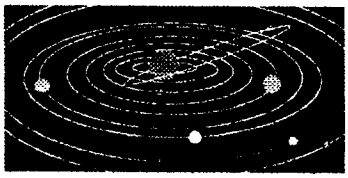
THE FLINT RIVER OBSERVER



Vol. 4, No. 7 **FLINT RIVER ASTRONOMY CLUB** **September, 2000**

Officers: President, **Steven (Smitty) Smith** (583-2200) -- or, if you prefer e-mail: <starship-saratoga@dellnet.com>; Vice President/newsletter editor, **Bill Warren** (229-6108; <warren1212@mindspring.com>); Secretary-Treasurer, **Ken Walburn** (P. O. Box 1179, McDonough, GA 30253 / 954-9442); AlCor, **Neal Wellons**, and Web Site Coordinator, **Cody Wellons** (946-5039); Librarian,**Katie Moore** (228-6447); Observing Chairman & Public Observings Coordinator: **Larry Higgins** (884-3982), e-mail <larrylhiggins@yahoo.com> . All of these phone numbers have 770 area code prefixes. Club mailing address: 1212 Everee Inn Road, Griffin, GA 30224. FRAC web page address: <http://welcome.to/frac>.

Please notify **Bill Warren** promptly if you have a change of address or e-mail.

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Club Calendar. Fri., Sept. 15th: Beaverbrook observing (behind the school, at dark); **Fri.-Sat., Sept. 29-30:** Cox Field observings, at dark (5:00 "dinner on the grounds" and club meeting on Sat. afternoon, followed by observing at dark).

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President's Message. I didn't realize it when, at our Aug. FRAC meeting, we discussed the "meal-on-the-grounds" to be held at Cox Field at **5:00 p.m.** on **Sat., Sept. 30th** (see p. 3), but that weekend is also the date for the **Flint River Area Boy Scout Camporee**, which this year is being hosted by my own Troop 48.

I'll be at Cox Field for the meal and meeting. Afterwards, though, I'm heading for the Camporee site to set up an observing for the scouts that evening, and I'll be glad to have as many of you who are willing to help out to come along with me. Even though that evening is a club observing, it's a tremendous opportunity for us to spend part of an evening doing something really worthwhile for hundreds of kids.

The Camporee will be held on private property in a very large open field with good horizons all around; the site is on a farm located on Ga. Hwy. 54, half a mile S of the intersection of Hwy. 54 and Ga. Hwy 16. If you'll follow me to the site, you can stay and observe for as long as you like after we finish showing the boys the wonders of the night sky. Port-a-potties will be available.

Of course, you can remain at Cox Field and observe after the meal and meeting, no hard feelings and no questions asked if you choose not to join me. But I hope you'll consider going to the Camporee with me. I'll have my telescope, but only one 'scope for that many kids could mean a *very* long waiting line for time at the eyepiece.

You may not know it yet, but the AL intends to raise its annual dues from $3.00 to $3.50 per family, effective Jan. 1, 2001. **Bill Warren** is going to propose at the next meeting that, since our own dues obviously will have to go up, too, we raise our dues an additional $1.50 per membership unit, making our new annual dues $12 per year and giving us about $60 a year more to help us meet expenses. We'll discuss and vote on that proposal at our Cox Field meeting on the 30th.

-Steven (Saratoga Smitty" Smith

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Last Month's Meeting/Activities. What an absolutely *terrible* month July was for observing! Between July 3rd-Aug. 22nd, there were exactly *three* nights that might have been acceptable for hunting Messiers -- the brighter ones, that is. How bad was it? The Moon wasn't a factor at all during those 50 nights.

We had 12 members and two guests at our July 22nd comet LINEAR observing at Cox Field: **Ken Wilson** and two guests, **Chuck Beckham, Jerry Williams, Larry Higgins, Charles & Bert Sykes, Tim Astin, Steve & Dawn Knight, Michael Chappell,** and **yr. reporter** and his lovely wife **Louise**. (Actually, the count should have been 15 total, since **Mr. Cox** showed up and stayed for about an hour.) Nobody saw the comet that night (see above for reasons why), but we enjoyed our time together anyway.

On July 25th, **Katie & Kathy Moore** -- bless their hearts -- joined **yr. reporter** and his wife at Morrow Branch Library for what turned out to be a very worthwhile public observing. (If, that is, you can call showing kids upside-down trees under cloudy skies at 8:00 p.m. worthwhile.) Katie was splendid.

