



OBSERVATIONS



A MONTHLY PUBLICATION OF THE

Chester County Astronomical Society

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

DECEMBER 1999

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★ *Vice President:* Steve Limeburner
★ *Secretary:* Frank Angelini

http://members.tripod.com/~ccas_2/ccas.html

***** **Happy Holidays** *****

The Executive Committee would like everyone to join us for some holiday cheer following the regular meeting on Tuesday December 14, 1999. We will be gathering at Casey's Dugout Saloon at 516 King Street in Paoli, about 4 miles from the Flower & Cook Observatory. Hope to see you all there!

Holiday Greetings to all!

***** **Happy Holidays** *****

CCAS December Meeting

DATE: **Tuesday December 14, 1999**
TIME: 7:30 p.m. EST
PLACE: **Flower & Cook Observatory**
University of Pennsylvania
LOCATION: 753 Providence Road
Malvern, PA (see map)

Please note the change in the location of the December meeting! The Observatory is located on Providence Road, just west of the intersection with Warren Avenue.

There will be a presentation by CCAS member Jim Anderson entitled "Observing Lunar Eclipses." This talk should help us all get ready for the upcoming total lunar eclipse on the night of January 20, 2000. If it is clear, there will also be some viewing using the Observatory's telescopes.

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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 December 17, 1999. The program starts at 7:00 p.m. EST with a talk entitled "Photo of the Millenium" by Dr. Jeff Goldader of the University of Pennsylvania. 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.

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BVA Winter Solstice Celebration and CCAS December Observing Session

The Brandywine Valley Association is holding its annual Winter Solstice Celebration on Friday December 17. Cost is \$3.00 for members of the CCAS, as the CCAS has a "family" membership in the BVA. Also, our December Observing Session is being held in conjunction with the Solstice Celebration. The Celebration starts at 5:00 p.m. EST with a Winter Hike (bring flashlights!) A potluck dinner will start at 6:00 p.m. (bring soup or bread to share; hot spiced cider will be provided to drink.) Then everyone will walk over to the barn, where a storyteller will weave winter tales. After that, if it is clear, there will be a stargazer's walk. It is at that time that we will provide telescopic viewing, if it is clear. If it is not clear on Friday, the Winter Solstice Celebration will be held, but without the stargazing program.

If it is cloudy on Friday, though, the CCAS will still hold an Observing Session on Saturday December 18 at the BVA. Provided, of course, that the skies are clear on Saturday.

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 as long as an adult accompanies them. Make sure to dress warmly, as it gets cold rather quickly when you're standing around in an old farm pasture!

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Telescopes and Members Needed!

There is a star night for some Cub Scouts at the Flower & Cook Observatory on Monday December 6, 1999. Then on Wednesday December 15 there is another star night for some Girl Scouts, also at the FCO. We need people and/or telescopes to assist with these events. Those without telescopes can assist with pointing out stars, planets, and constellations. These events are always fun and fulfilling, because many of these children will be looking through telescopes for the first time. Remember the first time you saw Jupiter or Saturn through a good telescope? Share the magic!

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President's Message December, 1999

We live in a fortunate time and a wonderful place, yet we seldom realize it. Things get hectic at work, families squabble, bills pile up, the car breaks down. These are what seem to remain in the forefront of our lives when, if you sit back and take measure of your situation, particularly in reference to most of the world, these problems are minor in the overall scheme of things. When the world seems a little too much to take, I stop for a moment, take a look at the cute little 3-month old who lives with me, and what was important a moment ago is important no longer. I give thanks to the Lord that I am fortunate to be in the position I am with a loving family and some great friends.

This is the time of year when we all should stop for a moment, take stock of our situation, and give thanks. It is the holiday time of year, and however you celebrate it, it is a great time to share some precious moments with your loved ones, and to spread some joy to the other people you associate with. Watch "A Christmas Carol" and "It's a Wonderful Life" one more time and shed a happy tear or two.

As president of the club, I look forward to seeing all the officers and members at the various events this season. It is certainly a joy for me to be associated with such a wonderful group who share a love for the heavens.

