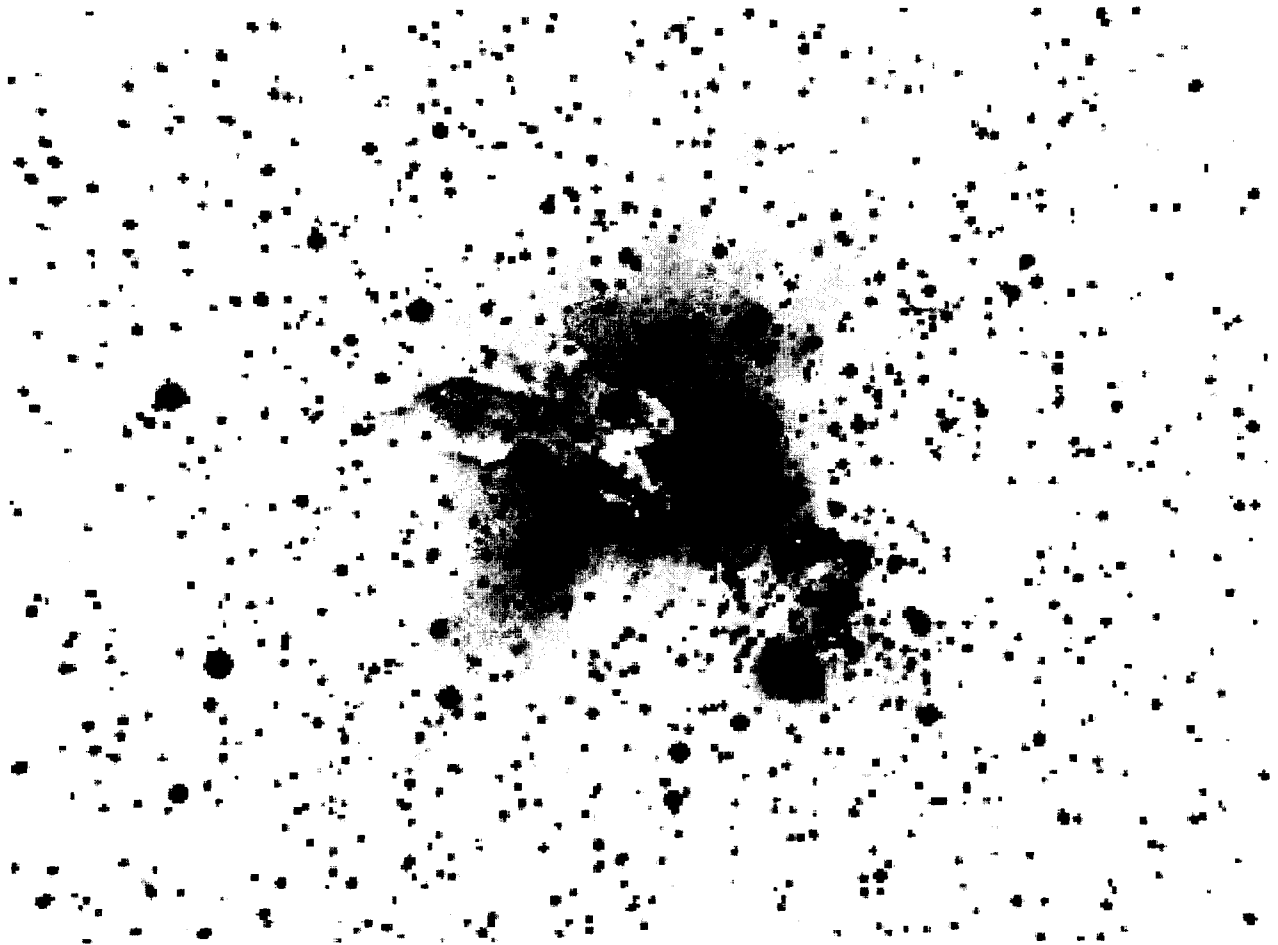


# Telescopic Companion to the Messier Objects



by Roger Fell

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This book was written to provide an easy-to-use resource for use at the eyepiece. The charts are laid out with a 30-degree chart oriented North up, for naked eye use. They are followed by 6-degree charts with a limiting magnitude of tenth magnitude for more precise zeroing with your finder. These charts are in two formats, North down direct view, and North down mirrored view for those that use a diagonal with their finder. Under these are 1-degree charts plotted to the twelfth magnitude with all deep sky symbols and names removed. These are for sketching purposes.

At the top of the page, you'll find a small area that contains information on the object. The comments are based on what can be seen with a 6-inch telescope. Larger scopes will show more detail and colour. Distances are in thousands of light years.

The charts are formatted to fit a three-ring binder for several reasons. The main reason is that the Messier catalog's numbering system has no relation to the objects position in the sky. It is more related to the time of historical discovery. I also wanted to leave the book as adaptable as possible. Possible uses are for laying out the charts in a sequence for a messier marathon, or just selecting the sheets that would be used on one night. The charts are only printed on one side of the paper for similar reasons, also to leave space for comments or sketches that wouldn't fit on the chart. The exception is where an object is quite large, in this case, a larger chart is printed on the back of the page. Objects that fit into this category are M24, M31, M33, M42, M44 and M45.

Also included are a checklist, Messier's sorted by Right Ascension, and large scale finder charts to aid in observing. A total of 554 charts are contained within.

The charts were generated using David Chandlers software Deep Space version 5.5. The Skymap database, courtesy of the National Space Science Data Center, was used for the naked eye charts, and the tenth magnitude charts. The Hubble Guide Star catalog was used for the twelfth magnitude charts. If you are impressed with the charts David can be contacted at: dschandler@frumble.claremont.edu or <http://www.esz.com/dschandler>  
Shareware versions of the software are available there. For those without electronic access:  
David Chandler Co., P. O. Box 309, La Verne, CA 91750.

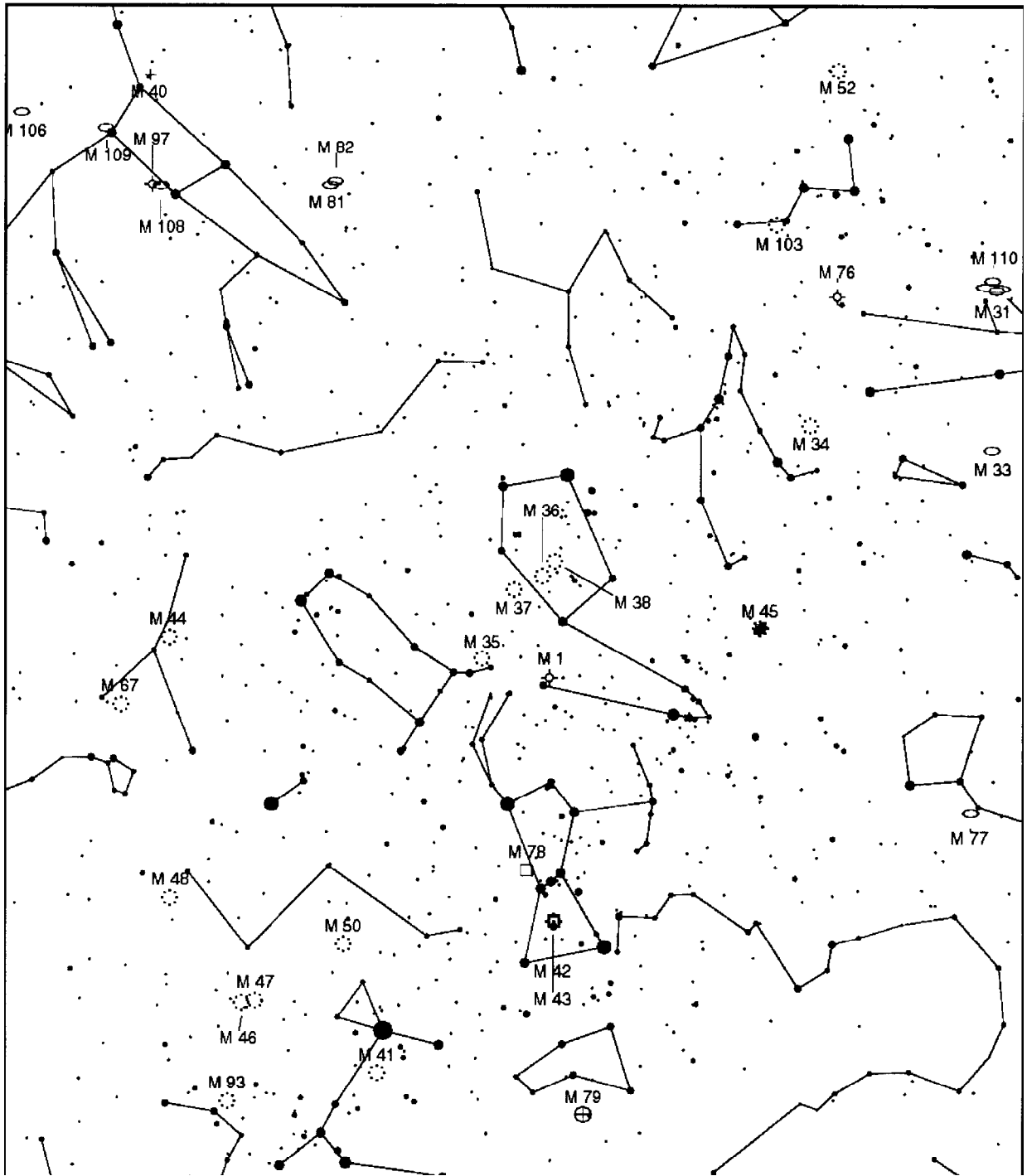
Other sources of information:  
Burnham's Celestial Handbook, Vol. 1-3, Robert Burnham, Jr.  
The Messier Album, Mallas and Kreimer  
Observer's Handbook, R.A.S.C., Roy Bishop editor  
[///www.seds.org](http://www.seds.org)  
Personal observations made with a 6" F8 telescope.

A special thanks to my family, who put up with me hogging the computer for several months, plus long periods of preoccupation (most of the summer) while I worked on this project. Also, thanks to the members of the Edmonton Centre of the R.A.S.C. who gave many suggestions and extra ideas of what should be included in this second edition of the book.

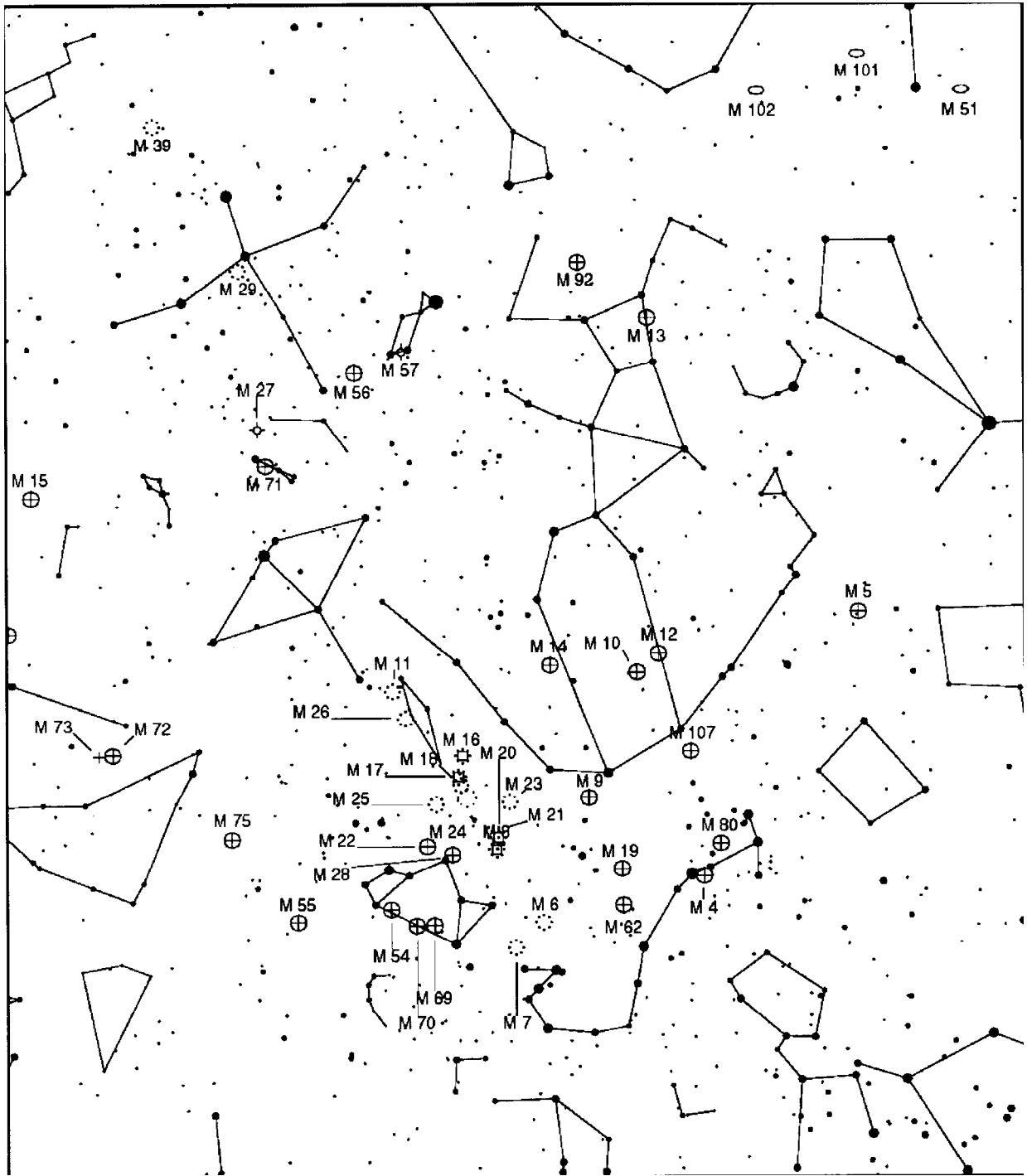
Please send comments, criticisms, and suggestions to  
rfell@agt.net or Roger Fell, 5610 - 49A St., Vegreville, Alberta, T9C - 1K4.  
November 11, 1996

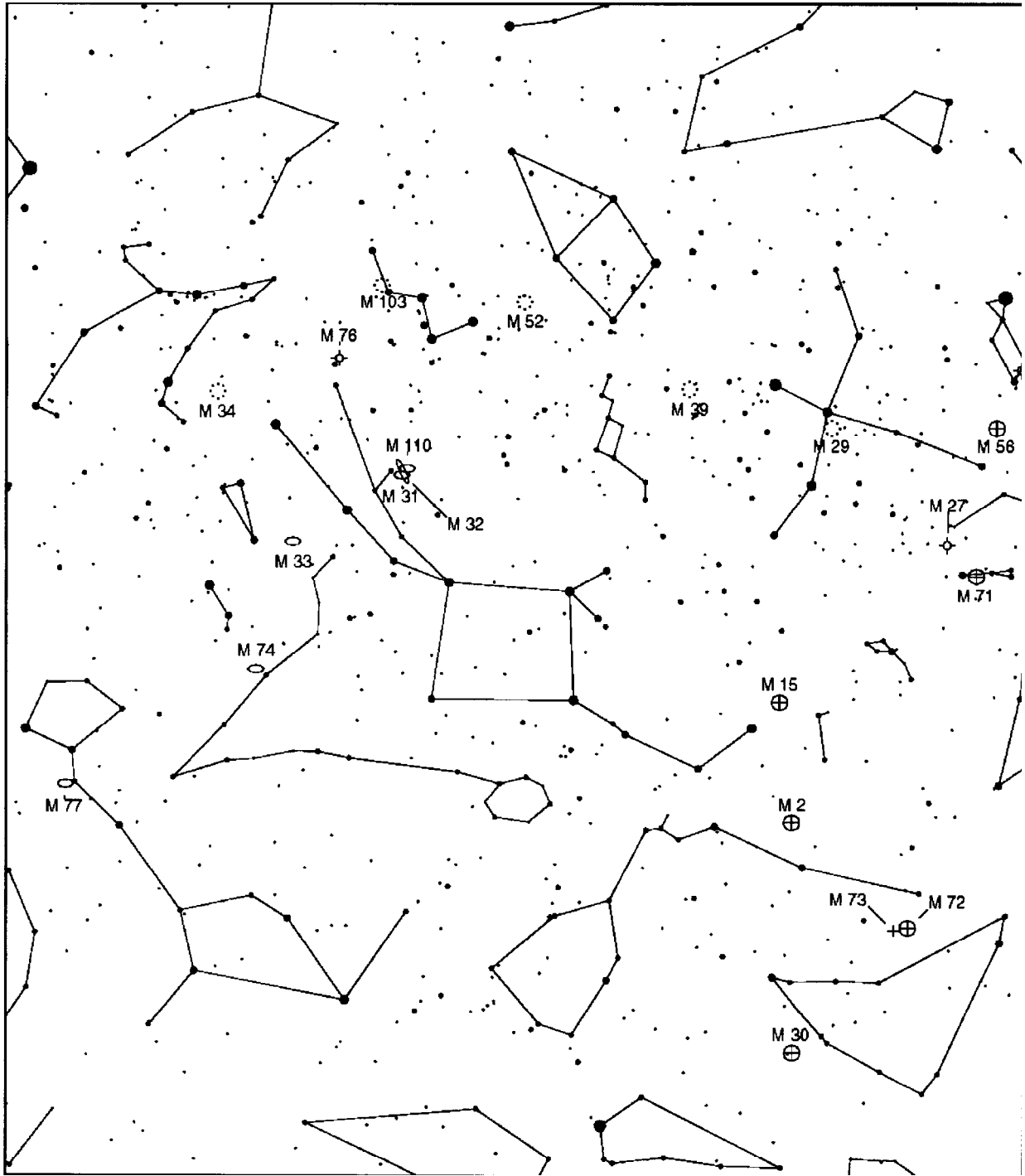
M1 _____	M29 _____	M57 _____	M85 _____
M2 _____	M30 _____	M58 _____	M86 _____
M3 _____	M31 _____	M59 _____	M87 _____
M4 _____	M32 _____	M60 _____	M88 _____
M5 _____	M33 _____	M61 _____	M89 _____
M6 _____	M34 _____	M62 _____	M90 _____
M7 _____	M35 _____	M63 _____	M91 _____
M8 _____	M36 _____	M64 _____	M92 _____
M9 _____	M37 _____	M65 _____	M93 _____
M10 _____	M38 _____	M66 _____	M94 _____
M11 _____	M39 _____	M67 _____	M95 _____
M12 _____	M40 _____	M68 _____	M96 _____
M13 _____	M41 _____	M69 _____	M97 _____
M14 _____	M42 _____	M70 _____	M98 _____
M15 _____	M43 _____	M71 _____	M99 _____
M16 _____	M44 _____	M72 _____	M100 _____
M17 _____	M45 _____	M73 _____	M101 _____
M18 _____	M46 _____	M74 _____	M102 _____
M19 _____	M47 _____	M75 _____	M103 _____
M20 _____	M48 _____	M76 _____	M104 _____
M21 _____	M49 _____	M77 _____	M105 _____
M22 _____	M50 _____	M78 _____	M106 _____
M23 _____	M51 _____	M79 _____	M107 _____
M24 _____	M52 _____	M80 _____	M108 _____
M25 _____	M53 _____	M81 _____	M109 _____
M26 _____	M54 _____	M82 _____	M110 _____
M27 _____	M55 _____	M83 _____	
M28 _____	M56 _____	M84 _____	











