

- Arctia, Placentia, Abb. & Sm.  
     v. Flammea, Neum.
- " Snowi, Gr.
- " Determinata, Neum.
- " Blakei, Gr.
- " Superba, Str.
- " Bolanderi, Str.
- " Yarrowi, Str.
- " Incorrupta, Hy. Edw.  
     v. Nevadensis, G. & R.  
     v. Ochracea, Neum.
- " Docta, Wlk.  
     v. Arizonensis, Str.  
     v. Autholea, Bd.  
     v. Mexicana, G. & R.
- " Virguncula, Kirby.
- ✓ " Achaia, Gr. & R.  
     v. Barda, Hy. Edw.  
     v. Complicata, Wlk.  
     v. Ochracea, Str.  
     v. Dahurica, Bd.?
- " Quensellii, Geyer.  
     Gelida, Moschl.  
     Speciosissima, Moschl.
- " Geneura, Strk.
- " Williamsii, Dodge.
- " Edwardsii, Str.
- " Dione, Abb. & Sm.
- " Arge, Dru.
- " ab. Michaho, Gr.

Whether some of the species can "stand" as such, we shall have to leave to future discoveries for positive proof. My thanks are due to Messrs. I. Doll, Hy. Edwards, Geo. Frank, Capt. Geddes and Dr. H. A. Hagen for valuable information. I trust that Mr. Hulst will take no umbrage at my remarks, as in the friendly contest for science, both victor and vanquished gain.

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## CONCERNING SO-CALLED SPECIES OF BUTTERFLIES.

BY H. J. ELWES. PRESTON, CIRENCESTER.

Dr. Hagen's paper on *Papilio Machaon* and its allies has already brought down on him severe criticism from Messrs. W. H. Edwards and Butler, who are the leading representatives of a particular school in Europe and America; and though Dr. Hagen can doubtless fight his own battle in so good a cause, and defend himself without the help of others, yet I should like to make a few remarks on the controversy. Mr. Edwards seems to think just as Mr. Butler did when I ventured some notes on the Genus *Colias* three years ago in the *Transactions*

of the Entomological Society, that because a man has not been a lepidopterist and nothing else all his life, he has no right to speak or to have an opinion on the subject. It seems to me, however, that the best possible training for the study of any branch of natural history is a previous acquaintance with some other branch.

And the mere fact that Dr. Hagen is allowed by his opponent to hold a high rank in other branches would dispose me without knowing personally anything of himself or his work to allow greater weight to his opinions on lepidoptera.

I have noticed that men who have studied one branch of biology in one country only, are usually more ready to give importance to trifling characters than those who have observed the marvellous variation of birds, insects, and plants, in many parts of the world. Perhaps nothing does so much to shake one's faith in the fixity of species as horticulture, though breeding butterflies from the egg seems to have had the opposite effect on Mr. Edwards.

If, however, this gentleman and others had always waited till they had reared an insect before describing it, neither I or any one else could object, however narrow their views as to what constitutes a species might be, as there would in that case be solid foundation for their opinions.

But it is quite another matter when we find a crowd of new forms described on the sole evidence of one or more specimens brought on by some traveller, which happen to differ slightly from those already known, and when the descriptions are unaccompanied by figures, they give little or no help to identification.

To enter into the question of *Papilio Machaon* and its allies would take more time than I can now spare, but I hope before long to show that there is a much greater resemblance between the butterflies of the Nearctic and Palæartic regions, than has been hitherto allowed by most American writers. In fact, I believe that as far as butterflies go, these two regions cannot be separated at all, for though numerous genera occur in the warmer parts of the United States, which are not represented in the old world, yet they cannot be called dominant genera, and for the most part are either small monotypic genera or representatives of neotropical genera which have strayed northward and been able to maintain their ground where climatic conditions are favorable, just as in the Eastern Palæarctic region several tropical Indian forms are able to exist far beyond the limits of the region to which they naturally belong. Both in the United States and in Japan we have similar instances among birds and plants, which it would be out of place to mention here, though any naturalist will call to mind such cases in geographical distribution.

As I have lately been studying the genus *Argynnis*, I will now ask Mr. Edwards publicly, what I have asked privately without result, how I am to distinguish with certainty from their allies the following species, all of which being enumerated in the last part of his great work are, I presume, considered by him to be worthy of recognition.

