

By Jim Feiste

*(This month's newsletter is a bit late, but in the last few days of June, you can still enjoy these astronomical gems....)*

*June is a short month as far as astronomy is concerned. Spring turns to Summer on June 20th, the Summer Solstice, marking the shortest night of the year. It barely gets dark before it's time to go to bed!*

*Despite this, there are still some short, fun activities that we can enjoy in the sky after dark, even under a full moon or partly cloudy skies. This month you can find 4 more of the 21 brightest stars in the sky (first magnitude stars) as well as a final look at the Virgo Cluster before we plunge into the Milky Way galaxy in July.*

### June's Brightest Stars

Stand facing south on a BRIGHT night (yes, *bright*, like during a full moon, because it is easier to see the first magnitude stars). You will notice two bright stars: **Arcturus** overhead, and **Spica** below it to the southwest. Look right and you'll see a slightly dimmer star - **Regulus** - in the west. Look left towards the southeastern horizon and you see a clearly reddish star about a fist-width west of a very bright planet Jupiter: **Antares**. These 4 stars form an elongated triangle from West to east.

To remember their names, recall the *Pirate's Tale* that we started in the February 2019 Newsletter: *The ship is run by a cruel captain who forces the crew to relentlessly polish the ship's rigging. The crew, tired of their cruel captain's abuse, decides to mutiny. The cook prepares a "special" soup just for her, containing "Regular Spices and Arsenic."* Credit: How to Read the Night Sky, by W.S. Kals.).

The names of these ingredients correspond to the names of four bright stars extending from east to south in June: Regulus, Spica, Antares, and

**Arcturus**. (See the "June Triangle" on the Sky Chart on the back of this newsletter.)

**Regulus** forms the front leg of Leo the Lion. It is a double, main sequence star, 78 ly from earth.

**Spica** can be found at the "seat" of Virgo. It is 250 ly from earth but appears bright because it is a blue giant double star, 2500X brighter than our sun.

**Antares** is a distinctly red star which forms the "eye" of Scorpius. It is red giant supergiant star located 550 ly from earth. It is 65000X brighter than the sun!

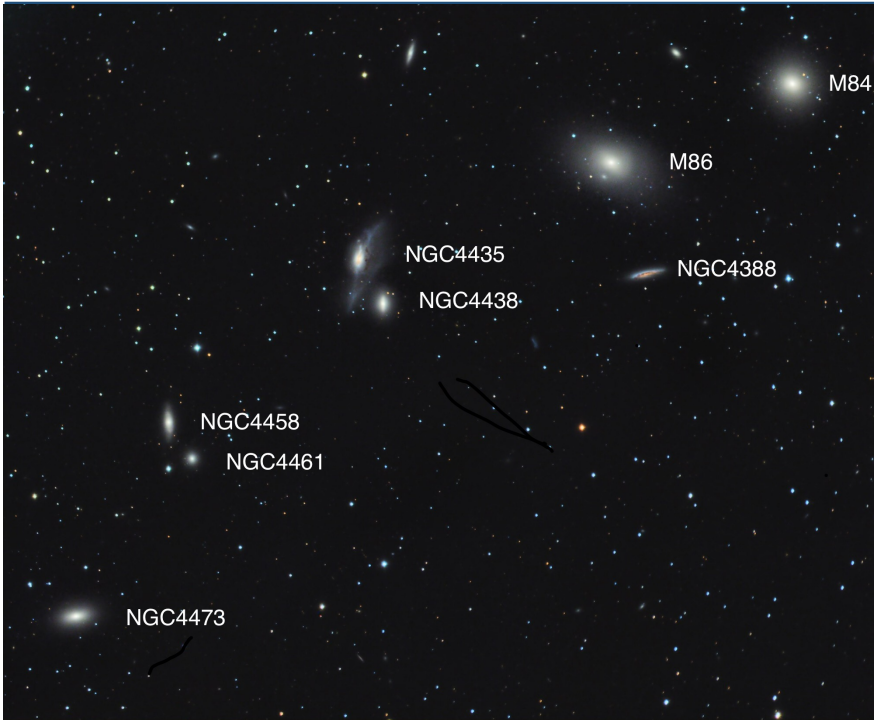
**Arcturus** is the brightest star in the northern hemisphere and appears at the tip of the "ice cream cone" asterism in the constellation Bootes. It is also the closest red giant star to our solar system, only 37 ly away.

### June's Deep Sky Objects

If you aim your telescope 1/2 way between **Vindamatrix** (in *Virgo*) and **Denebola** (in *Leo*), you will find a curved line of bright fuzzy objects filling a 2 degree field of view from NE to SW. These are the galaxies of the "**Markarian Chain**," named for Benjamin Markarian, an American astrophysicist who first discovered that these galaxies share a common motion through space. These galaxies form the core of the Virgo Galaxy Cluster, a group of over 1300 galaxies, 50 million light years away. (See Stan's photograph from earlier this month, on the back of this newsletter.)

### The Solar System This Month

In the last few days of June, check out bright **Jupiter** shining bright above the southeastern horizon just after sunset.



### Markarian's Chain

A bright line of galaxies at the heart of the **Virgo Galaxy Cluster**, easily seen with 8 inch or larger amateur telescopes.

*Photo by Stan Smith*

### June/July 2019 Sky Chart Facing Southwest

Sun Jun 30, 2019 10:00:09 PM

121.9° x 93.1°

