

 **Current** SEPTEMBER/OCTOBER
Astronomy 2010
RIVER BEND ASTRONOMY CLUB NEWSLETTER



M52, Open Cluster in Cassiopeia. This breathtaking open cluster is on prominent display on September and October nights. Photo credit AURA/NOAO/NSF.

INSIDE THIS ISSUE

Excellent Time at Tamalco • Fall Astronomy Day Planned at Edwardsville Children's Museum
Fomalhaut Shines in the South • The Turbulent Tale of a Tiny Galaxy • Observing Lists



River Bend Astronomy club serves astronomy enthusiasts of the American Bottom region, the Mississippi River bluffs and beyond, fostering observation, education, and a spirit of camaraderie.

Officers and administrators

PRESIDENT Bill Breeden
VICE-PRESIDENT Jeff Menz
TREASURER Mike Veith
NEWSLETTER EDITOR Bill Breeden
LEAGUE CORRESPONDENT Rich Dietz
SECRETARY Mary Hebert
OUTREACH COORDINATOR Terry Menz
LIBRARIAN Rita Breeden

FOUNDING MEMBERS

Ed Cunniss · Gary Kronk · Kurt Sleeter · Eric Young

Contacts

MAIL River Bend Astronomy Club
Bill Breeden
5340 Chippewa Street
St. Louis, MO 63109

WEB www.riverbendastro.org

EMAIL wmbreeden@yahoo.com



Affiliated with the Astronomical League, dedicated to fostering astronomical education, providing incentives for astronomical observation and research, and assisting communication among amateur astronomical societies. www.astroleague.org



Check out our online calendar on the NASA Night Sky Network, a nationwide coalition of amateur astronomy clubs bringing the science, technology and inspiration of NASA's missions to the general public.

Monthly Meetings

Saturday, September 4, 2010 • 7:00 PM
at Carlyle Lake Tamalco Boat Ramp
Saturday, October 16 • 7:00 PM
at Edwardsville Masonic Lodge
Saturday, November 6, 2010 • 7:00 PM
at Dietz Observatory

Looked Up Lately?

Join River Bend Astronomy Club

Want to learn more about astronomy? The members of River Bend Astronomy Club invite you to join. You won't need expensive tools or special skills - just a passion for observing the natural world.

- Meetings offer learning, peeks through great telescopes, and fun under the stars.
You will receive the club newsletter, Current Astronomy, packed with news and photos.
Get connected with our member-only online discussion group.
Borrow from the club's multimedia library.
Borrow from the club's selection of solar telescopes.
And that's not all! Through club membership you also join the Astronomical League, with its special programs and colorful quarterly newsletter The Reflector to enrich your hobby.
We meet monthly, observe regularly, email news and quips constantly, and generally have a good time. Won't you join us?

Name
Address
City State Zip
Phone
Email address
Where did you hear of our club?

How long have you been interested in astronomy?
Do you have optical equipment?
Are you afraid of the dark? Yes No (just kidding)
I am submitted my application for:
Adult Membership(s) Youth Membership(s)
\$20/year each \$15/year each
(18 yrs. and up) (17 yrs. and under)
I enclose a check for \$ made out to:
Mike Veith, Treasurer, RBAC
Signature
Date

Mail to: River Bend Astronomy Club
c/o Mike Veith, 1121 St. Louis St., Edwardsville, IL 62025.

Excellent Time at Tamalco

By Jeff Menz and Joe Lopinot

Several RBAC club members had an "excellent time" at Tamalco Boat Ramp at Carlyle Lake on August 7, 2010. Read on for their reports.

Ten club members and guests enjoyed one of the better stargazing nights in the history of the club last night! Exaggeration? Not one person left the site before Midnight and the site was not completely vacated until after 1am. When was the last time that happened? Thanks, Joe. The site you found is wonderful! Numerous Perseid meteors (including a number with smoke trails), a Milky Way you could reach out and grab, and a naked-eye Andromeda Galaxy provided us with stories we will talk about for some time. The mutant cow/coyote and the drunken boat retrievers rounded out the excitement. I hope we have an opportunity to get back there soon.

