

HERPETOLOGY

**New Poison Symbol
Irrks Snake Expert**

► NOT ALL SNAKES are poisonous, biologists contend, although a red and yellow snake label has been issued by the American Pharmaceutical Association to replace the familiar skull and crossbones on containers of poisons.

It creates a "false impression," in the opinion of zoologists. The snake is a very poor symbol of danger from a conservation standpoint, Dr. Doris M. Cochran, curator of the division of reptiles and amphibians at the Smithsonian Institution, told SCIENCE SERVICE.

Snakes kill disease-spreading rats and mice that would otherwise overrun many areas, Dr. Cochran said. Field mice breed so rapidly there would be a billion mice at the end of a year just starting with one male and female.

The red and yellow labels, picturing a striking snake and saying "Warning: Keep out of reach of children," recently were sent to pharmacies across the nation for distribution to the public.

The new snake symbol, originated by the Michigan State Pharmaceutical Association earlier this year, was selected because "television and motion pictures have made the skull and crossbones a too familiar symbol in other fields," Francis R. Kronner, MSPA president, said.

Mr. Kronner said the striking snake fully impresses upon children and adults the danger of the substances in a container bearing this label. However, the snake sign as a danger symbol is not a wholly accurate one, Dr. Cochran pointed out.

"More people die from bee and wasp stings than from snake bites each year," she said.

Latest figures show that about 15 persons die from snake bites each year in the United States. Only about 200 of nearly 2,500 snake varieties in the world are actually dangerous to man.

The snake symbol first attracted national attention during National Poison Prevention Week last March.

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GEOPHYSICS

**Andes 'Hot Spot' Probed
By International Team**

► A "HOT SPOT," discovered deep within the Andes Mountains of Peru and Bolivia, is being studied by an international team of scientists.

The "hot spot" is an area of high electrical currents 12 to 24 miles beneath the Andes. It is believed to be related to huge crustal movements associated with earthquakes and active volcanoes in that region. It was discovered last October during research by Carnegie Institution and the Instituto Geofísico del Perú.

Scientists from the United States, Bolivia and Peru, with the financial support of the National Science Foundation, have already begun the new studies, said Dr. Merle A. Tuve, director of Carnegie Institution's

Department of Terrestrial Magnetism, Washington, D. C.

A high electrical conductivity is apparent at depths of more than 200 miles under most areas of the world. Exceptions include Japan and Germany, where shallow "hot spots" were discovered a few years ago.

In Peru, however, the effect is so large, Dr. Tuve disclosed, that it completely overwhelms the usual "ocean edge effect," which is a magnetic change at the edges of all continents. This "ocean edge effect" is caused by relatively high electrical currents in the salty ocean.

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ENGINEERING

**Survey for Tunnel
To Link Britain, France**

► THE PROPOSED TUNNEL under the channel between England and France is about to get under way with a three million dollar survey.

Seven American companies are among 29 invited by the Channel Tunnel Study Group to bid on the contract for the geological survey.

The other companies include ten British, ten French, one German and one Danish. Since there are various aspects to the work, more than one firm will be selected.

The Study Group will then be able to complete the cost section of its own draft contract with the British and French Governments. Cost of the survey will be met half by the British Government and half by the French National Railroads.

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ENTOMOLOGY

**High-Living Grasshopper
Found in California**

► A NEW SPECIES of high-altitude grasshopper has been discovered in the White Mountains of eastern California.

It is one of the few kinds of grasshoppers that can live and breed at altitudes of more than 12,000 feet. Its scientific name is *Agnostokasia sublima*, the two parts meaning "unknown brother" in Greek and "exalted" in Latin, respectively. The name is derived from the fact that the grasshopper is a previously unrecognized close relative of certain known species, plus its occurrence in a very high place.

The grasshopper is more closely related to species living in Idaho and Montana than it is to those of the nearby Sierra Nevada Mountains of California. Like many localized grasshoppers which live at high altitudes, it has very short wings, not adequate for flight.

The principal author of the report on this grasshopper, in the Proceedings of the California Academy of Sciences, is Dr. Ashley B. Gurney of the U.S. Department of Agriculture's entomology research division.

