Copepods of the family Dirivultidae (Siphonostomatoida) from deep-sea hydrothermal vent fields on the Mid-Atlantic Ridge at 14°N and 5°S

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Abstract

Five species of three genera of Dirivultidae Humes and Dojiri, 1980 were found at deep-sea hydrothermal vent fields on the Mid-Atlantic Ridge, at the Logachev-1 field at 14°N and at two new sites (Turtle Pits and Red Lion) explored at 5°S. The copepods were collected with a Remotely Operated Vehicle (ROV Quest 4000) and Video Controlled Grab, operated from the R/V Meteor during two cruises (M60/3 and M64/1) conducted in 2004 and 2005 at depths 2992–3048 m. The male of Stygiopontius lomonosovi n. sp. from the Logachev field shares a medioventrally prolonged syncoxa of the maxilliped with S. mirus Humes, 1996 and S. latulus Humes, 1996 from the Snake Pit at 23°N of the Mid-Atlantic Ridge, but differs from them in having two, instead of three, outer spines on the distal exopodal segment of leg 4. Aphotopontius atlanteus Humes, 1996 previously known from the Lucky Strike and the Menez Gwen sites at 37°N and Rimipontius mediospinifer Humes, 1996 known from three sites (Logachev, Snake Pit, and Broken Spur at 29°N) are recorded from the Logachev field. Stygiopontius pectinatus Humes, 1987 previously recorded from the Mid-Atlantic Ridge hydrothermal vent fields TAG (26°N), Snake Pit, Broken Spur (29°N), and from the Mariana Back-Arc Basin of the Pacific Ocean and Stygiopontius cladarus Humes, 1996 previously known only from Snake Pit and Broken Spur, were found associated with alvinocaridid shrimps (Rimicaris sp.) from the hydrothermal vent field at 5°S. The discovery of dirivultids at 5°S represents the first record of copepods from a deep-sea hydrothermal vent southward of the Logachev field in the Atlantic Ocean.

Key words: Copepoda, Siphonostomatoida, Dirivultidae, deep-sea hydrothermal vents, Mid-Atlantic Ridge, symbiosis