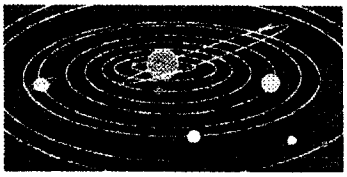
THE FLINT RIVER OBSERVER



Vol. 3, No. 12 **FLINT RIVER ASTRONOMY CLUB** **February, 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); Librarians, **Tom** and **Katie Moore** (228-6447); Telephone/Hospitality Committee Chairman: **Dan Pillatzki** (707-0270). Club mailing address: 1212 Everee Inn Road, Griffin, GA 30224. All of these phone numbers have 770 area code prefixes. 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.-Sat., Feb. 4-5: FRAC deep-sky observings, Cox Field at dark; **Thurs., Feb. 10:** FRAC meeting (BB media center, 7:30); **Fri., Feb. 11:** Beaverbrook observing (behind the school, at dark).

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President's Message. This Christmas, my wife gave me a unique gift: a *star.*

For a nominal fee, you can "buy" a star and name it whatever you wish. You receive a certificate bearing the name you give the star, the dedication date, and the star's coordinates. You also receive a star map showing where your star is located.

The booklet states, "Each star is named only once by The Star Directory, and is then recorded in the book, *Claiming Your Part of the Universe,* which is copyrighted and filed in the U. S. Copyright Office. Meant to be historically important and not astronomically significant, your star and the book are the ultimate novelty gifts designed for future generations to see and appreciate."

As you can see, all this has nothing to do with the International Astronomical Union (I. A. U.) or anyone else who oversees and controls the official naming of stars and other celestial objects. Your named star is copyrighted by the U. S. government, which has no control over the naming of the heavens. Still... It is listed as a historical reference and, as I've said, it *is* a unique gift.

What should I name my star?, I wondered. I could put my own name on it -- but that would be, I thought, pretty arrogant and selfish. I could always buy my own star later.

Should I (I went on) name the star for my wife, son, parents or other people who are important or were a big influence on me at some point in my life? I can think of hundreds of people, places and things that have been a major part of my past.

Finally, I decided that this gift should benefit more people than just me. Therefore, I offer to you and to all future club members a star named **"FRAC -- Flint River Astronomy Club."** Its dedication date is Jan. 1, 2000. For those who want to find it, information about your club's star and a map to find it with will be available in the near future.

Now we all have a star (other than our Sun) that we can gaze upon and say, "That star has something to do with me." Of course, if by some remarkable chance we contact aliens from a world orbiting this star -- I hope they don't mind!

FRAC -- The Astronomical Club of the 21st

Century!

-Saratoga Smitty

(Editor's Note: The more perceptive among you will have already noticed that our brave leader has entered the electronic age, as attested by his new e-mail address, listed on p. 1. You can use it to thank him for naming his star after us.)

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Last Month's Meetings/Activities. Seven people attended our Jan. 7 Cox Field observing: **Joe Auriemma, John Wallace, yrs. truly, Steve & Dawn Knight** (who insists she sees the Playboy bunny in open cluster **M35**), and Steve's sister **Jill** and their father **Joe**.

The Jan. 8th observing was clouded out.

A healthy contingent of 8 FRACsters showed up for our Jan. 14th Beaverbrook observing: **Mike & Danielle Stuart, Randy Kanipe, Robby Mask, Katie Moore, Steve Knight, John Wallace** (who came by on his way home from work and stayed long enough to talk with several parents and children), and **yrs. truly.** Rev. Randy and Robby got in some much-needed observing time, playing with Randy's new Moon filter and even taking a few astrophotos. **Dawn Knight** could not be there -- her curling iron broke? -- nor could **Tom Moore,** who nevertheless came up with yet another reason why he hasn't finished his Lunar Club requirements: he's already seen all the features of the first quarter Moon, and to see those on the other half he'll have to go to the far side of the Earth. Poor Tom. He may not realize it, but he's been on the Far Side all his life, like Gary Larsen's talking cows.

A nice crowd of 18 attended our January meeting. **Smitty's** presentation was a visual horror show, his slides and videotape graphically depicting the global spread of light pollution. Virtually the only place on the planet where light never penetrates is the space between **Dan Pillatzki's** ears.