Dr. Gurney collaborated with David C. Rentz, a student at the University of California in Berkeley, who originally found the grasshopper and collected most of the sample, now consisting of 90 specimens, on several trips to the White Mountains.

• Science News Letter, 86:120 Aug. 22, 1964

IN SCIEN

MEDICINE

**Pressure Chamber Used
For Tetanus Patients**

► THE USE of high pressure oxygen therapy to treat nine persons with tetanus, or lockjaw, was reported in the Journal of the American Medical Association, 189:408, 1964.

Earlier research had indicated that the technique, which increases oxygen pressure to 20 times the normal level, might counter the effects of the tetanus toxin. Conventional methods, including muscle relaxing drugs, different forms of anesthesia, and large doses of penicillin, have allowed a death rate of 30% to 50%.

The patients were treated in a cylindrical decompression chamber 18 feet long and six feet in diameter. After treatment, the patients were reported able to be fed by mouth. They were more alert, controllable and cooperative than those treated conventionally.

Drs. Luke R. Pascale, Richard J. Wallyn, Samuel Goldfein and Stanley H. Gumbiner, all of Chicago Heights, reported the study. They are affiliated with the Hyperbaric Institute of St. James Hospital, Chicago Heights, and the department of medicine, Loyola University, Chicago.

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ASTRONOMY

**New Comet Spotted
In Southwestern Sky**

► A NEW COMET, bright enough to be seen with binoculars, has been discovered in the southwestern sky.

The comet was the first spotted by an amateur astronomer and professional physicist, Dr. Edgar Everhart of the University of Connecticut. His discovery was confirmed by Dr. Elizabeth Roemer of the U.S. Naval Observatory, Flagstaff, Ariz.

The eighth magnitude object is in the constellation of Libra, the scales, which is low in the southwest.

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MATHEMATICS

**Historic Computer Paper
Found After 20 Years**

► A 1937 PAPER, which set off the "computer revolution," was rediscovered after having been lost for over 20 years.

The paper was written by Howard H. Aiken, now emeritus professor of applied mathematics at Harvard University, Cambridge, Mass. It contained the ideas that eventually led to the construction of International Business Machines Corporation's Mark I, the first electronic computer ever built.

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CE FIELDS

GEOLOGY

Smithsonian Acquires Important Meteorites

► AN IMPORTANT COLLECTION of meteorites from the estate of the late Arthur R. Allen of Trinidad, Colo., has been acquired by the Smithsonian Institution. Mr. Allen, a student of rocks, spent much of his adult life searching the open spaces of Colorado, New Mexico, Kansas and Oklahoma.

The Allen collection includes 45 meteorites, 11 of which were not previously represented in the Smithsonian's Museum of Natural History specimens. It also includes several hundred tektites, moldavites and australites.

The Smithsonian has one of the world's leading meteorite collections.

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DEMOGRAPHY

Early Marriages Raise Population Growth Rate

► THE WIDESPREAD TREND of teenage marriage in the United States could lead to a population growth far exceeding the current 1.4% rate despite attempts to limit family size by birth control.

This is the conclusion of a Cornell University zoologist, Prof. LaMont C. Cole, who believes that early marriages are more responsible for the "population explosion" than large families.

Prof. Cole said that the younger a mother is, the earlier her children can have offspring of their own. In America today, more women marry at 18 than at any other age.

"Merely reducing the number of children per family is much less important than postponing the age of marriage," he said.

Prof. Cole studied the population patterns in animals and applied his findings to the problem of human population control.

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ENGINEERING

Refrigerated Clothing For Summers of Future

► A DISCOVERY that will bring refrigerated summer clothes closer to reality was reported by engineers at the National Heat Transfer Conference in Cleveland, Ohio.

Dr. Jack B. Chaddock, professor of mechanical engineering at Purdue University, Lafayette, Ind., and Dr. D. C. Siegl, research engineer with the Frigidaire division of General Motors Corporation in Dayton, Ohio, reported they have found a way to describe heat and cold distribution in thermoelectric cooling devices. Thermoelectric refrigerators cool by converting heat directly into electric current.

