

Harford County Astronomical Society

Bel Air, Maryland
www.harfordastro.org



Volume 33 Issue 7

July 2007

Public Star Party (Open House):

July 21, 2007 at dusk

At the Observatory

General Meeting:

July 28, 2007, 7:30pm

At the Observatory

Club Calendar for 2007:

Open House/Public Star Party

Aug 18, 2007

Sept 22, 2007

Oct 20, 2007

Nov 17, 2007

Dec 15, 2007

Meeting Night

Aug 25, 2007

Sept 29, 2007

Oct 27, 2007

Nov 24, 2007

Dec 22, 2007

Please check the website for possible schedule updates and changes:

<http://www.harfordastro.org>

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Note from the President

I wish to thank everyone who is willing to have me as president of the HCAS. Thanks also for voting in our new vice-president, secretary and treasurer. I hope our tenure is a long and fruitful one. Our first meeting was a success with much to catch up on. We need to carry on our goals of discussions, observing and outreach. We are heading into a new era with the opening of the observatory to the public especially after all these years of dormancy. Please be a part of a wonderful experience at the observatory with our upcoming open houses. See you at our next meeting.

I am, as always,
Tom Rusek

HCAS Business Meeting Minutes of the June 30th Meeting

1. Secretary Monroe Harden opened the meeting at 7:45 PM announced the results of the recent HCAS elections.

Congratulations to the club's officers for 2007-2008:

President: Tom Rusek
Vice President: Grace Wyatt
Secretary: Monroe Harden
Treasurer: Tim Kamel

3. New President Tom Rusek ran the rest of the meeting. He introduced himself and explained that he has been a member for 11 years and has been Vice President a few times. He is excited to be President now due to the expansion of the outreach program and increased use of the Observatory facility for public events. He also wants to continue the club's recent efforts to build our relationship with Harford Community College, and he looks forward to seeing the school's leadership at some future club event. He would like Sal Rodano to continue as the HCAS "ambassador" to the College.

4. The minutes of the May meeting were published in the May newsletter. They were approved by a voice vote.

5. Treasurer: Tim Kamel was not present. He sent his report to Roy Troxel, who announced that the treasury currently has \$5723.75 in the bank. 25 members have renewed for this year, and 2 new members joined, bringing the total number of current, paid members to 27. 29

members from last year have not yet renewed, although some of them voted in the recent election. Tim will contact them to see if they intend to renew for this year.

6. Observatory operations: Mark Kregel noted that he had trouble aligning the main scope with the guide scope due to an obstruction on the side of the mount. Tom Rusek said he thought Jim Garrett aligned it at the last open house. The dome continues to bind in rotation at certain points. Significant work and/or expense will be needed to either repair or replace the rotating parts of the dome. Mark suggested we contact Sal Rodano about getting school support for this.

7. Outreach:

a. The club is supporting an event at the Susquehanna State Park campground amphitheater on July 14th. Mark Kregel will give the oral presentation since Tom cannot attend this event. The talk begins at 8:15 and then observing through club members' scopes takes place afterwards.

b. The club will give a presentation and viewing opportunities for a group of children with cancer on August 7th. This takes place at the same site in White Hall as the June 2nd scouting event. The program will consist of an indoor presentation followed by observing through telescopes. There is a basketball court available for our telescopes to set up on.

c. Swanfest is scheduled for October 14th at Swan Harbor Farms.

d. The Abingdon Library wants the club to give another presentation on September 24th.

e. The White Hall event on June 2nd went very well. Tom Rusek publicly thanked Jim Garrett, Roy Troxel, Mark Kregel, Tim Kamel, Karen and Maggie Carey, and Mike Talbard for their outstanding help in making this a successful night.

f. Last weekend's open house on June 23rd went well. 28 guests participated. We need to make sure that someone stays upstairs with the observatory scope to make sure it is properly oriented and ready for the visitors to look through.

g. The club is re-starting the "Deep Sky Investigators" program for kids. It allows kids to look at different astronomical objects and eventually earn certificates for their observations.

