

POSTER PRESENTATION

ELEVATION OF A VARIETY OF TETRACYCLUS LANCEA TO THE SPECIES LEVEL FROM THE QUINCY DIATOMITE, CENTRAL WASHINGTON, USA

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A new species of fossil *Tetracyclus* Ralphs is observed in the Miocene Quincy Diatomite and preliminarily described herein. In 1912, Hustedt described the diatom species *Tetracyclus ellipticus* var. *lancea* f. *subrostrata*, with the type locality as “Columbia River, Fossil”. The type specimen of this form has subrostrate to subcapitate apices that are rapidly attenuated, and is distinctly smaller than specimens of nominate form. In 1996 Williams elevated *T. ellipticus* var. *lancea* to the species level, calling it *T. lancea* (Ehrenberg) Peragallo. Williams specified dimensions, number of rimoportulae, and striae count for *T. lancea*, but made no comment on the forms of this newly elevated species. Identifications of this diatom have been restricted to material from the Miocene of the NW United States, and are quite rare in the literature. The Quincy Diatomite, located in central Washington, is a pure diatomaceous silica deposit of Miocene age (approximately 15 Ma). *T. lancea* v. *subrostrata* is common in the Quincy Diatomite in 3 localities sampled in the western Quincy Basin. Populations observed within the deposit indicate this variety should be treated as a separate species; it is distinguished by a smaller size range, number and position of rimoportulae, striae count, and distinctive girdle band and septum shape. Specimens observed display measurements ranging 18-55µm whereas those provided by Williams for *T. lancea* are 60-140µm. The rimoportulae are more consistently located on the central valve margin in *T. lancea* f. *subrostrata*, whereas they are in a more variable location on the valve face, and less consistently on the valve margin in *T. lancea*; the number of rimoportulae in *T. lancea* f. *subrostrata* is also most commonly reduced to 1, whereas *T. lancea* ranges from 1-3. These observations are derived from hundreds of specimens from the Quincy Diatomite and provide strong evidence for elevation of this form to the species level.