Observations

A Monthly Publication Of The
CHESTER COUNTY ASTRONOMICAL SOCIETY

MARCH 2004
(VOLUME 12, NO. 3)
Visit us online at www.ccas.us

In This Issue

Important March 2004 Dates

2 CCAS Introductory Astronomy classes at the Flower and Cook Observatory in Malvern. Class begins at 7:00 p.m. EST.

Tonight's session: "Planispheres/Star Charts"

3 Jupiter reaches opposition (meaning that it is exactly opposite the Sun in our sky, rising in the east at sunset and setting in the west at sunrise.)

6 Full Moon.

9 CCAS Monthly Meeting in Room 113 at 7:30 p.m. EST in the Boucher Building at West Chester University, on South Church Street in West Chester (see map on page 12).

Topic: "U.S. Space Camp Experiences"

13 Last Quarter Moon

16 CCAS Introductory Astronomy classes at the Flower and Cook Observatory in Malvern. Class begins at 7:00 p.m. EST.

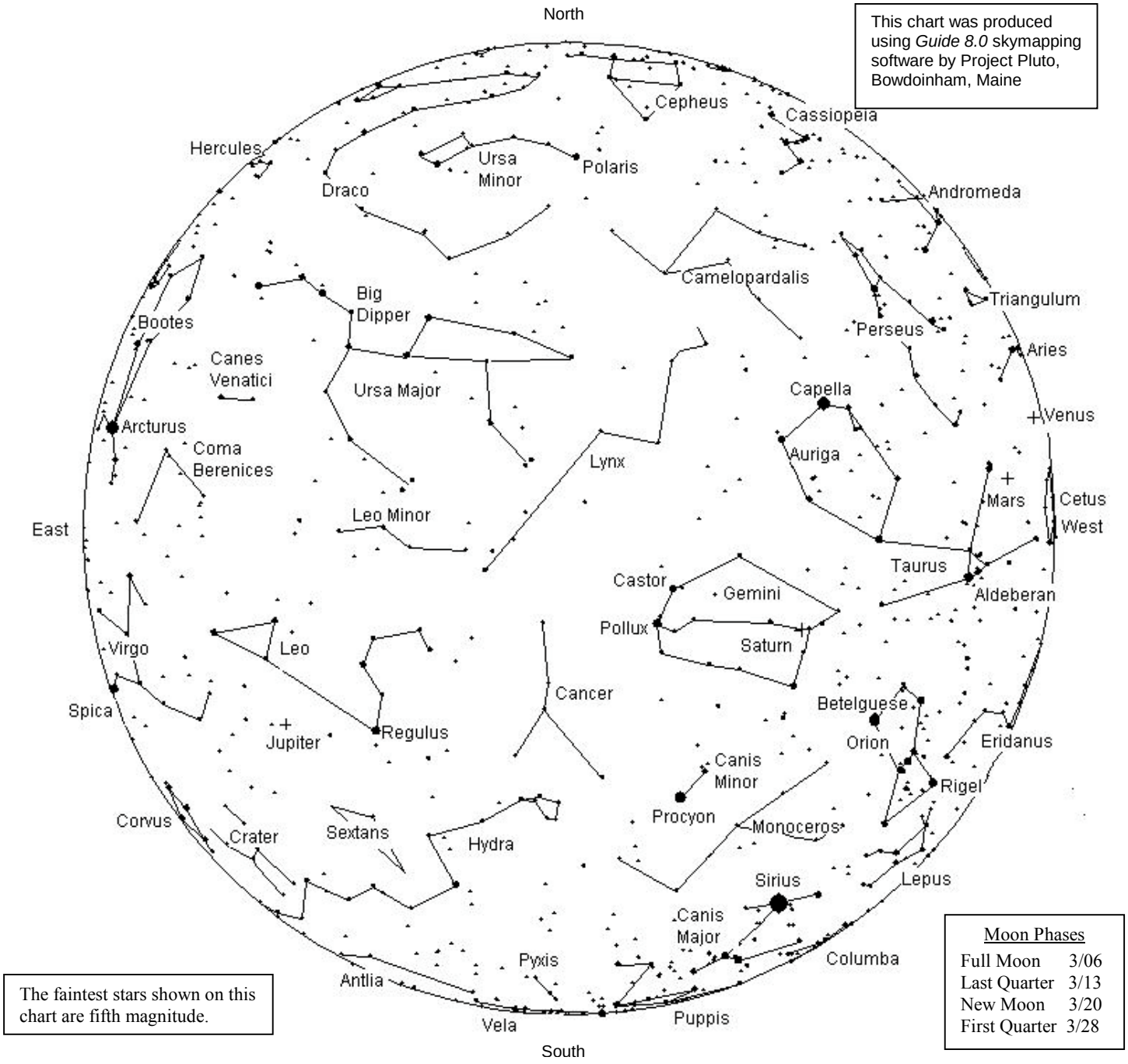
Tonight's session: "Stars by Design: Constellations"

20 New Moon
Vernal Equinox at 1:49 a.m. EST when the Sun crosses the celestial equator into the Northern Hemisphere. First Day of Spring.

19/20 CCAS Observing session at Myrick Conservation Center (BVA) starts at sunset.

28 First Quarter Moon

29 Both Mercury and Venus reach their greatest eastern elongation from the Sun, meaning they are as far from the Sun in our evening sky as they will get in their current apparitions. So check them out; this is the best time this year!



The sky over Chester County

March 15, 2004 at 9:00 p.m. EST

The Planets

Mercury is in the evening sky during the last two weeks in March, low in the west after sunset. Look for it near the crescent Moon on 3/22; on 3/29 it will be as far from the Sun as it gets this month. Late March this year is a good time to look for Mercury.

Venus is in the evening sky, setting as much as 4 hours after the Sun. You can't miss it, it's the brightest "star" in the sky after dark until about 8:00 p.m. or so when it sets.

Mars is in the evening sky, in Aries. It's a small dot in telescopes.

Jupiter is rising in the east in March. You can start getting good telescopic views of Jupiter by late evening (9:00 p.m. or later).

Saturn is in Gemini in March. You can get good telescopic views of Saturn now as soon as it is dark enough to find it. The rings are nicely tipped for good viewing, and as a matter of fact, this year is one of the best years to see the rings!

Uranus is in the morning sky but is too low at sunrise to find.

Neptune is also too close to the Sun to find this month.

