MONTHLY OBSERVER'S CHALLENGE

Las Vegas Astronomical Society

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&

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NGC-6503 Dwarf Spiral Galaxy In Draco

Introduction

The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It's open to everyone that's interested, and if you're able to contribute notes, and/or drawings, we'll be happy to include them in our monthly summary. We also accept digital imaging. 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 the astronomer 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 Observers Challenge. We're not excluding those with an interest in astrophotography, either. Your 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.

NGC-6503 Dwarf Spiral Galaxy In Draco

NGC-6503 is a dwarf spiral galaxy in Draco. It lies some 17 million light-years away and shines at a relatively bright mag. 10.2. It's located in a vast empty area of space called the Local Void. This region is known for having a lack of celestial objects, consistent with the lumpiness of the universe. The galaxy is about 30,000 light-years across, which is relatively small compared to our Milky Way galaxy with a size of 100 to 120,000 light-years across. In images, it's quite colorful with red and brown areas. Because of its compact size, the surface brightness is decent so it should be easy to see even in small scopes.

Observations/Drawings/Photos

Keith Caceres: Observer from Nevada

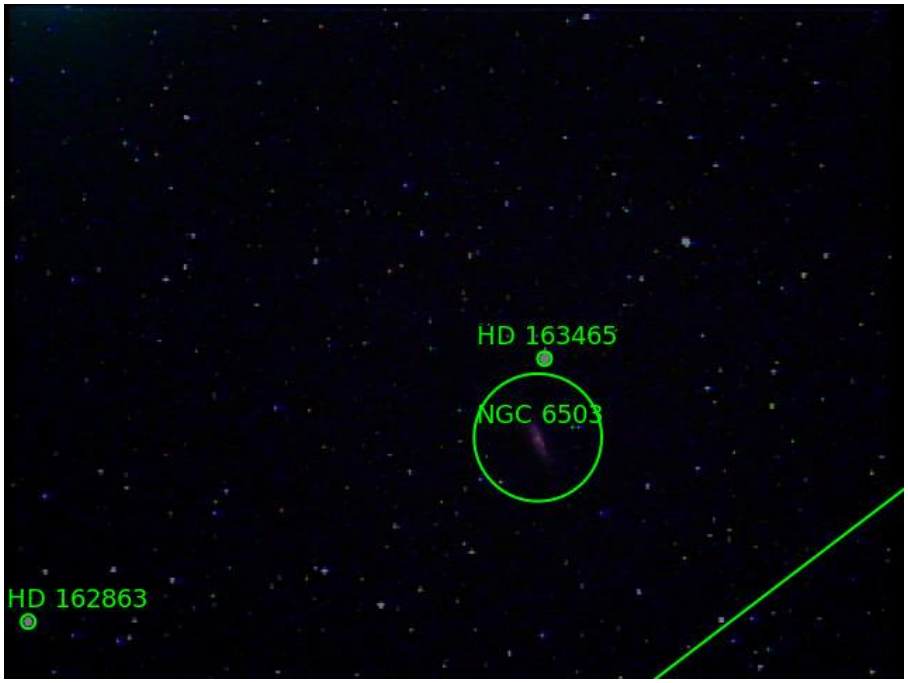
I observed the object on the evening of July 21, 2015 from our Mt. Potosi Observatory site, after the quarter moon set behind the western mountains. We were getting in some observing after wrapping up our star party for the Camp Lotza Fun campers staying at the Boy Scout site.

From my image capture, the object appears to be a galaxy with a nearly edge on disc, somewhat similar in shape to M82, but smaller, dimmer, and without any dust lanes to obscure the brighter central region in the galaxy's core.

