

THREE LETTERS FROM J. A. B. D. DE BOISDUVAL TO
W. H. EDWARDS, AND THE TRUE IDENTITY OF *MELITAEA*
POLA BDV. AND *MELITAEA CALLINA* BDV.

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While reading the letters written to Henry Edwards by William Henry Edwards I found several that contained notes about specimens that Boisduval had sent to W. H. Edwards. These were types of Boisduval's species named from material sent to him from California by Lorquin. This recalled to me three letters that Boisduval had sent to Edwards and that are preserved in the Archives of the State of West Virginia in Charleston. I had skimmed these letters and had noted that in them Boisduval expressed his opinion on many interesting facets of taxonomy. I present here translations of the letters, in more or less idiomatic English, prepared for me by Mde. Marcelle Róbert Perry, a friend and associate of mine for over a third of a century. Words in brackets I have added to explain some of Boisduval's phrases.

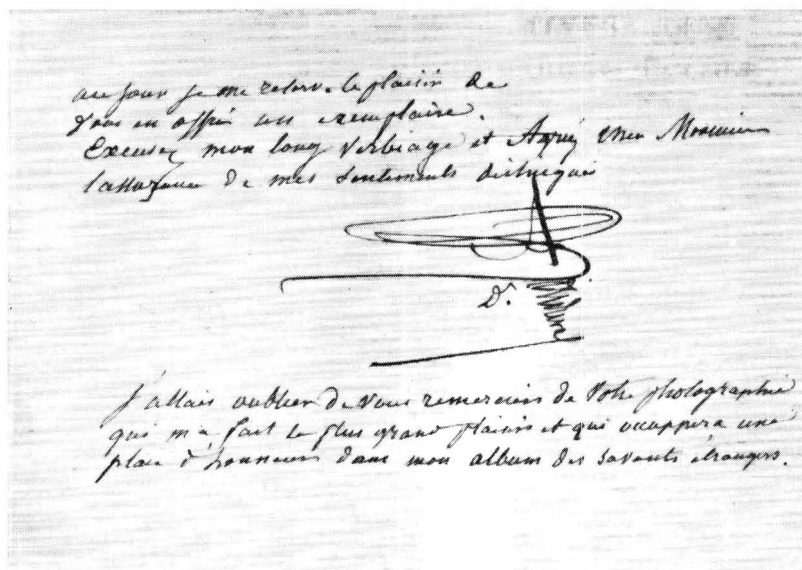
Boisduval's handwriting is almost microscopic, but, with few exceptions, quite legible. He crammed onto a small page as much as can be typed, double-spaced, on something over a full sheet of paper. Edwards' handwriting, on the other hand, is large and flowing and very often almost unreadable! Boisduval's signature is undecipherable. It is essentially a rubric. Because it is so strange I reproduce (Fig. 1) with the hope that it may bring to light other letters of this great lepidopterist. The correspondence took place when Boisduval was 74 years old and Edwards 51. The volume that Boisduval mentions in both of the letters written in 1874 is the second of his "Species Général des Lépidoptères." The first was published in 1836, the second in 1874.

The box of specimens that Boisduval acknowledged receiving in his first letter to W. H. Edwards is mentioned in a letter dated from Coalburgh, W. Va., 15 April 1873 to Henry Edwards in San Francisco. I quote the pertinent part of this letter.

"... And now I have some items of interest for you. Dr. Boisduval has lately sent me (lent) his types of several Lycaenidae that I could not make out, through Scudder, and I have been comparing with my specimens.

"*Nestos* is *Cilla* Behr

¹ This study was pursued while investigating W. H. Edwards' types of Melitaeinae with the aid of N.S.F. Grant GB 2741.



EXPLANATION OF FIGURE 1

Boisduval's signature, or rubric, reproduced from a letter written to William Henry Edwards.

"Erymus is *Pardalis* Behr

"Philemon is *Anna* Edw. = *Argyrotoxis* Behr

"Nivium is *Calchas* Behr

"Phileros is *Helios* Edw.

"Evius is the Nevada form of *Pheres*, marked by me *Pheres* ? and received from you.

"Enoptes is same with one I sent you (of Wheeler's Arizona); which I have called *Libya*, but not described.

"Rufescens is a beautiful species of which Mead took one and called it a pretty var. of *Saepiolus* ♀. It is rufous and approaching fulvous about the margins, clear light brown below.

"Lupini I do not find among my specimens. It (♀ only) has fulvous [undecipherable word] lunules on the hind wing below, as *Battoides* has. So has *Glaucou*."

