

Astro Views

Harford County Astronomical Society
Bel Air, Maryland
www.harfordastro.org



Volume 31 Issue 5

May 2005

"When I consider your heavens the work of your fingers, the moon and the stars, which you have set in place, what is man that you are mindful of him? Oh LORD, how majestic is your name in all the earth!"

Psa 8:3,4

General Meeting: Saturday, May 21, 2005 7:30pm (19:30)
Public Star Party (Open House), May 14, 2005 at dusk

Club Calendar for 2005

<u>Meeting night</u>	<u>Open House/Public Star party</u>
May 21, 2005	May 14, 2005
June 18, 2005	June 11, 2005
July 23, 2005	July 16, 2005
August 20, 2005	August 13, 2005
September 17, 2005	September 10, 2005
October 15, 2005	October 8, 2005
November 19, 2005	November 12, 2005
December 17, 2005	December 10, 2005

Meeting time is 19:30 (7:30pm) unless noted otherwise. Dates and times are taken from the HCAS website.

<http://www.harfordastro.org>

Check the HCAS website for other club events.

General Meeting, 23 April, 2005

President Larry Armstrong opened the meeting at 7:30PM

He introduced our speaker, Ms. Inga Heyer of the Space Telescope Science Institute (see her web site: <http://www-int.stsci.edu/~heyer/>). She delivered an excellent discussion of the Hubble Space Telescope and its discoveries.

Regular Agenda:

1. April minutes were accepted.
2. Treasurer's Report: \$2675.70



3. Observatory Operations: Observatory is back up and running.
4. Open House Outreach:
 - a. Tom Rusek reported:
 - i. 18 March Eden Mills session was very successful. We'll be supporting them again in the future.
 - ii. We received a thank you note from Cub Scout Pack 806, Den #8 for an outreach session back in March.
 - iii. The civil air patrol is interested in having groups of 10-20 cadets observe and learn a bit more about the sky. Details will be announced in future.
 - iv. 4 May, a 3rd grade slide show is scheduled...no scopes necessary.
 - v. Friday, 29 April. Joppa Elementary...multiple sessions throughout the day. Scopes needed for the evening viewing, about 10-20 people. Contact Tom Rusek at: 410-734-0435

Old Business: Completed

New Business:

1. We earned a free admission to the "Almost Heaven Star Party" in West Virginia (see: <http://www.novac.com/AHSP/index.php>). This was due to Charlie's quick response as web master and we were one of the first 25 clubs to link our web site to the star party site. This excellent viewing opportunity will be held 2-5 June at the Mountain Institute in Spruce Knob, WV. The admission is \$50 per adult, so this free opportunity is a great deal! Contact President Larry (410-671-7334) if you are interested.
2. The spring-cleaning work party was a success thanks to Mark, Wayne, Doris, Larry, Fran, Ron, Steve and Jeremy...and Grace for the brownies! Excess equipment was moved to the library and members inspected same to determine the disposition. Doris and Jeremy inventoried all of our equipment holdings.... now we're up to date!
3. Nominations for new officers opened to only moderate success. President Larry in his required "state of the club" letter stressed the need to invigorate all the club membership to help share the load for the various open house and public events we've been working. The current group of officers will not accept continued service in order to provide opportunity for other members to serve. Unfortunately, a complete roster could not be agreed to at the meeting. Steve and Larry will contact the members to build a complete ballot that will be sent by mail to the membership as required by the end of April.
4. Incorporation: Carol has investigated the current status of our "tax-exempt" certification. It turns out that we in fact are not officially classified as a tax-exempt organization...although we have a "tax exempt number". We lack the correct certificate code and in order to get it we would likely have to incorporate. Carol discussed this with the Astronomy League and was advised that most of the other clubs associated with the League are incorporated. In addition to securing the tax-exempt status, it also has benefits for certain liability issues. The next group of officers will have to deal with what we need to do in order to complete this action.

Leo Heppner won the door prize: Astronomy, a Definitive Guide by Robert Burnham, Alan Dyer and Jeff Kanipe.

Bill Geertsen has donated a shop-vac to the club.... much appreciated. He brought and recommended two books:
Star-Hopping for Backyard Astronomy, by Alan M. MacRobert
Star-Hopping: Your Visa to Viewing the Universe, by Robert Garfinkle.

Meeting adjourned at 10:30PM.

