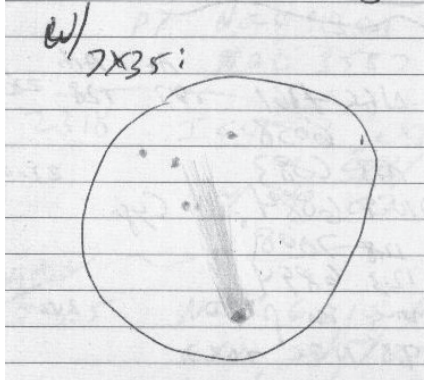


WHAT'S UP?

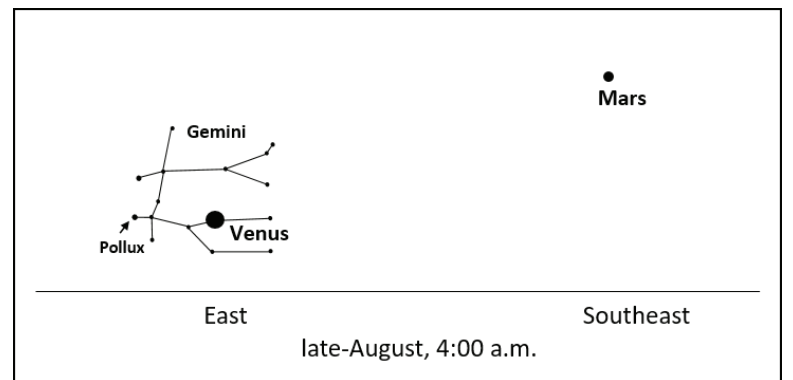
Hello. Let's start with checking-in on comet C/2020F3 and the Perseids meteor shower that we talked about last time. The comet is now just a fond memory for those of us that viewed it. As it recedes from us, it has grown dimmer and is now only visible in telescopes. At its peak, it was the best comet we've had in our skies in the past 20+ years. Back on July 14th, I and some friends viewed it in the early morning at the Scituate lighthouse. Here is my rendering of what I saw through my 7x35 binoculars, as recorded in my



observation log book. Comets are unpredictable things and we never know when a previously unknown one will come near and if so, whether or not it will be an eye-popping event or just a faint, fuzzy smudge in an eyepiece. Did anyone go out and try to see the Perseids meteor shower? If so, please email me about your experience. I'd love to hear about it.

Currently in our skies, Jupiter and Saturn are still visible in the evening, pretty much where they were depicted to be in the last installment of *What's Up?* You can use that map to find them now, too. Mars is the

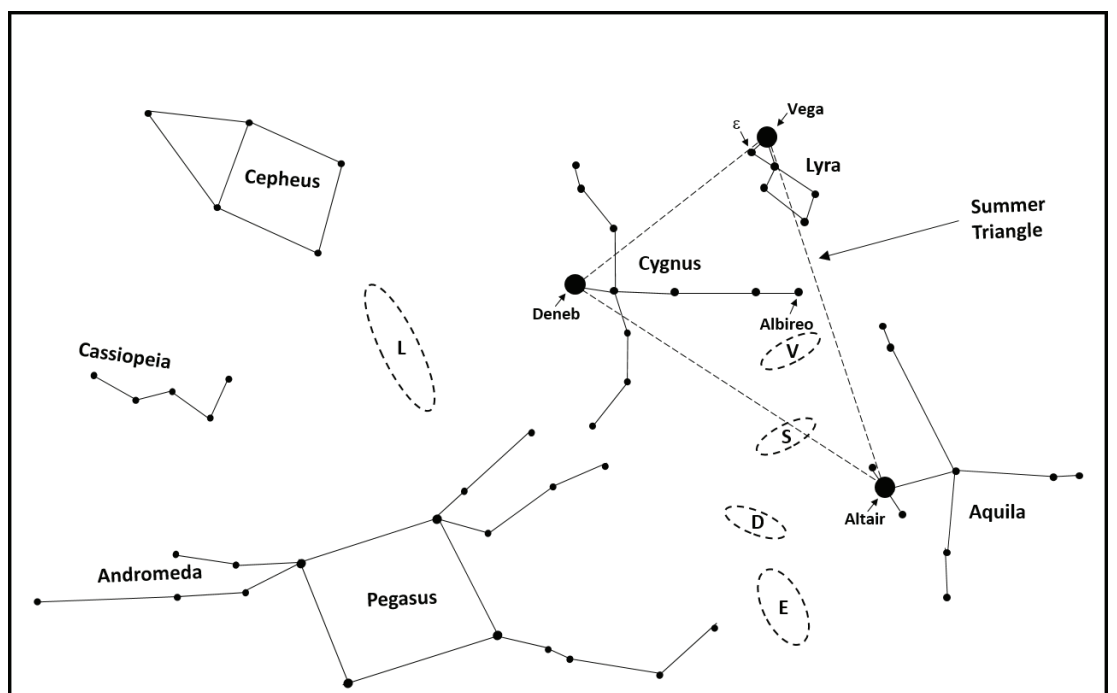
distinctively-red object in the East after midnight. By the early morning hours, Mars is high up in the southeast, and Venus is dazzling above the eastern horizon. It is located at Pollux's left knee. Pollux is one of the two twin brothers depicted by the constellation, Gemini. The Moon was new on the 19th, so by the time you read this you'll be able to see the Moon in the evenings as a waxing crescent. It will reach the First Quarter phase on the 25th. The next Full Moon is on September 2nd.



