

THE ARCTIC RESEARCH LABORATORY  
AT POINT BARROW, ALASKA

[Based on an account supplied by the Arctic Institute of North America, Montreal, 2 December 1947, and an article by Dr Laurence Irving in *Science*, Vol. 107, 19 March 1948, pp. 284–85.]

At the instigation of the Office of Naval Research, United States Navy Department, a scientific station has been set up at Point Barrow, headquarters of the No. 4 Naval Petroleum Reserve, a large area set apart over 20 years ago and now being actively explored and proved.

The first wintering party at the new station consisted of a team of physiologists, five from Swarthmore College and two from Cornell University:

Laurence Irving, Leader  
Per F. Scholander  
Reidar Wennesland  
E. T. Nielsen  
Walter Flagg  
R. J. Hock  
D. R. Griffin

The personnel reached Point Barrow by air early in August 1947 at the same time as the annual supply ships of the Navy arrived to discharge cargo for the whole base. In the cargo were the instruments and equipment for the research team, including water-baths, respirometers, and a large amount of equipment to keep laboratories at uniform temperatures, together with zoological field-collecting units.

The physiological work seems to have been highly successful. The oxygen consumption and metabolic rates of a variety of cold-blooded animals have been measured at various temperatures. The metabolic rates of some plant species in winter have also been recorded. There is evident need for the tropical equivalents to be worked out for both animals and plants.

An important series of measurements has been made on the transfer of heat through skin, fur, fat or blubber of the main arctic mammals and some birds. The kindred subject of human acclimatisation to cold will receive particular attention, and use in this study will be made of local Eskimo. The special opportunities afforded locally for the study of arctic floral and faunal associations and sequences will be fully used.

Other lines of research include a study of the marine bottom fauna, in particular in relation to scraping by ice. Large collections have already been made of the bottom fauna from off-shore brought in by storms. The characteristics of microclimates under snow and in winter conditions will also be studied. Plankton collections, it is intended, should be made throughout the winter.

During September and October 1947 many field-collecting trips were made by air, land and water, including visits along the coast eastwards to Barter Island and westwards as far as Wainwright. Journeys were made up the Inaru, Meade and Ikpikpuk Rivers, and to Umiat and Chandler Lake inland, the latter at 3000 ft. in the Endicott Mountains.

There are now said to be two laboratories, each apparently a Quonset hut of 40 × 100 ft. with a smaller upper floor. One is devoted to biological and the other to physical sciences. At least in part, heat is furnished by oil-burning space heaters and circulated by small fans. Propane gas is used for laboratory burners and there is a supply both of fresh and distilled water.

Local maintenance and supplies are provided by the Bureau of Yards and Docks through the Arctic Contractors who operate the base camp. This group of physiologists, the first wintering party at the new station, report that the help and facilities provided are excellent. Arrangements for work by visitors to the station are to be made through the Office of Naval Research. Laurence Irving ends his article by saying, "there may be a great literature based upon Soviet Arctic researches, but this we cannot know until all workers in Arctic research freely exchange views across the Arctic Ocean".

#### "ARCTIC DOG DISEASE" AND ITS RELATIONSHIP TO RABIES

[Based on papers by P. J. G. Plummer in the *Canadian Journal of Comparative Medicine*, June 1947, pp. 154-60, and November 1947, pp. 330-34.]

About 1930 the Canadian Government began to receive reports about a condition occurring among sledge dogs and fur-bearing animals of the Northwest Territories. The Division of Animal Pathology of the Dominion Department of Agriculture made repeated attempts to obtain appropriate specimens, but the length of time that these specimens were in preservative precluded an efficient examination.

In 1947 the condition was reported at Baker Lake, which is situated approximately 400 miles north of Fort Churchill and can be reached by aeroplane. A scientist equipped with laboratory supplies visited this port, obtained pertinent information, held autopsies and returned with tissues for study.

An examination of these tissues by animal inoculation and other means indicated that the virus of rabies was present.

Since that date, specimens have been received from Aklavik and Frobisher Bay, and in each instance the presence of rabies virus has been found: the dog, fox and wolf have been incriminated. The finding of rabies in the three sections of Canada mentioned indicates that it is spread widely over the North-West Territories. It is not known yet whether this disease constitutes entirely the so-called "Arctic Dog Disease", but it certainly is a part of the problem. In the future the condition will be studied more thoroughly when material becomes available.

The settled portion of Canada has been, with few exceptions, free of rabies, and it came as a surprise that this disease should be discovered in wild animals of the Canadian Arctic. The disease must have been present for many years, and conceivably it may play an important part in the cyclical reduction of the wild animal population.