MONTHLY OBSERVER'S CHALLENGE

Compiled by:

Roger Ivester, North Carolina

&

Sue French, New York

April 2023

Report #171

NGC 3044, Galaxy in Sextans

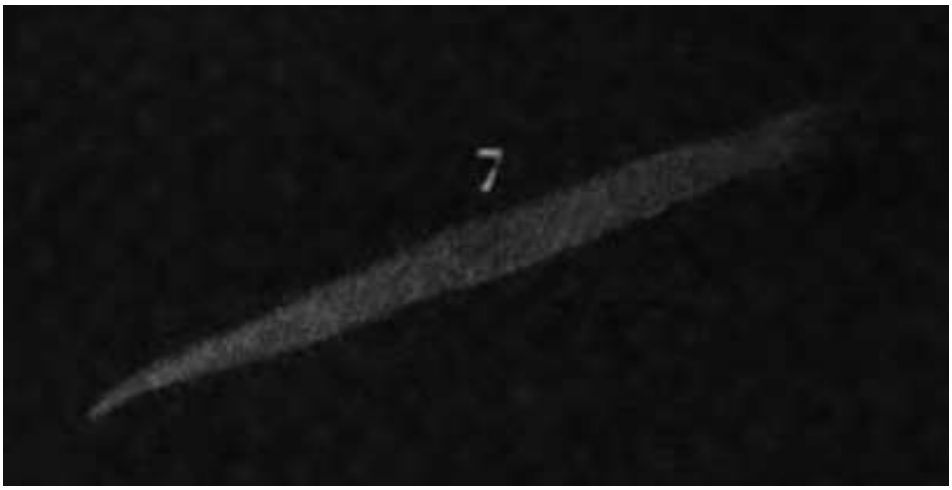
Sharing Observations and Bringing Amateur Astronomers Together

Introduction

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It's open to everyone who's interested, and if you're able to contribute notes and/or drawings, we'll be happy to include them in our monthly summary. Visual astronomy depends on what's seen through the eyepiece. Not only does it satisfy an innate curiosity, but it allows the visual observer to discover the beauty and the wonderment of the night sky. Before photography, all observations depended on what astronomers saw in the eyepiece, and how they recorded their observations. This was done through notes and drawings, and that's the tradition we're stressing in the Observer's Challenge. And for folks with an interest in astrophotography, your digital images and notes are just as welcome. The hope is that you'll read through these reports and become inspired to take more time at the eyepiece, study each object, and look for those subtle details that you might never have noticed before.

This month's target:

William Herschel discovered NGC 3044. On the night of December 20, 1784, he recorded it in his handwritten journal as being: *Very faint. About 5′ long but extremely narrow less than ¼′ broad; from north preceding to south following.*



This is Herschel's sketch of the galaxy as taken from the *Philosophical Transactions of the Royal Society of London for the year 1811.*

Welcome to our new contributor, Dave Giordano: Observer from Massachusetts

Imaging from my backyard in Carlisle is challenging, especially for targets lower on the horizon, with surrounding trees. My window of opportunity for NGC 3044 was very narrow, and I only got twenty 300s subframes. I also encountered frost on my sensor, which shows as a faint ring around the galaxy.

Imaged on 13 April using a Celestron Edge HD8, 0.7× reducer (1500mm focal length), with Off-Axis Guider, Baader Neodymium filter, and ASI 294 MC Pro camera. Processed in PixInsight.

Uwe Glahn: Observer from Germany

Unfortunately I had no sketch of NGC 3044. Last new moon I tried the galaxy with my 6" and it was visible as a very faint 4:1 ghostly streak. The 8" shows it already as an direct visible 5:1 streak with no details but hard endings. The 16" than shows it as the beauty and one of my favourites in the RFGC.

Magda Streicher: Observer from South Africa

Halo all from still a sunny South Africa, but our winter is on its way.

March two years ago I spend a great deal of time tracing the faint galaxy NGC 3044, and was rewarded. Excellent dark skies close to 6.5magnitude, the seeing very good, using my 16-inch with a 14mm eyepiece 290×, field of view 17′.

