

April 2015 Astronomy Calendar by Dave Mitsky  
Some information supplied and/or added by Tony Donnangelo

All times are Daylight Saving Time (-4 hrs. U.T.)

Events listed are based on a location of 40°N in the Eastern US and may not be visible in all areas.

Concerning moderate and minor meteor shower activity:

Do not have any high expectations. This general information is to account for why you might be seeing a few more than normal meteors during your observing session.

Lunar light rays may occur prior to or after the predicted time. Initial observations might have occurred after the ray's inception or continued after the observer's session. Rays may last a very short time or for many hours. Obtain further information; send reports (including non-occurrences and miss-calculations), photos, and observations of new rays to:

The Robinson Lunar Observatory: <http://www.lunar-occultations.com/rlo/rlondx.htm>.

- 4/1 Schiller C (sunrise) lunar light ray predicted to occur at 1:08 a.m.
- 4/1 The Moon is at apogee, subtending 29' 26'' from a distance of 406,012 kilometers (252,284 miles), at 11:00 a.m.
- 4/2 Comet 22P/Kopff at opposition at 1.466 A.U.
- 4/2 170th Anniversary (1845), first photo of Sun taken by Louis Fizeau & Leon Foucault.
- 4/3 Comet 86P/Wild is at perihelion at 2.264 A.U.
- 4/4 Comet P/2004 R1 (McNaught) at opposition at 0.940 A.U.
- 4/4 A total lunar eclipse visible primarily from locations in the Pacific Ocean reaches its maximum at 4:00:16 a.m.
- 4/4 Full Moon, known as the Egg or Grass Moon, occurs at 8:06 a.m.
- 4/5 Easter Sunday.
- 4/5 Comet 169P/NEAT at opposition at 2.903 A.U.
- 4/5 Comet P/2006 F1 (Kowalski) is at closest approach to Earth at 3.946 A.U.
- 4/5 Delta Pavonidis meteor shower (minor activity) peaks on 5/6. Duration is from 3/21 to 4/8. Observing and History: [http://meteorshowersonline.com/showers/delta\\_pavonids.html](http://meteorshowersonline.com/showers/delta_pavonids.html)
- 4/6 Comet 88P/Howell is at perihelion at 1.359 A.U.
- 4/6 Comet C/2012 F3 (PANSTARRS) is at perihelion at 3.457 A.U.
- 4/6 Comet C/2012 K8 (Lemmon) is at closest approach to Earth at 6.433 A.U.
- 4/6 Andre-Louis Danjon's 125th Birthday (1890).
- 4/6 Lamé (sunset) lunar light ray predicted to occur at 1:43 a.m.
- 4/6 Uranus is in conjunction with the Sun at 10:00 a.m.
- 4/6 Crisium, Mare (sunset) lunar light ray predicted to occur at 11:56 p.m.
- 4/7 Comet P/2012 T1 (PANSTARRS) is at closest approach to Earth at 2.902 A.U.
- 4/7 April Virginids meteor shower (minor activity) peaks on 7/8. Duration is from 1st to 16th. Observing and History: [http://meteorshowersonline.com/showers/april\\_virginids.html](http://meteorshowersonline.com/showers/april_virginids.html)
- 4/7 Alpha Virginis meteor shower (minor activity) peaks through the 18th. Duration is from 3/10 through 5/6. Observing and History: [http://meteorshowersonline.com/showers/alpha\\_virginids.html](http://meteorshowersonline.com/showers/alpha_virginids.html)
- 4/8 Mercury Passes 0.5° from Uranus.
- 4/8 Asteroid (87) Sylvia (magnitude 12.7) reaches opposition.
- 4/8 35th Anniversary (1980) of Voyager 1's discovery of Saturn's moon Telesto.

