THE

FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

Vol. 15, No. 10 December, 2011

Officers: President/Newsletter Editor, **Bill Warren:** (770)229-6108, warren7804@bellsouth.net; Vice President, **Larry Higgins;** Secretary-Treasurer, **Steve Bentley**.

Board of Directors: **Dwight Harness; Tom Moore; Mike Stuart;** and **Jessie Dasher.**

Facebook/Scouting/Ga. Sky View Coordinator, **Steve Knight;** Alcor/Webmaster, **Tom Moore;** Observing Coordinator, **Dwight Harness;** NASA Contact, **Felix Luciano.**

Club mailing address: 1212 Everee Inn Rd., Griffin, GA 30224. Web page: www.flintriverastronomy.org.

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

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Club Calendar. Sat., Dec. 10: 6:30 p.m., FRAC Christmas party at Ryan's Buffet Restaurant in Griffin.

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President's Message. The Great Kurtz Rock Observing Site Experiment is over – and lemme tell ya, folks, it was a *huge* success! We were hoping for dark skies, and **Bill Kurtz's** site delivered in grand fashion on Oct. 29th. I had visited the site on several occasions during the daytime and once under cloudy skies at night, but never on a clear night.

Joe Auriemma, who lives three miles from Kurtz Rock, said, "It's even darker here than it is in my yard!" **Larry Higgins** added, "This is the way Cox Field looked fifteen years ago." And it is, too – except in one respect: the ever-present dome of sky glow from metro Atlanta, Jonesboro and the Speedway to the north isn't nearly as intrusive at Kurtz Rock as it has always been at Cox Field.

Hey, this is a *dark* site, with no visible streetlights, etc., to be seen! There's sky glow, of course – sky glow is as common to the night skies of the eastern U. S. as insects in the summertime – but there is also abundant dark sky in all directions.

And *Yes*, it's about a 10-min. longer drive than the trip to Cox Field for many of our members – but how far would you drive to enjoy truly dark skies? In the North Houston (TX) Astronomy Club, they drive 150 miles *one way* to observe under dark skies.

I'll admit, I was worried initially about our members' driving onto and away from the observing site. But the cones we set out simplified the process, and with our maiden voyage safely tucked away we're ready for future Kurtz Rock observings. There were no glitches, and there shouldn't be any in the future. Take the same kinds of precautions you take at Cox Field – drive slowly, follow directions – and after a few minutes you'll be reminded that it's a new site only when you realize how dark it is.

Our game plan – starting in January and continuing until Kurtz Rock gets too hot to use next summer – is to feature one Friday night Cox Field observing and one Saturday night Kurtz Rock observing every month. (Of course, anyone who prefers one site to the other can use either site on either or both nights.)

If you're interested in running for an officer or board member position in 2012, I encourage you to prepare an announcement for the Jan. issue of the *Observer* so the members will know that you're interested in serving. As I've pointed out in the past, election night in February isn't the best time to announce your candidacy. You can send your statement to me at my e-mail address on the other side of this page, and I'll include it in the next issue of the *Observer*.

Finally: Here's an enthusiastic "*Welcome to FRAC!"* to our newest members: **Frank Hiller** of

Forest Park; **Woody & Ben Jones** of Griffin; and a cherished ex-member, **Joe Auriemma** of Senoia. We're proud to have you folks join us, and I hope you'll take advantage of all that FRAC has to offer.

-Bill Warren

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Last Month's Meeting/Activities. We had seven members at our fourth Rock Ranch observing on Oct. 22nd: **Tim & Diane Cunard,** along with baby granddaughter **Haley; Dwight & Laura Harness; Roger Brackett; Smitty;** and **yrs. truly. Joe Auriemma** was there, too, with his lovely 10-in. Starmaster truss tube reflector. (Joe rejoined FRAC the following weekend at Kurtz Rock.)

Eight members attended our inaugural Kurtz Rock observing on Oct. 29th: besides owner **Bill Kurtz,** there was: **Larry Higgins; Julie Avery & Sam Harrell; Erik Erikson; Dwight Harness; Joe Auriemma;** and **yr. editor.** The dark skies were delightful, and everyone found everything we searched for except **Comet Garradd,** which was located in a surprisingly star-poor area of southern *Hercules.* All present agreed that Kurtz Rock is a splendid site for serious stargazing.