Thermoelectric refrigeration units show

more efficiency than conventional compressor refrigerators because they have no moving parts. However, small thermoelectric cooling devices have never been developed to the point where they can be mass-produced.

With the new heat-cold distribution analysis, one of the great stumbling blocks to mass producing vest-pocket thermoelectric refrigerators has vanished. The engineers said, however, that other problems must be solved before these refrigeration units can be made on a large scale.

Dr. Chaddock, who is also associate director of engineering research at Purdue's Herrick Laboratories, said he envisions the mass production of desk drawer and glove compartment refrigerators, not to mention the last word in cool summer sport coats.

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MEDICINE

Some Bacteria Show Resistance to Antibiotics

► WHY SOME BACTERIA resist antibiotic drugs and others cannot was discussed at the worldwide meeting of biochemists in New York by Dr. T. J. Franklin of Imperial Chemical Industries, Ltd., London.

The common intestinal bacterium, *Escherichia coli*, for example, may become resistant to the tetracycline drugs, which are among the most widely used weapons against infection. Dr. Franklin and co-workers found that these drugs are unable to penetrate into the cells of stubbornly resistant strains of *E. coli*.

Other drugs, such as penicillin and streptomycin, are entirely different in character, thus showing how versatile bacteria can be in repelling the attacks of their drug enemies.

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OBSTETRICS

Suction Found Safer Than Forceps in Births

► THE USE of forceps during delivery is being replaced in the United States and other countries by a safe vacuum extractor shaped like a plumber's suction cup.

Dr. Jean Ernest Paquin, chairman of the department of obstetrics and gynecology at Providence Hospital, Washington, D. C., told the National Medical Association meeting that the vacuum is a "godsend" in his opinion. It is used for a woman who cannot deliver normally because the baby's head is too large.

The undoubted safety to babies, whose heads have often been cut by forceps, has been demonstrated by 17 staff members at Providence who have delivered 441 infants safely in this way. Less than one percent of the mothers had lacerations as bad as those sometimes caused by forceps.

Dr. James Brew, a co-worker of Dr. Paquin, told SCIENCE SERVICE he had delivered 45 babies with the vacuum, without danger to mothers or babies.

Dr. Tage Malmstrom, University of Goteborg, Sweden, developed the Malmstrom Vacuum Extractor.

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ZOOLOGY

Foxes Like Mice on Menu, Find Birds Less Tasty

► THE WILY FOX, often blamed for losses of pheasants, eats far more mice than game birds, stomach examinations show.

To get a better understanding of the eating habits of the fox, the Wisconsin Conservation Department collected more than 2,000 fox stomachs from hunters and trappers during the winters of 1959 through 1962.

The contents of the stomachs showed that mice made up more than half of the fox diet in most winters. Cottontail rabbits, too, were a staple food item, with rabbit remains found in about one fox stomach out of three.

Upland game birds, such as pheasants, were an insignificant factor in the fox diet, the study showed, except during severe winters when snow was deep for long periods. Then pheasants made up some ten percent of the fox diet, because other live food was unavailable at times.

The department said that some losses of game birds and animals to foxes could be avoided by providing a better distribution of winter food and cover for them on intensively farmed lands.

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DERMATOLOGY

New Medications Also Cause Skin Disturbance

► SKIN ERUPTIONS are caused by many newer drugs, as well as older drugs, a dermatologist reports.

Dr. Robert S. Higdon, George Washington School of Medicine, warned that the variety of medications now on the market are likely to have side effects. He reported his findings at the National Medical Association meeting in Washington, D. C.

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EDUCATION

Federal Humanities Foundation Asked

► RECOGNIZING the revolutionary improvement in science research and education created by more than a decade of operation of the federally supported National Science Foundation, those in the field of the humanities are urging similar support for their fields of learning.

A Commission on the Humanities has issued a voluminous report through the American Council of Learned Societies, New York, calling for the creation of a National Humanities Foundation.

A gifted individual, whether poet or physicist, the report contends, needs to have his imagination kindled by aspirations and accomplishments in the humanities—history, literature, arts, religion and philosophy.

"Democracy demands wisdom of the average man," the report noted. "All men require that a vision be held before them which includes such enduring values as justice, freedom, virtue, beauty and truth."

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