



OBSERVATIONS



A MONTHLY PUBLICATION OF THE
Chester County Astronomical Society

★*President:* Mike Turco
★*Treasurer:* Pete LaFrance

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★*Vice President:* Steve Limeburner
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http://members.tripod.com/~ccas_2/ccas.html



The CCAS 20" Club Telescope at the Exton Square Mall on National Astronomy Day

Photo by Jim Anderson

For a sense of scale, you can see two standard-sized folding chairs behind the telescope. There is a shroud that wraps around the upright truss rods when we're observing, to block stray light. The telescope is now available for use at CCAS Observing events.

The University of Pennsylvania donated the already-finished 20" mirror to the CCAS for the telescope. Using donations of time and money from our members, we then bought and built a Telekit from AstroSystems.

CCAS July Meeting & Observing Session Friday July 28, 2000

The next meeting is scheduled for Friday July 28 (cloud date is Saturday July 29). In June, July, and August we combine our meetings with the Observing Session at the Brandywine Valley Association. Before darkness falls, we tend to whatever business needs to be taken care of. There may or may not be a informal presentation of some kind. The Observing Sessions then start at about 8:30 p.m., when it becomes fully dark. At the observing sessions, there is help available to set up and use your telescopes. If you're having trouble using your telescope, or finding your way around the sky, come on out and get some assistance. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their `scope. CCAS Observing Sessions are always free of charge. Children are always welcome.

To get to the observing site at the BVA, turn off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go up the farm lane to the left; it's about 800 feet or so to the top of the hill. If you arrive after dark, please turn off your headlights and just use parking lights as you come up the hill.



Planetary Nebula NGC 6751

Located in the constellation Aquila
Photo by the Hubble Space Telescope, 1998

"Planetary nebulae" are named after their round shapes as seen visually in small telescopes, in which they often look much like Uranus or Neptune. They are actually shells of gas thrown off by stars with masses similar to our Sun, as those stars are nearing the end of their lives. Such stars are too small to go out as a supernova. Instead, they lose much of themselves this way and end up as dwarf stars, like the white dwarf at the center of this nebula. Our Sun has about 6 billion years to go before it reaches this stage. Take a look at NGC 6751 yourself this month while cruising through Aquila.



Public Open House: F & C Observatory

There will be a **FREE** public open house program at the University of Pennsylvania's Flower & Cook Observatory in Malvern, PA on Friday August 11, 2000, starting at **8:00** p.m. EDT. The program that night will be on meteor showers, and Dr. Goldader will bring along a bunch of "samples" from the University of Pennsylvania's meteorite collection. If any CCAS members have meteorites, or good shower stories (or tips!) to share, they would be most welcome. Maybe we will even get lucky and have good weather that night! If the skies are clear, there will be observing with the Observatory's telescopes. Children are of course welcome as long as they are accompanied by an adult. The Observatory is located on Providence Road, just west of the intersection with Warren Avenue. A map is included on a later page.



Telescopes and Members Needed: FCO

On Friday, July 14, Deb Goldader is inviting CCAS members and telescopes to join in at FCO where the Penn Summer Science Academy will be hosting a stargazing picnic for students and families. Each July, about 150 students from around the world come to Penn for an intense month of science (physics/astronomy, biology, materials science, mathematics), and the picnic is one of the highlights. The more telescopes the merrier! Deb did not yet know the start time, but anyone who plans to come to the picnic can call Deb as the date approaches.



Report on the Mason-Dixon Star Party

by Steve Limeburner

The 11th annual Mason-Dixon Star Party was held from Friday, June 23rd to Sunday June 25th in a State Park about 12 miles south of York, PA. Members who attended were Elise and Roy Furman, Pete LaFrance, Ed Lurcott, and myself. Although it was a hot weekend, the weather cooperated nicely (no precipitation, comfortable nighttime temperatures). Friday night turned out to be the best of the two observing nights. Skies were very clear and dark, and many deep-sky objects showed considerable detail in a medium sized telescope. The famous Trifid, Lagoon, and Omega nebulae were especially impressive from this site. The Trifid (M20) showed two clearly visible dark lanes, with hints of a third. The Lagoon showed abundant, detailed nebulosity in a low power eyepiece with an O-III filter.

Daytime events included speakers, swap tables, vendors, and awards. Speakers made their presentations in a cool, outdoor pavilion, shaded from the intense rays of the sun. Convenient on-site caterers provided round the clock service to hundreds, with a very popular \$6 Surf and Turf dinner (shrimp, steak, potato salad, roll, soda, and dessert) on Saturday night.

This was the first major star party I have attended. For the relatively short driving distance, I consider the Mason-Dixon Star Party to be an excellent prospect for anyone considering a first try at one of these excellent events.



