

## **Project Summary**

### **Rocky Mountains Cooperative Ecosystem Studies Unit**

**Project Title:** Taxonomy and Paleoenvironmental Indications of Fossil Diatoms from the Florissant Formation

**Discipline:** Natural

**Type of Project:** Research

**Funding Agency:** National Park Service

**Other Partners/Cooperators:** University of Colorado

**Effective Dates:** 5/15/2005 - 9/30/2008

**Funding Amount:** \$21,150.00

**Investigators and Agency Representative:**

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**Project Abstract:**

Both the NPS, RM-CESU and Florissant Fossil Beds NM are funding this project to research fossil diatoms from the Florissant Formation in order to determine the taxonomic composition of the diatom assemblage, infer paleoenvironmental conditions in the late Eocene lake, and determine important patterns in the early evolution of freshwater diatom diversification. Within the Florissant Formation, diatoms are remarkably well-preserved in Eocene lake deposits. The deposits within the Monument represent one of the world's earliest well-preserved fossil records for freshwater diatoms. Despite the importance of these diatoms, they have received practically no scientific examination. The objectives of the proposed research are intended to provide: 1) descriptions of new species of diatoms, 2) original and significant new evidence towards reconstruction of diatom evolutionary history, and 3) an understanding of the Eocene freshwater lake ecology and paleoenvironment.

**Outcomes with Completion Dates:**

- 1) Sets of prepared fossil diatom slides for cataloging and permanent collections storage
- 2) Taxonomic data and photographs about fossil diatoms (including new species) for inclusion in the existing database-website of Florissant fossils
- 3) Paleoenvironmental analysis of data
- 4) Graduate dissertation and/or peer-review manuscript for publication

**Keywords:** taxonomy, paleoenvironmental indicators, fossil, diatom, Florissant Formation, Florissant Fossil Beds National Monument, University of Colorado at Boulder

**For Administrative Use Only:**

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: