MONTHLY OBSERVER'S CHALLENGE

Las Vegas Astronomical Society

Compiled by:

Roger Ivester, Boiling Springs, North Carolina

&

Fred Rayworth, Las Vegas, Nevada

With special assistance from:

Rob Lambert, Las Vegas, Nevada

June 2010

NGC-5907 - The Knife Edge or Splinter Galaxy

Introduction

The purpose of the observer's challenge is to encourage the pursuit of visual observing. It is open to everyone that is interested, and if you are able to contribute notes, drawings, or photographs, we will be happy to include them in our monthly summary. Observing is not only a pleasure, but an art. With the main focus of amateur astronomy on astrophotography, many times people tend to forget how it was in the days before cameras, clock drives, and GOTO. Astronomy depended on what was seen through the eyepiece. Not only did it satisfy an innate curiosity, but it allowed the first astronomers to discover the beauty and the wonderment of the night sky.

Before photography, all observations depended on what the astronomer saw in the eyepiece, and how they recorded their observations. This was done through notes and drawings and that is the tradition we are stressing in the observers challenge. By combining our visual observations with our drawings, and sometimes, astrophotography (from those with the equipment and talent to do so), we get a unique understanding of what it is like to look through an eyepiece, and to see what is really there. The hope is that you will read through these notes and become inspired to take more time at the eyepiece studying each object, and looking for those subtle details that you might never have noticed before. Each new discovery increases one's appreciation of the skies above us. It is our firm belief that careful observing can improve your visual acuity to a much higher level that just might allow you to add inches to your telescope. Please consider this at your next observing session, as you can learn to make details jump out. It is also a thrill to point out details a new observer wouldn't even know to look for in that very faint galaxy, star cluster, nebula, or planet.

NGC-5907 - The Knife Edge or Splinter Galaxy

Known as the Knife Edge or Splinter Galaxy, NGC-5907 is a mag. 10.4 edge-on spiral galaxy located approximately 39 million light-years from Earth. It was discovered by William Herschel in 1788 and consists primarily of dwarf stars and has few if any giant stars. It also contains supernova 1940A.

This intriguing galaxy is a warped spiral and for a long time nobody knew why. Recently, a looping stellar stream was spotted surrounding the galaxy and is the likely cause of the slight warp. The origin of this stellar stream and how it formed are still mysteries. Suffice to say this faint looping will not show up visually or in most astrophotos.

