

The Radiation Laboratory succeeded in producing wavelengths even shorter than those produced by the English magnetron. As a result many additional uses of radar were developed. In the summer of 1942, the Laboratory's "sea-search" radar, installed in American and British planes, was patrolling the Atlantic ocean. Production sets resulting from it are credited with 50% of the U-boat kills in the Atlantic.

Bombing through overcast by means of radar played a very important part in the destruction of Nazi war essentials. Winter weather over the European continent made necessary the development of some method of putting the bombs on their targets other than by visual means. Radar made blind bombing possible. Both American and British work with radar bombing contributed to the successful radar blind bombing equipment.

In the fall of 1943, about 12 B-17 airplanes equipped with the new radar equipment were sent to England. These planes were to be used as lead aircraft for combat formations, and it was planned that the formation would drop their bombs as directed by them. Trained men from Radiation Laboratory accompanied these radar-equipped planes. Additional blind bombing equipment, much improved, was developed and constructed. It became known as the "Mickey" and

proved to be a valuable navigation instrument as well as a blind bombing device.

In principle the "Mickey" set operates like the conventional radar. A pulse of radio energy is sent out from the antenna and at the same time, an electronic sweep starts out from the center of a cathode ray tube. This trace goes out radially, and in the direction in which the antenna points at the moment. Some of the energy pulses are reflected back, amplified, and put on the cathode ray tube. The result is a map of the area beneath the plane.

Ground control approach equipment developed at the Radiation Laboratory will probably have extensive uses in commercial flying to assist planes to runways during overcast and very low ceiling. Early in 1943 the equipment passed exhaustive tests and was accepted by the armed services. It includes two complete radar systems. With one, the operators search the zone surrounding the airport, directing the approaching plane into the sector scanned by the second system. Practically continuous information on the plane's position is thus secured which enables the final controller to guide the pilot down the glidepath by radio. The planes need no special equipment except their ordinary radio equipment.

Science News Letter, September 15, 1945

GENERAL SCIENCE

Expedition Planned

A group of scientists representing the American Museum of Natural History will go to Nyasaland, South Africa, as the first expedition abroad since 1941.

► AN EXPEDITION to Nyasaland, South Africa, is planned by the American Museum of Natural History for next April. The museum's first large-scale expedition abroad since 1941 will be led by Arthur S. Vernay, trustee of the museum, who has sponsored numerous expeditions to remote parts of the world for the past 25 years to collect material for exhibition and research.

Southern Nyasaland is one of the few remaining parts of Africa that has not been thoroughly studied by scientists. Mount Mlanje, in the wild and mountainous country south of Lake Nyasa, is a point of especial interest. Specimens of both mammal and plant life will be collected.

Mr. Vernay will be accompanied by

Dr. Harold E. Anthony, chairman and curator of the department of mammals; Leonard Brass, botanist; and Capt. Guy Shortridge, director of the Kaffrarian Museum of King William's Town, South Africa.

Although the country abounds in elephant, buffalo, antelope, lion, leopard and other game, the expedition is mainly interested in collecting shrews, mice, squirrels and other varieties of small animals for a complete picture of the mammalian life of this region.

The native plants of Nyasaland are little known, so both dried and pressed plants and living botanical specimens will be collected. This material will go to the New York Botanical Gardens, which is cooperating in the project.

Part of the collections to be made by the Nyasaland expedition will be added to the South African collections of the Kaffrarian Museum, of which Captain Shortridge is director.

The expedition will be in the field for five months, working during the dry season, from May to October of 1946.

Science News Letter, September 15, 1945

Over 5,500,000 grapefruit trees were in production in Florida, Texas, Arizona and California in 1942, with approximately 44% of the acreage in Florida.

SCIENCE NEWS LETTER

Vol. 48 SEPTEMBER 15, 1945 No. 11

The weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St. N. W., Washington 6, D. C. North 2255. Edited by WATSON DAVIS.

Subscriptions—\$5.00 a year; two years, \$8.00; 15 cents a copy. Back numbers more than six months old, if still available, 25 cents. Monthly Overseas Edition: By first class mail to members of the U. S. armed forces, \$1.25 a year. To others outside continental U. S. and Canada by first class mail where letter postage is 3 cents, \$1.25; where letter postage is 5 cents \$1.50; by airmail, \$1.00 plus 12 times the half-ounce airmail rates from U. S. to destination.

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Entered as second class matter at the post-office at Washington, D. C., under the Act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to Periodical Literature, Abridged Guide, and the Engineering Index.

The New York Museum of Science and Industry has elected SCIENCE NEWS LETTER as its official publication to be received by its members.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., Pennsylvania 6-5566 and 360 N. Michigan Ave., Chicago, STAt 4439.

SCIENCE SERVICE

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