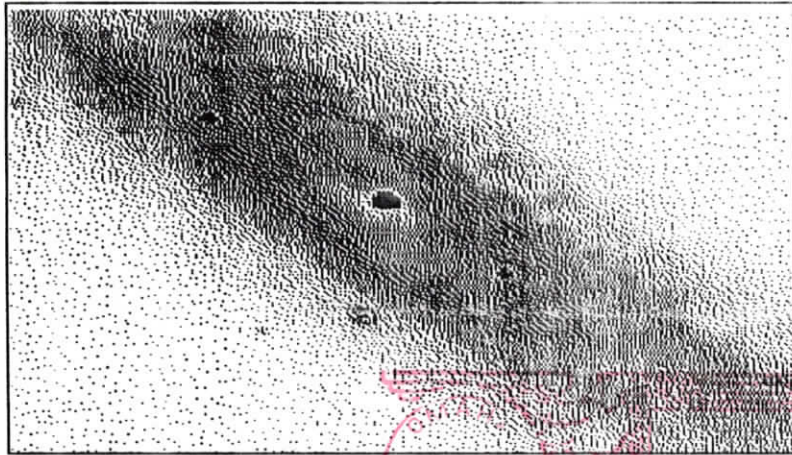


# THE *Prairie Astronomer*

M23 is an often overlooked open cluster which is a fine sight in moderate apertures. Located four degrees west and two north of Mu Sagittarii, this group is both large and rich, with over 100 stars visible in six or eight inch telescopes. A bright star also lies on the north west edge, which should help in identifying the cluster.

As a last sight in the southern Milky-Way, look at the Swan Nebula m17, located five degrees north and 1.5 degrees east of Mu. Even small telescopes will show its elongated shape at low power, with larger instruments adding the "neck" of the swan on the west end. This is another object which responds well to the use of nebular filters, although those with very large telescopes may want to just kick up the power a bit.



## *Recognize this couple?*



Earl and Marjorie Moser will be celebrating their 40th Wedding Anniversary with an Open House Saturday, August 3, from 3:00 p.m. to 5:00 p.m. at the Presbyterian Church in Hickman.

Their children will be hosting the event and ask that you please come and share in this happy Occasion. Your presence will be their gift.

**The Prairie Astronomer**  
c/o The Prairie Astronomy Club, Inc.  
P.O. Box 80553  
Lincoln, NE 68501

First Class Mail

91005 92/04 RT  
John Johnson  
15606 Woolworth Ave.  
Omaha NE 68130

**Next Meeting July 30, 1991**

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## President's Message

by Dave Knisely

We have a number of topics on the agenda at the July club meeting. First, those of you who attended the June meeting know that the Prairie Astronomy Club voted in principle to put a bid for holding the 1993 Astronomical League Mid-States regional convention in Lincoln. This will be a significant undertaking, requiring the help of a large number of club members. To this end, we are now organizing the Convention Committee, a group of individuals who will be shaping the form and content of the 1993 gathering. We will be needing people who will arrange for the convention site, lodging, meals, registration, paper sessions, audio-visual equipment, banquet speaker, tours and star party, and publicity, as well as someone to be chairperson to coordinate things (we already had one volunteer). We will begin to take names of those interested in being on the committee at the next meeting, and the group will meet for the first time before the end of this year. If you are at all interested in helping in any way, please sign up.

The next item on our agenda will be the Prairie Astronomy Club annual Picnic and Star Party, to be held on Saturday, August 10th at Hyde Observatory. We will begin to gather around 5:00 p.m. and eat about six or so, after which (weather permitting) we will head for the Atlas observing site around 8:00 p.m. for the star party. We need to see if the club wants to buy pop for the picnic as it has done in the past, and we will need someone to pick it up. In any case, circle the date on your calendars.

