

THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT
RIVER ASTRONOMY CLUB

An Affiliate of the
Astronomical League

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Please notify **Bill Warren** if you have a
change of home address, telephone no. or e-
mail address.

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Club Calendar. Fri.-Sat., Mar. 8-9:
JKWMA observings (at dark); **Thurs.,
Mar. 14:** FRAC meeting (7:30 p.m., Flynt
Bldg. Rm. 305, UGa-Griffin campus);
Thurs., Mar. 21: K. B. Sutton Elem.
School observing (Forsyth, Ga., 6:30 p.m.
DST); **Fri., Mar. 22:** UGa-Griffin lunar
observing (7-10 p.m., lawn in front of the
Flynt Bldg.); **Sat., Mar. 23:** Girl scout
observing (Camp Pine Valley, Meansville,
Ga., time TBA); **Sat., Mar. 30:** Bluebirds
& Bluegrass Festival (9 a.m.-4 p.m., Dauset
Trails Wildlife Center, Flovilla, Ga.).

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President's Message. First, on behalf of all
of the officers and board members I want to
thank you for your support at the Feb.
election meeting. We'll work hard to justify
your faith in us.

I hope you've paid your 2013 dues or
will do so in the near future, because we
think this will be a great year for astronomy
and FRAC! Beyond the hoped-for brilliance
of **Comets PAN-STARRS** this month and
ISON in November, ALCON (the A. L.'s
annual convention) will be held in Atlanta
on July 24th-27th. And there's a chance that
we could participate in an exciting new on-
line speaker program featuring some of
astronomy's leading figures actually
addressing us live at our club meetings.

Anyway, I hope you'll be able to attend
at least one of our JKWMA observings on
March 8th-9th, so we can see for ourselves
what a great comet looks like!

-Dwight Harness

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Last Month's Meeting/Activities. Five
FRACsters – **Steve & Betty Bentley**,
Dwight Harness, **Aaron Calhoun** and yr.
editor – spent the evening of Feb. 1st
showing the sky to about 250 students,
parents and teachers at Banks Stephens

Middle School in Forsyth, Ga. The kids were polite and well-behaved, and we had as much fun as they did.

Cloudy skies cancelled three of our Feb. observings – but not even sub-freezing temps could keep four FRACsters – **Aaron Calhoun, Andy Hasluem, Erik Erikson** and **yr. truly** – from frolicking to their heart’s delight under skies that were unbelievably clear even by JKWMA’s lofty standards on that other night.

Between 200-250 Civil Air Patrol students, parents and Griffinites kept FRACsters **Joe Auriemma; Mike Stuart** & his granddaughter, **Taylor Pilgrim; Dwight & Laura Harness; Aaron Calhoun;** and **yr. editor** busy for three hours on the evening of Feb. 9th, showing a large variety of celestial delights to an enthusiastic crowd at Griffin Airport.

Fourteen members – **Betty & Steve Bentley, Dr. Richard Schmude, Tom Moore, Mike Stuart, Joe Auriemma, Andy Hasluem, Laura & Dwight Harness, Charles “Prince of Darkness” Turner, Jessie Dasher, Larry Higgins, Steven “Saratoga Smitty” Smith** and **yr. editor** – attended our Feb. club meeting/officer election/birthday party on the 15th. Your 2013 officers will be:

President: Dwight Harness
Vice President: Bill Warren
Secretary: Carlos Flores
Treasurer: Roger Brackett
Board of Directors: Larry Higgins,
Jessie Dasher and Mike Stuart.

Betty Bentley prepared sausage balls and two cakes for the party. We gorged ourselves unmercifully, all the while marveling that Steve can’t understand why he can’t lose weight no matter how much he exercises.

On Feb. 19th, **Steve & Betty Bentley** and **Dwight Harness** conducted an observing at T. G. Scott Elem. School in Forsyth, Ga. for 50-60 students, parents and teachers. The

sky was crystal clear even if Steve’s vision wasn’t. (He still has another cataract surgery ahead.) Steve showed them **Jupiter**, Dwight showed them **M42 (Orion Nebula)**, and Betty “**Mooned**” them.

