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Title: THE BIG CORONA

Description: Most photographs don't adequately portray the magnificence of the Sun's corona. Seeing the corona first-hand during a total solar eclipse is unparalleled. The human eye can adapt to see coronal features and extent that average cameras usually cannot. Welcome, however, to the digital age. The featured picture is a combination of forty exposures from one thousandth of a second to two seconds that, together, were digitally combined and processed to highlight faint features of the total solar eclipse that occurred in August of 2017. Clearly visible are intricate layers and glowing caustics of an ever changing mixture of hot gas and magnetic fields in the Sun's corona. Looping prominences appear bright pink just past the Sun's limb. Faint details on the night side of the New Moon can even be made out, illuminated by sunlight reflected from the dayside of the Full Earth.

Date: Sep 20, 2017 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/1709/Corona_Wong_960.jpg

HDURL: https://apod.nasa.gov/apod/image/1709/Corona_Wong_5156.jpg

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Title: NGC 1316: AFTER GALAXIES COLLIDE

Description: Astronomers turn detectives when trying to figure out the cause of startling sights like NGC 1316. Their investigation indicates that NGC 1316 is an enormous elliptical galaxy that started, about 100 million years ago, to devour a smaller spiral galaxy neighbor, NGC 1317, just above it. Supporting evidence includes the dark dust lanes characteristic of a spiral galaxy, and faint swirls and shells of stars and gas visible in this wide and deep image. One thing that remains unexplained is the unusually small globular star clusters, seen as faint dots on the image. Most elliptical galaxies have more and brighter globular clusters than NGC 1316. Yet the observed globulars are too old to have been created by the recent spiral collision. One hypothesis is that these globulars survive from an even earlier galaxy that was subsumed into NGC 1316. Another surprising attribute of NGC 1316, also known as Fornax A, is its giant lobes of gas that glow brightly in radio waves. News Flash: Ceres' Bright Spots Seen in Striking New Detail

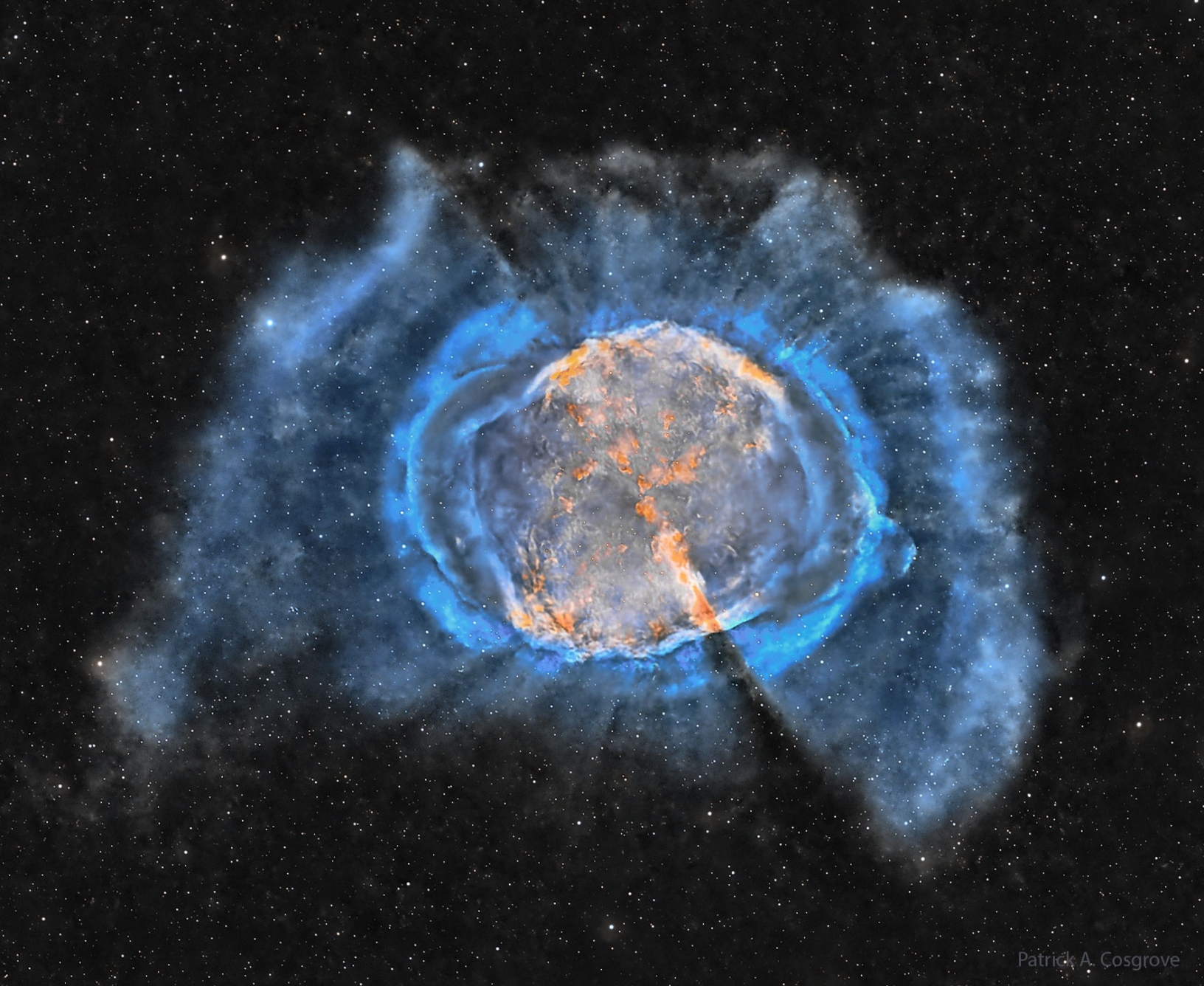
Date: Sep 9, 2015 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/1509/ngc1316_peach_960.jpg

