

STAR GAZER NEWS

NEWSLETTER OF THE DELMARVA STARGAZERS

March 2003

WWW.DelmarvaStarGazers.Org

Volume 10 Number 9

At the February Meeting

President, Don Surles brought the meeting to order at 7:15 with about 22 members and guests attending.

New Members

Dawn De Jong, Dover, DE
Paul & Janice Gabriel-Tucci, Annapolis, MD
Max Jewell, Salisbury, MD
Thomas L Puma, Parksley, VA
Stephen Shearer, Wilmington, DE

Monthly Meeting Tuesday, March 4

LXD55 Mount and Scope

Don Surles and others

7:00 p.m. First Presbyterian Church, Smyrna

Outreach:

Shehan Audubon Sanctuary The *Under the Stars* astronomy presentation has been postponed again to sometime in March; stay tuned.

3rd Mid Atlantic Mirror Making Workshop
February 28 through March 2, 2003

Constellation of the Month The constellation for February was Auriga (o-RYE-gah) aka the Charioteer. It was presented by new member Rick Barnes. Rick's interest in stargazing began years ago when he was a boating enthusiast on Long

Also in this Issue

Moondark March 2003.....Page 7
Constellation Cassiopeia.....Page 8

Island Sound. Because of this, his initial stargazing involved naked-eye stars without benefit of a telescope. When observing meteor showers while boating out on the bay in the fall, he would notice this beautiful yellow star in the northeast. It quickly became his favorite star. He later learned that this star was Capella, the alpha star in Auriga. According to Rick's 1928 Handbook, it was the third brightest star in the sky. Capella is the latin

name she-goat. The star was described by Ptolemy and other early observers as a red star but that could be a subjective thing rather than the star having changed.

In the mythology, Capella represents the she-goat and the she-goat's 2 kids are represented by the triangular asterisms just below Capella. Rick concluded by describing the 3 messier objects in Auriga, all open clusters: M36, M37, and M38. Although Rick has telescopes, he likes fast wide angle types for his stargazing. He usually doesn't observe doubles, variables or galaxies.

Program: Astronomy Websites

An internet search for astronomy websites yielded even more hits than our search for astronomy magazines; probably over a thousand! To winnow these down to a manageable number, I decided to start with the astro related sites already listed on our club website, and then to add more if needed. Here are the links currently listed on our club webpage:

General Information

[The Astronomy Net](#) -Articles, forums, and other amateur astronomy stuff.

[Astronomy Picture of the Day](#) -from NASA.

[Hubble Space Telescope](#) -info, images and updates

[Skymaps.com](#) -FREE monthly skymap download

[Cosmology Tutorial](#) -by Ned Wright

[Izzy's Skylog](#) -celestial sky calendar and other info

[Astro Mart](#) -online astronomy classified ads

[Astroweb](#) -Large links database

[The Messier Online Catalog](#) -from SEDS

[The Nine Planets](#) -by Bill Arnett

[Inconstant Moon](#) -nightly moon tour with maps, images and explanations

[List of Planetarium Software](#) from SEDS

[The Telescope Review Website](#) -by Ed Ting

[sci.astro.amateur archives](#) -from Google (was Deja News)

[Amateur astronomy pages from the UK](#) -from Anthony and Christopher Seal

[Two Micron All Sky Survey](#) -from UMass and Caltech.

Beginner Information

[Astronomy In Your Hands](#) -beginner activities including a downloadable planisphere

[Telrad Messier Sky Maps](#) -from John Small or download the complete set Here

[Beginners Page](#) -from the ROSE CITY ASTRONOMERS

[Astronomy Basics](#) -from SKY & TELESCOPE

[For the beginning astronomer](#) -from ASTRONOMY magazine

Constellations

[88 Constellations](#) -from AAAA

[The Constellations](#) -from the Peoria Astronomical Soc.