We do have some convention news from the Wichita gathering in June. The next Mid-States Convention will be held next summer in Kansas City, and I expect a good turnout from our club. There is serious talk by those in the Kansas City area of holding a regional star party in 1993, similar to the Texas Star Party. It looks like it will be held in September in a rural area of the Flint hills in east-central Kansas which is now being developed as an observing site. There will be seminars and workshops in the afternoons and observing all night, so if things go as planned, it should be well worth attending. I also have news that the League is now sponsoring two binocular Messier awards. Since many club members have and use only binoculars, it might be a good idea if our club started a binocular Messier group. I will bring the details to the next meeting. See you there. [Also note the center section of this month's newsletter. Ed.]

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The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc., and is free to all club members. Membership status and expiration date are listed on the mailing label. Membership dues are: Junior Members and Newsletter Only Subscribers...\$10/yr; Regular Members...\$26/yr; Family Memberships...\$29/yr. Address all new memberships, renewals, or questions to THE PRAIRIE ASTRONOMY CLUB, INC., P.O. BOX 80553, LINCOLN, NE 68501. For other club information contact one of the following officers: Dave Knisely (Pres)223-3968, Eric Hubl (V.Pres)423-6267, Ron Veys (Sec)486-1449, Lee Thomas (Treas)483-5639, Jack Dunn (2nd V. Pres)475-3013. All newsletter comments and articles should be sent to Newsletter Editor JOHN LORTZ, 12023 PARKER PLZ #105, OMAHA, NE 68154 no later than 10 days before monthly club meetings. Club meetings are held the last Tuesday of each month at Hyde Observatory in Lincoln, NE.

## Observing Chairman's Report

by Dave Knisely



**THE NEXT SCHEDULED START PARTY WILL BE THE CLUB PICNIC ON AUGUST 10TH AT THE ATLAS SITE.** The finest sights in the summer Milky Way are now in prime position for viewing. Binoculars are best for viewing the Sagittarius star clouds, and a good starting point is the large open cluster M7, located about four degrees east and 2.5 degrees north of Upsilon Scorpii. Easily visible to the unaided eye, this cluster consists of 15 or 20 fairly bright stars in an irregular array, with large instruments revealing color in the stars and enhancing the faint background. Its companion cluster, M6, is located to the north-west about five degrees north and one east of Lambda Scorpii. It is much tighter and contains fainter stars than M7, but is much richer. Its outline sometimes seems to resemble that of a butterfly.

One of the highlights of the summer sky is the Lagoon Nebula, M8, located about a degree southeast of 4 Sagittarii. Visible to the naked eye, this object appears as a faint diffuse ball of haze with a fainter patch of light next to it when viewed in small telescopes. Six or eight inch instruments will begin to reveal more faint detail, especially if the narrow band nebular filters are used. The sight in a ten inch equipped with the Lumicon OIII filter is glorious, with much light and dark detail becoming visible. Just over a degree to the north lies another well known nebula, M20, the Trifid nebula. Although visible in binoculars as a faint puff of light around a star, small instruments have difficulty in showing any detail in this object. On a good night, the nebula does show the famous dark lanes when viewed in six inch or larger instruments, but it takes an eight or ten inch to make the detail easy to see. The Lumicon Deep-Sky filter seems to help this object a bit, but so does using a little higher magnification.

Another naked eye object is the small Sagittarius star cloud, M24, located to the northeast of M20. It is best viewed in binoculars or rich field telescopes, and is incredibly rich in stars. In eight or ten inch apertures, strings of stars run through the field, and dark nebulosity becomes obvious. This object also contains the small open star cluster NGC 6603, which lies near the north end of the star cloud. This cluster is resolvable in eight or ten inch apertures and shows an unusual line of very faint stars running north to south through the center of the group.

If you like globular clusters, then look half a degree east of 24 Sagittarii for M22, a large and bright object which is easy to see in binoculars. Three or four inch apertures will begin to show some of the component stars, with the sight in larger instruments being breathtaking. This is one of the easier globulars to resolve in amateur telescopes, since the cluster is fairly loose.