June Messier Objects

Between RA 12h 30m and 12h 59mm

M49 RA 12-29 Dec +08-00 Size 8.9'x7.4' Mag 8.4 El galaxy
NGC 4472 SA2K #12

Large, round, bright. An easy object in Virgo.

M87 RA 12-31 Dec +12-24 Size 7.2'x6.8' Mag 8.6 El galaxy
NGC 4468 SA2K #13, 14, B1

Another bright, round galaxy in Virgo. As a bonus, see if you can pick out NGC 4478, mag 12.5 and NGC 4476, mag 13.1, in the same field.

M88 RA 12-32 Dec +14-25 Size 6.9'x3.9' Mag 9.5 Sb galaxy
NGC 4501 SA2K #13, 14, B1

Large, beautiful galaxy in Coma Berenices. See if you can detect any spiral structure.

M89 RA 12-36 Dec +12-33 Size 5'x4.6' Mag 9.8 El galaxy
NGC 4552 SA2K #13, 14, B1

Fairly bright, small elliptical in Virgo.

M91 RA 12-34 Dec +14-30 Size 5.4'x4.4' Mag 10.2 Sb galaxy
NGC 4548 SA2K #13, 14, B1

This galaxy was one of Messier's "missing" objects for some time. It has been argued whether this object (NGC4548) is the original M91 or whether it was nearby NGC4571, mag 11.3.

M90 RA 12-37 Dec +13-10 Size 9.5'x4.7' Mag 9.5 Sb galaxy
NGC 4569 SA2K #13, 14, B1

Large, relatively bright oval in Virgo. Brighter toward the core. This is one of the nicest galaxies in this region. You will need your charts to sort out this crowded neighborhood.

M58 RA 12-38 Dec +11-49 Size 5.4'x4.4' Mag 9.8 Sb galaxy
NGC 4579 SA2K #13, 14, B1

Very nice, oval galaxy in Virgo

M104 RA 12-40 Dec -11-37 Size 8.8'x4.4' Mag 8.3 Sb galaxy
NGC 4594 SA2K #13, 14

The famous "Sombrero Galaxy". Edge-on galaxy, long a favorite for amateur astronomers.

M68 RA 12-40 Dec -26-45 size 9' Mag 8.2 Globular cluster
NGC4590 SA2K #21

Rich, compressed globular cluster in Hydra.

M59 RA 12-42 Dec +11-39 size 5.3'x3.4' Mag 9.8 El galaxy
NGC 4621 SA2K #13, 14, B1

This and M60 will appear in the same low magnification field of view. A fine pair in Virgo

M60 RA 12-44 Dec +11-33 size 7.2'x6.2' Mag 8.8 Sb galaxy
NGC 4649 SA2K #13, 14, B1

The other half of the M59/M60 pair in Virgo. Brighter and slightly oblong as compared with M59.

M94 RA 12-51 Dec +41-07 size 11'x9.1' Mag 8.1 Sb galaxy
NGC 4736 SA2K #7

Large, round, bright toward the core. Nice galaxy in Canes Venatici.

M64 RA 12-57 Dec +21-41 size 9.3'x5.4' Mag 8.5 Sb galaxy
NGC 4826 SA2K #7

The "Black Eye" galaxy, large, bright with a prominent dust lane. Notable galaxy in Coma Berenices.

April 23, 2004

State of the Society: To the Harford County Astronomical Society Members,

It is a requirement for each President to present to the Board of Trustees a summary of the state of the Society. I am taking this opportunity to do so in the form of a letter to the membership at large.

In short, the Harford County Astronomical Society (HCAS) is in great shape in certain areas, and needs definite improvement in others. I will address each area in turn.

First, the facilities and equipment have been greatly improved and enhanced in the last year. Harford Community College (HCC) has improved the road leading into the area and trees have been topped around the observatory. The trees along the northern exposure could not be trimmed as they are on private property, but the ecliptic is none the less much more visible then in the past few years. There are plans by HCC to improve the lighting at the observatory with red exterior lights and to build a walkway from the High School parking lot to the observatory road to allow better public access. The College has also agreed to assume insurance liability for all HCAS public activities that occur on HCC property. This is a huge benefit to HCAS since it removes a very large stumbling block to having the open house at the observatory. Once we can eliminate some security concerns we can start having the event there. This will remove the disappointment that many members of the public have expressed in not being able to see the observatory and it will also turn the event into a much more professional presentation. The Astrophysics mount for the main scope has been "fine tuned" in its alignment and computer software has been updated. The 14 inch Celestron is now ready and able to accurately track for any astrophotography project that a member would wish to pursue. We can not as yet however, fully utilize our CCD equipment due to some cabling and interface problems that will not require much more than someone's time and interest to surmount. We are currently involved in an inventory and cleanup of HCAS equipment so that members can take advantage of the ability to use the portable equipment such as eyepieces and telescopes that are owned by the Society.