8. Old business:

a. Grace Wyatt has the new membership cards. Tom Rusek will sign them and then they will be distributed to the members.

b. Tom asked if there were any more problems with access to and from the Broad Creek observing site. There have been several group outings there and no problems were noted with the locks or keys. Roy Troxel proposed a group trip there on August 11th for the Perseid meteor shower. Cathy Tingler noted that the site can only be used by club members- we cannot hold a public event there.

c. Tom asked if we were happy with the advertising of club events. Grace said that our college contacts prefer to send out the announcements to the local newspapers. But since we do not pay for these announcements, they are sometimes bumped if paying customers need the space. The Pennysaver said that they will do more articles about the club, and they can guarantee placement of our announcements for \$3.00 per issue. Tom will invite them to our next open house.

d. Grace Wyatt reported that the woman who donated the Odyssey 10" reflector has some astronomy books to donate to the club. Mark Kregel will contact her. The donor also

asked that the club send her husband a letter describing how the donated items are being used. She said that it was important to him to know that his telescope was being used. The club agreed that the current user, Maggie Carey, was enjoying the telescope very much and was learning quite a bit by using it. Maggie's mom Karen will take some photographs of her using the scope and will provide them to Mark, who will prepare a formal letter for Tom's signature.

e. The group discussed the pros and cons of changing the meeting nights from Saturdays to some other night. There was no motion to move the night, so for now the meetings will remain on Saturday nights. Roy Troxel will put another announcement in the newsletter asking for inputs or comments on this topic.

f. Roy Troxel gave a report on his trip to the Cherry Springs Star Party. The details were published in the last newsletter.

9. New business:

a. Roy Troxel said that it cost about \$2.00 for printer ink to mail each individual newsletter copy via the USPS. He sends 6-8 hard copies out every month, and this seems to be too expensive. Grace Wyatt said that she asked Sal Rodano about using a school copier to make these copies, but she has not heard back from him. In the interim, Mike Talbard said that he can print the copies on his laser printer at a much lower cost per issue. Roy will send him the files and address lists so he can send them out. The club also agreed to reimburse Roy and Mike for their expenses in producing the newsletters.

b. Tom Rusek said that his company is willing to donate money to non-profit organizations such as HCAS. They need proof that we are a non-profit organization. The club has a non-profit number from the IRS, but we do not have a formal document with this number. Mike Talbard volunteered to research the requirements for obtaining a replacement copy of this IRS form.

c. The club will participate in the Astronomy magazine outreach program contest. The entry requires a 500 word essay describing the club's outreach program, along with supporting photographs, newspaper articles, and other backup information. The winning club gets \$2500 toward its outreach program, and the entry requires a 250 word description of how the club would spend that prize money. Members suggested using the prize to continue the computer connection between the observatory telescope and the classroom (to allow more people to see the scope's target object at once); upgrading the dome; purchase of a computer projector; and sponsorship of a science fair prize. Tom asked for any additional suggestions to be emailed to him. Our entry needs to be postmarked by July 16th.

10. The meeting was adjourned at 9:15 PM.

-Monroe Harden

Change of Meeting Day

Some HCAS members are unable to make the monthly business meetings on Saturdays. An alternative day of Thursday has been suggested. Please contact Grace Wyatt (dgracew@comcast.net) as to which day would be best for you.

Treasurer's Report

As of 07/07/07, our bank balance is \$5395.52.

Major expenses now pending are the renewals of the magazine subscriptions. I have already renewed the Sky and Telescope subscriptions for 5 members. Two more are pending. I have not renewed any of the Astronomy Magazine subscriptions, as I need a renewal form from that magazine. I have also renewed our P. O. Box and reimbursed two members for expenses incurred on behalf of the club. The Astronomical League dues are due by September and cannot be paid till we have finalized our membership renewals. Our insurance premium is due fourth quarter.

We have 27 members that have renewed and 2 that recently joined, for a total of 27.

There are 27 members from last year that have not as yet renewed, though some did vote in our recent election. I have sent out a second notice to the members that have not renewed.

-Tim Kamel

New Members

June, 2007

Please welcome Robert and Bonnie Darretta and family who recently joined our group and were present at the last open house.

Also, please welcome Lynn Wilder and family. Lynn has been interested in astronomy since childhood and has attended some of our open house sessions.

-Tim Kamel

Books Donated to HCAS

Mrs. Nel Inabinet has donated some of her husband's books to the society, which my wife picked up on the 5th. These are really nice books, covering almost every facet of astronomy. There are about 30 in all. I will be placing these in the observatory as soon as I get a chance.

Mr. Inabinet (Tom) is now living in an assisted care facility and would appreciate our cards and letters. I'm sure he would appreciate knowing that his donations are just not sitting gathering dust but being actively used and enjoyed by our members.

