



# the Skyscraper

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## MARCH MEETING

**Saturday, March 1 @ 4:30pm EST at North Situate Community House, 546 West Greenville Road, North Scituate, RI 02857**

[In-person and on Zoom](#)

For our March meeting, we have a special treat for our members and guests this Saturday, March 1st! Our own Conrad Cardano will give a workshop on the SeeStar S50 4:30pm, followed by refreshments at 5:30pm, and then Dr. Abhinav Jindal from Brown University will give a talk on comets at 6:00pm. Its going to be a fun and informative night so I hope you will join us. If you are joining us by Zoom, please use the meeting link below for both sessions. Details about the meeting and speakers can be found below.

Join Zoom Meeting:

<https://us06web.zoom.us/j/85857019855?pwd=dJRn74SNafM6BFz6POUjasQvceCjK.1>

Meeting ID: 858 5701 9855 Passcode: 517290

### Conrad Cardano Presents: Smart Telescopes – The Seestar S50

Smart telescopes are a fun, interactive, and hassle-free astrophotography experience. These all-in-one systems take the complicated nature out of astrophotography by condensing a camera, mount, and telescope into a small unit. With your smartphone or tablet, you can discover the cosmos night after night. These scopes are highly portable and perfect for engaging astronomy sessions on the go! The presentation will start with a 3 minute presentation of 25 images taken by the Seestar S50. Afterwards, there will be another presentation describing: The Seestar and Outreach, Common Features with both, Big differences, What both cannot do, Useful Accessories. Finally, there will be a live demo with the Seestar S50 showing: The Seestar App, Setting up a Seestar, Navigating the menus & Finding objects and photographing

### Dr. Abhinav Jindal presents Comets: From Fiery Omens to Icy Worlds

For much of human history, comets have been viewed as harbingers of doom—celestial messengers foretelling disaster. But as our understanding of the universe has advanced, so too has our perception of these enigmatic objects. In this talk, we will journey through the history of cometary science, from ancient superstitions to modern spacecraft exploration. What are comets, and why are they so important for un-

derstanding the origins of our solar system?

I will discuss some of the biggest questions in cometary science and share insights from my own research on comet 67P/Churyumov-Gerasimenko, using data from the European Space Agency's Rosetta mission to study how comets change over time. We will conclude with a look at the future of comet exploration, including upcoming sample return missions that could revolutionize our understanding of these icy relics from the early solar system.

### About Dr. Abhinav Jindal:

I am a planetary scientist and postdoctoral researcher at Brown University, where I study the processes that shape the surfaces of rocky and icy bodies in our solar system using remote sensing data. My current research primarily focuses on understanding the evolution of cometary surfaces using data from the European Space Agency's Rosetta mission to comet 67P/Churyumov-Gerasimenko. Unlike previous missions that provided only brief snapshots of comet nuclei, Rosetta spent over two years orbiting 67P, allowing us to observe surface changes in unprecedented detail. However, many of these changes remain undetected due to the complexity of the dataset. We are working on developing tools to enhance the analysis of Rosetta's vast imaging archive, as well as using thermophysical models to better understand how the sublimation of volatiles drives cometary surface evolution.



**Seagrave Memorial  
Observatory  
Open Nights**  
March 8 @ 7pm  
March 15, 22 & 29 @ 8pm

# Star Party Report

**Winter Star Party at Norman Bird Sanctuary, Middletown  
Friday, January 23, 2025  
by Francine Jackson**

It's always fun to set up a telescope and enjoy the beautiful winter sky – especially in the snow! On January 23, Jim Hendrickson and Francine Jackson, along with Jonathan Jeffreys, did just that, joining Education Curator Sara Poirier at the Norman Bird Sanctuary for an evening of cookies, hot chocolate and the stars. The program began in the education studio, with Sara introducing the 40 guests to the sky, and the possible objects that would be seen through the telescopes. Then, it was outside, for beautiful views of the visible planets, star clusters, and any requests from the participants.

Middletown's Norman Bird Sanctuary has possibly the best night sky in the state, with only slight horizon light in the west. On this night, although the temperature was in the 20s, there was no wind, and the viewing was steady. Objects observed included the planets available: Venus, Jupiter and Mars; M31, and the Pleiades. All the participants were very thrilled with their

times at the telescopes, and thanked us for setting up in the snow, which didn't create any problems for anyone, those at the scopes, and those viewing through them.

This was the second "snow viewing" night at the Sanctuary, and all who were

there, both us and those who came, enjoyed themselves to the fullest. Sara noted the guests all responded positively, and she is looking forward to having more observing nights there, snow or no snow.



## Skyscrapers Presentations on YouTube

Many of our recent monthly presentations on Zoom have been recorded and published, with permission, on the Skyscrapers YouTube channel. Go to the URL below to view recent presentations.

<https://www.youtube.com/c/SeagraveObservatorySkyscrapersInc>



*The Skyscraper* is published monthly by Skyscrapers, Inc. Meetings are held monthly, usually on the first or second Friday or Saturday of the month. Seagrave Memorial Observatory is open every Saturday night, weather permitting.

### Directions

Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

### Submissions

Submissions to *The Skyscraper* are always welcome. Please submit items for the newsletter no later than **March 15** to Jim Hendrickson at [hendrickson.jim@gmail.com](mailto:hendrickson.jim@gmail.com).

### E-mail subscriptions

To receive *The Skyscraper* by e-mail, send e-mail with your name and address to [hendrickson.jim@gmail.com](mailto:hendrickson.jim@gmail.com). Note that you will no longer receive the newsletter by postal mail.

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# In Loving Memory of David A Huestis (1953-2024)

by Walter Smith

It is with sadness that I write this in memory of my friend, traveling companion, confidant, and, eventually, my brother, David A Huestis. For most of our friendship there was much geographic distance between us. He lived in Rhode Island, and I have lived in the Chicago area since 1982. Most of my friends in Skyscrapers knew him longer than I. But, notwithstanding the miles, we maintained a close friendship by telephone, email, and Facebook. I would dare to say, perhaps, I knew him better than most.

Dave and I first met in March, 1979, at a Wednesday evening public session at Ladd Observatory. I was a fourth year chemistry graduate student at Brown University. The program that night was Dave's presentation of what he saw during the February 26, 1979 eclipse in Canada. I was impressed by his ability to express his experiences in the form of an interesting story. After the presentation I went to speak with him. I asked, not knowing him, what his connection was with Brown University. His response was cordial: "I am a member of Skyscrapers Incorporated." Having not heard of Skyscrapers, I had to ask Dave what that was. The rest, as they say, is history. We met several times after that at the public sessions, and meetings, held at the club.

At the time I had an interest in "chasing" eclipses. We both became involved in a proposed camping expedition to observe the February 16, 1980 eclipse in Tanzania. How we became "tentmates" is somewhat amusing. The expedition leader explained we were going to be traveling Africa in two-person tents. As such, we needed to pick someone with whom we would share our tents. To aid in this process, the twenty of us gave one-minute introduction speeches. As luck would have it, I was sitting next to Dave. There was one member (whom we both later came to enjoy and appreciate) whose speech was so "off-beat," Dave and I turned to each other and whispered, nearly simultaneously, "I don't want to be stuck in the same tent with that guy!" The partnership was born, Dave and I became tentmates, and we saw the eclipse in Tanzania together. My photo of third contact is still on the wall of my living room.

Not to dwell on the matter, but my first wife decided to leave me while I was in Africa. The next phase for Dave and myself was that of "young bachelors." We cruised around Rhode Island a lot, and hung out in places like Gulliver's, in Smithfield, and the Brown University graduate center bar. The struggle for happiness has a way of bonding people. We shared good times and bad, and even exchanged dark memories from our pasts. Some of the things I told Dave are known now by only my wife Anne as well. We helped each other through false starts in the search for new interpersonal relationships. But when he met Tina, I knew Dave, at last, had found his soulmate.

It has been said meeting others has a way of breaking up a previously happy friendship. Look, for example, the effect Yoko Ono had on Lennon and McCartney. Not so with Dave and I! We became best men at each other's weddings, and shared our married experiences as our friendship grew. I enjoyed hearing about their trips. I cried when I heard of Tina's miscarriages. Dave was the godfather of my third daughter. Dave and Tina even took me on a bird-watching trip. Tina started my "life list" (a list of bird species spotted). Dave and I both made mid-life career changes to become educators. Our friendship thrived over the telephone, and we enjoyed personal visits when our careers allowed.