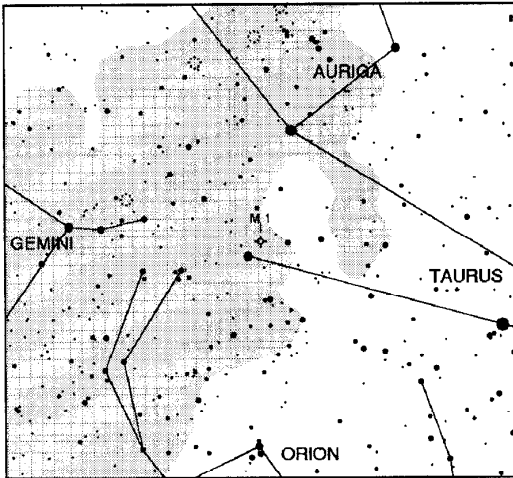


M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
1	1952 Tau	05 34.5	22 01	9.0	6 x 4	SNR	6.3k	Crab Nebula

M1

M1 - It is a hazy patch in small telescopes, large scopes can resolve some detail. With oxygen-III filter, filaments can be seen, obvious dark areas, oval shape dominates. Strongly polarized light, try polarizing filter to see if shape changes with rotation in larger scopes. Supernova remnant of 1054.

Messier objects on 30 degree chart: 35, 36, 37, 38



30 degree field, North up

Notes: \_\_\_\_\_

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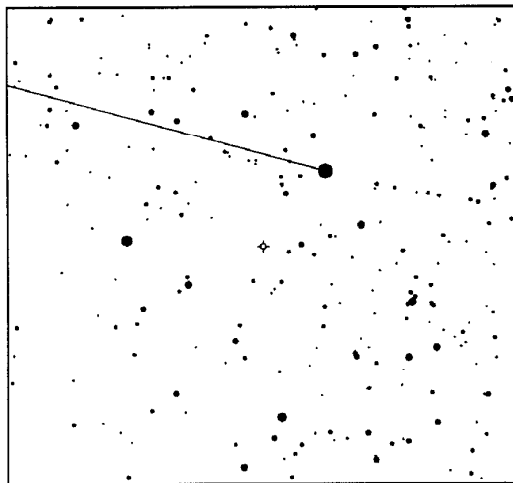
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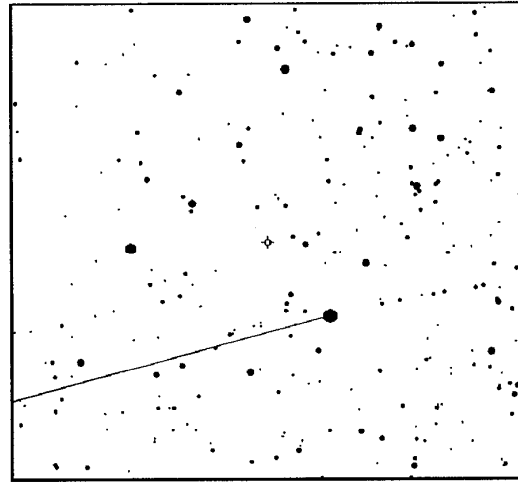
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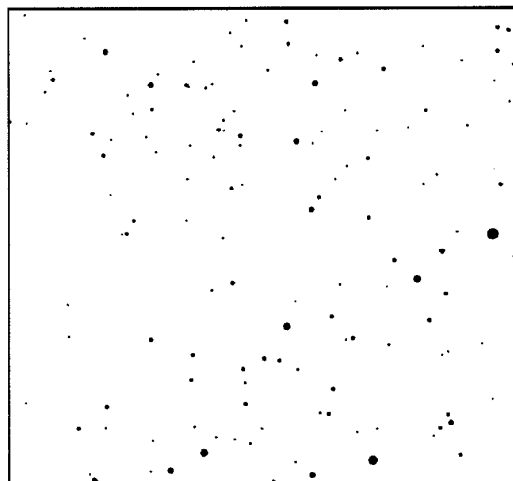
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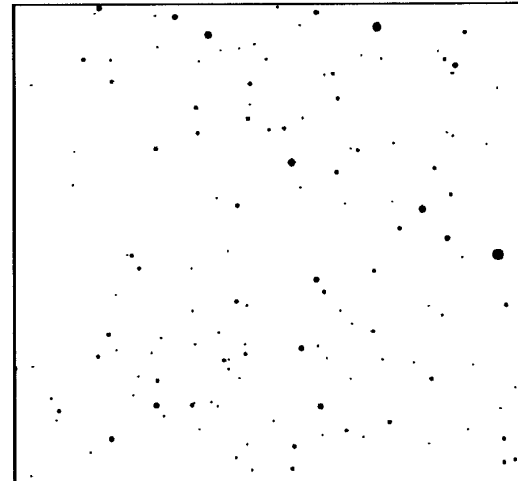
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



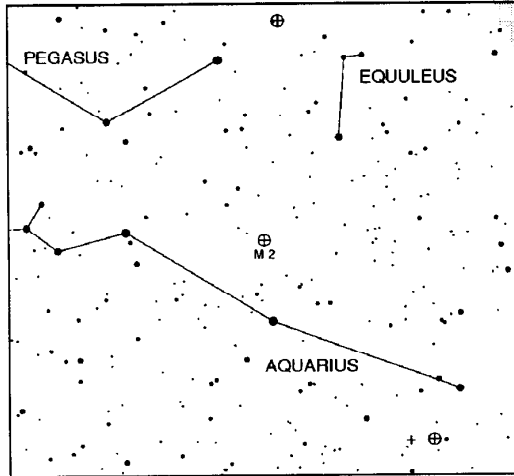
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
2	7089	Aqr	21 33.5	-00 49	6	7	GCI	50k	

# M 2

M2 - classic globular, look for dark lane that crosses NE corner of cluster.

Messier objects on 30 degree chart: 15, 72, 73



30 degree field, North up

Notes: \_\_\_\_\_

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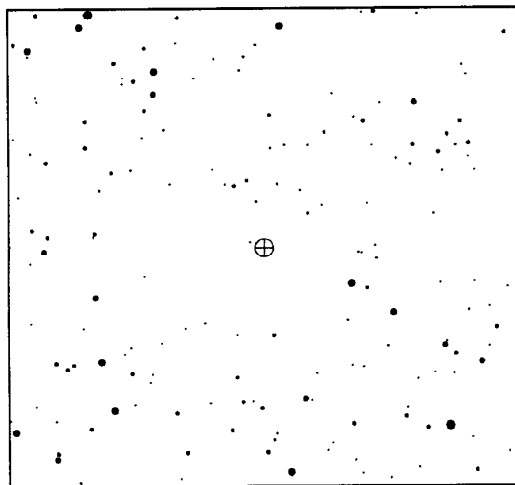
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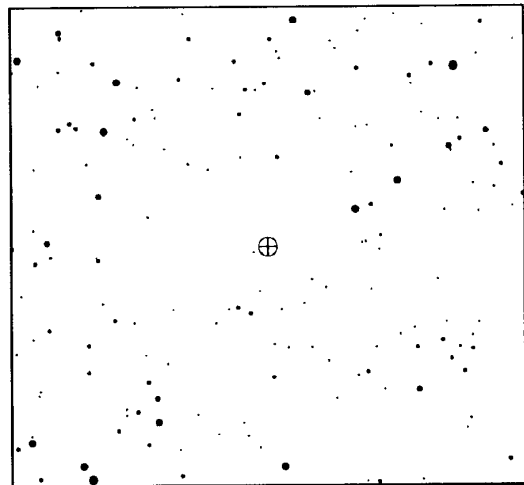
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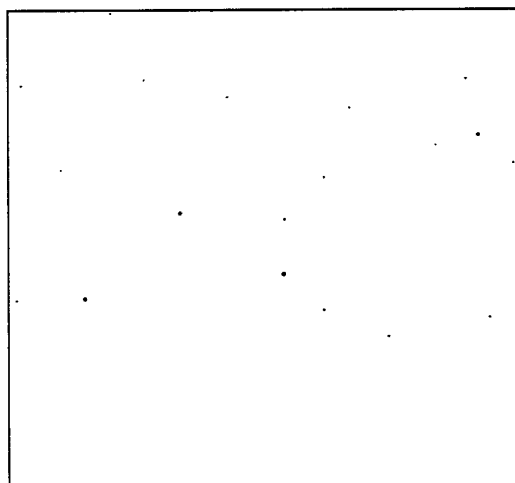
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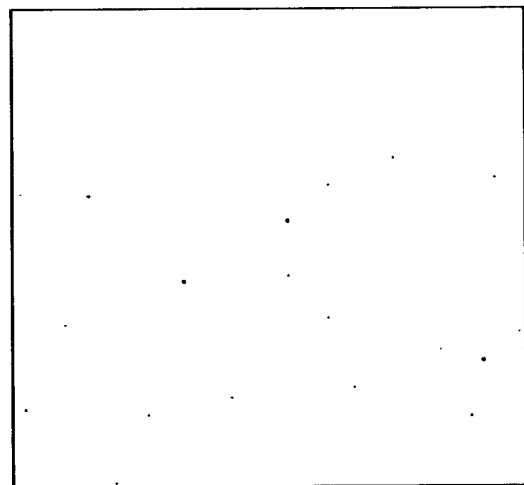
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



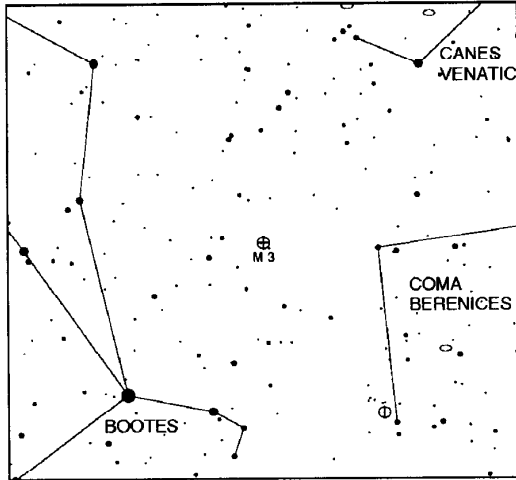
1 degree field, North up, Mirrored

# M3

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
3	5272	Cvn	13 42.2	28 23	7.0	18	GCl	35k	

M3 - thousands of stars, bright triangle of stars in middle, with streamers of stars that radiate away from the cluster. Look for dark obscuring patches in the central mass.

Messier objects on 30 degree chart: 53, 63, 64, 94



30 degree field, North up

Notes: \_\_\_\_\_

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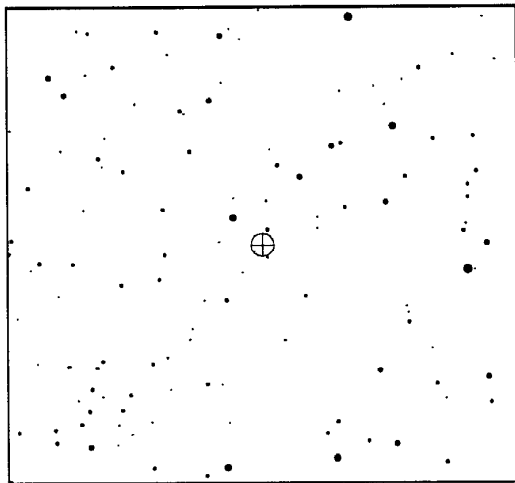
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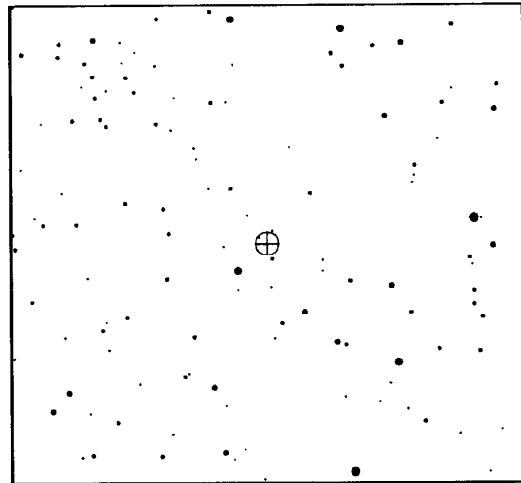
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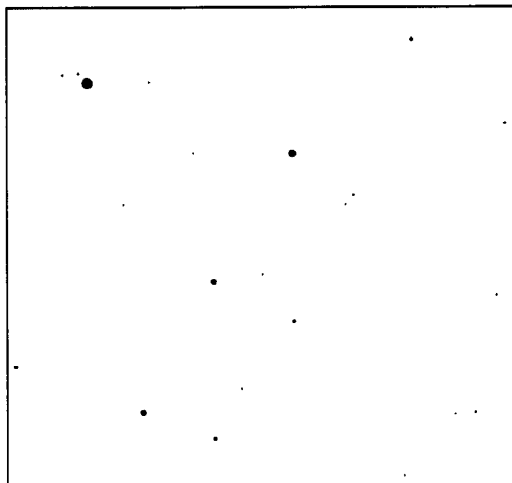
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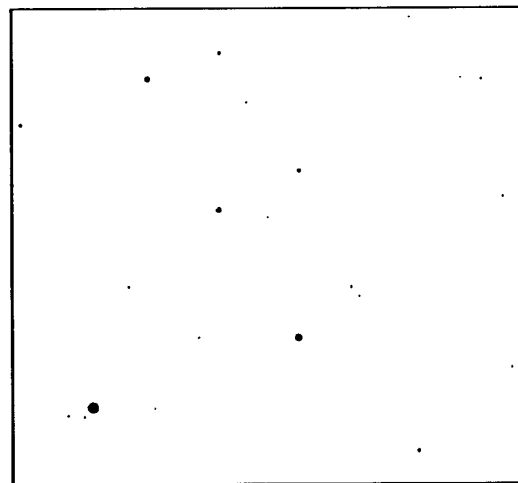
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



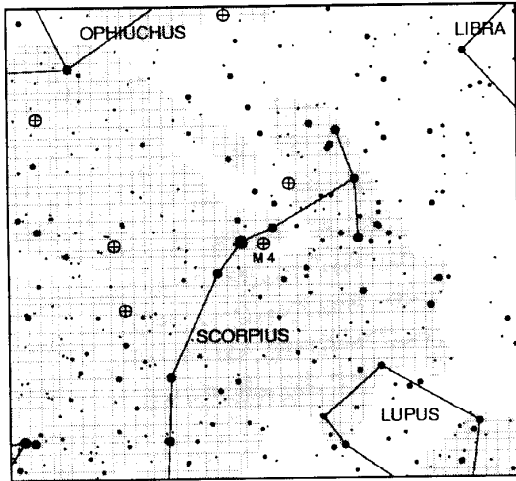
1 degree field, North up, Mirrored

# M 4

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
4	6121	Sco 16 23.6	-26 32	6.5	25	GCl	6.2k	

M4 - the trade mark of this globular is a line of bright stars crossing the center.