# THE ASTRONOMICAL LEAGUE'S BINOCULAR MESSIER CLUB



## APPENDIX C

### THE MESSIER LIST (continued)

#### IV. THE MID-SUMMER GROUP

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
5236	13 37.1	-29 52	8.5	Gal	Hya	11"x10'	83
5904	15 18.6	2 05	7.0	GCl	Ser	17.4'	5
5866	15 06.5	55 45	10.5	Gal	Dra	5.2'x2.3'	102
6205	16 41.7	36 28	7.0	GCl	Her	16.6'	13
6341	17 17.1	43 08	7.5	GCl	Her	11.2'	92
6333	17 19.2	-18 31	9.0	GCl	Oph	9.3'	9
6254	16 57.1	-4 06	7.5	GCl	Oph	15.1'	10
6218	16 47.2	-1 57	8.0	GCl	Oph	14.5'	12
6402	17 37.6	-3 15	9.5	GCl	Oph	11.7'	14
6273	17 02.6	-26 16	8.5	GCl	Oph	13.5'	19
6266	17 01.2	-30 07	8.0	GCl	Oph	14.1'	62
6171	16 32.5	-13 03	10.0	GCl	Oph	10.0'	107
6121	16 23.6	-26 32	7.5	GCl	Sco	26.3'	4
6093	16 17.0	-22 59	8.5	GCl	Sco	8.9'	80
6405	17 40.1	-32 13	4.5	OCl	Sco	15.0'	6
6475	17 53.9	-34 49	3.5	OCl	Sco	80.0'	7

#### V. THE LATE SUMMER GROUP (continued)

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
6637	18 34.4	-32 21	9.0	GCl	Sgr	7.1'	69
6681	18 43.2	-32 18	9.0	GCl	Sgr	7.8'	70
6864	20 06.1	-21 55	9.5	GCl	Sgr	6.0'	75

#### VI. THE FALL AND EARLY WINTER GROUP

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
6779	19 16.6	30 11	9.5	GCl	Lyr	7.1'	56
6720	18 53.6	33 02	9.5	PIN	Lyr	85.6"x61.6"57	
6913	20 23.9	38 32	9.0	OCl	Cyg	7.0'	29
7092	21 32.2	48 26	5.5	OCl	Cyg	32.0'	39
6853	19 59.6	22 43	7.5	PIN	Vul	480"x340"	27
6838	19 53.8	18 47	8.5	GCl	Sge	7.2'	71
7099	21 40.4	-23 11	8.5	GCl	Cap	11.0'	30
7089	21 33.5	-0 49	7.5	GCl	Aqr	12.9'	2
6981	20 53.5	-12 32	10.0	GCl	Aqr	5.9'	72
6994	20 59.0	-12 38	9.0	OCl	Aqr	2.8'	73
7078	21 30.0	12 10	7.5	GCl	Peg	12.3'	15
628	1 36.6	15 48	10.5	Gal	Psc	10.2'x9.5'	74
1068	2 42.7	-0 02	10.5	Gal	Cet	7' x 6'	77

C/N = cluster and nebula  
 Dbl = double star  
 DfN = diffuse nebula  
 Gal = galaxy  
 GCl = globular cluster  
 OCl = open cluster  
 PIN = planetary nebula

#### V. THE LATE SUMMER GROUP

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
6705	18 51.1	-6 16	7.0	OCl	Sct	14.0'	11
6694	18 45.2	-9 24	9.5	OCl	Sct	15.0'	26
6611	18 18.8	-13 47	6.5	C/N	Ser	7.0'	16
6618	18 20.8	-16 11	7.0	C/N	Sgr	11.0'	17
6613	18 19.9	-17 08	8.0	OCl	Sgr	9.0'	18
6603	18 18.4	-18 25	11.5	OCl	Sgr	5.0'	24
6514	18 02.3	-23 02	5.0	C/N	Sgr	28.0'	20
6531	18 04.6	-22 30	7.0	OCl	Sgr	13.0'	21
6523	18 03.1	-24 23	5.0	C/N	Sgr	60' x 35'	8
6656	18 36.4	-29 54	6.5	GCl	Sgr	24.0'	22
6626	18 24.5	-24 52	8.5	GCl	Sgr	11.2'	28
6494	17 56.8	-19 01	6.0	OCl	Sgr	27.0'	23
4725	18 28.8	-19 17	4.9	OCl	Sgr	40.0'	25
6715	18 55.1	-30 29	8.5	GCl	Sgr	9.1'	54
6809	19 40.0	-30 58	7.0	GCl	Sgr	19.0'	55



Please put in newsletter!