It was with great sadness that I received Dave's phone call telling me Tina had died. She was the love of his life. As Joyce mentioned in her post, Dave was never the same after that. He was overcome with grief, a grief he never fully processed. I tried several times to steer my friend to grief counseling. As far as I know, he never followed up on that. His grief diminished a little with time, but the topic came up in nearly all of our subsequent conversations.

I last saw Dave in the summer of 2022. Dave, as we all do as we approach our 70's, had his share of maladies. It would be hard to say which of the two of us had more! Part of our conversations involved "war stories" about various treatments and medications. Dave was a little slow in movement, but we, together with Anne, still enjoyed a day of touring our old haunts in Rhode Island.

No surprise, our first stop was the Seagrave observatory, our second the Brown campus. We toured the shore, and had dinner at a nice restaurant. As we parted, it wasn't far from my mind this might be our last in-person visit.

I last spoke with Dave by phone on Christmas day 2024. When I reached him he was watching sports on television with his brother. He seemed happy and upbeat. I hung up with the nice feeling he might, at last, have made progress on his grief. There is a line in the film *Forrest Gump* where Forrest, speaking about the loss of his friend Bubba, says "If I'd a known this was gonna be the last time me and Bubba was gonna talk, I'd of thought of something better to say." So true.

Dave and I had a tradition of calling each other on February 16th of each year. It was our eclipse "anniversary" phone call. In the early years we tried to beat each other to the punch. One year he called me at 12:01 AM. Eventually, considering we lived in different time zones, we called a truce on the early phone calls. There were several times when the anniversary had slipped one of our minds, and the call came to the other as a complete surprise. For our 30th anniversary, when I was by then a professor of chemistry, he sent secretly an eclipse drawing to my department chair. When I walked into my 8:00 AM chemistry classroom, there was Dave's drawing, sitting on my podium. Of course I still have the drawing 15 years later.

It was because of the calls that I learned, indirectly, of Dave's passing. We never missed a single year of our anniversary phone calls. When I called Dave on Sunday the 16th this year there was no answer. When I called on Monday the 17th there was also no answer. After failing to connect yesterday the 18th, my first thought was to open the Skyscrapers web site. There I saw Joyce and Francine's post. Francine was kind enough to call me when I reached out to her.

Dave was my friend and I loved him as a brother, I will miss him a lot.

Walter Smith  
wsmith@carthage.edu  
February 19th, 2025

# Skylights: March 2025

by Jim Hendrickson

The March 2025 sky offers us several notable events to look forward to: a total lunar eclipse on the 13th-14th, a partial solar eclipse at sunrise on the 29th, and the inner planets Mercury and Venus put on their best performances of the year as both dive towards inferior conjunction.

March gives us our last good look at the winter constellations as its most prominent asterism, the Winter Hexagon, is conspicuously west of the meridian after dusk by month's end. The stars comprising the hexagon, clockwise from north, are Capella in Auriga, Aldebaran in Taurus, joined by Jupiter, Rigel in Orion, Sirius in Canis Major, Procyon in Canis Minor, and Pollux and Castor in Gemini, joined by Mars at this time.

The stars of autumn can still be found in the northwest early in the evening, including Andromeda with its signature grand spiral galaxy, and Cassiopeia, which rotates about the circumpolar sky to its lower culmination just after midnight.

In the east, the spring constellations are coming into view, as Ursa Major, Leo, and Hydra assume their rising prominence. By mid-month, Arcturus, in Bootes, will be above the northeastern horizon after dusk, and the Northern Crown, Corona Borealis, with its Blaze Star still expected to undergo its outburst, is visible by the mid-evening hours.

The ideal time to conduct the annual Messier Marathon, when a single night's observing can net all 110 of the famous deep-sky objects, occurs between March 16-20th for our latitude, however, bright moonlight will probably defer any effort until after the 23rd, when some of the early pickings are already lost to twilight.

The annual march forward to Daylight Saving Time occurs at 2:00am EST on the 9th. From then until November 2, we will be 4 hours behind Coordinated Universal Time (UTC-4). This pushes sunset well into the 6:00pm hour, and sunrise goes back, for another five days, past 7:00am.

The **Sun** crosses from Aquarius into Pisces on the 12th, and will spend the next 37 days within the constellation of the fishes.

**Equinox** occurs at 5:01am on the 20th. Although the term means "equal night," due to the Sun appearing as a distinct disk rather than a point source, combined with atmospheric refraction of objects near the

horizon, the true date of equal night occurs three days earlier, on the 17th.

The first 7:00pm sunset is on the 22nd. The Sun does not set earlier than 7:00pm again until September 12.

The most notable event in March is a **partial solar eclipse** that is in progress for us at sunrise on the 29th. It begins at 5:24am, when the Sun is still below the horizon. Maximum eclipse is at 6:13am, which is also before our 6:33am sunrise.

The Sun will be located at 85° azimuth when the solar disk is fully above the horizon, and the obscuration extent will be 41%, with the silhouette of the Moon positioned evenly horizontally over the left portion of the solar disk. This orientation remains relatively preserved as the pair rises higher into the sky, and the Moon uncovers more of the Sun, although just before the Moon exits, it will appear slightly below horizontal orientation with respect to the Sun.

The entire eclipse is over at 7:06am, when the Sun is 5.7° above the horizon.

**Moon**-Venus pairings are always a stunning sight in a twilight sky. Although this month's will not be as close as February's 2° separation, it will still be worth watching the 5.2% illuminated crescent, with its Earthshine-lit globe, 6.3° south of the brilliant planet on the 1st.

The Moon will be receiving a new visitor from Earth on the 2nd, as the Firefly Aerospace Blue Ghost Mission 1 lander is scheduled to land within Mare Crisium, carrying 10 instruments that are part of NASA's Commercial Lunar Payload Services program.

On that evening, gaze upon the 12.0% illuminated crescent Moon hanging over the western horizon with a telescope or binoculars. The most prominent feature on the sunlit portion of the Moon is the nearly circular, 550-kilometer-wide basin known as Mare Crisium, the "Sea of Crises." During the early days of the lunar cycle, Mare Crisium occupies nearly the entire breadth of the illuminated crescent, and its smooth floor appears in stark contrast to deep shadows of its rim, as the feature is undergoing lunar sunrise during this phase.

Blue Ghost Mission 1 won't be the first craft to touch down in Mare Crisium. In August 1976, the Soviet Luna 24 sample return probe landed there, and subsequently returned 170 grams of lunar regolith, the

## Events in March

1	19:00	Moon 6.3° S of Venus
2	13:19	Jupiter Quadrature (90° E)
2	18:30	Mercury 2.0° N of Neptune
3	05:00	Jupiter Minimum Illuminated Fraction (99.05%)
3	11:00	Uranus in Aries
4	22:00	Moon 4.0° N of Uranus
6	11:32	<b>First Quarter Moon</b>
7	00:00	Moon 0.4° SSE of Elnath
7	04:00	Mercury 50% Illuminated
7	19:00	Moon 4.2° NNE of M35
8	01:00	Mercury Greatest Elongation (18.3° E)
8	20:00	Moon 1.1° NNE of Mars
9	02:00	Eastern Daylight Time (UTC-4) begins
9	20:19	Latest Mercuryset
12	04:00	Vesta 2.4° NNW of Zubeneschamali
12	05:00	Moon 0.9° NE of Regulus
12	06:29	Saturn Conjunction
12	19:00	Mercury 5.5° SSE of Venus
12	20:00	Sun in Pisces (37d)
14	02:55	<b>Full Worm Moon (Total Lunar Eclipse)</b>
14	16:39	Mercury Stationary
17	06:53	First day with 12 hours of daylight (12:01:13)
19	18:25	Neptune Conjunction
20	01:00	Moon 3.8° SSE of Dschubba
20	05:01	<b>Equinox</b>
22	07:29	<b>Last Quarter Moon</b>
22	19:00	First 7:00pm sunset
22	21:08	Venus Inferior Conjunction
23	04:00	Moon 2.3° SSE of Nunki
23	14:00	Saturn ring plane 0°
24	15:48	Mercury Inferior Conjunction
28	06:00	Moon 0.4° N of Saturn
29	06:58	<b>New Moon</b> (Lunation 1264) <b>Partial Solar Eclipse</b> (41.12% at 06:38)
30	21:00	Mars 4.0° SSW of Pollux
31	04:00	Makemake Opposition (mag. 17.0 51.819 au)

Ephemeris times are in EST (UTC-5) through March 8 and EDT (UTC-4) after March 8 for Seagrave Observatory (41.845N, 71.590W)

third successful robotic sample return from the Moon.

