Astronomy Things To See During September 2017 (For UK Observers)

Moon:

Full:	6th September, 8:03am
Last Quarter:	13th September, 7:25am
New:	20th September, 6:30am
First Quarter:	28th September, 3:54am

The Lunar "X" and "V" are visible at around 21:00 UT/22:00 BST which is an hour before the Moon sets, so you may catch a glimpse of them if you have a clear view of the south western horizon

Lunar conjunctions & occultations:

Note: When the Moon is waxing it is visible in the western sky after sunset. When near Full Moon it is visible most of the night. When it is waning, it is visible in the eastern sky before sunrise

18th September	Waning Crescent Moon lies close to Venus & Regulus
19th September	Waning Crescent Moon lies close to Mercury & Mars
21st & 22nd September	Waxing Crescent Moon lies close to Jupiter
24th September	Waxing Crescent Moon occults Gamma Librae (around 6:50pm BST Gamma Librae disappears behind the dark limb. The Moon will set before the star re-appears)
25th September	Waxing Crescent Moon lies close to Antares
26th September	Waxing Crescent Moon lies close to Saturn
28th September	First Quarter Moon lies close to the Teaspoon Asterism

Planetary Observations:

Mercury – located in Leo and visible low in the east before dawn, Mercury brightens from mag +1.2 to mag -0.8 during September. Mars is close to Mercury all month but on 16th/17th September you will find them just 20 arc minutes apart, with Venus above. On 18th and 19th September, the Waning Crescent Moon, Venus, Mars and Mercury are all located in a line and will make a brilliant photo opportunity

Venus – rising at 3:30am, Venus dominates the dawn sky as it shines at mag -3.8. On 20th September it is located close to Regulus. On 18th and 19th September, the Waning Crescent Moon, Venus, Mars and Mercury are all located in a line and will make a brilliant photo opportunity

Mars – Also located in Leo, at mag +1.8 Mars will be fainter than its companion Mercury, but you should be able to see its characteristic red colour. On 18th and 19th September, the Waning Crescent Moon, Venus, Mars and Mercury are all located in a line and will make a brilliant photo opportunity

Jupiter – during September Jupiter rapidly slips into the evening twilight and by the end of the month it will be lost in the solar glare. Located in Virgo, it should be easy to spot at mag -1.6.

Saturn – located in Ophiuchus, mag +0.5 Saturn is visible after sunset in the south west, setting at around 10:30pm. On 26th September look for the Waxing Crescent Moon located very close to Saturn

Neptune – located in Aquarius, Neptune reaches opposition this month so it will be visible all night long and will be at its brightest for this apparition. However, at mag +7.8 you will need binoculars or a small telescope to observe it.

Uranus – located in Pisces, Uranus rises at around 8pm and remains visible all night long.

Pluto – located in Sagittarius, you may spot Pluto low in the south before it sets at around midnight. At mag +14.2 you will need a large telescope to spot it

Ceres – moving from Gemini into Cancer throughout September, Ceres rises at around 1am and remains visible until dawn. At mag +8.2 you will need binoculars or a telescope to spot it. On 15th and 16th September, the Waning Crescent Moon lies nearby.

Vesta – is not observable this month

Other Observations:.

Asteroid 56 Melete Occults Star – on the morning on 24th September, the mag +13.8 asteroid 56 Melete will occult the mag +10.9 star TYC 13131143, which is located in northern Orion. From 3:05 – 3:06am GMT/ 4:05 – 4:06am BST, the asteroid will cause the star to disappear for up to 9 seconds. The asteroid will be moving around 25 arcseconds every hour, so imaging before the event will show this movement. As it approaches the star, the asteroid will become lost in the glare of the star before the star itself disappears. A large aperture telescope and a camera with a good frame rate will be ideal to capture this event.

Binocular Tour – This month's Sky at Night Binocular Tour by Stephen Tonkin is focused on the sky around Sagitta, Vulpecula, Aquila & Ophiuchus. There are 5 targets for 10 x 50 binoculars. First is the popular open cluster The Coathanger or Brocchi's Cluster. It is an easy object to spot with its characteristic upside down coat hanger shape. Next is an open cluster IC 4665 the Summer Beehive. Binoculars will resolve the stars that appear to make up the letters "H" and "I". Another open cluster is NGC 6633; binoculars will resolve the 4 brightest stars against the glow of the remaining unresolved stars. The next object is IC 4756 Graff's Cluster, which is a huge grouping of stars. If you have a dark and transparent sky, see if you can spot the final object for 10 x 50 binoculars, Barnard 138 or Barnard's Black Lizard. The mag +5.2 star 23 Aquilae is set in a narrow dark band. The final object is for 15 x 75 binoculars. M71 is a loose globular cluster. It is faint but averted vision will reveal the cluster. For full details on how to find these objects, look at the September edition of Sky at Night Magazine