# THE ASTRONOMICAL LEAGUE'S BINOCULAR MESSIER CLUB



by John Wagoner

## Texas Astronomical Society of Dallas

### INTRODUCTION

The Astronomical League is pleased to introduce its new Binocular Messier Club. The Binocular Messier Club is for beginning observers as well as experienced amateurs. Beginning observers will find that it doesn't take an expensive telescope but only a simple pair of binoculars, no matter what size, cost or condition, to do serious astronomy. On the other hand, experienced amateurs, even though they may already have the AL's telescopic Messier and Herschel certificates, will enjoy the new perspective binocular observing gives them as they pull back from an object and observe the area around that object as well as the object itself. Seeing the object and its relationship to the sky around it will put that object in its proper context in the sky.

### RULES AND REGULATIONS

To qualify for the AL's Binocular Messier Certificate, you need only be a member of the Astronomical League, through either an affiliated club or as a member-at-large, and observe 50 or more Messier objects using only binoculars. Any 50 of the 110 recognized Messier objects may be observed. Any pair of binoculars may be used, but those with objectives between 20MM and 80MM in diameter are recommended. To record your observations, you may use the log sheets found in the back of the Astronomical League's manual *Observe: A Guide to the Messier Objects*, or any similar log sheet. To receive your Binocular Messier Certificate, simply send your observations along with your name, address, phone number, and club affiliation to:

John Wagoner,  
 AL Binocular Coordinator  
 1409 Sequoia Dr.  
 Plano, Tx. 75023  
 (214) 422-1886

Upon verification of your observations, your certificate will be forwarded either to you or your club's "Awards Co-ordinator," whomever you choose.

### THE APPENDICES

For those of you who are uncertain as to which Messier objects to observe, or who need a formal program to follow,

we have included *Appendix A* and *Appendix B* for your use. *Appendix A* is for binoculars between 20MM and 50MM in diameter. *Appendix B* is for binoculars between 56MM and 80MM in diameter. Each appendix lists the appropriate Messier objects that can be observed with that size instrument, and is divided into three categories: Easy, Tough, and Challenge objects. Easy objects are those that appear large and bright in the field of view, and are easily located. Tougher objects are small and dim in the field of view and require identifying the fields around them with the help of some sort of star chart to verify their location. Challenge objects are those that are small and faint, sometimes requiring averted vision, and need to be pinpointed exactly on a good star atlas to identify.

You'll notice that in the small binocular category (*Appendix A*), 42 objects are classified as easy. You need only choose 8 of the objects in the tougher category to receive your certificate. For larger binoculars (*Appendix B*), all 50 objects needed to receive the certificate can be chosen out of the easy category. The point is that anyone, with any pair of binoculars, no matter what their size, shape, condition, or cost, can do serious astronomy, and acquire a Binocular Messier Club certificate. To prove that point, all 76 objects in *Appendix A* (Easy, Tough, and Challenge objects) were observed with a pair of 7x35 Tasco binoculars purchased at Wal-Mart for \$19.00.

*Appendix C* is for reference purposes, listing all 110 of the Messier objects at the times when they are best observed, and in constellation sequence. So, if you are wondering what is the best time of the year to observe a Messier object, refer to *Appendix C*. *Appendix C* tells you which season to observe each object, each object's coordinates, their NGC numbers, the constellation they are located in, and their sizes and magnitudes. Also, *Appendix C* lists all of the Messier objects in the exact same order as the Astronomical League's *Observe* manual *Observe: A Guide to the Messier Objects*, in case you are using that as an observing aid.

