

# THE FLINT RIVER OBSERVER

Newsletter of the FLINT RIVER ASTRONOMY  
CLUB, an Astronomical League affiliate

Vol. 13, No. 10 December, 2009

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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. Tues., Dec. 8:** Sun City Peachtree observing (6:30 p.m.); **Fri., Dec. 11:** FRAC Christmas party (6:30 p.m., Ryan's buffet restaurant in Griffin); **Sat., Dec. 12:** Cox Field observing (at dark); **Fri.-Sat., Dec. 18-19:** Cox Field observings (at dark).

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**President's Message.** If you're having trouble getting into the Christmas spirit this year, this may be just what you need. I'd like to be able to take credit for it, but you're getting it third-hand here. It

concerns an article, "The Christmas Cross: a matter of life and death," written by the marvelously gifted **Stephen James O'Meara** for the Dec., 2009 issue of *Astronomy* (pp. 58-59).

In his article, O'Meara writes about *Cygnus (the Swan)*, more popularly known as the "Northern Cross" due to the cruciform alignment of its five brightest stars.

A fall constellation, Cygnus sinks below the western horizon in winter. Or, as O'Meara puts it, it also might be said to be "dying" in the west – an appropriate symbol, given the significance of the Cross for Christians everywhere.

In 1987, the renowned **Jack Horkheimer**, whose 5-min. weekly TV show, "Jack Horkheimer: Star Gazer," has been on for more than 30 years, wondered if the winter sky holds any symbols of rebirth at Christmastime.

Well...As a matter of fact, it **does.**

**M44** is a very large open cluster in the constellation *Cancer (the Crab)*. Cancer is a late-winter-early spring constellation that rises in the east during the latter part of December. M44 is one of two Messier objects in Cancer; the other is **M67**, a smaller and fainter open cluster.

But here's the jaw-dropping, "why-didn't-I-think-of-that?" part: the ancient Greeks called the M44 open cluster "the Beehive," due to its appearance to them as a swarm of angry bees. But M44's other nickname, **Praesepe** (pronounced: Pruh SEPP ee), is Latin (i.e., the language of the ancient Romans) for "*The Manger.*" Anyone even remotely familiar with Christianity will immediately recognize the significance of a manger at Christmastime.

So there you have it: a Cross dying in the western sky while a Manger is rising in the east, both visible as naked-eye objects on Dec. 25<sup>th</sup>. It took Jack Horkheimer's detective work in 1987 for that fact to be spread throughout Christendom.

If you want to see for yourself these two symbols of death and rebirth, the Northern Cross is the easier of the two. Just look to the NW for the 5-star Cross after sunset; although low in the sky, it will be easily recognizable.

As for Praesepe, the Manger – look for the backward question mark, low in the eastern sky, that

forms the head and mane of *Leo (the Lion)*. Then look upward toward where Leo would be looking, and you'll see a faint, gray smudge about as large as your pinky fingernail lying a short distance away. That's the Manger. Binoculars reveal 50-70 stars comprising the Manger.

Incidentally, there's also a third seasonal symbol in the winter sky at Christmas: **NGC 2264**, an open cluster in the constellation *Monoceros (the Unicorn)*, is familiarly known as **The Christmas Tree Cluster**. The brightest star – **S Mon** – forms the base of the tree; other stars form the limbs. Any star atlas will show you where it's located – or we can show it to you at Cox Field at our Cox Field observing. It lies much higher in the sky than either the Northern Cross or the Manger.

**-Bill Warren**

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**Last Month's Meeting/Activities.** On Nov. 6<sup>th</sup>, **Dwight Harness, Larry Higgins** and yr. editor conducted a 2-1/2 hr. observing for 40 girl scouts, parents and troop leaders at Camp Pine Valley near Meansville, Ga. The air was humid and the temperature cool, but the sky was on its best behavior and all of us had a great time.

Nineteen attendees -- two visitors and seventeen members -- attended our Nov. meeting: **Kevin Murdock, Dwight & Laura Harness, Tim Astin, Charles Turner, Tom Danei, Felix Luciano, Tom Moore, Larry Higgins, Richard Schmude, Jessie Dasher, Curt & Irene Cole, Cynthia Armstrong, Dorrene & Rusty Blaydes, yr. editor** and guests **Jerry & Emily Voshell**. Attendees were treated to a sneak preview of the nearly 30 door prizes to be given away at our Christmas party, and Dr. Schmude talked about his 14-year-long study of **Saturn's** brightness.

Unlike measuring brightnesses of variable stars (which is a rather straightforward procedure), measuring Saturn's brightness is a far more complicated process. As usual, though, Richard brought it down to our level of comprehension, this time with the help of shiny new pennies.

