

OUR CONSTELLATION NEIGHBORS: CYGNUS AND VULPECOLA

By Timothy Skonieczny

Cygnus is by far, one of the prettiest and brightest constellations in the Northern Hemisphere. Cygnus is in the heart of the Milky Way, containing more stars than any other constellation. Two Messier objects, M39 and M29, along with several other faint star clusters and diffused nebula make Cygnus more interesting.

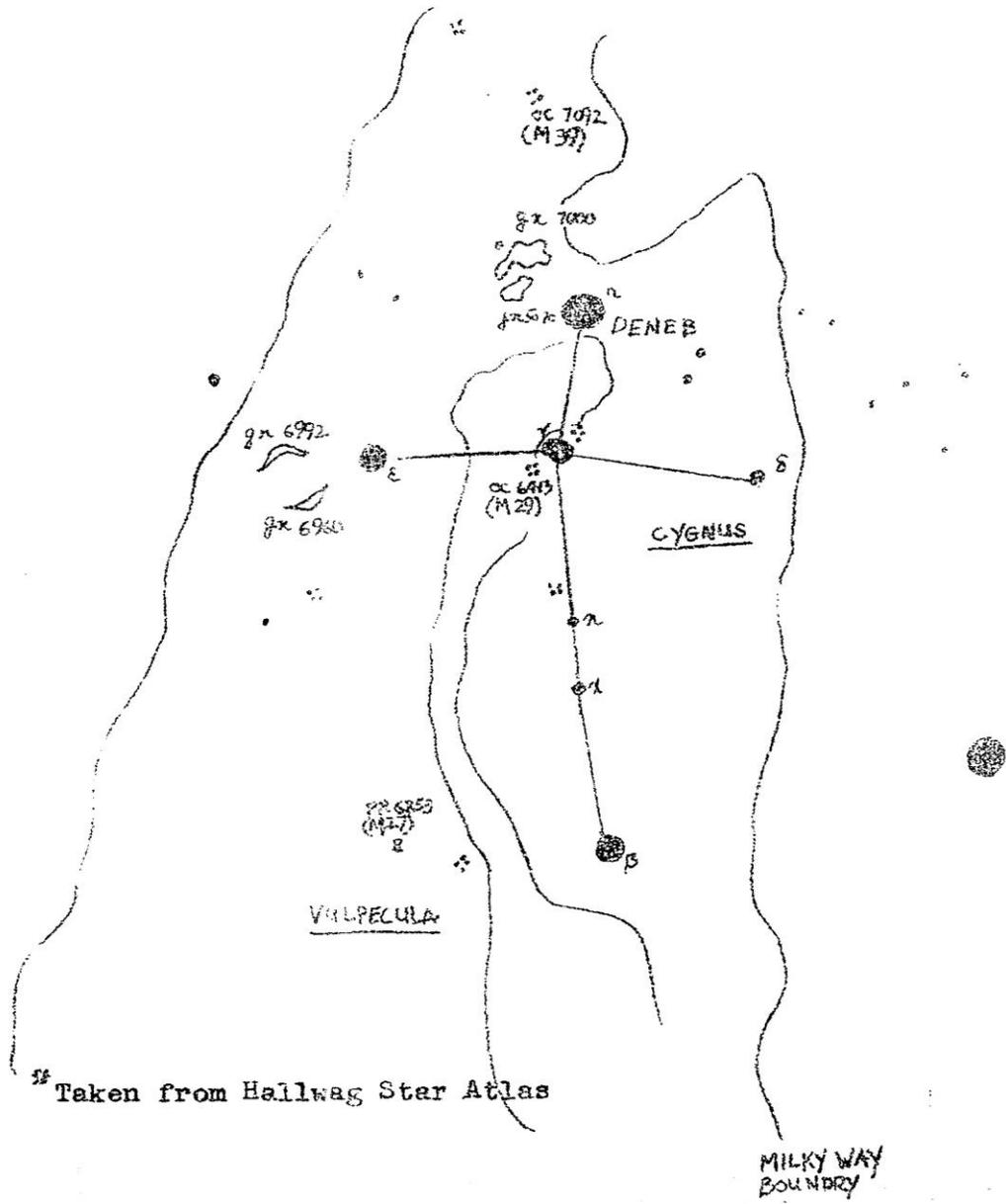
M39 is an open cluster of magnitude 6. It can be easily seen in any telescope or binoculars once you pick it out from the rich Milky Way background. Its Right Ascension is 21h 31m, and Declination + 48°. M29 is an open cluster also, but magnitude 8. It lies near γ Cygni.

