

PALEOECOLOGY OF *CYCLOCRINITES DARWINI* (MILLER) - A
CYCLOCRINITID ALGA FROM THE CININNATIAN SERIES (UPPER
ORDOVICIAN)

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Cyclocrinitids are considered to be calcareous green algae closely related to, or members of, the dasycladacean algae. Cyclocrinitids are characterized by a globular thallus 1-5 cm in diameter consisting of whorls of calcified meromes borne from a tubular or spherical central axis. The species *Cyclocrinites darwini* is distinguished from other cyclocrinitids by the presence of lateral branches arranged in a stellate pattern at the distal end of each merome.

C. darwini is restricted to strata of the Cincinnati Series. Specimens are commonly found in shale-filled channels cutting through nodular, irregularly-bedded limestones within the Mt. Auburn Formation and the lower Sunset Member of the Arnheim Formation. Numerous specimens are also known from the Bellevue Member of the Grant Lake Formation at Maysville, Kentucky. Each of these units has been interpreted to be the top of separate shoaling-upward, third-order cycles. These facies are abundantly fossiliferous, often consisting of broken, abraded, and reworked material.

The modern dasyclad *Neomeris* is cited for its structural similarity to the cyclocrinitids and ecological parallels have been postulated as well. *Neomeris* and a similar dasyclad *Batophora*, thrive while attached to pieces of coral rubble at depths of less than 3 m in the high-energy conditions associated with a reef crest environment at Key Largo, Florida.

It is likely that *C. darwini* lived under similar conditions, attached to rubble in shoaling areas. Preservation only occurred in instances when thalli were broken off from their holdfasts and swept into ripple troughs or downslope channels cutting across the shoals. It has been suggested that the presence of cyclocrinitids is indicative of relatively quiet environments below wave base. For *Cyclocrinites darwini*, the opposite would appear to be the case.