THE

FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

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Officers: President, **Dwight Harness** (1770 Hollonville Rd., Brooks, Ga. 30205, 770-227-9321, rdharness@yahoo.com); Vice President, **Bill Warren (**1212 Everee Inn Rd., Griffin, Ga. 30224, warren7804@bellsouth.net); Secretary, **Carlos Flores**; and Treasurer, **Truman Boyle**.

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Club mailing address: 1212 Everee Inn Rd., Griffin, GA 30224. FRAC web site: www.flintriverastronomy.org.

Please notify **Bill Warren** promptly if you have a change of home address, telephone no. or e-mail address, or if you fail to receive your monthly *Observer* or quarterly *Reflector* from the A. L.

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Club Calendar. Mon., Nov. 2: Jackson Road Elementary observing (Griffin, Ga., 7:00 p.m.); **Thurs., Nov. 5:** JRE rainout date (same time); **Thurs., Nov. 12**: FRAC meeting/lunar & planetary observing (7-10 p.m., The Garden); Fri.-Sat., **Nov. 13-14**: JKWMA club observings, Site #1 (at dark).

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President's Message. The last few months have been a whirlwind of activity for me. Between my work, FRAC, church activities, helping the GHS tennis team, getting one daughter ready for college and another ready for marriage, I've been busier than a one-armed paper hanger. I was a nervous wreck throughout. **Bill** was afraid to tap me on the shoulder because he thought I might scream.

Well, **Laura** is at Wesleyan now, and **Elizabeth** is a happy newlywed. **Betty** and I have finished crying our tears of joy and loss, and we're experiencing the calm after the storm. It's amazing how quiet the house is with just the two of us after so many years of frantically rushing around to find lost objects, getting the kids to where they needed to be and seeing that they were fed, clothed and raised in the best way possible.

It's our time now, Betty's and mine. It's time for us to slow down, enjoy quality time together and remind ourselves of how far we've come since this incredible adventure began. We're looking forward to it.

-Dwight Harness, president

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Last Month's Meeting/Activities. Five FRAC members attended our Super Moon Total Lunar Eclipse observing at The Garden on Sept. 27th: **Alison Rudzinski; Dwight Harness; Wayne Gardner;** and **Louise & Bill Warren**. At least 50 area residents showed up, including 15 Koreans who came early and enjoyed a lavish meal before the eclipse began.

The only thing missing that night was the eclipse. The **Moon** remained hidden behind clouds the whole time we were there. The cloud cover was so heavy that no stars were visible at any time between 8-11 p.m. when we called it quits and went home.

So how do you handle such a dilemma? The same way we've always done it. When life gives you lemons, make lemonade. We handled the "show and tell" event by emphasizing the "tell" aspect. We told our visitors what they would be seeing at various times during the eclipse if the sky were clear enough for them to see the Moon, and we invited them to attend our monthly meetings to see what clearer skies have to offer via our telescopes during the observing portions before and after our meetings.

Everyone was disappointed that the Moon was a no-show on such a momentous occasion, of course – but many of the guests stayed much longer than might have been expected under the circumstances. They were eager to talk about the eclipse and

astronomy, and they had many excellent questions and comments. Astronomy is such an endlessly fascinating subject that it's easy to keep visitors engaged in conversation, as long as you keep it simple enough for them to understand. For example, we mentioned that they probably had seen **Mercury, Venus, Mars, Jupiter**, **Saturn** and the International Space Station many times in the past, although they may not have known what they were looking at. That led to a discussion of things like how we know when they're up and what they look like in a telescope. (The ISS looks like a dragonfly.)

Sixteen members – **Dwight Harness; Dr. Richard Schmude; Erik Erikson; Truman Boyle; Carlos Flores; David Haire; Steve Bentley; Steven "Smitty" Smith; Roger Brackett; Aaron Calhoun; Jeremy, Emily & Delilah Milligan; Phil Sacco; Vicky Walters;** and **yr. editor** – and visitors **Robert Webster** and **Courtney Seabolt** – attended our Oct. club meeting. Smitty & Truman received their Stellar Outreach certificates; Phil received his Basic Outreach certificate and pin; Aaron and Bill received "Katie's Club" awards; and everyone was treated to a splendid talk by Dr. Schmude on measuring **Mercury's** brightness. Dwight will receive a Katie's Club certificate next month for finding **M31 (Andromeda Galaxy)** naked-eye. It's easy to do from JKWMA on a clear evening – but it was anything but easy at The Garden amid another evening of extensive clouds.