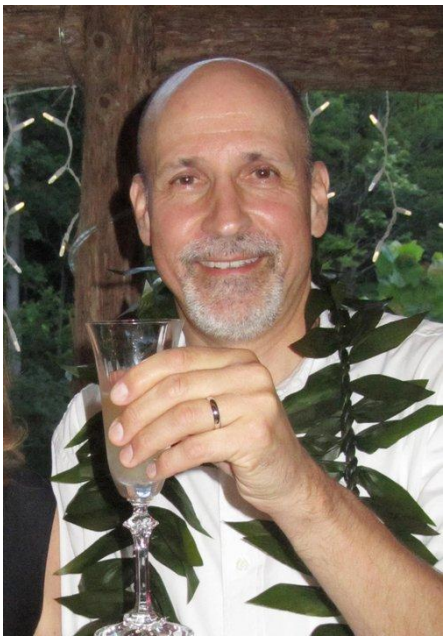
I used my 8-inch SCT and a Mallincam Jr. Pro to obtain my image capture. The scope was focal reduced to around an f/3 focal ratio (estimated). My integration time was either 30 or 35 seconds. The plate solve of my image from astrometry.net indicates my field of view was 43.7 X 32.8 arc minutes (0.73 x 0.55°).

Measuring the length of the galaxy and comparing it to the image's vertical scale of 32.8 arc minutes gives an apparent angular length of about 3 arc minutes. I looked up statistics for the object in *Sky Safari Pro*, which gives an apparent angular size of 7.0 X 2.5 arc minutes. Given that my measured length is less than half of this, I can only presume that my camera was not able to capture the dimmest outer areas of this galaxy using this exposure time, making it appear smaller than it is.

I have attached the original image capture and the annotated version from my upload to www.nova.astrometry.net.


HD 163465
NGC 6503
HD 162863

James Dire: Observer from Hawaii



NGC-6503 is a mag. 10 spiral galaxy located in the constellation Draco. The galaxy is relatively easy to find. The stars Chi Draconis (mag. 3.6), Omega Draconis (4.78), 27 Draconis (5.1) and Aldhibal, aka Zeta Draconis (3.2), all lie roughly in a line. The galaxy resides on the same line between the stars Chi and Omega. It's roughly at the midpoint between Chi and 27 Draconis.

Because of its northerly declination, it is circumpolar for most northern hemisphere observers. Even here in Kauai, it doesn't set, although it's only 2° above the horizon at its lowest elevation. I first spotted NGC-6503 this month with my 6-inch f/6 achromatic refractor. Since I used a GOTO mount, it was in the eyepiece with little effort. With the 6-inch scope, the galaxy was very faint and looked like a faint elongated patch.

Pointing the red dot finder on my 14-inch f/6 Dobsonian at the correct location, I could not make out the galaxy in the adjacent 8X50 finder. However, it was dead center in the scope's eyepiece. Finding it was just as easy using the Dob to star hop to the galaxy as it was with the GOTO mounted refractor. The Dob revealed a tiny bright spot in the nucleus, but not much detail in the galaxy beyond that. A red giant star, HD163465 (mag. 8.6), lies in the same field of view as the galaxy, providing some good contrast.

NGC-6503 is a member of the local group of galaxies. It lies 18 million light years away. The galaxy spans 30,000 light years making it roughly one-third the size of our Milky Way galaxy. It is 5.9 x 1.9 arcminutes in size with the major axis running northwest to southeast. The apparent elongation is because the galaxy is closer to edge on than face-on.

My image was taken with a 10-inch f/6 Newtonian with a SBIG ST-2000XCM CCD camera. The exposure was four hours. The image shows a very bright but compact core, indicative of an Sc classification galaxy. Even though not very open to our vantage point, the tightly wound spiral arms with large dust lanes are readily apparent. The bright spot to the left and slightly below the core is a large star-forming region easily identified on HST images. Below that, near the apparent bottom edge of the galaxy is another bright spot containing hot young blue stars not obstructed from our viewpoint by dust lanes.