I agree it was one of the most difficult galaxies to observe. The field of view was also not very friendly, with no real bright stars to show the way. The 9th-magnitude star to the north-east was the best guide.

But with much care and dedication the very faint, hazy, slightly elongated (nearly see-through) galaxy could be seen with averted vision.

My sketch (N up and E to the west) shows the field and galaxy which is slightly brighter than my averted vision.

Just the primary (12th magnitude) of a double star 5 arc minutes to the northwest was spotted with another 11th-magnitude star close to the west.

Sketch Follows.

Magda

Phil Orbanes: Observer from Massachusetts

This is my photo of April's object, galaxy NGC 3044 in Sextans.

This one was a challenge because of its small size. NGC 3044 is quite distant at 67 million LY (much farther than the galaxies in the Virgo Cluster).

It is seen nearly edge-on. Its mass is somewhat less than the Milky Way's. Unusually, it does not appear to be part of any galactic grouping, so it is likely a "loner."

At this great distance, an HA filter seems to reveal no further data, so I just used RBG, and took about 18 hours of images with my 14-inch Planewave telescope and an FLI camera.

Larry McHenry: Observer from Pittsburgh, Pennsylvania

http://stellar-journeys.org

The barred spiral galaxy NGC 3044 is located in the spring constellation of Sextans – "The Sextant."

This bright, edge-on deep-sky object is about 67 million light-years distant, with a 79 deg inclination, moving away from the Milky-Way with a radial velocity of about 1,289 km/s, and has an estimated diameter of about 91,000 light-years. NGC 3044 (H3 254) was discovered on the night of December 13th, 1784 by William Herschel using his 20-ft reflector, from the back garden of his home at Datchet.

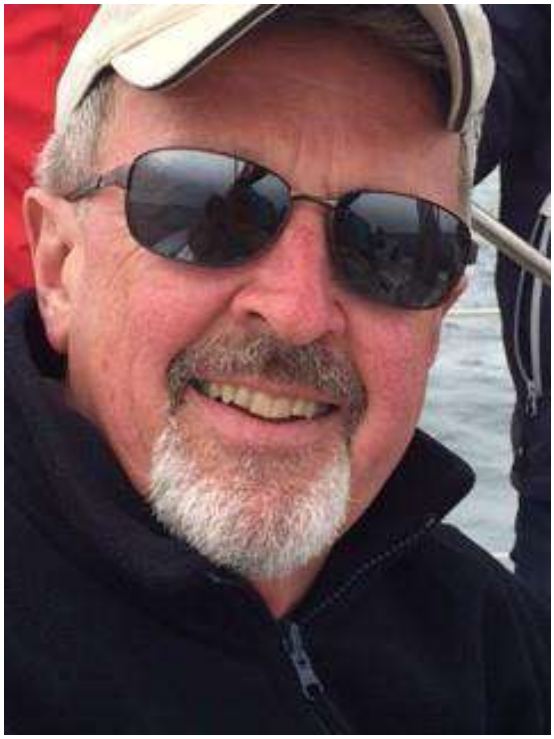
Video-Capture/EAA:

03/19/2023, from Big Woodchuck Observatory backyard in Pittsburgh, PA, using an 8-inch SCT optical tube @ f/6.3 on a GEM mount, with a CMOS color camera and broadband filter, 180-second guided exposure, live-stacked for 21 minutes.

Using EAA techniques: the bluish needle stood-out well from the surrounding star field, displaying a bright central region with the edge-on spiral showing hints of knots and mottling in the arms along its major axis. A pretty sight!

Image Follows.

John Bishop: Observer from Massachusetts



On April 21, 2023, I attempted, unsuccessfully, to observe NGC 3044, a spiral galaxy in Sextans. This object was new to me. Luginbuhl and Skiff report NGC 3044 with a visual magnitude of 12.0 and surface brightness of 13.5. They describe it as "A moderately faint object in 25 cm..."

