

Taken with a special pressure-resistant camera and brilliant flash bulbs at three and one-half miles' depth, the picture on the cover of this week's SCIENCE NEWS LETTER shows on the bottom a colony of roughly elliptical objects believed to be

sponges.

Another picture, taken at the relatively shallow depth of 6,000 feet (not much more than a mile) shows several brittle-stars and a sea-spider.

Science News Letter, August 14, 1948

Letters To The Editor

Big Sister Unhappy

You said in an article about soap operas (SNL, July 3) that "Big Sister is happily married." I happen to listen to that program and I know that Big Sister is very unhappily married on the program and isn't living with her husband.—Miss S. Richman, New York City.

When the study was made in 1945-1946 Big Sister was happily married. The findings made at that time still hold true for Big Sister inspires her listeners by her unselfishness and wisdom in dealing with others.

Boring Into Wood

I saw leaf-cutter bees this year at my brother-in-law's farm in Devon, Kansas. They look like you say they do (SNL, July 24), but instead of eating on the roses they bore holes in the wood. He is after them all the time as they are destroying the wood in the barn and house.

He told me there was a barn near him that is almost eaten up by these bees and they have cutters in front of them just as you said. They do look like bumble-bees only slimmer.—Mrs. Harry Glick, Dawn, Mo.

Your observation on the habits of the leaf-cutter bee is correct: the insect does dig holes in wood. These are to be its home: it lines them afterwards with the cuttings it makes from the leaves of roses and other plants.

For protection, here are two suggestions: (1) Paint. The leaf-cutter won't go through a covering of paint to get at wood. They always do their work in unpainted wood. (2) If painting is not practicable, apply a strong solution of DDT, residual-type, using either whitewash-brush or spray-gun.

Not Poisonous

In an article headed "Poison Gas in Atmosphere" (SNL, July 3) the text indicates that methane is described as a poison gas. My personal experience with methane, and the available literature regarding toxicity of methane toward human beings, indicates that methane can not be described as a poison gas.—Thomas S. Bacon, Dallas, Texas.

Thanks. In a strict sense methane is not a poisonous gas. Authorities inform us that although suffocation could be caused if sufficient methane were in an occupied space, experiments in which methane and oxygen were mixed in proportion of 80% methane and 20% oxygen demonstrated that animals could live unharmed in such an atmosphere.

Science News Letter, August 14, 1948

PHYSICS

Ultrasonic Sound Waves Detect Flaws in Metals

➤ HIGH-FREQUENCY sound waves, far too high for the human ear to hear, are being used by General Electric to discover and record small flaws in metals.

A new device, developed to permit the use of these waves called ultrasonic by scientists, shoots 1,000,000 cycle-per-second sound waves through the metals to be tested, and simultaneously plots a graph which shows any flaws in the metal's interior. Testing is carried out by immersing the metal specimen in oil, because these sound waves will not travel through air.

A small sound-wave transmitter, wired to the main body of the instrument and also immersed in the oil, sends the waves through the oil and through the metal sample. Waves are interrupted by a crack or other flaw in the metal, and the flaw is indicated on the graph. The transmitter is a small crystal which is made to vibrate and produce sound waves by an electric current. The receiver has a similar crystal.

Science News Letter, August 14, 1948

SCIENCE NEWS LETTER

Vol. 54

AUG. 14, 1948

No. 7

56,400 copies of this issue printed.

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., North 2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change, please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Copyright, 1948 by Science Service, Inc. Reproduction of any portion of SCIENCE NEWS LETTER is strictly prohibited. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service. Science Service also publishes CHEMISTRY (monthly) and THINGS of Science (monthly).

Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C., under the act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to Periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., Pennsylvania 6-5566 and 360 N. Michigan Ave., Chicago, STAtE 4439.

SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Nominated by the American Association for the Advancement of Science: Edwin G. Conklin, Princeton University; Karl Lark-Horowitz, Purdue University; Kirtley F. Mather, Harvard University. Nominated by the National Academy of Sciences: Harlow Shapley, Harvard College Observatory; Warren H. Lewis, Wistar Institute; R. A. Millikan, California Institute of Technology. Nominated by the National Research Council: Hugh S. Taylor, Princeton University; Ross G. Harrison, Yale University; Alexander Wetmore, Secretary, Smithsonian Institution. Nominated by the Journalistic Profession: A. H. Kirchhofer, Buffalo Evening News; Neil H. Swanson, Baltimore Sun Papers; O. W. Riegel, Washington and Lee School of Journalism. Nominated by the E. W. Scripps Estate; H. L. Smithton, E. W. Scripps Trust; Frank R. Ford, Evansville Press; Charles E. Scripps, Scripps Howard Newspapers.

Officers—President: Harlow Shapley, Vice President and Chairman of Executive Committee: Alexander Wetmore, Treasurer: O. W. Riegel, Secretary: Watson Davis.

Staff—Director: Watson Davis. Writers: Frank Thone, Jane Stafford, A. C. Monahan, Marjorie Van de Water, Martha G. Morrow, Ron Ross. Science Clubs of America: Joseph H. Kraus, Margaret E. Patterson. Photography: Fremont Davis. Sales and Advertising: Hallie Jenkins. Production: Priscilla Howe.

Question Box

AERONAUTICS

What does "Blackhawk" stand for in aviation vocabulary? p. 105

What will allow planes to safely take off and land across the wind? p. 102

AERONAUTICS-METEOROLOGY

What effect does lightning have on the pilot of a plane? p. 108

ENGINEERING

To what new use has the bazooka principle been put? p. 103

Photographs: Cover, p. 99, D. M. Owen, Woods Hole Oceanographic Institution; p. 98, Westinghouse Electric Corp.; p. 101, Gulf Oil Corp.; p. 103, General Electric Co.; p. 106, Robert E. Cox, Harvard Observatory; p. 107, California Institute of Technology.

GEOPHYSICS

What device is used in the search for hidden oil? p. 101

MEDICINE

What are radioisotopes doing for cancer? p. 99

What method holds hope of a quick polio test? p. 98

What tropical disease is feared to be prevalent? p. 101

PHYSICS

How are flaws being detected in metal? p. 100