

## Poisonous Organism Found in Salmon

► THE ORGANISMS causing botulism food poisoning that is often fatal, can sometimes be found in nature as well as in improperly canned food.

*Clostridium botulinum* type F, reported only twice before, has been found in a sockeye salmon in the Columbia River.

During a survey of natural distribution of *Clostridium botulinum* type E in the Pacific Northwest, Drs. James M. Craig and K. S. Pilcher of the department of microbiology, University of Oregon, Corvallis, identified the type F organism.

Reporting the discovery in *Science*, 153:311, 1966, the researchers said mice injected with a toxic filtrate containing type F died unless they had been protected with a type F antitoxin.

Type F was first reported and isolated in 1960 from liver paste that was associated with human botulism on the Danish island of Langeland.



Crown Agents

BRITAIN'S BIRDS—Four birds shown on the block of Great Britain's new 4d. stamps, to be released August 8, are all indigenous. The artist, John Norris Wood, new to British stamp design, has drawn the blackbird, robin, blue tit and black-headed gull, each flanked on the right by a profile of Queen Elizabeth II.

## MILITARY SCIENCE

## Whirlybirds Get "Claws"

► THE U.S. ARMY's whirlybirds, fighting it out in the humid heat of Viet Nam, get many of their sharp "claws" from a test center in the humid heat of Alabama.

The claws are a wide variety of missiles and rockets, and their launching equipment. Some have been standard items for years, while others are scarcely off the drawing boards. The test site is Redstone Arsenal of the Army's Missile Command.

One of the newest projects is that of adapting a brutal 4.5-inch rocket to the fast but lightweight UH-1B "Huey" helicopter.

Also in the experimental stage is the XM-26, based on an earlier weapon called the M-22. The new version fires a TOW (Tube-launched, Optically-tracked, Wire-guided) missile, and has a sight that automatically adjusts itself to compensate for movement.

A particular problem brought on by Viet Nam is that of reusability. In previous conflicts, helicopter-mounted weapons were not critical, so they were not worked very hard. In Viet Nam, however, they are vital, and the number of times a rocket launcher can be used without repair must be boosted as high as possible.

A bundle of tubes called the XM-158 just fills the bill. One test model has fired more than 500 of its 2.75-inch rockets without "significant" repair. Two additional advantages are that it requires much less support equipment than similar launchers, and that the pod in which it is mounted can be used for a variety of other weapons.

One of the "old standbys" now in use that was developed at Redstone is the XM-3. It too fires 2.75-inchers, but it carries four dozen to the SM-158's seven. The XM-3 can fire single shots, or else get rid of the whole bunch in four seconds.

Perhaps the biggest helicopter weapon project ever to be handled at Redstone will be the AAFSS (Advanced Aerial Fire Support System). The 200-plus-mph whirlybird, now being developed by Lockheed Aircraft Corporation, will be capable of carrying rockets, missiles, recoilless rifles, grenade launchers, bombs and other weapons. One of the most potent will be an automatic machine gun, which, once aimed by the gunner, will be aimed by an electronic computer at the same spot on the ground, despite the evasive maneuvers of the helicopter.

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