

THE FLINT RIVER OBSERVER

Newsletter of the FLINT RIVER
ASTRONOMY CLUB
(an affiliate of the Astronomical League)

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Officers: President, **Bill Warren**: (770)229-6108,
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Board of Directors: **Tom Moore**; **Tom Danei**; **Felix Luciano**; and **Charles Anstey**.

AlCor/Webmaster, **Tom Moore**; Ga. Sky View/Astronomy Day Coordinator, **Steve Knight**; Observing Chairman/Public Observing Coordinator, **Bill Warren**; Program Co-Chairmen, **Larry Higgins** and **Bill Warren**; NASA Contact, **Felix Luciano**; Event Photographer, **Tom Danei**; and Newsletter Editor, **Bill Warren**.

Club mailing address: 1212 Everee Inn Road, Griffin, GA 30224. Web page: www.flintriverastronomy.org; discussion group at FRAC@yahoogroups.com.

Please notify **Bill Warren** if you have a change of home address, e-mail address or telephone number.

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Club Calendar. Fri.-Sat., Nov. 28-29: Cox Field observings (at dark); Fri., Dec. 5: Christmas dinner party (6:30, Ryan's in Griffin); Fri.-Sat., Dec. 26-27: Cox Field observings (at dark).

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President's Message. During our Wetumpka visit, our host and guide, Auburn geology professor **David T. King**, tossed out a casual remark that some of our members pounced on like a fat wallet lying on the

sidewalk: "You're aware, aren't you, that there's a meteor crater in Georgia that's as large or larger than the Wetumpka crater?" **Richard Schmude** and **Larry Higgins** already knew about it, but the rest of us quickly asked where it was located.

"It's near Woodbury," Dr. King said, and several pairs of FRAC eyes widened considerably. Hey, folks, Woodbury is practically within spitting distance of Cox Field – actually, it's no more than 10 mi. as the crow flies, and easily within reach of an exploratory tour by FRAC.

Dr. King, ever the scientist, cautioned us that, like pre-1998 Wetumpka, technically the Woodbury crater hasn't been proven to be of meteoric origin. Like Richard, Dr. King has visited the site, but neither of them found *shatter cones*, which are formed from sandstone when intense shock waves move through the earth's subsurface in meteorite impacts or thermonuclear blasts.

So now FRAC has a new project: to explore the area – known locally as "The Cove" – in search of shatter cones. We'll probably visit the site in Feb. or March, since at other times hunters prowl the area during deer season. **Dwight Harness** will coordinate the project, including setting a date for our visit and getting permissions from property owners for us to visit the site.

Before then, we need to learn more about shatter cones – what to look for, where they might likely be found in the crater, etc. – and the logical person to help us in that regard would be Richard, who will speak on "The Cove" at our Jan. meeting.

After studying topographical maps of the area and photographic images from space, Dwight says The Cove is as recognizable from space as Wetumpka is from the ground.

Seen from 7 mi. away on the ground, Wetumpka Crater resembles a small mountain range rising suddenly out of otherwise perfectly flat terrain in all directions as far as the eye can see. With The Cove, however, the land, lying as it does at the base of the Pine Mtns., is hilly except when viewed from space. It won't be hard to find, or to reach, though; the problem will be deciding where to look for shatter cones in an area that's upwards of 5 mi. in diameter.

As Dr. King pointed out, we'll be searching for needles in a very large haystack.

Anyway, if you're interested in participating in our research project, you can start by Googling "shatter cones" and see what they're all about. An article by geologist **Mark Jirsa** in the Dec. '08 issue of *Astronomy* (pp. 32-37), about an impact that occurred 1.85 billion years ago in Ontario, Canada, has a photo of a shatter cone and information on shocked quartz. The article is well worth reading.

The bottom line: if we're lucky enough to find shatter cones at The Cove, FRAC will have significantly advanced geological science by proving the meteoritic origin of The Cove. And wouldn't that be a lovely feather in FRAC's cap?

-Bill Warren

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Last Month's Meeting/Activities. Our patience during recent months of cloudy skies was rewarded on Oct. 31st-Nov. 1st with two splendid observing evenings at Cox Field.