I look forward to your sharing your binocular Messier observations with me. I think you will find that this is a worthwhile program that will not only give you a whole new perspective on the universe in which we live, but a more comfortable feeling for the night sky that we all enjoy so much. Good luck.

Clear skies and good observing.



# THE ASTRONOMICAL LEAGUE'S BINOCULAR MESSIER CLUB



## APPENDIX A

7x35, 7x50, AND 10x50 BINOCULARS

### I. EASY MESSIER OBJECTS:

2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 22, 23, 24,  
25, 27, 29, 31, 34, 35, 36, 37, 38, 39, 41, 42, 44, 45, 46,  
47, 48, 50, 52, 55, 67, 92, 93, 103

TOTAL = 42

### II. TOUGHER MESSIER OBJECTS:

14, 19, 28, 30, 33, 40, 49, 53, 62, 63, 64, 78, 79, 80, 81,  
82, 83, 94

TOTAL = 18

### III. CHALLENGE MESSIER OBJECTS:

1, 9, 26, 32, 51, 54, 56, 65, 66, 68, 71, 75, 97, 101, 104,  
106

TOTAL = 16

GRAND TOTAL = 76

### I. EASY MESSIER OBJECTS:

2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 22,  
23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 37, 38,  
39, 40, 41, 42, 44, 45, 46, 47, 48, 50, 52, 53, 55, 62, 67,  
71, 78, 79, 80, 81, 82, 92, 93, 94, 103

TOTAL = 58

### II. TOUGHER MESSIER OBJECTS:

1, 9, 33, 49, 51, 54, 56, 60, 61, 63, 64, 65, 66, 68, 75, 77,  
83, 87, 97, 101, 102, 104, 106

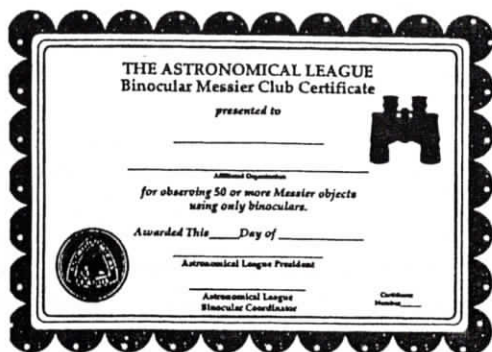
TOTAL = 33

### III. CHALLENGE MESSIER OBJECTS:

20, 58, 59, 69, 70, 72, 84, 85, 86, 88, 89, 90, 95, 96, 99,  
100, 105, 107, 108, 109, 110

TOTAL = 21

GRAND TOTAL = 102



# THE ASTRONOMICAL LEAGUE'S BINOCULAR MESSIER CLUB



## APPENDIX C

### THE MESSIER LIST

#### I. THE WINTER GROUP

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
224	042.8	41 16	4.5	Gal	And	178'	31
221	042.8	40 52	10.0	Gal	And	8'x6'	32
205	040.4	41 41	10.0	Gal	And	17'x10'	110
598	133.9	30 40	7.0	Gal	Tri	73'x45'	33
7654	23 24.2	61 35	8.0	OCI	Cas	13.0'	52
581	133.2	60 42	7.0	OCI	Cas	6.0'	103
1039	242.0	42 47	6.0	OCI	Per	35.0'	34
650	142.4	51 34	12.0	PIN	Per	163"x107"	76
1952	534.5	22 01	9.0	PIN	Tau	6x4'	1
1432	347.0	24 07	1.4	OCI	Tau	110.0'	45
1960	536.1	34 08	6.5	OCI	Aur	12.0'	36
2099	552.4	32 33	6.0	OCI	Aur	24.0'	37
1912	528.7	35 50	7.0	OCI	Aur	21.0'	38
1976	535.3	-5 23	5.0	DfN	Ori	85'x60'	42
1982	535.5	-5 16	7.0	DfN	Ori	20'x15'	43
2068	546.8	0 04	8.0	DfN	Ori	8'x6'	78
1904	524.5	-24 33	8.5	GCI	Lep	8.7'	79
2168	608.9	24 20	5.5	OCI	Gem	28.0'	35
2323	703.2	-8 20	7.0	OCI	Mon	16.0'	50
2287	647.0	-20 44	5.0	OCI	CMa	38.0'	41
2437	741.8	-14 49	6.5	OCI	Pup	27.0'	46
2422	736.6	-14 30	4.5	OCI	Pup	30.0'	47
2447	744.6	-23 05	6.5	OCI	Pup	22.0'	93