-Mark Kregel
markd@kregel.net

Recent Open House and Outreach Presentations



Open House on Observatory Grounds

Open House

June 23, 2007

On 6/23/2007, we had our third open house to be held at the Observatory. And, for the 3rd open house in a row, weather did not cooperate.

Though the day started out great, and weather prediction was for great skies. It was not to be, and again I saw the haze move in as I drive up to the observatory.

As I get there, the gate is already open and Mark Kregel, Mike Talbert, Roy Troxel, Karen Carey, Grace Wyatt and Tom Rusek are already there. Jim Garrett joins us later in the evening. We are also joined by new members Robert and Bonnie Darretta, who set up their scope.

The way we have this set up, visitors are to park in the Technical HS parking lot and walk over. Members park in the Observatory parking lot, mostly since they are bringing equipment and need to be able to reach it.

Participation by the public is good, with Grace counting 27 visitors.

The haze is not that bad and we are able to provide views of Venus, Saturn and Jupiter. The moon is also prominent. Double stars are also featured but we are not having any luck with the faint fuzzies. There is too much moon and too much haze.

The main scope is also operational, being run by Tom Rusek. Most of the visitors go up the stairs to catch a view.

As the evening progresses, the weather improves and the haze moves away. Unfortunately, most of the guests are now gone. Those members that remain are up in the observatory taking a look. We had no luck seeing M4 in Scorpius, too much light. We could not look at M13, directly overhead with the dome in the way. We settled for M 57 in Lyra. What a view. Simply spectacular. Even the central star was visible. Would any one be interested in a members-only night at the Observatory?

I believe it was midnight by the time we closed up and left.

-Tim Kamel

Future Outreach Presentations:

Tuesday, Aug.7: Camp Sunrise, Whitehall, MD.

Tuesday, Sept. 24: Abingdon Library (Indoor and Outdoor)

Sunday, Oct. 14: Swanfest, Havre de Grace, MD.

Recent HCAS Observing Sessions

Broad Creek

June 17, 2007

I had a chance to go observing at Broad Creek with Roy on Sunday, June 17th, Fathers Day.

Sunday started off as a great day with clear blue skies and no clouds. Weather report for the night was for perfect weather and the Clear Sky Clock was light blue for transparency and seeing.

I got to the site at about 8:50 and Roy was already there setting up in the tall grass which was about 2 feet tall. It seems that no one mowed and I felt that I was in the Serengeti Plain in Africa. We found a fairly clear spot, a less overgrown spot would be a better description, and proceeded to set up. Roy brought along his 120 mm refractor and I brought my ETX-125, planning on doing some high power planetary viewing.

The weather did not cooperate as a slight haze moved in that interfered with viewing. We were not able to see Polaris till well after 10 PM. Viewing of DSOs in general was poor. We had no luck at all finding M4 but were finally able to see M80. I had no luck at all seeing M44, one of my favorite subjects. I think this one is going to have to wait till next year for further views.

Primarily, I concentrated on planetary views. I did a blind alignment using a compass to set the North direction. It worked adequately enough. The planets were bright and did not seem to be affected by the haze and I cycled through the eyepieces trying for the best view. I did not use any filters. Mercury was behind the trees and we did not see it this night. Next was Venus, bright enough in a scope to hurt. It is clearly past the half way mark, but not by much.

Then I go to Saturn and spend a good 30-40 minutes trying to get a good view. I can see the planet and some slight coloration. I can also see the rings and Titan. And that is where it stops. No Cassini Division, no other moons and no shadows. Could be that the scope was too small or that the haze was interfering. My thinking is that Saturn was just too low.

Next is Jupiter. Four moons are clearly visible, as is the Northern Equatorial Belt. The SEB is big time faded, nowhere near the distinctness of the NEB. I look for any hint of the Red Spot but do not see it. View is rock steady (moisture in the air) even with a 9 mm (over 200 power) but transparency is poor. I have read that Jupiter does not get any higher than 30 degrees this apparition, and will do about the same thing the next couple of years. Very disappointing.

It is now about 11:45 or so and we will be packing up soon. I take a long shot and try for Vesta. My hand controller has a category for Asteroids that I had never tried in the past. Tonight, I try it and get three fairly bright stars in the field of view. At magnitude 5.7, Vesta is almost naked eye and should be fairly bright in a scope. So, I am thinking that I am looking at Vesta, but I do not

know which one it is. So, the plan is to get out again soon and see which one moves. However, that does not happen.

I spend another 20 minutes looking at double stars, including Alcor/Mizar, Alberio and Cor Caroli.