Paris, June 1st, 1873

Very honored Sir

I have received on time and in the best of condition, the Lepidoptera which I had sent you through my friend Mr. Scudder. It seems you are more exact than Mr. Grote to whom I had lent 5 years ago some Heteroceras from California, unique in my collection, which he hasn't yet been

able to send back to me for lack of opportunity, *Vemite tempus* aun . . . , but for you, Sir, who are a conscientious worker and whom I consider as the Hübner of North America, I have nothing, absolutely nothing I wouldn't let you have. All my collection is at your disposal. I received from Lorquin quite a while ago 4 specimens of my *Chionobas Californica*, 2 ♂ and 2 ♀. Three years ago, I gave my friend, Mr. Scudder, one of the males which he wanted very much to own. I have now a female, who is of course a widow, and I am only too happy to offer it to you for your collection; from this moment, she is yours—as soon as you have an opportunity, have her taken at my house, also whatever could be useful to you for your splendid book. About *Chionobas*, I received a while ago a ragged specimen of a species which the late Mr. Say had sent me under the name *Eritiosa*; have you known something under this name? It was in too bad shape to be able to recognize for sure. I wouldn't be surprised that this specimen belongs to *Chryxus*,² brought back from the Rocky Mountains by my late excellent friend, Edw. Doubleday *nescio*. I really believe that *Also* and *Oeno*, belong to the same species, but I don't think that the species of Greenland and the Far North, which I called *Bootes*, are identical with *Bore* of Lapland. Do you know well this last species in nature?³ *Bore* ♂ has, like *Jutta*, a slanting shade ["ombre"—androconal patch?] on a spike ["épi"], a characteristic which I have never seen on any male of *Bootes*. Finally the species which is named *Baldur* is entirely different from *Jutta* of Lapland and Siberia. I am questioning Philippe Eveillé.⁴

I believe you are right to put together *Ajax* and *Marcellus* in spite of the difference there is in the coloration of the larvae and the length of the tail of the insects in the perfect state [imago]. In spite of the opposite opinion of Abbot, they are probably only seasonal variations. Where did you see that *Smintheus* DD and *Intermedius* Ménétériés were the same thing? Stupid people! The *Intermedius*, which I received from my late friend Ménétériés, have the base of the lower wing widely marked with red underneath, while there is nothing like it in *Smintheus*. *Intermedius* isn't a species in itself, it could be considered as a local modification of the *Phoebus* from which it differs only by the smallness of the eyespots. I am saying nothing of your varieties *Sayii* and *Behrii*, which I have never

² The name, *eritiosa* Boisduval, 1832, usually is considered a synonym of *semidea* Say, 1828. Boisduval's suggestion is revealing. Say was a member of the Long Expedition to the base of the Rocky Mountains in 1819–1820. The expedition penetrated the Front Range of Colorado at Pikes Peak. Say may very well have taken *chryxus* at that time. Although most of Say's insects collected on this expedition were lost on the homeward trip, he may have saved a few.

³ Boisduval's use of "in nature" needs some explanation. He did not mean "in the field," as we might say today. He meant knowledge from an actual specimen rather than knowledge from only the written description.

⁴ I have been unable to identify this person. The spelling of the last name is somewhat questionable.

seen; it isn't the same with *Nomion*. It is a big species of the best known, whose anal angle is marked with a big black spot in form of an anchor. You do not know for sure the Parnassians. I don't know the *Pieris*: *frigida*, *greka*, *marginalis*, *occidentalis* and *Beckerii*; nor the *Colias*: *Keewaydin*, *Christina*, *ariadne*, *occidentalis*, *Emilia*, *Edwardsii*, *chippewa* and *Behrii*. I don't know at all the *Argynnis*: *nokomis*, *Behrensi*, *halcyone*, *nevadensis*, *atlantis*, *rupestris*, *hesperis*, *Morrisii* and *Bischoffi*. About the *Argynnis* I think we are making too many species. I can't admit consciously as very distinct, *mormonia*, *Eurynome* and *nenopsis*.⁵ What do you think of this? Here *niobe* and *pales* offer many more variations according to the localities they come from. The former entomologists had made of them separate species that we had to put together again. *Edwardsii* seems to me a good species very near to *Calippe* [sic]. Your *Epithore*⁶ isn't the same as the one I described. Yours is much smaller and is much nearer *Frigga* than *Epithore*. It is evidently new. I put it, in spite of its poor shape, in my collection under the temporary name of *friggiodes*.