#### II. THE EARLY SPRING GROUP

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
2632	840.1	19 59	4.0	OCI	Cnc	95.0'	44
2682	850.4	11 49	7.5	OCI	Cnc	30.0'	67
2548	813.8	-5 48	5.5	OCI	Hya	54.0'	48
3031	955.6	69 40	8.5	Gal	UMa	21'x10'	81
3034	955.9	69 41	9.5	Gal	UMa	9'x4'	82
3587	11 14.8	55 01	12.0	PIN	UMa	202"x196"	97
3556	11 11.6	55 41	11.0	Gal	UMa	8'x1'	108
3992	11 57.6	53 23	11.0	Gal	UMa	7'x4'	109
5457	14 03.3	54 22	8.5	Gal	UMa	22.0'	101

#### II. THE EARLY SPRING GROUP (continued)

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
WIN4	12 20.0	58 22	9.0	Dbl	UMa	49"	40
3623	11 18.9	13 06	10.5	Gal	Leo	8'x1.5'	65
3627	11 20.2	13 00	10.0	Gal	Leo	8'x2.5'	66
3351	10 43.9	11 42	11.0	Gal	Leo	4.4'x3.3'	95
3368	10 46.7	11 49	10.5	Gal	Leo	6'x4'	96
3379	10 47.8	12 35	11.0	Gal	Leo	2.0'	105
5272	13 42.2	28 23	7.0	GCI	CVn	16.2'	3
5194	13 30.0	47 11	8.0	Gal	CVn	11'x7'	51
5055	13 15.8	42 02	8.5	Gal	CVn	10'x6'	63
4736	12 50.9	41 08	9.5	Gal	CVn	7'x3'	94
4258	12 18.9	47 19	9.5	Gal	CVn	19'x8'	106

#### III. THE LATE SPRING GROUP

NGC#	R.A.	Dec	Mag	Typ	Con	Size	Messier
4472	12 29.8	8 01	10.0	Gal	Vir	9'x7.5'	49
4579	12 37.8	11 50	11.0	Gal	Vir	5.5'x4.5'	58
4621	12 42.1	11 39	11.5	Gal	Vir	5'x3.5'	59
4649	12 43.7	11 34	10.5	Gal	Vir	7'x6'	60
4374	12 25.1	12 54	11.0	Gal	Vir	5.0'	84
4406	12 26.3	12 57	11.0	Gal	Vir	7.5'x5.5'	86
4486	12 30.9	12 24	11.0	Gal	Vir	7.0'	87
4552	12 35.7	12 34	11.5	Gal	Vir	4.0'	89
4569	12 36.9	13 10	11.0	Gal	Vir	9.5'x4.5'	90
4303	12 22.0	4 29	10.5	Gal	Vir	6'x5.5'	61
4594	12 39.9	-11 37	9.5	Gal	Vir	9'x4'	104
5024	13 12.9	18 10	8.5	GCI	Com	12.6'	53
4826	12 56.7	21 41	9.0	Gal	Com	9.3'x5.4'	64
4382	12 25.5	18 12	10.5	Gal	Com	7.1'x5.2'	85
4501	12 32.1	14 26	11.0	Gal	Com	7'x4'	88
4192	12 13.9	14 55	11.0	Gal	Com	9.5'x3.2'	98
4254	12 18.9	14 26	10.5	Gal	Com	5.4'x4.8'	99
4321	12 23.0	15 50	10.5	Gal	Com	7'x6'	100
4548	12 35.5	14 30	11.5	Gal	Com	5.4'x4.4'	91
4590	12 39.5	-26 45	9.0	GCI	Hya	12.0'	68