

THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT
RIVER ASTRONOMY CLUB

An Affiliate of the
Astronomical League

Vol. 17, No. 9 **November, 2013**

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Club mailing address: 1212 Everee Inn
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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. Fri.-Sat., Nov. 1-2:
JKWMA observings (at dark); **Thurs.,
Nov. 14:** FRAC meeting (7:30 p.m., Rm.
219 Flynt Bldg., UGa-Griffin campus; **Fri.,
Nov. 15:** UGa-Griffin public lunar
observing (7-10 p.m.); **Thurs., Nov. 21:**
Gordon College observing (9 p.m., Abbott's
Farm, Barnesville, Ga.); **Fri.-Sat., Nov. 29-
30:** JKWMA observings (at dark).

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**Vice President's Message. An Open
Letter from FRAC to Mr. Murphy** (of
Murphy's Law fame): Understanding how
you operate, Mr. Murphy – arranging events
so that whatever can go wrong, *will* go
wrong – we in FRAC have a small favor to
ask of you.

Our club has spent 16+ years grinning
and bearing it when you've played tricks on
us with clouds and rain on our observing
dates – but this time is different. **Comet
ISON** could become one of the brightest
comets in history if its close encounter with
the **Sun** on Nov. 28th doesn't destroy it.

Admittedly, that's a very big **IF**. But
that's not what we're asking for.

All we're asking is for you to keep your
bag of tricks closed for a few days around
the 28th, so we'll have a few clear mornings
to see what's going on. That's not too much
to ask, is it?

Sincerely,

Bill Warren, vice president
Flint River Astronomy Club

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Last Month's Meeting/Activities. Eleven
members and a visitor attended our late
Sept. JKWMA observings: **Dwight
Harness** and **yr. editor** (both nights);
Aaron Calhoun, **Andy Hasluem**, **David
Tew** and visitor **Truman Boyle** of
Barnesville on Fri. night; and **Alan Pryor**,

Erik Erikson and **Joe Auriemma** & his triplane, the Red Baron, on Sat. evening.

Sixteen members – **Aaron Calhoun; Andy Hasluem; David Tew; Mike Stuart; Larry Higgins** (who, with his new winter beard, looks like either **Galileo** or a cast member of “Duck Dynasty”); **Jessie Dasher; Dwight & Laura Harness; Mike Basmajian; Cynthia Armstrong; Steve Bentley; Steven “Smitty” Smith; Alan Pryor; Roger Brackett; Erik Erikson;** and **yrs. truly** -- attended our Oct. meeting. Jessie got the laptop connection working (with an assist from Andy, who found the remote), and we watched a segment of the *Our Night Sky* cd dealing with comets, meteor showers, eclipses and auroras. Also, the attendees voted unanimously in favor of renewing the club’s nonprofit status.

The following evening, seven members – **Steve Bentley, David Tew, Erik Erikson, Jessie Dasher, Dwight Harness, Carlos Flores** and **yr. editor** – outnumbered our visitors at the Oct. UGa-Griffin observing. But we had fun showing each other what we could find in the light pollution (e.g., **Andromeda Galaxy**’s core but not the rest of it).

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This ‘n That. In Memoriam: Dr. Stephen Mann. On Sun., Sept. 29th, Steve died at age 52 in Columbus, Ga., where he was living with his wife **Aimee**. They had recently moved into a new home in Columbus that Steve proudly described as “only slightly smaller than the Biltmore House in Asheville.”

When Steve & Aimee joined FRAC, he was an anesthesiologist at Spalding Regional Hospital in Griffin. Regular attendees at our meetings and observings, the Manns were well liked by everyone in the club – Aimee, a warm, beautiful Southern belle, and Steve, a proud (and

extremely funny) native of New York City. We jokingly told Steve that he was one of Nature’s rarest creatures: a likeable Yankee. We said we wanted to have him X-rayed to see what Aimee saw in him. He thought they were the funniest things he’d ever heard.

A number of years ago Steve opted for early retirement; shortly thereafter, he came out of retirement. He ended up in Columbus but retained his club membership because, as he put it, “I can’t imagine not being a part of FRAC.”

Steve is gone now, and we – Aimee and FRAC – are the poorer for it. If we had known that Steve was a member of MENSA (the international society for the super-intelligent), we’d have told him that the only reason we wanted him in FRAC was because he raised the club’s collective IQ by twenty points. He’d have loved that.

Rest in peace, Steve.

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Upcoming Meetings/Activities. November will begin with JKWMA observings on **Fri.-Sat., Nov. 1st-2nd**. We’ll set up our ‘scopes at Site #3, i.e., the one that is exactly one mile from the gates. We’ll have cones set out along the way from the gates to the observing site. Directions to JKWMA can be found in our “Directions to FRAC Sites” file in the Downloads section of our web site.

