THE FLINT RIVER OBSERVER

Vol. 1, No. 10 **FLINT RIVER ASTRONOMY CLUB** **December, 1997**

Officers: President, Larry Higgins (227-2233); 1st Vice President/newsletter editor, Bill Warren (1212 Everee Inn Rd., Griffin, GA 30224 / 229-6108); 2nd Vice President/Secretary-Treasurer, Ken Walburn (954-9442); AlCor, Melanie Handy (228-6214); Librarian, Keith Cox (227-8171); Hospitality Chairman, Lee Russell (228-0704); 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, if it matters.

Please notify **Bill Warren** and **Melanie Handy** promptly if you have a change of address.

* * *

Club Calendar. Sat., Dec. 6: Preparing float for Griffin's Christmas parade (Beaverbrook, 2:30); **Sun., Dec. 7:** Christmas parade (meet at Heilig-Meyers parking lot, 1:30); **Thurs., Dec. 11:** Club meeting (Beaverbrook media center, 7:00); **Fri., Dec. 12:** "First Light"/ FRAC joint club observing, behind the school at dark; **Fri., Dec. 26:** deep-sky observing (Cox Field at dark).

* * *

President's Message. We'll meet at Beaverbrook at 2:30 on **Sat., Dec. 6th**, to work on FRAC's float entry in this year's Griffin Christmas Parade. Then, on **Sun., Dec. 7th**, all FRAC members (including children) who would like to ride on the float or walk alongside it should meet in the Heilig-Meyers parking lot (across Hwy. 16 from Home Depot) at 1:30. The parade will start at 2:30, and will last about an hour. They don't want anyone to park in the Heilig-Meyers parking lot, so plan to either be let out there or park in the Home Depot lot. We'll let you know where to be picked up at the end of the parade when you join us at Heilig-Meyers at 1:30. I hope you'll plan to be there!

There's one more thing you need to know: **Danny Smith's** mother, a lifelong Griffinite and a dear friend, passed away on Nov. 27th after a lengthy illness. I know I speak for everyone in the club in offering our deepest sympathies and heartfelt condolences to Danny, **Sharon**, and the rest of the family. Maybe these words from Angelo Patri (1877-1965) will help to ease your pain, and that of other FRAC members who have suffered the loss of loved ones:

"In one sense, there is no death. The lives of souls on earth last beyond their departure. You will always feel that life touching yours, that voice speaking to you, that spirit looking out of other eyes, talking to you in the familiar things they touched, worked with, loved as familiar friends. They live on in your life, and in the lives of all others that knew them."

-Larry Higgins

* * *

November Meetings/Activities. We had absolutely wonderful skies for our **Oct. 30th** observing -- we being **yr. humble reporter, Larry, Keith Cox, Doyne Tallman, Mitch Hammond, John Wallace, Mike Stewart** (the newest member of our madcap menagerie of merry misfits), and **David Pendergrast**. I even found the elusive M33 twice, a feat akin to Stevie Wonder's finding it once.

Our **Nov. 10th** Flint MS observing was called off due to cloudy skies. Our **Nov. 21st** girl scout observing was rained out.

We had 20 in attendance at our **Nov. 13th** club meeting to hear **Ron Harrison's** fascinating talk about an often-overlooked subject, Weather in Space. We were especially glad to see **Suzy Wellons**, who thoughtfully brought along her dad and brother. Suzy owes me, though, because everyone else got a hug when she arrived and all I got was a handshake. Maybe I need to re-evaluate my decision to economize by using a kerosene-based aftershave lotion.

Suzy's dad, **Neal**, showed us some examples of the astronomical worlds of wonder available on the Web. Until he mentioned computers, I thought he was talking about places like my oven and the corners of my office.

Several FRAC members -- **Keith C., Mitch** and **Jordan Hammond, Larry,** my blushing bride **Louise,** and **Mike, Shane** and **Danielle Stewart** attended BB's "First Light" club meeting on **Nov. 14th**. The Spalding Co. Sheriff's Dept. will vouch that **yr. bumbling, stumbling, fumbling reporter** was there too, since I set off the school's burglar alarm when I went in.

