

# THE FLINT RIVER OBSERVER



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FLINT RIVER ASTRONOMY CLUB

October, 2002

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**Club Calendar. Thurs.-Sun., Oct. 3-6:** Peach State Star Gaze at White Water Express; **Fri.-Sat., Oct. 4-5:** Cox Field observings, at dark; **Thurs., Oct. 10:** FRAC meeting (Beaverbrook, 7:30); and **Fri.-Sat., Oct. 11-12:** Cox Field observings, at dark.

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**Vice President's Message.** Busy, busy, busy. There's never been a time in FRAC's history when we've had so many irons in the fire. A tentative star party – we'll know by Oct. 15<sup>th</sup> whether MGAS will be on board or not; Bylaws amendments; club observing rules; logo selection; the Peach State Star Gaze in October; Chiefland in November; a Christmas party in December; and officer elections in February: with all that going on, **Steve** and I hope you'll pardon us if we appear a bit frazzled around the edges. I think you'll agree, though, that **Steve**, **Dawn** and I are worth every penny of the salaries we're getting. (And don't even *think* about suggesting that we're

overpaid.)

We hope, too, that when we're able to remove the "tentative" from it, you'll be as excited about the star party as we are, and that you'll want to do everything in your power to make it not just successful, but a *memorable* occasion for everyone concerned. Your committee has laid a solid groundwork for the event, but it'll take a *lot* of work by a *lot* of people, especially volunteer workers at Camp McIntosh, to make **Georgia Sky View 2003** all that we want it to be.

Right now, the major obstacles (apart from economic considerations) are: waiting for MGAS, preparing and signing a contract between the two clubs, getting IRS tax-exempt status from the feds, obtaining liability insurance, signing a contract with Indian Springs State Park and having a date approved by them. Those things take time, much more so than we'd like in our eagerness to get our act on the road. When they're ironed out, though, we'll be hovering on the brink of an event of such magnitude that it could change the face of FRAC forever.

We hope you'll want to come along for the ride.

-**Bill Warren**

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**Last Month's Meeting/Activities.** Five stalwarts – **Steve & Dawn Knight**, **Larry Fallin**, **Smitty** and yr. editor – tossed the dice and lost at our Fri, Sept. 6<sup>th</sup> Cox Field observing: we showed up, but the stars didn't. Sat. evening was better: **Scott & Alisa Hammonds** came out, along with **Dawn & Steve**, visitors **Jamey & Drew Jenkins**, **Smitty**, **Doug Maxwell** and **Dan Newcombe**, and this time the sky cooperated.

Eleven members attended our Sept. meeting: **Jerry Carlson**, **Grady Dukes**, **Larry Fallin**, **Tom Moore**, **Smitty**, **Steve & Dawn**, **Charles Woodward**, **Felix Luciano**, **Dr. Richard Schmude** and yr.

**editor.** Items discussed included: observing rules and guidelines for FRAC observings; star party progress; and handouts of proposed amendments to FRAC's bylaws that will be voted on at the October meeting. The vote on logo adoption was postponed.

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**Membership Renewals Due in October: Michael Chappell; and Joe Morris.** Please send your check for \$12 payable to either Steve Knight or FRAC c/o Steve's address listed in the upper left hand portion of p. 1.

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**This 'n That.** Our more observant readers will have noted on p. 1 that FRAC has a new Alcor – Astronomical League Correspondent – in multitalented, roguish **Tom Moore**, who also serves as Club Librarian, Chief Bottle Washer and Double-Nought Spy. Tom will be the one to blame – excuse us, of course we meant the one to *contact* – if you don't receive your quarterly issue of the *Reflector*. (Starting this December, the *Reflector* will be published in December, March, June and September)

\*Congratulations to the **Middle Ga. Astronomical Society** and president **Chuck Woodward** on becoming an affiliate of the Astronomical League.

