

## **THE NIGHT SKY NATURALIST, by Bob Vickers**

### **The “E.T.” Cluster**

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From mountaintops to the depths of the oceans; from high in the sky to the darkest of caves; on every continent, every island, and in every nook and cranny; life, from whales to viruses, seems to be everywhere. Yet, throughout the vastness of space, the Earth is the only place we know for sure that life exists. Almost the entire universe beyond the Earth is a hostile environment that is bathed in lethal radiation or at temperatures far too hot or far too cold to sustain life as we know it. From this perspective, like an oasis in the desert, life on our tiny planetary home seems precarious (and precious).

Yet, when amateur astronomers look through their telescopes at distant galaxies, many sometimes wonder if there is not some other intelligent being looking back at the Milky Way Galaxy (and them) through their own telescope. I can't help but wonder if there aren't other oases of life scattered throughout the universe. Maybe someday in the not-too-distant future we will know.

But there is at least one extraterrestrial that I know of, and he lives in the constellation of Cassiopeia (the Queen). On a clear, crisp, early December night, face north and find Polaris, the Pole Star. Looking above Polaris, you will see five fairly bright stars forming an “M” shape. This is Cassiopeia. Just above and to the left of the right-hand peak of the “M” lies an open cluster of stars called NGC 457, discovered by William Herschel in 1787. Nowadays it is commonly known as the E.T. cluster because of its resemblance to a certain popular movie character of the same name, but in years past it has been referred to as the Owl Cluster.

There may be as many as 80 stars in this large, rich cluster with a wide range of magnitudes. Through my 12.5” f4.8 Dobsonian, I have counted as many as 56. It has two bright “eyes” to the southeast consisting of a beautiful pair of yellow and blue stars (Phi Cassiopeiae, which may not be a true member of the cluster), and a curve of 11<sup>th</sup> and 12<sup>th</sup> magnitude stars forming outstretched arms to the southwest and northeast. There is one very obvious red star on the northeast side of the cluster's 13 arcminute span. According to *Burnham's Celestial Handbook*, this is a red supergiant of type M0 and an apparent magnitude of 8.6, which, at the cluster's distance of between 8000 and 9900 light years, puts its true luminosity at about 10,000 times that of the sun! At an integrated visual magnitude of 6.4, NGC 457 can be found and viewed in binoculars but its richness is best appreciated through a telescope. It is a favorite of mine for nights of public viewing. (See Vyron Mitchell's article on “Why We Do Summer Nights” in the October 2008 *Faint Fuzzy* for an explanation.)