

STAR GAZER NEWS

NEWSLETTER OF THE DELMARVA STARGAZERS

July 2002

WWW.DelmarvaStarGazers.Org

Volume 10 Number 1

At the June Meeting... Don Surles brought the meeting to order at 7:15 with 17 members and guests attending.

New Members:

Len Cohen, Chestertown, MD

Erratum: The June moon phases on page 7 of the June newsletter hardcopy, was actually the April 2002 configuration. The downloadable PDF version is correct.

Astrostuff :

Don Surles noted the spaceweather.com was showing a high level of solar activity with the formation of huge sunspots. Concerning starparties, he reminded those interested, that the Mason Dixon Star Party would start this Friday June 7th and that the Stellafane Star Party

In lieu of our July meeting
A SUMMER PICNIC & STAR GAZE
will be held at the baseball field picnic area at
Tuckahoe State Park
Saturday July 6 at 5:00 p.m.

would be in August.

Second Astronomy Breakfast Session

Ron Zink is to be commended for the excellent food at the 2nd Saturday Astronomy Breakfast held on May 25th. Fifteen people attended. The featured speaker and instructor was Tom Brennan.

Smithsonian Trip

Five of our Stargazers made a trip to the Smithsonian Air & Space Museum on May 29th. Featured was the 3D IMax movie on the International Space Station. Attending were Joe Morris, Keith Lohmeyer, Steve Long, Vaughn Nickerson and Tom Pomponio

August Open Date

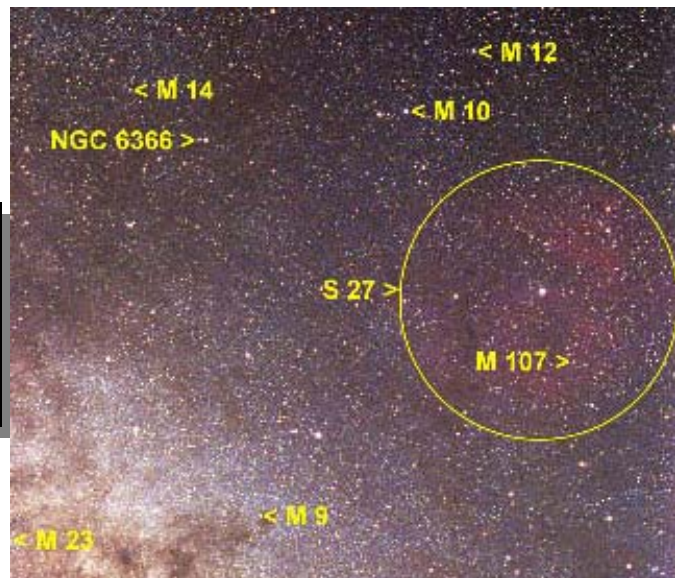
Since there will be no Tuesday meeting at the church on August 6th, the date is open to any proposed club activity. One suggestion is a trip to Blackwater Falls in West Virginia with a side trip to the National Radio Astronomy Observatory at Greenbank. Stay tuned.

Constellation of the Month: Ophiuchus

James T. Morgan, presented the constellation Ophiuchus, noting that it is pronounced *oh-fee-U-cuss*. This was presented in conjunction with his *Observing Session* presentation, that followed it.

Mythology- Ophiuchus the Serpent Bearer is identi-

fied with Aesculapius, a physician later made a god. He learned the healing powers with an herb that the snake had. He became very successful at healing and could even bring the dead back to life. Pluto who had domain over the land of the dead, became fearful that his domain would vanish and had Zeus strike Aesculapius with a thunderbolt, who was then placed in the sky with the snake.(James uses the Latin spelling of Asclepius)



