

***FRANKOPHILA WAYQECHAE* SP. NOV.,  
A NEW DIATOM SPECIES FROM THE PERUVIAN ANDES**

P.C. Furey<sup>1,5</sup>, S. Mayama<sup>2</sup>, R.L. Lowe<sup>3</sup>, A. Catenazzi<sup>4,5</sup>

<sup>1</sup>Department of Biology, Saint Catherine University, St. Paul, MN, 55105, USA

<sup>2</sup>Department of Biology, Tokyo Gakugei University, Koganei-shi, Tokyo, 184-8501, Japan

<sup>3</sup>Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403, USA

<sup>4</sup>Department of Biology, Gonzaga University, Spokane, WA 99201, USA.

<sup>5</sup>Department of Integrative Biology, University of California, Berkeley, 3060 Valley Life Sciences Bldg #3140, Berkeley, CA, 94720-3140, USA

*Frankophila* is characterized in appearance as a small chain-forming genus with frustules held together by interdigitating marginal spines. Both valves of species in this genus possess a short raphe at the distal ends of the valve. Five species of *Frankophila* have been recognized to date with most being described from subaerial habitats. Exploration of moist, vertical, rock walls in the Peruvian Andes led to the discovery of a *Frankophila* species new to science. We describe *Frankophila wayqechae* Furey, Catenazzi, Lowe et Mayama sp. nov. from a high altitude (3506 m.a.s.l ), moist, vertical wet wall located in the transition zone between the grasslands and cloud forests growing on the eastern slope of the Andes in Manu National Park. We present light and scanning electron micrographs of internal and external morphology and ultrastructure, along with basic ecological information are presented. We compare this new species with morphological similar taxa, including *Hygropetra* Krammer & Lange-Bertalot. *Frankophila wayqechae* appears to be restricted to high elevation areas in the Peruvian Andes. The triseriate striae and depressions in the valve sternum of *Frankophila wayqecha* differentiate it from other currently described *Frankophila* species. *Frankophila wayqechae* has morphological characteristics intermediate between the genus *Frankophila* and the genus *Hygropetra* which suggests a close phylogenetic relationship between these taxa. Tropical mountain tops in Peru and throughout the Andes are areas of high species richness and endemism for many plant and animal groups, including the algae. We anticipate the discovery of more new diatom taxa from the subaerial samples in this study.

POSTER