\***Phil Sacco** has a telescope for sale: a "13.1-inch Coulter dobsonian reflector, recently overhauled, with a 1-year-old remirrored Pyrex mirror (f/4.5). The mirror is easily removed, mounted on a sling, 9-point support and easily collimated with 3 exterior screws. It comes with a large mount, a 7x50 finderscope and a functioning Dob Driver II with a battery charger and 2 utility batteries. The 'scope has a full metal rack-and-pinion focuser and a ¼-inch plywood Herculean mask for lunar and planetary use. A Televue 11mm eyepiece and laser collimator can be added to the deal." He's asking \$1,100 for it, or best offer.

Phil will have the 'scope for sale at the PSSG, but you can also contact him at (404)296-6332 or [ppsacco@attbi.com](mailto:ppsacco@attbi.com) if you're interested.

\*Having spent the better part of the past nine years earning A. L. observing pins, **yr. editor** wondered recently where he stands in relation to the A. L.'s top pin earners.

At writing, the top five pin achievers among the A.L.'s 21,000 members are: (1) (tie) **Peter Detterline** (Lehigh Valley [Pa.] Amateur Astronomical Society) and **Jim Ketchum** (Astronomical Society of Kansas City [Mo.]) with 16 pins apiece; and (3) (tie) **Bill Warren** (Flint River Astronomy Club), **Scott Kranz** (Astronomical Society of Kansas City) and **Jonathan Cassleman** (Spokane [Wash.] Astronomical Society, each with 13 pins. The first woman on the list, **Katarina DeWitt** (Neville Public Museum Society [Wis.]), is in 6<sup>th</sup> place with 12 pins, and eight other people (including FRAC member **Phil Sacco**) are tied for 7<sup>th</sup> place with 11 pins.

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**Upcoming Meetings/Activities.** For those who aren't heading for the hills to attend the **Peach State Star Gaze on Thurs.-Sun., Oct. 3<sup>rd</sup>-6<sup>th</sup>**, our Cox Field observings will be held on **Fri.-Sat., Oct. 4<sup>th</sup>-5<sup>th</sup>** and **Fri.-Sat., Oct. 11<sup>th</sup>-12<sup>th</sup>**. The Moon will be somewhat of a hindrance to early evening observing on the latter dates.

Our FRAC meeting at Beaverbrook will be at 7:30 on **Thurs., Oct. 10<sup>th</sup>**. With speaker **Bill Warren**, you'll boldly go where only he, **Phil Sacco** and **Smitty** have gone before – among FRAC members, that is: to the **Sun** and back with the Sunspotter's Club.

Also at that meeting, we'll vote to accept or reject the proposed Bylaws amendments that were studied at the Sept. meeting. If you attended that meeting and have suggestions regarding corrections, additions or deletions to those proposed amendments, please notify **Bill** or **Steve** no later than the Oct. 4<sup>th</sup>-5<sup>th</sup> Cox Field observings so we can make whatever changes might be necessary. With all that's presently going on in FRAC, we *don't* need to delay voting on this important topic for another month.

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**The Sky in October.** Venus, its crescent shape growing thinner with each passing night, will be slowly sinking in the west. Saturn will rise before midnight, a bit earlier than Jupiter. Neptune (mag. 7.9) will be about 3 degrees E of Rho ( $\rho$ ) Cap, forming a false "double star" with a mag. 7.3 star. The blue disk of Neptune, small but easily visible in most telescopes, will be a dead giveaway as to which one is the planet. At mag. 5.8, green Uranus will be an easy find, located 2-1/2 degrees NNE of mag. 2.8 Delta ( $\delta$ ) Cap in the vicinity of mag. 5.1 Mu ( $\mu$ ) Cap. Both of those stars should be naked-eye visible on a decent evening for observing.

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### SMITTY'S SNIPPETS

by Steven "Saratoga Smitty" Smith

*Snippet (n).* A tidbit or morsel. (*American Heritage Dictionary*).

I love books. My problem is that I hate to dispose of any. My collection probably contains more books on astronomy, cosmology and physics than your local public library.

When there is space in our newsletter, you'll be seeing excerpt from various books I've read. Some will be educational, some will be thought-provoking, and then there will be others that are just downright funny! I hope you'll enjoy and look forward to these little morsels; maybe they'll encourage you to seek out and purchase these books for yourself. Be careful, though: your personal library may become larger than mine!