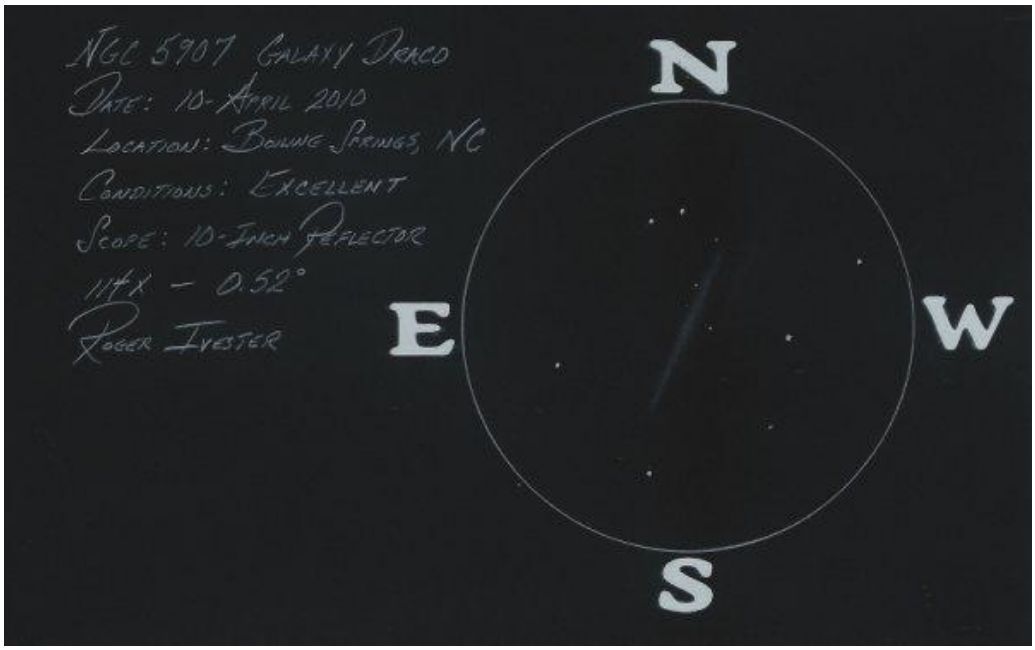
Observations/Drawings/Photos

Roger Ivester: Observer from North Carolina

The Observers Challenge for June is NGC 5907 in Draco. A beautiful edge-on spiral galaxy with a dimension of 12' x 1'.8 at mag. 10.4, but is seldom observed by many amateurs. I first observed it in the summer of 1992, and it immediately became one of my favorites. It appears a bit fainter than the cataloged magnitude.

All observations were made from my moderately light-polluted backyard in Boiling Springs, North Carolina. The telescope used was a 10-inch f/4.5 reflector, with a magnification of 114X.

The galaxy was presented as a faint streak of light, with a subtle but brighter more concentrated middle. On some of my notes, a slight bulge was indicated, but on other observations this feature was not mentioned. The surface brightness was fairly low, however, on a good night, 200X was possible with the 10-inch, bringing out subtle detail. A faint star could be seen just off the west edge of the core and another at mag. 14 is visible very close to the NE tip. The galaxy had a very even and smooth texture. The dust lane has been reported with larger telescopes.



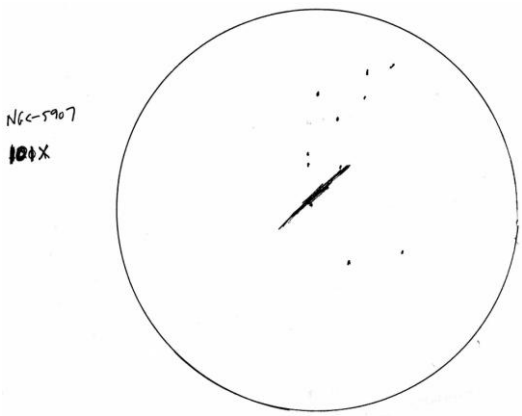
Fred Rayworth: Observer from Nevada

I had two opportunities to look at this great galaxy. Once in May, and the other in June.

I saw it both times from Redstone Picnic Area on the north shore road of Lake Mead, Nevada. On May 15, 2010, what started as a bad night (clouds moving in before sunset) opened up after dark and became the best observing night of 2010, so far. The sky was pristine, at least wherever I looked. There was no wind and I remained in a T-shirt the whole night.

Upon a return visit on June 5, 2010, the skies weren't quite as nice, there was an erratic breeze blowing, and I was tired the moment I got there. Still, I had a great time and had a chance to try a new 4.7mm eyepiece (390X) on it.

It was a nice thick streak at 70X. At 101X, I could see some darkening in the middle. At 229X, the darkening in the middle was a bit lumpy and mottled. At 390X, it was washed out but I could still see mottling. However, at that magnification, the dark lane was much less distinct. In fact, I only saw the dark lane, barely, at 101X and a bit better at 229X. In all cases, the core blended in with the rest of the streak and I saw no distinct concentrated brightening. The core was a broad area that covered about two thirds of the streak. There was just the slightest thickening in the middle but it was not a real bulge like I would have expected for an edge-on galaxy.



The first time out last month, I spotted numerous stars in and around it. There was a bright one a bit off from the central core on one side. On the other side, I spotted a fainter star off toward the outer edge while in the middle there were several spots that may have been stars near the central area. The one by the outer edge was the first in a jagged line of stars that strung out from the galaxy.

When I went out in June, most of the details were the same except I never noticed the star patterns. Overall, the galaxy was a bit washed out.

Rob Lambert: Observer from Nevada

NGC-5907 certainly lives up to its nickname, the Splinter Galaxy. It definitely looks like a splinter and so much so that it reminds me of many that I've pulled out of my fingers. It also reminds me of the round toothpicks that are typically used with finger food hors d'œurves.

