Middle-Upper Devonian series boundary as an example of intent and reality in biostratigraphic zonation

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with 1 figure

Abstract  The position of the global stratotype section and point (GSSP) selected for the Middle-Upper Devonian Series boundary, as announced in the June 1987 issue of Episodes, exemplifies how a final decision by a voting body may inadvertently alter its own original intent. The original 1982 decision of the IUGS Subcommission on Devonian Stratigraphy (SDS) intended to place this series boundary at the base of the Lower asymmetricus conodont Zone, as defined by Ziegler in 1971. He defined that zone by the joint occurrence of Polygnathus asymmetricus and Ancyrodella rotundiloba before the first appearance of Palmatolepis punctata. However, the final 1985 decision by the same body located the boundary in a rock sequence at a position based on a taxonomic redefinition, made in the meantime, of the definitive key species, A. rotundiloba. The inclusion of phylogenetically older forms than the one on which both the species and the zone originally had been defined resulted in placement of the GSSP not only below the Lower asymmetricus Zone, but low within the underlying Lowermost asymmetricus Zone. The moral is that, unless zonal revision is formally proposed, a zonal boundary should not move with successive taxonomic revisions of the definitive species otherwise zonal boundaries would be in a constant state of flux.

Discussion

The global stratotype section and point (GSSP, sensu Cowie et al., 1986) selected by the IUGS Subcommission on Devonian Stratigraphy (SDS), as reported by Feist, Kirchgasser, and Klapper (1986) and Klapper, Feist, and House (1987) is the base of bed 42a' at Col du Puech de la Suque section (CPS-E) in the Montagne Noire, southern France (Klapper, 1985, fig. 2; this paper, Fig. 1).

This point is at a cryptogenic or biofacies first occurrence of a conodont taxon that Klapper (1985, Pls. 1, 2, 3) termed Ancyrodella rotundiloba (early form), illustrations of which are from specimens found in the next higher two beds, 42b and 43.

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