The presence of a First Quarter Moon and absence of visitors for much of the evening didn't deter **Julie Avery & Sam Harrell, Larry Higgins, Tom Moore, Roger Brackett, Charles Turner, Carlos Flores** and **yrs. truly** from having a grand old time at our Nov. UGa-Griffin lunar observing.

For starters, the International Space Station passed over, and yr. editor found it in his telescope. *(Note: If you ever decide to watch it passing over, it will be moving much too fast to track in your 'scope, so aim your finderscope or Telrad in the path ahead of the ISS and then watch as it zips across your fov. Or, you can track it in binoculars, although you won't get the same amount of detail. –Ed.)* It looked like – well, not to get too technical here, but it looked very much like a space station. Or maybe a very thin tractor seen head-on: two oversized (rectangular) tires connected by a narrow axle.

Then there was the mysterious little straight-line alignment of four stars that yr. editor came across while searching for **M103** in *Cassiopeia.* None of us could figure out what it was because **Felix Luciano** wasn't there. It wasn't M103, nor was it any of the familiar open clusters nearby – **NGCs 654, 659** and **663.** It was perplexing because you don't come across straight-line alignments of stars every day. (Of course, **Tom Moore** begs to differ, pointing out that every time he observes he sees hundreds of two-star straight lines.)

So what was it?

Felix would have known immediately. Even under the massively light-polluted conditions present at the site under a half-Moon, Felix would have recognized it as one side of his favorite asterism, the one he calls **"The Six of Dominos." (**It's better known as **Trumpler I.)** We saw one of the Domino's two rows of stars, and for reasons known only to the universe a tiny, fourth star was faintly seen in line while the other side of the Domino was not identifiable as such at all, not even at high magnification.

Above (photo courtesy of **Stephen Ramsden**): On Mon., Nov. 7th, **yr. editor** drove to Lilburn to join **Stephen Ramsden's** traveling solar road show at Salem Middle School for a couple of hours. Lawzamussy, but can that man put on a show! If you think middle schoolers have a lot of energy, you haven't watched Stephen in action lately. He has been an inspiration to more than 150,000 students and others who have seen the **Sun** through his array of telescopes and solar filters.

Nineteen FRACsters, including new members **Woody & Ben Jones** and surprise attendee **Stephen Ramsden,** enjoyed a lively presentation by **Dr. Richard Schmude** and spirited discussion of his topic, geostationary satellites. Other members present included: **Betty & Steve Bentley; Erik Erikson; Cynthia Armstrong; Jessie Dasher; Charles "Prince of Darkness" Turner; Dwight Harness; Roger Brackett; Steven "Smitty" Smith; Felix Luciano; Larry Higgins; Bagitta & Chris Smallwood; Tom Moore;** and **yr. editor.** We had the Christmas party doorprizes on display, and Charles donated two CDs to be used in our outreach program for schools. Woody said he couldn't remember when he'd laughed so much.

Tom Moore, Steve & Betty Bentley and **yr. editor** conducted an observing for about 40 of **Dr. Schmude's** Gordon College students on Nov. 17th.

On the following evening, **Woody & Ben Jones, Erik Erikson** and **yr. editor** had an absolutely splendid time at Cox Field under skies that could not possibly have been clearer.

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This 'n That. The Rock Ranch observings were an interesting experiment: public observings on four consecutive Saturdays at an out-of-the-way site that most members ordinarily would have passed up. Despite a few minor problems, however, it was worth the effort. We didn't get any new members out of it, but 19 members attended at least one session and received Outreach Club observing credit. We averaged 10.6 FRAC attendees per session, and everyone appeared to enjoy themselves immensely. The Rock Ranch had a large variety of activities of interest to children and adults. Dwight Harness eventually found his way out of the Corn Maze, although whether that was good or bad news is debatable.

*And while we're at it, Thanks, **Dwight,** for making a FRAC sign to put at the entrance to Kurtz Rock. You're a good man, regardless of what **Larry** says about you behind your back.