Jeff Menz

I knew there had to be some primo sights around Carlyle, so I cruised it one Sunday afternoon and lucked upon Tamalco. What a great evening! The old favorites never looked so good, and saw some sights I had not witnessed before, not all of them celestial. Yes, let's make it a routine spot....thanks everyone.

Joe Lopinot

The club will meet there again on September 4, 2010, weather permitting. Here are the directions to the site. You can also find these directions in the RBAC Yahoo! Group Files - Maps section.

DIRECTIONS TO TAMALCO BOAT RAMP

FROM ST. LOUIS: Take 1-55/70, then I-70 East to IL 127, Exit 45 (Greenville); head south on IL 127

FROM HIGHLAND: Take IL 143 north out of town; turn east on IL 143 through Pierron to IL

127 (14.2 miles on IL 143 to IL 127); turn right (south) on IL 127

FROM SOUTH (CARLYLE): Take IL 127 north

You are looking for Tamalco Road, look for the sign for the Tamalco Boat Ramp. If you are coming from St. Louis or Highland, traveling south on IL 127, Tamalco Road is the first left after the 143/127 intersection, about 1/3 of a mile past 143, on the left

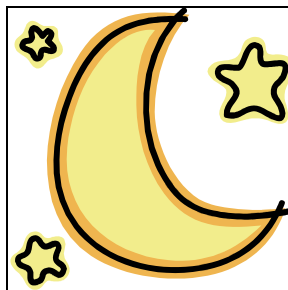
If you are coming from Carlyle, the road will be 1/3 of a mile before 143, on the right (makes sense, eh?). I think it is about 10 miles on 127 from Carlyle to the IL 143 intersection. Once you turn on Tamalco Road you will stay on it for 5 to 6 miles and run right into the ramp. There will be a 90 degree left after about a mile, then in about 1/4 of a mile there is a T in the road; make a right and stay on Tamalco Road. You will continue on, go through the town of Tamalco, over the railroad tracks, then about another mile to a stop sign at Mulberry Grove Road.

Go straight across Mulberry Grove Road to stay on Tamalco, there is another sign for the boat ramp there. There will be a cemetery on the left, then the entrance for the shooting club on the left, then the road winds about 1/4 of a mile through a wooded area. You will see a sign for the boat ramp straight ahead, turn right into the parking lot.

Park right in the middle of the lot to get max clearance on all sides. We could circle the cars there in the middle to protect ourselves from any wayward teenagers that don't turn off their lights!

Joe Lopinot

RBAC



Fall Astronomy Day Planned at Edwardsville Children's Museum

By Bill Breeden



Mark your calendar for **Saturday, October 2** for Astronomy Day at the Edwardsville Children's Museum. We will arrive at noon to set up equipment and Night Sky Network kit tables. The event runs from 1:00 PM to 4:00 PM.

The museum is located at 722 Holyoake Road, Edwardsville, IL 62026. Telephone number is 618-692-2094. The event costs \$4 per person. There is no cost for club members volunteering to run the program.

The Moon will be at Last Quarter so it will not be visible for the event. We will set up telescopes for show-and-tell and solar observing. If you have a solar filter, remember to bring it! Attach it securely to the front aperture of your telescope for this event. Instruct children and parents that observing the sun is dangerous and to consult a qualified amateur astronomer before attempting it!



The Edwardsville Children's Museum.

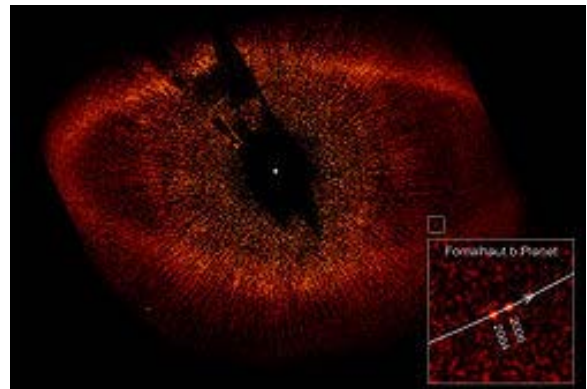
Terry Menz will also set up several of the Night Sky Network kits for kids and parents to enjoy. If you have never visited Terry at one of the tables, be sure to do so. I guarantee you will learn something about our universe! **RBAC**

Fomalhaut Shines in the South

By Bill Breeden

In the fall, especially in October, you need only to look southward to see mostly empty sky, devoid of bright stars. Devoid that is, with one exception: Fomalhaut. This lonely star of the autumn southward skies shines at magnitude 1.1, and dominates a large area of otherwise empty skies.

