

Shallow Sky Sorties – June 2007

Jim Tomney

Cool spring evenings are close to ideal for observing – we get to peruse celestial showpieces without battling mosquitoes or frostbite. Star Gaze XIII with my 10" Newtonian provided a memorable Friday evening, bagging several more Herschel objects in my ongoing effort to visit all 400 on the AL list. Like a lot of us my home turf is more challenging - most evenings the treetops are bathed in the stadium lights from Towson University, the air punctuated by the familiar *plink!* of an aluminum bat confirming it's springtime. So until No Frills (or a suitable new moon weekend and tank of gas) it's the 60mm yard sale scope and me against the 3½ limiting magnitude skies and the [Urban list](#).

I elect to start off easy with Gamma Leonis, a double star in the sickle of Leo. The star hop is no problem to this 2nd magnitude as it's readily visible. At 40x the double is not apparent, but at 80x the pair emerges clean and tight. The primary and comes are both a warm yellow in color, reflecting their respective K and G spectral classification. At under 5" of separation and reasonably close in brightness (2.2 vs. 3.5) their primary diffraction rings seemingly touch. Astronomers tell us that these are both giant stars that lie about 120 light years distant taking a leisurely 500 years or so to complete an orbit.



East of Leo the sky looks empty, the stars of Coma Berenices overpowered by the sky-glow. It holds eight Messier objects, the most famous of which, M64, is on the Urban list. While M64 makes the cut it is actually almost a magnitude fainter than the brightest of the Coma Messiers – globular cluster M53. The globular also has the advantage of lying near Alpha Coma Berenices, a scant degree northeast of it. The trick, of course, is locating this 4th magnitude star. Fortunately Epsilon Virginis is visible, so it seems possible to swing north from it for about ten degrees to get to Alpha. Using a pair of binoculars to familiarize myself with the path it takes a few minutes to aim the refractor to the star. A little swing NE and my efforts are rewarded – there's M53 almost as soon as Alpha leaves the low power field. While not robust it definitely catches your eye, appearing as a misty circle that is perhaps 2-3 arc-minutes in size. There is almost an illusion that it resolves a little when looking at it with averted vision, and although false it certainly is a neat affect. The light seems pretty even – no intense core noted. The field has a few stars so I move up to 80x since they'll allow me to refocus accurately (I understand that parfocals are hard to come by in 0.965" oculars). While larger at the higher power the globular is dimmer, the extra magnification not really lending much improvement to the view.

From Alpha I need to move northwest to 35 Coma Berenices in my quest to reach the Black Eye galaxy. The task is easy in the 7x50 binoculars, but replicating the trip via the telescope's finder is challenging – so many similarly bright stars in the area! I target my first suspect and am pleasantly surprised – by the star itself. Here's a fine double, easily separated but still close at 40x, with components that are within a magnitude or so of each other. And even the small aperture pulls in subtle but definite colors here. The primary is yellowish in tone and the secondary clearly has a blue hue. I move a little NW to look for M64 to no avail – because what I have hopped to by accident is the "Spring Alberio", 24 Coma Berenices. The stats on it are magnitudes of 5.3 and 6.7 with a separation of 20 arc-seconds, PA of about 270 degrees. As a part of the AL Double Star list I have certainly seen it before, but need to make a mental note to come back again when I have more aperture to see how it improves the color contrast. As for M64 – it's not going anywhere so I opt to move on rather than consume the rest of my time trying to locate it tonight.

With my success at M53 I figure two more Urban list globulars ought to be fair game – M3 and M5. M3 is a wonderful object, and while not adjacent to any naked eye stars it lies roughly halfway between Arcturus and Alpha Canes Venatici. While technically claimed by the latter constellation I somehow always associate it as he property of Bootes, perhaps because I always initiate the hop from Arcturus. I mentally mark the spot in my mind and swing the "red dot" finder to the location. A few minutes of sweeping and I'm rewarded with M3's appearance. Lying at about half the distance of M53 it is not nearly as shy and clearly a bit larger. It does not have any illusion of resolution but does have a brighter center. It tolerates the higher magnification better than M53 but aesthetically the low power wins.

Farther east the constellation Serpens Caput is rising, and its brightest star, Unukalhai ("Neck of the Snake") is just barely seen. Like the hop to M53, I locate the region of M5 a bit southwest of Alpha Ser Cap in the binoculars and then replay it with the telescope. Panning the area turns up the target – pretty similar to M3, including a pretty bright field star with it at low power. Roughly the same size as M3 it appears to have a little bit of a core brightness, but it is a bit more subtle than M3. The cotton puff that seems so delicate has an estimated size of roughly 165 light years – far more than the distance to Gamma Leonis that I started off with this evening!

