

in Table II, clearly indicate variations in the amount of growth of these plants grown with and without nitrogen and the effect of the presence of soybeans. Wheat plants growing in a complete nutrient medium have the greatest dry weight and plant length. Wheat plants in a nitrogen deficient medium but one in which soybeans are present are slightly lower in weight and length. Wheat plants in a nitrogen deficient medium show a striking reduction in length and weight.

The bacterium, *Rhizobium*, which is ubiquitous in the soil, infect the roots of many plants. The best known plants which harbor these bacteria are members of the legume family and include peas, beans, clover, and the soybeans that were used in this experiment.

FLIES WHICH TRANSMIT DISEASE

A group of medically important insects called black flies (Simuliidae) will be studied by an entomologist from The American Museum of Natural History under a two-year grant awarded by the National Science Foundation.

Dr. Pedro Wygodzinsky, a curator in the Museum's Department of Entomology, will study the biology, distribution, and classification of black flies in Western South America.

The small insects are one of the most common pests in many areas of the world. Their bite can transmit a disease, onchocerciasis, which may result in blindness.

Black flies are also responsible for the transmission of many diseases in birds.

About one-sixteenth of an inch to one-eighth of an inch in length, the black flies look like minute house flies. Most species are black but some are orange or silver.

Dr. Wygodzinsky will do field work on black flies in Colombia this year and in Ecuador or Venezuela next year. He will be assisted by Dr. Sixto Coscarón of the National Institute of Microbiology in Argentina, who will work in Chile.

A specialist in black flies for some 15 years, Dr. Wygodzinsky has also been involved in the study of other medically important insects.

MEDICAL SCIENCE EXAMINING PALMS

The old-fashioned "palm readers" were right, after all; a person's future can be foretold to some extent in the lines and creases of his hand. Medical science, however, not superstitious guessing, is doing the modern palm reading.

Heart disease and other birth defects are among health problems now being studied by exam-

The bacteria infects the roots of the host plant and stimulates the formation of a root nodule. These bacteria have the capacity to convert atmospheric nitrogen into nitrogen containing compounds which are utilized by the bacteria. The bacteria secretes the nitrogen compounds into the soil. Alternatively nitrogen containing compounds may also be released into the soil upon the death of the bacteria. Wheat plants growing with soybeans in a nitrogen deficient nutrient solution are able to utilize the nitrogenous compounds synthesized through nitrogen fixation by the bacteria. The results of this experiment support this claim.

Acknowledgment

Photographs were prepared by Bruce McElfresh.

ining an infant's palm and foot prints. Two articles in the August 29, 1966 issue of the *Journal of the American Medical Association* describe progress in the comparatively new science of dermatoglyphics, the study of skin patterns.

These crease patterns form during the first three months of pregnancy, and remain unchanged throughout an infant's life. The palm prints of most normal, healthy babies are similar; variations from these normal patterns may give clues to disease and its cause.

BOTULISM BREAKTHROUGH

A new technique for the quick detection of botulism in wildlife has been discovered by California Department of Fish and Game biologists. The new technique involves microscopic examination of blood smears from an affected animal by use of fluorescent lighting, thereby reducing to minutes the times required to test for botulism. Formerly, a day or longer was required and the test could only be made on dead animals that already were sick from the disease. Botulism is a bacteria-caused disease which causes acute food poisoning. It often inflicts wild birds and animals, particularly waterfowl, and is usually fatal.

Pronghorns, commonly referred to as antelope, are not related to antelope rather they are closely related to the sheep.

The number of microbes per gram of snow particles runs as high as 500 and counts of 20,000 per gram of hail have been encountered. Snow in the high mountains and the water from glaciers are practically sterile.