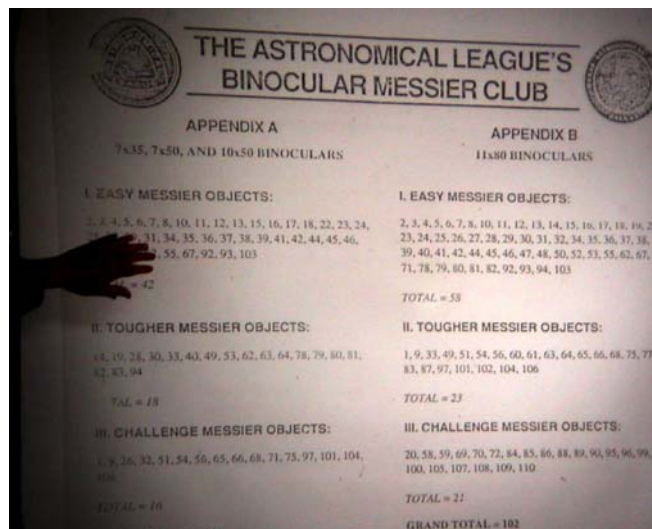
Astronomy- For the Astronomy portion, James Morgan used one of the magnificent photographic charts, from Till Credner's All Sky site in Germany. The charts which are in full color come marked with deep space objects (above) or unmarked. These charts and others can be seen on Till Credner's web site at: www.allthesky.com/constellations/const.html
E-mail Til Credner for permission to use the images.

Planning an Observing Session

For his Observing Session presentation, James came armed with all kinds of handouts and data including a list of constellation pronunciations. Much of the material was culled from the Internet and James provided lists of the URLs for the more interesting sites. James has taught many young beginners and finds that one of the problems is getting them to observe attentively. His own enthusiasm in pure observing makes a Messier Marathon seem more like a pie eating contest, when compared to a more contemplative observing ses-

sion. Regarding observing Messier objects, James feels that Five is enough for an evening session which gives you time to become familiar with surrounding objects.

Among his more interesting observing aids were the Messier charts prepared by the Astronomical League's Messier club. The Chart shown below shows the



Messier objects based on ease or difficulty in finding. James had other sets of Messier charts based on seasonal observing.

Another interesting Internet site was Skymaps.

www.skymaps.com/index.html

Not only does it give a monthly Skymap but gives separate lists of objects for the naked eye, binoculars, and telescopes.

James Morgan's own list of Observing aids evolved as the need arose. His telescope is a 10 inch Dobsonian. Below are of some of his Observing aids:

- (1) Planisphere to find constellations
- (2) Telrad to find an object
- (3) Denver type Observing Chair to see through Telrad
- (4) Dew proof clipboard
- (5) Red Light (not too bright)
- (6) Dew proof observing charts.

From the President's Desk...June 14, 2002

Delmarva Star Gazer's ninth year is history and now we have begun our tenth year of the remarkable journey called Delmarva Star Gazers. This year will be our best. We are gaining momentum with the completion of every successful activity. Our resources, in the forms of people, equipment, knowledge, and perseverance, ensure each of our project's success. Lets continue the journey for another ten years!

At this time I believe it is appropriate for us to reflect on our past so that we can understand our progress. Here are some historical facts about our organization. We began as a very small group of stargazers looking for observing companions. Our first formal organizational efforts occurred in the spring of 1993. I believe there were less than ten people present the night we accepted the charter for Delmarva Star Gazers. By early 1994 we were approximately thirty strong in membership and decided to sponsor the First Annual Delmarva Stargaze at Killen's Pond State Park. Stargaze I was very successful – approximately 150 people attended. Gorgeous weather, the Park was dressed in springtime flowers, the food was excellent, and our membership doubled. Dues were \$5 per year! Since that time we have sponsored a total of 14

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regional star parties (8 Delmarva Stargazes and 6 No Frills). The No Frills began as a fill-in between August's Stellafane and October's Stella Della parties. Lyle Jones and I arranged for use of the Youth Camping Area at Tuckahoe for a Friday and Saturday observing session and invited others to come and do the same. There were no speakers, food, door prizes, etc and the fee was a whopping \$10. We had some money left after paying for the Camping Area so we decided to buy some corn and watermelons – and we enjoyed our first corn boil. Favorable comments about the party format and the Park's facilities persuaded us to move our monthly observing and regional star parties to Tuckahoe permanently. Other traditions: Fourth of July picnics at Tuckahoe, a Christmas party every year, and a 'get-together' after Christmas for some special potluck food and games – a let's get out of this winter-time house activity. We have shared our time, knowledge, equipment, ie, our hobby, with many groups of children and adults over the years. Each one of us cherishes the "Wow" when a person sees Saturn or the Orion Nebula or the moon for the first time through a real telescope. For the past two years we have sponsored the Mid Atlantic Mirror Maker's Workshop. Again, because of the talent and dedication of our Star Gazers, these events have been huge successes and personally very satisfying. We have made many new friends. There is now a mirror making program in the DC area that is a direct result

of our Workshop. Also, the prominence scope building program at last year's MAMM demonstrated how the talents of one Star Gazer can be effectively shared by our community so that we all benefit and our hobby is improved. Delmarva Star Gazers is an "easy" organization. We like to enjoy our time together, our skies, our equipment, and we like the company of each other. There is a definite lack of the stuffy rules and regulations that burden some organizations. This is no accident. We have superb people – our superb people make our organization very special. Lets continue the tradition so that Delmarva Star Gazers becomes a valued resource for the mid Atlantic region.