With work tomorrow the evening's observing is complete, having garnered a satisfying set of entries in the observing log. Three more of the Urban list checked off with my yard sale scope, and a two others that certainly could have been part of it. Don't let your sky conditions (or equipment!) deter you – there's always something of interest to find up there!

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

NAME _____

ADDRESS _____

CITY, STATE & ZIP _____

E-MAIL ADDRESS (If any) _____

Do you need the newsletter snail mailed to you (Y/N)? _____

Please attach a check for \$15 made payable to Delmarva Stargazers and mail to Kathy Sheldon, 20985 Fleatown Rd, Lincoln, DE 19960. Call club President Jerry Truitt at 410-885-3327 for more information.

My 2 ¢

Bill Ellis

I walked into a Wal-Mart a few days ago, and there in the section the sells eyeglasses, sat a small Meade Refractor. The Brochure had all sorts of deep sky pictures. It reminded me of my first telescope, one of those K-Mart Japanese products with the .9 Something lenses and the wooden tripod. Even had a couple of Tin things to use as a finder. I still have it and carted it down to a few Star Parties. I would set it up next to my friends Salmon Colored observation chair just to embarrass him more. The wind kept blowing it over.

I probably have owned it for thirty years. It never saw much use, almost always disappointing me, so in the corner it went.

Driving to work at Philly Airport one day I stopped at Edmonds Scientific. They had a special on their 8" Newtonian so on the way home I stopped again and purchased it along with a set of their lenses. Never saw much use! The base probably weighed eighty pounds, the OTA was also heavy and just setting it up in the front yard was a real chore. I do have to admit, it gave me my first chance to experience some of the splendor of Orion! My daughter has it now, but it still doesn't see very much use.

When Maureen and I were approaching retirement, we were looking for a hobby that we thought both might enjoy and somewhere not too far away to spend a few days in our motor home. That was about four years ago and our first visit to Tuckahoe with our 8" LX200 classic. I have to admit, we certainly stood out as absolute novices, but a guy named Mike took us under his wing and at least got us started. First night showed Maureen Cassiopeia. Do you see the big W? No she said. Well, maybe it looks like a big M. I don't see it. By the end of the second night she saw it! We came home with a whole shopping list of things we needed, like batteries to power the scope, Dew Thingies and on and on. Even discovered MAPUG and their list of necessities for field observing.

So how far have we come? We now have four scopes, the 8", a 10", our CR6 Refractor and our ETX 125, all Go To since I guess that we will never qualify as Purest in the hobby. The 8" hardly ever comes out from under the bed in our motor home. The 10" hardly ever gets set up except at Star Parties. That leaves the ETX and the CR6 that both fit nicely on our deck or can easily be set up in the back of our property.

So, what point am I trying to make? What have we learned? I'm sure that most of the club members have welcomed guests to our Star Party observations and several have looked at our 10", and next to it, our Mighty ETX and ask the same questions. What are we looking for if we decide to get into this hobby?

My answer is always the same. If you are really interested, take the time to research what is available within your cost restraints, but never compromise on the K-Mart/ Wal-Mart equipment that will probably disappoint you most of the time and finally end up in a corner of your Rec Room. Talk to other hobbyists about optical quality and just as importantly mount selection. If you choose the purity of Star Hopping, don't get frustrated. They say it takes a full year to learn the skies. Had to think about that when I first heard it!

And, Most Important, when the Nor-Easters blow through, just enjoy the company of fellow hobbyists!

Let me end these thoughts with a quote from Sarah Williams. I have a Plaque with it in the camper.

"I have loved the stars too fondly to be fearful of the night"

ECSP May 2007

Kent Blackwell

The spring East Coast Star Party was a success even though the weather was a big disappointment. Some attendees arrived early on Thursday, May 10th. A team of people from Hampton Lodge Camping Resort was busy cutting down a cedar tree when I pulled into the observing area, the tree that had obscured the southern horizon for many years. Once the debris is removed it'll give lots more room for people to set up telescopes at future East Coast Star parties. I think we all owe a bit of gratitude to the staff at Hampton Lodge. They always make certain the grass is cut, and have the grounds in tiptop shape for the star party.

