

ASTRONOMY

Supergiant Star Found

So big that its radius is more than eight times the distance from the earth to the sun and more than a thousand times the sun's radius. Yet it is not the brightest.

➤ A STAR so gigantic that its radius is more than eight times the distance from the earth to the sun and its diameter is more than 1,500,000,000 miles has been detected by Dr. Harlow Shapley, director, and Mrs. Virginia McKibben Nail of Harvard College Observatory.

Six stars a billion miles across, and thus so gigantic that if centered on the sun they would overflow the orbit of the planet Jupiter, have been found by the Harvard scientists in their study of the superluminous and supergigantic stars of the universe. Their findings are reported in the PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES (March).

The brightest star in the universe so far as now recorded is the well-known bluish variable star S Doradus. It is half a million times more luminous than the sun, and its brightness is exceeded only by the bursts of supernovae, the brightest of "new stars," reports Dr. Shapley.

These biggest and brightest stars in the universe have been found in the Small and Large Clouds of Magellan, so far south that they are never seen from the United States. These groups of hundreds of millions of stars are among the nearest of galaxies beyond our own Milky Way system. To the unaided eye they look like detached portions of the Milky Way.

In the Smaller Cloud Dr. Shapley and Mrs. Nail have found over 20 stars which, if placed no farther away than Sirius, the brightest star in the heavens, would be a hundred times brighter than this dog-star.

The faintest of these 20, if placed about

two hundred million million miles from the earth, would be brighter than the planet Venus as seen in the early evenings about now; the brightest of these would be about three times as bright as Venus at its very brightest.

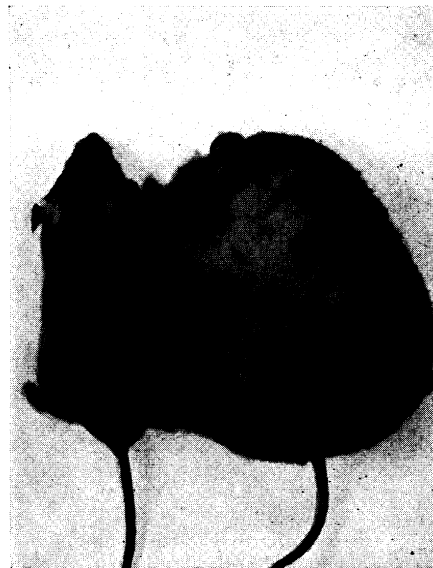
The brightest star in the Small Magellanic Cloud is 25,000 times as bright as our sun. Yet 20 of these would be needed to shine as brightly as S Doradus, most luminous star in the universe.

These stars in the Small Magellanic Cloud, however, are known to be bad radiators. Therefore the brightest ones must be enormous in order to give forth as much light as they do to be picked up with moderate-sized telescopes. They are far larger than the biggest stars of similar types yet measured in our own system.

In variability and color, and presumably in surface brightness, some of these Magellanic stars resemble Betelgeuse, bright star in the constellation of Orion and with a diameter 400 times the sun's. Yet they are several times brighter and their radii are a couple of times longer than such supergiants as Betelgeuse and Antares, the latter the gigantic red star in Scorpio constellation.

Other supergiant stars, so large that the planets Mercury, Venus, earth, Mars and Jupiter could all revolve around inside them in their customary orbits, some day will undoubtedly be found in the Large Cloud of Magellan, Dr. Shapley predicts. They probably also exist in our own galactic system, but to date none has been detected or measured.

Science News Letter, March 31, 1951



INHERITED FAT—Difference between mouse obese by inheritance and normal mouse is shown in this picture.

GENETICS

Find First Evidence for Inherited Obesity In Mice

➤ NOW mamma mouse, just like many a human mother, can blame her offspring's fatness on inheritance from their grandparents.

For the first time, evidence of a hereditary obesity in mice has been discovered. The hereditary trait is a recessive, and it is also the first evidence for such a trait in any animal other than man.

The trait is a new mutation. Mice that get fat as a result of it are themselves sterile.

The new mutation was discovered by Ann M. Ingalls, Margaret M. Dickie and Dr. G. D. Snell of the Jackson Laboratory, Bar Harbor, Me. Reporting in the JOURNAL OF HEREDITY (Dec.), Mrs. Ingalls and associates point out that fatness, other than that occurring in crosses with yellow mice, is relatively rare in mice.

"In the summer of 1949," the scientists report, "some very plump young mice were found in the V stock. Others occurred shortly after that among offspring of those V stock animals that had been outcrossed to the fuzzy stock."

"Obese animals are first recognizable at about four to six weeks of age. At that time they appear to have a slightly shorter body, are rather square and have expansive hind quarters."

"From that time on they increase in weight rapidly, so by three months of age they weigh about twice as much as their non-obese litter mates."

How long the fat mice will live is not known. None has died up to one year.

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MEDICINE

Corticosterone Successful

➤ A NEWLY manufactured drug related to the famous arthritis remedy, cortisone, has proved successful in first trials of it as treatment for the very serious illness called Addison's disease.

The new chemical is called Corticosterone. Like cortisone, it comes from the adrenal glands. And, again like cortisone, only extremely small amounts of it are as yet available.

The good results in treatment of four patients suffering with Addison's disease were announced by Dr. Jerome W. Conn, professor of internal medicine at the University of Michigan.

Addison's disease has been rapidly increasing in the United States, Dr. Conn stated. The disease is caused by failure of the adrenal glands to produce enough of the hormonal substances needed to keep an adequate balance in the body of salt, potassium, water, sugar, protein and other elements. Patients suffering from this disease are weak, thin, have poor appetites, low blood pressure and a peculiar darkening of the skin. They must be treated with hormonal substances all their lives, or they die of the disease.

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