

STAR GAZER NEWS

NEWSLETTER OF THE DELMARVA STARGAZERS

August 2002

www.DelmarvaStarGazers.Org

Volume 10 Number 2

Since there was no formal meeting in July, there were no minutes to enter, so the July events are simply listed below chronologically.

At the July Picnic...

Over 30 members and guests arrived for the July 6th Picnic but I lost count as late comers drifted in. The picnic had been moved from the baseball field picnic area to the pavilion in the star party area.

Although the picnic was great and it never rained, the skies never cleared sufficiently for observing. Photos appear on page 8.

Spruce Knob Observing Weekend-

Joe Morris kindly offered to organize and set up this star gaze at the Spruce Knob Mountain Center located in Circleville WV. Below are excerpts from Joe's invitation:

I'll be going to Spruce Knob for the new moon in July. I'd like to have as many Delmarva Stargazers that want to join me come. We'll be camping at 4100ft at The Mountain Institute and folks will have a choice of tent camping or staying at their dorms (\$15/night) that have a bathhouse. They are also offered 3 meals/day for another \$15. Tent campers will have wide open spaces (pasture land) with no facilities (the dorms are about 1 mile from the tent camping and observing site) (can be either driven or walked) (tent campers could have the \$15/day meals if they want). The 400 A site is truly dark with no public interference (headlights, Coleman lighters etc.). About 15 observers initially took up Joe's invitation. All of the observer reports on this dark sky site have been positive, particularly Thursday night; all this and a fantastic southern horizon. Keith Lohmeyer and 5 others, took a side trip in the rain Saturday to the Greenbank Radio Observatory. GBSO put on a short presentation and gave them a bus ride that passes the radio dishes.

For more comments on the Spruce Knob weekend, see Don's president's remarks starting on this page.

Joe is planning a second Spruce Knob observing weekend around the new moon in August. Stay tuned.

Youth Group at Tuckahoe

The Stargazers had been asked to present an astronomy program to a group of 7th-8th grade students involved in the University of Maryland - Eastern Shore summer program. The date is July 16th, from 7:30 p.m. through approx 10:00 p.m. and the place is the Youth Camping

Area field at the pavilion.

The basic program planned is:

- 1) 7:30 - 8:00 - Telescopes - types and characteristics
- 2) 8:00 - 9:00 - Slide show and discussion of the Universe
- 3) 9:00 until ? - Viewing the heavens

Don Surles describes these activities further in his president's remarks which follow.

Also in this Issue

Club Picnic Images.....Page 8
Moondark August 2003.....Page 5
Observer's Notes.....Pages 2-4

From the President's Desk..... July 19, 2002

How's your summer so far? Hot enough for you? How about the grass mowing? What else have you been enjoying? There are a lot of daylight hours in July and I have chosen to set aside a few minutes each day for some shut-eye. Must be a function of A.G.E.

This past week has afforded us two excellent amateur astronomy opportunities. The first was a long weekend at the Mountain Institute near Spruce Knob, WV, organized by Joe Morris. Several Stargazers made the trip and were rewarded by a beautiful Thursday night (July 11-12). Keith Lohmeyer, Joe Morris, Jim & Gina Acker and Gina's sister, Jean-Paul Richard, Bill Chen, two of Joe's astrophoto buddies, and Karen and I, observed the Milky Way under the best conditions possible east of the Mississippi. The area of the Teapot, Scorpion, Scutum, Aquila, and Cygnus offered it's treasures in Sunday dress for us. The sky was clear, dark and very transparent. Temperature? I wore my thermals plus a quilted flannel shirt and wind-breaker... around 3:00 AM I thought about the gloves I didn't bring. Bugs? Not a one. Our site elevation was approximately 3500-3800 feet with great views to the horizon in all directions. What a treat to see the entire Scorpion (the lowest point of the tail was 10 degrees above the horizon) – all night long! This was truly one of the best nights I have had for star "grazing". Most of us packed it in around 4:30 AM. Lyle and Sheri Jones joined us Friday afternoon – and they brought cloudy

skies and rain...

Our viewing site was clearly visible from the top of Spruce Knob. But it was a 46 mile trip from our site to the top of the Knob and back! As the crow flies it was maybe 2 miles. I understand some of our party made it to the National Radio Observatory on Saturday – we should have a report on that in our September meeting.

