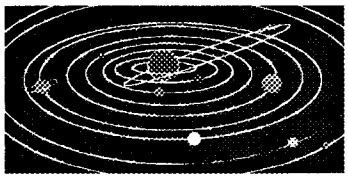
THE FLINT RIVER OBSERVER



Vol. 2, No. 2 **FLINT RIVER ASTRONOMY CLUB** **April, 1998**

Officers: President, Larry Higgins (227-2233); 1st Vice President/newsletter editor, Bill Warren (1212 Everee Inn Rd., Griffin, GA 30224 / 229-6108 / e-mail: WE1212LW@aol.com; 2nd Vice President/Secretary-Treasurer, Ken Walburn (P. O. Box 1179, McDonough, GA 30253 / 954-9442); AlCor, Neal Wellons (946-5039); Librarian, Keith Cox (227-8171); Observing Chairman, Steven "Smitty" Smith (583-2200). Club mailing address: 2431 Old Atlanta Road, Griffin, GA 30223. All of these phone numbers have 770 area code prefixes.

Please notify **Bill Warren** and **Neal Wellons** promptly if you have a change of address.

* * *

Club Calendar. Thurs., Apr. 9: Club meeting (Beaverbrook media center, 7:00); **Fri., Apr. 10:** Beaverbrook "First Light"/ FRAC joint observing, Fair Oaks Farm at dark; **Fri., Apr. 24:** deep-sky observing (Cox Field at dark).

* * *

President's Message. I was unable to attend the observing at Camp Calvin for the Taylor St. 7th graders on **Mar. 20th,** but **Bill W.** says I wasn't needed, anyway. (Gee, thanks, Bill.) Says he stumbled through his part of the presentation in typical fashion (i.e., making mistakes at 140 decibels), but **Keith Cox** and **Neal Wellons** saved the evening with *very* impressive performances. It's good to see Keith and Neal taking leadership roles, not just in observings but also in things like organizing the upcoming Astronomy Day activities our club will be conducting.

Speaking of which, Astronomy Day will coincide with Griffin's Mayfling celebration, and we're going to have a space at Volunteer Park. It'll be great publicity for astronomy and FRAC, and as a club member you need to be a part of the festivities and activities. We'll have more to say about it at the **Apr. 9th** club meeting and in next month's newsletter, but you need to be aware now that, without your participation, it won't work.

Leadership starts at the top, but it doesn't end there. I hope to see more of you following Neal's and Keith's lead in becoming actively involved in our club projects; it's the only way our club will remain strong. Bill and I agree that what FRAC needs more than anything else at this point in its development is more chiefs and fewer Indians. We do our best, but what the club really needs is *your* best, too.

Think about it.

- Larry Higgins

* * *

March Meetings/Activities. John Wallace, Larry H. and yr. intrepid reporter braved the elements on **Mar. 2nd**

to show the kids in **Kimberly Novak's** East Coweta H. S. astronomy class Saturn for maybe 2-1/2 minutes and Orion Nebula for about 90 seconds. They also got to see some pretty impressive and fast-moving cloud formations.

The Third Ward observing and makeup dates were cancelled, one by uncooperative skies and the other by a scheduling conflict at the observing site.

Undeterred by the **Mar. 20th** cancellation, we held an observing at Camp Calvin that night for about 25 Taylor St. 7th-graders, teachers and parents on that night. With thick clouds overhead, **Neal Wellons, Mike Stewart, Keith** and **Denise Cox** and yr. ubiquitous reporter went indoors to show the kids our telescopes and talk about our favorite subject. (Reading this, **Larry H.** is probably thinking, "Why did they talk about *me*? They were supposed to be talking about stargazing!") With Mike and Denise offering moral support and yr. twinkle-toed reporter trying not to trip over the telescopes, Neal and Keith were simply splendid, their presentations as lively, thorough and informative as any indoor sessions our club has conducted.

Our scheduled speaker for the March club meeting, Tom Crawley, was an unavoidable no-show, so **Larry H.** entertained us with clever finger shadow silhouettes on the projection screen and a lively routine of barnyard imitations. (No, actually he showed an interesting video from Orion on the deep sky and the origins and life cycles of stars.) Nineteen members and guests attended.

We had 13 FRAC/Beaverbrook attendees at Fair Oaks Farm on **Friday the 13th**, including long-lost **Doyne Tallman**, whose new 8" Dob is sporting a nice cobweb beard from disuse. Doyne offered the lame excuse for his prolonged absence of having recently opened his own business -- as if feeding his family could possibly be more important than FRAC meetings and observings.

