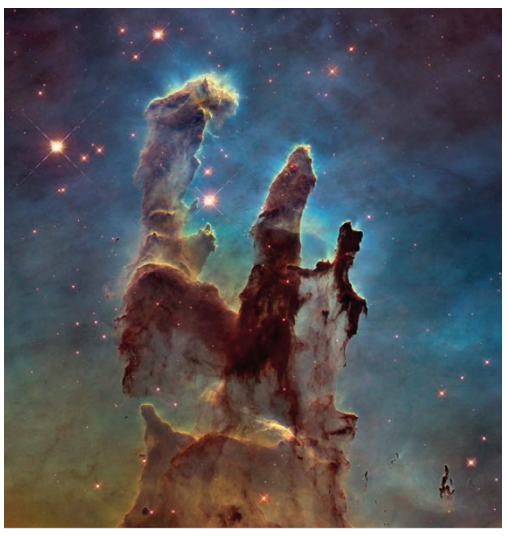
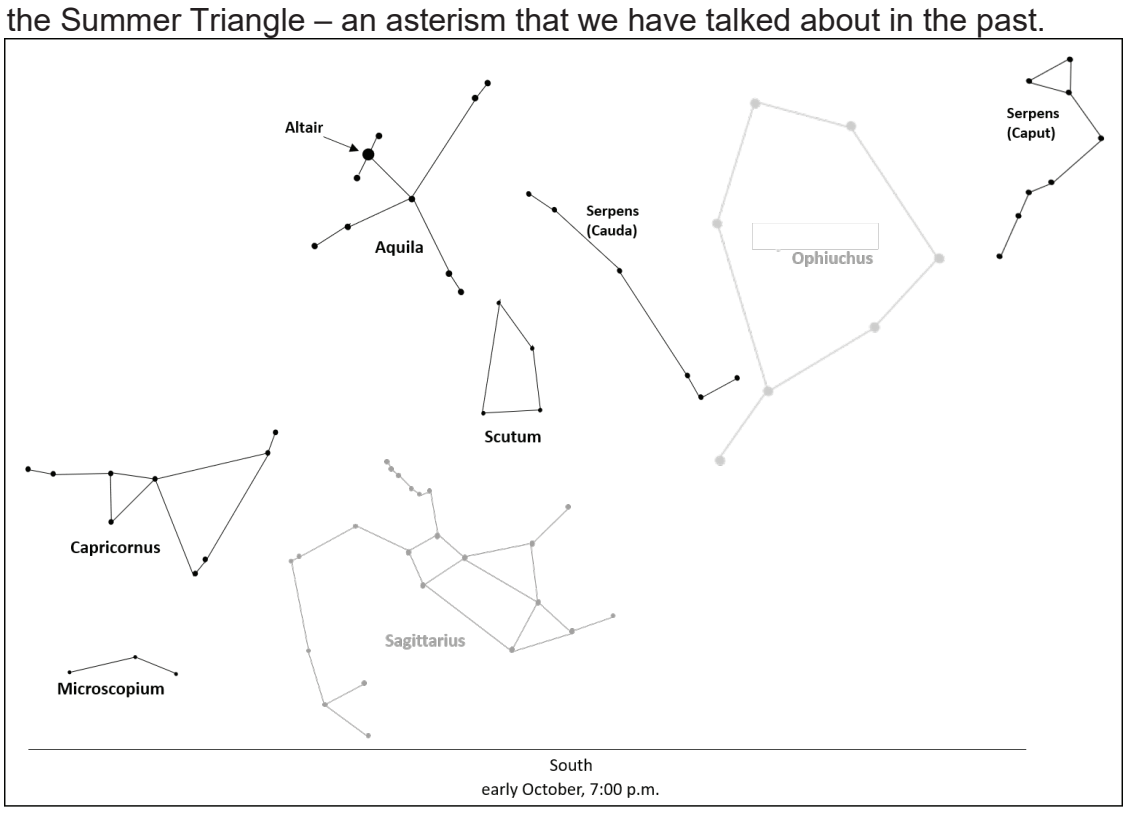
WHAT'S UP?