I have always been fascinated by this star, and now even more so since it hosts the first extra-solar planet observed at visible wavelengths.



Debris ring around Fomalhaut showing location of planet Fomalhaut b. Photo by NASA.

With a right ascension of just under 23 hours, Fomalhaut transits (reaches its highest point in the sky) around 10PM during October. Be sure to point your telescope at Fomalhaut this fall. You won't see the planet Fomalhaut b, but enjoy the view of the star and ponder the fact that there is a planet orbiting it.

Fomalhaut is also known as Alpha Piscis Austrini, and is the brightest star in the constellation Piscis Austrinus. Note that Fomalhaut will not appear in the sky until Antares (in Scorpius) sets. Fomalhaut (Fomalhaut) derives from scientific Arabic and means "mouth of the fish or whale." Fomalhaut is also known as the "Lonely One" or "Solitary One" because of its location in an otherwise empty part of the sky. ! **RBAC**



The Turbulent Tale of a Tiny Galaxy

by Trudy Bell and Dr. Tony Phillips

Next time you hike in the woods, pause at a babbling stream. Watch carefully how the water flows around rocks. After piling up in curved waves on the upstream side, like the bow wave in front of a motorboat, the water speeds around the rock, spilling into a riotous, turbulent wake downstream. Lightweight leaves or grass blades can get trapped in the wake, swirling round and round in little eddy currents that collect debris.

Astronomers have found something similar happening in the turbulent wake of a tiny galaxy that is plunging into a cluster of 1,500 galaxies in the constellation Virgo. In this case, however, instead of collecting grass and leaves, eddy currents in the little galaxy's tail seem to be gathering gaseous material to make new stars.

"It's a fascinating case of turbulence [rather than gravity] trapping the gas, allowing it to become dense enough to form stars," says Janice A. Hester of the California Institute of Technology in Pasadena.

The tell-tale galaxy, designated IC 3418, is only a hundredth the size of the Milky Way and hardly stands out in visible light images of the busy Virgo Cluster. Astronomers realized it was interesting, however, when they looked at it using NASA's Galaxy Evolution Explorer satellite. "Ultraviolet images from the Galaxy Evolution Explorer revealed a long tail filled with clusters of massive, young stars," explains Hester.

Galaxies with spectacular tails have been seen before. Usually they are behemoths—large spiral galaxies colliding with one another in the crowded environment of a busy cluster. Tidal forces during the collision pull gas and stars of all ages out of these massive galaxies to form long tails. But in IC 3418, the tail has just young stars. No old stars.

"The lack of older stars was one tip-off that IC 3418's tail isn't tidal," says Hester. "Something else must be responsible for these stars"

Hester and eight coauthors published their findings in the June 10, 2010, issue of *The Astrophysical Journal Letters*. The team described the following scenario: IC 3418 is speeding toward the center of the Virgo cluster at 1,000 kilometers per second. The space between cluster galaxies is not empty; it is filled with a gaseous atmosphere of diffuse, hot hydrogen. Thus, like a bicyclist coasting downhill feels wind even on a calm day, IC 3418 experiences "a stiff wind" that sweeps interstellar gas right out of the little galaxy, said Hester—gas that trails far behind its galaxy in a choppy, twisting wake akin to the wake downstream of the rock in the babbling brook. Eddy currents swirling in the turbulent wake trap the gas, allowing it to become dense enough to form stars.

"Astronomers have long debated the importance of gravity vs. turbulence in star formation," Hester noted. "In IC 3418's tail, it's ALL turbulence."

To many astronomers, that's a surprising tale indeed.

See other surprising UV images from the Galaxy Evolution Explorer at <http://www.galex.caltech.edu>. Kids (and grownups) can play the challenging new Photon Pileup game at <http://spaceplace.nasa.gov/en/kids/galex/photons/>



In the ultraviolet image on the left, from the Galaxy Evolution Explorer, galaxy IC 3418 leaves a turbulent star forming region in its wake. In the visible light image on the right (from the Sloan Digital Sky Survey), the wake with its new stars is not apparent.

