A REPLY TO MR. W. H. EDWARDS.

BY H. J. ELWES, COLESBORNE, CHELTENHAM, ENGLAND.

I did not suppose that anything I wrote on North American Butterflies was likely to find favour in Mr. Edwards's eyes, but in a long criticism of my paper on *Eneis*, which I have just seen in the CANADIAN ENTOMOLOGIST, there are two or three points on which he has so much misunderstood or misrepresented me that I cannot pass them by, as I shall do the greater part of his remarks, as unworthy of notice.

As to the specific distinction of *Californica*, *iduna* and *gigas*, I could find nothing in Mr. Edwards's own figures or writings to guide me in separating them, and now I only see that he relies on Messrs. Wright and Fletcher, as he has seen none of them in life himself. It is quite possible that there is as much variation in the larva as in the imago, and if there is any invariable character by which they can be known apart, I am just as ready to admit it as in the case of *ivallda*. Only I must wait for Mr. Edwards to show it, which he has not yet done, so far as I am capable of judging.

Next, with regard to *Uhleri* and *varuna*; I quite admit that one and the same species of *Eneis* is not likely to fly on low, grassy plains and on alpine peaks, though I have taken both *Parnassius smintheus* and *Erebia epipsodea* in quite as dissimilar situations. But where did I say that *varuna* was found on alpine peaks? Kananaskis, though 4,000 feet above sea-level, is just such a grassy level valley in the mountains as *Uhleri* frequents in Colorado, and the elevation of 4,000 feet there is, with regard to timber line, equal to about 7,000 or 8,000 feet in Colorado—just the level at which *Uhleri* seems most abundant. It is *Uhleri*, as Mr. Edwards says, and so are the specimens found at other localities farther east in Alberta. If they have a difference sufficient to distinguish them it is for Mr. Edwards to define the range of both and give us something more definite than he has done as differential characters.

Now we come to *Aeno* Bvd. a name which I have ignored, because I cannot identify it certainly with any species. Mr. Edwards, having adopted the name on other people's authority, feels bound, I suppose, to support it. But it is not consistent of him after doing so to refuse to recognize the much better evidence I have given for the identification of the name *subhyalina*; simply, as it seems, because he prefers to suppose that the type is not really the specimen described by Curtis. He says that it was described sixty years ago, and "in course of sixty odd years

the chances are against the survival of any particular cabinet insect! It has a hundred enemies besides the possibility of accident. It is not an unknown thing for the owner of a collection of insects, when a type is destroyed, to attach the label to another example that seems near or pretty near the original." Here, perhaps, we have an explanation of the reason why, as I have pointed out in my reply to his criticism on my paper on *Argynnis* (see CAN. ENT., Vol. XXII., p. 150), I never got any help from Mr. Edwards in identifying so many of his types. But we do not so use our types in Europe, and there is not the slightest reason for assuming, as Mr. Edwards has done on the authority of an anonymous correspondent, that the type of *subhyalina* Curtis, is not the insect described by him. It happens that there was a label in what I believe to be Guénée's handwriting to the effect that this specimen was the one described by Curtis; but suppose it was not, what ground has Mr. Edwards for applying the name of a species described from Arctic America (?) to a species now only known to occur on the high peaks of the Rocky Mountains of Alberta, and never re-found by any of the numerous Arctic expeditions which have been out since Ross's time, and have covered a good deal if not all the ground covered by him.

As to my *Æ. Alberta*, Mr. Edwards had better wait till he sees it before saying that it is *varuna*. If he cannot distinguish it from *varuna* by the description, it only shows that either his or our description is bad, and how does he know that the one sent him by Mr. Fletcher was the same species?

As to the identification of Mr. Fletcher's supposed female of *Macounii* taken at Morley, Alberta, I can only say that there is no question whatever of Mr. Fletcher's veracity, only, how can you tell female *Macounii* from female *nevadensis*? I referred this very point to Mr. Scudder when he was at my house last year, and he looked at the specimens and said he could not say, but thought that it was just as likely to be one as the other.