Pluto is in the morning sky, but is not high enough for telescopic viewing before sunrise.

Librarian Needed

Our current Librarian, Bill O'Hara, needs to retire from this position. We therefore need someone who can serve as the Society Librarian. This person would keep track of the 60 or so books we have in the Society's collection. This person would need to store these books at their home, as we don't have a location where the Society can store anything. On the other hand, this means the person serving as Librarian (and their family) has ready access to all those fine books on astronomy and space exploration! That household could well consider itself lucky to have such a library right at hand! Please consider helping out the Society and letting Bill retire by serving as Librarian. If interested please contact our President Mike Turco at 610-399-3423. Thanks!

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CCAS March Meeting

CCAS member Lisa A. Compton will talk about Space Academy and her experiences there. Lisa recently wrote to us: "Don't miss the fun-filled and interesting presentation on U.S. Space Camp coming in March. This fascinating presentation will include an overview of my one-week tour of duty at the U.S. Space and Rocket Center's Advanced Space Academy astronaut-training program. There will be plenty of photographs and interesting facts along with an in-depth discussion on space shuttle operations and orbiter flight control. During my final 8-hour Extended Duration Mission (EDM) simulation, I commanded a space shuttle mission that included launch, International Space Station (ISS) docking, and return to Earth.

"Also included will be rare photographs of ISS sections taken at the ISS ground staging area at Marshall Space-Flight Center in Huntsville, Alabama."

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CCAS March 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 March 19, 2004 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 March 20, 2004. 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 always free of charge. Remember to dress warmly!

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CCAS Introductory Astronomy Class

The Education Committee of the CCAS is presently running a class intended to introduce people to basic astronomy. This series of eight classes is held on the first and third Tuesdays of each month, starting at 7:00 p.m. and ending at 8:00 p.m. These are the dates and topics for the remaining classes:

March 2	Planispheres/Star Charts
March 16	Stars by Design: Constellations
April 6	The Secret Life of Stars
April 20	Planetarium Field Trip (WCU)
May 4	The Moon
May 18	Telescopes, Binoculars and Mounts

The classes are held at the University of Pennsylvania's Flower and Cook Observatory in Willistown Township. The FCO is located just a few miles south of Malvern. It is located near the intersection of Warren Avenue and Providence Road, just west of Warren Avenue on Providence Road. A map showing the location is on page 11.

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Treasurer's Report by Bob Popovich

January 2004 Financial Summary

Beginning Balance	$1,228
Deposits	256
Disbursements	232
Ending Balance	$1,252

Membership Renewals Due

03/2004:	Grey
	Harmstead
04/2004:	Bogucki
	Dunlop
	Goldader
	Hess
	Murray
	Plotkin
05/2004:	Brownback
	Grillo
	Hain
	Jackson
	Pioch
	Turco

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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.

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Calling all CCAS Astrophotographers!

by Mike Turco

I have spoken with the head of West Goshen Parks and Recreation department, Mr. Ken Lehr. Mr. Lehr was quite impressed with the astrophotos on our website and wants to have an exhibit of astroimages at the West Goshen Township Building for two months (April and May). If we can do it, the tentative plan is to have essentially an art reception at the township building to introduce the public to the photos and the photographers. I also suggested having the equipment set up inside, if possible, to demonstrate how, and with what, the astrophotos were taken (unless of course they were taken at the

FCO ☺). We would hold an observation session, weather permitting, for the public in conjunction with the reception. Mr. Lehr would publicize the event in the township newsletter (he's the editor) and via signs in parks, etc. around the township.

The photos would need to be mounted at least in mats and preferably in frames, and hung with hooks and wire from the existing J-track in the building hall. Photos should be as large as possible while retaining detail.

I need to get back to him with a unified response. This could result in good publicity for the club and we could make it hit the newspaper as well. So please let me know your thoughts and who is interested in exhibiting. I suppose I now have the incentive to hook a camera up to my refractor and get some planet photos myself.

I can see it now. Pete LaFrance in a tuxedo. Champagne and caviar anyone?

P.S. Mr. Lehr also would like to schedule an outdoor event to include a presentation like a slide show (they have a big outdoor screen) and star party in one of the parks. We can talk about that at the next monthly meeting.

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For Sale: *Skywatch '04*

The *SkyWatch '04* annual magazine from Sky Publishing, which includes September 2003 to December 2004 monthly star charts, excellent articles about telescopes, 2004 astronomical highlights, astrophotography and much, much more, is now available to CCAS members at a reduced rate. Newsstand price: $6.99 plus tax. Buy it here for ONLY $**5.00**—WHILE SUPPLIES LAST (the proceeds, which aren't much, benefit the Education Fund of your Society). Call Kathy Buczynski at 610-436-0821 to reserve your copy.

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CCAS April Meeting: Date Changed!

Please note that the date of the April Society meeting has been changed from the usual second Tuesday of the month (April 13) to the third Tuesday of the month, April 20. This is so we could combine the meeting with the Introductory Astronomy class in the planetarium at West Chester University. This way all members can attend the planetarium show that night. The planetarium show will be first that night, after which we will hold the monthly meeting to conduct any needed Society business. Class members can leave after the show if they choose, or they can stay for the meeting.

The show will begin at 7:00 p.m.

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Upcoming Meeting Topics

In May, James Morgan, from the Mid-East Region of the Astronomical League (MERAL), will talk with us about the Astronomical League Observing programs.

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Calendar Notes

March 2, 2004 (Tuesday)	Introductory Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EST
March 9, 2004 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EST
March 16, 2004 (Tuesday)	Introductory Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EST
March 19/20, 2004 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 6, 2004 (Tuesday)	Introductory Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EDT
April 20, 2004 (Tuesday) (note date change)	CCAS Meeting Location: West Chester University 7:00 p.m. EDT
April 16/17, 2004 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset
April 20, 2004 (Tuesday)	Introductory Astronomy Class Location: West Chester University 7:00 p.m. EDT
April 24, 2004	**National Astronomy Day**
May 4, 2004 (Tuesday)	Introductory Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EDT
May 11, 2004 (Tuesday)	CCAS Meeting Location: West Chester University 7:30 p.m. EDT
May 18, 2004 (Tuesday)	Introductory Astronomy Class Location: Flower & Cook Observatory 7:00 p.m. EDT
May 21/22, 2004 (Friday/Saturday)	CCAS Observing Session Location: BVA sunset

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Newsletter Deadlines

These are the deadlines for submitting material for publication in the newsletter, through the December 2004 issue.

