North Americans will experience two lunar eclipses in 2021: a total eclipse in May and a deep partial eclipse in November. JAMIE COOPER

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A supplement to Astronomy magazine

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The first week of any year brings one of the three strongest annual meteor showers. In 2021, the prolific Quadrantids peak the morning of January 3. Although the shower shares the sky with a gibbous Moon, those who don’t mind cold weather should see a decent display. The Quadrantids produce lots of bright meteors, and they will have little problem shining through the moonlight. The “shooting stars” radiate from northern Boötes, where the now-defunct constellation Quadrans Muralis once ruled.

Better prospects await viewers of the Perseid meteor shower. With the waxing crescent Moon setting well before midnight, the Perseids should put on a grand show the mornings of both August 12 and 13. The balmy nights of late summer are perfect for spending an hour or two (or more) watching meteors flash across the sky. The best views come between 2 and 4 a.m. local daylight time when the shower’s radiant in the constellation Perseus climbs high in the east.

The waxing gibbous Moon intrudes on some of the maximum of the Geminid meteor shower the night of December 13/14. Luna sets by 3 a.m. local time, however, leaving dark skies for the next two-and-a-half hours. Observers with clear skies can expect to see an average of more than one meteor per minute at the peak. Geminid meteors emanate from the constellation Gemini, which remains on view all night.

Although no other shower rivals the “Big Three,” several lesser displays add depth to the yearly meteor calendar. The best of this year’s lot is the Eta Aquariids. They peak the night of May 5/6 under a waning crescent Moon that interferes little. The best views come from more southerly locations in the hour or two before dawn.

When the Lyrid shower peaks April 22, the waxing gibbous Moon sets only a half-hour before dawn starts to paint the sky. But those conditions almost seem favorable compared with autumn’s two showers. October’s Orionids and November’s Leonids both reach maximum near Full Moon; you’ll be better off waiting for their better 2022 shows.

A meteor marks the fiery demise of a dust mote that has strayed into Earth’s atmosphere. Friction from the particle’s encounter with air molecules incinerates it and creates the streak of light. Annual showers arise from thin filaments of dust particles that outgassing comets have dumped into solar orbits over thousands of years. When Earth plows into one of these streams, we get rewarded with a meteor shower.
Four planets gather before dawn

If you like to observe planetary alignments, plan to get up before the Sun in February and early March. A series of close encounters among Mercury, Venus, Jupiter, and Saturn play out against a colorfully lit twilight sky. Just be sure to bring your binoculars along and find an observing site with a clear view right down to the southeastern horizon.

The first event will be the hardest to see. On February 11, Venus passes 0.4° south of Jupiter. Although they are bright — Venus glows at magnitude –3.9 and Jupiter at magnitude –2.0 — they rise just 25 minutes before the Sun and don’t climb much before twilight swallows them. Binoculars will help, but be sure to put them away before the blinding Sun rises. Viewing prospects improve the farther south you live because the ecliptic — the Sun’s apparent path across the sky that the planets follow closely — inclines more steeply to the predawn horizon.

Venus disappears in the Sun's glow within the next few days, but Jupiter ascends and soon meets up with Mercury and Saturn. Giant Jupiter passes 4° south (to the lower right) of tiny Mercury on the 13th. The innermost planet glows at 3rd magnitude and likely won’t be visible without binoculars.

Perhaps the best scene arrives February 20 when Saturn joins the other two worlds in an attractive triangle. A half-hour before sunrise, Mercury stands 6° high, and Saturn appears 4.4° to its right. The inner planet now shines at magnitude 0.8 while its neighbor glows a bit brighter at magnitude 0.6. Brilliant Jupiter now lies 4.6° to Mercury’s lower left.

The triangle flattens in late February and March as Mercury heads toward Jupiter. On March 5, Mercury (now at magnitude 0.2) passes 0.3° north of Jupiter. A telescope shows both in the same field, with the inner planet appearing about half-lit and the giant world nearly five times larger and fully illuminated. The three worlds separate after that, with a final hurrah coming on the 10th when a waning crescent Moon passes the planetary trio.
Few people have ever seen an asteroid with the naked eye, but this month offers observers a great chance. And even if you can’t spy Vesta without optical aid, binoculars easily bring it into view. The bright asteroid peaks at magnitude 5.9 when it reaches opposition March 4 among the background stars of Leo the Lion.

