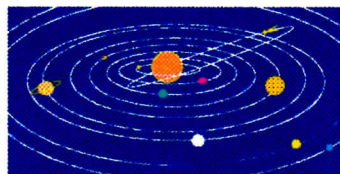


THE FLINT RIVER OBSERVER



Vol. 5, No. 1

FLINT RIVER ASTRONOMY CLUB

March, 2001

Officers: President, **Larry Higgins:** (770) 884-3982; <larrylhiggins@yahoo.com>; Vice President/newsletter editor, **Bill Warren:**(770) 229-6108<warren1212@mindspring.com>; Secretary (**Dawn Knight**)/Treasurer (**Steve Knight**): (770)227-9871, membership renewals to Steve at 114 Central Lake Circle, Griffin, GA 30223 <sdknight@bellsouth.net>; AlCor, **Neal Wellons**, and Web Site Coordinator, **Cody Wellons**, (770)946-5039; Librarian, **Katie Moore** (770)228-6447. Club mailing address: 1212 Everee Inn Road, Griffin, GA 30224. FRAC web page: <<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., Mar. 8: FRAC meeting (Beaverbrook media center, 7:30); **Fri., Mar. 9:** BB observing (behind the school, at dark); **Fri.--Sat., Mar. 23-24:** Cox Field observings, at dark.

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President's Message. I want to thank you for giving me the opportunity to serve again as your president. I am both humbled by and excited at the prospect of leading FRAC and serving you for the next two years. Like you, I appreciate **Smitty's** hard work, dynamic leadership and dedication over the past two years; I intend to continue his policy of stressing active involvement and having fun in everything we do.

April 28th is **International Astronomy Day**; details presently are sketchy, but we're going to celebrate the occasion sometime in

April or May, probably by staging a day-long public observing and possibly in conjunction with Beaverbrook and one or more of its other Partners-In-Education. (We aren't participating in this year's Mayfling.)

Starting with the April issue of the *Observer*, I'm initiating an article series, "Astronomy on a Shoestring," that will offer time- and money-saving tips for broadening or improving your observing experiences without going broke in the process, based on shortcuts I've devised or borrowed over the years. It's something that **Bill W.** has been nagging me to do for a *very* long time.

Finally, I'm happy to introduce FRAC's newest member, **Dan Byous**, who also happens to be **Stephen's** brother and my cousin. Dan lives at 105 Hollonville Rd. ([770] 599-3098), practically within shouting distance of **Joe Auriemma**. Dan is excited about learning how to use the 4-1/2" reflector that Stephen gave him for Christmas.

-Larry Higgins

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Letters to the Editor. "I was intending on venturing out to Cox Field last weekend, but an AAC member posted a Celestar Deluxe fork mount, wedge and tripod for sale (everything but the C8 ota) and he was bringing it to the Villa Rica open house on the 27th. Since I had the C8 ota and was lacking all of the above, I met him there. Needless to say, a short time later my pockets were a bit lighter...I now have a complete Celestron Celestar C8 deluxe setup (\$1700 value, paid \$900 total between the two transactions) at just under 50 cents on the dollar...

"I have been waiting on a 'clear' evening

ever since, and that's why we haven't seen a single star since Jan. 27th in McDonough.

-David Ward"

* * *

Last Month's Meeting/Activities. A last-minute change of plans brought **Dr. Richard Schmude** back for our Feb. meeting, and 18 members brought a total of 10 'scopes to investigate -- and draw -- **Jupiter. Danielle Stuart** did hers in color. **Yr. editor's** attempt was embarrassingly poor compared to that of the others present -- but it *did* win 7th place Honorable Mention in Mrs. Patterson's pre-K class "Draw-A-Planet" competition.

The officer nominees were unopposed, so our officers for 2001-2003 are as follows:

Larry Higgins, president; **Bill Warren**, vice president; **Dawn Knight**, secretary; and **Steve Knight**, treasurer.

Before going outside to draw Jupiter, **yr. editor** received his Arp Peculiar Galaxies certificate and pin.