I observed from the ATMoB Clubhouse in Westford, Massachusetts. I used my usual 8.25 inch f/11.5 Dall-Kirkham reflector, on a motor driven equatorial mount, without go-to. Conditions were not ideal to spot this object, but this date was one of the few reasonably clear, moonless nights in this area for some time. The sky was initially clear, but a faint milky haze developed, reducing contrast.

Sextans is a faint constellation, in an area with few landmark stars. After locating Alphard (Alpha Hydrae), I starhopped to Iota Hydrae (barely visible by naked eye, part of a distinctive three star group in the eyepiece), and then to 7 Sextantis. In the Interstellarum Deep Sky Atlas, 7 Sextantis shows as a 6th mag star. In the eyepiece at 48x, it sits in a loose group of fainter stars.

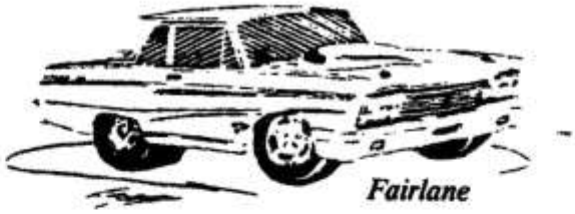
I was now close to the target. But the sky was washed out; contrast was poor. Compounding matters, NGC 3044 sits in a sparse, dim field, with few charted stars as landmarks, but with a number of fainter stars in the eyepiece. This made it difficult to starhop the "last parsec" to the target. This was probably a moot point due to the poor transparency. I visually swept the presumed location for some time at 48x and 100x, but did not see the galaxy.

I had some consolation that one of the club's top visual observers, using his fine 18 inch Dob, could not see NGC 3044 that night, although he was sure he was on the field, and he had seen it another night in the Club's 25 inch Dob. One of the Club's imagers later that night showed me a 60 second image of NGC 3044 she had taken that night. It was a very good, sharp image of a rich star field, including 7 Sextans and NGC 3044. The galaxy was faint, even in a CCD image.

Although this attempt was unsuccessful, I am confident I will be able to observe NGC 3044 on a night with better transparency. If they were all easy, it wouldn't be a challenge!

Mike McCabe: Observer from Massachusetts

Sketch and details follow.



Observer's Challenge, April 2023

NGC 3044, Barred Spiral Galaxy in Sextans

April 13th, 20" F4.5 Newtonian Reflector

I have many telescopes at my disposal, but after hearing from Roger Ivestor about how difficult it was for him to reslove this target from his North Carolina backyard, I went straight for the biggest gun in the fleet. As the current caretaker of our club's 20" Newt/Dob, I am indeed blessed to have this significantly powerful optical instrument all set up and ready to go and stored just a few paces from a good location on my property from which to observe from.

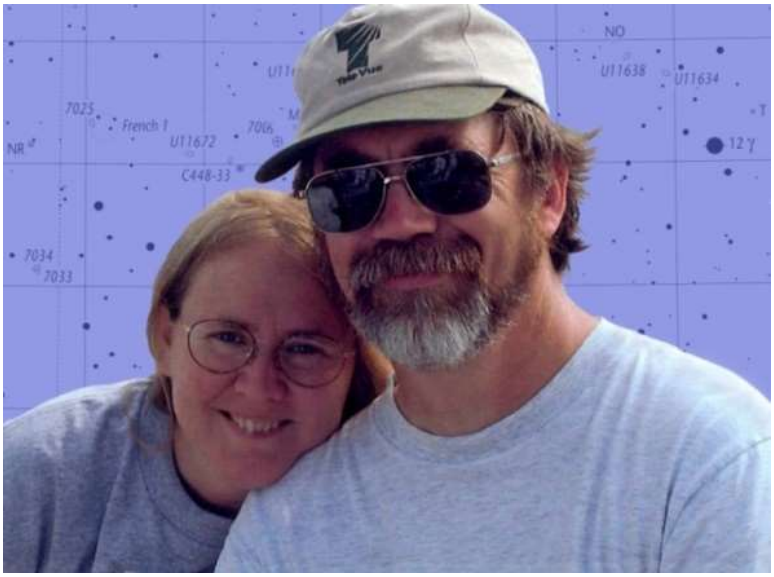
Even so, NGC 3044 wouldn't be a cakewalk under my Bortle 6 skies. It's just not that dark here, and unless something changes dramatically it never will be. With that said, we make do with what we're given to work with, so on the 13th of April I wheeled out the beast and let it acclimate before dark. After dark arrived we got down to the business of locating this elusive target. The star hop is straightforward enough, and starting at either Regulus in Leo or Alphard in Hydra will get you there equally well. What you see once you land on the location of the target may not go so easily.

