Primates, Non-Human Encyclopedia Article

Primates, Non-Human

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Contents

Primates, Non-Human Encyclopedia Article.....1

Contents.....2

Primates, Non-Human.....3

Primates, Non-Human

Surprisingly few non-human primates have been used in the more than forty-five years of space exploration. Some of these missions were essential for humans to travel into the near reaches of space. A total of twenty-nine non-human primates have flown in space; of these, twelve flew on Soviet or Russian flights and seventeen on U.S. missions. Many of these were suborbital missions during which basic physiology and the risks associated with launch and **microgravity** were assessed.

Pre-launch preparations are made to the seating configuration of Ham the monkey, as he sits in the nose cone of the Mercury-Redstone 3 rocket. The rocket took him on a 1,500 mile journey in February 1961.

Early missions involved significant risks because of unknowns in engineering the life-support systems, the monitoring systems, and the design of the capsule itself. Some animals were lost due to failures in parachute recovery systems. The non-human primate was selected because of its size, ability to sit upright, ease of monitoring, and physiological similarity to humans. Early experiments, prior to 1958 when the National Aeronautics and Space Administration (NASA) was founded, were conducted by the military.

Before astronauts flew in Mercury **capsules**, Ham and Enos, the only chimpanzees to fly, tested the systems for humans. Non-human primates provided significant information on physiology, safety, and risks. Animal well-being is essential in scientific research. NASA uses non-human primates when the animal's safety can be assured and the scientific question can be answered only in this animal model.

See Also

Animals (Volume 3);; Capsules (Volume 3);; Microgravity (Volume 2).

Bibliography

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