The Peach State Star Gaze was held on **Mar. 26-29**, and pre-empted our regular Cox Field deep-sky observing for March. Since this newsletter is being written in mid-March, presumably a good time was had by all who attended -- except, of course, **Ken Walburn.**

* * *

Renewals. Club members whose renewal dates are 5/98 include: **Dr. Richard Schmude, Jr.,** and **Neal, Cody and Suzy Wellons.**

* * *

Upcoming Meetings/Activities. The speaker for our **April 9th** club meeting will be **Jeff Lichtman,** founder of the Society of Amateur Radio Astronomy. Plan to attend and learn more about this relatively unknown first cousin of visual observing.

Our **April 10th** "First Light"/FRAC observing will again be held at Fair Oaks Farm (3 mi. past Beaverbrook on the left, or *south*, side of Birdie Road) as construction continues at the school.

Our Cox Field deep-sky observing will be held on **April 24th. Larry H.** will be starting on the AL's Binocular Deep-Sky program; it'll be a terrific opportunity for you to work with Larry and improve your binocular searching and observing skills. Yr. eagle-eyed reporter will be available to help you formulate a telescopic search strategy for the spring galaxies -- or perhaps to supply synonyms for words like small, faint and fuzzy.

* * *

The Planets in April. Venus will be a morning star all month; on the **22nd** it will be 1/2° -- a Moon-width -- N of **Jupiter**, low in the ESE pre-dawn sky. A very low waning crescent **Moon** will join them on the **23rd**, passing 0.2° N of Jupiter at 3 a.m. and 0.08° S of Venus at 4 a.m.

You won't see **Saturn, Mars** or **Mercury** at all in April; they're too near the Sun from our perspective. If it matters, **Pluto** will be in the constellation *Ophiuchus*, and **Uranus** and **Neptune** will be in *Capricorn*. Unlike recent months when most of the planets were readily visible to everyone except **Lee Russell** and yrs. truly, none will be observable in the night skies of April.

A generally unimpressive meteor shower, the **Lyrids,** peaks on the evening of **Apr. 21-22**. A dark sky will help, as will staying up till 3 a.m.for its somewhat less than blazing peak, but at least the last-quarter Moon won't hinder your viewing.

Elsewhere, you'll have *Ursa Major* and the Whirlpool Galaxy **(M51)** at your beck and call, and to their south easily recognizable *Leo* with its "backward question mark" head facing Praesepe **(M44,** the Beehive) and its trio of hindquarter stars pointing the way to all those faint fuzzies in the east, the Coma-Virgo galaxy cluster.

Spring is a wonderfully comfortable season for Messier collectors -- or, for that matter, for any stargazer. It's not as cold as it was a few months earlier, but still cool enough to keep the four Horrible H's -- heat, haze, humidity, and hinsects -- at bay between April showers. And if you're looking for Messiers, here's what the Spring sky offers: 2 in *Cancer,* 5 in *Canes Venatici,* 8 in *Coma Berenices*, 3 in *Hydra,* 5 in *Leo,* 7 in *Ursa Major*, and 11 in *Virgo*. Some of them, esp. those in *Coma, Virgo* and *Hydra*, may require you to stay out past Barney Fife's bedtime to see them all, but the reward, **41** Messiers, will be worth it. We will, of course, be available to offer encouragement and tips for finding and observing what you're looking for, all at the incredibly low introductory price of $5 per Messier.

* * *

An Alcor Change for FRAC. Neal Wellons is our new Astronomical League correspondent (Alcor). Call Neal at the telephone no. listed on p. 1 if you don't receive your quarterly AL newsletter (*The Reflector)* within a reasonable period. Call **Larry Higgins** if you don't receive your FRAC *Observer* by, say, the 7th of the month.

* * *

People You Should Know: Mike Stewart. Mike's progress since joining FRAC in November has been nothing short of incredible. Starting as a rank beginner with no telescope, no star charts, and little or no understanding of how the night sky is arranged, Mike has come a very long way in a very short time. Using others' telescopes (including caretaking the Beaverbrook telescope at BB/FRAC observings), Mike is in hot pursuit of the Messiers, having found 36 in all, including all of the winter Messiers up to *Ursa Major* and *Leo* in the spring sky.

