

The Focal Point

The Atlanta Astronomy Club
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Editor: Keith Burns

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Our February Meeting

By Alex Langoussis, Program Chairman

Our next meeting of the Atlanta Astronomy Club is on Friday, February 16th, at Emory University's White Hall. Refreshments are at 7:30, business meeting and program at 8:00.

Our program, "Searching Among the Stars", will be presented by our own Tom Crowley, who will discuss the SETI League Amateur search for Extra Terrestrial Intelligence. Included in his talk are the serendipitous discovery of radio astronomy, why search at all, early searches by Dr. Frank Drake, current searches by the SETI Institute, SETI League and SETI at Home, and how to build a radio telescope to join the search yourself.

Tom is the Southeast Coordinator for the SETI League and helps members build radio telescopes for the search. He is also the President of the Society of Radio Astronomers (SARA) an International amateur group who study the heavens at radio frequencies, and a member of the AAC board.

Tom (KT4XN) has been involved with Ham radio from childhood and received his amateur radio license at age 14. Professionally he is a general manager for AT&T Solutions.

And Looking ahead...

Be sure to mark your calendar now for our Annual Banquet on April 20th. Our special guest speaker will be Leif Robinson,

editor emeritus of Sky and Telescope. Details of the banquet will be announced soon.

Next month, on March 16, our guest will be Georgia State University's Dr. Todd Henry. A key member of NASA's NSTAR project, he will talk about his investigations of nearby stars. In May, Dr. Amy Lovell, assistant professor of astronomy at Agnes Scott College, will present a talk about comets and her studies of Hyakutake and Hale-Bopp. And for July, we have scheduled reknowned deep-sky observer and writer Alister Ling, from Edmonton, Alberta.

Calendar

February 16th- General Meeting at Emory University. 8PM.
Speaker Tom Crowley. Search Among the Stars.

February 17th- Training at Walter Barber Jr Observatory
Start Time: 4PM.

February 24th- Deep Sky Observing at Woodruff BSC

March 16th-General Membership Meeting at Emory. 8PM.
Speaker GSU's Dr. Todd Henry. NASA NearSTAR Project.

March 17th-FogSPA Sidewalk Astronomy at Tallulah Gorge
Topic: Women in Astronomy. All folks invited.

March 24th-Deep Sky Observing at Woodruff BSC

April 20th-Annual AAC Banquet. Location TBA.
Speaker Leif Robinson, editor emeritus of Sky and Telescope.

April 21st-Deep Sky Observing at Mentone, AL.

April 28th-FogSPA Sidewalk Astronomy at FDR State Park.
Pine Mountain, GA. Topic: General Astronomy talk.
Bonus: Mythology talk by Philip Sacco.



The 140 Foot Telescope is only a short distance from the antenna used by Frank Drake in Project Ozma. Project Phoenix operated in Green Bank from September 1996 through April 1998, using the telescope about 50% of the time. As the primary instrument in Green Bank, the antenna was shared with other astronomers. Phoenix doesn't scan the whole sky. Rather, it scrutinizes the vicinities of nearby, sun-like stars. Such stars are most likely to host

long-lived planets capable of supporting life. We naturally include stars that are known to have planets. There are about one thousand stars targeted for observation by Project Phoenix. All are within 200 light-years distance.

Above text taken from Phoenix Website. Website address is <http://www.seti.org/science/ph-bg.html>

Friends and Enemies of Observing

By Keith Burns

Astronomy is a wondrous hobby that provides you with that wow factor. Like anything, there are pros and cons to stargazing. Picture in your mind the perfect night of stargazing. Now try to avoid the bad stuff listed below. Remember the good stuff that follows.

There are many obstacles' ones have to overcome on the way to completing an observing program. I like to call them my enemies. They are mean and cruel just like the enemy. You can't avoid them but you can tolerate them. Better yet, be prepared for them and the blow won't be so bad as to make you give up this hobby. The weather seems to be the most complained about enemy. You may have a plan drawn up you want to implement on a night of observing. M-zeros soon come in and turn you plans into a pile of rubble. To add insult to injury, it rains on you. The big bright moon with its glaring light beams is another enemy. Picture if you will a night of perfect weather but the moon is brightly traversing across the sky. Again there goes your chance of doing the deep sky faint fuzzies. Just like an enemy to ruin your evening in this way. Of course, any lunar observer would not be complaining, but they are a unique group of individuals. I can speak from experience on this. Traffic is an enemy for all people to content with. No one is exempt from spending hours sitting in bumper to bumper traffic.

Another enemy is a busy lifestyle. This seems to be the biggest problem many folks have. A night of perfect weather with dark moonless skies but you are somewhere else instead. The worst

part of it is when you go outside for a minute and realize how beautiful the night is. Equipment and/or plan failure is another silent enemy of any astronomer. I have had many goods observing plans fall apart because I didn't think hard and long enough to make sure the plan would work. Those equipment demons are always lurking in the shadows ready to strike any moment. I've been fortunate when it comes to equipment. Not much can break with my little setup. Things can be fixed onsite up to a point. At that point, you have to pack up everything and head for home unless you are already there to begin with. The final enemy of any astronomer is a bad attitude. Everything else could be working wonderfully but if you don't care to be there, then you won't get anything done. I've had many of nights like that. It's hard to explain to others. That's just the way it is. You have the feeling that you are in an episode of the Twilight Zone. The one where you are a T-Rex running through the countryside wreaking havoc and devastation. Now is that perfect night you pictured earlier still there? Hold that thought for a little while longer.