Messier objects on 30 degree chart: 9, 19, 62, 80, 107



30 degree field, North up

Notes: \_\_\_\_\_

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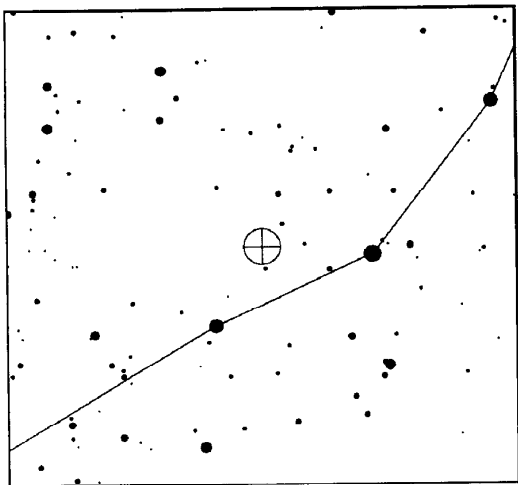
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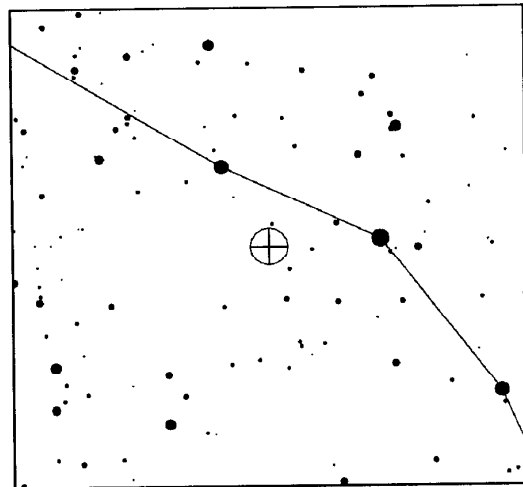
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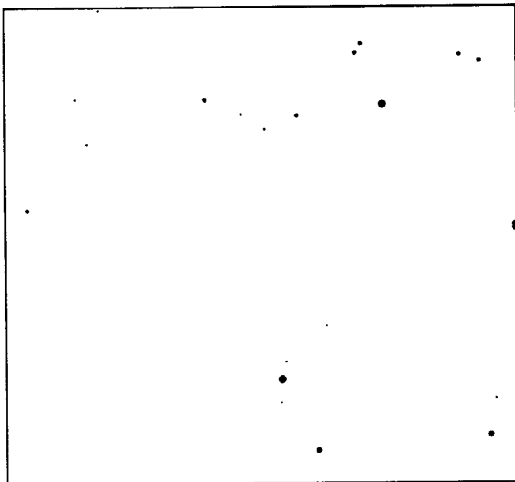
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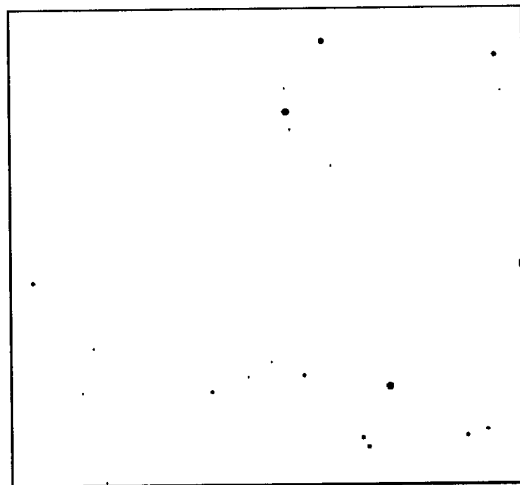
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



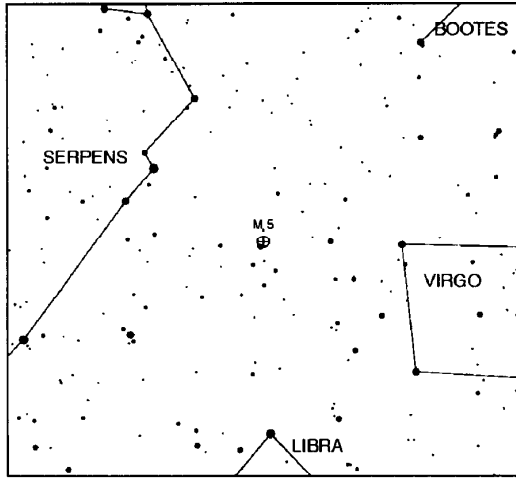
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
5	5904	Ser	15 18.6	02 05	7.0	20	GCl	26k	

# M 5

M5 - more condensed than M3; off-center nucleus, somewhat triangular, streamers of stars resemble spiders legs; bright core

Messier objects on 30 degree chart: none



30 degree field, North up

Notes: \_\_\_\_\_

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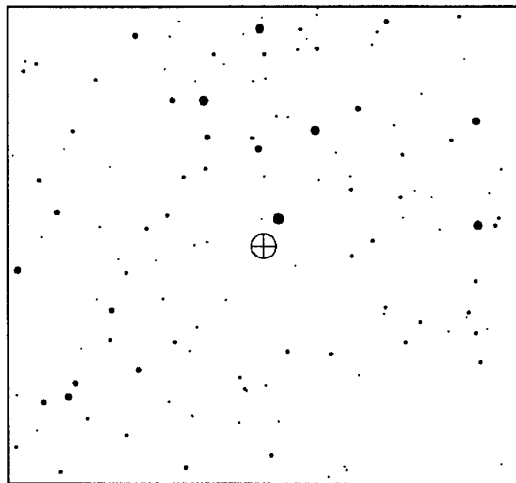
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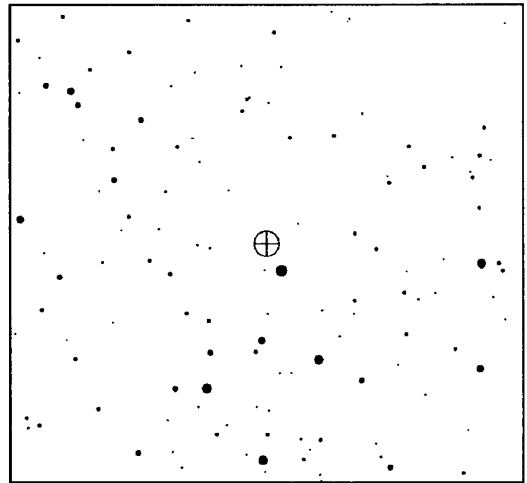
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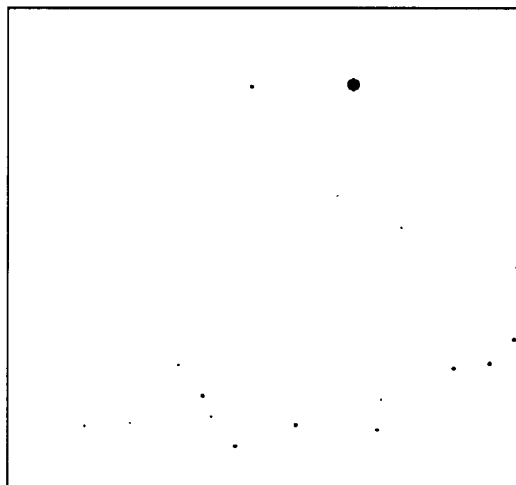
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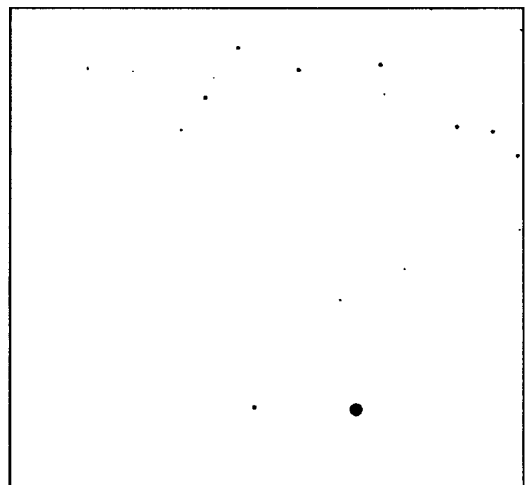
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



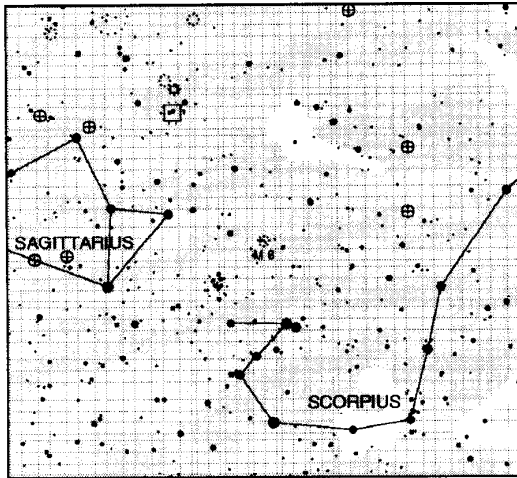
1 degree field, North up, Mirrored

# M 6

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
6	6405	Sco	17 40.1	-32 13	4.5	25	OCI	1.3k	Butterfly Cluster

M6- chains of stars; Christmas tree asterism near center; nicest in low power wide angle eyepieces. General shape suggests a butterfly.

Messier objects on 30 degree chart: 7, 8, 9, 19, 20, 21, 22, 23, 24, 25, 28, 62, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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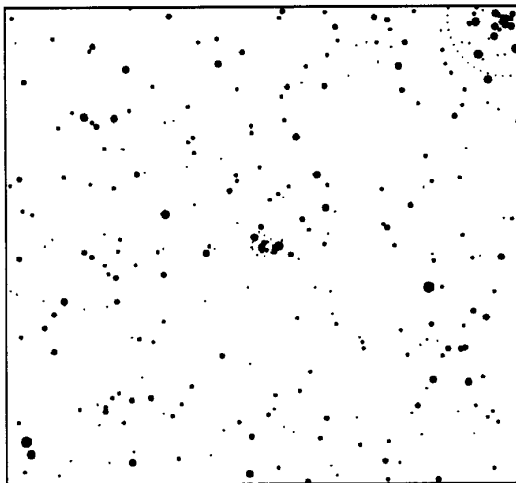
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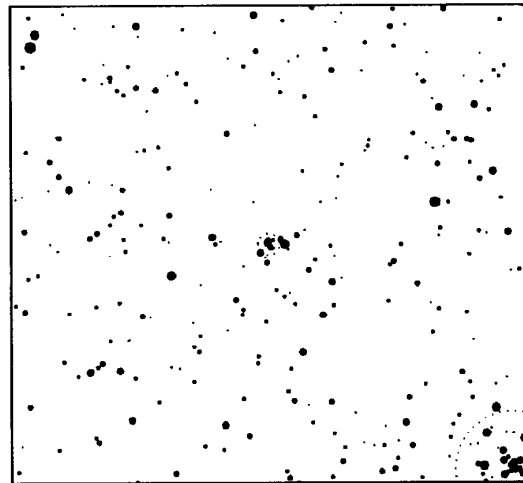
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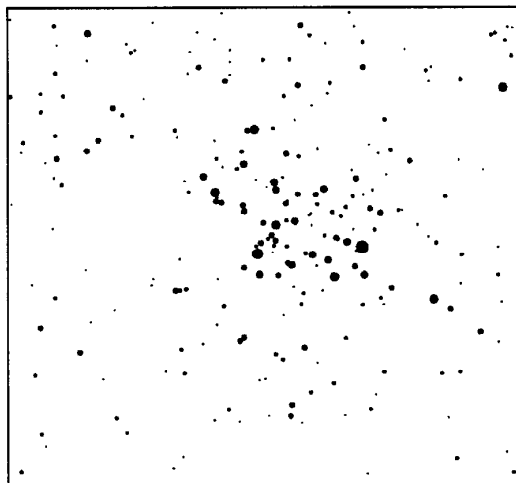
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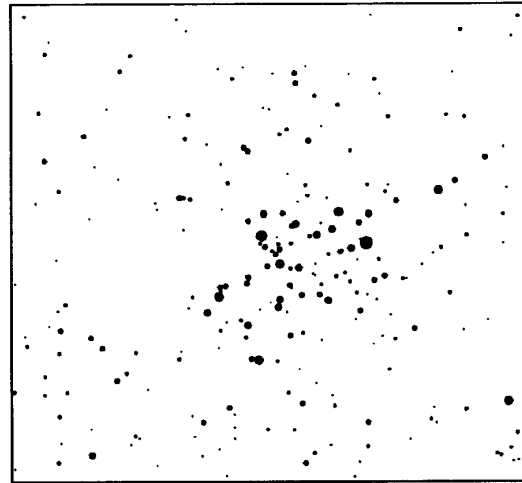
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



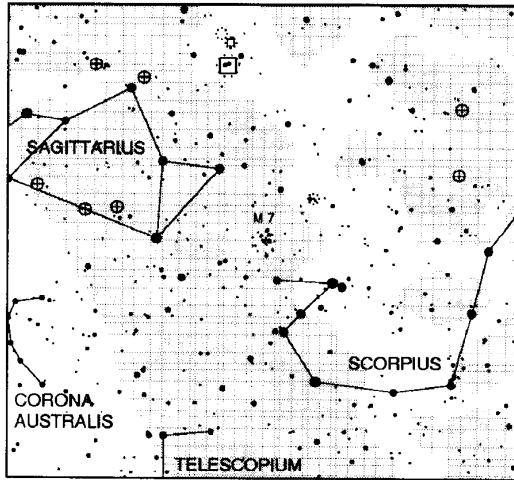
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
7	6475 Sco	17 53.9	-34 49	3.5	30.0	OCI	.8k	Ptolemy's Cluster

# M 7

M7 - bigger than M6 with a bit brighter individual stars; use low power wide angle eyepiece with at least 1 degree of true field to contain it. Squarish central area always reminds me of Hercules!

Messier objects on 30 degree chart: 6, 8, 19, 20, 21, 22, 28, 54, 62, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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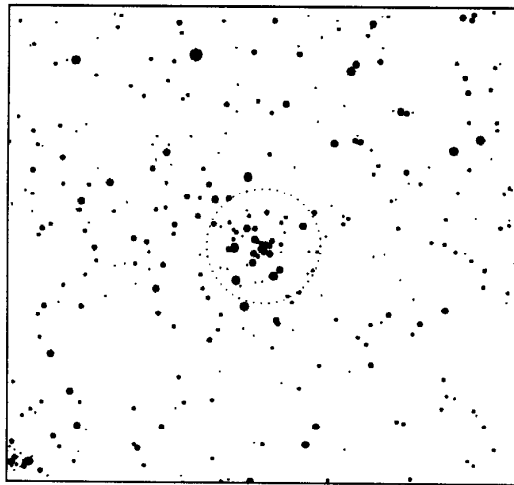
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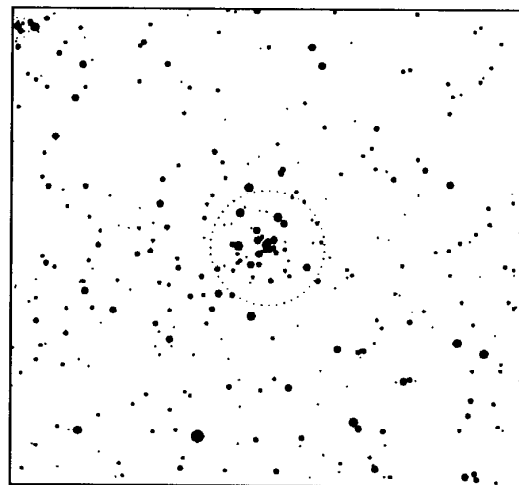
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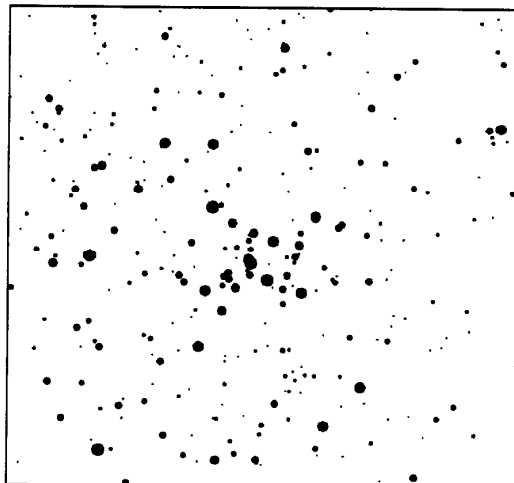
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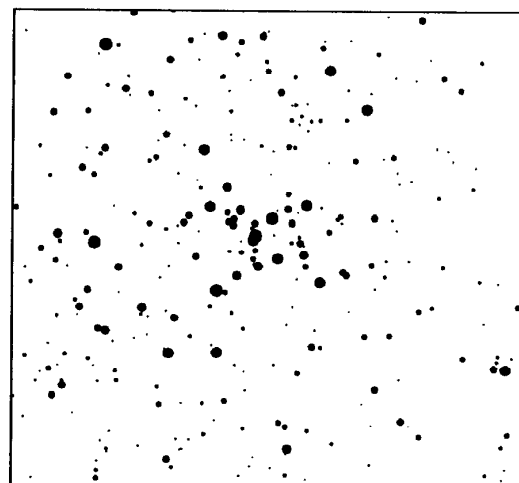
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



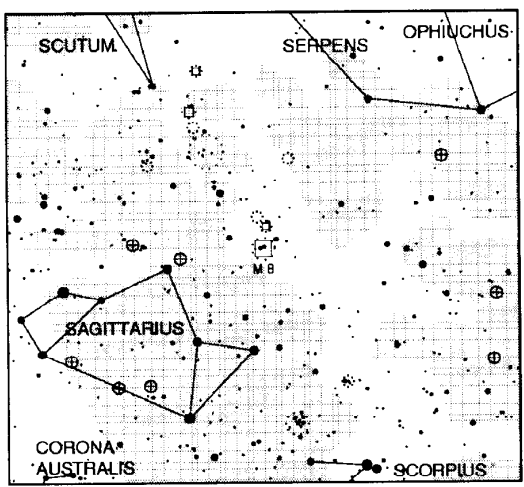
1 degree field, North up, Mirrored

# M 8

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
8	6523 Sgr	18 03.8	-24 23	5.0	45 x 30	C/N	5.1k	Lagoon Nebula

M8- star embedded in brightest part of neblosity. HII region. Neblosity and open cluster associated with each other. Look for dark lane, "Lagoon", crossing the nebula from NW to SE. Look for smaller Bok globules within the neblosity.