Not surprisingly, our JKWMA observings the following nights were clouded out.

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The Observer's Lament

I think that I shall never spy
Another object in the sky.
Those clear, dark nights that I remember
Have disappeared since last September.

So here I sit without a hope
Of getting out my telescope
(Except to clean or collimate it.)
Rainy nights.
The clouds.
I hate it.
-Bill Warren

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This 'n That. One of the hallmarks of dedicated observing has always been "pulling an all-nighter" – observing from sundown through sunrise the next morning. That's how Messier Marathons are done, with the goal of finding all of the Messier objects in one night around Mar. 21st. But it's also how Master Observer pins are earned – at least, if you want to earn ten A. L. pins in less than a decade.

When **Phil Sacco** was working toward his M.O. pin, it was not at all uncommon for him to pull an all-nighter. So whenever Phil visited a new observing site, the first question he always asked was, "Where's the nearest Waffle House?" And just as invariably, sometime between midnight and 2 a.m. Phil and a few other observers would disappear for an hour or so to make a midnight run to Waffle House. He still refers to WH hash browns as "globular clusters."

To commemorate those occasions and celebrate Phil's dedication to all-nighters and globular clusters, we presented Phil and his lady friend **Courtney Seabolt** with WH hats (see below) at our Oct. meeting. It's our way of thanking him for all he has meant to astronomy and FRAC over the years.

Above: Phil and **Courtney** in their Waffle House hats. (Photo by **Steve Bentley**)

*****Here are two challenging winter projects for you to consider. One is for our astrophotographers, and the other is for our visual observers.

Astrophotographers: Can you image **M42, Orion Nebula**, in such a manner as to show its incredible range of colors without overexposing the photo to the point where the lovely little 4-star **Trapezium (Theta A, B, C** and **D Orionis)** is no longer visible?

Visual observers: There are actually six stars in the Trapezium. Can you see the other two mag. 11 components, **Theta E and F,** at high magnification? (To know where to look, see the photo below.)

We'll give a Katie's Club certificate to everyone who accomplishes either of those tasks.

Above: The stars of The Trapezium in Orion Nebula. (All six of them are white.) Theta F is faintly visible to the upper right of Theta C, the largest and brightest star in the group. Theta E is below Theta A, the star to the lower left of Theta C. Theta B is the lowest of the 4 bright stars, and Theta D is the one to the right of center in the photo.

Above: Dwight's entry in The Garden's recent Scarecrow Festival: **FRAC I,** a lunar robot that eats Moon pies and Milky Way bars. (Photo by Dwight)

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Upcoming Meetings/Activities. We'll start November with an observing for 2nd and 4th graders at Jackson Road Elementary in Griffin at 7:00 p.m. on **Mon., Nov. 2nd**. We've been to JRE several times in the past, and their teachers always do a great job of supervising their children and seeing that they behave and are attentive.

If it's cloudy on Nov. 2nd, we'll try again on **Thurs., Nov. 5th** at the same time. (And if that one is clouded out too, we'll go inside for an indoor presentation on the planets.)

To get to Jackson Rd. Elem. from, say, Hampton, go to I-75 South and get off at Exit 205 (Ga. Hwy. 16). Bear right, and about 1/4 mi. ahead turn right onto Jackson Road. The school is on the right about 7 mi. ahead, at the top of a long hill. Drive around behind the school, and we'll be parked on the large field at the other end of the road, beyond the traffic circle and playground.

Our Nov. club meeting will be at The Garden at 7:30 p.m. on **Thurs., Nov. 12th**, with planetary and lunar observing for visitors at 7:00 p.m. and again after the meeting. Our program will be "The Crab Nebula: A Supernova's Aftermath" from the *Experiencing Hubble* dvd series.