Our late-scheduled observings for the GHS Science Club and Gordon College fell through, as did three of our four Cox Field observings in Jan. -- but *what an observing that 4th one was!* Counting **Mr. Cox** (but not his dogs), 18 members and 7 guests attended our Sat., Jan. 27th observing, including **Larry Higgins, Donald Harden, Charles Sykes, John Wallace, Joe Auriemma, Chuck Hancock, Larry Fallin, Steve & Dawn Knight, Mike & Danielle Stuart, Smitty, Grady & Cory Dukes, Keith & Denise Cox, yr. reporter, Dan Byous, Dan Pillatzki, Tom** from Lagrange with his 16" 'scope (to keep Steve K. from getting cocky), and four friends of Charles Sykes. Cory found 24 Messiers, Dawn 20 (bringing her total to 86). Too bad nobody warned Dawn that Messiers don't count when they're found with a 'scope larger than 10". (Just kidding, General, to give your resting pulse rate a little workout.)

On Sat., Feb. 17th, **Steve & Dawn Knight** joined **Larry H., Dan Byous** and **yrs. truly** for an impromptu evening of stargazing in the cow pasture behind Dan's house. The horizons were *incredible*, and all of us agreed that we'd

never seen such spectacular clusters.

* * *

Membership Renewals Due in March: Tim & Celia Astin; Smitty; Ken Walburn; Bill Warren; and Jerry Williams. Send your \$12 check made out to the Flint River Astronomy Club to **Steve Knight** c/o the address listed on p. 1.

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This 'n That. Would it surprise you to learn that **Katie**, now a senior at GHS, bagged 1st place in last month's district Science Fair? Her topic was "The Brightness of Uranus."

*Speaking of **Katie** (as we so often do), she's been accepted to the Univ. of Arizona for the 2001-2002 school year. It's gonna be a *long* way for her to lug our library books to next year's meetings.

***e-mail changes:** 1. **Smitty:** <starship-saratoga@msn.com>; and 2. **David Ward:** <dward51@bellsouth.net>.

***The Miracle Workers Strike Again:** I haven't used my 3-1/2" refractor but a handful of times since I fell down my back steps with it about 5 yrs. ago; well, I'll be using it a lot more in the future because **Larry Higgins** fixed it up like new. And **Steve Knight** laid his healing hands on the secondary mirror of my 12-1/2" Dob and considerably sharpened its images. Thanks, guys; I'll owe each of you a slice of my Herschel II pin when I get it sometime around the dawn of the next millennium.

*There was a nice article on winter stargazing on pp. F1-2 of the Feb. 17 issue of the *AJC*; among other things, it listed several Web sites "to help navigate the night sky:

"**Your sky:** <www.fourmilab.to/yoursky>

"**Skymaps.com:**

<skymaps.com/downloads.html>

"**What to see in tonight's sky:**

<www.earthsky.com/features/skywatching>

"**New views of the universe from the Hubble**

space telescope: <hstexhibit.stsci.edu>
"AstroWeb: The definitive astronomy source on the Web:
<www.stsci.edu/astroweb/astronomy.html>
"NASA's Int'l. Space Station tracker:
<spaceflight.nasa.gov/realdata/sightings/index/html> ; and
"Atlanta Astronomy Club:
<www.atlantaastronomy.org> ."

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Upcoming Meetings/Activities. Our club meeting will be at **7:30, Thurs., Mar. 8th**, in the BB media center. Lacking funds to purchase the sort of prizes we gave out at last year's FRAC birthday party, we'll simply have cake, cookies and cokes while we watch the "The Astronomers" video that we were scheduled to see last month.

Our BB observing will be held in front of the school on the following night, **Fri., Mar. 9th**.

Our Cox Field observing weekend will be **Fri.-Sat., Mar. 23rd-24th**, the latter evening falling on the new moon. It'll give you an early start on the spring Messiers (and Herschel 400s) in *Virgo*, *Ursa Major*, *Coma Berenices* and *Canes Venatici*.

At our April meeting, **yr. editor** will revisit the 37 Messiers in those constellations, offer an organized search plan for finding them and galaxy-hop along **Markarian's Chain**.

Richard Jakiel is slated to address the prestigious Webb Society in England in May. (It's the same group that awarded him first prize in its 1996 international astrodrawing competition.) It's quite a feather in Rich's cap -- and in ours, too, since Rich wants to try out his presentation at our May meeting. His topic will be "Amateur Contributions to the Study of Astronomy Throughout History."

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The Sky in March. Jupiter & Saturn continue their nocturnal trek westward across the night sky with the **Pleiades** and the **Hyades** in March. **Mars**, 5° N of **Antares** ("rival of Mars") in *Scorpius* and growing ever brighter,

will be only half as large as it will be three months from now. It will rise after 1 a.m.

