

# THE FOCAL POINT

The Atlanta Astronomy Club, Inc.

Vol. IX No. 1

June, 1996

## The June Meeting

by Lenny Abbey

The Atlanta Astronomy Club's next meeting will be Friday, June 21, at 8:00 P.M. at the Fernbank Science Center. The speaker will be Dr. Alberto Sadun, Chairman of the Department of Physics and Astronomy at Agnes Scott College. His topic will be: *Seeing is Believing? Using chaos and other non-linear techniques for analysis of data.*

Dr. Sadun is an internationally known authority on active galactic nuclei and Seyfert galaxies. His work in the analysis of these enigmatic objects has led him into the study of data gathering and analysis techniques. He has written several programs for data analysis, and is co-author of *Modern Image Processing*, which deals with the enhancement and analysis of digital images. In his presentation, Dr. Sadun will focus on how astronomers retrieve meaningful information from signals which contain a high level of "noise", or non-meaningful information. The talk will be illustrated by computer-generated examples of state-of-the-art data analysis.

## Calendar Notes:

June 14 to 16 Observing session in North Ga Mtns  
June 21 June Meeting, Fernbank  
July 12 July Meeting, Fernbank  
July 19-Aug 4 Olympics

## LETTER FROM THE PRESIDENT

by Doug Chesser, AAC President

There are three primary reasons people join an astronomy club. First to learn more about Astronomy, second to gain fellowship in observing (a.k.a. the social aspect), and third to interface with others who have similar interests in specialized fields. These points are true now as they were back in 1947. They are also reflected in our club's Bylaws and Corporate Charter drawn up in 1963.

What should be the direction of the club in the 1996 - 1997 year? Our membership is the largest in over 10 years. Financially our club's net worth is greater than it has ever been. Our membership is more active now than it has been years. Attendance at meetings has been good.

While we have improved our membership and speaker program in recent years, what we offer our membership in terms of tangible, useful tools has not really

changed since the 20" was dedicated in the club's Barber Observatory 1985. In particular the capability of the club to provide its members with an equipped observatory located in a reasonably dark sky. Members and officers of our club foresaw the Villa Rica light pollution problem back in 1989. "We must begin to think about what we will do when Villa Rica is no longer dark enough for true deep-sky observing. That day will come" -- Leonard Abbey, President, Focal Point, June 1989.

We need two things to succeed in our quest for a new observatory. First we need to aggressively search out sources of financial support for the club and it's needs. Primarily in support of the new observatory initiative and the national speaker program. Second, the club needs to develop a solid written plan which includes detailed design information, cost, and schedule planning for the proposed new observatory. This plan will be the road-map used to achieve the goal, and will be used to solicit donations for funding.

Right now our biggest problem is manpower. The simple fact is that we can't begin to work on these goals without the help from our membership. Special committees will be formed over the next few weeks to address these tasks. This is an excellent way in which new members can get involved and make a difference in the direction in which the club is headed. If you would like to be a part of these or other committees and have the time to contribute, please contact me as soon as possible.

We need help in these areas:

- Assistant Newsletter Editor, Contact Rich Jakiel
- Assistant Treasurer, Contact Phil Bracken
- Chairman for the Advanced Sites Search Committee, Contact Doug Chesser
- Members for the Advanced Sites Search Committee, Contact Doug Chesser
- Members for the Advanced Funding Committee, Contact Alex Langoussis
- Member Awards Coordinator, Contact Doug Chesser
- Members for the New Observatory Development & Design Committee, Contact Eric Shelton
- Members for the Light Pollution Committee, Contact Tom Buchanan

## Observing Session

by Larry Higgins

There will be an observing session on June 14, 15, and 16 between Dahlonega and Brasstown Bald. Fully furnished lodge, power, restrooms. There is no phone or T.V. It will cost \$8-10 per person depending upon number of people. First come, first served, up to ten people. For more information, call Phil Sacco at (404) 296-6332.

