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# The Canadian Entomologist.

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## NOTES ON A FEW CANADIAN RHYNCOPTERA.

BY W. HAGUE HARRINGTON, OTTAWA.

*Rhynchites bicolor* Fab. has not that general distribution, in Canada at least, that is believed by Mr. Wickham, who remarks (CAN. ENT., Vol. XXII., p. 171): "In fact I doubt if there is a spot on this continent where roses grow that *Rhynchites bicolor* does not inhabit too." On the Pacific coast it is certainly a very common insect, as I found at Victoria, V. I., and New Westminster, B. C., in May and June, 1888. At some points also in the Northwest Territories it is abundant, for my brother sent me many specimens from Moosejaw, Assa. But as we come eastward it seems to disappear. Pettit does not record it in his list of the Coleoptera of Grimsby, nor does Cooper or Provancher give it as occurring in Quebec. It does not appear in any of the catalogues published by the Geological Survey of Canada, nor in that of Hubbard and Schwarz of the Coleoptera of the Lake Superior region, the fauna of which is almost identical with that of Ontario. It certainly can scarcely occur in the vicinity of Ottawa, as both Mr. Fletcher and I have carefully examined our various species of roses for several years and have not observed it.

*Rhynchites cyanellus* Lec. occurs quite frequently on small willows, sometimes in copulation, and the beetles seem to feed upon the leaves. *R. æratus* Say has only been found once by me, when two specimens were taken upon Bitter Hickory (*Carya amara*).

*Attelabus rhois* Boh. is the only representative of the family which is found at Ottawa, and is of rare occurrence. The few specimens taken have been on oak and basswood, but I have found upon birch several leaves rolled probably by this species, but from which I did not succeed in rearing the beetles. Provancher gives it as ordinarily found upon hazel, but not common.

*Barynotus Schanherri* Zett. This species has had a place in American Check Lists on the strength of a specimen received by LeConte from Newfoundland. In August, 1884, I was, however, fortunate enough to

collect at Sydney, Cape Breton, N. S., several beetles which ultimately proved to belong to this species. A short time after I obtained them I sent one to a correspondent in the United States and he named it *Tricolepis alternata* (?). Last winter, in trying to get my *Rhyncophora* in better shape, I found that some mistake had been made, and after a careful examination of the beetles I decided that they must be *B. Schenherri*, and my finding was at once confirmed by Dr. Hamilton when I sent him a specimen. The beetles were found under logs or drift wood, chiefly near the "ballast heaps," and were well covered with scales, as compared with the one mentioned by LeConte, but not so bright and fresh looking as specimens I have recently obtained from England. I made a hurried search for it in September last in the same locality, but did not find any. The "ballast heaps," I may add, are formed by vessels discharging their ballast of stone, earth, etc., before loading coal, and many species of introduced plants are found on, or about them.

*Agasphaerops nigra* Horn has been several times recorded, but the specimens appear to have been old rubbed ones. A specimen in my collection from Vancouver Island shows it to be a more striking beetle than the description indicates. The elytra are ornamented with interrupted irregular bands of pearly and golden scales intermixed, and roughly forming humeral and apical lunules. The anterior and lateral margins of the prothorax are also irregularly clothed, and patches occur on the head and ventral surface. The style of ornamentation is similar to that of *Hormorus undulatus* Uhler, which LeConte (classification p. 439) states to be more ornate.

*Otiorhynchus sulcatus* Fab. was found by me at Sydney in August, 1834, and again in September last. It is apparently quite abundant, as at several points I found fine fresh specimens under boards, etc. Provancher states that this beetle is common in Quebec, and adds, "we think that its larva lives in haws, as we have nearly always found it beneath hawthorns and apple trees."

*Otiorhynchus* sp. With the preceding species I found at Sydney, both in 1884 and 1890, specimens of a blackish *Otiorhynchus* which has not been identified. It is in all probability a European species, but does not agree with any I have received, and has not been recognized by Dr. Hamilton, or by Dr. Horn, to whom he showed a specimen. It is larger, rougher and blacker than *O. ovatus* Linn, which, curiously, appears to be very rare at Sydney, as I only obtained one specimen.

*Strophosomus*? This is another species which was found at Sydney in 1884 and 1890 and which does not appear to be uncommon. My specimens were obtained under logs, above high-water mark, and among the grass roots exposed along the sides of the depressions caused by the logs. The species has a marked general resemblance to *Strophosomus coryli* Fab. recorded from New Jersey by Mr. Jülich (Ent. Am., Vol. V., p. 56), but has the legs almost concolorous with the body, and has the head and thorax ungrooved. It is a European species, for in an old case of English beetles which recently came into my possession, I find five specimens of this species placed with three of *S. coryli*, having either been confounded with that species by the maker of the collection, or having lost their label subsequently. I have hitherto considered this beetle an otiorhynchid, not having microscopically examined the mandibles, but it may be more nearly allied to *Strophosomus*.

*Aramigus Fulleri* Horn appears to be steadily extending its range, and in 1889 one of our city florists suffered a very severe loss from the beetles obtaining a foothold in his rose-house, evidently with imported plants. Not understanding the attack, he had attributed the injury to other causes, and had allowed the beetles to breed, so that in December when I visited the houses both beetles and grubs were abundant. He had then, however, commenced the vigorous application of remedies suggested to him by Mr. Fletcher.

*Scythropus elegans* Coup. occurs abundantly upon white pine, and varies in colour, as mentioned by Mr. Chittenden (Ent. Am., Vol. VI., p. 168). I have also found it upon spruces, but not frequently.

*Podapion gallicola* Riley forms numerous galls on the young branches of red pine (*Pinus resinosa*) within a few miles of Ottawa, and Mr. Fletcher, who has visited the lumbering districts, informs me that the galls are very abundant upon the same species in some sections.

*Lepyrus geminatus* Say is a common species upon willows, but I have not been able to discover the larva. Mr. Wickham, in his Vancouver notes, says "*Lepyrus* is common upon willow," referring to *L. gemellus* Kirby, or *L. colon* Linn., which are both recorded from the West Coast, but probably to the former, as it, or a closely allied species, is apparently common. This genus has a very northerly distribution (through Hudson Bay region, Alaska, etc.), and willows also range far north, so that it is not unlikely that all the species infest these trees.