Messier objects on 30 degree chart: 6, 7, 9, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 28, 54, 62, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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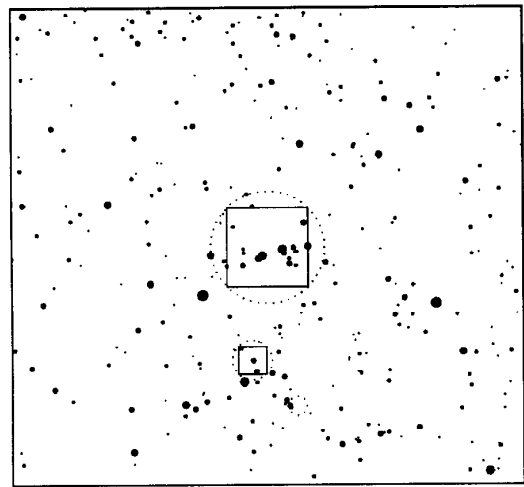
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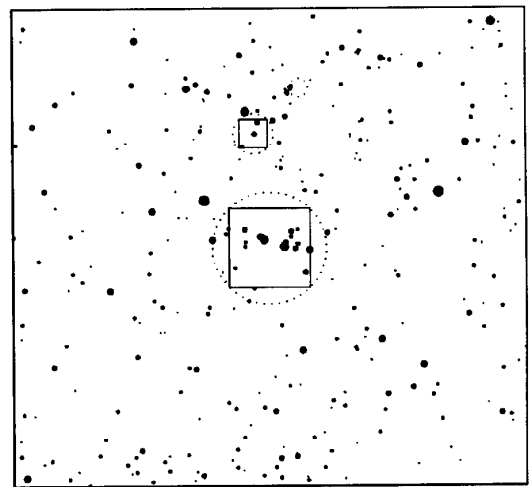
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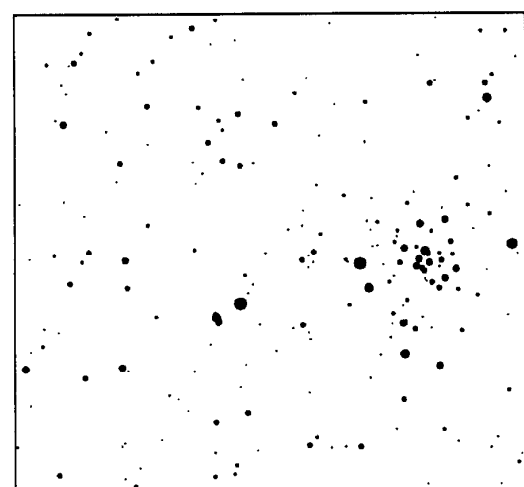
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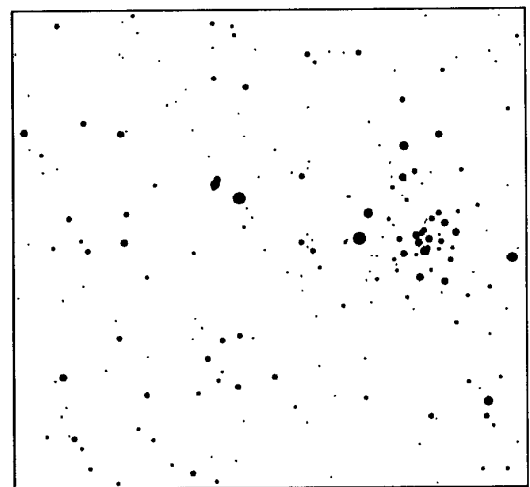
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

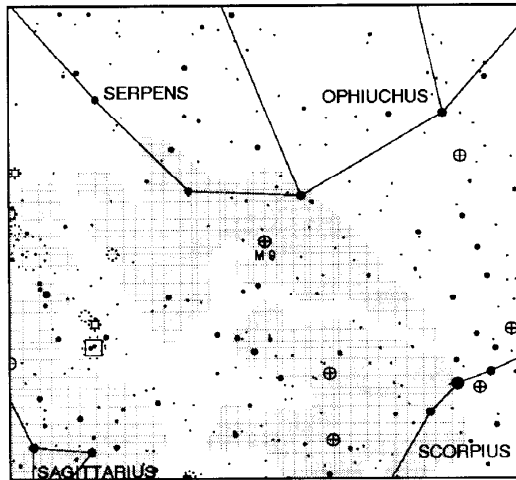


# M 9

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
9	6333	Oph	17 19.2	-18 31	9.0	8	GCl	26k	

M9 - shows a somewhat oval appearance, a small cloudy patch with a brighter core.

Messier objects on 30 degree chart: 4, 6, 8, 9, 16, 17, 18, 19, 20, 21, 23, 24, 28, 62, 80, 107



30 degree field, North up

Notes: \_\_\_\_\_

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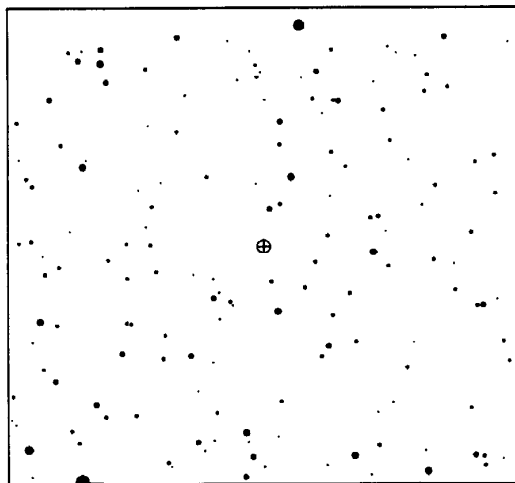
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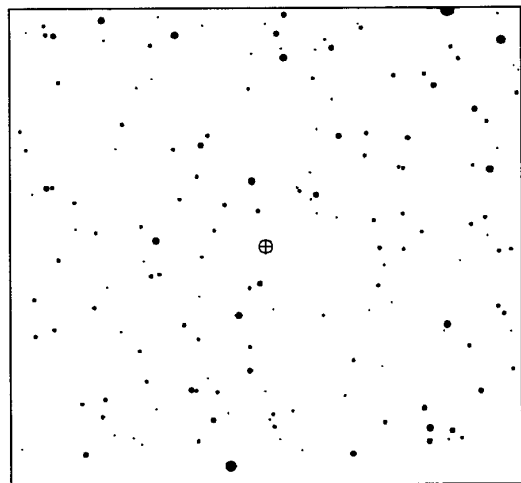
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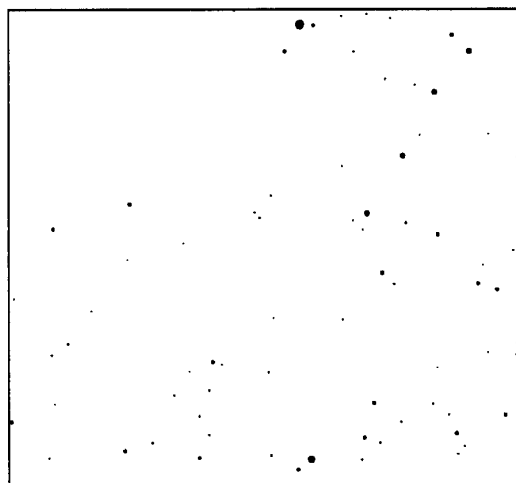
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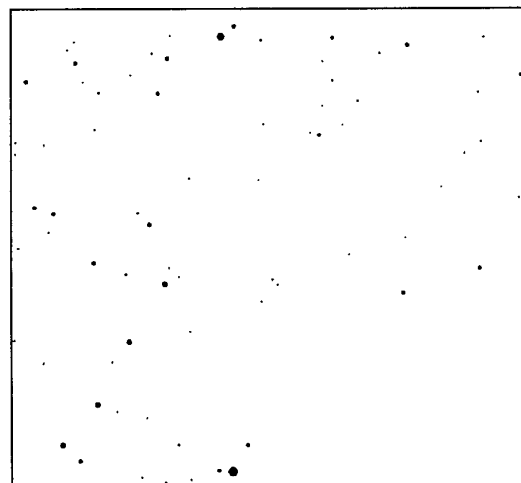
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



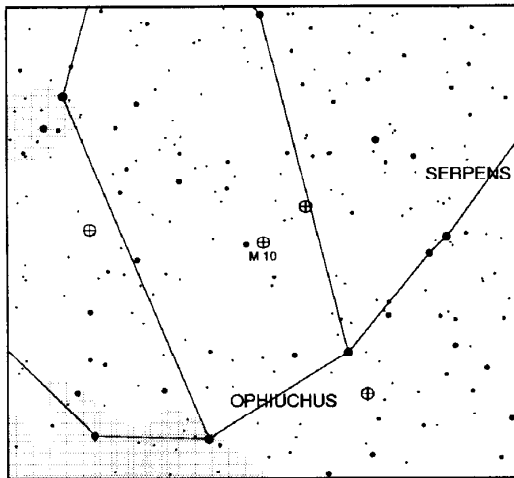
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
10	6254	Oph	16 57.1	-04 06	7.0	12	GCl	16k	

# M 10

M10 - a real showpiece! Beautiful dusting of stars in outer regions. Look for dark lane passing through above the center. Is the top 1/6 of the cluster dimmer?

Messier objects on 30 degree chart: 12,14,107



30 degree field, North up

Notes: \_\_\_\_\_

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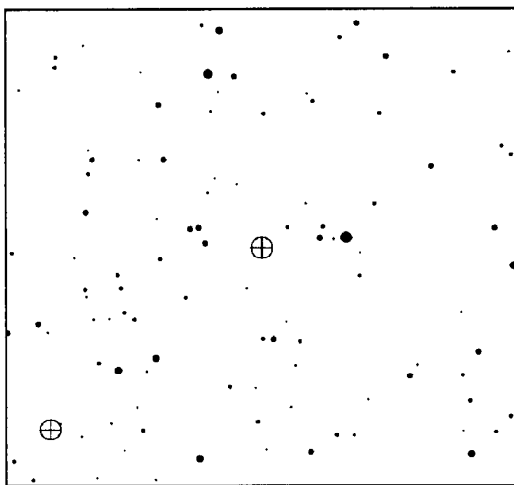
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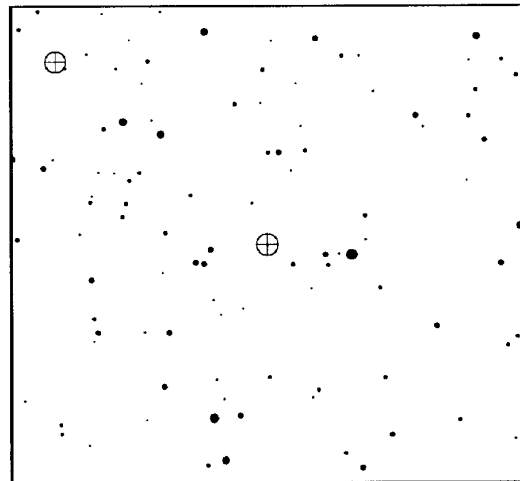
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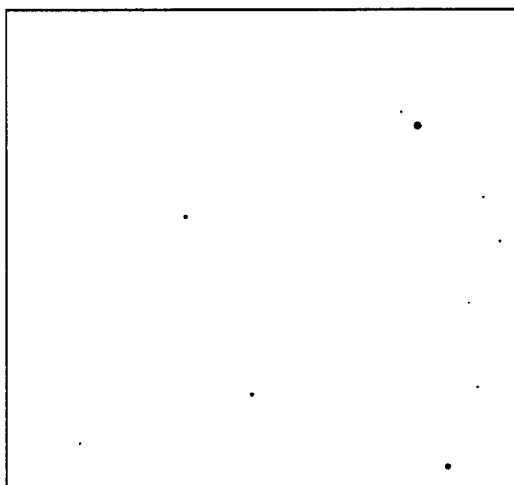
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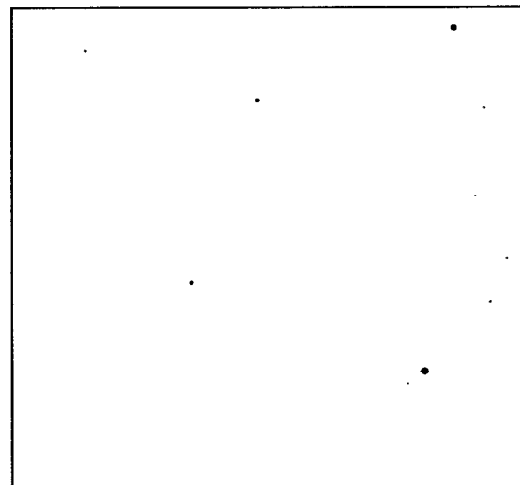
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



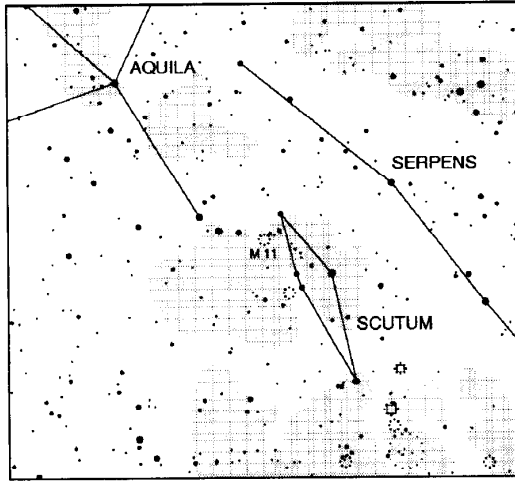
1 degree field, North up, Mirrored

# M 11

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
11	6705	Scr 18 51.1	-06 16	7.0	35	OCI	5.4k	Wild Duck Cluster

M11 - a splendid open cluster. One star stands out and gives an illusion of depth when first seen. Smaller scopes will give you the "flying V" shape that gives the cluster its common name.

Messier objects on 30 degree chart: 16, 17, 18, 23, 24, 25, 26



30 degree field, North up

Notes: \_\_\_\_\_

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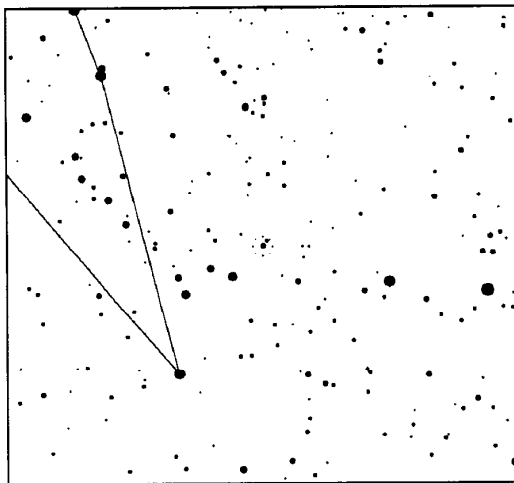
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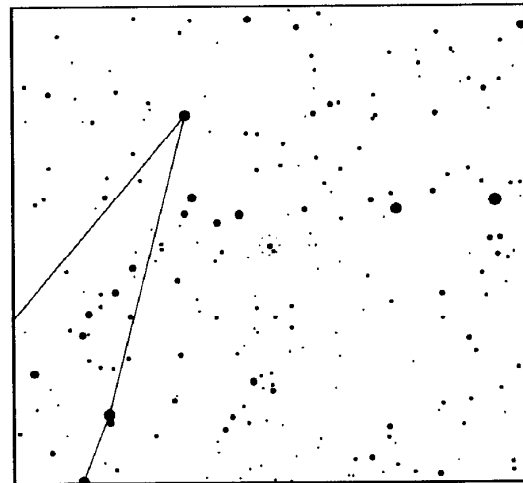
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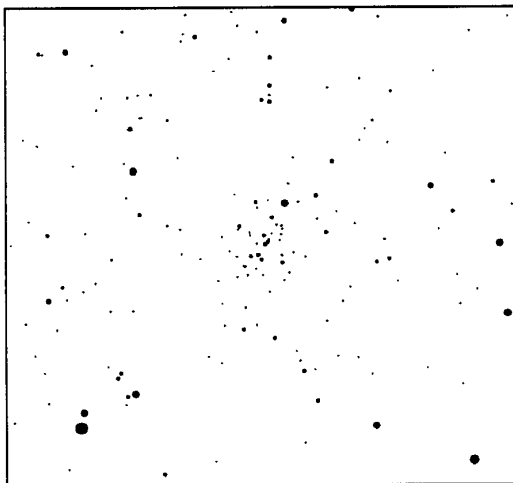
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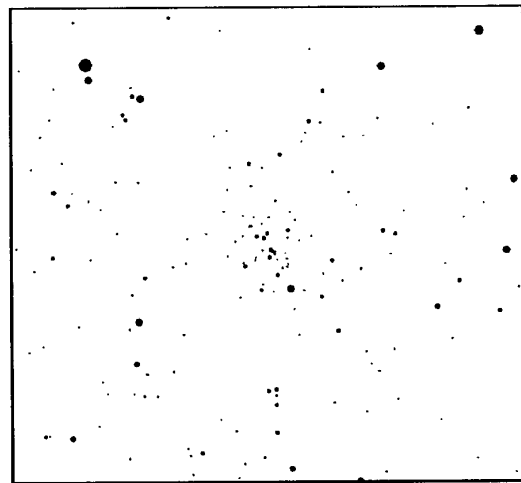
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



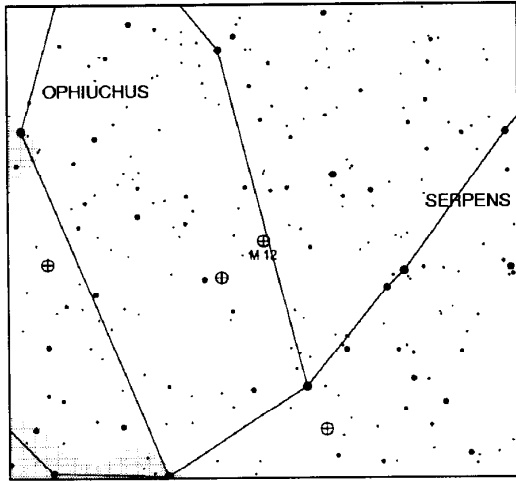
1 degree field, North up, Mirrored

# M 12

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
12	6218 Oph	16 47.2	-01 57	8.0	14.5	Gcl	16k	

M12 - somewhat similar in appearance to M10, though a bit looser. Surrounded by 3 brighter stars that frame it.