Cygnus abounds in galactic nebula. They are too faint for small telescopes, but are beautiful on long exposure photographs. GN 7000 is the North American Nebula, GN 5070 is the Pelican Nebula, and GN 6992 and 6960 together make the delicate Veil Nebula.

Vulpecula lies just south of Cygnus, and also lies in the Milky Way. It is uninteresting except for a planetary nebula of magnitude 8.2, the Dumbbell Nebula (M27). The Dumbbell Nebula has a well deserved name for it looks like a blurry hourglass in a telescope of 6" aperture or more. Its declination is + 22° and Right Ascension 19h 58' 4".

On a dark night, when the Milky Way is easily seen, look for the Great Rift. It is comprised of dark intergalactic nebula and appears a hole in the Milky Way from Deneb through Vulpecula to Serpens.

The map below shows the constellations of Cygnus and Vulpecula. The more prominent star clusters and nebula are named. Messier objects are indicated below the N.G.C. numbers. (*Signifies star clusters and a small irregular shape signifies nebula.)



A Day Missing In Time

by Jim Trombly

Well, how about some more weird ideas? What about the idea that the earth's sun and Moon stood still for 24 hours total- Ha! More superstition you say. Well, here's the story and it's true.

NASA technicians and professors are working on plotting satellite courses in the future. Some were 100 years and 1000 years in the future. The purpose of this was to avoid having some satellites collide with the earth in the future. Now, while the computer was processing the data, the red light came on. A repairman said the computer was O.K., but she couldn't work because A DAY WAS MISSING IN TIME. The NASA officials couldn't account for this. Nothing could, except for that "symbolic, mythological book called the Bible."

Well, some dude there was a Bible "nut". NASA laughed, but they listened. They had nothing else to go on. Well, he said, "In Joshua 10-12,13:

12 Sun, stand thou still upon Gideon and thou, moon, in the valley of Ajalon.

13 And the sun stood still, and the moon stayed, until the people had avenged themselves upon their enemies. Is not this "written in the book of Joshua? So the sun stood still in the midst of heaven, and hasted not to go down about a whole day!"

The "about a whole day" was found to be 23 hours and 40 minutes. There was still 20 minutes missing. No, this "holy nut" referred to the other part by turning to II Kings 20:9,11.

"And Isaih said, 'This sign shalt thou have of the Lord that the Lord will do the thing that he hath spoken: shall the shadow go forward ten degrees or go backward ten degrees?'"

"And Isaih the prophet said unto the Lord; and he brought the shadow ten degrees backward, by which it had gone down in the dial of Ahaz."

Well 10 degrees on the sundial is 20 minutes, here the sun's shadow went back 20 minutes. That's 24 hours total, 23 hrs, 40 minutes, and 20 minutes = 24 hours. Well, take it or leave it. Accept it, and then it explains itself. Reject it, and then you have no other source except theory.

THE MESSIER CLUB'S BIG SUMMER OUTING FOR 1970

A TRIP TO STARRY EVERT, MICHIGAN

A group of seven Messier Club members ventured to Evert Michigan for one of the most memorable trips in our life time. At the Messier Club meeting the members and myself decided on a place to go for a weekend campout. We thought of Irish Hills, but ruled that out because of all the campers with the same idea. Then it was suggested by Chris that we camp just north of Windsor and drive until we found a good spot. So this was our plan until Donald Mission said we could camp out at his relatives' lot at Evert, and am I glad we did. Our caravan finally got rolling around 2:30 a.m. Saturday morning. It was a lovely warm morning and the- stars were out, yet the weekend weather forecast was not a good one. However, as determined amateur astronomers we ventured forth into a trip that turned from disaster to a FAAAAN----TASTIC success. Our caravan consisted of my dog Corky, Marvelous Marty Myron, Careless Chris Edsel, Dominant Donald Mission, Disabled Diane Bargiel, my sister Violet Virginia McCullough, and me, Friendly Frank. Marty drove his luxurious Chrysler while I drove my 1963 bashed-in Dent^ (But I'll stick up for my Corvair, because it carried a 6" telescope and mount, a 2" refractor and mount, groceries, camping equipment, clothing, pillows, etc. We also fit three people and a dog in front and still had a little bit of comfort.) Anyhow, to get on with the trip, we had driven nearly 100 miles when I looked out my window and saw the beautiful star clouds in Sagittarius. Never had I seen the southern sky like that except in the Carolinas' on our way to the

eclipse. We were nearly to Evert when the sun made its way to the horizon. It looked as if it were to be a spectacular sunrise from where we were driving.