Continuing the tradition...how do we do that? Well, we need a plan so that we have some indication of where we desire to go, how to get there, and how to react to any forces that might hinder our progress. Developing that plan is something your newly elected officers will undertake this summer. We will present our plan to the organization at the September meeting and asked for discussion, improvements, and approval to implement. Our next 'get-together' is July 6 at Tuckahoe for the Fourth of July Picnic. The Fourth of July is a time for reflecting...this past year has been packed with some heart-breaking, very challenging events for our country and the western world. Our leaders remind us there is a possibility these types of events will be repeated. Stay alert, God bless the USA.

See you at Tuckahoe, July 6. We will have hot dogs, corn-on-the-cob, sweet tea, maybe some dark skies, and each other's company. We are Delmarva Star Gazers! 'Til next time, Don...

Observing Notes of the Tuckahoe Irregulars

As space permits, I will include the informal notes as well as images of the Tuckahoe observers. Readers with Web Browsers are encouraged to visit the Club Web Site where Keith Lohmeyer posts all of the observing notes. Also subscribe to the free *Delmarva Star Gazer Yahoo.groups* where most of these notes are initially posted. I will edit as little as possible, in an attempt to capture the excitement of the moment. If possible try to estimate *limiting magnitudes* via the *Observers Handbook*. Send suggestions to f.a.sheldon@att.net

Tuckahoe Wednesday, May 15, 2002... Steven Long
When I arrived at the ball field at 8:10, the sun was below the trees and the sky was clear. Doug Norton, Joe Wojtecki, and Dan Kidwell were already there and set up. Dan had not brought his big light bucket, but was observing with a "small" 12-inch Dob. Joe had a really nice 5-inch refractor (I can't remember the make/model), and Doug had brought his "Orange Marvel." A

little later, Carlos showed up with his 125 Matsukov, and Martha and Carol arrived from Green Belt with a C8 and binoculars to complete the contingent of observers. The sky remained very clear during the early part of the evening, providing excellent viewing even with a fractional moon hanging in the sky between Jupiter and Venus. I set up my C8 but then spent the early part of the night taking tripod-mounted photographs of various parts of the sky.

Then Doug asked, "Hey, everyone -- is there a comet near M13?" A number of us looked in Doug's scope and saw a bright round fuzzy ball, which we assumed was M13, and we searched the field of view without success for a smaller "comet" that we assumed he meant was nearby. Then Doug explained that the bright ball we were seeing **was** the comet. Wow! Comet Ikeya-Zhang was positioned near the right shoulder star of Hercules. On Wednesday night it appeared visually larger than M13, with about the same brightness and almost no apparent tail. Joe borrowed a Pentax 40 eyepiece was able to get both the globular cluster and the comet in the same fov. Fantastic! I spent the next ninety minutes with my camera and various lenses mounted on top of my C8, trying to image Ikeya-Zhang and M13 on 400-speed slide film, and also take wider-angle views of some of the brighter constellations. I was not physically guiding the scope, just letting the RA motor do its thing, and guessing exposure times between 4 and 8 minutes. The results will be back next week.

Around 11 PM the air was becoming very humid and the working people began to pack up and leave. By midnight Dan and I were the only skywatchers left. I spent some time observing M4 in Scorpio with all my eyepieces. It's a medium-sized globular that looks like it's flying apart. The core is dense but the outlying stars are in strings and streamers, as if the core was rapidly spinning and its stars were being thrown out like water from an old-fashioned three-armed rotating lawn sprinkler. Unfortunately the night sky had become milky and affected the viewing of this intriguing cluster. I want to see this on a dry night in a BIG Dob!

