COLORADO SCIENTIST HUNTS TEN MILLION YEAR OLD INSECTS IN SOUTH AMERICA

Insects buried some ten millions of years are the game to be hunted in South America this summer by Prof. T.D.A. Cockerell of the University of Colorado, one of the world's authorities on fossil insects.

With Mrs. Cockerell, he is now on his way to newly discovered beds of fossils which lie near the Andes in Argentine at Jujuy, and Mendoza. Mrs. Cockerell, who has the discovery of many fossil insects to her credit, will assist him in this search for the "bugs" of long ago.

Nature at times was a good undertaker, often preserving in strata of rocks the molds or actual bodies of insects that lived and died many milleniums ago. These fossils, and others of vegetable life and animal forms, allow the scientist to read from the record of the rocks the story of the development of life on this globe.

Prof. Cockerell is eager to investigate these new natural graveyards of insects since fossil insect deposits are found in only a few places. One of these new fields was laid down in tertiary times, not over five million years ago, when man was only beginning his upward climb to his present estate. The other is of older age and dates back to early Mesozoic times, the age of reptiles, when huge dinosaurs and great flying reptiles roamed and flitted over the face of the earth.

No part of the world affords richer deposits of fossil insects than Colorado. Here the oldest ant and the oldest wasp yet known have been found by expeditions under Dr. Cockerell's direction. The present prospecting for oil shale in Colorado and Wyoming brought these insects to the light of day for they were found in the waste dirt thrown out of miners excavations. The world's oldest ant represents a very primitive type allied to certain ants of Australia, but the wasp has a very modern aspect. It does not differ materially from those that do their stinging in Colorado today, and this makes it certain that the wasps originated very much earlier in the life of the earth. In these oil shale beds of Eocene age no butterflies and bees have yet been found, but Dr. Cockerell has unearthed many beetles.

From another Colorado locality, the Miocene Florissant beds, near the base of Pike's Peak, more than a thousand kinds of fossil insects have been disinterred.

Insects are among the oldest forms of life found in the rocks laid down in past ages. The first trace of insect life so far discovered was in the Ordovician period of the Paleozoic era, some twenty million years ago.

U.S. RADIUM LABORATORY PRACTISES "SAFETY FIRST"

Radium, charged with several deaths in an Eastern industrial city, has no terrors for the little staff of young women at Washington who handle more of the powerful stuff probably than any one else in the world.

The entire radium supply of the United States has passed through the hands of the testing corps at the U.S. Bureau of Standards for the past five years without a casualty, due to the use of proper precautions in its handling, according to Miss C.L.Torrey, assistant physicist at the radium laboratory of the Bureau. The work of testing the country's radium supply is under the direction

of Dr. Paul D. Foote, with Miss Torrey in immediate charge of the laboratory.

"During the early days of testing", Miss Torrey stated, "incautious exposure to the radiations from the tubes sometimes had bad effects. In addition to the direct burns, anemia and other blood disturbances were caused, as well as severe upsetting of certain elements of the glandular system. However, through the cooperation of the U.S. Public Health Service, these conditions were quickly overcome, and a complete system of safeguards installed. I do not believe that any place in this country where radium is handled is as well protected as this laboratory. Due to careful observance of our safety rules, we have gone through the past five years without any ill effects that I know of.

"From the moment of its arrival until it leaves the laboratory, and through every stage of the testing, every tube of radium is handled by the same safety routine. The bench where the packing and unpacking is done has a heavy iron shield that comes up to the chin of the worker, so that only the hands and face are exposed even for a short time. The tubes are never lifted with the fingers; we always use six-inch forceps. When we have to carry a tube for more than a moment or two, we place it in a closed wooden holder, or if we are carrying one of the lead-lined boxes of tubes we place it at the bottom of a bucket. The tubes are stored in a heavy safe, with an additional lining of lead plates inside.

"In the actual testing, brief exposures are unavoidable. Partly on this account, and partly because the observation of the testing electroscope involves considerable eyestrain, the observer never works more than half a day at a stretch on the testing, finding other occupations for the rest of the time.

"The health of the testing staff is carefully watched by the Public Health Service. Every couple of months they make blood counts, and once a year we each go through a thorough physical examination.

"We are not handling quite so much radium now as we did three or four years ago. Still, last year we tested a total of about eighteen grams, and this year about twelve, which is quite a lot, as quantities go in radium.

"There is no reason why any one should suffer in health from handling radium, if only proper safety measures are taken."

LARGE LUNG CAPACITY NOT SURE PROTECTION

Contrary to popular belief, barrel chested individuals are not always perfectly healthy. Large lung capacity is not necessarily certain protection against diseases of the heart and lungs, is the statement of Dr. J.A. Meyers of the University of Minnesota Medical School.

In his book, "The Vital Capacity of the Lungs", which will soon be published, Dr. Meyers reports the results of his six years of experimental work and study on the lung capacity test as a means of medical diagnosis.

Some of the persons examined revealed a vital lung capacity of as much or more than 125 per cent. of the normal vital capacity. Usually, these are people who have done hard labor, such as farm work, or who have been active in athletics, or have trained their voices for singing, or have played some wind instrument over a considerable length of time.