

DEEP SKY OBJECTS FIFTH OF A SERIES

WHO, WHO WANTS TO FIND THE OWL CLUSTER?

By Dr. James Dire, Kauai Educational Association for Science & Astronomy

Most stargazers can easily recognize the constellation Cassiopeia. There are five 2nd and 3rd magnitude stars forming a giant W that insatiably revolves around the North Star, opposite of the Big Dipper. As a mythological figure, the W asterism is the chair upon which Queen Cassiopeia sits as she gazes at her husband, King Cepheus.

The Milky Way passes through the constellation Cassiopeia. The plane of our galaxy reaches its northernmost declination in this constellation. Like Cassiopeia, this portion of the Milky Way is circumpolar for most locations in the U.S., meaning it is always above the horizon. So while many of us long for summer months to view the rich galactic star clouds in Sagittarius and Scorpius, or for the winter to view the same in Canis Major and Puppis, the splendors of our galactic plane can be spied in Cassiopeia almost year round.

To the unaided eye in clear dark skies, the Milky Way has the appearance of white patchy clouds. Binoculars begin to resolve the "clouds" into countless stars mixed with bright and dark nebulae, while telescopes reveal hundreds of galactic and globular star clusters.

Two of Cassiopeia's galactic star clusters appear in Charles Messier's famous catalog, namely M52 and M103. Most beginning astronomers have sighted these two objects. However, lesser known, since it doesn't

appear in Messier's catalog, is NGC457, the Owl Cluster. Glowing at magnitude 6.4, the Owl Cluster is the brightest star cluster in Cassiopeia, and at 20 arc minutes in



The author took this 5-minute image of NGC457 through an 8-inch f/7 Newtonian telescope. South is up and east is to the right.

diameter, one of the largest.

NGC 457 is quite easy to find. It lies two degrees south-southwest of the star Ruchbah, the bottom star on the left side of the W asterism in Cassiopeia. The brightest stars in the cluster are resolved in binoculars, but an 8-inch telescope is required so see most of its 100+ stars.

The showcase stars in the cluster are 5th magnitude Phi-1 Cassiopeiae and 7th magnitude Phi-2 Cassiopeiae. The pair is separated by two arc minutes and their color contrast is superb. Phi-1 is yellow while Phi-2 is blue. These two stars, located on the southeast side of the cluster, form the eyes of the

owl. The owl's feet are 10 arc minutes northwest of the eyes, while the birds outstretched wings span 12 arc minutes from northeast to southwest.

The third brightest star in the cluster is the crimson colored gem, variable star V466 Cassiopeiae. V466 is a magnitude 8.6 red giant star that is known to periodically dim by one to two magnitudes. The fourth brightest star in the cluster is a 9th magnitude orange star, HD236690, located on the northwest edge of the cluster away from the grouping that is perceived to form the outline of an owl.

NGC457 contains more than 50 stars brighter than magnitude 12, and another 30 stars between magnitudes 12 and 14. It lies 9,700 light years away and is a relatively young star cluster. Phi-1 may not be a true member of the star cluster, but a foreground star.

There are many other star clusters to explore in Cassiopeia besides NGC457, M52, and M103. First, compare these three and determine which you think is the finest the constellation has to offer. ✨

Electronic Membership Directory Available

You may have noticed something different about this particular issue of the December Reflector. As a cost saving measure, the League is foregoing the Membership Directory that normally appears each December in the Reflector.

The Directory lists contact information for League Officers, Regional Officers, Program and Project Administrators, as well as the names of all League clubs and their respective ALCors. That information can still be found in the appropriate sections of the League website. If you would like an electronic version, please contact the League's national office, leagueoffice@astroleague.org, or: rosters@astroleague.org.

Call for nominees for League National Officer positions

The two-year term of **President** and **Vice-President**, and the three-year term of **Treasurer** end on August 31, 2012. Now is your opportunity to use your unique talents to help the League and amateur astronomy.

For a complete description of each office as detailed in the League's Bylaws, please refer to Article II, Section 4. Officer Duties. They can be accessed at www.astroleague.org/allbylaws/bylawrsr.html.

Candidates for Treasurer should have general accounting experience and familiarity with IRS form 990. Additionally, it would be a distinct advantage to be able to use "Quick Books," the League's current software. The position requires attending the League's annual convention with a portion of travel expenses incurred being reimbursable.

Candidates should send background statements, limited to 250 words, explaining why they are interested. All nominations, statements of acceptance, photos for the *Reflector*, and biographical statements need to be submitted to League Secretary Bill Bogardus, secretary@astroleague.org, by March 15, 2012.

—Bill Bogardus, Co-Chair, Nominating Committee

Comments from members

The Dark Sky Advocate program was a challenge but also a reward. The exercises are truly relevant. They immerse the participant in aspects of the light pollution problem he would be addressing or utilizing if he chose to become proactive in the reclamation of the nights sky in his hometown.

Chris Kersey

Baton Rouge Astronomical Society

Following a notice at another website, I went to your website to look at your new "Outreach Download" area. I found several downloads that looked very promising for our Outreach efforts. I combined the Autumn and Spring sky navigation charts to a one page handout. Also, I later found the "First Telescopic Observation Certificate." With the kind permission of the Astronomical League, I have added our club logo and website and now use them at local Outreach events. I get very positive feedback from those that I have given copies.

Thank you very much for providing these excellent materials for our use.

Grant Martin, Director

Membership and Hospitality
St. Louis Astronomical Society