Francisco Silva: Observer from Nevada

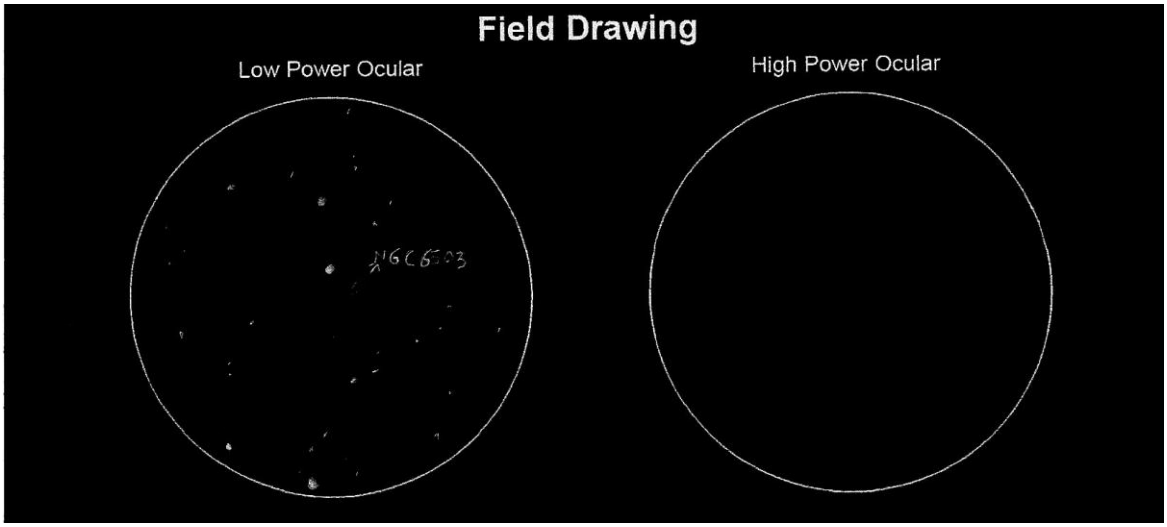
On July 21,2015 at 22:30, from the LVAS Mt. Potosi observatory site, I used an 8-inch reflector to observe NGC-6503. The seeing was a bit turbulent as indicated by the soft star images. The transparency was good.

At a magnification of 48X, this lonely spiral galaxy, which is apparently the brightest object within the constellation, lies only 17 million light-years away from us. It's very difficult to determine faint detail using an 8-inch telescope.

Description: Cloud-like, even texture, elongated with little brightness.

Low surface brightness would best describe it, rather than for its brilliance.

I could only use a 25mm (48X) eyepiece. When increasing the magnification, the galaxy would disappear.

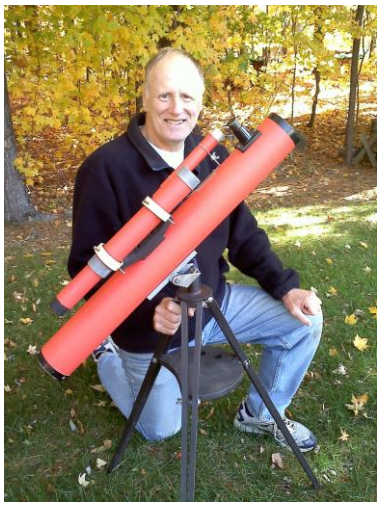


Gus Johnson: Observer from Maryland

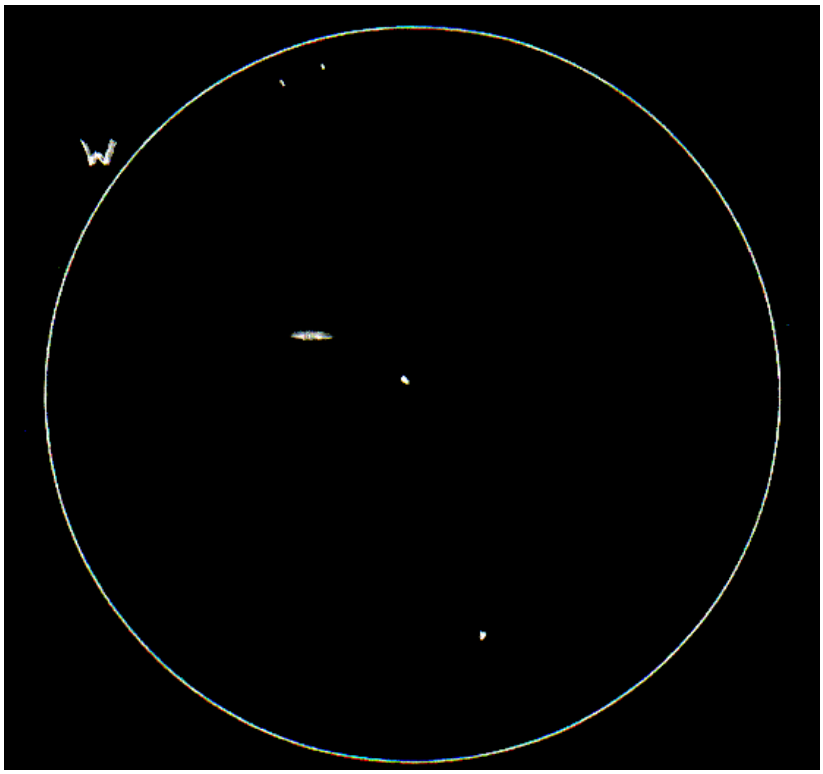
In September, 1998 I used a 4.25-inch reflector at 42X to observe NGC-6503. I saw it easily as a cigar shape. A bright star lay just to the east.