If you noticed a couple of familiar names missing from our list of attendees at the Nov. meeting, it's because **Steve & Betty Bentley** and **Stephen Ramsden** were otherwise occupied that evening.

For the past two years, Steve has been trying to arrange an observing at his granddaughter **Brianna's** school in Forsyth. When he finally managed to do so, the only time that school officials could fit an observing into their crowded schedule was on our meeting night. It was a good thing that Stephen could make it, too, because, according to the school's "Dessert Under the Stars" coordinator, **176** students and parents showed up that night for the observing at Hubbard Middle School! Steve & Stephen set up five tracking telescopes on different objects, and the well-mannered crowd, divided into five groups, spent about 20 min. at each station.

The event coordinator wrote to Steve, "Thank you so much for everything tonight. Parents and students alike enjoyed star/galaxy gazing. Thank you so much for your part in making our science night successful. Thank you, thank you!"

Nine members showed up for our observing weekend of Nov. 13<sup>th</sup>-14<sup>th</sup>. On Friday, **Larry** and yr. editor arrived at Cox Field about 7:30 p.m. after conducting a 2-man observing for Larry's astronomy students. We were greeted by **Felix Luciano, Tom Danei** and **Dwight Harness**, all of whom were in the process of packing up to leave after wispy clouds began crowding the sky. Tom, who was trying out his beautiful new Starmaster 20-in. truss tube reflector, wouldn't set up his 'scope again so we could see it. Rats.

The following night, yr. editor arrived at Cox Field to find **Larry** with **Rusty & Dorrene Blaydes**. Although relatively new to astronomy, Rusty is a highly enthusiastic – and regular – observer at home, despite trees that limit how much of the sky he can see from his yard. We hope that the Blaydes will become regulars at Cox Field, now that they know where it is.

After they left, Larry remarked that Rusty's obvious passion for the night sky reminded him of two other guys who, 15+ years ago, shared a similar obsession with the night sky that eventually resulted in the founding of the Flint River Astronomy Club.

Seven FRACsters (including **Dr. Schmude, Larry Higgins, Tom Moore, Stephen Ramsden** and his wife **Natalie, Dwight Harness** and yr. editor) conducted an observing for about 50 Gordon College students on Nov. 19<sup>th</sup>. The sky was good, so we showed them everything in the sky except four Galilean moons of **Jupiter**. (One was hiding behind the planet.)

The only glitch arose when yr. editor, mistaking Natalie for a coed in the dark, told her that, if she thought **Orion Nebula** was gorgeous in Stephen's 'scope, she ought to see the **Sun** in it! "I have," she replied. "He's my husband."

(There was, of course, yr. editor's three attempts to steal Dwight's car, but that's another story for another time.)

The following night, the skies over Cox Field were good enough for **Laura Harness** to add six more Messiers and move her back ahead of her dad **Dwight** in their personal Messier race. **Tom Danei** brought his new Starmaster; it's everything you'd expect in an \$11,000 telescope. **Yr. editor** was there too, tripping over things, dropping others, and giving a remarkably believable impression of a guy who's sliding toward senility at the speed of light.

\* \* \*

**This 'n That.** The *Griffin Daily News* recently published an article, "Public observatory brings stargazing to masses," about **Katie Moore's** new observatory at the Smithsonian Institution in Washington, D. C. (Well, to be perfectly accurate, it's not *Katie's* observatory, it belongs to (and is part of) the Smithsonian and its Astronomy and Space Sciences Division – but you know what we mean. She's the one in charge of the observatory on a day-to-day basis.

Anyway, it was a very good article; the only thing missing was any reference to Katie or what she does. We intend to rectify that oversight in the near future by preparing our own article on Katie and the Washington observatory, for the benefit of her many friends in Griffin, and her many friends in FRAC.

\*"Honey, c'mere! You won't believe this, but today is our lucky day: **Bill Warren** has another of those incredibly exciting **Trivia Questions** that we always look forward to reading!"

Well...maybe not – but we *do* have another trivia question for you:

*Why do auroras appear more often at extreme northern or southern latitudes than they do at other places such as, say, the Flint River area or the equator?* (Answer on p. 6.)

\* \* \*

**Upcoming Meetings/Activities.** Our postponed Sun City Peachtree observing has been rescheduled for **6:30 p.m. on Tues., Dec. 8<sup>th</sup>.**

To get to Sun City Peachtree, go N from Griffin (or S from Hampton) on U. S. Hwy. 19/41, and turn E (right, if you're coming from Griffin, and left if you're coming from Hampton) at the stoplight at Birdie Road.