Calendar Notes

July 28/29, 2000 (Friday)	CCAS Meeting & Observing Session BVA 8:00 p.m. EDT
September 1-4, 2000 (Labor Day weekend)	Black Forest Star Party Cherry Springs State Park Potter County, PA 2300' feet elev., very dark skies



New Committee Chairs

At the May meeting, Ed Lurcott pointed out that we still needed three people to help with Society business: Refreshments Chair (arranges refreshments for our meetings), Program Chair (to coordinate speakers and presentations at our meetings), and a Publicity Chair (to place notices about our meetings in the local newspapers). Elise Furman said she would serve as Refreshments Chair; if you'd like to offer to bring some cookies, donuts, drinks, etc. to a meeting contact Elise at 610-566-2916. Thanks Elise!

Donna Anderson said she would serve as Program Chair, since she had already taken care of sending Brother Guy Consolmagno a thank-you note on behalf of the Society for his presentation at the April meeting. Thanks Donna! If you have any ideas about what you would like to see at a meeting, give Donna a call at 610-380-4512. Suggesting an idea does **not** mean that you will have to do the work of preparing a presentation, nor the work of finding a speaker for that topic. Of course, if you have some ideas or good leads for speakers that Donna can work on, she'd appreciate the help. If anyone else would like to assist in the Program work (for example, maybe you could write the thank-you notes to speakers), please contact Donna. Program is one of the more involved and important jobs for the Society; it is also a job where more than one person can be involved. Donna can also assist other members in making charts, handouts, etc., for presentations.

I said I (Jim Anderson) would do the Publicity stuff for now, since I already have to know about the Society's activities ahead of time for the newsletter. It's relatively easy for me to send out letters to the local newspapers two weeks before our events. I have the letters and envelopes in the word processor on my PC, and just change the event information from month to month. I was doing that from December 1999 through April 2000; perhaps you saw some of the notices in the papers. I'll just keep doing that until somebody else volunteers to do it.



July Skies

It's not a good month for planetary observations; all the bright naked-eye planets are either in the early morning sky, or too close to the Sun, or both! We do, however, have a great opportunity this month to find and see an asteroid: Vesta.

Moon Phases

New Moon	07/01
First Quarter	07/08
Full Moon	07/16
Last Quarter	07/24
New Moon	07/30

The Planets

Mercury is low in the morning sky in late July, making its best appearance around July 27 when it rises almost an hour before the Sun.

Venus is **very** low in the evening sky during the last week in July.

Mars is behind the Sun this month.

Jupiter is the brightest "star" in our morning skies in July, rising at about 3 a.m. in Taurus.

Saturn is near Jupiter all month, making it easier to find. The two planets will be close to the Pleiades and Hyades star clusters this month. It is a good opportunity to shoot some very pretty, wide field "piggy-backed" photographs. If anyone does, please send copies to *Observations* to share with the Society.

Uranus and Neptune are high in the south by about midnight. Neptune reaches opposition (closest position to Earth) on July 27, and Uranus is at opposition on August 11.

Pluto is high in the south about the time it gets fully dark in July, near the star 20 Ophiuchi. Finding Pluto, however, requires at least an 8" telescope, dark skies, good charts, and lots of patience. However, now that we have a 20" telescope for our use, maybe we can "bag" Pluto from the BVA. Even Ed Lurcott hasn't definitely seen Pluto yet! Maybe you can beat him to it!

Asteroids Anyone?

Minor planet (asteroid) 4, named Vesta, will be quite bright in July and moving against the background stars in Sagittarius. It will be about magnitude 5.5 to 6.5 or so during the month. With really dark skies and really sharp eyes and a good knowledge of the star-spangled fields of Sagittarius, you might even be able to detect it with just the naked eye. Yeah, right, Jim, and elephants can fly. Anyway, with steady binoculars (or a telescope, of course) and some good charts you should be able to track its movement against the background stars. With this in mind, there are several charts on pages 7 and 8 that I included for your use. Chart 1 shows the track of Vesta in eastern Sagittarius from July 4 through

August 13. The "handle" stars of the "teapot" of Sagittarius are in the lower right quadrant of the chart. The tick marks on the track line are 5 day intervals. If you sketched the stars in this area from one night to the next, you should be able to see Vesta "move".