After examining the field for what seemed like a long time I finally landed on the correct orientation of things in the field of view, particularly a triangle of 10th magnitude stars that pointed right to where the galaxy should be. Once I knew this the galaxy came into view, sometimes with averted vision and sometimes with direct vision. I can now say with confidence that I SAW THE SLASH!

41.98n, -70.90w

M.T.M.

Sue French: Observer from New York



10″ f/6 Newtonian reflector at 213×: Very elongated, low-surface-brightness galaxy tipped east-northeast to west-southwest. It shows a nearly uniform brightness. About 4′ long and one-fifth as wide.

105/610mm refractor:
87×: Very faint! Narrow streak ENE-WSW.
122×: A little easier. About 3′ long with a brighter, elongated core. Sketch: East is to the right and North is up.

Glenn Chaple: Observer from Massachusetts

OBSERVER'S CHALLENGE* – April, 2023

by Glenn Chaple

NGC 3044 Galaxy in Sextans (Magnitude 12.5, Size 4.6' X 0.7')

When William Herschel compiled his *Catalogue of Nebulae and Clusters of Stars*, he placed a majority of nebulae into three distinct categories – Class I (Bright Nebulae), Class II (Faint Nebulae), and Class III (Very Faint Nebulae). Our April Observer's Challenge, the edge-on barred spiral galaxy NGC 3044 in Sextans, is a Class III Herschel object. It was visually faint to him; it's a faint visual challenge for the modern-day backyard astronomer. Herschel discovered it on the night of December 13, 1784, describing it as "Very bright, large, very much extended 151 degrees, very suddenly much brighter in the middle, equals a star of 10^{th} magnitude."

Too faint to be included in the Herschel 400 list and not plotted in Sky and Telescope's *Pocket Sky Atlas,* NGC 3044 is located 4 degrees west-northwest of the 4.5 magnitude star alpha (α) Sextantis and 4½ degrees northeast of magnitude 3.9 iota (ι) Hydrae at the 2000.0 coordinates, RA $9^h53^m40.9^s$ and Dec $+01^o34'46.7"$. Star-hoppers can work their way from either star by referring to the accompanying finder charts.

From dark-sky regions, NGC 3044 can be seen with a 10-inch scope. Observers working under slightly light polluted suburban locations will need nearly twice that aperture. A reasonably high magnification and a broadband nebula filter will help.

According to various sources, NGC 3044 lies somewhere between 65 and 75 million light years away. The light you see when you peer into the eyepiece left this galaxy near the end of the Mesozoic era around the time of the demise of the dinosaurs.