At 1:15 I decided that everything, including myself, was too dew-encumbered to function properly (though Dan decided to stay a little longer.) With the "teapot" of Sagittarius sitting just above the south eastern horizon and begging me to stay, I packed up my kit, wiped down my car's windshield, and left for home. Steven Long
Tuckahoe-comet image, May 15, 2002... Steven Long
I'm submitting the enclosed photo (below) of the shoulder star of Hercules, with M13 visible in the lower right and Ikeya-Zhang visible in the upper right. I made this image at about 9:30 PM. This is a crop of a Fuji Provia 400F 35mm slide. I attached my Canon with a 300mm f/

4 lens to the Celestron C8 and let the R.A. drive move the camera to match the sky. I did not guide this exposure; I just let the telescope track for about four minutes. I bracketed other exposures of two and six minutes.



utes. The six-minute exposure shows sky fog barely beginning to appear, and tracking error is starting to enlarge the star images and blur the haze around the comet and the cluster. The two-minute exposure shows no detail in the cluster or comet. Four minutes seems to have been just about on the money. I could not see anything in the camera's viewfinder when I took this. I guessed at the aim point, I guessed at the focus, I guessed at the exposure. I should have played the lottery that night ... Steve Long

The Editor's Quadrant...

The Planets in July

July 2002 will not be a very good month for planets **Mercury** as a morningstar remains in conjunction with Saturn through July 2 when the planets are only separated by 0.2°. As the month progresses, Mercury goes

into conjunction with the Sun. **Venus** remains an evening star throughout July but sets earlier as the month progresses. Forget both **Mars** and **Jupiter** for July, as both planets set within minutes after the Sun sets. As for the remaining planets in July, **Uranus** is in Aquarius and **Neptune** is in Capricornus and **Pluto** remains in the southern part of Ophiuchus.

Clear Skies! Frank Sheldon *f.a.sheldon@att.net*

www.delmarvastargazers.org

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 2002 will be: July 06, Picnic at Tuckahoe, August 06 to be announced, September 03, October 08, November 05, December 03 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 monthly observing days left for the year 2002 will be: July 12, August 9, September 9, **No-Frills VII** October 2-6, November 1, and December 6. 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 2002-2003

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

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 _____

Moondark for July: Easy "Afocal" Astrophotography

This [odd-sounding word](#) describes what is *without a doubt* the easiest route into astrophotography. All that's needed is a telescope and a digital camera. In visual use, your eyeball functions as the camera, and your retina as the film. In an afocal setup, you replace your eye with an actual camera. Once you've located and focused the target, aim the camera into the eyepiece and snap the shot. What could be simpler?

[Afocal photography](#) has been around a long time. Technically, it refers to matching the object and image distances to achieve a sharp focus. This used to require tedious calculations, complicated adapters and close tolerances—all without being able to see what you're shooting! The LCD preview screens on today's digital cameras have brought a revolution in afocal imaging: you can see what you get, and the results can be amazing.

The camera can be hand-held *very* close to the eyepiece or mounted on a separate tripod, free from any direct connection to the telescope. Alternatively, you can make or [buy a bracket](#) to [attach the camera](#)—a timer shutter release will help avoid jittering the scope while capturing a shot. The camera's viewscreen lets you be assured of the results, tweaking the focus as necessary. Keep shooting pix since some frames will be blurry, but the "keepers" will be sharp. No film is wasted, just delete unwanted photos from memory. One tip: LCD displays drastically shorten battery life. Try rechargeable, nickel-metal hydride batteries if your camera doesn't come with its own. And keep a spare set handy.

The moon and the sun are easy marks for afocal astrophotos. For the moon, just shoot with autoexposure: as long as the moon fills most of the frame, the exposure reading should be accurate enough. Use an eyepiece with long eye-relief (that is, the full field of view is visible with eyeglasses on) and wide apparent field of view, and use the full optical zoom to fill the camera's frame. Shoot in a high resolution format. The moon's terminator provides stark images of craters and an easy way to check the focus. For the sun, use the same safe-filtering practices you would use for visual use: an [off-axis mask](#) of [Baader solar film](#) will allow you to record sunspots and faculae on the photosphere.

My photos could use improvement in focusing and perhaps a better eyepiece, so I'll keep experimenting. You can read more about afocal methods in Edwin Aguirre's article in *Sky and Telescope*, August 2001 (p. 128 and also [available online](#)), Michael Covington's *Astrophotography for the Amateur* (revised edition, pp. 18-19 and 60-61) and even Sam Brown's *All About Telescopes* (pp. 58-61).

