



Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

JANUARY 2005

(VOLUME 13, NO. 1)

Visit our website at www.ccas.us

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Newsletter Deadlines

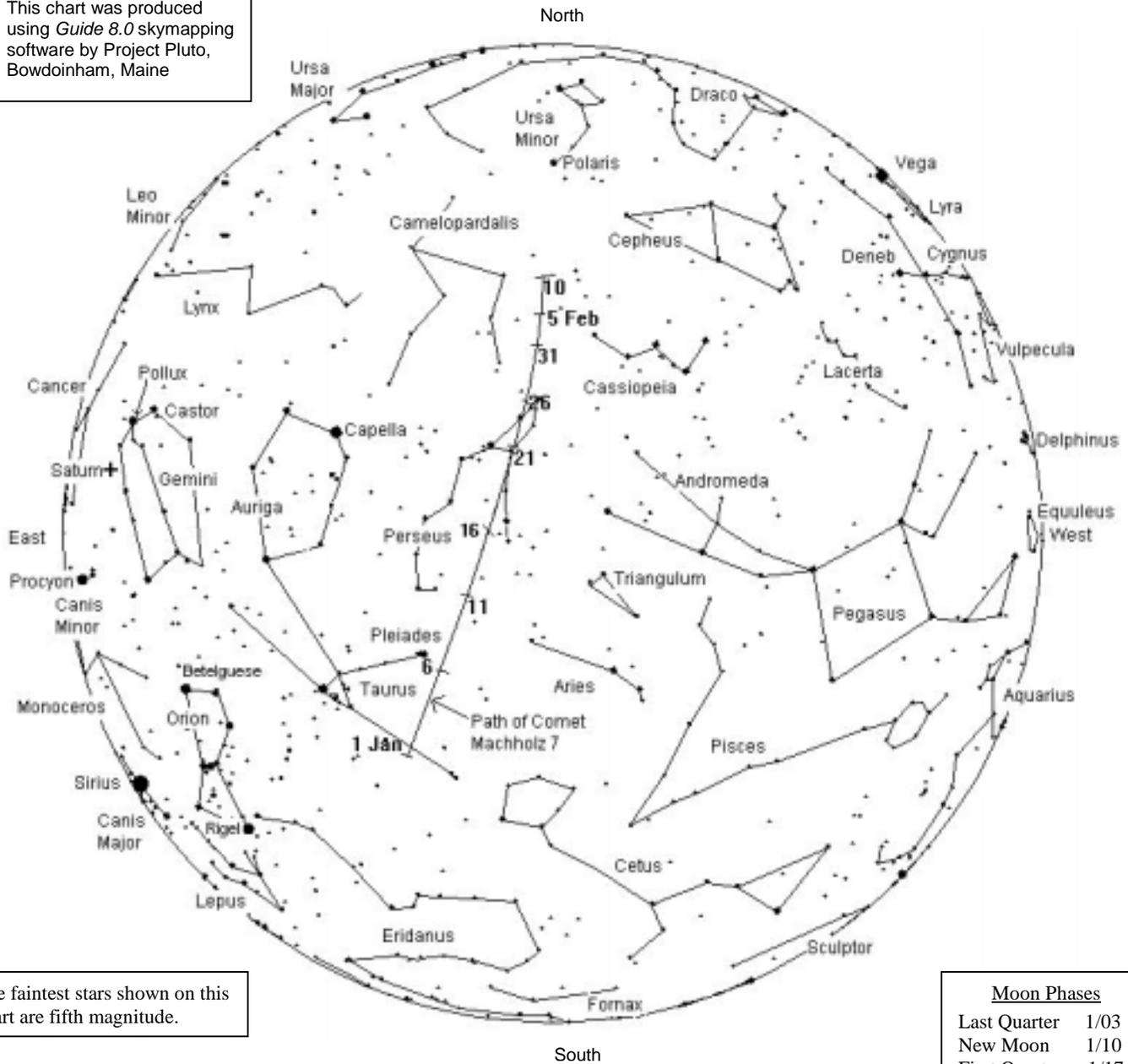
February 2005 issue	January 26
March 2005 issue	February 25
April 2005 issue	March 28
May 2005 issue.....	April 27
June 2005 issue.....	May 27