You can start your search in late February. Vesta stands 2° due east of Theta (θ) Leonis on the 27th, though you’ll need binoculars to see it then because a Full Moon lies 6° south of the pair. The asteroid moves northwestward in the coming weeks. At opposition, it resides 1.2° northeast of Theta. No other stars in this region glow as brightly as Vesta, so it should be relatively easy to identify.

As the asteroid continues its trek, it passes 1.3° due north of Theta on March 8. It has an even closer encounter with a 6th-magnitude field star on the 16th. Vesta passes 8° due south of the similarly bright background object.

Throughout late March and early April, the asteroid traverses relatively barren central Leo. It pulls within 1° of 51 Leo on April 10 and remains within that distance of the magnitude 5.5 star through the 28th.

In late April, Vesta reverses course and starts heading eastward. A relatively uneventful May transitions into an exciting June as the minor planet slides within 0.1° of 5th-magnitude 73 Leo and then past the stunning Leo Triplet of galaxies.

Vesta spends a week within 1° of the 9th-magnitude spiral galaxies M65 and M66, though the best views will come between June 10 and 12. On the 10th, the solar system object lies 0.3° south of M65. The following evening, it forms a nearly equilateral triangle with the galaxy pair, and on the 12th, it stands 0.5° south of M66. The two galaxies, along with the edge-on spiral NGC 3628 just 0.6° north of M66, make a stunning backdrop for imagers who want to capture the local and distant universe in one shot.
Spring is the perfect season for galaxy hunting. The dust lanes of our galaxy, the Milky Way, then hug the horizon and don’t block our view into intergalactic space from the Northern Hemisphere.

The best place to search is the constellation Virgo. That’s where you’ll find the Virgo Cluster, a collection of more than 1,000 galaxies located some 55 million light-years from Earth. The cluster spans nearly 10° and offers several bright galaxies for observers with 6-inch or larger telescopes viewing under a dark sky. The galaxies will look like fuzzy clouds of grayish light. Averted vision can help — faint objects stand out more clearly in peripheral vision.

Observers without a go-to telescope should start at 5th-magnitude Rho (ρ) Virginis, a star 5° west of 3rd-magnitude Epsilon (ε) Vir. Take your first step into the cluster by heading 1.4° north of Rho. There you’ll find the 9th-magnitude elliptical galaxy M60 partnered with the 10th-magnitude elliptical M59 just 0.4° to its west. Both show up nicely in a low-power eyepiece.

Head 1.1° west of M59 to discover the 10th-magnitude barred spiral galaxy M58. Next, scan 1.8° west-northwest to land on the Virgo Cluster’s central galaxy, M87. (It’s the bright fuzzball at the bottom center of the image above.) At magnitude 8.6, it’s the easiest cluster galaxy to see. Like most other large galaxies, M87’s core harbors a supermassive black hole. In 2019, the Event Horizon Telescope imaged this black hole’s shadow in the first observation of its kind.

Move another 1.3° northwest to find the 9th-magnitude spiral M88. The slightly fainter spiral M91 lies 0.8° to its east. We wrap up the central area of the Virgo Cluster by moving south again. Spiral galaxy M90 lies 1.4° south-southeast of M91, and the elliptical M89 resides 0.7° farther south-southwest. Once you’ve finished this brief tour, go back and study the cluster more closely. The area surrounding these Messier objects is full of fainter galaxies just waiting for you to explore.

The Moon passes 4° south of Saturn, 4 A.M. EDT
Dwarf planet Ceres is in conjunction with the Sun, 3 A.M. EDT
The Moon passes 4° south of Jupiter, 3 A.M. EDT
The Moon passes 4° south of Neptune, 7 A.M. EDT
The Moon passes 2° south of Uranus, 8 A.M. EDT
Mercury is in superior conjunction, 10 P.M. EDT
Lyrid meteor shower peaks
Uranus is in conjunction with the Sun, 4 P.M. EDT

The central region of the Virgo Cluster holds dozens of galaxies within reach of amateur telescopes. The giant elliptical M87 appears at bottom center. TERRY HANCOCK

Spring is the perfect season for galaxy hunting. The dust lanes of our galaxy, the Milky Way, then hug the horizon and don’t block our view into intergalactic space from the Northern Hemisphere.

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Mercury puts on its best evening show of 2021 this month.