The next AA opportunity was Tuesday night, July 16, at Tuckahoe. Again, the sky was clear - it was just warm enough to be comfortable – and the T-Hoe Mosquito kept his family in seclusion. We were host to a group of middle school students participating in a summer camp sponsored by the University of MD – Eastern Shore.

There were approximately 25 children and some adults in the group. Before darkness arrived, we presented the different types of telescopes and the peculiarities of each. We covered the Newtonian design telescope in solid tube and truss configurations, the Schmidt-Cassegrain, and refractor design. As darkness approached we moved to the Picnic Shelter and presented a slide show of the Gazers' new slide set of constellations and colors of the universe, The slide show was a crowd-pleaser. We did warn the guests that our scopes "were not in color". We moved back to the baseball field and finished the evening with some live thru-the-lens viewing. Joe Morris demonstrated the auto-guider and Go-To function of his AstroPhysics refractor. Doug Norton demonstrated the use of manual setting circles. The other Gazers demonstrated star hopping with atlas, Telrad, and finder scopes. Favorite objects viewed were the first quarter moon, M13, the Lagoon and Trifid, the Dumbbell and Smoke Ring, the Double-Double and Alberio. Joe Morris, Doug Norton, Tim Milligan and his family, Steve and Maggie Long, Lyle Jones, Jim Acker, Keith Lohmeyer, and I participated in this production. Oh, the T-hoe barbecue was very good. Our guests were very complimentary of the Star Gazers and the program we presented. Also, I must say, they were a very nice group of kids and we enjoyed the opportunity to share our hobby.

Personally, I find sharing AA to be one of the greatest sources of satisfaction. Sharing with the newcomer, with the experienced observer, with the free-thinker who is looking for a better or cheaper method, with the person who has ideas for improving our equipment, or with the group concerned about the future of AA --- these are all as important and satisfying as seeing the distant galaxy or nebula. Delmarva Star Gazers is unique. The friendliness and absence of tension

makes participating in our group a pleasurable experience. That quality is valuable and should be preserved.

Enjoy the remainder of your summer. I will see you at Tuckahoe for some observing and at the Church September 3rd to begin the activities of our coming year.

Don...

Observing Notes of the Tuckahoe Irregulars

Editor's Note The lack of a formal meeting in July affords the opportunity to include a treasure trove of Observer's notes. To catch the flavor of the moment, they are edited as little as possible and include most of the stargazer jargon.

June 8, 2002... Keith Lohmeyer My stargazing for this weekend consisted of setting up my 10" dob in my driveway Saturday night. Views of both Jupiter and Venus were boiling probably due to their low altitude and my still cooling mirror. I then hunted down some bright Messier globulars 13, 92, 3, 5, 10 and 12. It had been a long day and the need for sleep got the better of me so I put the scope up around 11 pm. Walking back to the house I noticed the tail of Scorpius just above the horizon. I couldn't resist. I went back and got my 10 x 50 binoculars and took a good long look at M6 and M7 (two of my favorite bin objects) before heading off to bed.

June 6-9, 2002... Bob Bunge

Laural Highlands Star Cruise Hazelton, WV
I drove out Thursday and set up in the rain. Early to bed in very light rain. Real easy drive out I-68. The site is only five miles off the Interstate.

Friday: woke up to clear skies and attended various events throughout the day. Friday night, after showing visitors a couple of dozen show piece objects with my 20-inch, I got down to business and found and drew 10 Arp galaxies before high winds encouraged me to stop around 3am.

The skies at the LHSC site are pretty dark... somewhere around a limiting mag. of 6.5. Sky domes to the north (Pittsburgh) and west (Morganstown), but the south is very good. Nice large open field.

Saturday: more normal star party events. Perhaps 300 people where there. First star party in 20 years I've been two where there were two 10-inch refractors setup, including one massive D&G f/12 on a huge mount.

Good locally catered food. Showers. The field was re-

ally muddy from the rain, but everyone worked through it. Saturday was warmer with better seeing, but not quite as good transparency as Friday. Drew 9 Arp galaxies before casually bouncing through the NGC globular clusters in Oph and Sag before calling it a morning at 3:30am. Stopped at some point also to show several folks the central star in M-57 and Stephan's Quintet.