We had ten members and a guest – **Tom Moore, Mike Stuart, Alan & Vicky Pryor, Dwight & Laura Harness, Kevin Murdock, Patsy Lwowski, visitor Doug Head and yr. editor** – at our Halloween observing. The next evening, eleven members – **Alan & Sally Bolton, Tom Moore, Charles Turner, Steve & Betty Bentley, Carlos Flores, Larry Higgins, Felix Luciano** and **yr. editor** enjoyed a special appearance by **Phil Sacco**, who took us on a celestial tour of familiar and arcane constellations on his "Howl-een Fun" observing list on Nov. 1st.

Weekend highlights included: Mike and yr. editor tracking down five of the 9 constellations and seven of the 13 deep-sky objects on Phil's list (some were below the horizon at darkfall, others came up too late to be seen); showing the "**Flyswatter**" asterism to whoever hadn't seen it, both nights; Tom showing color photos of the deep-sky objects on the Howl-een list; Felix doing an incredible astrophoto of **M27 (Dumbbell Nebula)** that included 12-15 stars seen through the nebulosity; and Phil showing us **Otto Struve 254** in *Cassiopeia*, arguably the most vividly

colored double star in the sky: separated by 1 arc-minute, they include a mag. 7.6, deep orange carbon star and a mag. 8.7, vibrant blue supergiant. (Think: **Betelgeuse** and **Rigel**, closer together and without steroids.)

And because an integral part of our club's philosophy is *Friends helping friends*, we should point out that Tom spent 90 min. or more helping Patsy learn how to operate her Meade ETX GoTo system, and Steve B. took yr. editor's battery pack home Sat. nite to see why it wasn't working although fully charged.

We had 12 members at our Nov. meeting – **Joe Auriemma, Steve Knight, Curt & Irene Cole, Jessie Dasher** – it was great seeing you again, Jessie, and thanks for helping Charles with his electrical problem before the meeting – **Tom Danei, Carlos & Olga Flores** (whose heels were the fashion hit of the evening), **Ken Walburn, Charles Turner, Dr. Richard Schmude** and **yr. editor**. Steve used his power point projector to show some of his Wetumpka photos, and he and Dr. Schmude did a great job of leading us through a re-creation of the experience.

Steve also talked about GSV 2009, including presenting us with his long-sought-after opus, the 12-pp. *GSV Planning Guide*.

The same week, **yr. editor** conducted two constellation presentations for 80 2nd-Graders at Orrs Elementary School in Griffin.

With **Steve Bentley** a bit under the weather, **yr. editor** gave a solo presentation at the Fairburn Hobgood-Palmer Branch Public Library on Nov. 19th. Attendance was sparse but the attendees were enthusiastic and engaged.

Seven members – **Tom Moore, Charles Turner, Steve & Betty Bentley, Dwight Harness, Kevin Murdock** and **yr. editor** – showed a broad variety of night sky wonders to about 40 students from **Dr. Schmude's** Gordon College classes on Nov. 20th.

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"I saw the green flash, man. Right at sunset, out there all alone in my boat...People'd told me about the green flash, but I'd never seen it...I just figured,

heck, it's just a bunch of b.s. But I really saw it. Watched the sun go right down behind the Gulf, and the moment it disappeared, all red and orange – poof! – a bright green flash. Like a green flashbulb had gone off. I mean, it was bright!"

Randy Wayne White
The Heat Islands

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This'n That. Our thoughts , prayers and condolences are extended to **Dwight Harness** and his family with the passing of Dwight's mother, who suffered a heart attack and stroke just prior to our Nov. meeting.

*From **Joe Auriemma**: "My utmost thanks to everyone who helped put the Wetumpka Crater tour together. To me, the most impressive aspect was the height of the crater rim and the actual diameter of the crater itself. Sometimes pictures don't do justice to an actual thing, such as driving up the main highway when we first started to see the actual rim. We were driving behind **Bill** and **Larry**, and we could see their enthusiasm when they were sticking their hands out the car window and pointing out the rim to us. Even at that distance, you get the full impact of its great size.

"I really liked driving up the service road to the cell tower that was the actual rim of the crater, and how steep it was on both sides of the road. I wonder what the person who has the mini-Grand Canyon on his land must have thought when he first saw it.

