Kouphichnium aspodon, a new occurrence of invertebrate traces from the Joggins Fossil Cliffs UNESCO World Heritage Site, Nova Scotia, Canada

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The vertebrate ichnofossil record at Joggins is a template for Paleozoic vertebrate ichnotaxonomy that dates back to the early 1900s. However, despite some of the earliest descriptions of invertebrate ichnofossils (*Diplichnites*) being noted by Dawson at Joggins in the 1800s, invertebrate ichnofossils from there have yet to be systematically studied. Although the ichnogenus *Kouphichnium* is known from the Joggins Fossil Cliffs, the ichnospecies *Kouphichnium aspodon* has only been recorded previous to this study from the Mississippian-aged Mauch Chunk Formation (Pennsylvania), and from the Pottsville Formation at the type locality of the ichnospecies in Alabama. A third occurrence of this species has now been discovered at the Joggins Fossil Cliffs from the Springhill Mines Formation at Denis Point. This specimen was discovered by the late citizen scientist Donald Reid. The invertebrate trackway is associated with other invertebrate ichnofossils including different ichnospecies of *Kouphichnium*. *Kouphichnium* has been ascribed to xiphosuran locomotion. A single specimen of *Kouphichnium aspodon* is here interpreted to be produced by either a eurypterid or synxiposurian from the lower most Springhill Mines Formation. Like limulids, eurypterids are known to travel inland from the oceans to quiescent brackish conditions to moult and mate. Although body fossils of eurypterids are rare at Joggins, they have been described from cuticle fragments that were found inside lycopsid trees by Dawson in the nineteenth century, associated with tetrapod bones, millipedes and land snails. This discovery suggests that the strata exposed at Dennis Point may have been at least distally connected to marine waters.

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