The transparency and seeing were excellent that night, with a naked-eye limit of about 6.1 magnitude. Most of us observed until moonrise at 2:30 am.

We awakened to clear skies on Friday but as the afternoon progressed the sky clouded considerably. Since the weather was threatening we decided to gather in the recreation hall where Dee Diffrient fed dinner to about twenty hungry stargazers. Afterwards we socialized for a while and returned to the observing area. Although the skies looked like rain it never did so everyone gathered around their telescopes and chatted. Even though the skies did not provide any excitement something else did. Suddenly an explosion was heard followed by a bright white flash. We joked that it sounded as if Norfolk had exploded. Then, the sky turned orange-red. An electrical short in one of the campground trailers caused a propane tank to explode, sending a fireball into the sky and the trailer parked next to it. Both trailers burned to the ground in 15 minutes, and damaged another nearby. Every rescue and fire vehicle in Currituck County, NC responded. Fortunately the trailers were unoccupied. The heat from the fire was so intense it could be felt more than 600

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Hercules – the Myth, the Constellation, and the Astronomical Points of Interest

Don Surles

Hercules is the constellation for review in our June meeting. We will talk about the mythology and the constellation's astronomical points of interest.

Hercules was the son of Olympian god Zeus and the beautiful mortal Alcmene. His life was influenced by the deep-seated hatred of Zeus's extremely jealous goddess-wife Hera. Hercules was living proof of the infidelity of her husband...a constant reminder of Zeus' wandering affections. And since Hercules was the son of a god and a mortal he was a "demi-god" that allowed him to have powers no mere mortal could possess.

He was the greatest of the Greek heroes. His strength, courage, ingenuity, sexual prowess, with both males and females, and his journeys throughout the ancient mythological world have made Hercules the center of Greek and Roman mythology for hundreds of years.

Hercules was actually one of two sons born to Alcmene as twins with different fathers (worthy of a Jerry Springer Show!). The other boy, Iphicles, was fathered by a mortal. Hercules was originally named Alcides and later Hercules in an attempt to change Hera's attitude.

Hera tried to prevent the birth of the twins by sitting crosslegged on the skirts (tied in knots) of Ilithyia, the goddess of birth. But a servant of Alcmene lied to Ilithyia saying Alcmene had already given birth causing Hera to jump in surprise. The skirts were untied and Alcmene gave birth to the twins. A few months after Hercules was born Hera sent two serpents to kill him as he slept. Hercules grabbed a snake in each hand and choked them to death...his nurse was said to have found him playing with their limp bodies as they were child's toys. What a God-Mother!

When he was still a "youth" he killed his music teacher with a lyre and since this was in the days before folks had to answer for killing another person with prison time/execution he was sent to tend cattle on a mountain. And here he was visited by two nymphs – Pleasure and Virtue. He was offered the choice of a pleasant and easy life or one of severity and glory. Yes, he chose the second version. Shortly after, he was challenged by the King of Thespieae to kill the Lion of Cithaeron and as a reward he was offered the chance to impregnate each of the King's fifty daughters. We are told he did this in one night...killed the lion and impregnated the daughters...even the ugly ones. I think Zeus could have been either jealous or proud of his son for such a feat.

Later he married...Megara was her name. And they had some children. Enter Hera...she drove Hercules mad and in a fit of anger he killed his wife and children. After realizing what he had done he fled to the Oracle of Delphi...meanwhile Hera convinced the Oracle to accept her guidance in his ministry to Hercules. The results are the famous Twelve Labors of Hercules spanning twelve years. Each "labor" is a tale worth reading.

After the Twelve Labors our hero joined Jason and Argonauts in the Quest of the Golden Fleece, he had several encounters with princesses who were possible wives but in each case there was a killing of family members...no peace with the inlaws. He also participated in the sacking of Troy...where he found another wife.

Several additional adventures and several killings and several women later...he was married to Deianira. This proved to be the beginning of the end...a Centaur named Nessus agreed to help Deianira across a river while Hercules swam across. But Centaurs cannot be trusted...everyone knows that. True to his nature, Nessus tried to rape Deianira and was subsequently killed by Hercules. The arrow Hercules used was dipped in the poisonous blood of the Lernaean Hydra. As the centaur lay dying he told Deianira to gather his spilled blood (he knew it was poisonous) and if she wanted to increase Hercules' love for her and prevent Hercules from having affairs with other women she should apply the blood to Hercules' clothes. True to the tragic image of a Greek hero Hercules began to favor a young lady named Iole and Deianira applied the poisonous blood to his shirt. Immediately after putting it on the cloth began burning into him. As he tried to remove the shirt he ripped the flesh from his bones...so removing the shirt was not a good plan. He ordered a pyre be built and he was placed on the pyre and burned to death.

