

## BIOLOGY

# 1965 Biology "Year"

An International Biology Program to begin after 1965 will last three to five years. At least 32 nations will participate in the "Biological Basis of Productivity and Human Welfare."

➤ AN INTERNATIONAL Biological Program, similar to the famed International Geophysical Year (IGY) but three to five years long, is set to begin after 1965, it was announced in Corvallis, Ore.

At least 32 nations, including the United States and Russia, will participate in the study of how civilization threatens all living things, including man. The world's plant and animal scientists, biochemists, geneticists, geographers and leaders from other areas of science will combine their talents to solve vital food shortage problems and aid human and animal welfare.

"Because of the complex nature of the biological projects to be undertaken, the major research effort will be carried out in a three- to five-year period beginning no earlier than 1965," Dr. G. Ledyard Stebbins, secretary-general of the International Union of Biological Sciences, stated.

The first planning for the Program was undertaken in Morges, Switzerland, last May, Dr. Stebbins said.

The program would include:

Investigation of communities of plant and animal life menaced by change or extinction;  
Studies of the results of rapidly changing pressures on mankind by the environment, including man-made hazards such as radiation;

And research aimed at understanding the forces affecting the balance of nature, and improving food and animal production.

The theme of the Program will be "The Biological Basis of Productivity and Human Welfare," he said. All scientists involved with the planning agreed that a single year of research would be neither practical nor desirable. Training and education in biology will be emphasized heavily throughout the program.

"Two goals must be kept in mind," he said. "One is preparing a larger number of able young men and women for careers in biology and applied fields related to it. The other is educating the public of all continents to the great contributions which biological knowledge is making to their welfare."

Dr. Stebbins made the announcement at the American Institute of Biological Sciences meeting at Oregon State University.

• Science News Letter, 82:171 September 15, 1962

## Ancient Sea Water Found

➤ AN ANCIENT leg of the sea was cut off when part of Canada tilted upward some 10,000 years ago. The salt water left behind was discovered in a land-locked British Columbia lake.

The ancient sea water is the oldest trapped salt water yet discovered, according

to Dr. Peter M. Williams, chemist of the group of scientists from the University of British Columbia Institute of Oceanography who observed the salty lake.

The salt can be detected starting about 400 feet below the surface of the lake. The concentration increases with depth. No oxygen or fish were found near the bottom.

Powell Lake is 80 miles north of Vancouver on Canada's west coast. Some 13,000 years ago the area was covered with a vast sheet of ice that scoured out the lake's basin, Dr. William Mathews, geologist of the party, told scientists at the American Institute of Biological Sciences meeting in Corvallis, Ore.

When the ice sheet retreated, the land actually rose to its present height above sea level, trapping the salt water in the basin. Scientists know the sea level was at least 200 feet above the present level because the fossil remains of sea animals are embedded in the surrounding mountains.

Third member of the party which made the discovery was Dr. George Pickard, director of the University's Institute of Oceanography.

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## Built-In Warning Device

➤ A CHEMICAL warning system in most North American fresh-water fish tells the rest of the family to stay away when the fish is attacked.

"Fright reaction" of the largest order of fresh-water fish in the world, including carp and catfish, was described by a Canadian scientist as a "substance secreted by the fish when it is wounded."

The chemical composition of the substance is not known, Dr. Wolfgang Pfeiffer of the University of British Columbia, Vancouver, told the American Institute of Biological Sciences at Corvallis, Ore. It is carried in the surface body cells of the fish and released when the cells are broken open by the teeth of the predators.

The substance is extremely soluble in water and only very minute amounts are necessary to repel schools of fish of the same type, he explained.

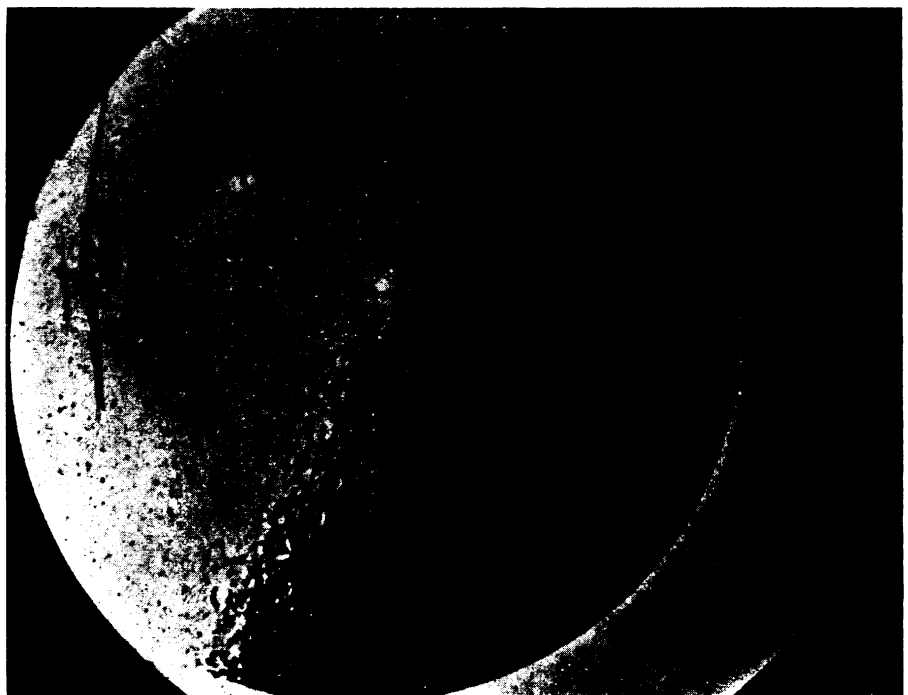
The substance has been found only in fish of the *Ostariophysi* order, which contains more than two thirds of all fresh-water fish. Salmon and trout and salt-water fish do not carry the substance, he said.