He's learning the sky, too. Mike showed us the constellation *Puppis* and its open cluster **M93** at Fair Oaks, and when we decided to further test his knowledge by asking him to identify a bright star in the east, he studied it for a second or two and said, "That's Arcturus. And that's Spica to

the south of Arcturus." Now, you already knew that, of course, thanks to the old saying, "Arc to Arcturus (from the curved handle of the Dipper) and speed to Spica" -- but it speaks well for Mike that he knows about the stars of the upcoming season after only 4-5 months of observing experience. He's been doing his stargazing homework!

"*And a little child shall lead (him).*" Mike got interested in stargazing through his daughter **Danielle**'s involvement in Beaverbrook's "First Light" astronomy club; he's been a regular at BB and FRAC meetings and observings ever since. He and Danielle, a 4th-grader, rode on our float in the Christmas parade, and Mike helped in showing the night sky to Jackson Road students in February.

Mike works with Southern Terry, Inc. He and his wife **Lynn** have four children -- **Shane** (13), **Bambi** (17), **Mindy** (18) and Danielle.

Don't be surprised if, at this time next year, you find Mike sporting a Messier pin at our meetings and observings. (No, **Larry,** he's not going to steal your pin, he intends to earn his own -- if, that is, he can wade through the maze of Messier galaxies in *Ursa Major, Coma Berenices, Canes Venatici, Leo* and *Virgo.)*

* * *

And THAT Reminds Us: How are you coming on *your* Messiers, **John Wallace**? Last time we heard, John had bagged 91 of the 110 and was waiting impatiently for the Virgo galaxies to rotate around to him. Unless something drastic happens, John will be the second FRAC member to earn his Messier pin and certificate through our club.

Smitty has found 37 **Binocular Messiers.**

* * *

On Sojourner, Killer Asteroids and Stephen Hawking

by Bill Warren

NASA officially pronounced **Sojourner** expired last week. Although not entirely unexpected, the news was devastating to the little Mars rover's mother, a washing machine in Peoria.

The "killer asteroid" that made headlines recently -- official designation LX200 or something like that -- underscored the imprecise nature of astronomical measurements. Described as being somewhere between 1/2 and 2 mi. in diameter -- which is like saying **Ken Walburn** weighs somewhere between 120-375 lbs. -- the asteroid, first projected to come within 26,000 miles of Earth in the year 2028, is now expected to miss us by 600,000 miles. And while that's good news to those who, like my wife **Louise**, make their vacation plans 30 years in advance, it raises the question of how the experts could have been wrong by *574,000 miles* unless the calculations were performed by the same airline personnel who are responsible for getting your luggage on the same flight you're on.

Having read **Stephen Hawking's** *A Brief History of Time (From the Big Bang to Black Holes)* from our FRAC library collection, I offer three observations:

1. He could have made his brief history of time even briefer by leaving out Chs. 4, 5, 9 and 10 and sticking to his analysis of the universe, its origins and end, and black holes. What I learned about cosmological constants, spin-1/2 particles and the weak anthropic principle can be summed up in a sentence from Chap. 8: "Twice zero is also

zero."

2. The most interesting revelation to be gleaned from the book was that "Black Holes Ain't So Black" (Chap. 7): they only look that way, Hawking explains, because we can't see them. (Now, why didn't *I* think of that?) I forget what color he said they would be if we could see them -- and at this point I ain't about to wade back through the book to find out -- but it's a safe bet that we can rule out peppermint, pistachio and plaid.

(Don't, incidentally, be misled by the chatty title of Chap. 7: like the rest of the book, it's readable if you're at home with such everyday topics as entropy, the second law of thermodynamics, and the quantum mechanical uncertainty principle -- and I'm *not*. Otherwise, much of the book might as well have been written in Mandarin Chinese. It is, after all, an astrophysics book, not an astronomy book.)

3. Although Hawking has been hailed for his alleged ability to render complex topics simple a la **Carl Sagan,** I suspect that there may have been three other reasons why his book has sold like free pizza. First, it has wonderful snob appeal. ("Don't you just *love* his ability to make topics like Heisenberg's uncertainty principle come *alive?"*) Second, it looks impressive on the coffee table next to your autographed copy of *Cosmos* by Sagan. And third, a lot of buyers probably thought they were purchasing a thriller by horror writer Stephen King.

