

# Cave mazes

July 27 2017

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Chariton cave photo by Amos Frumkin.

Analysis of caves in Israel deserts brings to light the ancient groundwater circulation of north-western Arabia. The cave distribution, morphology, and deposit evidence indicates that they formed through dissolution by

rising groundwater. This water originated as rainwater flowing from highlands around the present Red Sea, infiltrated through sandstone, and rose again through deep faults in Israel, forming maze, or network caves.

The caves must be older than the Dead Sea rift, which breached some of the caves, disrupting the groundwater [circulation](#). Thus the caves are tentatively attributed to the Oligocene-early Miocene periods (around 35-20 million years ago).

The suggested model of cave formation, by hypogenic (rising from depth) water, differs from classic [cave](#) formation process, which relates caves to local water, which enters the ground from above. The hypogenic flow model explains why the caves in Israel are concentrated mainly in the deserts, rather than in the more humid regions.

The study has implications on understanding underground reservoirs of [water](#) and oil, and the possible circulation of these fluids.

**More information:** Hypogenic karst at the Arabian platform margins: Implications for far-field groundwater systems , [doi.org/10.1130/B31694.1](https://doi.org/10.1130/B31694.1)

Provided by Geological Society of America

Citation: Cave mazes (2017, July 27) retrieved 26 April 2024 from <https://phys.org/news/2017-07-cave-mazes.html>

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