- Argynnis Nitocris Edw. Tr. Am. E. Soc. 5 15 1874.  
 “ Carpenteri Edw. l. c. 5 204 1876.  
 “ Electa Edw. Field and Forest, 3 143 1878.  
 “ Hippolyta Edw. Can. Ent. 11 82 1879.  
 “ Laura Edw. l. c. 11 49 1879.  
 “ Chitone Edw. l. c. 11 82 1879.  
 “ Macaria Edw. Field and Forest, 3 86 1877.  
 “ Clio Edw. Tr. A. E. Soc. 5 106 1874.  
 “ Artonis Edw. l. c. 9 2 1881.

So far as I have been able to consult the description of these species I find nothing to guide me in accepting or rejecting them, but those published in the *Field and Forest*, I have not been able to consult at all, as that journal is not accessible to me in England.

There are no specimens of any of these species in any European collection that I know of, and if there were, I could not trust to them unless identified by Mr. Edwards himself.

The only information I can get about them from America is that the types are in Mr. Edwards' collection, and that they are elsewhere not to be met with at present. What would American naturalists think of it if I published descriptions of forms which existed in my collection alone, in such a paper as *Land and Water*? Would not they be quite right to ignore them? I say yes, without hesitation.

The number of scientific journals is now so great, and some authors seem to take so much pleasure in scattering their descriptions broadcast that unless some stringent rule is laid down to check the present practice it will be impossible to work at all without a public library of reference at hand, and even there the number of books one must have on the table at once is incredible. All this trouble might be avoided if a rule was made that only certain specified publications should be recognized as the medium for describing new species, and that the descriptions must either be accompanied by a figure, or give specific characters, by which the species could be certainly recognized. Without this, descriptions of nearly allied forms of *Colias*, *Argynnis*, *Lycæna*, and many other genera are practically useless. Compare Mr. Stretch's remarks on the genus *Arctia*. *Papilio*, vol. II., page 90.

Mr. Edwards says on page 60 that in all his experience of breeding butterflies from the egg, whilst what many had supposed to be mere varieties had often turned out distinct species, yet he does not recollect one instance where the reverse had taken place, and a form which he had supposed on the strength of the imago only to be a species had turned out by breeding to be a variety only.

I will leave it to others to say how far this coincides with their experience, but will call attention to a passage in Dr. Rossler's *Lepidoptera of Wiesbaden*, 1881, pp. 87-88, in which, speaking of *Agrotis tritici*, he says that out of the great number of specimens of this species which he raised in 1871-72, the following plates in Hubner's & Herrich Schaffer's works were all richly represented:

Hubner.—*A. fumosa* 153. *A. aquilina* 135. *A. obilisca* 123. *A. fictilis* 479 and 710. *A. unicolor* 544. *A. eruta* 623. *A.*

*carbonea* 700. *A. praticola* 567. *A. vitta* and *A. aquiliana* 533-53. *A. ruris* 416.

Herrich Schaffer.—*A. adumbrata* 121. *A. rustica* 495. *A. formosa* 526. *A. tritici* 527-52. *A. obelisca* 529-53.

Of these are 15 forms which were supposed by two of the highest authorities on European lepidoptera to be good species and which are arranged as follows by Dr. Staudinger:

*A. nigricans* Linn = *fumosa* Hb. 153 = *rustica* H. S. 526 = *carbonea* Hb. 700, var. *lubricans* Esp. = *rustica* Hs. 495.

*A. tritici* Linn, H.S. 104 529-30 = var. *vitta* H.S. 103 527-8; var. *eruta* 4 Hb. 623 = *tritici* H.S. 527-8; var. *aquilina* Hb. 135 — *fictilis* Hb. 79 — *praticola* Hb. 567.

*A. vitta* Hb. 533-4.

*A. obelisca* Hb. 123; H. S. 103 529-30; ab. *ruris* Hb. 416; var. *Villersii* Gn. — *obelisca* H. S. 532 — *fictilis* Hb. 710.

*A. adumbrata* Ev. H. S. 121.

thus reducing the 15 supposed species to 5; every one was according to Dr. Rossler (who, no doubt, has the specimens to prove his statement), not only bred in one season in one locality, but so much united by transition forms, that to use his own words "it cannot be otherwise than that they all belong to one and the same species."