Fourteen family members attended our August meeting, which was prefaced by an hour of fun in and around the pool. It was an instructive and practical meeting, with **Smitty** taking us through the process of cleaning our eyepieces and binocular lenses, **Larry Higgins** cleaning **Katie's** mirror to show us how it's done, and both of them offering a wealth of tips regarding mirror cleaning, the most important of which was, *"When in doubt, don't."* (Don't take out your mirror and clean it just because it's dirty; wait till it's really, <u>really</u>, <u>*really*</u> dirty. Like cheating on your income taxes, mirror cleaning is a risky business. You **don't** want to mess up the aluminum coating on the front of your primary mirror!)

We hadn't planned to offer door prizes this month, but **Katie** brought back two tee shirts, a cap and a beautiful color photographic print of the globular cluster **M80** from AstroCon. (For a change, **Dawn Knight** didn't win one of the door prizes.) Katie showed us her Horkheimer award and told us about her experiences that weekend. She also handed out a revised FRAC library list, which will appear in an upcoming issue of the *Observer.*

It was especially nice seeing **Donald Harden** and **Mike & Danielle ("I'm not drowning, I'm *swimming!")* Stuart** at the meeting.

Speaking of **Katie Moore** (as we seem to be doing so often lately), she was magnificent in her talk to the Atlanta Astronomy Club at Emory University on Fri., Aug. 18th. To hide whatever stage fright she had -- and it should have been considerable, since about a dozen different people were telling her not to be scared just because AAC has about 400 members -- crafty Katie had them turn down the house lights during her power point presentation. (For those of you who, unlike **yr. reporter,** are unfamiliar with the term *power point presentation,* it means projecting a photo, slide, etc., onto a screen and then pointing at it real hard.)

You'll get to see Katie's presentation at our November FRAC meeting. Since she has agreed to a repeat performance at Beaverbrook we won't have to bring our 3-year-old nephew **Brandon** to Cox Field with his Hasbro tool kit to fine-tune Katie's telescope.

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Club News. It's our unhappy task to tell you that yet another FRAC member has lost a parent. **Mike Stuart,** whose father is recovering from a recent heart attack, has since lost his mother, who passed away last month. Our thoughts and prayers are with the Stuarts in their time of bereavement.

***Beaverbrook Elementary School**, our Partner-In-Education, was a Reading Renaissance **Model School** this past year. (Only 13 schools in Ga. earned "Model School" status, and there were only 112 in the entire U. S.) Way to go, **Ken Bozeman, Louise Warren** and the faculty and students of BB!

***Toni Higgins** was in the hospital during the week preceding our July 22nd comet observing. She's at home now and feeling

much better, thank you. But for unappealing options try this on for size: continuing to eat hospital food, or coming home to **Larry's** cooking.

*None of our folks won the Messier book in the March *Sky & Tel* Messier Marathon contest. As best we can recall, our marathoners were **Smitty, David Ward, Steve Knight, Jerry Williams** and **Larry Higgins.** Let us know if we've overlooked anyone who participated.

***From Our "You Read It First Here" Dept.:** First, there was **Elvis.** Then the legendary Brazilian soccer star **Pele.** Then **Cher, Prince, Madonna** and **Ken Walburn.** When you're sufficiently well known, you don't need a last name. So now we're making it official: due to her newfound celebrity, **Katie Moore** will no longer have a last name in these pages. From now on, it's **Katie,** and if in the future any other females of the feminine persuasion with that first name join FRAC, the newcomer will be referred to as "Katie 2" (or "Katie Too").

Of course, **yr. editor** enjoys that same first-name recognition, too -- only with the word *just* added to his name. Whenever we're calling, say, **Steve Knight** and **Dawn** answers the phone, when Steve asks who it is Dawn says, "It's just Bill."

***"*Dear FRAC:** *Thank you very much for the identification plaque for my telescope. I appreciate all that you do for me. Sincerely, **Katie Moore.**"*

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Membership Renewals Due in September: None. *(Remember, though, that our club dues will go up at least $0.50 a year as of Jan. 1, 2001; if you want to save a bit of pocket change, you might want to renew your FRAC membership before that date regardless of when it's scheduled to expire.)*

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Upcoming Meetings and Activities. Please note these meeting/observing dates in Sept. *very* carefully, or else you may find yourself sitting in an empty parking lot at Beaverbrook waiting for a meeting that has been scheduled for another night:

On **Fri., Sept. 15th,** we'll hold our regularly scheduled Beaverbrook observing behind the school.