I told Ginny to watch that in 25 minutes the sun would just be coming over the horizon. With 15 minutes to go, like a flock of black bats, clouds poured from the north, south, and west. With 2 minutes to go we were under an umbrella of gray clouds. We drove on until we reached the lot.

It was a very nice place with a river running alongside. The tents were pitched while a chilly breeze moved in. The only thing to do was to eat breakfast so the girls had the honor of cooking it. I'm sure it's the last time they'll ever cook breakfast for us again. The boys barked out the signals to the girls as to how they wanted their eggs fixed while the dog barked at them for barking at the girls. By the time breakfast was through I never realized how many different ways eggs could be made. As the girls cleaned the dishes, we boys, satisfied with our meal fell into a deep slumber. I was never to return for another four hours. (That was because I had no sleep for two days straight-- I'm crazy you know!) When I returned from the dead I found the girls cooking lunch. I felt terrible so I ate some lunch the girls made and felt worse. A chilly drizzle fell off and on all day yet we never lost our courage. We were proud to represent the W.A.S. at Evert, Michigan.

I went fishing later that day and while I was on the bank I saw a dying rainbow trout next to me. I thought, "Hey, what a cool gag!" I put the fish on my hook and proudly displayed my trophy. The fish was dead as a mackerel and as I showed them one said, "That's nice;" someone else said "what kind is it?" I said, "It's a rainbow trout." You think they cared? No, they didn't. So I through it back in and pouted on the bank.

Then there was a tug on my line and a fantastic battle went on between fish and man. I reeled the fish in in approximately three seconds and found that it measured about four and a half inches. I had enough fishing for the day and dug out my Norton's Atlas and Sky and Telescope to find my objects for that night.

As a drizzle fell upon my books and me, Chris walked over to me and asked what I was doing. I said that I was finding my objects for that night, and he broke into such laughter that it wasn't even human. He said it wouldn't clear up, and I told him that he didn't have faith because it was still early. As time moved on the clouds and drizzle remained. The sky started to darken. We went into town for a while and covered in three minutes. They had a few stores, one bowling alley with around four or five alleys, and a big night spot which was called A&W's.

After returning to camp we roasted marshmallows and watched the fantastic fireworks Evert had to offer. They consisted of about 10 bursts of explosives and a fire bell that rang for about five minutes. We were trying to think of something to do to pass the night away, so my sister caught a tadpole. (Which I'm sorry to say passed away the morning of August 1). My sister's autopsy revealed that he turned all black before he died. The clouds still hung over our heads as it grew darker. Then, as if I had seen a ghost, I gasped, "There's a black spot!" The spot became a streak which then became a gap. It had moved from the northwest from the northeast and then BLAM!: Venus popped through like a flash light. It was marvelous, but then disappeared. I said there were more black spots. Of course Chris never thought it would, but it did-- a giant gap opened up and as we all watched, we were swallowed up by the sky. Standing next to Chris, I heard him say, "Oh Mama Bear!", referring to the whole constellation

of Ursa Major which was stupendous. Then it continued to cloud and open up again about ten times.

Finally it clouded up what looked like for good. So we went out and caught lightening bugs, and had a lot of fun. Diane was afraid to catch them when they landed, because she thought some prehistoric animal or some creature would bite her hands off if she reached in and caught one. All this time we were playing the "2001" soundtrack which shrieked across the fields, meadows and treetops. We caught about 10 and put them in a milk carton where Chris was waiting to take exposures of the bugs as they lit up the carton. (By the way, if you want to see the slides of the lightening bugs, he's got them).

Meanwhile time rolled by and so did the clouds--they opened up. we set up our equipment, which was a difficult task because we couldn't believe all the stars we saw, clear to the horizon. We could see the divides in the Milky Way. All of Sagittarius and Scorpius was seen easily naked eye. The only thing I can say for all of us is that it was exciting and breathtaking. Here we are members of an astronomy club and seeing stars at this perfection is like viewing a solar eclipse for the first time. (Yet if you live in Warren the stars at that stage would look as good as a solar eclipse, because we see the stars this way as many times as we are able to see a total eclipse--I hope you're not confused with that last statement). I won't go through all the things I saw that night, but I saw too much. In other words, I was like a pig rambling through the messier objects, gobbling them up as fast as I could find them. The reason I was like that is because I'm a resident of Warren, or I should say I was one. I just didn't have time for careful, serious observing even though I've managed to knock off about 15 objects. I stayed up late Sunday morning and called it quits around 3:30 a.m.