On **Fri.-Sat., Nov. 13th-14th**, we'll hold our Joe Kurz club observings at Site #1.

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The Sky in October/November: **The Taurids and Leonids meteor showers.** There are 43 annual meteor showers, most of them "minor" in terms of how many meteors you can expect to see at peak under good conditions. The "major" meteor showers (i.e., 15 or more meteors per hour at peak) include: the **Quadrantids** (Jan.), **Lyrids** (Apr.), **Eta Aquarids** (May), **Delta Aquarids** (July), **Perseids** (Aug.), **Orionids** (Oct.), **Taurids** (Oct.-Nov.), **Leonids** (Nov.), **Geminids** (Dec.) and **Ursids** (Dec.).

One of those, the **Taurids**, is unlike other meteor showers: it lasts for up to two months. Taurids meteors are the result of two previous passages of the short-term **Comet 2p/Encke**. One Taurids meteor stream crosses Earth's orbital path from Oct. through early Nov., and the other from late Oct. through mid-November. So we get a small but steady stream of Taurids meteors throughout that period.

Other aspects of the Taurids shower merit our attention due to the size of its meteors. They tend to be larger than the dust particles in most other showers, so they burn longer in the atmosphere, unlike smaller meteors that burn out and vanish even as you see them out of the corner of your eye. And because they are larger, they are likely to produce fireballs that glow like sparklers in the night sky. Meteor shower experts predict that this

year's crop of Taurids meteors will be especially rich in large-particle meteors.

The best time to observe Taurid meteors will be between Halloween and Nov. 15th.

A Taurids bonus: also unlike most other meteor showers, Taurids meteors are as likely to be seen between sundown and midnight as in the pre-dawn hours of early morning.

Another, better known meteor shower, the **Leonids**, will peak during the pre-dawn hours of Nov. 18th, but Leonids meteors can be seen between Nov. 17th-19th. The peak should produce about 15 meteors an hour.

Like the Taurids, the Leonids shower tends to produce more fireballs than most other showers, but for a different reason. Leonids meteors travel faster than any others – 44 mi. per second, or 158,000 mph – so those that are larger than dust particles tend to burn brighter and appear as fireballs. The rest are tiny *zips* that appear and vanish after traveling across an inch of sky.

The Leonids are debris from **Comet 55P/ Tempel-Tuttle**. Every 33 years, they produce a spectacular meteor display that sometimes reaches meteor storm levels. In 1966, observers in the SW U. S. reported seeing *40-50 Leonids meteors per second* at peak, and the one in 1833 was even larger: it was the greatest meteor fall in recorded history, with more than twice as many meteors as the 1966 event.

The Leonids in 1999 was not as productive, but **Dr. Richard Schmude** counted 1,500 Leonids in one evening. But this isn't one of those years: the next one will be in 2032.

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Itching to Do Some Stargazing

by Prof. Theophilus Stargazer

Captain Kirk of the starship *Enterprise* had it wrong: Space is *not* the final frontier. That honor goes to the place where I went observing last July.

It all started at a club meeting when I overheard a couple of members talking about my favorite subject: *me*. But they weren't being complimentary. One of them said that he never sees the ol' professor at any observings. "You got that right," said the other. "His name is Stargazer, but he never does any observing."

That wasn't true, of course. Why, just last week I observed two cd's about the planets. (Okay, they were *The Voluptuous Vixens of Venus* and *The Sultry Sirens of Saturn*. But they were very tastefully done.)

Anyway, after hearing the members' comments I decided to wipe away the cobwebs from my 3-in. refractor and live up to my name. Not just anywhere, though: I wanted to find the darkest observing site in the state.

If you Google "satellite photo of the U. S. by night," you'll see that practically everywhere east of the Mississippi River suffers from massive light pollution. But there's one place, a small dark circle on the photo near the Florida line, that the light polluters have somehow overlooked. It's so dark there that the residents have to buy sunshine from other states. (They make their own moonshine.) So that's where I'd do my observing: the Okefenokee Swamp.