4/8 Andrew Graham's 200th birthday (1815).  
4/8 Saturn is 2° south of the Moon at 9:00 a.m.  
4/8 Jupiter is stationary at 4:00 p.m.  
4/9 Lecture on Europa Report being held in Houston, Texas.  
4/9 Lecture on The Galaxy Star Formation Rate-Stellar Mass Correlation in Ithaca, New York.  
4/10 Mercury is in superior conjunction at 12:00 a.m.  
4/10 Maurolycus (sunset) lunar light ray predicted to occur at 2:32 a.m.  
4/10 Alexander (sunset) lunar light ray predicted to occur at 3:17 a.m.  
4/10 Julius Caesar (sunset) lunar light ray predicted to occur at 4:21 a.m.  
4/10 Calippus (sunset) lunar light ray predicted to occur at 5:23 a.m.  
4/11 Asteroid (53) Kalyppo (magnitude 12.5) reaches opposition.  
4/11 Comet 243P/NEAT at opposition at 4.173 A.U.  
4/11 Comet C/2014 G1 (PANSTARRS) is at closest approach to Earth at 5.668 A.U.  
4/11 Comet C/2013 H2 (Boattini) is at closest approach to Earth at 7.331 A.U.  
4/11 Dwarf Planet (136108) Haumea at opposition at 49.831 A.U.  
4/11 Catalina State Park Star Party being held in Tucson, Arizona.  
4/12 Yuri's Night World Space Party.  
4/12 Comet 253P/PANSTARRS at opposition at 3.891 A.U.  
4/12 Mars is at the ascending node today.  
4/12 The Curtiss Cross, an X-shaped clair-obscure illumination effect located between the craters Parry and Gambart, is predicted to begin at 3:03 p.m.  
4/13 Comet C/2014 N2 (PANSTARRS) at opposition at 2.350 A.U.  
4/13 Richard Assmann's 170th birthday (1845).  
4/13 Bruno Rossi's 110th birthday (1905).  
4/13 31st Space Symposium being held through the 16th in Colorado Springs, Colorado.  
4/14 Comet C/2012 K8 (Lemmon) at opposition at 6.437 A.U.  
4/14 Luigi Carnera's 140th birthday (1875).  
4/14 Gamma Virginids meteor shower (minor activity) peaks on 14/15. Duration is from 5th through 21st.  
Observing and History: [http://meteorshowersonline.com/showers/gamma\\_virginids.html](http://meteorshowersonline.com/showers/gamma_virginids.html)  
4/15 Comet C/2014 G3 (PANSTARRS) is at closest approach to Earth at 3.742 A.U.  
4/15 Mercury is at the ascending node today.  
4/15 Mid-South Star Gaze and Astronomy Conference being held through the 18th in French Camp, Mississippi.  
4/15 Neptune is 4° south of the Moon at 9:00 a.m.  
4/16 Comet 210P/Christensen is at closest approach to Earth at 2.269 A.U.  
4/16 Comet C/2014 G3 (PANSTARRS) at opposition at 3.743 A.U.  
4/16 Asteroid 20 Massalia is at closest approach to Earth at 1.455 A.U.  
4/16 Lecture on The Young and the Restless Stars being held in Ithaca, New York.  
4/16 Petrus Apianus' 520th birthday (1495).  
4/17 Comet 131P/Mueller at opposition at 3.919 A.U.  
4/17 Comet 236P/LINEAR at opposition at 4.318 A.U.  
4/17 The Moon is at perigee, subtending 33' 06'' from a distance of 361,023 kilometers (224,330 miles), at 12:00 a.m.  
4/17 Pluto is stationary at 3:00 a.m.  
4/17 Enchanted Skies Star Parties being held through the 18th in Magdalena, New Mexico.  
4/17 Librids meteor shower (minor activity) peaks on 17/18. Duration is from 3/11 through 5/5.  
Observing and History: <http://meteorshowersonline.com/showers/librids.html>  
4/18 Comet 219P/LINEAR at opposition at 3.170 A.U.  
4/18 Comet C/2013 H2 (Boattini) at opposition at 7.338 A.U.

4/18 Venus is at perihelion today.

4/18 Northeast Astronomy Forum being held through the 19th in Suffern, New York.

4/18 New Moon (lunation 1142) occurs at 2:57 p.m.

4/19 Mercury is at perihelion today.

4/19 Comet P/2008 O2 (McNaught) at opposition at 4.009 A.U.

4/19 Asteroid (2) Pallas is stationary at 6:00 p.m.

4/19 April Ursids meteor shower (minor activity) peaks on 19/20. Duration is from 3/18 to 5/9.  
Observing and History: [http://meteorshowersonline.com/showers/april\\_ursids.html](http://meteorshowersonline.com/showers/april_ursids.html)

4/20 Comet 218P/LINEAR is at closest approach to Earth at 0.468 A.U.

4/20 Astronomy Week.

4/20 Asteroid (20) Massalia (magnitude 9.4) is at opposition at 6:00 a.m.