*Listronotus*. Of this genus several species occur upon semi-aquatic plants, but it may not be generally known that they appear to be more readily attracted by lights than most rhyncophora. Such I found to be the case one summer, when considerable numbers came to lights placed on a balcony for moths, although the house stood on a hill at some distance from the water (Rideau river).

*Pachylobius picivorus* Germ. is quoted by Mr. Beutenmuller (CAN. ENT., Vol. XXII., p. 202,) as infesting pine, because in a list of insects found upon that tree (Trans. Ottawa Field Nat. Club, No. 2, p. 33,) I mention *Hylobius stupidus*. The beetles so referred to I have since found to be only somewhat larger specimens of *H. pales*, which were so labelled in the collection of the late Mr. Billings, and probably in other Canadian collections. While speaking of this genus I may mention that I once found a hibernated specimen of *H. confusus* Kirby which had punctured with its beak the tube of a blossom of the Mayflower (Trailing Arbutus, *Epigaea repens*) and was apparently feasting on the nectar therein. I do not recollect the date, but snow was still upon the ground in sheltered spots.

*Tanysphyrus lemnae* Fab. is very abundant during the summer upon Lemna, upon the surface of which hundreds may sometimes be seen crawling. I have also obtained many, by sifting, from moss in which they hibernate, and the specimens so obtained are cleaner than those taken in summer, which are frequently encrusted with mud or slime.

*Magdalis*. Dr. Hamilton (CAN. ENT., Vol. XVIII., p. 115) separates from *M. Lecontei* Horn a bluish species from Eastern Pennsylvania and Canada. What appears to be this species is common here upon young pines, especially stunted ones growing in stony or poor ground. Specimens vary considerably in the punctuation of the thorax, and some approach the form with canaliculate thorax, which he mentions as found on spruce.

*Anthonomus corvulus* Lec. is found in profusion upon the flowers of Cornel (*Cornus*) in May, and is readily recognized by its small size, its apion-like form and shining appearance. It varies slightly in size, but not apparently in other respects.

*Orchestes*. The various species of this genus are found, as recorded, upon willows, especially in spring. *O. pallicornis* Say is always common, and *O. rufipes* sometimes so on trees in moist localities. *O. niger* Horn

was last season as plentiful as *pallicornis*, although seldom taken previously. *O. subhirtus* Horn, and *O. ephippiatus* Say are very rare. I have also one specimen (captured a few miles north of Ottawa on 4th June) of a species which is entirely rufous, except the pectus. It is about the size and form of *pallicornis* and appears to be undescribed.

*Acalyptus carpini* Hbst., *Elleschus bipunctatus* Linn., and *E. ephippiatus* Say may all be found in profusion on willows, when they are in bloom. The second species varies a good deal in its coloration.

*Piazorhinus scutellaris* Say is not very rare, but my specimens have been mostly accidental captures by sweeping or sifting. I have, however, found it upon hickory in July.

*Miarus hispidulus* Lec. has not occurred at Ottawa yet, but is abundant in some parts of Ontario. At London on 15th Oct., 1885, I found the seed capsules of *Lobelia inflata* very extensively attacked by larvae from which I reared a large number of beetles.

*Pseudomus truncatus* Lec. By an unfortunate clerical error of a correspondent I was led to record this species as occurring at Ottawa upon butternut. On the appearance of my List of Ottawa Coleoptera (Trans. Ottawa Field-Nat. Club, No. 5, p. 71) this species was questioned by Mr. Schwarz (it occurring only in the Southeastern States), and on examination the species was found to be *Cryptorhynchus parochus* Hbst. (Crotch 9233 instead of 9223). I regret that such a mistake should have been made, especially as Mr. Beutenmuller has quoted the record (CAN. ENT., Vol. XXII., p. 258).

*Piazurus oculatus* Say is rare here, but I find two specimens labelled as taken upon basswood on 21st July.

*Acoptus suturalis* Lec. has been found quite abundantly, sometimes in copulation, on hickory stumps about the end of June.

*Mononychus vulpeculus* Fab. This rotund little beetle can always be found upon the flowers of Iris in spring, busy love-making or puncturing the base of the flower and depositing its eggs. In autumn it can be obtained in any desired number from the pods, few of which are sometimes free from it. Many of the beetles are, however, destroyed by *Pimpla pterelas* Say, which I have bred in large numbers from the infested pods.

*Cæliodes nebulosus* Lec. occurs abundantly in June upon mixed vegetation near water, but I have not ascertained what plants it especially

frequents. *Ceutorhynchus*, *Pelenomus*, *Cælogaster* and *Rhinoneus* occur under similar conditions, and also in moss obtained from such localities in the fall.

*Centrinus rectirostris* Lec. may be found in June, in wet localities, upon Club-rush (*Scirpus eriophorum*), and about the middle of the month the beetles are abundant and are often seen in copulation, or depositing their eggs in the lower portions of the stems. The larva is a moderately stoutish white grub about one-quarter of an inch long, with a brownish head, the sutures of which are whitish. The burrow sometimes goes down nearly to the root, and extends upward several inches. The larva generally winters in the upper part of the burrow so as to be safe from the spring flooding of the ground, and about May transforms to the pupa; the time of the change and the duration of this stage being probably largely dependent on the weather. Some years the grubs are extremely abundant and scarcely a stem of the *Scirpus* in some localities is without its occupant. It is very rarely, however, that more than one grub is found in a stem.

*Centrinus prolixus* Lec. is common some seasons upon sedges and aquatic plants, but the habits of the larvæ are unknown to me.

*Sphenophorus pertinax* Oliv. lives in the lower portion of the stem of the Cat-tail Flag (*Typha latifolia*), and its larva and that of the moth *Arzama obliquata* often inhabit the same stem.

*Stenoscelis brevis* Boh. has been taken on oak, as well as on some of the trees named by Mr. Chittenden (Ent. Am., Vol. VI., p. 99), and my observations of its habits fully confirm his statement that it bores only in standing timber denuded of bark.