Issue	Deadline
April 2004	03/26/2004
May 2004	04/28/2004
June 2004	05/26/2004
July 2004	06/25/2004
August 2004	07/28/2004
September 2004	08/27/2004
October 2004	09/27/2004
November 2004	10/27/2004
December 2004	11/26/2004

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Deep Space Network 2-for-1 Sale!

By Patrick L. Barry

Call it a "buy one, get one free" sale for astronomers: Build a network of radio dishes for communicating with solar-system probes, get a world-class radio telescope with a resolution nearly as good as a telescope the size of Earth!

That's the incidental bonus that NASA's Deep Space Network (DSN) offers the astronomy community. Designed to maintain contact with distant spacecraft in spite of the Earth's rotation, the large, widely spaced dishes of the DSN are ideal for performing a form of radio astronomy called "very long baseline interferometry" (VLBI).

The 70-meter radio “dish” antenna at NASA’s Goldstone Station of the Deep Space Network. How big is 70 meters? By comparison, the small rectangular thing near the base, under the front end of the dish, is a maintenance vehicle the size of a pickup truck.

VLBI produces very high-resolution images of the cosmos by combining the output from two or more telescopes. The result is like having a giant "virtual" telescope as large as the distance between the real dishes! Since bigger telescopes can produce higher resolution images than smaller ones, astronomers need to use dishes that are as far apart as possible.

That need dovetails nicely with the DSN's design. To maintain continuous contact with deep space missions, the DSN has tracking stations placed in California, Spain, and Australia. These locations are roughly equally spaced around the Earth, each about 120 degrees of longitude from the others—that way at least one dish can always communicate with a probe regardless of Earth's rotation. That also means, though, that the straight-line distance between any two of the stations is roughly 85 percent of Earth's diameter—or about 6,700 miles. That's almost as far apart as land-based telescopes can be.

"We often collaborate with other VLBI groups around the world, combining our dishes with theirs to produce even better images," says Michael J. Klein, manager of the DSN Science Office at NASA's Jet Propulsion Laboratory. "Since our 70-meter dish in Canberra, Australia, is the largest dish in the southern hemisphere, adding that dish in particular makes a huge difference in the quality of a VLBI observation."

Even though only about 1 percent of the DSN's schedule is typically spared from probe-tracking duty and scheduled for radio astronomy, it manages to make some important contributions to radio astronomy. For example, the DSN is currently helping image the expanding remnant of supernova 1987A, and Dr. Lincoln Greenhill of the Smithsonian Astrophysical Observatory is using the DSN dishes to explore a new way to measure the distances and velocities of galaxies.

And all this comes as a "bonus" from the dishes of the DSN.

To introduce kids to multi-wavelength astronomy, NASA's website for kids, The Space Place, has just added the interactive demo, "Cosmic Colors," at spaceplace.nasa.gov/cosmic .

The preceding article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

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Astronomical League Observing Awards: 4

By Jim Anderson

Continuing the series of articles to describe the twenty-two observing programs offered by the Astronomical League that you can work on, this month we’ll cover one of the newest: the Constellation Hunter Club. This would be considered a novice-level observing program, geared to help you learn the constellations. There are two awards, one for Northern Skies (find all constellations north of the ecliptic, 38 total) and one for Southern Skies (find all constellations south of the ecliptic). This is the circular lapel pin for the Northern Skies award:

The basic intent of these two programs is to introduce you to the constellations. All you need is a planisphere, or a monthly all-sky chart like the one published each month in *Observations*, and a pad of paper to make some simple notes and a drawing of the constellation. Yes, I said a drawing, but don’t panic because we’re not talking about producing a great work of art. Just make dots to show the relative positions of the stars in the constellation, and draw lines to show how they’re “connected” to form the constellation’s outline. What I just described is drawing a simple connect-the-dots stick figure.

If you'd like a copy of the requirements for the Constellation Hunter award(s), they can be found at the Astronomical League's Website. If you don't have Web access and want a copy, let me know (610-857-4751) and I'll print you a copy and mail it to you. Anybody want to find some constellations? I'm going to start this weekend!

In the December 2003 *Observations* I gave a brief overview of how the programs work, and continued in January and February 2004 with descriptions of some of the other Clubs. If you missed these articles and would like a copy of any of those issues, let me know and I'll send you a copy (Jim Anderson at 610-857-4751 or e-mail at newsletter@ccas.us). You can also get fuller details of the programs from the Astronomical League's Website http://www.astroleague.org, or by buying a copy of the booklet for the observing program from the AL's online store. Details on the store and prices are in *The Reflector*, the AL's quarterly publication which all CCAS members receive as part of their CCAS membership.

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Comet Update

As noted in previous newsletters, there is a comet in our evening sky, moving through the constellations of Pisces and Pegasus during the months of January through March: Comet C/2002 T7 (LINEAR). It was discovered by an automated sky search program called LINEAR that is specifically looking for dangerous Earth-orbit-crossing asteroids. That's why it's not named after a specific person or persons, like Comet Hale-Bopp.

This comet will disappear in the Sun's glare around mid-month for us as it swings around behind the Sun. When it comes out on the other side it will be visible only from the Southern Hemisphere, so March 1 through 15 is your last chance to see this visitor. This comet is forecast to be around magnitudes 6.5-5.5 before March 15, putting it right on the edge of naked-eye visibility under dark skies. Comet brightness "forecasts" like these are always very "iffy"; however, this is a comet that most of us should be able to find with telescopes and binoculars, even if it never gets bright enough to spot without optical aid.

See the finder chart on page 13, which includes a track of the position of Venus. Venus can be used as a "roadsign" to help find the comet. When you find Venus in the evening sky, the comet will be to the right of Venus, and lower in the sky (north and west of Venus). Find the "Great Square" of Pegasus to the right of Venus, and the comet will be near the star in the "upper left-hand corner" of the Great Square. Notice that the comet is getting closer to the Sun, the Sun is moving toward it in our sky, and Venus is moving away from it this month. As you can see by how close the Sun will be to the comet on March 16, the sky will still be too bright to see the comet before the comet sets after the Sun. So don't miss your last chance to see Comet C/2002 T7 (LINEAR)!

Don't forget, if you find this comet you can count it toward the Universe Sampler Observing Program, or the Comet Observers Program. If you image it, you can send me a copy to include in *Observations*. You can e-mail it to me at newsletter@ccas.us.