Important January 2005 Dates

- 1-9** Venus and Mercury are close together in the morning sky. Look at about 6:30 a.m. EST.
- 3** Last Quarter Moon
Also: Quadrantid meteor shower peaks in the early morning hours of January 3. As many as 40 or more meteors per hour might be seen.
- 10** New Moon
- 10-18** Venus and Mercury are now **very** close together in the morning sky. Look at about 6:30 a.m. EST. You can probably see both planets at one time in a telescope!
- 11** CCAS Meeting 7:30 p.m. EST, topic: *Origins: Earth is Born*. Details on page 5.
- 13** Saturn is at opposition today: it rises as the Sun sets, and sets as the Sun rises. It's visible all night long.
- 14** The *Huygens* probe, dropped off on December 13, 2004 by the *Cassini* spacecraft, plunges through the atmosphere of Saturn's largest moon Titan (Titan is bigger than Mercury!). If all goes well, *Huygens* will also land on the surface of Titan and relay data back up to *Cassini*, which will relay it on to Earth. Titan is the only planetary satellite in the Solar System that has a "real" atmosphere, possibly one much like Earth's atmosphere back before life began here.
- 14/15** CCAS Observing session at Myrick Conservation Center (BVA) starts at sunset. Map with directions is on page 11.
- 17** First Quarter Moon
- 25** Full Moon



This chart was produced using *Guide 8.0* skymapping software by Project Pluto, Bowdoinham, Maine



The faintest stars shown on this chart are fifth magnitude.

Moon Phases	
Last Quarter	1/03
New Moon	1/10
First Quarter	1/17
Full Moon	1/25

The sky over Chester County January 15, 2005 at 7:00 p.m. EST

The Planets

Mercury is in the morning sky in the first half of January. It's very close to Venus, close enough to see both planets at once in a wide-angle eyepiece in a telescope. This is especially true from about January 10th through 18th, when they are really close.

Venus is in the morning sky, rising about an hour before the Sun. You can't miss it; it's the brightest "star" in the morning sky.

Mars is in the morning sky, well above and to the right (west and south) of Venus.

Jupiter is rising by about midnight, and is best seen about an hour before dawn when it's highest in our sky.

Holiday Comet: Comet Machholz 7 (C/2004 Q2) moves across Taurus and Perseus in January. It has been living up to brightness forecasts so far, and may be near naked-eye visibility at magnitude 4.0 this month. Use the full-sky chart above to find the comet.

Saturn reaches opposition on January 13. That means it is opposite the Sun in our sky, rising as the Sun sets and setting as the Sun rises. It's visible all night long. Take a look and enjoy the true "Lord of the Rings."

Uranus is in the evening sky, in Aquarius, but too close to the Sun to find with a telescope.

Neptune is also in the evening sky, in Capricornus. It is also too close to the Sun to find with a telescope.

Pluto is rising before the Sun this month, but is still too close to the Sun to find with a telescope.

A holiday gift to the CCAS from member Pete LaFrance.



The “Bubble Nebula” in Cassiopeia

Also known by the more prosaic name of NGC 7635, this curious sphere of glowing gas is located near open star cluster M52. Reportedly it can be glimpsed using a 6-inch telescope under dark skies. It is likely an ancient remnant of a supernova explosion.



The “Crab Nebula” in Taurus

The Crab's plainer monikers are Messier 1 (M1) and NGC 1952. Visually, it appears as an oval-shaped patch of light in most amateur telescopes. It can be tough to spot around here due to light pollution. It is a supernova remnant. Chinese astronomers documented a “guest star” that appeared near this location in 1054 AD. Those records say that the star was visible **in full daylight** for three weeks! No clear Western records have been found for this supernova. Modern measurements of the cloud's expansion indicate that M1 is indeed the remnant of that titanic explosion in 1054.

Pete said “Both images total time 1/2 hr. taken at a Celestron C11 telescope operating at f/6.3. More images can be found at <http://plafrance.org/> if anyone is interested. I hope to have the Horsehead region and other wide area images up soon, as I am also trying out imaging with an 80mm wide-field telescope.”

Both images are copyrighted by Pete LaFrance, 2004, and are published here with Pete’s permission.



“Many a night from yonder ivied casement,
ere I went to rest,
Did I look on great Orion, sloping slowly
to the west.

Many a night I saw the Pleiads,
rising thro’ the mellow shade,
Glitter like a swarm of fireflies
tangled in a silver braid.”

Alfred Tennyson (1809-1892)
Locksley Hall

CCAS January Meeting

DATE: **Tuesday January 11, 2005**
TIME: 7:30 p.m. EST
PLACE: Department of Geology and
Astronomy Lecture Room
(Room 113 – Boucher Building)
West Chester University
LOCATION: South Church Street
West Chester, PA

A map of the campus showing the location is on page 12.

At the January CCAS meeting, we will see the first part of a four-part NOVA miniseries called *Origins*. The program we will see is called *Earth is Born*. Here's a description from the PBS website:

“Origins: Earth is Born gives viewers a spectacular glimpse of the tumultuous first billion years of Planet Earth—a time of continuous catastrophe. Vivid animation lets viewers witness the traumatic birth of the moon from a titanic collision between Earth and an object believed to have been the size of Mars. Bombarded by meteors and comets, rocked by massive volcanic eruptions, and scoured by hot acid rain, the early Earth seems a highly improbable place for life to have taken root. Despite such violent beginnings, scientists have found new clues that life-giving water and oxygen appeared on our planet much earlier than previously thought.”

