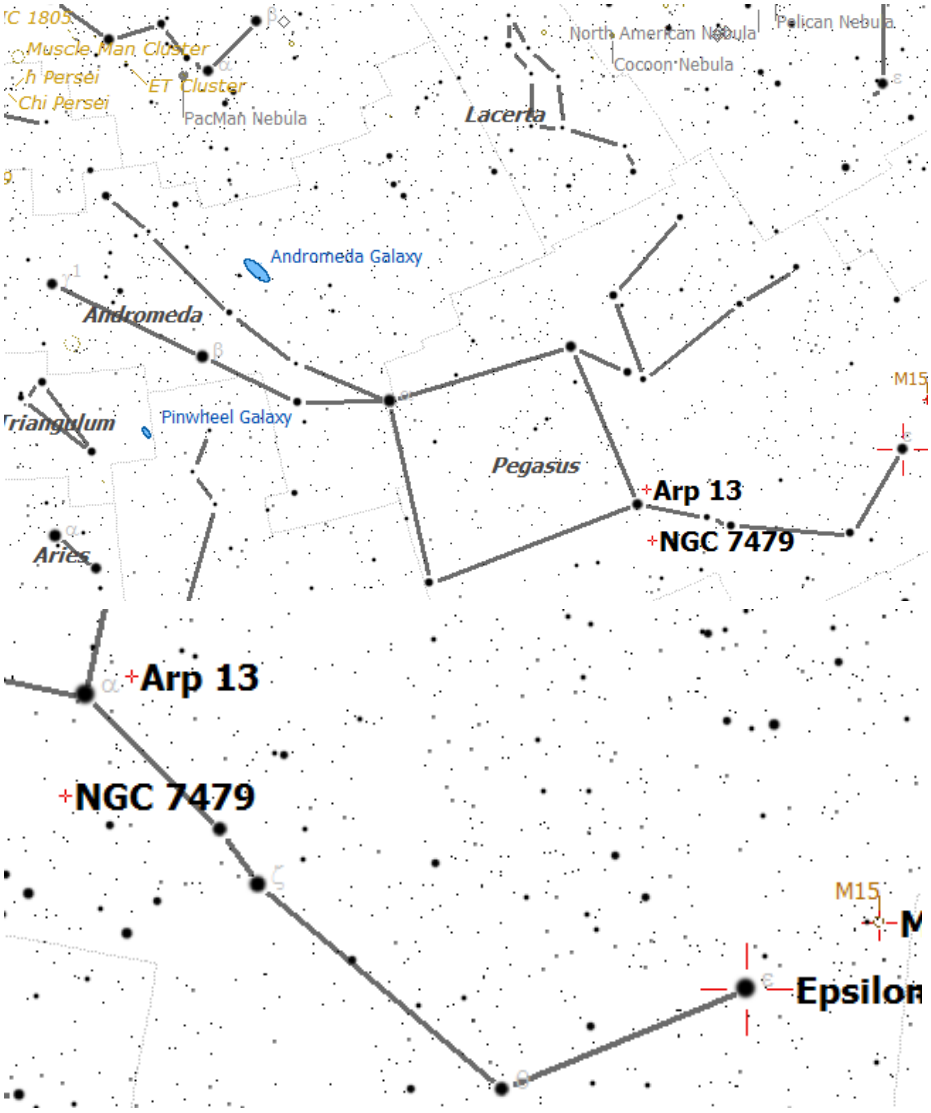
Objects of the Month — Pegasus

TAREGETS FOR EVERY LEVEL OF OBSERVER

Oct—2012

Finder chart



Pegasus, the winged horse, is now rising out of her summer pastures to the East and will be directly overhead by mid month. Start by looking for the distinctive square made up of the stars, Alpheratz. Scheat, Markab, and Algenib. The North-eastern star, Alpheratz is shared with the Andromeda constellation. The line from Alpheratz to Scheat represents the under-belly of the horse. Scheat is where the two legs of the winged bovine are connected.

The area of Andromeda that we are interested in this week is the shoulder , Markab or Alpha-Peg, and extends to the nose, Enid or Epsilon-Peg.

When you are looking towards Pegasus, you are looking above (or below) the plane of our galaxy, and just slightly away from the central core of our galaxy. This area has less stars and intervening dust than the plane of our galaxy and so it allows us the chance to see many more "deep sky" type objects. Deep sky would include globular clusters, galaxies and galaxy clusters. We will touch on both globular and galaxies this month as galaxy clusters are beyond the reach of most small scopes and suburban skies.

I am going to describe how to find each of these objects here, A detailed description of each object will follow on the next page.