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Behold how the evening now steals over the fields, the shadows of the trees creeping farther and farther into the meadow, and ere long the stars will come to bathe in these retired waters.

-Henry David Thoreau, writing in his journal at Walden Pond, 1849

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This ‘n That. From **Kelley Butler**, Parent Involvement Coordinator for Monroe Co. middle schools, regarding our recent observing at Banks Stephens Middle School:

“WOW! Last night (Feb. 1st) surpassed anything I could have imagined. Thank you so much for coming and making it such a special evening.

“This was our 4th annual Science Night, and it really all started with you being willing to come and share your knowledge with our students. I even entitled the event with you in mind: “Dessert Under the Stars”!

“I have heard so many positive comments from teachers, parents and students. It is people like you, willing to share their knowledge, who help to enrich the lives of others.”

That “WOW!” factor explains why so many FRACsters enjoy doing public outreach activities. If – as is true for most of the people we show the sky to, adults and children alike – if they have never seen the universe through a telescope, it *does* surpass anything they could have imagined, as Mrs. Butler stated.

We aren’t the “stars” of the show at public observings; the stars themselves are

the show. Our task – and our joy – is teaching people, one viewer at a time, to understand and appreciate what they are seeing in our telescopes.

*Regarding your club dues: As of Feb. 16th, sixteen FRAC members had paid their 2013 dues. You can give your \$15 check or cash to **Bill Warren** or **Roger Brackett** at our March meeting or observings; or you can mail it to Bill at 1212 Everee Inn Road, Griffin, GA 30224, or to Roger at P. O. Box 411, Warm Springs, GA 31830. Make your check payable to FRAC, not to Bill or Roger.

***Joe Auriemma** qualified for his Outreach Award observing certificate and pin at our recent CAP observing. When Joe will actually receive his awards is anybody's guess, since that program is at least eight months behind in sending them out.

Other FRACsters slated to receive their certificates and/or pins include: **Aaron Calhoun**, Outreach Award; **Charles Turner**, Stellar Outreach certificate; and **Steve Bentley**, **Betty Bentley** and **Larry Higgins**, Master Outreach pins. **Laura Harness** is four hours away from earning her Stellar Outreach certificate.

***Our Unbelievable Universe.** The British geneticist/evolutionary biologist **J. B. S. Haldane** once said, "The universe is not only queerer than we suppose, but queerer than we can suppose." As evidence of that fact, in the Mar. '13 issue of *Sky & Telescope* (pp. 19-24) **Bryan Gaensler** describes some celestial record-setters in his article, "Cosmic Extremes." Here are a few of the examples he cites:

-The fastest spinning star is a **neutron star** in *Sagittarius* that rotates *716 times per second!* (A neutron star is what's left of a massive star that has exploded as a supernova.)

To put that star's incredible rotation speed into perspective, it takes 24 hrs. for the Earth to rotate once on its axis, and a highly skilled figure skater can spin twice in one second. But this is a *star*, not a planet or an ice skater!

-The fastest-moving star, a **pulsar** in *Cepheus*, is hurtling through space at a speed of 3.6 million mph. Wherever it's going, it's in a hurry to get there. (A pulsar is a neutron star that emits regular bursts of radiation.)

By way of comparison with that fast-moving pulsar, our **Sun** is inching around the Milky Way at a snail-like pace of 483,000 mph.

-Light travels at a speed of 186,000 miles per second. Everything else in the known universe travels slower than that. But in 1991 a cosmic ray – trillions of them bombard the Earth every second – was timed at 99.9²⁷ % of the speed of light. That's even faster than the rate at which we devoured **Betty Bentley's** carrot cake at our Feb. meeting.

-The coldest known place in the universe is in the **Boomerang**, or **Bow Tie**, **Nebula** in *Centaurus*, where the temperature is -457.8° F, or just 1.87 degrees above absolute zero (i.e., -459.67°). Absolute zero is the temperature at which all motion ceases. Even **Ken Walburn** moves faster than that. Barely.