On **Fri.-Sat., Sept. 29th-30th,** we'll hold our regularly scheduled Cox Field observings --but our **Saturday** get-together will begin at **4:00 p.m.** with an appreciation **"dinner on the grounds"** for the Coxses, after which we'll have a brief **club meeting** and then move to the **observing** area to enjoy a glorious evening of crystal-clear, haze-free skies. (Right. And **George W. Bush** is gonna vote the Democratic ticket in November.)

We hope you'll join us in this long-overdue thanks to **Loyd and Beulah Cox** for allowing us to use their land as our club's observing site for the past three years.

If you plan to attend the meal, please bring an article of food with you (contact **Steve or Dawn Knight** if you're unsure what to bring), and bring your telescope, observing equipment and a chair to sit in as well. We'll set up in the shade at the far end of the runway near the hangar for the meal and meeting phase. **If it's raining** -- now, *there's* some wishful thinking **-- we'll set up inside the hangar.**

After the meeting, you may either set up to observe on the runway as usual or follow **Smitty** to the Boy Scout Camporee observing site to help him. (See **President's Message, p. 1.**) Re the latter choice: after the observing, you may either stay and observe on that site or, if you prefer, return to Cox Field to observe there. Either way, remember this: **No matter what the sky looks like on Sat., Sept. 30th, the meal and club meeting will go on as scheduled -- and at COX FIELD,** not at Beaverbrook.

The speaker at our October meeting will be **Dr. Richard Schmude** of Gordon College. His topic will be "ALPO (Association of Lunar and Planetary Observers) and Planetary Nebulae."

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The Sky in September. The heck with the planets this month, let's talk about **Stephan's Quintet** in *Pegasus.* This fascinating, compact and well-known little group of five galaxies is squeezed into an area about the size of your pinky fingernail in your low-power field of view. **Larry H.** has seen all five Stephan galaxies in his 10" Dob -- and that's no mean feat, since the *brightest* of the Quintet (**NGC 7320**) is mag. 12.6 -- fainter than any of the Messiers -- and the faintest, **NGC 7319**, is a full magnitude dimmer.

The challenge isn't so much in finding the Quintet -- we'll give you a quick-and-easy set of finding instructions -- but in testing the ability of your eyes and your telescope to see what's there. Aperture helps, obviously, since a 10" aperture will gather more light and thus reveal more detail than, say, a 4-1/2" reflector will. But dark skies with good **transparency** (ability to see stars, naked-eye, of mag. 5.5-6.0 or thereabouts) and good **seeing** (little or no twinkling when a bright star is placed slightly out of focus) is much more important.

Under such conditions, even a 6" Dob will show the Quintet as a small, faint, round patch of light measuring about 2' (arc-minutes) across. A 10" Dob will resolve at least four of the galaxies and show 7320 at high magnification as a tiny, grayish oval smudge. The other Quintet members -- **NGCs 7318A/7318B,** lying slightly NW of 7320, and **NGC 7319**, lying WSW of 7320, are extremely faint and offer no hint of detail. Only someone with the observing skills and eyesight of a Larry Higgins will split 7318A/B and pick up **NGC 7317**, the fifth member, in a 10" telescope.

When **yr. reporter** finally got around to tracking down Stephan's Quintet at Cox Field in late July -- the group, also known as **Hickson 92**, is an Arp Peculiar Galaxies entry -- he of course chose a night when the stars were twinkling like diamonds in sunlight, and he paid the price for it. In his 12-1/2" Dob, NGC 7320 was a 1' x 1/2' oval in the SE portion of the circle of galaxies, faint but relatively easy to separate from the other members. On that particular evening, the rest of the Quintet were as hard to distinguish from each other as FRAC members are on a really dark night at Cox Field. (It didn't really matter, though, because with the Arps all you have to observe is *one* galaxy in the field of view, not all of them.)