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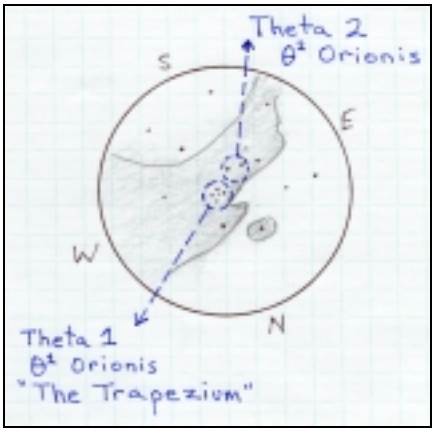
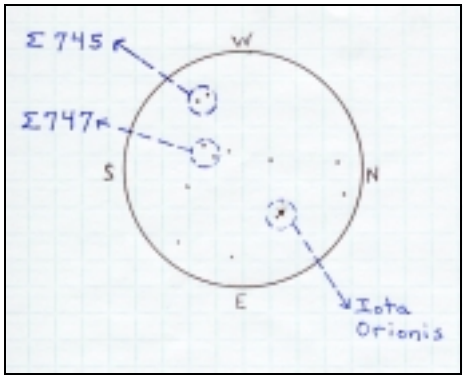
Identification of some multiple stars in crowded star fields in Orion



This drawing shows the field around Theta (θ) Orionis. The circle in this drawing is about 0.6 degrees in diameter. The shaded area is the Orion Nebula, M42 and M43.

This drawing was done by Jim Anderson using a 10" f/6 Newtonian reflector.



This drawing shows the field around Iota (ι) Orionis and Struve 747 (Σ747), which are both on the A.L. Double Star list. It also shows another double star in the same field, Struve 745. The circle is about 0.6 degrees in diameter.

This drawing was done by Jim Anderson using a 60mm f/15 refractor.

Astronomus

"Stellar Lucky Charms"

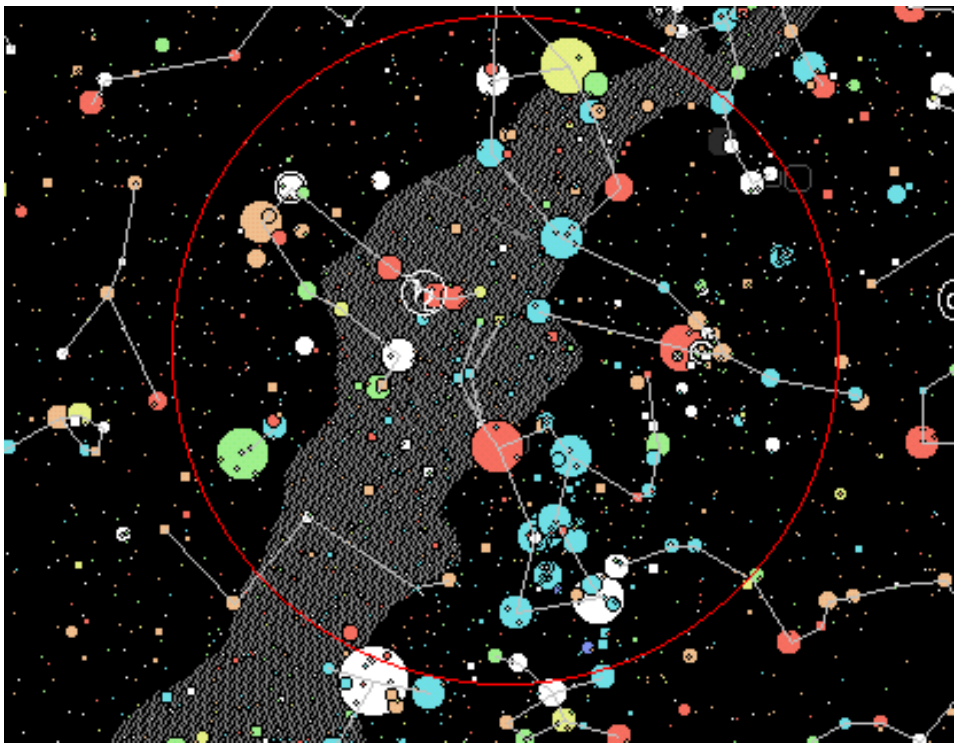
By Bob Popovich

Suspended in a bowl of milk, Lucky Charms cereal is an irresistible explosion of colors. Like floating candy, it's a treat for the eyes (and the tummy). But we have another bowl of cereal, of sorts, that we can enjoy as an evening treat. The Winter Circle is a heavenly bowl that's visible this time of year and is chock full of colorful, though at times elusive, treats for us all. "Elusive in what way?" you ask. Well, when we peer into the nature of color we see that there's more to it than meets the eye—literally.

The Winter Circle includes these gems:

Capella	Auriga	Yellow
Aldebaran	Taurus	Red
Rigel	Orion	Blue
Sirius	Canis Majoris	White
Procyon	Canis Minoris	Yellow
Castor	Gemini	White
Pollux	Gemini	Yellow

A bright, beautiful collection of the season's finest. And within this cereal bowl float a myriad of stars in all sorts of colors. Go and look for yourself!