Messier objects on 30 degree chart: 10, 14, 107



30 degree field, North up

Notes: \_\_\_\_\_

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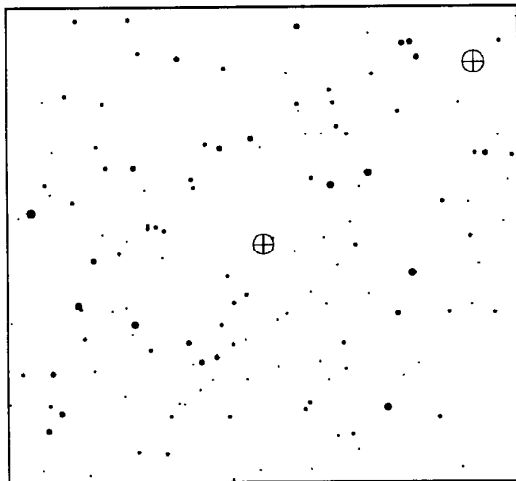
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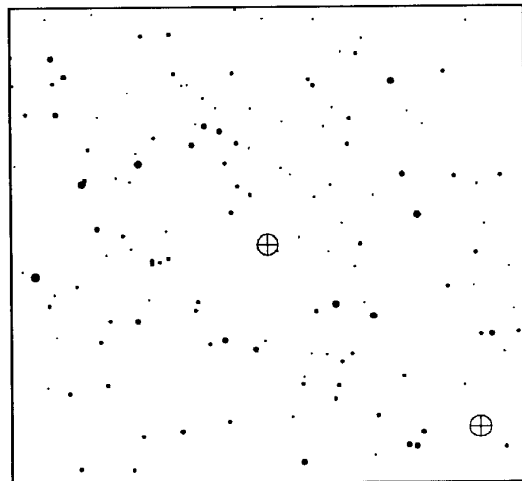
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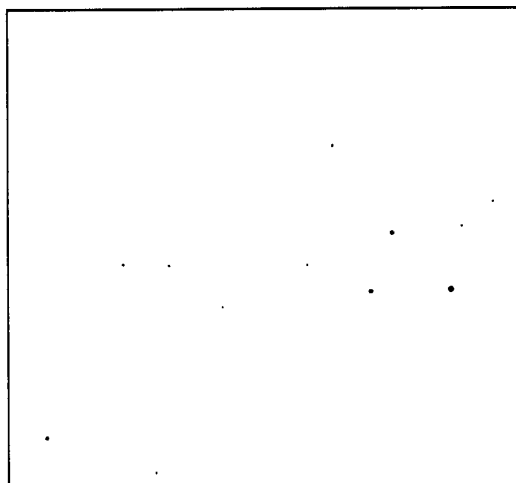
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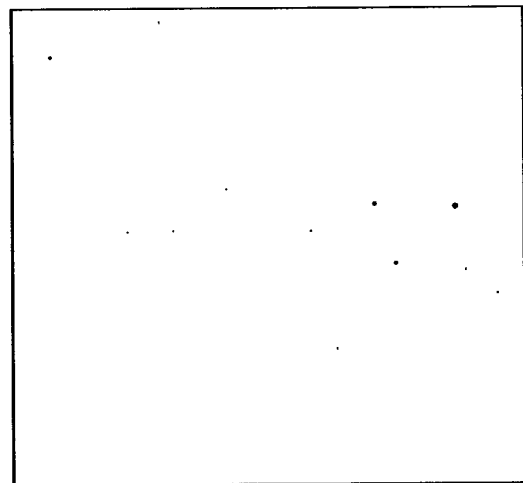
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

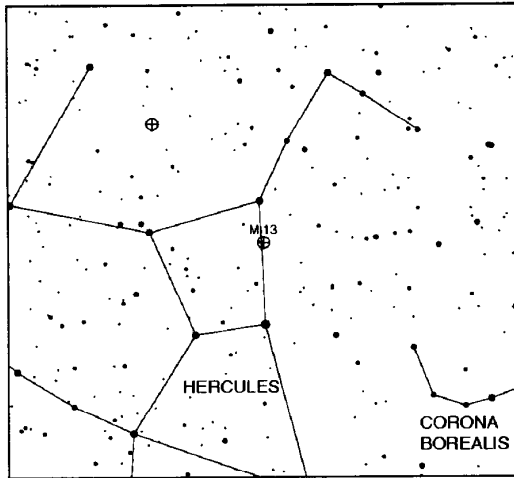


1 degree field, North up, Mirrored

# M 13

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
13	6205	Her	16 41.7	36 28	7.0	10	Gcl	21k	Hercules Cluster

M13 - The Hercules cluster is bright enough to be seen *naked eye*. Binoculars *easily* show this cluster as a bright fuzzy ball. M13 is partially *resolvable* in small aperture telescope and becomes a swarm of tightly packed individual stars through larger scopes.  
 Messier objects on 30 degree chart: 92



30 degree field, North up

Notes: \_\_\_\_\_

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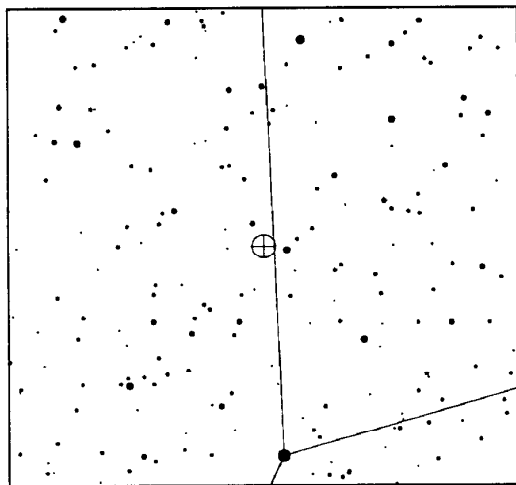
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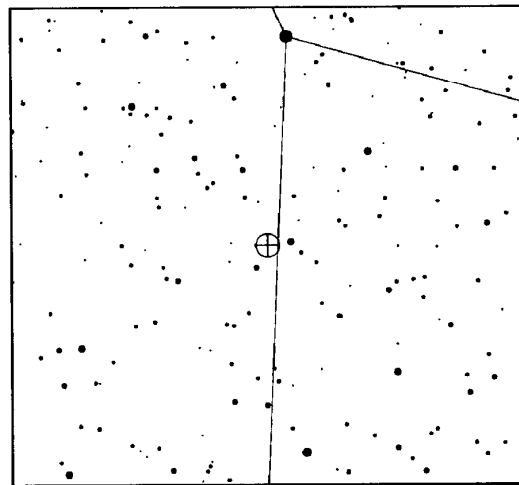
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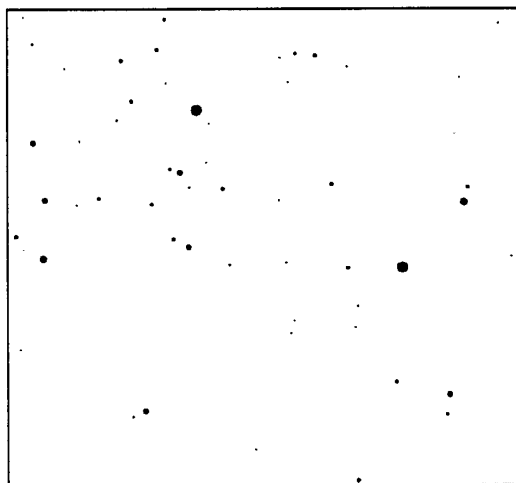
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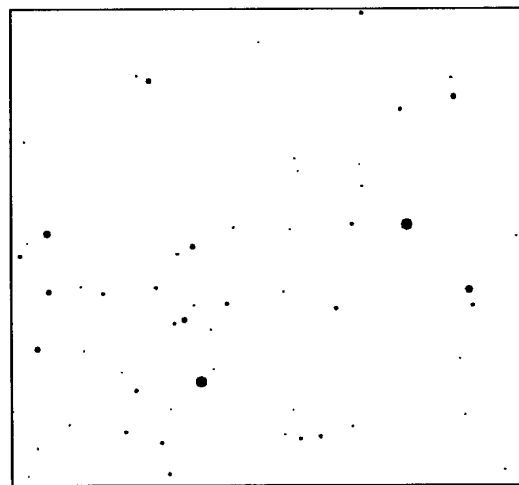
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



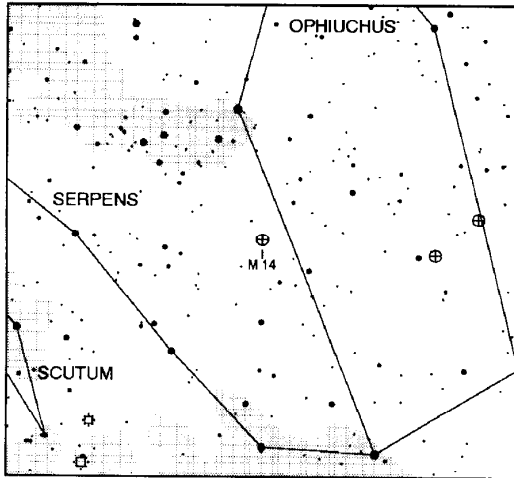
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
14	6402 Oph	17 37.6	-03 15 6	11.7	11.7	GCl	30k	

# M 14

M14 - an even patch of light, the stars are not easily resolvable.

Messier objects on 30 degree chart: 10, 12, 16, 17



30 degree field, North up

Notes: \_\_\_\_\_

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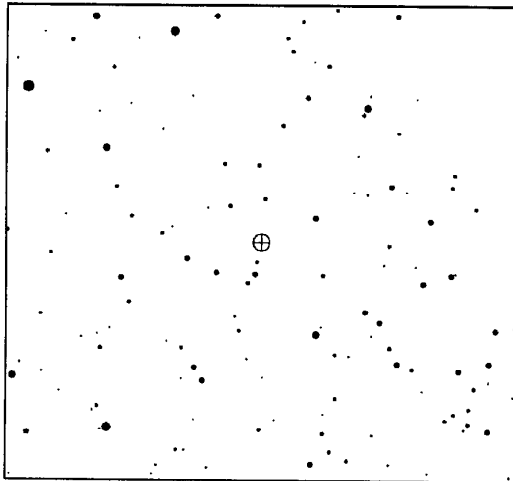
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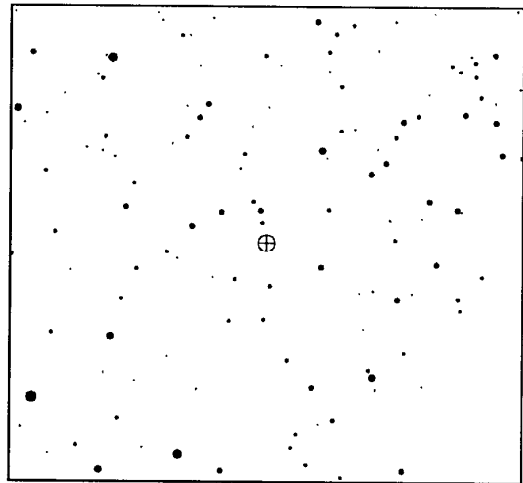
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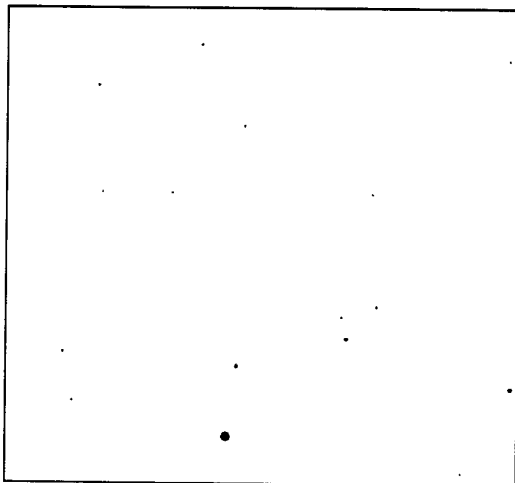
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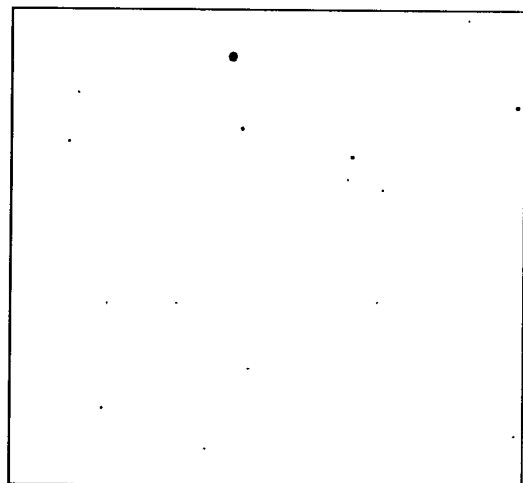
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

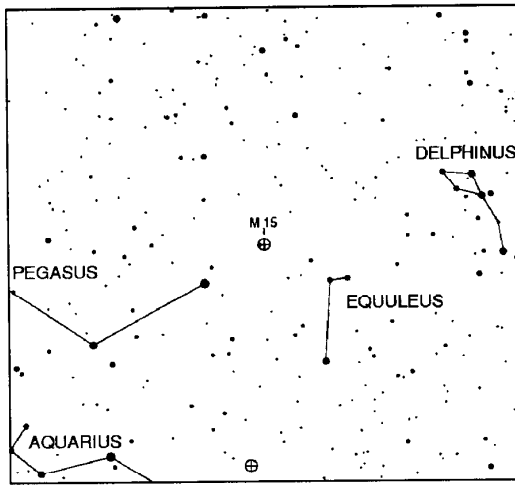


1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
15	7078	Peg 21 30.0	12 10	6.5	10	GCl	34k	

M15 - Very nice! Just resolves into a dust of stars. Dark patch near center. Small planetary nebula, (K648), on the NE side of the cluster, 1" diam.