On the 4th, the Moon is 4.0° north of Uranus.

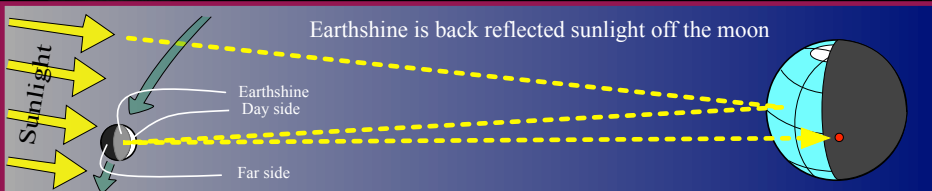
The waxing crescent Moon is 5.5° west-southwest of the Pleiades cluster on the 5th. While this is not a spectacularly close pairing, it should be a worthwhile sight in binoculars, especially later in the evening, closer to Moonset.

The Moon is first quarter, in Taurus, at 11:32am on the 6th. Just past midnight that

## Evening Earthshine

aka "The old moon in the new moon's arms"

In a very strange sense, Earthshine is the reflection of Earth on the moon.



Earthshine is back reflected sunlight off the moon

**Older than 4 day-old moon:**  
Distinguishing Earthshine with the unaided becomes harder with each passing evening. However, the moon's night side can still be seen through a telescope for a few more nights.

**4 day-old moon:**

- Sets up to 5 hours after sunset.
- The glare from its brightly lit day side begins to make seeing Earthshine slightly more difficult.

**3 day-old moon:**

- Sets up to 3.5 hours after sunset.
- Earthshine is very prominent.

**2 day-old moon:**

- Sets up to 2 hours after sunset.
- The bright twilight mutes the diaphanous glow of the Earthshine.

**1 day-old moon:**

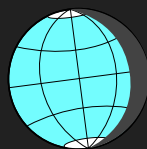

- Typically sets 60 minutes or less after sunset.
- Earthshine appears very subdued because of the moon's placement in the bright twilight, and the thinness and relative dimness of the crescent.
- Binoculars help pick up the very thin lunar crescent in the twilight just above the horizon.

**New Moon, 0 day-old moon:**

- Sets with the sun.

**A very bright Earth**

- When the moon shows a thin crescent phase in Earth's sky, the Earth shows a thick gibbous phase in the lunar sky.
- A thick gibbous Earth covers 16 times the sky than the full moon from Earth does – and it reflects 4 times more light. This means that the near full Earth in the lunar sky is nearly 64 times brighter than the full moon is in our sky.
- For an observer on the unlit near side of the moon, the lunar landscape is illuminated by bright Earthlight.

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evening, it passes  $0.4^\circ$  south-southeast of Elnath (beta Tauri).

Early in the evening of the 7th, the Moon is  $4.2^\circ$  north-northeast of the open cluster M35 in Gemini.

Early the following evening, the 8th, the gibbous Moon is  $1.1^\circ$  north-northeast of Mars.

At 5:00am on the 12th, the nearly full Moon is just  $0.9^\circ$  north of Regulus, in Leo.

A **total lunar eclipse** coincides with the full Worm Moon early in the morning of the 14th. The penumbral eclipse begins at 11:57pm on the 13th, and the Moon enters the umbra at 1:09am.

Total eclipse begins at 2:25am, and extends for 66 minutes, with mid-eclipse occurring at 2:59am. The umbral phase ends at 4:47am, and the penumbral phase ends at 6:00am.

The Moon is  $3.5^\circ$  west of Antares on the

20th.

Early in the morning of the 28th, a challenging pairing of the 1.5% waning crescent Moon and Saturn is visible less than 20 minutes before sunrise, with the Moon just  $0.4^\circ$  north of Saturn.

New Moon, which gives us a partial solar eclipse, occurs on the 29th, beginning Lunation 1264.

Following the eclipse, an opportunity to sight a very young, 13-hour, 0.5% illuminated waxing crescent Moon exists for 34 minutes after sunset.

The following evening, the 30th, presents a far easier chance to observe the beautiful 3.5% crescent Moon and its Earthshine, setting just after 9:00pm.

The most favorable evening apparition of **Mercury** of the year takes place during March.

On the 2nd, Mercury is  $2.0^\circ$  north of

Neptune.

Mercury exhibits a gibbous phase until the 7th, when it is 50% illuminated, and shows a narrowing crescent thereafter.

Latest Mercuryset for this apparition occurs at 8:19pm on the 9th, 94 minutes after sunset.

Mercury tracks with Venus in the western sky for several days mid-month, with the two planets at their closest, at  $5.5^\circ$ , on the 12th.

From the 18th, Mercury sets within an hour of sunset, and on the 21st, just 30 minutes.

Mercury's evening apparition ends on the 24th, when it passes inferior conjunction.

Following conjunction, you can follow it into the morning sky by looking about  $5.5^\circ$  below (southeast of) Venus. Both planets will display remarkably thin crescents, but Mercury remains low, dim, and difficult to observe before sunrise.

**Venus**, a brilliant beacon in our evening sky for most of the past seven months, quickly dives out of view as its faster orbit brings it between us and the Sun, an event known as inferior conjunction, on the 22nd. But before it gets there, it puts on quite a show for observers with even the smallest telescopes as its large, thin crescent changes appearance each evening.

Also, because Venus lies north of the ecliptic by about  $8.5^\circ$ , combined with the high angle of the ecliptic on the western horizon during this time of year, it is possible to observe Venus right up to inferior conjunction. If you do manage to observe it on the evening of conjunction, when it will be just 0.281 au from Earth, its crescent is just 1.0% illuminated, and nearly one arc-minute across.

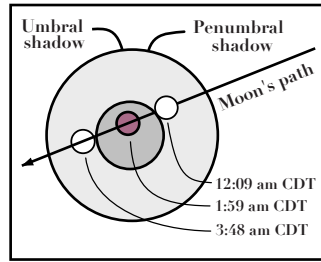
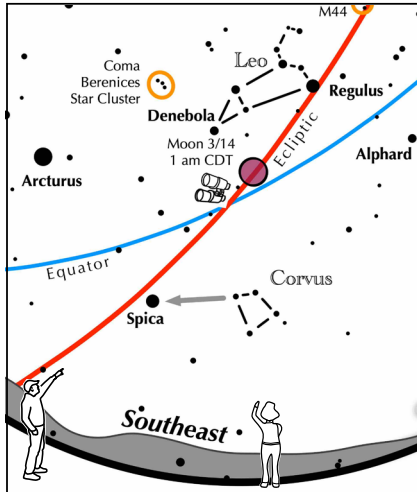
It is notable that Venus passes through the non-zodiacal constellation Pegasus from the 22nd through the 23rd.

Also, due to its position north of the ecliptic, it will be technically possible to observe Venus both in the evening and morning from the 13th through the 23rd, but only on the 19th and 20th will it be visible at least 30 minutes before sunrise and 30 minutes after sunset.

Later in the month, Venus becomes easier to observe in the morning. On the 25th, it is  $8.8^\circ$  directly above the Sun, and its 1.2% illuminated, 59 arcsecond wide crescent will be oriented with its cusps oriented exactly parallel to the horizon.

Beginning on the 30th, Venus will be visible at least an hour before sunrise.

**If you can observe only one celestial event in the evening this March, see this one.**



**The Moon slides through a total eclipse**

In the hours just after midnight on March 14, the brilliant full moon slides into Earth's shadow.

- Even though the partial umbral eclipse begins at 12:09 am CDT, darkening might not be noticed for another 5 minutes.
- When totality is reached, the full moon's brilliance is gone, allowing the stars to appear. Can you see that the moon lies mid-way between Regulus to the upper right and Spica to the lower left?
- At mid eclipse, what color is the moon? How red is it?
- During the partial phases, can you notice that the shadow's edge is not straight, but curved?

As **Mars** passed its stationary point late last month, it has resumed its prograde (eastward) motion through Gemini.

The waxing gibbous Moon is 1.1° north-northeast of Mars on the 8th.

From the 9th onward, Mars' disk is less than 10 arcseconds.

The Red Planet is dimming slightly as Earth moves away from it, but remains 0th magnitude throughout the month.

We are 1 au from Mars on the 16th.

**Jupiter** reaches its point of eastern quadrature (90° elongation) on the 1st, and a few hours later, on the 2nd, it is at minimum illuminated fraction, when observing the planet through a telescope reveals a 99.05% gibbous phase. While this minuscule difference may be difficult to see visually on Jupiter's oblate disk, telescopic observers may notice how the planet's western limb is just a bit softer or less well-defined than its eastern limb under higher magnification on nights of exceptional seeing. The distinction is more pronounced when Jupiter is imaged with a planetary camera.