Now after having read this, you are starting to wonder why should you do any stargazing at all. Well, the reasons to stargaze far out weight the reasons not to. I like to call them my friends. Just remember the following reasons are your friends and not your enemies. It's a fun hobby. Who doesn't like to have a little fun? Fun with a capital F that is. Challenging hobbies are always good to have. Whether it be friendly or unfriendly, this hobby is full of them. So take on a challenge. It gives you a feeling of accomplishment when you climb over that hurdle. Astronomy is a great way to get educated on the ways of the universe or at least how the sky works. There is nothing like learning something when among friends. My favorite reason to do observing is that it keeps you out of trouble. That's what friends are supposed to do to. I keep telling everyone that fact. Since you can spend lot's of money, I can't say it's a cheap hobby. Astronomy can be done without spending huge quantities of money but I leave that decision up to you. Astronomy teaches you to have lot's of patience. After a while, you develop lot's of it. I would cover this topic in more detail but I don't have the time or patience to do so. I'm just kidding in a friendly kind of way. Is that picture of the perfect night of observing still in your mind? It's nights like that you will talk about for years to come.

The above lists in no way include all the good and bad things about astronomy. I'm sure other folks have though of new ones. This list is intended to cover most of the good and bad points. Now you may have noticed that I used three different words when referring to this hobby. Astronomy, observing, and stargazing is all the same as far as I am concerned. I know that observing and stargazing is the actual act of looking at the sky. Observing is what astronomy is all about. Go outside and look up at the sky. Watch out for the enemies over there in the corner tho.

Atlanta Astronomy Expo

The Atlanta Astronomy Club is pleased to announce a one-day Astronomy Expo to be held at Agnes Scott College on Saturday, 5 May, 2001. The intent is to provide an Astronomy forum for amateurs, professionals, and the Atlanta community interested in astronomy in its many facets. The EXPO will feature a number of astronomy equipment vendors, presentations, equipment swap meet (late in the day), and poster sessions.

If you are interested in showing off your astronomy work the poster area is the place for you. Currently speakers and vendors are being lined up, more on this next month.

So mark the day, Saturday 5 May from 9:00 a.m. to 6:00 p.m. on your calendars. See you there. If you are interested in helping out please contact Tom Crowley at 404-233-6886 or 404-375-5578.

Note that the **Keynote speaker will Be Mel Bartels.**

The Case for Equatorial Mountings

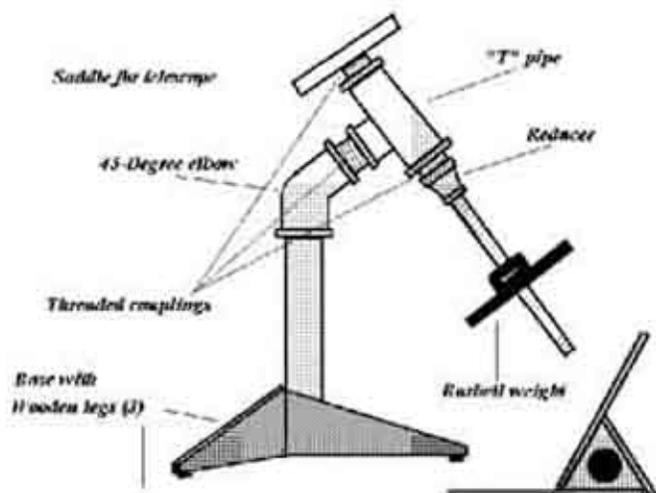
by **Jack Kramer**, Libertyville, Illinois

The traditional German equatorial mount (GEM) is seen less often these days as Dobsonians have taken front stage, though some manufacturers are now offering the GEM as an alternative to the fork mounts common on SCTs. The term “equatorial”, refers to either the German or fork mounts, or to any mount that has a polar axle, for that matter. Each type has advantages and disadvantages. With an equatorial, you can follow an object by moving the telescope in only one direction - right ascension. With an altazimuth, you move the scope in an east-to-west direction (azimuth) and slightly up-or-down (altitude). This isn't a big deal when observing an object that's low in the sky, but it becomes more of an inconvenience as you head up toward the zenith. In the area directly overhead, you can't locate or follow an object by a simple east-west-up-down motion, so you have to take your nearly vertical telescope tube and rotate it about a horizontal axis. That's more difficult than it sounds! When my little backyard scope was mounted on a camera tripod, I simply avoided aiming it at objects overhead. It gives a whole new meaning to the term “well-placed object”. Astrophotography requires an equatorial mount with clock drive. But don't be misled by the ads for inexpensive scopes that boast a motor drive so they're “all set for astrophotography”. A good drive is never cheap. These may be okay for visual work, but the precise tracking needed for photography requires that even good drives have correctors. If a drive corrector isn't already built in, then there must be a separate one. A classic incident occurred several years ago when a supplier of an inexpensive telescope with clock drive published photos taken with that telescope. What they didn't tell you was that when the photos were taken, the telescope *wasn't* on the mounting that comes with the scope. In fact, that drive was so anemic

