

NOTES AND NEWS

BRANCHIOPOD PHYLOGENY — CONTINUED MORPHOLOGICAL SUPPORT FOR HIGHER TAXA LIKE THE DIPLOSTRACA AND CLADOCERA, AND FOR PARAPHYLY OF ‘CONCHOSTRACA’ AND ‘SPINICAUDATA’

BY

JØRGEN OLESEN¹⁾

Zoological Museum, University of Copenhagen, Universitetsparken 15, DK-2100 Copenhagen Ø,
Denmark

INTRODUCTION

In response to a recently published note by Fryer (2001), which addressed a short paper of mine (Olesen, 2000), in itself written as a response to a critical paper by Fryer (1999) of my original article on branchiopod phylogeny (Olesen, 1998), a few comments are here presented.

First, it should be noted that what is really needed now concerning progress in our understanding of branchiopod phylogeny, are constructive contributions either supplying new information or providing more strict cladistic interpretation of already available information. The latest contributions by Fryer and myself have only little relevance in this context. Nevertheless, it is necessary for me to respond again, since there could be a danger that some will just accept the claims made by Fryer because of the well-deserved authority he constitutes. As a matter of fact, many of the comments made by Fryer (2001) are meaningless. While some parts of Fryer (1999) were welcome because real errors were detected in Olesen (1998) that were subsequently corrected in a modified analysis of branchiopod phylogeny (Olesen, 2000), the scientific relevance of Fryer (2001) is questionable. In my opinion, little of that paper would be left if it were screened for methodological misunderstandings and doubtful claims. The purpose of the present note is to rebut Fryer (2001).

¹⁾ e-mail: j1olesen@zmuc.ku.dk [Note the 2nd character in this url is a number 1 (one), *not* the letter “l”.]

METHODOLOGICAL ERRORS

Already in the second paragraph Fryer (2001) presents a severe misunderstanding. In my paper presenting my revised phylogenetic analysis (Olesen, 2000) I used the opportunity to point out that a wrong cladogram had been reproduced as one of the figures in Olesen (1998). This had no impact for the remaining part of Olesen (1998), since the cladogram was an inferior one on which no conclusions were built. Now Fryer (2001) seemingly believes that the **new** cladogram included in Olesen (2000) was the one lacking in Olesen (1998). This was certainly not the case. Instead, the single cladogram included in Olesen (2000) was the updated version of the strict consensus tree from Olesen (1998) on which all the conclusions had been built, and this was said very clearly in the text. Fryer (2001) further claims that the new cladogram differs from the old cladogram in a number of respects, and specifically lists the position of some macrothricid genera. This is absolutely wrong, also when comparing to the inferior cladogram from my original paper (Olesen, 1998), which Fryer (2001) erroneously thought the new cladogram was a replacement of. The truth is, that the original cladogram and the new cladogram presented in Olesen (2000) only differ in a single respect, not among those wrongly listed by Fryer (2001). In short, the second paragraph in the Introduction of Fryer (2001) does not allude to a real problem.

In the next section, termed “Persistent errors” (which could equally well be a title referring to Fryer’s own errors) Fryer (2001) correctly lists the changes I made to the modified version of the matrix. Then, strangely, he says that “there is no indication of what effect these changes have on any of the trees published in the original version” (Fryer, 2001: 106). Again, this is absolutely wrong. There could hardly be a stronger indication since I, in the revised paper, included the strict consensus tree resulting from the analysis of the modified matrix and, furthermore, I specifically mentioned in the text the single difference it caused in tree topology.

On the same page Fryer (2001: 106) refers to 16 characters, which he mentioned in Fryer (1999) to be, in his opinion, of no phylogenetic significance or else phylogenetically uninformative. I already pointed out in Olesen (2000) that ‘phylogenetically uninformative’ as used by Fryer (1999) is of no meaning, but this point has been ignored by Fryer (2001) and, therefore, has to be repeated here. There are only two ways in which information in a phylogenetic analysis can be uninformative: (1) if the same character state is present in all the ingroup taxa or (2) if a character state is present only in one ingroup taxon (in a binary character). Fryer, on the contrary, seems to believe that a character is ‘uninformative’ if it serves to unite taxa that traditionally have been united, i.e., like the presence of ejector hooks on the first trunk limbs of most Anomopoda, or a dorsal keel in two obviously closely related chydorid genera. Fryer (2001) argues that, since these