Keith and **Denise Cox, Larry H., Mike** and **Danielle Stewart,** and **yr. obdt. servant** (that's "your obedient" in old English, inserted at this point to give the newsletter a sorely needed touch of class) showed up for the **Nov. 28th** Cox Field observing. About an hour after **Keith** and **Denise** wimped out and went home, the clouds rolled away and gave us maybe 3 hrs. of excellent viewing. **Mike** found 10 Messiers, which is exactly ten more than *you* found with your sleek new, black 10" Dob that everyone is dying to see, **Ken Walburn**!

* * *

Upcoming Meetings/Activities. We hope you'll ride with us on our club float in the Christmas parade (p. 1), and attend our club meeting on **Thurs., Dec. 11th** to hear **Rich Jakiel's** talk on the history of observing spiral galaxies. Rich looks somewhat like an NFL offensive lineman, but his glasses and soft-spoken manner give him away: he's really a teddy bear, a nice person who is extremely astute in matters astronomical. Rich has had four articles published in **Astronomy** magazine this year.

Also, **Keith Cox** will bring the books and other resources of our club library to the meeting. You can check out any of the materials for a month if you like, and return them at the following meeting..

Beaverbrook's "First Light" meeting on **Fri., Dec. 12th** will be devoted entirely to observing jointly with us. (Remember, they have their own telescope now, so you'll be able to observe on your own if you like.) Our Cox Field observing will be on **Fri., Dec. 26th**; plan to get there early to look for Uranus -- and Neptune as well -- shortly after sunset.

Phil Sacco is slated to return in Jan. to (among other things) show us slides of the

astrophotos **Melanie** and **Nikki Handy, Doyne Tallman** and **Chuck Beckham** took at Phil's last visit.

AAC past president **Doug Chesser** will be with us in February, showing his computerized 10" Meade LX200 Schmidt-Cassegrain telescope and its CCD-imaging gear that does everything imaginable except tap dance and wash windows. If you're contemplating suicide (or worse, a trip to Cleveland)in the near future, hold off until after our Feb. meeting, because you absolutely *don't* want to miss the show Doug and his 'scope put on. Maybe for once we'll get a break and the sky will be clear on the night of **Feb. 13th**. Let's hope so, anyway.

* * *

The Planets in December. Venus, the goddess of love, and **Mars**, the god of war, will be within loving or fighting distance throughout December, low in the SSW. Venus will be showing a progressively shrinking crescent phase as the month advances; if you've never seen a crescent Venus -- well, in the words of baseball's Yogi Berra, "Don't miss it if you can." **Neptune** will be 2.5° NNW of Venus on Dec. 9th, and 1.1° north of Mars on Dec. 16th. **Uranus** will be 0.6° north of Mars (i.e., almost in the same low-power telescopic field of view) on Dec. 26th, if you can wade through the Christmas debris to get outside and join us at our Cox Field observing. **Jupiter** will be about an outstretched thumb-to-little finger width to the upper left of Venus. **Mercury** will be about 7° -- roughly 4 finger-widths at arm's length -- above the horizon in the SW, giving us five planets in the same part of the sky at twilight. Fortunately, twilight falls very early in December. **Saturn**, uninvited to the planetary party, sits more or less alone, high in the southern sky, about 55° east of Jupiter.

If you read this portion of the **Observer** regularly, you may have noticed that we overlooked two November meteor showers, the Taurids and Leonids, neither of which is overly whelming unless you're willing to stay up till about 5 a.m. and show up for work the next morning with eyes that look like roadmaps and your lids propped open with matchsticks.

Well, tomorrow, as Scarlett O'Hara observed, is another day, and December brings us one of the two best meteor displays of the year, the **Geminids**.

Arriving on **Dec. 12th** and lasting through their peak on **Dec. 14th**, the Geminids are fragments of Asteroid 3200 Phaethon, which is thought to be a dead comet. Under a dark sky, you're supposed to see 50-80 meteors per hour in the wee hours of the morning of Dec. 13th-14th. But with a one-day-old full Moon hogging the spotlight, you'll see considerably less than that. It might be worthwhile to try anyway, though.