The planet shines brightly in twilight, but it pales in comparison with its solar system neighbor, Venus. The two worlds stand out against the delightful backdrop of Taurus.

Get your first glimpse of the pair May 1. Mercury then shines at magnitude –1.1 from its perch 8° high in the west-northwest a half-hour after sunset. The Pleiades Cluster (M45) lies 5° above it and appears in the same binocular field. Venus hangs 5° below Mercury and shines brilliantly at magnitude –3.9, a value it maintains all month.

A week later, Venus slides 4° to M45’s lower left. The Pleiades will be harder to see than on the 1st because it is sinking deeper in the twilight glow. Magnitude –0.4 Mercury now lies 9° above Venus.

The next week features an electrifying view of a wafer-thin crescent Moon passing the two planets. On May 12, a one-day-old Moon slides just to the left of Venus. The following evening, it’s Mercury’s turn to host a two-day-old lunar crescent.

Mercury reaches greatest elongation May 16/17 when it lies 22° east of the Sun and stands 14° above the horizon 30 minutes after sunset. The innermost planet has dimmed to magnitude 0.4 because it is turning its lit hemisphere away from us. It appeared half-lit May 11 but is only 37 percent lit on the 16th.

After greatest elongation, Mercury drops toward the Sun while Venus climbs out of the twilight. They quickly approach each other during May’s final week. On the 28th, they meet when Mercury passes 24’ south (to the left) of Venus. The innermost planet glows dimly at magnitude 2.1 because only 12 percent of its 11”-diameter disk is lit.

Mercury disappears in the Sun’s glare at the end of May, but Venus improves considerably. It reaches greatest elongation in late October when it gleams at magnitude –4.5 and stands 11° high in the southwest an hour after sundown.
A ring of fire hits close to home

Annular solar eclipses tend to get a bad rap. After all, they don't provide views of a diamond ring, prominences, or the solar corona like total eclipses do. Still, they offer a spectacular ring of fire guaranteed to get the juices of any shadow chaser flowing. June 10 delivers a stunning annular eclipse for observers positioned along a track that crosses Ontario, Quebec, Nunavut, Greenland, and eastern Russia.

The eclipse begins at sunrise on the northern shore of Lake Superior. But your best access to the path is to head west on Route 11 from Mattice, Ontario. The center line lies more than 400 miles to the west, however, near Armstrong, Ontario. Annularity in this small town lasts 3 minutes 31 seconds. The Sun rises in a deep partial eclipse, and the annular phase begins two minutes later. Seeing a ring of fire hanging just above the horizon is an experience you won't want to miss. Average cloud cover in this region runs around 60 percent — among the lowest along the track — so plan to keep up with the local forecast.

The track then heads northeast across largely unpopulated forest until it reaches Hudson Bay at remote Polar Bear Provincial Park. Adventurous eclipse chasers who decide to fly into Ontario's largest park can gain three seconds of annularity over Armstrong. Cloud cover along the path of annularity averages around 80 percent in northern Canada and doesn't drop significantly until the track reaches the Greenland icecap. Clouds increase again as the path crosses eastern Siberia. The center line here offers about three-and-a-half minutes of annularity shortly before sunset.

Residents of the northeastern United States, eastern Canada, and much of Europe will experience a partial eclipse. In New York City, the Moon covers nearly three-quarters of the Sun's area just after sunrise.

This eclipse is annular because the Moon reaches the farthest position in its orbit around Earth two days earlier. It thus appears smaller than usual and can't hide the Sun's disk.

A beautiful annular eclipse takes place June 10 along a path that touches parts of Ontario and Quebec before heading into the Arctic.

Few sights bring more thrills than a ring of fire hanging just above the horizon. This photographer captured such an eclipse just before sunset from near Tahoka, Texas, on May 20, 2012. Bob Thomas
The ringed planet stands out more in 2021 than it has in years. It played second fiddle to neighboring Jupiter in 2020, and for two years before that, it had to compete with the sparkling backdrop of Sagittarius, the Archer. But in 2021, Saturn lies among the fainter stars of Capricornus the Sea Goat, outshining that constellation's luminary by 10 times.

July finds Saturn rising before midnight local daylight time and becoming a tempting evening target for those with a telescope. And though the planet doesn't reach opposition and peak visibility until the night of August 1/2, the distant world hardly suffers a month or two away from this date.

