

NOTES ON HEMIPTERA TAKEN BY W. J. PALMER, NEAR LAKE TEMAGAMI, ONT.

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These notes refer to a small but interesting collection of Hemiptera taken about Lake Temagami in August, 1906, by my friend, Mr. William J. Palmer, of Buffalo. Before starting for a brief vacation trip to northern Ontario, Mr. Palmer very kindly offered to collect Hemiptera for me as time and circumstances would permit. On four days only was he able to do any collecting, but considering the unfavourable conditions, the results were remarkably good, both as to the amount and character of the material brought home. This material represents sixty-two species, including several very interesting forms, and four that may prove to be still undescribed. Among the more interesting species taken may be mentioned *Plagiognathus annulatus*, Uhler, *Draculacephala Manitobiana*, Ball, *Thamnotettix eburata*, Van Duzee, *Thamnotettix waldana*, Ball, *Thamnotettix Smithii*, Van Duzee, and *Cicadula lepida*, Van Duzee. In the case of five of these six species the known range has been considerably extended. The rediscovery of *Thamnotettix eburata* shows conclusively that this is a boreal species, probably having the southern limit of its range in the Adirondack Mts. It is not unlikely that it will yet be found in the White Mts., and possibly elsewhere in northern New England.

The particular localities where collections were made by Mr. Palmer, and the dates, are as follows: Red Cedar Lake, August 9th; Fox Island, at the other end of Red Cedar Lake, on August 10th; the lumber camp on Island Lake, August 12th; and Swamp Creek, August 14th. All of these places are within forty or fifty miles of Lake Temagami, in a south-easterly direction.

Banasa dimidiata, Say.—One large and deeply-coloured example was taken at the Island Lake lumber camp on August 12th.

Podisus serieiventris, Uhler.—One fine large specimen from Red Cedar Lake, August 9th. As stated in my Annotated List of North America Pentatomidæ, I distinguish this species from *maculiventris* by the short ventral spine, less acute humeri, etc. The present example is fully as large as any I have seen of *maculiventris*, and is much more deeply coloured, with the wings of a rich metallic green, and some of the punctures, especially on the pronotum, tinged with the same colour.

Ligyrocoris contractus, Say.—One specimen from Red Cedar Lake, August 9th, and one from Swamp Creek, both females. I have this

species from Lake Placid, in the Adirondacks, and from Montreal, and what is probably the same species was taken at Beulah, N. M., by Dr. Henry Skinner.

Corythuca, sp.—This is the most abundant Tingid throughout the northern States and Canada. It is closely allied to *arcuata* and *juglandis*, and is the "small variety" of *arcuata* mentioned in my list of Muskoka Hemiptera. Ten examples from Fox Island and one from Swamp Creek are in this lot.

Coriscus incriptus, Kirby.—Island Lake lumber camp, August 12th.

Coriscus vicarius, Reut.—Taken at Island Lake and Red Cedar Lake. This species seems to be common toward the north. I took it in abundance at Lake Placid, in the Adirondacks. I cannot follow Kirkaldy in placing this as a synonym of *Coriscus propinquus*, Reut.

Miris affinis, Reut.—Taken at all localities.

Phytocoris eximus, Reut.—Swamp Creek, August 14th.

Phytocoris pallidicornis, Reut.—Red Cedar Lake. Several examples.

Lygus, sp. nov.—Swamp Creek, August 14th. A very pretty red species.

Lygus pratensis, Linn.—Apparently common with its variety *flavonotatus*, Prov.

Lygus invitus, Say.—Several taken at Island Lake lumber camp, August 12th.

Lygus pabulinus, Linn.—A few with the preceding.

Pæcilocapsus lineatus, Fabr.—One example from Fox Island, in Red Cedar Lake.

Monolocoris filicis, Linn.—Apparently common.

Neoborus, sp. nov.—Island Lake, August 12th, and Swamp Creek.

Macrolophus separatus, Uhler.—Island Lake, August 12th, three examples. These differ from specimens from Maryland and Florida now in my collection, in being proportionately longer and more slender, with the colours somewhat paler and the markings more clearly defined. What seems to be a smaller form of the same species I found in numbers on bushes at Gordon Town, near Kingston, Jamaica. This would give the species a very wide distribution. It is a pretty insect, and closely resembles *Dicyphus*.

