

ASTRONOMY

New Comet Rides High in The Northwest Evening Sky

Brightest Comet of the Decade, It Shines Nearly as Brilliantly as the North Star; Found in Norway

LOOK quickly for the brilliant Hassel comet now glowing with its greenish haze in the northwestern sky, Harvard College astronomers advise.

The comet was nearest to the sun—and hence brightest—on April 10. It is now moving away from the sun and earth and will rapidly become fainter.

At eight o'clock in the evening it is still rather high in the sky in the northwest where it has entered the constellation of Perseus. In appearance the Hassel comet is a glowing hazy object easily distinguished from the pinpoint points of light that mark the stars in the sky. Its long tail is visible to the eye and in small field glasses. The tail is about two degrees long, or as great as four apparent diameters of the full moon.

The new comet was discovered at the University Observatory, Oslo, Norway, on April 16 by the astronomer Hassel, according to cabled reports from Prof. S. Rosseland, director of the Norwegian Observatory, to Harvard Observatory, American clearing center for astronomical discoveries.

A more recent check on the comet's position comes from the observatory of the University of Copenhagen. Its position on the evening of April 18 was right ascension two hours, seven minutes and 58 seconds and its declination was plus 43 degrees, 15 minutes and 53 seconds, according to reports from Miss J. M. Vinter-Hansen, well-known astronomer at Copenhagen, and her associate, J. P. Möller.

Its position April 20, as determined at Lick Observatory, is right ascension two hours, 36 minutes, 30 seconds and declination plus 43 degrees, 50 minutes and six seconds.

Dipper a Guide

Easy way to find the new comet is to start with the Big Dipper and sight along the two stars which mark the "top" of the Dipper's cup. In the early evening these days the Dipper will be nearly at the top of its daily swing around the North Star.

Using the two Dipper stars to get the

approximate line, look to the west and find the very bright star Capella in the constellation of Auriga. This star will be about half way up the sky from the horizon.

Next look downward in the sky from Capella and to the right, which is north. Your eye should then come to a large triangle formed by second magnitude stars in the constellation of Perseus. This triangle is standing on its apex.

Just a bit lower in the sky than the bottom star of this triangle, and a bit to the north should be found the Hassel comet. If you come to a bright star in doing this it is probably the star gamma Andromeda, known as Almak. This means you have overshot your mark for the comet is about half way between Almak and the bottom star of the triangle in Perseus.

Science News Letter, April 29, 1939

PHYSICS—BIOLOGY

Atom Smasher Helps to Study Mystery of Body

WHILE the giant atom-smashing cyclotron apparatus of the physicists is primarily designed to study the structure of the atom it is rapidly being turned to more practical ends which have direct applications in the animal and human body.

One of the mysteries, which the cyclotron atom smashing is helping to solve, is the role of the chemical known as glutathione in the human body. This chemical is a sulfur compound apparently composed of known amino acids—glycine, cysteine and glutamic acid. But every effort so far to produce glutathione synthetically out of its parts so far has failed. Yet knowledge about its role and a method of synthesis are vitally needed because glutathione controls the behavior of important enzymes in the cells of the body.

Newest feat of scientists at the Biochemical Research Foundation of the Franklin Institute in Philadelphia is to create radio-active glutathione. This is done by growing yeast cells in a synthetic medium in which radio-active sul-

fate (obtained by cyclotron bombardment) is the only source of sulfur.

Under these conditions the yeast cells build up radio-active glutathione that can readily be detected in extremely small amounts by Geiger counters sensitive to disintegration radiations given off.

Reports the Foundation's Director, Dr. Ellice McDonald.

"Radio-active glutathione will be of great value in studies on the fate of this substance in the human body, as there is no knowledge of the mechanism of the action of this important body substance. With radioactive glutathione it will be possible to trace its course and possibly to explain the mechanism of the action. If this is done, it will be one more step towards explaining the riddle of life."

Science News Letter, April 29, 1939

CHEMISTRY

First Total Synthesis of Sex Hormone Equilenin

THE TOTAL synthesis of the female sex hormone equilenin—an important new advance in the chemistry of sexual activity in women—is announced by chemists of the University of Michigan.

Reporting to the *Journal of the American Chemical Society*, Prof. W. E. Bachmann, Wayne Cole and A. L. Wilds state:

"Although certain sex hormones such as estrone have been prepared from other naturally occurring compounds possessing similarities in structure, the total synthesis of none of them has yet been reported. We have now succeeded in accomplishing the total synthesis of the sex hormone equilenin."

Following closely the discoveries of Prof. Russell E. Marker of Pennsylvania State College that equilenin can be converted to estrone by reduction, the new Michigan research means that the total synthesis of these highly important sex hormones has now been accomplished.

Equilenin, chemically related to the sex hormone theelin found by Prof. Edward A. Doisy of St. Louis University School of Medicine, was reported by Drs. André Girard and Georges Sandulesco, Paris, in 1932. Its name was given because it was first found in the urine of pregnant mares. Several tons of this material had to be used, in these early experiments, to extract about three grains of the hormone.

Science News Letter, April 29, 1939