In June, 2011, using the same scope and magnification, I noted a triangle of stars on the NW side. The galaxy had an elongated cigar shape, oriented NW-SE.

Glenn Chaple: Observer From Massachusetts



Here's my sketch of NGC-6503, made on July 10, 2015. I used a 10-inch f/15 reflector at 139X. Skies were moderately light polluted, with a limiting magnitude of 5, so I saw no definite detail. I first viewed this galaxy on July 28, 1978, using a 3-inch f/10 reflector at 60X, noting it as, "definitely elongated when viewed with averted vision."



Gary Ahlers: Observer From Nevada

This mag. 10.4 dwarf galaxy, only 30,000 light-years in diameter and 17 million light-years distant, lies at the edge of a region called the Local Void. The Local Void, estimated to be some 150 million light years across, appears empty of stars and galaxies. However, judging by Hubble extreme deep field images of other such areas, this is unlikely to be the case.

NGC-6503, a spiral galaxy, presents at about a 30° degree angle to us. It's a very compact, bright disk with almost no separation of arms which appear more as swirls than distinct arms. It has a very small central core and virtually no center bulge. Continuing below average sky conditions hampers resolution and obscures gas and dust ribbons in a galaxy with a high level of star formation. With higher magnification/resolution and near perfect sky conditions, this is a very pretty little galaxy.

Image taken with Mallincam XTR418 @ f/6, 10-inch SCT, 20 frame stack@30 sec. South is up and west is to the left.

Gary Bruno: Observer from Nevada

NGC-6503 is small, but not difficult to pick it up. It's easy to identify as a galaxy, but I had difficulty using high magnification. I used various eyepieces for my observation using a 14-inch SCT telescope.

Jay Thompson: Observer from Nevada

I viewed NGC-6503 on February 20, 2015 from the dark skies of Meadview, AZ with a 17-inch reflector. The galaxy was a nice elongated streak that showed up well. It was close to a bright star. The view at 227X was very nice.