that it was barely adequate to follow objects *visually*. The ads were subsequently withdrawn. If your interest is visual observation, an equatorial still may be worthwhile. With higher magnifications, the narrow field of view makes an equatorial especially welcome, since you'll be nudging the scope along at least a couple of times per minute. Each time it's moved, it takes awhile for the image to settle down; not only does that break your concentration, but you may have missed a moment of excellent seeing. (Even in very clear skies, cells in the atmosphere can substantially alter viewing conditions from moment to moment.) There are many times when a clock drive comes in handy for purely visual observation. According to ALPO, dedicated planetary observers consider a clock drive essential. But rather than try to use a poorly-made clock drive, you may find that a decent manual slow-motion control will be perfectly acceptable visually. With an equatorial mount for a larger Newtonian telescope, there has to be some way to easily rotate the tube. In the Newtonian/equatorial configuration, a telescope of 8 inches or larger can end up in such an awkward position that it becomes impossible to comfortably position yourself at the eyepiece. One of the advantages of the Dobsonian is that the eyepiece is always in a convenient position. Personal preference aside, it has to be said that altaz mountings are easier to make, lighter in weight and inherently much more stable than equatorials. With a reflector over 12.5", a Dobsonian is eminently practical. There's a lot to be said in favor of measuring setup time in seconds, rather than minutes! And many deep sky observers get along quite nicely with a Dobsonian. Because of their stability, images usually settle down quickly whenever the scope is moved. Some new generation amateur-sized and observatory telescopes are mounted on altazimuths (glorified Dobsonians), with computer-controlled drives on both axes. They can follow objects with precision, while taking advantage of the stability of the altaz design. However, since the field of view rotates as the altaz mounting moves, photographic capability is limited. A primary consideration in any mounting is how easy it will be to use, since you'll be spending a lot of time handling it. According to Walter Scott Houston: *Some years ago I kept a record of how long I and others spent searching for variable stars compared to the time we spent making magnitude estimates. I was amazed to discover that roughly 90 percent of our time was devoted to the search. It made little difference whether the observer used an altazimuth or equatorial mounting since even an equatorial with setting circles usually just puts you close to the object of interest. You still must star-hop to center the field in the eyepiece.* Scotty's point was the importance of becoming proficient in finding your way around the sky. This also applies to deep sky objects that appear as barely perceptible hazy spots. Here we often spend more time searching for the object than

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observing it. However, when examining the features on a planet or the structure of a bright galaxy, we spend more time observing the object than locating it. So it becomes important to have a mounting that's easy to use both to locate an object and to follow it over a period of time. For star-hopping, it's quite simple to locate a brighter object at about the same declination as the target object, then just move a bit in right ascension (or "left ascension", as the case may be). Despite the greater cost of the equatorial, it can be a worthwhile investment, recognizing that for large scopes, there are limitations that clearly favor the Dobsonian. And while newcomers to the hobby are sometimes mystified by the configuration of the GEM in particular, it generally proves to be user-friendly, once people become accustomed to it. **Build Your Own Equatorial Mounting?** If you choose to build your own mounting, then the design is somewhat determined by your technical skills and availability of material. The Dobsonian mounting is by far the simplest of all to build...that's one reason why it's so popular. The equatorial configuration is more complicated, but still not out of the question even for those with just basic tools. If you choose to build your own mounting, then a book devoted to homemade telescopes is highly recommended. We won't go into great detail here, but some suggestions may be of help.



Pictured above is the Simple Plumbing Pipe Mount.

Plumbing pipes have traditionally been a material used by amateur telescope makers to build the very simplest mountings. Here the bearing is one pipe that is screwed into another, just to the point where it's free to turn on the threads of the mating pipe. Since the normal rotation of the telescope as you follow objects in the sky subtends a very small arc, the pipes never screw together so that they tighten up, nor should they unscrew. Such mountings can be made to turn very smoothly by rubbing an emery polishing compound into the threads, then threading the pipes together and working them back and forth. After awhile, thoroughly clean off the emery and lightly grease the threads. One enhancement is to drill and tap holes in the

pipes to add set screws on both axes which act as adjustable brakes (or clutches) to tighten the rotation when needed. On equatorial mountings, as well as on Dobsonians, many people are surprised to find that making the bearings so they turn very freely actually creates more problems; there has to be a certain amount of friction, otherwise the telescope won't stay where you point it. To aim the polar axis toward the North Celestial Pole, a 45o elbow pipe will work nicely. Of course, that won't be your true latitude, but for visual observing it's often close enough. More exact alignment can be obtained by placing a shim under one leg of the mount to tip the polar axle more toward the pole. A more sophisticated version of the GEM might use a set of self-aligning ball bearings mounted in pillow blocks in place of the turn-on-threads pipe mount. The counterweight can be a barbell weight obtainable at most large sporting goods stores. Use a declination shaft extension pipe with an outside diameter that about matches the hole in the weight. A collar with set screw will hold the weight in place on the shaft. The base can be a pedestal made from another piece of pipe or piece of wood (such as a 4x4), or you may choose to make a tripod. The only problem with a tripod is that if the legs are spread too far apart, they'll obstruct the motion of the telescope when using it to look at an object near the zenith. A floor flange may be used to connect the pedestal to the base and also to connect the declination axle to the saddle for the telescope.

I would like to give Lenny Abbey a special thanks for providing me with the above article.

Amateur Telescope Makers Group

Interested in building your own telescope? Want to enhance your current scope with some features or fix problems with it? Do you want to grind your own mirror or learn how it is done? This is the group for you. The ATM group meets every couple of weeks at Skip Cook's house. He has generously offer this location for this purpose. Contact him via phone (404-325-4987)



Tracy Wilson grinding the mirror of the soon to be 16 inch scope.

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or email (scz9@cdc.gov) for more information and directions. Tracy Wilson runs the group and has much expertise to offer. You can contact him via email (tracywilson@alltel.net). Announcements of meetings will be posted on the AAC listserv. You can also find out about upcoming meetings from Skip. There are other folks that attend these meetings that may have some expertise to offer to help you with construction project you are working on. They are looking for a new place to hold meetings. They need a room that is fairly large and you don't mind it getting dirty. If you know of a place or have one available, please contact either Skip Cook or Tracy Wilson. Thanks.