On Chart 2, the track of Vesta is displayed for the five days between July 25 and July 30. Here the tick marks are 1 day intervals. Because Vesta passes so close to two bright stars, it will be much easier to see day-to-day movement here. 51 Sgr is magnitude 5.65 and 52 Sgr is magnitude 4.61 (Tycho/Hipparchus data), while Vesta will be about magnitude 5.7 during that time. So there will be three bright "stars" in that eyepiece field; you should be able to get all three in sight at once with a medium power eyepiece in your telescope. From night to night one of them will move relative to the other two. All you have to do to sketch it is to first draw a circle on a piece of paper, to represent the field of view in your eyepiece (the "field" is what you see). You can do this part of the drawing ahead of time. You can use a coffee cup or glass to get a good round circle. Then, when you're at the eyepiece, place a dot for each "star" inside the circle, about where they appear in the eyepiece; high precision accuracy isn't necessary. Then look at it again, a night or two later. Two of the stars will be in the same place. One will have moved. Mark the new location with a new dot, and put the date next to it. Then, next to the dot that "disappeared" from the previous night, you can write that earlier date. You have just drawn, identified, and logged the movement of minor planet 4 Vesta. That wasn't all that hard now was it? This is how asteroids are actually discovered (well, nowadays the methods are a little more "high tech" than paper and pencil drawings, but basically this is how it's done: check the same field on several nights, and look for something that "moves" from one night to the next).

On the night of July 27, Vesta will pass very close to 52 Sgr, and you may be able to detect movement from hour to hour. Chart 3 shows the track of Vesta on July 27/28, with tickmarks at 1 hour intervals. It starts at 12:00 noon on July 27, Eastern Daylight Time (EDT), and ends at 11:00 a.m. on July 28. On July 27, between 9:00 p.m. (count the tick marks from 12 noon) and midnight, you can see that Vesta passes very close to 52 Sgr, and goes through a little quadrilateral box made up of 11th and 12th magnitude stars. Even in our light-polluted skies around here, most telescopes over about 3 inches in aperture should be able to show you these 4 stars. With such close reference points, you should be able to see Vesta "move" from one hour to the next. Chart 4 is a duplicate of Chart 3, without the track of Vesta. You can use it at the eyepiece to find Vesta, or even to plot it from hour to hour. Just make a dot on the chart where there's a bright star in your eyepiece "field" that isn't marked on the chart. Give it a try!

And since the name of this newsletter is *Observations*, send me your drawings. I have a scanner and can scan them into

my PC and include them in the newsletter. I'll mail the original right back, I promise. Let's have a gallery of member observations of Vesta in *Observations!*

One final note: it would be a good idea to look around this area of the sky ahead of time to get your bearings. Also, some telescopes will not show you the stars as they are plotted on these charts. That's because if there are reflections in the light path of your telescope, the image can get flipped backwards, upside down, etc. If you compare Chart 2 with the actual view of 51 Sgr and 52 Sgr in your eyepiece, and notice that "51 is not to the upper right of 52", let me know where 51 Sgr (the fainter one) is located in relation to 52 Sgr in your eyepiece. For example: "51 is to the left and below 52". Using that information, I can use the utilities in *Guide 7.0* to flip the charts around the right way so they will match the view in your eyepiece. Just give me a call (610-380-4512) and I'll mail a new set out to you.

The charts were generated using the program *Guide 7.0*. from Project Pluto in Bowdoinham, Maine. If you want to make copies of the charts in this newsletter for your own personal use at the telescope, that's ok. You can't distribute them to others, though. *Guide 7.0* uses Tycho/Hipparchus star-position data for stars brighter than about mag 11, and Hubble Guide Star Catalog star-position data for the fainter stars down to about mag 15, so the star positions on these charts should be relatively accurate. If you don't have the first idea what Jim was babbling about in that last sentence, don't worry about it. You don't need to know. All you need to know is that it means the charts are preeetty durned accurate.



Black Forest Star Party: Sept. 1-4, 2000

This great star party, organized by the Central Pennsylvania Observers, will be held on Labor Day weekend at Cherry Springs State Park, at an altitude of 2300 feet above sea level. Ed Lurcott, as well as Jim & Donna Anderson, are already registered for this star party. You can camp in the park; there are some electrical hookups. There will be door prizes, speakers, demonstrations, and **dark dark skies**. The State Park is located on PA State Route 44 in Potter County. There is a good field for observing at the Park. Cherry Springs State Park has just recently been designated as Pennsylvania's first "Dark Sky Park", under a new program by Pennsylvania's Department for the Conservation of Natural Resources. Registration for the Star Party is \$25.00, which includes a camping fee. Pre-registration deadline is August 5; after that registration is \$30.00 including camping. Park closes at 10:00 each night; after that you can't go in or out. For more information contact Michael J. Coslo at 814-238-7690 or via e-mail at black_forest@pop.psu.edu

Or visit the Web site at:

http://members.xoom.com/_XMCM/black_forest/bfsp.html



Overheard at the Anderson Household...

