Keene Amateur Astronomers

The Newsletter for Keene Amateur Astronomers

Vol. 2024 No. 7 November 2024

Comet C/2023 A3

Credit: Photo taken by Dominic Heath. Telescope image: Sky Watcher Quattro 150p, (camera) QHY 183c, (mount) Virtuoso GTI Alt-Az

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Editor's Message

I hope this November finds you well. The recent comet provided an excellent opportunity to get outside and look at the night sky. Dominic Heath sent in some wonderful images to share with the group that he took of the comet. Be sure to check them out.

Now that the clocks have changed and the sun is setting earlier, it provides a little more time to get outside to view the night sky even on a weeknight. This month there are several reasons you might be compelled to step outside and marvel at the beauty of the stars. Several planets will be making their appearance in the night sky this month with the Moon. I urge you to check out NASA's What's Up video to find out more..

It would seem that the Moon has not gotten enough attention since the eclipse and has gone out of its way for us to have a reason to look at it this month. There will be four conjunctions this month. On November 4th, Venus will appear with the Moon. Saturn and the Moon will appear together on the 10th. Jupiter will appear with the Moon on the 16th, hopefully the Moon does not wash out the Pleiades. Mars and the Moon will appear together on the 20th.

Reasons to look at the Moon doesn't stop there. This month we will also have the opportunity to see an occultation when the Moon passes in front of Spica in the early hours of the 27th just before the Sun rises.

The Leonid meteor shower will occur this month from the 6th until the end of the month. Meteor activity will peak on the 17th. The meteor rate is low, about 15 per hour, and it will be a few days past the full Moon which will make them challenging to see. By itself, it might not be a reason to go outside but you might catch one while you are out checking out the other attractions this month.

NASA and NOAA announced that our Sun is currently at solar maximum. Many people were able to see the aurora this past month. Chances remain high that there will be another opportunity to see an aurora.

I hope you have an opportunity this month to go outside and look up.

- Susan Rolke

Monthly Business Meeting

Please see the Minutes for details regarding the September meeting.

Our next meeting will be held on December 6th at Bruce Norlund's at 7 pm. Please see the October Minutes for more details.

Comet C/2023 A3

Dominic Heath took these fantastic images of the Comet.

