

106. *Helenea Worsley (1971) emend. Bown (2005)*

Emended Diagnosis: Elliptical to subcircular cretarhabdid coccoliths that in LM show a change in birefringence toward the edge of the shield/rim, creating a diffuse bicyclic image; the outer cycle is narrowest. The central area structures are dominated by primary cross bars rather than lateral bars or grills, although the former may be present. Both axial and diagonal cross structures occur. The bars often flare toward their ends.

Remarks: A degree of confusion has arisen due to the description of two identical genera, *Helenea* and *Microstaurus*, in the same year by Worsley (1971) and Black (1971), which, after recombination, include one shared species name for different coccoliths. The genus *Microstaurus* is regarded here as a junior synonym of *Helenea*, and *Microstaurus quadratus* Black, 1971, a junior synonym of *Helenea staurolithina*. *Helenea quadratus* (Worsley, 1971) is included in the genus here and is distinguished by coccoliths with diagonal cross bars.

Bown, P.R., 2005. Early to mid-Cretaceous calcareous nannoplankton from the northwest Pacific Ocean, ODP Leg 198, Shatsky Rise. In Bralower, T.J., Premoli Silva, I., and Malone, M.J. (Eds.), *Proceedings of the Ocean Drilling Program, Scientific Results*, **198** [Online]

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