[The Constellations and their Stars](#) -by Chris Dolan

[The Shape Of Our Night Sky](#) - Starshine.com

Space Information

[NASA](#) -News, Images and planetary probe descriptions

[HEASARC](#) Division of NASA which observes and archives high energy events from UV to Gamma rays

[Amazing Space](#) Hubble Space Telescope science institute

Clark Lindsey's Space Links -best space link collection

[Heavens Above](#)-find satellites visible from your hometown

[SETI@home](#) -your chance to help find ETs

Below are some other interesting sites:

<http://zebu.uoregon.edu/textbook/se.html>

College text on Stellar Evolution

<http://www.physics.gmu.edu/classinfo/astr103/>

Cosmology class from George Mason University

<http://www.spaceweather.com/>

Site of Tony Phillips with links to NASA

<http://sohowww.nascom.nasa.gov/>

Solar and Heliospheric Observatory features sunspots, comets and space weather

<http://sec.noaa.gov/pmap/index.html>

Studies Aurora

<http://www.stargazing.net/astropc/>

This Swiss Atlas and Star chart is the largest, the best and it's FREE

<http://www.allthesky.com/index.html>

Site of Sven Kohle & Till Credner literally of all phenomena which occur in the sky

<http://www.cvc.org/astronomy/freeware.htm>

This is a download site which contains one of my favorite free astro programs below:

[HR Calc v2](#) which allows you to create your own stars and view them on the Hertzsprung Russell diagram. By entering the Spectral class and brightness, you can get the surface temperature, the size (in solar radii) and ultimately the weight in solar masses

Another free download is found at:

<http://www.cpac.org.uk/> The program is called the

planets:[The Planets vers 2.02](#) This not only shows the positions and motion of all the planets, including the 4 moons of Jupiter and 8 moons of Saturn.

Another program on the cvc site while not downloadable is very useful:

<http://www.fourmilab.ch/yoursky/> When you type in latitude and longitude and the local time, this program shows all the visible stars and planets. A horizon can be added which allows to pan around the azimuth. All of this must be done on the site.

From the President's Desk....

Feb 16, 2003

The Big Snow! Yes, this is the weekend for the BIG Snow. By the time you read this we will be approaching March and much warmer weather. The Daytona 500 will be history and baseball's spring training will be in full swing. Some of us may be preparing our garden. So allow me to remind you of the weather for the weekend of Feb 14-16. First, we had 6-10" of snow on the ground from earlier snowstorms. The night of Feb 14-15 it snowed another 3". And this morning (Sunday) I moved 3" of new powder off my walks with a forecast of up to 20" before it ends Monday morning. It's snowing approx 3-5" per hour as I write. So, with weather like this I am sure every Star Gazer is looking forward to a meltdown and some 50-70 degree weather.

Doug Norton, Terry Young, and I met with a photographer from the Baltimore Sun Feb 8th, at Tuckahoe for some pics to support a Sun story on local amateur astronomy activities. We were the first to put tracks in the snow past the gate! It was cold, clear, and of course very snow covered. The Belt of Venus was beautiful as night approached. A 1st quarter moon lighted the skies and snow – what a beautiful night! But it was cold and we decided to leave shortly after the photo session was completed. Stay tuned for the story. Oh, the little frogs did not sing (they were just too cold and snow covered) and as I left the Park a radio station from Baltimore presented "War of the Worlds"!

There is another story in the news this weekend. Pending war...and "peace" protests against war. Let's hope for history to take the proper course with the middle-east and North Korea. These times will be the source of many future history

lectures and theses.

As I watched the peace demonstrations Saturday it became apparent to me that today's world is connected in a way that did not exist a few years ago. The demonstrations were well coordinated and involved millions of people in 600 cities worldwide. This was a global demonstration – the people we saw yesterday are like the “surf” that washes up on the beach. I could not help but think about the oceans of people that were represented by the few millions making it to the shores of demonstration. Our USA government decisions will be affected by that global response. We will feel that influence in future programs affecting our planet. I realized the larger story is not the snowstorm or Iraq or North Korea – they are just temporary blips and will become part of history. But the coordinated global response to an unpopular USA lead venture is a show of influence and force that will only increase in the coming years. Stay tuned...this muscle will be flexed and exploited.

Back to star gazing...There must be some very lonely stars waiting for us to point our scopes toward them – do you suppose they are saving up starlight just for us! Imagine a period of months when no one looked at Hollywood! When it does clear and when the nights do get warm again the baseball field at Tuckahoe will be filled with stargazers suffering from cabin fever and lack of star shine. It's only a month until Spring and the vernal equinox. Hang tuff – better days are coming.