* * *

People You Should Know: Mitch Hammond. First, let me dispel as entirely untrue the rumor that, when he started out in stargazing, Mitch thought a *dew shield* was a device to keep dogs away from telescopes. Mitch is a 2nd cousin to both **Larry Higgins** and **John Wallace,** but you don't have to rub it in by reminding them of it.

Seriously, Mitch has become a very welcome fixture at our club and public observings. His first taste of the latter came at an observing for a local cub scout pack last August; having done an outstanding job there, Mitch has since made himself available for other activities,

to the extent of having been in charge of refreshments at the last BB kids' astronomy club meeting.

Mitch's growing commitment to (and involvement in) stargazing is doubtless due to his rapidly expanding knowledge of telescopes and the night sky (and, not entirely coincidentally, to the 10" Dob he's using that once belonged to **Larry H.**) A 'scope that big has a way of making evenings at home watching t.v. with your spouse seem downright mundane (or so I'm told, anyway) when the night sky is clear outside and M31 is calling to you from directly overhead, unless your spouse bears more than a passing resemblance to Elle MacPherson or Tom Cruise. Such decisions must be rough for Mitch, since wife **Tammy** is light-years closer to Elle than Mitch deserves. Their son **Jordan**, 11, often attends observings with Mitch. **Lauren**, 15, is a freshman at Griffin H. S.

Mitch is employed by Bell South. His favorite objects in the night sky are **Orion Nebula** -- his "first light" with the 10" Dob -- and **Jupiter and its moons**. Good choices.

* * *

FRAC/AAC: The Best of Two Worlds

by Bill Warren

Now 51 years old and counting 300 members on its rolls, the **Atlanta Astronomy Club** is by far the largest and most prestigious astronomy club in the southeastern U. S. Its ties with FRAC are very close, beginning with the fact that all three of FRAC's elected officers -- **Larry, Ken Walburn** and **yr. obdt. srvt.** -- we're getting classier by the paragraph! -- are also members of AAC, and AAC's president, **Art Russell**, and one of its two vice presidents, **Rich Jakiel**, are members of FRAC. Several other people hold joint memberships in FRAC/AAC, including **Smitty, Jack Warner, Dr. Richard Schmude, Joe Sheppard, Alex L.,** and possibly a few other FRAC members.

Why join two clubs? In AAC's case, our Cox Field observing site offers darker skies than their Villa Rica facility, a bargain for AAC members at only $10 a year; and in our case, it gives us access to AAC club meetings, activities and other benefits.

AAC has had several Very Famous Personalities in astronomy as guest speakers in recent months, including Howard Brewington, Dr. Alan Hale and Thomas Bopp (as in Comet Hale-Bopp), the aforementioned Brian Skiff, and others whose credentials in the field of astronomy are impeccable; still, *we* haven't exactly been slouches, either.

Think about it: in the past ten months, we've had **Art Russell** come down to talk to us about stargazing; **Rich Jakiel** talked about the splendor of M33; **Phil Sacco**, AAC veep and observing chairman, talked about astrophotography; **Dr. Richard Schmude** talked about Mars; **Jerry Armstrong** spoke *twice* about comets, meteors and asteroids; and **Larry Higgins** addressed our inaugural meeting last February. And as we've noted elsewhere in this newsletter, that list will be expanded by return visits in Dec. and Jan. from Rich and Phil, respectively, and Feb. will bring **Doug Chesser** to Griffin to knock your eyes out with his fabulous CCD imaging equipment.

Beyond all that, AAC's **Art Russell** has, from his first day in office, done everything possible to encourage us and help us out. We have a standing open invitation for us to use the Villa Rica facility -- and believe me, we <u>will</u>! -- and attend AAC observings at other sites such as Dauset Trail as well, and for FRAC members to attend their

meetings. Art has also granted us permission to use his monthly Star Hops in our newsletter.