Rhinocapsus Vanduzeei, Uhler.—One specimen was taken at Red Cedar Lake, August 9th.

Orthotylus chlorionis, Say.—Several from Red Cedar Lake and Island Lake.

Plagiognathus obscurus, Uhler.—Several large and clearly-marked examples of this common species were taken at the several localities.

Plagiognathus politus, Uhler.—Swamp Creek, August 14th, and Island Lake.

Plagiognathus annulatus, Uhler.—A very black little species, of which two examples were taken at Island Lake, August 12th. Kindly determined for me by Mr. Otto Heidemann.

Ceresa brevicornis, Fitch.—One small male was taken on Fox Island in Red Cedar Lake. Mr. Palmer kept a close watch for the Membracidae, but this was the only species taken.

Otiocerus Coquerberti, Kirby.—One pair of this pretty species was taken at Island Lake, August 12th. The elytra are more suffused with yellow than in the specimen from western New York.

Cixius stigmatus, Say.—Apparently abundant. In this material there is a conspicuous blackish vitta before the middle of the elytra in the female. The male elytra shows but faint traces of this maculation, but in both sexes there is a fuscous spot on the stigmata, and the nervures are conspicuously dotted. In the eastern States and Canada we have at least three closely-allied species of *Cixius*, that I identify as follows :

- a. Vertex triangularly and subacutely produced anteriorly, its apex very nearly attaining the base of the front, and almost bisecting the transverse compartment on the apex of the head. Front clypeus and mesonotum black, with the facial carinae pale. Styles of the males broad, about equalling the pygofer. *stigmatus*.
- Vertex obtusely rounded before, not nearly attaining the base of the front, transverse compartment much less narrowed at the middle. Styles of the male distinctly shorter than the pygofer. b.
- b. Larger, piceous brown, becoming blackish on the front, sides of the mesonotum, and on the abdomen. Elytra with very faint brownish clouds, or almost transparent, with dotted nervures. *pini*.
- . Smaller. Black, with the carinae more or less pale; elytra more strongly spotted and dotted on the nervures. *colæpium*.

Delphax furcata, Prov. ?—One female taken at Island Lake agrees with Provancher's short description and my former determination of this species, except that the front and vertex are black. It may be a large dark form of *pellucida*, but I believe when the male is placed it will prove distinct.

Lepyronia quadrangularia. Say.—Two from Island Lake, and one very dark example from Fox Island, in Red Cedar Lake.

Aphrophora parallela, Say.—One example from Red Cedar Lake, August 9th.

Aphrophora Saratogensis, Fitch.—One pair taken with the preceding.

Clastoptera obtusa, Say.—Very abundant at all stations. Generally taken on willows. These individuals average much darker than those from New York State.

Clastoptera proteus, Fitch.—This species seems also to have been abundant, especially about Red Cedar Lake. Nearly all the specimens brought home by Mr. Palmer were of the black form. These have only the lower surface of the face and the legs yellow, and the apex of the elytra, and sometimes the base of the costal area, are brownish; a few have two transverse bands on the front of the pronotum, the clavus, except a broad longitudinal median vitta, and an oblique vitta across the middle of the corium, yellow.

Gypona flavilineata, Fitch.—Two females were taken at Red Cedar Lake, August 9th.

Gypona Quebecensis, Prov.—Two males and two females and larvæ were taken at Island Lake and Red Cedar Lake. This species is now generally placed as a synonym of the preceding, but I still think it should be kept distinct, although on further study the name may have to be sunk as a synonym of one of Burmeister's unidentified species. It may be distinguished from *flavilineata* by its smaller size, deeper green colour, longer vertex, more approximate ocelli, more numerous transverse nervures on the elytra, and different form of the last ventral segment of the female. This seems to be a more northern form, which I have taken about Buffalo from Hemlock bushes.

Diedrocephala coccinea, Forster.—Numerous specimens of this insect were brought home by Mr. Palmer. Apparently they were common and generally distributed.

Draculacephala Novaboracensis, Fitch.—Several were taken at Red Cedar Lake, and one at the Island Lake lumber camp. These specimens are a little smaller, with the black markings of the vertex more distinct than in those captured about Buffalo.

