Paleontology Students Visit Famous Fossil Site

by Dena Smith, Curator of Invertebrate Paleontology

Invertebrate Paleontology Group:
(From Left to Right: Dr. Dena Smith, Carter Casad, Chrissy Spence, Kevin Webster, Mary Ellen Benson, Blake Stepan and Jenell Thoene. Not pictured: Erin Leckey and George Whitney)

Museum and Field Studies Masters student, Chrissy Spence, examining a piece of shale.

Mary Ellen Benson and George Whitney examining layers of rock for information about ancient lake Florissant.

In September 2008, the University of Colorado Museum of Natural History's Invertebrate Paleontology students and volunteers took a one-day field trip to the Florissant Fossil Beds of Colorado. Dena Smith, Curator of Invertebrate Paleontology at the University of Colorado Museum of Natural History and Assistant Professor in the Geology Department led the Museum group. Florissant is located to the west of Colorado Springs and is one of the world's richest fossil deposits. Over 1,500 fossil insects and 150 fossil plant species have already been described from Florissant. Numerous other invertebrates, microfossils, and vertebrates have also been found and described. Most of these fossils are preserved in the fine-grained rocks that used to be ancient lake beds from the late Eocene (approximately 34 million years ago).

Museum researchers and students visited Florissant Fossil Beds National Monument, where they examined giant petrified tree stumps and explored well-known excavation sites. They studied the rocks found at Florissant to learn about the timing of geologic events that helped create the ancient lake Florissant and ultimately led to the preservation of the organisms in the ancient lake. The group then visited the Florissant Fossil Quarry (http://members.tripod.com/florissantfossils/), a privately owned site, to examine another area of ancient lake Florissant and to collect fossils. Students learned fossil collecting techniques and found an abundance of both plant and insect fossils in these fine-grained rocks.

Dr. Smith studies fossil insects and is one of a few researchers who have focused on the ancient insects of Florissant. Dr. Smith has co-edited a book with Dr. Herbert Meyer, Florissant's Park Paleontologist, about the Paleontology of Florissant titled, "Paleontology of the Upper Eocene Florissant Formation, Colorado" (To order this book, go to: http://www.geosociety.org/bookstore/default.asp?olD=0&catID=9&pID=SPE435).

Together, Dr. Smith and Dr. Meyer have applied for and received numerous grants to conduct research on the paleontology of Florissant. Their newest funded project will include new excavations of famous Florissant fossil insect localities. This will allow them to understand how the collection techniques that are used affect our understanding of insect diversity levels. In addition, they will be able to gain a greater understanding of the processes that lead to the fossilization of insects. These new excavations will take place in summer 2009 – so keep your eyes open for exciting new fossils and opportunities to help!