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## NOTES ON WALKER'S TYPES OF *SPILOSOMA CONGRUA*, AND A FEW OTHER TYPES IN THE BRITISH MUSEUM.\*

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Having arranged for a two months trip to Europe during the past summer, I determined to visit the Natural History Branch of the British Museum, to endeavour to clear up the doubt surrounding Walker's *Spilosoma Congrua*, taking with me a number of specimens of *S. Antigone*, Strecker; a pair of the heavily-spotted Gomin form of *Spilosoma*, which Dr. Fyles calls *Cunea*, lent to me by Mr. Winn; a typical female specimen of *S. Prima*, kindly given to me by Mrs. Slosson; and a small series of *Hyphantria Cunea*, Drury. I reached London late on the 26th June, but on the morning of the 29th received a cablegram which necessitated my immediate return home. After making my arrangements to sail from Liverpool on the 30th, I found I had a few hours to spare, and so paid a very hurried visit to the Museum, and was shown what was supposed to be the three types of *Congrua* by Sir George Hampson, who kindly remained after the closing hour to accommodate me.

I had not sufficient time to make any attempt to verify these types by comparing them with Walker's original description, or that subsequently made by Grote & Robinson, or by looking up the register of acquisitions, and as Sir George Hampson seemed quite positive that there could be no mistake, I accepted his dictum. I would call attention to the note published by Mr. A. G. Butler in 1875, to the effect that the only specimens then representing *Congrua* in the British Museum collection were a presumably female specimen of *S. Virginica*, without abdomen, and what he believed to be a male variety of *Hyphantria Cunea*. The three specimens shown to me I found to be:

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\*Read at the annual meeting of the Entomological Society of Ontario, Nov., 1900.

(a) A male specimen of *S. Antigone*, Strecker, presumably of the type which Dr. Fyles described under the letter f.

(b) A female specimen of the heavily-spotted Gomin type of *Spilosoma*.

(c) The specimen of *S. Virginica* without abdomen, as described by Grote & Robinson.

On my return to Montreal, I looked up the description given by Grote & Robinson of the types *a-b*, to which they restricted the name *Congrua*, as quoted by me (CAN. ENT., XXXII., 123), and saw at once that there must be some mistake, as they described the type *b* as: "Primaries with but one or two dots, almost immaculate. Secondaries immaculate in either sex." I therefore wrote to Sir George Hampson, who admitted that the heavily-spotted specimen was probably not one of the types of *Congrua*, especially as he found that the locality label on the pin was New York, while the types were said to have come from Georgia. I only mention this to show how necessary it is to "prove all things," as we are exhorted to do by the apostle. Subsequently I was able to return to England for a brief visit, and shortly before my return home spent two or three hours at the Museum, and made an exhaustive examination of the specimens of *Spilosoma* and *Hyphantria*, and came to the conclusion that type *b* must have been destroyed, as I could find no specimen in the collection which would at all answer the description given by Grote & Robinson. The type specimen *a* is numbered 947, and is shown both by the date upon the label and by the Register to have been acquired on 19th June, 1839, at the sale of Mr. Milne's collection, at which a considerable number of specimens were obtained. It is entered in the Register merely as *Arctia*. It expands about  $1\frac{1}{8}$  inches, and answers fairly well to the description given by Messrs. G. & R.

Type specimen *c* is a rather large specimen of *S. Virginica*, expanding about  $1\frac{7}{8}$  inches, and is presumably a female, but the abdomen is missing. This specimen is very lightly marked, having only a black point on upper side of fore wing at lower angle of cell, and a black spot on the middle of the discocellular vein of hind wing below. The number on label is 937, and is entered as *Arctia* simply, and was received at the same time as the type *a*.

The question now arises as to the use or suppression of Walker's name, *Congrua*.

Sir George Hampson has informed me, both orally and by letter, that he regards the name *Congrua* as a synonym of *Virginica*, and intends to refer it in this way in his forthcoming work, and to retain Strecker's name, *Antigone*. In order to make this matter clear, it is necessary to have Walker's description before us, and I therefore reproduce it.