A hearty "Thanks!" is due to **Neal Wellons** for volunteering to oversee this year's "Great Griffin Mayfling" preparations. Thanks, too, to **Danielle Stuart** for doing such a great job with the slide projector and VCR at the meeting.

Finally, we should note (belatedly) that an article by **David Ward**, "Eyepiece Cases and Foam," appeared in the Dec. issue of *The Focal Point,* AAC's monthly newsletter.

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Membership Renewals Due in January: Rickie, Cindy, Joshua & Austin Ramsey. Send your $10 check to Ken Walburn at the address listed on p. 1.

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Upcoming Meetings/Activities. Our Cox Field observings will be held on **Fri.-Sat., Feb. 4th-5th**, with the new moon occurring on the 5th.

Our FRAC meeting will be held in the Beaverbrook media center at 7:30 on **Thurs., Feb. 10th.** Our speaker, **Neal Wellons,** will show and tell us about the magnificent array of international telescopes atop 13,800' Mauna Kea in Hawaii -- a site that Neal, **Cody** and **Suzy** visited recently. Neal expects the headaches and nosebleeding to stop any day now.

(Speaking of headaches, it strikes **yr. humble reporter** that he hasn't gotten in any verbal jabs yet at our favorite migraine, **Ken Walburn**, in this issue. While the rest of us are looking up at the sky, Ken is literally pouring his money into a hole in the ground -- a sumptuous swimming pool that he's having built for wife **Doris.**)

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The Sky in January. Whether your pleasure is perusing planets, meandering after Messiers or hunting the Herschels, February is the month to do it. The air may be cold, but *you* won't be if you put on an extra layer of heavy clothing before venturing outside. Deep sky observers especially need to get out *now*, before the humidity returns.

At any rate, here are some of the goings-on in the solar system in February:

*On the morning of **Feb. 2nd, Venus** will be just 1° -- that's two Moon-widths -- to the lower left of the waning crescent Moon.

*At 8:44 p.m. on **Feb. 3rd,** the Jovian moons **Io** and **Europa** will be *very* close together, a mere 3 arc seconds apart. And at 11 p.m., the 10th-mag. asteroid **6 Hebe** will be 6 arc minutes W of the star *Pi Orionis.*

*If you happen to be in Antarctica on **Feb. 5th,** you can watch a partial solar eclipse at 8:03 a.m.

*If you've never seen **Mercury** before, you'll get a good chance when, on **Feb. 6th,** the planet will lie just 2° to the right of the Moon in the W sky. You'll need to observe from an area with a relatively obstruction-free skyline, though, and within about an hour of sunset because Mercury never rises very high in the sky.

*On **Feb. 8th, Mars** will be 4° -- two pinky widths -- to the right of the Moon.

*On **Feb. 14th, Mercury** will be 19° -- less than an extended pinky-to-thumb width held against the sky -- to the lower right of Mars in the W.

*On **Feb. 15th,** asteroid **6 Hebe** will have closed to within 3 arc minutes of *Pi Orionis.*

*On **Feb. 27th,** asteroid **2 Pallas** will be 15 arc minutes (i.e., a bit more than an inch of a 25mm field of view) W of the bright open cluster **M47** in *Puppis.* Pallas was the 2nd asteroid discovered, by **Heinrich Olbers** of the Celestial Police -- no joke here -- in March, 1802, a year after the discovery of **1 Ceres** by the Italian astronomer **Giuseppe Piazzi** on Jan. 1, 1801. At mag. 6.4, Pallas is the 2nd brightest asteroid behind **4 Vesta** (mag. 5.1), the only naked-eye asteroid.

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People You Should Know: Loyd & Beulah Cox. On the night of April 3, 1997, FRAC held a special Hale-Bopp observing session at a dark site 3 mi. W of Williamson, on a grassy landing strip belonging to the parents of one of our members, **Keith Cox.** Since that time, the owners of the property we call Cox Field -- **Loyd & Beulah Cox** -- have become very special to us. They are kind, considerate and thoughtful friends who treat us as if *they,* and not *we,* are the intruders on Cox Field.