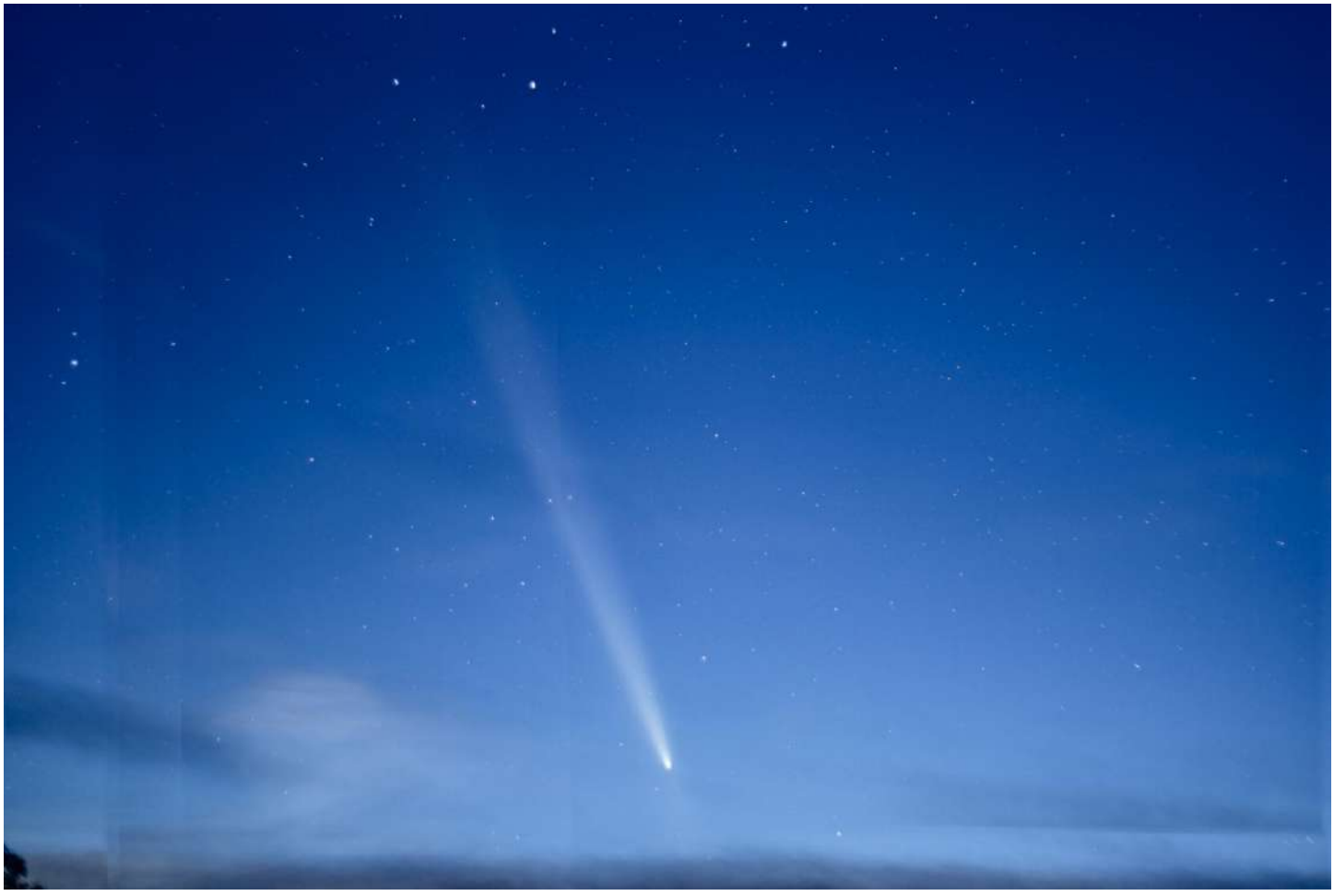

Photo credit: Dominic Heath. Widefield images: Canon T7, 50mm RF lens

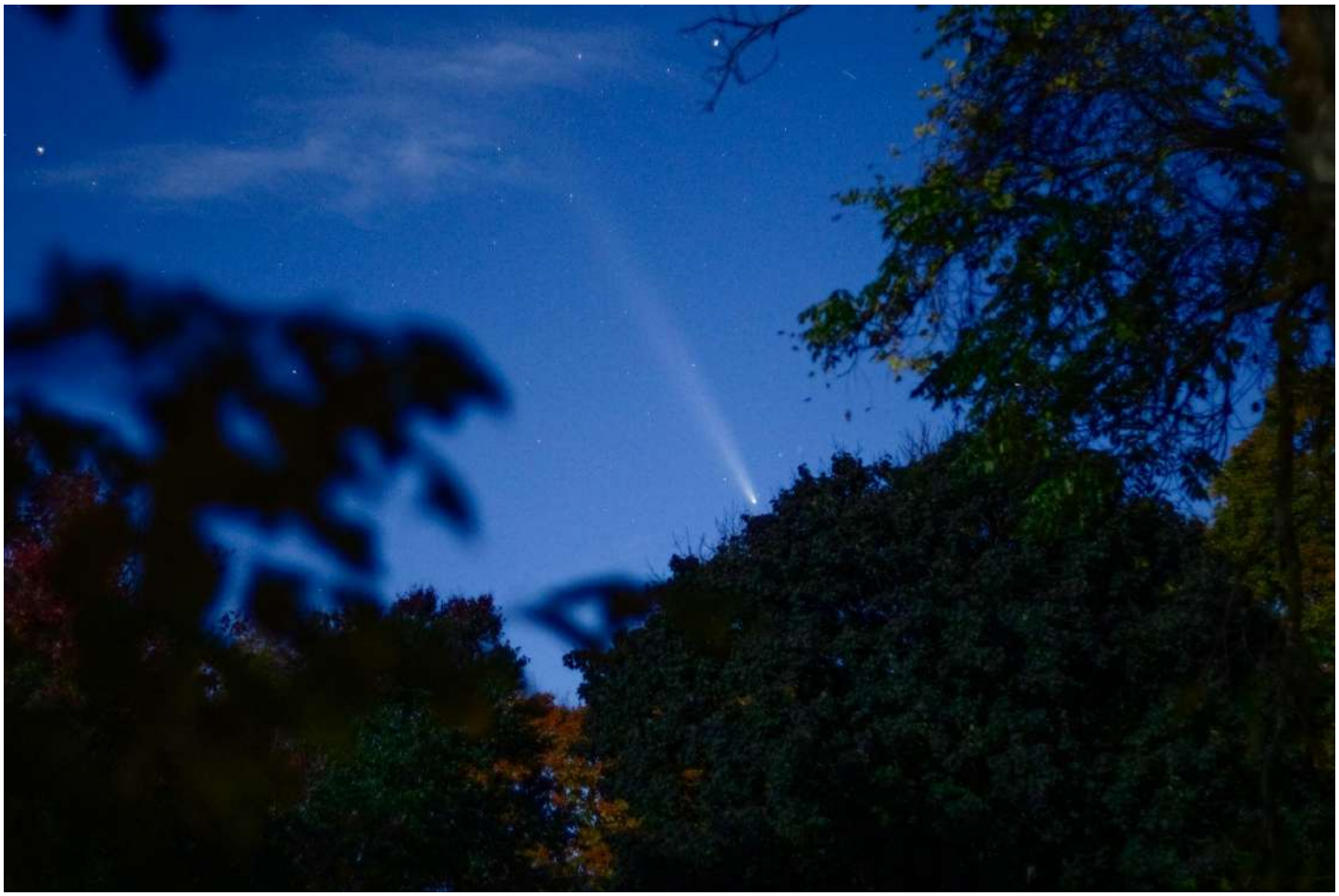

Photo credit: Dominic Heath. Widefield images: Canon T7, 50mm RF lens

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Night Sky Network Online Webinar

The Night Sky Network hosts monthly webinars for members to learn more about space and current research. If you are looking to watch a presentation you missed, you can view a recording at Night Sky Network's youtube channel.

The Night Sky Network Webinars are back this month. Join Dr. Kimberly Arcand on November 19th at 8 pm EST as she discusses NASA's Chandra X-ray observatory. Chandra has been collecting data for 25 years. It has made remarkable discoveries regarding our high energy universe.

Dr. Kimberly Arcand is a leading expert in astronomy visualization.

This webinar will highlight stellar nurseries, black holes, exploding stars and how we translate those images into 3D prints, time lapse movies, virtual reality experiences, and even sound.

NASA Night Sky Notes, November 2024

This article is distributed by NASA's Night Sky Network (NSN).
The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

November's Night Sky Notes: Snowballs from Space

By Kat Troche

If you spotted comet C/2023 A3 (Tsuchinshan-ATLAS) in person, or seen photos online this October, you might have been inspired to learn more about these visitors from the outer Solar System. Get ready for the next comet and find out how comets are connected to some of our favorite annual astronomy events.

Comet Composition

A comet is defined as an icy body that is small in size and can develop a 'tail' of gas as it approaches the Sun from the outer Solar System. The key traits of a comet are its **nucleus**, **coma**, and **tail**.