"**Dwight** and I both live close to Woodbury, Ga., where there is believed to be another impact crater. I have a county grid map, and I found the area where the crater lies. I'll get out on my motorcycle Sat. and check out the area. I've driven over the rim before and didn't know what it was.

"Thanks again for arranging a wonderful trip."

*And from **Doug Maxwell**: "My grandson and I flew down to the Peach State Aerodrome for a Veteran's Day Fly-In. A wonderful time was had by all. There were many vintage military aircraft present,

and an impressive Veteran's Day program that included a 'missing man' formation of WWII aircraft.

"Who do you think performed 'Taps'? None other than FRAC's own **Tom Moore**. I had no idea that Tom was such an accomplished horn player. He performed flawlessly. I posted a photo of Tom with his horn at the celebration in the Photos group in a folder called Veterans Day.

"The talent of FRACsters never ceases to amaze me. We have another great horn player in the club, **Joe Auriemma**, who plays the trombone. Joe plays in our church praise team and I believe he was formerly a trombonist in the Marine band. God bless America, and God bless our veterans.

"The talent that is tucked away in FRAC never ceases to amaze me."

(*You got that right, Doug:* Besides Tom and Joe, **Larry Higgins** has played guitar and banjo and sung professionally; **Ken Walburn** is a highly talented artist; **Doug** himself is a pilot who spent 8 months restoring his 1943 Army L-2B airplane; and **Steve Bentley** is a highly accomplished marksman in gun club competition.)

***Steve Bentley's** calendar sales drive raised \$88.12 for the club, and he rounded it off to \$90 in the check he presented to FRAC. Thanks for your hard work and thoughtfulness, Steve. You are appreciated!

Thanks, too, to everyone who purchased one or more *Astronomy* calendars. In the months to come, you'll be thanking Steve for making them available to us; they're that good.

Next year we oughta produce our own calendar, with a "Gorgeous Gals of FRAC" theme. (Yeah, ladies, we could do a "Muscle Men of FRAC" calendar, too -- but do you really think the world is ready for photos of yr. editor, **Larry Higgins** or **Ken Walburn** in bikini briefs?)

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Upcoming Meetings/Activities. On Tues., Dec. 2nd, we'll stage a UGa-Griffin-sponsored, community-wide public observing at "The Garden," a UGa-Griffin facility. The observing will begin at dark, which will come earlier now that daylight savings

time is over. Since our UGa-Griffin eclipse observing last Feb. drew more than 100 visitors, a large crowd is expected.

The Garden is a huge, UGa-owned agricultural experiment facility. To reach the observing site from anywhere N of Griffin, come S. on U. S. Hwy. 19/41. Drive through the intersection where you'd turn left to go to a club meeting or right to go to Fayetteville on Ga. Hwy. 92. Stay on 19/41 through the next stoplight and drive past Ryan's on the right. After crossing over the RR tracks, take the Griffin exit. At the stoplight at the end of the short, S-Shaped road, turn right onto Ellis Road. About 100 yds. ahead you'll cross over a bridge, and another 100 yds. past the bridge you'll see a big stone wall on the right with "The University of Georgia – College of Agricultural & Environmental Sciences" on one side and "Research & Education Garden" on the other side, with a black gate between them. Turn right onto the asphalt road, pass through the gates, and the parking area will be straight ahead.

We had to change the date of our Christmas dinner meeting at Ryan's to 6:30 p.m. on **Fri., Dec. 5th**, due to scheduling difficulties. As usual, we'll forgo our regular meeting activities and concentrate on eating, socializing and winning door prizes. (We have 15 prizes to give out this year, with a 2-prizes-per-person limit, so your chances are pretty good of walking away with something nice besides the silverware and your spouse and children.)

Our only December Cox Field observing will be on **Fri.-Sat., Dec. 26th-27th**, with the new moon falling on the latter date.

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Tomlinson stopped..."What the heck's the green flash, anyway?"

"You've never heard of it?"

"Maybe I did. I can't be sure. It just sounds so neat. *Green flash...* I want to see it, man; I'm gonna start looking."