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

Looked Up Lately?



Enjoy these ready-made observing lists for September and October. These lists include brighter deep-sky objects that transit around 10:00 PM each month.

September Observing List

Prepared by Bill Breeden

Double Stars

- _____ 31 Cygni SAO 49337 Const. CYG Type DS RA 20 13.6 Decl. +46° 44' Mag. 3.8 6.7 4.8
- _____ 61 Cygni SAO 70919 Const. CYG Type DS RA 21 06.9 Decl. +38° 45' Mag. 5.2 6.0
- _____ Alpha Capricorni SAO 163422 Al Giedi Const. CAP Type DS RA 20 18.1 Decl. -12° 33' Mag. 3.6 4.2
- _____ Beta Capricorni SAO 163481 Dabih Const. CAP Type DS RA 20 21.0 Decl. -14° 47' Mag. 3.4 6.2
- _____ Beta Cephei SAO 10057 Alfirk Const. CEP Type DS RA 21 28.7 Decl. +70° 34' Mag. 3.2 7.9
- _____ Epsilon Pegasi SAO 127029 Enif Const. PEG Type DS RA 21 44.2 Decl. +09° 52' Mag. 2.4 8.4
- _____ Gamma Delphini SAO 106475 Const. DEL Type DS RA 20 46.7 Decl. +16° 07' Mag. 4.5 5.5
- _____ Struve 2816 SAO 33626 - Const. Type DS RA 21 39.0 Decl. +57° 29' Mag. 5.6 7.7 7.8

Messier Objects

- _____ M2 NGC7089 Const. AQR Type GC RA 21 33.5 Decl. -00 49 Mag. 6.3
- _____ M15 NGC7078 Const. PEG Type GC RA 21 30.0 Decl. +12 10 Mag. 6
- _____ M29 NGC6913 Const. CYG Type OC RA 20 23.9 Decl. +38 32 Mag. 7.1
- _____ M30 NGC7099 Const. CAP Type GC RA 21 40.4 Decl. -23 11 Mag. 8.4
- _____ M39 NGC7092 Const. CYG Type OC RA 21 32.2 Decl. +48 26 Mag. 5.2
- _____ M72 NGC6981 Const. AQR Type GC RA 20 53.5 Decl. -12 32 Mag. 9.8
- _____ M73 NGC6994 Const. AQR Type A RA 20 58.9 Decl. -12 38 Mag. 9
- _____ M75 NGC6864 Const. SGR Type GC RA 20 06.1 Decl. -21 55 Mag. 8

Caldwell Objects

- _____ C004 NGC7023 Const. CEP Type BN RA 21 01 48.00 Decl. +68 12 00.0 Mag. 6.8
- _____ C012 NGC6946 Const. CEP Type SG RA 20 34 48.00 Decl. +60 09 00.0 Mag. 9.7
- _____ C019 IC5146 Cocoon Nebula Const. CYG Type BN RA 21 53 30.00 Decl. +47 16 00.0 Mag. 10
- _____ C020 NGC7000 North America Nebula Const. CYG Type BN RA 20 58 48.00 Decl. +44 20 00.0 Mag. 6
- _____ C027 NGC6888 Crescent Nebula Const. CYG Type BN RA 20 12 00.00 Decl. +38 21 00.0 Mag. 7.5
- _____ C033 NGC6992/5 East Veil Nebula Const. CYG Type SN RA 20 56 24.00 Decl. +31 43 00.0 Mag.
- _____ C034 NGC6960 West Veil Nebula Const. CYG Type SN RA 20 45 42.00 Decl. +30 43 00.0 Mag.
- _____ C037 NGC6885 Const. VUL Type OC RA 20 12 00.00 Decl. +26 29 00.0 Mag. 5.7
- _____ C042 NGC7006 Const. DEL Type GC RA 21 01 30.00 Decl. +16 11 00.0 Mag. 10.6
- _____ C047 NGC6934 Const. DEL Type GC RA 20 34 12.00 Decl. +07 24 00.0 Mag. 8.9
- _____ C055 NGC7009 Saturn Nebula Const. AQR Type PN RA 21 04 12.00 Decl. -11 22 00.0 Mag. 8.3

