft ferruginous. Tarsi annulated.

Alar expansion 1.15 inch. Length of body 0.50 inch.

*Habitat*, Nova Scotia. (No. 281, J. M. Jones). This very pretty little moth may be readily distinguished by its color and the conspicuous peculiarly shaped orbicular spot.

[Halifax; rare, taken in July at Ashbourne.—J. M. J.]

#### QUADRIFIDÆ—VARIEGATÆ.

##### Fam. PLUSIDÆ.

*Plusia cereoides*, Grote.—Not uncommon in Canada.

[Halifax; not uncommon.—J. M. J.]

*Plusia ampla*, Walk.—Rather rare.

[Halifax; not uncommon.—J. M. J.]

*Plusia simplex*, Guén.—Very common, often found flying in the daytime, and frequently attracted by light at night.

[Halifax; common.—J. M. J.]

*Plusia festucae*, Albin.—A rare and very handsome species; it is taken in Europe also.

[Halifax; not uncommon.—J. M. J.]

*Plusia thyatyroides*, Guén.—A very pretty insect, rarely taken in Canada; I had never seen a specimen of it before.

[Halifax; rare.—J. M. J.]

*Plusia* ———?—This and another species that I am unable as yet to determine satisfactorily.

#### Fam. GONOPTERIDÆ.

*Scoliopteryx libatrix*, Linn.—Very common both in Europe and America; I have taken scores of specimens at sugar. Its larva feeds upon willow.

[Halifax; excessively common.—J. M. J.]

#### QUADRIFIDÆ—LIMBATÆ.

##### Fam. CATOCALIDÆ.

*Catocala relictæ*, Walk.—An exceedingly beautiful and rare insect; its colours, black and white, render it easily recognisable. I have taken it occasionally at Toronto and Cobourg, Ont., and Mr. Pettit has obtained it at Grimsby, Ont.

[Halifax; very rare. The only specimen I have ever seen.—J. M. J.]

*Catocala concumbens*, Walk.—A handsome crimson under wing; rather common in Canada.

[Halifax; very rare. This is the only specimen I have taken, I obtained it in the day time on the trunk of a tree at St. Margaret's Bay.—J. M. J.]

#### QUADIFIDÆ—SERPENTINÆ.

##### Fam. OPHIUSIDÆ.

*Ophiusa bistrariis*, Hübn.—Not uncommon in Ont.

[Halifax; very common.—J. M. J.]

##### Fam. EUCLIDIDÆ.

*Drasteria erechthea*, Guén.—Our most common moth; any



number may be taken in meadows in summer. Its larva has been recently described by my friend Mr. W. Saunders in the *Canadian Entomologist*, vol. i., p 4.

[Halifax ; very common.—J. M. J.]

Fam. BOTYDÆ.

*Pionea eunusalis*, Walk.—Quite common in Canada.

[Halifax ; common.—J. M. J.]

Fam. ENNOMIDÆ.

*Angerona crocaotaria*, Guén.—An exceedingly small specimen of this variable species ; it is not uncommon in Canada.

*Tetracis crocallata*, Guén.—Common.

*Tetracis aspilatata*, Guén.—Not uncommon.

Fam. AMPHIDASYDÆ.

*Amphidasys cognataria*, Guén?

[Halifax ; very rare.—J. M. J.]

Fam. GEOMETRIDÆ.

*Zerene catenaria*, Harris.—Common at Toronto.

[Halifax ; common.—J. M. J.]

Fam. FIDONIDÆ.

*Lozogramma difluaria*, Walk.—Rare.

[Halifax ; rare.—J. M. J.]

Fam. LARENTIADÆ.

*Scotosia undulata*, Linn.—Not very common. I once took a live specimen of this insect in a farm-house north of Milbrook, Ont., where it was flying about in a warm room, on the 27th of February.

[Halifax ; rare.—J. M. J.]

*Cidaria diversilineata*, Hübn.—Rather common.

[Halifax ; not common.—J. M. J.]

A considerable number of the smaller Lepidoptera were also forwarded with the above collection, but several of them being quite new to me, their determination is deferred.