The coldest known place in the solar system is, surprisingly enough, located on the **Moon**. NASA's Lunar Reconnaissance Orbiter has found areas in craterlets-within-craters near the lunar south pole which never see sunlight. LRO recorded temps of -379° F in the craters **Faustini**, **Shoemaker** and **Haworth**.

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Upcoming Meetings/Activities. Our JKWMA observings will be held on **Fri.-Sat., Mar. 8th-9th**.

Our club meeting will be at 7:30 p.m. on **Thurs., Mar. 14th** in Room 305 of the Flynt Bldg. on the UGa-Griffin campus. Our speaker, **Dr. Richard Schmude**, will discuss “Recent Changes in **Jupiter’s** Great Red Spot.”

On **Thurs., Mar. 21st**, we’ll conduct an observing at K. B. Sutton Elem. School in Forsyth. The early starting time – 6 p.m. DST – will limit what we can show them, but they don’t seem to be worried about it. We’ll send out directions prior to the event.

We’ll hold our monthly UGa-Griffin lunar observing on the lawn in front of the Flynt Bldg. from 7-10 p.m. on **Fri., Mar. 22nd**.

On the following evening, **Sat., Mar. 23rd**, we’ll conduct an observing for 5th-grade girl scouts at Camp Pine Valley near Meansville, Ga. The starting time is yet to be arranged.

To get to Camp Pine Valley from Griffin, start out at the 4-lane U. S. Hwy. 19/41 Bypass at Williamson Rd./Ga. Hwy. 362 and:

1. Go 2.4 mi. south on the 4-lane. Turn right and follow U. S. 19 South where it turns west at the BP-Ingles-McDonald’s stoplight.

2. Stay on U. S. 19S for 11.3 mi. from that stoplight, through and beyond Zebulon, and turn left at Ga. Hwy. 109.

3. Follow Ga. 109 through and beyond Meansville, Ga. for 3.1 mi. and turn right at unpaved Camp Pine Valley Road. (It’s just beyond a large white house on the left and a white structure opposite it on the right.)

4. Go 1.1 mi. on Camp Pine Valley Rd. and turn left at the camp’s gated entrance.

5. Follow the road past a couple of buildings – one of them is the dining hall – go past the lake and you’ll see us set up on the other side.

On **Sat., Mar. 30th**, FRAC will host a booth at the Bluebirds & Bluegrass Festival at Dauset Trails Wildlife Center near

Flowilla, Ga. From 9 a.m.-4 p.m., we’ll show visitors filtered views of the **Sun** and talk with them about astronomy and FRAC. C’mon out and join us – admission is free, and there’s good food, good music and good times to be had by all.

To get to Dauset Trails from, say, Hampton, come south on I-75 to Exit 205 (Ga. Hwy. 16). Turn left (east) toward Jackson on Hwy. 16, and after 3.9 mi. turn right on High Falls Road. Go 5.9 mi. on High Falls Rd., and turn left at Mt. Carmel Church Road. Dauset Trails will be 3.1 mi. ahead on the left. Admissions workers will tell you where we’re set up.

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Perhaps the immense Milky Way which on clear nights we behold stretching across the heavens, this vast encircling ring in which our planetary system is itself but a molecule, is in turn but a cell in the Universe, in the Body of God.

-Miguel de Unamuno

Tragic Sense of Life (1913)

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PEARLS BEFORE SWINE:

A Rather Unusual FRAC Interview

*The world-renowned astronomer **Prof. Theophilus Stargazer** hails from the tiny farming community of Slimy River Bottom, Ark. (pop. 32, give or take a couple of goats).*

*Instead of interviewing the professor for this month’s Observer, FRAC’s new officers decided that, for an exciting change of pace, they would interview Slimy River Bottom’s **other** world-renowned astronomer.*

*Ladies and gentlemen, it gives us great pleasure to introduce you to **Wanda, the Tap Dancing Pig!***

*Wanda's claim to fame is tapping out star names and answers to astronomy questions in Morse code. She is in fact very good at it, if you overlook her frequent misspellings. (Hey, let's see you tap-dance the star **Zubeneschamali** in Morse code!)*

For interview purposes, yr. editor corrected Wanda's misspellings.