The sky was clearing at about this time but it was now after midnight. We pack up and are out the gate by 12:35.

-Tim Kamel

Broad Creek June 22, 2007

9:00pm –11:45pm

Arrived about 8:35 pm. Cathy Tingler was already there. We were set up by 9:00pm. The first quarter moon was high in Virgo and slightly to the west, seven days old and 55% illuminated. Parts of the sky were hazy, but no dew formed.

Cathy uses an Apex 127MM spotting scope, with a focal length of 1540. She was using magnifications of 90x, 77x and 61x.

I observed the moon with my 120mm refractor, using the #25 red filter, at 125x and 250x. Spent a lot of time learning the lunar Alps mountain range with its distinctive valley (Vallis Alpes). For a general description of this region and its origins, check here:

<http://www.moontoday.net/news/viewsr.html?pid=18120>

The objects along the terminator stood in strong relief, especially under the filter. Of special interest were the long, spiky shadows of the mountains across the large craters Albategnius and Hipparchus.

Turning to the planets, I briefly watched Saturn. It appears to grow smaller and dimmer, as the earth moves to the opposite side of the sun. Not nearly as bright as it was in February.

Venus is striking as its crescent grows thinner. It is now slightly past quarter-phase, but will become brighter in the sky as it moves to the same side of the sun as earth – the opposite of what Saturn is now doing. For me, Venus appears best when using the #58 green filter.

Jupiter's features (at 125x) weren't too clear because of haze on the southeast horizon. Also, there have been unusual white clouds that have obscured the planet's darker clouds. You can read about them here: <http://hubblesite.org/newscenter/archive/releases/2007/25> . I used the #82A light blue filter, but this didn't help. Watched one satellite emerge from behind the planet.

My observing plan this year has been to study each constellation in detail as it comes into view. In the spring, I concentrated on Leo, Virgo, and Coma Berenices, with the many galaxies in view in that region. I have also spent time with Boötes, because of the unusual number of double stars in that constellation.

As we move into summer however, the main attraction is the Milky Way, especially the population of clusters and nebulae in the Scorpius/Sagittarius region: M7, M6, M17, M16, M20, M21, M22, M28, M4 and M80. Such a general sweep doesn't really do these objects justice, so I plan to observe them all more closely as the season progresses.

Used a narrowband filter on the Lagoon Nebula, but the Trifid was too dim to observe because of the haze along the southern horizon.

I concluded with the open cluster M29 in Cygnus.

We left around 11:45, with the Milky Way brightest in the region of Cygnus, but gradually dimming as it swept into Sagittarius.

-Roy Troxel

Observation Report Conjunction Junction

July 1, 2007

On June 30, 2007, Saturn and Venus were 42' apart, the closest they were going to be for the next 16 years. The weather is clear, what an opportunity! Too bad it was not for me. On that date, I had attended a family reunion on Long Island and was driving home from the time the sun set till the planets set. The best I was able to accomplish was a naked-eye view to the west from the NJ Turnpike. I could see both planets close to each other, a lot like the conjunction of the moon and Venus that I saw on May 18th from Cherry Spring State Park in Pennsylvania.

Luckily for me, it was nice and clear on July 1st also, and I was ready. Tonight, the pair were only slightly further apart, 47'. At about 8:30 PM I was on my driveway with my ETX-70 refractor. I had chosen this scope for this event because I wanted wide field views so that I can see both planets in the field of view. This is an f/5 refractor with a focal length of 350 mm. I had to wait till almost 9:00 before I could also see Saturn naked eye.

I started off using low power with a 43 mm Kellner and worked my way down. At first, I was seeing just two points, one much brighter than the other but no hints of disks. I worked my way down to a 9 mm MA. In this eyepiece, with less than 40 power, both planets were in the field of view but with little room to spare. Venus was clearly a crescent. Saturn was smaller and dimmer, showing its rings. Seeing was steady and transparency was good. Neat little view.

At about 9:30, Jupiter came up over the house and I looked at it for a while. The Southern Equatorial Belt is still very faint. No hint of the Red Spot. The four moons are all present, 2 on each side. However, it is still fairly bright with some hints of clouds to the south and the moons are very dim.

I pack up about 10 minutes later before the mosquitoes finish whatever blood I have left.

Tim Kamel

Broad Creek

July 7, 2007

The evening looked promising with a solid blue block rating from the Clear Sky Clock. Four of us assembled at BC around 8:30pm: myself, Cathy Tingler, Grace Wyatt and Phil Schmitz.

