

BACK BAY observer

The Official Newsletter of the Back Bay Amateur Astronomers
P.O. Box 9877, Virginia Beach, VA 23450-9877



EPHEMERALS march 2010

03/01

4th Grade Science Night

Deep Creek ES
Chesapeake
6:30 pm

03/04

BBAA Monthly Meeting

TTCC VA Beach
Building J, Room JC-12
7:30 pm

03/05

Skywatch

Northwest River Park

03/13

Nightwatch

Chippokes State Park
Surry, VA

03/24

Bayside Library Astronomy

Bayside Library in VA Beach
7:00 pm

03/31

Circus of Flying Things

Nansemond-Suffolk
Academy
Suffolk
6:30 pm



Looking Up!

Every now and then my luck changes. After the tribulations I went thru in December, I think I deserved a change. At the February meeting I spoke about the asteroid Vesta lining up to “shoot the gap” between Gamma Leonis (Algieba) and 40 Leonis (also known as “Forty”) on the evening of February 16. It was probably pretty obvious that I thought this was going to be a really cool event.

Given that I had never knowingly seen any asteroid, and given Virginia’s weather, I sort of prepared myself for the disappointment of not being able to see it. On Saturday the 13, the other new BBAA officers and I had scheduled to meet at the BB&T Bank to provide signatures for the club’s checking account. It was snowing.

On Sunday afternoon, Lo and Behold!, the sky was fairly clear! I was so enthused, I think it was before 4pm when I went out to my front yard and started setting up my 8” Meade, equatorial wedge and monster marine battery and all. (My back yard is so blocked by gum trees that I can only see 20 to 30 degrees from the zenith.)

I hadn’t checked to see what time Leo rose. I opened the blinds in the living room so I could keep an eye on my scope in the front yard, and watched a little of the Olympics. Finally, around 9 pm, Algieba was up high enough to get a decent view in my scope. At my lowest mag with a 40mm eyepiece (50x) I could barely get the two stars in the same field. Not being familiar with this little spot of sky (hmmm... Is that Vesta?... or is that Vesta?), I did a little sketch of what I could see so I could compare it to a later date, if I were lucky enough to have another clear night that week. I dismantled and repacked my equipment, ... and wrenched my shoulder in the process.

Monday night came. The skies were clear again! But the way my shoulder felt, there was no way I was going to go through pulling

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Flipping the Lights on Cosmic Darkness

Exploring the universe is a bit like groping around a dark room. Aside from the occasional pinprick of starlight, most objects lurk in pitch darkness. But with the recent launch of the largest-ever infrared space telescope, it's like someone walked into the room and flipped on the lights.

Suddenly, those dark spaces between stars don't appear quite so empty. Reflected in the Herschel Space Observatory's 3.5-meter primary mirror, astronomers can now see colder, darker celestial objects than ever before—from the faint outer arms of distant galaxies to the stealthy "dark asteroids" of our own solar system.

Many celestial objects are too cold to emit visible light, but they do shine at much longer infrared wavelengths. And Herschel can observe much longer infrared wavelengths than any space telescope before (up to 672 microns). Herschel also has 16 times the collecting area, and hence 16 times better resolution, than previous infrared space telescopes. That lets it resolve details with unprecedented clarity. Together, these abilities open a new window onto the universe.

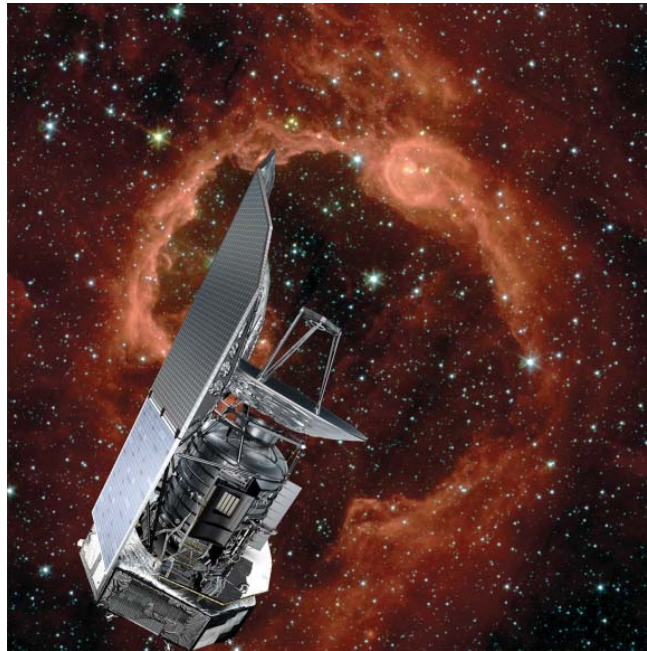
"The sky looks much more crowded when you look in infrared wavelengths," says George Helou, director of the NASA Herschel Science Center at Caltech. "We can't observe the infrared universe from the ground because our atmosphere blocks infrared light, and emits infrared itself. Once you get above the atmosphere, all of this goes away and suddenly you can look without obstruction."