From there, Birdie Rd. becomes Baptist Camp Road. Stay on Baptist Camp Rd. for 2.4 mi. to the 1<sup>st</sup> and only stoplight on that road. The gated entrance to Sun City Peachtree is just beyond that stoplight, straight ahead: you'll see a huge, lighted waterfall ahead on the right that marks the entrance. Stop at the front gate, then go on in. The security guard will be expecting you.

Continue on that road past a road on the left, and 0.4 mi. from the security gate the road will deadend at the large and lovely Sun City clubhouse. Drive into the parking lot, turn right, and you'll find us set up at the far right end of the lot.

Our Christmas party will be held at Ryan's buffet restaurant in Griffin at **6:30 p.m. on Fri., Dec. 11<sup>th</sup>.** The evening's order of business will be: (1) eating; (2) going back for seconds (and thirds, in some cases); (3) finding room for dessert; and (4) drawing for door prizes. And that's it. No club business will be conducted, except for announcements of interest to the members, such as our Dec. observing schedule. We have about 30 door prizes to give away, so bring along your entire family to join in the festivities and listen for their numbers to be called out.

To get to Ryan's from anywhere N of Griffin, come S on U. S. Hwy. 19/41. Go through the Hardee's/McDonald's stoplight at Fayetteville Rd. (Ga. Hwy. 92), continue through the next stoplight, and turn right just before you get to the RR overpass. You'll see Ryan's red neon sign on the right before you turn.

To get to Ryan's from S of Griffin, come N on the 19/41 Bypass 4-lane like you're going to Cox Field, but stay on the 4-lane past the Williamson Rd. (Ga. Hwy. 362) exit, and past the Griffin-Newnan (Ga. Hwy. 16) exit as well. Get in the left-hand turning lane immediately past the RR overpass, and two left turns will take you into the Ryan's parking lot.

Our Cox Field observings will be held on **Fri., Dec. 12<sup>th</sup>** (the night after our Christmas party), and again on **Fri.-Sat., Dec. 18<sup>th</sup>-19<sup>th</sup>**. Both weekends will be ideally suited for deep-sky observing: the **Moon** will be four days past Last Quarter on the 12<sup>th</sup> – that means it won't rise until very late – and the other dates will be 2-3 days after the New Moon (which means the Moon won't be a factor at all).

Two meteor showers, the always-dependable **Geminids** and the less spectacular **Ursids**, peak in Dec., the Geminids on Dec. 13<sup>th</sup>-14<sup>th</sup> and the Ursids on Dec. 22<sup>nd</sup>. The Geminids will be especially good this year because the Moon won't interfere with viewing, so we may get 2 per minute.

We try to keep our Dec. activity schedule light due to the demands of the holiday season, so let's hope for some clear nights at The Cox. Remember, too, to be good little girls and boys so Santa will bring you that \$19,900 Astro-Physics 3600GTO German Equatorial Mount that you've been dreaming of owning.

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**The Planets in December.** You've doubtless heard the phrase "once in a blue moon" – but do you know where it came from?

A "blue moon" is the 2<sup>nd</sup> Full **Moon** in a single month, as happens this month with Full Moons on **Dec. 2<sup>nd</sup> and Dec. 31<sup>st</sup>**. According to *Sky & Telescope*, the term arose due to an error in the March, 1946 issue of that magazine.

Anyway, between Full Moons in Dec. we'll have **Jupiter** (mag. -2.2) in the W sky and **Mars** (mag. -0.4 or thereabouts) in the E sky, with countless extraterrestrial delights between them.

If you have an unobstructed SW horizon, you can find bright **Mercury** below the crescent Moon on **Dec. 18<sup>th</sup>**.

On **Dec. 2<sup>nd</sup>**, the Galilean moon **Io** will occult (pass in front of) another moon, **Europa**, dimming their collective light by nearly half for about 4 min., starting at 9:08 p.m. And on **Dec. 14<sup>th</sup>**, Europa will return the favor, occulting Io for about 6 min., starting at 7:26 p.m.

On the night of **Dec. 20<sup>th</sup>-21<sup>st</sup>**, Jupiter and **Neptune** will share a low-power telescopic field of view – two planets for the price of one (and three if you include the one beneath your feet).

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### THREE OBSERVING REPORTS

*(Editor's Note: All three of these reports have been edited to fit the newsletter and provide continuity between them.)*

#### **Felix Luciano: Observing Nights and Days.**

Date/Time: 10/17/09, 9:35-11:30 p.m

Location: Jonesboro, GA

Temp: 43° F., light winds

Equipment: Orion XT8 Classic Dob, f/1 1200mm; Orion Correct-Image Right Angle 9x50 finderscope, Telrad, Oberwerk 11x70 binoculars on a camera tripod.

