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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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