Herschel launched in May from the Guiana Space Centre in French Guiana aboard a European Space Agency Ariane 5 rocket. Since then, it has expanded

the number of distant galaxies observed at far infrared wavelengths from a few hundred to more than 28,000. And with the instrument testing and system check-out phases finally completed, the discoveries are only now beginning.

Beyond simply imaging these dark objects, Herschel can identify the presence of chemicals such as carbon monoxide and water based on their spectral fingerprints. "We will be able to decipher the chemistry of what's going on during the beginnings of star formation, in the discs of dust and gas that form planets, and in the lingering aftermath of stellar explosions," Helou says.

And those are just the expected things. Who knows what unexpected discoveries may come from "flipping on the lights?" Helou says "we can't wait to find out."



The Herschel Space Observatory has 3.5-meter primary mirror, allowing astronomers to see colder, darker celestial objects than ever before.

Herschel is a European Space Agency mission, with science instruments provided by a consortium of European-led institutes and with important participation by NASA. See the ESA Herschel site at sci.esa.int/science-e/www/area/index.cfm?fareaid=16. Also, see the NASA sites at herschel.jpl.nasa.gov, www.herschel.caltech.edu, and www.nasa.gov/mission_pages/herschel. Kids can learn about infrared light by browsing through the Infrared Photo Album at The Space Place, spaceplace.nasa.gov/en/kids/sirtf1/sirtf_action.shtml.

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

The Back Bay Amateur Astronomer's Observer

The BBAA Observer is published monthly; the monochrome version is mailed to members who do not have Internet access. Members who do have Internet access can acquire the full color version on the Internet at <http://www.backbayastro.org/newsletters/newsletter.shtml>.

Please submit articles and items of interest no later than the 15th of the month for the next month's edition. Please submit all items to: BBAAErica@yahoo.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA 23450-9877

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BBAA Meetings

The BBAA meet the first Thursday of every month except for July. While school is in session, we meet at the VA Beach TCC Campus. **The March meeting will take place at TCC VB in Building J, Planetarium at 7:30 PM.** Directions available at www.backbayastro.org.

BBAA Internet Links

BBAA Web Site

<http://www.backbayastro.org>

Yahoo! Group

<http://tech.groups.yahoo.com/group/backbayastro>

BBAA Observer Newsletter

www.backbayastro.org/observer/newsletter.shtml

Looking Up! Continued from page 1

out and setting up a hundred pounds of equipment. I got out my Oberwerk 11x70 Astro-binocs, which are heavy enough on their own. (For those not familiar with binoculars, that is 11x magnification and 70mm objective lens, about 2 3/4 inch).

Focusing on Algieba, I was surprised at the resolution and separation I got between it and 40 ("Forty"). And what is that there? the one not on my sketch? The object I had sketched on Sunday was just east of 40, forming almost a perfect 90 degree angle with it and Gamma. This one was about 10 or 12 arc minutes closer to the line between Gamma and 40. Something has moved... I went inside and consulted some star charts. There wasn't anything else there near 6th magnitude on the charts. It has to be Vesta! Back outside with the binoculars. Confirmed. I have seen my first asteroid! I stood outside in the cold for a long while, missing some of the Olympics to enjoy my discovery. (And I LOVE the Olympics.)

On Tuesday night, the 16th, I went outside about 9pm, during an Official Olympic Commercial. I was amazed to see the sky was clear for yet another night. Orion was clear as a bell. I got out my 11x70's and looked at Algieba. Vesta (and by then I was sure it was Vesta) was now just west of the line between Gamma and 40 and formed a nice isosceles triangle with the two.

On the 17th, Wednesday, there was yet another clear night. Vesta had moved still farther beyond the gap. Again, I stood in the cold and watched her for a while. My shoulder didn't even hurt.

I've got Vesta pegged. I know where she is going. I'll keep an eye on her. We're friends now.

Mark Gerlach

Mark Gerlach

BBAA Meeting Minutes

February 4, 2010

The February meeting was called to order at 7:35 PM in room JC-13, TCC new science building, Virginia Beach campus, by president Mark Gerlach.