4/21 The Moon is 0.9° north of the first-magnitude star Aldebaran (Alpha Tauri), with an occultation occurring in northwestern Russia, Scandinavia, the extreme northern British Isles, Iceland, Greenland, Canada, and the northwestern United States, at 1:00 p.m.

4/21 Venus is 7° north of the Moon at 2:00 p.m.

4/22 Earth Day.

4/22 Asteroid (64) Angelina (magnitude 10.9) reaches opposition.

4/22 Lyrids meteor shower (major activity-20 per hour) peaks at 7 p.m. Duration is from 16th to 25th. Observing and History: <http://meteorshowersonline.com/lyrids.html>

4/23 Asteroid (19) Fortuna (magnitude 10.9) reaches opposition.

4/23 Asteroid (11) Parthenope (magnitude 10.0) reaches opposition.

4/23 Comet 218P/LINEAR is at perihelion at 1.171 A.U.

4/23 Mercury is 1.4° north of Mars at 3:00 a.m.

4/23 Pi Puppis meteor shower (minor activity) peaks on 23/24. Duration is from 18th to 25th.  
Observing and History: [http://meteorshowersonline.com/showers/pi\\_puppids.html](http://meteorshowersonline.com/showers/pi_puppids.html)

4/23 Posidonius (sunrise) lunar light ray predicted to occur at 10:15 p.m.

4/24 Comet 10P/Tempel at opposition at 1.415 A.U.

4/24 Asteroid (59) Elpis (magnitude 12.5) reaches opposition.

4/25 Astronomy Day.

4/25 Comet C/2014 R1 (Borisov) is at closest approach to Earth at 1.776 A.U.

4/25 Griffith Observatory Star Party being held in Los Angeles, California.

4/25 Gemma Frisius (sunrise) lunar light ray predicted to occur at 12:23 a.m. Moonset 1:39 a.m.

4/25 First Quarter Moon occurs at 7:55 p.m.

4/25 Barrow (sunrise) lunar light ray predicted to occur at 9:25 p.m.

4/26 Comet 185P/Petrew at opposition at 4.260 A.U.

4/26 The Lunar X (also known as the Werner or Purbach Cross), an X-shaped clair-obscur illumination effect involving various rims and ridges between the craters La Caille, Blanchinus, and Purbach, is predicted to begin at 12:45 a.m.

4/26 Asteroid (3) Juno is 0.1° north of the Moon, with an occultation occurring in French Polynesia, northern Melanesia, Micronesia, northern Papua New Guinea, and eastern southeast Asia at 3:00 a.m.

4/26 Jupiter is 5° north of the Moon at 2:00 p.m.

4/27 Comet 22P/Kopff is at closest approach to Earth at 1.390 A.U.

4/27 William Keck's 135th birthday (1880).

4/27 Parry (sunrise) lunar light ray predicted to occur at 1:53 a.m. Moonset at 2:52 a.m.

4/27 Cichus A (sunrise) lunar light ray predicted to occur at 11:45 p.m.

4/28 Jan Oort's 115th birthday (1900).

4/28 Kies (sunrise) lunar light ray predicted to occur at 1:42 a.m.

4/28 Lagalla (sunrise) lunar light ray predicted to occur at 2:07 a.m. Moonset at 3:23 a.m.

4/28 Longomontanus (sunrise) lunar light ray predicted to occur at 2:30 a.m. Moonset 3:23 a.m.

4/28 Reinhold (sunrise) lunar light ray predicted to occur at 12:38 a.m.

4/28 Copernicus (sunrise) lunar light ray predicted to occur at 2:52 a.m. Moonset at 3:23 a.m.  
4/28 Scheiner (sunrise) lunar light ray predicted to occur at 9:24 p.m.  
4/28 La Condamine (sunrise) lunar light ray predicted to occur at 9:50 p.m.  
4/28 Sinus Iridum (sunrise) lunar light ray predicted to occur at 10:20 p.m.  
4/29 The Moon is at apogee, subtending 29' 30'' from a distance of 405,083 kilometers (251,706 miles), at 12:00 a.m.  
4/30 Mercury is at its greatest heliocentric latitude north today.  
4/30 Clausius (sunrise) lunar light ray predicted to occur at 3:23 a.m. Moonset at 4:23 a.m.  
4/30 Lecture on Getting Under Europa's Skin being held in Ithaca, New York.  
4/30 Lecture on New Horizons The First Mission to Pluto being held in Victorville, California.