I wasn't able to observe NGC-5907 through my 10-inch SCT to get a closer perspective. I made a tactical error in only taking my 4.7-inch refractor to the Redstone observing area just outside of Las Vegas the weekend before the new moon weekend in June. I had hoped to be able to view it again while at the North Rim of the Grand Canyon, but both nights I was able to observe while there, clouds moved in shortly after the public departed and obscured the part of the sky where NGC-5907 was located.

Jim Gianoulakis: Observer from Nevada

The spiral galaxy NGC-5907, sometimes known as the "Splinter Galaxy" because of its unusual appearance, is located in the constellation Draco. It's fairly bright, and appears elongated because it has an edge-on alignment when viewed from Earth. It also has a strong set of dust lanes. The central lane is so pronounced at visible light wavelengths, where it blocks our view of the starlight, that the galaxy was once mistaken for two objects and given two entries in the original New General Catalogue.

This image is composed of a stack of 20 light frames and 32 dark frames combined and stacked using DeepSkyStacker. Levels and curves applied in Photoshop.

Frank Barrett: Observer from North Carolina (*www.celestialwonders.com*)

I think it's a very beautiful galaxy. The core glows with a bright amber-gold hue and is somewhat subdued by well-defined dust lanes. Although the galaxy is edge on to our view, the magenta-blue arms which accent the outer portions imply to me a spiral structure. Total exposure time was over 7 hrs with about 5.5 hrs on the monochrome (luminance) alone.

The dark period in April was very kind to me and as a result, there are a few more celestial gems to view on my website. I don't even want to calculate the total number of hours I've invested in, this past month alone, both in acquisition and processing. I'm just now getting caught up on my sleep! All in all, I think it was good fun.

Buddy L. Barbee: Observer from North Carolina

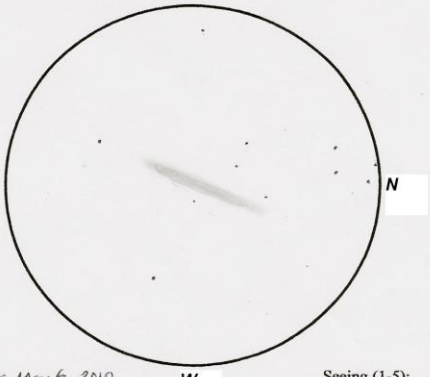
This observation was made Thursday, May 6, 2010 while at the Mt. Airy Granite overlook, on the Blue Ridge Parkway near mile post 203. I was using an 10-inch Dobsonian and a 10mm eyepiece for a magnification of 120X. The night was about average in seeing and transparency, with low winds and humidity.

This galaxy is large and dim, but easily seen as a visible streak of gray light with direct vision. There was no central condensation or bulge visible. The dimensions were approximately 10' in length by 1' in width for the entire length. This galaxy is certainly a very interesting object, with its lack of detail and homogenous milky glow. There was a mag. 14 star visible just west of the galaxy near the middle or core.

DEEP SKY OBSERVATION FORM

CONSTELLATION : Draco

OBJECT: NGC 5907



Day & Date: Thurs. May 6, 2010
Time (local): 10:50PM EDT
Time (UT):
Observer: BLB
Location: Mt. Airy Granite overlook on Blue Ridge Parkway

INSTRUMENT
Telescope: 10" Dob
Aperture: 254 mm
Focal Length/Ratio:
Eyepiece: 10 mm
Magnification: 120x
Field of view: 00° 30'
Filter: None

Seeing (1-5): 3/5
Transparency (1-7): 4/7
Limiting Magnitude: 5.7+
Temp: 65°F Wind: 5-10 mph
Humidity: 46%

OBJECT
RA: 15 hr. 15 min. 54 sec.
Dec: +56 d. 19 min. 45 sec
Type: Galaxy
Listed Magnitude: 10.7
Listed Size: 12.6' x 1.4'
Altitude of Object:
Surface Brightness 13.6

NOTES
a dim galaxy that is approx. 10 arc min. long by 1 arc min. wide, a gray streak in the sky there is a very faint star just west of the middle of the galaxy