You mention a whole new series of *Vanessa*, of the sub-genus *Grapta*, most of them are unknown to me. I fear that all of these species may be set on shaky bases. I only own from the United States *Comma*, *progne*, *interrogationis*, *faunus*, and *zephyrus* that you have been kind enough to send me. This last, even, resembles a great deal *faunus*. *Erebia epipsodea* is a very good species, so much more interesting that this genus is not abundant in North America. I agree with you about the *Polyom*. *Thoe* and that it is on wrong information that Cramer has considered his *hyllas* as coming from Smyrna. However, one must realize that there are in the Middle East many species of the genus *Polyom*. But I have never received from the part of the world any female which had any resemblance to *hyllas*. I have never seen *Apatura alicia* and *proserpina*. You are making a mistake about *Eulalia*. A specimen that Doubleday gave me, and which is still in my office, doesn't offer an atom of difference with those I got from Lorquin [from California]. About *Bredowii* Hubn., of which I received a specimen from Mexico, it is a very close species which differs from *Eulalia* only because the tawny spot of the top of the first wings is triangular on either [upper and lower] side.

I am not telling you anything about the Hesperides. There are, maybe, more than 190 species in the vast territory of the United States.

⁵ W. H. Edwards had Reakirt's type of *nenopsis* and identified it as a specimen of *Boloria dia* Linnaeus, a European species included by Lorquin the younger in a shipment of Californian butterflies to Reakirt.

⁶ This does not apply to *epithore* Edwards. At this time W. H. Edwards was trying to determine the material collected in 1871 in Colorado by T. L. Mead. He had returned to Behr the specimen that was the type of *epithore* Edwards and was confused by specimens that we call *Boloria frigga sagata* Barnes and Benjamin.

Now, dear sir, I must thank you for the species you sent me, of which I saw the appearance for the first time. I don't know Dr. Behr, but I heard a lot about him through the late Lorquin. Is it in order not to be mistaken for his compatriot the Great Beinley⁷ that he writes his name thus and not with two Es (Been). About Mr. Reakirt I have nothing to say, only that some talk is going around about him which are probably only abominable calumny.⁸

I don't need to tell you again, very honored Sir, that all you may want for your remarkable work will be yours for the asking. Keep on with your work. You will help science a great deal, if it continues to be as careful as what I saw of it in the hands of Mr. Scudder. Your synoptic catalogue of the Rhopalocera of the United States has given me great pleasure in putting under my eyes the amount of what is known up to now of native insects of this vast country. Only God knows how many new species there are to be discovered!

I am publishing now a *Species Général* of all the Sphingides known on this globe, Sessides and Castnides with a few colored pages. As soon as this will see the day, I reserve for myself the pleasure of offering you a copy.

Excuse my long letter and accept, dear Sir, the assurance of my distinguished sentiment,

/s/ Dr. Boisduval

I almost forgot to thank you for your photograph which pleased me very much and which will occupy a special place in my album of foreign scholars.

Several excerpts from letters written to Henry Edwards by W. H. Edwards are illuminating at this point and give added meaning to the second Boisduval letter.

Coalburgh, W. Va., January 16, 1874: ". . . I am just sending Boisduval a lot of new species and ask him to send me types of *Epithore*, *Mormonia*, *Egleis* and most of his *Melitaea*. Also the ♀ of *Ch. Californica* which he promised me last June. . . ."

Coalburgh, W. Va., March 13, 1874: "Boisduval writes 20th February that on 16th he sent me a box with all the species I applied for: that is *Ch. Californica* ♀ and several *Argynnis* and *Melitaea*, among them *Epithore*. . . . He remarks on nearly all I sent him. . . ."

⁷ I have been unable to identify this person.

⁸ See Brown (1964).

Brooklyn, N. Y., March 29, 1874: "... Boisduval's box is in Philadelphia as I hear from Cresson. I shall get it Tuesday and hope to find some good things in it. At any rate to learn what *Epithore* is."

