

Offered Title: The Stars of Summer

It's summer and that means tubing, baseball with its "boys of summer", air conditioning. It also means some pretty spectacular stars in our sky, so this article is about the "Stars of Summer".

I'll start with the summer triangle, an asterism made up with the stars *Deneb*, *Altair*, and *Vega*, each of which belongs to its own constellation.

Deneb is a blue-white supergiant and more than 50,000 times more luminous than our Sun, is the alpha star of Cygnus, the swan, another summer spotlight. Cygnus is also called the Northern Cross and Deneb is at its head.

Altair is also bluish-white and the alpha star of Aquila, the eagle. Altair's rotation rate is very high, 9 hours vs 25 days for the Sun and this causes it to be oblate, fatter at the equator and flatter at the poles.

Vega is blue-white and the alpha star of Lyra, the lyre (a hand-held string instrument resembling a harp). It was Earth's north star around 12,000 BCE and if humans are still here in 13,727 they will see it as our north star again.

Look up after dark, slightly to the east and see these three bright stars, anchoring their home constellations as well as this large asterism, the Summer Triangle.

Arcturus, alpha star of Boötes the ox-driver is bright and a pretty orange/reddish color. Find it by locating the big dipper asterism, then follow along the dipper's handle arc to bright orange Arcturus. Arcturus is part of the "Spring Triangle" asterism, along with **Regulus** in Leo (front foot) and **Spica** in Virgo (left hand). You might catch the Spring Triangle just after dark, before Regulus and Spica set in the west. A less obvious but still visible asterism called the Great Diamond is formed when Arcturus is connected with Spica, **Denebola** in Leo (its butt) or Regulus, and **Cor Caroli** (alpha star of Canes Venatici). The Great Diamond is more visible after dark in the west if Denebola is used because Regulus is close to setting. I will highlight the stars of spring (Regulus, Denebola, Spica, Cor Caroli, and others) next spring. Gotta put it on my calendar!

Antares, alpha star of Scorpius the scorpion is another bright, beautiful orange/reddish star and forms the scorpion's heart. Scorpius is traveling above the southern horizon and looks much like its namesake. Antares means equal to Ares (Mars) in Greek, and looks very much like Mars to the unaided eye if you were to compare them. If our Sun were replaced by Antares, its outer surface would extend between the orbits of Mars and Jupiter. When our Sun finally exhausts most of its hydrogen and fuses helium it will expand out to Earth's orbit.

What's in the Sky?

Jupiter and Saturn rule the night.

With binoculars or telescope check out Antares. See if you can spot dim globular cluster M4 to its right. Look carefully and spot this pretty smudge.