NGC 3044 Finder Charts

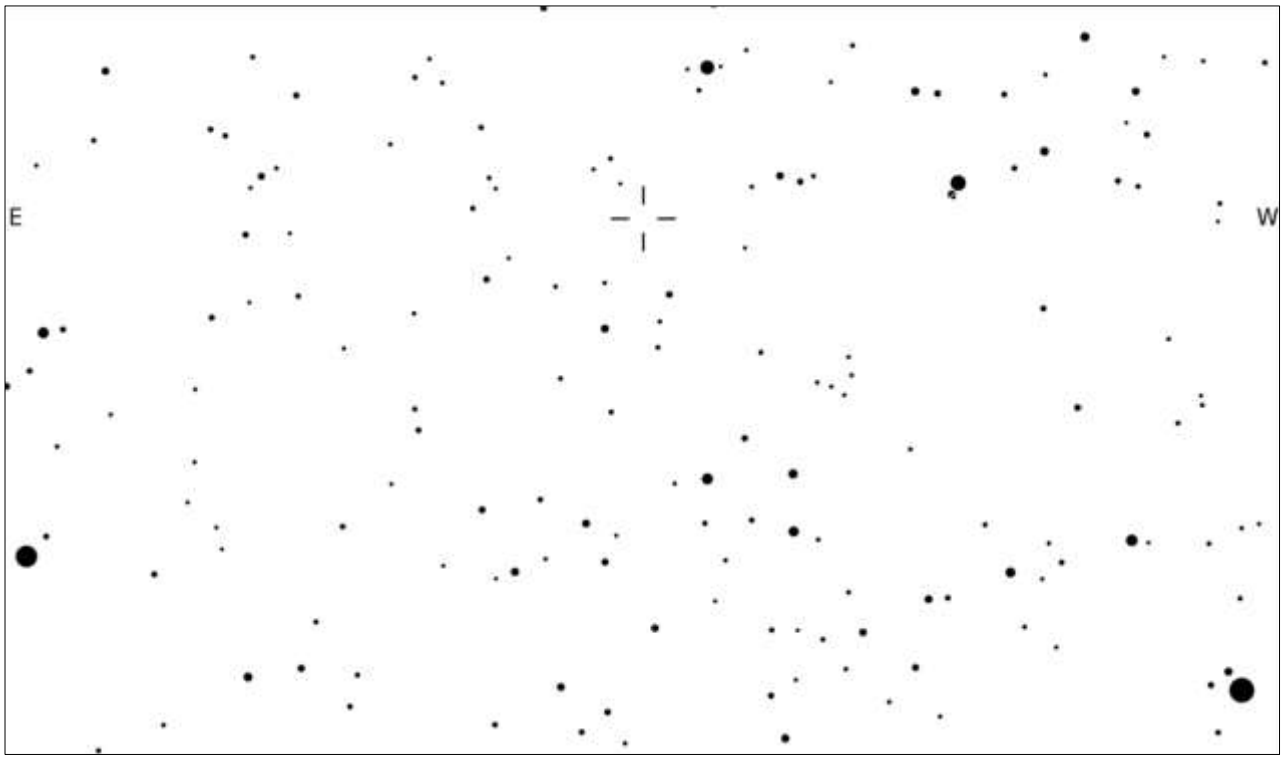


Chart from AAVSO Variable Star Plotter (VSP). The bright star near lower left is alpha (α) Sextantis; the one at lower right is iota (ι) Hydrae. Stars shown to 10th magnitude in this 7 by 4 degree field. North is up.

Anas Sawallha: Observer from Jordan

Astronomy Observation Record

Index:

Subject(s): NGC 2841 , M87

Date: 16/3/23 Time: Location: Khirbaneh

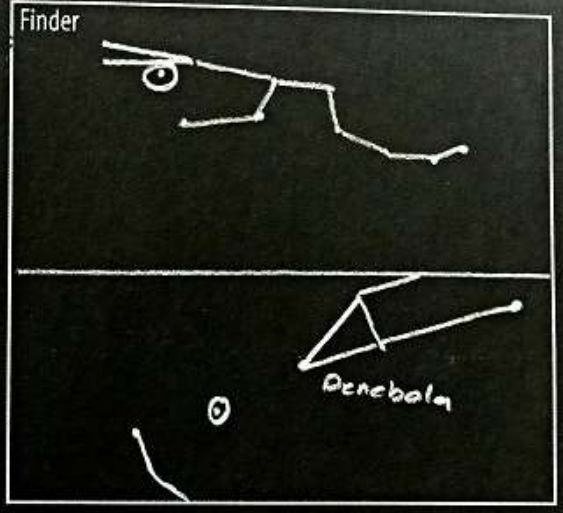
Instrument: 5" cel RS Aperture: 5" Focal Length: 1000