## May Meeting Notes

The Atlanta Astronomy Club May meeting was held Friday, May 17, at White Hall (Emory). About 50 members were in attendance. Official club elections were held, and the following officers were elected for 1996/7: Doug Chesser, President; Jerry Armstrong, Program Chairman and VP; Larry Higgins, Observing Chairman and 2nd VP; Rich Jakiel, Corresponding Secretary (Focal Point Editor); Jack Warner, Recording Secretary, and Phil Bracken, Treasurer.

After the elections, general club business was conducted. Rich Jakiel discussed the new Visual Impression Program or "V.I.P.", followed up by a talk on "Exploring the Virgo Cluster". The talk made galaxy hopping in Virgo a relatively simple task. Soon, everyone knew how to find the "Smiley Face Galacticism" and to "surf" along Markarian's Galaxy chain.

## TURKEY FARM, TURKEY SHOOT!

By Art Russell

"I've got the "Galactic Smiley Face." "Hey, I've got the "Galactic Smiley Face" over here too!" The evening's chorus seemed to sing praises of Atlanta Astronomy Club member Rich Jakiel's lecture on cruising the Virgo cluster just the evening before. Well, if there were ever evidence that people do learn from lecture, this was certainly it.

The setting was appropriate as well. 26 members and guests, plus 16 telescopes, inaugurated the Atlanta Astronomy Club's new Turkey Farm observing site located in the Chattahoochee National Forest near Blue Ridge, Georgia, on the evening of 18 May, 1996. Moreover, most remained for the entire evening and left the next day.

The consensus is that the location is good even though there is still detectable light pollution towards Atlanta (about 90 miles to the south), and also towards Blue Ridge, about 6 miles to the northwest.

Various club members estimated the naked eye limiting magnitude to be about 6.0 and in excess of 15.8 telescopically in a 15 inch, F5 dobsonian. All told, not too bad for observing in the high haze of an early summer.

Rich's instructions tempted many members to at least journey into the Virgo cluster briefly during the evening. However, many spent the bulk of their observing time there, apparently no longer intimidated by the astronomical equivalent of the Danteian admonition to "Abandon all hope, you who enter here!" Other observed

favorites were many of the spring objects identified in Rich's "Visual Impression Program." Among those, M104, the Sombrero Galaxy, and M82, both gave acclaimed appearances. Asteroid 1996 JA1 made its closest approach to Earth under the watchful gaze of Eric Shelton's 10 inch LX200 and a dozen club members who took a look through it as well. Jupiter and Comets Hale-Bopp and Kopff 22P also put on their required appearances as well to the approval of all observing. Additionally, many of the standby Messier objects were tracked down by our stalwart astronomical sleuths as the evening progressed.

Most of the observing field quieted down after midnight. However, several of the club's ever faithful Deep Sky Zombies carried the torch until sunrise finally forced them to at least temporarily confront Orpheus' embrace before turning their thoughts homeward.

How many objects were observed? No one can say with certainty. However, it was certainly an astronomical Turkey Shoot!

As a final note, we had as many attending the Turkey Shoot, er..., Turkey Farm, as we've had attending club observing sessions at either Villa Rica, or Dauset Trails. Villa Rica is about 35 miles from downtown Atlanta, and Dauset Trails is about 50 miles out. With equal numbers of observers willing to travel to the Turkey Farm at 90+ miles from Atlanta, there seems to be an implication that it may be warranted to continue our search for alternative observing sites and a future site for an Atlanta Astronomy Club Observatory under DARK (or at least as dark as we can find in Georgia) skies. Contact the board members with your thoughts on this issue as they are interested in your considerations.

## PRODUCT REVIEW: BRANDON 80MM, F6.0

By Art Russell

Vernonscope and Company recently announced introduction of an 80mm F/6 Brandon Apochromatic Refractor. Subsequent questions on "INTERNET" newsgroups and directly to me from an observer in Oregon considering purchasing either the Brandon or the Televue Pronto prompted my response which I posted to the newsgroup Sci.Astro.Amateur during the week of 28 May, 1996. I'm sharing it here for the benefit of anyone else who might be interested. Should you have any further questions, please feel free to contact me.

