

Fossil chaetognaths from the Burgess Shale: A reply to Conway Morris (2009)

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Walcott (1911) erected the new genus and species *Oesia disjuncta* and assigned them to the polychaete annelids, based on a small collection of similar fossils from the famous Middle Cambrian Burgess Shale. In 2002 I suggested that the species is “possibly related to chaetognaths” (Szaniawski 2002: 405). Later, after obtaining new photos of the specimens and making comparative investigations with the extant chaetognaths, I was able to describe many significant similarities, and came to the conclusion that *O. disjuncta* indeed is an ancestral chaetognath (Szaniawski 2005). This interpretation already has been accepted in several publications (Vannier et al. 2005; Ball and Miller 2006; Hu et al. 2007; Giribet 2008). Ball and Miller (2006: 594) confirmed not only its “... remarkable resemblance to modern chaetognaths” but also correctness of recognition of all its organs. They even reproduced a part of my illustration showing them (Ball and Miller 2006: fig. 2). Vannier et al. (2006: 629) combined the problem with the open question of the systematic position of another Burgess Shale fossil *Amiskwia sagittiformis* Walcott, 1911, and expressed their reservation based on “...the lack of clear evidence of a grasping apparatus...”. Only Conway Morris (2009) firmly disagreed with this diagnosis and even devoted a special “discussion” article addressing the issue. However, that article contains several ambiguities and misunderstandings which need clarification.

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