

Ichthyology of the Devonian (Emsian) Campbellton Formation, New Brunswick, Canada

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The Campbellton Formation is exposed along the banks of the Restigouche River-Bay of Chaleur, New Brunswick. The formation has long been known to yield a fossil assemblage of Devonian (Emsian) fish and eurypterids at its westernmost exposure near Campbellton and Atholville, and a well-described flora and early land animal fauna toward its easternmost exposure near Dalhousie Junction. Although the paleobotany, vertebrate and invertebrate paleontology, paleoecology, and paleoenvironment have been extensively studied, ichnofossils are rare and have not been described as a component of the fossil assemblage. Fossils from the vertebrate and eurypterid-bearing "Atholville Beds" contain a low diversity ichnofossil assemblage represented by three ichnotaxa: *Monomorphichnus*, *?Taenidium*, and *Helminthoidichnites*. The trace fossils *Helminthoidichnites* and *?Taenidium* are thought to be produced by shallow subsurface invertebrate fauna. *Monomorphichnus* has classically been interpreted as a trilobite surface trace produced by the trilobite appendages being dragged across the sediment. Trilobites are not known from the Campbellton Formation, and the paleoenvironment has been interpreted by others to be deposited in a nonmarine setting, alternating mouthbar-delta front-prodelta environments, thus excluding marine fauna. Alternate tracemakers are here inferred.

102 *Monomorphichnus* is proposed as being produced by the activity of the eurypterid *Pterygotus anglicus*, the only organism known from the fauna that might be considered the tracemaker. Little evidence exists for the diet and feeding strategy of pterygotid eurypterids, however based on body morphology they are typically considered to have been active swimmers and top predators, probably feeding on fish. *Pterygotus anglicus* may have had alternate feeding strategies during its life cycle, preying on soft-bodied slow moving animals. *P. anglicus* may have raked the sediment using the chelicerae to dislodge annelids responsible for *?Taenidium* and *Helminthoidichnites*.