

ORNITHOLOGY

Fighting the Starling Menace

Starlings have been harassing Americans for 70 years. It may take the most sophisticated devices of the 20th century to teach them better manners, Gloria Ball reports.

► THERE ARE HUNDREDS of millions of starlings in the United States, and supposedly the whole thing started with William Shakespeare.

In 1890, Eugene Schieffelin, a gentleman who wanted to introduce Americans to every bird mentioned in Shakespeare's works, released 60 European starlings in New York's Central Park. The next year he brought over 40 more, and from that beginning, the starlings took over the country.

For about five years the birds stayed within greater New York, but by 1900 they were nesting in Connecticut. Like a creeping menace they spread to Rhode Island in 1910, Virginia in 1920 and Washington, D. C., in 1922.

By 1929 officials for the Hoover inauguration were worrying about starlings along the parade route, and farmers in Wisconsin, Kansas and Texas were trying to keep them out of cattle feed lots. Ten years later they had pushed into Mexico and Canada, and the fruit orchards of Colorado. By 1957 they were swarming into the holly groves of Oregon.

In their wake was a nation of dirtied courthouses and irate citizens.

Throughout the 70 years that these gregarious and aggressive birds have harassed man, experts have been trying to keep them from roosting on and fouling public buildings.

When 63 persons died in the Electra crash at Boston's Logan Airport, however, the main menace of the starlings suddenly changed from dirt to death.

When investigators suggested that the crash was caused by starlings being sucked into the air intake of the prop-jet, a plane with a jet-driven propeller, bird experts took one look at the airport and marveled that such a disaster had not occurred sooner.

Dr. John W. Aldrich, ornithological consultant to the U. S. Fish and Wildlife Service's special task force, commented that Logan Airport is about the worst airport in the country so far as bird hazard is concerned. It juts out into Boston Harbor and is surrounded by mud flats and fishing wharves. It has marshy ponds in among the runways and there is a dump nearby. This attracts not only starlings, but ducks, gulls and shorebirds as well.

It may be that jet and prop-jet engines can be redesigned to reduce the danger of sucking birds into the intakes. But the birds themselves must be driven from the airports, and the Federal Aviation Agency has transferred \$100,000 to the Fish and Wildlife Service to find out how to do it.

Among the promising plans are those that use sonic or ultrasonic devices. Since the

range of bird hearing is approximately the same as human hearing, a scare device that operates on the dog whistle principle is out of the question. But it might be possible to use a sound that would cause irritation, pain or confusion in the birds. In Salt Lake City, for example, powerful radar beams twice confused a flock of geese so badly that they had to reorganize a third time and detour the airport.

Fish and Wildlife Service also is trying to find out if the starlings have behavioral quirks that could be used against them, as was done in the case of the gooney birds, or albatrosses, on Midway Island. In that situation, the birds were simply playing at their favorite sport, soaring. They were using the updrafts, created when winds run into sand dunes and shoot upward, to take a free ride. When the dunes were leveled, the birds lost interest.

A number of chemicals could be put to use. One is a birth control drug known as triethylenemelamine (TEM) which can prevent the hatching of so many young. TEM, unsuitable for human use because it damages human blood cells, is a gametocide, an agent that interferes with the formation of reproductive cells and renders both male and female birds sterile for about two months.

Its effectiveness, when mixed with feed spread out for birds a few days before the

breeding season, is evidenced by the first field trials in which TEM reduced black-bird hatchings to 20% below normal. The problem in using TEM, however, is in finding a way to keep it away from desirable birds.

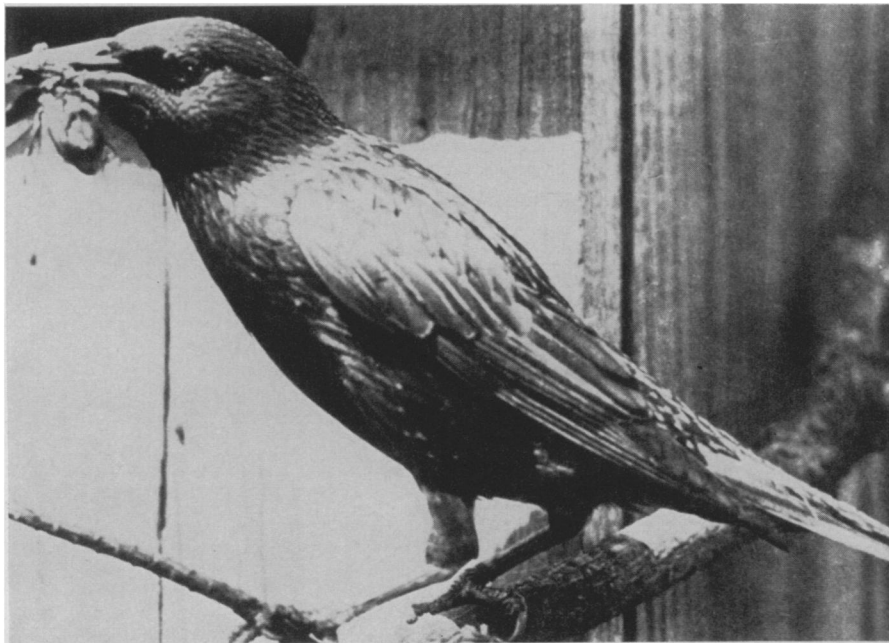
Other chemicals make the birds stagger for a short time as if drunk. They cannot fly or walk a straight line and are so helpless that they can be picked up by hand. Some utter distress calls which keep other birds away. Those who do get a dose of such a chemical supposedly will associate the drunken feeling with a certain roosting or feeding area, and presumably will avoid it.