As this species occurs in North America, and is no doubt just as likely to vary there as in Europe, the synonymy of the former will be a pretty little amusement for a future generation of naturalists, and I have no doubt they will not bless their predecessors; but how would the case have stood if instead of publishing good figures, as Hubner and Herrich Schaffer did, only descriptions had been given. To ignore the names would have been the only safe course, and I feel sure that many names already given, if not identified during the life of their authors and with their help, will certainly be ignored by their successors.

As to Mr. Butler's remarks about *Terias*, he no doubt feels hurt that his Japanese species, which may be judged of from the plate in *Trans. Ent. Soc. Lond.*, 1882, p. 197-9, should be so soon attacked by the only man really able to do so at present, namely, Mr. Pryer; but how much better would it have been for him and others if he had adhered to the principles expressed by himself in his *Revision of the Genera of Pierinæ* *Proc. Zool. Soc.*, London, 1881, page 526, where he says, in speaking of *Terias*, "I shall not therefore increase the difficulty of determining the already numerous and nearly allied species by describing all the unnamed forms at my disposal, but shall rather strive to lighten the labors of my fellow-workers by clearing up to the best of my ability the somewhat confused synonymy already existing."

In conclusion I must say that I look forward with the greatest interest to Dr. Hagen's promised remarks on the species of *Colias* and other genera, and beg to assure him that however much hostile criticism he may draw from some persons, he will deserve the hearty thanks of all who, like myself, are anxious to see the study of *Lepidoptera* put on

a more scientific footing and a check put on the practise which is so prevalent in certain quarters of describing at random every thing which seems to show variation.

I repeat what I said in my paper on butterflies of China and Japan in Proc. Zool. Soc., London, 1881, p. 857, "that the time was gone by when species could be described wholesale without comparison with a series of all the allied forms in neighboring regions."

## NEW SPECIES OF ÆGERIADÆ.

BY HENRY EDWARDS.

### ✓ SCIAPTERON PRÆCEDENS. n. sp.

Allied to *S. polistiformis*, Harris, but narrower in the wings, smaller, and of different coloration. Antennæ, brownish orange, black at the tips. Head and thorax black, with some red scales. The tegulæ are bright reddish brown. Abdom., glossy black, with some red scales laterally at base. Three anal segments and caudal tuft bright lemon yellow. Fore wings brown, with a basal vitreous streak, stained along the internal margin with dull red. Hind wings vitreous at their base, the vitreous space a little larger than in *S. polistiformis*. Beneath, both wings are streaked with red and yellow. The femora are reddish, tibiæ black, hind tarsi lemon yellow.

Exp. of wing, 30 mm. Length of body, 14 mm.

1. ♀ N. Carolina. Coll. B. Neumoegen.

The yellow tip to the abdomen will at once serve to distinguish the species.

### ✓ ÆGERIA BOLTERI. n. sp.

Size of *Æg. fulvipes*, Harris. Palpi, deep orange. Thorax, head, antennæ and abdomen, brassy brown, the latter with a very broad belt of fiery copper-red around 5th and 6th segments. Hind tibiæ and tarsi brownish, the latter silvery white within. Fore wings with margin very narrow purplish black. The discal mark also purplish black, edged posteriorly with golden orange. The opaque space is wholly golden orange, with purple streaks. Caudal tuft, brown black.

1. ♂ N. Illinois. Collected by my friend, Mr. A. Bolter, to whom I dedicate the species. Type. Coll. Hy. Edwards.

### ✓ ÆGERIA ÆMULA. n. sp.

Very like *Æg. tipuliformis*, L., but much smaller and slenderer in all its parts. Palpi, sides of the thorax beneath, coxæ, and anterior legs pale lemon yellow. Posterior legs banded with bluish black. Thorax above bluish black, with narrow pale lemon yellow lateral stripes. Abdomen bluish black, with four narrow bands of pale lemon color. Caudal tuft bluish black above and beneath; lemon yellow at the sides. Fore wings, with the opaque portions narrower than in *Æg-*



Elwes, Henry John. 1883. "Concerning so-called species of butterflies." *Papilio* 3(7-10), 151–155.

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