

# The Field Naturalist: John Macoun, the Geological Survey and Natural Science

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# Book Reviews

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## The Field Naturalist: John Macoun, the Geological Survey and Natural Science

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By William A. Waiser  
253 p., 1989; \$30.00, cloth

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To review, in a geological journal, the biography of a botanist may seem an anomaly; but then, John Macoun himself constituted an anomaly in geological history, since for 31 years he was employed — and employed as a botanist! — by the Geological Survey of Canada. His autobiography, published posthumously in 1922, describes at length his investigations in the field and presents his own, not-too-modest assessment of his work; there were a few obituary notices and there have been some brief recent accounts of his life and achievements. However, Macoun's influence on the development, not only of the Geological Survey, but also of our Canadian museums and our approaches to natural history in general, was so considerable that a full-length study of his work is long overdue.

John Macoun was born on a family farm in Maralin, County Down, Ulster in 1831. (An unresolved mystery nowadays — the answer must, of course, have been known to his contemporaries — is the correct pronunciation of his surname; should it be "Maccoon", "Macoan" or "Macown"? In successive attempts at it, no two naturalists seem ever to agree!) His family and he immigrated to Canada, in 1850, settling in Seymour Township, Northumberland County, about 90 miles east of Toronto. Soon enough, John felt able to apply for his own homestead.

However, even back in Ulster John had been interested in flowers and, in this new environment, this interest grew. In quest for more leisure in which to develop this hobby, he decided upon a change of occupation. Gaining a teaching certificate that required (in those old, lax days) only a three-week

apprenticeship, he secured a position as a schoolteacher in Brighton, near Belleville. He proved very successful:

... Macoun tried to make his classes as stimulating as possible, while always encouraging his students to ask questions. "Enthusiasm wins every time", he once advised a young colleague, "and only those who are full of it rise to the top and stay". (p. 6)

And indeed that statement expresses neatly, not only the fundamental cause of the successes Macoun was to achieve, but also his ebullient self-confidence — the self-confidence that was destined, not only to make, but also (at least, from a historical perspective) to mar his career.

Macoun's rise to fame and fortune, if not speedy, was steady. Though based in considerable measure upon his very real achievements in expanding Canadian botany outward from the very slenderest of bases, it was based equally upon some useful friendships and upon his furnishing of valuable support to the plans of politicians. In 1860, he moved to a larger school in Belleville, under the patronage of Mackenzie Bowell, then editor of the *Belleville Intelligencer* but destined to be a Conservative Prime Minister of Canada. (Macoun's prompt decisions to join the Conservative Party and to support the Orange Lodge were surely *not* mere coincidence!) By 1868, he was invited to fill a new chair in Natural History at Albert College, an honorary Master of Arts degree being provided to qualify him for this position. Macoun's steady opposition to Darwinian evolutionary concepts may well have caused him to be chosen over other persons considered for this position (p. 14).

Yet Macoun was not contented; he wished to spend, not merely his leisure hours, but his whole time as a botanist. He had always been, by inclination, primarily a field naturalist. Though he was not averse to collecting invertebrates, mammals and reptiles also, the seeking out of undescribed or unrecorded plant species was his particular pleasure. A chance meeting on a Great Lakes steamer with Sandford Fleming, a civil engineer and railway surveyor who had already attained distinction and influence, gained for Macoun an invitation to take part in the survey for the Yellowhead route of the transcon-

tinental railway (p. 16, 19); and, in the ensuing decade, he was to participate in five separate exploratory surveys westward. The later expeditions were financed by the Geological Survey whose Director, A.R.C. Selwyn, recruited Macoun to undertake the biological work; and soon Macoun was delightedly visualizing himself as a permanent Survey employee. Moreover, during his crossings of the Canadian prairies, he had gained a sense of mission, even of vision (p. 30). In Macoun's field notebook for 1875 (quoted on p. 31), he wrote:

But is this solitude to last — No! 200 miles eastward [at Winnipeg] a low steady tramp is heard — It is the advance guard of the teeming millions who will yet possess this land ...

The gloomy assessments of the prospects for agriculture in these western lands, made earlier by Palliser and Hind, held no appeal for Macoun; quite the contrary, for he regarded himself as the saviour of the prairies (p. 36, 40-41), whose future he had no least doubts: —

Want, either present or future, is not to be feared and man living in a healthy and soul invigorating atmosphere will attain his highest development, and a nation will yet arise on these great plains that will have no superior on the American continent. (p. 40)

In hindsight after the Great Depression, such a prediction rings hollow. There can be no question that Macoun misunderstood the climatic circumstances of the Canadian prairies and quite failed to anticipate the problems that would confront the prairie farmer, indeed he believed erroneously that the soils, after they had been broken, would become increasingly productive instead of progressively less so (p. 42-45, 49-50). Yet, at the time, his ideas suited perfectly the expansionist mood of Canada. Macoun became the darling of politicians who were casting covetous eyes westward; and he attained a status in the eyes of the public that was quite unprecedented by any other botanist in any land.