By the time you get this our Third Mid-Atlantic Mirror Making weekend will be in progress. It takes place Feb 28-March 2 at the Mallard Lodge east of Smyrna – out in the marshes. It is a very interesting weekend where we share, learn, eat, and make memories. A young man named Ted Nichols who is working with NASA and the

mission to Pluto will present his thoughts and other relevant information on Friday night. I hope you have made plans to attend. Other Club events include the Ninth Annual Delmarva Star gaze April 30-May 3. A special event is planned for the Star Gaze. We have access to the tour boat at the St. Michael's Maritime Museum and will offer a 2-3 hour star cruise for 25-30 folks. See your registration form for information and sign up to come aboard.

Another event that has to be firmed up is our 10th Anniversary celebration. So far, we have suggestions for a free star party, a picnic, and a star cruise – your additional suggestions are welcome. And maybe we can combine several into a multi-event celebration.

Is there a piece of equipment you would like to have access to but cannot justify the purchase? Would you like to construct a special telescope or accessory but do not have the technical expertise to successfully complete the project? Would you like to observe at a different location but don't want to make the trip alone? Do you have some equipment, knowledge or expertise you would like to share? These are the areas where an amateur astronomy organization can be of exceptional value – it's why we have Delmarva Star Gazers. Please take a few moments to contemplate the questions above. We, all of us, together, can help with any or all of your needs.

Club leadership...most of your officers and the folks who make DSG function are the same people who began doing so 5 to 10 years ago. There is always room for ambitious, aka, willing people to share the responsibilities and rewards of making DSG the best amateur astronomy organization. Please consider taking the responsibility for one or more functions of our organizations and improving the results. We can grow and improve – your imagination and energy will catalyze others'

How to Join the Delmarva Star Gazers: Anyone with an interest in any aspect of astronomy is welcome to Join.

NAME _____

ADDRESS _____

CITY, STATE & ZIP _____

E-MAIL ADDRESS (If any) _____

SPECIAL INTERESTS OR TALENTS _____

Please attach a check for \$15 made payable to Delmarva Stargazers and mail to Kathy Sheldon, 20985 Fleetown Rd, Lincoln, DE 19960. Call club President Don Surles at 302-653-9445 for more info.

potential and the net result will be tremendous improvements that can be traced to your involvement. A word of warning – many people do not become involved for fear of failure. This is volunteer work. The only failure you will encounter is your failure to become involved. And we don't necessarily have to be working on a mission to Mars...tiny steps are ok as long as we are making progress. A friend of mine used the statement "Continuous improvement is better than postponed perfection"; think about it! See you at the 3rd Annual Mirror Making Weekend, the Church, or Tuckahoe. Stay safe and remember our forces overseas. Don...

The Editor's Quadrant...
The Solar System in December

BUS TRIP TO HAYDEN PLANETARIUM

Mike Turco, the president of the Chester County Astronomical Society is putting together a bus trip to the Hayden Planetarium in New York City . This is a chance to see a great exhibition in a first rate setting without the hassles of driving or parking.

Below is Mikes letter:
 The trip date was set to be Sunday, March 23. We'll need 45 total to fill the bus, which I have arranged for. You may contact people you know in other clubs such as Delmarva Stargazers and DAS to see if there is interest.

It will be about \$37-\$38/person for the bus and admission to the museum at group rates. We set a break point of 12 years old and over as the age limit for the trip. It's first come first served. I will need names to hold space on the reservation list. We plan to leave from a West Chester or Exton location TBD at 8 a.m., returning by 8 p.m. One meal stop on the return trip. Any other questions, let me know. You need to call me at (610) 399-3423 to reserve a spot. Thanks, Mike Turco

Mercury- will be a morning star in March but it rises ever closer to sunrise as the month progresses so the viewing will be poor. **Venus** will also be a morning star in March and although bright, will be low in the ESE sky. **Mars**, still another morning star will only improve in March. It increases in magnitude from +1 to + 0.5 with the disc size increasing by almost 10%

Jupiter although getting slightly fainter in March, is still the best game in town. **Saturn** continues to be great in the March evening sky, rising ever earlier. **Uranus**, although not visible as March opens, can be seen at the end of the month near Venus. **Neptune** will probably be too low and dim to see well in the March dawn. **Pluto** still sits dimly in Ophiuchus. Clear Skies! Frank Sheldon *f.a.sheldon@att.net*

Club Activities..

