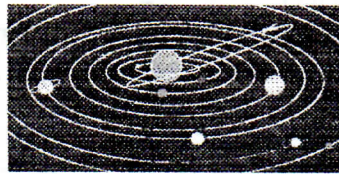


THE FLINT RIVER OBSERVER



Vol. 5, No. 4

FLINT RIVER ASTRONOMY CLUB

June, 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>; AICor, **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., June 7: Banana Split/Pool Party (**Bill Warren's** house at 1212 Everee Inn Road, Griffin, 6:30); **Fri.-Sat., June 22-23:** Cox Field observings, at dark.

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President's Message. We had great participation at our FRAC/Kroger/Beaverbrook Astronomy Day 2001 Celebration on Sat., Apr. 28th. Nine members showed up to show the Sun to 200+ passersby and Kroger customers. The sky cooperated nicely for about 4-1/2 hrs. before rain clouds moved in and decided to stay awhile (about 4 days, as I recall). I think everyone involved had a good time.

I want to thank **Mr. Tom Wright**, Kroger's manager, for giving up valuable parking space for us to conduct our observing on a busy weekend shopping day. I also want to thank Beaverbrook's **Cara & Lauren Cook** for

coming by to join us for awhile. It's likely that, with Mr. Wright's permission, we'll make a return visit to Kroger for next year's Astronomy Day.

Elsewhere, please note in our Club Calendar the change in date and location of our June meeting. We traditionally hold one summer meeting at **Bill Warren's** house, partly to take advantage of his pool and partly because Beaverbrook is closed during the summer. We're scheduling this year's "**Banana Split/Pool Party**" for 6:00 on **June 7th** (i.e., the *first* Thursday of the month, not the second) because Bill will be out of town on our regular club meeting night. Says he doesn't trust what I might do in the pool when he's not there. (Hey, if you can't trust ol' Lar, who *can* you trust?)

Don't forget the change in time and place of our meeting this month -- and for next month, as well, although the location is as yet undecided. We'll let you know more in our July newsletter.

Finally, let me welcome our newest member, **Bill Snyder**. I hope you'll let us know what we can do to make your membership enjoyable and productive, Bill.

-Larry Higgins

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Last Month's Meeting/Activities. **Larry H.** reports that he had a great time on May 1st, talking about the solar system with more than 200 2nd graders at Futral Road Elem. School.

Nine FRAC members -- **Larry Fallin, Larry Higgins, Bill & Louise Warren, Steve & Dawn Knight, Joe Auriemma, Neal Wellons** and **Rod Dougherty** -- and a Beaverbrook 2nd grader, **Lauren Cook** --

came to Griffin Kroger parking lot on Sat., Apr. 28th, to celebrate Astronomy Day. We showed the Sun to about 250 area folks, using welder's glass, special protective sunglasses, filtered telescopic views and solar projection. Six tables were filled with displays, and Neal Wellons did his customary spectacular job of filling our display boards with timely, attractive exhibits.

The real hero of the day, though, might have been Larry Fallin, whose spacious open-air tent protected us from the Sun's glare and heat until 4:30 when it started raining canines and felines, effectively cancelling the last half of our Astronomy Day day/night observing.

Sixteen members -- including newcomer Bill Snyder (245 Arrowpoint Rd., Jackson, Ga. 30233, [770]775-8815, <bsnyder3@mindspring.com>) -- attended our May meeting to hear Rich Jakiel's talk about amateur contributions to astronomy during the 20th century. (Rich's prognosis for the future: CCD-imaging has brought amateurs back into the picture -- literally -- especially in the area of identifying supernovas.)

* * *

Both Carolyn and I are eyeball scientists.

-the late Gene Shoemaker

...

We like to look at the sky.

-Carolyn Shoemaker

* * *

Membership Renewals Due in May: Joe Auriemma; Donald Harden; and Dr. Stephen M. Mann. Send your \$12 check to Steve Knight. His address is listed on p. 1.

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This 'n That. Ken Wilson's old e-mail address is no longer valid. His new address is:

<kenwilson@earthlink.net>.

*The foldout page of the June, 2001 issue of *Sky & Tel* contains a chart showing the location of the "Mini-Coathanger," a smaller -- 1/3 of a degree -- coathanger asterism that Smitty alerted us to last year. It's located in UMi, lying about 2°SSW of Epsilon (ε) UMi, and contains 7 stars in the crossbar and 3 stars in the hook.

