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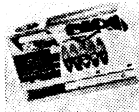
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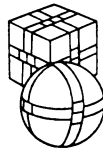


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## SPACE

# Second Ranger Readied

➤ THE SECOND spacecraft for moon and planet exploration is getting set for take-off, the National Aeronautics and Space Administration reported in Washington, D. C.

The Ranger II is scheduled to go more than half a million miles into space before it returns and burns up in the earth's atmosphere. It will be a forerunner for other Ranger vehicles that will land an instrument capsule on the moon to investigate moon quakes.

These and later Rangers will also take TV pictures of the moon surface which are necessary before man can land on the moon.

The lunar surface is probably covered with dust. It also contains numerous cracks and fissures making a landing very dangerous without exact information about the surface features.

The Ranger II will not be "shot" at the moon, however. It will be sent on a long orbit into space for the preliminary testing needed before actual trips to the moon and planets. This includes an attitude stabilization system based on celestial reference (the sun and earth), an advanced communication system, the development of parts able to operate for long periods in space and the calibration of solar cells in a space environment.

Ranger II will, like its predecessor Ranger I, carry scientific experiments for studying cosmic rays, magnetic fields, space radiation and dust particles. It will also investigate a suspected comet-like tail of hydrogen gas believed trailing along with the earth.

The experiments were designed by scientists from the California Institute of Technology, Goddard Space Flight Center, Jet Propulsion Laboratory, Los Alamos Scientific Laboratory, Naval Research Laboratory, State University of Iowa, and the University of Chicago.

Ranger I was launched on Aug. 23 as the first of a series, but did not achieve its scheduled flight path. Instead it went into

## SPACE

# Space Animals Get Gray From Radiation of Cells

➤ AN EXPLANATION of why animals that go up in rockets sometimes develop gray hair was given on the basis of cell radiation. X-rays are responsible.

The irradiation is capable of killing or inactivating melanocytes, the cells in the skin that produce melanin (which includes a number of dark brown or black pigments).

But unexplained is the fact that gray-haired persons may begin producing dark hairs following exposure to X-rays. It was also found that gamma rays (similar to X-rays but carrying more energy) can tan the skin of mice.

Drs. Herman B. Chase, William E. Straille and Claudette Arsenault of Brown University, Providence, R. I., reported on the graying effect of X-rays to a New York Academy of Sciences conference in New York.

• Science News Letter, 80:332 November 18, 1961

a low earth orbit between 105 and 312 miles above the earth. It stayed aloft only seven days, providing experimental data of the vehicle and many spacecraft subsystems.

The 675-pound Ranger II vehicle is slightly more than five feet in diameter at the base and 11 feet long. In space with its solar panels extended to collect energy from the sun, Ranger II is 17 feet in span and 13 feet long.

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