

# THE FLINT RIVER OBSERVER



Vol. 4, No. 10

FLINT RIVER ASTRONOMY CLUB

December, 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. Thurs., Dec. 14:** FRAC meeting (Tom & Kathy Moore's house, 530 Crescent Road, Griffin, Ga., 7:30); **Fri.-Sat., Dec. 15-16:** Cox Field observings, at dark.

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**Vice President's Message.** First, let me welcome new member **Bob Greenfield**, of Griffin. We're pleased as punch to have you aboard, Bob.

Now: effective leadership doesn't happen by accident. It arises out of commitment, hard work and communication. No club or organization is, or can be, better than the quality of its leadership permits it to be.

I say that because we're going to be electing new officers in February. We need volunteers

to serve on the nominating committee that will produce a slate of candidates for club president, vice president and secretary / treasurer. The committee will meet sometime prior to the Feb. club meeting -- probably at Beaverbrook, 30 min. before the Jan. meeting -- thus giving the committee ample time to contact the nominees and revise the slate if any of them prefers not to be nominated. Not everyone is willing or able to commit to the two-year term of office that our bylaws call for.

At any rate, we need members to serve on the committee. Let me know if you're interested. (Only one member per family unit, please.)

-**Bill Warren**

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**Last Month's Meeting/Activities.** We had 26 in attendance at our Oct. Cox Field observings: **Larry Higgins, Larry Fallin, Steve & Dawn Knight, Keith Cox** and yr. editor (both nights); **Donald Harden, Joe Auremma** and **Denise Cox** (Fri. night); and **Dr. Richard Schmude, Robert Hall, Mike & Danielle Stuart, Smitty & Steven Smith, Tom & Katie Moore, Grady Dukes, Bob Greenfield** and a 2nd-time visitor from Lagrange, **Tom Danei** (he was the one with the 16" truss-tube Dob).

Twelve members were present at our Nov. meeting to enjoy **Katie's** repeat performance of her splendid power point presentation that she gave at the Atlanta Astronomy Club's August meeting. **Katie** also donated three door prizes, souvenirs of the Moores' recent visit to the University of Arizona and Kitt Peak

Observatory.

Beyond the regulars -- **Larry Higgins, Katie & Kathy Moore, Steve & Dawn Knight, Tim Astin, Keith Cox, Donald Harden, Neal Wellons, Larry Fallin** and yrs. truly -- we especially enjoyed seeing **Suzie Wellons** and **Bob Greenfield** at the meeting.

On Mon., Nov. 20th -- just before we put this issue of the *Observer* to bed -- yr. editor ventured out to Cox Field for a spot of observing on an extraordinarily clear night (transparency 5.8-6.0, seeing 1), only to find **Dawn & Steve** already set up and going strong with their new 14" Discovery Dob. The 'scope came a month early, albeit with a couple of glitches to keep them from getting overconfident, but lemme tell ya, folks, the Big Boy is *awesome!* (The 'scope, that is, not Steve.) Using that monster to find their remaining Messiers will be like duck hunting with surface-to-air missiles.

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**Membership Renewals Due in December:**  
None.

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**Here & There.** *Dear Club Members: We are sorry this thank you comes so late. We received the steaks and ate the first two last night. They were delicious. It was not necessary for you to do this, but we appreciate it very much. -Loyd & Beulah Cox.*

**\*For Sale:** a Celestron 1.25" Image Corrector (\$30); a 2" 38mm eyepiece for \$25; a 2" 32mm eyepiece for \$20; and two 1-1/4" screwbolt eyepiece cases (\$2 each). Contact **Robert Hall** at <hbhall@home.com> if you're interested.

**\*For Sale (by Ken Wilson):** "I am selling my Meade LX10 SCT, the complete outfit. I have just bought an LX200. I would prefer to sell the LX10 to someone local. Pictures of the 'scope and some of the photos I've taken with it can be seen at <www.clearnights.com> for those who are interested. You can call me at

(770)775-0031 if you have any questions. I am asking \$1,500 for it all, but will entertain all offers."