Draculacephala Manitobiana, Ball.—One male taken at Swamp Creek, August 14th. This individual agrees in all respects with Prof. Ball's figure and description, except that the male plates are distinctly

narrower and more produced, being intermediate in form between his figures representing *Manitobiana* and *Novæboracensis*. He records it from Colorado and Manitoba. This is its first recorded occurrence in the east of which I am aware.

Bythoscopus fenestratus, Fitch.—One strongly-marked female from Island Lake.

Bythoscopus pruni, Prov.—Island Lake lumber camp, August 12th.

Idiocerus Provancheri, Van Duzee.—One individual taken at Island Lake.

Idiocerus suturalis, Fitch, var. *lunaris*, Ball.—Three males and three females are among the material from Island Lake.

Agallia sanguinolenta, Prov.—Taken at Island Lake and Red Cedar Lake.

Platymetopius acutus, Say.—Taken at all stations, and apparently common.

Athysanus parallelus, Van Duzee.—One male taken at Island Lake.

Athysanus vaccinii, Van Duzee.—Red Cedar Lake. I have taken this species at Hamburg and Lake Placid, N. Y.; Woodbine, N. J.; and in Colorado.

Athysanus striatulus, Fallen.—Swamp Creek, August 14th. One pale example that I believe should be referred here as this species is identified by Osborn and Ball.

Scaphoideus immistus, Say.—Island Lake. One example.

Thamnotettix eburata, Van Duzee.—Mr. Palmer brought home a good series of this northern species, taken at all localities where he collected. Since describing this species in 1889 I have seen but one additional specimen, taken by Mrs. Slosson, near Lake Champlain.

Thamnotettix, sp.—One example from near Island Lake.

Thamnotettix subcupreus, Prov.—Apparently not at all rare at Island Lake. I have recently taken it as far south as Cape May, N. J.

Thamnotettix waldana, Ball.—One male and four female examples from Swamp Creek, August 14th. These agree well with Prof. Ball's description, but two individuals are a little darker and more clearly marked, with almost the entire length of the claval nervures, and some interruptions on the discal nervures of the corium white.

Thamnotettix inornata, Van Duzee.—One example taken on Fox Island, Red Cedar Lake.

Thamnotettix Smithii, Van Duzee.—One female from Swamp Creek. This example agrees in every essential particular with my description of

the male. Unfortunately the tip of the abdomen has been so compressed it is impossible to describe exactly the form of the last ventral segment, but apparently it is short and truncated or feebly rounded behind, without a median notch; the pygofers are long, yellowish, with the narrow margins and the oviduct deep black. The yellow margin of the connexivum is narrower than in the male.

Cicadula 6-notata, Fallen.—Island Lake, August 12th.

Cicadula lepida, Van Duzee?—Two females that seem to be pale examples of this species were taken at Island Lake and on Fox Island, in Red Cedar Lake.

Cicadula, sp.—One example from Island Lake.

Gnathodus viridis, Osborn.—One unusually large example from Red Cedar Lake. This has the basal angles of the scutellum infuscated, but does not seem to differ otherwise.

Empoasca atrolabis, Gillette.—One specimen taken at Island Lake, August 12th.

Empoasca unicolor, Gillette. Several from Swamp Creek. I have taken this species at Milan, Ohio, and in numbers at Hamburg, N. Y. It is a little larger and deeper green than *Empoasca obtusa*, Walsh.

Empoasca mali, Le Baron.—A pair of this species is in the material from Fox Island.

Typhlocyba tenerrima, H. S.—Two examples of this European species were taken at Swamp Creek.

Psylla carpini, Fitch.—Island Lake. Three examples. In a revision of this group this name will have to be changed, as it is preoccupied by an European species in the same genus.

Livia, sp.—One specimen, too immature to admit of correct determination.

THE PUPATION OF EUVANESSA ANTIOPA, L.

BY JAMES FLETCHER, OTTAWA.

On the morning of November 8th I was fortunate enough to watch the pupation of a caterpillar of *Euvanessa antiopa*, L. The operation has often been described, but it seems worth while putting another observation on record, which was carefully watched by Mr. Arthur Gibson and myself, from the time the larval skin first burst until the cremaster was firmly