General Meeting January 19, 2001

Number in attendance: 100 - **Sharon Carruthers, President** – Before Sharon opened the meeting she thanked Julie Moore for doing the refreshment. She also thanked John Lentini for passing out over 1000 flyers around to different stores were astronomy related. Some new members/guests were in attendance due to some of the flyers. Sharon asked for reports from the officers and committee heads. **Rich Jakiel, Observing Chairman** – Announced a January 20 Charlie Elliott Wildlife Center (CEWC) Dark Sky session; January 27 Open House and Orientation at Villa Rica. February 17 training session at Villa Rica. **Keith Burns, Corresponding Secretary** – Announced January 29 deadline for February's Focal Point. **Tom Crowley, Astronomy Day Coordinator and Board Member** - May 5 will be Astronomy Day at Agnes Scott College. If your interested in helping out contact Tom at crowleytj@hotmail.com. **Mark Banks, Sidewalk Astronomy**, Announced a sidewalk astronomy session for January. Also for February: 2/9 Holy Redeemer Catholic School in Alpharetta. 2/22 Morningside Elementary. If you're interested in helping out contact Mark at bank4@mindspring.com. **Phil Sacco, CEWC Coordinator** – Announced a January 20 Chapter Meeting. **Alex Langoussis, Program Chairman** – Speakers for February, March and April have been postponed. This is all due to an illness or death in the family. He'll let us know when they are replaced. **Bob Smith, Board Member** - This is the time to start thinking about being a part of the Nominating Committee or being nominated for an officer or board position. A Nominating Committee should be named soon. More information will be posted on this. Also, Bob has 2 tickets to the Winter Star Party up for sale. Contact him at bsmith@msn.com. **John Lentini, Woodruff Coordinator and Board Member** - Great session on January 13 at the Scouters Session. A kiosk was built and other work was done. March 1st will start construction on the observatory. February 24 is the next Dark Sky Session at Woodruff. **Sharon Carruthers, FoGSPA** - February's session has been cancelled. **Keith Burns, Astronomical League (AL) Rep.**- Keith presented Ken Poshedly with his Lunar Certificate and pin. **Peter**

Macumber, Treasurer – AAC caps are for sale. The are \$10.00 or if you want your name on it, it will cost \$12.00. Magazine subscriptions and dues go through him. **Ken Poshedly, PSSG Coordinator** - A general announcement was made on this year's PSSG 2001. It will be held September 13-16 at Indian Springs State Park. Wil Tirion will be our main speaker. A dinner will follow on Monday, September 17 with Wil Tirion at Steak and Ale at Northlake. **Sharon** gave away door prizes.

Alex Langoussis, Program Chairman – introduced our guest speaker, Dr. Ron Buta from the University of Alabama at Tuscaloosa. His talk was on "Barred Spiral Galaxies".

Elliott Corner

by Philip Sacco

It is official. The bylaws for the Chapter of Astronomy to be formed at the Charlie Elliott Wildlife Management Area have been submitted for the approval of the Board, and presented to the Chapter in January. Pending approval, the Chapter will have interim elections in March for a Chapter Director, and a Observing Coordinator. They will serve provisionally until the formal elections in May to be held concurrent with the elections of the AAC.

If you are a new member to the AAC and you live East of Atlanta, this is your opportunity to step up and make a difference, make a bunch of new friends, and really learn about astronomy. The chapter meetings have been scheduled for the third Saturday of every month, to be held at the visitor center at 7:30pm. The meeting time is subject to change with the seasons so that observing can take place after the meeting.

If you have any suggestions for topics to be covered at the chapter meetings, please feel free to contact myself, or Alesia Rast at CEWMA.



Picture taken by Michael Covington.

The observing field at Elliott is scheduled to be graded, and we await the draft from the Elliott Area for the development of the observatory out there. The area is open for viewing at any

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time, and all we are asked to do is sign in at the observing field when you drive in. There is a mailbox with the sign in sheet located at the edge of the field just where the road enters. Sign in is important for the Area as their funding is determined by the use of the Area. Use is determined by sign ins.

I hope to meet many of our new members under the star filled skies out there, and wonder just what is peering at us from the woods!

Board Meeting Minutes

Sunday, January 7, 2001 Agnes Scott Observatory

In attendance: **COB** - Bear Simmons, **Board Members:** Bob Smith, Tom Crowley **Club Officers:** Sharon Carruthers – President, Alex Langoussis – Program Chairman, Rich Jakiel – Observing Chairman, Peter Macumber – Treasurer, Keith Burns – Corresponding Secretary (Focal Point Editor), Joanne Cirincione – Recording Secretary. **President–Sharon Carruthers** - opened the meeting by recapping the “Learn How to Use Your Telescope” event at Fernbank Science Center on Saturday, Jan.6. **Observing Chairman-Rich Jakiel** – (*Villa Rica*) –Recapped the VR Planning meeting in December. Chrissy’s Corner building has no power yet. We need to hire an electrician to pull the permit so we can start working on the site. Suggestions were to hire the electrician who worked on the subdivision across the street. Other work: ditch needs digging. **Corresponding Secretary–Keith Burns** - Compared cost to do the Focal Point on different types of paper. Sticking with the cheaper paper since we have 300 FPs to mail out. Postage went up 1¢. More and more people are getting it on-line. Deadline for February’s FP is January 29th. **Program Chairman–Alex Langoussis** – Due to illnesses/family emergencies a few upcoming speakers have cancelled. We are now looking for replacement speakers. Any suggestions would be appreciated. **STANDING COMMITTEES - FoGSPA (Friends of Georgia State Parks Astronomy)–Joanne Cirincione** – Announced a few upcoming events. Will be posting it on the FoGSPA listserv. Encouraged all interested in these events to join the FoGSPA listserv. **Website – Matthew Macumber (Peter stood in)** – A lot of new members are coming from the website. People are posting on the Swap Shop. Any merchandise ordered on-line will be picked-up and paid for at the next event. **NEW BUSINESS - Sharon** – Need to form a nominating committee – some names were suggested: Bob Smith, Art Russell and Tom Faber. (only if they are NOT planning on running for a position). We want to encourage new members to think about running for a position. **Tom Crowley** – AAC Astronomy Day – May 5, 2001. Need to get publicity flyer out to schools and colleges and to potential vendors. Facility will be Agnes Scott College. This was voted on and accepted. Sunday, January 21st is the kick-off meeting at Tom Crowley’s house. **MAIN TOPIC - Treasurer- Peter**

Macumber - Worked on 2001 Budget. Went through detail of each item. Added categories. (FoGSPA, Astronomy Day and VR Improvements) Discussed dues increasing and justification for it. Budget was voted on and approved. See attached budget. **Bear Simmons** closed the meeting at 4:50pm.