Paris, 20 February 1874

Dear Sir

Your parcel arrived in very good shape. Thank you so much for the species you gave me. You will receive very soon the package with all the species you want to see as *types*. You can keep everything except for the species marked X, of which I own very few. I made you wait a little, but that is due to my being very busy with the printing of my "Species" of the Sphingides family in which you are not too interested but which interest me to the *n*th degree. Among the species you sent me there are some new one for me, *Argynnis helena* is a charming one which takes its place next to *selenia* and *Euphrosyne*. *Atlantis* is really the same as the species I owned under the same name. *Juba* and *Coronis* are identical and the same is true of *Alta*⁹ and *Sonora*. I am sending you the types described by me. I think we are making too many species of the genus *Argynnis*. Our European species, which I raised from the caterpillar, vary a great deal and, so, *Niobe* has sometimes some silvery spots and sometimes yellowish ones; it is the same also for our *Adippe*. I could believe easily that *Mormonia* and *Egleis* are also only varieties; it could be true also that *irene*, *hydaspe* and maybe your *hesperis* are only local modifications of the same species. One should be there to study the problem very closely and raise the caterpillars. Your *proserpina* is a very curious dimorphism. I only wonder why it appears with *Arthemis* rather than with *Ursula*. In fact these two types (*Ursula* and *Arthemis*) are varieties one of the other, which I have been tempted more than once to unite. Their caterpillars, drawing of which I have, resemble each other completely. The *Colias Scudderii* is a new species to me. It is very near our *palaeno* but very distinct by the yellow nervures which divide the border. Your *Sat. charon* is very near the one I described under the name *Oetus*. Your *Ridingsii* is a charming small species near *Arethusa* [*Arethusana arethusa* Esper]. *Ch. Uhleri* is also new, as is *Sat. Meadii*. *Mel. camillus* and *minuta* are new species. I have owned for a long time *Vesta* under the name *Texa* [Boisduval manuscript name]. I received it also from Texas.

The *Vanessa*, sub-genus *Grapta*, are very near each other. If I can judge from our European species, they must vary a great deal. I am

⁹ This is a manuscript name that Edwards decided not to use since it was synonymous with a previously published name.

sending you three varieties of our *C-Album* whose letter C is smaller than in the usual specimens, plus a variety of our *L-Album* (*triangularis*). *Comma* and *Dryas* are certainly one species. What do you think of *Zephyrus* and *faunus*? It is necessary to look very closely to tell them apart. *Satyrus* has completely the shape of our *C-Album* but it is clearly different by the letter C, bigger and a little silver colored. Some one sent me *Hylas* a long time ago under the name *progne*. What is then your *progne*? I would like to have a specimen of it. According to Cramer and Godart, it is from the State of New York and Jamaica; have not the author's mixed two species? What we have in French collections under the name *progne* doesn't look very exactly like the drawing on pl. 5 of Cramer. Is the true *progne* indigenous to the United States, or isn't its habitat rather in the Antilles?¹⁰ That is the question.

I forgot to put in the box some *Parnassius Phoebis* in order to show you that the *Smintheus* is an entirely different species. I would love to see *Sayii* and *Behrii*, also the female of *Smintheus*. Doubleday has figured a small *Anthocharis* [*creusa*] from the Rocky Mountains near *Belia*. Do you know it?

I end here my letter, [etc., etc.]

/s/ Dr. Boisduval

Keep on with your work. In a century we won't know yet all the Lep. Rhopaloceres of the United States. Your box left on the 16th.

Two letters from W. H. Edwards to Henry Edwards are important at this point. They bear upon Boisduval's third letter. There is repetition of some information which I omit from the first letter of the two since it is better set forth in the second.

Coalburgh, W. Va., April 3, 1874: ". . . I brought Boisduval's box with me from Philadelphia. He has sent types of all his *Argynnis* and some *Melitaea* and of *Satyrus Oetus*. The latter I do not think is *silvestris*. . . . But the gem of the lot is the ♀ *Chionobas Californica*. It is bright chrome yellow, brighter than Behren's male [of *iduna*] and all one shade of color. Below markings clearer than on any of the several species I have seen. It was perfectly fresh when taken, but has lost one antenna and legs. I will put this sp. [specimen?] and ♂ *Gigas*¹¹ on Plate II of *Chionobas*."

The second letter, dated April 4, 1874, from Coalburgh, I quote in its entirety and also Henry Edward's penciled notes made from the Boisduval types.

¹⁰ No species of *Polygonia* is known from the West Indies today.

¹¹ In a letter dated March 8, 1874, W. H. Edwards told Henry Edwards that he had received from A. G. Butler at the British Museum a colored drawing of the unique type of *gigas* Butler 1868. The specimen is in the British Museum (N. H.) and is type No. 3846.

"I have taken time this noon to go over Boisduval's insects and you will be desirous of hearing the result.

"*Callippe* is same as in Butt. N. A.

"*Juba* is *Coronis* Behr.

"*Hydaspe* is *Zerene* Butt. N. A.

"*Adiante* is what we call so.

"*Egleis* is Behr's No. 4 but that not having been named, *Egleis* holds.

"*Mormonia* is Behr's 5 = *Montivaga*

"*Irene* I do not know. Size of *Montivaga*, perhaps a little larger. Shape of *Coronis*.