HDURL: https://apod.nasa.gov/apod/image/1509/ngc1316_peach_1297.jpg

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Patrick A. Cosgrove

Title: M27: THE DUMBBELL NEBULA

Description: Is this what will become of our Sun? Quite possibly. The first hint of our Sun's future was discovered inadvertently in 1764. At that time, Charles Messier was compiling a list of diffuse objects not to be confused with comets. The 27th object on Messier's list, now known as M27 or the Dumbbell Nebula, is a planetary nebula, one of the brightest planetary nebulae on the sky and visible with binoculars toward the constellation of the Fox (Vulpecula). It takes light about 1000 years to reach us from M27, featured here in colors emitted by sulfur (red), hydrogen (green) and oxygen (blue). We now know that in about 6 billion years, our Sun will shed its outer gases into a planetary nebula like M27, while its remaining center will become an X-ray hot white dwarf star. Understanding the physics and significance of M27 was well beyond 18th century science, though. Even today, many things remain mysterious about planetary nebulas, including how their intricate shapes are created.

Date: May 30, 2023 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/2305/M27_Cosgrove_960.jpg

HDURL: https://apod.nasa.gov/apod/image/2305/M27_Cosgrove_2717.jpg

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Patrick A. Cosgrove



PICTURES
BY
MARCELLA GIULIA PACE

Title: IRIDESCENT BY MOONLIGHT

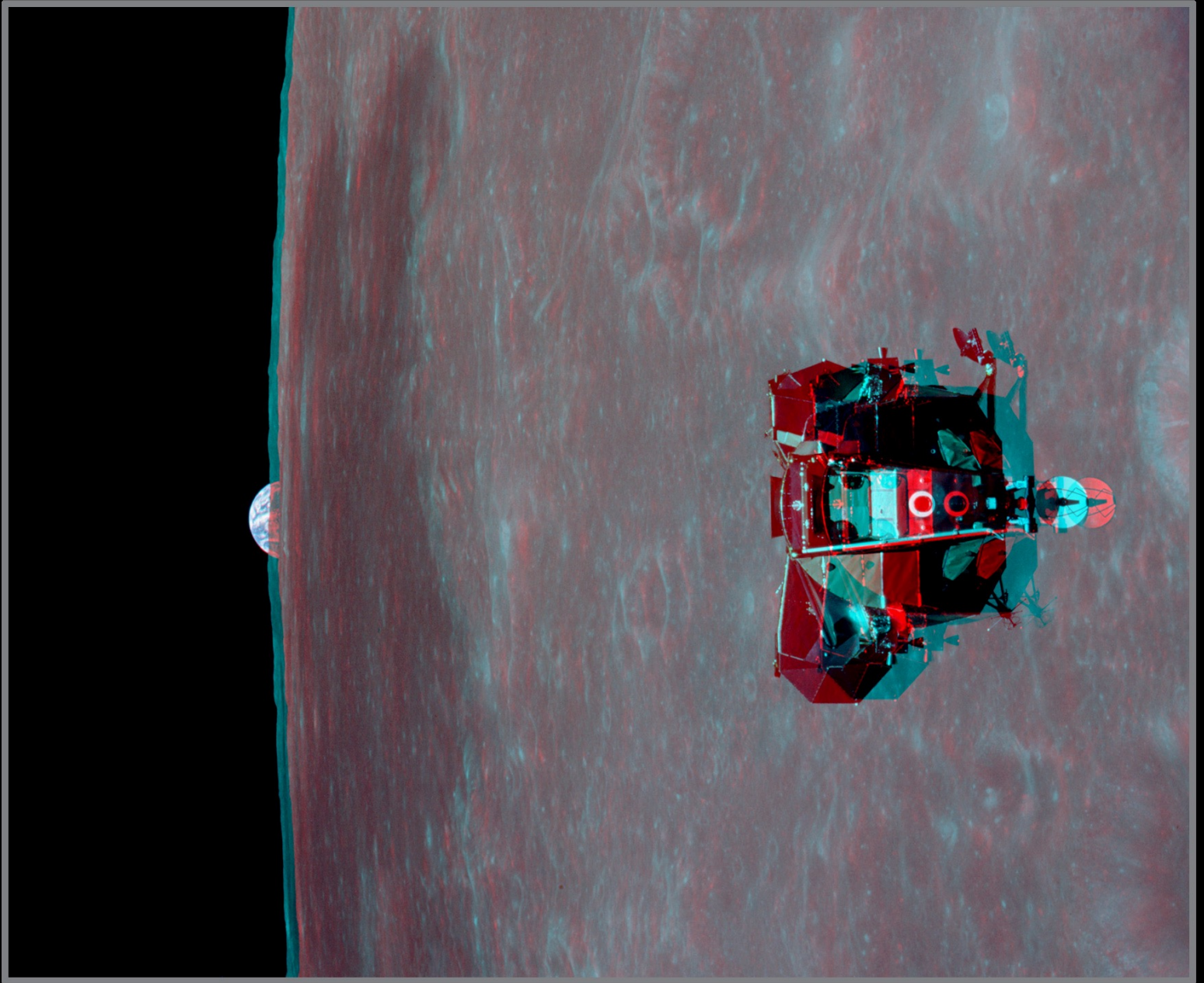
Description: In this snapshot from November 18, the Full Moon was not far from Earth's shadow. In skies over Sicily the brightest lunar phase was eclipsed by passing clouds though. The full moonlight was dimmed and momentarily diffracted by small but similar sized water droplets near the edges of the high thin clouds. The resulting iridescence shines with colors like a lunar corona. On that night, the Full Moon was also seen close to the Pleiades star cluster appearing at the lower left of the iridescent cloud bank. The stars of the Seven Sisters were soon to share the sky with a darker, reddened lunar disk.

Date: Dec 4, 2021 at 12:00 AM

URL: <https://apod.nasa.gov/apod/image/2112/IridescenzaLunaPleiadi1024.jpg>

HDURL: <https://apod.nasa.gov/apod/image/2112/IridescenzaLunaPleiadi.jpg>

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Title: THE EAGLE RISES

Description: Get out your red/blue glasses and check out this stereo view from lunar orbit. The 3D anaglyph was created from two photographs (AS11-44-6633, AS11-44-6634) taken by astronaut Michael Collins during the 1969 Apollo 11 mission. It features the lunar module ascent stage, dubbed The Eagle, rising to meet the command module in lunar orbit on July 21. Aboard the ascent stage are Neil Armstrong and Buzz Aldrin, the first to walk on the Moon. The smooth, dark area on the lunar surface is Mare Smythii located just below the equator on the extreme eastern edge of the Moon's near side. Poised beyond the lunar horizon is our fair planet Earth.

Date: Jul 30, 2022 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/2207/AS11JK44-6633-34_1100px.jpg

HDURL: <https://apod.nasa.gov/apod/image/2207/AS11JK44-6633-34.jpg>

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Title: HIDDEN GALAXY IC 342

Description: Similar in size to large, bright spiral galaxies in our neighborhood, IC 342 is a mere 10 million light-years distant in the long-necked, northern constellation Camelopardalis. A sprawling island universe, IC 342 would otherwise be a prominent galaxy in our night sky, but it is hidden from clear view and only glimpsed through the veil of stars, gas and dust clouds along the plane of our own Milky Way galaxy. Even though IC 342's light is dimmed by intervening cosmic clouds, this deep telescopic image traces the galaxy's obscuring dust, blue star clusters, and glowing pink star forming regions along spiral arms that wind far from the galaxy's core. IC 342 may have undergone a recent burst of star formation activity and is close enough to have gravitationally influenced the evolution of the local group of galaxies and the Milky Way.