**\*Corey Dukes** wonders if any of our members has a used 8" or larger Dob in good condition that they might like to sell; if so, let him know at <c\_dukes@bellsouth.net>.

\*The vote was unanimous at our Nov. meeting: **we're raising our annual dues to \$12/yr., as of Jan. 1, 2001.** That gives you less than a month to take advantage of our present \$10 rate and save \$2 in the process.

\*From our "**Just Call Me Spiderman**" Dept. there is this: Since yr. editor is nobody's fool, he's not about to reveal the identity of the dodo whose 12-1/2" Dob was found at our Oct. Cox Field observings to be sporting a healthy set of cobwebs in its tube. Astonishingly, no one believed my -- excuse us, *his* -- explanation that he was involved in a top secret "Spiders and Space" NASA project.

**\*Yr. editor** owes special thanks to **Steve & Dawn, Larry Higgins** and **Robert Hall** -- not for finding the cobwebs and thoughtfully pointing them out to everyone at 180 decibels, but for other, more generous and gracious acts of kindness. We're honored to have such friends, especially since we give them so much grief in these pages.

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**Upcoming Meetings and Activities.** Things are always a bit off-kilter in December, for obvious reasons. Our club meeting will be held, as usual, on the 2nd Thursday of the month (i.e., **Thurs., Dec. 14th**) -- but the location will be different this time around. **Yr. editor** will talk about the Universe Sampler observing program and offer tips on how to knock it out without knocking yourself out in the process.

The meeting will be held at the home of **Tom & Kathy Moore, at 530 Crescent Road** in Griffin. To get there from N of Griffin, come in on Hwy. 19/41 as if you were going to

Cox Field -- but instead of getting off at the Hwy. 362 (Williamson) exit, go one exit farther S and turn left at the stoplight at Airport Road. Continue on that road through the 4-way stop at Airport Rd. and Everee Inn Rd., and go all the way to the stoplight at Hill St. Turn left at Hill St. (if you went straight, you'd enter the Rose's shopping center parking lot), and stay on Hill St. until you reach the first stoplight about halfway up the long hill. (There's a Bruno's shopping center on the right.) The stoplight is at Crescent Rd.; turn right, and stay on Crescent Rd. through the stoplight at Maple Drive. The Moores' house is on the right, about 2/3 of the way down a long downhill; their driveway is just past a large magnolia tree.

If you're coming from town, just go S on Maple Drive, turn left at the Crescent Road stoplight, and follow the previous instructions from that point.

If these instructions are unclear, you can call the Moores at (770)228-6447 for better directions. It's a dream come true for Tom to be able to tell FRAC members where they can go.

Speaking of Tom (which we try to do as seldom as possible), we told him that, having had two meal-and-meeting affairs in recent months, the club couldn't afford another meal at Christmas but we hoped that he and Cathy would provide such a meal for us at their own expense. We were kidding, of course; so was Tom's reply: "What about if we do it this way?: Cathy can prepare a couple of servings of part of a meal, and we can give them out as door prizes!"

That Tom, what a jokester! He's about as funny as an outbreak of ebola. (And about as hard to get rid of, too!)

The normal dates for our December Cox Field observings would fall two days before the new moon; unfortunately, Christmas would also fall two days later. So we're moving our December observing dates back a week, to **Thurs.-Fri., Dec. 15th-16th**. Those dates will fall just four days after the full moon and two days before the last quarter moon, so we can safely rule out any meaningful late-night observing on those evenings except for the

Moon, Jupiter and Saturn. Still, it's a matter of priorities, and preparing for the holidays sometimes requires such sacrifices.

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**The Sky in December.** Venus will rise even higher than it's been lately in the W sky; on **Dec. 23rd**, 6th-mag. Uranus will be just over one degree NNW of Venus. Jupiter will be up throughout Dec., as will that other gas giant, **Larry Higgins** -- excuse us, **Saturn**. Mars will rise in the hours between midnight and dawn.