*Cossonini*. Two specimens of a small species were obtained at Sydney in 1884 under the bark of a dead spruce. I am informed that Dr. Horn has the same species from Mass., but it is not described. A species of similar size, but belonging to another genus, occurs here, also under the bark of spruce.

*Dryocetes affaber* Mann. has been observed boring in terminal shoots of the branches of large white pines, and the cones and twigs (the former chiefly) of the red pine are much infested by this species or *septentrionalis* Mann. The attacked cones may be easily recognized by their stunted and shrivelled appearance, they seldom exceed the size of an acorn. Several larvæ may be found in one cone, and the beetles seem to spend the greater part of their time burrowing in the cones, as I kept a lot of

infested cones in a tin box, and the beetles could seldom be found out of their burrows.

*Dendroctonus simplex* Lec. A very extensive attack of this beetle was observed a few years ago in a grove of large larches about three miles from the city. In August, when I first noted the sickly appearance of the trees, I found that the bark, apparently all over the trees (the tops could not be examined), was riddled and loosened, and thousands of these beetles with larvæ and pupæ were observed. The trees were, of course, killed, but whether the injury was due entirely to this species, or that the trees had been weakened by other causes I cannot say. I could find, however, no other injuries such as to account for the death of so many large and, previously, apparently vigorous trees.

### VANESSA CALIFORNICA.

BY W. G. WRIGHT, SAN BERNARDINO, CALIFORNIA.

It is reported from various quarters that *V. Californica* has within a year or two first been observed in British Columbia, where it is now regarded as something new and strange. It has been suggested to me that a few facts about it, as to California and Oregon, would be of interest.

I have observed it in great numbers from near the Canada line in Washington and Idaho almost to Mexico. Doubtless it ranges down into the Mexican State of Lower California, 200 miles or more, to the great mountain of San Pedro Martier, in latitude 30° N., or the same as St. Augustine, Florida. Its range, as to altitude varies according to latitude. In the more northern places it flies from tide water to the tops of the highest mountains, at 14,500 feet. In the warmer regions of South California it becomes "a stranded butterfly," (if, indeed, there be such a thing,) and is seen only on high elevations and the tops of mountains, and never at any season of the year in the valleys.

In South California it is not seen lower down than 3,000 feet above tide, and from that up to and above the tops of the highest mountains. In that region, near the Mexican line, is a mountain 11,900 feet high, as repeatedly indicated by my barometer, and on that high crest I have seen vast numbers of this *Vanessa* flying over. One day in September, 1880, I was there as guide with a party of strangers, and the butterflies were so thick that even the tenderfeet noticed them. The insects came flying up the western sloping side of the crest upon the wings of the trade wind

moving faster than anyone could follow, and upon reaching the crest, instead of dropping rapidly down the precipice on the eastern side, as they might have been expected to do, they kept right on at the same angle of elevation directly up into the air and out of sight, as if they were going to the moon. In coming up the slope they all made directly for the highest peak, and did not drop over the side of the crest, as they might easily have done. No other species was with them. So, on Mt. Hood, in Oregon, *V. Californica* flies in countless millions. About the great glacier, at an elevation of 7,000 to 9,000 feet, I have seen them in vast numbers flitting about in the lee of the trees or resting on the ground in the warm spots. I never ascended the high peak of Mt. Hood, but the guides, and every one else who had been high up, spoke of the clouds of this one butterfly to be seen upon the peak. Sometimes the remark was made that "they were all flying in one direction."

The larval food plant in California is Manzanita. Doubtless the larvæ feed also on other plants, as must necessarily be the case in a species so widely spread. The butterfly itself is but rarely seen feeding on flowers. It is often seen at water on the sands of little mountain streams, and is oftenest captured in such places, as its flight is so rapid and strong that it is difficult to capture one on the wing. I had often marvelled that it is so seldom seen on flowers, and at length, several years ago, found it in numbers feeding on sap or dampness that envelops the freshly opening young leaves of fir trees, *Abies*. They were so eager and absorbed in lapping up this nectar that I could pick them off with my fingers, or push the cyanide bottle over them without alarming them, and did so capture a number, which is saying a good deal for a butterfly that is so uniformly wild and difficult of approach. From this circumstance, and from other corroborative indications, I judge that the sap of *Abies* is their chief food in the imago state.

This species of butterfly, like *P. Cardui*, is something of a hoodoo: it is of no value itself, it is usually present when you don't want it, and its appearance seems to be the signal for more interesting species to disappear. It is also of quite a quarrelsome disposition, taking delight in dashing at a nice *Argynnid* or other nice thing just as you are about to capture it, and chasing it out of sight. For all these things, and for others, it is no pet of the butterfly man, and if it has recently irrumped into British Columbia the invasion is one that will give the lepidopterists of that country no joy, it is evident.

## NEW N. A. MICROLEPIDOPTERA.

BY PROF. C. H. FERNALD, AMHERST, MASS.

*Psecadia delliella* n. sp.

Expanse of wings, 21 mm. Palpi white, with the outside of the first two joints black. Head white. Antennæ brown, white above basally. Thorax snow white, with two black bands, one across the middle and the other across the scutellum.

Forewings snow white, with a satin lustre and crossed by five more or less interrupted nearly equidistant bluish-black stripes. The first is nearly straight and extends from the costa nearly across the wing; the second crosses at the basal fourth of the wing and is angulated outwardly near the middle of the wing; the third arises from the costa just before the middle, is angulated outwardly at the middle of the wing and ends at the middle of the hinder margin. This stripe is sometimes interrupted near the middle, and is more or less completely connected with a spot outside of it on the upper side of the cell. The fourth stripe starts from the outer fourth of the hinder margin and extends up to the fold where it stops. A little above and outside of this is an elongated oblique spot. The fifth stripe runs from the anal angle up to the end of the cell where it branches, one branch continuing in the same course up to the costa but broken at the point of branching, the other branch extending obliquely up and inward nearly to the costa where there are three or four costal marks of different sizes. Outside of this stripe, on the middle of the wing, are two dashes, not in the same line, but sometimes connected. About nine spots of unequal size, more or less confluent, rest on the outer edge of the wing, three on the costa and the rest on the outer margin. A small black spot rests on the base of the costa. The basal half of the fringe is orange yellow and the outer half smoky-brown.