Bill Warren: As newsletter editor, Wanda, I've gotta say: you don't spell very good.

Wanda (sniffing): Hey, you're not exactly bathed in Chanel No. 5 yourself, big boy!

Bill: I said *spell*, not – Oh, never mind. Here's my question: Are you a professional astronomer?

Wanda: Yep. That's how I bring home the bacon.

Carlos Flores: You and Prof. Stargazer come from the same little town in Arkansas; do you know him?

Wanda: Theo Stargazer? Yeah, I know him. What a dimwit! He was once engaged to my cousin **Petunia**. Lemme tell ya, what Theo knows about astronomy would fill a thousand-page book – with blank pages!

Roger Brackett: Prof. Stargazer says that telescopes allow us to look backward in time. So what I want to know is, *If Larry Higgins stands in front of my telescope, will I see what he used to look like?*

Wanda: Theo told me you asked him that question.

Roger: Not exactly. He said that it takes two million years for the light from **Andromeda Galaxy** to reach us. (That's where I got the idea of traveling through time and space.) So I asked him, "What if I was *there* instead of here? Would I be able to look *forward* in time and see what Larry will look like two million years from now?"

Wanda: And what was Theo's answer?

Roger: He said, "Forget two million years from now, I don't want to see what Larry will look like *tomorrow!*"

Jessie Dasher: Speaking of Andromeda Galaxy, Wanda, why is it spiral?

Wanda: It can't make up its mind which way to go. Or maybe it's looking for something.

Dwight Harness: And what might that be?

Wanda: I don't know... Maybe a barbecue sandwich? (I can't believe I just said that. It gives me shivers down to the tips of my pork tenderloins!)

Mike Stuart: Tell us about your educational background, Miss Piggy – I mean, Wanda.

Wanda: Actually, Mike, I'm a razorback hog, not a pig. In my day, I was a corker of a porker.

Anyway, I attended Doublestar University of Massive Binaries and Associated Star Systems. I played in the school band. At football games we'd form the school's initials. Our football teams were so bad that our fight song was "Send In the Clowns."

I wanted to try out for the team, until I found out that the football was my Uncle Ned.

I have time for one more question. It's slop time back at the farm, and some of the guys in my sty are real hogs!

Larry Higgins: Is the universe infinite, Wanda, or is there an end to it?

Wanda: I was beginning to wonder the same thing about this interview.

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Above: Horseshoe Nebula (Barnard 33) in *Orion*. Unseen visually except via an H-beta filter – and even then it’s a challenge using averted vision on an exceedingly dark, clear evening – Horseshoe Nebula is nevertheless a favorite target of astrophotographers. Even a casual glance at **Alan Pryor’s** color photo (above) and **Felix Luciano’s** b&w photo (upper right-hand corner) will show you why this is so.

The Horsehead is a dark nebula that, silhouetted against the edge of **IC 434**, a slender ribbon of nebulosity extending south from **Zeta Orionis (Alnitak)**, forms the uncanny shape of a horse’s head.

Above Right: NGC 2024 (Flame Nebula), an emission nebula in *Orion*, is located near the Horsehead Nebula and immediately east of Alnitak. About the size of the Full Moon, Flame Nebula is relatively easy to see visually but difficult to explore in detail due to its proximity to mag. 2 Alnitak. The best way to see it is to use an O-III or narrowband nebula filter and move Alnitak out of the field of view. The dust lane shown in Alan’s photo can be seen visually, but not nearly as clearly as, say, the dust lanes in **M8 (Lagoon Nebula)** or **M20 (Trifid Nebula)** in *Sagittarius*.



Below: NGC 281 (Pac-Man Nebula) in *Cassiopeia*. Both an open cluster and an emission nebula, Pac-Man Nebula’s nickname derives from its resemblance to the arcade game character.

Visually, the loose little open cluster contains less than a dozen bright stars superimposed on the larger nebulosity. The Pac-Man figure is best seen with an O-III or nebula filter.



Incidentally, **Alan Pryor’s** astrophoto is far superior to the photo of the nebula in **Kepple & Sanner’s *Night Sky Observer’s Guide, Vol. I*** (p. 117).