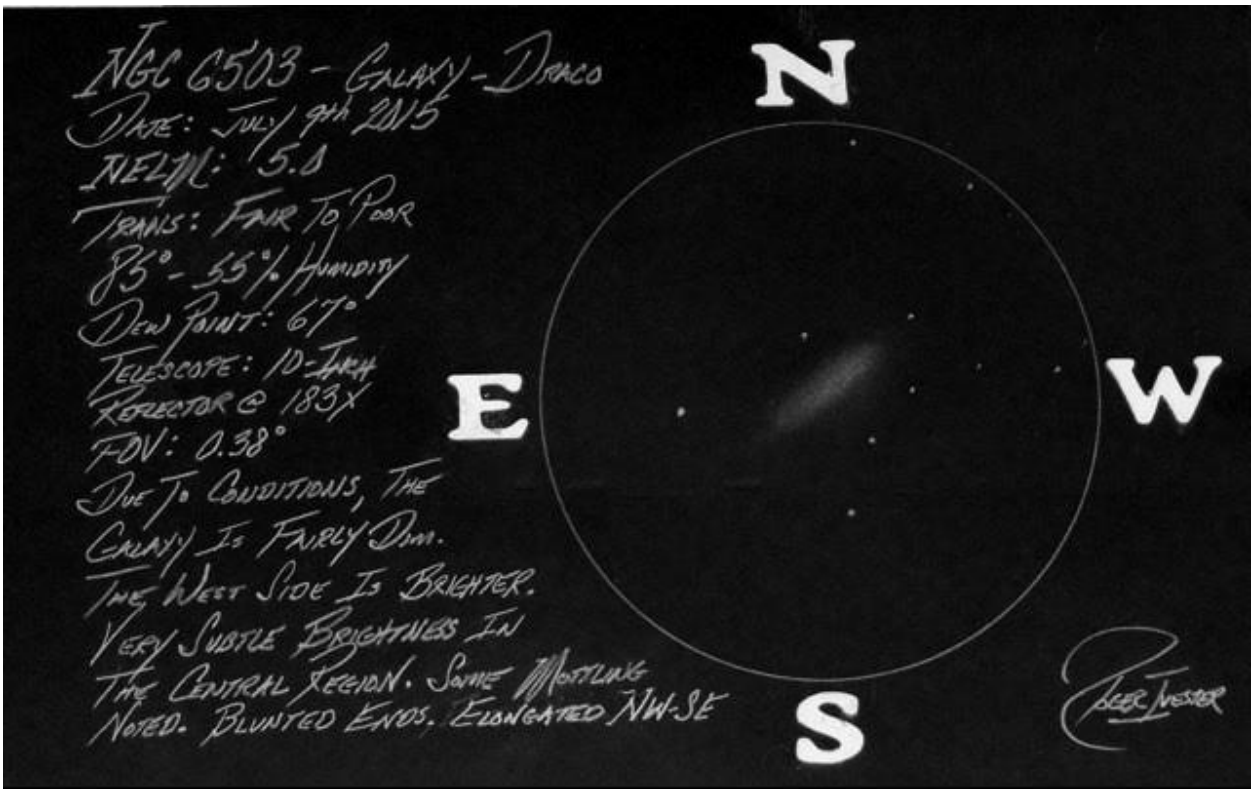
I also attempted to view it from my backyard in Henderson, NV in July 2015 using a 14-inch SCT. This was my second time out with digital setting circles on the telescope's fork mount. At 186X, I was unable to discern it. This was not entirely unexpected since NGC-6503 was past the meridian and nudging into the light dome of Las Vegas.

Roger Ivester: Observer from North Carolina

I used my 10-inch f/4.5 reflector with a magnification of 183X to observe NGC-6503. The FOV was 0.38°. Sky conditions were transparency: fair to poor. Seeing: good. Temperature: 85°. Humidity 55%. Dew point: 67°. NELM: 5.0.

It was a surprisingly clear summer sky for the foothills of North Carolina. However, the humidity was very high, reducing the transparency considerably. It was very easy to locate and see galaxy NGC-6503, at low power, but it lacked detail. The seeing was good, therefore I was able to use 183X. This galaxy was well-concentrated, but appeared fairly dim due to the fair to poor transparency. It was highly elongated with the NW being much brighter than the SE. When I used averted vision, the texture became uneven with mottling and a very subtle elongated brightening in the central region came out, but no core. A semi-circle of five faint stars lay just south, making a curve toward the west, going well beyond the galaxy.

The following is "rough field sketch" using a No. 2 pencil and a blank 5 X 8 notecard:


NGC 6503 - GALAXY - DRACO
DATE: JULY 9TH 2015
MAG: 5.0
TRANS: FAIR TO POOR
85° - 55% HUMIDITY
DEW POINT: 67°
TELESCOPE: 10-INCH
REFLECTOR @ 183X
FOV: 0.38°
DUE TO CONDITIONS, THE
GALAXY IS FAIRLY DIM.
THE WEST SIDE IS BRIGHTER.
VERY SUBTLE BRIGHTNESS IN
THE CENTRAL REGION. SOME MOTTLING
NOTED. BLUNTED ENDS. ELONGATED NW-SE
N
E
W
S
DEEP INVADER

