



Monthly Notices of the Everglades Astronomical Society



Naples, FL
January 2020

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Home Page: <http://naples.net/~nfn19284/eas/> **Webmaster:** Mike Usher

President's Message

Happy New Year!

Hopefully you had a wonderful holiday season. AND, hopefully you will have an equally wonderful New Year. With the arrival of the dry season, perhaps we will have better weather for observing. We'll see.

Mike Usher's Christmas trivia meeting was a lot of fun. In addition to having fun, we learned a lot. Thanks, Mike, for always providing an educational experience for our group.

Starting off our 2020 programs is Joel Banow. He is a journalist who has spent a lot of time covering a lot of space topics for network news. Someone recommended him as a speaker. I have the April, May and June meetings to book a speaker. If there is suggestion, topic or a speaker you'd like to hear, please let me know.

Requests for our participation in community events continue. To those of you that have participated, I thank you. For those who have considered volunteering at these community events, let me know. At our next meeting, I will be going over the specific events for which we need volunteers.

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Dates for Observing

Usually the best times to observe are moonless nights. Below is a list of upcoming Saturday nights that you will likely find fellow club members out there enjoying the skies with you (weather permitting). We will let you know the new location.

Date	Moonrise	Moonset
Jan. 18	1:23 a.m.	1:03 p.m.
Jan. 25	7:54 a.m.	6:55 p.m.

Sky Events

Jan. 2	- First Quarter
Jan. 10	- Full Moon
Jan. 17	- Last Quarter
Jan. 24	- New Moon

Next Meeting

January 14, 2019: Time 7:00 – 9:00 pm
Norris Center, Naples

FABULOUS PHOTOS BY EAS MEMBERS



Horsehead Nebula by Chuck Pavlick



Crab Nebula (M1) by Chuck Pavlick



Horsehead/Flame Nebulas by Vic Farris; Nov. 2019; Skywatcher Esprit 100; ZWO ASI1600MC; 1.75 hrs integration; Processed in Pixinsight.



Tadpole Nebula (IC410) by Chuck Pavlick



Rosette Nebula by Lou Tancredi on 11/30/19 in Kissimmee; Canon 80D unmodified (ISO 3200); 40 frames at 180 secs.; Tak 210 scope, Tak EM200 mount; PHD2 Guiding; processed with Nebulosity.



Bubble Nebula by Lou Tancredi in Dec. 2019



The moon by Robyn Prichard on 1/5/20 @ Big Cypress.

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PRESIDENT'S MESSAGE CONTINUED FROM PAGE 1

At the past couple of meetings, I have expressed that it is time to change the role of president of our club. It has been 4 years that I have served in this capacity. I have certainly enjoyed it. My personal opinion is that in order to take the club to the next level, new blood is needed. I still plan on participating with the business of our club. If you are interested in taking on a more active role, please let me or one of the directors know.

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NASA Night Sky Notes

Spot the Young Stars of the Hyades and Pleiades

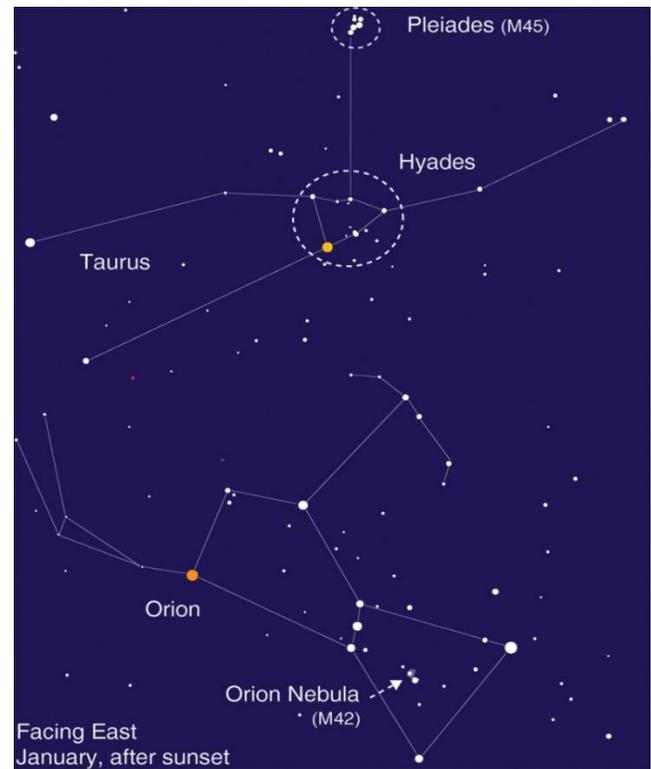
David Prosper

Orion is the last of a trio of striking star patterns to rise during the late fall and early winter months, preceded by the diminutive Pleiades and larger Hyades in Taurus. All three are easily spotted rising in the east in early January evenings, and are textbook examples of stars in different stages of development.