The projected budget for 2001

Focal Point Expenses	2100	
AL Dues	1415	
Speaker Fund	3640	
Villa Rica Operations	570	
Rentals	300	
Misc Expenses	230	
FOGSPA		300
Total	11555	
VR Capital Improvements	3000*	
Astronomy Day Allocation	2000**	
Grand Total	16555	
Woodruff Boy Scout Camp		1000***
Projected Income	10000	400 Members @ 25
Cash on Hand from 2000	5000	
Total	15000	

* Portions of this allocation come from unspent monies from last year

** If Astronomy Day is successful we expect to make a profit.

*** Woodruff Funding is allocated from the Dark Sky Fund.

From SERAL

by Philip Sacco

Hello all! I certainly hope the next few months offer us some sky to observe in. Clear weather would be putting it mildly, as I have had a full two month dry stretch prior to my observing this past weekend!

The Astronomical League has a couple of new programs they are unleashing and as I get the latest info from the AL, I will keep you posted. I can tell you this...if you like artificial satellites, your going to like one of the programs!

I encourage all members to check out the AL observing programs as there is truly something there for anyone to enjoy. Besides, it gives Keith Burns something to obsess over when you make a submission to him...!

All information concerning the AL observing clubs can be found online, but if you need help or suggestions in how to best pursue one of the clubs, feel free to contact myself or Keith Burns. That is one of the things we are here for.

I have heard some interest in a Messier Marathon this coming

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March. If you are interested in participating, contact me and I will see that a Marathon is arranged. I am in contact with 40 other clubs, and we can have a major get together to pull a Marathon.

The AL will be looking for a couple of new faces to fill in the gaps in a few months. If you would like to take a role in the future of astronomy for us amateurs, I encourage your considering taking a position. The demands are what you make of them, but the overall demands are much less than that of officership in the AAC.

Here's looking for clear skies in Spring!

Directions to the Observing Field at Woodruff

From Atlanta: Take I-575 to GA 515. Follow 515 through Ellijay and Blue Ridge. Go 2.2 miles past the intersection of 515 and GA 60. Take a left on Loving Road, and follow it until it ends. Turn right on GA 325 and go about 50 yards to Boy Scout Road. Turn right again. The entrance to the Scout Camp is about 2.5 miles on the right.

From Blairsville: Take 515 East toward Blue Ridge. Turn right on GA 325. Boy Scout Road comes up on your left after about 2 miles. Go about 3 miles and the camp entrance is on your left.

(From the east side of Atlanta, it may look more direct to take 400/129 to Blairsville, but the last 40 miles of 129 are quite crooked. The route up 575 is faster and 4 lane for all but the last 10 miles.)

Take the main entrance road (Turner Gap Rd.) and follow it past the lake (on your left). The main road turns rough at the second ranger's house, but Chestnut Gap Road goes left, and is OK. Take the left. Go about a half mile, and again the road ahead gets rough, but you should turn right at a sign that says "private property, do not enter". Ignore the sign and go down the road, past an old cabin. There is a kiosk on the right side of the road across the road from the cabin. Club info will be located here in the future. Just past the cabin is a gate. Go thru the gate and drive for another 1/4 mile to an open field located on the right side of the road. This is the spot.

Equipment Training at VR Feb 17th

This is a chance for all of you who need help to get that help. If you have a new scope you are having a hard time figuring out how to use. Bring it and yourself. Anyone who wants to use either the 10 inch or 20 inch scopes should come on out to learn more about the scopes and setup a time for one on one training with our training personal. Those of you who want to have access to the site in general should come on out to. This stuff is not hard to learn either. Don't let that scope or piece of equipment intimidate you. This is the place to come to get those

questions answered. Remember that there is no such thing as a dumb question.

Herschel 400 Surprises

By Keith Burns

I have been presuming the Herschel 400 list for three years now. I use to think this was the dumbest list ever thought up. That opinion has changed in the last year. Most of the list is finished except for the Galaxies of the spring sky and Globular Clusters in the early summer sky. This past weekend the fun and interest I had in the beginning returned. So now I approach the Herschel 400 list with far more love and support than I used to.

Last weekend I made a trip up to Phil Brachin's place in the North Georgia Mountains. The intent of this trip was to get my Herschel 400 observing program back on track. I've not made much progress since the Peach State Stargaze last spring. Maybe one or two objects per month if I was lucky. This night would set me back on the road to finishing this long list but also provided some interesting observations along the way. With the spring sky now starting to make an appearance, I concentrated my efforts on the constellations of Lynx, Leo Minor, Hydra, and Leo. Galaxies are everywhere but that is part of the fun of exploring this area of the sky.

It's not uncommon to have multiple galaxies in your field of view. I had that happen many times during the night. The trick to it is to find out which galaxy is which. Some of them are on the Herschel list while others are not. I used my new Sky Atlas 2000 second edition as the main reference but I also use sources like the Uranometria 2000 and the Observing Handbook By Luginbuhl and Skiff. The best information reference book was the Night Sky Observer's Guide By Kepple and Sanner. With pictures and drawings, the galaxy identification process was easy. Then there is the Astronomical League Herschel 400 handbook. I use it but you have to remember that some of the items listed are not labeled correctly. Still that handbook gets quiet a lot of use.

Below is a small list of some of the more interesting galaxies I saw that night and a picture of each. Next to each picture is the description pulled from my observing logbook. Some commentary may be thrown in when necessary. The name of the constellation the galaxy is located in. The last bits of information are the coordinates and sizes of each galaxy.