Hind wings, above and beneath, white basally, pale fuscous apically, fringes white. Underside of forewings dull whitish, with fuscous along the costa and outer border, and faintly showing the marks of the upper side.

Abdomen dark smoky brown, the segments edged with whitish. Anal tuft, and second segment orange yellow. Underside white with a black spot on the middle of the basal part of each segment. Forelegs black with the joints tipped with white, and the fore coxæ are white with a

black stripe on the outside. The middle and hind legs are white and ringed with black.

Habitat, Texas.

Described from one female in my collection, and one male in the collection of Mr. A. Bolter.

I have named this beautiful little insect for Miss Dellie Stebbins, who has ably assisted me for the past three years in my entomological work.

*Propexus magnificus* n. sp.

Expanse of wings, 40 mm. Head and palpi pale fawn color, the latter as long as the head and thorax and mixed with black scales. Maxillary palpi somewhat lighter. Antennæ white above and ringed with dark; the pectinations are black. Thorax pale fawn coloured with a dorsal white stripe, and the inner edge of the patagiæ is also white.

The forewings are pale fawn coloured and mixed more or less with darker scales, except on the costal region and a stripe along the fold. The costa and hinder border are narrowly edged with white, and the veins are striped with white, the median stripe being much the widest; all are more or less expanded on the outer border. Fringes white and cut with two parallel lines of the ground colour of the wings.

Hind wings and abdomen very pale fuscous. Fringes white. Underside of all the wings pale fuscous, the forewings being the darkest. Underside of the body, and all the legs, pale fawn coloured, the latter marked with white on the inner side.

Described from two males taken at Salida, Colorado, June 11, 1888, and sent to me by the Rev. Geo. D. Hulst, from whom I have received numerous favours.

*Schænobius maximellus* n. sp.

Expanse of wings, 63 mm. Head, palpi, thorax and forewings dull ochre yellow. The labial palpi and forewings are sprinkled uniformly with dark brown atoms, and the forewings have a brownish shade extending outwardly over the cell, a terminal row of dark brown dots resting one each on the ends of the veins; a row of indistinct brown spots extending from the apex in the direction of the outer third of the hinder margin; a similar spot resting on the median vein near the origin of vein 2, and another at the end of the median vein. Fringes of the same colour as the wing but without the brown sprinkles.

Hind wings, and abdomen above and beneath, very pale yellow and sprinkled with brownish atoms; the former with a terminal row of dark

brown dots, and the latter with irregular fawn coloured patches on the second, third and fourth segments. Underside of all the wings lighter than above and with terminal brown dots. Legs dull ochre yellow and more or less sprinkled with dark atoms.

Described from one female in my collection, taken in Austin, Texas.

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DESCRIPTION OF A NEW SPECIES OF *EREBIA*, AND  
NOTES ON THE SO-CALLED *CHIONOBAS BORE*  
OF COLORADO.

BY W. H. EDWARDS, COALBURGH, WEST VA.

*Erebia Ethela*.

MALE.—Expands 1.5 inch.

Upper side dark brown; both wings have a common extra-discal band of red-fulvous elongated spots, on primaries six, filling the interspaces from lower branch of subcostal to submedian, the second and third from the top a little longer than the others, these last being equal; at the end of the cell a small fulvous patch. Secondaries have five spots, the fifth being in second median interspace, the upper three equal, sub-oval, the fourth about half the size of the third, and the fifth still smaller; fringes of both wings concolored.

Under side of primaries dark brown along the margins to the continuous fulvous band which replaces the spots of upper side; the cellular patch much diffused; all the wing inside the band obscure fulvous on dark brown ground. Secondaries dull black with a grayish tint; the spots repeated, but in yellow-buff, with scales of fulvous about the edges; inside the cell, and against subcostal nervure a small patch of buff scales, less bright than the spots.

FEMALE.—Same size.

Same colour and similarly marked; underside as in the male.

From two ♂, two ♀, sent me by Professor Edward T. Owen, part of fourteen examples taken by him in the Yellowstone Park, June, 1890. This species is allied to *Episodesa*, is smaller, and quite otherwise ornamented with fulvous. The change from fulvous on upper side of secondaries to buff is similar to what is sometimes seen in *Erebia Pyrrha* of Europe. Esper's figure of *E. Pharte*, ♂, pl. cxx., fig. 3, represents a species of the same size as both sexes of *Ethela*, and the markings are similar in character, only that on upper side the fulvous

spots of forewing make a continuous band, and are broader than in *Ethela*, and beneath hind wing the spots are red instead of yellow.

Probably *Ethela* is a dweller in Colorado also, as the late Mr. W. S. Foster told of a small *Erebia*, distinct from *Episodesa* and *Callias*, which he had seen an example of in Marshall Pass, and which had red spots on the wings.

At the request of Prof. Owen, I name this species 'in memory of his daughter, Miss Ethel, who assisted him in the capture of these *Erebias*, and whom he has since unhappily lost.

Professor Owen also took the female of *E. Haydenii*, not before observed. It is in all respects like the male.

After the translation of Sandberg's paper was sent to the CAN. ENT. (see XXIII., 16, Jan., 1891), I received from Dr. Staudinger a letter saying that he was satisfied his determination of the Colorado form of *Chionobas*, in 1886, as identical with Lapland *Bore* was wrong. That he had recently received six perfect examples of this Colorado form, and a very large number of true *Bore* from Norway and Lapland. "I see that this species, even in one locality, offers much variation. With one or two exceptions, all have on the under side of the secondaries the veins white like *Taygete* Hübn., from Labrador. Some are hardly to be distinguished from them, and, therefore, I believe *Taygete* of Labrador a local form of *Bore* Hübn.

"*Crambis* Freyer is described from Labrador specimens, and these also show much variation, and I have some which come so near to some of *Bore* that they are difficult to separate.

"Now as to the Colorado specimens: some varieties of the European *Bore*, without white veins on under side of secondaries, come so near to these (of Colorado) that from one specimen only (as in 1886) I could suppose this to be *Bore*. But as I now have six before me, and no one has the white veins like *Bore*, or only very little white, as sometimes is the case also with *Crambis*, of Labrador, I can only believe this a grayish (instead of brownish) form of *Crambis* Freyer. Also, except in the colour, the underside of the primaries of this Colorado form agrees perfectly with the true *Crambis*." In another letter he says: "I would counsel you to name this, perhaps, *Crambis*, var. *griseous* or otherwise."