Christiaan Huygens (1629-1695) was born this month.

The first photograph of the Sun was taken on April 2, 1845. The Hubble Space Telescope was placed in orbit on April 25, 1990. The Compton Gamma Ray Observatory achieved orbit on April 7, 1991.

The Lyrid meteor shower peaks on the night of April 22nd-April 23rd. A typical zenithal hourly rate is about 20 meteors per hour but short outbursts have occurred occasionally. The radiant lies between the Keystone of Hercules and Lyra. For more on this year's Lyrids, see <http://earthsky.org/astronomy-essentials/everything-you-need-to-know-lyrid-meteor-shower> and <http://www.skyandtelescope.com/observing/meteor-showers-in-2015-12142014/>

Information on Iridium flares and passes of the ISS, the Tiangong-1, the USAF's X-37B, the HST, and other satellites can be found at <http://www.heavens-above.com/>

The Moon is 11.6 days old, is illuminated 89.3%, and is located in Leo at 0:00 UT on April 1st. It's at its greatest northern declination of +18.3 degrees on April 22nd and its greatest southern declination of -18.2 degrees on April 10th. Latitudinal libration is at a maximum of +6.8 degrees on April 23rd and a minimum of -6.8 degrees on April 11th. Longitudinal libration is at a maximum of +6.5 degrees on April 23rd and -6.8 degrees on April 10th. New Moon occurs on April 18th. A total lunar eclipse visible from the Pacific Ocean and the western United States and Canada reaches its maximum at 12:00:16 UT on April 4th. Totality will be the shortest of the century. An article on the eclipse, the third in the current lunar tetrad, appears on pages 50 and 51 of the April issue of Sky & Telescope. Click on <http://earthsky.org/tonight/shortest-total-lunar-eclipse-of-the-century-on-april-4-2015> for further information on the eclipse.

Visit <http://saberdoesthestars.wordpress.com/2011/07/05/saber-does-the-stars/> for tips on spotting extreme crescent Moons. Times and dates for the lunar light rays predicted to occur this month are available at <http://www.lunar-occultations.com/rlo/rays/rays.htm>

The Sun is located in Pisces on April 1

Brightness, apparent size, illumination, distance from the Earth in astronomical units, and location data for the planets and Pluto on April 1: Mercury (-1.1 magnitude, 5.0", 95% illuminated, 1.34 a.u., Pisces), Venus (-4.0, 13.8", 78% illuminated, 1.21 a.u., Aries), Mars (+1.4 magnitude, 4.0", 99% illuminated, 2.36 a.u., Aries), Jupiter (-2.3 magnitude, 41.5", 99% illuminated, 4.76 a.u., Cancer), Saturn (+0.3 magnitude, 17.8", 100% illuminated, 9.35 a.u., Scorpius), Uranus (+5.9 magnitude, 3.4", 100% illuminated, 20.99 a.u. on April 16th, Pisces), Neptune (+7.9 magnitude, 2.2", 100% illuminated, 30.65 a.u. on April 16th, Aquarius), and Pluto (+14.2 magnitude, 0.1", 100% illuminated, 32.66 a.u. on April 16th, Sagittarius).

Mercury, Venus, and Mars are located in the west and Jupiter in the south in the evening. At midnight, Jupiter is in the west, and Saturn is in the southeast. Saturn can be found in the southwest and Uranus and Neptune in the east in the morning sky.

At midmonth, Venus sets at 11:00 p.m., Mars sets at 9:00 p.m., Jupiter transits the meridian at 8:00 p.m. and sets at 4:00 a.m., and Saturn rises at 11:00 p.m. and transits the meridian at 4:00 a.m. local daylight time for observers at latitude 40 degrees north.

Mercury reaches superior conjunction on April 10th and disappears from view for most of the month. It reaches perihelion on April 19th.

Brilliant Venus is positioned high in the west at sunset. It sets about three hours after the Sun in early April and three-and-one-half hours after sunset by month's end. Venus is at perihelion on April 18th. During the second week of April, the planet passes between the Hyades (Melotte 25) and Pleiades (M45) star clusters. Venus and M45 are two to three degrees apart from April 9th to April 12th. Venus passes seven degrees north of the first-magnitude star Aldebaran on April 20th. Venus increases in apparent size from 13.8 to 16.6 arc seconds, while decreasing in illumination from 78 to 68% over the course of the month.