Eyepieces: 16mm Nagler (75x); 12mm & 8mm Radians (100x, 150x); 6mm Orion Expanse (200x).

\***M57 (Ring Nebula)**, a planetary nebula in *Lyra*. An oval smoke ring with a bright star to the E. (75x, 150x, 200x)

\***M56**, a globular cluster in *Lyra*, located about 31,000 light-years away. A small, faint, fuzzy patch of light. (75x, 150x)

\***M71**, a globular cluster in *Sagitta*, located about 12,000 light-years away. A large, roundish, faint patch of light. (75x, 100x, 150x)

\***M27 (Dumbbell Nebula)**, a planetary nebula in *Vulpecula*. Very large, roundish with a bright disk. The N-S edge seems to be the brightest portion. (75x, 100x)

\***M56**, a globular cluster in *Lyra*, about 31,000 light-years distant. A small, faint, fuzzy patch of light. (75x, 100x)

\***M29**, an open cluster in *Cygnus*, located about 14,000 light-years from the Earth. I call this my “butterfly” cluster. It has 10-12 bright stars, with a number of fainter stars framing the cluster. Binoculars show it as a faint patch of light. (75x, 100x)

\***Collinder 399 (Brocchi’s Cluster, the Coathanger)**, an open cluster and well-known asterism in *Vulpecula*. Ten mag. 5-7 stars form the unmistakable shape of a coathanger. (Binoculars)

\***M13, the Great Hercules Cluster**, located about 20,000 light-years away. Binoculars show a small, bright, very dense, roundish clump of starlight. The well-known globular was too near the horizon to use my telescope.

\***M92**, the “other” globular cluster in *Hercules*, located about 25,000 light-years from us. Binoculars showed it as a very small, dense, fuzzy patch of light.

\***M39**, an open cluster in *Cygnus*, located about 800 light-years away. A large, loose grouping of stars, a few of them bright. (Binoculars)

\***M15**, a globular cluster in *Pegasus*. A large, very bright, very dense cluster, averted vision brings out a few strands of stars away from the main cluster. (75x, 150x, 200x)

\***M31, the Great Andromeda Galaxy**, lying 2.3 million light-years distant. A large, bright oval patch of light extending almost across the entire field of view. Nearby **M110**, located WNW of M31, was a small, fuzzy patch of light at 75x. (75x, 100x)

\***M52**, an open cluster in *Cassiopeia*, located about 3,900 light-years from us. A large, extended, loose grouping of stars, with one bright star lying SW of the main cluster. (75x, 100x)

\***Czernik 43**, an open cluster lying SE of (and adjacent to) M52 in *Cassiopeia*. An elongated triangle at high magnification; low power reveals nothing more than a faint patch of starlight. (75x, 100x, 150x)

\***M103**, an open cluster in *Cassiopeia*. A large, triangular cluster with lots of bright stars in it. (75x, 100x)

\***Trumpler I**, an open cluster in *Cassiopeia*. What would a fall evening of observing be without a visit to my “Six of Dominoes”? A small, bright grouping of six stars arranged in two rows that partially close at the SW end. (75x, 100x)

\*Also: four other open clusters in *Cassiopeia*: **NGC 659**, large & faint; **NGC 663**, large & irregular; **NGC 654**, very small, fuzzy; and **NGC 457, the E. T. Cluster!** (*Editor’s Note: NGC 457 is one of those “What-do-you-think-it-looks-like?” asterisms. Sometimes referred to as the “Owl Cluster,” this lovely open cluster’s grouping of stars has also been described as resembling a dragonfly or Luke Skywalker’s fighter aircraft in “Star Wars.”*)

Solar Observing.

Date: 10/18/09, 3:15 p.m.

Equipment and eyepieces: Coronado PST Solar Telescope; TeleVue 20mm Plossl and 12mm and 14mm Radian eyepieces.

\*The eastern limb (edge) of the **Sun** shows three small prominences, including one large, bright, looping prominence with a sort of “flat-top” to it at the 3 o’clock position, a nice, very wide loop prominence.

**Alan Pryor: A Quick Tour of the Universe.**

On Sat., Nov. 7<sup>th</sup>, I went out to Cox Field with my daughter **Cassandra** and her boyfriend. It was the first clear weekend night we’d had in about ten weeks, and I couldn’t resist going out even though it wasn’t an official Cox Field observing weekend. I prepared an extensive list of observing targets, and it was a great night for viewing.