Eyepieces/Magnifications:

Conditions: Lo Seeing: 6

Transparency: 5

Finder



Notes:

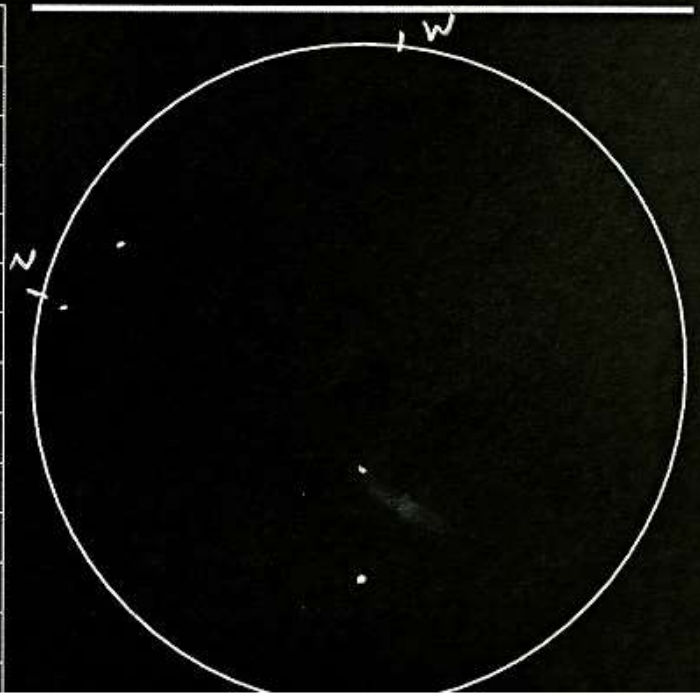
NGC 2841

Elongated galaxy , relatively bright core

in the middle of a bar like structure

The core it self is protruding out the

bar in W-E direction



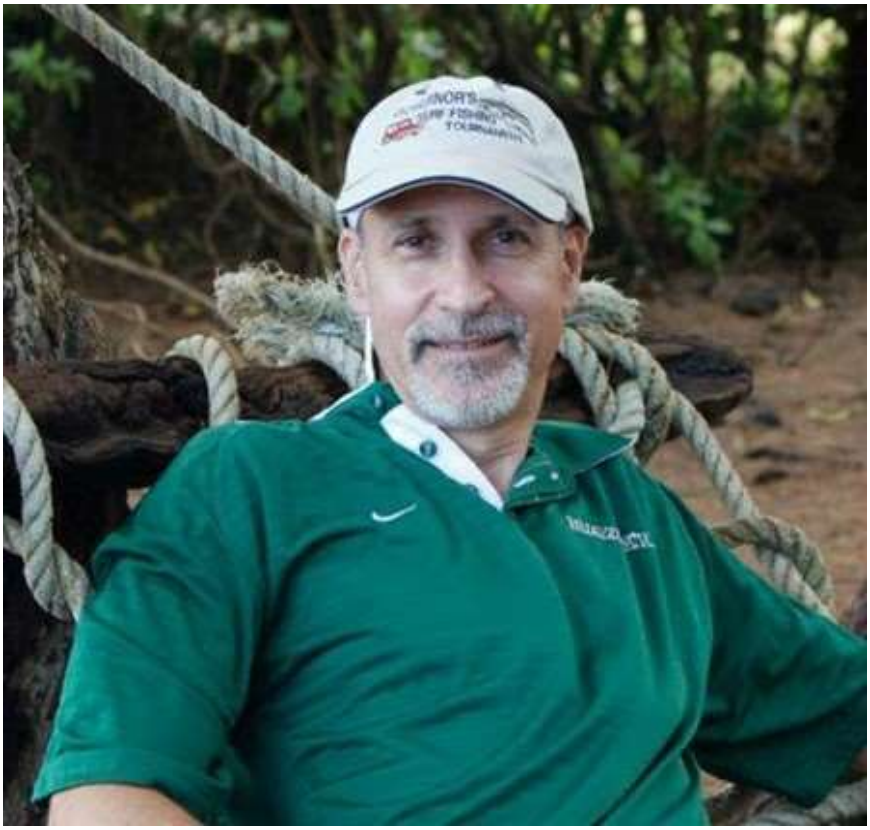
Mario Motta: Observer from Massachusetts

Image follows.