So here's our challenge to you, gentle reader: *If you can find Stephan's Quintet, no matter how many of the galaxies you see we'll enroll you in the prestigious and exclusive* ***Katie's Club.*** Here's how to find the Quintet:

Start at 2nd-mag. *Scheat (Beta Pegasi*, the bright star in the NW corner of the Great Square. Five degrees -- three finger-widths -- away from that star and outside the Square (and 5° away from each other), you'll find a pair of naked-eye wide double stars, *Mu (μ)* and *Lambda (λ) Peg* to the S and *Eta (ε)* and *Omicron (ο) Peg* to the N. Extend a line N from *Mu/Lambda* through and beyond *Eta/Omicron* for 4° -- the width of the outer circle of a Telrad -- and scan to find **NGC 7331** (mag. 9.5, visible in any telescope), a lovely **M31** galaxy look-alike in miniature. Stephan's Quintet lies about 1/2° SSW of 7331, either in or very near your low-power field of view. The quintet is located just N of a **V**-shaped, 7-star asterism and forms an isosceles triangle with the last two stars in the NW arm of the **V.**

From there, the rest is up to you.

(For more about Stephan's Quintet, see "Exploring Stephan's Quintet" by **Jay Reynolds Freeman** in the Sept. 2000, issue of *Sky & Tel,* pp. 117-119.)

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Which Way Is Up?

article by Bill Warren

"Which way is up?"

That's not quite as dumb a question as it may appear, at least, not when you're talking about telescopic fields of view.

If you're a newcomer to astronomy and haven't read or been told otherwise, you're likely to assume that, in your telescopic field of

view, north is up, south is down, east is to your left and west is to your right.

Is that your final answer?

Wrong. You should have used your telephone call.

First, most telescopes -- including *all* Dobsonian reflectors -- invert the images they receive, so north will be *down* and south will be *up*. Even then, though, it's only true when the object lies directly north, south or overhead in relation to the observer. The rest of the time, the only sure indicator of north in your field of view is that *it lies 90° counter-clockwise from west* (or 90° clockwise if you're using a Schmidt-Cassegrain telescope).

Why is this so? Because the sky as we see it isn't a flat sheet unrolling from east to west like a scroll, it's cone-shaped and all of the various celestial objects revolve in small or large circles around the **North Celestial Pole**, which presently lies within 1/2 degree of the 2nd-mag. star *Polaris (Alpha UMi)*. Constellations tilt at different angles as they revolve around the pole.

To tell where north, south or east lies in your telescopic field of view, most of the time you'll need to know where west is.

The easiest way to find west is to insert a high-power eyepiece in your focuser, center a given star in that field of view, and watch where the star drifts out of view. That direction will be west, no matter where the star is located in the sky. (The star will move faster in a high-power field of view.) When you go back to a low-power eyepiece, west will still be in that direction. It won't be true two hours later when the star has drifted 30° to the west, but it'll be true for *now*, while you're looking for or studying a particular star, galaxy, open cluster, etc. Find west, and north and south will be 90° away and east will be 180° away (i.e., in the opposite direction).

So when, in this month's installment of **The Sky In September,** we said, "Extend a line N from *Mu/Lambda* (*Pegasi*, in finding **Stephan's Quintet**)," you simply (a) find those stars and center one of them, (b) watch where the star drifts out of view to find west, (c) re-center the stars, and (d) move the field of view north (i.e., the direction that is 90° counter-clockwise from west); when you've gone 5°, you'll encounter the *Eta/Omicron Pegasi* pair. Keep going north for 4° more and you'll find NGC 7331, etc.

There's an easier way to do it in this case, however. Since both pairs are naked-eye objects and you've already been told that the line between them indicates north, all you need to do is follow that line an additional 4° from Eta/Omicron Peg as explained previously to find NGC 7331. Still, knowing all that beforehand, you can check out the accuracy of this direction-finding system to locate west in your field of view, and thus orient yourself to north.

Whenever you're given compass directions in finding an object, then, remember that you need to locate west (or north) to make them work. Remember, too, that every new object you search for in a different part of the sky requires a fresh determination of where west lies in your field of view, or else your finding instructions will be as useless as a politician's promises.

(Incidentally, whenever you use any flat projection of the night sky or any portion of it -- say, **Seasonal Star Charts** or **Sky Atlas 2000** -- the charts are oriented so that north is toward the *top* of the chart and east is to *your left*. Hold the chart upside down to the sky and turn it so that its orientation matches what you see, and the compass directions will be clear. The vertical lines of right ascension will show you where north lies on the chart.)

It's not enough to know that west lies somewhere near the end of Mr. Cox's runway; that's true for *you,* but not for the things you find in your telescope.

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