

Bunt J S & Rovira A D. Microbiological studies of some subantarctic soils.
J. Soil Sci. 6:119-28, 1955.
[Microbiology Laboratories, School of Agriculture, University of Sydney, Australia]

A study was made of the rhizosphere effect of four subantarctic plant associations at Macquarie Island. A stimulation occurred in each case. Respiration measurements were made on 11 soils and a marked correlation was found between total carbon content of the soil and microbial respiration. [The *SCI*® indicates that this paper has been cited in over 120 publications.]

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I was attracted to soil microbiology very early in my career, so it was fortunate that I could explore this interest as a member of the 1951 Australian National Antarctic Expedition to Macquarie Island. The work reported in this paper arose from that experience and through a subsequent association with my coauthor, Albert Rovira, at the University of Sydney. Rovira was investigating the microbiology of the rhizosphere under subtropical conditions. We were curious whether rhizosphere effects would be evident under the relatively extreme environments of the subantarctic. Furthermore, I was hoping to use this kind of knowledge to better understand soil development under those conditions. Our curiosity was shared and encouraged by J.M. Vincent, then supervising our PhD studies; his colleague Y.T. Tchan,

recently arrived from the Pasteur Institute; and L. Baas Becking, then also working in Sydney.

Materials in suitable condition for the study required a short return visit by me to Macquarie Island and some usurpation of cold-room space at the university. We also had to bear some mild official displeasure at our setting up house in the lab during the course of the experiments. Otherwise the enterprise ran smoothly. The two papers that emerged from the collaboration, the *Classic* and the article listed in reference 1, were written promptly and required only minor revision largely, I suspect, because the topic was a bit novel. Studies of that kind continue to be rare, although in general, interest in the rhizosphere was substantial then and remains so now.

Indeed, one assumes that the unique geographic focus of the work, along with the recognized importance of the subject itself, may be the reason that our paper has attracted such attention over the years. Comparative data of unusual kinds are often of interest, especially to make points in teaching, and I expect this publication falls into that category. It has been cited, for example, by E.W. Russell.² Although it would be flattering to think so, it is unlikely that the work has been directly catalytic in advancing any aspect of microbiology, no matter what importance might be attached to it as a still unusual element in the literature of polar science. It is a pleasure to note, however, that Rovira has become a well-established authority on the rhizosphere.³ Not long after the paper was written, I joined another expedition to the Antarctic to begin marine research and have remained in that general field.

1. Bunt J S & Rovira A D. The effect of temperature and heat treatment on soil metabolism. *J. Soil Sci.* 6:129-36, 1955.
2. Russell E W. *Soil conditions and plant growth*. London: Longman, 1973. 849 p. (Cited 330 times.)
3. Rovira A D & Wildermuth G B. The nature and mechanisms of suppression. (Asher M J C & Shipton P J, eds.) *Biology and control of take-all*. London: Academic Press, 1981. p. 385-415.