But, he was a demi-god...incinerating the human element only exposed the immortal version of Hercules and he was transformed into a real god so and he went to live on Mount Olympus...take that, Hera!

Such was the life of Hercules. Today we have a Constellation representing the kneeling god with a club and animal skin in hand. It graces our evening sky from late April through late September. Hercules is home to three beautiful globular clusters...M13, M92 & NGC 6229, three variable stars, six binaries, a planetary nebula, an X-ray source, and a meteor shower from May 19 thru June 19.

Now go outside, find Hercules and consider the mythological character as you track down the thirteen visible jewels (don't worry about the X-ray source) and the meteor shower should peak June 9 (just after last quarter).

See you at the next meeting. Don...

The Ions of Dawn

Patrick L. Barry



This summer, NASA will launch a probe bound for two unexplored worlds in our solar system's asteroid belt—giant asteroids Ceres and Vesta. The probe, called Dawn, will orbit first one body and then the other in a never-before-attempted maneuver.

It has never been attempted, in part, because this mission would be virtually impossible with conventional propulsion. "Even if we were just going to go to Vesta, we would need one of the largest rockets that the U.S. has to carry all that propellant," says Marc Rayman, Project System Engineer for Dawn at JPL. Traveling to both worlds in one mission would require an even bigger rocket.

This is a trip that calls for the *unconventional*. "We're using ion propulsion," says Rayman.

The ion engines for the Dawn spacecraft proved themselves aboard an earlier, experimental mission known as Deep Space 1 (DS1). Because ion propulsion is a relatively new technology that's very different from conventional rockets, it was a perfect candidate for DS1, a part of NASA's New Millennium Program, which flight-tests new technologies so that missions such as Dawn can use those technologies reliably.

"The fact that those same engines are now making the Dawn mission possible shows that New Millennium accomplished what it set out to," Rayman says.

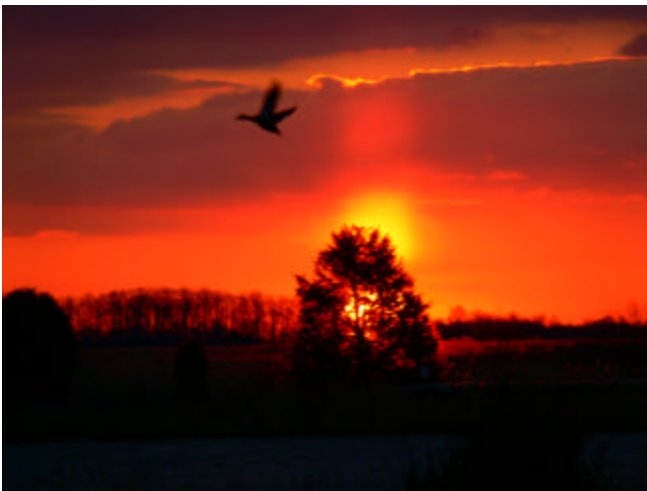
Ion engines work on a principle different from conventional rockets. A normal rocket engine burns a chemical fuel to produce thrust. An ion engine doesn't burn anything; a strong electric field in the engine propels charged atoms such as xenon to very high speed. The thrust produced is tiny—roughly equivalent to the weight of a piece of paper—but over time, it can generate as much speed as a conventional rocket while using only about 1/10 as much propellant.

And Dawn will need lots of propulsion. It must first climb into Vesta's orbit, which is tilted about 7 degrees from the plane of the solar system. After studying Vesta, it will have to escape its gravity and maneuver to insert itself in an orbit around Ceres—the first spacecraft to orbit two distant bodies. Dawn's up-close views of these worlds will help scientists understand the early solar system.

"They're remnants from the time the planets were being formed," Rayman says. "They have preserved a record of the conditions at the dawn of the solar system."

Find out about other New Millennium Program validated technologies and how they are being used in science missions at <http://nmp/TECHNOLOGY/infusion.html> . While you're there, you can also download "Professor Starr's Dream Trip," a storybook for grown-ups about how ion propulsion enabled a scientist's dream of visiting the asteroids come true. A simpler children's version is available at <http://spaceplace.nasa.gov/en/kids/nmp/starr>.