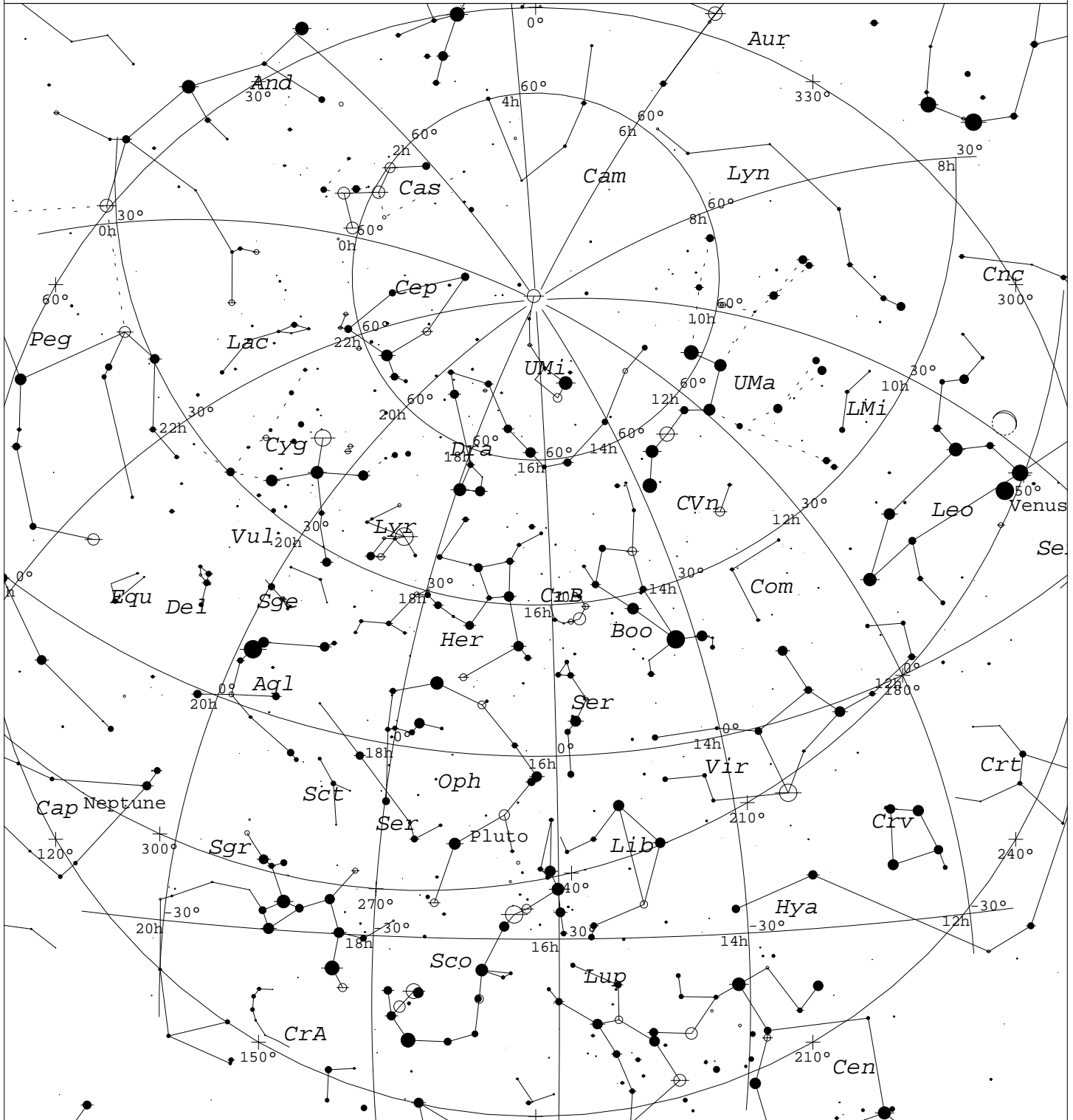
The limited experience you see here has convinced me that in this way anyone can explore innumerable regions of the moon and record how illumination angle dramatically alters the appearance of lunar features. On the sun, sunspots rotate into and out of view, growing and disappearing as they cross the solar disk. These changing views can be easily documented with the afocal technique.