Mars is situated very low in the western sky during evening twilight, as it travels eastward through Aries. The apparent size of the Red Planet drops below four arc seconds in April. Mars is at the ascending node on April 12th. It disappears into the glare of the Sun by the latter part of April.

As April begins, Jupiter sets not long after 2:00 a.m. local time. The planet's retrograde (western) loop ends on April 8th. Jupiter shrinks in apparent diameter from 41.5 to 38.0 arc seconds and decreases in brightness from magnitude -2.3 to magnitude -2.1 during the course of the month. Io transits the planet beginning at 12:04 a.m. EDT on the morning of April 3rd. A shadow transit commences at 1:09 a.m. EDT. Io then passes 1.4 arc second south of Europa at 4:32 a.m. EDT and eclipses Europa for six minutes some 90 minutes afterwards. Europa partially occults Io at 11:51 p.m. EDT on the night of April 8th. Some two hours later Europa eclipses Io. Data on the Galilean satellite events is available at <http://skytonight.com/observing/objects/javascript/3307071.html#> and page 53 of the April issue of Sky & Telescope. Other Galilean satellite mutual events take place on April 12th, 14th, 18th, 19th, 21st, and 28th UT. For further information on these events, consult page 52 of the April issue of Sky & Telescope.

Saturn's ring plane is tilted more than 24 degrees with respect to the Earth this month. The planet shines at magnitude +0.1 and its rings span 41 arc seconds. Saturn is positioned 0.5 degree north of the fourth-magnitude star Nu Scorpii on April 1st. It lies 1.2 degrees north of the second-magnitude star Graffias (Beta Scorpii) on April 30th. On the morning of April 8th, the waning gibbous Moon passes two degrees north of the Ringed Planet. For further information on Saturn's satellites, browse <http://www.skyandtelescope.com/observing/objects/javascript/3308506.html>

Uranus is in conjunction with the Sun on April 6th and consequently is not observable from the northern hemisphere this month.

Neptune lies in the east at dawn. Southern hemisphere observers have a more favorable view due to the angle of ecliptic.

The dwarf planet Pluto is fairly high in the sky in northwestern Sagittarius during morning twilight.

For more on the planets and how to locate them, browse <http://www.nakedeyeplanets.com/>

Asteroid 44 Nysa travels north-westward through the constellation of Virgo towards Nu Virginis this month. The tenth magnitude asteroid is situated within five degrees of that fourth-magnitude star during the course of April. The faint asteroid 595 Polyxena (magnitude 12.3) occults an 8.9-magnitude star in Virgo on the night of April 14-15th from locations in Canada and the United States. Click on [http://asteroidoccultation.com/2015\\_04\\_si.htm](http://asteroidoccultation.com/2015_04_si.htm) respectively for further information on this and other asteroid occultations taking place this month. Additional current information on asteroids can be found at <http://www.curtrenz.com/asteroids> and asteroidal ephemerides at <http://www.minorplanetcenter.net/iau/Ephemerides/Bright/2014/index.html>

Comet C/2014 Q2 (Lovejoy) is fading, but is still a worthwhile target, as it continues its voyage northward through Cassiopeia. The comet passes a bit more than a degree to the west of the fifth-magnitude star 42 Cassiopeiae on the night of April 14th.

Browse <http://www.skyandtelescope.com/astronomy-news/observing-news/comet-lovejoy-shines/> for a finder chart.

Visit <http://cometchasing.skyhound.com/> and <http://www.aerith.net/comet/weekly/current.html> for additional information on this month's comets.

A wealth of current information on solar system celestial bodies is posted at <http://www.curtrenz.com/astronomical>

Browse <http://astrocast.tv/> for an informative video on astronomical events taking place this month.

A free star map for April can be downloaded

at <http://www.skymaps.com/downloads.html> and <http://www.telescope.com/content.jsp?pageName=Monthly-Star-Chart>

The fifth-magnitude G-type main-sequence star 61 Virginis

- <http://www.solstation.com/stars/61vir2co.jpg> - is a sun-like star at a distance of 28 light years. It hosts three exoplanets and is visible to the naked-eye.

The famous eclipsing variable star Algol (Beta Persei) is at a minimum, decreasing in magnitude from 2.1 to 3.4, on April 1st, 4th, 6th, 9th, 12th, 15th, 18th, 21st, 24th, 27th, and 29th. For more on Algol,

see <http://stars.astro.illinois.edu/sow/Algol.html> and <http://www.solstation.com/stars2/algol3.htm>

Comet information for: April 18, 2015 (New Moon).