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



Don Surles took a picture of a duck, but a solar pillar got in the way. Taken at MM7. (Sun is below the horizon.)



Don's presentation on NASA's Solar TERrestrial RElations Observatory (STEREO) satellites at the May meeting went 3D !

Magazine Subscriptions

As a paid member of DMSG, you can sign up -or- renew your S&T or Astronomy magazines through the club for a discount over private rate. S&T, reg. \$42.95, is \$32.95 thru DMSG, Astronomy, reg. \$44, is \$34 thru DMSG. See Tony Codella for details.

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yards away.

Saturday wasn't looking too promising but actually the skies were clear most of the day. About twenty of us took the usual jaunt to Mel's Diner in Grandy, NC for brunch. When we returned we prepared our telescopes, hoping to have an opportunity of seeing stars that evening.

Attendance was down from October 2006, but about 60 people still showed up for the cookout. One couple came to ECSP from Cincinnati, OH. Lou and Mary Freeze said although they didn't get to see any stars they thoroughly enjoyed themselves. I met them on an eclipse cruise in the South Pacific two years ago and was pleased they decided to visit.

I made the decision to proceed with the cookout outdoors in the observing field. As is traditional Dr. Robert Hitt cooked hamburgers and hot dogs. Just as the first burgers sizzled on the grill the rain and wind came. We all survived by huddling around in mini-groups under canopies. Actually, it was kind of fun and cozy. It resembled three small cocktail parties in the rain.

The rain stopped in time for the door prize drawing. Kenny Broun walked away with SkyTools 2 as well as a set of Orion vibration pads. John Raymond won Software Bisque's The Sky 6 while Larry Channel and Kelly Proffitt each won Software Bisque's Seeker Solar System Simulators. Joyce White won a Tele Vue 8mm eyepiece and Steve Hamilton won a 20mm Arcturus eyepiece donated by Richard Dickson. Dale Carey and Mike Przytula each won a pair of Barska7x35 binoculars. Daryl Douglas took home the top prize of a Celestron 114GT GoTo telescope. A Meade ETX-60 telescope was donated by Chuck Jagow. Dale Carey had the winning ticket but gave the ticket to one of our young attendees, Jenna Elliot.

For me the highlight of the entire weekend was being presented with a wonderful plaque. It consist of a rosewood base with a circular Plexiglas disk engraved, "The Best We Have Ever Seen" and continued, "Presented to Kent Blackwell from The Back Bay Amateur Astronomers in appreciation for hosting the many East Coast Star Parties." I was very touched, and it came as a total surprise. Thank you all so much.

I want to thank everyone who made the effort to attend. All we can do is hope for better weather next time. "Well, Kent, I must say at least you don't throw a dull party" was the comment from many, as all seemed to have a genuine good time.

