Stratigraphic potential of radiolarians for determining the Jurassic/Cretaceous boundary: evidence from pelagic sequences in the Pacific and Tethys

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The Global Boundary Stratotype Section and Point (GSSP) of the Jurassic/ Cretaceous (J/K) boundary is the last among the GSSPs in the Phanerozoic. It is defined as the base of the Berriasian Stage. The formal definition was made in 2016 to use the base of the *Calpionella alpina* Subzone as the primary marker by the Berriasian Working Group in the International Subcommission on Cretaceous Stratigraphy. The definition is satisfactorily applicable for shallow marine deposits within the western Tethys and north Atlantic. Unfortunately, the primary marker taxon cannot be found in the Pacific and circum-Pacific regions since the distribution of *Calpionella* is limited to the western Tethys and north Atlantic. To determine the base of the Berriasian outside of these regions, alternative markers are needed.

Radiolarians are good candidates for determining the J/K boundary because they are wide spread and can be found both shallow and deep sedimentary facies. Pelagic sequences across the J/K boundary have been reported in ODP/IODP sites in the western Pacific and land sections in Japan, the Philippines, southern Tibet, Iran and others. Evolutionary series of several radiolarian lineages across the J/K boundary are reviewed and suitable bioevents, which are approximate to the J/K boundary, are proposed. These lineages include the radiolarian genera *Archaeodictyomitra, Cinguloturris, Eucyrtidiellum, Hemicryptocapsa, Hsuum, Loopus, Mirifusus, Neorelumbra, Ristola, Podocapsa, Pseudodictyomitra, Tethysetta, Thanarla*, and *Vallupus*.