During the evening, we saw the International Space Station, six satellites and about as many meteors. Cassandra spotted most of them.

As for my list – well, we started off with Jupiter, of course. There was lots of water vapor in the air, but we forged ahead and went for a few Messiers.

We found **M31, the Great Nebula** (actually, it’s a galaxy, but they didn’t know that when they named it) and its two neighbors, **M32** and **M110**, all of them in

*Andromeda*. We saw **M33**, the large, wispy **Pinwheel Galaxy** in *Triangulum*, and the lovely globular clusters **M2** in *Aquarius* and **M13**, the **Great Hercules Cluster**.

We found the **Helix Nebula (NGC 7293)**, an enormous planetary nebula in *Aquarius* with an Ultra High Contrast filter, and switched to an O-III filter for the **Veil Nebula (NGC 6992-95)** in *Cygnus*.

While we were in *Cygnus*, we dropped in on the cute little **Blinking Planetary Nebula (NGC 6826)** – it only blinks on and off through averted vision and direct vision when you're using low power – and then we went back to *Aquarius* for the planetary **Saturn Nebula (NGC 7009)**. Like Saturn itself a few months ago, Saturn Nebula looked like it had a stick through it. And we saw the **Ring Nebula (M57)** in *Lyra* and the **Dumbbell Nebula (M27)** in *Vulpecula*.

Of all we saw that night, Veil Nebula was our favorite. It was high overhead, and Cassandra was too short to reach the eyepiece even while standing on the ladder. So **Ricky** held her steady and gave her a little boost while I held the ladder tightly. She only needed another inch, but that inch made all the difference.

Everybody needs a little boost now and then.

### **Jim Stratton: The Three Jamigos.**

*(Editor's Note: Jim isn't a club member – but he is very familiar to many of us anyway: Jim and several of his observing buddies in and around Greenville, S.C. attend Georgia Sky View every year, and we always look forward to seeing them again.)*

*Recently, Jim sent us an observing report. He didn't write it, but he was one of the three Jamigos. Like Alan Pryor, they couldn't resist the call of clear skies over the Greenville area on Nov. 7<sup>th</sup>.)*

Ultimately, the Three Jamigos – **Jim, Joplin** and **Jud** – descended on the flying field near Dacusville. Our proposed observing list was aggressive, but the sky didn't quite cooperate for some of the more difficult objects.

We started out with **NGC 6633**, a Herschel 400 open cluster in *Ophiuchus* that we had not previously observed.

Of course, we spent time with **Jupiter** early on when it was a little more presentable, before the seeing deteriorated.

Then it was on to some of the more showy objects as the skies darkened, such as: the **Ring (M57)**; the globulars **M13, M15** in *Pegasus* and **M22** in *Sagittarius*; the **Wild Duck Cluster (M11)** in *Scutum*; **M27 (Dumbbell Nebula)**; **M17 (Swan Nebula)** in *Sagittarius*; three celestial Jamigos in one low-power field of view (**Andromeda Galaxy, M32 and M110**); the open clusters **M36, M37** and **M38** in *Auriga*; **Veil Nebula** and the **North America Nebula (NGC 7000)**, both of them in *Cygnus*; and in *Camelopardalis*, the planetary nebula **NGC 1501** and **Kemble's Cascade**, with the little open cluster **NGC 1502** at the SE end of Fr. Kemble's star chain.

We couldn't pass up a visit to the **E. T. Cluster (NGC 457)**, of course. Then there were the more challenging edge-on galaxies **NGC 891** and **7640** in *Andromeda*, the semi-edge-on **NGC 7606** in *Aquarius*, and planetary nebulas such as the **Blinking Planetary, Saturn Nebula, NGC 40** in *Cepheus* and **NGC 6751** in *Aquila*. Then it was back to the always-challenging face-on galaxy **NGC 6946** and, 2/3° away to the NW, its brighter open cluster companion, **NGC 6939**.

Our biggest surprise of the evening came in being able to discern two dust lanes in **M31**. It's something we've never done here before. It is, we suppose, an example of learning how to observe (as opposed to merely looking at) deep-sky objects.

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**Answer to Trivia Question on p. 2:** Because the charged particles in the solar wind that create auroras in our upper atmosphere are compelled to follow lines of magnetic force (i.e., the north magnetic pole and the south magnetic pole). Auroras occur four days after solar sunspot activity releases charged particles into the solar wind. (It takes that long for the solar wind, traveling at a speed of a million miles an hour, to reach the Earth.)

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