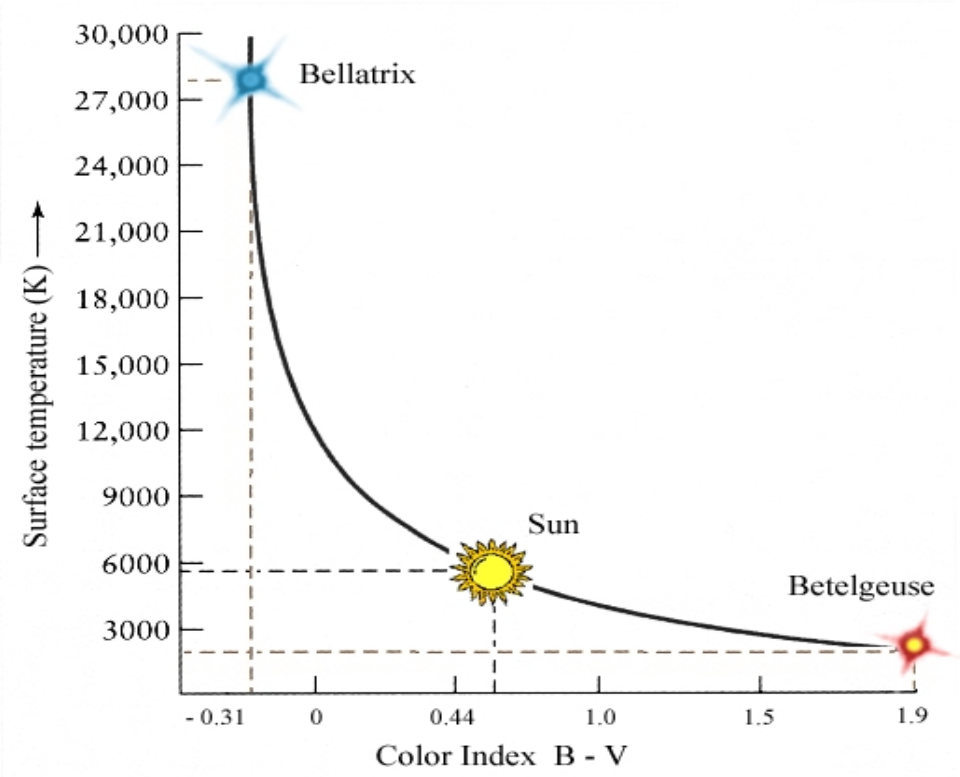
Color, it seems to me, plays major role in our enjoyment of astronomy. Were everything in the heavens to be a giant black & white movie, I think that much of the lure of amateur astronomy would fade.

To grasp the nature of stellar colors, we need to understand a bit about what the stars emit, what our eyes perceive, and how our brain interprets the incoming signals. The entire process is wondrous indeed.

To begin with, stellar colors are nearly always subtle. The elusive hues are determined by the star's surface temperature. And this temperature, in turn, is a function of its mass and the nuclear fusion going on in its core. Basically, the warmer an object, the faster the molecules vibrate, and the shorter the wavelengths of the emitted visible radiation. In other words, the visible wavelengths are skewed to the blue end of the spectrum. (See the spectrum on page 8). At the other end of the proverbial spectrum is lower energy radiation,

skewed to the red end of the spectrum. As we all learned in high school physics, stars emit multiple kinds of radiation and the light that we see is only a small portion of that radiation. In fact, much of radiation is down-right deadly to us. Let's hear it for the ozone layer!

The chart below graphs surface temperature and color. Notice that the high-energy blue stars have very high surface temperatures while the low energy red stars have relatively low surface temperatures.



Please note that the graph and the visible spectrum are not on the same scale.

So, energy flows from our stellar Lucky Charms and is received by our eyes. Our marvelous optical sensors detect the incoming radiation through two types of receptors: (1) Rods clustered near the center of our eyes that sense brightness and (2) Cones, sensors of color located at the periphery of our eyes. Cones are the less sensitive of the two, so a dim star almost always appears white to us—not necessarily because it is white, but because the rods pick up the incoming radiation and tell our brain that there is a light source in view but the cones can't add additional information. In the absence of data from the cones, the brain defaults to white. So for dim stars, astronomy is a black & white movie. Oh, and by the way, since cones are found at our eyes' peripheries, you'll have better success detecting colors by using averted vision.

Looking back at the chart of the Winter Circle's major stars, you'll notice white, blue, yellow and red stars. But what about green? And purple? Surely Lucky Charms couldn't exist without those two colors. Right you are. "So where do we find green and purple stars?" I'm glad you asked! Green is just about at the middle of the visible spectrum. Objects emitting visible radiation that peaks at the middle of the spectrum send out a good deal of energy from all the visible frequencies (rather than being skewed to either one end or the other). The result is that the brain blends all the visible wavelenghs and comes up with, you guessed it, white light. Our sun is actually quite close to the green wavelength but it most often appears to us as yellowish-white, doesn't it?

So in isolation, a given star that peaks in green wavelengths appears white to us. Notice I said *in isolation.* Now place that same white-looking star in a field of view with a red star and, behold, the formerly white star now appears green! This illustrates the contrast effect—an attempt by our brain to create a contrast because it "assumes" that one exists. Further, it "assumes" that the contrast of varying colors (wavelengths) will blend together to produce the default color—white. Fortunately for us, the perceived result is a beautiful color combination, though sometimes the colors we perceive may not be the actual colors. This is why we sometimes disagree about what hues we see.

But there's more, there's an after-image, too. This effect causes red stars to appear redder the longer we look at them. It can even cause us to see a bit of lingering red as we move from a red star to another object!

Purple stars exist as well but our eyes detect purple rather weakly and blue simply overwhelms it.

But you know, sometimes it’s OK to let preception be our reality. Even if the colors aren't always true, they're still pretty and so much of our passion for astronomy is tied up in its pure enjoyment. So grab your spoon (sorry, I meant binoculars or telescope) and enjoy the Winter Circle in living color!

Next Time: That's My Boy!