This may seem strange coming from a FRAC officer, but you might want to consider joining the Atlanta Astronomy Club, too -- without dropping out of FRAC, of course -- to be sure of getting the best of both worlds. They have a very good club, observing schedule and newsletter and, as we've noted, they have the financial clout to bring in well-known speakers that you won't get to see or hear otherwise. AAC's north Ga. observing sites might not appeal to you, distance-wise, but Dauset Trail is an excellent site and close enough to make occasional trips to Jackson worthwhile. You can also get discounts on your subscriptions to **Sky & Tel** and **Astronomy** through AAC.

To join AAC, send a $25 check payable to the Atlanta Astronomy Club, 3595 Canton Road, Marietta GA 30066. The club meets on the third Friday of every month, usually at White Hall on the Emory campus, but occasionally at Fernbank Science Center.

##

Beginners' Star-Hop: November, 1997

By Art Russell

Finally, if there was any doubt, the cool weather of Autumn has finally arrived (although it did take its own sweet time)! I'm certain that a number of beginners will seriously question their commitment to astronomy when the first hints of frost form on their telescopes. However, I maintain that now is the time to get serious about it! With the passing of each cold front we find the air is clear and free of haze, humidity, and other obscurants which hinder our visibility of most of the deep sky objects which many of us find interesting. In fact, it's a well known secret that some of the best viewing is done immediately after the passing of a cold front. With that in mind, take advantage of the passing of the cold fronts and you'll enjoy transparency and darker skies than you may have previously seen. Moreover, objects you were only previously able to glimpse with a telescope may now be readily visible with much smaller telescopes or even binoculars.

This month our star-hops take us to several prominent naked eye objects, the **Andromeda Galaxy** and the **'Double Cluster**;' and a strictly telescopic object, the faintest item on the **Messier** list, the planetary nebula, **M76**, 'the **Little Dumbbell**.'

Star-Hop #1. M31, NGC 224, The 'Great Andromeda Galaxy.' The **'Great Andromeda Galaxy'** and its companions are alone worth an entire evening of study. In fact books have been written about the **'Great Andromeda Galaxy'** alone. Under dark skies it is an easy naked eye target which stands our prominently to the ideal magnification provided by a set of small binoculars (one of my favorite ways to view this galaxy). An easy method to locate **M31** is to start in the **"Great Square of Pegasus."** At this time of year it is located only about 5 degrees, or about the distance spanned by 3 fingers held together at arm's length against the night sky, to the southeast of the **Zenith**, or directly overhead. Once you have located the **"Great Square of Pegasus"** find the northeastern most corner star, *Alpha (α) Andromedae*, *Alpheratz* (actually in the constellation Andromeda although a part of the **"Great Square of Pegasus"**). From there imagine a letter "V" such as the "V for Victory" made with your first two fingers on your hand. Extend this imaginary "V" to the northeast of *Alpha Andromedae* for about 7 degrees, the distance spanned by your four fingers held at arms length against the sky (incidentally, the length of your fingers in a "V" are about the right length here as well). Here you will find the stars *Delta (δ) Andromedae* and *Pi (π) Andromedae*. Continuing in the same general direction to the northeast, we extend another imaginary line about the same distance as before, except this time to the stars *Mirach, Beta (β) Andromedae*, and *Mu (μ) Andromedae*. From the northern most of these two latter stars, *Mu (μ) Andromedae*, it is only about 1 1/2 degrees, or little more than the width of one of your fingers, to **M31**. In binoculars and small telescopes, **M31's** galactic bulge will appear as an oblong haze with an increasing concentration of stars in its central nucleus. The edges of the galactic bulge or halo fade uniformly although there are hints of lane structure evident. Moderate sized telescopes will reveal a very bright center with and intense concentration of stars. In size, **M31** will generally be one of the biggest objects you can see in your binoculars or telescope (where it often takes up many fields of view even at the lowest magnification). If you are using a telescope, you may also be able to locate **M110** about 1/2 degree to the northwest of **M31**, and **M32** about 1/4 degree to the southeast of **M31**. Both **M110** and **M32** are companion galaxies to **M31**, similar, in a sense to the companion galaxies around our own **Milky Way** galaxy.