Ford said, "Don't get your hopes up. It has something to do with the distance sunlight travels at the earth's horizon...The distance bends and separates the light, makes the sun seem visible after it has

already sunk below the horizon. If conditions are right, the yellow of the sun mixes with the blue of the sea, and it's like a chemical reaction. Volatile. Like an explosion; a great flash of green. But the atmosphere has to be perfectly clear. I've seen it...once at sunrise, once at sunset, and that was years ago, before all the cars. With the monoxide fumes, you just don't see it."

"Nature's little litmus test – tells you when she's healthy by flashing you the green light. All systems go."

-Randy Wayne White
The Heat Islands

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The Sky in October. The **Moon** (mag. -12.7 when full), **Venus** (mag. -4.2), and **Jupiter** (mag. -2.0) are the three brightest objects in the night sky. You'll have no trouble finding them in the SW in early Dec.: on the 1st, they'll form a close, roughly isosceles triangle with Venus at the S apex.

Neptune (mag. 8.0) is up, too: on Dec. 26th – a Cox Field observing night – it will share a binocular field of view with Venus. And on the 27th – another Cox Field observing night – Neptune will be 1-1/2° NNW of Venus. *Astronomy* (Dec. '08, p. 50) tells where to find it in a binocular fov.

Uranus (mag. 6.0) can be found lying near 6th-mag. **96 Aquarii** in NE Aqr all month.

Saturn (mag. 1.1), with its ring system almost flat in our view now, rises around midnight.

Mercury (mag. -0.7) joins the planetary parade during the last week of Dec. On the 28th, it will lie about 3° S of Jupiter.

Since Mercury and Venus are nearer to the **Sun** than we are, they show Moon-like phases. What phases are Mercury and Venus in during December?

On Dec. 12th, the Moon will be larger in our view than at any time in the past 15 years.

Finally: Forget the **Geminid meteor shower** that peaks on Dec. 13-14: a gibbous waning (i.e., just-past-full) Moon will hide all but the brightest Geminid meteors.

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Prof. Stargazer Fires Back

(Editor's Note: From the Nov. '08 Observer's President's Message: "Nobody knows everything, except that pompous windbag, **Prof. Stargazer.**")

Prof. Stargazer: So I'm a know-it-all windbag, huh?

To quote **Rodney Dangerfield**, "I resemble that remark." I'd sue **Bill Warren** for slander, but as my momma used to say, "When you sue someone, you usually end up smelling like a suer."

Hey, is it my fault that I ask the questions that other geniuses are afraid to tackle? (Well – uh, actually, I guess it *is* my fault, but you know what I mean. Questions like:

*Sound, Part I: Since sound waves can't travel in the vacuum of space, how could **Neil Armstrong** talk to us from the **Moon**?

*Sound, Part II: Where do words go after we say them?

*Light, Part I: If nothing can be created or destroyed but merely changed, where does the light come from (and go to) when we switch a flashlight on and off?

*Sound, Part III: If sound can't travel through a vacuum, why does mine make so much noise?

*Light, Part II: If light doesn't possess mass, why do you gain weight when you drink that kind of beer?

*Sound, Part IV: Since there's no sound in space, shouldn't the event that scientists say formed the universe be called the Big Quiet?

*Can a supernova go supernova? (And if it did, what would you call it? A supernova²?)

*Since everything in the universe that contains mass, from galaxies to subatomic particles, is in

constant motion (except **Ken Walburn**), what's the difference between a rock and **Bill Warren**?

(Answer: The rock has a higher I. Q.)

Okay, so maybe I've been wrong a couple of times over the years:

*The **time-space continuum** *isn't* where the airlines sent your lost luggage;

*The **Black Hole of Calcutta** was a place in India in the late 1800s, not something that could devour galaxies;

***Muons** *aren't* subatomic particles that pass through cows;

*The **Van Allen radiation belt** *isn't* a car part or an article of astronauts' clothing; and

***Exoplanets** don't orbit stars in the constellation Tictactoe.

But was I right when I predicted the orbital plane between **Mars** and **Jupiter** where many Earth-bound meteors come from? You betcher asteroids!

So I'll keep on doing what I do best, and Bill Warren can do what *he* does best: wake up every morning wondering where those little piles of sawdust on his pillow came from.

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