Club Meetings- We meet in the First Presbyterian Church in Smyrna, DE (653-8000) on the first Tuesday of each month from 7-9 PM. From US 13, turn west at Wendy's and go one stoplight on Commerce Street; the church is on the right directly across from the Fire Hall.

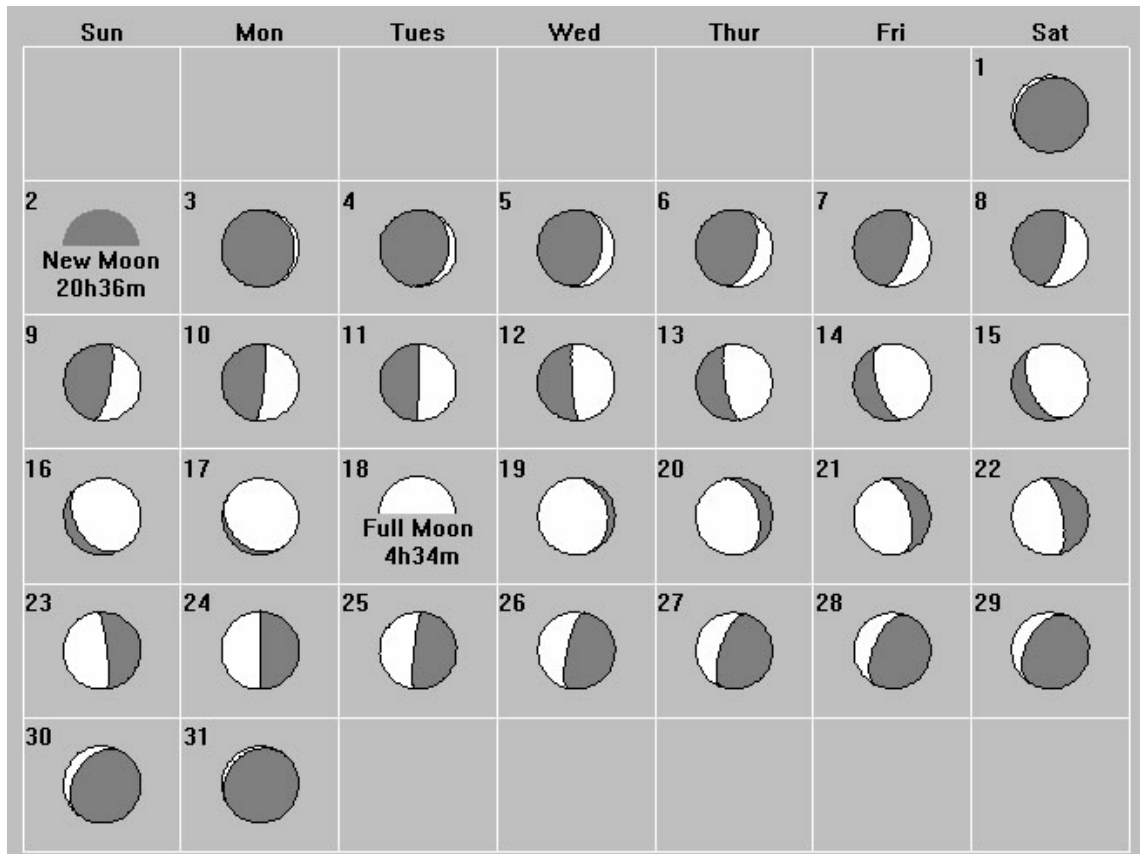
Future Meetings...The remaining meeting dates for 2003 will be: March 04, April 01, May 06, June 03, July 05 (Picnic at Tuckahoe), August 05 (No meeting at church - schedule special event) September 02, October 07, November 04 and December 02 The regular meeting format includes discussion of club activities, observing highlights and an advertised presentation. We solicit suggestions for topics and presenters.

Club Observing... Observing is (usually) scheduled for the Friday nearest the New Moon to maximize the hours of *deepnight* without the moon in the sky. Unless otherwise stated, the monthly observing site will be at the baseball field in the camping area at Tuckahoe State Park. The observing days for the year 2003 will be: February 28, April 4, April 30 - May 5 (Star Gaze IX), May 30, June 27, July 25, August 1, August 29, September 24 - 28 (No-Frills VII) October 24, November 21, December 19. The cloud or rain date for the monthly Friday observing will be the following Saturday, but don't trust the weather man! Go outside and look for yourself or check the CNN weather link on our web page. If you still can't decide, Call Don Surles (302) 653-9445 or Lyle Jones (302) 736-9842.




