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Long days make June awkward month for stargazing

QUAD-CITIES SKY WATCH

Editor's note: Members of the Quad-Cities' Popular Astronomy Club provide periodic columns on astronomical events.

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June is an awkward month to be an amateur astronomer.

The evening temperatures are comfortable enough to spend long hours observing the stars, but you must stay up late before its dark enough to see many stars. It means one needs to learn to take naps after the evening meal and then stay awake to midnight or later for serious viewing. This excessive amount of daylight, from an astronomer's point-of-view, can be explained by two facts.

The first is the tilt of Earth's axis that causes the seasons. Thus, on June 21 we celebrate the Summer Solstice when there is only about 9 hours of darkness in a 24 hour day here in the Quad-Cities. This is the day that the sun's vertical rays have moved to their northernmost point as Earth orbits the sun.

The term solstice is based on Latin words meaning the sun stops. The northern advance of the vertical rays of the Sun is halted at the Tropic of Cancer. Then the vertical rays start the return trip south. The southern movement continues until the vertical rays reach the Tropic of Capricorn and we in the Quad-Cities have our longest period of darkness. Astronomers get to "enjoy" 15 hours of darkness and cold temperatures.

The second fact is the adoption of Daylight Savings. If the Quad-Cities stayed on Central Standard Time, the sun would rise at 4:25 a.m. rather than 5:25 a.m. on June 21. The clock "springs ahead" one hour, meaning it gets dark one hour later than it would on Standard Time. In essence the hour of light "saved" in the morning is added at the end of the day.

Thank goodness June offers a special astronomical event that doesn't keep people up to midnight or later. This event takes place right after sunset the nights of June 19 and 20. If you have a clear view of the western horizon, you will be able to observe the moon, Jupiter and Venus located very close together.

Sunset June 19 will be about 8:30 p.m. When looking west, the first objects you will see are the planets Jupiter and Venus. Venus is lower and to the right. Almost straight below Venus will be a thin crescent moon. By sunset on June 20, the moon will be to the south of Venus, but at the same altitude. The moon now is very close Jupiter. If you look on June 21, you will see that the moon is moving higher in the sky and further south. Each day the moon continues to move away from the planets.

Jupiter and Venus will continue to move closer together until July 1 when they appear to almost merge into one very bright "star." This event is called a conjunction. Venus/Jupiter conjunctions usually occur every year or two. This year there will be two more conjunctions: July 31 in the evening and October 26 before sunrise.

Saturn and its rings continue to be a great object to observe in the evening. On June 20, Saturn will begin to emerge in the southeast as the sky darkens. It will rise higher and move westward as the night progresses.

The night of June 20 would be a great night to join the Popular Astronomy Club in the Niabi Zoo parking lot and observe the planets and the Moon.

This information was gathered from Orion Telescope's Starseek Pro software and the June 2015 issue of Astronomy.