I was chilled to the bone so I bundled up with a sleeping bag, a couple of sweaters a couple of jackets, etc. I did not want to go in the tent and disturb the rest so like a bullhead I rolled up all the car windows and snuggled to sleep. The next thing I knew, I heard a tap on the car window, the sun shone brightly in a pure blue sky, and myself--I was ready to scream. I was a human roast being baked alive. I quickly opened the door, shed my wraps, and jettisoned myself out of the car where I felt sick and dizzy. Then Marty said to me, "Hurry up Frank, get ready because we're going canoeing. I told the guy we'd be there in 20 minutes. All I can say is that I sure wasn't in the mood for canoeing. We went though and paddled for 4 hours down the Muskegon River.

We had a hilarious time though. the crew consisting of Don, Marty and Chris had a few troubles when they lost control of their canoe, smashed into rocks, and hit the shore going full speed. I don't know how many knots they were going but I think Don picked up a few as he was ejected to the rear of the canoe when they had their FAAAN--TASTIC collision with mother earth. We did have some troubles that day for little did we know that when we rented our canoe we actually rented a "sponge." We stopped three times to dump or boat out. Then another time I decided to steer our vessel under a low tree hanging over the water. As we approached the branches I could see we were in trouble-- the water got shallower, I could see my sister's head-- then the 6' tree branch-- my sister's head-- then the branch-- then her head-- then the branch! Then I heard a scrambling noise from the front of the cane which was my sister trying to abandon ship. I heard a crunch, thump, scrape and saw my sister flattened on the floor of the canoe. Our oar was swiftly being carried downstream. Not liking to put my feet on the bottom of a river or lake unless it is made of sand, I ordered my sister to retrieve the oar. As she

plowed her way downstream, I felt proud that she was my sister. Then as I lost sight of her I knew she was making headway. (I'm just teasing with that last sentence!) She did get the oar and we were off once again.

After we landed our boats we went back to camp and I caught another fish. I got out my atlas again and found some more objects for that night. Not one cloud all day and the day grew to a close. Chris, Marty and Donald prepared to drive off to a hillside to photograph the setting sun. Little did they know that tragedy would strike. At camp Diane, my sister and I watched the thin crescent moon and Venus in the sky. Further off on a large hill, sunset pictures were being attempted. This is where "careless" Chris gets his name. They had to climb to their observing site and when Chris decided to go back to the car, he also decided to take a faster route. As he carelessly made his way he lost his footing and plunged to his death. When they brought to camp, Chris had sunset shots and a badly scraped elbow.

Again we went into town and came back to observe the beautiful night sky. Remember I said there were no clouds all day and all night, yet moisture came from our beautiful sky, hampering telescope observation. We left around 11:30 p.m. Sunday July 5th. Before we left, we were delayed when Marty's car's brakes acted up on him. We left keeping a moderate speed of 50 to 60 m.p.h. On the way home a beautiful aurora lit the northern sky around Perseus and Auriga. So I let Diane drive my car from the passenger's side while I stuck my head out the window and watched the aurora. It was a nice drive home except for a few problems. One being that I got stopped by the Highway Patrol for no tail lights, the second-- I kept falling asleep at the wheel, and the third--I got stopped by the Troy police and had to pay a \$4.00 ticket for no tail lenses on my back lights.

Yet this trip to Evert, Michigan will be filled with memories. Anyone is welcome to come on our outings. Just call for details.

The End?

Frank McCullough

SALUTE OF THE MONTH

The W.A.S.P. recognizes Mr. Kim Dyer for the great help he has been to the Warren Club. Not only is he a great resource person, but he devotes much of his time to our club and helping teach astronomy to the scouts at Camp Rotary. This column is not meant to be written every month. But only to be written for a person who has proved himself a standout to the staff and to the club.

Good Work, Mr. Dyer

Are Pulsars in Direct Relation to Heart Beats?

by Jim Trombly

You often talk of way out ideas. Well, what do you say to the idea that pulsars, with their enormous bursts of energy may keep the heart going until death? And why not say the same for quasars? By the way, quasar is pronounced "quǎ-sar", not "quā-sar". The "a" is simply short.

From a short history of quasars and pulsars, let us go into a brief history of these monsters. Without hitting everything about these things; we will investigate the idea of what is their power, size, and ability.

The quasar is a stellar like object, yet to be associated with a proper group. Galaxies, nebula, spiral systems, you name it and you'll find that the QS are heard to be hard to classify. The best classification I've read about these weirdoes is that they may be SEYFERT GALAXIES.

These galaxies are in the rare class of galaxies because of their high intensity of heat in the nuclei, while their outer parts are inconspicuous (from Sky and Telescope.) Seyfert was named after the man, Carl Seyfert. There are factors against this, but we will not go into here, because of the amount of material.