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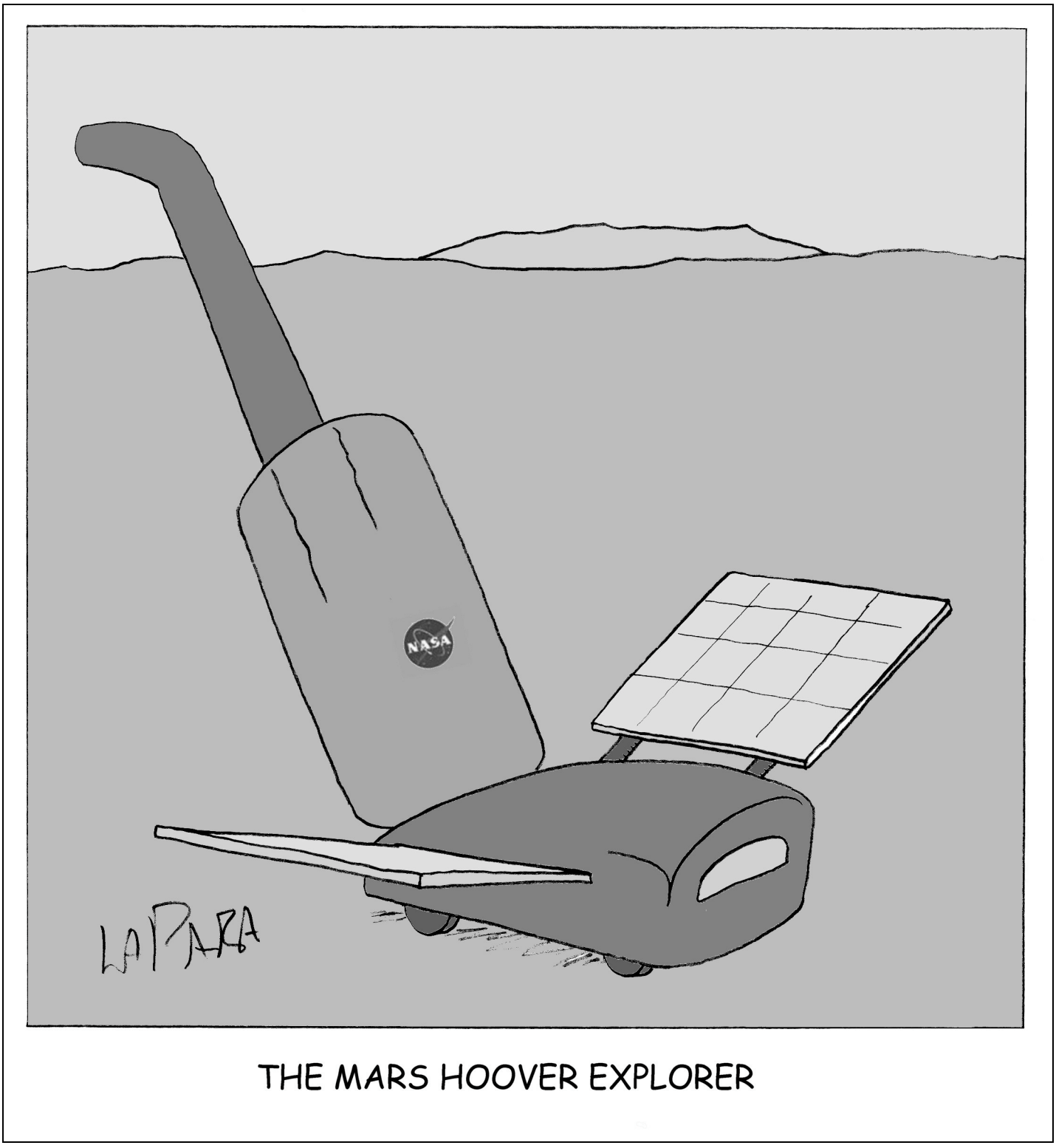

Cartoon by Nicholas La Para

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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, 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.

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

Treasurer: Bob Popovich
(610) 363-8242

Secretary: Caitlin Grey
(610) 918-9049

ALCor and Newsletter: Jim Anderson
(610) 857-4751

Librarian: William O'Hara
(610) 696-1422

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

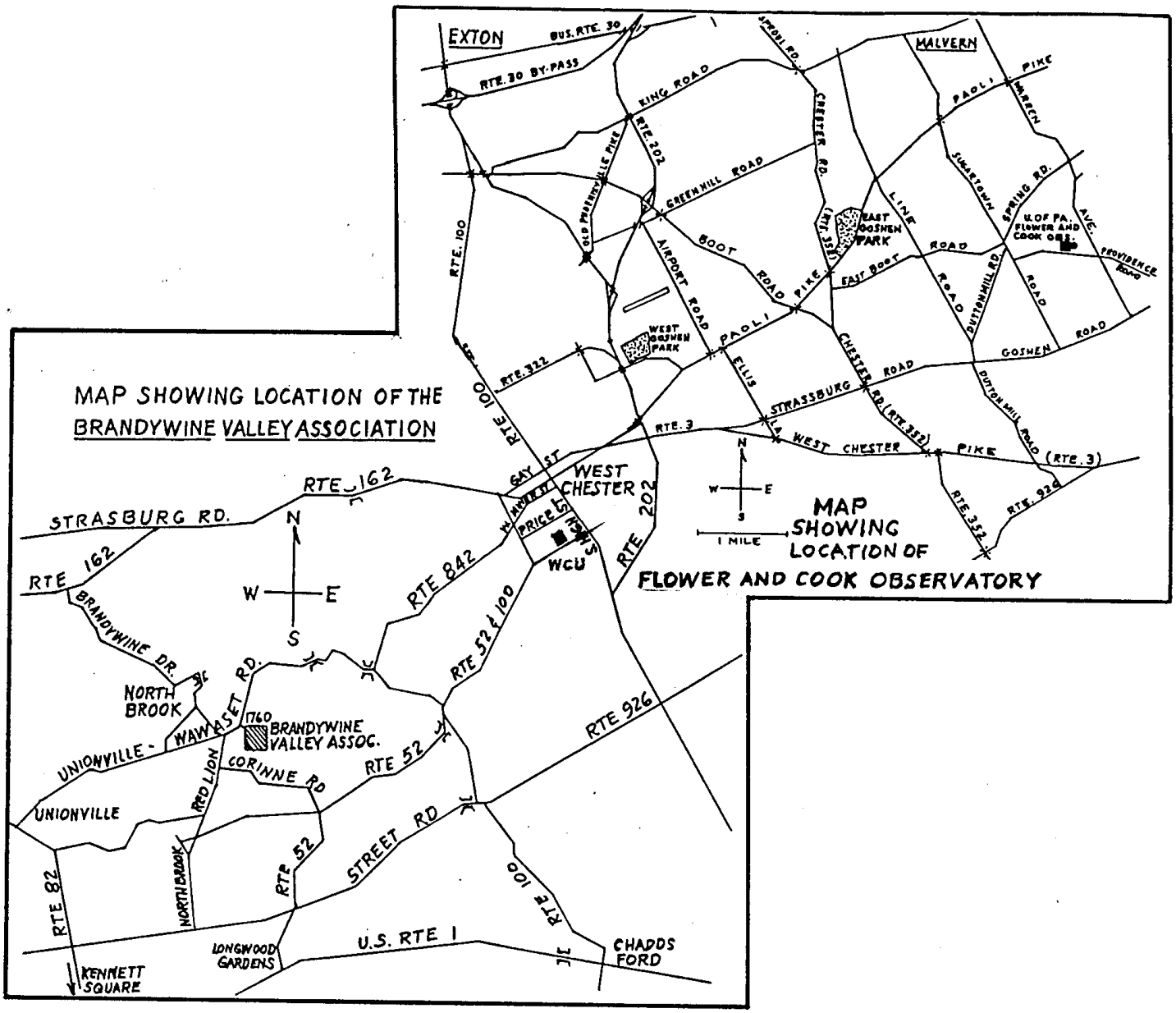
Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **$32.95** which is much less than the newsstand price of $66.00, and also cheaper than individual subscriptions ($42.95)! Make **sure** you make out the check to the **Chester County Astronomical Society** (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

