Overview

The diet of an animal is one of its most basic attributes, and affects many additional aspects of its biology and behavior. But how can we determine what fossil organisms ate? In the majority of cases, we can infer the diet of extinct animals by physical attributes such as their dentition. However, there are a number of cases where more direct means of assessing the feeding strategies of an extinct animal are accessible. Your task is to review one of those cases.

Specific Questions to Address

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

- The type of fossil (e.g., what particular bones; a coprolite; a cololite; 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 animal did the eating? How was the identity of the eater ascertained? That is, what information, methods, and analytical techniques were used to determine the animal doing the eating?

What was the “eatee”? That is, what had been eaten? What information, methods, and analytical techniques were used to determine the identity of the food object?

Did this discovery reveal hitherto unknown or unconfirmed aspects of the diet or food-processing ability of the eater? If so, what were the new aspects? Alternatively, did this discovery simply confirm previously inferred aspects of the diet or food-processing ability of the eater?

Did this discovery reveal any hitherto unknown or unconfirmed aspects of the “eatee”? (Beyond any information in the previous set of questions, that is.) If so, what were these aspects?

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?