

# THE FLINT RIVER OBSERVER

## NEWSLETTER OF THE FLINT RIVER ASTRONOMY CLUB

### An Affiliate of the Astronomical League

**Vol. 15, No. 3** **May, 2011**

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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. Sat., Apr. 30:** scouts telescope training (8-10 a.m., St. John's Lutheran Church in Griffin); **Fri.-Sat., May 6-7:** Cox Field observings (at dark); **Thurs., May 12:** FRAC meeting (7:30 p.m., Rm. 305, Flint Bldg., UGa-Griffin campus); **Fri., May 13:** UGa-Griffin lunar observing (7-10 p.m. on the UGa-Griffin campus lawn on Experiment St.); and **Tues., May 24:** FRAC board meeting (7:30 p.m., **Bill Warren's** house).

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**President's Message.** As you know, I'm not exactly a techno-whiz. Where computers are concerned, I'm

like the hairy anthropoids in **Stanley Kubrick's** 1968 sci-fi classic "2001," dancing around the black obelisk and grunting "Ooh! Ooh! Ooh!"

**Tom Moore,** on the other hand, is a computer guru extraordinaire. He works a computer with the artistry of **Michelangelo** painting "The Creation" on the ceiling of the Sistine Chapel. Under his streetclothes, Tom wears a blue outfit with a red cape and a big "S" on the chest. (At least, I think he does; I haven't looked and don't intend to.) His work on the FRAC website has been universally admired, and justifiably so. If the A. L. gives an award for website design and content, I'll nominate Tom next year. It's too late for this year.

Tom's latest project has been to help me bring the *Observer* a tad closer to becoming multi-dimensional. Slowly, hesitantly, we're inching our way toward that goal, in this case by adding FRAC members' astroimages to the text. I couldn't do it myself because the *Observer's* 2-column format cut images in half when I tried to cut-and-paste them in. But Tom can do it, and the results can be seen in the remarkable astroimages on pp. 5 and 7.

**-Bill Warren**

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**Last Month's Meeting/Activities.** We had a total of 13 members and one guest at our April Cox Field observings: **Larry Higgins, Julie Avery & Sam Harrell** and **yr. editor** (both nights); and **Alan Pryor, Felix Luciano, Rick Staylor & Peggy Mathis, Mike Stuart** and **Dwight Harness** (Sat. night). Both nights were good, but Saturday was excellent, as you'll see from the astroimages made by Felix and Alan. Sam got a very good start on his Messiers Saturday evening, finding eight of them. Next month should be even better, with the *Virgo* galaxies taking center stage.

On April 12<sup>th</sup>, 58 Pre-K students, their parents and teachers attended a FRAC observing at Orrs Elementary School in Griffin. FRACsters present included **Mike Stuart, Tom Moore, Larry Higgins** and **yrs. truly.** **Saturn** hadn't yet risen and the campus was massively light-polluted, so all we could show them was the **Moon.** But the sky was clear, and everyone had a good time.

We had 19 members – **Steve & Betty Bentley, Brianna & Erin Mills, Carlos Flores, Tom Moore, William Kurtz, Chris & Bagitta Smallwood, Mike Stuart, Roger Brackett, Erik Eriksen, Sam Harrell, Steve Knight, Cynthia Armstrong, Charles Turner, Larry Higgins, yr. editor** and speaker **Jessie Dasher** – at our April meeting. Carlos brought three boxfuls of promotional materials to be given out at public observings, and Jessie delivered a thought-provoking and well thought-out talk on religion, science and astronomy.

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**This ‘n That.** For the past two years, **Stephen Ramsden** has selected someone deserving to receive his “Jon Wood Award,” which includes a free telescope donated by Mr. Ramsden. This year’s recipient was **Scott Wimple** of Monroe, Ga. Scott received a fully outfitted Celestron CPC 9.25-in. ‘scope with GPS guidance, focuser, eyepieces, filters and other bells and whistles that normally take a beginner several years to amass. It’s further evidence (if any were needed) of Stephen’s overwhelming dedication to astronomy outreach.