Although they normally use the runway as their driveway, the Coxses do not do so on our observing nights lest their headlights' glare "bother" us. Mr. Cox has put out ant poison prior to our star parties, showed us where to find deadwood and scrap lumber for bonfires on those occasions, and he and Mrs. Cox invited us to use their swimming pool at last summer's Zombie Star Party weekend. Once, when the Coxses were entertaining guests and **yr. reporter** was observing alone, Mr. Cox came out after they left and apologized for forgetting to remind his guests to use their parking lights on the runway.

Now, really: immediate family aside, *how many people in your life consistently display that kind of genuine concern for your wellbeing while expecting nothing in return?* If that number exceeds 2 or 3, you need to open a "Friends 'R Us" franchise.

Loyd Cox is a retired Delta pilot. He and Beulah came here 25 years ago from Carterville, Illinois, at the encouraging of a long-time friend. They have 3 children, 2 grandchildren and 3 great-grandchildren. While Mr. Cox usually visits our observings briefly to chat awhile, we don't see a great deal of Mrs. Cox on those evenings -- and it's probably a good thing, too, because her lovely smile lights up her surroundings like a searchlight. Mr. Cox is a uniquely talented individual who is equally at home flying or building an airplane, restoring antique autos or building a canoe. We can only imagine what the Cox Field site would be like if his hobbies had included astronomy and telescope making.

At any rate, if you haven't already met the Coxses you're in for a treat when you do. They're easy to know, and fun to be around.

We observe the heavens; Loyd & Beulah Cox carry heaven around inside them.

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Print Resources for the Herschel 400

article by Bill Warren

The AL's Herschel 400 Club is a long-term observing program for observers who have mastered the skills necessary to earn a Messier pin and seek further deep-sky observing challenges. While all of the Herschel 400 objects are within range of an 8" 'scope under dark, clear skies, a 10" 'scope or larger will offer a faster and more efficient means of finding and observing the most elusive targets on the list.

Charts. Sooner or later, you'll need a *Sky Atlas 2000.0* (2nd ed.) to guide you on your quest. You can buy one for as little as $29.95 (unbound), or as much as $119.95 for a deluxe bound and laminated edition. Get the field version with white stars on black pages; there's less glare reflected from your flashlight, and it looks more like the night sky than the black-on-white desk version does.

SA 2000 doesn't have *all* the Herschels, though; for the rest -- about 50-60 -- you'll need a more detailed atlas such as *Uranometria*. (See below.)

To get you started, though, you can use Wil Tirion's *Deep Map 600* ($13.95) to find the brightest 220 Herschels -- that's 55% of them -- or the *Cambridge Star Atlas* ($19.95), which contains about 150 Herschels. The biggest problems with those two resources are (a) *DM600* compresses the sky somewhat in order to get the whole sky into a 33" x 21" map, and (b) neither of them shows other, fainter galaxies nearby. You're okay, though, as long as your target is the brightest -- or better, the *only* -- galaxy in the area.

Seasonal Star Charts ($19.95) shows the location of 56 of the Herschels, including 15 Messier/Herschels .

Other, more comprehensive atlases such as *Uranometria* (2 vols., $37.95 ea., a new edition is coming out later this year), *The Millennium Star Atlas* ($249.95) and deep-sky software such as *Megastar* can be wonderfully helpful if you can handle them. But frankly, unless you're an advanced observer you're best advised to stay away from them until you absolutely can't avoid them any longer.

Herschel 400-Specific Resources. First, of course, there's the AL's *Observe the Herschel Objects* ($7.00), which is indispensable in telling you what you're likely to see. I donated my copy to the FRAC library. *OTHO* gives sizes, brightnesses and other information including where to find the objects. It contains a few drawings & photos, but no finder charts.

Then there's the *Herschel 400 Logbook* ($21.95 including shipping) from Starspliter Telescopes (phone 805-492-0489, e-mail www.starsplitter.com). An excellent source that literally fills in the blanks for you re the required info and includes *Uranometria* and *SA 2000.0* chart nos. for each object); all you have to do is fill in the observing site, date, time, instrument, power, seeing conditions and your observing notes for each object. The notebook comes in a weatherproof 3-ring binder, and is divided into two parts: Herschels by right ascension and by constellation. The only real negative here is that they give you only about 1-1/2 lines to write your observation. (I filled in the requested information and kept my observing notes separate.) And there are 3-4 mistakes in listings (e.g., NGC 2324 is an open cluster in *Monoceros*, not *Puppis* as listed), but I can help you straighten them out. Errors aside, this is a very good resource.

