

BIOLOGY

Algae Sex Life Study May Reveal Significant Facts

► STUDY OF the sex life of minute green algae may reveal facts significant to human fertility or the way muscles act.

Dr. Ralph A. Lewin, of Yale, told the American Association for the Advancement of Science meeting in Philadelphia about irradiation with ultraviolet light of the cells of the algae known scientifically as *Chlamydomonas*. In some cases, the cells are paralyzed and can neither swim nor mate normally. It is the study of such cases which might reveal facts related to human beings, Dr. Lewin said.

In these one-celled organisms, cells of the two sex types, male and female, differ only in mating behavior, Dr. Lewin reported. After pairing, he said, one regularly pushes the other around.

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ICHTHYOLOGY

Fish as Unconcerned Over Future as Human Beings

► NO CONSCIENTIOUS drive to perpetuate their kind and keep the seas full of fishes inspires the migrating salmon and other such creatures. Dr. A. G. Huntsman, veteran Canadian fisheries authority and University of Toronto biologist, has come to the conclusion that the fish are no more intelligent than human beings in their concern for the future.

Men make a mistake, in his opinion, in concluding that fish think as logically as men imagine human beings conduct their lives. Fish, like people, are moved by love, hunger and other immediate objectives and men have no means of knowing any possible philosophizing by fishes that rationalize to them their actions.

Even the seemingly mysterious travels of fish up and down rivers seem to be controlled, he has found, by the distance from the river bottom at which they swim at various times of their lives.

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TECHNOLOGY

Army Jeeps, New Model, Are More Powerful

► ARMY JEEPS, new model, will have more power than the familiar type of World War II but will be more comfortable to ride and will have more compartments for carrying equipment. Details of the new jeep were revealed by Willys-Overland Motors in Toledo, the company which has been awarded a major contract with Army Ordnance.

They will be powered with Hurricane 72-horsepower engines which operate on a 7.4 to one compression ratio.

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SQUIRREL FEAST—An over-enthusiastic squirrel collected this cache of lodge pole pine cones. Chief naturalist Carl E. Jepson of the Grand Teton National Park in Wyoming here inspects the 10 bushels of cones this male squirrel collected during the past year to insure that it would not be hungry this winter.

AERONAUTICS

Lessen Explosion Danger

Aircraft fuel tank explosions from enemy bullet hits stopped by gas-bomb device that fights the slow-starting explosion pressure with a suppression gas.

► THE ELIMINATION of the danger of aircraft fuel tank explosions when hit by an enemy bullet is predicted by experts at the Royal Aircraft Establishment, Britain's aeronautical research center at Farnborough. They have developed a promising device for the purpose and it is already under test.

Such explosions are due to the fumes that rise from the gasoline in a fuel tank. When a bullet passes through them fire and explosion may occur. The new device releases a gas within the tank which stops the fumes from acquiring enough pressure to explode.

The device is an orange-size gas-bomb, filled with carbon tetrachloride, that is placed inside the tank. It is triggered with a sensitive diaphragm and releases its contents when the pressure accompanying an explosion is just starting. The gas released is scattered into the explosion and stops it before the pressure is three pounds per square inch.

Scientifically speaking, these experts say, an explosion is slow in getting started if

measured in milliseconds, that is in thousandths of a second. There is a pressure rise of one-half pound per square inch in the first five milliseconds. The pressure is 100 pounds in 50 milliseconds. An explosion can be stopped after it begins, they believe, by letting off a gas-bomb inside the explosion a split-second after it begins so as to prevent this build-up in pressure.

The new principle, it is explained, does not prevent the fumes from forming or the explosion from starting. If a bullet should hit the fuel tank the explosion begins. But it is detected by a sensitive diaphragm in the first few thousandths of a second. The diaphragm operates the bomb releasing the suppressor-gas. The build-up of pressure is stopped, and also the explosion.

Tests already made indicate that this process is successful. Bullets fired through an unprotected fuel tank caused explosion. When bullets were fired at tanks with the "explosion-suppression" bombs inside them, the tanks rocked but did not explode.

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