*You will doubtless be ecstatic to learn that yr. indefatigable editor bagged 15 Herschel IIs in May, leaving only 153 targets unfound after a mere 22 months of searching. (Or, if you insist on thinking positively although a killer asteroid that will destroy all intelligent life on earth -- and Ken Walburn as well -- is probably zeroing in on us right now: those 247 observed Herschel IIs average out to 11.2 finds per month -- and that ain't bad when you consider that, for most of the past 10 months, the sky has looked like mud.

Still, we'd like to report on *your* observing results in these pages, if only you'd give us something to work with. Since you haven't done so, we must logically (but not sadly) conclude that you'd rather read about yr. esteemed editor bragging on himself in nauseating detail than read about your own stellar accomplishments.

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Upcoming Meetings/Activities. We won't have any Beaverbrook observings in June or July, nor will we schedule any more public observings during those months. We will, however, have club meetings and observings during that period.

This month's meeting will be held on **Thurs., June 7th, at 6:00** at yr. editor's house on the SW side of Griffin near the airport. It'll be a Banana Split/Pool Party rather than a formal club meeting, so bring along the spouse, children and swimsuits and towels for all; it'll be a good chance for them to meet the folks who have for so long been warping your mind.

The pool phase will begin at 6:00, and at 7:30 we'll have banana splits or sundaes while

we discuss whatever club business needs to be addressed.

To get to Bill's house from N of Griffin, come in on Hwy. 19/41 and stay on the 4-lane road past the Griffin exit, past Hwy. 16 (the Newnan exit), past Hwy. 362 (the Williamson exit), and turn left at the stoplight at Airport Road. Turn right at the 4-way stop at Everee Inn Road, and then go one block and turn left at Roberts St. (Our red brick house is on the left at that corner; there's a "1212 Everee Inn Road" sign in the front yard. Park in the driveway, or on Roberts St.

Our Cox Field observing weekend will be **Fri.-Sat., June 22nd-23rd.**

The time, place and topic of our July meeting haven't yet been finalized. Next month's *Observer* will fill in all the blanks.

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The Sky in June. Mars Attacks! The Red Planet is taking over the night sky even as we speak. By mid-June, Mars will be rising near sunset. It will be the biggest and brightest it's been since 1988. (The June issue of *Sky & Tel* notes that **Pluto**, like Mars at opposition this month, will be 3 million times fainter than Mars.) **Uranus** will be a bit more than 1° SE of **Mu (μ) Capricorni** throughout June, and **Neptune** will be a bit less than 1° E of **Upsilon (υ) Capricorni**. They rise about midnight this month. **Venus** will be a bright morning star, as will **Saturn, Jupiter & Mercury**.

Forget the solar eclipse of **June 21st: Neal Wellons** politely refuses to fly the club to northern Zimbabwe to see it, so it ain't gonna happen, folks. Not for us, anyway.

Thanks, Neal, from the bottom of our wallets. We hope you, **Cody & Suzy** enjoy the aurora borealis during your upcoming trips to Alaska and Nova Scotia while we're out at Cox Field enjoying the northern lights of Atlanta Speedway. (You cheapskate.) Looks like the only way we're gonna get to go anywhere at someone else's expense is to contact Atlanta's mayor.

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GOING DEEP -- BINOCULAR STYLE

article by **Bill Warren**

Larry Higgins, Smitty and most of FRAC's other highly qualified and experienced observers agree that *Seasonal Star Charts* is probably the best beginners' star atlas for hunting down the Messiers. Besides having a built-in planisphere on the cover, *SSC*'s pages are laminated (and thus weather-proof), its charts are large, it shows stars to mag. 6, and it plays connect-the-dots with the constellations and their major stars.

Sooner or later, though, you're gonna need more than *SSC*. The night sky holds many treasures beyond the deep-sky objects catalogued by Messr. Messier in the late 1700s. Last month, I showed you how adding **Wil Tirion's Cambridge Star Atlas** to your personal library can prove invaluable to you in tracking down, among many other things, the 100 targets in the Double Star Club.

This month, I'm advocating a third atlas, **Wil Tirion's Deep Map 600**, as being your best single source for pursuing (again, among many other things) the 60 objects in the Binocular Deep Sky Club.