Those in attendance were Neill Alford, Bruce Bodner, Kenny Broun, Cheryl Colvin, Zachery Colvin, Bryan Condrey, Courtney Flonta, Tony Flonta, José Geldi, Mark Gerlach, Jeff Goldstein, Chuck Jagow, Karen Jagow, Curt Lambert, Matt McLaughlin, Bill McLean, Bill Newman, Bill Powers, George Reynolds, Kevin Swann, "Bird" Taylor, and Larry Wade.

Reports

It was moved, seconded, and approved that the reading of the January meeting minutes be waived, since they are posted on the BBAA Web site, www.backbayastro.org.

Secretary George Reynolds announced that the club currently has 99 active members, but that those whose membership extended through 12/31/2009 were in danger of having their membership expire. The normal 30-day grace period for paying club dues was extended another month to the end of February, due to the transition of secretary duties.

Treasurer Chuck Jagow reported that as of the meeting date there is \$3224.07 in the Scholarship Fund and \$4504.59 in the General Fund, for a total of \$7728.66.

Vice President Courtney Flonta reported on upcoming outreach events. She announced that tomorrow's (2/5/10) Skywatch has been cancelled due to the extreme wetness of the observing field at Northwest River Park. The Greenbrier Elementary School Science Night has been postponed until April. The new date is yet to be announced. Nightwatch is scheduled for Feb. 13 (dusk to whenever), Garden Stars for Feb.

19 (7-9 PM), and Bayside Library Astronomy for Feb. 24 (7-9 PM).

Ted Forte reported on the status of the RRRT (Rapid Response Robotic Telescope). The computer is down, on account of the snowstorm last weekend, and must be manually reset. He said that Dr. Salgado wants to initiate a coordinated NEO search effort as soon as possible. The process involves repeatedly imaging an imaginary grid in the sky and then searching for objects that move. The "core" team of current volunteers can write the scripts and program the scope. However, we are eager to recruit more BBAA volunteers to examine the collected images with software (PinPoint or other astrometric software) to look for moving objects. Ted also reported that Dr. Salgado is looking for innovative ideas on how the RRRT might be used to track fast-moving near-earth objects (NEOs), which would not remain on the standard "grid" images long enough to be detected. Matt McLaughlin added that he and Dr. Salgado recently conducted a test asteroid search and submitted the required data to the Minor Planet Center. As a result, the observatory has now obtained its MPC ID number and can submit automated reports.

Old Business: No information is yet available, according to Chuck Jagow, regarding the VAAS conference or BBAA's time to host it. Chuck also stated that the Boardwalk Astronomy dates have been set, and that he will forward the confirmation email to the other officers.

New Business: The new officers must get together and meet at BB&T bank at Greenbrier to sign new signature cards. A motion was made, seconded, and approved that the July BBAA picnic be scheduled for Saturday, July 17.

Minutes continued on page 5

Minutes, *continued*

President Mark Gerlach related the news from Sky & Telescope that NASA's Mars rover Spirit has essentially become a Mars "lander", having been stuck in the sand on Mars since April 2009. NASA hopes to use the stable platform to learn whether Mars has a "wobble" on its axis, and thus determine the structure of the core of the Red Planet. Mark also mentioned S&T's report that asteroid Vesta will pass between two stars in the constellation Leo (Gamma Leonis, a.k.a. "Algieba" and 40 Leonis) on the night of 16-17 February.

After the business session, Mark presented the latest "Sky at Night" program with Sir Patrick Moore. The title was, "The Winter Sky", and highlighted winter objects for visual astronomy. Also mentioned were some news about NASA's LCROSS moon impact mission, the Mars Spirit rover, and a detailed account of the ongoing Sloan Digital Sky Survey, now in its 16th year and its third phase.

"Bird" Taylor gave some information about Yuri's Night, scheduled for Saturday, April 10 at the Virginia Air and Space Center in Hampton. Persons coordinating in advance with him to bring telescopes will get in free, and thus avoid the \$10 admission fee.

The meeting was adjourned at 8:35 PM.

WANTED:

Newsletter articles!

Reviews, advice, memories,
achievements, recognitions...

Not even the SKY is the limit.

Send articles to ericasmithllera@gmail.com.



Moon Observation

Mark Ost

There are several observing projects you can do on full moon nights when the clouds aren't in residence.