"*M. Sonorae* is *Gabbi*

"*M. Epula* is *Mylitta* Edw.

"*M. Orsa* is *Montana* B.

"*M. Palla* is what we so call.

"*M. Helicta* may be var. of *Palla*.

"*M. Pola* & *Calina* I don't know. Both probably Mexican.

"*A. Epithore* is your 4282 sent me as *Epithore*.

"*S. Oetus* looks like pale *Charon* Edw. & I think is that species.

"Great thing to get right."

/s/ W. H. Edwards.

Henry Edward's penciled memorandum attached to this letter is headed "Edwards Butts & Bdv types." I have extracted from this the notes that apply to Boisduval's types.

"*Epithore* type is a ♀.

"*Epula* Bdv = *Mylitta* Edw.

"*Palla* type is a ♂

"*Orsa* = *Montana* Behr

"*Helicta* = *Hoffmanni* Behr

"*Collina* I think Mexican. It is smaller than any California species I know.

"*Pola* may be a new species, but I doubt it. It looks like a suffused specimen of *Gabbii*. Markings of under side do not in any way differ from these of *Gabbii*.

"Arg. *Irene* Bdv. is exactly the same as my No. 3500, agreeing with type in every particular. Have always thought this an extreme var. of *Zerene*.

"*Mormonia* Bdv. My specimen 2386 agrees with the type, but I doubt the validity of the species.

"*Egleis* Bdv. is different from any species I have, but I think it only a variety.

"*Sat. Oetus* is new to me, and very distinct. Like *Satyrus* above, and

about same size, but underside more repeatedly [?] mottled, with some pale darkish at base of secondaries, the submarginal ocelli (2) being black with white distinct pupil and enclosed in a black disk [?]."

Paris, 15 June 1874
22 rue Fosses St. Jacques.

Very honored Sir

It was only on my return from the provinces [farm?], where I was sick for a few weeks, that I found your letter. I thank you for the data it contains; I will know how to profit by them. I am delighted the little box got to you in good condition and that in it were things that could please you. You tell me that your *Mylitta* is the same as my *epula*. Kirby, about which anyway, the work is full of errors, unites my *Epula* with *pratensis* of Behr, on another page he makes two distinct species of *Montana* and of *Orsa*. What I find amazing in the work we are talking about is that he puts together my *Pulchella* and *Tharos* which are two very different species. Kirby, always the same Kirby, brings together *Mormonia* and *Nenoquis* of Reakirt, and *Sirene* and *Montana* of Behr. I really believe that this man, who went to all kinds of trouble to compile a catalogue for the people who work, has never seen in nature [alive or dead] the species he is talking about. Anyway, we must be thankful to him for a work which must have made him do a lot of research and a great expense of time.

I am happy to know that you have seen the caterpillars of the *Vanessa* (*Grapta*) *satyrus*, *faunus*, *comma*, *Dryas*, and *Zephyrus*. It is the only way to recognize the validity of a special species.

When the opportunity presents itself I would like to receive the species which you call *progne* to compare it with the one from the West Indies [Cramer's figures?]. If you could also dispose in my favor a female of *Smintheus* I would be very grateful to you; she must be very near the one of *Intermedius* from Siberia. The pouch of the oviduct of the females offers sometimes an excellent characteristic. For example, that organ is entirely white in *Clarius*, *Clordius* and several others, as it is in *Mnemosyne* and *Stubendorffii*.

All my winter has been spent in the printing of my "Species" of the Sphingides, Sessides, Thyrides and Castnides. It is a big book in octavo, with illustrations (568 pages). The work has been complete since March, the editor hasn't yet published it on account of the tardiness of the artists in charge of the engraving and coloring. I have worked for more than 20 years!

Even though you may not be interesting in the Lepid. heterocerces I want to send you a copy as a souvenir, also a copy of my monograph of the Agaristides.

In spite of all my work and all the material I have at my disposal, there must be, without doubt, still many species which I do not know. There are two species native to the U. S. which I have never seen in *nature*: *Lucitiosa* and *Versicola*. The same is true about *Ellema pinensis* [*pineum*] of Lintner which seems to me to be very near *Harrisii*, if it isn't a variety of it.

I am asking also, if it is possible for you to give me the address of Mr. Grote. It has been more than six years that he borrowed from me some unique species from California (*Heteroceres*) and he has neglected to send them back to me. I can't understand it. When one lends me any specimens I keep them about a short time and I hurry to give them back to the people who were helpful to me. He published them all and he must have had many opportunities to send them back to me. I had already begged Mr. Scudder to remind him of it; probably he did nothing about it because I am still without news of my unique species.