We are going to start at the brightest star, alpha-Peg. You will need a dark sky and a moderate sized scope for this one. Center alpha in a low power eyepiece and move the scope approximately 1.3 degrees to the North-west. This should bring the 12.1 mag galaxy, ARP 13, into the center of the field.

Now go back to Alpha and extend a line from Scheat, or Beta-Peg, through Alpha-Peg for about 3 degrees. This will bring the 11.7 mag galaxy, NCG7479, into the view of your scope.

The next object is epsilon-Peg. This is the bright multiple star system at the nose of the horse about 20 degrees to the west.

Theta-peg is the bright star on the horses neck about 7 degrees to the south-west of Epsilon. Now if you extend a line from Theta through Epsilon you come to one of the nicest globulars on the Messier list, M15. This should be an easy binocular object and definitely the showpiece object this month.

Clear skies;

rw

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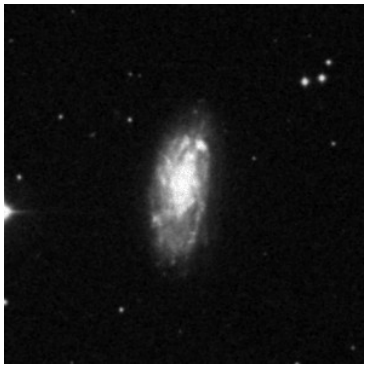
Arp 13



ARP 13 is a spiral galaxy positioned such that its major axis points north-south and is tilted towards us to an extent that it is almost face on. ARP classified this galaxy as having "detached" segments. I suspect the segments he was referring to are the tiny knots in the spiral arms which are areas of explosive star growth activity.

I had a chance in Sept, 2011 to observe this galaxy at our club's dark site with my 10" reflector. While the observing conditions were below average, I was still able to locate the galaxy. Here are my notes from that night:

Smart Astronomy 12.5, 100x

Small galaxy, faint, maj axis in N-S direction. 2' long, fades out with direct vision. Good star chart required to locate under tonight's conditions.

NGC 7479

NGC 7479 is a beautiful barred spiral galaxy. It was originally discovered by William Herschel in 1774.

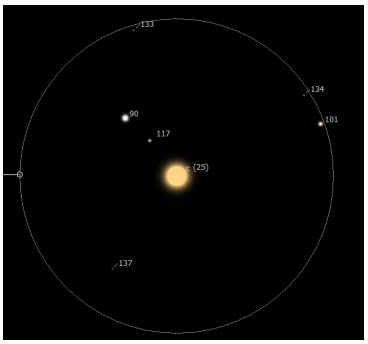
This galaxy belongs to a special class of galaxies called Seyfert Galaxies. These are galaxies that are presently undergoing rapid starburst activity in the core ans spiral arms. This activity is usually triggered by a close approach of merger of another galaxy. In the case of this galaxy, analysis indicate it has undergone a recent merger of a smaller galaxy.

It is an magnitude 11.7 galaxy and requires good dark skies to be able to spot. My notes from Sept, 2011 are:

Smart Astronomy 12.5, 100x

Oriented in N-S direction, 5 arc min long.

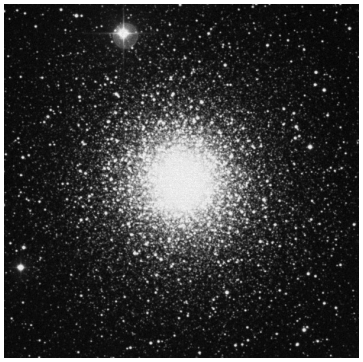
Epsilon Pegasus



Epsilon is at the nose of our winged celestial horse. At mag 2.1 it should be easy to spot by the eye or binoculars. It is the brightest member of a triple star system. A K-type super giant, it should appear slightly orange in the eyepiece. The B companion star is pretty faint at 11.3 mag and is 83 arc seconds away. This should be an obvious split. The C star is brighter at 8.5 mag but a little further away at 143 arc seconds. The B and C star both lie on the same position angle.

The view to the left is through an eyepiece with an apparent field of view of about 10 arc minutes.

M15



M15 is a brilliant globular cluster positioned about 33,000 light years from us. It was first discovered in 1746 by Maraldi.

M15 is one of the most dense globular clusters that surrounds our galaxy. There are over 100,000 individual stars in the cluster which has a radius of 88 light years.

M15 has the distinction of being the first globular cluster where a planetary nebula has been observed, Pease 1.

M15 is an absolutely wonderful object with any size instrument. My observing notes with my 10 inch reflector from Sept 2011 state:

Smart Astronomy 12.5, 100x

Glob in Peg. Very tight glob, lots of resolvable stars on periphery, core is bright similar to that of a galaxy.