These little furnaces are said to put out energy from 10^{23} ergs per second up to 10^{46} ergs per second. An erg is defined in physics as the amount of force to move 1 gm. at an acceleration of 1 cm/second^2 . The energy varies with the wavelength.

Another dispute about these things is the distance from the earth. Some say that these things are moving from the earth at nearly 80% the speed of light. This would account for the red shift or the bend of the wavelength from so many angstroms (wavelengths). Another account for the red shift would be Einstein's theory of relativity applying to the gravitational attraction of light particles, thus bending the light and causing the red shift.

Well, so much for that. The idea originally stated is what we are after. Do pulsars control the heart with each burst? Pulsars are known to put out such whoppers of a burst that they flood their neighbors with synchrotron radiation of electrons.

(continued)

ROTARY NEWS



The Lunar Eclipse

by Jim Trombly

As the way it usually goes, nature takes on a tricky way of catching an individual off guard, especially when it comes to amateur and professional astronomers. At 10:15 p.m. the moon begins to be eclipsed, with an exceptionally clear sky and cool breeze along with the gleeful little crickets in the night. No you said anything about this personal phenomenon. The moon now attempts to approach almost half eclipse. It's 10:40 p.m., now and you notice a slight receding in the moon's eclipse. Not common, but you at least say you saw the eclipse, unprepared, but it has got to get worse against you. Something that of a cirrus cloud or strangled haze shows up above the front of your house (north). It is strictly confined to the north. The haze extends itself over the northern azimuth, in different designs and flow. You now realize it's the good old northern lights. The color is white only to you. You now appreciate it very much because you've never seen anything like it before. And so it comes, the thing magnifies. You see now a two dimensional curtain which is luminous very much at the base and less luminous as it gets higher. Designs change like shimmering Japanese curtains. One chain of light thickens and widens all over and this whole dancing occurs over the north, You are astonished and awed. You've never seen anything like it in Macomb County.

And now the whole half celestial sphere is covered with this phenomenon! The closer you get to the zenith the dimmer your chain gets.

You are surprised they cover so much. Streaks running horizontal and vertical. Where in the heck is your 35mm. White, whiter and more white. This is what many W.A.S. members saw, and it's incredible. How many people really know this would happen? Let's go over some of the ideas of this freaky thing.

- 1- The eclipse began about 10:00p.m.
- 2- The auroras oddly maximum themselves as the eclipse was leaving full contact.
- 3- The auroras seemingly were maximized when full luminosity occurred only 45 degrees above the horizon.
- 4- The auroras factually maximized at 10:45 p.m., clear up to the north.

(cont.)

The Lunar Eclipse
by Jim Trombly (continued)

- 5- Horizontal lights were visible mostly at the zenith.
 - 6- A dramatic 2 dimensional chain occurred near the Big Dipper.
 - 7- Strong luminosity was near the lower northeast.
 - 8- Blends of horizontal and vertical chains appeared many times.
 - 9- Fading occurred while still strong luminosity occurred.
 - 10- A unique observation was seen ONLY IF YOU LAY BACK OR WERE BENT OVER LOOKING CAREFULLY.
 - 11- What appeared as almost invisible fringe patterns (like a grating) resembling shadow bends (except shadows would be substituted by the light). Crossed horizontally (east to west) over the stationary predominant curtains, which were mostly vertical. It was like waves or ghosts passing in ordered succession.
 - 12- The boundaries were obvious. It went from 180 degrees from east to west to the constellation Cassiopeia, Cygnus and Altair (star).
 - 13- The further north you got the more luminous the light became. The light seemed to arc to the center of the constellation Cygnus with finally a total disappearance.
 - 14- The strange theory about this is the invisible fringe patterns that passed over the curtains. An aurora is defined as protons and electrons from the sun interacting with the gases or ions in our atmosphere. The interaction causes the spewing of these curtains supposedly. Perhaps the invisible fringe patterns may be intermittent pulses of the sun's plasma as it bombards the gases, with the curtains being the resultant.
 - 15- The most remarkable thing I have realized was that I turned on my radio to check ionospheric conditions (AM) and I noticed pulsing static over the radio, between stations. This I never hear. Is it possible that the radio pulses were in synchronization with the moving light waves or invisible fringe patterns and is directly the sun's plasma doing this?
- P/s The radio telescope's result from Florida has verified as being the direct observations of the sun and it looks "I have observed the eclipse". The theory and goal of the trip have been accomplished: Amateur radio equipment works on solar emission and the radio sun at long wavelengths has a smaller drop in flux at the centimeter wavelengths.