Hawking is an amazing man. Although stricken three decades ago with ALS (amylotropic lateral sclerosis, or Lou Gehrig's disease) that has left him wheelchair bound and virtually unable to speak, Stephen Hawking has continued to work and produce brilliant analyses in the realm of theoretical physics. Widely hailed as the modern successor to Sir Isaac Newton and Albert Einstein, Hawking is quite possibly the most brilliant human on Earth, with the possible exception of **Mitch Hammond.** His terrible affliction only magnifies the scope of his achievement.

Still -- and this is *my* fault and not his -- I'd have gotten more from *A Brief History of Time* if it had been written in comic book form like, say, Batman Comics. ("Holy event horizons, Batman, we're being sucked down into a black hole! Looks like we're goners this time!" "Maybe not, Robin! Quick, reach down and activate the antigravity and warp drive controls on your utility belt!")

Please *don't* take all this as an indication that our club library is lacking in good books. I've read about seven of them that I heartily recommend, including: *The Practical Astronomer* (Jones), which has monthly star charts; the stunningly beautiful and highly informative *Skywatching* (Levy); *Everybody's Comet* (Hale), which is about Comet Hale-Bopp but will tell you all you need to know about all of the major comets in history; *The Guinness Book of Astronomy Facts and Figures* (Moore); *The Lawnchair Astronomer* (Descoteaux), a wonderfully simple and readable guide to comfortable stargazing; and *To the Red Planet* (Burgess). Others doubtless are equally enjoyable, but I haven't gotten around to them yet.

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Beginners' Star-Hop: March, 1998

"Lasciate Ogni Speranza Voi Ch'entrate!"

By Art Russell

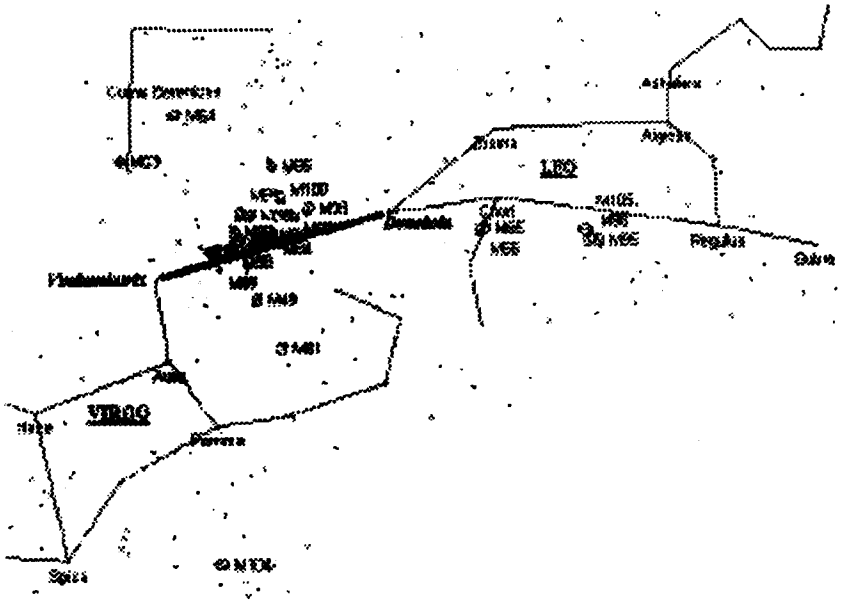
Once again, the realm of galaxies approaches. Where seasoned amateur astronomers look forward to the arrival of old friends warmly remembered under the chilly skies of late winter and early spring, beginners avoid the area like a visit to the dentist office for a molar extraction without benefit of anesthesia. The realm of the galaxies, the Coma and Virgo clusters in the constellations Coma Berenecies and Virgo, respectively, need not be approached with fear and trepidation. However, you should approach it with a plan. Fail to have a plan, and you will be as surely lost as those poor souls entering ***Dante's Inferno***. This month's Beginners' Star-hop begins a three month odyssey into the heart of the realm of galaxies. Along the way, you'll learn the essential secret to star-hopping in this part of the sky. At the same time I will be writing the concluding articles in a 2 1/2 year personal odyssey which started when I started writing the Beginner's Star-Hop articles for the expressed purpose of leading the club's beginners to all of the Messier objects. With the exception of the galaxies to be covered in the next three months, I've completed that goal. That doesn't mean that I'm laying my pen aside. Far from it. However, I'd like to know what parts of the sky you'd like me to cover in succeeding star-hops. Any specific types of deep sky objects you like to see specifically mentioned? Let me know where you want the column to go from here. Its up to you...

