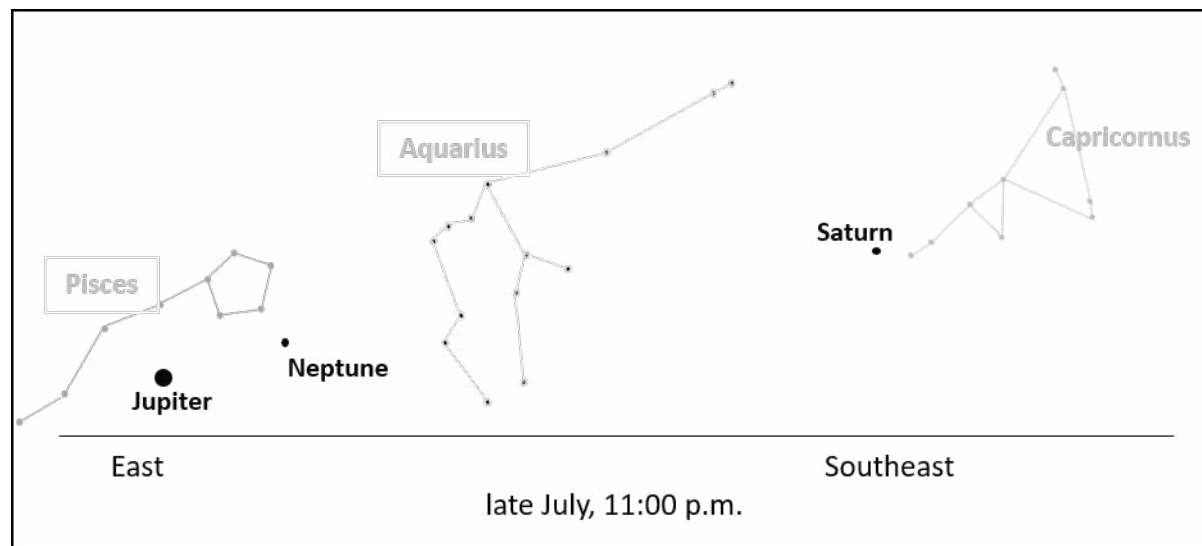


WHAT'S UP?