Merry Christmas and Happy Holidays to you all!

Mike Turco



Call for Profiles

Kathy Buczynski is working on a revision of the CCAS Membership Directory. The Membership Directory contains profiles of members, with a variety of information about them and their interests. Each member decides what will be printed about them in the Directory: only the information you provide on the form (printed on a later page in this newsletter) is used. If you would rather not have anything printed, just write your name on the name line, and write "do not print" on the address line, and we will respect your privacy. Thanks. And a big thank you to Kathy for doing this revision!



CCAS 20" Telescope News

We now have all the parts for the 20" telescope except the secondary mirror and shroud. This is the AstroSystems Telekit we bought for the 20" mirror donated to the Society by the University of Pennsylvania. The final payment (\$1590.00) has been made. Time to start building parties! Come to the December meeting to discuss building plans. Let's get it done by National Astronomy Day!



Calendar Notes

January 11, 2000 (Tuesday) 7:30 p.m. EST	CCAS Meeting at West Chester Univ. presentation by Bart Fried, of the Antique Telescope Society 7:30 p.m. EST
January 20, 2000 (Thursday)	Total Eclipse of the Moon Special CCAS Observing Session Location to be determined
February 8, 2000 (Tuesday)	CCAS Meeting at West Chester Univ. presentation by Dr. Laurence DeWarf of Villanova University, Dept. of Astrophysics 7:30 p.m. EST
March 14, 2000 (Tuesday)	CCAS Meeting Topic: TBA 7:30 p.m. EST
April 8, 2000 (Saturday)	National Astronomy Day
April 11, 2000 (Tuesday)	CCAS Meeting Topic: TBA 7:30 p.m. EDT



8" Telescope Donated to CCAS

Astronomy writer **Kathy Miles** has donated an 8" f/6 Newtonian telescope, on an equatorial mount with drive, to the CCAS! Many thanks go out to Kathy for her generous gift. We need to get the mirror re-coated, but then we can start using this fine instrument at observing sessions, and loaning it out to members.

