Distribution of biogenic sedimentary structures in a high energy beach

SEIKE, Koji\(^1\), Shin-ichi YANAGISHIMA\(^1\), Yoshiaki KURIYAMA\(^1\)

\(^1\)Port and Airport Research Institute

Trace fossils not only provide information on the autoecology of ancient animals but also on the paleoenvironment in which the trace-producing animals lived; improving our understanding of trace fossils requires analysis of their modern analogs. However, almost all studies on modern burrows have been carried out only on intertidal settings (tidal flat, foreshore, and marsh). Paleoecology and paleoenvironmental implications of trace fossils in shallow-marine deposits were poorly understood to date. We conducted neoichnological survey on a modern shoreface setting in a high energy beach (the Hasaki Coast, central Japan), and revealed distribution ranges and trace-producers of shallow-marine trace fossils (\textit{Bichordites}, \textit{Macaronichnus}, \textit{Ophiomorpha}, and \textit{Teichichnus}). The result might be useful for reconstruction of the detailed paleoenvironment of ancient shallow-marine deposits.

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