PALEONTOLOGY

Ancient Fossil Exhibited

See Front Cover

➤ THE ONLY complete 100-million-year-old fossil skeleton of what was once the largest flesh-eating reptile in the sea has been reconstructed at Harvard's Museum of Comparative Zoology, Cambridge.

The 42-foot-long skeleton of Kronosaurus, which, next to the whale, is the largest marine animal ever known to exist, is housed in a separate room.

During the Lower Cretaceous period of the earth's history, *Kronosaurus queenslandicus,* a species of Plesiosaur, roamed the sea that formerly covered a portion of present Australia. When the water receded, years later, the sea bottom became part of the continent of Australia. Parts of the skeleton of Kronosaurus began to show through the limestone in which it had become imbedded.

William E. Schevill, research associate at the museum, discovered the partially exposed fossil remains in 1931. After dynamiting loose the rock blocks containing bones, the blocks were shipped to Harvard. Arnold Lewis, preparator at the museum, spent laborious years removing the soft but resilient skeleton from its rocky prison.

Once freed from the rock, the bones were immersed in acetic acid to remove small rock fragments and clean the surface. Gaps in the fossil skeleton left by missing bones and eroded bone parts have been filled in, using glue, asbestos fiber and plaster of Paris. A welded steel framework supports the massive reconstruction.

The photograph on the cover of this week's SCIENCE NEWS LETTER shows Miss Nelda Wright, a research assistant and editor of publications at the Museum of Comparative Zoology, as she places her head in between the bony jaws of Kronosaurus.

Plesiosaurs had broad, flat bodies, with four oar-shaped limbs with which they paddled through the water in search of fish and other animal food. Besides a long tail, most Plesiosaurs had a long, flexible neck supporting a comparatively tiny head.

Kronosaurus, however, had a short neck, only 10 feet. It sported a nine-foot long, triangular shaped skull which contained 80 spiky teeth, some as long as eight inches. Harvard's skeleton has a 20-foot long and six-foot wide body, with a 10-foot tail.

Other species of Plesiosaur have been found in the United States, in Kansas, New Jersey and Wyoming, and in England and Germany.

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HORTICULTURE

Chemical Shortens Mums For Use as Potted Plants

➤ TALL-GROWING chrysanthemums may soon be cut down to size—pot size—through the use of a chemical growth retardant.

U. S. Department of Agriculture scientists predicted that Amo-1618 will make possible mums with shortened stems but normal sized blossoms and leaves. Using the new compound, Dr. Henry M. Cathey, horticulturist at USDA's Agricultural Research Service, Beltsville, Md., has already successfully grown attractive plants of various suitable heights.

Now, dwarf varieties only are grown for pot plants. With applications of Amo-1618, either in sprays, mixed with dry soil or added to soil in solution, or by soaking cuttings in a solution, home gardeners should be able to grow other varieties in pots.

Treated plants, USDA scientists found, bloom later than normal mums and have leaves that are a darker green.

Amo-1618 is not available now commercially. When it is, however, pinching and staking chrysanthemums to get more attractive plants may become a thing of the past.

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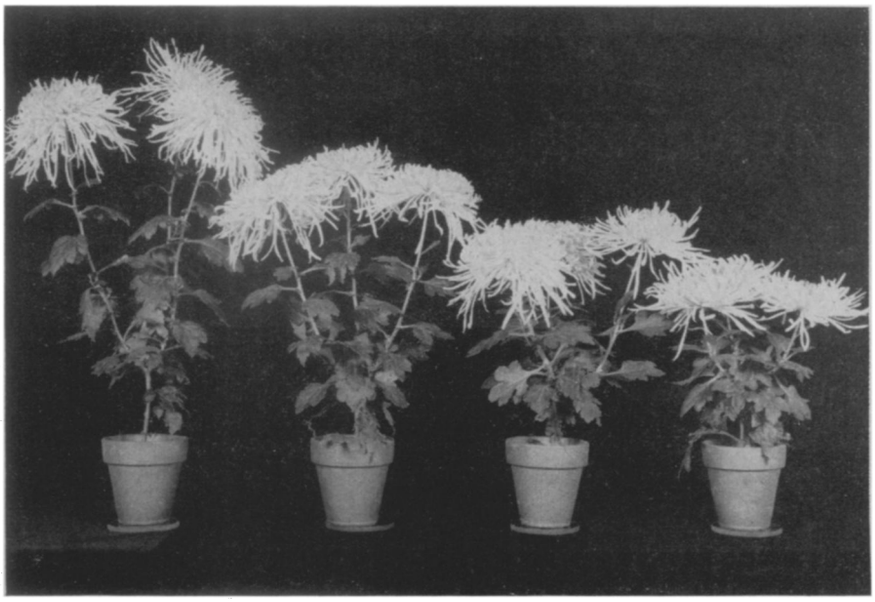

POTTED MUMS—Four Yellow Lace chrysanthemums show the effects of treatments with the growth retardant Amo-1618. The plant at the left was untreated, while the other three received increasingly larger amounts of the chemical. This photograph was taken after all the treated plants had come into flower and just before the untreated plant shed its bloom.

RADIOLOGY

Photograph Heart In Three Dimensions

➤ THREE-DIMENSION motion pictures of the activity of the heart are now possible, Stanford Medical School radiologists report.

Newly acquired equipment makes it possible to study cardiac motion and blood flow through the heart, lungs and great vessels in two planes simultaneously, Prof. Herbert L. Abrams, Stanford radiologist in charge of the research, said.

Conventional single-plane equipment gives only the height and width of a heart chamber. To study the chamber's motion and blood volume, its depth, or third dimension, is also needed. The new equipment is able to do this, to "stop" movement down to a thousandth of a second to get sharper views of pumping heart chambers and blood jets.

The equipment, which cost approximately $100,000, employs two 11-inch "image intensifiers" at right angles to each other. One is sunk vertically into the floor beneath the patient, the other is mounted horizontally on rollers at his side.

This intensifiers form the X-ray picture on their circular 11-inch screens, much as an ordinary fluoroscope does. The intensifiers brighten the fluoroscopic image 100 times. This results in lowered amounts of X-rays needed.

Studies are usually performed with a catheter, or plastic tube, inserted into the heart through a vein. An opaque substance is rapidly and automatically injected through the catheter into a heart chamber.

Meanwhile, X-ray tubes, suspended from the ceiling, beam their rays at right angles through the patient directly into the image intensifiers. The two images produced are caught on specially processed 35 millimeter motion picture film, and record the movement of the opaque material through the heart, lungs and great vessels.

The end product is two separate film strips showing the same motion from different angles. The two films can be studied or projected together to give dimensions of the cardiac chambers in two planes simultaneously.

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