*Three additional club members – **Mike Stuart, Doug Maxwell** and **Roger Brackett** – have qualified to receive an A. L. Outreach Club certificate and pin. That brings FRAC's total to 17 active members who have earned an Outreach pin – and that's not bad for a club with 42 members!

*****Looking for a Christmas stocking stuffer for a youngster in the 5-to-7 age group? You could do a lot worse than visiting the amazon.com website and ordering *There's No Place Like Space,* a Cat-in-the-Hat book by **Tish Rabe** (NY: Random House, 2009 [new for $4.39, or used for $0.01, in either case with $3.99 s&h]). Alas, **Dr. Seuss (Ted Geisel)** is no longer with us, but Ms. Rabe continues his legacy in fine fashion. Any kid who enjoyed *Green Eggs and Ham* will love this book, in which Ms. Rabe describes the eight planets, **Sun** and **Moon** in a delightfully creative manner.

*We handed out 22 door prizes at last year's Christmas party. This year, we'll be giving out *31*. The prizes, which were displayed at our Nov. club meeting, include: nine astronomy books; nine star atlases/charts/planispheres; four Celestron lens pens; two computer software/dvd prizes; two eyepieces (given as one prize); an Orion Moon filter; a deluxe red-beam flashlight; one year's free membership in FRAC; a deluxe laser pointer; and a Grand Prize. (See below).

We'll do it the same way we did last year, i.e., by giving one numbered chip to each individual or family unit, drawing for prizes until everyone holding a chip has won a prize, and then repeating the process until all of the prizes but one have been given out.

The Grand Prize, a set of Orion Telescope and Toe Saver Safety Lights that retails for $39.95, will be open to everyone. (**Tim Nix** of The Camera Bug says that it's been his best-selling accessory this year.) You can see the Toe Saver on p. 63 of the latest Orion catalog.

Including discounts that Tim gave us on everything that **Dwight Harness** and yr. editor bought at The Camera Bug and the value of items donated by Tim, **Robert Hall** and others, the total retail value of our 2011 door prizes is over $400, or more than $13 per

prize. That's a pretty nice return on the $15.00 dues you paid in 2011, isn't it?

And by the way, Thanks to everyone who donated prizes and/or contributed to our door prize fund in 2011. Your thoughtfulness is greatly appreciated.

*The "Ask Astro" column in the May, 2011 issue of *Astronomy* (p. 55) addresses a question that some of us may have had regarding meteor showers, namely (and we're paraphrasing here), *Why do meteor showers such as the **Perseids, Leonids** and **Geminids,** etc., return at roughly the same time every year?*

The answer: The meteor showers don't return. The Earth does.

As comets (which are composed of dust and gases enclosed in ice) move toward and away from the **Sun,** that body's ferocious heat and energy cause the comets to release some of their dust and gases in their wake. Meteors become visible when rocks and dust particles left behind by the comets are drawn into Earth's upper atmosphere and burn up as they plunge toward the ground.

A year after passing through the comet's debris trail, Earth's orbit brings it back to the area where the remaining dust particles reside. And since the debris trail changes slowly and slightly in response to the gravitational attraction of other planets and the Sun, the point where Earth intersects with the dust also changes slightly, drawing new dust from the debris trail into the clutches of Earth's atmosphere.

At any rate, one of the most dependable annual meteor showers, the Geminids, peaks around 1 p.m. on the night of **Dec. 13th-14th.** Unfortunately, the Moon's waning gibbous presence will bleach out all but the brightest meteors.

Enter the **Ursids** meteor shower. Normally a minor shower whose radiant is in *Ursa Minor*, this year's Ursids peaks on the night of **Dec. 22nd-23rd,** two days before the **New Moon,** so we might get 25-30 meteors per hour at a dark site.

*Speaking of gibbous Moons, **Prof. Stargazer** has recorded a country music CD entitled *The Gibbous Moon Car Washing Blues* featuring his hit single, "Every Time I Wax, It Wanes."