Regarding the second of those two evenings: we’ve designated **Sat., Nov. 2nd** as a belated **Halloween Zombie Party** observing: *everyone who attends and stays as late as 3 a.m. will receive a special Zombie Award certificate (suitable for framing).*

Larry Higgins came up with the Zombie Party concept years ago while serving as the Observing Vice President of the Atlanta Astronomy Club. We used to hold Zombie

Parties in FRAC, and we're renewing it now because it's a really clever idea whose time has returned. Zombies are all the rage now, on tv and in the movies: here's your chance to impress your spouse, kids and/or grandchildren that you're a bona fide, certified member of the Walking Dead!

All you have to do to earn a Zombie certificate is stay up observing until at least 3 a.m., let **yr. editor** know when and where you did it, and you'll earn a Zombie certificate.

So dress warmly on the evening of Saturday, Nov. 2nd, bring a thermos of hot coffee, and be prepared to learn why we call these events "Zombie Parties."

Our club meeting will be held at 7:30 p.m. on **Thurs., Nov. 14th**, in Room 219 of the Flynt Bldg. on the UGa-Griffin campus. Our speaker will be **Caroline Shufro**, who will talk about her experiences in working with NASA.

On the following evening, **Fri., Nov. 15th**, we'll hold our monthly UGa-Griffin lunar observing from 7-10 p.m. on the lawn in front of the Flynt Bldg.

At 9 p.m. on **Thurs., Nov. 21st**, we'll conduct an observing at Abbott's Farm for Gordon College students in **Dr. Schmude's** classes. Richard usually brings 50-60 students to these events, so we'll need you and your telescope if you can make it.

*(Personal aside to New Mexico resident and FRAC member **Charles Turner**: we realize that it's a long drive from your place to Abbott's Farm, so leave your telescope at home and just bring binoculars.)*

Abbott's Farm is located 2 mi. S of Barnesville, Ga. To get there from Griffin, go south on the 4-lane U. S. Hwy. 19/41 Bypass. It's 19.1 mi. on the 4-lane from Williamson Rd. (Ga. Hwy. 362) to Brent Rd. on the left. Turn there, and turn left again into the unpaved driveway of the first house on the left.

Finally, we'll close out November with JKWMA observings on **Fri.-Sat., Nov. 29th-30th**.

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*(Editor's Note: The following terms appear in the descriptions of the objects photographed by **Alan Pryor** and **Felix Luciano** for this month's Observer.)*

***Core.** Some galaxies appear in telescopes as being evenly bright or faint throughout; others are more brightly concentrated with stars toward their central *core*, or *nucleus*. And if the core or a portion of it appears starlike in a telescopic view, it is referred to as a *stellar nucleus*.

***Halo.** The visible but fainter portion of a galaxy that extends beyond the core in any direction.

Dust Lane. In some edge-on galaxies, a portion of the edge is obscured by dust or debris that does not reflect light. The easiest dust lanes to be seen visually are likely to be **M94 (Sombrero Galaxy)** in *Virgo* and **M64 (Black Eye Galaxy)** in *Coma Berenices*.

Some nebulas such as **M8 (Lagoon Nebula)** in *Sagittarius* also contain visible dust lanes.

***High and Low Surface Brightness.** These are general terms used to describe the relative brightness of deep-sky objects as seen in a telescope. The smaller the object, the more likely it is to have high surface brightness, because its glow is contained in a relatively small area.

Conversely, the larger the object, the more spread out its light becomes. For example, **M101** in *Ursa Major* and **M33** in *Triangulum* are very bright in terms of their overall light emission – but because they are also very large, their visible brightness is spread out over a large area, making them

difficult to see. In other words, they have low surface brightness.

So why is **M31 (Andromeda Galaxy)** so easy to observe for such a large galaxy? Two reasons. First, it's closer to us than almost any other galaxies; and second, it's not face-on to us the way that M101 and M33 are, so its light is more concentrated.

***Direct and Averted Vision.** While bright objects can be observed directly, faint objects may require averted vision – looking slightly away from the object – to be observed (or even seen, in some cases). The observing rule of thumb here is, *If you can't see it when you know exactly where it's supposed to be – or if it's too faint to see clearly – try averted vision.* If you can't see it by averted vision, it's either not in that field of view, or too faint to be detected visually. (That's why you need to know an object's magnitude or surface brightness – high or low – before you start looking for it.)

***Reflection Nebula.** Reflection nebulas are interstellar gas clouds that are illuminated by the light of stars lying near or within them (as opposed to **emission nebulas** that generate their own light via ionized gases).



Above: NGC 891, an edge-on spiral galaxy in *Andromeda*. 891 photographs well – as you can see in **Alan Pryor's** impressive

photo – but its low surface brightness makes it difficult to see much detail in a telescopic view.

