



## New records of Serpulidae (Annelida, Polychaeta) collected by R/V "Vityaz" from bathyal and abyssal depths of the Pacific Ocean

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### Abstract

The diversity of bathyal and abyssal marine organisms is still poorly known and this is especially true for tubicolous polychaetes of the family Serpulidae, the common inhabitants of subtidal and shelf locations. We report herein new records of poorly known deep-sea (mostly below 2000 m) serpulids collected in the Pacific Ocean by early Soviet Oceanographic expeditions onboard R/V "Vityaz". The following species were found: *Bathyditrupa hovei*, *Bathyvermilia challengerii*, *B. eliasoni*, *B. zibrowiusi*, *Filogranula stellata*, *Hyalopomatus jirkovi*, and *H. sikorski* at the depths of 1600–6330 m. Many samples collected by R/V "Vityaz" and other Russian research vessels are still unstudied and apparently many bathyal and abyssal serpulid species new to science remain undescribed. The diversity of abyssal marine organisms remains poorly known not only because of the obvious logistical difficulties in collecting at abyssal localities, but also in part due to the lack of taxonomic effort directed towards existing research collections.

**Key words:** *Bathyditrupa hovei*, *Bathyvermilia challengerii*, *B. eliasoni*, *B. zibrowiusi*, composition, *Filogranula stellata*, *Hyalopomatus jirkovi*, *Hyalopomatus sikorskii*, taxonomy, new records

### Introduction

Serpulidae are polychaetes that are not restricted to soft sediments, but are sessile epifaunal suspension-feeders constructing calcareous tubes. Secretion of the tubes makes serpulids troublesome members of fouling communities and thus best known serpulids are commercially important fouling taxa from shallow locations (e.g., Mohan & Aruna 1994). However, Serpulidae are found in all oceans at nearly all depths (the deepest serpulid record is 9735 m according to Belyaev 1989), many of them have wide bathymetric ranges (e.g., Kupriyanova & Badyaev 1998), and some taxa are even restricted to deep-sea environments. Zibrowius (1977) reviewed serpulids from the depths exceeding 2000 m correcting Hartman's (1971) compendium of abyssal polychaetes. He listed 25 bathyal and abyssal serpulid species world-wide and reported *Bathyvermilia challengerii* Zibrowius, 1973, *Hyalopomatus biformis* (Hartman, 1960) (North-eastern Pacific), and *Hyalopomatus* spp. (South-eastern Pacific) for the Pacific Ocean. Bailey-Brock & Knight-Jones (1977) described a new species of abyssal Spirorbinae. Bailey-Brock (1974) gave depth distributions for 14 serpulid species from the R/V "Vityaz" collection including *Bathyvermilia challengerii* (5240 m), *Hyalopomatus* sp. (4460–6065 m), and *Filogranula stellata* (Southward, 1963) (1600–1900 m). Kupriyanova (1993a, b) described six new species from the Kurile-Kamchatka Trench area alone. In their recent review, Paterson *et al.* (2009) reported 26 serpulid species from the depths greater than 2000 m world-wide, including five endemic species from abyssal depths greater than 3500 m, all of which described by Kupriyanova (1993a, b).

Currently the serpulids reported from bathyal and abyssal depths belong to the genera *Apomatus* Philippi, 1844, *Bathyvermilia* Zibrowius, 1973, *Bathyditrupa* Kupriyanova, 1993b, *Filogranula* Langerhans, 1884, *Hyalo-*