\*Several members asked recently about the FRAC name tags that **yr. editor** and **Larry Higgins** have been wearing. **Rick Staylor** had them made for us at a recent hobby fair -- and he’ll have one made for you, too, if you want one. Pin-backed badges are \$7.50, and magnetic badges are \$10. Please specify which type and how many you want, along with the name(s) you want on the badge(s), and send your check made out to FRAC to: **Bill Warren**, 1212 Everee Inn Road, Griffin, GA 30224, or pay for it at the May meeting. The deadline for orders will be **Sat., June 4<sup>th</sup>**, so you can also pay at either of our June Cox Field observings.

\*A term you should know: **sucker holes**. WSB-TV meteorologist **Glenn Burns** is an amateur astronomer. We’ve always wanted to ask him, *Does a forecast of “partly cloudy” mean that all of the sky will be cloudy part of the time? Or that part of the sky will be cloudy all of the time?*

The term *sucker holes* refers to the latter situation, i.e., when clouds cover most of the sky, leaving

nothing but tiny gaps to reveal the stars behind them. Those gaps are called “sucker holes” because they tempt us (the suckers) to look for objects within them, but by the time we find them in our telescopes the gaps have closed, or else they have moved elsewhere to reveal other stars.

\***Three Trivia Questions.** **#1:** What animal does the constellation *Camelopardalis* represent?: (a) A camel (b) A leopard (c) Both (d) Neither.

**#2:** Who discovered **Halley’s Comet**?

**#3:** Why is the hottest part of summer referred to as “Dog Days”? (Answers on p. 5.)

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**Upcoming Meetings/Activities.** From 8-10 a.m. on **Sat., Apr. 30<sup>th</sup>**, **Steve Knight** will work with 12-15 scouts at St. John’s Lutheran Church in Griffin, showing them how to operate a telescope. If you’d like to help, the church is located on the 4-lane Bypass (U. S. Hwy. 41), about 200 yds. from Ingles and across the street from McDonald’s.

We’ll hold our Cox Field observings on **Fri.-Sat., May 6<sup>th</sup>-7<sup>th</sup>**, three days after the New Moon.

Our club meeting will be at 7:30 p.m. on **Thurs., May 12<sup>th</sup>**, in Room 305 of the Flint Bldg. on the UGa-Griffin campus. Our speaker, **Dr. Richard Schmude**, will talk about “Comets,” the subject of his latest book from Springer.

We’ll conduct our monthly UGa-Griffin lunar observing on **Fri., May 13<sup>th</sup>**, from 7-10 p.m. on the lawn in front of the Flint Bldg. on Experiment St.

FRAC’s officers and board members will meet at **Bill Warren’s** at 7:30 p.m. on **Tues., May 22nd**.

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## **FORGOTTEN PLEASURES**

### **binocular observing article by Bill Warren**

There’s a tendency on the part of many telescope users to dismiss binocular observing as unimportant or unexciting. It just ain’t so, Joe.

Admittedly, my 12-in. Discovery Dob gives me larger, brighter images of deep-sky objects than my 10x50 Bushnell binocs do. But my binocular field of

view (fov) – a healthy  $6\frac{1}{2}^\circ$  -- is almost *nine times* wider than my ‘scope’s  $3\frac{1}{4}^\circ$  low-power fov, so objects are correspondingly easier to locate.

Binocular observing offers the additional advantages of (a) using both eyes, (b) observing objects as they are, not upside-down or reversed, and (c) some objects are too large to fit into anything but binocs or a wide-field telescope or eyepiece. (Then there’s their portability and their being an inexpensive alternative to buying a telescope. You can buy a good pair of binoculars at WalMart for about \$50.)

