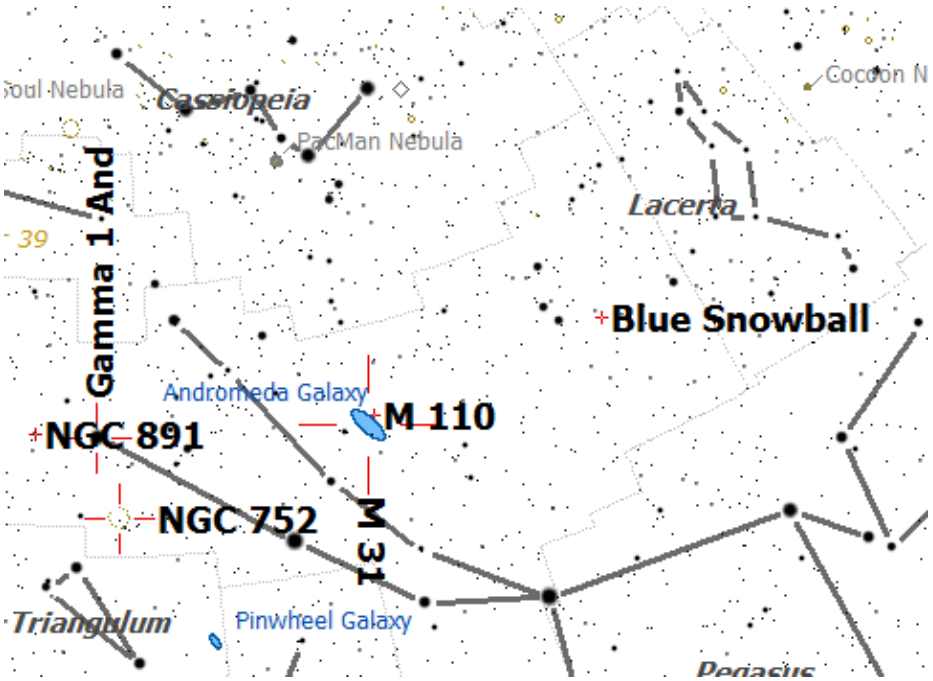
Objects of the Month — Andromeda

TAREGETS FOR EVERY LEVEL OF OBSERVER

Nov—2012

Finder chart



This month our focus is on Andromeda. This constellation was named after the daughter of Cassiopeia, who was chained to the rocks as a sacrifice to Cetus, the sea monster. She was ultimately saved by the hero Perseus who defeated the sea monster and released Andromeda from her chains. It is fitting that the constellations Andromeda, Cassiopeia and Perseus all are grouped in the sky together.

Andromeda shares its brightest star, Alpheratz, with Pegasus to the west. From this star there are two chains of stars that proceed to the east. The southern chain contains the brighter stars and as such is more noticeable when first locating the constellation.

From a relatively dark location, if you extend a line through the second star in each chain you will come to a hazy patch in the sky. This will be the Andromeda Galax. At a distance of 2.5 million light years, this object is the most distant object that can be seen with the naked eye.

The Andromeda Galaxy contains two to five times as many stars as our own Milky Way Galaxy. While it would initially appear that the Andromeda Galaxy is more massive than our own galaxy, it is not the case. A lot of the mass of a galaxy is associated with non-stellar dust and the Milky Way galaxy has a lot more of this dust than Andromeda, which results in the masses of the two galaxies being roughly equal.

Andromeda is home to many interesting objects. Whether it is with telescope, binoculars or just your eyes, I encourage you to get out and look up to see if you can locate some of these celestial wonders.

Clear skies;

rw

Gamma Andromeda

We will start our journey this month at the eastern end of Andromeda with its third brightest star Gamma, also known as Almach. This is a very pretty double star. The primary is an orange mag 2.3 type K star. The companion, or B star, is a mag 4.8 blue, type B star. The separation is 10 arc seconds.

This pair makes a really nice telescopic binary. My observation of this pair is: "127x Golden primary with an aquamarine secondary. Reasonable split."

