

**Ichnology of non-marine Carboniferous strata between Cheticamp and Inverness,
northwestern Cape Breton Island, Nova Scotia**

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Non-marine Carboniferous strata in coastal sections of northwestern Cape Breton Island represent the Horton Group, Mabou Formation (Canso Group), Port Hood Formation (Riversdale Group) or Inverness Formation (Pictou Group) from previous maps. Studies have concentrated on the Mabou and Port Hood formations which predominate in this area.

Two major trace fossil localities have been discovered. At Grand Etang, within laminated red siltstones and grey current-rippled, fine-grained sandstones assigned to the Mabou Formation, the trace fossil suite includes *Helminthopsis isp.*, *Palaeophycus striatus*, *Palaeophycus isp.*, *?Planolites isp.*, *Cruziana problematica*, *Circulichnis montanus*, *Rusophycus didymus*, *Skolithos isp.*, *?Ancorichnus isp.*, and several unnamed meniscate burrows, tracks and ? footprints.

The ichnocoenose encountered from similarly interbedded red siltstones and grey sandstones near Broad Cove, in strata previously assigned to the Port Hood Formation, comprises *Rusophycus didymus*, *Cruziana problematica*, *Helminthopsis isp.*, *Palaeophycus striatus*, *Stiaria intermedia*, *Gordia marina*, and *?Planolites isp.*, together with unnamed tracks, ? meniscate burrows and vertebrate footprints.

In both cases, associated raindrop imprints, desiccation cracks and possible soil horizons have confirmed the non-marine origin of the sediments and the trace fossils. The depositional environment of these trace fossil-bearing sediments is interpreted as that of a low energy floodplain, with intermittent sheetflood events, an environment typically representative of the *Scoyenia* ichnofacies to which this trace fossil suite belongs.