The top predator of Joggins and its tracker Donald Reid

MATT STIMSON[1], JOHN CALDER[2], AND BRIAN HEBERT[3]

1. New Brunswick Museum, 1 Market Square, Saint John, New Brunswick E2L 4Z6, Canada ¶ 2. Nova Scotia Department of Natural Resources, Box 698, Halifax, Nova Scotia B3J 2T9, Canada <john.h.calder@novascotia.ca> ¶ 3. Joggins, Nova Scotia B0L 1A0, Canada

The Carboniferous section exposed at the Joggins Fossil Cliffs World Heritage Site is famed for its record of Pennsylvanian tetrapods and their footprints. The tetrapod body fossil record is dominated by small tetrapods due to their taphonomic bias of being entombed within fossil tree hollows. The corresponding record of larger tetrapods at this locality is scarce. A clue to the existence of large tetrapod footprints at Joggins was first recognized by Sir William Dawson, who collected a partial print later assigned by George Frederick Matthews in 1905 to *Baropezia abscissa*. In the late Twentieth Century, a much richer record emerged primarily due to discoveries by Don Reid that included numerous specimens of the largest tetrapod footprints yet discovered at Joggins. The footprints have been documented from within a 1500 m thick interval that spans the upper Boss Point Formation and overlying Little River and Joggins formations, all of the Cumberland Group. The age of this stratal interval falls within the Bashkirian stage of the Lower Pennsylvanian. Ascribing the footprints to existing ichnotaxa has been problematic, in part due to the antiquity of descriptions, synonomy of large tetrapod footprints of this time period, and a restricted number of type specimens. Candidate ichnotaxa from the published literature include the ichnogenera *Baropezia*, *Pseudobradypus*, *Schmidtopus*, *Parabaropus*, and *Megapezia*. The newly recognized footprints conform best to the concept of *Baropezia* but not to a known ichnospecies. The footprints average 10 cm in width, with stubby toe prints that invariably show extramorphological variation created by extraction of deeply impressed feet with resulting toe drags. As is usually the case, there is no ‘Cinderella with its foot in the slipper’; an incomplete skeletal record of a crocodile-sized tetrapod comprising a jaw and pelvic girdle, assigned at least in part to the amphibian *Baphetes*, is the leading candidate for trackmaker. It is fitting that footprints of the top predator and largest tetrapod at Joggins eventually be named in honour of Mr. Reid, ‘Keeper of the Cliffs’, who has excelled in his ability to recognize the fossil footprint record of Joggins, and whose collection contributed to the inscription of Joggins on UNESCO’s list of World Heritage.

Atlantic Geology, 2015, Volume 51, Number 1
41st Colloquium & Annual General Meeting 2015
doi: 10.4138/atlgeol.2015.005