I have four *Crambis* from Labrador, 2 ♂, 2 ♀, sent me by the late H. B. Moschler, as *Crambis* Freyer. All are dark brown, of thick

texture of wing, quite opaque. On the underside, the forewing is not distinguishable in colour or marking from *Semidea*; the hind wing is dark—a dusky gray, the band within its bordering lines darker, or brown. It closely resembles *Semidea* of Labrador, as determined by Moschler.

I have under view eleven of the Colorado form in question, 5 ♂, 6 ♀, and have seen several others. All are or were gray-brown above, of slight texture of wing, so transparent that the white labels on the pins are distinctly seen through the wings when viewed vertically. All have the band beneath the hind wings gray-white within, and there is a considerable space outside of and next to the band on either side of pure white, forming a conspicuous feature; the rest of the wing, at base and over extra-discal area, is gray-white. The band has similar outline and breadth to that of *Crambis* of Labrador, with variations in both species, and the band of the Labrador *Semidea* is similar to the other two.

As to the forewing beneath, except that in the Colorado form the colours are paler, that form is closely like *Crambis* and also *Semidea*, both of Labrador and White Mountains, of New Hampshire.

I have eight *Taygete* Hübn. from Labrador and Alaska, and the band is of the same character as in all the other species mentioned, varying in outline, but the veins are white in all the eight, as Dr. Staudinger says *Taygete* should have the veins. Also this species is usually yellow-brown; one Alaskan example is dark brown.

In Dr. Staudinger's view the Colorado form is a permanent variety. It certainly is completely isolated, and for untold ages must have been as much so as to-day. A permanent variety in such case is a species. If it originally branched from the Labrador *Crambis*, and of this we are absolutely ignorant, it has lost all connection; breeds true, and fulfills every requirement of a species. And as a species I regard it. Considering that we owe all our knowledge of it to Mr. David Bruce, who, during the last three years, has taken great pains to investigate its localities and habits, and has obtained eggs whereby I have been able to rear the species to adult larval stage, I cannot do otherwise than name it *Chionobas Brucei*.

Mr. Bean, at Laggan, Alberta, has taken a single specimen of this *Brucei*. Mr. Bruce has taken more than 300, and he tells me the peculiar characteristics which I have enumerated have been found in the whole of them.

FOOD PLANTS OF SOME BOMBYCIDÆ AND NOCTUIDÆ  
NOT INCLUDED IN H. EDWARDS'S CATALOGUE.

BY ROLAND THAXTER, NEW HAVEN, CONN.

The following brief list of food plants of Bombycidæ and Noctuidæ, not included in the recently issued catalogue of Mr. Henry Edwards, may be of some interest to persons engaged in rearing Lepidoptera. When not otherwise stated the insects have been found and reared, or reared from the eggs by myself, and were mostly collected at Kittery, Maine :—

BOMBYCIDÆ.

- Orgyia nova* Fitch. Pinus strobus  
 " *definita* Pack. Quercus.  
*Parorgyia basiflava* Pack. Betula.  
*Limacodes biguttata* Pack. Carya.  
 " *fasciola* H.-S. Carya.  
 " *Y-inversa* Pack. Carya.  
*Packardia geminata* Pack. Carya.  
*Ichthyura strigosa* Grote. Populus.  
 " *indentata* Pack. Salix.  
 " *vau* Fitch. Populus.  
*Gluphisia trilineata* Pack. Populus.  
*Notodonta stragula* Grote. Populus.  
*Lophodonta ferruginea* Pack. Betula.  
 " *Georgica* H.-S. Quercus.  
*Seirodonta bilineata* Pack. Quercus.  
*Edemasia eximia* Grote. Salix, Populus.  
*Dasylophia anguina* A. & S. Baptisia.  
 " *interna* Pack? Carya.  
*Celodasyg biguttata* Pack. (*Schizura ipomeæ* Doubl., Lec., Pack). Acer,  
 Ulmus, Quercus, Betula, Vaccinium, Ceanothus.  
 " *leptinoides* Grote. Carya.  
*Heterocampa obliqua* Pack. Quercus.  
 " *guttivitta* Walk. Quercus, Carya.  
 " *biundata* Walk. Carya.  
*Cerura aquilonaris* Lint. Populus.  
*Prioma bilineata* Pack. Betula.

- Callosamia angulifera* Walk. Liriodendron.  
*Artace punctistriga* Walk. Diospyros virginiana.  
*Tolyte laricis* Fitch. Pinus, three species.

## NOCTUIDÆ.

- Leptina dormitans* Guen. Carya.  
*Habrosyne scripta* Gosse. Lilia.  
*Audela acronyctoides* Walk? Abies balsamea.  
*Charadra deridens* Guen. Ulmus.  
*Raphia frater* Grote. Populus.  
*Feralia jocosa* Guen. Abies canadensis and balsamea.  
*Apatela vinnula* Grote. Ulmus.  
 " *occidentalis* G. & R. Pyrus malus.  
 " *furcifera* Guen. Prunus serotina.  
 " *funeralis* G. & R. Carya.  
 " *dactylina* Grote. Salix, Betula, Alnus.  
 " *hastulifera* A. & S. Alnus.  
 " *persuasa* Harv. Quercus (Chapman).  
 " *clarescens* Guen. Rosaceæ (esp. Pyrus malus).  
 " *ovata* Gr. Castanea.  
 " *dissecta* G. & R. Acer.  
 " *sperata* Grote. Rubus.  
 " *xyliniiformis* Guen. Rubus.  
 " *lanceolaria* Grote. Found on Comptonia not feeding. Probably a general feeder like *oblinita*. Figured in Abbott's unpublished drawings on *Gaillardia*.  
*Harrisimenna trisignata* Walk. Diervilla, Ilex verticillata.  
*Agrotis trabalis* Grote? Pinus strobus.  
 " *astricta* Morr. Helianthus.  
*Oligia versicolor* Grote. Pinus strobus. Abies Canadensis.  
*Homohadena badistriga* Grote. Lonicera cult.  
*Gortyna Harrisii* Grote. Heracleum lanatum.  
*Nonagria subflava* Grote. Scirpus.  
 " *oblonga* Grote. Typha.  
*Macronoctua onusta* Grote. Iris versicolor.  
*Euthisanotia timais* Cram. Pancratium, Narcissus.  
*Scolecocampa liburna* Geyer. Various species of Corticium Polyporus and other of the larger Basidiomycetons fungi.