"White. Tarsi with black bands. Fore coxæ and fore femora luteous, with black spots on the inner side; fore tibiæ striped with black on the inner side. Male.—Head and fore part of the thorax with a slight testaceous tinge. Fore wings with four oblique, very imperfect and irregular bands, composed of pale brown dots. Length of the body 6–7 lines; of the wings 16–20 lines, *a-c* Georgia. From Mr. Milne's collection." Now, Sir George Hampson's contention is that the first part of the description down to the word "Male" applies only to the specimen of *Virginica*, and that therefore the latter, as there were at least two distinct species included under the name, should be regarded as the type of *Congrua*. With this contention, though sorry to differ from Sir George, I am unable to agree for the following reasons:

In the first place, I contend that an author's description must be taken as a whole, and not split up into parts, and that to give the first line of a description priority over the second is carrying the doctrine of priority much further than I, at least, am prepared to carry it.

In the second place, I contend that the first part of the description applies to both types. As both are white moths, neither is yellow, brown or any other colour, and probably to save himself a little trouble, or possibly merely to give variety to the form of his descriptions, Walker gave first the characters applying to both the supposed sexes, and then indicated the points in which one sex, in this case the male, went beyond the description so far given.

But there is a very important point in this connection which Sir George appears to have overlooked, and that is that type *b* has disappeared.

Now, as this was also a female, and, according to the description of Messrs. G. & R., must have been very close in appearance to the *Virginica* type *c*, though not that species, it seems highly probable that it answered as closely as the specimen of *Virginica* to the first section of the description, and, hence, even on Sir George's theory, would be equally entitled to rank as the primary type. Now, while it is impossible to be certain what type *b* was, still, from the fact that an entomologist of Mr. Grote's ability regarded it as of the same species as type *a* and different

from any species of *Spilosoma* known to him up to that time, it seems in the highest degree probable that it was a typical lightly-marked female of *Antigone*, in which case it seems to me that Sir George Hampson's contention would entirely fall to the ground. In the third place, Messrs. Grote & Robinson published their description of the species in 1868, retaining the name *Congrua* and referring type *c* correctly to *Virginica*, which should certainly be allowed weight, as all difficulty was thereby cleared up, the name *Congrua* being restricted to a single valid species. And, lastly, it is certain that the species described by Strecker in 1878, ten years after Grote & Robinson's description appeared, had been standing under the name *Congrua* in a great national museum since 1855, that is, for twenty-three years, before it was redescribed by Strecker.

Under these circumstances, I contend that the name *Congrua* should be used for this species, and the name *Antigone* be referred as a synonym. Before leaving this subject, I may mention that Sir George Hampson has informed me that as both this species and *Prima* have the claw on fore tibiae, they belong to the genus *Estigmene*, Hübn., = *Leucarctia*, Pack., and not to *Spilosoma*.

In regard to the forms which Walker referred to *Cunea*, it is impossible to be certain, for while there are in the collection quite a number of specimens of this species, a good proportion of these have been received at later dates than those referred to by Walker. But of one thing we can be certain, and that is, that so far at least as the males go, he must have referred to *Punctatissima*, and it is a remarkable fact that in the collection there are no less than eight specimens of this species (7 ♂ and 1 ♀) having the hind wings more or less spotted, though in two males the spots are barely perceptible. But Walker's description of the female as "Hind wings with some brown submarginal spots," was probably based upon the one specimen of the heavily-spotted Gomin form of *Spilosoma*, or, I suppose, I should say *Estigmene*, which was entered in the Register, under number 950, as *Arctia Cunea*, and as received on 19th June, 1839, from Mr. Milne's collection. Another specimen, No. 951, was entered under the same name, but there is only the one specimen of the Gomin form in the collection.