Using my superb organizational skills, I carefully planned the trip. I didn't want any surprises or problems when I got there. Then I "borrowed" a jonboat from a neighbor's backyard while he was at work. I loaded it with my camping gear, food, telescope and accessories, and headed for the wilds of southeast Georgia. My destination was Gannet Lake, a 15-acre lake near the southern end of the swamp. I was confident that no detail in my planning, however small, had been overlooked.

That confidence stayed with me for about 3-1/2 hours, until I was stopped at a routine driver's license check in Ware County. The county mountie told me that my license had expired. Before he could write a ticket, though, he was called away on an emergency: the Waycross Dunkin Donuts was having a 2-for-1 sale on Boston creams. By the look of him, he was their No. 1 customer.

Thirty seconds later I was on the road again.

I had planned to enter the swamp at the ranger station at Folkston. But it was already closed when I arrived a little after 7 p.m., so I backtracked to a river-like slough a couple of miles north. I parked and locked my car on a nearby logging road and slid the jonboat into the tea-colored water.

I got lost several times – it's not hard to do in the Okefenokee, where peat moss is constantly rising and sinking to hide old trails and form new ones, and everything you see looks like everything else -- but I somehow managed to reach the lake after

sundown. The mosquitos were out in force, a dark cloud that almost blocked out the stars overhead. I clawed through my pack for the insect repellent, only to discover that in packing I had mistaken a spray can of sunblock for Cutter. (Oops!) I sprayed my face, neck and arms liberally anyway, hoping the mosquitos wouldn't know the difference. They treated it like gravy on a country-fried steak.

Oh well, I thought, *at least I won't get sunburned tonight!* It was too dark to find my way back to civilization, so I put on a long-sleeve shirt, wrapped a towel around my neck and vowed to go back and buy insect repellent in the morning.

My second discovery came shortly after that: there was no shoreline or solid ground for me to pitch a tent. I felt like the ancient mariner in the poem: "Water, water everywhere…" But that was no problem for a hardy pioneer-type like me. *I'd sleep in the jonboat*. It was fifteen feet long and four feet wide, and the front end was crowded with supplies and gear I'd brought along. But the bottom was as flat as my bank account balance, and it didn't leak – not yet, anyway. It would be uncomfortable, but by moving things around it wouldn't be any more crowded than three people sharing a Port-O-Let.

Then I realized I had another problem: with no solid ground, where was I going to set up my telescope?

Fortunately, I've been blessed with an abundance of creativity. Creative thinking is what keeps me out of jail most of the time. So I applied my massive intellect to the problem and quickly arrived at a solution: *I'll use the jonboat.*

Hey, I know what you're thinking! But six years of ballet lessons as a child has given me a marvelous sense of balance, and I was determined to see **Ring Nebula** and **M13** from the darkest site in the state. So I decided to give it a try, although I'd left my tutu and ballet slippers at home. I moved the refractor to my end of the boat, ate a couple of bologna sandwiches from the cooler -- and after that, things went downhill in a hurry.

Get the picture, as the late UGa football announcer **Larry Munson** used to say:

Here I was, trying to set up my 'scope in a jonboat. In the middle of a lake. In the middle of the Okefenokee. In pitch-black darkness. With swarms of hungry mosquitos dive-bombing me like German planes over London in World War II. I was beginning to wish I hadn't worn shorts.

I managed to unfold the tripod of my refractor between swats at the mosquitos, but one leg of the tripod seemed to be stuck on something. My red-beam flashlight's batteries chose that precise moment to die on me, and as I stepped over the tripod leg to get to the spare batteries in my equipment box, I lost my balance. (Oops!) I grabbed the tripod for support but fell into the lake anyway, taking the telescope with me. My eyepiece case, which I had rather unwisely left open on top of my equipment box on that side of the boat, slid over the side to join me for a late-night swim in Gannet Lake.

The jonboat didn't sink – but in falling I accidentally pushed it away from me with my feet. And about three seconds after I landed in the water I felt something large and very hard bump my leg. I thought: *Was that an alligator?* If so, I was about to become a midnight snack.

I thrashed wildly in the darkness toward where I thought the boat should be, but it wasn't there. I thrashed around some more -- didn't find it -- kept on flailing away at the water like I was trying to kill it – and suddenly I swam head-first into the alligator's snout.