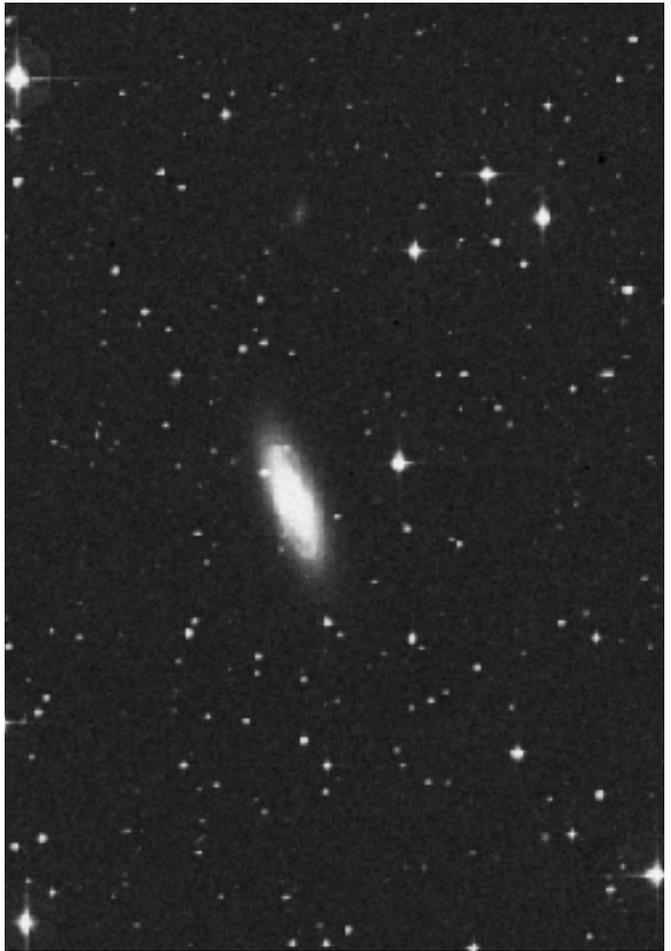
I used the tried and true technique of star hopping to find these galaxies. The scope of choice was a 13.1 inch reflector with an F ratio of 4.5 inches. The pictures used in this article came from the Digitized Sky Survey website. I reduced the size of each picture and cropped them so they would fit into the newsletter. Visit the DSS website for more information at (<http://>

Continued on the next page.

archive.stsci.edu/dss/). The fastest way to get into the archive is through this link (<http://www.astrosurf.com/benoit/ngc.html>).



Picture to left is NGC 2683 in the constellation of Lynx. Bright thin edge on with slight bulge in center of galaxy. Oriented left to right in FOV. One star upper right and two stars below to lower right. The description was pretty close to what the pictured revealed. It's important to note any stars located in the FOV. Coordinates RA -8 52.7 DEC +33 25. Size 8'x13'.



In the picture above is the galaxy NGC 2811 located in the constellation of Hydra. Round shape galaxy. Bright nucleus with surrounding nebulosity. Hint of spiral arms sticking out above and below galaxy. These pictures help to prove to me whether or not what I logged is correct or not. I did not see any of these pictures before I observed and logged the galaxies. Coordinates RA -9 16.2 DEC -16 06. Size 1.6'x0.5'



Pictured above is galaxies NGC 3166 and 3169. Located in the constellation of Sextans. 3166 has round shape to galaxy with bright nucleus. 3169 has round shape to galaxy with bright nucleus. Nearby star below galaxy in FOV. Star touches edge of galaxy. Note both galaxies in FOV. This is a case where both galaxies looked similar in the telescope. The picture did reveal a slight difference between the two. It was the star located close to the one galaxy that made it possible to tell the two galaxies apart. 3166 is the horizontal galaxy. 3169 is the angled galaxy. The small galaxy to the lower right of 3166 is 3165. I saw a hint of it when observing the others. Coordinates RA -10 13.8 DEC +3 26. Size 3166 4.4'x1.7' and 3169 4.0'x1.7'

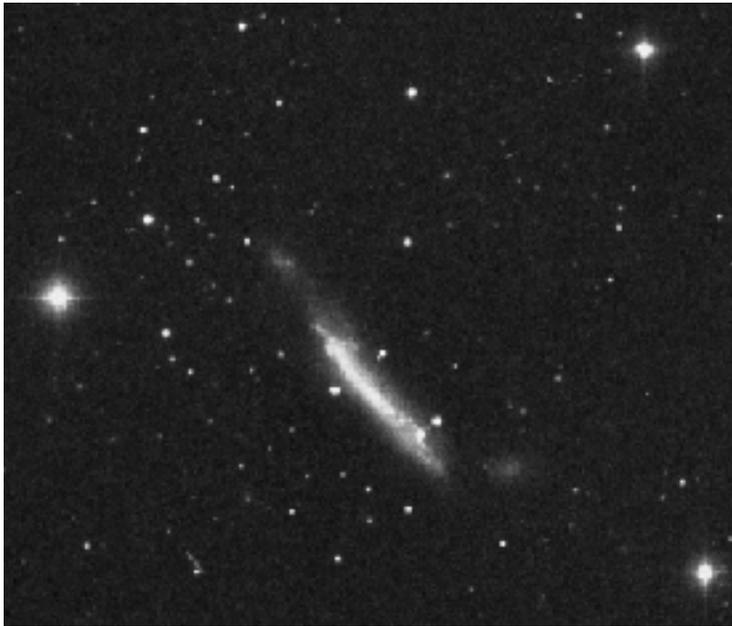


Pictured to the left is galaxies 3395 and 3396. Both located in the constellation of Leo Minor. 3395 has an elongated shape and is flat. 3396 is horizontal in the FOV. 3396

is elongated and touches 3395 on left side in FOV. 3396 is vertical in FOV. Also note that two other galaxies visible in FOV. 3430 and 3413. Not much else to go on. In this case,