Pete LaFrance is the Society's Webmaster. You can check our Website at:

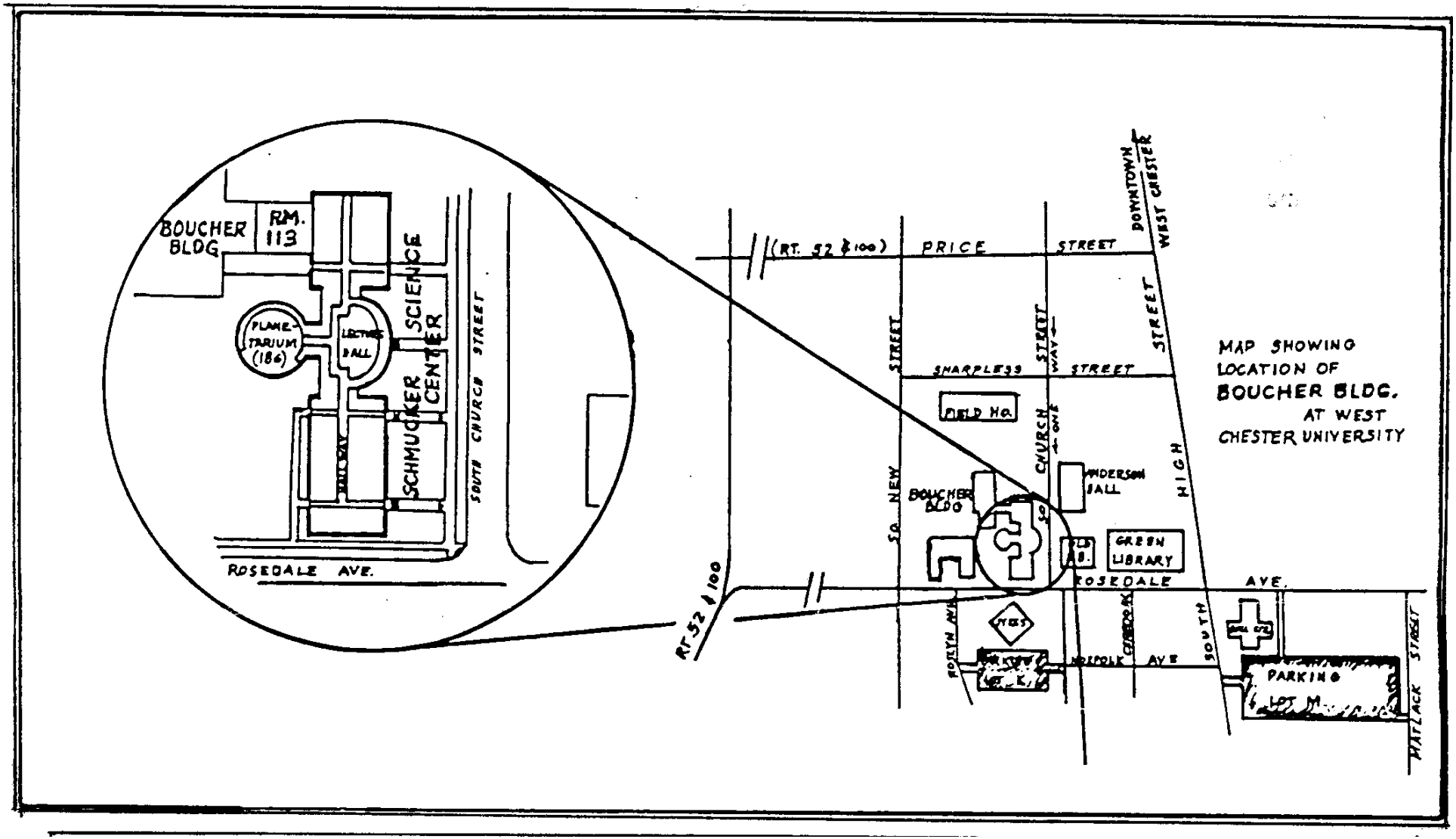
http://www.ccas.us/

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) or e-mail to **lafrance@kennett.net**