Delmarva Star Gazers Officers for 2001-2002
President.....Don Surles 302 653 9445
Vice President.....Lyle Jones 302 736 9842
Secretary.....Keith Lohmeyer 410 482 6077
Treasurer.....Kathy Sheldon 302 422 4695






Sun and Moon Data for March 2003 Tuckahoe Park, MD
 38.59°N 75.56°W 4.5hrW Standard Time Astronomical Twilight











Date	Sun				Moon				%
	Twil.	Rise	Transit	Set	Twil.	Rise	Transit	Set	
03/01/2003	5:37a	7:05a	12:45p	6:25p	7:53p	6:43a	11:49a	5:01p	2
03/02/2003	5:35a	7:04a	12:44p	6:26p	7:54p	7:14a	12:35p	6:04p	0
03/03/2003	5:34a	7:02a	12:44p	6:27p	7:55p	7:40a	1:19p	7:05p	1
03/04/2003	5:33a	7:01a	12:44p	6:28p	7:56p	8:05a	2:00p	8:04p	3
03/05/2003	5:31a	6:59a	12:44p	6:29p	7:57p	8:27a	2:41p	9:03p	6
03/06/2003	5:30a	6:58a	12:44p	6:30p	7:58p	8:50a	3:21p	10:01p	12
03/07/2003	5:28a	6:56a	12:43p	6:31p	7:59p	9:14a	4:02p	10:59p	18
03/08/2003	5:27a	6:55a	12:43p	6:32p	8:00p	9:40a	4:45p	11:59p	26
03/09/2003	5:25a	6:53a	12:43p	6:33p	8:01p	10:10a	5:30p	*****	35
03/10/2003	5:24a	6:52a	12:43p	6:34p	8:02p	10:44a	6:18p	12:59a	44
03/11/2003	5:22a	6:50a	12:42p	6:35p	8:03p	11:25a	7:10p	1:59a	54
03/12/2003	5:21a	6:49a	12:42p	6:36p	8:04p	12:15p	8:04p	2:57a	64
03/13/2003	5:19a	6:47a	12:42p	6:37p	8:05p	1:13p	8:59p	3:52a	73
03/14/2003	5:17a	6:46a	12:42p	6:38p	8:06p	2:18p	9:55p	4:41a	82
03/15/2003	5:16a	6:44a	12:41p	6:39p	8:07p	3:28p	10:50p	5:24a	90
03/16/2003	5:14a	6:43a	12:41p	6:40p	8:09p	4:42p	11:44p	6:01a	95
03/17/2003	5:13a	6:41a	12:41p	6:41p	8:10p	5:56p	*****	6:34a	99
03/18/2003	5:11a	6:39a	12:40p	6:42p	8:11p	7:11p	12:36a	7:05a	100
03/19/2003	5:09a	6:38a	12:40p	6:43p	8:12p	8:26p	1:28a	7:34a	98
03/20/2003	5:08a	6:36a	12:40p	6:44p	8:13p	9:41p	2:20a	8:04a	93
03/21/2003	5:06a	6:35a	12:39p	6:45p	8:14p	10:57p	3:14a	8:37a	85
03/22/2003	5:04a	6:33a	12:39p	6:46p	8:15p	*****	4:09a	9:13a	76
03/23/2003	5:03a	6:32a	12:39p	6:47p	8:16p	12:12a	5:06a	9:56a	65
03/24/2003	5:01a	6:30a	12:39p	6:48p	8:17p	1:23a	6:05a	10:45a	54
03/25/2003	4:59a	6:29a	12:38p	6:49p	8:18p	2:27a	7:04a	11:42a	43
03/26/2003	4:57a	6:27a	12:38p	6:50p	8:19p	3:22a	8:02a	12:44p	33
03/27/2003	4:56a	6:25a	12:38p	6:51p	8:21p	4:08a	8:56a	1:48p	24
03/28/2003	4:54a	6:24a	12:37p	6:52p	8:22p	4:46a	9:46a	2:53p	16
03/29/2003	4:52a	6:22a	12:37p	6:52p	8:23p	5:17a	10:33a	3:56p	9
03/30/2003	4:51a	6:21a	12:37p	6:53p	8:24p	5:45a	11:17a	4:57p	4
03/31/2003	4:49a	6:19a	12:36p	6:54p	8:25p	6:09a	11:58a	5:56p	1