Second, our outreach program has been described by individuals outside HCAS as "The best in the state." Due to the efforts of an extremely dedicated group within HCAS our outreach has grown tremendously. We have provided programs for local community groups, state sponsored historical sites, the Maryland Department of Natural Resources, the Girls Scouts and Boy Scouts of America, and the public at large on many, many occasions. We have participated in local and county activities and outreach programs that often occurred twice a week during peak periods. Our reputation has been acquired largely through the tireless efforts of the Outreach Coordinator (Tom Rusek), the Public Affairs Liaisons (Grace Wyatt and Doris Thomas), and the Webmaster (Charles Jones) who unselfishly spend many hours of their time working behind the scenes and deserve special recognition. Although these are volunteer positions and not officially elected officers of the Society, we could not function without them and they deserve the highest praise and heartfelt gratitude that we, as a group can give them. We are looking forward to bringing the open houses to the main observatory as soon as we can address the few remaining issues of public safety, observatory security and handicap access. Most of these concerns have been dealt with and we are only awaiting implementation of the plans that are already in place. We have met our obligations (barely) to HCC by supporting the college astronomy classes. Unfortunately that is again due to the efforts of a small, extremely dedicated group of members. It is by fulfilling our obligations to HCC that we have their support, liability coverage and even the facilities that we use. If it were not for the efforts of a handful of members, this obligation would not have been met.

Lastly, our membership has grown to over 60 members. The last roster in February lists 63 members and we have had several people join since that time. We have been able to have classes on a regular basis to certify members to use the main observatory equipment. Many members have taken advantage of them to become certified to use and gain security access to the observatory. Observatory use by the members has not been great however, and that can be mostly attributed to the bad observing conditions that Maryland has had this year. More information needs to be made available to members about the ability to use Society equipment for their own short term use, and exactly what equipment is available. That is being accomplished by Society members with the current inventory and equipment clean up project. More use of the several dark sky sites that HCAS has at its disposal should be encouraged and supported although again, that is

dependent on weather. The participation of the membership as a whole in outreach programs and HCAS obligatory programs has been the biggest disappointment and the area in need of the greatest improvement during the last year. It is understood from older members that this has historically been the case with HCAS and requires a change of members philosophy at the fundamental level. We have a very small group who participate in almost every outreach program, astronomy class support night, Society meetings and the internal workings of HCAS and the "burn out" rate is high. A mutual support concept needs to be disseminated to newer members so they know that more experienced members will be there to give them support at events or meetings. Older members need to lead by example and participate in events with newer members, sharing their skills and/or knowledge. By everyone sharing the obligatory Monday night classes and the outreach events, we can decrease and perhaps even eliminate the "burn out" rate among our most active members. We need to foster the philosophy that true membership in any organization is a two way street with all members giving of their time and effort to take advantage of the benefits the Society has to offer. Participation in HCAS volunteer or elected positions is not a matter of length of membership, but a desire to give back to the group as a whole. Increased participation will demonstrate to prospective new members that we are a viable, active organization that will continue to grow and be a rewarding and enriching experience for them and their families.

It has been a wonderful experience being the President of the Harford County Astronomical Society this last year and I want to thank everyone who gave unselfishly of their time and effort to make HCAS an organization that I can point to with pride. Thank you all.

Larry Armstrong
President
Harford County Astronomical Society

There are mail restrictions (number of pages) on the snail-mail version. To get the most out of your Astro Views, you are encouraged to subscribe to the e-mail version. This is easily done by contacting Steve Channel at srccac2@comcast.net and adding your e-mail address to his mailing list.

This issue contains a detailed listing of objects in Virgo which are visible in scopes of 10" or smaller aperture. Many are listed in the AL observing programs. Using the list will get you started on the AL observing-certificate programs. Also included are photos and reports of the Tuckahoe StarGaze.

