Eilat's corals stand better chance of resilience than other sites

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This is an example of colorful coral in the Gulf of Eilat. Credit: Amatzia Genin

Israel's southern Red Sea resort of Eilat, one of whose prime attractions is its colorful and multi-shaped underwater coral reefs, may have a clear advantage in the future over rival coral-viewing sites around the world, scientists at the Hebrew University of Jerusalem and Bar-Ilan University have found.

Coral reefs, earth's richest and most diverse ecosystem, are deteriorating rapidly. One of the most devastating causes for that deterioration is coral bleaching, which typically occurs when seawater temperatures exceed the local summer maximum by one-half to one and half degrees Celsius. At those higher temperatures, the coral's symbiotic algae are lost, leading to the coral's bleaching and eventually its death.

But, while the frequency of coral bleaching is globally increasing, no bleaching event has been observed in the Gulf of Eilat/Aqaba (Eilat sits at the northern end of the gulf), even when nominally bleaching conditions prevail. The Israeli scientists explain the enigmatic lack of bleaching in the Gulf by the existence of a "warm-water barrier" at the southern Red Sea, allowing only heat-tolerant genotypes of corals to enter the Red Sea from the Gulf of Aden. This occurred following the disappearance of corals from the Red Sea during the last glacial period, some 15,000 years ago. The scientists predict that no bleaching is likely to occur in the Gulf of Eilat/Aqaba in the next 100 years, making it a unique refuge for coral reefs in the world's warming oceans.

More information: The findings of the Israeli researchers, entitled "A Coral Reef Refuge in the Red Sea," was published on Sept. 23 in the journal *Global Change Biology*.

Provided by Hebrew University of Jerusalem

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