The Moon appears near Jupiter through the evening of the 5th-6th. The pairing will be especially interesting to watch as the nearly first-quarter Moon and Jupiter set together in the west-northwest at 1:00am, when they will be 5.6° apart.

**Some notable arrangements of Jupiter's moons:**

The moons are in tight formation on the 4th, with Ganymede's shadow and Europa transiting Jupiter from twilight. Europa begins to emerge from transit at 6:34pm. Ganymede's shadow transit ends at 8:08pm,

followed by Europa's at 9:11pm. To the west of Jupiter are Europa, Ganymede, and Callisto. Io begins to emerge from eclipse at 9:27pm.

On the 10th, the moons are arranged in order of their orbital radius to the east of Jupiter.

A double transit of Europa and Ganymede can be seen at 7:42pm on the 11th. Their respective shadows cross the planet a short time later.

On the 13th, a close pairing of Europa and Io (north to south) occurs, and the two point towards Callisto, farther to the south, at 8:33pm.

Another close pairing of Europa and Io is on the 16th at 7:51pm.

On the 18th, for a brief time between 10:52pm and 11:52pm, Jupiter appears to have one single moon (Callisto). This occurs when a double transit of Europa and Ganymede is in progress, and Io is in occultation.

Early on the 20th, Jupiter appears to have just two moons, Callisto and Ganymede, until Io emerges from eclipse at 8:48pm. Europa emerges 80 minutes later.

An askew line of Ganymede, Callisto, and Io appears to the east of Jupiter at 10:02pm on the 22nd. Within two hours, Io moves out of line to form a compact triangle with the other two moons.

Two pairs, one on the east (Callisto and Ganymede), and one to the west (Europa and Io) form a "double-double" arrangement on the 23rd.

On the 24th, there is another arrangement of the moons in order of orbital radi-

us, extending to the east of Jupiter.

After midnight on the 26th, and just before Jupiter sets, there is a very tight arrangement of Io to the west, and Europa and Ganymede to the east of the planet. Callisto is visible farther out to the east.

From 7:42pm to 10:43pm on the 27th, Jupiter appears to have just two moons, as Io and Europa pass behind the planet.

On the 30th, Callisto assumes an unusual position just beyond Jupiter's south pole at 9:45pm.

The ringed planet gives us much to talk about, but not much to see during the month of March. **Saturn**, like Earth and all other planets, has an axial tilt, and goes through seasons. Unlike the other planets of our solar system, Saturn's axial tilt can be easily observed, its tell-tale indicator being its broad ring system.

Saturn's rotational axis is tilted 26.7° from its orbital plane, and it orbits the Sun once every 29.45 years, making each season on Saturn roughly 7.36 years long, and the interval between equinoxes 14.72 years. Saturn is approaching one of those equinoxes in early May.

When Saturn reaches equinox, not only is each of its hemispheres equally exposed to the Sun, but its ring plane also reaches an angle of incidence of 0°, so sunlight falls on neither side of the rings, and the rings cast an exceedingly minuscule shadow on the planet. During this time, the rings aren't completely dark, despite the lack of sunlight, because they are significantly illuminated by "Saturnshine," light reflected from the globe of Saturn itself, just as a crescent Moon is back-illuminated from light reflected from Earth, known as Earthshine.

Although Saturn's equinox is still a few weeks away, the offset angle between Earth and the Sun as seen from Saturn, a product of Saturn's orbital inclination with respect to the ecliptic, 2.49°, as well as Earth's position along its orbit, results in Earth intercepting the ring plane at a different date than on Saturn's equinox, and that date arrives on March 23.

During our ring plane crossing, Saturn's rings are still tilted 0.8° relative to the Sun, and would, if Saturn were to be better-placed in our sky, cast a thin but visible shadow just south of the planet's equator.

However, because Saturn is at conjunction on the 12th, it will be too close to the Sun (less than 10°) when Earth crosses the ring plane on the 23rd, so the event will pass mostly unnoticeable to us.

On May 6, when Saturn reaches equi-

## ASTRONOMICAL LEAGUE Double Star Activity

nox, Earth will be offset  $2.7^\circ$  with respect to the ring plane, so we will see the “underside” of the rings, which will be illuminated by Saturnshine.

Although we will miss the March 23 ring-plane crossing since Saturn is more or less behind the Sun from our view, we can look forward to November 24, when we move to the opposite side of our orbit, and get to see the rings at minimum angle of just over  $0.5^\circ$  while the planet is still well-placed for observing high in our sky.

On the 28th, the 1.5% waning crescent Moon is just  $0.4^\circ$  north of Saturn.

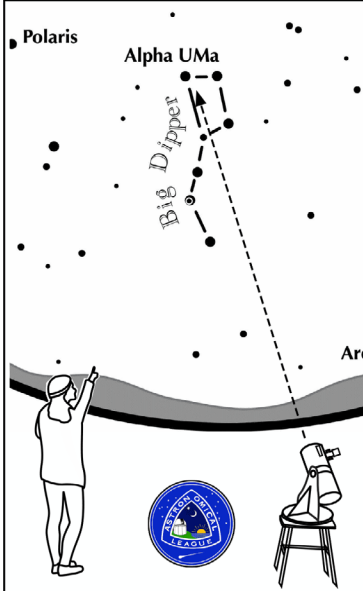
As **Uranus** has maintained a high perch in the evening sky during the past few months, March presents the last good opportunities to observe it before it sinks into springtime’s rapidly encroaching evening twilight.

The seventh planet enters Taurus, where it will spend the next seven years, on the 3rd. It can be easily located  $7.5^\circ$  southwest of the Pleiades cluster, and shines at magnitude 5.8.

On the 4th, the 32% waxing crescent Moon is  $4.0^\circ$  north of Uranus.

By month’s end, Uranus is within  $7^\circ$  west-southwest of the Pleiades, placing it just within the same binocular field of view.

**Neptune** reaches conjunction on the



**Alpha UMa**  
A-B separation: 381 sec  
A magnitude: 2.0  
B magnitude: 7.0  
Position Angle:  $204^\circ$   
Colors:  
orange  
dark orange

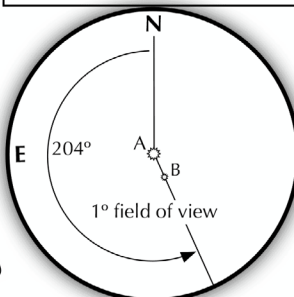
Try binoculars!

### Other Suns: Alpha Ursae Majoris

**How to find Alpha Ursae Majoris on a March evening**

Face northeast. Look for the Big Dipper standing upright on its handle. Alpha is the star on the upper left corner of the bowl.

Suggested magnification:  $>20\times$   
Suggested aperture:  $>3$  inches



19th and will not be visible in our March sky. The distant planet will be visible in the morning sky later next month.

**Vesta**, at magnitude 7.0, is  $2.8^\circ$  northwest of Zubeneschamali (beta Librae) early in the month. Brightening to 6th magnitude, it reaches its stationary point on the 21st,  $2.4^\circ$  north-northwest of Zubeneschamali, then moves retrograde towards the northwest.

**Ceres** is in Aquarius, behind the Sun

and out of view.

**Pluto** is in western Capricornus, and rises just before the start of astronomical twilight, but remains low in the southeastern sky and is difficult to observe.

The distant dwarf planet **Makemake** reaches opposition in Coma Berenices, on the 31st. At a distance of 51.80 au, its dim 17.0 magnitude glow should be bright enough to be detected with most astronomical imaging cameras.