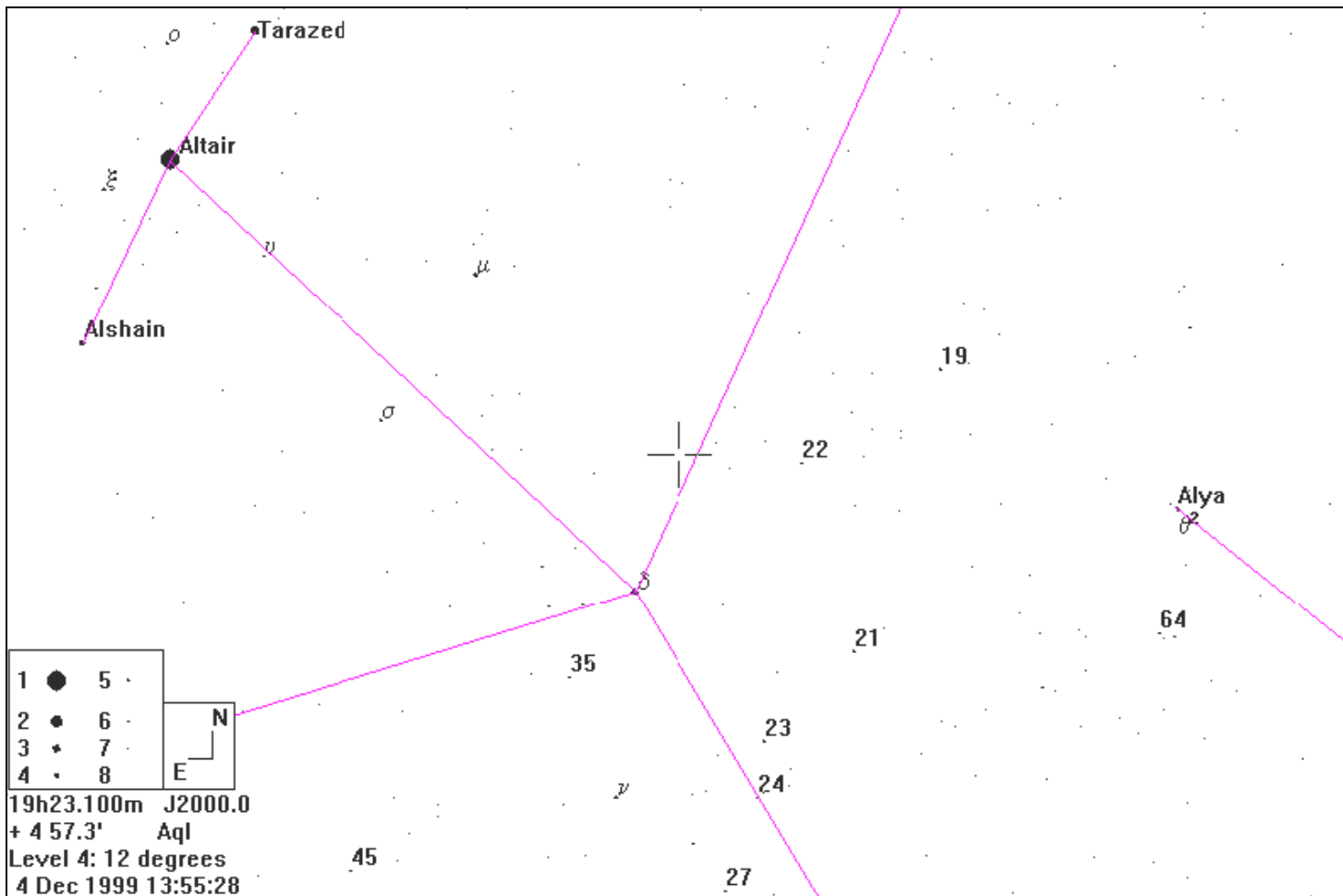


Nova in constellation Aquila!

The second nova discovered this year in the constellation Aquila was discovered on December 1 by an amateur nova hunter using binoculars. Alfredo Pereira of Cabo Da Roca, Portugal, gets the credit for finding this nova. At the time of discovery the nova was on the rise at 6th magnitude, and has brightened more since then. As of December 3 it was at about magnitude 4.0, meaning that with good sky conditions you could see it with the naked eye. Around here you'll probably need binoculars. It looks like the nova will peak at about 4th mag by about Dec. 4, and then fade slowly over the following couple of weeks. Aquila is fairly high in the west-southwest right after darkness falls. Now called Nova Aquilae 1999 No.2, the star is about 2° NNW of δ Aquilae. The coordinates are below. A finder chart is on the next page.

R.A. 19h 23m 05.38s Dec. +04° 57' 20.1"





Finder Chart for Nova Aquilae 1999 No. 2
 Chart Printed from *Guide 7.0* software
 by Project Pluto in Bowdoinham, Maine

Crosshairs mark the nova's location
Stars as faint as 7th magnitude are plotted



Transit of Mercury on November 15, 1999

Drawn as observed by Edwin T. Lurcott from Sadsbury, Pennsylvania, just prior to sunset a few degrees above the western horizon.

Time: between 4:25 and 4:30 p.m. EST
Instrument: 6" f/7.5 Newtonian, mag. 30

Mercury is the small round black dot near the "top" of this image. Some sunspots can be seen in the "lower left" of the Sun's disk. The large dark areas are clouds in the Earth's atmosphere; it was a partly cloudy and windy day.

Book Review by Mike Turco

The Observer's Sky Atlas, Second Edition

Written by E. Karkoschka, University of Arizona, Tucson
Published by Springer-Verlag, 1999
136 pages, with charts, drawings and photos
\$19.95 (suggested retail price)
ISBN 0-387-98606-5 (second edition)

To order from Springer-Verlag, call
1-800-SPRINGER
8:30 a.m. to 5:30 p.m. Eastern time

Are you looking for a star atlas? Do the big ninth to eleventh magnitude volumes like *Uranometria* and *Sky Atlas 2000.0* seem overwhelming? Does even the Petersen Pocket Guide seem a little too crammed with data? Do you just need a good companion to explain the brighter stars and objects that you can see with simple equipment on an average night from your somewhat light-polluted backyard? Then check out *The Observer's Sky Atlas*.