Saturn begins its retrograde (westward) motion in late May from a spot 0.6° west of 4th-magnitude Theta (θ) Capricorni. Coincidentally, the aptly named Saturn Nebula (NGC 7009), a planetary nebula with a nebulous ring visible through large telescopes, then stands 6° due north of the planet. NGC 7009 lies just across the Capricornus border in Aquarius.

By the time Saturn comes to opposition, when it rises at sunset and remains visible all night, it lies about 3.3° farther west than in May. Opposition brings the planet closest to Earth, so it shines at its brightest (magnitude 0.0) for the year. It also appears largest through a telescope. On August 1/2, the planet's globe measures 19" across while the rings span 42" and tilt 18° to our line of sight.

A soft haze mutes the atmospheric banding on Saturn that appears so prominent on Jupiter. Still, most observers can see a dark equatorial belt and perhaps a brighter zone or two on either side. The polar regions also look distinctly dusky.

But the feature that keeps observers returning to Saturn time and time again is the glorious ring system. Look for the dark gap of the Cassini Division that separates the outer A ring from the brighter B ring. On steady nights, you also might spot the dusky C ring closer to the planet and the Encke Gap near the A ring's outer edge.

No view of Saturn would be complete without a quick glance at its moons. Titan glows at 8th magnitude and shows up through any scope. A 4-inch scope brings in three 10th-magnitude moons: Tethys, Dione, and Rhea. You'll need an 8-inch instrument to spot 11th-magnitude Enceladus close to the rings' outer edge.
Giant Jupiter’s great performance

Majestic cloud belts and dynamic changes make the solar system’s largest planet an attractive target for any observer. Watch for turbulent swirls in Jupiter’s equatorial belts, festoons and white spots in the cloud tops, and the captivating Great Red Spot. The four bright Galilean moons also put on a show — in addition to their usual orbital acrobatics, they deliver a rare series of mutual eclipses and occultations.

Although Jupiter remains on display from February through year’s end, it appears best around the time of its August 19 opposition. It then shines at magnitude –2.9, far brighter than any other planet or star save Venus. The giant world dominates the region near the Aquarius-Capricornus border. It crosses from Capricornus into Aquarius on April 25, slides back into Capricornus on August 18, and ultimately returns to Aquarius on December 14. This border region places Jupiter about 10° higher in the Northern Hemisphere sky than it was in 2020.

The giant planet lives up to its name, spanning 49” across its equator at opposition. The diameter through its poles is just 46”, however. This obvious polar flattening arises from Jupiter’s gaseous nature and rapid rotation. A small telescope easily shows two dark atmospheric belts, one on either side of a brighter zone that coincides with the equator. In 2020, the northern belt appeared broad and dark and was filled with dramatic turbulence. The southern belt had split in two in front of the Great Red Spot as the planet rotates; larger scopes revealed a turbulent wake trailing the spot.

The Galilean moons — Io, Europa, Ganymede, and Callisto — orbit Jupiter in periods ranging from 1.8 days (Io) to 16.7 days (Callisto). It’s easy to follow the movements of these satellites through a small scope and watch them pass in front of the planet and cast their shadows on the jovian cloud tops. But 2021 presents the first opportunity in six years to watch the moons pass in front of (occult) and eclipse one another. The moons’ orbits lie in a single plane that tilts edge-on to both the Sun and Earth this year, the geometry that allows this to work. You can count on Astronomy to highlight the best events happening each month.

Jupiter’s atmosphere provides thrills through scopes of any size. In this view from 2014, Ganymede’s shadow sits in the middle of the Great Red Spot. NASA/ESA/A. SIMON (GSFC)
For several years running, autumn has belonged to the ice giants. Uranus and Neptune, the outermost major planets, both reach opposition as the nights grow longer and cooler. They make fine targets once you’ve explored Jupiter and Saturn during the early evening hours.

First up is Neptune. It lies opposite the Sun in our sky September 14. It glows at magnitude 7.7, so you’ll need binoculars — preferably mounted on a tripod to keep them steady — or a telescope to spot it.