## Crossword Solutions

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
A	P	A	R	S	E	C				E				O	R	I	O	N
B				O				N	E	B	U	L	A					
C				L						R		L	A	G	O	O	N	
D	M	A	K	S	U	T	O	V		O	G		A					
E				T						P	I		M					
F	P	E	R	I	G	E	E			A		E		M		B		
G				C							B		A		E			
H	I			E	Q	U	A	T	O	R	I	A	L		R	A	W	
I	S						L									D		
J	S	H	E	P	A	R	D			P	E	G	A	S	U	S		
K							E							R				
L							B	O	L	I	D	E		S		M		
M				C			A							A		E		
N	P	A	L	O	M	A	R								R			
O	L			R			A							V		C		
P	A			O			A	N	T	A	R	E	S		E		U	
Q	T			N										I		R		
R	O			C	A	S	T	O	R			P	T	O	L	E	M	Y



# Cosmic Coffeehouse

Informal astronomy chat room  
meets on the 15th of each month at 7:00pm

- interactive ZOOM format
- current news
- featured speakers

- equipment reviews
- observing notes
- fun 'n games

To receive your invite, send request to [Astro-Geek@comcast.net](mailto:Astro-Geek@comcast.net)

## Skyscrapers Official Merchandise

<https://www.bonfire.com/store/skyscrapers/>  
<https://business.landsend.com/store/skyscrapersinc/>

# David Huestis: A Remembrance

by Greg Shanos

On October 27, 1985, while browsing through the Sunday Providence Journal newspaper I noticed an article entitled: Halley's Comet Coming at You. (See [Figure 1](#)) After reading the article, I immediately knew that I must see and experience this once in a lifetime event. Knowing nothing about astronomy, I noticed a short column regarding Skyscrapers, the Amateur Astronomical Society of Rhode Island with a contact person- David A Huestis. (See [figure 2](#)) I had written a letter to Mr. Huestis, including my name, address and telephone number stating that I would like to see the comet. Dave responded with a handwritten letter on November 24, 1985. (See [Figure 3](#)) I also received a telephone call from Mr. Huestis right around this time. Dave stated that he was on his honeymoon, and I was the first caller on his answering machine. I was invited to an open house on December 6th, 1985 at Seagrave Observatory to observe the comet.

When I arrived at Seagrave, the main observatory caught my eye, and I went there first. When I arrived in the anti-room, I was greeted by two ladies. I asked where I can find Dave Huestis. One of the ladies stated in a rather defensive tone- "What do you want with Dave?" I explained the circumstances and she smiled and stated, "I am Tina, his wife, I will take you to him. The other lady was Kathy Siok.

Dave was in the main clubhouse when we were introduced. Dave gave me a tour of the grounds as well as the 8-inch Alvin-Clark Telescope built in Cambridgeport, Mass in 1878. I was incredibly impressed with this telescope as well as the observatory. I immediately signed up, paid my dues, and became a member. I was also amazed at the variety of telescopes on the grounds of Seagrave during the star party. I do not remember if I actually observed the comet that night, however, the telescopes made an impression on me. I asked what is that orange and blue tubed stubby one that folds in half. Dave replied it is a Schmidt-Cassegrain Catadioptric. To this day, this is my favorite telescope design. Dave suggested that I subscribe to *Sky & Telescope* and *Astronomy* Magazines so I can learn more about astronomy as well as receive updates on all upcoming astronomical events. Great advice- I immediately subscribed to both magazines.

Dave and I became close friends along with Steve and Kathy Siok and Bill Gusfa. They were all invited to my wedding on June 24, 1990. My wife had plans to move to Florida and I became part of the plan. We relocated and arrived in Tampa on August 3, 1990 then Longboat Key, Sarasota in 1991 where we currently reside. I regained contact with Skyscrapers in January 2002 when the newsletter was posted online on the club's website. I downloaded each month's newsletter to follow up on the activities of the organization. I always read Dave Huestis's well written column. Dave was a gifted writer and continued to write for the newsletter until his wife's death on June 5, 2021.

When the worldwide shutdown occurred in March 2020 due to the COVID-19 pandemic, necessity became the mother of invention. Since Skyscrapers could not meet in person at the club house, live-streaming became the means to communicate and hold monthly meetings. Since

the meetings continue to be live-streamed, I became a renewed member of Skyscrapers in 2020 and rarely miss a zoom meeting. I even attend AstroAssembly on a virtual basis. I have since joined local astronomy clubs here in Florida; however, it is a pleasure to once again be a part of my original astronomy club- The Skyscrapers.

I received an email from President Linda Bergemann on January 1, 2025 that Dave Huestis had passed away. I was shocked to hear the sad news. I called Linda and we spoke about what an incredible individual Dave was. He was not only my friend but beloved by everyone at Skyscrapers. Dave lived for the organization having served every position from President to Historian. Dave knew everything about the history of Skyscrapers as culminated in his published book: *75 Years of Skyscraping*. (See [Figure 4](#)). In closing, Dave and Tina, you will be missed and NEVER forgotten.



For all photos and figures, see: [https://www.flickr.com/photos/skyscrapers\\_inc/albums/72177720324149668/](https://www.flickr.com/photos/skyscrapers_inc/albums/72177720324149668/)



# March Night Sky Notes: Messier Madness

by Kat Troche

March is the start of spring in the Northern Hemisphere; with that, the hunt for Messier objects can begin!



## What Are Messier Objects?

During the 18th century, astronomer and comet hunter [Charles Messier](#) wanted to distinguish the ‘faint fuzzies’ he observed from any potential new comets. As a result, Messier cataloged 110 objects in the night sky, ranging from star clusters to galaxies to nebulae. These items are designated by the letter ‘M’ and a number. For example, the Orion Nebula is [Messier 42](#) or M42, and the Pleiades are [Messier 45](#) or M45. These are among the brightest ‘faint fuzzies’ we can see with modest backyard telescopes and some even with our eyes.

Stargazers can catalog these items on evenings closest to the new moon. Some even go as far as having “Messier Marathons,” setting up their telescopes and binoculars in the darkest skies available to them, from sundown to sunrise, to catch as many as possible. Here are some items to look for this season:



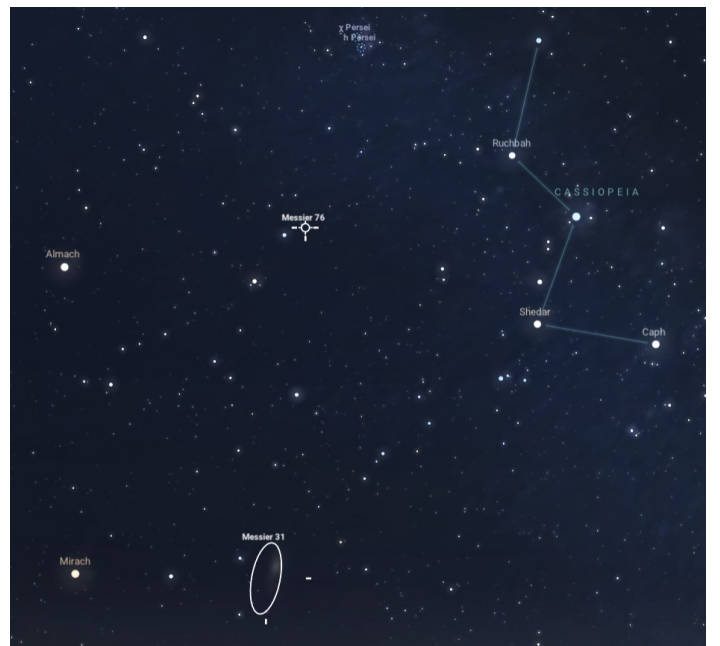
**Messier 44 in Cancer:** The Beehive Cluster, also known as Praesepe, is an open star cluster in the heart of the Cancer constellation. Use Pollux in Gemini and Regulus in Leo as guide stars. A pair of binoculars is enough to view this and other open star clusters. If

you have a telescope handy, pay a visit to two of the three galaxies that form the Leo Triplet - M65 and M66. These items can be seen one hour after sunset in dark skies.



**Messier 3 Canes Venatici:** M3 is a globular cluster of 500,000 stars. Through a telescope, this object looks like a fuzzy sparkly ball. You can resolve this cluster in an 8-inch telescope in moderate dark skies. You can find this star cluster by using the star Arcturus in the Boötes constellation as a guide.

**Messier 87 in Virgo:** Located just outside of Markarian’s Chain, M87 is an elliptical galaxy that can be spotted during the late evening hours. While it is not possible to view the [supermassive black hole](#) at the core of this galaxy, you can see M87 and several other Messier-labeled galaxies in the Virgo Cluster using a medium-sized telescope.



**Messier 76 in Perseus:** For a challenge, spot the Little Dumbbell Nebula, a planetary nebula between the Perseus and Cassiopeia constellations. With an apparent magnitude of 12.0, you will need

a large telescope and dark skies. You can find both M76 and the famous [Andromeda Galaxy \(M31\)](#) one hour after sunset, but only for a limited time, as these objects disappear after April. They will reappear in the late-night sky by September.

## Plan Ahead

When gearing up for a long stargazing session, there are several things to remember, such as equipment, location, and provisions:

- **Do you have enough layers to be outdoors for several hours?** You would be surprised how cold it can get when sitting or standing still behind a telescope!