Messier objects on 30 degree chart: 2



30 degree field, North up

Notes: \_\_\_\_\_

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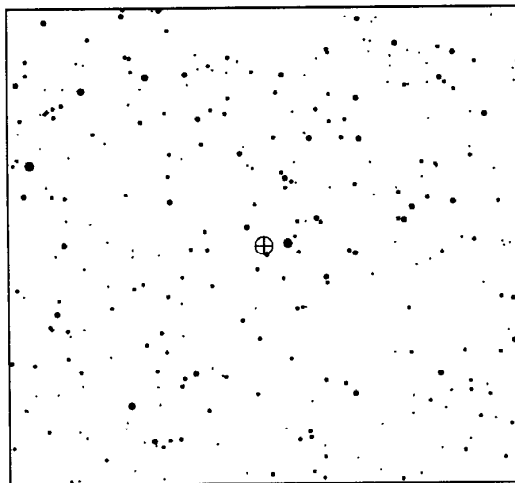
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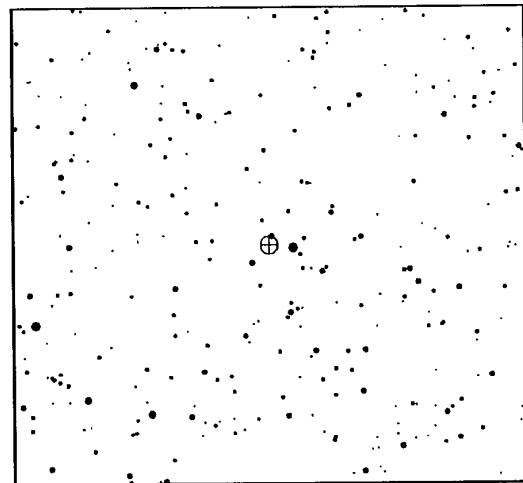
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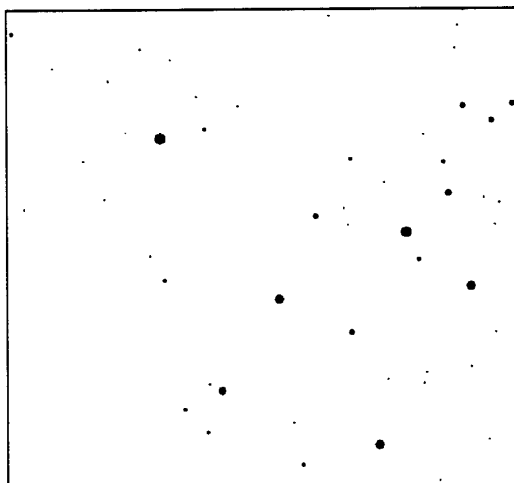
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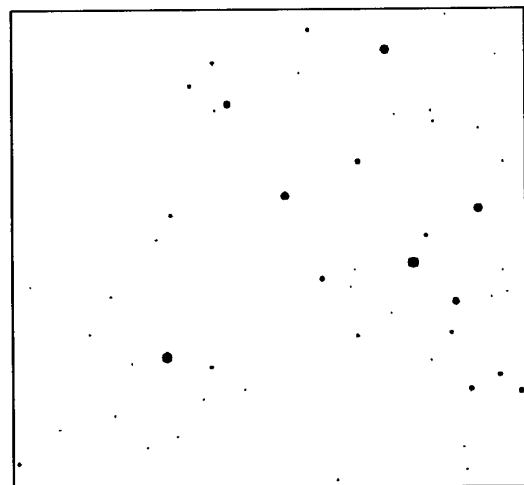
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



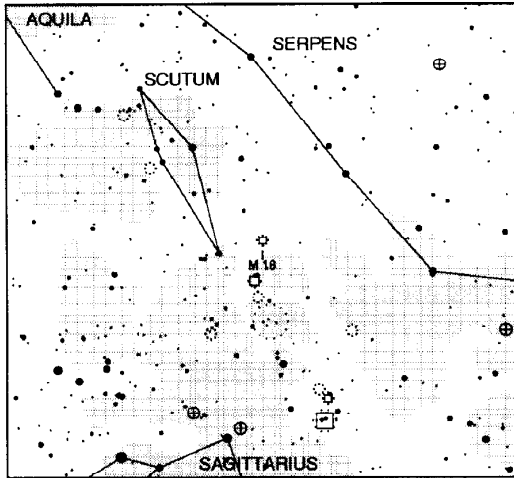
1 degree field, North up, Mirrored

# M 16

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
16	6611	Ser	18 18.8	-13 47	6.5	25	C/N	8k	assoc with Eagle Nebula, Star Queen Nebula

M16 - looks like a sparse open cluster of stars surrounded by faint wisps of nebulosity. Best in low power, wide angle view. Larger apertures show the dust pillars that make the "Star Queens" throne.

Messier objects on 30 degree chart: 8, 9, 11, 14, 17, 18, 20, 21, 22, 23, 24, 25, 26, 28



30 degree field, North up

Notes: \_\_\_\_\_

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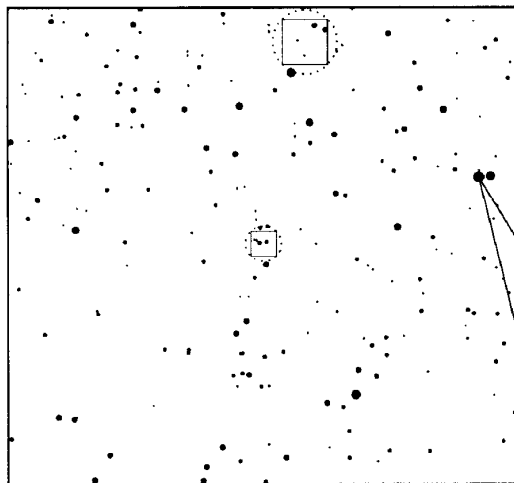
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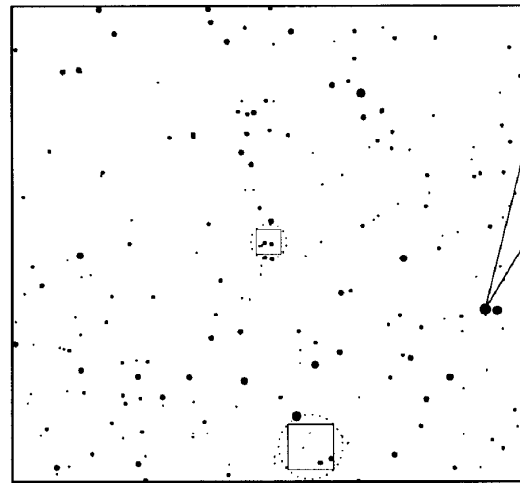
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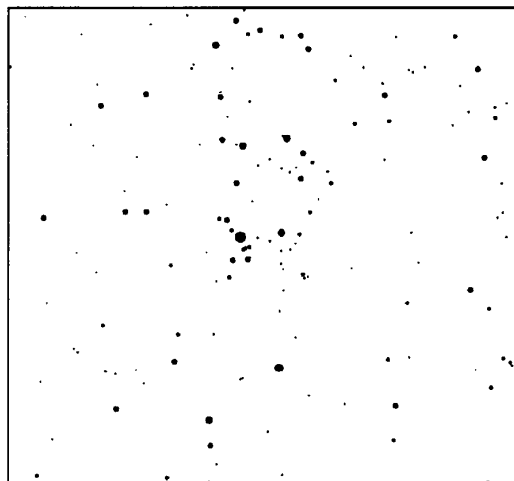
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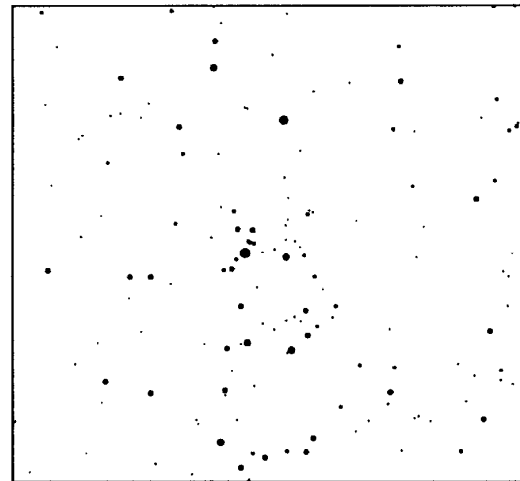
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



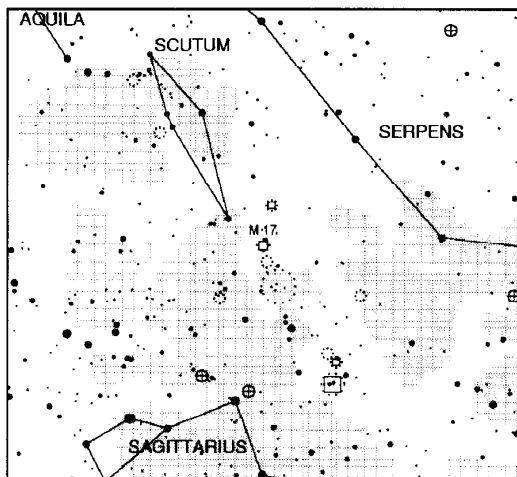
1 degree field, North up, Mirrored



M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
17	6618	Sgr 18 20.8	-16 11	6.0	11.0	C/N	5.7k	Omega Nebula, Swan Nebula, Lobster Nebula, Horseshoe Nebula

M17 - resembles the number 2 with a very long bottom slash. LPR filter enhances.

Messier objects on 30 degree chart: 8, 9, 11, 14, 16, 18, 20, 21, 22, 23, 24, 25, 26, 28



30 degree field, North up

Notes: \_\_\_\_\_

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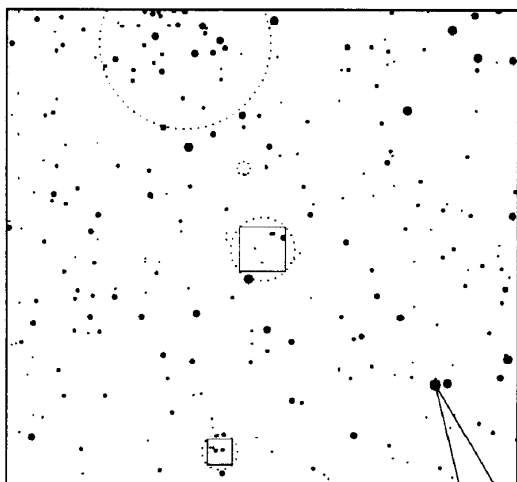
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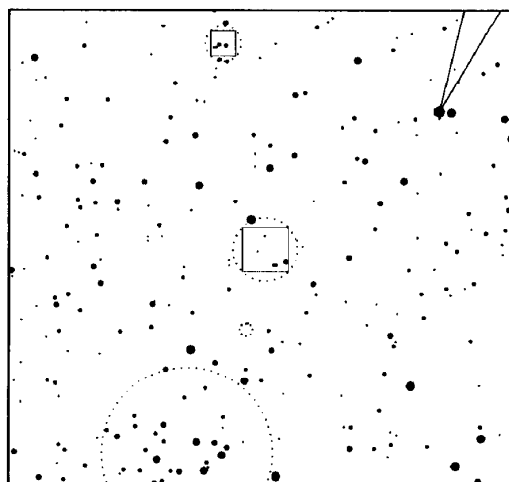
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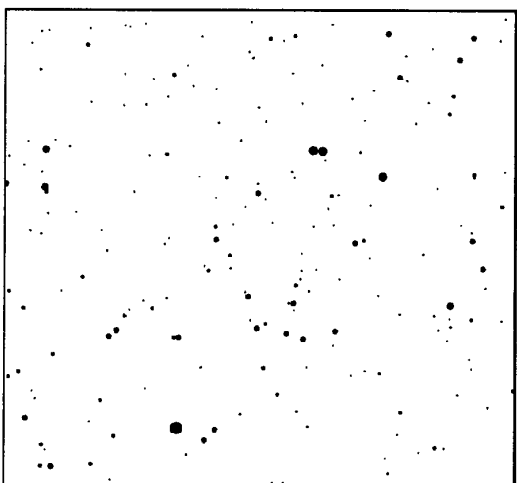
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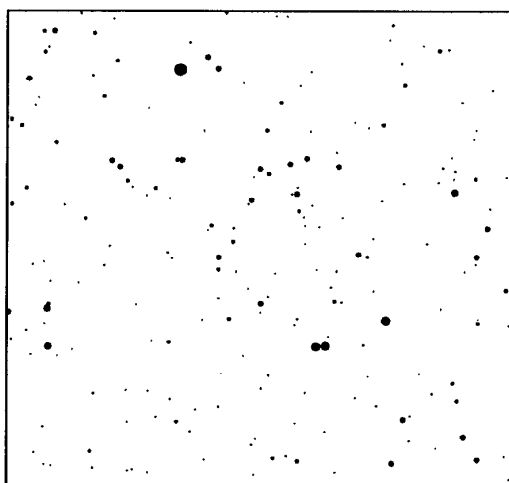
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



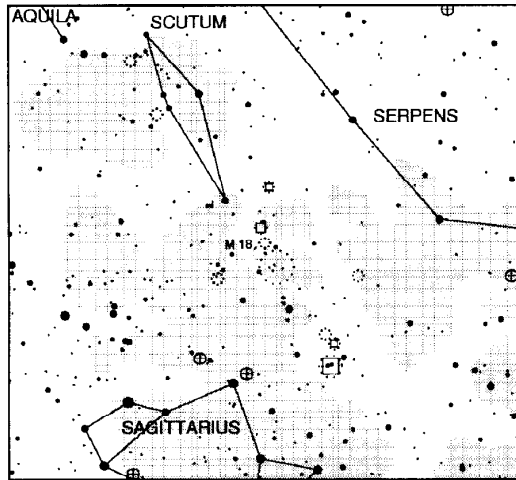
1 degree field, North up, Mirrored

# M 18

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
18	6613	Sgr	18 19.9	-17 08	8.0	7	OCI	5k	

M18 - a small, sparse collection of fairly bright stars, but quite pretty.

Messier objects on 30 degree chart: 8, 9, 11, 14, 16, 17, 20, 21, 22, 23, 24, 25, 26, 28, 54



30 degree field, North up

Notes: \_\_\_\_\_

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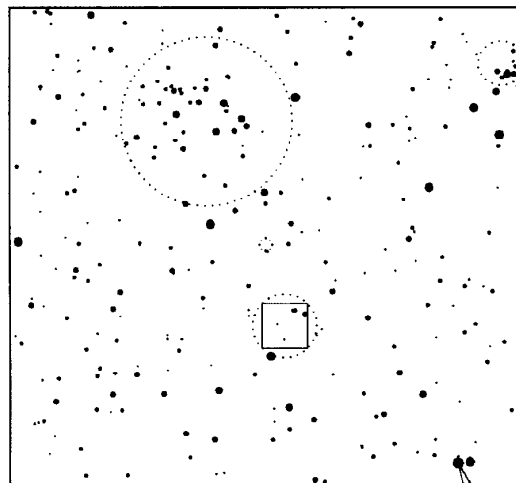
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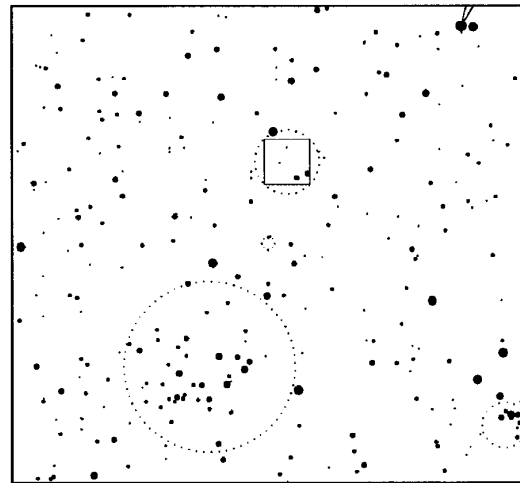
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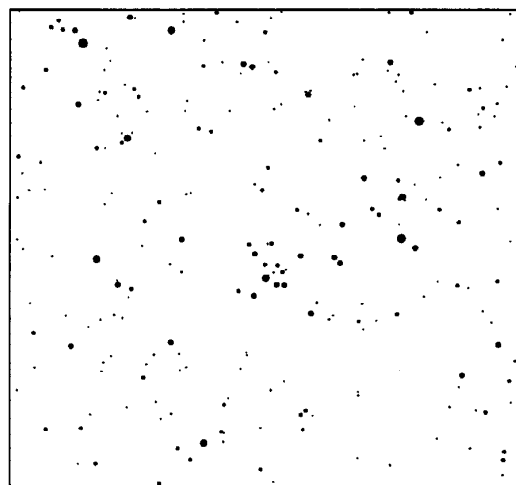
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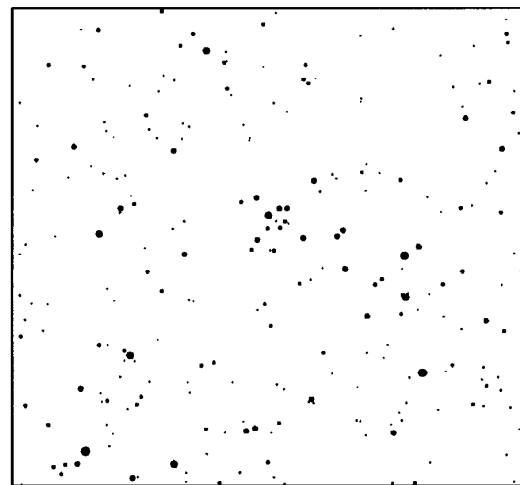
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



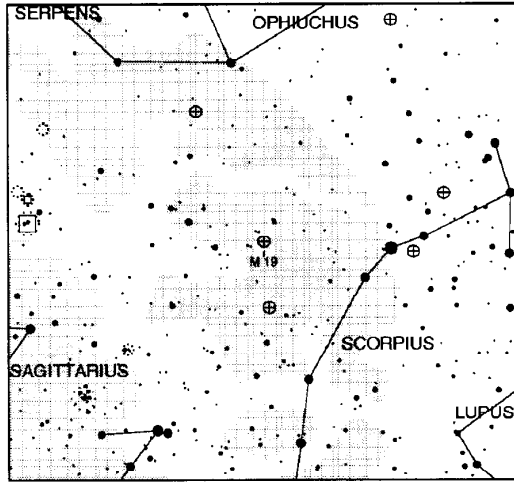
1 degree field, North up, Mirrored

# M 19

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
19	6273	Oph	17 02.6	-26 16	7	6	GCl	25k	

M19 - from where I live, M19 is very close to the horizon, down in the muck. It appears as a small cloudy spot. Two field stars are superimposed on the cluster on the NE side. Note the oblateness of the cluster.