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CCAS January Observing Session

The next CCAS Observing Session will be at the Brandywine Valley Association's Myrick Conservancy Center (see map on page 11) on Friday January 14, 2005 starting at sunset; or earlier, if you can get there earlier. If it's too cloudy on Friday, then the Observing Session will be on Saturday January 15, 2005. At the observing sessions, there will be 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 telescope. CCAS Observing Sessions are free of charge.

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CCAS Introductory Astronomy Class

The Education Committee is planning to hold this class again starting in February. More details will be published in the February edition of *Observations*. If you can help out with these classes, either by teaching or in other ways such as handling the check-in table, please contact Kathy Buczynski (610-436-0821). Thanks!

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CCAS Polo Shirts Available

Thanks to the diligent efforts of our president Mike Turco we are pleased to offer CCAS members the opportunity to purchase a classy polo shirt with the CCAS logo embroidered on the left breast. Yes, it's embroidered, not silk-screened or otherwise printed on the material. Price is \$30.00 per shirt. Adult sizes S, M, L, XL only. Contact our Treasurer Bob Popovich to purchase yours! Hurry before they're all gone!

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CCAS Website

By John Hepler

Society members can send their astronomy-related photographs to me for posting on the Society's website gallery. Here is the information required:

1. Photographs must be original works. No scanned pictures from books or magazines are allowed.
2. Photographs should be in JPEG format (or the less-desirable BMP format).
3. Photographs should be in 72-pixel resolution.
4. To cut down the time it takes to send the photo across the Web, the dimensions should be 400 x 600 pixels.
5. A brief description of the photo (i.e. subject, telescope used, location, etc.) must accompany the photo.
6. You can send the photos to the webmaster@ccas.us e-mail address.

If you have any questions about this, contact John at 610-363-0811.

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Treasurer's Report by Bob Popovich

*Special Note: In last month's newsletter, the Summary was supposed to be for October 2004, but it said November 2004 in the newsletter. We apologize for any confusion this miscommunication may have caused. This month we have the **correct** Summary for November 2004.*

November 2004 Financial Summary

Beginning Balance	\$957
Deposits	250
Disbursements	<u>41</u>
Ending Balance	\$1,166

Membership Renewals Due

01/2005:	Kovacs Ramondo
02/2005:	Carlucci Cutler Deeney Ehrgott Farrelly La Para Levy Marcelli Renshaw Ruggeri Viallet Wilcox
03/2005:	Grey Holenstein Nelson Vitanza

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Membership Renewals

You can renew your CCAS membership by writing a check payable to “Chester County Astronomical Society” and sending it to our Treasurer:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

The current dues amounts are listed in the *CCAS Information Directory* on a later page in this newsletter.



Calendar Notes

January 11, 2005 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
January 14/15, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
February 8, 2005 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
February 11/12, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
March 8, 2005 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
March 11/12, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 8/9, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 12, 2005 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EDT
April 16, 2005 (Saturday)	National Astronomy Day
May 10, 2005 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EDT
May 13/14, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
June 10/11, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
July 8/9, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
August 12/13, 2005 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset



Astronomus

“My Favorite Month”

By Bob Popovich

Note of Congratulations: The winner of last month’s Bowl Game was **Emil Volchek**. Well done!

I am an anticipator. A confirmed anticipator. Forever do I look forward to that which is to yet to come. Now a person like me could boast that this signifies a love of life, but I grudgingly admit, it *could* also be a little self-deception because *impatience* is a synonym for *anticipation*. Yet how many of us look to the east on a given night and think, “What’s rising *next*?” Perhaps I’m not the only anticipator in our Society...

Whatever the motivation, my anticipation when it comes to astronomy is firmly planted in the month of January. For it was in this month some 38 years ago that I received my first telescope—a legendary 60mm Tasco refractor. Anticipation (or impatience) swelled to astronomical proportions in the days preceding its arrival for I could scarcely dream of the wondrous things I would see with its impeccable optics. Equally wondrous would be the things I could see *next*. From my observatory on the 3rd floor porch of our Chicago apartment, this tool would be the means by which I would gobble up the heavens in short order and then move on. I’m pleased to say that this gobbling up has taken a bit longer than originally thought.