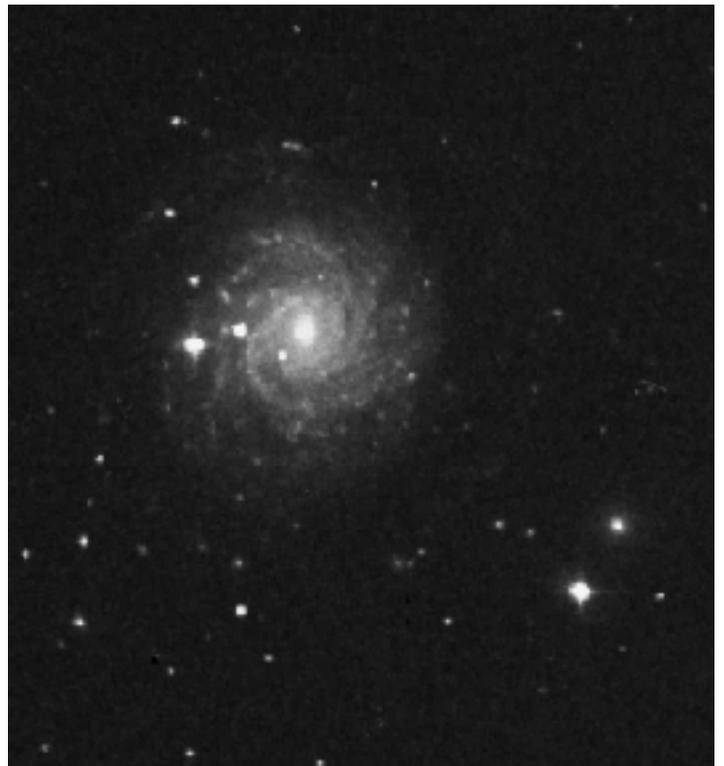
Continued on the next page.

it was a drawing that helped me figure out which galaxy was which. 3430 and 3413 not in picture to left. After all that, only 3395 was on the Hershel list. Coordinates 3395 RA -10 49.8 DEC +32 59. Size 3395 1.5'x0.9'

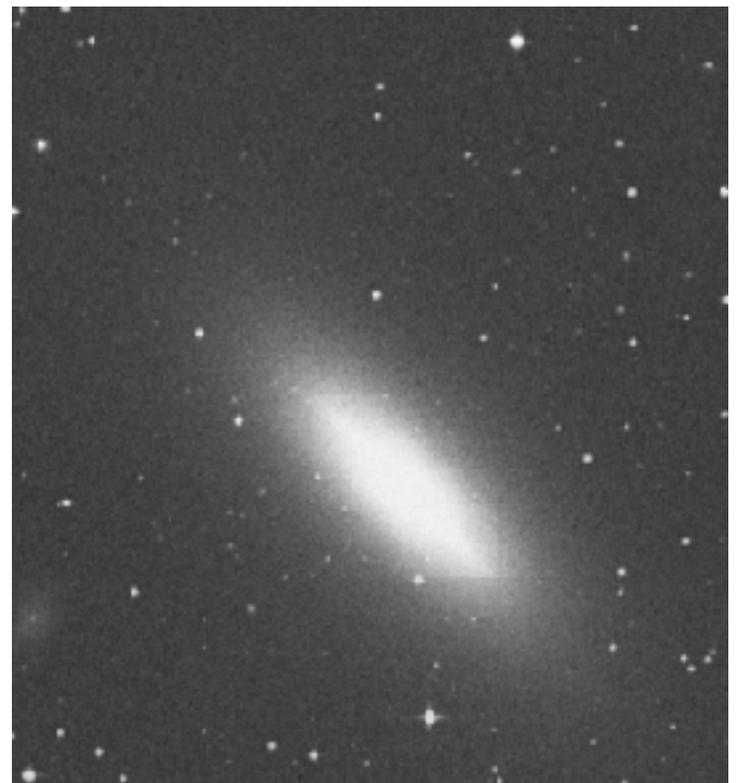


Pictured above is NGC 3432. Located in the constellation of Leo Minor. Elongated shaped galaxy. Oriented right to left in FOV but not horizontal. Galaxy located between two stars. One to upper right and the other located to the lower left. Although there was one only galaxy in the FOV, the two star notation made identification easy. The picture proved that to be true. The only problem is that the picture is turned 90 degrees from how my sketch looks. Same is true for the written description. Coordinates RA -10 52.5 DEC +36 37. Size 5.8'x0.8'

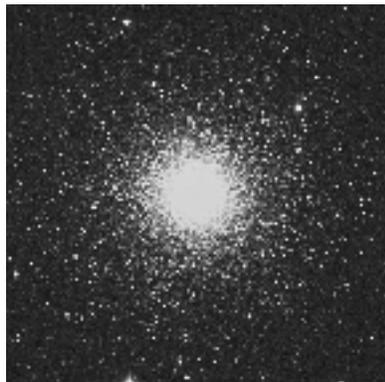
Pictured to the right is NGC 3115. Galaxy located in the constellation of Sextans. Bright round core in middle. Rest of galaxy is edge on in shape. Oriented upper right to lower left in FOV. Elongated shape basically. Interesting object to look at. Handbook comments that the size is very small but it didn't look small in the telescope or in this picture. Perhaps a misprint or bad observation on their part? Of course, they observed it with a 6 inch Cass. Coordinates RA -10 05.2 DEC -07 43. Size 4.0'x1.2'



Pictured above is NGC 3344 in the constellation of Leo Minor. Round shaped galaxy. Two dim stars located on the middle right edge of the galaxy. In this case, the picture reveals a spiral shape. Round shape is there. The only problem is the orientation of the two stars. The picture shows them on the left side instead of the right in the FOV. Hmmm. Coordinates RA -10 43.5 DEC +24 55. Size 7.6'x6.2'



Which Messier Object is this? I will give you a hint. It was visible on the night of January 27-28, 2001.