I am ending, dear sir, [etc., etc.]

Your very devoted servant
/s/ Dr. Boisduval

I am sending you, enclosed, a fragment of proof of my *Species* which will prove to you that the printing is finished as I have told you before.

Melitaea pola Boisduval

Ann. Soc. ent. Belg. 12: 56, "1869" [1868?]

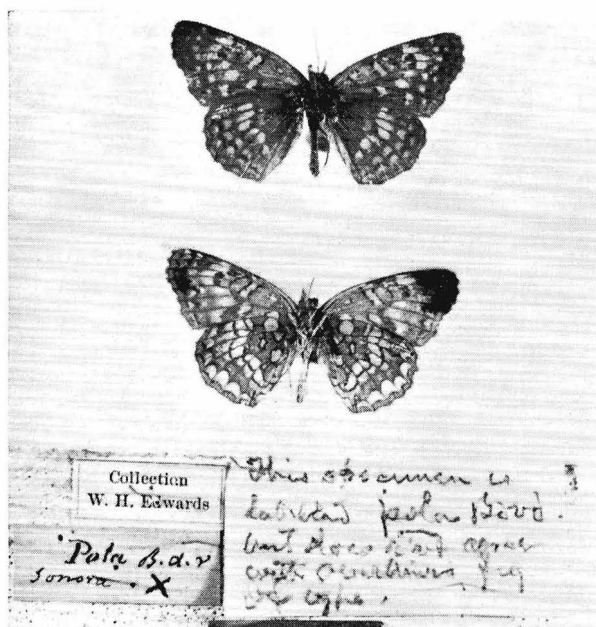
The specimen that Boisduval sent to Edwards as *pola* is in the Edwards Collection at the Carnegie Museum at Pittsburgh, Pennsylvania. It is not at all like specimens currently passing under that name. It fits much better Boisduval's original description than does the specimen figured by Oberthür and considered by him to be the type of the name. Barnes and McDunnough introduced to American rhopalocerists the current concept of the name *pola* in 1916 (p. 92). This is based upon McDunnough's examination of Boisduval material in Oberthür's collection in Paris. Actually it was McDunnough who selected the specimens figured by Oberthür as Boisduval types. The specimen selected by McDunnough and figured by Oberthür is in the Barnes Collection at the United States National Museum in Washington, D. C.

I present here photographs of the two "types" and Boisduval's original description of *pola* (Figs. 2, 3).

"44. *Melitaea Pola*, Boisd.

"*Alae supra sub-obscuriore, nigro fulvo et ochraceo variæ; posticæ subtus maculis basalibus fasciique duabus flavidis, media linea nigra divisa.*

"De la taille de notre *Athalia* et très voisine de *Palla* dont elle diffère par les caractères suivants: Dessus des ailes plus obscur avec les parties fauves ochracées vers le milieu; la bande médiane jaune du dessous des inférieures coupée longi-



EXPLANATION OF FIGURE 2

The holotype of *Melitaea pola* Boisduval in the Carnegie Museum, Pittsburgh, Pennsylvania. The lower left label is in Boisduval's manuscript. The pencilled label at right was written by Holland or Avinoff. Natural size. Photography by dos Passos for A.M.N.H.

tudinalement par une petite ligne noir et no bordée par cette ligne. Nous n'avons vu qu'un seul individu pris en Sonora."

The specimen sent to Edwards was marked with an X, indicating it was to be returned. Boisduval had died (1879) before Edwards got around to returning it. It was Boisduval's single specimen from Sonora. It cannot be otherwise than the type of the name *pola*. Thus this specimen, the holotype, must replace the McDunnough-Oberthür lectotype which represents a different species, *arachne* Edwards 1868. Article 74 of the Code makes this action mandatory.

Higgins (1960: 389) based his interpretation of *pola* on Oberthür's figure. He, however, guarded himself by a caution that suggests clearly he was not satisfied and recognized the lack of agreement between Oberthür's figure and Boisduval's description.

Melitaea callina Boisduval

Ann. Soc. ent. Belg. 12: 54 "1869" [1868?]