This month, will take us to the remaining galaxies in Coma Berenecies which I've not yet covered. We'll finish off the Beginners' Star-Hops in the succeeding two months with the remaining galaxies in Virgo which I haven't addressed yet. We'll start off early in the morning in the constellation Leo and then, using the galaxies M87, M84 and M86 as our guide, jump off to the galaxies M85, M88, M91, M98, M99 and M100.

At this point, I suppose, you're asking yourself what the secret to star-hopping in the realm of galaxies might be. In case you haven't already guessed, you don't star-hop with stars! You star-hop with galaxies! Depending on the size of your scope, you'll often find more galaxies in your field of view than you find stars. Of course this also means you need to have GOOD STAR CHARTS!! As a minimum, consider using a copy of Sky Atlas 2000. However, you'll be much better off using Uranometria or a set of custom printed finder charts.

So how to get started? Where to begin? Find the constellation Leo which culminates (crosses the zenith or gets as high as it ever does) on 15 March at 1 AM. From the star Denebola, Beta (β) Leonis, extend a line east-southeast to the star Vindamiatrix, Epsilon (ε) Virginis, in the constellation Virgo. You'll find the M84 and its close companion, M86, at the midpoint between these two stars. As a side trip, note the giant elliptical galaxy, M87, is only a little more than 1 degree east-southeast of M84.

Now the fun starts. We'll be using M86 as our starting point for galaxy hoping for this month and next month as well. Take time getting comfortable finding M86 as it is very easy to get lost galaxy-hoping in the fields of myriad galaxies in Virgo and Coma Berenecies. At this point, be sure you know how large the field of view in your telescope's eyepiece is. For comparison purposes, the distance between M84 and M86 is about 17 arcminutes. The distance from M86 to M87 is about 1.3 degrees, or a little more than 3 times the distance between M84 and M86. There are many galaxies in this area. For simplicity, I've excluded all galaxies dimmer than 11th magnitude in the following chart. As a general rule, the Messier galaxies are brighter than



Technology Ridge corridor. One of those initiatives is to build an observatory.

The County has political clout and money, and the Club has the expertise. While many scenarios are possible, one ideal plan would be an "astronomy mountain" where several institutions, including Reinhart College and the Atlanta Astronomy Club, would have observatory sites on top of a mountain. Besides the observatories, a park would also be possible to act as a buffer and as a place for the public to go to look at the stars. Hopefully the college and school system would have telescopes with which students could, besides doing visual observations, also log on from their computers to do remote astronomy. It is possible that we could obtain land (even a building) in exchange for our help in getting this project off the ground.

Discussions are still preliminary! But it is hoped that there will be a concrete proposal to present to the board and membership in the near future.

In addition to the Cherokee initiative, the National Forest Service is also helping us scout out more possible dark sites in the mountains of north Georgia. The possibility has been presented to us of building there as well.

For more information, call Mark Banks about Cherokee County, and Phil Bracken about the National Forest.

Hindu Mythology of Alcor-Mizar

from Ken Poshedly, submitted by Philip Sacco

Some time ago, Ken sent me the following Hindu legend about Mizar-Alcor. I thought it would make a nice addition to the Focal Point this month, as it is very consistent with my 'Astronomy Today' talks at the meetings. (for those of you having missed the meetings recently, I have been doing 5 minute talks on the mythology of the heavens. This is to remind us all that originally, Astronomy was the study of the heavens with the unaided eye. The stories surrounding the constellations brought generations of stargazers plenty of satisfaction....). Those of you with a real interest in the Mythology of the stars, if you will contact me about your favorite constellations, I will do a write up on them....

In Hindu Astronomy, Ursa Majoris is named after seven great sages of ancient Vedic times as Sapt-Rishi (Sapt=seven, Rishi=Sage). The story goes that, once when the Hindu God Brahma, created the Universe following a deluge, in the cycle of birth and death of the Universe, he also created ten sages whose job it was to establish the rule of the land. However, seven of these sages engrossed themselves only in meditation and furthering their knowledge and completely ignored the job at hand. Brahma was angry and put them into hibernation as a punishment.

Subsequently, when the time came to begin the Universe once again, Brahma gave them one more chance and brought them back to life! The Seven Sages decided to make full use of this opportunity and engrossed themselves in establishing the Vedic culture on earth. In recognition of their work they earned a permanent place in the sky as the constellation Sapt-Rishi!