Less useful is SJMartens' *The Observer's Guide to the Herschel 400* ($22.95 including shipping), which comes in a 3-ring notebook and includes charts. Trouble is, the charts are unbelievably cluttered and impossibly difficult to decipher. Too, the author's approach is based on star- and galaxy-hopping from one Herschel object to another, and the system breaks down whenever you can't find the next Herschel in the sequence. Save your money for other, better Herschel resources.

Object Descriptions. Visually, you can obtain photos of any NGC or IC (Index Catalog) object from the web: just Search the

web for "Interactive NGC online" and go from there. The photos of diffuse nebulae and open clusters aren't always helpful, but the others will tend to give you an idea of what *you'll* see, albeit in smaller and less clearly defined fashion than the photos show.

For print descriptions, you can't beat *The Night Sky Observer's Guide,* a 2-vol. set from Willman-Bell ($37.95 per book, you'll want both). The set may or may not contain descriptions of all 400 of the Herschels, but it's close enough that the difference won't matter. The descriptions are extremely detailed and accurate for 3,004 deep-sky objects as seen in various apertures. *NSOG* also contains 431 small finder charts and 1,273 drawings & photos. Admittedly expensive, this set should be somewhere near the top of your wish list if you're seriously interested in the deep sky that extends beyond the realm of the Messiers.

A book I don't have yet (but intend to order soon) is Luginbuhl & Skiff's *Observing Handbook and Catalogue of Deep-Sky Objects* (2nd ed., $37.95). Unlike *NSOG,* this one deals only with deep-sky objects, 2,050 of them, in a manner similar to that of *NSOG.*

Eicher & Ward's *The Universe From Your Backyard: A Guide to Deep Sky Objects From Astronomy Magazine* ($22.46 from amazon.com, 3-5 weeks shipping time) is a highly readable, observer-oriented book that includes about half of the Herschels. It also contains full-page inder charts and 2-3 drawings per constellation. Griffin's public library has a copy. (I do, too.)

Deep Map 600 provides one-line, thumbnail descriptions of each of its 220 Herschel entries; *Cambridge* and *Norton's 2000.0 Star Atlas* do, too, but far less satisfactorily.

Those are what I consider to be the basic Herschel tools. Since you aren't likely to have enough money lying around to buy them all, you should prioritize your list. You **need** AL's *Observe the Herschel Objects.* If you can't afford a *Sky Atlas 2000.0,* start off with a *Deep Map 600* at half the price. Beyond those essentials, whatever Herschel resources you can lay your hands on -- and my listing is by no means complete -- will make your search for the Herschel 400s easier, faster and ultimately more successful.

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The Lunatix Challenge Series: #12

by Philip Sacco (Lunatic #82)

(Editor's Note: This is the final installment in a series of 12 monthly "Challenges" devised by AAC's Phil Sacco to make your Lunar Club award quest more interesting. We want to again thank Phil for his generosity in permitting us to print his material.

Remember: If you miss a given feature one month, you can always look for it next month; and you can look for naked eye or binocular targets with a telescope or binoculars if you prefer to do so.)

Naked-Eye Targets. 1. How old must the moon be to see: the Old Moon in the New Moon's Arms? The New Moon in the Old Moon's Arms? What is the prime difference between these two moon phases? How would you explain these two phases to someone? 2. The Cow Jumping Over the Moon. 3. The crescent moon within 40 hours of new, both waxing and waning phases. 4. If you viewed the Earth and Luna from well above the plane of our solar system -- say, above the Sun -- how could you best describe the Earth/Moon system?

Telescopic Targets. 1. Crater *Picard.* 2. Crater *Furnerius.* 3. Crater *Schickard.* 4. Crater *Herschel, J.* 5. How much would you weigh on the moon? How much do you think you could lift on the moon as far as dead weight of lead? 6. What is the highest point on the moon, far side or near side? 7. What is the highest point on the visible face of the moon? 8. What is the tallest central crater mountain? 9. What is the total surface area of the moon (as a percentage) available for earthside viewing, taking libration into account?

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