The **nucleus** of the comet is comprised of ice, gas, dust, and rock. This central structure can be up to 80 miles wide in some instances, as recorded by the Hubble Space Telescope in 2022 – large for a comet but too small to see with a telescope. As the comet reaches the inner Solar System, the ice from the nucleus starts to vaporize, converting into gas. The gas cloud that forms around the comet as it approaches the Sun is called the **coma**. This helps give the comet its glow. But beware: much like Icarus, sometimes these bodies don't survive their journey around the Sun and can fall apart the closer it gets.

The most prominent feature is the **tail** of the comet. Under moderately dark skies, the brightest comets show a dust tail, pointed away from the Sun. When photographing comets, you can sometimes resolve the *second* tail, made of ionized gases that have been electronically charged by solar radiation. These ion tails can appear bluish, in comparison to the white color of the dust tail. The ion tail is also always pointed away from the Sun. In 2007, NASA's STEREO mission captured images of C/2006 P1 McNaught and its dust tail, stretching over 100 million miles. Studies of those images revealed that solar wind influenced both the ion and dust tail, creating striations – bands – giving both tails a feather appearance in the night sky.

Comet McNaught over the Pacific Ocean. Image taken from Paranal Observatory in January 2007. Credits: ESO/Sebastian Deiries

Coming and Going

Comets appear from beyond Uranus, in the Kuiper Belt, and may even come from as far as the Oort Cloud. These visitors can be short-period comets like Halley's Comet, returning every 76 years. This may seem long to us, but long-period comets like Comet Hale-Bopp, observed from 1996-1997 won't return to the inner Solar System until the year 4385. Other types include non-periodic comets like NEOWISE, which only pass through our Solar System once.

But our experiences of these comets are not limited to the occasional fluffy snowball. As comets orbit the Sun, they can leave a trail of rocky debris in its orbital path. When Earth finds itself passing through one of these debris fields, we experience meteor showers! The most well-known of these is the Perseid meteor shower, caused by Comet 109P/Swift-Tuttle. While this meteor shower happens every August in the northern hemisphere, we won't see Comet Swift-Tuttle again until the year 2126.

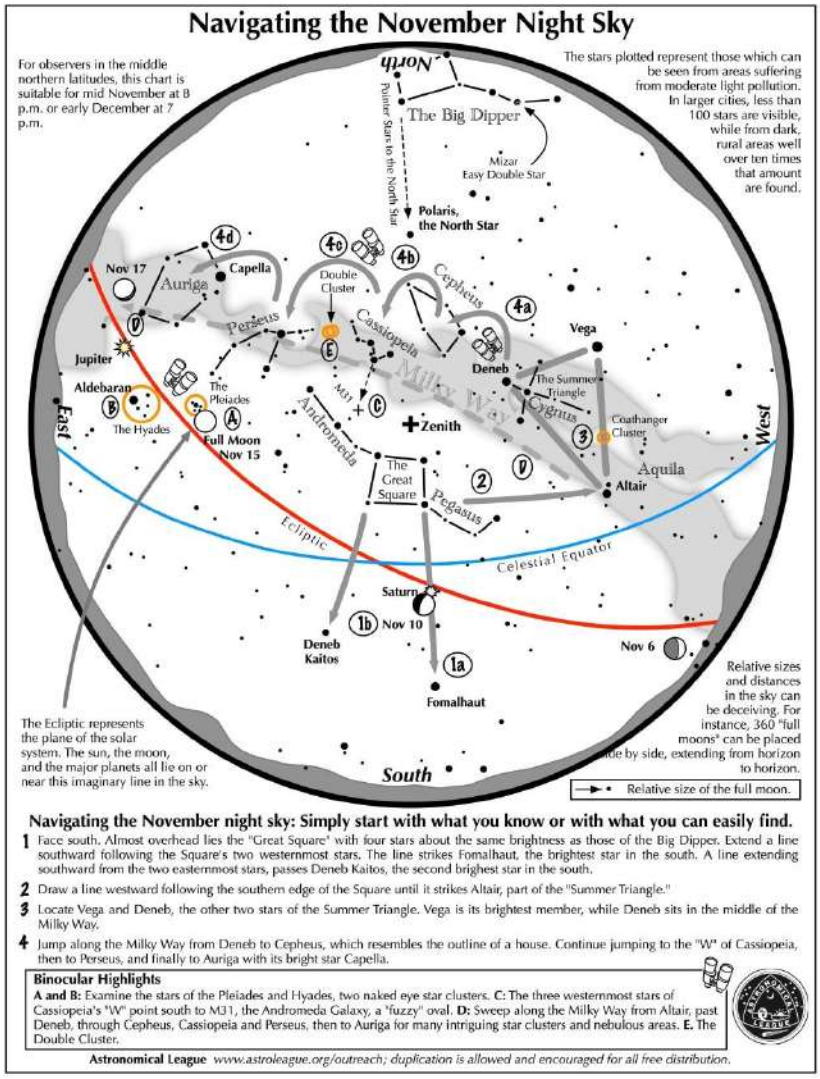
A view of the 2023 Perseid meteor shower from the southernmost part of Sequoia National Forest, near Piute Peak. Debris from comet Swift-Tuttle creates the Perseids. Credit: NASA/Preston Dyches