Star-Hop #2. M76, NGC 651, the "Little Dumbbell". Return once again to the star *Mu (μ) Andromedae*. Note the apparent distance between *Mu Andromedae* and our original starting point in the **'Great Square of Pegasus'**, the star *Alpha Andromedae*, a little less than the distance spanned between your index and little fingers against the sky. Extend a line from *Mu Andromedae* to the northeast for about this distance and we arrive at the star *Phi (φ) Persei*. From *Phi Persei*, **M76** is only about a degree, or the width of your little finger, to the north-northwest. Distinctly a telescopic object, at low power in a telescope, **M76** appears as a distinct smudge. At higher powers, **M76** takes on a distinct dumbbell appearance and is well worth the effort to find

Star-Hop #3. NGC 869 and NGC 884, 'The Perseus Double Cluster.' Easily seen under dark skies, and often even under the light polluted skies of Atlanta, the **'Double Cluster'** is one of those rewards which often seduce the beginning astronomer. Uniquely beautiful, the **'Double Cluster'** is best viewed with binoculars or small telescopes, but is easily found. Starting from *Phi (φ) Persei* extend an imaginary line 11 degrees, or bit more than the distance spanned by your fist held at arm's length against the night sky

and enjoy our new grills on the site, or catch a bite at one of the local eateries before coming out.

Observing Schedule thru December

Nov 7th Friday Nights at Villa Rica
LOCATION: Villa Rica, Barber Observatory START TIME: Dusk
DESCRIPTION: The Friday night sessions of the Atlanta Astronomy Club are open to all members and guests. The focus of the session will be 'TOOLS, TRAINING AND TECHNIQUES'. The evening will be geared towards helping our new members with eqpt., check-outs in the observatory, and viewing programs.

Questions arising about star maps, telescopes and applications, etc., will be the primary subject. Although preceding the Saturday night Orientation program, the Friday night session is an 'open format' aimed more at viewing and techniques. For more information, please call Philip Sacco at 404-296-6332.

Nov 7th
LOCATION: East Cobb - Shallowford Elementary School TIME: Dusk.
DESCRIPTION: Contact Philip Sacco, Observing Chairman for the details on location, etc. This is a first time for this event. We need the membership's support to make this a great time for all concerned. Please place this on your calendar as a "Must-Do!" event! We need you, your scope, and most of all - your skills on this star party!

Nov 8th
LOCATION: Villa Rica, Barber Observatory
START TIME: Dusk.
DESCRIPTION: Join the Atlanta Astronomy Club to get hands on instruction in beginning astronomy and observe the Messier Objects. Please bring your scopes and binoculars. This is a rain or shine event. Bring a stool or folding chair for your comfort. This is a rain or shine event. Weather may preclude the viewing portion of the evening, however any member wanting to get checked out on the equipment and wanting the combos to the facility Must make one of these Orientations. The Beginners Orientations will include a star gaze after the conclusion of the orientation which is scheduled at this time to always begin at 7PM sharp. The timing of the sessions may change with the flow of participation. All Orientations will be at Villa Rica.

Nov 29th
LOCATION: Akin's Field START TIME: Dusk
DESCRIPTION: Join AAC members for an evening of deep-sky observing from skies east of Atlanta.

Dec 6th BEGINNER/PUBLIC OBSERVING SESSION
LOCATION: Villa Rica, Barber Observatory START TIME: Dusk.
DESCRIPTION: Join the Atlanta Astronomy Club to get hands on instruction in beginning astronomy and observe the Messier Objects. Please bring your scopes and binoculars. This is a rain or shine event. Bring a stool or folding chair for your comfort. This is a rain or shine event. Weather may preclude the viewing portion of the evening, however any member wanting to get checked out on the equipment and wanting the combos to the facility Must make one of these Orientations. The Beginners Orientations will include a star gaze after the conclusion of the orientation which is scheduled at this time to always begin at 7PM sharp. The timing of the sessions may change with the flow of participation. All Orientations will be at Villa Rica.