The B star was discovered in 1842 to be a triple star itself with a mag 5.5 and mag 6.3 components separated from the B star by less than 1 arc second.

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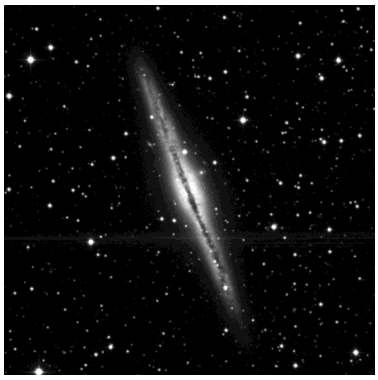


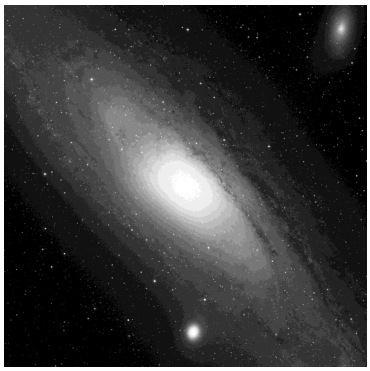
NGC 891

About three degrees to the west of Gamma And is NGC 891. This is a mag 10.9 edge -on spiral galaxy that is also designated as Caldwell 23. It lies some 27 million light years from us.

The galaxy measures about 11' long and is a wonderful object for both small and large scopes alike. Ther is a very nice dark lane that runs along the central axis of the galaxy. The challenge when observing this galaxy is to see if you can detect the dark lane.

Here is my visual impression with an 8" scope: "51x, Edge on, streak about 15' long, no dark lane visible. "

Andromeda Galaxy Group



The Andromeda group consists of the Andromeda Galaxy, M32 and M110. The three of these galaxies can be seen from a dark site with a pair of binoculars.

The Andromeda galaxy is a barred spiral galaxy not unlike our own. It is best view at very low power to get the entire galaxy into the field of view. This galaxy extends 2.6 degrees on its major axis.

M32 is a small elliptical galaxy on the bottom of the picture to the left. It has an apparent brightness of mag 8.9 and a diameter of 8.5 minutes

M110 is another elliptical. It is just as bright as M32 but it is nearly twice as long at 17.8 minutes.

Galaxies tend to live in groups. Our own local group of galaxies, of which this Andromeda group belongs, consists of at least 19 members.

NGC 752

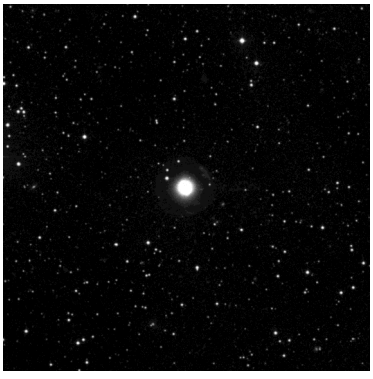
About 5 degrees to the south -southwest of Gamma And. is the large open cluster, NGC 752. This is one of the objects that was discovered by Caroline Herschel while assisting her better known brother William, in 1783

This cluster lies at a distance of about 1500 light years and contains about 60 members. The cluster's apparent magnitude of 6.6 and diameter of 75' make it a good binocular target.

NGC 752 is a very old OC. We know this because the stars have moved off the main sequence and entered the red giant stage of stellar evolution.

Here is my eyepiece impression of the object: "51x Totally fills fov of 40mm lense. 50 or more stars distributed in little chains. Very pretty."

Blue Snowball



The Blue Snowball is a planetary nebula also known as NGC 7662. It is positioned at one apex of an equilateral triangle formed by itself and the two northern stars of the Great Square of Pegasus.

It lies at a distance of about 5,600 light years. It is 17" in diameter and has an apparent magnitude of 8.6. A 6 or 8 inch telescope will reveal the PN as a small bluish ball, hence giving way to its name.

Planetary nebula are relatively rare since they only are visible for a few thousand years which is a blink of an instance in the timeline of our universe.

Here is my eyepiece impression: "163x Nebula is 0.5 arc minutes across, hazy, bluish white, no central star visible.