Royal Astronomical Society of Canada Objects

- _____ RASC1 NGC7009 Saturn Nebula Const. AQR Type PN RA 21 04.2 Decl. -11 02 Mag. 8.3
- _____ RASC98 NGC6888 Const. CYG Type SNR? RA 20 12.0 Decl. +38 21 Mag.
- _____ RASC99a NGC6960 West Veil Nebula Const. CYG Type SNR RA 20 45.7 Decl. +30 43 Mag.
- _____ RASC99b NGC6992/5 East Veil Nebula Const. CYG Type SNR RA 20 56.4 Decl. +31 43 Mag.
- _____ RASC100 NGC7000 North America Nebula Const. CYG Type EN RA 20 58.8 Decl. +44 20 Mag. 6
- _____ RASC101 NGC7027 Const. CYG Type PN? RA 21 07.1 Decl. +42 14 Mag. 10.4
- _____ RASC106 NGC6940 Const. VUL Type OC RA 20 34.6 Decl. +28 18 Mag. 6.3
- _____ RASC107 NGC6939 Const. CEP Type OC RA 20 31.4 Decl. +60 38 Mag. 7.8
- _____ RASC108 NGC6946 Const. CEP Type G-Sc RA 20 34.8 Decl. +60 09 Mag. 8.9
- _____ RASC109 NGC7129 Const. CEP Type RN RA 21 44.4 Decl. +66 10 Mag.



October Observing List

Prepared by Bill Breeden

Double Stars

- _____ Xi Cephei SAO 19827 Kurhah Const. CEP Type DS RA 22 03.8 Decl. +64° 38' Mag. 4.4 6.5
- _____ 8 Lacertae SAO 72509 - Const. LAC Type DS RA 22 35.9 Decl. +39° 38' Mag. 5.7 6.5
- _____ 94 Aquarii SAO 165625 - Const. AQR Type DS RA 23 19.1 Decl. -13° 28' Mag. 5.3 7.3
- _____ Delta Cephei SAO 34508 - Const. CEP Type DS RA 22 29.2 Decl. +58° 25' Mag. 3.9 6.3
- _____ Zeta Aquarii SAO 146107 - Const. AQR Type DS RA 22 28.8 Decl. -00° 01' Mag. 4.3 4.5

Caldwell Objects

- _____ C009 Sh2-155 Cave Nebula Const. CEP Type BN RA 22 56 48.00 Decl. +62 37 00.0 Mag. 7.7
- _____ C011 NGC7635 Bubble Nebula Const. CAS Type BN RA 23 20 42.00 Decl. +61 12 00.0 Mag. 7
- _____ C016 NGC7243 Const. LAC Type OC RA 22 15 18.00 Decl. +49 53 00.0 Mag. 6.4
- _____ C022 NGC7662 Const. AND Type PN RA 23 25 54.00 Decl. +42 33 00.0 Mag. 9.2
- _____ C030 NGC7331 Const. PEG Type SG RA 22 37 06.00 Decl. +34 25 00.0 Mag. 9.5
- _____ C044 NGC7479 Const. PEG Type SG RA 23 04 54.00 Decl. +12 19 00.0 Mag. 11
- _____ C063 NGC7293 Helix Nebula Const. AQR Type PN RA 22 29 36.00 Decl. -20 48 00.0 Mag. 6.5

Messier Objects

- _____ M52 NGC7654 Const. CAS Type OC RA 23 24.2 Decl. +61 35 Mag. 7.3

Royal Astronomical Society of Canada Objects

- _____ RASC2 NGC7293 Const. AQR Type PN RA 22 29.6 Decl. -20 48 Mag. 6.5
- _____ RASC3 NGC7331 Const. PEG Type G-Sb RA 22 37.1 Decl. +34 25 Mag. 9.5
- _____ RASC4 NGC7635 Const. CAS Type EN RA 23 20.7 Decl. +61 12 Mag. -
- _____ RASC5 NGC7789 Const. CAS Type OC RA 23 57.0 Decl. +56 44 Mag. 6.7
- _____ RASC11 NGC7662 Blue Snowball Const. AND Type PN RA 23 25.9 Decl. +42 33 Mag. 9.2