I purchased one of the 80mm APO Brandons new in 1986 and still have it. The scope continues to be a stunning performer. Moreover, as my large aperture scopes come and go, I do not even consider the possibility of parting with this scope. I've used it as a Superfinder" scope for 8" and 10" SCTs and an 18" Dob, its current configuration. I also have recently purchased the Televue Panoramic Mount, the same they sell for their Pronto. My Brandon is mounted on a homemade set of rings and platform which is used either on my dob as a finder scope

on the upper cage assembly, or at public star parties on the mirror box as a first view of the overall field of view. Additionally, the mount which I made also is drilled for mounting on the Panoramic mount and it excels in this capacity for instructing beginners in the rudiments of star-hopping when used with a Telrad. Moreover, the Brandon, equipped with the 35mm Panoptic lens provides remarkable widefield, low power views of 14X with a 4.73 degree field of view, very dangerous under dark skies! Hand held, the scope was a real performer on Comet Hyakutake (14X) and gave the best views through any telescope combination I tried. Additionally, with a 9mm Nagler (55X), the scope provides wonderful views of the moon which many beginners have enjoyed at public viewings.

If you have lots of disposable income, it is a really wonderful scope. However, despite the superlatives, the scope does have limitations which I've come to live with.

[1] No dew shield. Club member, Mel Tolbert, fabricated one for me which also mounts my Telrad for independent use (Incidentally, since Mel made the custom dew shield for me, my dew problems with the Brandon no longer exist!). I have serious reservations about one's ability to mount a dew shield on the new Brandon.

[2] Tripod mounting socket. The tripod mounting socket on my Brandon appears to be the same as that in the new product. If so, it is inadequate to the task and may fail at the most inappropriate time. Rather, recommend that anyone considering this scope as a purchase build a mounting platform for the Brandon. Mine is made of plywood with plywood rings and nylon screws allowing for easy collimation to my larger scope. I'm sure there are other equally suitable alternatives available. Similarly, there are limitations to one's ability to collimate this scope if you are mounting it on an SCT.

[3] The scope is well corrected for low and medium power view. However, the correction is inadequate for high power (+100X) views of Venus with significant color fringe. I also recognize that this is probably an unfair comparison to quality, well corrected long focus refractors or reflectors, but does illustrate the scope's limitations.

If you use the scope within the limits of its designs, it will perform admirably for you. Incidentally, the scope is also great for birding and I used it visually and photographically for that purpose for 4 years in Alaska.

However, at this point, I'd seriously consider the Televue Pronto. It is much less expensive for nearly the same performance. For the essentially the same money as the Brandon with 2inch diagonal and eyepiece, you can get the TV Pronto and a Panoramic mount in a similar combination. The Televue Pronto is a near clone, similar focal length, although the aperture is a bit less. Moreover, the Televue mounting sleeve is superlative and a very nice way to mount the scope.

I've no regrets at this point in purchasing the Brandon. It is a superlative scope and I always enjoy using it. However, in my opinion, recommend that anyone considering its purchase clearly think out their requirements and proceed accordingly. Given the

circumstances which I experienced 10 years ago, Brandon was the best possible choice. Today, however, I'd be seriously tempted by the Televue Pronto.

Clear Skies!

## Dark Clouds in the Globular Clusters

By Dave Riddle

As seen through a well collimated large aperture telescope, globular clusters are perhaps the most spectacular of all the deep sky objects. The sight of these splendid clusters delight the beginning and seasoned observer alike and it is little wonder that the 'classic' observers such as the Rev. T. W. Webb and Admiral Smyth described the globulars with religious awe. No photograph can capture the beauty of the globulars - they must be seen to be truly appreciated!

The globulars are making their return to the sky with the onset of warmer weather (my down filled jacket and insulated gloves are finally stored away for the season after a couple of premature retirements ...) and I will encourage you to spend some pleasant evenings under the stars and look at these majestic clusters. Several globular clusters display curious 'holes' or 'dark lanes' that are presently thought to be clouds of dust associated with the clusters. But according to current astrophysics these clouds should not be there. Most globular clusters appear to have lost all their gas and dust along with some of their outlying stars to gravitational interactions with the Milky Way galaxy.