Look at the full moon with no telescope. One of the first things you see is the difference between the dark and light areas. This is due to different rock types; the dark is basalt, a liquid like lava that oozed up through fractures in the crust, created by huge impacts called "impact basins". In the western part of the moon you can see a dark circle very distinctly with the naked eye. That is Mare Humorum. The dark lavas filled the circular center of the Humorum basin. To the west of that is a very bright spot easily distinguished with no telescope. Aristarchus is a very bright crater that punched through the basin basalts and revealed older bright reflective highland rocks underneath. No telescope is required to see these features.

With a telescope it is easy to date which is older, bright highland or dark mares. Look at the number of craters per area. The Mare have a much lower density of cratering than the highlands; thus they are younger. The bright areas of the moon are much older. The maria came later. Next discussion we will look at how the assign relative ages to features even finer than these two broad divisions.



Welcome New Members!

observers' corner

Eyepiece Cases – A Review

Paul Gustafson

Note from George Reynolds: Astronomy equipment needs to be transported from place to place, conveniently and safely. Paul Gustafson recently compared two models of carrying cases for eyepieces and other equipment for astronomy and photography. He mentioned several brands, but concentrated on two, the Pelican case and the Storm case. Your choice depends on what features are more important to you. Keep in mind that Pelican bought Storm so they are two lines within the same company. [http://www.stormcase.com/, http://www.pelican.com/]

Given the value of what you put in it, it makes sense to get a good case to protect the contents. Pelican, Storm, Doscocil, SKB, all are very sturdy and waterproof, but the Pelicans are my favorite (I have all of the above brands, and between astro and photo equipment I probably have twenty cases of various types). Storm is second, but not as sturdy as Pelican. My Pelicans are sturdy enough to use as an impromptu seat or footstool.

Since dew is a real problem around here and a case set outside is soon sopping wet, being waterproof is a must and both meet that requirement.

Sept 2006 Hurricane Ernesto put several 100 foot trees into my house and followed that with 10 inches of water through the open roof, taking the house down to the 2x4's. Days later I pulled a Pelican case out from under a pile of 2x4's, tree branches, mud, wet blown insulation, wet sheetrock, and other goo I couldn't identify. I hosed the muck off the case and when I opened it the contents were dry and in pristine condition. Priceless!

Latches: the Pelican now has a dual stage latch, similar to the Storm, but uses a second latch instead of Storm's button in the middle of the larger latch. The Pelican latch is a little stiffer than the Storm when new, but after some use they are very similar. Edge to Storm when new, less so once broken in. Now the old Pelican latches, they were tough to open and could be real knucklebusters! Both brands are much better now in comparison.

Purge valve: both brands are automatic. Tie.

Carry handle: both use rubber in the handle. The Storm has a full rubber handle, the Pelican only has rubber where the case rests on the hand (the only place it is needed). Slight edge to Storm if you carry a heavily loaded case a long distance because the rubber is a bit softer, otherwise a tie.

Nameplate area: both offer engraved nameplates. Tie.

Cubed foam: both use multilayer foam. Tie.

Case material: Storm claims theirs is lighter

and I believe them. I give the definite edge to Pelican in build, feels much more substantial. Here's an example. This is my Storm im2720 that I carry my Mach1GTO mount in:



Here is my wife giving the lid a small amount of torque. She wasn't putting much pressure on the lid. With enough force you can twist the lid of a similar size Pelican but it takes a lot more force to do so.

Also, with the lid closed and locked if I try to pull it open with my fingernails between the latches I can flex the lid enough to break the air seal. If I try that with the Pelican the only thing I can break is my fingernails.

One area where I give Storm a decided edge is the **hinge**. The Pelican uses two very sturdy and very stiff hinges; the case is very stiff opening. It gets better as it wears in, but is still somewhat stiff. The Storm uses a single hinge that runs the entire length of the case, and it is very easy to open the case even when brand new. Edge Storm.

Warranty: both have a lifetime warranty. Tie.

The Storm is a very nice case, don't get me wrong. But if I were going to stand on my case (or my house fall on it) I would pick the Pelican because of its sturdier build. I use the Storm case for my mount because it is lighter.

Reviewer's Pick:



NEWBY CORNER:

A Review of *Sticky Night Skies*

George Reynolds

New to Astronomy? Are you just feeling the interest, or are newly determined to get into amateur stargazing? Are you hesitant to attend a BBAA event for fear you'll appear "dumb" because you don't know what's up there in the sky? Well fear no more! There is hope for all you "newbies" out there.

First off, the "fast track" to learning astronomy is to hang out with folks who know their way around. Club members enjoy sharing their knowledge, and will not look down on you if you are asking questions. The only "dumb" question is the one not asked! I know, from personal experience, you will learn more about astronomy in a shorter time by coming to BBAA meetings and events than you would on your own, or from reading books.