Donna was so enthralled by Brother Guy Consolmagno's presentation at our April meeting that she decided to start stargazing on her own. This meant (of course) that we had to get another telescope. After it arrived, and while we assembled it and "road tested" it, it was in the living room for a few days. During that time Donna decided she would call it "Lucy". Then on a Saturday I made room in the basement where my telescope ("Skywalker") is stored, and moved Lucy down there. Which led to this exchange: Jim said "I moved Lucy downstairs next to Skywalker so they can keep each other company"; Donna replied "Oh great! Now we'll have little binoculars running all over the place..."



CCAS Newsletters Now Available via E-mail

You can now receive the monthly newsletter by e-mail. When the newsletter is finished, I convert it to a special type of file (a .pdf, for Portable Document Format) using a utility called Adobe Acrobat. Then all you need on your PC, besides an Internet connection with e-mail, is the Adobe Acrobat Reader program for your PC or Mac. This program is available free of charge from Adobe. Just connect to their Website at www.adobe.com and follow the links and directions for downloading and installing the correct Reader program for your PC or Mac. On the main screen (home page) of Adobe, at the top look for a "button" labeled "Products" and click it. On the next screen, scroll down to where it says "Adobe Acrobat Reader", and click that. Then click on "Download Now". Make sure the version number of the Reader you get is at least 4.0 because I'm using Adobe Acrobat version 4.0 to make the .pdf files. If you have an earlier version of the Reader, like 3.0, you'll have problems reading the files I make with Acrobat 4.0. The 4.0 Reader, however, can read 3.0 files without a problem, so if you're currently using a 3.0 Reader you will still be able to read older files produced by Acrobat 3.0 if you upgrade your Reader to 4.0.

Once you've done that, then just send me an e-mail to let me know you want to switch to e-mail delivery of the newsletter. The biggest advantage of getting your newsletter this way is you get it two to three days earlier. Another of the advantages of getting the newsletter this way is that the photos and/or drawings that are color in the original will be in color in your copy of the newsletter. When we make the paper copies for mailing, they get copied in black & white, and sometimes the copy quality of pictures is not good. Another advantage is that getting your newsletter by e-mail will save the Society money in copying and mailing expenses. In the past year some issues have cost the Society \$75.00 and more in copying and mailing costs. So if you want your newsletter by e-mail, send me an e-mail at sny114@aol.com and I'll get you set up on the e-mail distribution list.



Contributing to Observations

Contributions of articles relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an email message and send it to the editor at sny114@aol.com. Or mail the contribution, typed or handwritten, to:

Jim Anderson
19 Bluff Road
Thorndale, PA 19372-1104



CCAS Lending Library

Contact our Librarian, Bill O'Hara, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings. Bill's phone number is 610-696-1422.



CCAS Lending Telescope

Contact Kathy Buczynski to make arrangements to borrow the Society's lending telescope. The lending telescope can be borrowed by CCAS members for a month at a time; longer if no one else wants to borrow it after you. Kathy's phone number is 610-436-0821.



AL Observing Programs

One of the benefits of joining the CCAS is that you also become a member of the Astronomical League, a national federation of astronomy clubs. The AL has a series of Observing Awards, and four observing clubs based on these awards have been started in the CCAS. These are the Messier Club, the Binocular Messier Club, the Lunar Club, and the Double Star Club. Working on these awards also gives you a plan of observing: "What will I look at tonight?" becomes "Which Messier objects are visible tonight that I haven't seen yet?" Each club has a volunteer coordinator:

Messier Clubs (both): Frank Angelini (610-873-7929)
Lunar Club: Ed Lurcott (610-436-0387)
Double Star Club: Jim Anderson (610-380-4512)



CCAS Website

Pete LaFrance has set up a Web page for the Society on the World Wide Web (Internet). He has included some pictures taken by CCAS members. Check it out at:
http://members.tripod.com/~ccas_2/ccas.html

Pete welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work; no copying copyrighted material! Give your contributions to Pete LaFrance (610-268-2616).



Join the Fight for Dark Skies!

You can help fight light pollution, conserve energy, and save the night sky for everyone to use and enjoy. Join the nonprofit International Dark-Sky Association (IDA) today. Individual memberships start at \$30.00 for one year. Send to:

International Dark-Sky Association
3545 N. Stewart
Tucson, AZ 85716



CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER.....\$20/year
SENIOR MEMBER.....\$10/year
STUDENT MEMBER.....\$ 5/year
JUNIOR MEMBER.....\$ 5/year
FAMILY MEMBER.....\$ 30/year

Membership Renewals

Check the date printed on the address label of this issue of *Observations*; "exp." appears in front of it, just after your name. If you are due to renew, you may send your renewal check made out to our Treasurer, Pete LaFrance. Mail to:

Pete LaFrance
413 Church Rd.
Avondale, PA 19311-9785

Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$29.95 (note that this has just increased, as of October 1999)**, which is much less than the newsstand price of \$54.00, and also cheaper than individual subscriptions (\$39.95)! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance. Or you can bring it to the next Society meeting and give it to Pete there. Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

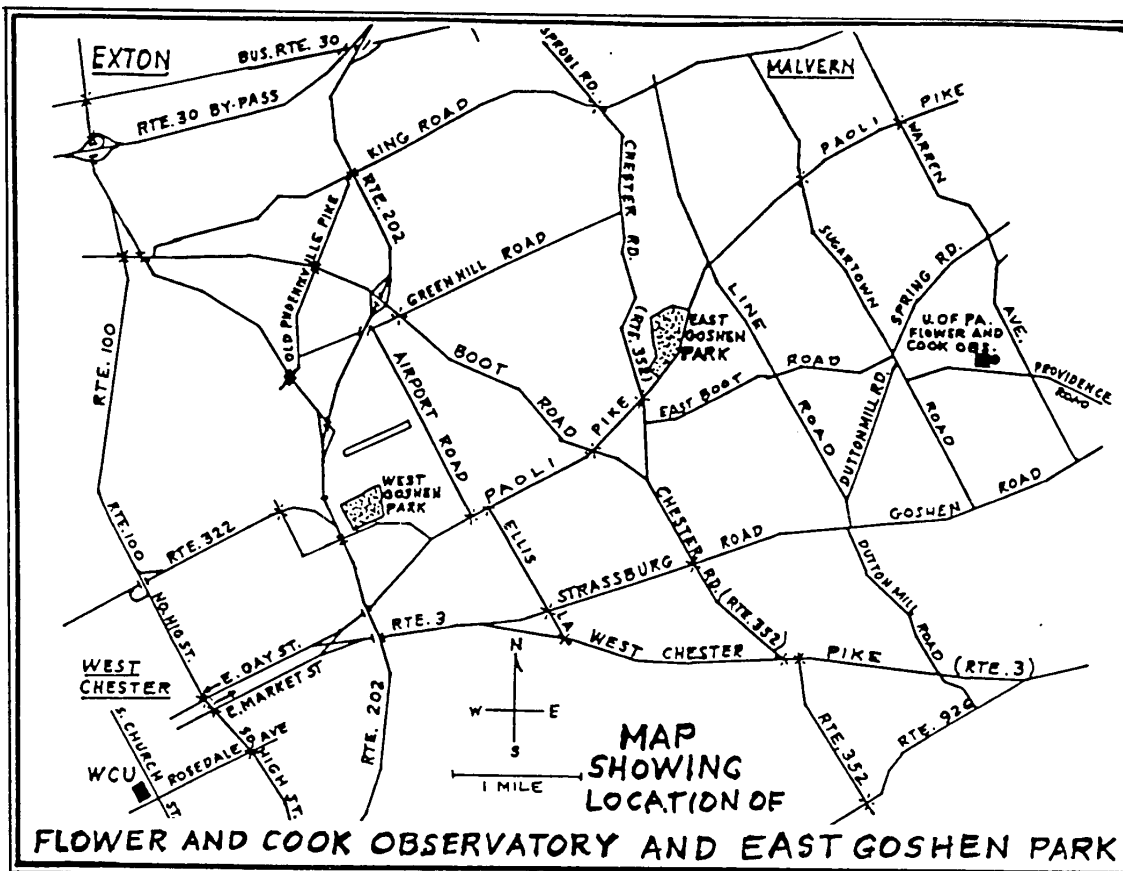
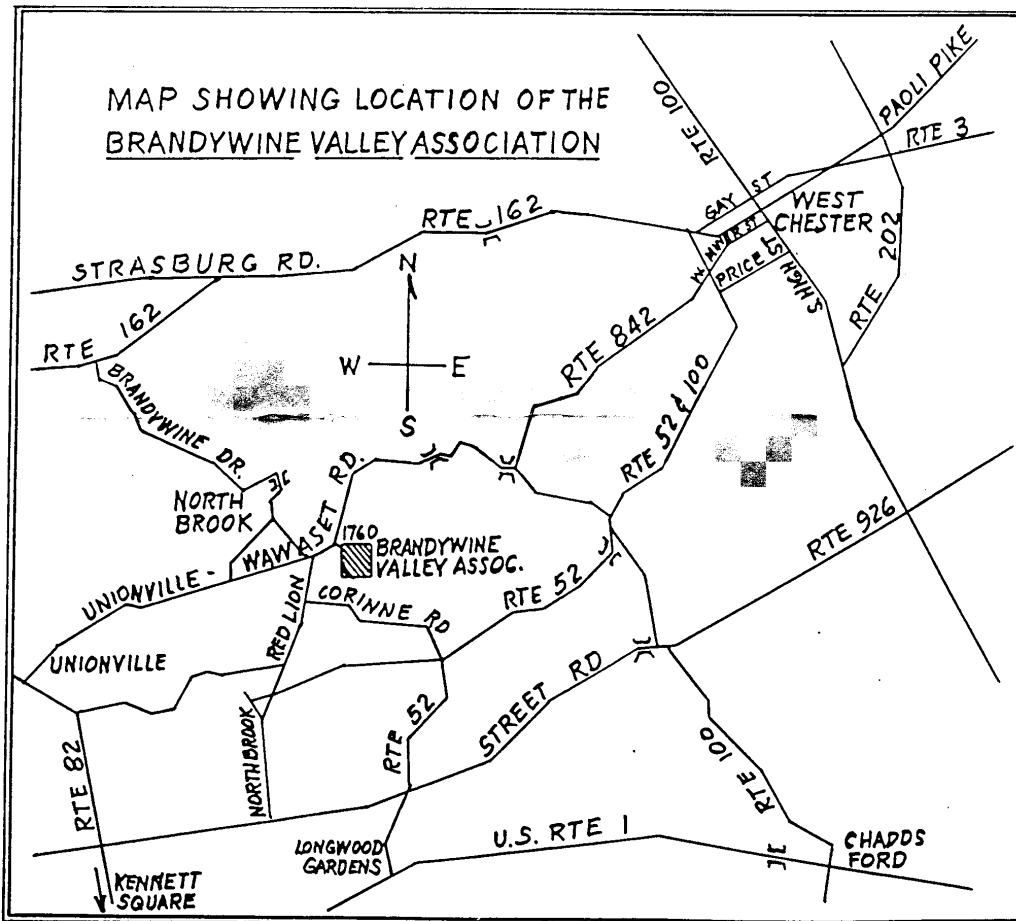