Messier objects on 30 degree chart: 4, 6, 7, 8, 9, 20, 21, 23, 62, 80, 107



30 degree field, North up

Notes: \_\_\_\_\_

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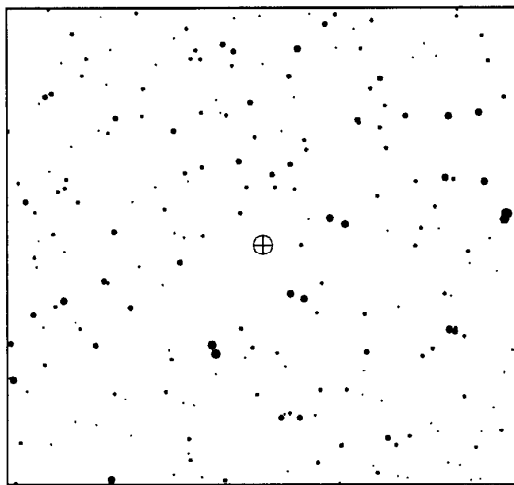
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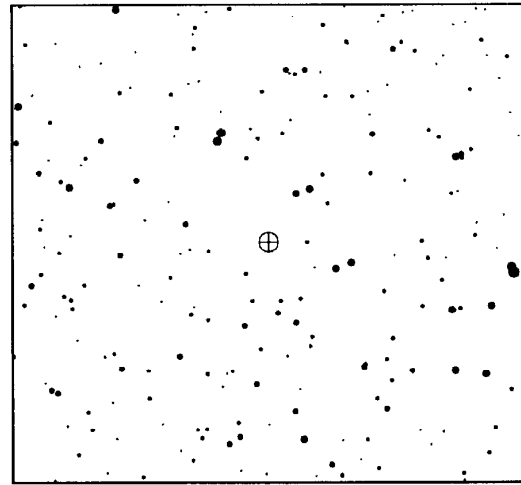
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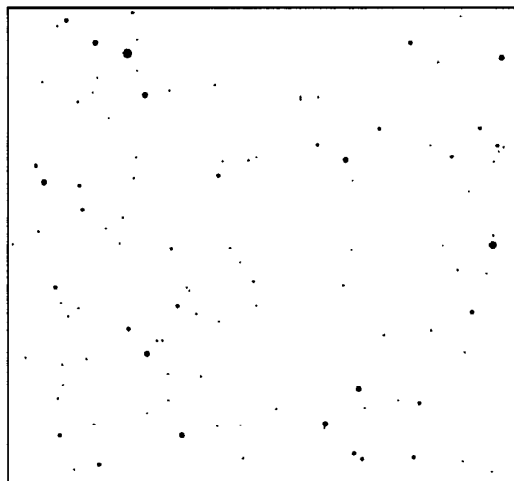
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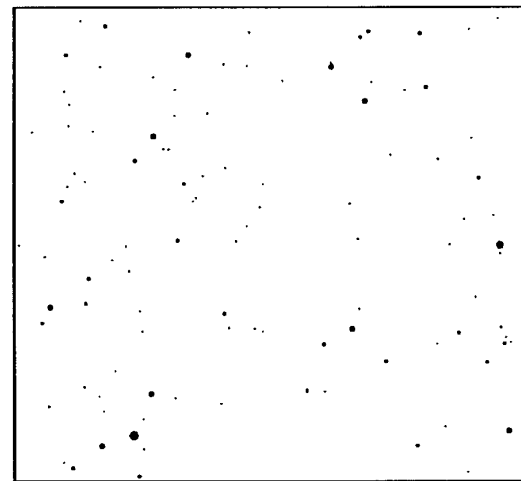
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



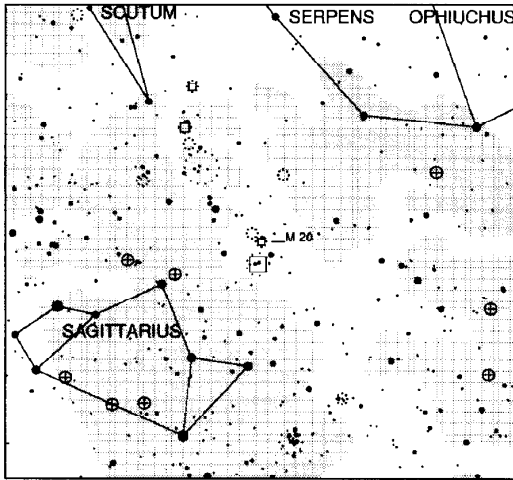
1 degree field, North up, Mirrored

# M 20

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
20	6514 Sgr	18 02.6	-23 02	5.0	25.0	C/N	5.2k	Trifid Nebula

M20 - diffuse nebula, try to pick out the three dust lanes that gives M20 its name. Note triple star at intersection of two of the lanes.

Messier objects on 30 degree chart: 6, 7, 8, 9, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 28, 54, 62, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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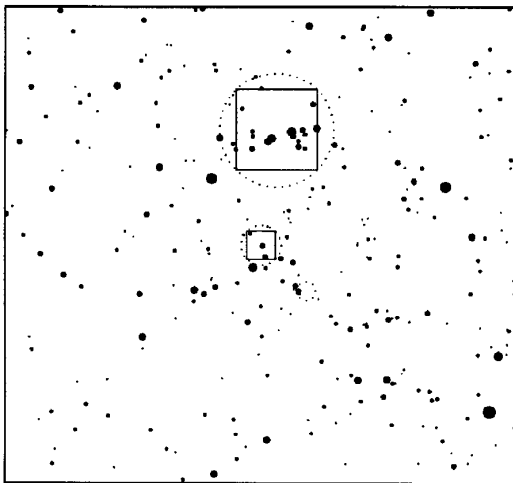
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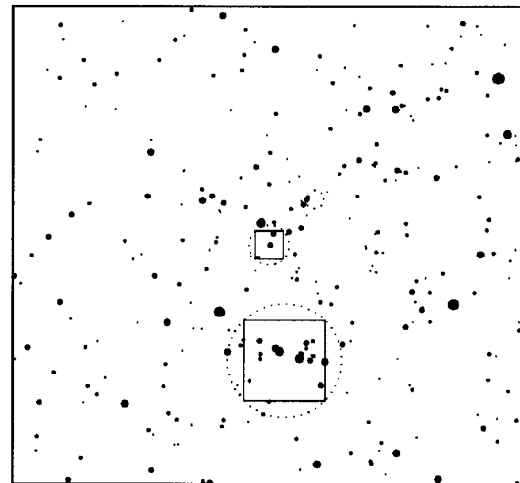
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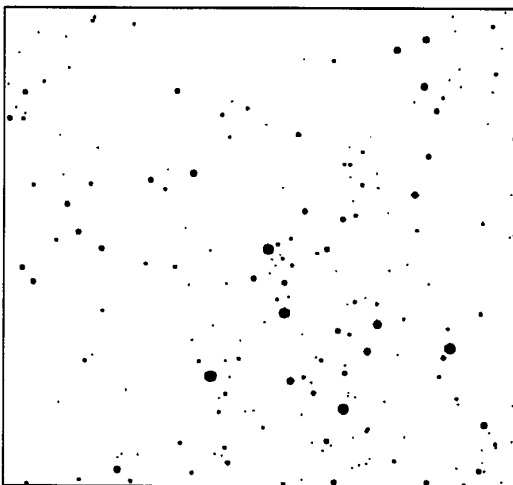
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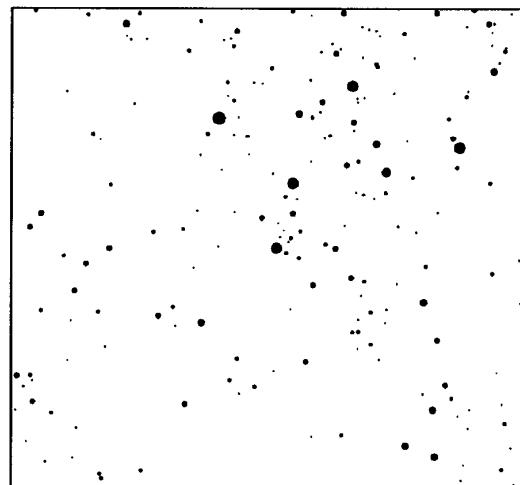
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

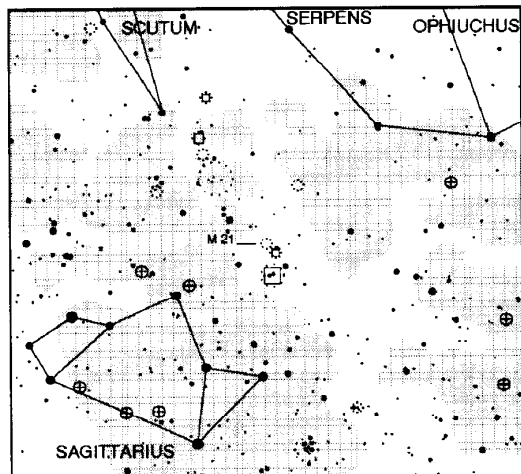


1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
21	6531	Sgr	18 04.6	-22 30	7.0	10.0	OCI	2.2k	

M21 - a small, bright open cluster right next to M20.

Messier objects on 30 degree chart: 6, 7, 8, 9, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 28, 54, 62, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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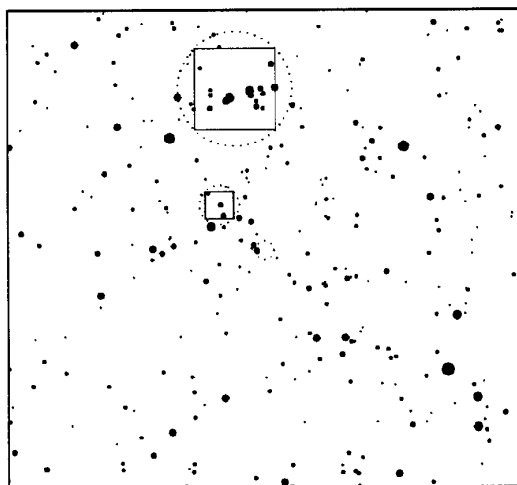
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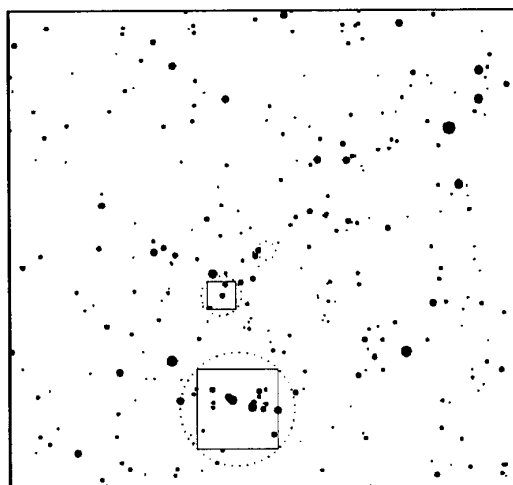
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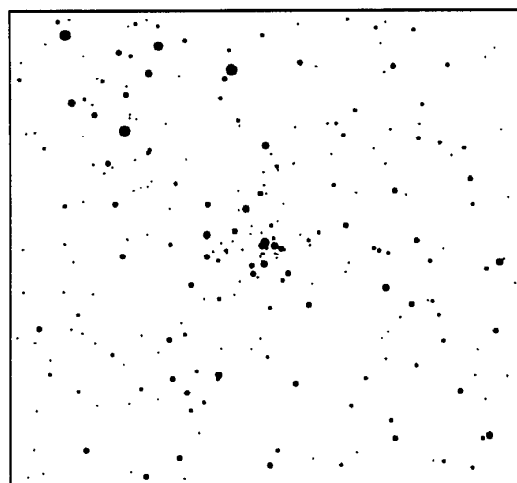
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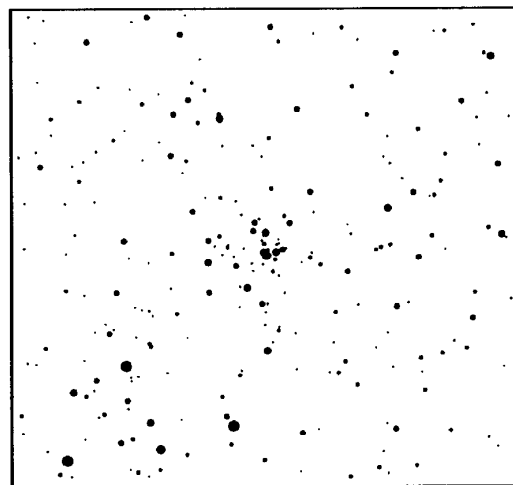
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



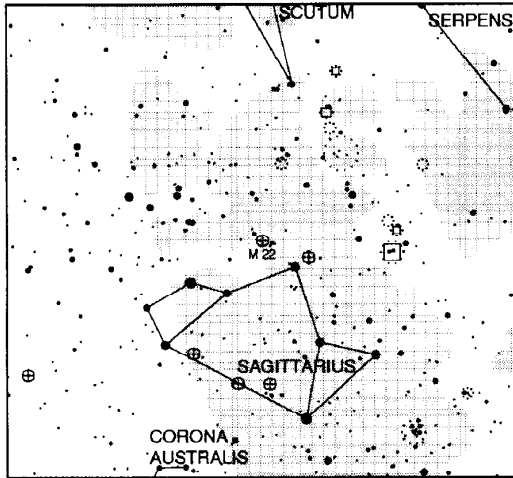
1 degree field, North up, Mirrored

# M 22

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
22	6656	Sgr	18 36.4	-29 54	6.5	18.0	GCl	9.6k	

M22 - tight, well defined, with a few brighter stars visible, not easily resolvable with smaller apertures.

Messier objects on 30 degree chart: 6, 7, 8, 16, 17, 18, 20, 21, 23, 24, 25, 28, 54, 55, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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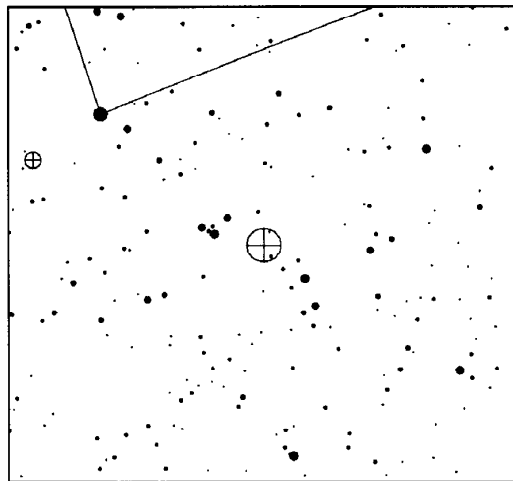
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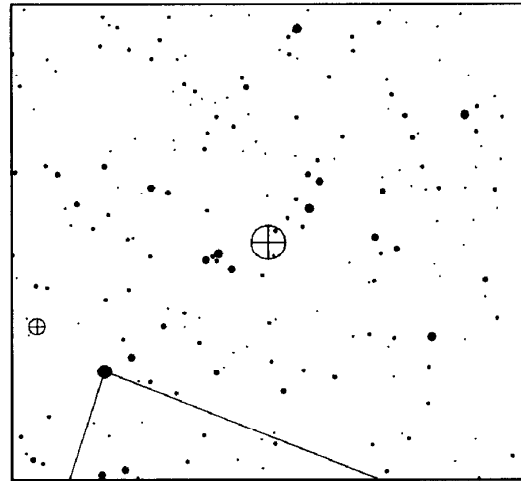
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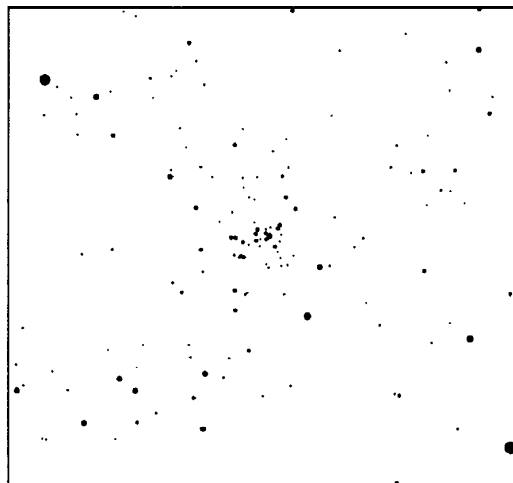
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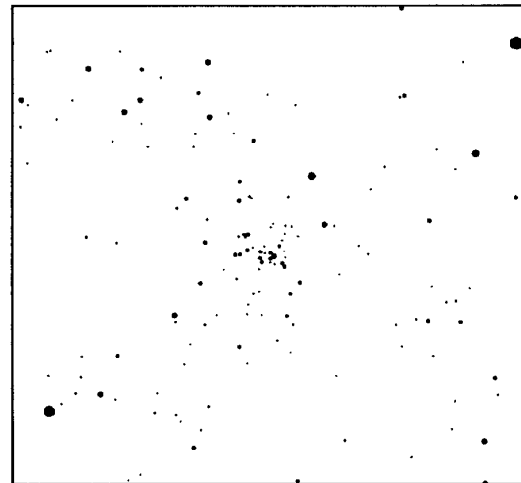
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



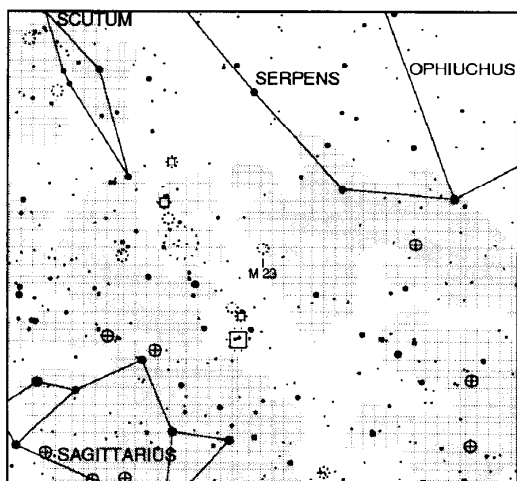
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
23	6494	Sgr 17 56.8	-19 01	7.0	25.0	OCI	2k	

# M 23

M23 - very loose open cluster.