- **Are your batteries fully charged?** If your telescope runs on power, be sure to charge everything before you leave home and pack any additional batteries for your cell phone. Most people use their mobile devices for astronomy apps, so their batteries may deplete faster. Cold weather can also impact battery life.

- Determine the **apparent magnitude** of what you are trying to see and the **limiting magnitude** of your night sky. You can learn more about apparent and limiting magnitudes with our [Check Your Sky Quality with Orion](#) article.

- When choosing a location to observe from, select an area you are familiar with and bring some friends! You can also [connect with your local astronomy club](#) to see if they are hosting any Messier Marathons. It's always great to share the stars!

You can see all 110 items and their locations with NASA's [Explore the Night Sky interactive map](#) and the [Hubble Messier Catalog](#), objects that have been imaged by the Hubble Space Telescope.

**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](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

## Nightside of Venus by Greg Shanos

After several failed attempts, I was finally able to successfully image the nightside of Venus. This was not possible without the help of Martin Lewis (The Sky Inspector), Tom Williams, and Peter Tickner. Thank you very much for your contributions.

The key to successful imaging was Tom Williams by combining the 850nm IR long pass with the 1010nm narrowband filter. When I used only the 1010nm filter, there were secondary reflections that ruined the image. By combining the two IR filters, the secondary reflections were minimized especially on the nightside of Venus.

Martin Lewis gave me excellent advice regarding using a focal reducer, registax settings and histogram stretches.

Tom Williams had excellent information regarding shutter speed and gain.

I found that by pushing the "gamma" to 85 in Firecapture, the nightside became visible in the video without having to increase the gain.

I also tried bin 2x2 then drizzle 1.5 in autostakekrt. The results were not any better than at normal exposure. Therefore, bin 2x2 is out.

The transparency was excellent with perfectly clear skies down to the horizon. However, seeing was only average. There were some significant wind gusts throughout the night. Venus was only 21 degrees above the horizon at the time this image was taken. Overall a very successful result!

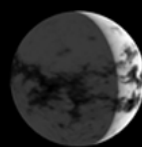
At 1000nm (1 micron), the atmospheres of Earth and Venus become transparent. At this wavelength, we are able to penetrate the thick sulfuric acid clouds and view the surface features of Venus! These are basically volcanoes.

## Nightside of Venus February 22, 2025

Gregory T. Shanos Sarasota, Florida USA  
Meade LX200GPS 250mm f1 2500mm f/10  
ZWO ASI 462MM monochrome camera  
Orion 0.5X focal reducer 51ms Gain 1 Gamma 85  
Protective Window Removed

Magnitude: -4.6  
Diameter: 43.8"  
Phase: 21%  
Altitude: 21°

Seeing: 5/10 Ave, Very Windy  
Transp: 9/10 Perfectly Clear



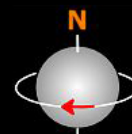
WinJupos Simulation

00h 31.0m UT

CMI (Surface): 310.6° CMI (Atm): 225.3°

Antlia 850nm longpass filter w/

Torrent Photonics 1010nm FWHM 38nm



# Observer's Challenge: NGC 1964: Spiral Galaxy in Lepus

by Glenn Chaple

(Magnitude 10.8; Size 5.6' X 1.8' [photographic], 1.6' X 0.6' [visual])

This month's Observer's Challenge takes us below the celestial equator to the constellation Lepus and the spiral galaxy NGC 1964. Discovered by William Herschel on November 20, 1784, it bears the Herschel Catalog identification H214, his 21st Class 4 (Planetary Nebulae) entry. He described it as "Very small. stellar, very bright nucleus and very faint chevelure not quite central." "Chevelure" in Herschel-speak was the hazy glow surrounding a comet or star, which explains why he misclassified it as a planetary nebula.

NGC 1964 is located at the 2000.0 coordinates RA 5h33m21.8s and DEC -21o56'43", about 1½ degrees southeast of the 3rd magnitude star beta (β) Leporis. This southerly location means that NGC 1964 transits the sky low above the southern horizon when viewed from mid-northern latitudes. The resulting atmospheric extinction dims the galaxy more than if it were at a higher altitude.

NGC 1964 might be considered to be two galaxies in one. Visual observers will see the oval-shaped glow of its nucleus which spans some 1.6 by 0.6 arc-minutes while imagers will capture that, plus the surrounding spiral arms which increase the galaxy's overall size to 5.6 by 1.8 arc-minutes. NGC 1964 has been glimpsed with apertures as small as 4 inches from rural dark-sky locations, but twice that aperture is recommended for suburban sites.

Most sources cite a distance to NGC 1964 of 65 to 70 million light years. An inhabitant of a planet in that galaxy and equipped with highly advanced optical equipment would be able to view the earth around the time of the extinction of the dinosaurs. With a diameter of around 100,000 light years, NGC 1964 is approximately the same size as our Milky Way.



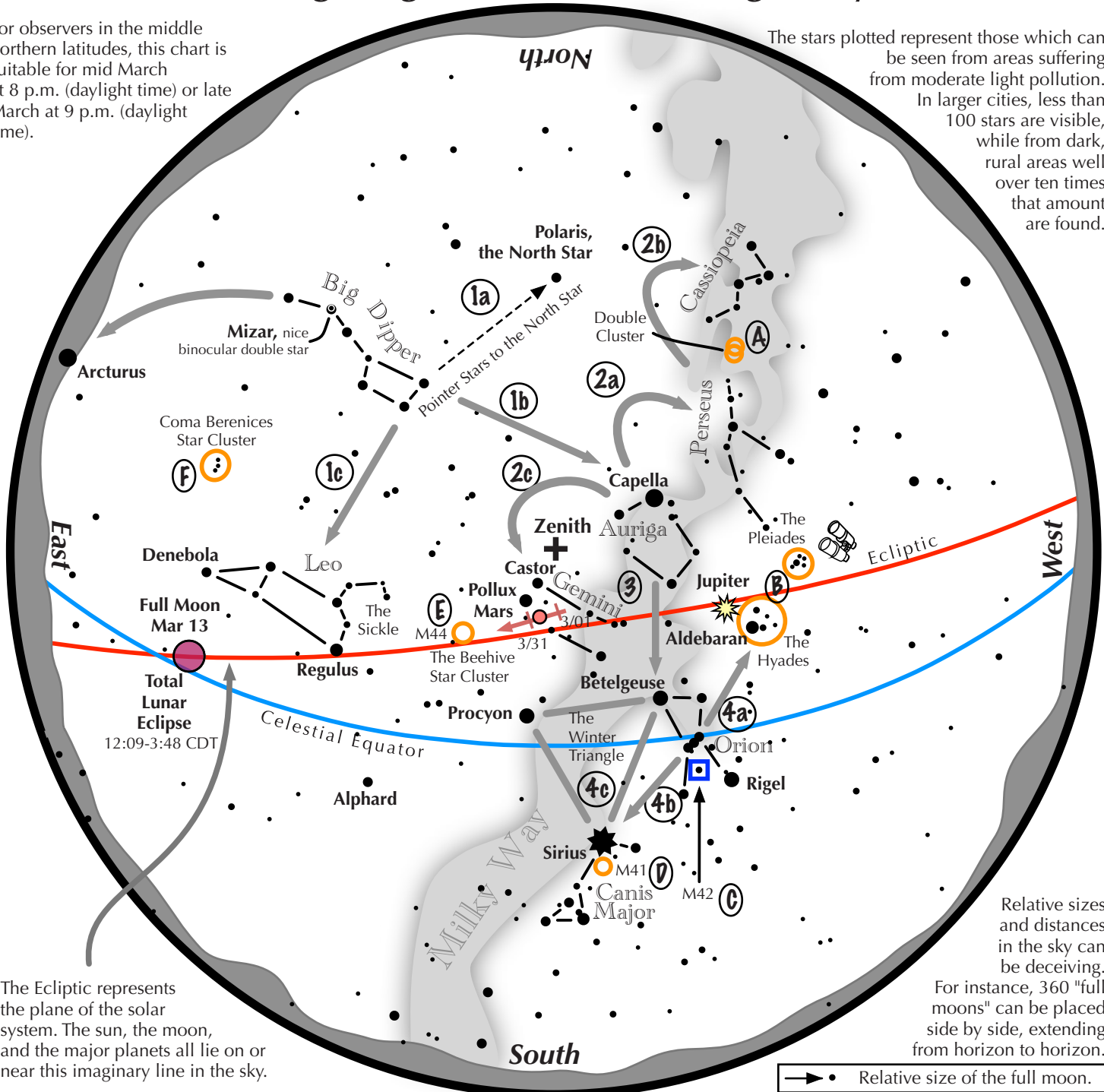
Taken with my 32 inch F6 telescope, Lum filter, 16 subs, for a total of 80 minutes imaging stacked then processed in pixinsight. I used only the Lum filter here, as it was not above the horizon very long, and only had one night usable, thus could not do it color. Mario Motta



# Navigating the mid March Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid March at 8 p.m. (daylight time) or late March at 9 p.m. (daylight time).