CCAS Officers

For further information on membership or society activities you may call:

President: Mike Turco (610) 399-3423
Vice Pres: Steve Limeburner (610) 353-3986
Treasurer: Pete LaFrance (610) 268-2616
Secretary: Doug Liberati (610) 827-2149
ALCor and Newsletter: Jim Anderson (610) 380-4512
Librarian: William O'Hara (610) 696-1422
Observing: Ed Lurcott (610) 436-0387





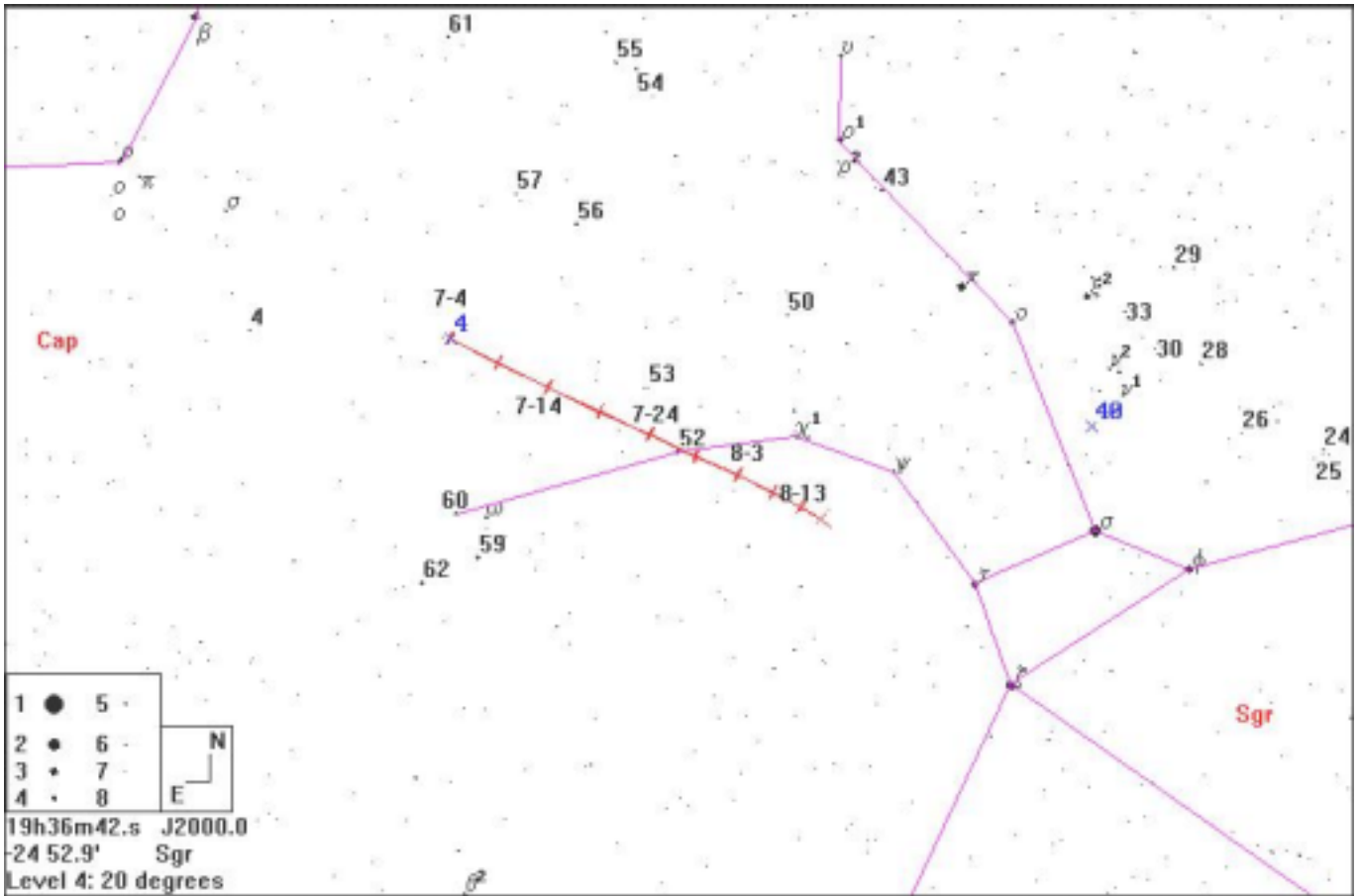
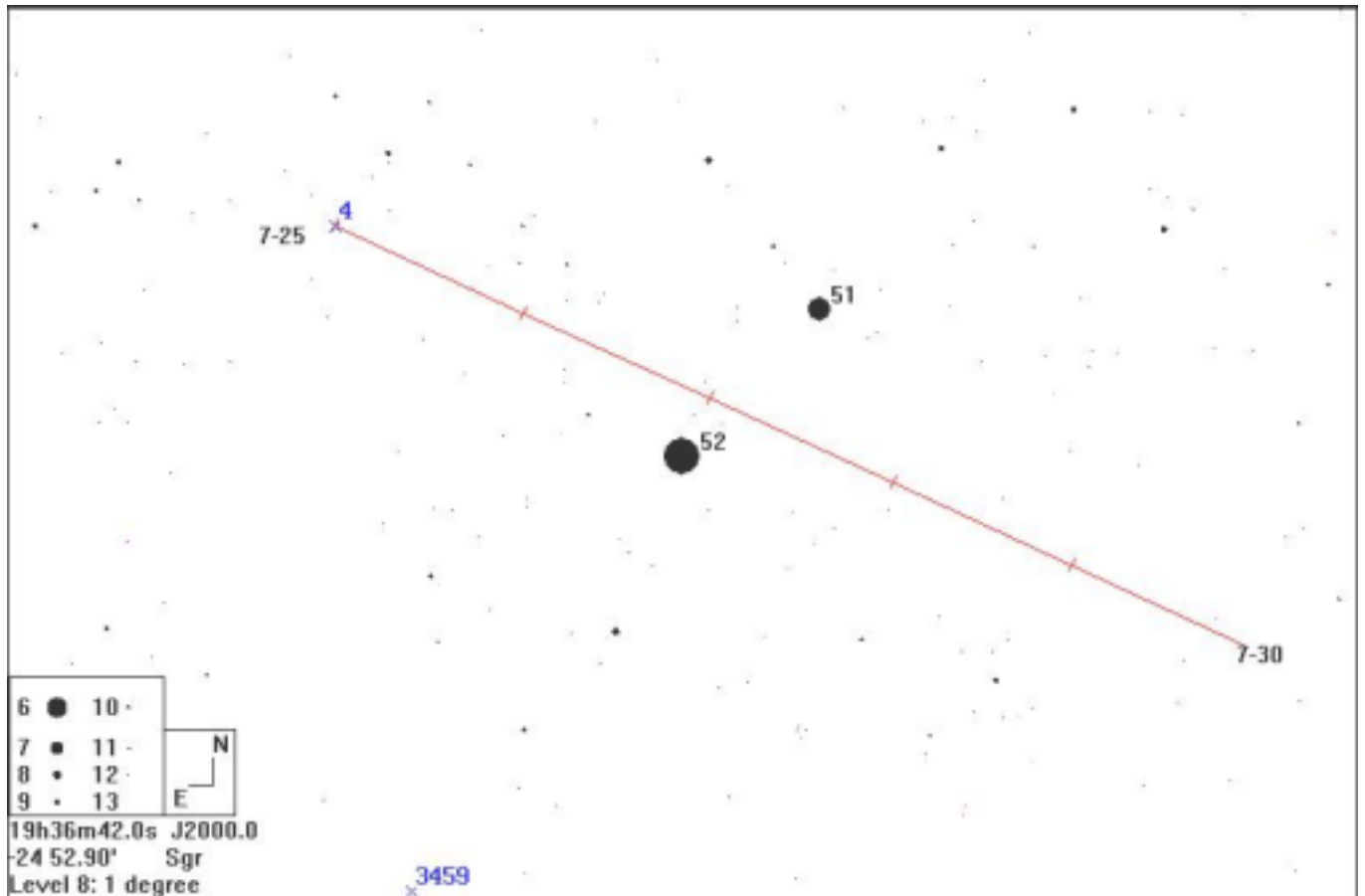