- Crocigrapha Normani* Grote. Quercus.  
*Xylomiges confusa* Hübn. Quercus.  
*Scopelosoma Moffatiana* Grote. Hamamelis.  
*Litoprosopus futilis* G. & R. *Sabal palmetto* (Lec., Chapman).  
*Marasmalus ventilator* Grote. Rhus typhina.  
     " *histrion* Grote. Rhus.  
*Deva purpurigera* Walk. *Thalictrum cornutum*.  
*Plusia Putnami* Grote. Poa, Agrostis, etc.  
*Plusia monodon* Grote. Liatris, Helianthus.  
*Pyrria exprimens* Walk. Rhus., Robinia.  
*Catocala relictæ* Walk. Betula, Populus.  
     " *Briseis* Edw. Salix.  
     " *habilis* Gr. Juglans.  
*Panopoda carneicosta* Guen. Quercus.  
     " *rufimargo* Hübn. Quercus, Lilia.  
*Homoptera minerea* Guen. Salix.
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## TEN NEW SPECIES OF ORTHOPTERA FROM NEBRASKA— NOTES ON HABITS, WING VARIATION, ETC.

BY LAWRENCE BRUNER, LINCOLN, NEBRASKA.

A trifle more than two years ago the writer first entertained the idea of preparing a synopsis of the Orthoptera of Nebraska, with the intention of publishing it as a special bulletin from the Agricultural Experiment Station. With that end in view, work was immediately begun; and in the course of a few months the greater portion of the manuscript was ready for the printer. At this time other matters that were considered of more immediate importance came up at the Station, and that of the Orthoptera was laid aside. It has now been lying nearly two years.

As the result of special collecting and study on the order for the past eighteen years within the State, my collection contains 241 species that have been taken within its boundary. Among these there are about two dozen species that appear to be new to the science of entomology. From among these apparently new things, the following are selected for publication at this time:

## GRYLLIDÆ.

*Cycloptilus borealis* n. sp.—Head and pronotum of both sexes, together with the two basal abdominal segments of the female, light mahogany brown above; abdomen dark brown inclining to black on the dorsum which is more or less densely covered with silvery grey scales, giving the insect a grizzled appearance. Tibiæ and apical portion of the femora indistinctly fasciate with brown. Underside and basal portion of the legs pale yellowish.

Moderately robust, fusiform; the middle pair of legs rather small; posterior femora not very much inflated. Anal cerci of the female a little more than half as long as the body, quite stout and somewhat hairy; those of the male shorter and slenderer; those of the female directed backward, those of the male considerably divergent.

Length of body, ♂ and ♀, 7.5-8 mm.; of pronotum, ♂, 2.15 mm.; ♀, 1.85 mm.; of antennæ, ♂ and ♀, about 10 mm.; of hind femora, ♂, 3.5 mm.; ♀, 4 mm.; of anal cerci, ♂, 3 mm.; ♀, 4.1 mm.; of ovipositor, 4 mm.

This active little cricket was first taken by me on the 10th of August, 1888, at Valentine, near the Niobrara river. It was found among dead grass upon sandy soil on a south hill-slope. It was again met with on the margins of the large salt basin west of Lincoln on the 15th of the following month. These latter specimens were under boards lying upon sandy soil. Judging from the fact that all the specimens thus far taken have been found upon sandy soil, it will be safe to call it a frequenter of sand districts, where it may be looked for under boards, loose stones, sticks and loose *debris* of all kinds during daytime.

Two other representatives of the genus have been described from North American localities, *i. e.*, *Cycloptilus squamosus* Scudder, a Texan species, and *Cycl. Americanus* Saussure, a Cuban species.

## LOCUSTIDÆ.

*Ceuthophilus pallescens* n. sp.—This wingless cricket is very similar in appearance to *C. pallidus* Thos., but differs from that species in its markings and in the number and arrangement of the femoral and tibial spines. In size it is similar to *C. maculatus*, than which it is slightly less arched.

A moderately long legged species in which the spines are arranged as follows: Anterior femora with two spines beneath internally; the middle, with about four pairs and an outer apical one; posterior femora with both the inner and outer carinæ of the lower edge very thickly set with minute teeth-like spines, the inner row doubled near the middle. Posterior tibiæ furnished with five spines on each edge, somewhat alternately arranged and with the intermediate spaces filled with teeth-like shorter ones; the lower edge is also supplied with three sub-apical and two apical spines only a little less prominent than those above. Middle and anterior tibiæ with three pairs of spines each on the under side. Antennæ moderately long. Eyes of medium size, pyriform.

General color very pale straw color. The middle and hind thoracic segments, together with the first abdominal, marked above with a narrow transverse black patch each. Through these there is drawn a narrow dorsal line that severs them into lateral halves. Eyes shining black. Spines of legs tipped with brown. In addition to the usual spines this insect is characterized by the presence of numerous smaller, almost microscopical spines that are scattered over the general surface of the femora and tibiæ. These latter are entirely brown.

Length of body, ♀, 19 mm.; of antennæ, 30 mm.; of hind femora, 12.5 mm.; of hind tibiæ, 14 mm.; of ovipositor, 12.25 mm.

Described from one female and one immature male.

Habitat.—Dawes and Sioux counties in northwestern Nebraska. The female specimen was taken in a shallow well 17 miles north of Harrison. The male was found under a timber at the tunnel on the line of the Burlington & Missouri R. R., south of Crawford, in Dawes Co.

*Udeopsylla compacta* n. sp.—About the size of *Daihinia*\* *brevipes* Hald., to which it bears a very striking resemblance; but is darker coloured than that insect, and at once distinguishable from it in having the tarsi of anterior and posterior legs four-jointed instead of only three-jointed. The posterior femora of this insect also lack the heavy spines that are so characteristic of the other.

