

MONTHLY OBSERVER'S CHALLENGE

Las Vegas Astronomical Society

Compiled by:

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&

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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.

Chaple's Arc - Asterism In Cygnus

This month's Observer's Challenge is the unusual asterism discovered by our own Glenn Chaple. It was also, as Sue French acknowledged, discovered and named the Fairy Ring by amateur Kim Hyatt. For more history on it, see below:

The following is an excerpt from an article by Glenn Chaple and posted by *Skyscrapers, Inc.*

Forgive me for the apparent ego trip, but this month I'm going to introduce you to an amazing little asterism called "Chaple's Arc." I stumbled upon the Arc in the mid-1970s while looking for the double star H1470. Instead of one double, I found four arranged in an arc $1/2^\circ$ across. So smitten was I by its extraordinary appearance that I eventually wrote about it in the September 1980 issue of *Deep Sky Monthly*. New York amateur astronomer John Pazmino viewed the group and dubbed it "Chaple's Arc."

A quarter century later, I decided to introduce the Arc to a much larger audience by featuring it in my "Observing Basics" column in *Astronomy*. To my amazement, I saw the same group described in the British magazine *Sky at Night*. The writer called it the "Fairy Ring." Uh-oh! Had I missed something?

After a little detective work and an assist from *Sky and Telescope's* Sue French, I learned that the Arc had been seen by Utah amateur astronomer Kim Hyatt in the early 1990s. Like me, he found it during a search for H1470. Because he was using a larger telescope than I had, he was able to view some faint pairs that, along with my four, formed a ring of double stars. Not knowing about Chaple's Arc, he and a friend christened it the Fairy Ring.

Glenn Chaple/*Skyscrapers, Inc.*

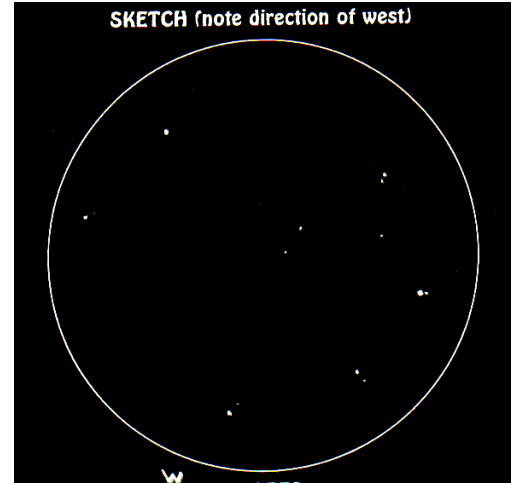
This is an outstanding Challenge object for any telescope but must be seen at very low magnification and a wide field of view.

Observations/Drawings/Photos (Contributors listed in alphabetical order)



Glenn Chaple: Astronomy Columnist LVAS Friend from Massachusetts

I observed Chaple's Arc with a 3-inch f/10 reflector at 60X. The field of view was 0.5° . The seeing was 3 on the Andoniati Scale and limiting mag. was 5.



Sue French: S&T Columnist and LVAS Friend From New York

A memorable asterism, dubbed the Fairy Ring by Utah amateur Kim Hyatt, lies just 1.6° west of the Crescent Nebula. My little refractor at 47X displays a nifty 22' ring of star pairs. Four bright pairs make up the northwestern arc of the circlet. Several dimmer pairs complete the ring, only three of which are particularly obvious, and a scattering of stars inhabits its interior. The Fairy Ring is even more striking through my 10-inch reflector, which better shows off the star colors. Working clockwise, the four bright pairs appear blue-white and yellow-white, gold and white, blue-white and white, and white and reddish orange. The two brightest stars within the ring are yellow-orange and orange.



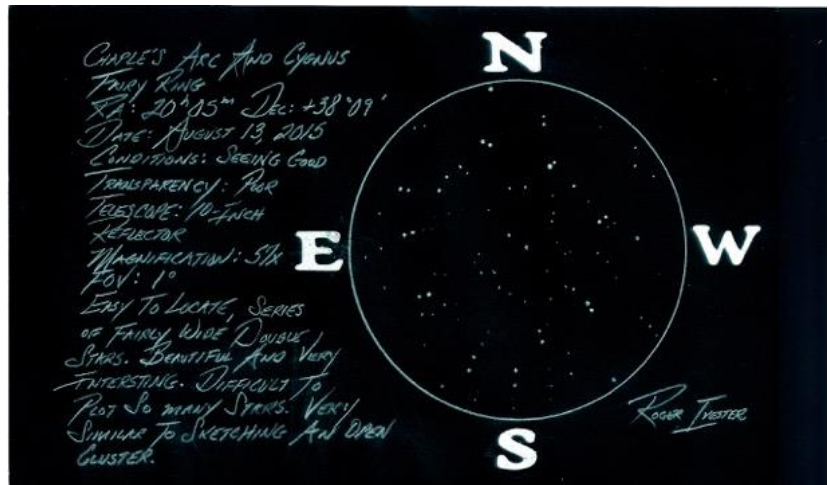
Roger Ivester: LVAS Member from North Carolina

I observed Chaple's Arc from the foothills of North Carolina with a 10-inch f/4.5 reflector on August 13, 2015. Transparency was poor due to very high humidity but seeing was excellent. The sketch was done with a 20mm EP at 57X and a 1.1° true field of view.