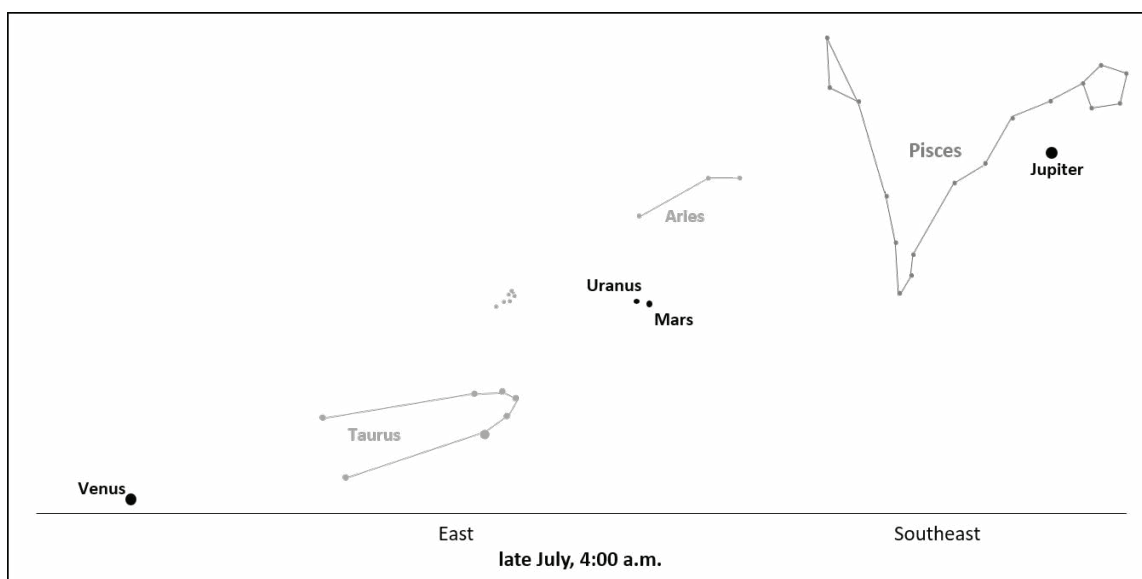
In my previous installment, I said that Summer is tough for night sky lovers because it doesn't get dark enough until at least 10 p.m. Well, we have it good compared to others in our country! We just returned from a visit to western Michigan. There, near the shore of Lake Michigan, it doesn't get dark enough to observe until after 11 p.m. It was like being on double-daylight savings time! The reason has to do with how we define our time zones. Time zones are centered on lines of longitude (meridians) that are 15 degrees apart. Why 15 degrees? Each time zone is centered on a specific line of longitude and extends for 7½ degrees to either side (to the east and the west of the line.) Such a layout means that at noon at the longitude in the center of the zone, the Sun is on the meridian (a line running north-south across the sky). This is called *local noon*. With me so far? Okay – now here is where things start to go awry. What we call Eastern Standard Time, EST, (our time zone) is centered on 75 degrees west longitude, spanning a stretch from 67½ degrees west to 82½ degrees west. If you live in a town located on the 75th meridian (Philadelphia, for example) then the Sun will be at its highest in the sky right at 12:00 noon. If you live to the east of Philadelphia, your clock will read a bit before 12:00 when the Sun is at its highest point - anywhere from 11:30 to 12:00 depending on how far east you are. If you live to the west of the 75th meridian, your clock will read between 12:00 and 12:30 depending on how far west you are. The next time zone moving westward is the Central Time Zone and it spans from 82½ to 97½ degrees west. Now, this how it is in theory. In reality, it's a bit messier. Since the concept of time zones is just a human construct, we're free to modify it here and there to suit our needs. In the case of Michigan, its largest city is Detroit and Detroit sits right on the western edge of the Eastern time zone. If you live there, your clocks are already ½-hour ahead of the Sun. At some point in time, Michigan decided that the entire state should keep time with Detroit, so all of Michigan is on Eastern time even though almost all of the state straddles lines of longitude that fall into the Central time zone band. By the time you get to western Michigan, your clock is a full 45 minutes ahead of the Sun. Add another whole hour for Daylight Savings Time and well, it seems as if it just never gets dark there in July!

Why not look at parts of the sky in the early evening or even during the day? This August, you can do just that – at the Bridgewater Public Library. This August's Flora T. Little Gallery artist is none other than the South Shore Astronomical Society. Photographs of some of the most beautiful objects in our skies will be on display for the entire month. Wednesday August 3rd is a special night. That night, the club members (including yours truly and the Club President, Carolyn) will be there and there will be presentations about light pollution (at 6:30), observing the Sun (at 7:00), and observing Pluto and MakeMake (at 7:30). Weather-permitting, telescopes will be set up outside the library to view the Moon. On the 18th at 1:00 p.m., Carolyn will conduct a hands-on program focusing on how telescopes image objects using light that our eyes can't see. The activities will explore how images of black holes and the images now coming from the Webb telescope are captured (great for rising 4th and 5th graders). All of this is free!



Planet Roundup: We're now starting to be able to see some planets in our sky without having to wait until dawn. As we move out of July, Saturn is in the Southeast about 20 degrees up from the horizon. At magnitude 0.4, it outshines all of the nearby star and it will be easy to spot. At the same time, just having risen in the East, Jupiter can be found. At a dazzling -2.6 magnitude, it too will be easy to spot if you have a low eastern horizon. In between the two is Neptune. At magnitude 8, you'll need at least binoculars to see this small bluish disk. By morning, Jupiter will be high in the Southeast

and Venus will be the planet that's just rising in the East. Between these two are Uranus and Mars. Look first for reddish Mars and then, a couple of finger-widths to the left is Uranus. While the point of light that is Uranus may be visible to the unaided eye, a small telescope will reveal its greenish-blue disk. The remaining planet (besides Earth), Mercury, is now in the evening sky but is too close to the Sun to be easily seen. The New Moon occurs on July 28th, 1Q is on August 5th, and the next Full Moon is on the 11th. That's unfortunate because it means that the peak of the annual Perseids meteor shower on the night of August 12th will be mostly washed-out by the Moon's brightness. Oh well.



As always, you can reach me at astroblog@comcast.net with any question and comments. This is What's Up? installment #61.

Barry