Deep Sky Tour – This month's Sky at Night Deep Sky Tour is centred on the area around the borders of Triangulum, Andromeda and Perseus. NGC 752 is an open cluster, and a 6" telescope will resolve around 75 stars, with several "star strings" visible. Another open cluster is M34, and a 6" telescope will reveal around 50 stars. NGC 956 is another open cluster but this one is more challenging. A small telescope will resolve around 10 stars. If you have a larger telescope, there are 3 galaxies to look for. First is NGC 925, a mag +11 face-on spiral galaxy. You will need a telescope of at least 8" to see it. Next is NGC 1023, a mag +10.2 barred spiral galaxy. A 10" telescope will reveal the barred core. Finally is NGC 891, a mag +10.8 edge-on spiral galaxy. You will need a 10" telescope for this one. For full details of where to find these objects and how best to see them, pick up the September issue of Sky at Night magazine

IC 1396 – Astronomy Now's object of the month is IC 1396, a huge HII star-forming region located within Cepheus. The overall size of this emission nebula is at least 3 degrees of sky, which means you could fit 6 Full Moons within it! There is a beautiful open cluster at the centre of the nebula (Trumpler 37) which contains new stars. At the centre of the cluster is a massive type O6 blue supergiant star which shines at mag +5.7. The strong radiation and winds from this giant star are responsible for illuminating and shaping the nebula. There are numerous regions of dark and dusty lanes within this object, the most famous of which is IC1396A the Elephants Trunk Nebula. The overall magnitude of this object is quite bright so it is relatively easy to image. DSLR cameras will do a good job, but best results will come from a monochrome CCD camera fitted with LRGB filters. It also responds very well to narrowband filters. For more information on how to observe, image or sketch this object, take a look at the current edition of Astronomy Now magazine

International Space Station – The ISS is visible during a series of early morning passes during the first 3 weeks of September, then it returns to our evening skies during the final week of the month. For the exact timings of the passes from your location, visit www.heavens-above.com You can also check the Iridium flare times for your location at Heavens Above

Comets Visible This Month:

Comet C/2017 O1 ASASSN – Moving through Taurus, this comet rises at around 10pm then remains visible all night long. It is currently at around mag +8 and brightening. Click here to view the finder chart: http://bit.ly/2vSdVNd

Comet C/2015 ER61 (PanSTARRS) – Located in Taurus, very close to M45 the Pleiades, this comet rises around 10pm then remains visible until dawn. It is currently at mag +11.1 and fading. Click here to view the finder chart: http://bit.ly/2kL122C

Comet C/2016 R2 (PanSTARRS) – Located in Orion, just above M42 the Orion Nebula, this comet rises at around 1am then remains visible until dawn. It is currently at mag +11.2 and brightening. Click here to view the finder chart: http://bit.ly/2xi5s9I

Comet 24P/Schaumasse – Located in Gemini and moving into Cancer, this comet rises at around 1:30am then remains visible until dawn. It is currently at mag +12.7 and brightening. Overnight on 24th/25th September it lies on the edge of M44 the Beehive Cluster which will be a stunning photo opportunity. Click here to view the finder chart: http://bit.ly/2h2EPfl

There are several other comets in the mag +12 to +17 range. Details of these can be found in the links below.
For up to date information about the fainter comets which are visible, please visit: https://in-the-sky.org/data/comets.php, the BAA Comets Section: https://www.ast.cam.ac.uk/~jds/ or Seiichi Yoshida's home page: http://www.aerith.net/index.html

NB: All of the information in this sky guide is taken from Night Scenes 2017 by Paul L Money, Philips Stargazing 2017 by Heather Couper and Nigel Henbest, Astronomy Now Magazine, 2017 Yearbook of Astronomy by Richard Pearson and Brian Jones, Sky at Night Magazine, Stellarium, the BAA Comets Section website https://www.ast.cam.ac.uk/~jds/, www.inthesky.org and www.heavens-above.com
Information collated by Mary McIntyre. For regular updates about the events happening in the sky this month, follow the Nightscenes Monthly Night Sky Facebook page at www.facebook.com/AstrospacePublications