That said, the second piece of advice for learning about the night sky is to READ BOOKS. There are a lot of good books for the beginner in astronomy, like my favorites, *Nightwatch* and *The Backyard Astronomer's Guide* by Terence Dickinson, and *Turn Left at Orion* by Guy Consolmagno. But if you just want to learn some of the stars and constellations, to know how to get around in the night sky, a good book to read and study is *Sticky Night Skies*, ©2003 by Laurence Holt Books, New York, ISBN 1-56858-253-6. The "Sticky" series of books is designed to get things to "stick" in your mind, one step at a time. Each step builds on what came before, and reinforces it. By the end of the book, you will have built some confidence in finding your way around much of the night sky.

The first 192 pages of *Sticky Night Skies* show tiny white stars on a black background, teaching you how to find a few familiar signposts in the northern hemisphere sky (such as the Big Dipper, Cassiopeia, Orion, and Polaris), which you can use to learn how to find other features among the stars. It shows you a feature, then on another page, asks

you to locate that feature among the other stars. Make sure you try to answer the question without flipping forward to find the answer. That way you learn, and reinforce that learning.

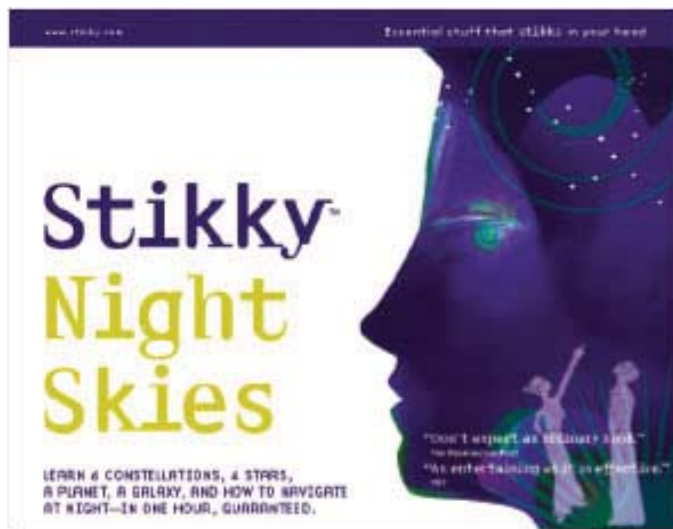
The subheading under the title states, "Learn 6 constellations, 4 stars, a planet, a galaxy, and how

to navigate at night – in one hour, guaranteed." The book has four parts, to be read in sequence. "Sequence One" introduces the constellation Orion and its star Betelgeuse; constellation Cassiopeia, the Big Dipper, and Polaris the North Star, and how to use it to figure out which way is north. "Sequence Two" adds constellations Cygnus and Taurus, the Pleiades, stars Sirius and Vega, and the Milky Way

Galaxy. Part three is called "Epilogue", which brings together and reinforces what you learned in the first two parts. The fourth section is called "Next Steps", and adds dozens of things to explore, with references to books, magazines, and Web sites, and information about solar system objects, deep-sky objects, and stargazing equipment and techniques.

There are a few minor inaccuracies in the text, but not enough to detract from the value of the book. For instance, it refers to the Pleiades, the Big Dipper, and the Summer Triangle as "constellations", when in fact they are an open star cluster (Pleiades) and two asterisms (Big Dipper and Summer Triangle). A novice astronomer can learn the differences from a good book or an experienced stargazer.

The "Sticky Guarantee", stated on the book's back cover, says, "If you feel you didn't learn from this book, or if you are dissatisfied for any reason, tear off the cover and return it to us together with your receipt. We will send you any other Sticky title for free." See www.sticky.com





BACK BAY **observer**

March 2010

BBAA Events	Special Outreach	Astronomical Events
04 BBAA Monthly Meeting, TCC VA Beach, Bldg J, Room JC-12 7:30 pm	01 4th Grade Science Night @ Deep Creek Elementary School 6:30 pm	
05 Skywatch @ NWRP		07 Last quarter
13 Nightwatch @ Chippokes		
		15 New moon
	24 Bayside Library Astronomy 7:00 pm	23 First quarter
	31 Circus of Flying Things, Suffolk 6:30 pm	30 Full Moon



Sneak Peak into April:

04/01 BBAA Meeting at TCC

04/02 Skywatch at NWRP

04/10 Nightwatch at Chippokes

04/15 Science Fair @ Green Run ES

04/23 Starfest @ Mount Trashmore

04/24 National Astronomy Day @ Central Library in VA Beach

04/28 Bayside Library Astronomy in VA Beach