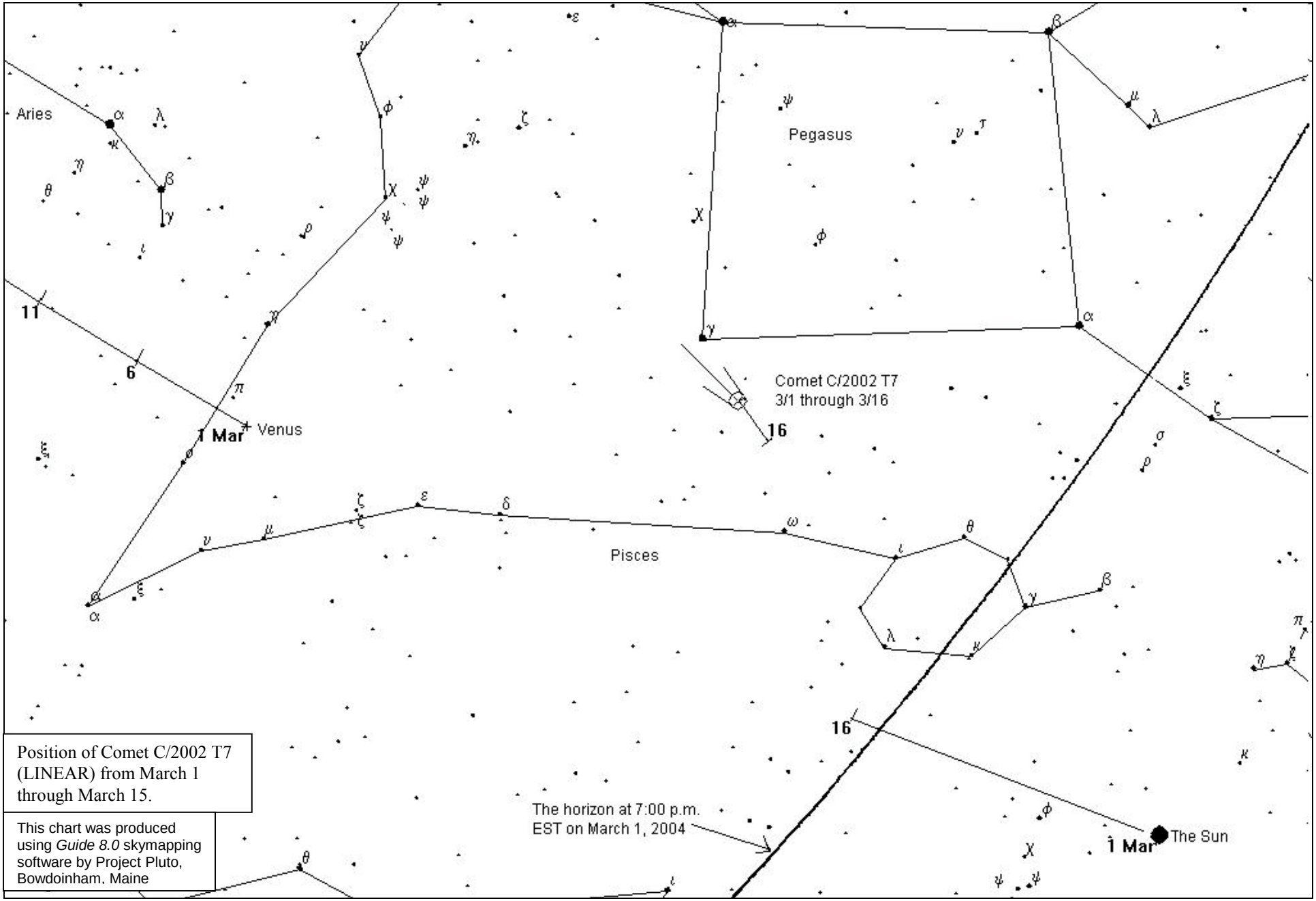


To get to the Myrick Conservation Center of the Brandywine Valley Association from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles.

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).

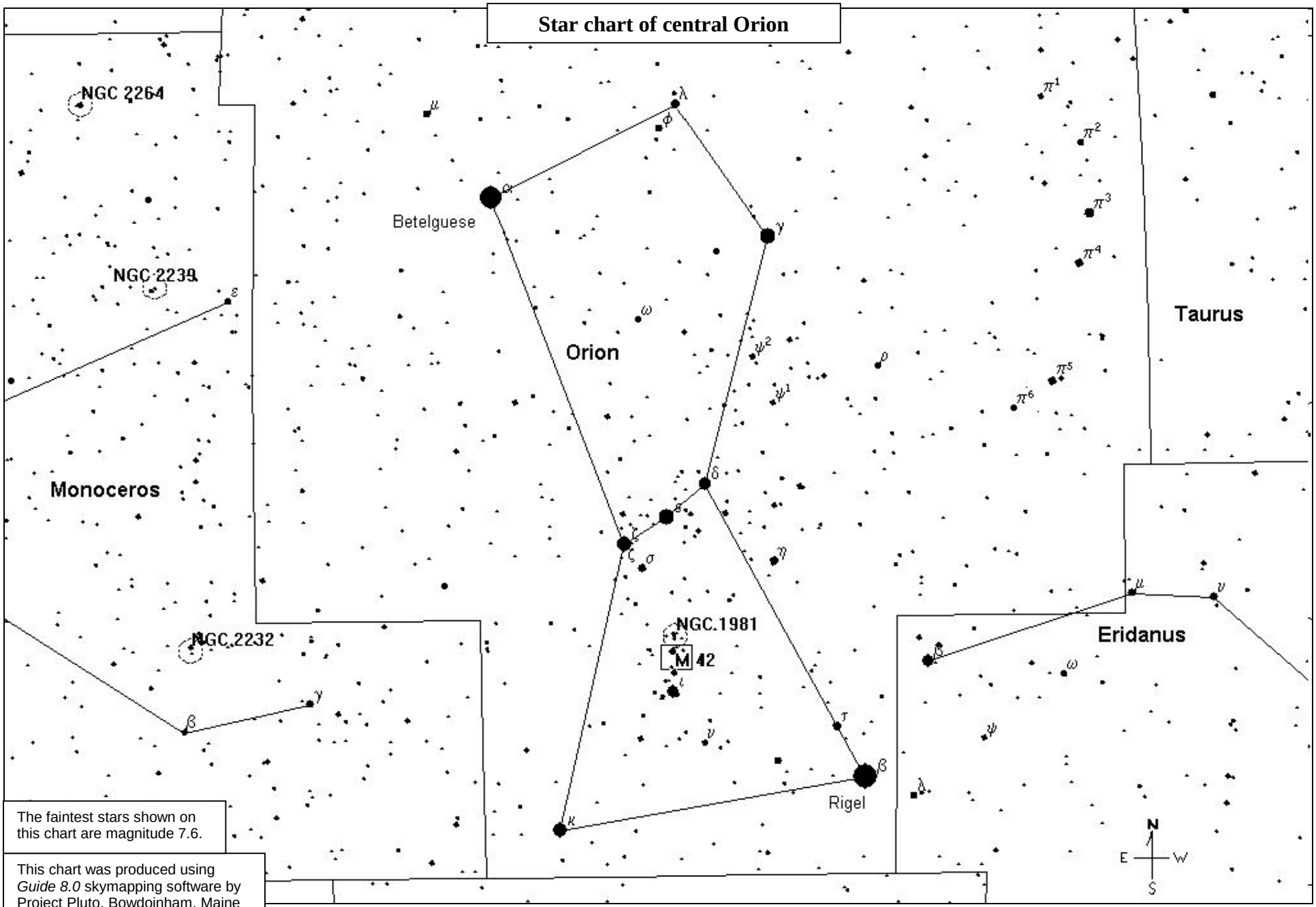


Parking is available behind Sykes Student Center on the south side of Rosedale Avenue (Parking Lot K), and behind the Bull Center at the corner of Rosedale Avenue and South High Street (Parking Lot M). If you arrive early enough, you may be able to get an on-street parking space along South Church Street, 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.



Position of Comet C/2002 T7 (LINEAR) from March 1 through March 15.

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


Star chart of central Orion
NGC 2264
NGC 2239
Monoceros
NGC 2232
Betelguese
Orion
NGC 1981
M 42
Rigel
Taurus
Eridanus
N
E
W
S
The faintest stars shown on this chart are magnitude 7.6.
This chart was produced using *Guide 8.0* skymapping software by Project Pluto, Bowdoinham, Maine