Astro Views is the official publication of the Harford County Astronomical Society, P.O. Box 906, Bel Air, MD 21014. For the year 2005 any items for publication in any issue are due to the editor by the 15th of the preceding month. Please send all contributions (electronic format is STRONGLY encouraged) to Bill Geertsen at (EMAIL):izar@juno.com, regular mail at: 36 Northwood Drive, Timonium, MD 21093. Permission is not necessary for non-profit use of this material, although proper acknowledgement is required. Address changes should be brought to the attention of the editor at the address given above.

Home Page Web Site: <http://www.harfordastro.org>

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**FIRST CLASS
Address Correction Requested**

StarGaze-Tuckahoe-2005

Notice the wide open field. At least one vehicle got stuck in the mud out there. But the horizon was great!



Fran and friends



Scopes next door



Ralph's "Star Van", "Beans" and me (that's me on the right).

Fran, Larry, Ralph and I were the only ones still up and observing at 03:30. About then the dew became so heavy it overwhelmed our DewBusters and we decided to call it quits for the night. Excellent seeing though, lots of DSOs. Bigger batteries next time out.

A report on the Stargaze 2005 at Tuckahoe State Park

Larry Armstrong

As always the Stargaze Star Party hosted by the Delmarva Stargazers was a delight to attend. The Star Party was short this year, only being held for two nights instead of its usual four. There was an Equestrian event at the same time and Fran and I wondered if there was a scheduling conflict although we never asked. Fran and I were planning to go on Friday the 8th of April and stay through Sunday, but stupidly believed the weatherman and the clear sky clock about the weather conditions. We stayed home on Friday due to the supposed bad weather conditions. Friday night was, of course gorgeous at our house and we found out later that Tuckahoe had great skies as well. We're still kicking ourselves since we always look forward to this particular Star Party.

A word about the Stargaze Star Parties. The Delmarva Stargazers are an extremely active group filled with very friendly members. We see them twice a year at the two Stargaze parties and they always remember who we are. You are never a stranger at their camp. Don Surles always heads up a great time with good food thrown in as part of the registration price. We have had fish stews, fish fries, bean soup (which made for a rather interesting observing night) and this time they had a meatball and tortellini soup that was wonderful. Don had just undergone open heart surgery, but still managed to spend a little time at the observing field. That's dedication. The folks who show up from all over the Mid Atlantic never seem to mind sharing views through their scopes and equipment (and of course opinions about the same). Everyone is always made to feel welcome and there are no pretensions. I guess that's why Ralph, Bill, Fran and myself try to never miss one.

Anyway, Fran and I arrived on Saturday about 4:00pm and met Bill Geertsen and Ralph Gruen who had already set up camp and were saving a place for us. We set up our tent and scopes and waited for the sun to set. Once it did the conditions were optimum for viewing with clear skies and very good transparency and seeing. I concentrated on Ursa Major and really cleaned out the Messier objects there. It took a while as I was getting such good views that it was hard to leave some of the sites. I have never seen the Whirlpool look that good through my 8 inch Newtonian. I could see the arms well and the companion galaxy was quite bright. I did stop when Jupiter's great red spot (GRS) was visible and spend a bit of time there. It took me about 20 seconds to convince myself that I was really looking at the GRS. It took up about 1/3 of the band and was amazingly discernable. I should mention at this point that I was using a new set of eyepieces that I'm sure made a world of difference. I had bought Fran an Orion ED eyepiece for her birthday and she liked it so much that she got two others to complete a set. After looking through hers, I had to have a set myself and this was their first light through my scope. We had been using Celestron ploessls and the ED eyepieces blew them out of the water. I've looked through Televues and Naglers and for only \$70.00 an eyepiece these ED's hold their own quite well, thank you very much. Back to the observing. Fran was busy cleaning out Canis Major all this time and I swear there was smoke coming out of her mount from all the movement. Bill was picking off Messiers he wanted and Ralph always seemed to have a group of "tourists" at his scope. He has a computerized mount and was able to really please the crowds. Bill spent a lot of time observing Jupiter to watch a possible occultation with one of its moons. He kept us posted and we were able to keep up with that event while sharing views of faint fuzzies with him. We were observing fiends and were some of the last people (if not the last people) up at around 3:00am when we were finally defeated by the dew. Even though we all have heater strips, telrad and secondary heaters, dew shields, and great big batteries, we could not keep up. Fran did not realize how wet it had become until she took off her parka and found out just how soaked it really was. I kept having to pull my hat off to change glasses and it felt like I was pulling a wet cat off my head every time. Fran and I went to bed and about 30 minutes later Bill and Ralph gave it up when the dew started freezing to the equipment. I guess sitting on an icy seat can dampen the enthusiasm of the most intrepid observer.