891 is a Herschel 400 galaxy. **Yr. editor** saw it in his 10" Dob at 147x as being "about 6' x 1.5' on an evening of less than ideal seeing and transparency. (*Normally, it's about 50% wider than that, with the same thickness at the core.* –Ed.) 891 was thin, with a bright, elongated core comprising about 2/3 of its width and fading rapidly at its edges. I didn't see the dust lane at all. Located halfway between 2nd-mag. **Gamma And** and **M34** (an open cluster in *Perseus*)."

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Below: NGC 6781, a planetary nebula in *Aquila*. **Alan Pryor** took this photo on a clear evening in late Sept. at JKWMA.

NGC 6781 is a Herschel 400 planetary. In his H400 observing notes, **yr. editor** saw it as being "about 1.5' in dia., circular – but not ring-shaped – and grayish-green. Low surface brightness, and upping the magnification to 147x didn't improve the view."



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Above: NGC 7380 (a.k.a **Wizard's Nebula** and **Sharpless 2-142**) in *Cepheus*. (North is at the bottom of **Felix Luciano's** photo.)

NGC 7380, a large open cluster and nebula, was discovered by **Caroline Herschel** (Sir William's sister) in 1787. A Herschel 400 object, it was described by **yr. editor** in his H400 observing notes as "a large open cluster containing about 50 stars, arrayed outward in arms from a roughly rectangular shape, like an overturned salt shaker. The cluster was bright but doesn't stand out from its surroundings in a star-rich area of sky. The nebulosity was only faintly visible in a nebula filter. Located 2° E of mag. 3 **Delta Cep.**"

In 1959, **Stewart Sharpless** published a catalog of 313 H II regions of ionized hydrogen in nebulas and galaxies; NGC 7380 was #142 on his second list.

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A Prof. Stargazer Quickie

Interviewer: Why do some celestial objects have nicknames?

Prof. Stargazer: They were discovered by **Nick**.

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Above: NGCs 7769, 7770 & 7771, a close galaxy trio in *Pegasus*. Listed as Galaxy Trio #49 in the A. L.'s Galaxy Groups and Clusters Program, this threesome has a maximum separation of about a thumbnail-width at 61x. Here's how **yr. editor** saw them in his 12-1/2" Dob in Nov., 2002:

"NGC 7769, the brightest of the three (*and located near the top center of Alan Pryor's photo*), was 1' in dia., round, and its core large and bright but not stellar at 165x, which gave the best view. Beyond the core, the halo faded rapidly to the edges via averted vision.

"About 5' ESE of 7769 (*and located near the bottom center of the photo*), NGC 7771 was slightly fainter and elongated ENE-WSW about 1-1/2' x 1/2', with an elongated core that appeared brighter along its SW edge at 165x. A mag. 12 star lay about 2' away (*at the bottom center of the photo*).

"NGC 7770, the faintest of the three (*and slightly to the upper right of 7771 in the photo*), lay 1' S of 7771. A faintly stellar core lay inside a tiny halo that was less than 1/2' in dia. and extremely faint. 7770 vanished completely at 248x.

"7769 and 7771 were direct vision objects but best seen by averted vision. 7770 was detectable but not observable via direct vision at 165x."

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Above: **vdB 152**, a.k.a. **Barnard 175**, **Cedarblad 201** and **Wolf's Cave**. (North is toward the bottom of **Felix Luciano's** photo.)

“What’s in a name?,” **Shakespeare** wrote in *Romeo and Juliet* (Act II, sc. 2, l. 67). Who knows, he might have been referring to **van den Bergh 152**, a reflection nebula in *Cepheus*. It has more aliases than you’d encounter at a Mafia luncheon. It’s #152 in **Sidney van den Bergh's** 1966 catalog of 158 reflection nebulas; #175 in **E. E. Barnard's** 1919 catalog of dark nebulas; and #201 on **S. Cedarblad's** 1946 list of bright diffuse nebulas. And the whole nebula complex is sometimes referred to as “Wolf’s Cave” in honor of its 1908 discoverer, **Max Wolf**.

Confused yet? If not, consider that the bright (mag. 9.3) star engulfed in nebulosity (and located in the upper center of *Felix's* photo) wasn't formed in the nebula, but is merely passing through and lighting it as it goes. The star's measured velocity is wildly different from the nebula's velocity.

The entire complex is located about 1,400 light-years from **Earth**.

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Above **Right**: **NGC 6946**, a face-on galaxy in *Cepheus*. (Photo by **Alan Pryor**.) From

yr. editor's Herschel 400 observing notes: “Very large, diffuse, low surface brightness.

No core or spiral structure evident. Somewhat similar to **M101** in *Ursa Major* except oval and oriented E-W rather than round. Found it on my 3rd night of searching. Located 1/2° SE of open cluster **NGC 6939** (another H400 object not shown in *Alan's* photo) in the same 55x field of view.”



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Above: **Comet ISON**. (Photo by **Alan Pryor**.)

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