Mercury will be visible low in the ESE 30 min. before dawn from **Mar. 1-13**. **Uranus, Neptune & Pluto** aren't available. **Venus** will be shining at nearly its peak (mag. -4.6) on **Mar. 1st**, but dips rapidly toward the Sun during the following 3 weeks. (See *Sky & Tel* article, "Venus's Evening Sky Show," March, 2001, pp. 100-102.) The later in the month you observe Venus, the larger and more crescent its shape will become. Observing a "low-power crescent" Venus is a Planetary Club project.

So here's your question for the month, kiddies: *Why is Venus brighter during its (thin) crescent phase than when it's full?* (Answer on p. 5.)

And while we're at it, here are four star-related questions for you to consider: 1. What do the stars **Markab, Scheat, Algenib** and **Alpheratz** have in common? 2. By what term is **Theta Orionis** better known? 3. What is the brightest open cluster in the night sky? 4. What do the stars **Alnitak, Alnilam** and **Mintaka** have in common? (Answers on p. 5.)

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SEEING THROUGH THE CATSEYE

product review by Steve Knight

When my new 14" Dob -- **Bill W.** calls it the "Big Boy" -- finally arrived, I couldn't wait to take it out to Cox Field and try it out. Needless to say, the view afforded by that big mirror was great -- but it was also more than a bit touchy. Turned out that the collimation was off. The black circle that came mounted on the mirror to mark its center was extremely hard to see, even in daylight, so **Larry Fallin** suggested that I try the **Catseye** collimating system (\$34.00, including shipping, from Jim Fly, 7806 Wildcreek Trail, Huntsville, AL 35802, <flyj@earthlink.net>). I ordered it.

After removing Big Boy's mirror cell, I used the centering template that comes with the Catseye and found that the mirror's center (as defined by the black circle) was 1/8" off. I'd

never have had reason to suspect that otherwise. I attached the centering triangle to the template, peeled the backing off the triangle, centered the template on the mirror and, after double-checking its placement for accuracy, I pressed the triangle down on the mirror, keeping the points toward the adjustment bolts.

(Incidentally, since the mirror cell is out and you're going to have to clean the center of the mirror for the new center spot anyway, you may as well clean the whole mirror.)

I reinstalled the mirror, dropped in the supplied eyepiece -- the Catseye -- and shone a red light down the tube. I saw the triangle at the bottom with the white ring on the eyepiece at the top. All I had to do then was adjust the primary mirror to center the triangle within the ring, and I was done. It was just that simple, and very easy to see even at night. The Catseye is so sensitive that you can see the collimation change during the evening as the telescope cools off.

You'll need to keep your old sight tube for use in secondary mirror adjustments.

For even more precise collimation, the Tectron **Autocollimator** (\$36.00, www.amateurastronomy.com) enhances the Catseye by making the telescope's focal ratio seven times longer. The Autocollimator makes ghost images which, when stacked, make a "Star of David." The system is *very* precise, as long as the collimation is close before the Autocollimator is used.

I use the Catseye collimation system and the Autocollimator with both of my telescopes; the degree of precision afforded by those systems is frankly amazing. I owe **Larry Fallin** and **David Ward** a big "Thank you!" for introducing me to these two great products. If not for their assistance, the "Big Boy" might well have wound up as a door prize.

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Rating the A. L. Observing Clubs, Pt. 3

by **Bill Warren**

(Editor's Note: Last month we looked at the

Messier, Double Star and Binocular Messier clubs. This time around, we're still in the "moderate difficulty" class -- but barely!)

7. **Urban** (100 objects: 87 deep-sky objects, 12 double stars, 1 variable star). The A. L. lists the Urban Club as being for novices; I must respectfully disagree, on the grounds that some of its deep-sky targets cannot be found in the beginners' star atlases. Those targets, all open clusters, include: **Collinders** (abbreviated as **Cr**) **399** and **463**; **Stocks (St)** **2** and **23**; **Trumplers (Tr)** **2** and **3**; **Melottes (Mel)** **20** and **111**; and **ICs** (for Index Catalog) **4665** and **4756**.

None of those objects is difficult to find even in binocs if you know what you're looking for and where to look. For example, **Cr 399** is also called **Brocchi's Cluster** but is best known familiarly as **The Coathanger**. **Mel 111** forms the witch's hat shape of the constellation *Coma Berenices*, and **Mel 20** is a huge cluster that includes 2nd-mag. **Alpha Persei** -- but would you have known all those things by studying *Seasonal Star Charts*, *Bright Star Atlas*, *Cambridge Star Atlas* or *Norton's 2000.0 Star Atlas*? Hardly. That's why I rate the Urban Club as being only the 7th easiest club in which to earn a pin. By the time you're ready for the Urbans, you've moved out of the beginner's category and you need to step up to *Sky Atlas 2000.0*, or at least to *Deep Map 600*.