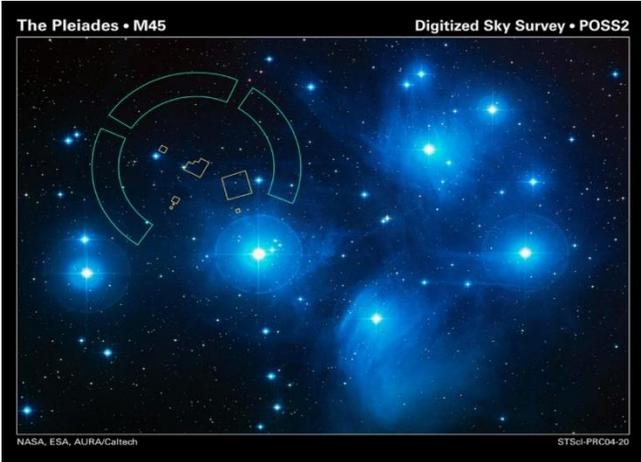
As discussed in last month's Notes, the famous Orion Nebula (M42), found in Orion's "Sword," is a celestial nursery full of newly-born "baby stars" and still-incubating "protostars," surrounded by the gas from which they were born. Next to Orion we find the Hyades, in Taurus, with their distinctive "V" shape. The Hyades are young but mature stars, hundreds of millions of years old and widely dispersed. Imagine them as "young adult" stars venturing out from their hometown into their new galactic apartments. Bright orange Aldebaran stands out in this group, but is not actually a member; it just happens to be in between us and the Hyades. Traveling from Orion to the Hyades we then find the small, almost dipper-shaped Pleiades star cluster (M45). These are "teenage stars," younger than the Hyades, but older than the newborn stars of the Orion Nebula. These bright young stars are still relatively close together, but have dispersed their birth cocoon of stellar gas, like teenagers venturing around the neighborhood with friends and wearing their own clothes, but still remaining close to home - for now. Astronomers have studied this trio in great detail in order to learn more about stellar evolution.

Figuring the exact distance of the Pleiades from Earth is an interesting problem in astrometry, the study of the exact positions of stars in space. Knowing their exact distance away is a necessary step in determining many other facts about the Pleiades. The European Space Agency's Hipparcos satellite determined their distance to about 392 light years away, around 43 light years closer than previous estimates. However, subsequent measurements by NASA's Hubble Space Telescope indicated a distance of 440 light years, much closer to pre-Hipparcos estimates. Then, using a powerful technique called Very Long Baseline Interferometry (VLBI), which combines the power of radio telescopes from around the world, the distance of the Pleiades was calculated to 443 light years. The ESA's Gaia satellite, a successor to Hipparcos, recently released its first two sets of data, which among other findings show the distance close to the values found by Hubble and VLBI, possibly settling the long-running "Pleiades Controversy" and helping firm up the foundation for follow-up studies about the nature of the stars of the Pleiades.

You can learn more about the Pleiades in the Universe Discovery Guide at bit.ly/UDGMarch, and find out about missions helping to measure our universe at nasa.gov.



Locate Orion rising in the east after sunset to find the Orion Nebula in the "Sword," below the famous "Belt" of three bright stars. Then, look above Orion to find both the Hyades and the Pleiades. Binoculars will bring out lots of extra stars and details in all three objects, but you can even spot them with your unaided eye!



Close-up of the Pleiades, with the field of view of Hubble's Fine Guidance Sensors overlaid in the top left, which helped refine the distance to the cluster. The circumference of the field of view of these sensors is roughly the size of the full Moon. (Credit: [NASA](#), [ESA](#) and AURA/Caltech)

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

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EAS 2020 DUES

For the bargain price of only \$20.00 per family, all this can be yours this year:

- Meet with your fellow astronomy enthusiasts at least 10 times a year;
- Learn about astronomy and telescopes. Check out our club scope;
- Many opportunities to view planets, nebulae and other celestial objects (even if you don't have your own telescope); and
- Enjoy the many astronomy programs at our regular monthly meetings.

Don't miss out! Fill out this form (please print clearly) and send it with your \$20 check to the Everglades Astronomical Society, P. O. Box 1451, Marco Island, Florida, 34146.

Name: _____

Address: _____

Phone: _____

Email: _____