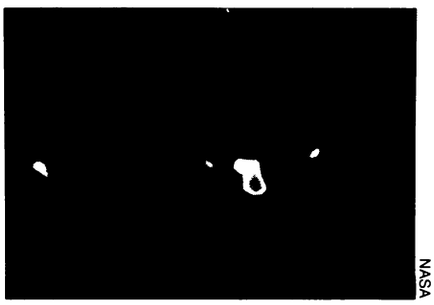
GRO makes gamma-ray map of Milky Way core

NASA's Compton Gamma Ray Observatory (GRO), launched last April, will complete a full-sky map of the gamma-ray distribution of the heavens by the end of its first two years in space. Last week, researchers released the first GRO image of the center of the Milky Way, taken with the craft's Imaging Compton Telescope.

The map, a composite of four separate telescope pointings, is the highest-resolution image ever taken of our galaxy using emissions from medium-energy gamma rays, in the range of 1 million to 30 million electron-volts. It also shows regions of the Milky Way core never before imaged at these gamma-ray energies, says Volker Schoenfelder of the Max Planck Institute for Extraterrestrial Physics in Garching, Germany. He presented the new image last week at the American Astronomical Society meeting in Atlanta.



NASA

False-color image depicts gamma-ray distribution near the center of our galaxy. Lighter colors indicate regions of highest intensity.

Though the telescope also recorded gamma rays from regions above the disk of the galaxy, the map reveals that most of the gamma sources lie along the galactic plane, where other detectors have found such emissions to concentrate, Schoenfelder says. Some of the recorded gamma rays may come from neutron stars or localized gas clouds, although the data remain too preliminary to say with certainty, he notes.

Schoenfelder adds that the image indicates that an intense gamma-ray source lies about one degree away from the Milky Way's center. But the map appears to show no single major gamma source at the center of the Milky Way, which may give less support for the idea that a black hole lurks at our galaxy's core, notes Carl E. Fichtel of the Goddard Space Flight Center in Greenbelt, Md. —*R. Cowen*

California condors released in the wild

Wallace/L.A. Zoo

National Audubon Society

Left: Two Andean condors and one California condor (far right) emerge from captivity. Above: Wild California condor before the species neared extinction.

Two captive-bred California condors and their two Andean-condor companions took their initial steps onto a mountain ledge last week in the first attempt to reintroduce this nearly extinct species into its former habitat.

The young California condors were hatched as part of a zoo breeding program designed to prevent the species from dying out. Conservationists captured the last wild California condor in 1987 near Bakersfield (SN: 4/25/87, p.263). Since then, 52 have been bred in captivity as part of a cooperative effort between the U.S. Fish and Wildlife Service and the National Audubon Society.

Xewe, the female of the California condor pair, hatched nine months ago at the Los Angeles Zoo. Her name means "to cast a shadow" in the language of the Chumash Indians, who believe California condors carry the spirits of the dead to heaven. The male, named Chocuyens, or "valley of the moon" in Chumash, hatched eight months ago at the San Diego Zoo.

Last October, researchers placed a minivan-sized box containing Xewe, Chocuyens and two Andean condors on a rocky ledge in the Los Padres National Forest, north of Los Angeles. The researchers included the Andean pair to keep the California condors company. They connected the box to a netted enclosure so that the birds could become acclimated prior to release.

When the netting was removed to free the giant vultures last week, all four "were obviously very nervous about the whole thing," says Michael P. Wallace, curator of birds at the Los Angeles Zoo. But by last Friday, he says, Xewe, Chocuyens and one of the Andean birds were taking short, 100-yard flights.

Planet discovery retracted

When astronomers invited Andrew G. Lyne to lecture on his dramatic report last July that a planet orbits a Milky Way pulsar called PSR1829-10 (SN: 7/27/91, p.53), they figured he would give a standard review of his work. That's what Lyne himself thought until about seven days before the talk, when he rechecked his latest radio data and uncovered an error.

At a meeting in Atlanta last week of the American Astronomical Society, the radioastronomer from the University of Manchester in England shocked an audience of his peers. Periodic delays and advances in the arrival times of radio waves from the pulsar, which had seemed to indicate that a planet with a six-month period orbited the object, were in part due to incorrect accounting for Earth's motion around the sun, he announced.

With that motion properly accounted for, the planet simply "evaporated," he said. A retraction appears in the Jan. 16 NATURE, the journal in which Lyne and his team initially reported their results.

Two errors conspired to create the appearance of a telltale, six-month variation in the radio signals, Lyne says. The pulsar's exact position proved difficult to pinpoint and researchers failed to insert the actual position of the object, once they had discovered it, into their calculations. That in turn magnified a normally negligible error in their analysis, which assumes that Earth has a circular orbit, rather than its actual elliptical path around the sun. Lyne notes that such an assumption had never caused an error in analyzing radio data from 300 other pulsars his team has observed.

Astronomers say that the retraction does not cast doubt on a more recent report that two, or possibly three, planets orbit another Milky Way pulsar (SN: 1/11/92, p.20). These radio signals have a complex, quasiperiodic pattern that Earth's motion cannot mimic. In addition, two radiotelescopes independently measured the position of this pulsar, minimizing the likelihood of errors. □

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