Here is a small, thin, pocket-sized paperback specifically for those of us who observe the night sky with the naked eye, binoculars and/or a small telescope. It covers the whole sky (northern and southern latitudes) and includes stars visible with the naked eye, i.e., down to 6th magnitude. Charts are arranged by season and by part of the sky (N = northern, E = equatorial, S = southern). The charts are arranged on the right side pages while on the corresponding left side is the list of objects with easy-to-read information on each. The charts also list a code for how to best view each object, e.g., by eye, small or large opera glasses, small or large binoculars, or with a small or large telescope. This book considers a small telescope to be 80mm or 3.2" aperture, and a large one 150mm or 6" aperture. The book lists all objects other than stars and binaries, such as globular and open clusters, galaxies, and planetary and diffuse nebulae, under the category Nebula. The latter go down to 9th magnitude.

The book contains data on over 1000 sky objects in year 2000 coordinates. The charts are clearly depicted with dark stars on a white background. There are also enlarged chart sections for binocular observation, highlighting 250 interesting nebulae, galaxies, and stellar clusters down to 9th magnitude. The introductory text includes explanations of sidereal time, magnitudes, directions in the sky, celestial coordinates, resolution, star spectral type and, of course, the Greek alphabet.

The chart pages give object catalog number, the constellation the object is in, the magnitude, size, shape, type, distance in light years, and the coordinates in right ascension and declination. It also provides a description for notable objects. NGC 6720, for example, is listed like this:

NEBULA	Const.	Mag.	Size	Shape	Type	Vis.	Dist.	R.A.	Dec.
6720	M57	Lyr	9 ^m 6 ^m _(5')	1'5	R 3	Plan	Op	2000ly	18 ^h 53 ^m 1/2 ^m +33 ^o .0

The two numbers under Mag. represent total magnitude and surface brightness. Nebulae with high surface brightness (lower number) allow a high magnification and therefore can be observed in moonlight or artificial light pollution. The Vis. column tells what you need to view the object, in this case at least large opera glasses (Op). The chart adds the following description for this object:

6720 M57 **Ring Nebula**, the most famous planetary nebula, easy to find, looks almost like a star in binoculars, visible as a disk in small telescopes and as a nice oval ring in large telescopes, takes high magnification

As aptly stated in its explanatory notes, this book covers the middle ground between the simple star charts made for naked eye observing and the detailed sky atlases which cover all the objects visible with binoculars and telescopes. I picked up a used copy of the previous edition of this book (printed in 1990) for \$10 (first edition ISBN is 3-540-51588-7). I believe the latest edition sells new for about \$20. If you want a nice little pocket companion that shows how and where to find the principal objects to observe in the night sky, this one fills the bill.



December Skies

Moon Phases

New Moon	12/07
First Quarter	12/15
Full Moon	12/22
Last Quarter	12/29

The Planets

Mercury is in the morning sky in December, between much-brighter Venus and the horizon as morning twilight begins.

Venus is in the morning sky this month, rising well before the Sun.

Mars is low in the southwest after sunset, in Capricornus this month. On December 14, the night of the CCAS meeting at the Flower & Cook Observatory, Mars passes about 0.5° to the north of Uranus. You may be able to get both planets in a single field of view in a telescope that night.

Jupiter is the brightest "star" in our evening skies this month. Close to the meridian at sunset and easy to find, Jupiter is always a grand sight in a telescope of any size!

Saturn is about 40 minutes behind (east of) Jupiter, and will be a great sight in a telescope as the rings are now well-tipped toward us and thus "wide open."

Uranus and Neptune are in our evening sky this month, in the constellation Capricornus. Uranus will be easy to find on December 14, when Mars is close by. Fainter Neptune, however, is getting too low for good viewing, sinking into the Sun's glare.

Pluto is lost in the Sun's glare in December.