Legs short and heavy, the posterior femora in the male very similar to those of the female, very minutely spined below; the posterior tibiæ not

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\*The genus *Daihinia* is based on the abnormal number of tarsal joints in the anterior and posterior feet, where there are three instead of four. Haldemann's type was not an unique in that respect. I have fully a dozen specimens all of the typical form.

bowed, strongly spined above and below. Antennæ heavy, about as long as the body.

Length of body, ♂ and ♀, 22 mm.; of antennæ, about 24 mm.; of posterior femora, ♂ and ♀, 12.5-14 mm.; of hind tibiæ, ♂ and ♀, 16 mm.

This hitherto undescribed cricket is a native of the sandy districts of Nebraska, Dakota and Kansas; and like the *Daihinia brevipes* Hald., to which it has been compared, also burrows into the sand. So closely do these two insects resemble each other at a cursory glance that I did not distinguish their difference until about to label them for cabinet specimens. It is to be distinguished from *Udeopsylla robusta* and *nigra* by the greater size of its pronotum, also by its less glossy appearance. In colour it is a pitch-brown above and paler beneath.

There is still another species of these large, wingless "sand crickets" to be occasionally met with here in the West. It is the insect that I have called *Udeopsylla gigantea*.\* As that characterization was very brief, the following description is herewith presented:—

Very dark brown, almost black, with an interrupted dorsal line and a few mottlings of a lighter shade. The posterior femora are very heavy and clumsy in the male, reaching more than half their length beyond the extremity of the body, furnished below with a row of nine short strong spines; posterior tibiæ three-sided, more strongly bowed than usual, and furnished above with two rows each of four spines which alternate, and between these smaller ones; the lower side also spined on apical half. Legs of female less inflated and not so strongly spined.

Length of body, ♂, 30 mm.; ♀, 26 mm.; of antennæ, ♂ and ♀, about 30 mm.; of hind femora, ♂, 24.5 mm., ♀, 17 mm.; of hind tibiæ, ♂, 25 mm., ♀, 19 mm.

This insect appears to be much scarcer than either *brevipes*, *robusta*, *nigra* or *compacta*, and is confined in its distribution to a much smaller area. It also burrows in the ground and lives solitary. It has been seen by me but once within the State, viz., in the vicinity of Lincoln, near the large salt basin. It is also to be met with in Kansas and the Indian territory—the pair upon which this description is based having been taken in Kansas.

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\*Bulletin of the Washburn Laboratory of Natural History, Vol. I., p. 127.

Thus far comparatively little attention has been paid to the conocephalids among the Locustidæ of North America. Especially is this true with reference to the genera *Xiphidium* and *Orchelimum*, both of which are rich in species here in Nebraska as well as in almost every other State of the Union. When I undertook to work over the specimens of these insects in my collection, it was but a very short time before the discovery was made of a number of new things. Some of the most striking of these are now described.

(To be continued.)

### NOTES.

#### PHRAGMATOBIA RUBRICOSA HARRIS.

There is no doubt but that our specimens which go by the above name are referable to the European *P. fuliginosa* Linn.

Prof. Smith has noticed their superficial resemblance\* which amounts to identity. I have compared examples from France with a series from New York and I can find no difference in ornamentation. Neither do they differ structurally. The venation is identical.† The genitalia of the male also are the same within the limits of variation of the species, which appear to be wide. In the specimen from Europe examined the supra-anal plate is elongate-triangular, produced to a point, concave below, slightly curved down and bulging a little laterally at the base. The side pieces are very long and narrow, gradually tapering and curved inwards. They are strongly concave on the inside, the sides being almost curved over, with a short, sharp projection above and below at a little more than half their length. Of *rubricosa* three specimens were examined. In two the anal plate was aborted, being represented only by a short, square piece; in the third it was present, of the same shape as in the specimen of *fuliginosa*, but a little narrower. The side pieces also varied. In the first and third specimens their edges were so much incurved that the two points came together and were united in one piece; in the other specimen they were as in *fuliginosa*, perhaps even a little less incurved.

From the above it will be seen that *rubricosa* cannot stand as a distinct species.

HARRISON G. DYAR, New York.

\*CAN. ENT., XXII., 120.

†My specimens differ from Prof. Smith's figure on page 235 (fig. 8) in that the second subcostal venule branches off before the fifth, while in the figure the reverse is the case. This is so in both European and American examples.

## AELLOPOS TITAN.

Mr. Lyman's interesting note on the occurrence of *Lepisesia flavofasciata* reminded me that the Society has in its possession a very rare moth, *Aellopos titan* Cram., and possibly the only Canadian specimen in the country. It was obtained by the Society with the Pettit collection; and Mr. Pettit told me that a neighbour's boy at Grimsby brought it to him alive one morning in his closed hands, and asked if it was of any use to him. Prof. Fernald, in his "Sphingidæ of New England," says it is unknown to him, but is said to occur rarely in the southern part of New England. Mr. Grote does not mention it in his "Hawk Moths of North America," but gives it in his Check List of 1882 as a N. A. species, and in the CAN. ENT. for July, 1886, speaks of it as belonging to the colony of West Indian moths in Florida, some of which at times invade New England.

For the benefit of any of your readers that may be fortunate in securing a specimen I transcribe Prof. Fernald's description:—

"Expanse of wings, two inches and three-tenths. Dull blackish with a slight olivaceous tinge; discal spot black and scarcely visible; a straight, semi-transparent, whitish band crosses the middle of the forewing, followed by another which is much narrower. A somewhat arcuated, similarly coloured band formed of a double series of semi-vitreous, lunate spots extends from the costa nearly across the wing. The terminal space is paler and has purplish reflections. The underside is dark brownish, and the whitish markings of the upper side are distinctly reproduced. The hind wings are blackish, paler at the base and shaded with yellowish along the costa. Head and thorax above, dull brownish with a slight olivaceous tinge. Abdomen olivaceous, with the third abdominal segment white above; fourth segment with a large dark brownish lateral shade which is much reduced on the fifth, but extends entirely across the sixth. Anal hairs, brown on the sides and olivaceous in the middle."