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## Change Mosquito Sex

➤ WARMING the waters harboring mosquito eggs can turn a potential male into a harmless and incomplete "female," minus the power to suck blood and produce eggs.

An impatient graduate student at the University of Illinois, John F. Anderson, stum-



**EARLY PHOTOGRAPHY**—Found in New York University archives among the files of Dr. John W. Draper, one of the first Americans to experiment with photography, this daguerreotype shows the new moon with almost as much detail as modern photographs. It was made between 1840 and 1860 on a three-inch square copper plate and is about one and three-quarter inches in diameter.

bled on this simple method of controlling mosquitoes while trying to speed up the development of subarctic mosquito larvae for experiments. All the mosquitoes emerging from the heated water appeared to be females, but the proboscis or snout could not "drill," he reported at the American Institute of Biological Sciences meeting in Corvallis, Ore.

Maleness, including the sex organs and the appearance of males, can be precisely controlled for at least nine species of subarctic or snowpool mosquitoes by varying the temperature of the water in which their larvae develop, he said. The temperature supposedly affects the chromosomes of the males.

Hundreds of different kinds of mosquitoes are found in the world; the majority are tropical or subtropical. Temperature may have some effect on their development too.

The discovery will open new doors for the study of the development of arthropods, including insects, millipedes and centipedes, crustaceans, scorpions and spiders, Mr. Anderson told scientists.

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## Check Drug Tragedies

➤ SUPERSENSITIVE laboratory animals could guard against thalidomide-type drug tragedies by being used for testing experimental drugs and chemicals, a geneticist claimed in Corvallis, Ore.

Selective breeding of lab animals to give exaggerated response to specific substances or treatments could lead to safer and more thorough testing of harmful or unknown substances before administration to humans, Dr. W. A. Becker of Washington State University, Pullman, told the scientists.

Dr. Becker tested his theory on 600 different family groups of White Leghorn chicks by measuring their weight differences on two separate diets. Chicks from some families gained weight faster on a diet of pellets than their brothers and sisters on

a non-pelleted diet, he said. The differences due mainly to heredity could be increased or decreased as needed.

The same technique could be used to select and breed strains of laboratory animals with sensitivity to the desired chemical or environment, he said. It could be used with mice, guinea pigs, rabbits or rats.

He reported his findings at the American Institute of Biological Sciences meeting at Oregon State University.

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## Bacteria Inhibitor Found

➤ THE DISCOVERY of a bacteria-inhibiting substance in cauliflower seed, which could open the way to a new means of controlling plant or human diseases, was reported by a Louisiana State University plant pathologist at the national joint meetings of biological societies in Corvallis, Ore.

The report was made by Dr. James B. Sinclair, assistant professor of plant pathology. The discoverers of the inhibitor are Dr. T. P. Pirone, assistant professor of plant pathology, and Dr. F. Malekzadeh, recent LSU graduate from Teheran, Iran.

Drs. Pirone and Malekzadeh made the discovery when testing bactericides as seed treatments for black rot of mustard plants. When cauliflower seeds, which are about an eighth of an inch in length, were placed in agar plate cultures of bacteria the growth of the bacteria was found to be strongly inhibited.

It was found that the inhibition of bacterial growth was greater in cauliflower seed that had lost its power to germinate. The researchers believe that the light yellow substance responsible is manufactured as the seed loses its viability.

Further tests showed that the substance was active against a number of bacteria causing plant diseases, as well as some causing human diseases.

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# Algae Circulatory System

➤ A MICROBIOLOGIST has proved for the first time that microscopic plants such as algae have a circulatory system.

The proof was found in photographs that showed how liquid passes through the tiny plants. The film was made by very fine microscopy, enlarging the plants more than 1,000 times.

Dr. Roman Vishniac, professor of biological education, Yeshiva University, New York, told SCIENCE SERVICE it is possible that the plants' circulation is related to the way they produce food by photosynthesis.

For the past hundred years or so, since the invention of the microscope, most scientists believed these plants did not have a circulatory system because it could not be seen with the microscope. Ironically, before the advent of the microscope, scientists generally believed such a circulatory system

existed, although they had no proof of it, Dr. Vishniac said.

He added that one-celled creatures are not the simple structures depicted in today's textbooks. They are often more complicated than many much larger creatures.

The film, shown by Dr. Vishniac to a photography-in-science conference in San Francisco, revealed both the structure and behavior of small organisms. Dr. Vishniac said man can also learn about his own behavior from studying that of microorganisms.

He believes the world of tiny creatures (microcosm) is as "big" as the space of the universe (macrocosm) on its own scale, and that it contains secrets to be discovered by scientists for the next hundred years.

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## Do You Know?

Most shark *attacks* on humans are attributed in individual "killers" which develop by accident or environment, an apparent liking for human flesh.

In certain forms of schizophrenic illness, some degree of schizophrenic thought *disorder* is evident in one or both parents of the patient.

*Smokers* who move from one community to another frequently are more likely to develop lung cancer than their less mobile brothers.

In the U.S., one *baby* in 20 is born with a defective heart.

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