The **Geminids meteor shower**, normally a very good one, will peak on **Dec. 13th** but will be largely overshadowed by a Moon only 2 days past full. Geminid meteors tend to be bright, though, so we may still get a good show.

Better, though, will be the **Ursids meteor shower**, peaking on **Dec. 22nd**, only 3 days before the new moon. All you have to do is kick back and look north, since the Ursids will appear to be coming from the direction of **Polaris**.

In both cases, your chances of seeing meteors in abundance will improve the later you stay up (or the earlier you rise).

The real biggie in December, though, will be the **partial solar eclipse on Christmas Day**, with the Moon taking a bite out of the Sun, beginning at **10:53 a.m.** and ending at **12:25 p.m.**; it will be a wonderful opportunity for you to fill the solar observing requirement of the Universe Sampler program. The Jan. issue of *Astronomy* will contain a free pair of solar sunglasses; if you're a subscriber, your magazine will arrive well in advance of Christmas.

Whatever you do, though, do **NOT** attempt to look at the Sun through binoculars or an unfiltered telescope, unless you want to be reading future issues of the *Observer* in Braille. If you're new to astronomy, talk to veteran members of the club about ways to safely view the eclipse, or read up on how to do it without risking your eyesight.

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## Gauging Angular Distances Visually

article by Bill Warren

In pursuing my primary area of interest, deep-sky observing, I need every resource I can muster to help me in locating the faint fuzzy-wuzzies I'm looking for. The AL's "Observe" series (e.g., *Observe the Messier Objects*) gives locating instructions (but not finder charts) for the various objects; typically, they describe the object's location as being, say, "2 degrees SW of (a given star, Messier, or other familiar celestial object)."

Well, all that's find and good, but what does it *mean*? It means that, unless you can translate those 2° into something you can understand, you're gonna spend a *lot* of time scanning areas where the object of your affection could not possibly be. I propose to give you two ways of translating angular degrees into something comprehensible.

### 1. The "Rule of Pinky" Method.

~~Although somewhat inexact because some~~ people's hands are smaller or larger than others', this method normally will get you within effective scanning range of what you're looking for.

Theoretically, at least, the sky measures 180° from horizon to horizon; that distance is roughly equal to 180 x the width of your little finger held at arm's length against the sky. If Object X is described as being "one degree N of (a given star or celestial object)," all you have to do is extend your arm fully, place the star at the S edge of your pinky, see where the N side lies, and start your scanning at that point. And that's all there is to it, really. Except...

Unfortunately, not everything in the sky is one degree away from a bright star. Other accepted hand measures include:

5° = three finger widths (index, middle and ring fingers);

10° = the width of your balled-up fist (without your thumb);

15° = the width of your spread index finger and pinky; and

20° = the width of your spread thumb and pinky.

All of the aforementioned refer to your hand being held at arm's length away from you and against the sky, of course.

This system is especially good for gauging large angular distances, but not so hot for smaller distances. For distances of 4° or less, I prefer to use

**2. Telrad measurements.** This method can be extremely precise, since the three red concentric circles within the Telrad finder are 1/2° -- a naked-eye Moon-width -- 2°, and 4° in diameter, respectively.

To find an object that is, say, 1/4 degree W of (a given star), simply center the guide star in the smallest red circle and the object will be located about halfway to the W edge of your 25mm or 26mm eyepiece field of view. (*For directions in finding N, S, E or W in your telescopic field of view, see my article, "Which Way Is Up?," in the Sept. issue of the Observer.*)

If the object is 1/2 degree to the W of your guide star, place the star at the E side of the smallest circle and scan the area around the W edge of that circle.

One degree in the Telrad equals **the diameter of an imaginary circle lying halfway between the 1st (inner) and 2nd (middle) circles.** Place the guide star midway between the 1st and 2nd circles and look in the desired direction toward the point halfway between the first and second circles on the other side; *that's* where you should begin scanning.