At Cox Field on Mar. 25<sup>th</sup>, I decided to reacquaint myself with the sky as seen through binoculars. I didn’t use a tripod, but bracing the binocs against the roof or a door of my car steadied the view considerably.

Two realizations of forgotten pleasures occurred almost immediately.

First, I realized that I had forgotten how ridiculously easy it is to find objects – especially the larger, brighter ones – in binoculars. In many cases that evening, I didn’t have to scan the target area at all, just point the binocs toward where I thought the object should be according to my star chart (*Deep Map 600*) -- and there it was, in that  $6.5^\circ$  fov.

And second, I had forgotten how absolutely stunning the sky appears in the widescreen panorama of a binocular fov!

Here’s what I saw during 90 min. of binocular observing on an evening of just average seeing and transparency:

\***Orion Nebula (M42)** was small but very bright, its filmy nebulosity clearly defined and containing two – not four -- bright stars like eggs in a bird’s nest. I saw **M43**, the “head” of the bird-in-flight that the nebula resembles, as part of M42, not as a separate entity.

Lying just north of M42, the bright open cluster **NGC 1981** featured two lines of stars curving N to NE away from the nebula. The eastern line (three stars) was brighter than the four stars in the western line, with 8-20 other, dimmer stars filling out the cluster.

\***The “Heavenly S”** in *Orion*. Too large by far to fit into a telescopic view, this attractive asterism formed an elongated but remarkably symmetrical, 11-

star “S” that began above **Mintaka (Delta Orionis)**, the westernmost star in Orion’s Belt). The line of stars forming the S curved down between Mintaka and **Alnilam (Epsilon Orionis)**, the middle star in the Belt), and continued its arc to a point below Alnilam.

\***M45** (the **Pleiades** open cluster in *Taurus*). This obvious binocular target, nearly four times as large as the Full Moon, was simply lovely: six bright, widely spaced stars forming a mini-**Dipper** with three other bright stars and 18-20 fainter stars filling out the cluster. I didn’t see the wispy nebulosity around **Merope** or the other Pleiades stars – but that was my fault, not the binoculars’ or the sky’s. I should have used **Larry Higgins’s** strategy of holding a nebula filter over one of the eyepieces, but I forgot to.

M45 is clearly visible to the naked eye as a tiny, 5- or 6-star “Little Dipper” look-alike located west of the V-shaped face of *Taurus*, the Bull. Look for brightly glowing, yellow **Aldebaran (Alpha Tauri)**, the 13<sup>th</sup>-brightest star in the night sky: it forms the Bull’s right eye as it looks at us.

\***M44 (Praesepe, the Beehive in Cancer)**. More than three times as large as the Full Moon, Praesepe is another of the largest and brightest open clusters in the night sky. It is impressive in binoculars, 25-30 stars with eight of them brighter than the rest. A line of stars trailing away to the SW gave M44 somewhat the appearance of a Christmas tree with a tall base.

To find M44, first find *Leo’s* (the Lion’s) head, a large backward question mark (or sickle), and then scan west of where Leo’s eyes would be looking ahead. M44 can be seen without optical assistance as a small, faint, circular patch of light along that line.

\***The Alpha Persei Association (or Moving Group)**. This enormous, scattered group of about 35 bright stars around and below 2<sup>nd</sup>-mag. **Alpha Persei** is one of the finest wide-field groupings in the sky, filling my binocular fov with their brightness and beauty. This group is often overlooked due to its immense size, but once seen it is never to be forgotten. Just aim your binocs at Alpha Persei and enjoy the view.

The Alpha Persei Association is a moving group, or a group of stars that are moving together in space. It therefore qualifies as a cluster, albeit one without an

“M” or “NGC” number. Its size is due to its proximity to us, i.e., a scant 550-600 l.y. away.