I located and recognized immediately the asterism known as Chaple's Arc and the Cygnus Fairy Ring using a 32 mm eyepiece @ 36X with a 1.8° FOV. The first star I noticed was double star H1470 with the primary being a ruddy or rust color.

When increasing the magnification, using a 20 mm eyepiece @ 57X with a 1° FOV, I could see at least eight or more separate pairs of double stars making a circle. This beautiful ring of double stars was framed very nicely within the 1.1° field. A fabulous and most interesting asterism.

The following is a pencil sketch was made using a blank 5 X 8 notecard, a No. 2 pencil with the colors inverted using a scanner.



Fred Rayworth: LVAS AL Coordinator from Las Vegas

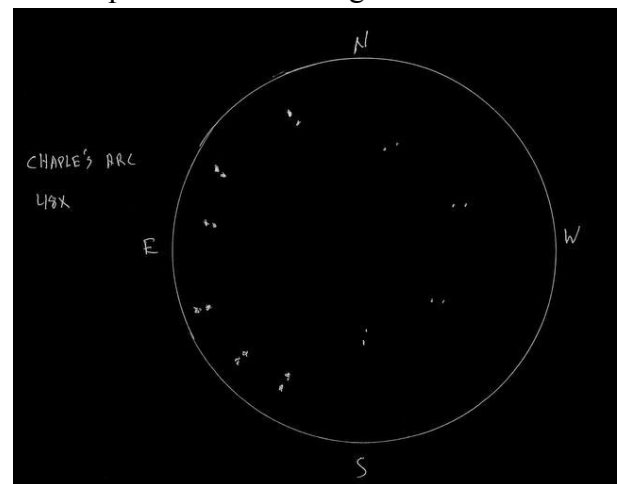


Though I've seen Chaple's Arc, or as it's also known, the Cygnus Fairy Ring several times, I wanted to get another fresh observation for the present Challenge. Since I was in the middle of compiling and writing/editing this Challenge while off on the annual fall Cathedral Gorge Star Party, the opportunity presented itself. I also had a chance to "cheat" by finally breaking down and obtaining Star Commander digital setting circles. I figure after manually finding everything for 48 years, I earned it!

With an elevation of 4,800 feet, Cathedral Gorge can be a very nice place to observe. On Friday, September 2, 2016, after working the bugs out of the Sky Commander the evening before, the windy day calmed down, finally. We had clouds moving through for most of the day but they faded away after dark. The air was fairly transparent but the seeing wasn't all that hot, especially toward the horizons. That was no big deal, especially looking pretty much toward or near the zenith.

The thing about the Sky Commander was that using the coordinates given by one of the experts, I was able to dial right into the center of the arc without straining my neck! I used my big honkin' 38mm wide angle EP with the fish bowl edges and at 48X, I took in pretty much the entire arc in the field of view. I wasn't quite able to squeeze in the entire ring without a bit of sweeping. I correct that. I WAS able to squeeze it all in, but with the distorted edges of the 70° field, I had to sweep to see all the stars as pinpoints instead of comets! That was okay, I'm not all that picky. Despite the minor quibbles, the view as spectacular. Getting most of it into the 70% zone, the arc was a nice double star loop. The one thing I forgot to look for was color. Though I did notice a bit of orange and distinct blue, for the most part, all I saw was the usual gray-blue-white in the stars. I forgot to study the color in any detail. Oh well. In fact, I don't remember looking at star color in my past observations either. I did notice that orange-yellow star mentioned by Tom English and Sue French though. Maybe that's the only one that stands out above the crowd?

This is a large but nice and interesting asterism and in a crowded field, especially with larger telescopes, it's easy to miss. I'm glad I had it pointed out to me because I probably never would've found it otherwise.





Jaakko Saloranta: LVAS Friend and Observer from Finland

On August 17, 2015, I observed Chaple's Arc with a 4.5-inch reflector first @ 76X (46').

I easily identified and nearly striking @ 38X (66'). It was best @ 57X (55') and filled 2/3 of the field @ 114X (37'). It formed a beautiful ring of 40* of mags. 7-12. The ring was nearly broken at the S edge. I counted 10 double stars @ 114X. Mag. 7 HD 190466 appeared red in color. It's labelled as HD 190466-group in the DSH-database of asterisms. I would call this asterism the "Ruby Ring."

On August 27, 2016 I observed it with a 4.7-inch reflector @ 90X (48').

It was a circle of roughly 50* visible within 25'. The brightest star - HD 190466 - appeared orange. Several double stars.

On August 27, 2016 I observed it with a 10-inch reflector @ 52X (48').

It was fairly obvious @ 52X (48') but nearly lost in the somewhat rich fields of the Milky Way. It was better with smaller apertures.