In his recent Synonymic List, dos Passos (1964: 82) placed *callina* Boisduval 1869 as a synonym of *collina* Behr (= *Phyciodes mylitta* Ed-



EXPLANATION OF FIGURE 3

The McDunnough–Oberthür pseudotype of *Melitaea pola* Boisduval in the United States National Museum, Washington, D. C. The lower, second from right label appears to be in Boisduval's manuscript. The label "Minuta/Colo" is in W. H. Edwards' manuscript. The figure at left is from Oberthür's publication. Natural size. Photography by dos Passos for A.M.N.H.

wards 1861) as a misspelling of Behr's name. This is far from the truth of the matter. He also accepted *callina* Boisduval 1869 as a subspecies of *Melitaea elada* Hewitson 1868. I have been unable to find any other reference to *callina* by Boisduval in 1869 other than his description of the *elada*-like insect. Barnes and McDunnough (1916: 92) wrote: "After a careful study of the figure of the sole remaining type from Mexico (Oberthür, Ea. de Lep. Comp. IX, (2), Fig. 2185) we have found that the species agreeing best with this figure is the Texan one known heretofore as *ulrica* Edw. (*imitata* Stke.); . . . the Sonoran types being lost we think it advisable to restrict the name to the Mexican type . . ."

What Barnes and McDunnough did not know, although they had studied the material in the Edwards Collection, was that one of the original "Sonora" syntypes of *callina* is in the Edwards Collection. This is the specimen sent to Edwards by Boisduval in 1874. It is marked with an X on the label attached by Boisduval indicating that the specimen was to be returned because he needed it to hold the name in his own collection. The Oberthür "Mexican type" is in the Barnes Collection at the United States National Museum. I figure both of the "types" here. The original



EXPLANATION OF FIGURE 4

The Higgins' "Holotype" lectotype of *Melitaea callina* Boisduval in the Carnegie Museum, Pittsburgh, Pennsylvania. This is one of Boisduval's Sonoran specimens. Natural size. Photography by dos Passos for A.M.N.H.

description of *callina* Boisduval follows and should be compared carefully with the figures of the two "types" (Figs. 4, 5).

"39. *Melitaea Callina*, Boisd.

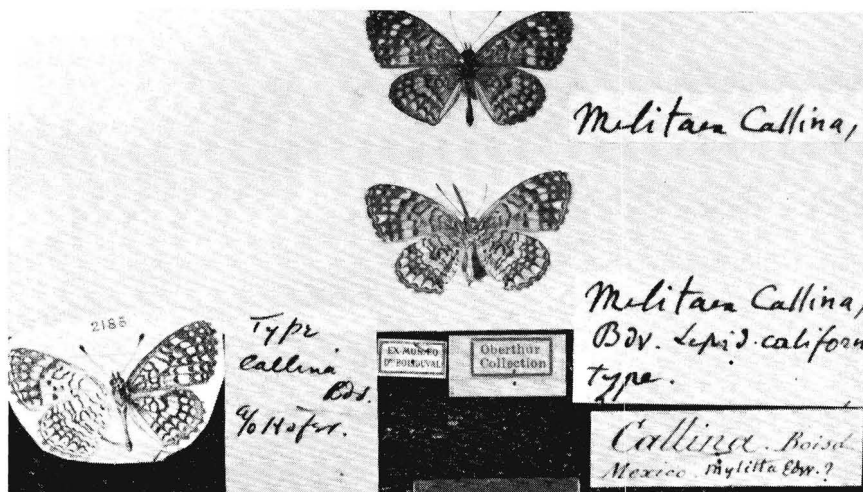
"*Alæ fulvæ supra lineis numerosis transversis limboque communi fuscis; fimbria nigricanti albido intersecta; posticæ subtus fulvo albidoque fasciatæ.*"

"Cette Mélitée de la taille de notre *Nemeobius Lucina* se rapproche beaucoup par la porte de nos petites espèces européennes. Ses quatre ailes sont fauves avec des raies transversales sinueuses assez rapprochées; ou si l'on veut elles sont brunes avec des raies fauves interrompues; la bordure est noirâtre ainsi que la frange qui est entrecoupée de blanc. Le dessous des premières ailes est fauve, principalement vers la base avec quelques lignes noires ondulées, il est brunâtre vers l'extrémité avec une rangée de taches fauves et quelque taches blanches dont une, un peu plus grande, est un peu sagittée. Le dessous des secondes est fauve, marqué de bandes blanchâtre, liserées de noir, dont celle de l'extrémité est formée de taches un peu sagittées.

"La femelle ressemble au mâle, sauf qu'un dessous le sommet des ses ailes supérieures offre des taches blanchâtre plus indiquées et plus nombreuses.

"Pris dans la Sonora, nous avons reçu du Mexique plusieurs individus et cette même espèce."