*From our **"Holy Cosmic Close Encounters, Batman" Dept.:** *Look! Up in the sky! It's a bird! It's a plane*! No, it was…asteroid **2005 YU55,** a battleship-sized space rock that, on the evening of Nov. 8th, passed over our heads unnoticed like much of **Prof. Stargazer's** humor.

Did we say *unnoticed*? Well, that's true only if you didn't see it. Did you?

YU55 measured a hefty 1,300 ft. in dia. At its closest, it was about 40,000 mi. closer to us than the **Moon.** With its surface roughly the color of asphalt, YU55 didn't exactly stand out against the night sky, shining faintly via reflected sunlight at about mag. 12. It moved across the sky at a rate of about 9° an hour, its slow movement visible against the background of stars in a telescopic field of view.

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Upcoming Meetings/Activities. As always, we're cutting back on our club activity schedule in December. We'll hold our Christmas party at Ryan's Buffet Restaurant in Griffin at 6:30 p.m. on **Fri., Dec. 10th.**

Here's how to get to Ryan's from, say, Hampton: Come south on U. S. Hwy. 19/41. Go past the Hardee's/McDonald's stoplight at Ga. Hwy. 92 (Fayetteville Rd.), and past the next stoplight (where Racquethause is on the right, Hong Kong II on the left) as well. Before you get to the RR overpass, you'll see the red neon Ryan's sign on the right. Turn right at that road, and the parking lot will be on your immediate left.

As for observings – well, the calendar and the lunar cycle have teamed up to defeat our plans even if anyone had the time or inclination to observe during the busy holiday season. In December, the New Moon is on Christmas Eve, so that weekend is out. We could have scheduled observings for Fri.-Sat., Dec. 16th-17th, but that's a Christmas shopping weekend for many if not most of us.

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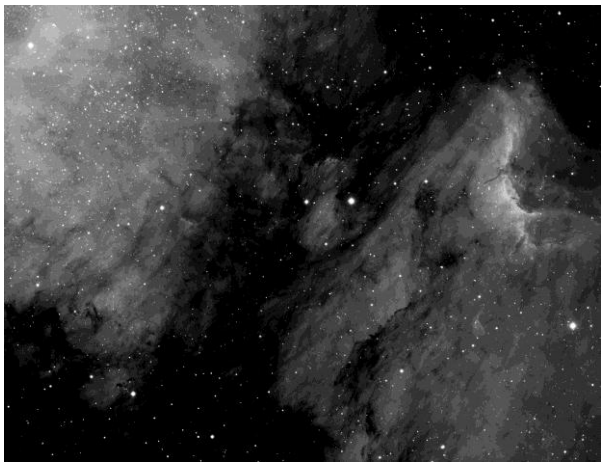
Below: NGC 7023, a *reflection nebula* (see p. 6) in *Cepheus.* **Alan Pryor's** eerily beautiful image combined 9 sets of 5 min. LRGBs and 6 Ha frames X 20 min. per frame.

NGC 7023 is a Herschel II object as well as being Caldwell #4. **Yr. editor** described it as "an oval halo measuring 5' x 3' and oriented roughly NE-SW. It was best seen at 222X via direct vision as a bright searchlight – the mag. 7 star at the center – encased in fog." On another evening he saw it resembling "an oval galaxy with a genuinely stellar core." The actual dimensions are 18' x 18', which tells you something about the difference between visual and photographic images.



Below: Last month we showed you **Alan Pryor's** b&w image of **NGC 246 (Skull Nebula),** a planetary nebula in *Cetus.* His lovely photo is the result of 300 min. of Ha exposures X 15 min. each, supplemented with 2 sets of LRGBs X 15 min. per frame.

Here's the same photo in color. *(We still think it looks like a puppy's face as seen through a tube, although we haven't seen any green-and-pink puppies lately. –Ed.)*

Upper right-hand corner: IC 5067 (Pelican Nebula), an *emission nebula* in *Cygnus.* The pelican is, of course, near the upper right-hand edge of **Felix Luciano's** stunning astrophoto. As poet **Dixon Lamar Merritt** wrote, "A wonderful bird is the pelican/His bill can hold more than his belly can."