*Messier 13* is the finest globular cluster of the northern celestial hemisphere. With apertures over 10", look for the 'propeller', a 'Y' shaped dark lane offset from the cluster's center. First noticed by Lord Rosse (or one of his assistants; a fine drawing by Bindon Stoney showing the dark lanes is reproduced in *Messier's Nebulae and Star Clusters*), this curious feature remained almost unknown to the modern amateur until Walter Scott Houston mentioned it in his *Deep Sky Wonders* column.

*Messier 3* is a fine globular located in the constellation of Canes Venatici. I noted some dark patches near the core of this globular using a RV 6 Criterion 6" reflector at 210X many years ago but it is difficult to find any recent references to these dust clouds. Luginbuhl and Skiff remain silent on this matter in their *Observing Handbook* while the Webb Society's *Deep Sky Observers Handbook* mentions a 'dark bay' as seen with a 16.5" reflector. Burnham's *Celestial Handbook* mentions that Lord Rosse first noticed these 'small dark holes'. Using the club's 20" reflector I noted a 'fairly prominent' star chain that crosses the core of the cluster but missed the absorption patches. Aperture and magnification along with sky transparency may determine if these patches are visible. What can you see? Admiral William H. Smyth, author of the classic *Cycle of Celestial Objects*, thought M3 resembled a jellyfish (a *Medusa pelluceus*)... did he see

the numerous star chains in M3 or was the retired Admiral fondly recalling his days at sea that evening? The curious observer may want to examine *Messier 15* later this year as dark clouds are reportedly present there also along with a tiny 15th magnitude planetary nebula (Pease 1 or Kuster 648).

The month of May brings *Omega Centauri* (NGC 5139) into view low on the southern horizon. Those lucky enough to have seen Omega under good conditions will remember the magnificent spectacle this cluster presents. My 3" refractor begins to resolve Omega at 40X and a 15" reflector reveals a mottled oblate sphere of small stars with numerous short dark lanes toward the center. Although the nature of these dark lanes has not been established, they probably are not dust clouds. It is interesting to note that a thin dark nebula (DC 308.1+14.2) lies about a degree southwest of Omega.

While you are observing these globulars you may try to discern the color of their stars. The stars in globular clusters are very old stars and may display subtle tints that have been described as yellowish, orange or ruddy. There are numerous reports of colorful stars in *Messier 22* and a report of a twin pair of red stars in *Messier 5* (the 'Ruby Eyes').

Some amateurs may be surprised to find there are only 142 globular clusters identified as belonging to our galaxy (*Observational Data for Galactic Globular Clusters*, Brian A. Skiff, 1995). For those of us that enjoy the unique observational challenges presented by the globulars there is some consolation that this short list is supplemented by larger catalogues of globulars in the nearby galaxies. The galaxy NGC 185 has 4 catalogued globular clusters; M81 has 25; M87 has 273 and the Andromeda Galaxy has 165. Many of the M31 globulars are visible in moderate apertures to the patient observer. Happy hunting!

### From the Observer's Notebook

By Larry Higgins, AAC Observing Chairman

First I would like to thank the nominating committee and all AAC members for your support in electing me as your Observing Chairman for the 96-97 year. Its going to be a challenge to follow the job Art Russell has done this past year. Art, you have been an inspiration to me and many other members. I hope that I can be as great a service to the club as you have been. (editor's note: Art won the President's Award at the April Banquet for his outstanding contributions to amateur astronomy this past year).

This year I have formed an Observing Committee to help with the many observing and educational programs. It is also an opportunity to give other members an active roll in the club. The committee is as follows: Art Russell, Ken Walburn, Phil Sacco, Kemper Smith and Steven Smith ("Smitty"). Please give this committee your full support during the upcoming year.