\***The Double Cluster (NGCs 869 & 884 in Perseus)**. In binocs, these two clusters appear as nebulous lumps in a densely populated field of Milky Way stars. They lie about 1/2° apart; NGC 869 appeared to be much larger than its companion, probably because it is looser and has more bright stars along its periphery. (Actually, they are the same size.) NGC 884 appeared brighter because its brightest stars lie closer to its center.

The Double Cluster is located between the stylized “Atlanta Braves A” that forms the constellation *Perseus* and the 5-star “bent W” that forms *Cassiopeia*. You’ll see the two clusters as a small, faint naked-eye smudge along the line between those constellations.

\***Stock 2**, an open cluster in *Cassiopeia*. Lying 2° NNW of the Double Cluster in the same fov, Stock 2 was as large as those two clusters combined, a loose mass of largely unresolved stars in the Milky Way.

Other targets I found that evening included: the open cluster **M41** in *Canis Major*; the galaxies **M81 & M82** and the double star **Mizar/Alcor**, all of them in *Ursa Major*; the open clusters **M34** in *Perseus* and **M103** in *Cassiopeia*; **M36, M37 & M38**, three open clusters in *Auriga*; and **Saturn** (which, due to its location just above the treeline to the ESE, appeared as a round disk rather than football-shaped).

It was, all in all, a very satisfying and productive 90 min. I could have accomplished more in less time if I’d been using a tripod, but I was satisfied that my time was well spent anyway.

(Note: To find out what binocular objects are up at any given time of year, go to [amazon.com](http://amazon.com) and type in “binocular astronomy books.” They have 9-10 available, the best of which – in my opinion – are: **Phil Harrington’s** *Touring the Universe Through Binoculars* [\$1.74 used]; **Gary Seronik’s** *Binocular Highlights: 99 Celestial Sights for Binocular Users* [\$10.25 used]; and **Stephen James O’Meara’s** *Observing the Night Sky Through Binoculars* [\$2.51 used]. Or you can go to [skyandtelescope.com](http://skyandtelescope.com) or [astronomy.com](http://astronomy.com) and read about this month’s (or this week’s) observing highlights.)

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## SPECTACULAR SPRING SHOWPIECES

by Bill Warren

**Rich Jakiel**, an old friend to many FRACsters, had another article published in the April ’11 issue of *Astronomy* (“Explore the Centaurus A galaxy cluster,” pp. 54-57). A galaxy aficionado, Rich has had about 20 articles published in *Astronomy* and *Sky & Telescope*, all but one of them on galaxies. (The other one was on astrodrawing, another of Rich’s specialties. It’s what people did to record images visually before astrophotography and astroimaging became popular.)

Anyway, in this article Rich writes about (among other things) two galaxies of spring that you really need to see for yourself: **M83**, a bright, face-on spiral galaxy in *Hydra*; and **Centaurus A (NGC 5128)**, a powerful source of radio wave emissions and one of the most unusual-looking galaxies in the night sky.

**M83**. Located about one widespread thumb-to-pinky width south of **Spica (Alpha Virginis)**, M83 wasn’t discovered by Messier although he included it in his 1781 list of non-cometary objects. Sometimes referred to as the “Southern Whirlpool”, this face-on galaxy displays its spiral shape on dark nights at Cox Field in ‘scopes as small as 6 in. It can even be seen in binoculars as a fuzzy, starlike disk.

**Centaurus A**. The peculiar galaxy **NGC 5128** appears on a dark night as something like a Hardee’s ¾-lb. burger: two large, bright “buns” separated by a thick dust lane in the middle. It’s a spectacular sight, and one that you’ll be proud to say that you’ve found and observed. In Alan **Pryor’s** stunning astroimage of NGC 5128 (next page), you can even see a bit of “cheese” on the burger.



**Omega Centauri (NGC 5139).** Although Rich didn't include NGC 5139 in his article on the Centaurus A galaxy cluster, no discussion of showpieces of the spring sky would be complete without reference to the spectacular globular cluster Omega Centauri.