Dec13th
Members Social and Party. Welcome all our new members of the year and enjoy a little 'Yule-time Cheer'. Hosted b Lynn and Tom Crowley at their home. Directions in this issue.

Dec 30th
LOCATION: Wyrosdick's Fields, Dahlonega, GA START TIME: Dusk
DESCRIPTION: Join members of the Atlanta Astronomy Club at member Jim Wyrosdick's observing site in north Georgia. Located on a hillock, Jim's site offers 360 degrees of great horizons.

Stargazing With the Atlanta Astronomy Club

By Art Russell

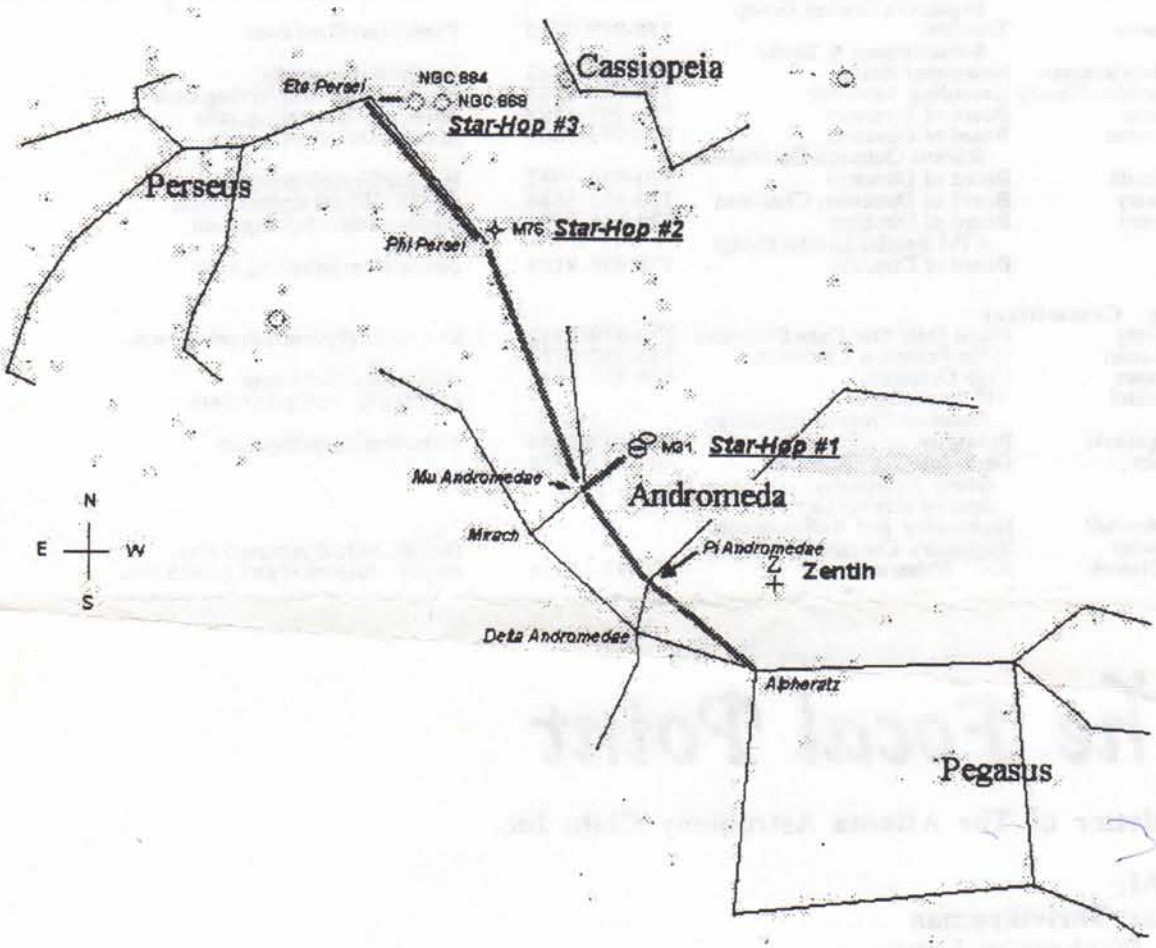
Over a year ago, AAC member, Dr. Bill Warren proposed an interesting project to the leadership of the Atlanta Astronomy Club: write a book for beginning astronomers (working title: 'Star Gazing With the Atlanta Astronomy Club'). Now, after many hours of silent labor on his part and others', Bill's project is nearing completion. However, as originally envisioned, the book is a club project. Now is the opportunity for the club's membership to help put the finishing touches on the book by contributing photos, CCD images and drawings to help illustrate the book. With that in mind, please consider submitting these needed materials so that we can finish off the book. You don't have anything to contribute? Talk to Philip Sacco (404-296-6332) and attend the tools and techniques sessions to learn about astrophotography, drawing, and CCD imaging. I know that Bill and I both want to finish this book as soon as possible so that we can both return to observing under the night sky. Please submit either original or copy ready materials. We make every effort to return your materials, but can make no guarantees on when or where, so a good copy of your original is probably best. We will also fully accredit all contributions. Please send your materials directly to either Bill or myself at:

Dr. William E. & Louise Warren
1212 Everee Inn Road
Griffin, GA 30224
Phone: 770-229-6108 or 770-229-3721

Art Russell
315 Vickers Drive
Atlanta, GA 30307-1264
Phone: 404-373-4119
Email: artrussell@mindspring.com

(The observing list can be obtained from Art Russell, Bill Warren, or Tushar Thrivikraman)

northeast to the star *Eta (η) Persei*. From *Eta (η) Persei* extend a line west-northwest to for about 4 degrees, or a little less than the distance spanned by 3 fingers held together at arm's length against the night sky. Here to the naked eye, you'll notice a distinct nebulous patch under dark skies. With binoculars or a low power telescopic view, you'll find this pair of open clusters provides perhaps one of the most stunning views under the heavens. **Messier** missed this one, but there is no reason you should. Take your time here and in the local area. You'll also find many open clusters to challenge even the most experienced observer nearby.



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

Officers, Board, and Committees:

Art Russell	President	404-373-4119	artrussell@mindspring.com
Rich Jakiel	VP, Program Chairman		deepsky@mindspring.com
Phil Sacco	VP, Observing Chairman Beginner's Interest Group	404-296-6332	psacco@bellsouth.net ptsacco @ mindspring.com
Pat Sammons	Treasurer Subscriptions & Books	770-949-9715	Psammons@aol.com
Tushar Thrivikraman	Newsletter Editor	770-270-0742	kthrivi@emory.edu
Ginny Mauldin-Kinney	Recording Secretary	770-414-9383	kinneys@atl.mindspring.com
David Hanon	Board of Directors	706-937-3593	dhanon@mindspring.com
James Monroe	Board of Directors Schools Outreach Coordinator	770-972-5605	jmonroe007@aol.com
Kemper Smith	Board of Directors	770-974-5035	kemper@mindspring.com
Tom Crowley	Board of Directors, Chairman	770-233-6886	0002015032@mcimail.com
Joe Sheppard	Board of Directors ATM Special Interest Group	770-784-7592	joeshep@mindspring.com
Don Hall	Board of Directors	770-938-8139	donhall@mindspring.com

Standing Committees

Ken Poshedly	Peach State Star Gaze Chairman	770-979-9842	ken.poshedly@mindspring.com
Tom Buchanan	Light Pollution Chairman	770-587-0774	
Doug Chesser	Club Graphics	770-457-5743	chesser@abraxis.com
Richard Jakiel	VIP Coordinator Assistant Program Chairman		deepsky@mindspring.com
Alex Langoussis	Publicity	770-429-8384	aleko@mindspring.com
Mark Banks	Dark-Site Obs Chairman Sdwlk Astronomy Special Interest Grp	404-257-2766	
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:
Tushar Thrivikraman
3629 Winbrooke Lane
Tucker, Georgia 30084
kthrivi@emory.edu

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**

9805

Dr. William E. & Louise Warren
1212 Everee Inn Rd.
Griffin, GA 30224