All of the double stars are also included in the Double Star Club; I found the double stars and **Algol** (the variable star) at Cox Field for the Double Star program, and observed them again in my backyard for the Urban Club.

You don't have to send in your observing log: FRAC's observing chairman or any officer can verify your observations.

8. **Meteor** (a certificate for every 6 hrs. of observing, 36 hrs. for a pin). To my knowledge, no one in FRAC has a Meteor Club pin, unless maybe it's **Phil Sacco**. The problem here is that observing and recording meteors is quite different from other forms of visual observing -- and it can be boring, since you're devoting 36 hrs. to what is essentially

random naked-eye observing. (It can also be a lot of fun when done as a family or club event, esp. during the summertime with lawn chairs, iced tea and pizza.)

The best time for meteor watching is, of course, during meteor shower peaks. We don't list all of the meteor showers or their peaks in the *Observer*, but you can get that information from monthly issues of *Astronomy* or *Sky & Tel*, or from observing yearbooks or almanacs.

One more thing: like the Universe Sampler program (and unlike the rest of the observing clubs covered thus far), your Meteor Club observing logs must be sent in to the appropriate A. L. club coordinator -- in this case, **Scott Kranz; Amelia Goldberg** coordinates the Universe Sampler program. You can find their mailing addresses in the *Reflector*.

You can get a meteors log sheet off the web, or order one from the A. L.

9. Sunspotters (2 sets of drawings, including 5 sketches of sunspot groups and 20 sketches of the whole solar disk during 2 solar rotations (i.e., about a 60-day period). The major drawback here is the necessity of using a reliable solar filter of some kind. The good news is that you don't need to plunk out an arm and a leg to buy an h-alpha filter unless you have a financial arm and leg to spare: they don't ask you to draw solar prominences or flares, just sunspots and a few other features you'll see such as *faculae*, *light bridges*, *penumbras*, *penumbral fibrils* and *umbras*. (Definitions for those and other relevant terms can be found at the A.L.'s observing clubs Sunspotters website.)

Orion's solar filters range from \$54.95 to \$159.95, depending on the size of the telescope's aperture. Orion doesn't sell h-alpha filters, but you can find them (but not their prices) in ads in the astronomy magazines. ("Call for prices.")

Larry Higgins can tell you how to make a simple stopped-down mylar solar filter for a small fraction of what a commercially-made model costs. It won't be as good in terms of what you'll see, of course, but it'll be a heckuva lot cheaper.

Any FRAC officer or the observing chairman can verify your solar observations.

10. Planetary (27 observing projects, choose any 25). Covers the Sun, Moon, asteroids, and all of the planets except Pluto, which for all practical purposes doesn't exist. Some parts of the Planetary program are easy, such as drawing Jupiter's satellite positions or a Venus crescent phase, or describing Uranus and Neptune; others, such as figuring the azimuth of the Sun at sunrise and sunset or plotting the retrograde motion of Mars or the progress of an asteroid from one evening to the next, may be more problematic.

You can find dates for upcoming planetary events such as the Moon occulting bright stars or Jupiter's moons (or their shadows) transiting (or being occulted or eclipsed by) Jupiter from *S&T's* fine website at <www.skypub.com>.

As with the Meteor Club, your Planetary observations must be turned in to the A.L. (i.e., to **Paul Castle** of Rick Island, IL for evaluation. You can get planetary observing forms off the A.L.'s web site, or (better) order the free forms from them. Enclose SASE.

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Answer to the question about Venus on p. 3: The thin crescent phase arises when Venus is nearest to us; the full phase occurs when Venus is farthest away from us beyond the Sun.

Answer to the other questions on p. 3:

1. They are the stars comprising the four corners of the **Great Square of Pegasus**.
2. The **Trapezium** (i.e., the four stars lying close together inside **M42**, the Great Nebula in *Orion*).
3. The **Hyades**, which forms the face of *Taurus (the Bull)*, is mag. 0.5; the nearby **Pleiades (M45)** is 2nd brightest at mag. 1.2.
4. They are the bright stars comprising *Orion's* belt.

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Errata. The full moon shines at mag. -12.6, not mag. 11 as stated in last month's newsletter.

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