NGC 3044, taken with my 32-inch f/6.5 telescope which is designed for galaxies, from Gloucester, MA. 100, 30 sec images stacked.

Interestingly, I left my guide scope in Florida, so it wasn't possible to do long exposures. However, as of now I use a CMOS cameras instead of CCD (ZWO ASI 6200), which is a way around taking many short exposures and stack, which I did until I got a new guide camera. (CMOS has low read noise so little penalty for short exposures stacked, just a huge number of files.)

James Dire: Observer from Illinois



NGC 3044 is a 12th-magnitude galaxy in the constellation Sextans. The galaxy measures a mere 4.2×0.7 arcminutes in size. NGC 3044 is nearly edge on and has galaxy classification SBc. This classification means that NGC 3044 is a barred spiral galaxy with a very small galactic core and central bulge.

William Herschel discovered NGC 3044 on December 13, 1784. The galaxy is 67 million light years away. The galaxy has a physical diameter of 85,000 light years.

NGC 3044 is one degree southeast of the 6th magnitude star 7 Sextantis or 4.5 degrees west-northwest of Alpha Sextantis, a magnitude 4.48 star.

My image of NGC 3044 is a wide field shot taken with a Stellarvue 70mm f/6 refractor using an SBIG STF-8300C CCD camera. I employed an Orion Skyglow filter. The exposure was 150 minutes. The image is 2.5 degrees wide and 1.9 degrees tall. NGC 3044 is slightly off center. Had I centered it better, 7 Sextantis would have made it onto the top of the image just above the three stars lined up near the top edge to the right of center (left to right magnitudes 10.0, 9.3 and 10.4).

The brightest star in the image, to the left of center and closer to the bottom, is HD85833, a magnitude 7.78 star.

Note the asymmetry in the galaxy, even at this scale. It is thought that NGC 3044 had an encounter with another galaxy that distorted its shape.

Joseph Rothchild: Observer from Massachusetts

I observed galaxy NGC 3044 on April 10th. It was my first observation of this object. I observed with my 10” reflector in dark skies and fair transparency on Cape Cod.

I used 2 neighboring stars in the field to orient myself. One of these was a double star. The galaxy was not visible with my 27 mm eyepiece at 53×. When I increased the magnification to 102× the galaxy was visible as a faint line with an aspect ratio of about 8:1, consistent with an edge on galaxy. No further detail was seen.

Roger Ivester: Observer from North Carolina

This might be the most difficult galaxy I've ever observed from my back yard, with a NELM of ~4.8 to 5.0, with my 10-inch reflector. I had to draw the faintest of stars in the EP view on my sketch card and then concentrated on the "exact spot" where the galaxy "should be located" for more than two hours.

Finally!

I could see a "blur of light" without shape, featureless and only intermittently with averted vision. I checked the time and it was 1:30 AM, and decided that there was nothing more I could see, and went in the house smiling with a real sense of achievement. Yes, smiling and with a sense of achievement over an intermittent blur of light.

Only those of us that have been visual observers, using only an eyepiece, a pencil and pad for decades can understand this.

I was in jubilee, as I had thought this was going to be the only object that I would not be able to see after 171 months of the Observer's Challenge. However, this has happened to me on quite a few occasions over the past 15 years participating in the Observer's Challenge Report. But with patience, and waiting for that perfect moment of transparency and seeing, the faint deep-sky object would always appear. Yes, quite an accomplishment to see this faint galaxy.

Sketch Follows.

The following is the complete listing of all Observer's Challenge reports to-date.

https://rogerivester.com/category/observers-challenge-reports-complete/