We began with Jupiter, which showed a small black spot in the southern hemisphere, which Phil thought was the shadow of the satellite Io. The spot gradually moved toward the planet's edge over a period of two hours, and then disappeared. A thin layer of haze helped steady the image.

Phil had brought his 16-inch f/4.5 Dobson-mounted reflector, along with his considerable knowledge of the sky. It provided us with bright deep-space views of the Dumbbell Nebula (M27), using an OIII filter. (I was able to view the Trifid and Lagoon nebulae through my refractor using the filter, despite the poor seeing to the south.) Phil then pointed his reflector overhead to the M51 galaxy in Canes Venatici, displaying its spiral structure. Unfortunately, M81 and M82 were lost in a haze that had developed near Ursa Major. (Phil navigated his scope "the old fashioned way" by star-hopping, but said he could have used a go-to now and then.) His scope is mostly

home-built, partly from Meade optics and mounting parts. The Kevlar alt-azimuth movements are unusually smooth.



Phil Schmitz's 16-inch Dobson Reflector

Star clusters M3 (overhead in Canes Venatici) and M5 (in Serpens) were remarkable in Phil's scope and M13 was a complete knockout, covering the entire field, with numerous stars spilling out.

Grace had brought her six-inch Orion reflector and Cathy had her spotting scope. As a group, we spent much of the time sweeping through the nebulae and clusters of the Scorpius and Sagittarius regions – the main show during the summer months.

The evening ended with us looking at a series of double stars: Albireo, Cor Caroli, Alpha and Delta Herculis, Mizar/Alcor, and Izar. (These were very bright in Phil's 16-inch, but were easier to separate in my 120mm refractor, once again proving the principle that reflectors are primarily for deep space objects like galaxies and nebulae.)

By midnight, seeing in the southern sky had deteriorated so that only Jupiter and Antares were visible. The area had become bright with the ambient light of the towns reflecting off low-lying mist coming from the ground. Overhead, however, the sky remained dark, with Cygnus, Lyra and the surrounding Milky Way areas very clear.

We began packing up around 1:00am, while the moon was clearing the treetops in the east.

Broad Creek

July 8, 2007

I went observing at Broad Creek on Sunday, July 8th with Roy Troxel and Phil Schmitz.

Daytime weather was great and I was hoping for a continuation of the nice weather that we had had the previous night and which 4 of our members enjoyed the night before. Weather and Clear Sky Clock predictions were for clear skies, good transparency and better than average seeing. Temperature was to be in the mid seventies.



Broad Creek, near dusk (Photo by T. Kamel)

I was the last to arrive, at about 8:45. The other two were already setting up in the tall grass at the site. Phil had his 16" Dob, Roy his 120 mm Refractor and I brought my 6" Criterion reflector. I also set up my scope and we spent some time looking at Venus and Jupiter while waiting for Polaris to show. At about 9:45, Polaris became visible, along with a large bank of clouds to the north that was moving our way.

We proceeded to observe our selected targets. With my clock drive now engaged, I proceeded to observe Venus and Jupiter at high power. Venus is a distinct crescent now, about 30-35%. No hint of any color or markings. Transparency is very good. Seeing is good with planetary views being rock solid. Jupiter is marvelous at 200 power. The South Equatorial Band is almost non-existent. I cannot see the red spot. Only three of the moons are present but Io pops out later in the night and moves quickly away from Jupiter.

The clouds eventually arrive but completely cover the sky for only about 15 minutes or so. Otherwise, there are always wide swatches of sky to view. I spend some time in Scorpius looking at M4 and M80. I also try for some of the objects in Sagittarius but have little luck with the nebulas. I did fine with the associated star clusters. I also bag three more Messier objects for my list, hitting M56 (globular) in Lyra and M70 and M55 (both are globular clusters and M55 is large and very faint in my scope) in Sagittarius.

By about 1 AM, the sky is again completely covered and we all agree to pack up rather than wait for another clearing.



Broad Creek, with 120mm Orion refractor. Roy and Phil in the background, with 16" reflector.

Overall, a disappointing night that did not reach its promise. We had good seeing but the partial cloud cover was a nuisance. I could have found at least another three Messier objects but they were behind clouds. Also, I think there is something wrong with my bug repellent. Five days later, I am still scratching at bites that do not look or feel like mosquito bites and itch like heck. Not sure what got me.

Better than sitting home and watching TV? Maybe. This one would be a tough call.