Faintly visible to the naked-eye about  $10^\circ$  – a fist-width held at arm's length against the sky -- above the S treeline at Cox Field in the spring, mag. 3.9 Omega Centauri is in fact the brightest globular cluster in the sky, easily surpassing mag. 5.7 **M13**, the "Great Cluster" in *Hercules*.

Of course, lying so close to the S horizon Omega Centauri doesn't reveal its splendor as well as M13 does higher in the sky, but finding and observing it is nevertheless a bragging point for observers. In observing 5139 for my Caldwell Club pin, I wrote, "I saw it tonight at Cox Field only  $8^\circ$  above the S treeline under average observing conditions. In my 12-in. Dob at 227x, NGC 5139 was a large, bright glow of resolved and unresolved stars extending about  $15'$  in dia. – about half of what it should have been. The cluster was round, with numerous lines and short rows of stars and countless pairs and trios of stars beyond its massive --  $6'$  to  $7'$  -- thickly concentrated core. I can only imagine what the view of this unforgettable object would be like from somewhere farther S like Key West." (The latter refers to a statement by Rich Jakiel: "You haven't lived until you've seen Omega Centauri from the Florida Keys.")

Should I also point out that no one in FRAC has produced a recent astroimage of Omega Centauri? Hey, guys, if you'll image M83 and/or NGC 5139, I'll

include them in the *Observer* so everyone in the club can enjoy your handiwork.

(Editor's Note: Another article from Rich, "How to observe high-energy galaxies," appears in the May '11 issue of *Astronomy*, pp. 58-61. It's about *Seyfert galaxies*, or galaxies with an active galactic nucleus. Most – but not all – Seyfert galaxies have extremely bright cores.)

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### Answers to Trivia Questions on p. 2:

**#1:** (d) Neither. *Camelopardalis* represents an animal that is indigenous to Africa and has camel-like size and leopard-like markings: the giraffe.

**#2:** The discoverer of **Halley's Comet** is unknown. (You didn't really think we'd give you a question that easy, did you?)

From **Dr. Schmude's COMETS and How to Observe Them** (NY: Springer, 2010): "The earliest recorded sightings (of Comet 1P/Halley) date from at least 239 B.C. The Chinese have consistently watched this comet for about 2,000 years." (p. 74)

Well, if that's true – and it is – where does **Halley** come in? Why is it called "Halley's Comet" rather than "An Unknown Ancient Chinese Astronomer's Comet"?

Again, from Dr. Schmude's book, p. 74: "Sir Edmund (or Edmond) Halley was the first to compute an orbit for this comet (in 1705). Having done so, he predicted that this comet would return in 1758 or 1759. **Johann G. Palitzsch**, a farmer and amateur astronomer, confirmed the reappearance of it on Dec. 25, 1758. It was widely studied during the first half of 1759 and subsequently became known as Halley's Comet."

**#3:** In Greek mythology, *Orion* (the Hunter) had two hunting dogs, *Canis Major* (the Big Dog) and *Canis Minor* (the Little Dog). **Sirius**, the brightest star in the night sky, was known as the "Dog Star" due to its location in *Canis Major*.

In ancient Egypt, the rising of Sirius in the early morning sky preceded the annual flooding of the Nile River and indicated when farmers should plant their crops in that arid region. The presence of the Dog Star during the daylight hours was thought to add to the **Sun's** heat and make those days – the Dog Days of summer – the hottest time of the year.

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### Prof. Stargazer Tells All – Well, Almost!