### Sidewalk Astronomy

Sidewalk astronomy is one the best, most effective ways to bringing astronomy to the general public. Showing the beauty of the heavens to both young and old is one of the most rewarding experiences for the amateur astronomer. I plan to conduct many sidewalk sessions throughout the year and I hope to get as many club members involved as possible. During the month of May we had two public observing sessions (Walk for Life, Beaverbrook) with more planned during the warm summer months. If you wish to help, please feel free to contact myself or other members of the Observing Committee.

#### May 17th Observing Session - The Walk For Life!

After the last monthly meeting (May 17), we had a great public Observing session. The session was for the American Cancer Society's *Walk for Life*. It was an all night session held at Griffin and the turn out was very good. Five members and two prospective members were present. All-night hikers were treated to a variety of Messier and NGC objects, but the real show stopper was Jupiter and its satellites. Many thanks go out to Jack Warner, Ken Walburn, Phil Sacco and Smitty for their support.

#### May 25th - Beaverbrook Elementary School

On May 25th, we had a "star party" for the second grade class of Beaverbrook Elementary School. It was held at the Four Oaks Farm north of Griffin. They treated us to hot-dogs and hamburgers while we treated them to such celestial sights as the first quarter Moon, Venus, M13 and other brighter objects. Over 60 people lined up at the telescopes. The first quarter Moon was a major "hit" with both the children and parents alike, and maps of the Moon were distributed to each child - though, I think parents ended up with them!

In attendance from our club were AAC President Doug Chesser, "Smitty", Phil Sacco, Rod Pruner, new members Bill Warren and David Pendergrast and myself. I would like to thank each of these members for donating their time and telescopes.

(back by popular demand...)

### Doing The "V.I.P."

by Richard Jakiel (V.I.P. Coordinator)

The "V.I.P." or *Visual Impression Program* is a new observation program that will be initiated by the AAC this month. Participants in this program will be required to draw a variety of solar system and deepsky objects. Drawing enhances the observers ability to discern detail and an inexpensive means to make a permanent record of your observations. Drawing does not require any special talent, but does involve some practice and diligence. If you need some help getting started, I plan to set up a "workshop" after a future AAC meeting (date and time yet to be decided.).

## Materials and Methods:

Any medium is acceptable, as long as you feel comfortable with the results. Perhaps the easiest to "master" is *black on white*. All that is required is a pencil, paper, clipboard and a good eraser. A No. 2 pencil is "OK", but to get a good, solid "black" you will need either layout or charcoal pencils. Bound sketch or drawing pads are by far the best means to keep your "finished" drawings together. For field work, you'll need a clipboard, paper, and a red light (best if variable in intensity). Field drawings need *NOT* be a masterpiece, but rather a record of what you saw. You'll make notes on them, and sketch out the fine details. Afterwards, you can make a finished drawing in your sketchbook.

The eraser is your "friend". You can actually "draw" with an eraser, and make fine details including mottling in nebulae or dark lanes in galaxies. By far the best kind of eraser are the soft, pliable gummy types found in art stores. Costing less than a dollar, they can be molded like putty into almost any form you wish. I often form a point and "draw" (erase!) in delicate details. Try to *avoid* using the erasers on the end of the No. 2 pencil. They have harsh abrasives and can destroy the texture of the paper if used too liberally.

### The "Fine" Art of Smudging:

Most people when they begin to draw are often concerned about the technical and aesthetic aspects. Fine details require some practice in observing, but what about that delicate nebulous look? That can be achieved using the simple technique of "smudging". It's really easy to do - ever brush your hand accidentally across your drawing? There are two main methods that are used. The first requires nothing more sophisticated than the tip of your finger. The other uses a "blending stump", a cloth-covered "pencil" that can be found in a variety of sizes at any art supplies store. The results are *similar*, but not quite the same. The finger method produces a coarser, more mottled smudge than what is accomplished with a blending stump. For very fine, detailed smudging the blending stump is by far the best. Here's a few helpful hints while smudging: 1) keep your fingers dry and grease free, 2) don't mix blending stumps; i.e.: keep the white and black charcoal separate, and 3) "fix" your drawings with a fixative. You don't want the smudging to "continue" after you're done!