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

## Navigating the March night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star. Its top bowl stars point west to Capella in Auriga, nearly overhead. Leo reclines below the Dipper's bowl.
- 2 From Capella jump northwestward along the Milky Way to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius. It is a member of the Winter Triangle.

### Binocular Highlights

**A:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster. **B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** M42 in Orion is a star forming nebula. **D:** Look south of Sirius for the star cluster M41. **E:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **F:** Look high in the east for the loose star cluster of Coma Berenices.



# The Sun, Moon & Planets in March

This table contains the ephemeris of the objects in the Solar System for each Saturday night in March 2025. Times in Eastern Standard Time (UTC-5) through March 8, Eastern Daylight Time (UTC-4) after March 8. Ephemeris times are for Seagrave Observatory (41.845N, 71.590W).

Object	Date	RA	Dec	Const	Mag	Size	Elong	Phase(%)	Dist(S)	Dist(E)	Rise	Transit	Set
<b>Sun</b>	<b>1</b>	22 48.6	-7 34.5	Aqr	-26.8	1937	-	-	-	0.991	06:20	11:58	17:37
	<b>8</b>	23 14.6	-4 52.6	Aqr	-26.8	1933.6	-	-	-	0.993	06:09	11:56	17:45
	<b>15</b>	23 40.4	-2 07.6	Psc	-26.8	1930.1	-	-	-	0.994	06:57	12:55	18:53
	<b>22</b>	0 05.9	0 38.4	Psc	-26.8	1926.3	-	-	-	0.996	06:45	12:53	19:01
	<b>29</b>	0 31.4	3 23.3	Psc	-26.8	1922.4	-	-	-	0.998	06:33	12:50	19:09
<b>Moon</b>	<b>1</b>	23 35.2	-3 22.4	Psc	-8.1	1977	13° E	1	-	-	07:10	13:25	19:54
	<b>8</b>	6 19.2	28 23.6	Aur	-12.2	1917.5	106° E	64	-	-	11:48	19:59	05:02
	<b>15</b>	12 11.1	-2 02.3	Vir	-12.5	1783.9	172° W	100	-	-	20:28	02:11	07:44
	<b>22</b>	17 43.6	-28 53.9	Oph	-11.9	1785.3	95° W	55	-	-	02:42	06:53	11:05
	<b>29</b>	0 04.3	0 33.9	Psc	-6.5	1986.2	6° W	0	-	-	06:33	13:01	19:45
<b>Mercury</b>	<b>1</b>	23 46.0	-1 16.1	Psc	-0.9	6	16° E	76	0.312	1.114	06:57	12:57	18:59
	<b>8</b>	0 18.5	3 59.0	Psc	-0.2	7.3	18° E	47	0.311	0.925	06:42	13:00	19:19
	<b>15</b>	0 30.2	6 42.5	Psc	1.4	9	15° E	18	0.338	0.745	07:15	13:42	20:08
	<b>22</b>	0 19.3	5 52.2	Psc	4.5	10.7	6° E	2	0.377	0.629	06:40	13:01	19:22
	<b>29</b>	23 59.3	2 30.0	Psc	4.0	11.3	8° W	3	0.416	0.597	06:05	12:14	18:23
<b>Venus</b>	<b>1</b>	0 29.1	10 26.4	Psc	-4.4	49.4	31° E	15	0.719	0.342	06:55	13:36	20:16
	<b>8</b>	0 24.6	11 08.7	Psc	-4.2	54.5	24° E	8	0.719	0.311	06:20	13:03	19:45
	<b>15</b>	0 13.6	10 41.7	Psc	-4.0	58.5	15° E	3	0.719	0.289	06:44	13:24	20:04
	<b>22</b>	23 58.5	9 04.9	Psc	-3.8	60.3	9° E	1	0.720	0.281	06:07	12:41	19:14
	<b>29</b>	23 44.2	6 43.2	Psc	-4.0	59	12° W	2	0.721	0.287	05:34	12:00	18:24
<b>Mars</b>	<b>1</b>	7 16.4	25 51.1	Gem	-0.3	10.9	126° E	94	1.655	0.862	12:37	20:22	04:07
	<b>8</b>	7 19.3	25 33.0	Gem	-0.1	10.2	120° E	93	1.658	0.920	12:14	19:58	04:42
	<b>15</b>	7 24.4	25 10.8	Gem	0.1	9.5	114° E	92	1.661	0.982	12:54	20:36	04:18
	<b>22</b>	7 31.3	24 44.7	Gem	0.2	9	109° E	91	1.663	1.045	12:35	20:15	03:55
	<b>29</b>	7 39.8	24 14.4	Gem	0.4	8.4	104° E	91	1.664	1.111	12:19	19:56	03:34
<b>1 Ceres</b>	<b>1</b>	22 27.0	-17 42.2	Aqr	9.1	0.3	11° W	100	2.977	3.942	06:38	11:35	16:32
	<b>8</b>	22 37.7	-16 46.9	Aqr	9.1	0.3	15° W	100	2.977	3.925	06:18	11:18	16:19
	<b>15</b>	22 48.2	-15 51.6	Aqr	9.2	0.3	19° W	100	2.977	3.901	06:57	12:01	17:05
	<b>22</b>	22 58.7	-14 56.4	Aqr	9.2	0.3	23° W	100	2.977	3.871	06:36	11:44	16:52
	<b>29</b>	23 09.0	-14 01.7	Aqr	9.2	0.3	27° W	99	2.977	3.834	06:15	11:27	16:38
<b>Jupiter</b>	<b>1</b>	4 43.4	21 52.3	Tau	-2.2	39.5	92° E	99	5.102	4.977	10:23	17:50	01:16
	<b>8</b>	4 46.0	21 58.4	Tau	-2.1	38.6	85° E	99	5.105	5.090	09:58	17:25	00:52
	<b>15</b>	4 49.3	22 05.2	Tau	-2.1	37.8	79° E	99	5.107	5.203	10:33	18:01	01:28
	<b>22</b>	4 53.0	22 12.6	Tau	-2.0	37	73° E	99	5.109	5.313	10:09	17:37	01:05
	<b>29</b>	4 57.3	22 20.3	Tau	-2.0	36.3	67° E	99	5.112	5.419	09:45	17:14	00:43
<b>Saturn</b>	<b>1</b>	23 28.8	-5 26.8	Aqr	1.2	15.6	10° E	100	9.613	10.586	06:53	12:36	18:19
	<b>8</b>	23 32.0	-5 06.5	Aqr	1.2	15.6	4° E	100	9.610	10.600	06:28	12:12	17:56
	<b>15</b>	23 35.2	-4 46.3	Aqr	1.2	15.6	3° W	100	9.608	10.601	07:02	12:47	18:32
	<b>22</b>	23 38.4	-4 26.2	Aqr	1.2	15.6	9° W	100	9.606	10.590	06:36	12:23	18:09
	<b>29</b>	23 41.5	-4 06.4	Aqr	1.2	15.7	15° W	100	9.604	10.567	06:11	11:58	17:46
<b>Uranus</b>	<b>1</b>	3 25.3	18 27.4	Ari	5.8	3.6	73° E	100	19.543	19.810	09:20	16:31	23:43
	<b>8</b>	3 26.0	18 30.4	Tau	5.8	3.5	66° E	100	19.542	19.922	08:53	16:05	23:17
	<b>15</b>	3 27.0	18 34.0	Tau	5.8	3.5	59° E	100	19.541	20.028	09:26	16:38	23:50
	<b>22</b>	3 28.1	18 38.0	Tau	5.8	3.5	53° E	100	19.540	20.127	08:59	16:12	23:24
	<b>29</b>	3 29.3	18 42.4	Tau	5.8	3.5	46° E	100	19.539	20.218	08:33	15:45	22:58
<b>Neptune</b>	<b>1</b>	23 57.9	-1 35.9	Psc	8.0	2.2	18° E	100	29.893	30.832	07:08	13:05	19:01
	<b>8</b>	23 58.9	-1 29.7	Psc	8.0	2.2	12° E	100	29.893	30.864	06:41	12:38	18:35
	<b>15</b>	23 59.9	-1 23.5	Psc	8.0	2.2	5° E	100	29.892	30.883	07:14	13:12	19:09
	<b>22</b>	0 00.8	-1 17.2	Psc	8.0	2.2	2° W	100	29.892	30.888	06:48	12:45	18:43
	<b>29</b>	0 01.8	-1 10.9	Psc	8.0	2.2	9° W	100	29.892	30.878	06:21	12:18	18:16
<b>Pluto</b>	<b>1</b>	20 24.0	-22 47.4	Cap	14.6	0.2	38° W	100	35.212	35.989	04:57	09:31	14:06
	<b>8</b>	20 24.8	-22 45.8	Cap	14.6	0.2	45° W	100	35.217	35.916	04:30	09:05	13:39
	<b>15</b>	20 25.5	-22 44.6	Cap	14.6	0.2	52° W	100	35.222	35.832	05:03	09:38	14:12
	<b>22</b>	20 26.2	-22 43.6	Cap	14.6	0.2	58° W	100	35.226	35.740	04:36	09:11	13:46
	<b>29</b>	20 26.7	-22 42.9	Cap	14.5	0.2	65° W	100	35.231	35.640	04:09	08:44	13:19