We awoke around 8:00, helped by a particularly noisy neighbor breaking camp and had coffee while waiting for the sun to dry off some of the camp gear before packing it away. We finally all left and headed home in the late morning. All in all it was another successful Stargaze and we look forward to the No Frills version in September, weather permitting. Next time however, we will take all the weather talk with a grain of salt and go out to have a good time with friends and celestial favorites.

Constellation: Virgo, "The Virgin "

Alignment Star

α Virginis "Spica" ST471

May

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
NGC 4030 H-121-1	* *	SG *	12h 00.4m *	-01d 06m *	* *	* *	* *	11.0 *	3.1mx2.2m *	Round, bright center *
NGC 4179 H-9-1	* *	SG *	12h 12.9m *	+01d 18m *	* *	* *	* *	11.6 *	2.7mx0.6m *	Edge on, bright center *
NGC 4216 H-35-1	* *	SG *	12h 15.9m *	13d 09m *	* *	* *	* *	10.4 *	7.4mx0.9m *	Edge on, needlelike *
Σ 1627	*	DS	12h 18.2m	-03d 57m	AB	19.9s	196d	6.5/7.0	*	*
NGC 4261 H-139-2	* *	SG *	12h 19.4m *	+05d 49m *	* *	* *	* *	10.3 *	0.9mx0.7m *	Very small, elusive *
NGC 4273 H-569-2	* *	SG *	12h 19.9m *	+05d 21m *	* *	* *	* *	11.6 *	1.5mx1.0m *	Starlike, bright center *
NGC 4281 H-573-2	* *	SG *	12h 20.4m *	+05d 23m *	* *	* *	* *	11.3 *	1.1mx0.6m *	Small, elusive, use AV Same FOV w/NGC 4237
M-61 NGC 4303 H-139-1	* * *	SG * *	12h 22m BMC *	+04d 28m * *	* * *	* * *	* * *	9.7 * *	6mx6m * *	Face on, elusive Use AV *
Σ 1636 17 Vir	* *	DS *	12h 22.5m *	+05d 18m *	AB *	19.6s *	337d *	6.5/9.0 *	* *	Orange *
NGC 4365 H-30-1	* *	SG *	12h 24.5m *	+07d 19m *	* *	* *	* *	11.1 *	1.3mx1.0m *	Round, faint, use AV *
NGC 4371 H-22-1	* *	SG *	12h 24.9m *	+11d 42m *	* *	* *	* *	11.6 *	2.2mx1.2m *	Large, round, elusive *
SS Vir	ST441	RV	12h 25m	+00d 48m	*	*	*	6.0->9.6	*	Carbon star, ruddy orange
M-84 NGC 4374	* *	SG *	12h 25m UC	+12d 53m *	* *	* *	* *	9.3 *	5mx4m *	"Coma/Virgo Cluster" "Markarian's Chain"

Constellation: Virgo, "The Virgin "

Alignment Star

α Virginis "Spica" ST471

May

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
NGC 4387	*	SG	12h 25m 42s	+12d 49m	*	*	*	12.1	*	"Markarian's Chain"
NGC 4388	*	SG	12h 25m 48s	+12d 40m	*	*	*	11.0	*	"Markarian's Chain"
M-86 NGC 4406	* *	SG *	12h 26m UC	+12d 57m *	* *	* *	* *	9.2 *	7mx6m *	Many other galaxies in the FOV "Markarian's Chain"
NGC 4402	*	SG	12h 26m 06s	+13d 07m	*	*	*	11.7	*	"Markarians Chain"
NGC 4413	*	SG	12h 26m 30s	+12d 37m	*	*	*	12.3	*	"Markarian's Chain"
NGC 4429 H-65-2	* *	SG *	12h 27.4m *	+11d 07m *	* *	* *	* *	11.2 *	3.3mx1.0m *	Seen near one end of a line of field stars, interesting, elusive
NGC 4435 H-28.1-1 *	* * *	SG * *	12h 27.7m * *	+13d 05m * *	* * *	* * *	* * *	10.3 * *	1.3mx0.8m * *	Small, elusive, use AV Near M-84, M-86 & NGC 4438 "Markarian's Chain"
NGC 4438 H-28.2-1 *	* * *	SG * *	12h 27.8m * *	+13d 01m * *	* * *	* * *	* * *	10.8 * *	8.9mx3.0m * *	Very elongated, use AV Same FOV as NGC 4435 "Markarian's Chain"
NGC 4442 H-156-2	* *	SG *	12h 28.1m *	+09d 48m *	* *	* *	* *	10.8 *	1.8mx0.9m *	Small, oval starlike *
NGC 4458	*	SG	12h 29m	+13d 15m	*	*	*	12.1	*	"Markarian's Chain"
3C273 *	ST443 *	QSS *	12h 29m *	+02d 03m *	* *	* *	* *	12.8 *	* *	The first quasar, 3bly The closest & brightest quasar
NGC 4461	*	SG	12h 29m 06s	+13d 11m	*	*	*	11.2	*	"Markarian's Chain"
M-49 NGC 4472	* *	SG *	12h 30m BMC	+08d 00m *	* *	* *	* *	8.4 *	9mx7m *	Bright, elliptical *
NGC 4478 H-124-2	* *	SG *	12h 30.3m *	+12d 20m *	* *	* *	* *	10.9 *	0.8mx0.7m *	Very small, starlike, Same FOV as M-87, use AV