-Tim Kamel

Observatory Operations

June, 2007

Progress of work at the observatory is continuing. I attended the last open house and found that the Cat 5 lines have been run from the dome, at the scope, down into the storage room next to the class room, and from there into the classroom itself at four wall stations where we have tables and computers set up.

Additional stations can be set up using wireless connections if necessary but we will still need to provide the wireless switch.

We are now set up to run the scope from the classroom if necessary. However, this functionality will not be fully available till we automate the dome, which will take a little longer to accomplish. Otherwise, 2 people need to be in the observatory to move the dome since it still tends to snag at one point and can not be moved by one person.

We have been using the main scope for the open house functions and have also been using it after the last visitor leaves. The scope provides some really impressive views and tracks really well after being pointed to the target. We, however, are having an issue with the GOTO function. The scope does GOTO, but does have a habit of running the back end into the pillar. We understand that there is a way to program the hand controlled to limit its traverse so that it does not hit the mount, but we have it yet.

Any one that knows how to do this, please step up.

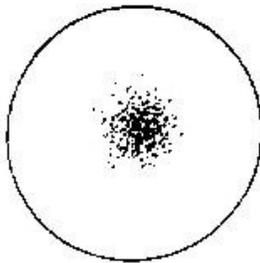
-Tim Kamel

Messier Objects for Summer

By Steve Krall

Steve uses a 10-inch, F/5 reflector unless otherwise noted. The observations were made in Kingsville, Maryland. He prefers the star-hopping method over using a go-to device.

M3:



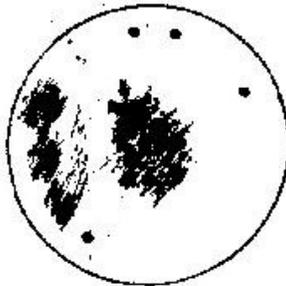
6/15/96, 10:45pm
8" F/6 Reflector, 170x
York, PA.

Somewhat difficult to locate, you will need a very good night to find this spectacular cluster in Canes Venatici. Look for it lying just off a line about halfway from Beta Comae Berenices to Rho Bootis. M3 will appear in a small telescope as a pretty, very large, round, glowing milky-white patch.

The cluster takes magnification very well, revealing a stunning, partially resolved ball of stars, highly concentrated at its center and gradually thinning out to the edge. This is one of the finest globular clusters in the spring and summer skies.

Note: Messier's own telescopes were unable to resolve the cluster, and consequently he described it as "a nebula without a star, gradually fading away[and] round."

M8:



7/31/95, 12:40am, 50x

Commonly known as the Lagoon Nebula, this unusual-looking object is one of the seven diffuse nebulae cataloged by Messier. You can locate M8 in Sagittarius, a treasure-trove of Messier objects, on a clear night when The Teapot's pattern of stars is clearly distinguishable to the naked eye. Look for it by sweeping eight degrees to the west of and a little north of Lambda Sagittarii, where it appears as a very large, irregular-shaped, soft, glowing

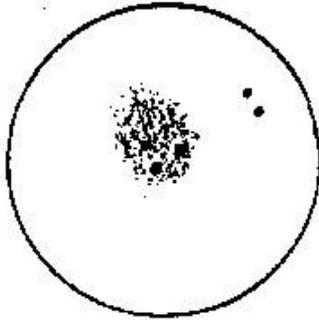
cloud of blue-gray haze.

Higher power with a filter reveals numerous small stars whose lights can barely be seen flickering through the nebulosity. Off to its western edge, somewhat isolated, you can find some more stars. They are brighter and larger but partially hidden. I like to compare the size and splendor of M8 to the Orion Nebula.

While you are here, you would do well to investigate a pair of Messier objects, M20 and M21, lying only a heartbeat away to the north.

Note: Messier described M8 as “a cluster which looks like a nebula in an ordinary telescope, but a good instrument shows a large number of small stars. Appears elongated.”

M11:



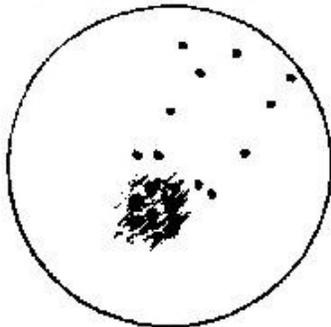
8/17/95, 12:30am, 100x

This beautiful cluster, known also as the Wild Duck Cluster, lying in a dull, vacant part of the sky in Scutum, is one of my favorite Messier objects. They say its light is sufficiently bright enough to be seen with binoculars on a good night if you know exactly where to look. However, really good nights are hard to come by, and you might want to break out your atlas for this one. Look for its comet-like appearance around two degrees southeast of Beta Scuti. There you can find its large assemblage of small

stars along with a pair of large conspicuous stars anchored at one end, cloaked in faint nebosity. This fine cluster is large, very bright and quite compact for an open cluster.

