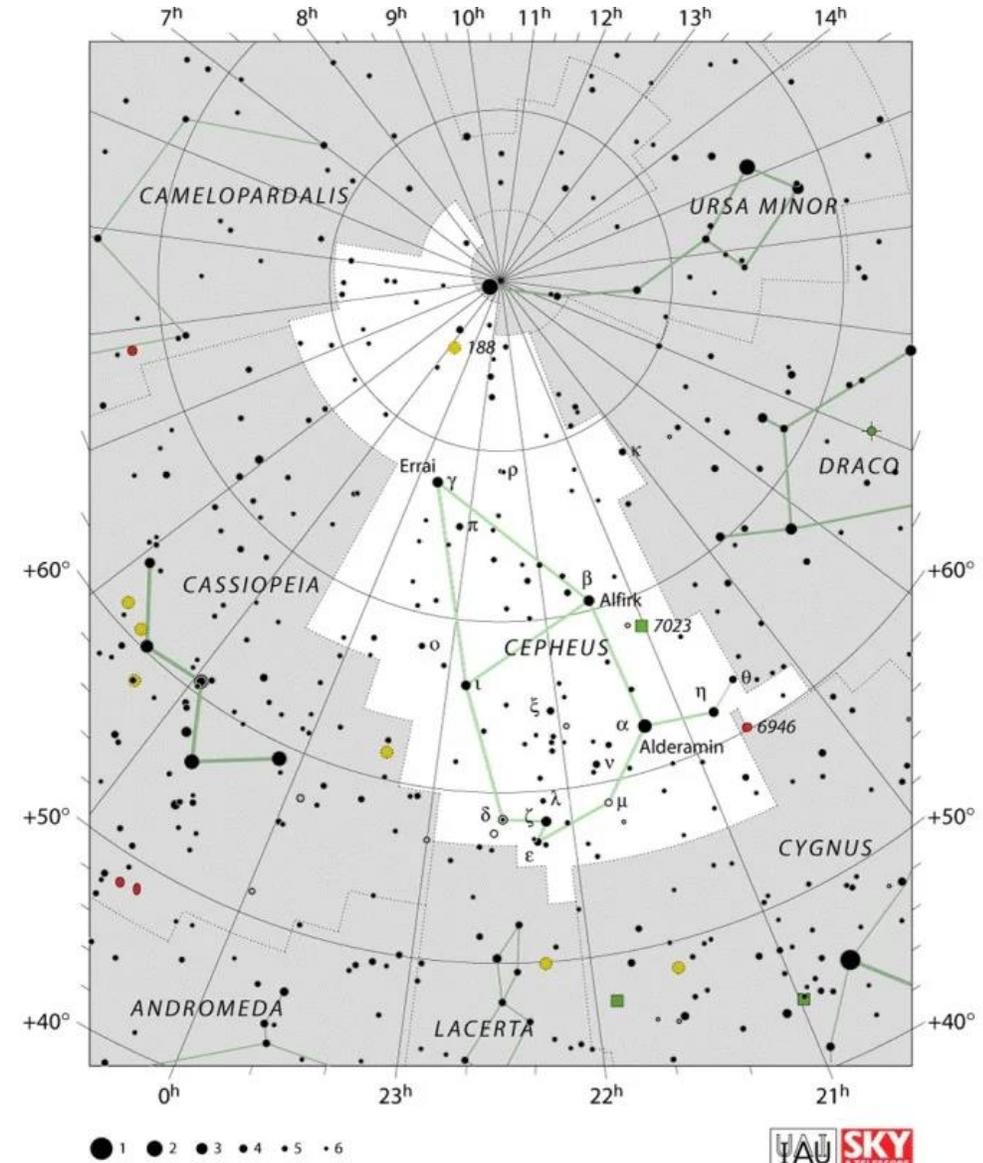


Binocular
Observing
November 2021
by Andrew
Lohfink.



Cepheus Constellation

- Cepheus can be quite hard to find.
- Start at Cassiopeia and then look west to find The House asterism of Cepheus.
- It lies in the western sky in November



Mu Cephei – The Garnet Star

Mu Cephei is one of the most famous red giant stars in the sky. Discovered by Herschell in 1783 he named it The Garnet Star after its deep red colour. Mu is south of the midpoint between Alderamin (Alpha Cephei) and Zeta Cephei. The Garnet Star is one of the largest red super giants in our galaxy. If it replaced the sun the star would reach to Saturn's orbit. Look at a white star first such as Alpha Cephei then Mu and the colour should then really stand out.