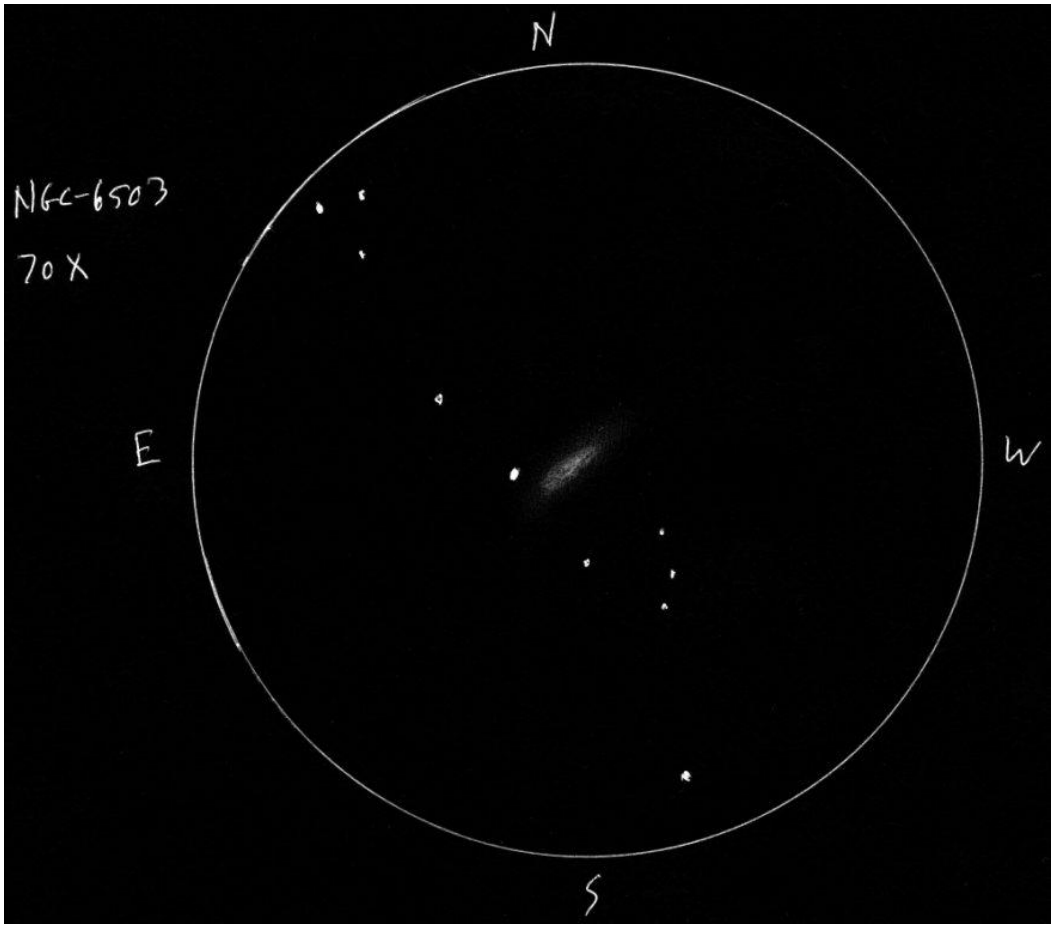
Fred Rayworth: Observer from Nevada

I've only observed NGC-6503 one time, back on September 11, 2010, from Cathedral Gorge State Park in East-Central Nevada. It was cool and calm but warmer than the night before. It seemed super-clear, but others were complaining about transparency, especially to the south. At around 23:30, thin clouds started to move in from the south and southwest. The skyglow of Caliente was very evident. By the time I gave up, some areas of the sky seemed brighter than they should be. When I woke up Sunday morning, it was overcast at 07:00 but pretty much cleared off by 09:00.

At an altitude of 4,800 feet, it at least cut through some of the junk in the atmosphere!

I used my 16-inch f/4.5 and a 25mm 70° EP, giving a magnification of 70X. It was a nice surprise. I saw a medium-flat oval, with a bit of mottling in the center. It was quite bright, considering the erratic transparency issues. I didn't see any core as the mottling was the only features, more a central disturbance. A nearby star, just off the southeast edge (mag. 8.6) framed the galaxy nicely. I saw a few other faint stars close by but they were nothing much to consider as noteworthy.

I'd love to check it out again under higher magnification and better, more transparent conditions.


N
NGC-6503
70X
E
W
S