

AstroGuy Podcast July 2026 Observing Guide

Best Observing Windows

Lunar Feature of the Month: Posidonius is best around July 19-22, when the Moon is near first quarter and shadows help define the rim and floor detail. It remains a rewarding target whenever it is visible, but this window should provide the best lighting for this episode.

Deep-sky targets: Aim for the darker nights around New Moon, roughly July 10-18. The Sagittarius objects stay low for mid-northern observers, so catch them when they are near their highest point in the southern sky.

Planet highlights: Venus is the easy evening planet, while Mars and Uranus make a close morning pairing early in the month. Saturn, Uranus, and Neptune are morning targets.

July 2026 Moon Phase Calendar

July 2026 Moon Phase Calendar

All phase times shown in Eastern Time. Daily icons approximate the Moon's phase for each calendar day.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1  Waning Gibbous	2  Waning Gibbous	3  Waning Gibbous	4  Waning Gibbous
5  Waning Gibbous	6  Waning Gibbous	7  Third Quarter	8  Waning Crescent	9  Waning Crescent	10  Waning Crescent	11  Waning Crescent
12  Waning Crescent	13  Waning Crescent	14  New Moon	15  Waxing Crescent	16  Waxing Crescent	17  Waxing Crescent	18  Waxing Crescent
19  Waxing Crescent	20  Waxing Crescent	21  First Quarter	22  Waxing Gibbous	23  Waxing Gibbous	24  Waxing Gibbous	25  Waxing Gibbous
26  Waxing Gibbous	27  Waxing Gibbous	28  Waxing Gibbous	29  Full Moon	30  Waning Gibbous	31  Waning Gibbous	

Exact Major Phase Times

- Third Quarter: July 7, 2026, 3:29 pm ET
- New Moon: July 14, 2026, 5:43 am ET
- First Quarter: July 21, 2026, 7:05 am ET
- Full Moon: July 29, 2026, 10:35 am ET

Observing Notes

- Best dark-sky window: July 10-18
- Best Posidonius window: July 19-22, near first quarter
- Look along the northeastern edge of Mare Serenitatis for Posidonius, a large complex walled plain with craterlets, ridges, and Rimae Posidonius.

Phase times: Timeanddate, New York, July 2026. Daily icons calculated for each calendar day at noon ET.

July 2026 Planetary Data

Representative mid-month values for planning..

Planet	Best visibility	Constellation	Mag.	Diameter (arcseconds)	Guide note
Mercury	Late July pre-dawn	Gemini	+0.4	8.1"	Needs a clear eastern horizon; better into early August.
Venus	Evening twilight	Leo	-4.2	18"	Easy evening planet; Moon nearby July 17.
Mars	Morning	Taurus	+1.3	4.5"	Small, but useful as a guidepost to Uranus July 3-4.
Jupiter	Early evening twilight	Cancer	-1.8	31"	Sinking into twilight; essentially done after first week.
Saturn	Late night / morning	Pisces	+0.6	17.8"	Improving morning target; Moon nearby July 7-8.
Uranus	Morning, near Mars July 3-4	Taurus	+5.8	3.5"	Faint, star-like at low power; Mars helps you find it.
Neptune	Morning telescope/binocular target	Pisces	+7.7	2.3"	About 10 degrees west of Saturn; needs a chart or app.

Quick Target List

Deep-sky targets only. The Lunar Feature of the Month appears in the object notes below.

Object	Type	Constellation	Magnitude	Size / Separation	Distance	Best Approach
M22, Sagittarius Cluster	Globular cluster	Sagittarius	~5.1	~32 arcmin	~10,000 ly	Low to medium power
M25 / IC 4725	Open cluster	Sagittarius	~4.6	~32 arcmin	~2,000 ly	Binoculars or low-power wide field
M17, Swan/Omega Nebula	Emission nebula	Sagittarius	~6.0	~11 arcmin visual core; larger complex	~5,500 ly	Low-medium power; UHC/OIII optional
M11, Wild Duck Cluster	Open cluster	Scutum	~6.3	~14 arcmin	~6,200 ly	Low to medium power
15 Aquilae	Visual double star	Aquila	~5.4 / ~7.2	~38 arcsec	~325 ly	Medium power
M27, Dumbbell Nebula	Planetary nebula	Vulpecula	~7.5	~8 x 5.6 arcmin	~1,360 ly	Moderate power; nebula filter helps
Collinder 399, Coathanger	Asterism	Vulpecula	~3.6	~60 arcmin	Line-of-sight pattern (Asterism)	Binoculars or very low power

Object Notes and Finder Tips

Posidonius, Lunar crater

Size	~96 km across
Best observing window	Around July 19-22, near first quarter
Location	Northeastern edge of Mare Serenitatis, about 31.9° N, 30.0° E
Best approach	Low power to locate; then increase magnification for floor detail

Description / where to look: Start with Mare Serenitatis and look along its northeastern edge. Posidonius is a large, worn, complex walled plain. Posidonius A, about 11 km across, gives the crater a distinct, almost bullseye look.