IC 1396 – An Open Cluster

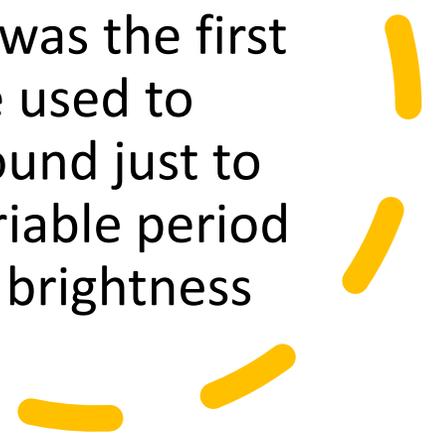


- There is an arc of stars that extend south of Mu Cephei which leads to the open cluster IC1369
- The cluster can be difficult to see in 50mm instruments but in larger binoculars stars can be resolved over a large area
- If your skies are dark and you use filters you may be able to pick out a trace of the associated nebula



Delta Cephei – A Cepheid Variable

British Astronomer John Goodricke discovered in 1784 that Delta Cephei was a variable star and was the first Cepheid Variable. These variable stars are used to measure vast distances. Delta Cephei is found just to the east of Zeta Cephei. The star has a variable period of about 5.5 days. See if you can spot the brightness difference.





NGC 7160 – An Open Cluster

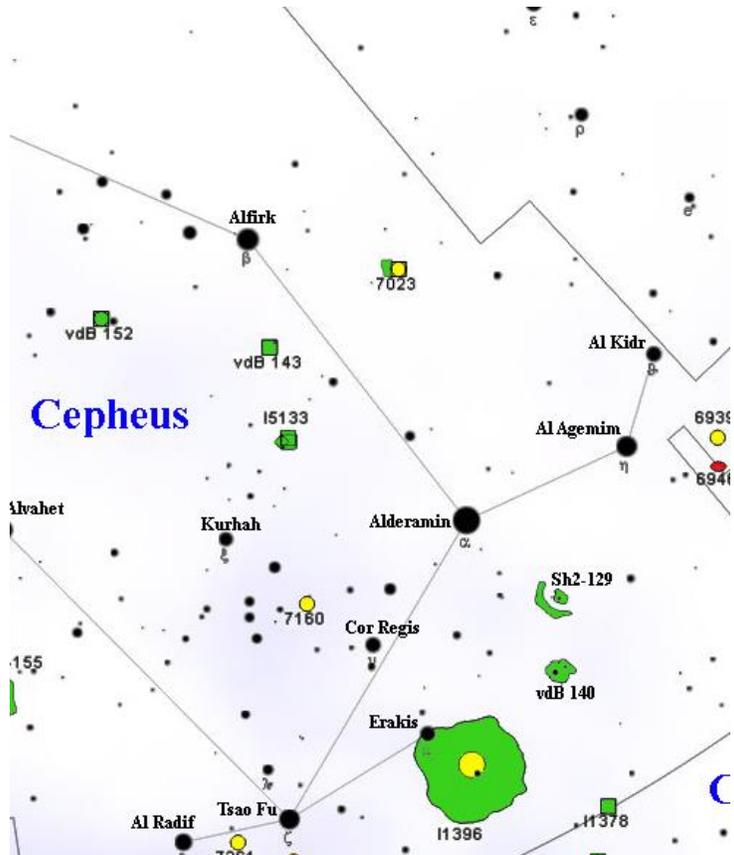
Just above a midway point between Alpha and Delta Cephei lies the Open Cluster NGC 7160. The brightest star is a blue giant. In x10 instruments the rest of the stars blur into a nebulous glow but larger 100mm instruments will tease out more stars. This cluster is part of the Cepheus OB2 Association. In dark skies this can be seen as a band of starlight, naked eye, which flows from Cygnus to Cepheus.



NGC 188 – An Open Cluster

Extend a line from the star at the tip of the roof of The House Asterism 2/3 of the way towards Polaris the Pole Star to find this unusual cluster. It can be seen as a dim blur in x10 binoculars but at 25x100 several stars can be teased out with averted vision. There are two interesting facts – it is the most northern open cluster and the oldest open cluster visible from Earth. It is around 5 billion years old and as such is devoid of blue giant stars.

NGC 6939 – An Open Cluster



Use the finder chart to find this rarely looked for cluster. It lies about 4000 light years distant and can be seen as a faint smudge in x10 binoculars but with 100mm instrument several stars can be resolved. Discovered by Herschell it is in his famous 400 catalogue.