Left for home around 10am. Stopped in Frostburg, MD to watch Western Maryland Scenic Railroad's steam locomotive 734 arrive and get turned round on the turntable. 734 was built in Phila. PA in 1913. Overall, a great weekend. Clear Skies,
Bob Bunge

Mason-Dixon Star Party, June 7-9, 2002.

James Morgan I attended the Mason-Dixon Star Party for the first time. Great social event and met a lot of people. Observing was not the same as at Tuckahoe. On Saturday we could just about see evidence of the Milky Way. Makes you really appreciate Tuckahoe. Two people who are considering buying an Orion XT 10 came over and I let them use my rig. We were having a lot of fun.

A woman who runs an observatory stopped by and she spent both nights with us giving us a lot of hints and taking us on a tour of the sky. She had worked with Hank Bouchelle on project Spica. Very informative for all of us. All told, there were six people using the scope and trading ideas and stories. It was a great time. The first night was really a dew buster. Used my Kendrick for the first time and it worked fine on my telrad and eyepiece. The seeing wasn't too great that night and about 1:00 am or so clouds rolled in and we called it a night. Saturday night there was a presentation by Phil Harrington the author of "Star Ware". He talked about light pollution and what he and his friends were doing to increase observing time where they live. He mentioned a woman who had logged about 50 Messier objects from the roof of her apartment building in Manhattan. They then held the drawings for various items and by the end the skies were dark enough to start observing. *A&E* was at the site filming a documentary for the 25th anniversary of Voyager. They were doing interviews and lighting up some areas of the field until about 10:00 p.m.

Finally they finished and we were able to get on with observing. This site needs some discipline regarding white light. All during Saturday night people were turning on white lights. The parking area up front was within view and we could see the headlights of people leaving. Must set up further down the hill next time. Also it seems a shame that people have so little respect for others. They need to take care of their dome lights and buy some red flash lights. The only other problem was headlights that come on as running lights on new vehicles. There is a way of turning them off but it takes a little trial and error and people needed to practice this before they came on site. Many did not know that putting the emergency break down a notch or two will cut off the running lights. I would think that they would pay attention to this but no it seems they felt it was all right to drive with their headlights on and blind the people in the upper most rows. I will be sending the YCAS people a note about this. Howie Glatter attended this and it was good to meet him and talk to him about his collimating products. All in all it was pretty good and the YCAS did a pretty good job of organizing it. Well, next up is Cherry Springs, a really dark site in September as I recall.

Well, next up is Cherry Springs, a really dark site in September as I recall.

Tuckahoe June 17-18, 2002 (9:00pm - 4:30am)..

Tim Milligan I was itching to get out again, so at the last minute, I decided to take a chance. It got wet early on and stayed that way most of the night. There also was some light fog coming and going. The sky conditions were fair. The moon was out until 1:00 am. I spent some time looking at the moon through my 17.5 inch. I had never done that before. I had an interesting view of sunlight entering a crater that must of had some high peaks along the west rim. This sunlight seemed to enter the crater floor in 4 bands, then after time filled in the rest of the floor. I had never seen that before. After the moon set, the sky conditions where good. It got a bit milky once in awhile but the southern Milky Way was

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 Frank Sheldon, 20985 Fleatown Rd, Lincoln, DE 19960. Call club President Don Surles at 302-653-9445 for more info

visible. I started hunting down, mostly globular clusters in the southern sky. Here is what I remember...

Messier objects: 11(OC), 26 (OC), 15, 13, 17(Neb), 16(Neb), 9, 23, 54, 28, 22, 2, 4, 19

NGC objects: 6144, 6356, 6342, 6507(OC), 6440, 6995,92 (Veil), 6284, 6293 Other: PK357+7.1

One of the NGC globs 6293 and planetary PK357 both fit into my 22mm Panoptic FOV. That was a nice view. I also enjoyed the open cluster M11.

Tim Milligan

Tuckahoe July 5, 2002... Ralph Dominica

A glorious night of dark sky observation with reasonably transparent skies in comfortable temperature in the high 60's.

Several of the Tuckahoe regulars including Doug Norton, Don Surles and Bob Bunge were present as well as Mark and several members from one of the Astronomy clubs from Howard County Maryland, Jean Paul, Nick from Kennet Square and a few others.

Began observations around 9:20 with a slight haze which quickly dissipated as the cooler air set in.