Afocal has always been the simplest route into telescopic astrophotography. Digital cameras have now made it practical and ever more affordable. Modest telescopes, small refractors with modest equipment with a bit of practice. Terrestrial wildlife subjects can be photographed just as easily. Whether you are a veteran prime-focus imager or a astrophoto newbie, afocal imaging is an easy and enjoyable way to capture and share your views of the Moon and the Sun.

Plenty of afocal photos are posted on the web: try a [google.com](#) search. Moondark is written by Doug Miller, published [on the web](#), and printed in the [Delmarva Star Gazers' Star Gazer News](#). This document was last revised on 23 June 2002. *All text and images copyright © 2002 Douglas C. Miller, All Rights Reserved. This material may not be reproduced in any form without prior permission*



SKYMAP FOR JULY 2002



STARS

- <1 ● 3.5
- 1.5 ● 4
- 2 ● 4.5
- 2.5 ● >5
- 3

SYMBOLS

- Multiple star
- Variable star
- ☄ Comet
- Galaxy
- Bright nebula
- Dark nebula
- ⊕ Globular cluster
- ⊙ Open cluster
- Planetary nebula
- ⊞ Quasar
- △ Radio source
- × X-ray source
- Other object

TUCKAHOE STATE PARK
JULY 12, 2200 HOURS EDT

Local Time: 22:00:00 12-Jul-2002

UTC: 02:00:00 13-Jul-2002

Sidereal Time: 16:15:24

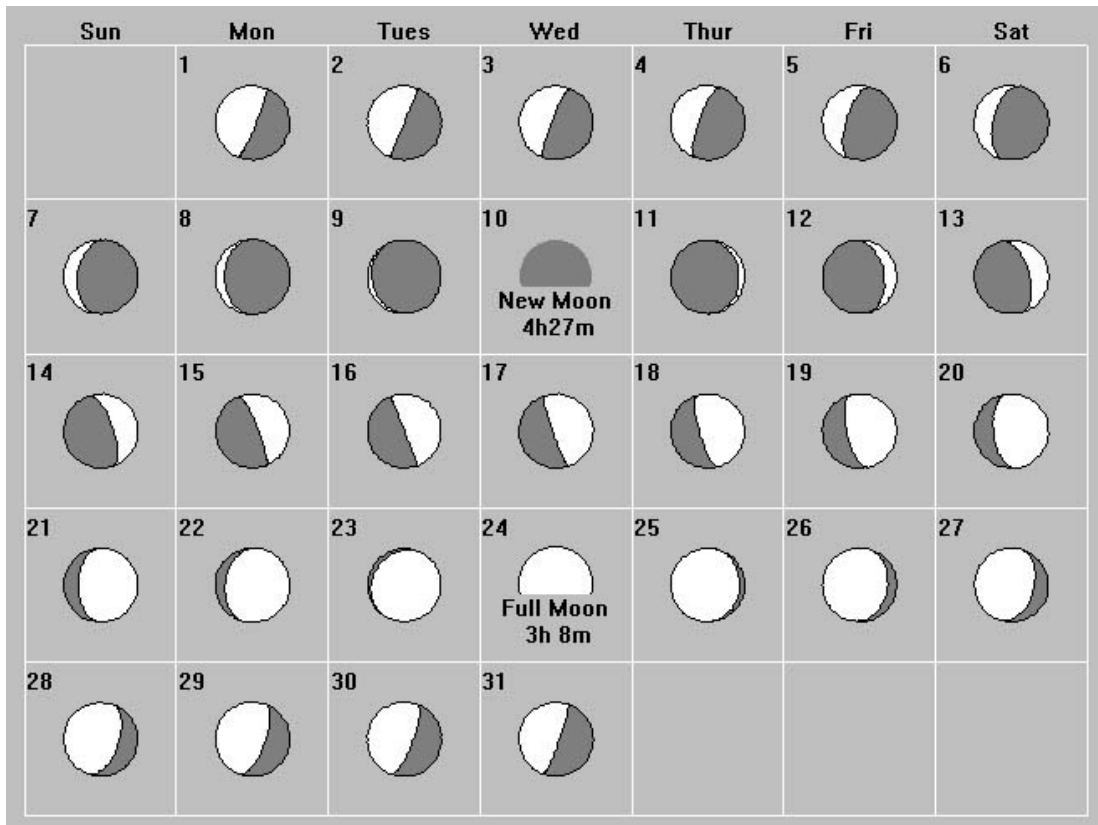
Location: 38° 59' 12" N 76° 56' 0" W RA: 16h15m24s Dec: +38° 59' Field: 182.0°