Way back when I started this series, just over one year ago, I told you about the asterism known as the Summer Triangle. It is formed by the stars *Vega*, *Deneb*, and *Altair*. And, I pointed out a feature of the night sky – that the stars' positions repeat yearly. Since then, we've passed through sunsets and sunrises, new and full moons, and all twelve of the constellations of the zodiac. This ever-repeating cycle keeps us in touch with our natural environment. Looking again at the Summer Triangle, instead of just the three stars that comprise it, we'll look at the constellations that those stars are a part of. In doing so, we can extend our familiarity of the night sky westward from where we left off last time with the constellations of Perseus, Cepheus, Cassiopeia, Andromeda, and Pegasus.

Starting from Pegasus in the East (about 25 degrees above the horizon at 9 p.m.), sweep your gaze up and to the right to find the Summer Triangle. Look for the brightest star almost directly overhead. That's Vega. The brightest star to its northeast (to the left and down) is Deneb and the brightest star to Vega's southeast (to the right and down) is Altair. Vega, Deneb and Altair are stars in the constellations *Lyra* (the Lyre), *Cygnus* (the Swan) and *Aquila* (the Eagle), respectively. Together, they form an elongated triangle pointing towards south. *Aquila's* claim to fame is that this bird carried Zeus' thunderbolts. *Cygnus* is also known as the *Northern Cross*. As a swan, it is pictured flying southward, with Deneb marking its tail and the star *Albireo* marking its head. *Albireo* deserves our attention. A small telescope (one that provides at least a 30x magnification) reveals that *Albireo* is a double star. They form a quite a striking pair. One is a blue-green star and the other is orange-yellow. *Albireo* is definitely worth a look! *Lyra* depicts a lyre. A lyre is a musical instrument played in ancient Greece and is like a small harp. This constellation also has a couple of note-worthy objects. The first is the star Epsilon (ϵ) *Lyrae* (the use of *Lyrae* is the Latin way of saying that this star is the "epsilon of Lyra" – technically known as the *genitive* form of the noun *Lyra*). Epsilon is not only a double star, but is a double-double star. Let's break this one down. A pair of binoculars trained on ϵ *Lyrae* will show what appears to be two stars. A telescope shows that each of the stars is actually a double star in its own right. Hence, ϵ *Lyrae* is a double-double! The chart shown here will help you locate all of these objects.

But wait – there's more. The constellation of *Lyra* also contains the *Ring Nebula*. The Ring Nebula was formed when a star eventually ran out of hydrogen in its core, collapsed, blew off the outer shell of gas, and settled down to spend its days as a white-dwarf star. I don't show this object on the chart, and I won't go into more detail on it now, but I will make these objects (known as *planetary nebulae*) the topic of a future article. In addition to *Lyra*, *Cygnus*, and *Aquila* in this part of the sky, there are five other small constellations. They are *Lacerta* (the Lizard), *Vulpecula* (the Fox), *Sagitta* (the Arrow), *Delphinus* (the Dolphin), and *Equuleus* (the Horse). These are located on the chart as dotted oval areas with the first letter of the constellation inside (L, V, S, D, and E, respectively).



You can reach me at astroblog@comcast.net with any questions and comments you have. This is *What's Up?* Installment #28.

Until next time, Keep looking up!

Barry