*(Editor's Note: Also known as "Cool Hand Theo" due to his light-fingered skills as a pickpocket, Prof. Theophilus Stargazer is widely regarded as the greatest theoretical astrophysicist the world has ever known. FRAC is proud that such a famous astronomer calls our club "one of my two homes away from home." (The other one is the Ga. State Prison at Reidsville.) We interview him whenever he's in the Griffin area.*

*When we finally caught up with the elusive genius (after an exhausting 3-mi. chase on foot, we might add), he stopped suddenly, leaned against a parked car and assumed the spread position. Then, recognizing us as FRACsters, he stood up and relaxed visibly.*

*"Oh, it's you," he said. "I thought you were some of my adoring fans in the Griffin P. D." Eyeing Larry Higgins suspiciously, he added, "Weren't you in a police lineup with me in Cleveland last week?"*

*"No sir," Larry replied. "Our members enjoy our occasional interviews with you. We're here because we want to know more about you."*

*"So did the Cleveland police," the professor muttered. "What do you want to know? I can always plead the Fifth—"*

*"Amendment?," asked Rick Staylor.*

*The prof shook his head. "Jack Daniels. I'm as dry as one of Jessie Dasher's sermons."*

*On that dry note, the interview began.*

**Charles Turner:** Was your father instrumental in steering you toward a career in astronomy?

**Prof. Stargazer:** He certainly was! I can't recall everything that Dad and I talked about the last time I saw him, but I'll never forget his parting advice as I was leaving.

**Tom Danei:** What was that, sir?

**Prof. Stargazer:** I can't repeat all of what he said with children present, but the last part was, "...and Don't Come Back!" I tell you, that man could slam a door with the best of 'em!

**Curt Carroll:** Where did you go to college?

**Prof. Stargazer:** I received a 5-year, all-expenses-paid stay at a place up north – State Penn, I think it was.

**Alan Pryor:** Have you ever worked in an observatory, Professor Stargazer?

**Prof. Stargazer:** As you know, Alan, astronomy is a tough, demanding profession and observatory jobs are hard to come by. Palomar is a hard place to break into, but I finally managed it.

**Phil Sacco:** You were at Palomar Observatory?

**Prof. Stargazer:** Yes, I was, Phil. And I'd still be there if I hadn't accidentally tripped the burglar alarm in the dark. The cops arrived before I was halfway down the mountain.

**Roger Brackett:** We heard that a black hole was named for you, Professor. Is that true?

**Prof. Stargazer:** Yes it is, Roger. That unique honor was bestowed on me last year.

**Steve Bentley:** But – I thought that, with the exception of comets, celestial objects can't be named after living persons.

**Prof. Stargazer:** Oh, this wasn't a *celestial* black hole, Steve, it was the solitary confinement area at Reidsville. I was in there for so long that they named it after me. Now, does anyone have a final question?

**Dwight Harness:** I have one, sir, but I'll address it to everyone here: *Has anyone seen my watch and wallet?*

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Below: **NGC 3718**, a barred spiral galaxy in *Ursa Major*. To its left is **NGC 3729**, a ringed spiral galaxy. The two galaxies are interacting. (Image by **Felix Luciano**)





Below: **M87**, a giant elliptical galaxy in *Virgo*. A gas jet emanating from the vicinity of a black hole near the center of the galaxy can be seen emerging from the lower left (NE) portion of the core in an enlarged version of this image by **Alan Pryor**.



Below: **NGC 4565**, a beautiful edge-on galaxy in *Coma Berenices*. Very large and bright, with a bulging central core. Often called “Needle Galaxy,” it more closely resembles a flying saucer, according to **Louise Warren**. Most observers consider NGC 4565 to be the finest edge-on galaxy in the entire sky. (Image by **Felix Luciano**.)

Below: **M64 (Black Eye Galaxy)** in *Coma Berenices*. The “black eye” is a dust lane off-set to our line of sight in this famous ringed spiral galaxy. The dust is debris left over from an earlier galactic collision and merger with another galaxy. (Image by **Alan Pryor**)



Below: **NGCs 4038/4039 (The Antennae, or Ring-Tail Galaxy)** in *Corvus*. This is one of the most famous pairs of colliding galaxies in the sky. The “antennae,” or gases, stars and dust resulting from the collision, can be seen arcing away to the north and south of the galaxies. (Image by **Alan Pryor**)