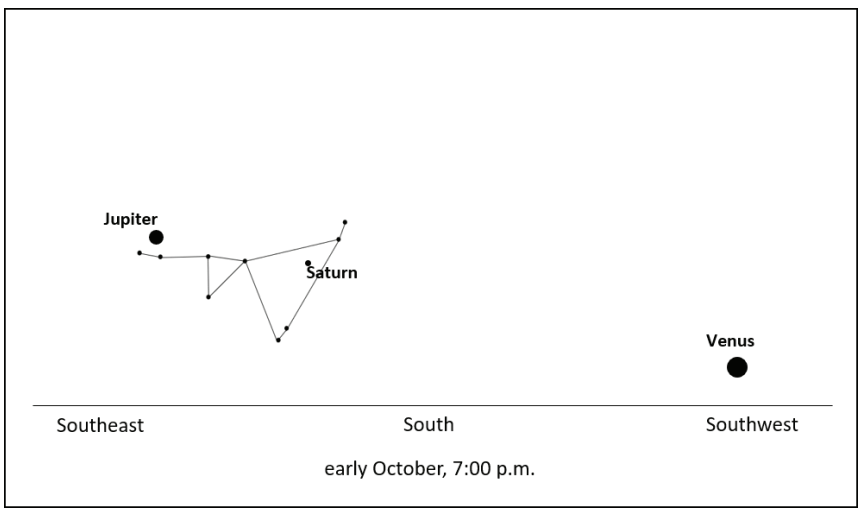
Hello. I hope you had a nice summer and are settling into autumn. These cool, mosquito-free nights are calling out to us to get outside and enjoy our dark skies. We are now past the Autumnal Equinox (on September 22nd) and the nights are starting earlier and lasting longer (yay!). Continuing our journey through the constellations, in this installment we'll identify Serpens, Scutum, Aquila, Capricornus, and Microscopium. Let's start with *Serpens, the Serpent.* Remember Ophiuchus, the Serpent-bearer? Well, you guessed it, this is the serpent that he is bearing in the sky. Serpens is a long string of stars that winds from one side to the other of Ophiuchus. And, while it is considered as one constellation, it has two separate pieces. To the east of Ophiuchus (on serpent-bearer's right as he faces us) is the serpent's tail, *Serpens Cauda*. To the west of Ophiuchus, his left hand holds the serpent's head, *Serpens Caput*. A much more compact constellation is found to the east of Serpens. Within the boundaries of Serpens is star cluster known as M16 and within the cluster is a cloud of gas and dust that glows from the energy of ultraviolet light from new-born stars nearby. Called the *Eagle Nebula*, it is the subject of one of the Hubble telescopes most famous pictures. *Scutum, the Shield*, is another "modern" one. In the late 17th century, it was created by Johannes Hevelius as Sobieski's Shield – named in honor of King John II Sobieski who helped him rebuild his observatory after a fire[1]. You can find Scutum in between the constellations Sagittarius and Ophiuchus. Scutum is home to two lovely open star clusters. The first, M26, is located about 5,000 lightyears away from us and you'll need binoculars to find it. Near to M26 is M11, the *Wild Duck Cluster*. This is one of my favorites. 6,200 lightyears away, it consists of a tight group of stars in a V-shape reminiscent of a small flock of migrating birds. For this too, you will need at least a pair of binoculars to see it, but it is much easier to find than M26. Speaking of birds, above and to the east of Scutum is *Aquila, the Eagle*. Aquila's claim to fame is that this bird carried Zeus' thunderbolts. This eagle is also said to have been sent by Zeus to take Ganymede to become the cup-bearer of the gods on Olympus. The constellation's brightest star, *Altair*, is one of the three stars comprising the Summer Triangle – an asterism that we have talked about in the past.



The Eagle Nebula
Credit: NASA, ESA and the Hubble Heritage Team (STScI/AURA)

Moving due east from Scutum is another of the zodiacal constellations, *Capricornus, the Sea Goat*. Unlike Scutum, Capricornus is a constellation with its roots in Sumerian and Babylonian cultures. This creature has the head and front legs of a goat and the tail of a fish. In ancient Greek times, the Sun's position at the Winter Solstice was in Capricornus, but now due to precession (hmmm…we haven't talked about that yet, have we?) the Sun is among the stars of Sagittarius at the solstice. The last new constellation to find this time is *Microscopium, the Microscope*. As you can probably guess, this also is *not* one of the ancient star groupings. Microscopium was first shown on a mid-18th century map by the French astronomer Nicolas Louis de Lacaille. He described the image as "a tube above a square box". A dim constellation comprised of fifth magnitude and fainter stars.





As night falls, three planets are visible to us, spread across the sky from southeast to southwest. In order, you can see Jupiter, Saturn, and Venus. Dazzling bright at magnitude -2.8, Jupiter is in the southwest about 25 ½ degrees (two and a half fist-widths) above the horizon. 17 degrees to the right of Jupiter and a bit lower is Saturn. Much fainter at magnitude 0.5, Saturn appears 21 times dimmer to us than Jupiter. In the southwest, a scant 8 degrees above the horizon at dusk, Venus shines even brighter than Jupiter. At magnitude -4.3, Venus appears four times brighter than Jupiter.

You can reach me at astroblog@comcast.net with any questions and comments you have. This is What's Up? installment #52.

[1] Ridpath, I. (2018). Star tales. Cambridge, The Lutterworth Press. My go-to source for constellation tales.

Keep looking up!

Barry