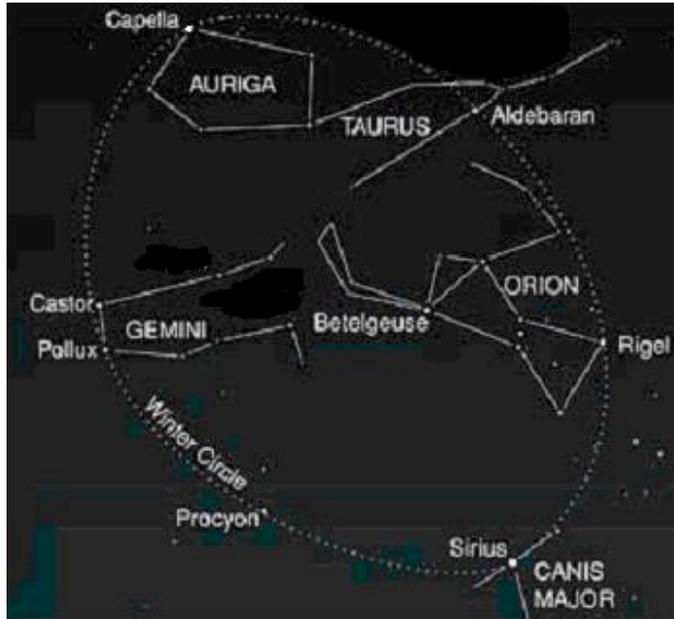
January is also the month of my birthday. My long-standing birthday request has been for a gift that has something to do with astronomy—especially books. I love reading books. The anticipation of what’s in the next chapter (or better yet, what’s in the next book) is really exhilarating.

As a child, this icy month also marked the return to school from Christmas vacation. Aside from playing in the snow and ice-skating in the park, I also loved writing about what I had read (as a kid I was a geek-in-training). Today I sit at my PC keying this article. But I vividly recall sitting in front of a Smith Corona nearly four decades ago typing extra-credit reports on astronomy that I would proudly submit to my teacher upon my return to school in January. How patient my teachers were to read these tomes and make comments. We should never forget the influence teachers have on young minds...

Now that you’ve indulged my trip down memory lane, let’s focus on what makes January a truly great month—the night sky. Yes, it’s cold and the snow can be a bother. But the nights are long and present a parade of observing targets that are an anticipator’s dream. On those precious nights when the air is still and clear and the temperature tolerable, is there anything more beautiful than a January night?

Stepping outside as darkness descends we can see the three brilliant stars of the summer triangle (Vega, Deneb and Altair) setting in the west-northwest. Overhead we see the principal constellations of Autumn—Perseus, Pegasus, Andromeda and Cassiopeia while to the east the magnificent winter circle is rising. This “circle” is really more an oval with Betelgeuse positioned in its midst. A roll call of the winter circle’s members is a Who’s Who of the night sky’s gems: Castor, Pollux, Capella, Aldebaran, Rigel, Sirius, Procyon and

Betelgeuse. This spectacular collection of bright stars shows the spectrum of stellar classes—Rigel is a B star, Sirius and Castor are A, Procyon is F, Capella is G (like our sun), Aldebaran and Pollux are K, and Betelgeuse is M. Our January diadem also encompasses several Messier targets that are easily seen with binoculars: M35 in Gemini; M36, M37 and M38 in Auriga; M42 and M43 in Orion; plus M45 (the Pleiades) and Melotte 25 (the Hyades) in Taurus. As if this weren't more than enough, this year we add Jupiter, Saturn, AND Comet Machholz. How can you go wrong?



This delightful concentration of celestial wonders has the power to capture our attention so that we don't notice the cold nearly as much as a non-stargazer. But as an anticipator, I must ask: "What's next?" By 10:00 PM or so Leo is rising. A harbinger of spring! Now it's getting really cold but, if you can stick with it, Bootes and Ursa Major are well positioned by 11:00 PM.

By 4:00 AM Hercules stakes a claim to the eastern sky. Have any of you ever been out at this time on a January morning?

At 6:00 AM, while our morning coffee brews, I make a point of stepping out on the deck. I relish the stillness of winter mornings. As I gaze to the west, the winter circle has all but set. To the east, the summer triangle is rising. Seeing Vega leading the parade of summer constellations, I don't feel the cold at all. I imagine the gentle warmth of a summer night.

That brings us to the end of the anticipator's feast. Some 12 hours earlier we began by saying good-bye to the summer triangle as we greeted the winter circle. And we end by waving adieu to the winter circle as the summer triangle reappears.

We may not share the traits of an anticipator, but what we do share is a passion for astronomy. And that's something worth anticipating. And worth waiting for...

Next Time: Good, **Old** Constellations
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The Renaissance Man and his Observatory

By James T. Morgan
 Vice-Chair, The Astronomical League, Mid East Region
 morganjt56@yahoo.com

Ron Worden lives in New Castle County, Delaware and is a member of the Delaware Astronomical Society. Tucked away in a corner of his yard is a remotely operated observatory that makes effective use of the amount of sky that is available to him. This might give you some ideas as to how you can increase your observing time.



How long does it take to set up and be able to observe?
 It takes less than 15 minutes.



What kind of scope do you have mounted in it?
 I have a 10" Meade LX200 f/10 Goto FL2500mm.

