

CRAMBUS TOPIARIUS. *Zeller.*

This interesting species represents the European *Hortuellus*, in our fauna, according to Prof. Zeller. It is widely distributed.

ON THE AMERICAN FORM OF PAPILIO MACHAON, LINN.

BY W. H. EDWARDS.

Some years ago, by the kind aid of Mr. W. F. Kirby and Dr. Hagen, I was able to bring together a long series of *Machaon* and its varieties from many localities in Europe, also from India, Himalaya, Central Asia and Kamschatka. From America I have several examples from Hudson's Bay and Alaska, and have examined a specimen taken at the Dalles, Columbia river, by Mr. Henry Edwards. On comparing the American examples with those first mentioned, I find that they, as a whole, differ considerably from most of the others, but come nearest, and indeed are very near to the variety from Himalaya, labeled in the collection of the Mus. Comp. Anat., Cambridge, "*Asiaticus, Ménétriès.*" This variety was characterized as having a very broad marginal border to the hind wings, the inner edge of which border was straight and reached nearly to the end of the cell. Emphasis is placed on the straightness of this edge, as if it was the principal character by which the variety was to be known. Ménétriès, Desc. des nouvelles Espèces de Lep. Diurn., etc., St. Petersburg, 1855, p. 69, gives *P. Machaon*, var. *Californica*, syn. of *Zelicaon*, Lucas, (*Zolicaon* Bd.); and next, var. *Asiatica*, describing this last as follows: "Cette variété diffère du *Machaon* d'Europe en ce qu'en dessus les secondes ailes ont la bande noire postérieure très large et bien limitée; celle-ci part du bord antérieur et se dirige en ligne *droite* (so in italics) atteignant presque la cellule discoidale, jusqu'à la lunule anale. De l'Himalaya et du Kamtchatka. N. B. Les individus d l'Himalaya présentent de plus, la bande noire du bord postérieur des premières ailes beaucoup plus large."

One of the two Himalayan examples examined by me answered very nearly to this description, but the inner edge of the broad border of hind wing was not straight, but wavy, and was slightly concave. Also, it did not approach the cell very closely in consequence of its concave outline. The other example had that edge still more concave, and it was irregular, and was precisely like several of the examples from Europe in these respects. Two males (only examined) from Kamtchatka were small, and the borders of both wings were very narrow, while on the hind wing of each the inner edge of the border was unusually concave, so that the distance of same from the cell was greater than in any others examined.

Felder, Spec. Lepid., 1864, p. 26, gives *Asiaticus* Ménetr. as var. of *Machaon*, and in explanatory note, p. 75, says that the hind wings are shorter than in the typical *Machaon* and more produced in the anal region. He gives the localities as India and Himalaya, and queries whether the Kamtchatkan form is the same thing.

It seems to me that the name *Asiatica* of Ménétriés does not apply to the prevailing type in Southern Asia, but only to a certain variety of same, in which the edge of the border of hind wings is straight and placed very near the cell, and that the prevailing type is so far unnamed.

Mr. Scudder described *P. Aliaska* in Pr. Bost. Soc. N. H., 5, p. 45, 1869, as a distinct species, and compared it at length with *P. Zolicaon*, Bd., for its justification. Of course, as compared with *Zolicaon*, it is distinct, but the comparison should have been made with the Asiatic *Machaon*.

So far as I am able to discover from the examples under view, the American form differs from the Himalayan and all the old world types, 1. In having the hind margins of the fore wings decidedly convex, often largely so, and that in both sexes, which is owing to the shorter costal margin in the former. In other words, the fore wings of the typical *Machaon* are more produced. 2. The black parts are more intensely colored, and less dusted with yellow scales, and the nervures and branches, particularly on secondaries, and the median nervules of primaries, are very considerably edged with black. In most of the old world examples the hind wings have no black except at end of cell, and on the median nervure against cell, so that the wing is divided into a yellow area, which includes the base and disk, and a black area, namely, the marginal border. The Himalayan examples resemble the American in this respect. The same difference holds on comparing the lower sides; that is to say, the American form is more melanic than the old world forms, excepting the Himalayan. If M. Ménétriés had not limited his *Asiatica* to the examples which have a straight edge to the inner side of the marginal border of hind wings, probably his name should cover the American form. But, as he saw fit to limit it, I think the usual Himalayan type is unnamed, and the American certainly may be designated as *Aliaska*, Scudder. There is a great uniformity between all the American examples under view, viz., four from Hudson's Bay and eight from Alaska. Mr. Scudder says sixteen specimens were obtained by Lieut. Dall, and we may infer that he examined them and found them essentially of one type, as he says nothing of differences. Moreover, he had at same time one of my Hudson's Bay specimens, and alludes to it as being like the others.