Note: Messier described M11 as “a cluster of a great number of small stars which can be seen in a good telescope. It is mingled with faint light.”

M16:



8/13/95, 10:15pm, 50x

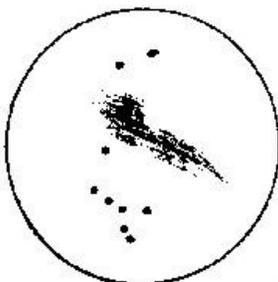
Located in Serpens (Cauda) this loosely-held handful of stars was barely squeezed into the field of my wide-angle low-power eyepiece. M16 features a pair of U-shaped starry arms extending up from its southern end and ending with a beautiful glowing cloud to its north known as the Eagle Nebula. You can find this unusual object by cautiously sweeping about 1/3 of the way from Nu Ophiuchi to Lambda Sagittarii. Carefully assess any sudden brightening on the edge of your field as you track. Although not

as striking as nearby clusters M6 or M7, I like this M16 for its vastness, brightness, and especially for the soft glow of the diffuse emission nebula associated with it.

While you are here you can use M16 as a stepping stone to locate two exotic Messier objects, just a few eye blinks to the south, namely M17 and M18.

Note: Messier described M16 as “a cluster of small stars enmeshed in a faint glow. Appears as a nebula in an inferior [small] telescope.”

M17:



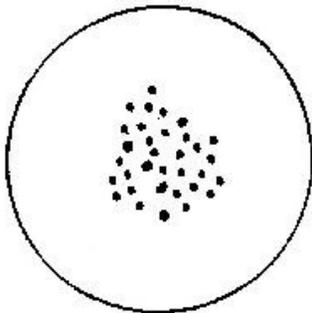
7/31/95, 1:20am, 100x

My first glimpse of this spectacular nebula drifting into my field of view was enough to stop me right there. You can locate this striking figure about halfway on a line drawn from Lambda Sagittarii to Nu Ophiuchi.

M17 appears as many things to many people, but I prefer to compare it to a smoking pipe. It is large, bright, cylindrical in shape and silver-gray in color. It contains a thin dark lane running along its entire length, and terminates in a large, rounded cloud containing a solitary brilliant star. One of the features of this diffuse nebula is its extraordinary appearance when viewed with low power. Consequently, some amateurs consider this to be the most beautiful of all Messier objects.

Note: Messier described M17 as "shaped like a spindle, a little like the Andromeda, but of faint light".

M18:



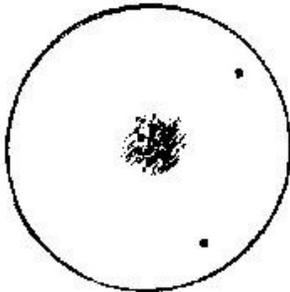
8/16/95, 11:15pm, 50x

Sorting out this cluster in Sagittarius, deep in the heart of the Milky Way's band of swarming stars and dust, may be intimidating. Fortunately, it is not as hopeless as it might appear. You can uncover this cluster in a jiffy, just home in on a line halfway from Lambda Sagittarii, at the top of the Teapot asterism, to Nu Ophiuchi.

M18 is a fairly bright, moderately large, rather loosely-bound cluster containing a mixed bag of six bright stars and numerous fainter ones in an easily recognized teardrop shape.

Note: Messier described M18 as "a cluster of small stars, a little below M17, surrounded by a slight nebulosity."

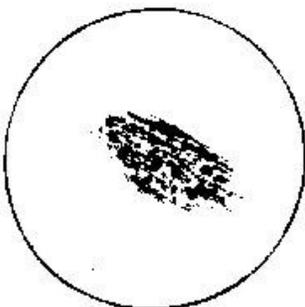
M22:



8/17/95, 12:00am, 100x

When I first glimpsed this globular cluster, using my lowest power, it appeared as a chalky-white nebulous patch, a little brighter toward the center and somewhat larger than the average globular. Stepping up my magnification, I could penetrate its outer gauze-like veil and I resolved many stars. Using highest power, I was elated when I could resolve a myriad of stars spilling out from the core. M22 strongly resembles to Hercules Cluster, M13, but without the overwhelming number of stars. You can easily locate it just east of Lambda Sagittarii.