Began with a split of the double double to test night clarity and then moved to M13 with the last hint of twilight leaving. Nice nebula views of the Ring M57 and a clear apple core of the M27 the Dumbell. The night afforded me my first confirmed viewing of the East Veil Nebula NGC 6960 which appeared as a bright sliver or a subtle lightning bolt in the FOV.

Worked through several clusters in Ophiuchus all yielding fantastic views including M10, M12, M 107, as well as M4 and M 80 in Scorpius. M4 in Scorpius and M11 the wild duck were outstanding. Still nice viewing of M51 the whirlpool galaxy sliding down the toward the North West Horizon and M81 and M82 still readily observable. Doug Norton had us primed for an Iridium Flare around 10:30 and we were treated to several nice meteors. As the evening went on meandered through Sagittarius viewing M17, the Swan Nebula, which was spectacular with a UHC filter M18, M54, M69 and M70 as well as the butterfly nebula. Had a chance for a first confirmed viewing (last on my Messier List) of M30 and closed the evening just after 1:15 with the first 2002 observation of the Andromeda Galaxy and M15 in Pegasus rising in the East.

A great night. Ralph

The Editor's Quadrant....

The Planets in August

Mercury Low in the evening twilight, the view of Mercury gets ever poorer as the month wears on.

While **Venus** can be seen as an evening star for most of August, it's setting times are so close to astronomi-

cal twilight, that the observing is mediocre at best.

Forget **Mars** for August as it is too close to the Sun.

Jupiter improves as the month goes on, rising 3 hours before the Sun as the month ends.

Saturn also improves as the month progresses. As the month opens, it rises shortly before 3:00 p.m. and as the month closes it is rising at 1:00 p.m. As for the remaining planets in August, **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

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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: 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: 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 410 482 077

Treasurer.....Kathy Sheldon 302 422 4695

Moondark for August: Solar Shootout

Over the past several months, I've featured three ways to get into astroimaging: [webcams](#), [video surveillance cameras](#), and [afocal photography with digital cameras](#). All are relatively easy and require a minimum of dedicated equipment. But which technique is best?

The answer, no surprise, is that it depends. I have one answer based on using all three cameras on the same telescope (10" LX-200 f/10, top photo) at nearly the same time and conditions. The subject of interest was the recent [naked-eye sunspot region 10030](#), and images were taken around midday on July 13th with high cirrus thickening into the afternoon. Setting the scope tracking to a solar rate and taking reasonable care with the power-up alignment (zero altitude, pointed due south) allowed me to image without having to constantly chase the Sun to recenter my sunspot target.

Daytime imaging has the advantages of easy setup and no mosquitoes. There is no problem [finding the Sun](#), of course, and big optics are not needed, although [safety for optics as well as eyesight must always be a concern](#) imaging in the morning and away from hot surfaces (roofs and streets). Most important is taking plenty of images to ensure capturing the rare crisp one. Compared to most astro-objects, the Sun is low contrast so dust and vignetting make themselves more than apparent. I used an off-axis 60-mm, Baader solar filter and autoexposure modes on all cameras.

[Afocal photography](#) with my Olympus 490 (2 megapixel chip, 3x optical zoom) digicam is easy and with practice requires only a little fussing with the mounting bracket. My standard procedure is to use full optical zoom and shoot several memory cards of pix at high resolution (1600 x 1200). Combined with frequent checks and tweaks of the focus, this seems to catch a least a few shots with good resolution (second photo). The actual image scale depends on the camera zoom and eyepiece focal length (here, 25 mm), and could be increased.

Setup of the [video camera](#) ([SuperCircuits' PC164C monochrome](#), NTSC video output) is not much harder since I have a portable VCR-TV combo unit. Plug in the power, attach a video cable, press a few buttons on the remote, and I'm imaging. The camera's resolution is great for watching on a television screen, and videotaping allows you to pan the whole solar disk even with a narrow camera field of view. Tapes can be later shown almost anywhere with a VCR, and if desired digitized (Dazzle DVC 50 frame grabber, 320 x 240 resolution) for digital enhancement and display (middle photo). Autocontrast features were fooled by the dark spot on a white background: I had to tinker extensively with the digitizer settings to get a useable image.

