

March 1, 1946

Mr. W. Hook
Department of Geology and Paleontology
The Academy of Natural Sciences of Philadelphia
Nineteenth and the Parkway
Philadelphia 3, Pennsylvania

Dear Mr. Hook :

Your letter of February 25 and 28, have been received. You have done a creditable piece of deciphering and describing. Such criticism as I have to offer is due to the difficulties of interpretation in this case and not due to inadequate work on your part. In other words, in some instances it is possible to interpret differently than you have done.

(1) A paragraph at the beginning should state that: Some of the interpretations of the anatomy are difficult and uncertain on account of the nature of the material. Hence several interpretations are possible but those adopted herein are believed best to fit observations.

(2) I am not entirely satisfied with the interpretation of the carapace. The mid-line you mentioned seemed to me merely a crack due to the compression by sediment. However, I have no better interpretation to offer. Hence, yours might just as well stand.

(3) Most probably the first few thoracic somites are hidden under the carapace. This is usually the case in phyllocarids. Hence your first somite is merely the first visible somite and may be pretty far down anatomically. I suggest the following statement: "There may be some thoracic somites hidden under the carapace. Therefore the first somite of this description is merely the first visible one and is possibly not the first one anatomically." [To be inserted at beginning of Somites.]

(4) Spines usually, if not always, point backward in phyllocarids. As the specimen is not distorted it is reasonable that all spines present point backward. Generally spines originate at the posterior end or in the middle of a somite; apparently they never originate at the anterior end of a somite. Now the first spines of your specimen originate in the gap between visible somites 4 and 5. Hence it is most probable that they are spines originating from the posterior of visible somite 4. This somite may already be abdominal rather than thoracic. Differentiation between abdominal and thoracic somites in the phyllocarids is poor. One of the spines originating at the posterior of somite 4 is rather long although preserved in separate pieces. When I examined your specimen I was certain that these spine pieces belonged to one single spine. They were so well in line and between the pieces there was a slight impression in the matrix indicating continuity. This spine is indicated in red ink on the photo. It appeared to me that there were a pair of spines at each somite beginning with no. 4. I suggest the following insert at the end of paragraph on Spines:

"The most anterior two of these spines originate in the gap between the fourth and fifth visible somite and may be extensions of the former. One of these two spines is preserved in a length of mm. There seem to be two long spines to each somite beginning with the fourth visible one and extending from the posterior end of the somites. At least 4 such spine pairs are visible. Hence it is probable that there were present the following somites at least

3 visible, without spines [(2), (3), (4)]
2 visible, with two spines each [(5), (6)]
2 not visible or not preserved, but indicated by spine pairs
1 caudal fork."

This should be checked carefully on the specimen, because I am unable to recognise all spines clearly on the photo.

(5) Look up the terms "tergum" and "pleurum" in a zoology book and use them in your description.

(6) As to your new genus ^oCynildocaris, the rules say that a new genus to be valid must have a summary of the generic characters (or a generic definition or description) which will serve to distinguish the genus from other, related genera. Article 25 e 1 of Rules. Hence you will have to prepare such a generic description.

All my corrections are made with blue pencil so that you may recognise them easily.

Please give my best regards to Dr. Howell.

Congratulations to you for an interesting piece of work.

Sincerely yours,

H. B. Stenzel, Geologist

HBS:MJC
Enclosure