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COVER

Illustration of the black hole in Cygnus X-1, a binary star system 6000 light-years away. A disk of stellar material feeds this black hole, which is 15 times as massive as the Sun but less than 60 kilometers across. As it falls toward the black hole, some of the material gets expelled in two opposite jets. A section highlighting recent research on black holes begins on page 535. For the story behind the cover, go to http://scim.ag/cov6094.

Image: NASA/Chandra X-ray Center/M. Weiss

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Published by AAAS
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Electron microscopy provides a close-up view of the ninefold symmetric stacked rings at the base of cilia and flagella.

REPORTS

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Observations of a candidate intermediate-mass black hole support the scale invariance of jets in black holes.

Kepler-36: A Pair of Planets with Neighboring Orbits and Dissimilar Densities
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The Kepler spacecraft detected a super-Earth and a Neptune-like planet in very tightly spaced orbits around the same star.

Non-Centrosymmetric Cylindrical Micelles by Unidirectional Growth
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A Reversible and Higher-Rate Li-O₂ Battery
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A viable lithium-oxygen battery is demonstrated using dimethyl sulfoxide electrolyte and a porous gold cathode.

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Function, Targets, and Evolution of *Caenorhabditis elegans* piRNAs
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Unraveling the Life History of Successful Invaders
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How Low Can You Go? Physical Production Mechanism of Elephant Infrasonic Vocalizations
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Feedback Regulation of Transcriptional Termination by the Mammalian Circadian Clock PERIOD Complex
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A circadian rhythm regulator acts by altering the elongation stage of gene expression.
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A 200-Second Quasi-Periodicity After the Tidal Disruption of a Star by a Dormant Black Hole
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Oscillations in x-ray emission from a galaxy’s central black hole imply that a disc formed after the hole captured a star.
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Daclizumab inhibition of inflammation in human autoimmunity is associated with blockade of lymphoid tissue inducer cell development.

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Anacardic acid attenuates mutant TDP-43–associated abnormalities in motor neurons derived from ALS patient–specific induced pluripotent stem cells.

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R. Hofholf and H. Wekerle
Amyloid β reduces inflammation and improves symptoms in a mouse model of multiple sclerosis.

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