If worst comes to worst, it may be necessary to kill some of the birds. This is not a satisfactory solution because the attraction will remain and the vacancy left by the dead birds will only be filled by other starlings.

If it must be done, however, the best way may be to use poison gas and the light trap, a device presently used for trapping and banding. It consists of a funnel of netting rigged up behind a roost. Bright lights are placed behind the net and when the birds are frightened from the roost, they fly toward the lights, right into the trap.

In 15 to 20 minutes, 75,000 starlings can be trapped by this method. Caught in a canvas bag at the bottom of the funnel, the birds could be killed with poison gas in just a few seconds. It would take only a small amount of hydrogen sulfide or auto

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THE GOOD ENEMY—Although hated and hunted for its misdeeds, the starling is a help in keeping insect pests under control. Here a starling holds a Japanese beetle.

New Patterns Set for "School of Tomorrow"

► **PROMISING STUDENTS** in America's "school of tomorrow" should be allowed to devote as much as 40% of their school time to creative, independent work and study.

The suggestion comes from the Commission on the Experimental Study of the Utilization of the Staff in the Secondary School. Their summary report, based on a five-year survey, calls for drastic revamping of present schools.

"Few high school graduates have achieved adequately the skill of independent study, nor has much happened to make them feel that they should," the Commission believes.

Under the new plan, opportunities for independent study would vary with each student's age and ability, and the stage of the transitional program in each high school.

Also stressed is the need for revising size of classes to make some much larger and some much smaller.

The theory is that 40% of the student's day should be spent in classes ranging from 100 to 300 members. These large group classes would be conducted by a teacher especially competent in some phase of the work at hand, or would feature film or TV programs.

Small group discussions would be held in classes of 15 or less.

Other recommendations are:

More staff help to keep professional teachers from wasting time on routine tasks. New design standards and equipment for outmoded schools.

More emphasis on individual student needs by dividing into stages or steps rather than years or grades.

Offsetting individual differences in teachers through "team teaching" and differing work loads, with salaries adjusted accordingly. Top-rated teachers would earn as much as \$15,000 to \$20,000 annually.

Wiser use of available funds—reduction of interscholastic competitive events is cited as an example.

The Commission's report, published by Rand McNally and Co. as "Focus on Change: Guide to Better Schools," (\$1.25) includes a how-to-do-it chapter listing specific steps schools should take now.

The work was sponsored by the National Association of Secondary-School Principals, and financed by the Ford Foundation and the Fund for Advancement of Education.

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exhaust gas to kill the starlings, for, like the canaries once used to warn miners of dangerous carbon monoxide levels, they are extremely sensitive to noxious gases. Still, few are in favor of killing a bird if it can be chased away instead.

The Fish and Wildlife Service, now engaged in something of a crash program, is hoping to find a debirding scheme that can keep starlings off buildings as well as runways.

Between 20 and 30 different methods of outsmarting the "blizzard of birds" that comes into the city to roost have been tried,

and nearly every one has been a colossal flop.

Roman candles, balloons and loud noises work in isolated cases. Recordings of starlings in distress, eagle screams and rifle shots do also. But after a few days, the birds usually treat the objects or noise as part of the fascinating city din.

Electricians have even rigged up ultraviolet lights designed to give the birds a ghostly appearance. The starlings were supposed to frighten each other, but instead, they soaked up the light as if it were sunshine.

Plaster-of-Paris cats with mirrors attached, stuffed owls and rubber snakes have been set up on roosting ledges and trees. After a short time, the birds admire themselves in the mirrors, ignore the snakes and perch on the owls. They have even disdained roosting boxes in parks heated with bright lamps. Apparently they prefer a drafty ledge.

About the most that can be said for the failures is that they at least provide a list of things that will not work.

In most cases recorded starling distress calls have been an unsuccessful scare device. Experts believe, however, that they have not been used to the best advantage. The calls should be played, they state, at the beginning of the season, before roosting areas are established.

One technique that has been successful is the electrical hotfoot, accomplished by stringing two wires along perches. Another is that of mounting metal or wooden runners at a 45-degree angle to the perching surface, a trick that makes the birds slide right off the roost. Applying a greasy substance also does the job. It leaves the building in a sticky mess, but at least the birds object to the feel of the grease on their feet.

All of these successful methods are expensive.

For all the trouble the starlings cause, they have their good points. They eat various insect pests, such as Japanese beetles, and can sing like meadowlarks if they care to do so. Supposedly, they can imitate 44 different birds.

But their normal voice reflects the way most Americans feel about them—"fеее-u."

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Questions

GENERAL SCIENCE—How large was the money allocation for research and development in reporting colleges in 1958? p. 340.

PUBLIC SAFETY—How far are sharks able to smell blood? p. 338.

SPACE—What are two disadvantages of a high-altitude 24-hour satellite? p. 339.

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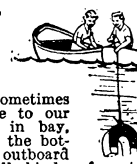
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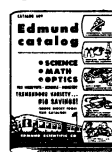
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