

HONR 259C: “Fearfully Great Lizards”: Topics in Dinosaur Research
Spring Semester 2007

Critical Review II: Trace Fossil Analysis
DUE: Tuesday Feb. 27

Overview

The general public tends to think of dinosaur fossils merely in terms of body fossils: skeletons and isolated teeth and bones. But trace fossils—the record of animal behavior preserved in sedimentary rock—opens a very different window into the world of dinosaurs. After all, while body fossils are parts of dead individuals, trace fossils were made by the living, breathing animals.

Specific Questions to Address

What is(are) the specimen(s) in question? Describe the basic attributes, such as:

- The type of fossil (e.g., a series of tracks; a coprolite; tooth-marked bones; etc.)
- Its place of discovery
- The geological unit in which it was deposited, and its geologic age
- Is this the first description of the specimen, or is it one that has previously been described?

What behavior(s) do the trace fossils record?

Does the trace fossil record the interaction between different individuals of the same species? Between individuals of different species? If so, how are these interactions recognized?

Is this the first time this particular behavior has been recorded for the species in question?

Are there other contributions made by discovery and analysis of the trace fossils? Do they extend out geographical or stratigraphical (time) range for a particular group?

To what degree is the sedimentary setting important to the discovery? Is it merely incidental (i.e., merely the medium in which the trace fossil was preserved), or does information about the depositional environment contribute to our understanding of the habits and habitat of the dinosaur species in question?

Were there any other aspects of the specimen that the authors felt were a significant new contribution? If so, what were these?

In your analysis and observations, do the conclusions of the authors seem justified? Are there other reasonable hypotheses that you think might be better supported by the evidence? If so, what are they and how would the evidence better support them?