### The "Rules":

Other than to draw the objects listed in the next section - there are very few rules. There are no starting or ending dates, so old drawings are useable. Any medium may be used, and I'm not going to judge the technical merits of your drawings unless *you want me to*. The other major rule is that all field drawings *MUST* be made while at the eyepiece. No copying from books or other sources - I will *know*. For best results, use at least a 6 or 8-inch scope. Observers who complete the following list of +30 objects will receive a *nice* certificate of merit similar to those given out for the Astronomical League's (AL) Messier and

Herschel Programs. In time, the AAC hopes to take this program nationally - first to the *World Wide Webb*, and then to the AL. In the future, I hope to get your best drawings scanned so they may appear in a regular basis on the AAC's homepage.

### The V.L.P. List:

Listing below are a selection of solar system and deepsky objects that are required to be drawn. Most of these objects are very distinctive and are representative of their class. I did not single handily generate this list as I had a great deal of input from Alex Langoussis, so blame him as well! With some planning, most participants can finish the program in a year or less. The list is subdivided into two parts, the solar system and deepsky.

#### Solar System:

- 1) Lunar: (1) draw the region surrounding the crater *Triesnecker*. This is a surprising complex area, with numerous interconnecting rilles. Try observing/drawing this area at **2 different** phases, to see how the change in sun angle affects the visibility of the rilles and the crater.
- 2) Planets: (3) Make one drawing of each of these 3 planets: Jupiter, Mars and Saturn. Jupiter will be visible this summer, Saturn in the fall and Mars will be best late in the year and in the winter/spring of '97. I am a member of A.L.P.O. so if you need blank disks of Jupiter or Saturn, ask me.
- 3) Sun - (1) sunspots or active region drawing.
- 4) Comets - (1) With the passing of Hyakutake and the coming of Hale-Bopp, this should be easy.

#### Deepsky Objects:

- 1) Open Clusters (5): M11 (Wild duck), M45 (Pleiades), M6 (Butterfly), NGC 7789, and NGC 457 (Owl)
- 2) Diffuse Nebulae (5): M42, NGC 2261 (Hubble's Variable Nebula), M8 (Lagoon), M 20 (Trifid) and M17 (Swan)
- 3) Planetary Nebulae (5): M27 (Dumbbell), M57 (Ring), M97 (Owl), NGC 2392 (Eskimo), NGC 7662 (Blue Snowball)
- 4) Supernova Remnant (2): M1 (Crab), NGC 6960/6992-35 -The "Veil", pick your favorite piece!
- 5) Globular Clusters (3): M4, M13, M15
- 6) Galaxies (6): M51 (Whirlpool - lots of detail in a large scope), M82, M104 (Sombrero), M87, NGC 253 (Silver Dollar), and NGC 4565.

Total number of objects: 32

Spring and summer is a great time to "bag" most of your galaxies, clusters and nebulae, so get started now!

## Beginner's Star-hop: June, 1996

By Art Russell

This month's star hop continues our discussion of astronomical objects in the area of the Big Dipper which we began last month. That area of the sky remains favorably situated for our star hop through the month of June so its there that we'll take a look at the galaxies **M51**, **M106**, **M63**, **M94**, and **M64**. We'll also take a look at two of the season's early globular clusters, **M3** and **M53** which are located nearby. If you find yourself enjoying these later objects, relax, there's lots more to come this summer! As ever, its best to get out under the darkest skies possible to observe any of these objects. The darker, the better for astronomy!

**Star-hop #1. M106, NGC 4258.** Cradled in the arc of the Big Dipper's handle is the diminutive constellation Canes Venatici, the "**Hunting Dogs**." Two stars form this constellation, *Alpha* ( $\alpha$ ) and *Beta* ( $\beta$ ) Canes Venatici. Starting at *Beta Canes Venatici*, extend a line to the star *Gamma* ( $\gamma$ ) Ursa Majoris in the Big Dipper. **M106** is located a little less than half way along and just to the north of that line. You may remember that we visited *Gamma Ursa Majoris* last month as our guide star to the galaxy **M109**. In smaller telescopes, **M106** appears cigar shaped with a bright core. Its edges fade rapidly from a bright core and still brighter nucleus which appears nearly stellar. In larger telescopes, **M106** is more visible, but with few details.