Report on Leonid Meteor Shower: Nov. 17-18

The CCAS had a Leonid watching party on the night of November 17, into the wee hours of November 18, out at the BVA property. Steve Limeburner, Ed Lurcott, Beryl Kuntz, John Imburgia, Bill O'Hara, Bob Murray, Doug Clark stayed until about 2:15 a.m. A number of non-members (about 8) also showed up but didn't stay as long. Members saw about 25-30 meteors in 2-3 hours time. So the big "meteor storm" did not happen, at least not for our part of the world, but it was a good shower. Some telescopes were on hand to look at other objects, such as the Moon, Jupiter, Saturn, Mars, double stars, the Andromeda Galaxy, M15, and other outstanding sights in the November skies.



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.



News from Neighboring Societies

[Editor's Note: All that is required to have notices published here is to include Jim Anderson on the mailing list of your society's newsletter. See below for Jim's address.]

From *The Delaware Valley Amateur Astronomer*, the newsletter of the Delaware Valley Amateur Astronomers :
Upcoming Meeting & star party dates

December 10, 1999 (Friday) 8:00 p.m. EST	Meeting. Topic: "Radio Astronomy and the Study of Cygnus A" by Dr. Reick J. Guerra, of Rowan University
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All DVAA meetings are held at the Schuylkill Center for Environmental Education on Hagys Mill Road in Philadelphia, PA. For more information contact CCAS member Mike Turco (610-399-3423) who is also a member of DVAA. DVAA President Mike Tucker could also help (610-584-8236). Or check the DVAA Website at:

<http://www.libertynet.org/~dvaa/>

From *Focus*, the newsletter of the Delaware Astronomical Society:

Upcoming Meeting Topics and speakers:

December 14, 1999 (Tuesday) 8:00 p.m. EST	Topic: member presentation night, with a swap table of astronomical objects, and "a galaxy of refreshments" at the end of the meeting
January 18, 2000 (Tuesday) 8:00 p.m. EST	"How to Set-up, Align, and Find Heaven - You Can Get There!" in the McCullough Planetarium by Hank Bouchelle, Tom Sidowski, and Billie Westergard
February 15, 2000 (Tuesday) 8:00 p.m. EST	"Astronomy in Daylight" by Olaf Kirshner
March 21, 2000 (Tuesday) 8:00 p.m. EST	"What Makes Color?" by Bob Mentzer
April 18, 2000 (Tuesday) 8:00 p.m. EDT	"Cosmology's Embarassments" by Billie Westergard
May 16, 2000 (Tuesday)	Annual Dinner Meeting "The Art & Science of Early Star Atlases" by Ray Harris, President of Lehigh Valley Amateur Astronomy Society

June 20, 2000 (Tuesday) 8:00 p.m. EDT	"Variable Stars" by Dr. Judi Provençal, MCAO Resident Astronomer
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DAS meetings are held at the Mount Cuba Observatory in Greenville, Delaware. For more info contact President Warren Jacobs (610-566-0510). Or check their Website at: <http://www.physics.udel.edu/>



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).



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 jim.anderson@hboc.com. Or mail the contribution, typed or handwritten, to:

Jim Anderson
19 Bluff Road
Thorndale, PA 19372-1104



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 **\$30.00 (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:** Frank Angelini (610) 873-7929
- ALCor and Newsletter:** Jim Anderson (610) 380-4512
- Librarian:** William O'Hara (610) 696-1422
- Observing:** Ed Lurcott (610) 436-0387



Information for CCAS Membership Directory

Name: _____

CCAS Position: _____

Address: _____

Phone: _____ Fax: _____

E-mail: _____

Memberships: _____

Equipment: _____

Astro Interests: _____

Club-related Skills: _____

Other Interests: _____

The Membership Directory is updated once a year. Please submit any additions or changes to Kathy Buczynski by June 30 and December 31 each year. Submissions can be made on this form and can be mailed, faxed, e-mailed, or presented in person at any CCAS function.

Kathy Buczynski Fax: 610-436-0829
106 Afton Way e-mail: Kbuczynski@aol.com
West Chester, PA 19380