What do you do to prevent spiders and other critters from taking roost in the telescope?

I open it at least once a week and there is a lot of airflow from the bottom as well as through the rafters. I also spray insect repellent once in a while.



Is moisture a problem in getting the scope ready to use?

No.

Do you have any problem with lights from neighbors, streetlights or other things that might impede your observing?

There are streetlights. There are also lights from Newark in the Northern sky and lights from Wilmington in the Eastern sky. The star magnitude is only good to about magnitude 3 and the overall condition of the sky is only fair to poor. The best part of the sky is overhead and spans about 45 degrees.

Why did you build this observatory?

I initially bought the scope thinking I would take it portable. But because of my interest in astrophotography, the 70 lb. weight, and the time it takes to set up and also wanting some creature comforts I decided to build an observatory that has the control center in my garage. I have a heater for winter and doors to keep mosquitoes out in the summer. That is why it seems odd to have it so close to my garage. I had a 15' limiting wire on one of my CCD cameras that could not be lengthened.

Any suggestions you would make to others who would do the same?

Do it and do it as soon as possible. If I can do it anyone can do it. Take about a month to do research on the Internet looking at other observatories, make plans, and a design. It is easier than you might think. Don't be afraid of making a mistake. It can always be corrected somehow and always cut lumber a little too large. You can always make it smaller but you can't add to what you mistakenly cut off. Also do it in the season of the year that is most comfortable for you. Take your time.

If you had it to do over again would there be something that you would do differently?

I made three mistakes. The roof angle was too steep and I redid it. I made a mistake on the doors as far as height and corrected that. Those were small errors. The biggest error was forgetting the offset of the scope on the fork mount. The offset on a Meade fork mounted 10" scope is about 16", so the pier should be set 16" off center of your observatory for things to be centered. So I made a small platform outside of the

observatory joining the main platform so I could put a stool for observing visually.



What was the most difficult part in putting this all together?

Formulating a design that I was satisfied with. I took the month of June 2003 to design it, and built it in July, August, and September. The hole was physically the hardest. The hole for the pier was 18" square and 36" deep and reinforced with rebar. It took fifteen 80lb bags of concrete to fill the hole, which I mixed up in a wheelbarrow. A word of caution on mixing concrete. Always mix it as dry as possible where it flows consistently and slowly not gloppy or runny. This will make it the strongest. A state civil engineer told me this, so he should know what he's talking about. Also, as always aligning the scope was not easy, especially getting it aligned well enough to do long exposures. But, once it's done, I never have to do it again. That's the beauty of an observatory.

If you are willing to share it, can you give us an idea of the cost of this project?

All of the framing and platform was used lumber lying under my deck and was given to me. The T111 siding and the corrugated roofing was the most expensive. The total cost to me was about \$800. If I had bought all the lumber, including the hardware and paint it would probably be about \$1000.

Are there any other things that you would like to add to this?

Even though getting the first photos is easy, learning the software for processing the photos takes time. My photos are not the best yet but they will get better as I gain experience with the different kinds of software and techniques used for processing them.

I would also like to add that my website is <http://www.unique-treasures.com/>

How long have you been a member of the Delaware Astronomical Society?

I belonged in the early 80's but dropped out because of time, money, and raising a family. I rejoined several years ago.

How long have you lived in the house that you are in now?

30 years

Where else have you observed from?

I own a house with 10 acres in lower Delaware with better skies but it's 70 minutes away and I'm not able to get down there regularly.