Neptune resides in the northeastern corner of Aquarius the Water-bearer, not far from 4th-magnitude Phi (ϕ) Aquarii. To find the planet, start at Phi and head 1.5° (about the width of three Full Moons) to the east-northeast to a pair of 6th-magnitude stars. (The northern one is 96 Aqr.) Picture these two as a gateway, and draw an imaginary line from Phi that bisects them. Continue three times farther, and you’ll reach a neat triangle of 6th- and 7th-magnitude stars. Neptune appears at the center of this triangle September 4 and moves slowly westward as the month progresses. It skims just 1.6’ south of the westernmost star (SAO 146736) September 23.

You can confirm a planet sighting through a telescope. Only Neptune shows a distinct disk that spans 2.4” and a subtle blue-gray color. By the way, SAO 146736 is a K-type star with an orange hue, so it contrasts nicely with the planet.

Uranus resides two constellations east of Neptune, in south-central Aries the Ram, and comes to opposition about two months later, on November 4. Although both planets have roughly the same physical size, Uranus lies only two-thirds as far away and appears significantly brighter. Shining at magnitude 5.7 at opposition, Uranus is easy to spot through binoculars and barely shows up to the naked eye under a dark sky.

First locate Hamal (Alpha [α] Arietis), the 2nd-magnitude luminary of Aries. Then head 0.8° south and pick up 5th-magnitude Kappa (κ) Ari. It and two more 5th-magnitude stars, Eta (η) and Theta (θ) Ari, form a line pointing southeast in Uranus’ direction. The planet lies 7° beyond Theta.

At opposition, Uranus resides near 6th-magnitude Omicron (ο) and Sigma (σ) Ari. A gap of 1.7° separates the stars, while the planet stands 0.9° west of Omicron. Less than a month earlier, on the night of October 10/11, Uranus slips 10’ north of Omicron.

As with Neptune, use a telescope to confirm your Uranus sighting. The ice giant sports a 3.8”-diameter disk at opposition that glows with a distinct blue-green hue.
Rosetta’s comet returns to view

All comet hunters have their favorites. Some prefer the predictability of those like Halley; others — OK, most — favor spectacular one-time visitors such as Ikeya-Seki or Hale-Bopp. But the past decade has seen a new member welcomed to the comet pantheon thanks to the European Space Agency’s Rosetta spacecraft, which visited Comet 67P/Churyumov-Gerasimenko between 2014 and 2016. This now-famous periodic comet makes its closest approach to Earth of the 21st century this year, giving observers a prime opportunity to track it down.

If predictions hold, 67P could reach 9th magnitude in October. That would put it within range of binoculars under a dark sky and a fairly easy target through telescopes. Because the comet climbs highest before dawn, the best dark-sky window comes during the month’s first half. It spends these two weeks moving eastward from Taurus the Bull into Gemini the Twins.

Two great opportunities present themselves during this period. The first comes on the mornings of October 8 and 9 when 67P passes less than 1.5° north of the Crab Nebula (M1) supernova remnant. On the latter morning, the comet also appears 2.2° due north of 3rd-magnitude Zeta (ζ) Tauri. In long-exposure photographs, 67P may show a short tail, similar to what observers saw during its last return in 2015.

The comet crosses into Gemini on October 15, setting up an even closer encounter with a Messier object the following morning. The predawn hours on the 16th find 67P skimming the northern fringes of the open star cluster M35. The Moon sets by 3 a.m. local daylight time, providing more than two hours of dark skies before twilight begins.

The comet could reach 8th magnitude when it comes closest to Earth on November 12. It then lies 39 million miles from our world and 3.3° east-southeast of 1st-magnitude Pollux. It passes 1.4° south of this star on the 8th.
The Moon takes a double dip

On the morning of November 19, the Full Moon slides through Earth’s shadow and delivers a deep partial lunar eclipse to observers across North America and much of the Pacific Ocean. At its peak, 97 percent of Luna lies in the darkest part of our planet’s shadow. The eclipsed Moon appears in Taurus the Bull, just 6° away from the Pleiades star cluster (M45).

The first sign of the eclipse is the subtle shading caused by Earth’s outer penumbral shadow. Although this shadow touches the Moon’s limb at 1:03 a.m. EST, it typically takes at least 30 minutes for any shading to appear. Earth’s dark umbral shadow enters the Moon’s disk at 2:20 a.m. As it creeps across the lunar surface, the Full Moon dims, and fainter stars pop into view.