Constellation: Virgo, "The Virgin "

Alignment Star

α Virginis "Spica" ST471

May

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
M-87	*	SG	12h 31m	+12d 24m	*	*	*	8.6	7mx7m	Elliptical
NGC 4486	*	*	UC	*	*	*	*	*	*	Binocular

NGC 4526	*	SG	12h 34m	+07d 42m	*	*	*	10.9	3.3mx1.0m	Faint, oval, use AV
H-31-1	*	*	*	*	*	*	*	*	*	*

NGC 4527	*	SG	12h34.1m	+02d 39m	*	*	*	11.5	5.3mx1.0m	Elongated, elusive
H-37-2	*	*	*	*	*	*	*	*	*	Same FOV as NGC 4536

NGC 4535	*	SG	12h 34.3m	+08d 12m	*	*	*	11.0	6mx4m	Elongated, very elusive, use AV
H-500-2	*	*	*	*	*	*	*	*	*	Near M-49, NGC 4526 in FOV

NGC 4536	*	SG	12h 34.5m	+02d 11m	*	*	*	11.9	6.1mx2.6m	Elongated, elusive, use AV
H-2-5	*	*	*	*	*	*	*	*	*	*

M-58	*	SG	12h 35.1	+12d 05m	*	*	*	9.0	4.5mx3.5m	Round, bright center
NGC 4579	*	*	BMC	*	*	*	*	*	*	*

NGC 4546	*	SG	12h 35.5m	-03d 48m	*	*	*	10.0	1.8mx0.8m	Elongated, relatively bright
H-160-1	*	*	*	*	*	*	*	*	*	*

NGC 4550	*	SG	12h 35.5m	+12d13m	*	*	*	11.7	1.4mx0.4m	Very elongated, faint
H-36-1	*	*	*	*	*	*	*	*	*	Same FOV w/M-89

M-89	*	SG	12h 35.7m	+12d 33m	*	*	*	9.5	2mx2m	Round, bright center
NGC 4552	*	*	BMC	*	*	*	*	*	*	*

M-90	*	SG	12h 36.8m	+13d 10m	*	*	*	9.0	7mx3m	Elliptical, bright
NGC 4569	*	*	BMC	*	*	*	*	*	*	*

NGC 4570	*	SG	12h 36.9m	+07d 15m	*	*	*	10.9	2.4mx0.5m	Small, elusive
H-32-1	*	*	*	*	*	*	*	*	*	Same FOV w/NGC 4526

NGC 4596	*	SG	12h 39.9m	+10d 11m	*	*	*	11.4	1.8mx2.2m	Round, starlike
H-24-1	*	*	*	*	*	*	*	*	*	*

Constellation: Virgo, "The Virgin "

Alignment Star

α Virginis "Spica" ST471

May

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
M-104	*	SG	12h 40m	-11d 37m	*	*	*	8.3	9mx4m	"Sombrero Galaxy"
NGC 4594	*	*	UC-BMC	*	*	*	*	*	*	Fine, edge on, dust lanes
H-43-1	*	*	*	*	*	*	*	*	*	Bright

NGC 4567	*	SG	12h 36.5m	+11d 15.5m	*	*	*	11.3	*	"Siamese Twins"
NGC 4568	*	SG	12h 36.5m	+11d 14.25	*	*	*	10.8	*	Overlapping galaxies