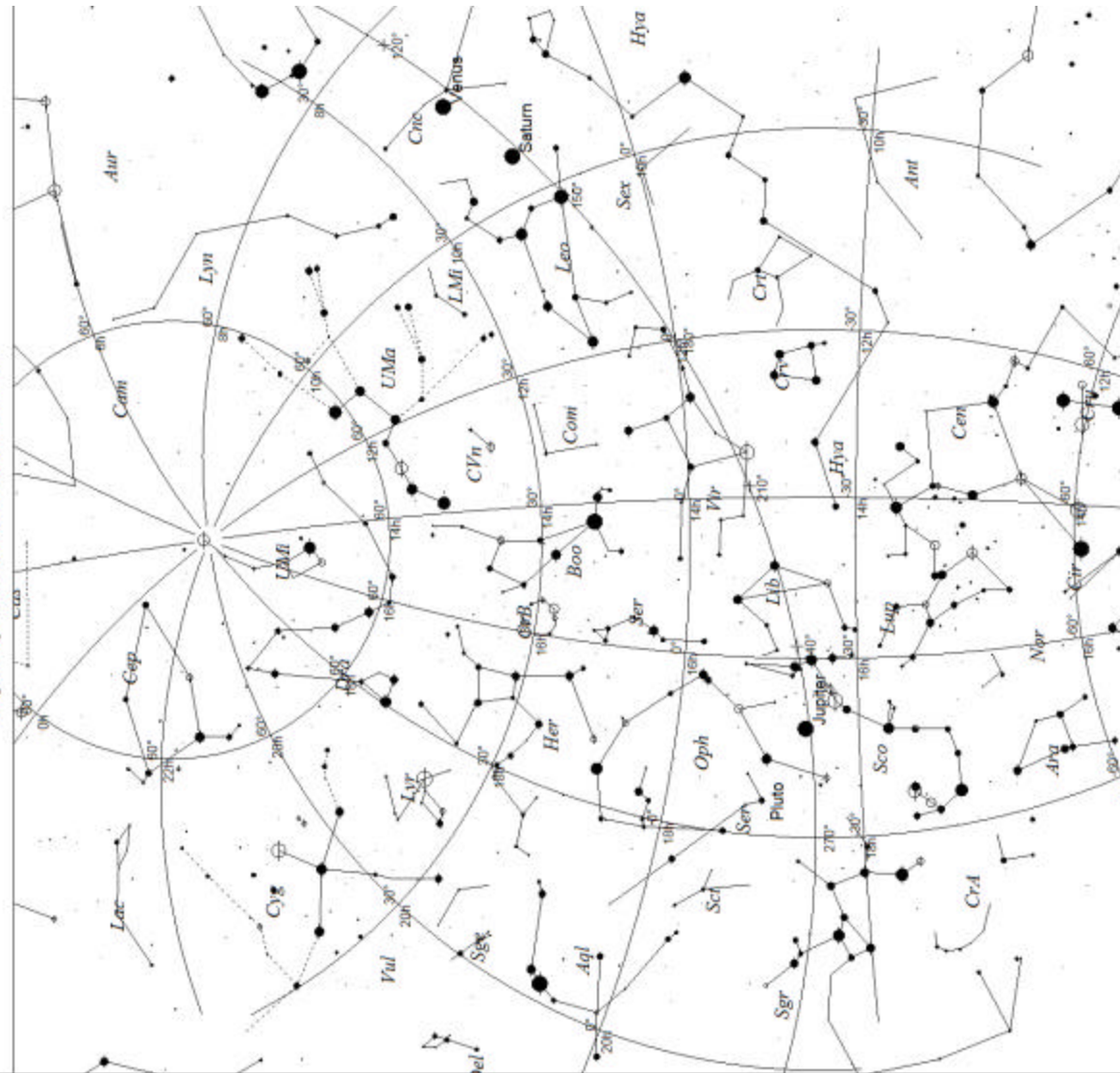
The next star party will be in the late fall of 2007. I'll announce the date months ahead of time.

The Solar System in June—Pj Riley
 Mercury ♿ is at greatest elongation east (23°) on the 2nd, but will be at inferior conjunction by the 28th. Venus ♀ remains a nice evening object, skimming the northern edge of the Beehive cluster (M44) on the 12th and 13th. Mars ♂ enters Aries on the 26th. Jupiter ♃ is at opposition on the 5th. So there's great viewing all month. Saturn ♄ is very close to the crescent Luna on the 18th. Uranus ♅ is still in Aquarius, you can see it just before Sol ☉ pops up. Neptune ♆ is nearby in Capricornus. You can find the minor planet Pluto ♇ just north of Jupiter ♃ in Serpens Cauda. (As always, you can always find Terra ☁ by looking down). **Special Events:** The asteroid Vesta is still visible near Jupiter(see chart right with telrad circles)

The Delmarva Stargazers Announces a Writing Contest.
 The DMSG will raffle away astronomy gifts to members who submit articles to the Star Gazer News.
 How to enter:
 1 Open to DMSG members.
 2 Members may submit original articles at least 500 words (1/2 page) for publication in the Star Gazer News.
 3 Articles **must** be authored by the member.
 4 Pictures can be included, but they do not count towards word count (1 picture = 1000 words).
 5 Must be astronomy related. Each article = one chance in the raffle. The drawing will be made at the star parties based on the previous 6 issues – need not attend to win (but it would be nice to see you there).
The editor of the Star Gazer News qualifies articles submitted.