The eclipse reaches its peak at 4:04 a.m. With 97 percent of the Moon embedded in Earth’s shadow, you might think our satellite would nearly disappear. But the light from every sunrise and sunset on Earth filters through our atmosphere and turns the Moon orange. Meanwhile, a brilliant sliver of white light brightens Luna’s southern limb.

The umbral shadow then starts to leave the Moon, finishing the journey at 5:48 a.m. Although this happens in darkness across most of the continent, twilight has begun for viewers along the East Coast.

Lunar eclipses typically happen nearly six months apart, and 2021 is no exception. The first eclipse of the year occurs May 26 with the Moon crossing northern Scorpius the Scorpion. Although this is a total event, North Americans don’t fare as well as they do in November. Only those in the western half of the continent get a short view of totality — the Moon sets before the peak from farther east. The partial umbral phase runs from 2:46 a.m. to 5:54 a.m. PDT, while the 15 minutes of totality begin at 4:13 a.m.
Eclipse chasers often have to brave sweltering heat or frigid cold when they visit remote locations for a brief glimpse of totality. But few have ventured to the literal ends of Earth to see nature’s grandest spectacle. That could change this month when the Moon eclipses the Sun along a path that crosses only Antarctica and the surrounding seas.

The December 4 eclipse begins in the South Atlantic and then crosses uninhabited Coronation Island, the largest of the South Orkney Islands. The eclipse path continues across the Weddell Sea before making landfall on the Ronne Ice Shelf. This is the area of greatest eclipse, where totality lasts 1 minute 52 seconds. The track then crosses West Antarctica before heading back to the Southern Ocean.

Although it is difficult and costly to travel to Antarctica, several tour companies offer packages to get you there. Some plan to fly inland to remote locations while others plan to be aboard ships.

But anyone who goes and has a clear sky — inland sites have better prospects — will be rewarded with stunning views of the eclipsed Sun hanging low above the horizon. Expect a pair of diamond rings — one just before totality commences and the other just after totality ends — fiery-red prominences, and a gauzy-white corona that might mimic the icy landscape. Add a sparkling view of the southern night sky — unavailable right now in the land of the midnight Sun — and you have an experience you won’t soon forget.

As with all total eclipses, a much broader swath of Earth’s surface witnesses a partial eclipse. The best views from inhabited areas come from South Africa and Namibia. Cape Town sees the Moon obscure 12 percent of the Sun at peak eclipse. In Australasia, a slender 2 percent of the Sun disappears from Melbourne, Australia, while those in Hobart, Tasmania, see 11 percent of the Sun disappear.

The southern sky comes alive during totality December 4. Magnitude –1.1 Mercury stands next to the Sun, and brilliant Venus lies low in the southeast.
A PAIR OF LUNAR ECLIPSES GRACED

North American skies in 2021, and the good times continue to roll in 2022. Both 2022 eclipses are long-lasting total ones visible from most of North America. The fireworks start the night of May 15/16. Totality lasts an impressive 1 hour 25 minutes with the Moon appearing silhouetted against the background stars of Libra the Scales. An equally long eclipse arrives the morning of November 8 when the eclipsed Moon resides in Aries the Ram.

Nature offers no total or annular solar eclipses in 2022. Two partial eclipses do occur, however. The Moon covers up to 64 percent of the Sun during the April 30 event, which favors observers in the South Pacific and southern South America. Europe, northeastern Africa, and western and central Asia are prime viewing spots October 25 when the Moon hides up to 86 percent of the Sun.

Planet observers should be equally enthralled with 2022’s offerings. Mars and Jupiter stand out. The Red Planet peaks in early December when it shines at magnitude –1.9 and its disk spans 17.0”. But perhaps most impressively, Mars resides in northern Taurus and climbs more than 70° above the horizon from mid-northern latitudes — far higher than at its two previous apparitions. The great altitude promises sharp images for those observing through a telescope.

Jupiter makes its closest approach to the Sun during its 12-year orbit in 2022. At its peak in late September, Jupiter shines brighter (magnitude –2.9) and appears larger (49.9” across) than at any time since 2010.

Next year offers another mixed bag for meteor watchers. The Quadrantids get the year off to a great start because they peak near New Moon. But the Perseids struggle with a Full Moon and the Geminids don’t fare much better, with a waning gibbous Moon sharing the sky. Of the lesser showers, the Eta Aquariids in May and October’s Orionids should deliver the best shows.