December 2020 Volume 9

STARRY SCOOP

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WHAT'S UP

December 2nd marks the 25th anniversary of the launch of the Solar and Heliospheric Observatory (SOHO). SOHO was a joint project between the European Space Agency and NASA. This space observatory's mission is to study the sun and its solar wind. SOHO is positioned between the earth and sun at Lagrange Point L1, which is a spot where the gravitational pull of the earth and sun exactly balance each other and the satellite remains stable. SOHO is very important because it helps us protect our continental power grids and global communications from solar storms. Originally planned as a two-year mission, SOHO is still in operation.

The Geminid meteor shower runs from the 7th to the 17th, peaking on the night of the 13th and into the morning of the 14th. Considered by many to be the best meteor shower of the year, it produces up to 120 multicolored meteors per hour. It's best observed from a dark place after midnight.

The December Solstice (Winter Solstice and first day of winter in the northern hemisphere) occurs on the 21st. This day has the shortest period of daylight for people living north of the equator and the longest for those in the southern hemisphere. Everyone on the earth experiences the Solstice at the very same moment. This astronomical event is caused by the tilt of the earth's axis and its orbital motion around the sun.

Jupiter and Saturn have their Great Conjunction on the 21st. On that night, they will be separated by only 6.1 arcminutes or about 1/5 the span of the full moon. Jupiter and Saturn haven't been this close, as seen from Earth's vantage point, since 1623. They won't appear this close again until the year 2080! To find them, look low in the southwestern sky after the sun has set. Jupiter will be a bright point of light with Saturn appearing dimmer.

DECEMBER'S SKY

8: Last Quarter Moon

13-14: Geminid Meteor Shower Peak

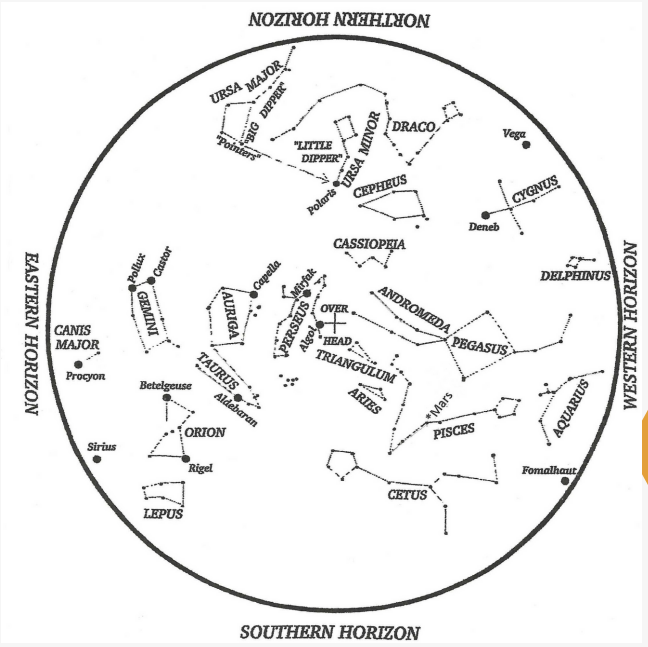
14: New Moon

21: Winter Solstice

21: The Great Conjunction

22: First Quarter Moon

30: Full Moon



Credit: Roger B. Culver

Hold star map above your head and align with compass points.

OBSERVATIONS

November started out with a trip to the Arunah Hill Natural Science Center with my sister and dad. This was the first time that we got the 12-inch Dobsonian telescope mobile! We took turns finding different deep-sky objects to view. My younger sister started by pointing the scope toward the Andromeda Galaxy. The detail was stunning in the wide-field eyepiece at 50x. We observed many more galaxies, nebulae, and star clusters. Two objects that are memorable for me are the Pinwheel Galaxy and the Helix Nebula. Under the dark skies of Cummington, MA, I was able to resolve the Pinwheel much better than in my light-polluted skies at home. The Helix Nebula was spectacular, and was special for me because this was my first time observing it.

A shout-out and thank you to Rich Nugent, president of the Amateur Telescope Makers of Boston, for putting together a monthly observing list and sharing it with me. Using this list, I spent several nights hunting for galaxies, planetary nebulae, galactic clusters, and binary stars. The list included one of my favorites, Gamma Andromeda. A few more stand-out observations were the Blue Snowball, Mirach's Ghost, the Blue Flash Nebula, and the E.T. Cluster.

The purpose of the Starry Scoop is to communicate current astronomy and space events. If you want to share your observations or get digital copies of the Starry Scoop, contact starryscoop@gmail.com. Clear skies!

OBJECT OF THE MONTH

The famous open star cluster called the Pleiades (M45) is December's featured object. This cluster is commonly called the Seven Sisters because you can glimpse seven stars with the unaided eye. The Pleiades are part of many myths and legends. They are mentioned in Homer's "Illaid" and "Odyssey" and even in the Bible. "Subaru" is the Japanese word for Pleiades and the star cluster appears in the automobile's emblem.

Containing more than 1000 stars, the Pleiades are among the closest star clusters to Earth. These stars have a common origin. They were born together in a giant cloud of dust and gas.

Alfred Lord Tennyson, a 19th century poet, described the Pleiades in his poem called Locksley Hall.
"Many a night I saw the Pleiads,
rising thro' the mellow shade,
Glitter like a swarm of fire-flies
tangled in a silver braid."

You can find the Pleiades in the Eastern sky shortly after twilight, where they'll resemble a tiny dipper to the unaided eye. Binoculars or a low power telescope will reveal the beauty of this cluster. Good luck and enjoy!

The Pleiades
Photo by Ashfield Astrophotography