**An Introduction to Traces of Early and Extinct Life.**

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Understanding the history of ancient life on Earth, will help refine our search for ancient life on rocky planets in our solar system and beyond. The history of life in the rock record is intrinsically tied to the preservation of those life traces and the rocks that host them. Here we review the traces of early life recorded in the geological record, and discuss their preservation and interpretation. Traces of early life on Earth are preserved in a variety of ways here grouped for simplicity as Body Fossils, Trace Fossils, and Chemical Fossils, and collectively referred to as Life Traces. Life has probably existed on Earth for at least 4.0 billion years; however, the interpretation of the earliest putative life traces is often highly contested. This is due largely to ambiguities caused by poor preservation of the host rocks and the Life Traces they contain. The preservation state of this material is a result of the dynamic surface environments and tectonics of the Earth. This dynamism causes the geologically frequent recycling of sediments and sedimentary rocks, and any Life Traces they contain. However, early preservational filters such as depositional setting, are just as important to the final preservation of Life Traces. The diversity of preservational styles of Life Traces changes through time with the chemical and biological evolution of the Earth surface. Ongoing work suggests there may be preservation styles of early Life Traces that have been previously overlooked. On rocky planets with no plate tectonics, depositional setting is still probably a major preservation filter. However, with no regional tectonics or metamorphism, physical and chemical weathering are probably the main post burial and exhumation stage filters to the preservation of Life Traces.