Mizar is named after the sage ' Vashishtha ' and Alcor its optical binary, is named after the sage's wife 'Arundhati '. The seeming relationship between Mizar and Alcor became the story of Vashishtha and Arundhati and their total devotion to each other. Vashishtha was a famous sage of his times much sought after for the conduct of Vedic religious rites. In these rites the presence of women was barred. But Vashishtha refused to participate in these rites if his wife was not allowed to accompany him. He took the stand that as he was now married to her, she was a part of him and he was duty bound to remain faithful to her and include her in whatever he did. In those times this must have created a big stir! But such was his stature that he got what he wanted and he became very famous for his love, devotion and faithfulness to his wife.

Even now in many Indian societies, there is a custom related to this myth. On the first night of their wedding, the groom and the bride are shown Mizar and Alcor. The story of the sage and his wife is told to them and the groom is reminded to always remain as faithful to his wife as the sage was to his!

courtesy of Atul P. Naik

Observing Dates

- Orientations: To begin at 5pm sharp, and will be hosted at the W.B. Memorial Observatory in Villa Rica:

March 14th-Jewish Community Center/Cobb County
March 21st- This will be an 8 day old moon for those wanting to work on the Lunar List. We have had a 4 day and 10 day old moon so far for the Orientation evenings....]
March 27th-Perimeter School/rain date makeup
April 2nd-Mountain View Elementary School
April 18th- 21 day old moon or 3rd quarter.
May 3rd- 7 day old moon or 1st quarter
June 13th- 18 day old moon
June 15-19th-Cub Scouts. I believe this is a day event, call Mark Banks for the details. A slide show perhaps?

Deep Sky Sessions:
March 26-29- The Peach State Star Gaze. Indian Springs/Jackson, Ga.
April 25th- Location to be announced
May 23rd- Akins Field
June 20th- Turkey Farm
Plans are in the works for a state-wide star party with the clubs from Augusta, Statesboro, Savannah, Flintriver, and Macon. If you have any ideas for a good site, let me hear from you.(I would like to see it at Jekyl Island myself.....)

I am Pleased to announce the re-awakening of the "Tools, Training and Techniques" programs. The next one will be on March 21st at the Walter Barber Memorial Observatory in Villa Rica. This is the same evening as the next Orientation program, and will begin approx. 7pm. The subject will be presented by 'Mr. Galaxy' himself, and will include a slide show and discussion on viewing hints, tips, and strategy! This should prove to be a memorable evening for all coming out, so mark your calendars NOW. Remember, the Orientation program will be starting at 5pm that same evening, and will be completed before the "Galaxies" program. Please remember to bring a folding chair or stool for your comfort.

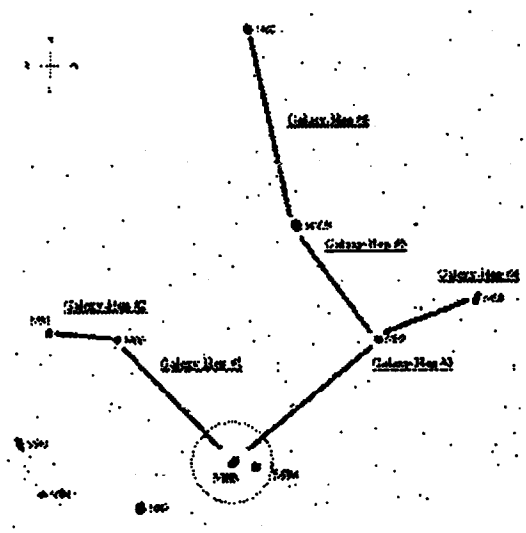
the surrounding galaxies, so you shouldn't have too much trouble finding your way during the Galaxy-Hops to follow. Remember, if you get lost, you can always start over at M86.

Galaxy-Hop #1. M86 to M88 (NGC 4501). Centering your telescope's field of view on M86, move to the northeast the appropriate number of fields of view to equal about 2 degrees. The third star-chart has a circle around M86 approximating a 1 degree field of view. In this case, I'd move my telescope a little more than 2 fields of view to the northeast to find M88. Observing at moderate power in the club's 20 inch scope, M88 appears as an oblong halo with a hint of the nucleus visible in averted vision. The galaxy seems oriented northwest to southeast and is very visible.