With a resolution of 640 x 480, my [Philips Vesta Pro webcam](#) provides the highest actual resolution of these three systems. Since the webcam requires a computer, this setup is the most extensive (cables, plugs and luggable pieces), and its learning curve is steepest. High-resolution video files take up incredible amounts of hard disk, and I find that I save about one CD-ROM's worth of avi files per session. A 320 x 240 mode is a space-saving option. Good software like AstroVideo (highly recommended) can save raw video, time-lapse, or just individual frames. Post-processing on a computer is needed to compress the video or automatically select the sharpest frames for enhancement. While this system has the highest overhead factor, the results can be impressive (second photo from bottom).

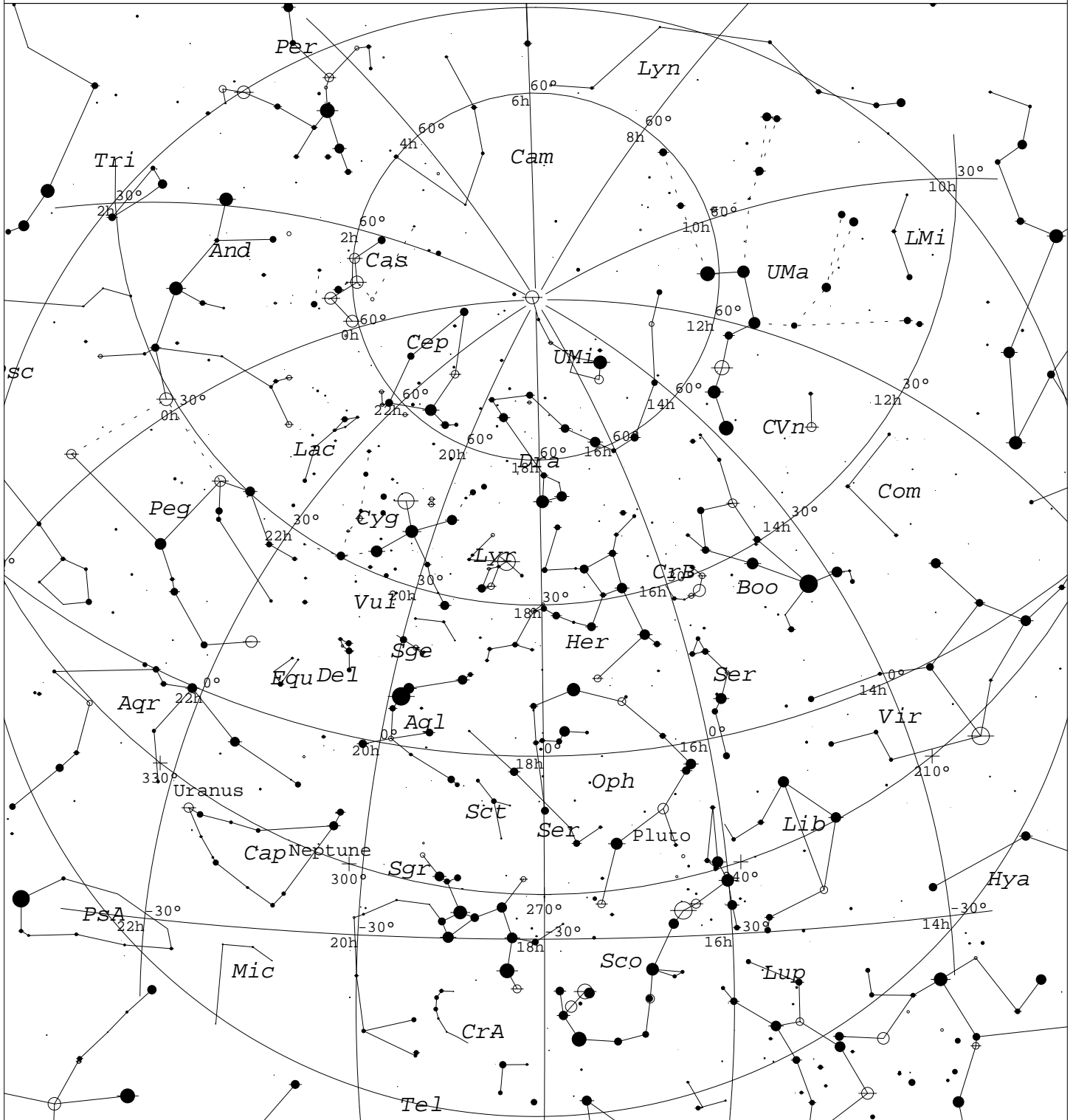
So for a quick shot of a sunspot, I'll use my digicam and afocal bracket (bottom photo, full frame of sunspot region 10036 on July 20th). Unless I need greater resolution and feel that the seeing can provide it, the added equipment of the video and webcam is not justified. Especially because of the turbulence, the most difficult part is focusing, and I find it particularly frustrating to see fine detail on the television or computer screen in bright daylight.