#### Snippet #1.

We spent many hours on the roof... so it made sense to pass the time by stargazing. Tiled and pitched, it wasn't the most accommodating roof, but we managed to haul my telescope up there and to set up my mother's ironing board as a chart table. One night a police patrolman, spotting our silhouettes on the roof with our gear past midnight, rang the doorbell and awakened my mother.

"Ma'am," he said politely, "do you know that there are two men with what appear to be rifles standing on your roof?"

-Timothy Ferris  
*Seeing in the Dark*  
New York, N.Y.: Simon & Schuster, 2002 (p. 17)

#### Snippet #2.

The physicist and amateur astronomer Harold Richard Suiter notes that a premium-quality eight-inch telescope mirror, of the sort that many skilled amateurs have made by hand, if enlarged to a diameter of one mile, would be curved to an accuracy of better than a quarter of a millimeter, "a playing-card thickness error on a disk a mile across."

On the same scale, an extremely fine piece of metal machinery, such as a bearing used in a jet engine, would have undulations bigger than softballs. As Suiter puts it, a good telescope mirror "contains the most accurate macroscopic solid surfaces yet shaped by humans."

-Timothy Ferris  
*Seeing in the Dark*, *ibid*, p. 65

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### THE ARP PECULIAR GALAXIES

article By Bill Warren

Dr. Halton C. Arp, an astronomer at the Max Planck Institute for Physics and Astrophysics, is a controversial figure among cosmologists. For years, Dr. Arp has stood virtually alone among modern astronomers in contending that the "red-shift" phenomenon is *not* due to stars' moving away from us, but rather to some as-yet unexplained cause. Thus, for Arp, red-shift cannot be used to measure stellar distances and the Big Bang is little more than a dubious theory. His is *not* a popular view among his peers.

On the other hand, Arp's major work, the study and classification of strange galaxies that do not conform to "normal" galactic standards, is both

scientifically valid and very popular. His 1963 book, *Atlas of Peculiar Galaxies*, featured 338 galaxies with unusual features. (He has since published a companion volume of peculiar galaxies in the southern hemisphere.) The Astronomical League's **Arp Peculiar Galaxies Club** awards certificates and pins for observing, photographing or CCD-imaging any 100 of the 338 Arps listed in his 1963 book.

If you have a Messier pin, you've already completed 11% of the work, there being that many Messier Arps. There are also 26 **Herschel 400** and 5 **Caldwell** galaxies on the Arp list, so if you do the H400 and Caldwell lists first you'll have a total of 37 Arps logged even before you start the program. (The math is correct here: two of the H400 Arps are associated with Messier Arps, and three H400 Arps are also Caldwell Arps.)

**The Messier Arps.** To give you an idea of the sort of features that render a galaxy "peculiar," consider some of them you may have seen already: the Messier Arps.

\***M66** (Arp #16, in *Leo*): a "spiral galaxy with detached segments";

\***M101** (Arp #26, in *UMa*): a "spiral galaxy with one heavy spiral arm";

\***M77** (Arp #37, in *Cet*): a "spiral galaxy with low surface brightness companions on its spiral arms";

\***M90** (Arp #76, in *Vir*): a "spiral galaxy with small, high surface brightness companions on its spiral arms";

\***M51** (Arp #85, in *CVn*): a "spiral galaxy with large, high surface brightness companions on its spiral arms";

\***M60** (Arp #116, in *Vir*): an "elliptical galaxy close to (and perturbing) a spiral galaxy";

\***M49** (Arp #134, in *Vir*): an "elliptical galaxy with nearby fragments";

\***M87** (Arp #152, in *Vir*): a "galaxy with jets";

\***M32** (Arp #168, in *And*): a "galaxy with diffuse counter tails";

\***M65/M66** (Arp #317, in *Leo*): with **NGC 3728**, a "galaxy group"; and

\***M82** (Arp #337, in *UMa*): "Miscellaneous."

**Observing the Arps.** You don't have to – and in many cases you probably won't – see the unusual feature(s) that makes a galaxy an Arp. Of the 11 Messier Arps, the only peculiar features I observed were companion galaxy **NGC 5195** slightly detached from or possibly connected to a spiral arm of **M51**; **M60's** nearby companion galaxy **NGC 4647**; and the bright *Leo* galaxy group **M65/M66/NGC 3628**.