In like manner, three degrees is equal to **the diameter of an imaginary circle lying halfway between the 2nd and 3rd (outer) circles.**

For many readers, all of this is old news. Still, while I've used hand estimates of angular distances for many years, I didn't get around to using Telrad measurements until I began the Herschel II and Arp programs. It was a huge oversight on my part, too, because I've found the Telrad method to be far easier and more precise.

Of course, you can't do it that way with a

finderscope. Use the pinky method instead.

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**Observing Handbook and Catalogue of  
Deep-Sky Objects**

book review by Bill Warren

Like the 3-vol. *Burnham's Celestial Handbook*, Christian Luginbuhl and Brian Skiff's *Observing Handbook and Catalogue of Deep-Sky Objects* (351 pp., softcover, available from Willman-Bell, Inc., for \$37.95) is intended for use by serious stargazers with binoculars or telescopes in the 2"-12" range. Unlike *Burnham's*, however, the *Observing Handbook* is strictly a descriptive aid that tells the reader what he or she can expect to see in telescopes of various sizes -- *Burnham's* with the fat (and photos) taken out.

*Observing Handbook* contains precise, detailed descriptions of roughly 2,100 deep-sky objects, including all of the ones you're likely to be familiar with and about 3/4 of the Herschel IIs as well. --Those descriptions cover such items as size, brightness, shape, orientation and field-of-view stars and other objects in the vicinity. A sample description should give you a sense of what's in store for you here. We'll use M77, a bright (mag. 8.8) mixed spiral galaxy in *Cetus*:

"Messier 77 is visible in 6cm as a very small, high surface brightness spot 1'.5 WNW of a mag. 10 star. At first appearance with 15cm there seem to be 2 stars: the galaxy has a bright core and a faint, wispy halo about 1'.5 x 1' in size. 25cm shows it 2' x 1'.8 pa 45°. There is a bright, nearly stellar nucleus inside a slightly elongated 45" core. The halo seems to be more extensive to the NW, away from the star, giving the object a comet-like appearance. This galaxy is the prototype of the *Seyfert class of galaxies*." (p. 76)

The "*Catalogue*" in the title (and the publisher, Cambridge Univ. Press [1989] as well) suggest British influence, and indeed the use of centimeters rather than inches is

bothersome. (6cm equals roughly 2 inches of aperture, 15cm equates to about a 6-inch aperture, 25cm = ten inches, and 30cm = 12 inches; "pa" refers to *position angle*, or the galaxy's orientation in the sky [in this case, 45° -- or, more familiarly, NE-SW]; 1'.5 is the British way of writing 1.5', or 1-1/2' arc-minutes [60' = 1 degree]; 45" means 45 arc-seconds [60" = 1 arc-minute]; and *Seyfert galaxies* are galaxies with extraordinarily bright cores.

Obviously, this *isn't* a book for beginners. George Kepple and Glen Sanner's *Night Sky Observer's Guide, Vols. I-II*, is much more readable, understandable (and expensive), although it covers the same material in much the same way. The two books complement each other very nicely.

Still, the "Skiff book" (as I refer to it) is a valuable resource for intermediate- through advanced-level observers who wish to test the deep-sky waters beyond the Messier Club. It helps a *lot* to know how big and bright an object is supposed to appear in your particular 'scope before you try to find it.

I wish I'd had the Skiff book (and *NSOG* as well) when I was working my way through the Herschel 400s. Both books tell you what to look for in the deep-sky objects you find in your telescope, the same way a Frommer's travel guide tells you what you can do in, say, Hawaii on various budgets.

**An Interesting P.S.:** the authors state that: a 2-3 inch telescope will show stars to mag. 12 and hundreds of deep-sky objects, including galaxies brighter than mag. 11; a 6-inch 'scope will detect more than 1,000 galaxies to mag. 12.5 faintness; a 10-inch telescope will reveal about 10,000 deep-sky objects (mostly galaxies) to mag. 13.5; and a 12-inch telescope will show all of the NGCs and more than 20,000 galaxies -- under dark skies, of course.

All I can say about the latter is, *I wish they'd start showing themselves!*

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