That description applies well to the specimen before me, with the exception that the straight whitish band does not quite cross the middle of the forewings, terminating before reaching the costa, and the black discal spot is quite distinct. Our specimen is fresh, and in excellent condition, its only defect being the absence of part of the anal tuft on one side.

J. ALSTON MOFFAT, Curator.

## LEPISESIA FLAVO-FASCIATA.

The notice of the capture of *Lepisesia Flavo-fasciata* in Canada reminds me that I had omitted recording its occurrence in Colorado. I have taken it there near South Park, above 10,000 ft. elevation. The larva feeds on *Epilobium* in July and August, and varies from greenish-yellow to brown; when young it has a yellowish caudal horn which it loses when half grown (at third moult?) and it then presents a shining black "button" like that of *Thyreus Abbottii*. When full grown the larva is of a dirty olive brown color, with darker mottlings and fine longitudinal lines. It pupates under leaves without making a cocoon or entering the earth. The moth flies in June in Colorado (but I had one emerge last March from a pupa that had been kept in a cool room all winter). This species is partial to the flowers of a species of *Ribes*, flying swiftly from one bush to another, and appears to have all the habits of the two small species of *Hemaris* that frequent the same locality. The larva of *Alypia Lorquinii* is also abundant on *Epilobium* at the same time, and I was collecting it when I discovered the larva of *L. Flavo-fasciata*.

DAVID BRUCE, Brockport, Monroe Co., N. Y.

## SCENT-GLANDS IN THE LARVA OF LIMACODES.

Described from four larvæ found on *Liquidambar*, Oct. 18. When disturbed the larva has the power of emitting drops of clear liquid from pores along the edges of the back, this liquid having an odour similar to that of crushed *Liquidambar* leaves. These pores are sixteen in number, situated along the edges of the back, their location being indicated by darker green spots just below the edge; between the seventh and eighth pairs of pores on each side is a white spot, and behind the eighth a white dot.

The back varies from entirely brown, excepting the anterior border, to having the anterior fourth, a median stripe from it, and an irregular spot behind the middle, green. The side is green with more or less brown beneath.

The larva is inverted boat-shaped or casket-shaped, obtusely truncate anteriorly and prolonged into a short tail posteriorly; hump-backed. At the median angle on each upper edge is a prominence on each side, behind which and separated from it by the fifth pair of pores is a smaller

prominence. The prothorax is free from the "casket" and retractile; its spiracle on the posterior border; eight pairs of spiracles are visible on the sides of the "casket." The "subjoint" is situated beneath and is retractile.

W. HAMPTON PATTON, Hartford, Conn.

#### A CORRECTION.

A curious error occurred in the catalogue of *Arctiidae* in the last volume of the CAN. ENT., pp. 167 and 168. Under *Euchaetes egle* I placed as synonyms *Tanada antica* Wlk., and *Arctia sciurus* Bdv. In some way they have attained specific rank in the paper as it stands. They should be indented as synonyms, without the preceding generic abbreviation.

A similar error occurred under *Hyphantria*, pp. 163-165, where *punctatissima*, *congrua*, *punctata*, *textor* and *candida* all stand as species instead of synonyms as was intended. In both cases the error is apparent if the bibliography is consulted carefully; but I deem it better to call attention to it so that the correction may be made in the volume.

J. B. SMITH.

#### CORRESPONDENCE.

##### ARCTIIDE OF NORTH AMERICA.

*Dear Sir*: Kindly insert the following synonymical note. On page 231 of Vol. XXII. Prof. Smith refers to *Halisidota trigona* Grt. I would correct this to read as follows:—

*Halisidota specularis* Her.-Sch.

1854—H.-S., Saml. neuer oder wenig bek. ausser. Schmett., page 72, fig. 59, *Trichromia*.

*trigona* Grt.

1879—Grt., No. Am. Ent., 46, *Halisidota*.

1881—Grt., Trans. Kansas Ac. Sci., VII., 64.

Habitat—Colorado, New Mexico, Brazil.

I have compared Mr. Grote's description with Dr. Herrich-Schäfer's figure, and there is no doubt but that the two refer to the same insect.

HARRISON G. DYAR, New York.

## BOOK NOTICE.

AMONG THE MOTHS AND BUTTERFLIES: By Julia P. Ballard. G. P. Putnam's Sons, New York, 1890; pp. 237.

This beautiful book is an enlarged and revised edition of "Insect Lives," published 1880, and contains recent studies and many additional illustrations. It treats especially of rearing butterflies, sphinges and moths from the caterpillars, and is based wholly on the personal observations of the author. Without previous knowledge of entomology, Mrs. Ballard found herself attracted by some species of caterpillar, and followed it up to pupa and imago, making original discoveries at every step, and gaining experience day by day, and has become an expert in that line. Many of the species treated of, if their early history is mentioned at all in books, have never been so carefully studied as here; witness the story of the great *Leopard Moth*, the *Bulrush Caterpillar*, the *Monkey-faced Moth*, the *Beechnut Box*, the *Rosy Dryocampa*. Of many others, better known than these, are interesting notes, as *Orgyia leucostigma*, *Deilephila lineata*, *Ceratocampa regalis*. The enthusiasm of the author is contagious, and makes the reader wish that spring would hurry along. I do not know of any book—certainly there is none in America—which has attempted to enter upon the field now taken possession of by Mrs. Ballard. If any good pater, or aunt, or cousin, wishes to do a kind turn to an active boy or girl, they could not do better than put this book in the young person's hands,—at the same time a net and collecting apparatus (which our good friend John Akhurst will be happy to furnish), and bid them, when spring comes, search the fields and woods as Mrs. Ballard has done. The difference between eyes and no eyes is wonderful, and occupying the former will keep young people out of mischief, at least giving them something to do and to think of. Once let a boy put his foot over the threshold of this temple of ours and catch a glimpse of the inner mystery, and there will be no idle and wasted hours. And to this end the author of "Moths and Butterflies" has well served her generation. WM. H. EDWARDS.

\* \* \* Subscribers are respectfully reminded that their subscriptions are now due and should be paid forthwith to the Treasurer. The date to which payment has already been made will be found on the address label.

Mailed February 4th.