**Star-hop #2. M94, NGC 4736.** **M94** is located off line to the northwest of *Alpha Canes Venatici* and almost directly east of *Beta Canes Venatici*. Small telescopes under dark skies should easily find **M94** only one or two fields of view away from these guide stars. In smaller scopes, **M94** appears as a star with a surrounding nebula. Its nucleus is stellar with a halo which appears 2-3 times in diameter that of the nucleus. In larger scopes, the galaxy, is still not resolved. The nucleus is not bright, but is distinct from the surrounding nebula. Edges of its halo fade out evenly from body of the galaxy.

**Star-hop #3. M63, NGC 5055.** Our next two star-hops lie along the same line between *Alpha Canes Venatici* and *Eta* ( $\eta$ ) Ursa Majoris, the last star in the handle of the Big Dipper. **M63** is located about 1/3 of the way between *Alpha Canes Venatici* and *Eta Ursa Majoris*, and just slightly to the east of that line. Smaller scopes will show **M63** as a small elliptically shaped galaxy with a stellar nucleus. The edges of its halo fade rapidly. In larger scopes, **M63** has a small bright nucleus embedded in a large halo. The galaxy appears flattened and oriented northwest to sootiest. Its edges fade gradually. The galaxy's halo displays uniform density until edges begin to fade.

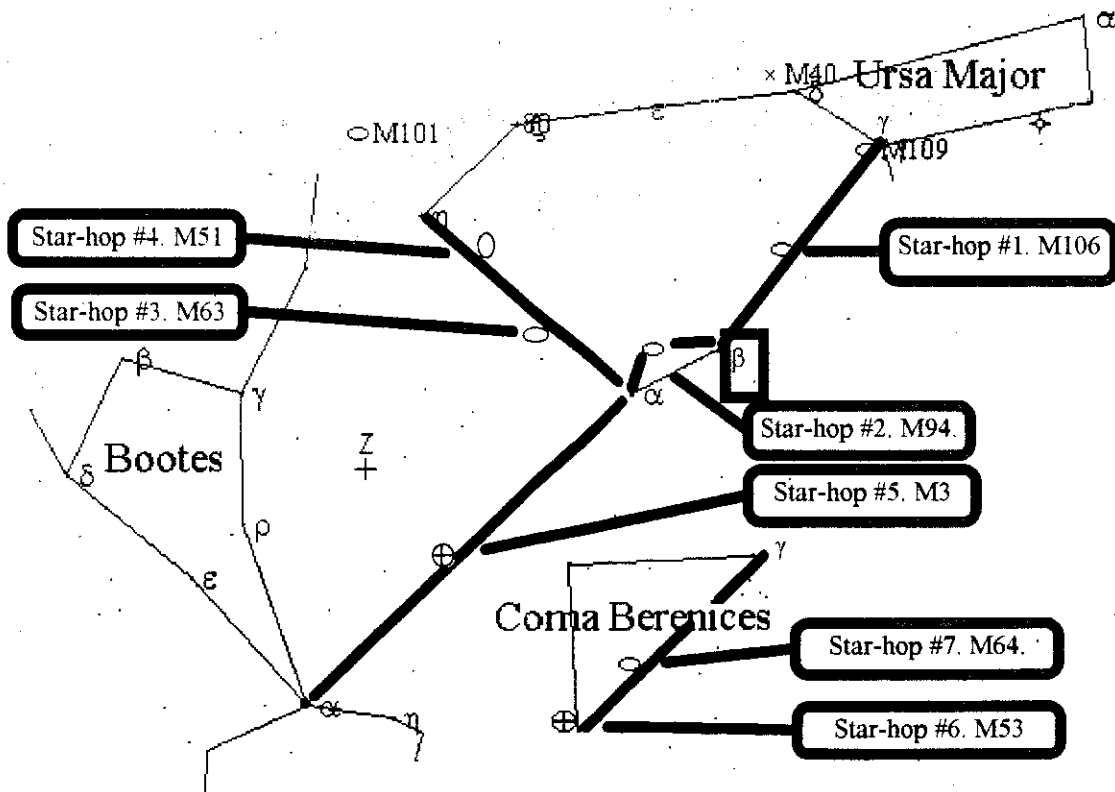
**Star-hop #4. M51, NGC 5194 and NGC 5195.** **M51**, also known as the "**Whirlpool Galaxy**," is one of the most spectacular sights visible in the northern hemisphere for amateur astronomers. This galaxy and its smaller companion galaxy, **NGC 5195**, demands dark skies for best viewing. Take the time to view these galaxies from the darkest site you can get to. You'll be amply rewarded! Using the same line as in **Star-hop #3**, we'll find **M51** located about 2/3 of the way from *Alpha Canes Venatici* to *Eta Ursa Majoris* and a bit west of that line. In binoculars and small telescopes the galaxy's halo is easy to spot and presents an irregular shaped oblong orientation. There is a smaller extension on **M51's** northeastern side. This is **NGC 5195**, itself a small galaxy. You can see the difference between **M51** and **NGC 5195** in averted vision. In larger scopes and dark skies **M51** and **NGC 5195** make a spectacular pair!! Spiral structure in both galaxies is very evident. **M51's** arms appear to spiral in a counter-clockwise manner. Multiple dust lanes are visible in both **M51** and **NGC 5195**!

