

Geological Society of America *Abstracts with Programs*
Vol. 46, No. 2, p. 77. 2014

ROOTS ARE OFTEN NOT TRACES AND NEED A TERMINOLOGY DIFFERENT FROM ANIMAL ICHNOFOSSILS

PFEFFERKORN Hermann W., Department of Earth and Environmental Science, University of Pennsylvania, Philadelphia, PA 19104-6316, hpfeffer@sas.upenn.edu

Plant bioturbation leaves structures in sediments and paleosols that often occur together with animal trace fossils. Nevertheless, the structures created by plants are quite different from those produced by animals and cannot be described according to the same rules that apply to animal created ichnofossils. plant roots can be preserved as mummified roots, permineralized roots, casts and/or molds, compressions, impressions, or impressions with a clay film. All these forms of preservation are body fossils and not trace fossils. On the other hand rhizohaloes, rhizolith, rhizcretions, rhizotubules, and deflections of bedding planes by roots qualify as trace fossils when the root has left no other preserved remnant. However, these structures are still different from most forms of animal trace fossils. In addition, there are cases where bioturbation by roots occurs, often together with other soil forming processes, that destroys all sedimentary structures but also leave no specific structures. The recognition of the difference of plant produced sedimentary structures and bioturbation from animal ichnofossils will clarify the interpretations and enhance the information that can be extracted from these occurrences.