What to notice: The broad uplifted floor, smaller craterlets, ridges, uneven texture, and Rimae Posidonius. Changing Sun angle can make the same feature look very different from night to night.

M22, the Sagittarius Cluster

Globular cluster | Sagittarius

Magnitude	~5.1
Size	~32 arcmin
Distance	~10,000 light-years
Best approach	Binoculars or telescope; catch it when Sagittarius is highest

Star hop: Start with the Sagittarius Teapot. From Kaus Borealis, Lambda Sagittarii, move about 2.5 degrees northeast. Use low power first, then increase magnification if the view allows it.

What to notice: In binoculars it looks like a soft glow. In a telescope, larger aperture begins resolving the outer stars. In a 70mm refractor it can appear as a misty ball, while an 8-inch Dob can resolve it beautifully.

[Click here for a Finder Chart](#)

M25 / IC 4725

Open cluster | Sagittarius

Magnitude	~4.6
Size	~32 arcmin
Distance	~2,000 light-years
Best approach	Binoculars or low-power wide-field telescope

Star hop: Sweep east-northeast along the Milky Way. M25 sits between M24 and the eastern Sagittarius star fields and it looks best in a wide field.

What to notice: M25 is a loose, bright open cluster set in the Sagittarius Milky Way.

[Click here for a Finder Chart](#)

M17, the Swan/Omega Nebula

Emission nebula / star-forming region | Sagittarius

Magnitude	~6.0
Size	~11 arcmin visual core; larger nebula complex
Distance	~5,500 light-years
Best approach	Low to medium power; UHC/OIII-style filter optional

Star hop: From the top of the Sagittarius Teapot, sweep north into the bright Milky Way. M17 lies north of M24 and near M18.

What to notice: Look for the bright bar or checkmark shape. Depending on orientation, that bright section may look like a swan floating on the water. The fainter surrounding nebulosity is more challenging.

[Click here for a Finder Chart](#)

M11, the Wild Duck Cluster

Open cluster | Scutum

Magnitude	~6.3
Size	~14 arcmin
Distance	~6,200 light-years
Best approach	Low to medium power

Star hop: Find Scutum near the tail of Aquila. M11 sits just southeast of Beta Scuti. Sweep the dense Scutum Star Cloud at low power, then increase magnification.

What to notice: M11 is compact and concentrated for an open cluster. In many telescopes it begins to resolve into a dense spray of stars, and in a 6-inch scope under dark skies it becomes a real showpiece.

[Click here for a Finder Chart](#)

15 Aquilae

Visual double star | Aquila

Magnitude	~5.4 primary; ~7.2 companion
Separation	~38 arcsec
Distance	~325 light-years
Best approach	Low to moderate power; increase if seeing allows

Star hop: In Aquila, work from Altair toward Lambda Aquilae. 15 Aquilae sits north of Lambda Aquilae. A good chart or app will help.

What to notice: The brightness difference and color contrast are the attraction. The primary is a K-type giant that can show a warm orange tone, while the fainter companion may appear pale yellow.

[Click here for a Finder Chart](#)

M27, the Dumbbell Nebula

Planetary nebula | Vulpecula

Magnitude	~7.5
Size	~8 x 5.6 arcmin; faint halo larger
Distance	~1,360 light-years
Best approach	Moderate power; nebula filter can help

Star hop: Use the Sagitta arrow as a guide. From Gamma Sagittae, move roughly 3 degrees north into Vulpecula.

What to notice: In small telescopes it can appear as a soft oval glow. In larger scopes at moderate power, the dumbbell or apple-core shape becomes easier to see.

[Click here for a Finder Chart](#)

Collinder 399, the Coat Hanger

Asterism | Vulpecula

Magnitude	~3.6
Size	~60 arcmin
Distance	Line-of-sight pattern, not a true cluster
Best approach	Binoculars or very low power

Star hop: Look within the Summer Triangle, between Albireo in Cygnus and Alpha/Beta Sagittae. The Coathanger is large, so avoid high magnification.

What to notice: The straight bar and hook make this an easy beginner target. It is an asterism, not a true open cluster, so the pattern is a chance alignment from our point of view.

[Click here for a Finder Chart](#)

Quick Field Tips

- Catch the Sagittarius targets when they are highest and use a clear southern horizon.
- Use low power for M25 and Collinder 399.
- Try a UHC or OIII filter on M17 and M27.
- For 15 Aquilae, use a good chart and pay attention to separation, brightness difference, and color.
- For Posidonius, observe around July 19-22, or return on multiple nights to see how the lighting changes.

Notes: