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The complete mitochondrial genome of *Sinularia maxima* Verseveldt, 1971 (Octocorallia: Alcyonacea) using next-generation sequencing

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The genus *Sinularia* May, 1898 is one of the most widespread Octocorallia soft corals has been distributed in a wide range of habitats (Fabricius and Alderslade 2001). To date, the complete mitogenome of three species of *Sinularia* including *Sinularia ceramensis* (MK292119), *Sinularia cf. cruciate* (NC_034318) and *Sinularia peculiaris* (NC_018379) have been sequenced. In the present study, the complete mitochondrial genome of *Sinularia maxima* Verseveldt, 1971 (GenBank: MN485891) was analyzed using next-generation sequencing.

A specimen of *S. maxima* was collected from the South China Sea (West Island, Sanya, Hainan province, China; 18°14’10”N, 109°22’39.10”E) and stored in Hainan Tropical Ocean University Museum of Zoology (NO.0001-Sm). Taxonomical status of the specimen was identified by PuCAs-mtMutS (Benayahu et al. 2018) and PuCAs-28S (Quattrini et al. 2019). The whole DNA was extracted using Rapid Animal Genomic DNA Isolation Kit (Sangon Biotech Co., Ltd., Shanghai, CN; NO. BS18221). A genomic library was made by paired-end (2 × 150 bp) next-generation sequencing, using the Illumina HiSeq X-ten sequencing platform (Asem et al. 2019). FastQC programme was utilized to check quality of sequencing reads (Andrews 2010) and the sequences were clustered in different clades.

The complete mitogenome of *S. maxima* was 18,730 bp in length, with 14 protein-coding genes (PCGs), two ribosomal RNA genes, and one transfer RNA (tRNA-Met). The base composition is 30.18% A, 16.47% C, 19.35% G, and 33.99% T, with an A + T content of 64.18%. With regard to the phylogenetic analysis, members of genus *Sinularia* were clustered in different clades.
two clads including *Sinularia cf. cruciate* + *Sinularia maxima* and *Sinularia peculiaris* + *Sinularia ceramensis* (Figure 1).

**Disclosure statement**

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the manuscript.

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