

MORPHOLOGICAL VARIATIONS IN *PLIOCAENICUS* AND RELATED THALASSIOSIRACEAE DURING THE LATE PLIOCENE AND PLEISTOCENE IN LAKE EL'GYGYTGYN, CHUKOTKA, NORTHEAST RUSSIA

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In 2009, the 3.6 million-year-old impact crater Lake El'gygytgyn was drilled (ICDP site 5011), and studies of the sediment record are ongoing. Diatom light microscope slides have been prepared and analyzed from systematic down-core sediment samples, and SEM analyses have been completed at selected intervals. Planktonic diatoms are abundant through most of the sediment record. *Pliocaenicus seczkiniae* Stachura-Suchoples, Genkal et Khursevich, has previously only been reported from the modern lake and in previously recovered sediment core records to about 15 ka. This taxon has persisted in the lake since 2.1 Ma with variation in morphology and ranging from the dominant taxon to sporadic occurrence in the diatom assemblage. From 1.2 to 3.5 Ma substantially different *Pliocaenicus* and related Thalassiosiraceae occur and, together with *P. seczkiniae*, dominate the planktonic assemblage. These taxa show extensive morphological variations through time including valve shape and diameter, marginal costae and areolae measures, valve face relief and ornamentation, rimaportula structure and position, valve face fultoportulae position and external openings, and development and structure of the alveolae. Major shifts in these taxa appear to be driven by climatic events inferred from the sediment record.