All you have to do is find and observe the brightest member of the group. Describe what you see, and don't worry about the peculiarities. Most of them (e.g., the erupting gas jet from **M87**), are far too faint to be seen at the 'scope, anyway.

The A. L. recommends that "Since this is an advanced observing program for light buckets... you (should) use a telescope with an aperture of 12.5" or larger, and observe from a dark site." A light bucket comes in handy after you've reached about 85 Arps.

In preparing for the Arps, I first listed those that were mag. 13.9 or brighter – 127 of them. That gave me a cushion of 27 that I might not be able to find, since all I needed was 100. I found 51 of them with a 10" Orion Dob, and finished the list with a 12.5" Discovery Dob. It took me a year and a half to complete the project.

**The Herschel 400 Arps.** Here are the Arps that are also Herschel 400 objects: Arp 13 (NGC 7448); Arp 16 (NGC 3628 + M66); Arp 18 (NGC 4088); Arp 22 (NGC 4027); Arp 23 (NGC 4618); Arp 27 (NGC 3631); Arp 29 (NGC 6946); Arp 78 (NGC 772); Arp 85 (NGC 5195 + M51); Arp 94 (NGCs 3226 + 3227); Arp 120 (NGCs 4435 + 4438); Arp 135 (NGC 1023); Arp 162 (NGC 3414); Arp 184 (NGC 1961); Arp 185 (NGC 6217); Arp 206 (NGC 3432); Arp 215 (NGC 2782); Arp 217 (NGC 3310); Arp 222 (NGC 7727); Arp 225 (NGC 2655); Arp 244 (NGCs 4038 + 4039); Arp 269 (NGCs 4485 + 4490); Arp 270 (NGCs 3395 + 3396); Arp 281 (NGCs 4627 + 4631); Arp 286 (NGCs 5560 + 5566 + 5569); and Arp 316 (NGC 3193).

**The Caldwell Arps.** Arp 29 (NGC 6946) is Caldwell 12; Arp 77 (NGC 1097) is Caldwell 67; Arp 153 (NGC 5128) is Caldwell 77; Arp 244 (NGCs

4038 + 4039) is Caldwell's 60 + 61; and Arp 281  
 (NGCs 4627 + 4631) is Caldwell 32.

**March 2.**

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*(Editor's Note: Are you having trouble organizing your monthly searches for objects in the night sky? If so, **Larry Fallin** offers a monthly guide to which Messiers, Caldwell's, Herschel 400s and Double Stars are up. His October installment appears below.)*

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**Errata.** The weekends were correct but the dates were one day shy of being accurate in our Aug. and Sept. issues regarding preferred Georgia Sky View 2003 star party dates. Those dates should have read: (1) **March 28-30**; (2) **May 2-4**; and (3) **Feb. 28-**

Constellations of the Month - October					
	Messiers	Caldwells		Double Stars	Herschel 400
<b>Aquarius</b>	M2 M72 M73	C55	NGC 7009	94 Aquarii Zeta Aquarii	NGC 7009 NGC 7606 NGC 7723 NGC 7727
<b>Cepheus</b>	<i>none</i>	C1 C2 C4 C9 C12	NGC 188 NGC 40 NGC 7023 Sh2-155 NGC 6946	Beta Cephei Delta Cephei Struve 2816 Xi Cephei	NGC 40 NGC 6939 NGC 6946 NGC 7142 NGC 7160 NGC 7380 NGC 7510
<b>Lacerta</b>	<i>none</i>	C16	NGC 7243	8 Lacerta	NGC 7209 NGC 7243 NGC 7296
<b>Pegasus</b>	M15	C30 C43 C44	NGC 7331 NGC 7814 NGC 7479	Epsilon Pegasi	NGC 7217 NGC 7331 NGC 7448 NGC 7479 NGC 7814
<b>Sculptor</b>	<i>none</i>	C65 C70 C72	NGC 253 NGC 300 NGC 55	<i>none</i>	NGC 253 NGC 288 NGC 613