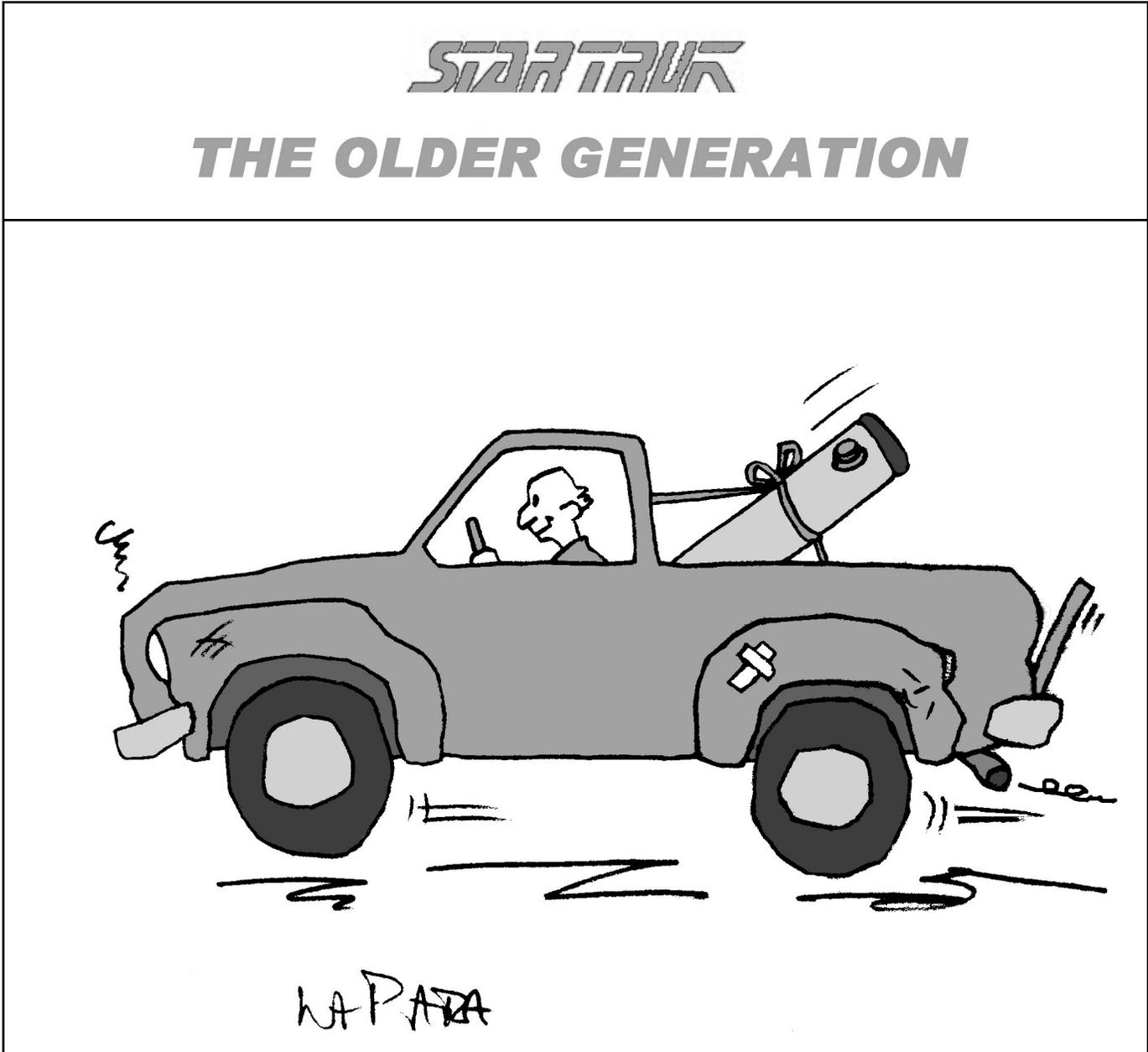
Do you have any future projects that we could look forward to?

Yes, I plan on getting an 8" Meade LX200 Goto to do some portable stargazing and do some star shows. However,

astrophotography is my main enjoyment. I also do solar viewing with my full spectrum and hydrogen alpha filters. My plan was to make my setup as versatile as possible.

I know a little about everything and a lot about nothing. Does that mean I'm good for nothing? If I can do it anyone can do it. All you have to do is be brain dead enough to do it!

The Renaissance Man.



Cartoon by Nicholas La Para

CCAS Information Directory

CCAS Lending Telescopes

Contact Kathy Buczynski to make arrangements to borrow one of the Society's lending telescopes. CCAS members can borrow a lending telescope 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.

CCAS Lending Library

Contact our Librarian, Linda Lurcott Fragale, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings. Linda's phone number is 610-269-1737.

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 e-mail message and send it to newsletter@ccas.us

Or mail the contribution, typed or handwritten, to:

Jim Anderson
1249 West Kings Highway
Coatesville, PA 19320-1133

Get CCAS Newsletters via E-mail

You can receive the monthly newsletter by e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to Jim Anderson, the newsletter editor, at:

newsletter@ccas.us

CCAS A.L. Award Coordinators

These are the members to contact when you have completed your observing log for the Messier, Binocular Messier, Lunar, or Double Star Awards:

Messier (both): Jim Anderson
(610-857-4751)

Lunar: Ed Lurcott
(610-436-0387)

Double Star: Jim Anderson
(610-857-4751)

CCAS Purpose

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public. The Society holds meetings (with speakers) and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the Society. The Society also provides telescopes and expertise for "star nights" for school, scout, and other civic groups.