	Constellation	Rises	Transits	Sets
C/2014 Q2 (Lovejoy)	Cassiopeia	circumpolar	12:48 p.m.	
15P/Finlay	Taurus	8:16 a.m.	4:04 p.m.	11:52 p.m.
C/2014 R1 (Borisov)	Serpens Cauda	11:48 p.m.	4:59 a.m.	10:10 a.m.
32P/Comas Sola	Leo	3:24 p.m.	10:32 p.m.	5:40 a.m.
C/2013 A1 (Siding Springs)	Draco	circumpolar	3:25 a.m.	
88P/Howell	Aquarius	4:00 a.m.	10:02 a.m.	3:24 p.m.
C/2012 F3 (PanSTARRS)	Aquila	1:09 a.m.	6:36 a.m.	12:03 p.m.
218P/(LINEAR)	Sagittarius	1:35 a.m.	6:41 a.m.	11:46 a.m.
29P/Schwassmann-Wachmann 1	Sagittarius	1:22 a.m.	5:19 a.m.	9:18 a.m.
C/2015 C2 (SWAN)	Andromeda	4:05 a.m.	12:50 p.m.	9:38 p.m.
22P/Kopff	Virgo	5:43 p.m.	11:58 p.m.	6:14 a.m.
17P/Holmes	Auriga	8:16 a.m.	4:52 p.m.	1:28 a.m.

For location (40°16'N 76°45'W) Hummelstown, PA, USA:

April 1:

Astronomical twilight starts: 5:18 a.m.

Nautical twilight starts: 5:52 a.m.

Civil twilight starts: 6:24 a.m.

Sunrise: 6:51 a.m.

Sunset: 7:31 p.m.

Civil twilight ends: 7:59 p.m.

Nautical twilight ends: 8:31 p.m.

Astronomical twilight ends: 9:05 p.m.

Minimum altitude of sun: 1:11 a.m. Altitude: -45.3° Azimuth: 360°

Maximum altitude of sun: 1:11 p.m. Altitude: 54.3° Azimuth: 180°

May 1:

Astronomical twilight starts: 4:23 a.m.

Nautical twilight starts: 5:02 a.m.

Civil twilight starts: 5:37 a.m.

Sunrise: 6:07 a.m.

Sunset: 8:02 p.m.

Civil twilight ends: 8:32 p.m.

Nautical twilight ends: 9:08 p.m.

Astronomical twilight ends: 9:46 p.m.

Minimum altitude of sun: 1:04 a.m. Altitude: -34.7° Azimuth: 360°

Maximum altitude of sun: 1:04 p.m. Altitude: 64.9° Azimuth: 180°

For location (40°16'N 76°45'W) Hummelstown, PA, USA:  
 April 1 planet information (24 hr. clock):

	R.A.	DEC.	DIA."	MAG.	%ILL.	RISE	TRANSIT	SET
Mercury	00:10:51	-00°53'	5.0	-1.1	95.5	06:33	12:35	18:32
Venus	02:59:53	+17°58'	13.9	-4.0	78.1	08:27	15:23	22:41
Mars	01:53:18	+11°29'	4.0	+1.4	98.7	07:59	14:15	21:24
Jupiter	09:01:43	+17°55'	41.4	-2.3	99.4	14:22	21:25	04:36
Saturn	16:12:30	-18°57'	17.8	+0.3	99.8	23:41	04:34	09:32
Uranus	01:00:28	+05°46'	3.3	+5.9	100.0	06:59	13:21	19:44
Neptune	22:41:38	-09.04	2.2	+8.0	100.0	05:31	11:03	16:35
Pluto	19:05:15	-20°30'	0.1	14.2	100.0	02:33	07:27	12:12

May 1 planet information (24 hr. clock):

	R.A.	DEC.	DIA."	MAG.	%ILL.	RISE	TRANSIT	SET
Mercury	22:13:53	-13°06'	5.6	-0.1	79.1	06:32	11:50	17:05
Venus	01:34:18	+09°43'	12.8	-4.0	83.4	08:35	15:10	21:46
Mars	01:01:16	+06°09°	4.1	+1.3	98.0	08:13	14:37	21:00
Jupiter	09:05:38	+17°39'	43.4	-2.4	99.7	15:42	22:44	05:53
Saturn	16:13:32	-19°03'	17.3	+0.4	99.8	00:57	05:50	10:48
Uranus	00:56:37	+05°22'	3.3	+5.9	100.0	08:10	14:32	20:52
Neptune	22:39:10	-09°18'	2.2	+8.0	100.0	06:43	12:15	17:46
Pluto	19:04:15	-20°30'	0.1	+14.2	100.0	03:47	08:40	13:26

The objects listed below are located between 10:00 and 12:00 hours of right ascension.