Lastly, Mr. Edwards says, and I quite agree with him, that the value of publications such as mine depends much on whether the author is thoroughly acquainted with his subject; and such acquaintance implies considerable experience as a lepidopterist and study of the forms he undertakes to speak of, etc., etc., and also an acquaintance with the behaviour, habits of flight and localities of the species, either from personal observation or reliable reports of thoroughly good observers. That is

just what I think, too, and I have made two journeys in the west, and a great many in Europe and Asia in search of this knowledge; whilst Mr. Edwards, so far as I know, has never seen an *Eneis* alive anywhere or any collection of them at all comparable with those I have seen and have studied specially before writing.

As to his criticism on the value of the clasper I do not think he has any practical experience of the matter, but I will leave Mr. J. Edwards to answer him on that point:—

“I desire to say something on so much of Mr. W. H. Edwards’s criticism above-mentioned, as relates to the employment of characters derived from the male genitalia and the comparative table, as these are the points with which I was more particularly concerned in the preparation of Mr. Elwes’s paper on *Eneis*.

“My business was simply to examine the material upon which the paper was based, and to ascertain how many kinds there were capable of definition with reasonable accuracy; and I endeavoured to give expression to those characters which separate any given kind from all the other kinds under review at that time, and to contrast these characters in a workable form in my “*Conspectus specierum*.” The question of the soundness or otherwise of my work I am content to leave to the judgment of any competent students who may be disposed to make an honest attempt to determine described species of *Eneis* by the characters there laid down. A comparative table may be very useful to many students without necessarily pleasing everybody. Mr. W. H. Edwards gives it as his opinion that characters drawn from the male genitalia are valueless, but I find in practice that they have a value equivalent to any other morphological peculiarity, and that value is, of course, in direct proportion to their constancy in a series of individuals. Perhaps the best statement of the exact value of these characters, so far as Lepidoptera are concerned, is that by Prof. John B. Smith in his *Revision of Agrotis* (Bull. 38, U. S. Nat. Mus., p. 7.), which I quote here as it is well worth reprinting:—
‘The study of the primary sexual characters is one of the most valuable guides in the recognition of species. The structures are within my experience absolutely invariable within specific limits, and species otherwise closely allied are sometimes well separated by these characters. They have proved invaluable in settling questions of the identity of American and European forms so closely allied as to be considered races, and in several instances they have proved the identity or distinctness of

species when superficial characters left it in doubt. It has removed individual judgment as a factor in many cases and allows a final appeal in cases of difference. There is no universal test character, however, and as with all others so sexual characters sometimes fail. Over one hundred species referred to *Carneades* have so nearly the same form of structure that there is no sufficient variation to have specific value in doubtful cases. In some other groups, however, no two species are alike, and the widest variance within generic limits allows definite specific limitation.'

"As I wrote the description of *Æ. Alberta* and the paragraph immediately following, I may be allowed to point out for the information of anyone who may be disposed to accept Mr. W. H. Edwards's statement that *Alberta* and *varuna* cannot be distinguished from each other, that the former *may* be distinguished from the latter (amongst other points) by the whitish veins on the hindwing below, the absence of fulvous colouring except on the hindwing above, and the presence of a tooth or projection near the middle of the upper edge of the clasp in the male; all which particulars appear, with others, in the description in question."

JAMES EDWARDS, Colesborne, Cheltenham, England."

April 2nd, 1894.

NEW NORTH AMERICAN HOMOPTERA, No. VIII.

BY E. P. VAN DUZEE, BUFFALO, N. Y.

I. *ATHYSANUS ANTHRACINUS*, n. sp.

Allied to *A. plutonius*, Uhl. Deep, black, highly polished, tibiæ and tarsi of the anterior and intermediate feet yellow. Length, $3\frac{1}{2}$ mm.

Head shorter and more rounded before than in *plutonius*, closely punctured. Vertex $\frac{1}{3}$ longer on the middle than next the eye, sloping and strongly rounded to the base of the front, median carina very feeble; ocelli and two dots on the hind margin fulvous. Antennæ, the basal joint excepted, pale; about six obscure arcs on the front and the rostrum, excepting its tip, fulvous. Sides of the clypeus parallel, tip feebly rounded. Knees, tibiæ and tarsi of the anterior and intermediate feet pale yellow; slender hind edge of the ventral segments fulvous. Pronotum obscurely wrinkled, more prominently rounded before than in *plutonius*. Scutellum closely punctured. Elytra almost coriaceous, deep piceous black, shagreened; nervures inconspicuous. Wings deep smoky brown, nervures blackish.