γ Vir	ST452	DS	12h 42m	-01d 27m	AB	1.8s	~	3.5/3.5	*	"Porrima"
Σ 1670	*	*	DSC	*	*	*	*	*	*	PA changing by 70d/yr, closing
*	*	*	*	*	*	*	*	*	*	Yellow (0)

M-59	*	SG	12h 42m	+11d 39m	*	*	*	9.8	5mx3m	Elliptical
NGC 4621	*	*	BMC	*	*	*	*	*	*	*

M-60	*	SG	12h 43.7m	11d 33m	*	*	*	8.8	7mx6m	Round
NGC 4649	*	*	BMC	*	*	*	*	*	*	Same FOV

NGC 4636	*	SG	12h 42.8m	+02d 11m	*	*	*	10.4	1.4mx1.3m	Round, bright
H-38-2	*	*	*	*	*	*	*	*	*	At the end of a line of stars

NGC 4638	*	SG	12h 42.8m	+11d 27m	*	*	*	11.2	2.5mx1.7m	Lenticular

NGC 4643	*	SG	12h 43.3m	+01d 59m	*	*	*	10.6	1.65mx0.9m	Elongated, small, starlike
H-10-1	*	*	*	*	*	*	*	*	*	*

NGC 4647	*	SG	12h 43.5m	+11d 35m	*	*	*	11.3	2.9mx2.3m	oval

NGC 4654	*	SG	12h 44m	+13d 08m	*	*	*	11.0	4.2mx2.2m	Large, bright center
H-126-2	*	*	*	*	*	*	*	*	*	*

NGC 4660	*	SG	12h 44.5m	+11d 11m	*	*	*	10.9	1.5mx0.8m	Small, starlike
H-71-2	*	*	*	*	*	*	*	*	*	M-60 in FOV

NGC 4665	*	SG	12h 45.1m	+03d 03m	*	*	*	11.1	3.1mx2.1m	Small, faint
H-142-1	*	*	*	*	*	*	*	*	*	Use AV

NGC 4666	*	SG	12h 45.1	-00d 28m	*	*	*	11.4	3.8mx0.8m	Very elongated, slight bulge
H-15-1	*	*	*	*	*	*	*	*	*	*

Constellation: Virgo, "The Virgin "

Alignment Star

α Virginis "Spica" ST471

May

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
NGC 4698 H-8-1	* *	SG *	12h 48.4m *	+08d 29m *	* *	* *	* *	11.3 *	3.0mx1.1m *	Small, faint, use AV *
NGC 4697 H-39-1	* *	SG *	12h 48.6m *	-05d 48m *	* *	* *	* *	10.5 *	2.2mx1.4m *	Bright center Near a string of field stars
NGC 4699 H-129-1	* *	SG *	12h 49m *	-08d 40m *	* *	* *	* *	9.3 *	3mx2m *	Large, relatively easy, *
NGC 4754 H-25-1	* *	SG *	12h 52.3m *	+11d 19m *	* *	* *	* *	10.5 *	1.0mx1.2m Barred spiral	Round, bright
NGC 4753 H-16-1	* *	SG *	12h 52.4m *	-01d 12m *	* *	* *	* *	10.8 *	3.3mx1.1m *	Large, oval bright center *
NGC 4762 H-75-2 * *	* * * *	SG * * *	12h 52.9m * * *	+11d 14m * * *	* * * *	* * * *	* * * *	11.0 * * *	3.7mx0.4 * * *	Elongated, large, faint Same FOV as NGC 4754 "The Kite", thin, edge on Bright center
NGC 4781 H-134-1	* *	SG *	12h 54.4m *	-10d 32m *	* *	* *	* *	11.2 *	2.3mx1.1m *	Elongated, elusive Use AV
Σ 1869	*	DS	12h 55.5m	+11d 30m	AB	25.8s	131d	6.5/9.0	*	*
NGC 4845 H-536-2	* *	SG *	12h 58m *	+01d 35m *	* *	* *	* *	11.5 *	4.2mx0.7m *	Elongated *
NGC 4856 H-68-1	* *	SG *	12h 59.3m *	-15d 02m *	* *	* *	* *	11.5 *	2.0mx0.7m *	Elongated, faint, use AV *
NGC 4866 H-162-1	* *	SG *	12h 59.5m *	+14d 10m *	* *	* *	* *	11.4 *	6.8mx0.8m *	Very elongated, needlelike, bulge Use AV
NGC 4900 H-143-1	* *	SG *	13h 00.6m *	+02d 30m *	* *	* *	* *	11.3 *	1.7mx1.5m *	Small, starlike Use AV
NGC 4958 H-130-1	* *	SG *	13h 05.8m *	-08d 01m *	* *	* *	* *	10.9 *	1.7mx0.7m *	Elongated, small, bright *