See how many comets (and asteroids!) have been discovered on NASA's Comets page, learn how you can cook up a comet, and check out our mid-month article where we'll provide tips on how to take astrophotos with your smartphone!

Observing

To find out skywatching tips for this month, click on the following links (in blue and underlined) to learn more.

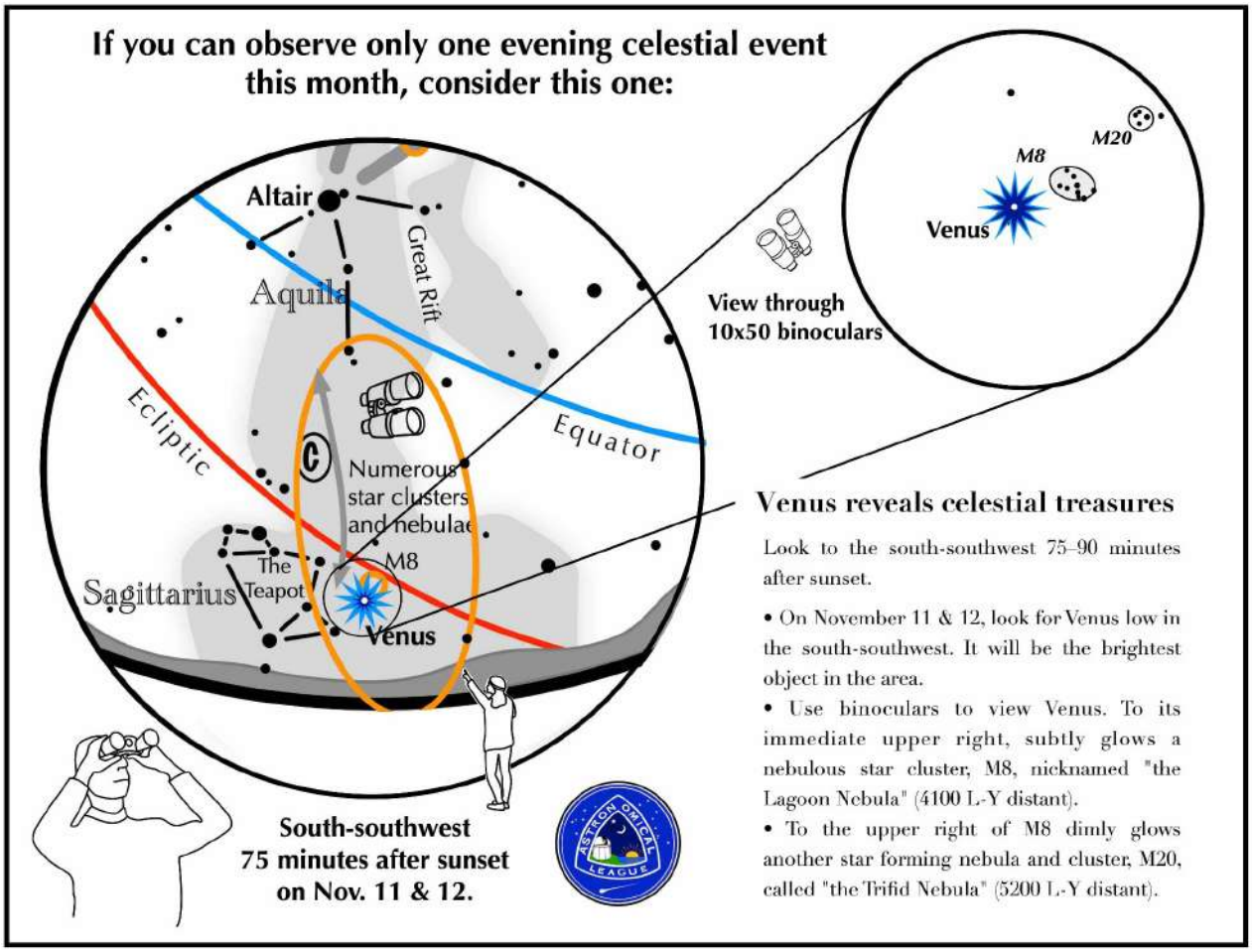
Video: [What's Up November 2024 Sky Watching Tips from NASA]