Seventy-five binary and multiple stars for April: h4481 (Corvus); Aitken 1774, Gamma Crateris, Jacob 16, Struve 3072, h4456, Burnham 1078 (Crater); h4311, Burnham 219, N Hydrae, h4455, h4465 (Hydra); 31 Leonis, Alpha Leonis (Regulus), h2520, Struve 1417, 39 Leonis, Struve 1421, Gamma Leonis (Algieba), Otto Struve 216, 45 Leonis, Struve 1442, Struve 1447, 49 Leonis, Struve 1482, 54 Leonis, Struve 1506, Chi Leonis, 65 Leonis, Struve 1521, Struve 1527, Struve 1529, Iota Leonis, 81 Leonis, 83 Leonis, Tau Leonis, 88 Leonis, 90 Leonis, Struve 1565, Struve 1566, 93 Leonis, h1201, S Leonis (Leo); h2517, Struve 1405, Struve 1432, 33 Leo Minoris, Struve 1459, 40 Leo Minoris, Struve 1492 (Leo Minor); Struve 1401, Struve 1441, Struve 1456, Struve 1464, 35 Sextantis, 40 Sextantis, 41 Sextantis (Sextans); Struve 1402, Struve 1415, Struve 1427, Struve 1462, Struve 1486, Struve 1495, Struve 1510, Struve 1520, Xi Ursae Majoris, Nu Ursae Majoris, Struve 1541, 57 Ursae Majoris, Struve 1544, Struve 1553, Struve 1561, Struve 1563, 65 Ursae Majoris, Otto Struve 241 (Ursa Major)

Notable carbon star for April: V Hydrae (Hydra)

One hundred deep-sky objects for April: NGC 4024, NGC 4027 (Corvus); NGC 3511, NGC 3513, NGC 3672, NGC 3887, NGC 3892, NGC 3955, NGC 3962, NGC 3981 (Crater); NGC 3091, NGC 3109, NGC 3145, NGC 3203,



NGC 3242, NGC 3309, NGC 3585, NGC 3621, NGC 3717, NGC 3904, NGC 3936 (Hydra); M65, M66, M95, M96, M105, NGC 3098, NGC 3162, NGC 3177, NGC 3185, NGC 3190, NGC 3226, NGC 3227, NGC 3300, NGC 3346, NGC 3367, NGC 3377, NGC 3384, NGC 3389, NGC 3412, NGC 3437, NGC 3489, NGC 3495, NGC 3507, NGC 3521, NGC 3593, NGC 3607, NGC 3608, NGC 3626, NGC 3628, NGC 3630, NGC 3640, NGC 3646, NGC 3655, NGC 3681, NGC 3684, NGC 3686, NGC 3691, NGC 3810, NGC 3842, NGC 3872, NGC 3900, NGC 4008 (Leo); NGC 3245, NGC 3254, NGC 3277, NGC 3294, NGC 3344, NGC 3414, NGC 3432, NGC 3486, NGC 3504 (Leo Minor); NGC 2990, NGC 3044, NGC 3055, NGC 3115, NGC 3156, NGC 3166, NGC 3169, NGC 3246, NGC 3423 (Sextans); IC 750, M97, M108, M109, NGC 3079, NGC 3184, NGC 3198, NGC 3310, NGC 3359, NGC 3610, NGC 3665, NGC 3675, NGC 3738, NGC 3877, NGC 3898, NGC 3941, NGC 3953, NGC 3998, NGC 4026 (Ursa Major)

Top ten deep-sky objects for April: M65, M66, M95, M96, M97, M105, M108, NGC 3115, NGC 3242, NGC 3628

Top ten binocular deep-sky objects for April: M65, M66, M95, M96, M97, M105, M108, M109, NGC 3115, NGC 3242

Challenge deep-sky object for April: Leo I (Leo)