Skymap 15 June 2007 10 PM



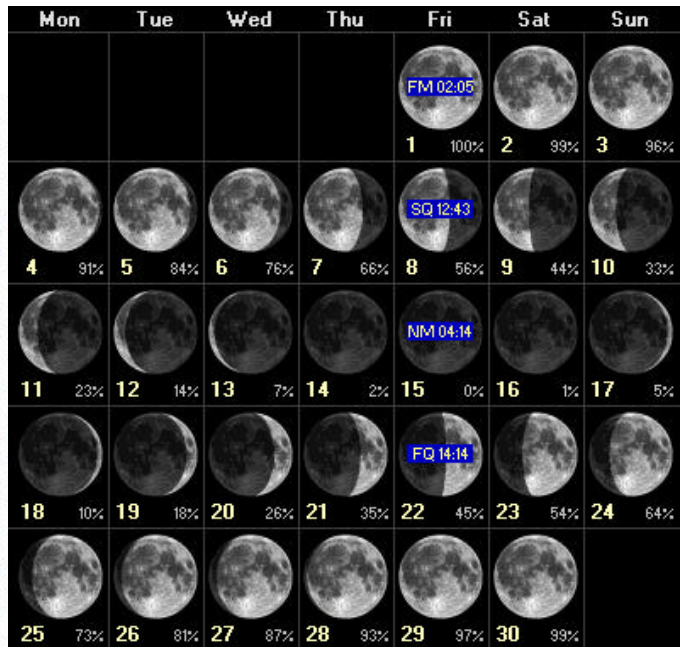
Tuckahoe State Park, MD

- STARS**
- <1
 - 1.5
 - 2
 - 2.5
 - >5
- SYMBOLS**
- Multiple star
 - Variable star
 - Comet
 - Galaxy
 - Bright nebula
 - Quasar
 - Dark nebula
 - Globular cluster
 - Open cluster
 - Planetary nebula
 - △ Radio source
 - × X-ray source
 - Other object

Local Time: 22:00:00 15-Jun-2007
 UTC: 02:00:00 16-Jun-2007
 Sidereal Time: 14:32:08
 Location: 38° 58' 0" N 75° 56' 0" W
 RA: 14h32m00s Dec: +23° 57' Field: 180.0°
 Julian Day: 2454267.5833

Sun and Moon Data for June 2007
 Tuckahoe MD
 38.97°N 75.93°W 5hrW
 Daylight Time Civil Twilight

Date	Twilight	Rise	Sun Transit	Set	Twilight	Rise	Moon Transit	Set	%
6/1/2007	5:09a	5:40a	1:02p	8:23p	8:55p	9:34p	1:07a	5:36a	99
6/2/2007	5:08a	5:40a	1:02p	8:24p	8:55p	10:28p	2:01a	6:27a	97
6/3/2007	5:08a	5:39a	1:02p	8:25p	8:56p	11:14p	2:56a	7:26a	93
6/4/2007	5:07a	5:39a	1:02p	8:25p	8:57p	11:53p	3:50a	8:32a	87
6/5/2007	5:07a	5:39a	1:02p	8:26p	8:58p	****	4:43a	9:41a	79
6/6/2007	5:07a	5:39a	1:02p	8:26p	8:58p	12:25a	5:34a	10:50a	70
6/7/2007	5:07a	5:38a	1:03p	8:27p	8:59p	12:54a	6:22a	12:00p	59
6/8/2007	5:06a	5:38a	1:03p	8:28p	8:59p	1:19a	7:09a	1:10p	48
6/9/2007	5:06a	5:38a	1:03p	8:28p	9:00p	1:44a	7:56a	2:21p	37
6/10/2007	5:06a	5:38a	1:03p	8:29p	9:01p	2:09a	8:45a	3:34p	26
6/11/2007	5:06a	5:38a	1:03p	8:29p	9:01p	2:37a	9:37a	4:50p	16
6/12/2007	5:06a	5:38a	1:04p	8:30p	9:02p	3:09a	10:32a	6:08p	9
6/13/2007	5:06a	5:38a	1:04p	8:30p	9:02p	3:49a	11:32a	7:26p	3
6/14/2007	5:05a	5:38a	1:04p	8:31p	9:03p	4:38a	12:36p	8:38p	0
6/15/2007	5:05a	5:38a	1:04p	8:31p	9:03p	5:37a	1:40p	9:39p	1
6/16/2007	5:06a	5:38a	1:04p	8:31p	9:03p	6:45a	2:41p	10:29p	3
6/17/2007	5:06a	5:38a	1:05p	8:32p	9:04p	7:57a	3:38p	11:08p	8
6/18/2007	5:06a	5:38a	1:05p	8:32p	9:04p	9:07a	4:29p	11:39p	15
6/19/2007	5:06a	5:38a	1:05p	8:32p	9:04p	10:15a	5:16p	****	23
6/20/2007	5:06a	5:38a	1:05p	8:32p	9:05p	11:19a	5:58p	12:05a	32
6/21/2007	5:06a	5:38a	1:05p	8:33p	9:05p	12:20p	6:39p	12:28a	41
6/22/2007	5:06a	5:38a	1:06p	8:33p	9:05p	1:19p	7:18p	12:48a	51
6/23/2007	5:07a	5:39a	1:06p	8:33p	9:05p	2:18p	7:58p	1:09a	61
6/24/2007	5:07a	5:39a	1:06p	8:33p	9:05p	3:17p	8:39p	1:30a	70
6/25/2007	5:07a	5:39a	1:06p	8:33p	9:05p	4:18p	9:22p	1:53a	78
6/26/2007	5:08a	5:40a	1:07p	8:33p	9:05p	5:21p	10:09p	2:20a	85
6/27/2007	5:08a	5:40a	1:07p	8:33p	9:05p	6:24p	10:59p	2:52a	91
6/28/2007	5:08a	5:40a	1:07p	8:33p	9:05p	7:25p	11:53p	3:31a	96
6/29/2007	5:09a	5:41a	1:07p	8:33p	9:05p	8:22p	****	4:19a	99
6/30/2007	5:09a	5:41a	1:07p	8:33p	9:05p	9:11p	12:48a	5:17a	100