Click here for a larger image [November 2024]

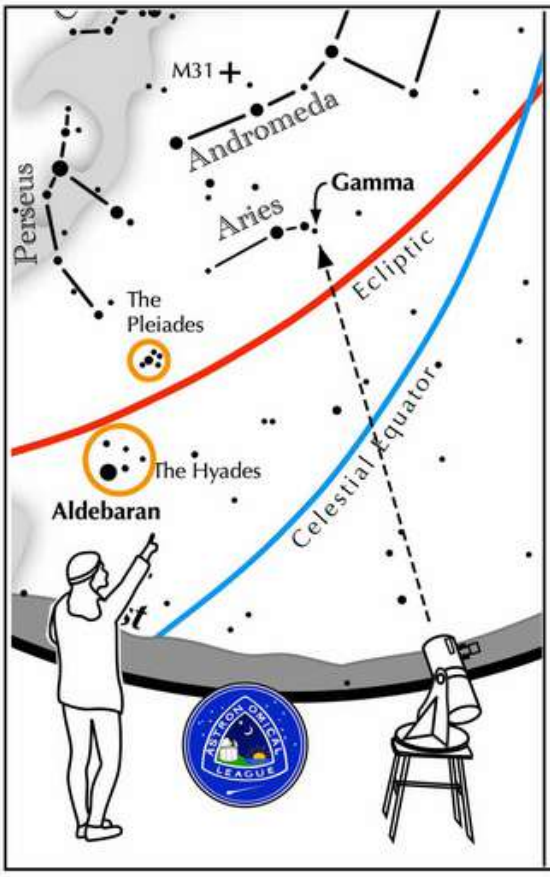
You may find past issues of the Astronomical League charts **here**.

Don't Miss Venus and the Lagoon



Astronomical League Double Star Activity

ASTRONOMICAL LEAGUE Double Star Activity



Other Suns: Gamma Arietis

How to find Gamma Arietis on a November evening

Face east. Locate the Pleiades. Aries lies to its upper right about the same distance that it is from the Hyades. Gamma is a dim star at the end of the string of stars that form Aries.

Suggested magnification: >50x
Suggested aperture: >2 inches

Gamma Arietis
A-B separation: 7.5 sec
A magnitude: 4.5
B magnitude: 4.6
Position Angle: 0°
A & B colors:
white, white

Also known as the "Ram's Eyes."