Moondark for March: *Messier by the Numbers*



Each March, star gazers emerge from winter hibernation for the Messier marathon, a one-night, all-you-can-see tour of the catalog first compiled over 200 years ago as a list of objects to avoid while comet hunting. It's all about the numbers, how many you can see: 100, 108, 109  even 110 , but numbers are just the metric. It's fundamentally about your deep-sky observing skills, your star-hopping ability, and basically how well you know the sky. And while a lone observer can undertake it, most often this is an astro-social affair, which make the competition to see the most objects all the more keen. As a warm-up, check your own knowledge of the Messier objects with this quiz. Move your mouse over the Messier monogram button  to reveal the answer.


How many did Messier actually observe himself?  How many are listings of objects discovered by contemporary colleagues?  How many are just oddballs, mistakes or duplicates? 


Next, these questions pertain to the position of the Messier objects on the celestial sphere. Which one is the northernmost?  Southernmost?  right ascension?  Why are there none south of declination -35° ?  Which two form the closest pair?  Which one is the most isolated?  Where is the densest concentration?  How many can be seen in one eyepiece at one time? 


These answers are specific to observing the Messier objects from a particular location, here, Tuckahoe State Park located at $38^\circ 59' N$ and $75^\circ 56' W$. How many are always above the horizon, termed circumpolar?  Which are the first to tackle in the evening?  Which are the last in the morning?  Why is globular cluster M30 so challenging?  When are the most Messier objects overhead at once?  When are there the fewest? 

Finally, these can only be answered by you: Have you seen them all?  What's your favorite Messier object?  Your least favorite or maybe the one you find hardest to see?  Which is the most rewarding to observe? 

Answers, solid advice, suggested dates and observing sequences can be found in Don Machholz's [The Observing Guide to the Messier Marathon](#), published by Cambridge University Press (2002). There are many other marathons to enjoy once you've tackled the Messier list. Another great printed resource is Howard Pennington's [The Year-Round Messier Marathon Field Guide](#) (Willmann-Bell, 1997). While late March is optimal for most locations (for example, considering the moon's phase , 2003's prime weekend is Friday-Saturday 28-29 March ) , many Messier objects are visible at any time of the year. For example, over _____ , when the sky clarity and nighttime low temperatures are often more favorable. In any event, don't forget coffee and late-night snacks!

Available on the web, two programs, both by Bev M. Ewan-Smith, are available to help in running your Messier Marathon. Given a date, the [Messier Object Visibility Program](#) will return a table of which objects  are visible from your location (use N 39 and W 76 for Tuckahoe). More tables and graphs are generated by the [MESSMARA](#) (at the bottom of this link). Also check the [moon phase](#), [deep night calendars](#) and [clear sky clock](#) to plan your marathon. *Good luck this month and clear skies!*

Amazingly, all these trivial-sounding "factoids" reveal the structure of the universe. The distribution of Messier objects across the sky is certainly not random. Diffuse nebulae and open cluster trace the Milky Way's spiral arms, while globular clusters swarm around the galactic center. Stepping up, the large, bright spirals like M31 and M33 are our neighbors, and the swaths of mixed elliptical and spiral galaxies in Virgo, Leo and Ursa Major hint at the most immense structures known.  Seeing all this from your backyard, much less in one night, is perhaps the most remarkable fact of all.

 The monogram background and button were scanned from that printed in Kenneth Glyn Jones's *Messier's Nebulae and Star Clusters*, 2nd edition (1991, Cambridge). I'd love to hear your answers to these questions or especially if I've fouled-up an answer or two. Moondark is written by [Doug Miller](#) and published [on the web](#) and in the [Delmarva Star Gazers' Star Gazer News](#). This document was last revised on 23 February '03. *All text and images copyright © 2003 Douglas C. Miller, All Rights Reserved. This material may not be reproduced in any form without prior permission.*

Constellation for March 2003: Cassiopeia

