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## THE ICHNOFOSSILS OF THE HOPE BAY FORMATION (TRINITY PENINSULA GROUP, TRIASSIC), ANTARCTICA

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The Triassic Hope Bay Formation (Trinity Peninsula Group) includes a diverse ichnocoenosis at Puerto Moro succession (Hope Bay, Antarctica Peninsula). This unit is a thick turbidite succession with a minimum exposure of 533 meters along the Hope Bay coast. The rocks are locally affected by contact metamorphism due to subsequent arc magmatism and tectonism. Four lithofacies and facies associations were recognized; ichnofossils are mainly found in the thick- and thin- bedded sandstone-mudstone facies. This facies is composed by a monotonous repetition of sandstone-mudstone cycles. The sandstones are usually medium grained, massive or parallel laminated; the mudstones are massive and rarely laminated. Different degrees of bioturbation were noted in the fine-grained deposits. At least six ichnotaxa were observed, including *Arenicolites* Salter, 1857; *Lophoctenium* Richter, 1850; *Palaeophycus* Hall, 1847, *Phycosiphon* von Fischer-Ooster, 1858, and *Taenidium* Heer, 1877. Feeding trace fossils are dominant. The trace fossil assemblages generally occur in black, organic-rich mudstones, in a low oxygen environment. The stratigraphic interval is interpreted as having been accumulated in progradational supra-fan lobes with channel fill and levee deposits. In particular, the thin-bedded turbidite and mudstone with abundant ichnofossils were interpreted as distal fan turbidite or levee deposits related to a long-term channel fill.