Machaon seems to have been first noticed on this continent by Mr. C. Drexler, who traveled in British America, under the

auspices of the Smithsonian, in 1860, and from him I received the specimens which I now have. Mr. Drexler told me that they were taken at Rupert House, and were picked off the gooseberry bushes in early morning, while stiffened with the cold; also, that the species was abundant there. Lieut. Dall took his examples at Nulato, May 20th and 24th, and others June 5th and 14th, about the Ramparts. Mr. Turner and Mr. E. W. Nelson found the species common at St. Michael's, on the coast above the outlet of the Yukon River, and Mr. Henry Edwards has taken one example at the Dalles, Columbia River.

Machaon is found throughout Europe, from Lapland to the Mediterranean; also in Northern Africa and Egypt, and throughout Asia to Peking, and from India to Siberia; also in Japan, the examples found there not differing much from those found in the Netherlands, as De Haan states. Kefenstein, Stett. Zeit., vol. 30, p. 211, 1869, says that *Machaon* in the Alps flies at an altitude greater than 5000 feet, and in the Himalaya at 9000 feet. It seems adapted to every climate, and is the only *Papilio* known to fly over the subboreal regions of both continents. Nevertheless it has not been taken south of the northern boundary of the United States so far as recorded, except in the single instance above spoken of on Columbia River. Mr. Morrison, who collected in that district two years ago, did not see it, nor did the late Mr. Crotch, who collected at Vancouver's Island, and in British Columbia as far to the north as Bald Mountains, bring back any examples of *Machaon*. This is in strong contrast to its wide distribution in Europe, Asia and Africa. Hoping to naturalize the species here in West Virginia, I turned loose more than 100 butterflies last year, which came from a lot of chrysalids imported from Germany by Mr. T. L. Mead. But a day or two after they were freed they had disappeared. I hoped to see some of them again this spring, flying with *Turnus* and *Troilus*. These last species are flying abundantly as I write, but no *Machaon* has presented itself, and I have little hope of the success of the attempt to introduce them.

In the Entomologists' Monthly Magazine for April, 1882, vol. 18, is an admirable description of the preparatory stages of *Machaon*, by Mr. Wm. Buckler, and inasmuch as no adequate description, especially of the larval stages, was ever in print before, I have asked the editor of "PAPILIO" to give this to his readers. It is not likely that the present generation of lepidopterists will have the opportunity of breeding the American form of the species—not till the steam whistle is heard at Hudson's Bay, or Alaska and Behring's Straits become summer watering places. And it is highly probable that all the preparatory stages of the American form will, when hereafter observed, be found identical in color and markings with the Asiatic or the European. I do not mean to say that the larva of *Machaon* has not

been described, for, indeed, it has often, but not with regard to its several moults. Until recent years it was thought sufficient to describe, and usually in general terms, the adult caterpillar, or at the most, to describe without regard to moults, as young, half-grown, three-quarters grown, etc., and until Mr. Buckler bred *Machaon*, as he relates, in 1880, with the express desire of ascertaining the number of moults the species was subject to, I, for one, could get no definite information on the matter. Several old authors had stated that there were four, as Chr. Schwarz, 1791, C. Valoren, 1859, as Dr. Hagen informed me; but later ones, to whom I had access, gave no definite information about it, and two well-known entomologists to whom I applied thought the number was but three. Mr. Buckler's paper has the credit of clearly establishing the number of moults in *Machaon* and for the first time carefully describing them.

“TINEIDÆ” OR “TINEINA.”

By THOMAS, LORD WALSINGHAM, F. Z. S., Etc.

In a paper published in the Journal of the Cincinnati Society of Natural History for April, 1882, vol. v. p. 5, Mr. V. T. Chambers discusses the antennæ and trophi of Lepidopterous larvæ, offering the results of his observations “as suggestions to systematists of the Lepidoptera” which “may aid somewhat in their classification, especially in that of the Tineina.” He then writes, “these do not constitute a family in the sense that the Noctuidæ, Geometridæ, etc., are families. The Tineina is (*sic*) a large group of many families, some of which seem to me to be as far removed from each other in a natural system as they are from any of the Macro-Heterocera.”

In a foot-note at the bottom of page 5 we read: “I have sometimes been asked why I used the name Tineina instead of Tineidæ. I trust the above remarks afford a sufficient answer. Besides, ‘Tineina’ is the term adopted by the editors of the ‘Natural History of the Tineina,’ the standard work upon the group.”

Although the precedent quoted by Mr. Chambers is rightly entitled to respect, there are certain rules generally recognized among naturalists of all countries by which, for the sake of uniformity, it is most desirable to be guided. Probably the best modern authority that can be quoted upon this subject is to be found in the “Rules of Zoological Nomenclature by Hugh E. Strickland,” originally drawn up by a committee of the British Association in 1842; revised, corrected, and reprinted, by their authority, in 1863 and 1878.

These “Rules” consist of a “Series of propositions for rendering the nomenclature of Zoology uniform and permanent.” Turning to p. 23 and p. 17 respectively of this pamphlet we find:



Edwards, William H. 1882. "On the American form of *Papilio machaon*, Linn." *Papilio* 2(5), 74–77.

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