## Tiangong Space Station & Jupiter by Bob Horton

The Chinese Tiangong Space Station passed by Jupiter on February 21, 2025, looking much like a celestial bird.

Image taken with a Nikon Df attached to the 16" telescope at Brown University. I took about 20 rapid fire exposures, 1/4000 each, and out of all of the frames shot, the space station appeared in only two frames. Not surprising, in that it was moving at 17,500 mph.



## First light with Seestar S30 by Matt White

Full solar disk, February 23, 2025



© KA1BQP 41°N, 71°W/2025-02-21 11:54

Sun

# Sunspot Group AR3998 By Ron Zinccone

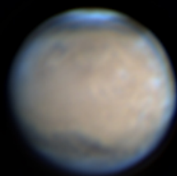
Enjoy my image capture of Sunspot Group AR3998 taken with a TeleVue 85 APO with a TeleVue 2.5X Powermate for 1500mm @ f/17.5 with a Canon 6D. Glass solar filter. Remote shutter. ISO 800 @ 1/1600 sec. February 23, 2025



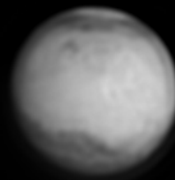
Mars  
February 6, 2025

Gregory T. Shanos Sarasota, Florida USA  
Meade LX200GPS 250mm 2500mm f/10  
Coronado Cemax 2X Barlow 6250mm f/25

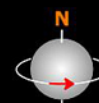
Magnitude: -0.9  
Diameter: 13.2"  
Phase: 98%  
Altitude: 62°/67°  
Seeing: 6/10 Above Average  
Transparency: 7/10 Clear, Hazy  
Resolution: 0.10"/pixel



01h 43.8m UT  
ZWO 662MC one-shot color camera  
Astronomik L2 UV-IR cut filter  
Central Meridian: 157.0°



02h 07.1m UT  
ZWO 462MM monochrome camera  
Baader 685nm IR longpass filter  
Central Meridian: 162.7°



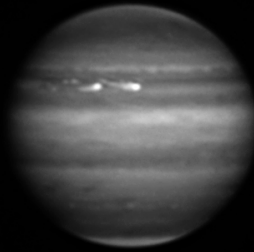
# Jupiter by Greg Shanos

Check out the NEB outbreak- It appears like "eyes" looking back at you. Too cool! The 1010nm IR and Methane band appear the best. I love the methane band- Jupiter appears "alien" at these wavelengths.

Jupiter  
January 31, 2025

Gregory T. Shanos Sarasota, Florida USA  
Meade LX200GPS 250mm 2500mm f/10  
ZWO ASI 462MM monochrome color  
Vernonscope 1.25x Barlow 3300mm f/13  
Derotated 6 minutes with WinJupos

Magnitude: -2.5  
Diameter: 43.2"  
Phase: 99.3%  
Altitude: 56°  
Seeing: 7/10 Good  
Transp: 8/10 Clear, Humid Slight Haze  
Resolution: 0.18"/pixel



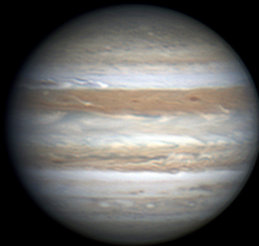
03h 50.3m UT  
Chroma Methane 889 nm +/- 18nm narrow band filter  
CMI: 52.9° CMI: 325.9° CMI: 124.5°  
North Equatorial Belt Outbreak



Jupiter  
January 31, 2025

Gregory T. Shanos Sarasota, Florida USA  
Meade LX200GPS 250mm 2500mm f/10  
ZWO ASI 662MC one-shot color camera  
Vernonscope 1.25x Barlow 3700mm f/14  
Derotated 5 minutes with WinJupos

Magnitude: -2.5  
Diameter: 43.2"  
Phase: 99.3%  
Altitude: 63°  
Seeing: 7/10 Good  
Transp: 8/10 Clear, Humid, Slight Haze  
Resolution: 0.16"/pixel



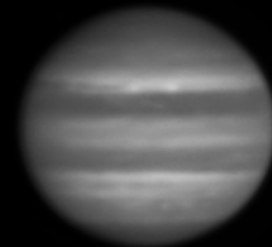
03h 22.7m UT  
Astronomik L2 UV-IR cut filter  
CMI: 36.1° CMI: 309.2° CMI: 107.8°  
North Equatorial Belt Outbreak



Jupiter  
January 31, 2025

Gregory T. Shanos Sarasota, Florida USA  
Meade LX200GPS 250mm 2500mm f/10  
ZWO ASI 462MM monochrome camera  
Vernonscope 1.25x Barlow 4150mm f/16  
Derotated 6 minutes with WinJupos

Magnitude: -2.5  
Diameter: 43.2"  
Phase: 99.3%  
Altitude: 52°  
Seeing: 5/10 Average  
Transp: 8/10 Clear, Humid, Slight Haze  
Resolution: 0.14"/pixel



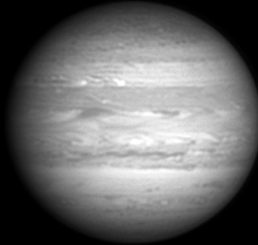
04h 07.6m UT  
Chroma U-Band Bessel (320nm-380nm)  
CMI: 63.5° CMI: 336.3° CMI: 135.0°



Jupiter  
January 31, 2025

Gregory T. Shanos Sarasota, Florida USA  
Meade LX200GPS 250mm 2500mm f/10  
ZWO ASI 462MM monochrome camera  
Vernonscope 1.25x Barlow 3950mm f/15  
Derotated 4 minutes with WinJupos

Magnitude: -2.5  
Diameter: 43.2"  
Phase: 99.3%  
Altitude: 59°  
Seeing: 7/10 Good  
Transp: 8/10 Clear, Humid, Slight Haze  
Resolution: 0.15"/pixel



03h 37.3m UT  
Baader 685nm IR longpass filter  
CMI: 45.0° CMI: 318.0° CMI: 116.7°  
North Equatorial Belt Outbreak



Jupiter  
January 31, 2025

Gregory T. Shanos Sarasota, Florida USA  
Meade LX200GPS 250mm 2500mm f/10  
ZWO ASI 462MM monochrome camera  
Vernonscope 1.25x Barlow  
Bin 2x2 Drizzle 1.5x in Autostakkert  
Derotated 5 minutes with WinJupos

Magnitude: -2.5  
Diameter: 43.2"  
Phase: 99.3%  
Altitude: 48°  
Seeing: 5/10 Ave  
Transp: 8/10 Clear, Humid, Slight Haze



04h 24.3m UT  
Torrent Photonics 1010nm FWHM 38nm  
CMI: 73.7° CMI: 346.4° CMI: 145.1°  
North Equatorial Belt Outbreak








**NGC 253 Sculptor Galaxy  
by Conrad Cardano**

This is a 70 minute exposure with the Seestar. Processed with Graxpert and Siril.



**Caldwell 50 Rosette Nebula by Jeff Padell**

Using Seestar S30

 Seestar S30

C 50

70min



**Moon & Venus by Jim Hendrickson**

Saturday, February 1, 2025

# Directions to Seagrave Memorial Observatory

## From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

## From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

## From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

## From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

## From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- or • Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

## From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro). Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 Peeptoad Road  
North Scituate, Rhode Island 02857