Astronomical League Membership

As a member of the AAC, you also are a member of the Astronomical League automatically. This entitles you to many benefits. The most popular benefit is the 21 observing programs the AL has made available to us. The list of programs includes Lunar, Messier, Herschel 400, Planetary, Urban, Meteor, Sunspot, Universe, and Several Binocular programs. This is just a small sample of the lists available for you to take on as an observing project. You don't have to be a seasoned veteran of astronomy to do one of these programs. Just be eager to try and willing to learn. Contact Keith Burns at (keith_b@bellsouth.net) for more info. He is you AL representative. You can also find out more at the AL website at (www.astroleague.com). Once you get to the home page of the AL website look in the section labeled observing clubs. You can go down the list from there and find out which program is right for you.

The AL also has a quarterly newsletter that is mailed to all our members. Please be sure to keep our(AAC) treasurer update with your current mailing address. Since the The Reflector Newsletter is mailed via bulk mail, they will not forward it to your new address if you move.

The AL has astronomical publications it sells to you. You can find out more by visiting their website at (<http://www.astronomicalleague.com/>). These are items you can use to help you with an observing program. Note that these publications are not available anywhere else. Many of the booklets and papers cost only a few dollars.

Focal Point Article Submissions

I'm looking for articles, pictures, and drawings on anything astronomy related. All formats are acceptable. Pictures can be sent as either JPEGs, GIFs, or other formats. I can also scan in hard copy pictures. Articles can either be sent via postal mail or email. Address it to 3740 Burnt Hickory Road Marietta, Georgia 30064. Email address is Keith_B@bellsouth.net. You can submit articles anytime up and including the deadline date. The **deadline** for the **March issue** is **March 1, 2001**.

Joining the AAC

You can join the AAC by filling out a membership form and mailing it along with you dues to the address printed on it. These forms are available from our Treasurer (Peter Macumber). He carries copies of these forms to most club functions. You can also download the form from the club website at (www.atlantaastronomy.org). Once you find the form. Download it and print it. Fill out and mail the form in. Fee structure is \$25 for family and single members. Student fee is \$10. Student fee applies only to students currently enrolled. While the club

does have PO Box address, it is best to mail the form to Peter's house. He get's the stuff much faster that way. If you want to get either Sky & Tel Magazine(\$30)or Astronomy Magazine(\$29), include that with you dues made payable to Atlanta Astronomy Club.

Magazine and Membership Renewal

You are sent a membership renewal two months before your membership expires. Your **magazine renewals** are sent to you by the **publisher**. **Magazine renewals** must be **paid by the club**. Remember to send renewals to the club with a check payable to the club. S&T is \$30. Astronomy is \$29. Club membership is \$25 or \$10 for a student.

Website Report

The website has proven itself in attracting new members and keeping members informed of club events. This can only happen if we are given the information to post on the website. If you have any suggestions, comments or ideas please send them along to the webmaster@AtlantaAstronomy.org.

Getting The Focal Point Online

Did you know that there are two versions of the focal point available? One is the standard 8 page b&w photo copied that is mailed to members. The other version is available on the web. It is 10 to 15 pages long. Web version is in color with pictures and an extra article (or two).

The Focal Point is available online in PDF format. The free Adobe(R) Reader allows you to view, navigate, and print PDF files across all major computing platforms. Download the free reader at www.adobe.com

Visit **NightSky.Org/aac** on the web. In a private sub-web, the past year of Focal Points can be found. Check it out. If it works for you, send Peter Macumber an e-mail and Keith Burns will stop sending you a snail-mail copy. The Focal-Point web can be entered by using the Username of **AAC** and a password of **Orion**. These names are case sensitive! Type **AAC** in all capitals, type **Orion** exactly as you see it here.

Pictured to the right is the Arecibo Radio Telescope. The data that is process on the SETI@Home screen saver was collect at this facility.



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The Focal Point

Newsletter of The Atlanta Astronomy Club, Inc.

FROM:

Keith Burns Email: Keith_b@bellsouth.net

3740 Burnt Hickory Road

Marietta, Georgia 30064

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

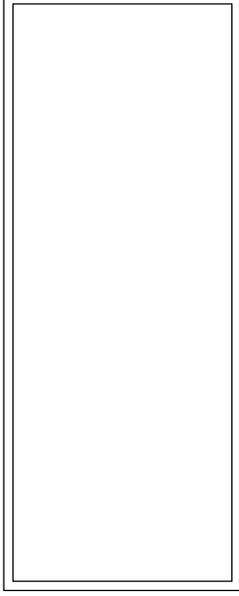
Atlanta Astronomy Club

PMB 305

3595 Canton Road A9

Marietta, GA 30066

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. Membership is open to all. Atlanta Astronomy Club Hot Line: Timely information on the night sky and astronomy in the Atlanta area. Call **770-621-2661**. Internet Home Page: <http://www.AtlantaAstronomy.Org>

Subscribe to the Atlanta Area Astronomers Mailing List: The name of the new list is: AstroAtlanta. The address for messages is: AstroAtlanta@egroups.com. To add a subscription, send a message to: AstroAtlanta-subscribe@egroups.com. To cancel your membership, send a message to AstroAtlanta-unsubscribe@egroups.com. Messages for the list-owner (me) go to: AstroAtlanta-owner@egroups.com or to (L.Abbey@mindspring.com). The "home page" for the list, from which you can change your account defaults is: <http://www.egroups.com/group/AstroAtlanta>. This list is owned by **Lenny Abbey** who is the **Club Historian**. You can reach him via phone at 404-634-1222.

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