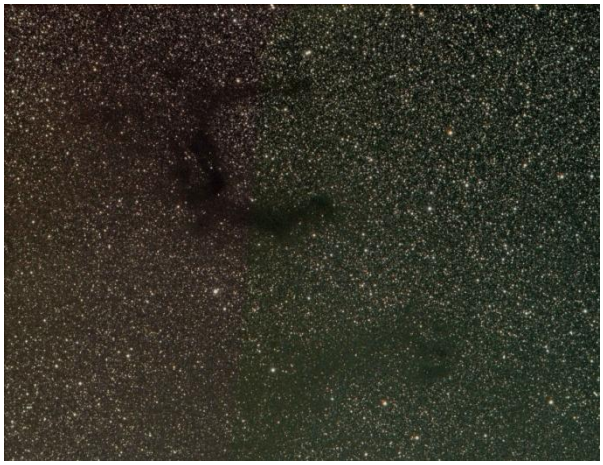
Felix used a Ha filter to test his MaxIm guide settings and capture, calibrate and combine 10 exposures X 600 seconds each. He used PhotoShop to post-process the image.

Incidentally, the larger nebulosity to the left is the eastern portion of **NGC 7000 (North American Nebula).** The slight darkening near the top is the Great Lakes region, and the dark area at the bottom left is the Gulf of Mexico.

Below: Barnard 142-143 (a.k.a. **Barnard's E** or **Triple Cave Nebula**), two dark nebulae lying 1.5^{o} west of 2nd-mag. **Gamma Aquilae.** Combined, the two nebulae are about the size of the Full Moon (i.e., 1/2^{o}), andthey are located about 2,000 light-years from Earth.

In 1919, the American astronomer **Edward Emerson (E. E.) Barnard** catalogued 182 dark nebulae, or areas where clouds of interstellar dust have obscured the star fields behind them from our view. The "E" refers to the shape formed by B142 (the "C" near the top of **Felix Luciano's** photo) and B143 (the base of the "E"). The "E" is oriented E-W, with north at the bottom of the photo.

(Six exposures for each LRGB X 300 sec.; dark, flats calibrated.)

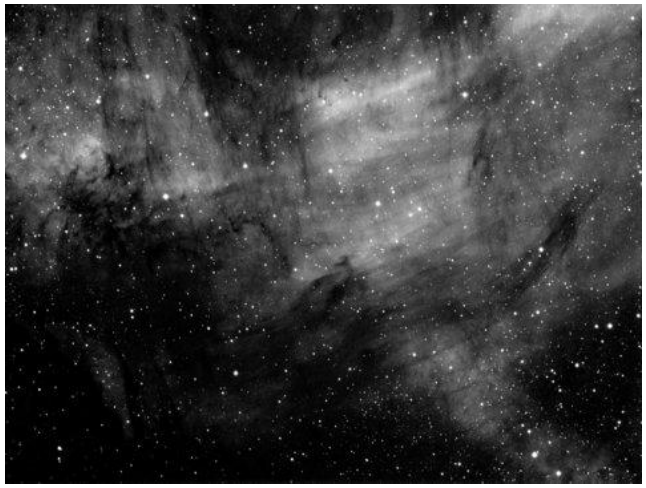


Upper right-hand corner: Cederblad 214 in *Cepheus* (imaged by **Felix Luciano**). Measuring 50' x 40', this large *emission nebula* is very faint telescopically, although the four mag. 6-8 stars within the nebulosity are easily seen. The two bright stars embedded in nebulosity near the north (top) edge of Ced 214 are the brightest stars in an otherwise faint open cluster known as **Berkeley 59.**

Felix used an H-alpha filter to combine 15 exposures X 300 sec.

(*By the way, if you didn't already know it* ***emission nebulae*** *are clouds of gases that glow as the result of ionization within the gas cloud – as opposed to* ***reflection nebulae*** *whose glow results from light reflected from stars near or within the nebulosity. – Ed.)*

Below: IC 5068, an emission nebula in *Cygnus.* Located S of Pelican Nebula, 5068 is a faint,Full Moon-sized and nearly square fluff of nebulosity in **Felix Luciano's** lovely photo. (Aa filter, nine exposures X 900 sec.)



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