

GENERAL SCIENCE

Budget Expands Research

Present Federal funds for research and science education would be multiplied many times if President Eisenhower's 1959 budget requests are granted.

► PRESIDENT Eisenhower has urged a greatly expanded program of basic scientific research and of education in the sciences.

In his annual budget message for the fiscal year beginning July 1, 1958, he called on Congress to increase the Federal Government's expenditures in almost every field of research and development. President Eisenhower proposed spending in these fields during fiscal 1959 a total of \$3,722,000,000, more than four-fifths of which is directed primarily to national security needs.

This total is approximately one-twentieth of the entire budget of \$73,900,000,000.

"In the face of Soviet challenges," President Eisenhower told Congress, "the security and continued well-being of the United States depend, as never before, on the extension of scientific knowledge."

He called for a higher level of support for basic scientific research from private sources as well as the Government.

To produce "a growing supply of highly trained manpower—scientists, engineers, teachers and technicians," President Eisenhower recommended an expanded program for the National Science Foundation and a new program for the Department of Health, Education, and Welfare, with close coordination between them.

The Foundation promotes science education and training primarily through grants to universities or fellowships to individuals. The HEW Department's program, aimed at strengthening the general educational base, would be channeled mainly through grants to states.

For the NSF program, President Eisen-

hower recommended a total of \$140,000,000 for the Foundation, more than three times its current authorization. He also asked for supplemental appropriations of \$10,000,000 for the current fiscal year, in order to start the expanded program immediately.

Of this, \$58,000,000, or double the present amount, is provided for research grants, for research facilities and equipment, and for related activities.

To improve and extend science education, President Eisenhower asked Congress for \$82,000,000, about five times the present amount. Most of this is for expansion of programs that have proved their worth in improving high school and college science education.

These programs include action to interest able students in science careers; improvements in teaching methods and content of mathematics and science courses, as well as supplementary training for college and high school teachers of science; and provision for fellowships to highly qualified college graduates and scientists for advanced study in science and mathematics.

The new grant, amounting to \$146,000,000, for the HEW Department is aimed at providing matching grants to strengthen state departments of education and local school systems, particularly in the administration and teaching of science and mathematics.

The grant program will also foster improvement of general education through grants to states or educational institutions to extend testing and counseling services for

young people, provide college scholarships for outstanding high school graduates, strengthen graduate schools, expand the teaching of foreign languages, and improve the adequacy and reliability of educational statistics.

President Eisenhower, foreseeing criticism of the HEW program on grounds of Federal intervention in the traditionally state-regulated education systems, said the new plan was "carefully designed to insure against any possible domination by the Federal Government."

The plan should be considered, he said, "an emergency stimulant" and would be limited to four years with a few exceptions.

Science News Letter, January 25, 1958

● RADIO

Saturday, Feb. 1, 1958 1:30-1:45 p.m., EST

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio network. Check your local CBS station.

Lt. Col. Charles M. Parkin, Jr., guided missiles coordinator for the U. S. Army Corps of Engineers Research and Development Laboratories, Fort Belvoir, Va., will discuss "Rocketry for Youth."

ICHTHYOLOGY

Strange Fish Use "Pole" To Catch Dinner

► SOME STRANGE but enterprising fish catch their dinners—other fish—with "fishing poles," complete with "worms."

The frogfishes, or Antennariidae, are well-equipped for obtaining their dinner this way. Although there are some variations from species to species, each fish carries a "pole" at the end of its snout. The pole is a bony elongation of the dorsal spine; the "worms," usually one to three, are fleshy projections at the end of the pole.

Simply by lying motionless on the ocean bottom or in a mass of seaweed, the frogfish catches its dinner. Another fish nibbles at the bait, the frogfish opens its mouth and the inflow of water sweeps in the victim.

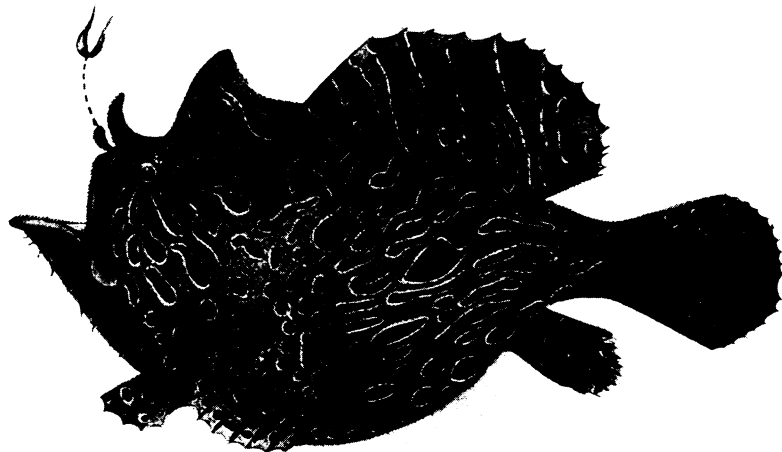
As if this were not enough to put it in the "stranger-than-fiction" class, the frogfish usually walks, rather than swims. Its pectoral fins are modified and constitute legs of a sort.

Most species of frogfish also can blow themselves up to several times their normal sizes either with air or water. This is believed to be a defense mechanism to frighten possible enemies. There is a good chance, however, that an enemy could not find a frogfish since most species can change color according to environment.

Since new frogfish are likely to be found by accident, there are probably many unknown species. Several previously unknown species are described by Dr. Leonard P. Schultz, Smithsonian Institution curator of fishes, in a U. S. National Museum publication.

One new genus has thick bony plates on its head. These, Dr. Schultz believes, serve in some way as a floating mechanism so this frogfish can take to the deep open sea. For the most part, frogfish are found in the relatively shallow inshore waters of tropical seas.

Science News Letter, January 25, 1958



FROGFISH—The "fishing pole" with "worms" typical of frogfish can be seen on this species named *Phrynelox striatus*.