Of course, all three of these cameras can be used for bright nighttime objects, and this would surely yield other answers to the question of which camera is best. In comparison to the Sun, imaging the Moon presents very different challenges, including extremely high contrast (shadows and sunlit features) as well as very low contrast at high sun angles, nighttime operation of the equipment, and possibility of very high resolution with modestly sized optics and favorable seeing. Look for the results of a "moon match-up" in a future column. Until then—keep "clicking" by taking those astroimages!

For comparison, sunspot images at right are reproduced at nearly the same scale. Contrast and brightness [CompuPic Pro](#), [AstroVideo](#) and [MaxIm DL](#). Moondark is written by Doug Miller, published [on the web](#), and printed in the [Delmarva Star Gazers' Star Gazer News](#). Please address comments and suggestions to dcmillier@dmv.com. This document was last revised on 23 July 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 AUGUST 2002



STARS

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

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
AUGUST 9, 2200 HOURS EDT

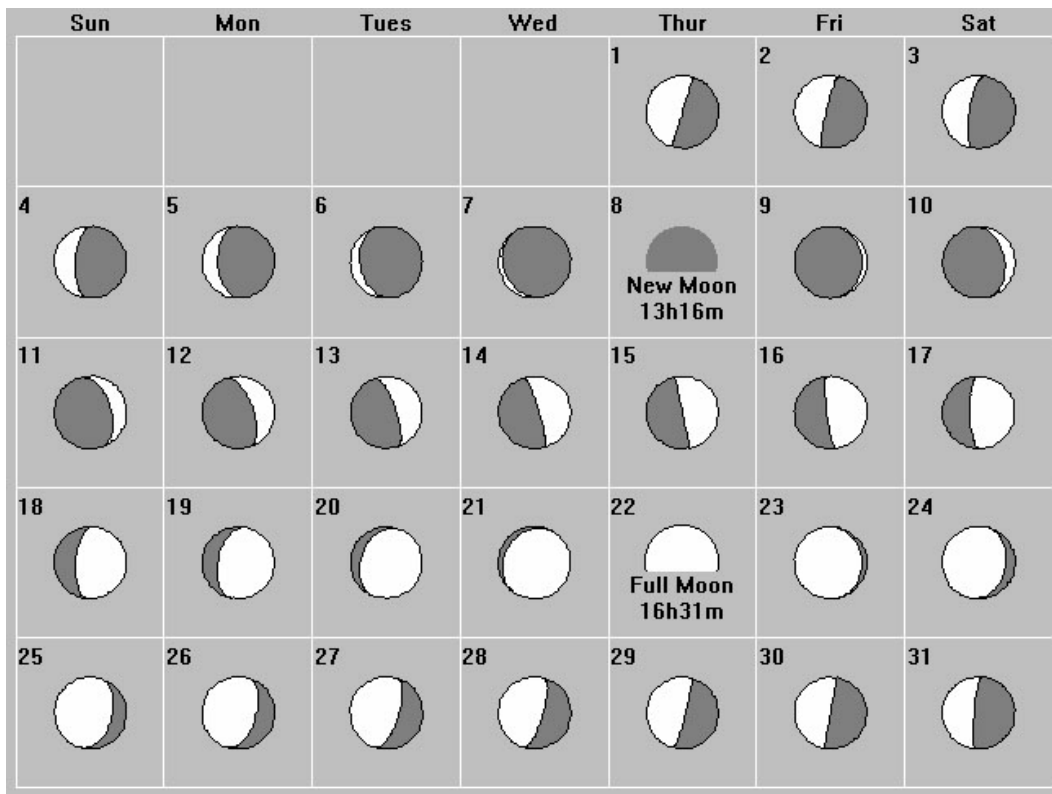
Local Time: 22:00:00 9-Aug-2002 UTC: 02:00:00 10-Aug-2002
Location: 38° 59' 12" N 76° 56' 0" W RA: 18h05m48s Dec: +38° 59' Field: 182.0°