Galaxy-Hop #2. M88 to M91 (NGC 4548). M91 is a little less than 1 degree, almost due east of M88. Simply move your scope the appropriate number of fields of view while watching through your eyepiece, and you should find M91. M91 should be visible even in smaller telescopes, but you can expect it won't be very prevalent. At moderate magnifications you'll find that M91 presents a uniform glow with a very small nucleus. Even at higher powers the galaxy doesn't reveal much, although it may appear a bit mottled.

Galaxy-Hop #3. M86 to M99 (NGC 4254). Returning to M86, the distance to the next galaxy presents an opportunity to get lost. Remember where you found M86 if you loose your way. Starting at M86, move your telescope a little less than 2 and a half degrees northwest. About half way there, note two of the brighter stars (10th magnitude) ;-() in the field of view which will help guide you there. At moderate magnifications, M99 will present a bright nucleus with a halo which fades rapidly. At higher magnifications, the nucleus fades in prominence, but it leaves you with a suggestion of mottling within halo.

Galaxy-Hop #4. M99 to M98 (NGC 4192). M98 is only a little more than 1 degree to the northwest of M99. Once again, move your telescope the appropriate number of fields of view while observing through your eyepiece. M98 will be very prominent. M98 is relatively easy identify. At moderate magnifications, it is very elongated from the northeast to the southwest. It may also appear to have a hint of nucleus visible in averted vision. At higher powers, the nucleus may become visible in direct vision as well as some suggestion of mottling in the halo of the galaxy.



Galaxy-Hop #5. M99 to M100 (NGC 4321). Starting once again at M99, M100 is a little less than 2 degrees to the northeast. At moderate magnifications, M100 appears to have a bright nucleus and halo. At higher magnifications, the halo is more prevalent as the nucleus fades in prominence.

Galaxy-Hop #6. M100 to M85 (NGC 4382). Starting at M100, M85 is about 2 and a half degrees to the northeast. At moderate magnifications M85 appears small, but brighter compared to most of the other galaxies nearby.

Keep this Galaxy-Hop handy for the next few months as the Realm of Galaxies will be well situated for easy viewing. Most of all, remember how to find M86 and you'll never be lost under in this part of the sky.

We're here to help! Here's how to reach us:

Address for New Memberships, Renewals, Magazine Subscriptions, and Book Orders:

Atlanta Astronomy Club
3595 Canton Road, Suite A9-305
Marietta, GA 30066

Atlanta Astronomy Club Information Line: 770-621-2661

Internet Home Page: http://stlspb.gtri.gatech.edu/astrotxt/atlastro.html

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Don Hall	Board of Directors	770-938-8139	donhall@mindspring.com

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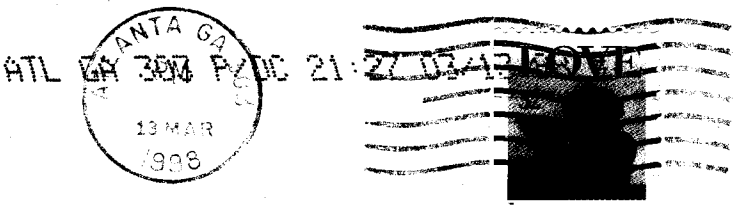
Chrissy Mondell	Hospitality and Refreshments		
Lynn Crowley	Beginner's Contact and Socials		0002015032@mcimail.com
Stephen Blalock	AAC Webmaster	770-924-6314	stephen.blalock@gtri.gatech.edu

The Focal Point



Newsletter of The Atlanta Astronomy Club, Inc.

FROM:
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FIRST CLASS

The Atlanta Astronomy Club Inc., the South's largest and oldest astronomical society, **meets at 8:00 p.m. on the third Friday of each month at Emory University's White Hall or occasionally at other locations (check the hot line for details). Membership is open to all. Annual dues are $25 ($10 for students). Discounted subscriptions to Astronomy, and Sky & Telescope magazines are available. Send dues to: The Atlanta Astronomy Club, Inc., 3595 Canton Road, Suite A9-305, Marietta, Ga. 30066.**

Hot Line: Timely information on the night sky and astronomy in the Atlanta area is available on a twenty-four hour basis on the Atlanta Astronomy Club hot line: **770-621-2661.**

Check out our ASTRO discussion list on the Internet: ASTRO@Mindspring.com. Also visit our Internet home-page: **http://stlspb.gtri.gatech.edu/astrotxt/atlastro.html**

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