Sir George Hampson called my attention to a specimen which he said agreed exactly with Walker's type of *Spilosoma Mutans*, which is in the museum at Oxford, and which specimen is only a very ordinary form of *Cunea* or *Punctatissima*. Sir George also showed me Walker's type of

*Cyenia Dubia* from Hudson's Bay, and there would seem to be no doubt at all that it is a drab-coloured variety of *Leucarctia Acræa* ♀, and there are also in the museum three other very similar females from the U. S., the only noticeable difference being that in Walker's type the wings are a little shorter in proportion to width, and that the veins are light-coloured. Sir George Hampson also called my attention to the fact that American entomologists have also been in error in referring *Platarctia Parthenos*, Harris, as a synonym of *Hyperborea*, Curtis, as these species are distinct, the latter appearing to be the American representative of *Hyphoraia Lapponica*, Thunb., and Harris's name should, therefore, be restored. I cannot understand how *Parthenos* was ever placed as a synonym of *Hyperborea*, as Curtis's description does not at all fit any specimen of *Parthenos* which I have ever examined.

Postscript.—As this paper contained criticisms upon unpublished and privately-expressed opinions of Sir George Hampson, I did not feel that I could publish it without referring it to him. Sir George replied that I had not stated his views quite correctly, and wrote: "I maintain that Walker originally wrote his description from the ♀ *Virginica* only, and that, afterwards finding two other specimens before publication, he added to his description; otherwise, he would have described the male first, as was his custom. The ♀ *Virginica* is the only one of the three to which the first part of the description applies, and is, therefore, Walker's type (a)—not (c) as you make it. The missing type (b) will not fit in with this first part of description, *vide* Grote's description of it, nor does the other specimen (c) now in the collection. Therefore, the ♀ *Virginica* is the type of the species."

To this I reply that the two remaining types reached the museum from the same source and on the same day, viz., 19th June, 1839, as shown by the Register, and were apparently so near together in the box in which received, that in numbering them one was numbered 937 and the other 947. The number of the missing type cannot be determined, but it was received on the same day. These specimens were, therefore, in the museum for sixteen years before being described, and, as they were of the same genus and from the same country, must have been kept together, and so have been before Walker when he was working on the group.

Walker does not use the word female at all, which shows that he considered the first part of the description applicable, so far as it went, to both sexes. Sir George says that it only fits the specimen of *Virginica*,

but it does not even fit it decently, as it makes no mention of the black spots on the wings of that specimen.

I did not, as suggested, transpose the designating letters of the types or choose them to fit in with any theory. I accepted them as used by Grote & Robinson (Vide CAN. ENT., XXXII., 123), and it must be remembered that these gentlemen made their examination of the specimens in Walker's presence, and presumably in consultation with him and with his sanction, and it is hardly conceivable that Walker would have called the two female types (*a*) and (*b*) and the male one (*c*). The missing type *b*, a ♀, as described by G. & R., must have come about as near to the description as the *Virginica* does.

Under these circumstances, I think it will be generally conceded that the name *Congrua* should stand.

Perhaps I have devoted too much space to this question, but I think that the correct application of one specific name is quite as important as that of any other.

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#### NOTES ON THE OCCURRENCE OF LEPIDOPTERA, ETC., IN SOUTHERN MANITOBA.

BY E. FIRMSTONE HEATH, CARTWRIGHT, MAN.

A greater contrast between the last two seasons—those of 1899 and 1900—could hardly have obtained. The spring of 1899 was unusually wet, and the consequence was that the Manitoban prairie flea took refuge in our houses out of the rain, and life became almost unendurable between the armies of fleas inside and the clouds of mosquitoes without. So bad were the latter that, seasoned as I am to their attacks, all my night collecting was done under difficulties, for after covering myself as far as possible (rather a nuisance on a hot, close night), I had to bathe every square inch of skin that had of necessity to be exposed, with a strong solution of alum. This last year, through the unusually dry spring and early summer, to be bitten by a mosquito was quite an event. The fleas too took advantage of the fine, dry weather, and resumed their usual prairie life, and left us in our houses in peace. It may not be generally known, but some parts of the country swarm with fleas, while in others they are hardly to be found. In the olden days, before the railways, when we had to fetch our supplies from the nearest towns—Emerson, in my case—by waggon, camping on the prairie as we went along, I was several times cautioned by old settlers on no account to camp on certain