Julian Day: 2452468.5833

Sun and Moon Data for July 2002 Tuckahoe Park, MD

38.59°N 75.56°W 4.5hrW Daylight Time Astronomical Twilight

Date	Sun				Moon				% Illumination
	Twil.	Rise	Transit	Set	Twil.	Rise	Transit	Set	
07/01/2002	4:14a	6:11a	1:36p	9:01p	10:57p	1:02a	6:46a	12:38p	60
07/02/2002	4:15a	6:12a	1:36p	9:00p	10:57p	1:26a	7:26a	1:35p	51
07/03/2002	4:16a	6:12a	1:36p	9:00p	10:57p	1:49a	8:07a	2:32p	41
07/04/2002	4:17a	6:13a	1:37p	9:00p	10:56p	2:13a	8:48a	3:31p	32
07/05/2002	4:17a	6:14a	1:37p	9:00p	10:56p	2:39a	9:31a	4:31p	23
07/06/2002	4:18a	6:14a	1:37p	9:00p	10:55p	3:09a	10:16a	5:33p	15
07/07/2002	4:19a	6:15a	1:37p	8:59p	10:55p	3:43a	11:06a	6:37p	9
07/08/2002	4:20a	6:15a	1:37p	8:59p	10:54p	4:24a	12:00p	7:41p	4
07/09/2002	4:21a	6:16a	1:37p	8:59p	10:53p	5:13a	12:57p	8:42p	1
07/10/2002	4:22a	6:17a	1:38p	8:58p	10:53p	6:11a	1:56p	9:37p	0
07/11/2002	4:23a	6:17a	1:38p	8:58p	10:52p	7:17a	2:55p	10:24p	2
07/12/2002	4:24a	6:18a	1:38p	8:58p	10:51p	8:28a	3:52p	11:05p	6
07/13/2002	4:25a	6:19a	1:38p	8:57p	10:50p	9:41a	4:46p	11:40p	13
07/14/2002	4:26a	6:19a	1:38p	8:57p	10:49p	10:53a	5:38p	*****	22
07/15/2002	4:27a	6:20a	1:38p	8:56p	10:48p	12:05p	6:28p	12:12a	32
07/16/2002	4:28a	6:21a	1:38p	8:56p	10:47p	1:15p	7:18p	12:42a	44
07/17/2002	4:30a	6:21a	1:38p	8:55p	10:46p	2:25p	8:07p	1:11a	55
07/18/2002	4:31a	6:22a	1:38p	8:54p	10:45p	3:35p	8:58p	1:41a	66
07/19/2002	4:32a	6:23a	1:39p	8:54p	10:44p	4:45p	9:51p	2:14a	76
07/20/2002	4:33a	6:24a	1:39p	8:53p	10:43p	5:53p	10:46p	2:52a	85
07/21/2002	4:34a	6:25a	1:39p	8:52p	10:42p	6:58p	11:43p	3:35a	92
07/22/2002	4:36a	6:25a	1:39p	8:52p	10:41p	7:57p	*****	4:26a	97
07/23/2002	4:37a	6:26a	1:39p	8:51p	10:40p	8:47p	12:39a	5:22a	99
07/24/2002	4:38a	6:27a	1:39p	8:50p	10:38p	9:30p	1:33a	6:23a	100
07/25/2002	4:39a	6:28a	1:39p	8:49p	10:37p	10:06p	2:25a	7:25a	98
07/26/2002	4:41a	6:29a	1:39p	8:48p	10:36p	10:37p	3:14a	8:27a	95
07/27/2002	4:42a	6:29a	1:39p	8:48p	10:34p	11:04p	3:59a	9:28a	90
07/28/2002	4:43a	6:30a	1:39p	8:47p	10:33p	11:28p	4:41a	10:27a	83
07/29/2002	4:45a	6:31a	1:39p	8:46p	10:32p	11:51p	5:22a	11:25a	75
07/30/2002	4:46a	6:32a	1:39p	8:45p	10:30p	*****	6:02a	12:22p	67
07/31/2002	4:47a	6:33a	1:39p	8:44p	10:29p	12:15a	6:43a	1:19p	57



CONSTELLATION FOR JULY 2002: SCORPIUS