Why *DM600*? First, because it shows **49** of the 60 Binocular Deep Sky objects, as compared to 19 for *SSC* and 42 for *Cambridge*.

Second, its foldout roadmap is dew-proof, durable and easily stored with your equipment -- and because it consists of a single page, it doesn't require constant page-turning to locate the various constellations and charts you're looking for.

Third, *DM600* contains enough stars -- to mag. 5 -- and deep-sky objects for you to easily find the Binoc. Deep Sky targets not specifically identified in the map. (That's what much of this article is all about.)

Fourth, like *SSC* (but unlike *Cambridge*) *DM600* uses lines to connect the constellations' major stars.

Fifth, the accompanying data and descriptions of its 600 targets is better than *SSC* or *Cambridge*.

And sixth, it provides an excellent basis for

transition from beginning- to intermediate-level observing.

As you progress in finding skills, you need something better than *SSC* but less *Sky Atlas 2000*; *DM600* is a cheap -- \$13.95 -- easy-to-use atlas that is surprisingly accurate for a flat projection of a round sky. I used *DM 600* in finding nearly half of the Herschel 400s; you shouldn't have much trouble using it to locate the 60 Binocular Deep Sky targets, only 4 of which are as faint as mag. 8.

As I mentioned earlier, 49 of the BDSC targets are shown and identified in *DM600* by their NGC number -- or else as, for example, **I. 4665** (for Index Catalog), **Mel 111** (Melotte), **St 2** (Stock), **Tr 3** (Trumpler), **Mark 6** (Markarian), **Cr 399** (Collinder), etc. Don't let those names scare you off: the IC is merely an extension of the original NGC catalog, and Melotte, Stock, Trumpler, Collinder, Markarian and Kemble -- more about the latter later -- were, for the most part, cataloguers of large open clusters.

Remember, too, that these are *binocular* targets, not 13th-mag. telescopic targets. **John Wagoner**, who developed this observing program for the A. L., used a pair of Orion Explorer 7x50 binocs to locate all 60 objects.

Regarding the Binocular Deep Sky Club (hereafter referred to as "BDSC") open clusters not specifically identified by name in *DM600*:

***Mel 25 (the Hyades, in Taurus).** *DM600* identifies the large, V-shaped asterism that forms the face of Taurus, the Bull, as "the Hyades," so it isn't really a "missing" BDSC object at all.

***Mel 20 (Perseus).** This huge -- 3° -- cluster known as the **Alpha Persei Moving Group** includes all of the bright stars in and around 2nd-mag. *Alpha (Δ) Persei*. You can't miss it. It's lovely.

***Kemble 1 (Camelopardalis).** This striking 3° chain of stars doesn't appear in *DM 600* -- but the little open cluster **NGC 1502** located near the SE end of the chain *is* shown. It lies about 1/3 of the way from 4th-mag. *Alpha (Δ) Cam* to *Gamma (γ) Per*, the mag. 3

star to the NW of mag. 1.8 *Alpha (Δ) Per*. (See above.) I saw 16 stars in the Cascade, oriented NW-SE. A very nice binocular target.

***Mel 15 (Cassiopeia)** is a large, bright, loose open cluster lying within emission nebula **I. 1805**, which appears in *DM600*. You'll see the cluster in binocs, but not the nebulosity.

***Mark 6 (Cassiopeia)** is a cloudlike open cluster with a handful of resolved stars, smaller than **Mel 15** lying 1/2° to the NE in the same field of view.

*The open cluster **Tr 2 (Perseus)** appears as an elongated nebulosity, 2/3 as wide as the naked-eye full moon and oriented E-W with a band of brightness along its width. **NGCs 869/884 (the Double Cluster, two other BDSC targets)** and the lovely double star *Eta Persei* (mag. 3.8) lie in the same field of view: **Trumpler 2** is located 2° SSE of the Double Cluster. (Your binocular field of view probably is about 7°-8°.)

*The open cluster **NGC 1893 (Auriga)** is a small, unresolved patch of nebulosity lying SE of 5 bright stars arranged 2-2-1 NE-SW. To find 1893, scan the area SW of **M38** in *Aur*, looking for the 5 bright stars mentioned above: the nebulous little star cloud lies about 1° away to the SE.