M24:



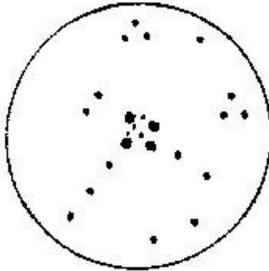
8/16/95, 10:25pm, 50x

This showpiece, commonly known as the "Small Sagittarius Star Cloud" can be found effortlessly even with small telescope. You can track it down just a little to the southwest of M17 and M18, or on a line about halfway between Lambda Sagittarii and Nu

Ophiuchi. It is very large and silver-gray in color. It is also football-shaped and embraces a swarm of diverse sizes of stars. View with low to medium power for best results. Embedded within M24 is the star cluster NGC6603.

M25:

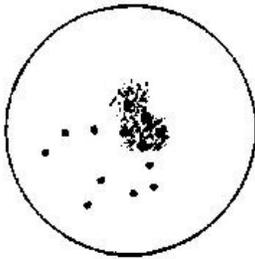
8/16/95, 11:45pm, 50x



A beautiful, moderately sized assemblage of loosely associated stars, large and small, scattered about in disarray. There is a stronger concentration of stars at its center, with its four brightest members arranged in the configuration of a keystone. M25 can be found about 6 degrees northeast of Lambda Sagittarii.

M26:

8/19/95, 10:45pm, 100x

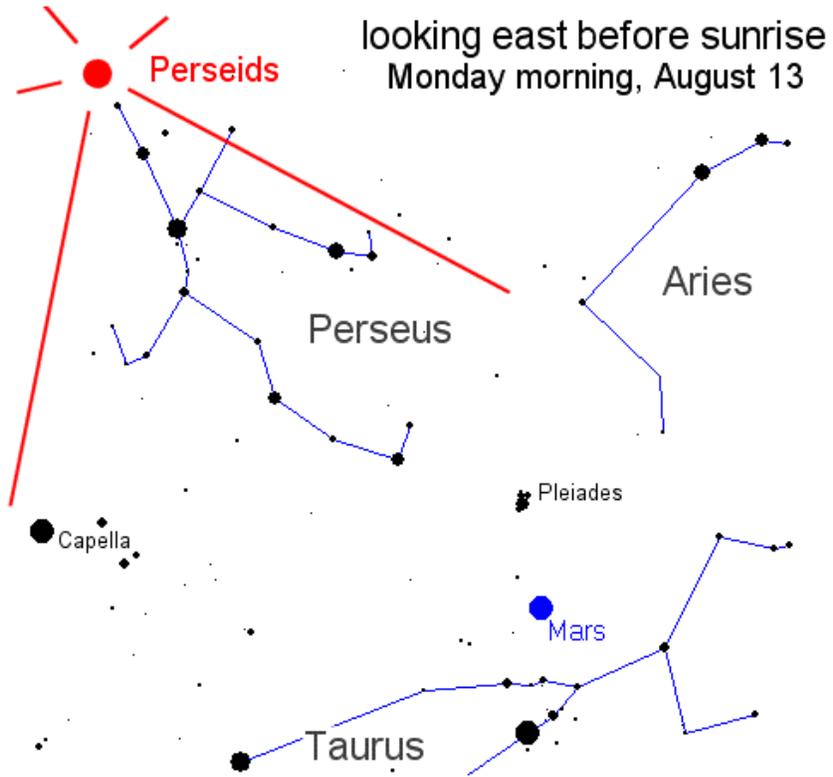


You can locate this open cluster in the obscure constellation of Scutum, enmeshed in the dusty, starry band of the Milky Way. Look for it about a degree or so southeast of the 4th magnitude star Alpha Scuti, where it appears faint but large and elongated. Higher power easily disperses its cloudy veil revealing four bright stars in the center, in a diamond-shaped pattern. Finally adding to complete this cluster are two arms of sparkling stars extending outward in a large semi-circle

from the center .

Note: Messier described M26 as "a cluster of small stars near Alpha and Delta Scuti. Needed a larger instrument – contains no nebulosity."

Perseid Meteor Shower



For more information, see NASA's site at:
http://science.nasa.gov/headlines/y2007/11jul_greatperseids.htm?list134465

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