

September 2024 Chippewa Valley Astronomy Update



Photo caption: This astrophoto of the Pleiades star cluster is a wide field view (7 x 10 degrees; for comparison, the full moon is only half a degree).

It shows stars in the cluster and the cloud of dust and gas surrounding the cluster.

The image was captured near Valentine, Nebraska.

Image credit: Mike Brown of the Chippewa Valley Astronomical Society

Chasing the Darkness

Essay by Mike Brown

Light pollution is astronomy's nemesis, especially for visual observers and astrophotographers. Longing to view and capture the treasures of the night sky, amateur astronomers seek out the darkest locations for the best views. I recently returned from a Labor Day week road trip to the middle-of-nowhere Nebraska with three other amateur astronomers from the Chippewa Valley Astronomical Society.

We spent five nights under some of the closest darkest skies in the US at the Lord Ranch Resort, 30 miles south of Valentine in the middle of the Nebraska Sandhills. At night the

location offered no lights and a horizon-to-horizon view of nothing but stars and the summer Milky Way.

One of my imaging targets was the Pleiades cluster, the Seven Sisters, or Messier 45 (M45). It is a prominent open star cluster located 444 lightyears away in the constellation of Taurus. It is one of the nearest star clusters to Earth and appears as a small group of bright stars to the unaided eye. Since the cluster spans an area of sky almost two degrees across (four full moons), binoculars make for an excellent view.

The Pleiades contains a reflection nebula, which is a region of gas and dust illuminated by a cluster of hot, blue, and extremely luminous stars. The cluster is relatively young, with an estimated age of about 100 million years.

Often referred to as the "Seven Sisters," implying only seven stars, the cluster actually contains over a thousand stars. Six to nine of its brightest stars, depending on viewing conditions, are visible to the unaided eyes.

In Greek mythology, the Seven Sisters represent the seven daughters of the Titan Atlas and the Oceanid-nymph Pleione. The sisters are Alcyone, Electra, Celaeno, Maia, Merope, Taygete, and Sterope.

If you drive a Subaru, the name and logo on your vehicle come from the Pleiades cluster. In Japanese, "Subaru" means "to unite" or "to come together." The largest star in the logo represents Fuji Heavy Industries, the parent company of Subaru, while the five smaller stars represent the five companies that merged to form Fuji Heavy Industries after World War II.

If you are willing to stay up until midnight, you can see the Pleiades on the eastern horizon this month, but if you wait until Thanksgiving it will be visible as soon as the sky is dark.

-- Mike Brown is a member of the Chippewa Valley Astronomical Society