CCAS Executive Committee

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

President: Mike Turco
(610) 399-3423

Vice Pres: Steve Limeburner
(610) 353-3986

**ALCor and
Treasurer:** Bob Popovich
(610) 363-8242

Secretary: Caitlin Grey
(610) 918-9049

Newsletter: Jim Anderson
(610) 857-4751

Librarian: Linda Lurcott Fragale
(610) 269-1737

Observing: Ed Lurcott
(610) 436-0387

Education: Kathy Buczynski
(610) 436-0821

Public Relations: Vic Carlucci
(610) 458-7457

CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER..... \$25/year
SENIOR MEMBER \$10/year
STUDENT MEMBER..... \$ 5/year
JUNIOR MEMBER \$ 5/year
FAMILY MEMBER \$35/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 "Chester County Astronomical Society." Mail to:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$32.95** which is much less than the newsstand price of \$66.00, and also cheaper than individual subscriptions (\$42.95)! Make **sure** you make out the check to the **Chester County Astronomical Society** (do **not** make the check out to Sky Publishing, this messes things all up big time), note that it's for *Sky & Telescope*, and mail to Bob Popovich. Or you can bring it to the next Society meeting and give it to Bob there. **If you have any questions by all means call Bob first (610-363-8242)**. Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

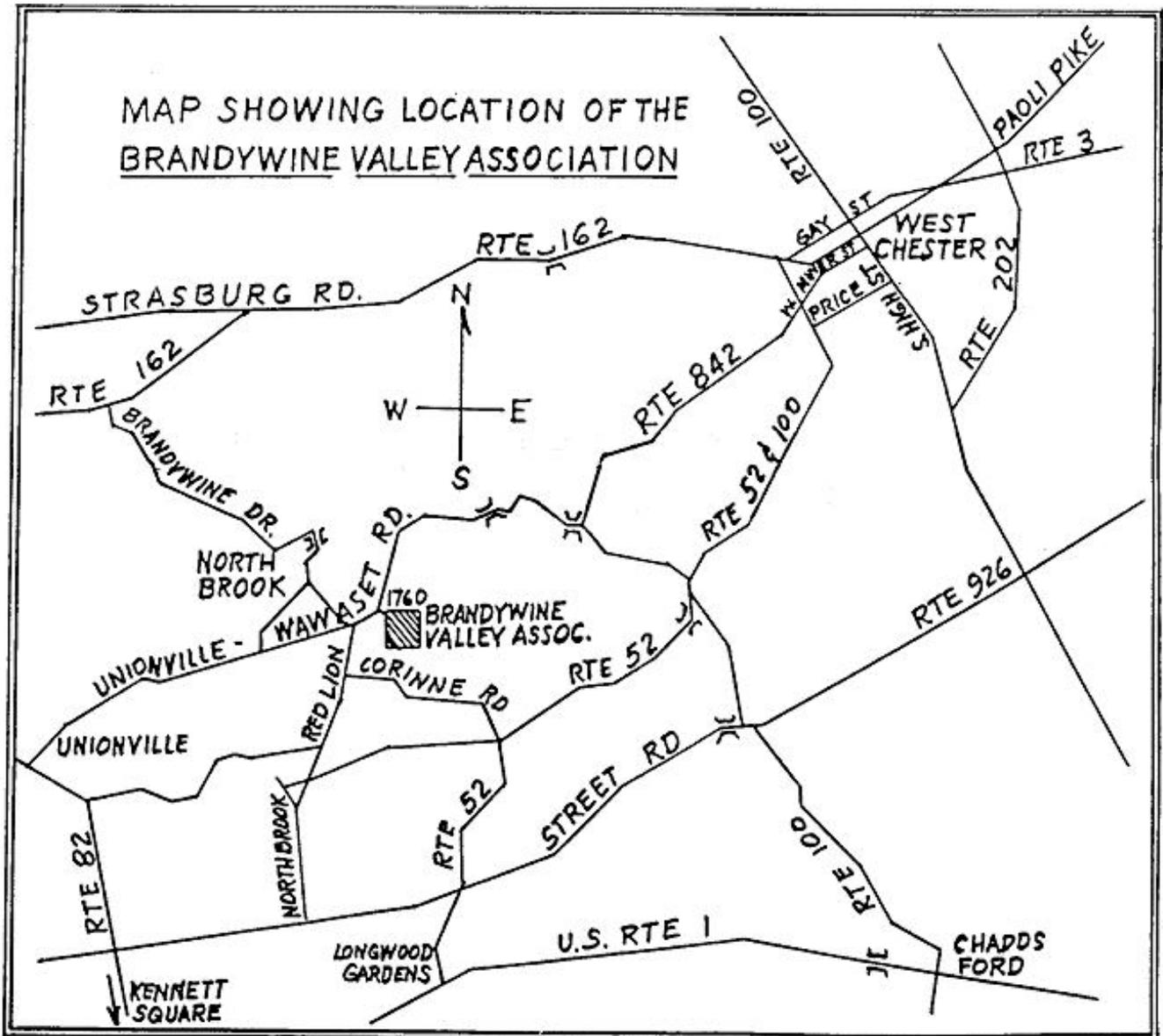
CCAS Website

John Hepler is the Society's Webmaster. You can check our Website at:

<http://www.ccas.us/>

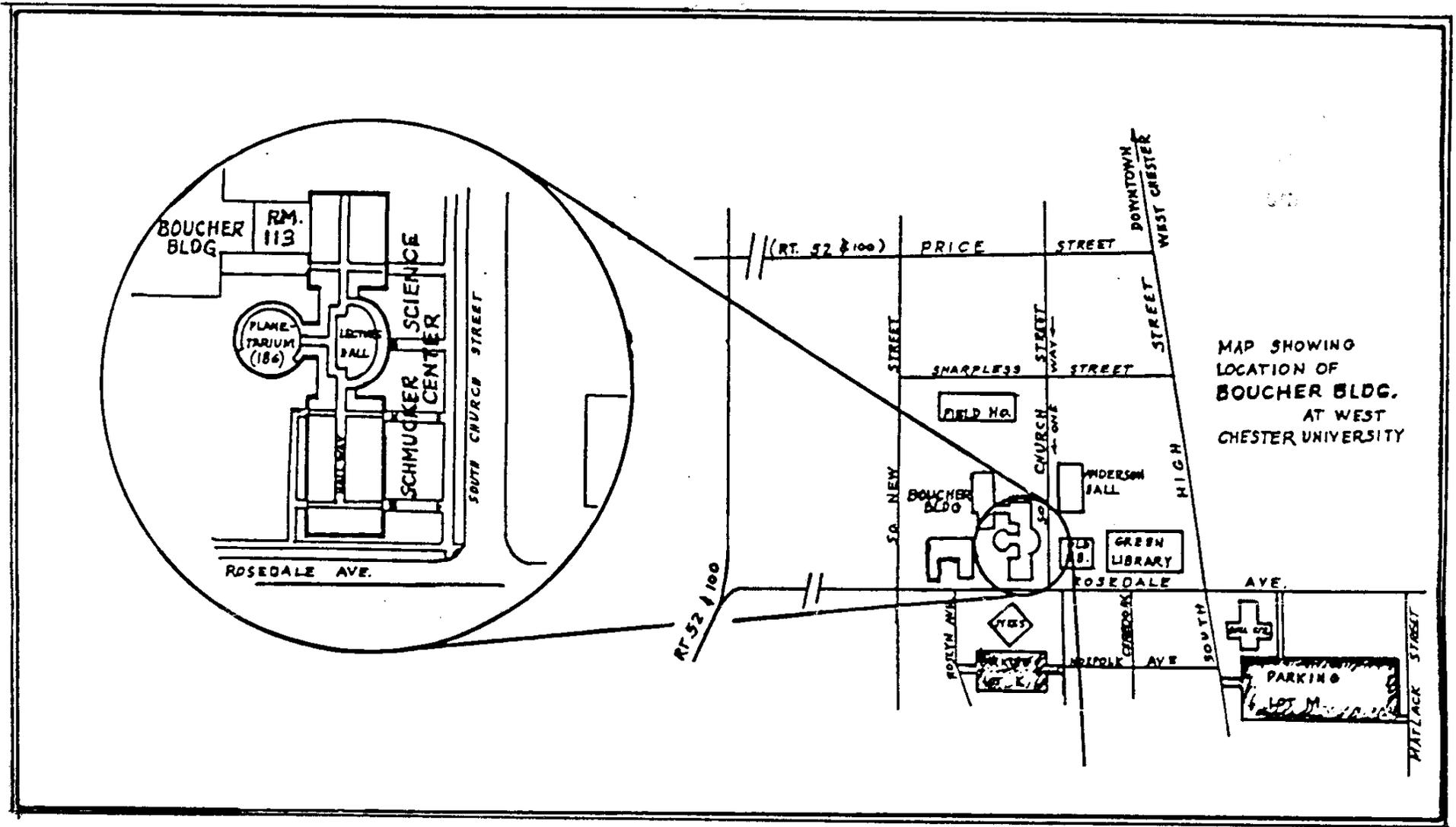
John welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work; no copying copyrighted material! Give your contributions to John Hepler (610-363-0811) or e-mail to webmaster@ccas.us





To get to the Myrick Conservation Center of the Brandywine Valley Association from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles.

To get to the observing site at the BVA property, 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 (so you don't ruin other observers' night vision).



Parking is available behind Sykes Student Center on the south side of Rosedale Avenue (Parking Lot K), and behind the Bull Center at the corner of Rosedale Avenue and South High Street (Parking Lot M). If you arrive early enough, you may be able to get an on-street parking space along South Church Street, or along Rosedale Avenue. You can take the Matlack Street exit from Rt. 202 South; Matlack Street is shown on the map at the lower right corner with Rt. 202 off the map. If approaching West Chester from the south, using Rt. 202 North, you would continue straight on South High Street where Rt. 202 branches off to the right. This would bring you onto the map on South High Street near Parking Lot M, also in the lower right corner.