**Star-hop #5. M3, NGC 5272.** **M3** is our last object located in Canes Venatici. However, this time we'll be tracking down a globular cluster which is even visible from light polluted Atlanta! To find **M3**, extend a line from *Alpha Canes Venatici* to the star *Arcturus*, *Alpha* ( $\alpha$ ) Bootes, in the constellation Bootes, "**The Herdsman**." **M3** is located a little more than 1/2 the distance from *Alpha Canes Venatici* to *Arcturus* and just a bit to the north of this line. In binoculars and small telescopes, **M3** appears is easy to

find. The globular cluster is very concentrated and distinct. It appears to have a stellar appearing nucleus which fades rapidly to edges. No stars resolved. In larger scopes, **M3** is a beautiful globular cluster with many well resolved stars.

**Star-hop#6. M53, NGC 5024.** We now turn our attention to the small constellation "Coma Berenices" to find our remaining objects for this month. You can find this constellation due west of Arcturus. The globular cluster **M53** is very easy to find under dark skies because it is located less than a degree to the northeast of the star *Alpha* ( $\alpha$ ) *Coma Berenices*. Both *Alpha Coma Berenices* and **M53** should be visible simultaneously in binoculars and telescope finder scopes. In larger scopes **M53** is a beautiful, well concentrated globular cluster with many well resolved outlying stars.

**Star-hop #7. M64, NGC 4826.** Our last star-hop is to the "Blackeye Galaxy." As its name suggests, this galaxy has a dark marking near its center which is visible to moderate sized telescopes. **M64** is a little more than 1/3 of the way and a little north of a line from *Alpha Coma Berenices* and *Gamma* ( $\gamma$ ) *Coma Berenices*. In moderate sized scopes **M64** appears aptly named! The galaxy seems to have an edge on aspect with a distinct blackeye or dust lane below its nucleus. The galaxy's halo is relatively uniform in brightness and the nucleus is not overly bright.



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

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

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**Internet Home Page:** <http://www.mindspring.com/~aleko/atlastro.html>

### Officers, Board, and Committees:

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# THE FOCAL POINT

Newsletter of The Atlanta Astronomy Club, Inc.

### FROM:

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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 \$20 (\$10 for students). Discounted subscriptions to Astronomy (\$20), and Sky & Telescope (\$24) 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](mailto:ASTRO@Mindspring.com). Also visit our Internet home-page: <http://www.mindspring.com/~aleko/atlastro.html>

Membership Expires (Year/Month): 9710  
**Alex & Nelda Langoussis**  
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