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Morphological and molecular characterization of a new genus and new species of parazoanthid (Anthozoa: Hexacorallia: Zoantharia) associated with Japanese red coral (*Paracorallium japonicum*) in southern Japan

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PG-4 Morphological and molecular characterization of a new genus and new species of parazoanthid (Anthozoa: Hexacorallia: Zoantharia) associated with Japanese red coral (*Paracorallium japonicum*) in southern Japan

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The Order Zoantharia has long been taxonomically neglected primarily due to difficulty in examining the internal morphology of sand-encrusted zoanthids. However, recent work utilizing molecular markers has shown an unexpectedly high diversity of previously “hidden” taxa (families and genera) within Zoantharia. In this study, unidentified sediment-encrusting zoanthid specimens (n=8) were collected from living Japanese red coral *Paracorallium japonicum* (Family Coralliidae) during precious coral harvesting by ROV and manned submersible (February 2004 – January 2006) at depths of 194 - 250 m at six locations between Ishigaki-jima Island and Kikai-jima Island, southern Japan. Obtained novel DNA sequences (mitochondrial 16S ribosomal DNA [mt 16S rDNA], cytochrome oxidase subunit I [COI], nuclear internal transcribed spacer of ribosomal DNA [ITS-rDNA]) unambiguously place these specimens in a previously undescribed, new monophyletic lineage within the family Parazoanthidae. *Corallizoanthus tsukaharai*, gen. n. et sp. n. is the first reported zoanthid species associated with the family Coralliidae and unlike other described gorgonian-associated zoanthids (*Savalia* spp.) does not secrete its own hard axis. Morphologically, *C. tsukaharai* sp. n. is characterized by generally unitary polyps and bright yellow external coloration.