Sidereal Time: 18:05:47
Julian Day: 2452496.5833

Sun and Moon Data for August 2002 Tuckahoe Park, MD

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

Date	Sun				Moon				%
	Twil.	Rise	Transit	Set	Twil.	Rise	Transit	Set	
08/01/2002	4:49a	6:34a	1:39p	8:43p	10:27p	12:40a	7:24a	2:18p	48
08/02/2002	4:50a	6:35a	1:38p	8:42p	10:26p	1:07a	8:08a	3:19p	38
08/03/2002	4:51a	6:36a	1:38p	8:41p	10:25p	1:38a	8:56a	4:21p	29
08/04/2002	4:53a	6:36a	1:38p	8:40p	10:23p	2:16a	9:47a	5:24p	20
08/05/2002	4:54a	6:37a	1:38p	8:39p	10:21p	3:00a	10:42a	6:26p	12
08/06/2002	4:55a	6:38a	1:38p	8:37p	10:20p	3:55a	11:40a	7:24p	6
08/07/2002	4:57a	6:39a	1:38p	8:36p	10:18p	4:58a	12:39p	8:15p	2
08/08/2002	4:58a	6:40a	1:38p	8:35p	10:17p	6:08a	1:38p	9:00p	0
08/09/2002	4:59a	6:41a	1:38p	8:34p	10:15p	7:22a	2:36p	9:38p	1
08/10/2002	5:01a	6:42a	1:38p	8:33p	10:14p	8:37a	3:30p	10:12p	5
08/11/2002	5:02a	6:43a	1:37p	8:32p	10:12p	9:51a	4:22p	10:43p	11
08/12/2002	5:03a	6:44a	1:37p	8:30p	10:10p	11:04a	5:13p	11:12p	20
08/13/2002	5:05a	6:44a	1:37p	8:29p	10:09p	12:15p	6:04p	11:43p	30
08/14/2002	5:06a	6:45a	1:37p	8:28p	10:07p	1:27p	6:55p	*****	41
08/15/2002	5:07a	6:46a	1:37p	8:27p	10:05p	2:37p	7:48p	12:15a	52
08/16/2002	5:08a	6:47a	1:36p	8:25p	10:03p	3:46p	8:42p	12:52a	63
08/17/2002	5:10a	6:48a	1:36p	8:24p	10:02p	4:52p	9:37p	1:33a	73
08/18/2002	5:11a	6:49a	1:36p	8:23p	10:00p	5:51p	10:33p	2:21a	82
08/19/2002	5:12a	6:50a	1:36p	8:21p	9:58p	6:44p	11:28p	3:15a	89
08/20/2002	5:14a	6:51a	1:36p	8:20p	9:57p	7:28p	*****	4:14a	95
08/21/2002	5:15a	6:52a	1:35p	8:18p	9:55p	8:06p	12:20a	5:15a	98
08/22/2002	5:16a	6:52a	1:35p	8:17p	9:53p	8:38p	1:09a	6:17a	100
08/23/2002	5:17a	6:53a	1:35p	8:16p	9:51p	9:06p	1:55a	7:18a	99
08/24/2002	5:19a	6:54a	1:35p	8:14p	9:50p	9:31p	2:38a	8:18a	97
08/25/2002	5:20a	6:55a	1:34p	8:13p	9:48p	9:54p	3:19a	9:16a	93
08/26/2002	5:21a	6:56a	1:34p	8:11p	9:46p	10:18p	4:00a	10:13a	88
08/27/2002	5:22a	6:57a	1:34p	8:10p	9:44p	10:41p	4:40a	11:10a	81
08/28/2002	5:23a	6:58a	1:33p	8:08p	9:42p	11:07p	5:20a	12:08p	73
08/29/2002	5:25a	6:59a	1:33p	8:07p	9:41p	11:36p	6:03a	1:07p	64
08/30/2002	5:26a	7:00a	1:33p	8:05p	9:39p	*****	6:48a	2:08p	55
08/31/2002	5:27a	7:00a	1:33p	8:04p	9:37p	12:10a	7:36a	3:10p	45



July 6 Picnic