From this it is quite evident that the Sonoran specimens were the basis of the original description. The surviving syntype from Sonora fits the description far better than does the surviving Mexican specimen. Barnes and McDunnough (1916) thought that Boisduval has a mixed series and the Sonoran and Mexican materials were different. The Mexican specimen from Oberthür is very close to *ulrica* Edwards 1877. Thus Barnes and McDunnough did the only thing possible for them at the time. This was to suggest that *callina* Boisduval 1869 supplant *ulrica* Edwards. This they



EXPLANATION OF FIGURE 5

The McDunnough–Oberthür “Type” lectotype of *Melitaea callina* Boisduval in the United States National Museum, Washington, D. C. This is one of Boisduval’s Mexican specimens. No labels appear to have been written by Boisduval. [The figure at left is from Oberthür’s publication.] Natural size. Photography by dos Passos for A.M.N.H.

did in their 1917 Checklist. In his checklist of 1938 McDunnough considered *callina* Boisduval a subspecies of *elada* Hewitson 1868. Higgins (1960: 452–453), in the most recent evaluation of this group of names, considered *callina* Boisduval a synonym of *elada* Hewitson on the basis of the Carnegie Museum specimen, which he named “Holotype.” It actually is the lectotype, since Boisduval had at least a pair of specimens from Sonora. The precise order of priority for *elada* and *callina* needs to be established. There is some question about the date of publication of both Hewitson’s work and the first part of the *Annales* in which Boisduval published his name.

It is obvious from Boisduval’s original description that he considered the Sonoran material to be typical *callina* and that the Mexican specimens were secondary supporting series. I believe that it can be argued that the discovery of a Sonoran specimen labeled by Boisduval in 1874 sets aside the Oberthür–McDunnough “type” of 1911, based on the sole remaining syntype of the secondary series. Barnes and McDunnough reluctantly accepted the “Mexican” material as type in the absence of a Sonoran specimen. Adoption of the Sonoran specimen as lectotype at this time is at variance with Articles 73 and 74 of the Code (1964).

Article 73 (c) can be interpreted to include both the Sonoran and

Mexican specimens of Boisduval as syntypes from which a lectotype must be chosen. Article 74 (a) (i) states "The first published designation of a lectotype fixes the status of the specimen, but if it is proven that the designated specimen is not a syntype, the designation is invalid."

The ultimate decision rests upon the interpretation to be put upon Boisduval's wording of the last sentence quoted from him above. If this is interpreted to restrict the syntypes to the Sonoran specimens, then Higgin's designation of the Carnegie Museum specimen is valid. If the wording is not considered restrictive, then the Oberthür-McDunnough selection of a "Mexican" specimen must be supported. I have advised Higgins of the situation and recommended to him that he take appropriate action to settle this nomenclatorial problem for the sake of stability.

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BOOK NOTICE

EARLY STAGES OF JAPANESE BUTTERFLIES. By Dr. Takashi Shirozu. Photography by Akira Hara. Vol. I, iv + 142 pp., 60 col. pls., 1960; Vol. II, 139 pp., 60 col. pls., 1962. Hoikusha Publishing Co., Ltd., 20, 1-chom, Uchikyuhoji-machi, Higashi-ku, Osaka, Japan. \$12.50 (surface mail), \$18.75 (air mail).

Of 216 native and migratory species in Japan, 196 are illustrated in color photography, including all but three of the native species. The plates show egg, larva, pupa, and adult, often from more than one angle; they are exceptionally clear and true in color. Special features include illustration of the oviposition of *Aporia hippia japonica*, emergence of several species, and front view of the heads of 92 species. This is a monumental work on the early stages of Japanese butterflies. The author is Professor at the Biological Laboratory, General Education Department, Kyushu University, Fukuoka, and a member of the Lepidopterists' Society. The photographer is a member of the Entomological Society of Japan, and one of the best photographers of insects in Japan. The author and photographer had nationwide cooperation of Japanese lepidopterists, who supplied living materials.

Although the text is in Japanese, there is an index of the Latin names which are also given on the plates, and the plates themselves really tell much of the story. They are indeed remarkable, especially those of the eggs, which are much enlarged. Much other information on the early stages of Japanese butterflies is available in papers published in the *Lepidopterists' News* by Mr. T. Iwase (vol. 7, p. 45; vol. 8, p. 95; and vol. 9, p. 13), in the *Journal of The Lepidopterists' Society* (vol. 18, p. 105); and by Dr. T. Kuzuya in the *Journal* (vol. 13, p. 175).—TAKESHI KUZUYA, 3d Dept. Intern. Medicine, University of Tokyo, Hongo, Tokyo, Japan and E. J. NEWCOMER, 1509 Summitview, Yakima, Wash., U. S. A.