A consequence was Macoun's appointment, in 1881 and at the age of 50, to a permanent position with the Geological Survey of Canada. It was not an appointment that Selwyn initially considered desirable, for the Director had other priorities (p. 24-25),

but Macoun was so politically astute that he contrived not only to secure it regardless, but even to persuade Selwyn of his usefulness so that acceptance was soon changed to enthusiasm. Yet Macoun's eventual appointment as Naturalist and Assistant Director to the Survey in 1887 was again attained through astute politicking, not through any desire of the Director. Indeed, John Macoun's vaunting self-confidence and ambition, combined with his immense energy, must have been quite as much liabilities as assets, from the viewpoint of a superior; while his tendency to approach Government ministers directly (e.g., p. 173) must have made him a particularly uncomfortable subordinate.

In course of time, Macoun's eldest son, James Melville Macoun, was also hired by the Survey; yet, though first appointed in 1883, Jim's hiring was on a temporary basis, and remained so until 1897. Although quite as industrious (p. 63), Jim lacked his father's political acumen and had to weather many storms during his career with the Survey, his honesty even forcing him into direct conflict with his father concerning the potential for farming of the Peace River country (p. 162-165). Yet, when eventually his father retired in 1917 at the age of 81, it was Jim who succeeded him; and surely Jim's early death from cancer in 1920 must have expedited John's own death, six months later.

Throughout his career with the Geological Survey, John Macoun strove to secure a permanent home and proper care for the collections that he, his son and their field assistants were so steadily accumulating. He gave energetic support to the plans for new Geological Survey headquarters and to the development of a new national museum. His educational work with the public — in particular, through the Ottawa Field-Naturalists' Club (p. 117-118) — was in part a means for the furtherance of these aims. The usurpation of the Survey building as a temporary typhoid hospital (p. 183) and of the Victoria Memorial Museum by the politicians, after the Houses of Parliament had burned (p. 197), were setbacks that he resented but that did not cause him to deviate from his aims. Indeed, John Macoun was never one to allow himself to be deviated from any path he had elected to follow.

So that was Macoun; a man who was opinionated and difficult; believing confidently in his own infallibility, yet quite often wrong; very susceptible to flattery and, indeed, requiring it (p. 90); an uneasy colleague and a difficult subordinate; a perfectly competent botanist, yet preferring to have his finds identified and described by others, rather than spending on taxonomy the hours that might be passed more enjoyably in collecting (p. 91 and elsewhere); so self-absorbed as to be uninterested in the advances in biology that were being made elsewhere by others — all in all, a man who was arrogant, opinionated and quite often

wrong. Yet also, John Macoun was inspired by a genuine devotion of what he viewed as being, without question, God's particular creations — a love that, even if focussed on plants, embraced all the "great wealth and variety of animal life", at which "he could not help but marvel" (p. 85). His energy was immense; in the field or in his office, day after day he would work from dawn to dusk and beyond, striving single-handedly "to roll back the natural history frontiers of Canada" (p. 207) and gaining a knowledge of our animals and plants unrivalled in his time or since.

The able biography does not attempt to assess in detail John Macoun's contribution to Canadian botany. Rather, it endeavours to place him in his scientific and political context, assessing his contributions — whether positive or negative — to the development of science and settlement in our country.

However one might rate Macoun, his importance in Canadian history is beyond question and his legacy to science extends far beyond all those masses of specimens in our museums. Even though Macoun was not a geologist, every geologist who is interested in the development of our discipline should read this book, to gain a better understanding of that immensely significant interface between science and history.

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publicity and using it expertly to obtain funds for his own travels and the development of the collections of the American Museum of Natural History. His travels took him widely about the American west, by train, car, cart, horse or aeroplane, and also to Mexico, Cuba, India, Greece, Guatemala and western Canada. Wherever he went, not only did Barnum collect fossils in profusion (and vertebrate fossils in particular), but also mammals and birds, insects and even flowers.

This slim biography by his daughter is by no means a full portrait of him, for two reasons. First of all, any commentary on his scientific work is eschewed, since the authoress felt unqualified to give one (and rightly so, when on p. 38 she labels as a "dinosaur" the horned Neogene giraffid *Samotherium*!) Secondly, although Barnum's daughter, the authoress saw only a very little of her father. Her mother Marion died five days after her own birth and she was brought up by her mother's parents; her acquaintance with her father was limited to not-very-frequent visits and a period in wartime when she and he shared a Washington apartment. (He had remarried by then; and one of Frances' concerns was to try to keep her father out of a potentially dangerous extra-marital entanglement!).

This small book thus falls into three distinct parts. The account of Barnum's background, and of his life up to and including his brief first marriage, is reasonably full and very interesting. There are good accounts of some of the adventures surrounding and following his second marriage; Frances liked her stepmother Lilian and has drawn freely on the latter's three accounts of travels with her husband. The story of her time in Washington with her father, and of Barnum's later years, is quite well told. But alas! we learn far too little concerning the productive period of his life, when he was a major figure in the scientific community and loomed even larger in public regard. To learn of the Barnum Brown of that period, one must turn instead to Roland Bird's recently published autobiography and, for a review of his scientific work, to Lewis' formal obituary notice.

This little book furnishes a few interesting sidelights on a noteworthy scientist, but it serves only to whet the appetite for a longer and more comprehensive study.

## Let's Call Him Barnum

By Frances R. Brown  
 81 p., US \$8.95, *Vantage Press, New York*

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Barnum Brown (1873-1963) was, in his time, not only one of North America's foremost vertebrate paleontologists but also its foremost populist of paleontology, revelling in

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