

Hard soft coral: New genus and species of 'living fossil' octocoral related to blue coral

July 2 2015



Nanipora kamurai found in Zamami Island Okinawa, Japan. Credit: Yu Miyazaki

Research conducted in Okinawa, Japan, by graduate student Yu Miyazaki and associate professor James Davis Reimer from the University of the Ryukyus has found a very unusual new species of octocoral from a shallow coral reef in Okinawa, Japan. The new species can be considered a "living fossil", and is related in many ways to the unusual blue coral. The study was published in the open access journal

ZooKeys.

Unlike scleractinians, most octocorals lack a hard [skeleton](#), and therefore many have the common name "soft coral". One exception is the endangered genus *Heliopora*, known as blue coral, which is found in tropical locations in the Pacific Ocean.

Blue coral forms a massive skeleton of aragonite calcium-carbonate. Due to this unique feature, blue corals have long been placed within their own special order inside the octocorals.

This new species, named *Nanipora kamurai*, also has an aragonite calcium-carbonate skeleton, and molecular analyses show the two groups are most closely related to each other among all octocorals. As fossils show that blue coral and their relatives were globally distributed during the Cretaceous period (XX-XXX mya), *Heliopora* and this new species can be considered "living fossils".

In the past, another octocoral species with an aragonite skeleton, *Epiphaxum*, was discovered in 1977. Since 1977, several recent and fossil *Epiphaxum* specimens from the deep sea have been recorded. Although this [new species](#) seems to be morphologically close to *Epiphaxum*, it is classified in a separate genus inside the same family (Lithotelestidae) due to many structural differences.

Perhaps most surprisingly, *Nanipora kamurai* was found from a very shallow coral reef of

Citation: Hard soft coral: New genus and species of 'living fossil' octocoral related to blue coral (2015, July 2) retrieved 1 May 2024 from <https://phys.org/news/2015-07-hard-soft-coral-genus-species.html>

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