chart 1 ↑

chart 2 ↓



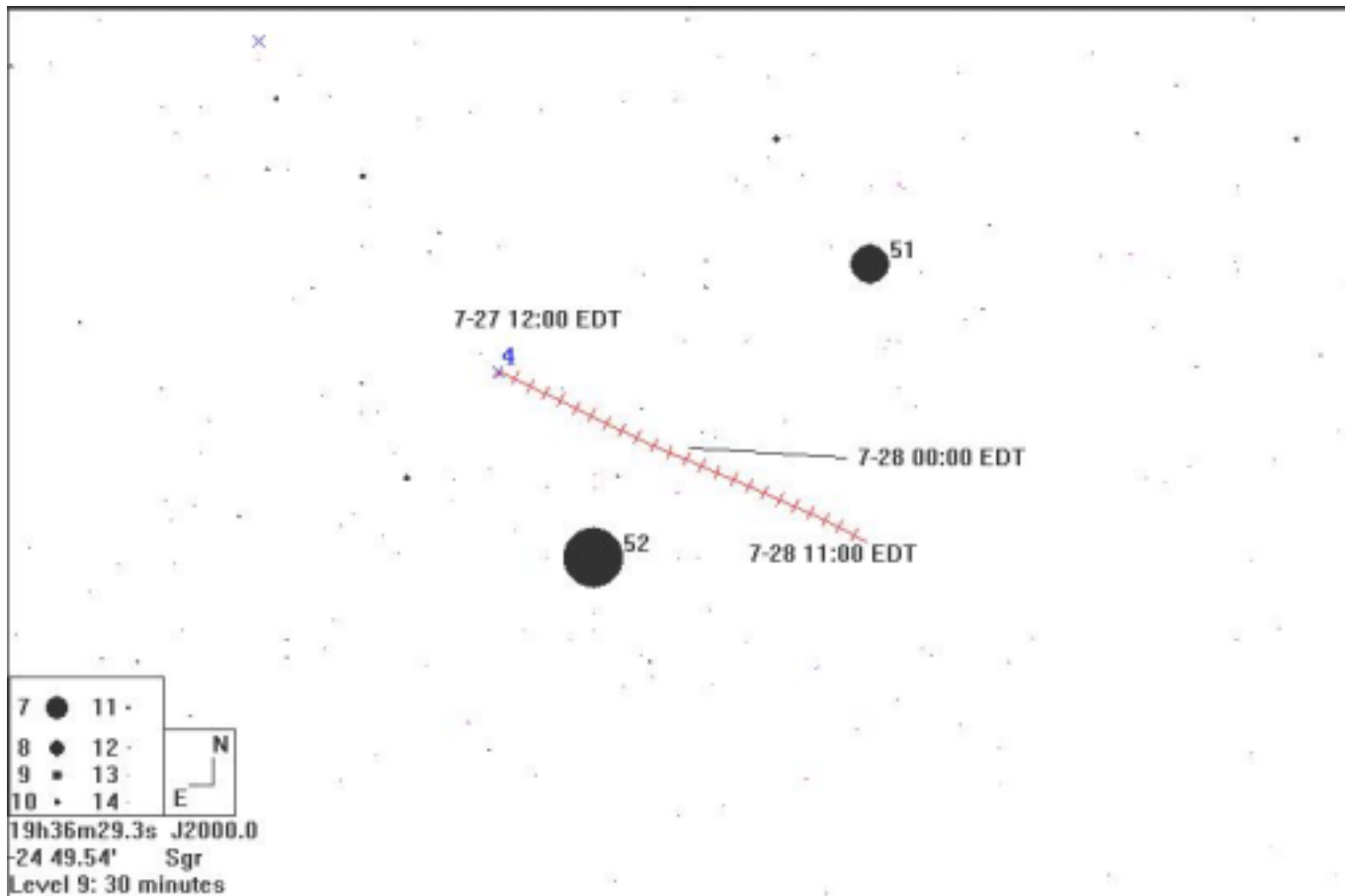


chart 3 ↑

chart 4 ↓