Constellation: Virgo, "The Virgin "

Alignment Star

α Virginis "Spica" ST471

May

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
NGC 4995 H-42-1	* *	SG *	13h 09.7m *	-07d 50m *	* *	* *	* *	11.2 *	2.0mx1.1m *	Very elusive Use AV
θ Vir MCA 38	ST466 *	Trip *	13h 10m *	-05d 32m *	AB AC	4s 70s	333d *	4.4/9.4 /10.4	* *	White/violet *
54 Vir	*	DS	13h 13.5m	18d 49.5m	AB	5.3s	34m	6.0/7.0	*	*
NGC 5054 H-513-2	* *	SG *	13h 17m *	-16d 38m *	* *	* *	* *	11.5 *	3.8mx2.2m *	Elongated, elusive Use AV
α Vir <i>Spica</i>	ST471 *	V *	13h 25m *	-11d 10m *	* *	* *	* *	0.97 *	* *	"Ear of Wheat" star Icy blue
Σ 1777 84 Vir	* *	DS *	13h 43.1m *	+03d 32m *	AB *	3s *	229d *	5.5/8.0 *	* *	* *
86 Vir β 935	* *	Trip *	13h 45.9m *	-12d 26m *	AB AC	1.3s 27.1s	303d 164d	6.0/10.5 /11.0	* *	* *
Σ 1788 * *	* * *	Mult * *	13h 55m * *	-08d 03m * *	AB AC AD	3.3s 12.6s 156s	91d 293d 215d	6.5/7.5 /10.5 /11.0	* * *	* * *
NGC 5363 H-6-1	* *	SG *	13h 56.1m *	+05d 29m *	* *	* *	* *	10.7 *	1.0mx1.4m *	Round, bright Same FOV as NGC 5364
NGC 5364 H-534-2	* *	SG *	13h 56.2m *	+05d 01m *	* *	* *	* *	11.0 *	6.2mx3.0m *	Large, elongated, faint Use AV,same FOV as NGC 5364
NGC 5566 H-144-1	* *	SG *	14h 20.3m *	+03d 56m *	* *	* *	* *	10.4 *	5.6mx1.1m *	Edge on, faint, elusive Use AV
NGC 5576 H-146-1	* *	SG *	14h 21.1m *	+03d 16m *	* *	* *	* *	11.7 *	1.0mx0.8m *	Small, faint, use AV Same FOV as NGC 5566

Constellation: Virgo, "The Virgin "

Alignment Star

α Virginis "Spica" ST471

May

Obj	DB#	Type	RA	Dec	Pairs	Sep	PA	Mag	Size	Description
Σ 1846	*	Trip	14h 28.2m	-02d 14m	AB	4.7s	110d	5.0/9.5	*	*
ϕ Vir	*	*	*	*	AC	92.8s	209d	/12.5	*	*

NGC 5634	*	SG	14h 29.6m	-05d 59m	*	*	*	10.4	1.3m	Small, relatively bright
H-70-1	*	*	*	*	*	*	*	*	*	*

NGC 5746	*	SG	14h 44.9m	+10d 57m	*	*	*	10.1	6.2mx0.8m	Edge on, faint, elusive, use AV
H-126-1	*	*	*	*	*	*	*	*	*	Same FOV as 109 Vir

NGC 5846	*	SG	15h 06.4m	+01d 36m	*	*	*	10.5	0.9mx0.9m	Very small, starlike
H-128-1	*	*	*	*	*	*	*	*	*	Near 119 Vir

Named Stars

α Vir	Spica:"Ear of Wheat"
δ Vir	Auva, Minelauva: "The Waters"
ε Vir	Vindemiatrix: "The Grape-Gatherer"
η Vir	Zaniah: "The Kennel"
τ Vir	Rijl al Awwa,Syrma: "The Train of the Virgin's Robe"
ζ Vir	Heze
γ Vir	Porrima, Arich
η Vir	Zaniah
β Vir	Zavijah, Zavijava