***NGC 1662 (Orion)** is a Herschel II open cluster; still, it's an easy target for binocs, 2/3 as large as the naked-eye full moon, its brightness centrally concentrated in several stars at the edge of resolution via averted vision. 1662 is located in the "Lion's Skin" N-S arc of stars in the NW portion of *Orion*, forming a right triangle with *Pi₁ Ori* and *Pi₂ Ori*, both of which appear in *DM600*.

***NGC 2360 (Canis Major)** is a small, roundish cloud of about 10 barely-resolved stars; easy to find. Go from *Sirius* to *Gamma (γ) CMa* and beyond for about half as far as they are apart, and look for a 5th-mag. star below that line; 2360 is less than 1/2° to the E of that 5th-mag. star.

***NGC 7235** (*Cepheus*) is a small -- 4' -- cloudlike cluster of mainly unresolved stars lying just W of a line between the 2nd-mag. stars *Epsilon* (ϵ) and *Zeta* (ζ) *Cep*, about 1/3 of the way from *Epsilon* to *Zeta*.

***NGC 1582** (*Perseus*) is one of two ringers thrown in to complicate things: 1582 doesn't even appear in *SA 2000*. (Actually, it's a Herschel II open cluster, too -- but before you panic, consider that 1582 is large in binocs, measuring more than 1/2° in dia., with 8-10 stars faintly resolved amid a background of fainter stars.)

To find 1582, first locate **NGC 1664** (in *Aur*) on the *DM600* map; it's to the lower right of *Capella* (*Alpha* [Δ] *Aur*). There's a small star to the right of 1664 on the map, and a larger star below it and farther to the right; those 2 stars form a right triangle with 1582, the cluster lying to the right of the smaller star. It's easy to find and observe on any relatively clear evening in winter.

***Cr 463** (*Cassiopeia*) is another BDSC target that doesn't appear in *SA 2000*. (Hey, this one isn't even in *Night Sky Observer's Guide!* I found it in **Smitty's** copy of *Uranometria*.) You don't need *Uranometria* or *Megastar* to find it, though: I've done the detective work here, and I'll tell you where to find it on *DM600*.

First, though, you should know that Cr 463 is large and diffuse, with 11 or more stars resolved, including a double star at one end and an S-shaped asterism of 4 stars.

To find Cr 463, look at the map on back of *DM600*. Look above the left end of *Cassiopeia* for a trapezoid of 4 stars including one identified as "50"; Cr 463 lies between the 2 stars below 50. (And how do you find 4th-mag. 50 Cas? Follow a line NE from *Alpha* (α) through *Gamma* (γ) *Cas* and beyond to the trapezoid of stars; if you don't see the trapezoid of stars, 50 is the star you'll see.)

Conclusion. If, as I am, you're basically a telescopic observer, the view in a pair of binocs

takes some getting used to, since the objects are smaller and fainter than their telescopic counterparts. Still, you probably already know that the tradeoff here is the *huge* advantage of having a 7°-8° binocular field of view when searching for large objects of mag. 8.5 or less.

At any rate, tracking down the Binocular Messier Club and Binocular Deep Sky Club targets can help to make you a much better observer. The more ways you have of finding objects in the night sky, the more likely you'll be to find them.

The same can be said for star atlases. You can buy, say, a 26mm Meade Series 4000 Super Plossl eyepiece for \$79.95 -- but you can buy **all three** of the beginner atlases -- *SSC* (\$19.95), *Cambridge* (\$21.95), and *Dm600* (\$13.95) -- for less than that, i.e., **\$55.85**. By the end of this summer, that'll be less than the cost of two fillups at the gas station.

I can't imagine an observer worthy of the name who doesn't have -- and use regularly -- at least two different star atlases; these three make a wonderful starting point for beginners. I'm leaving out the granddaddy of 'em all, *Norton's 2000*, because (a) its charts are oval, and thus take a bit of getting used to, (b) it doesn't connect the constellation stars, and (c) it's overpriced at \$31.95.

As I mentioned last month, it wouldn't hurt for you to file away this copy of the *Observer* for future reference; even if you aren't presently overwhelmed with desire to pursue a Binocular Deep Sky Club pin, you may catch the fever later on, and this article will tell you how to find the most difficult targets.

And those are the basics of star atlases and the Binocular Deep Sky Club. Now, go out there and *Win One for the Dipper!*

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HAPPY GRADUATION, CODY!!!

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