

Discoaster multiradiatus in the Paleocene of S E England

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The Thanet Formation and Reading/Woolwich Formation of Kent, S.E. England have been biostratigraphically dated as Upper Paleocene in age by a variety of microfossil groups. The Thanet stage was defined on these units and has its type area in the Isle of Thanet, eastern Kent. For full discussion of the sediments, the localities mentioned below, age determination and previous nannofossil studies see Curry et al. (1978, pp. 20-21, Table 1) and Hamilton (in Lord 1982, pp. 137-143, Fig. 6.1, Table 6.1).

Prior to the work of Hamilton the base of the Discoaster multiradiatus Zone (NP9) has been placed approximately at the junction of the Thanet and Reading/Woolwich Formations in the Kent sequence (Curry et al., 1978, Table 1). Hamilton (op. cit.) in a re-investigation of the Paleocene of eastern Kent discovered a single D. multiradiatus in the top of the Thanet Formation at Reculver and consequently lowered the NP8/NP9 boundary. A more detailed investigation of the same Reculver - Herne Bay section by Aubry (1983, pp. 48-49) failed to find D. Multiradiatus and as a consequence she assigned the entire Thanet Formation to NP8, although noting that younger levels of the Thanet Formation might nonetheless belong to Zone NP9. The importance of the precise location of this boundary stems from the wide use of the stage name 'Thanetian' outside the type area.

We have carefully re-examined the first occurrence level of D. multiradiatus (= base NP9) in the Paleocene of Kent. First, we looked again at the remainder of Hamilton's original sediment sample (her actual slide being no longer available) and failed to find further specimens of D. multiradiatus. Second, we re-examined the entire sequence of Thanet and Reading/Woolwich Formations at Pegwell Bay and Reculver - Herne Bay, with very accurately located samples collected as far as possible from fresh sediments in foreshore exposures. A single D. multiradiatus was found in the Thanet Formation at the top of the Pegwell Bay section, i.e. stratigraphically even lower than the previous record from the top of the formation of Reculver.

All normal field and laboratory procedures to avoid contamination were taken and we therefore believe that our record is genuine, however, how much significance should be attached to a single specimen is a matter of opinion. The nannofloral assemblages of the type Thanetian clearly stand in need of detailed re-examination.

Details : Discoaster multiradiatus from Sample 14, Reculver Silts, Pegwell Bay, Kent; section behind hoverport. Photographs UCL - 1999-1 to UCL - 1999-10. (copies available on request)

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