

Line-by-Line Comments

Line 19: Constructing an age model based entirely on growth increments is known to be unreliable, and as such I do not have confidence in the described temporal duration of the study.

Line 34: In the interest of unifying language, the authors may benefit from adhering to the definitions of CCA vs. rhodoliths described in Jardim et al., 2025 (<https://doi.org/10.1002/aqc.70121>).

Line 35: The authors may correct a typo: "CCA fulfill a wide range..."

Line 43: The authors cite Sletten et al., 2017, though they still attempt to construct their age model based on growth increments, despite Sletten et al. explicitly demonstrating the unreliability of this approach.

Line 48: Primary and secondary pit connections are additionally diagnostic features for taxonomic identification, which the authors may mention.

Line 69: The authors cite Ragazzola et al., 2012, and as such must be aware of inconsistencies and the capacity for non-temporal controls to be exerted on cell length during anomalous conditions, which could very well have occurred over the last ~40 years. Even if there were a possibility to confirm age model chronological reliability, or sufficient evidence to support the annual nature of growth increments (which has been seen to be widely variable across different localities), these concerns would remain.

Line 117: Whether or not growth hiatuses are reliably identifiable remains an open question. I have concerns that without partial mortality during normal growth, these hiatuses would not be visible. As such, I would advise the authors not to refer to growth increments above the first visible hiatus as a reliable chronological control.

Lines 133–140: This section raises the most concern. The fundamental basis of this paper depends on temporal alignment, which makes two flawed assumptions requiring significant further investigation to validate.