Well, not exactly. But that's what I thought until I realized it was the boat. I scrambled aboard and plopped down in the bottom, panting like an obscene phone caller. I was almost as glad to be alive as the mosquitos were to see me again.

I have no idea how long I lay there, feeding the mosquitos and worrying about my telescope and what else besides my eyepieces and filters might have gone overboard.

Suddenly, there was a powerful flashlight beam sweeping the lake. I yelled, and somewhere in the dark I heard voices talking and the beam found me. Then I heard the growl of an outboard motor starting, and a minute or so later a boat slid up to mine, its motor idling softly. A deep voice behind the flashlight beam asked, "Whut chew doin' out cheer at this time a' th' night, boy?"

I babbled out an explanation, squinting to see the guy behind the flashlight as I talked. But all I could see was his outline: he was as big as **Jason**, the guy with the machete and pitchfork in *Friday the 13th*.

When I paused to take a breath, a nasal, high-pitched voice from the back of the boat said, "Why din't chew use th' campin' platform? They's all

over th' swawmp, raised above th' water with screens on 'em ta keep out th' gators. We's usin' one 'bout thirty yards beyond th' far end a' th' lake. Yew coulda camped with us and looked at th' sky from there, city boy!"

Now, **there's** *an idea!*, I thought. *I'm out here in the middle of nowhere in the dead of night, battling bloodthirsty mosquitos as big as vampire bats. I've just been attacked by an alligator, and now the guys from* Deliverance *want me to camp out with them! What's next? A cottonmouth in my sleeping bag?*

But I was wrong. As it turned out, they were nice guys, a father and son, **Bubba** and **Billy Bob**, from Waycross, doing some night fishing. I followed their jonboat to the platform, applied about a gallon of their insect repellent, unloaded my gear and set up my tent as far away from them as possible.

"How did you know I was here?," I asked, scratching furiously at what must have been a couple of thousand mosquito bites.

"Yew kiddin' me?," Billy Bob said in his **Barney Fife** voice. "Yew wuz makin' such a ruckus splashin' around, we thought Ol' Claude had got hisself a bear!'"

"Ol' Claude?," I squeaked.

"Yeah," Bubba said. "He's a bull gator 'bout twelve foot long. Got one a' m' best dawgs last year. He coulda gotcha if he'd a' wanted to. Owns this part a' th' swawmp. Probly already fed hisself on a deer or sump'n."

I turned in shortly after that. But I didn't fall asleep until I stopped listening for the sound of banjo music in the dark.

Next morning, Bubba loaned me his rod and reel and told me how to retrieve my telescope. Go out to where I fell in, he said. Put a weight on the fishing line, and cast around that area. The weight would sink the hook, which would catch on some exposed portion of the telescope or tripod, allowing me to reel it in like a world-record largemouth bass.

It didn't work, of course. When the 'scope sank, the peat moss closed around it as tight as **O. J. Simpson's** glove. For all I know, it's still there, along with my eyepieces, unless Ol' Claude decided to take up stargazing.

Aside from losing about $800 in equipment and contracting malaria from the mosquito bites, my biggest regret is that I never got to see Ring Nebula and M13 from the darkest site in the state.

Maybe next year.

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Below: DWB 40, an H II region in *Cygnus*. Photo by **Felix Luciano**. H II regions are areas of ionized gases. **DWB 40** is the bright horizontal bar across the center of Felix's H-alpha photo.

Below: M15, a globular cluster in *Pegasus*. **M15** is a very old globular cluster containing about 250,000 stars -- many of them red giants, as you can see in **Alan Pryor's** photo.

Visually, M15 is one of the finest globulars in the fall sky – easy to find and a joy to observe. A straight line extended from 4th-mag. **Theta Peg** (the Flying Horse's head) through and beyond 2nd-mag. **Epsilon Peg** (the Horse's nose) for half as far again as they are apart will bring M15 into view, its intensely bright, compact core surrounded by countless stars in all directions. Having once found it yourself, you'll want to return to M15 again and again, whether to enjoy its beauty yourself or to show it to others.

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