Moondark for June: 1997

Doug Miller

A [spring-cleaning](#) of the garage was impossible to avoid any longer. Somewhere behind the bicycles, along side the telescopes, and beneath empty cardboard boxes I found a huge pile of bins containing [old astronomy magazines](#). What was going on back then, say, ten years ago?

1997 opened with great anticipation for two celestial events: the hoped-for spectacle of [Comet Hale-Bopp](#) and a northerly [opposition of Mars](#). Closer to home, NASA was planning for the [second servicing mission](#) to the [Hubble Space Telescope](#), and there was much excitement as the best images of the [Galileo mission](#) to Jupiter and its moons poured in.

Several issues of [Sky & Telescope](#) featured articles on electronic imaging. Robert Wise recounted [his start in electronic imaging](#) with a [home-built CCD camera](#) in the May issue. His images clearly have that [Cookbook camera look, pixel-ly and lacking in dynamic range](#), but amazing for amateurs of the day. More tutorials followed: ["less is more"](#) in electronic imaging (use a focal reducer to match a telescope's focal length to a chip's small pixels), and [Jerry Lodriguss](#) described how to digitally enhance scanned astrophotos. Meade Instruments introduced two low cost CCD cameras, the [Pictor 208XT](#) and [216XT](#).

More news from space: the [Hipparcos satellite](#) measured the distance to over 100,000 nearby stars, [calibrating the cosmic yardstick](#) with unprecedented accuracy. The [Sloan Digital Sky Survey](#) got underway [from a perch on Apache Point](#), New Mexico, promising a multispectral 3-D map of 100,000,000 galaxies.

What about our solar system? NASA did have the "right stuff" and proved it with the spectacular [4th of July](#) landing and successful mission of [Mars Pathfinder and rover Sojourner](#). [Cassini-Huygens](#) departed for Saturn and its methane cloud-shrouded moon, [Titan](#). But other questions have proven much harder to answer: Is there life beyond Earth? Does [Europa](#) harbor lifeforms beneath its frozen, icy surface? And featured on December's cover: *What's the best telescope for you?*

In 1997, amateur astronomy wasn't as different as I'd imagined. You'd be hard pressed to pick a ten-year old issue of [Sky & Telescope](#) from today's, although the cover price of \$3.95 would be a good tip-off. Inside, there's the [familiar list of columnists](#). [Digital imaging](#), just ramping up back then, [is mainstream](#) now, of course, but the best images, spectacular and in full color, still anchor the "Gallery" at the back of each issue. [Comet Hale-Bopp](#) certainly lived up to all expectations, [Hubble](#) continues to amaze us, and [space and ground-based astronomy have continued to drive the limits of our knowledge](#). And [headlines from the magazine covers](#) have as much relevance today as ten years ago. So much of the world has changed in that time, but at least according to this limited peek at our hobby, the universe of [amateur astronomy](#) has remained surprisingly very much the same.

And one more thing about 1997: Frank Sheldon took the helm as [newsletter](#) editor, and soon thereafter I contributed the first of these Moondarks. This issue makes number 120, and [each and every one of them is available online](#). Now that that's done and summer 2007 is nearly here, there's many more boxes and bins to sort in my attic: I need to find room for this year's magazines.

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These twelve [S&T](#) covers depict the numerous highlight of astronomy and space exploration from a decade ago.

