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The Recovery of Some Large Track-Bearing Slabs from Joggins, Nova Scotia*

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Late in 1963 a fresh fall of rock from the cliffs at Joggins, northern Nova Scotia, exposed a large bedding surface of Carboniferous sandstone traversed by fossilized trackways. The largest and most obvious set of trackways was at that time assumed to be of amphibian origin (as reported by the author in MARITIME SEDIMENTS, 1965, v. 1, no. 1, p. 13); but recent detailed study has shown, however, that they are definitely arthropodan in origin. During subsequent visits to the area it became apparent that the slabs were showing signs of weathering, and it was realized that unless something were done to preserve them, they would soon be lost to science. As a result of convincing arguments presented by DR. D.H. WILLIAMSON, Professor of Geology, to the University administration, MOUNT ALLISON UNIVERSITY agreed to sponsor the recovery of the trackways.

On the morning of 29 November 1965, a cavalcade of heavy equipment set out along the beach between Lower Cove and Joggins to tackle the momentous task of recovering as much as possible of the huge slab (estimated to weigh 80 tons!). A bulldozer went ahead to clear a path for the rest of the equipment.

Several hundred tons of waste material had to be cleared from around the track-bearing slabs before they could be got at. Some smaller pieces of the slabs, weighing a ton or two, were loaded onto the trucks directly without much difficulty. Many of the larger slabs were cut by pneumatic drills to reduce their bulk to a minimum, removing "trackless" material.

The main slab measured approximately 16 by 12 feet, and was about 4 feet thick, and its removal offered the major problem of the day. Cables were attached to the lower end of this slab, and it was slowly pulled out from the base of the cliff by a bulldozer and a payloader. Since this slab was holding up a vast amount of shaly rock waste, its removal was rather hazardous, and some of the minor landslides were quite spectacular. Once the slab was level on the beach, MR. ARTHUR LEBLANC, of Shediac, a stone mason with a life's experience of stone cutting, advised on how the slab should be split. The slab was successfully split at the desired level and the trackways were then only attached to about 15 or 18 inches of sandstone instead of 4 feet. During the subsequent removal of this top slice, it opportunely broke into about three pieces, which greatly eased the strain of loading it onto the trucks.

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Figure 1. A bulldozer and payloader prepare to remove the track-bearing slabs (on right) from the bottom of the Joggins cliff.

The high tide stranded the party and the equipment for an hour or two, but this did not really interfere with the progress of the work, though this had to be completed in the glare of the vehicle headlights. The final procession of vehicles returning along the beach must have been an awesome sight to the inhabitants of Lower Cove.

The writer, who discovered the trackways and supervised their recovery and subsequent treatment, made an 8 mm movie film of the recovery which records most of the events of the day and gives a good impression of the size of the operation.

The slabs were transported to Shediac, N.B., where they were cut into thinner, smaller, more manageable pieces at the stone-cutting plant of E.A. SMITH (where the red sandstone for Mount Allison's new buildings is cut). The jig-saw puzzle of pieces was reassembled, and the tracks measured and photographed (Figure 2). A large rubber latex mould was made of the track-bearing areas at the request of the ROYAL ON TARIO MUSEUM. A polyester resin and fibreglass cast is currently being made from this mould at Mount Allison, where it will be put on display in the hallway of the Geology Department.

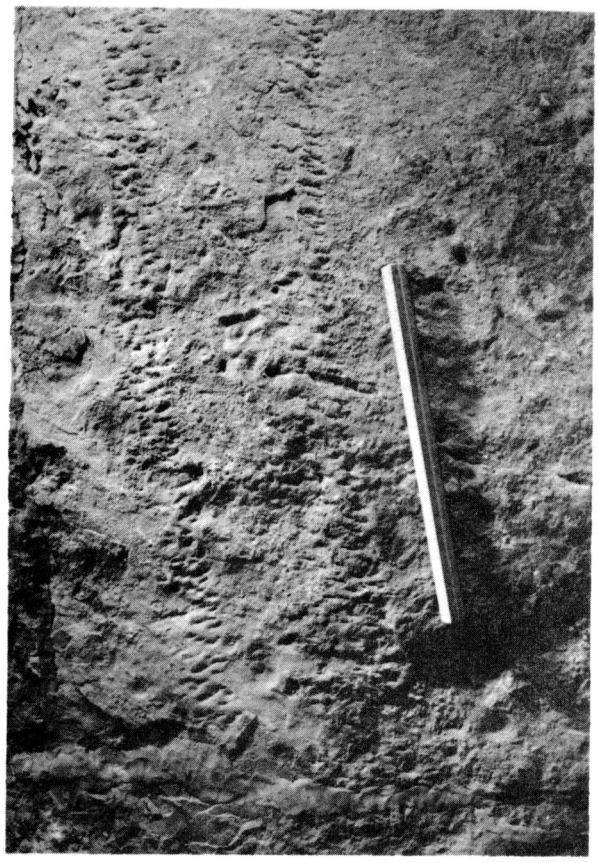

Figure 2. A portion of one of the arthropod trackways in Carboniferous sandstone, Joggins, Nova Scotia.

A progress report on the study of the trackways themselves will appear subsequently. However, it was felt that the recovery of what must be one of Canada's largest fossil specimens should be put on record at this time.