Date: Jan 29, 2016 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/1601/IC342_castelluzzo1024.jpg

HDURL: https://apod.nasa.gov/apod/image/1601/IC342_castelluzzo.jpg

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1995

Title: ETA CARINAE AND THE EXPANDING HOMUNCULUS NEBULA

Description: How did the Eta Carinae star system create this unusual expanding nebula? No one knows for sure. About 170 years ago, the southern star system Eta Carinae (Eta Car) mysteriously became the second brightest star system in the night sky. Twenty years later, after ejecting more mass than our Sun, Eta Car unexpectedly faded. Somehow, this outburst appears to have created the Homunculus Nebula. The three-frame video features images of the nebula taken by the Hubble Space Telescope in 1995, 2001, and 2008. The Homunculus nebula's center is lit by light from a bright central star, while the surrounding regions are expanding lobes of gas laced with filaments of dark dust. Jets bisect the lobes emanating from the central stars. Expanding debris includes streaming whiskers and bow shocks caused by collisions with previously existing material. Eta Car still undergoes unexpected outbursts, and its high mass and volatility make it a candidate to explode in a spectacular supernova sometime in the next few million years.

Date: Dec 2, 2014 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/1412/CarinaExpanding_Hubble_750d.gif

HDURL: https://apod.nasa.gov/apod/image/1412/CarinaExpanding_Hubble_750d.gif

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First Light,

J. L. Dauvergne, P. Henarejos



Title: HERSCHEL'S EAGLE NEBULA

Description: A now famous picture from the Hubble Space Telescope featured Pillars of Creation, star forming columns of cold gas and dust light-years long inside M16, the Eagle Nebula. This false-color composite image views the nearby stellar nursery using data from the Herschel Space Observatory's panoramic exploration of interstellar clouds along the plane of our Milky Way galaxy. Herschel's far infrared detectors record the emission from the region's cold dust directly. The famous pillars are included near the center of the scene. While the central group of hot young stars is not apparent at these infrared wavelengths, the stars' radiation and winds carve the shapes within the interstellar clouds. Scattered white spots are denser knots of gas and dust, clumps of material collapsing to form new stars. The Eagle Nebula is some 6,500 light-years distant, an easy target for binoculars or small telescopes in a nebula rich part of the sky toward the split constellation Serpens Cauda (the tail of the snake).

Date: Jul 28, 2016 at 12:00 AM

URL: [https://apod.nasa.gov/apod/image/1607/](https://apod.nasa.gov/apod/image/1607/Herschel_s_view_of_the_Eagle_Nebula800x1024c.jpg)

Herschel_s_view_of_the_Eagle_Nebula800x1024c.jpg

HDURL: [https://apod.nasa.gov/apod/image/1607/](https://apod.nasa.gov/apod/image/1607/Herschel_s_view_of_the_Eagle_Nebula.jpg)

Herschel_s_view_of_the_Eagle_Nebula.jpg

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Title: GIGANTIC JET LIGHTNING OVER INDIA

Description: Yes, but can your lightning bolt do this? While flying from Munich to Singapore earlier this month, an industrious passenger took images of a passing lightning storm and caught something unexpected: gigantic jet lightning. The jet was captured on a single 3.2-second exposure above Bhadrak, India. Although the gigantic jet appears connected to the airplane's wing, it likely started in a more distant thundercloud, and can be seen extending upwards towards Earth's ionosphere. The nature of gigantic jets and their possible association with other types of Transient Luminous Events (TLEs) such as blue jets and red sprites remains an active topic of research.

Date: Sep 18, 2019 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/1909/GiganticJet_Chang_960.jpg

HDURL: https://apod.nasa.gov/apod/image/1909/GiganticJet_Chang_4080.jpg

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Makrem Larnaout
PHOTOGRAPHY

Title: MILKY WAY OVER TUNISIA

Description: That's no moon. On the ground, that's the Lars Homestead in Tunisia. And that's not just any galaxy. That's the central band of our own Milky Way galaxy. Last, that's not just any meteor. It is a bright fireball likely from last year's Perseids meteor shower. The featured image composite combines consecutive exposures taken by the same camera from the same location. This year's Perseids peak during the coming weekend is expected to show the most meteors after the first quarter moon sets, near midnight. To best experience a meteor shower, you should have clear and dark skies, a comfortable seat, and patience.

Date: Aug 5, 2024 at 12:00 AM

URL: https://apod.nasa.gov/apod/image/2408/LarsMilkyWay_Larnaout_960.jpg

HDURL: https://apod.nasa.gov/apod/image/2408/LarsMilkyWay_Larnaout_2048.jpg

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