Messier objects on 30 degree chart: 6, 8, 9, 11, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 28, 54, 62, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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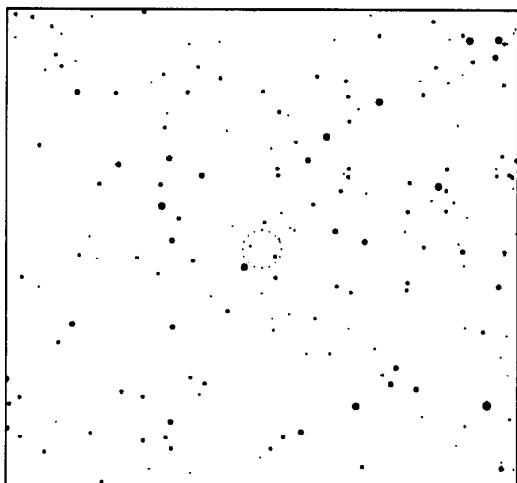
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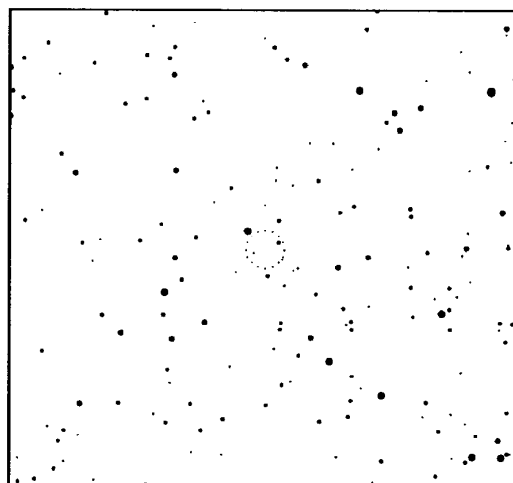
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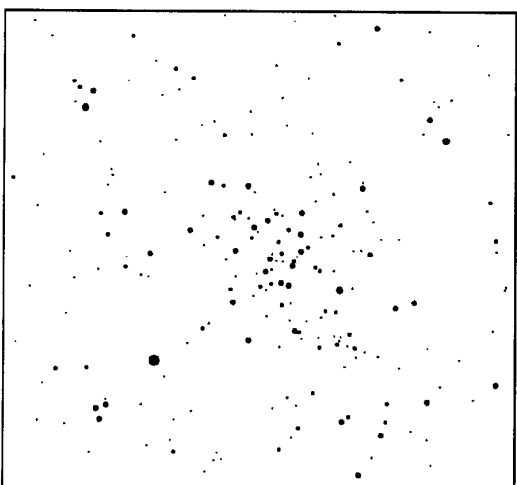
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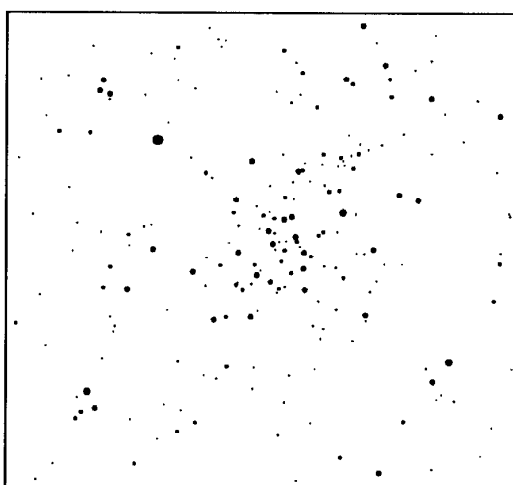
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



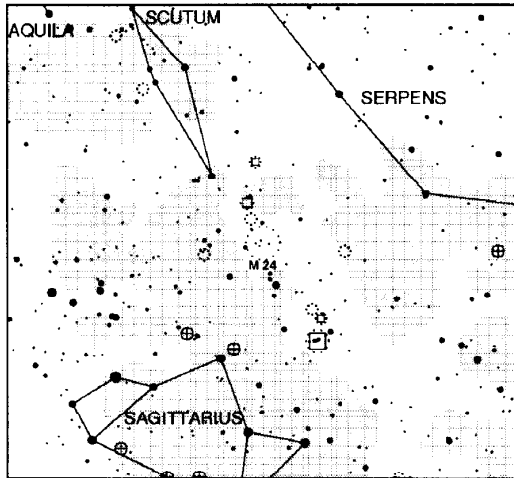
1 degree field, North up, Mirrored

# M 24

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
24	6603	Sgr 18 16.9	-18 29	11.5	120 x 60	10k		"Delle Caustiche"

M24 - a section of the Milky Way in Sagittarius. It is easily seen with the naked eye as a fuzzy, oval patch about 1 1/2 degrees across. The best views are through binoculars or rich field telescopes at very low power. Enclosed in the star cloud is the cluster NGC 6603, located in the northern end. The prominent dark nebula B92 can be seen just above the center of the cloud with a single twelfth magnitude star in the foreground.

Messier objects on 30 degree chart: 6, 8, 9, 11, 16, 17, 18, 20, 21, 22, 23, 25, 26, 28, 54, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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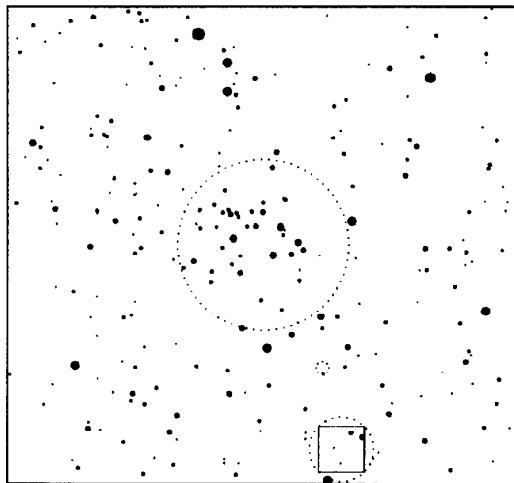
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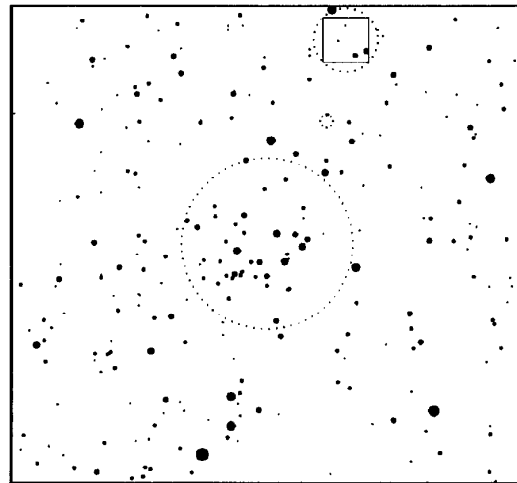
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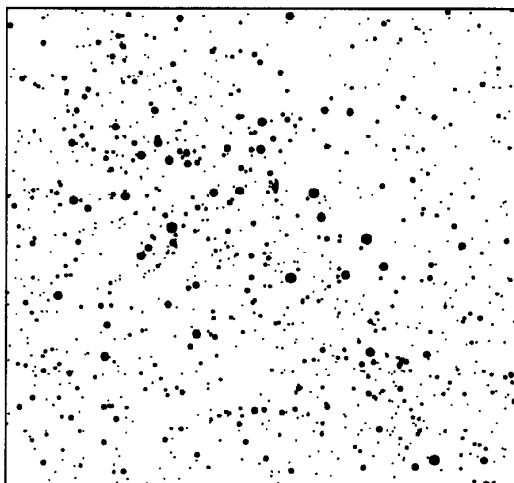
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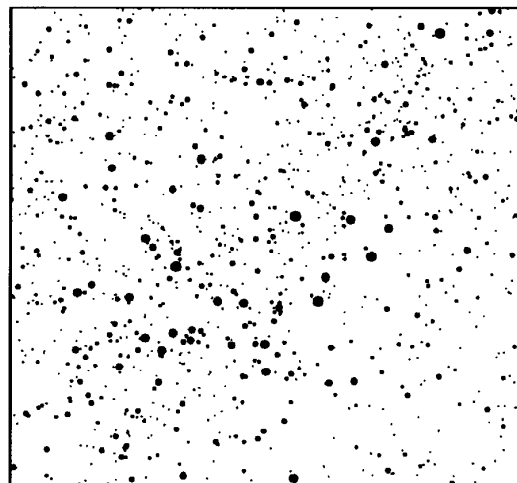
6 degree field, North down



6 degree field, North up, Mirrored



2 degree field, North down



2 degree field, North up, Mirrored

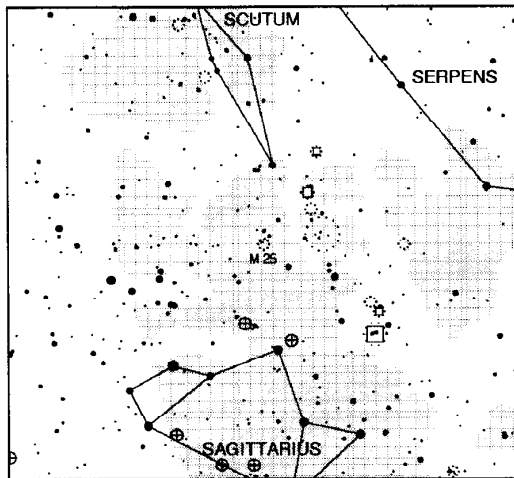


# M 25

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
25	14725	Sgr	18 31.6	-19 15	6	35	OCI	2k	

M25 - loose open cluster, stands out well from the background.

Messier objects on 30 degree chart: 6, 8, 11, 16, 17, 18, 20, 21, 22, 23, 24, 26, 28, 54, 55, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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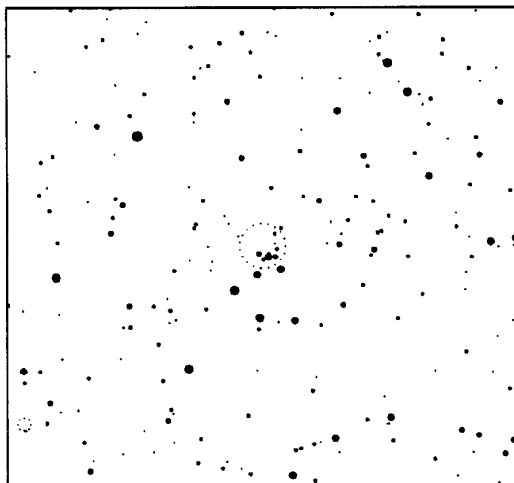
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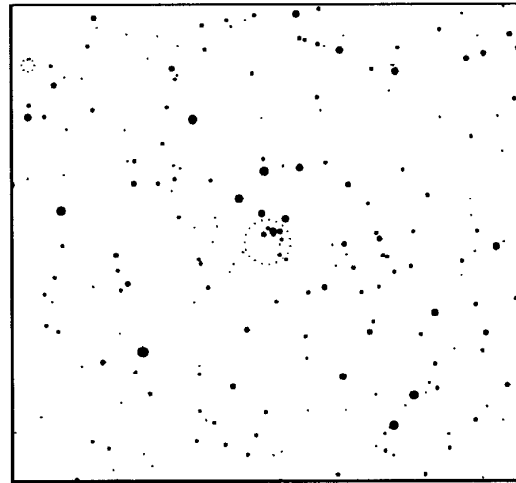
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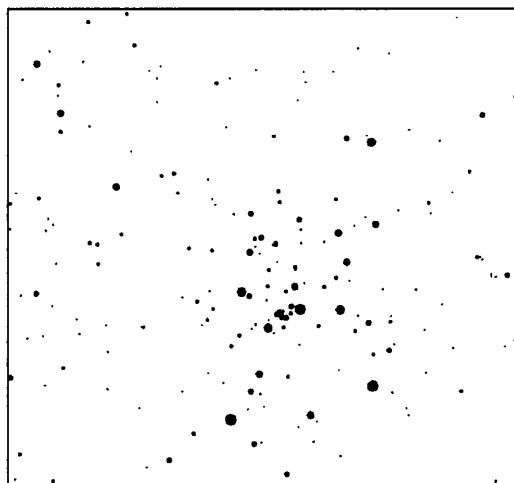
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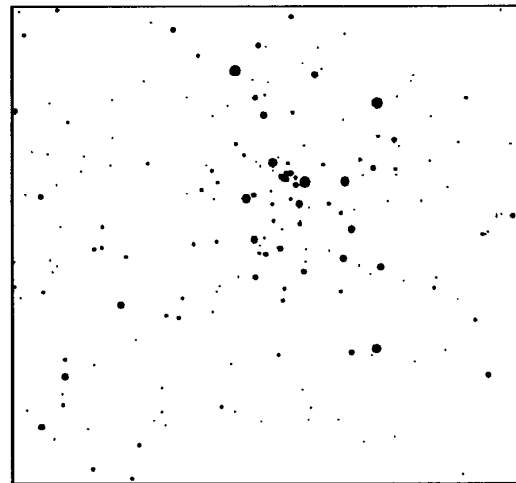
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

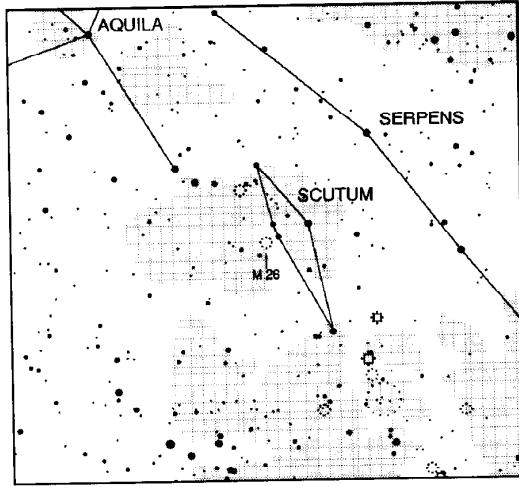


1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
26	6694	Scr 18 45.2	-09 24	9.5	9	OCI	5k	

M26 - numerous faint stars like dust. Larger apertures bring this one out well.

Messier objects on 30 degree chart: 11, 16, 17, 18, 20, 21, 23, 24, 25



30 degree field, North up

Notes: \_\_\_\_\_

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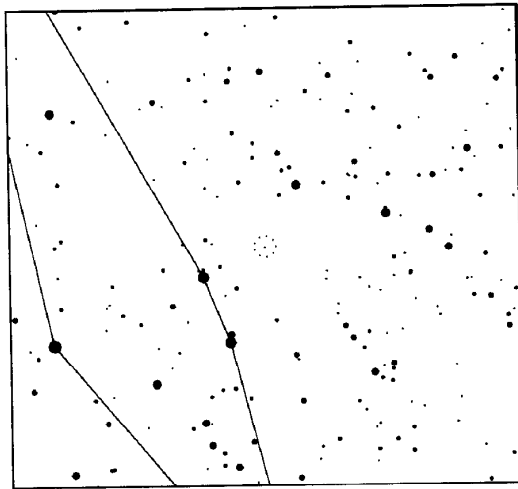
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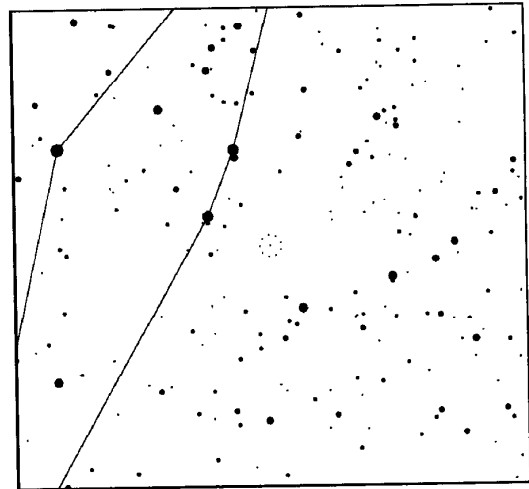
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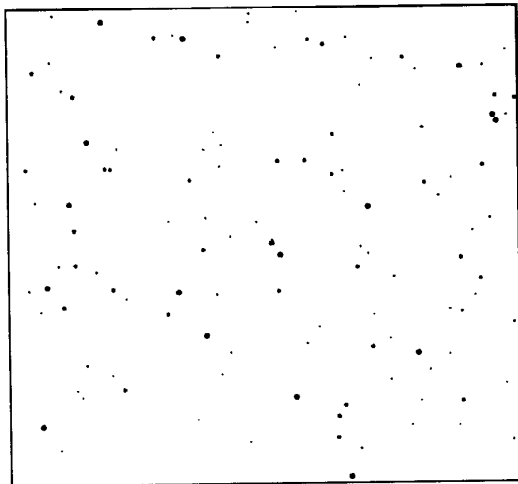
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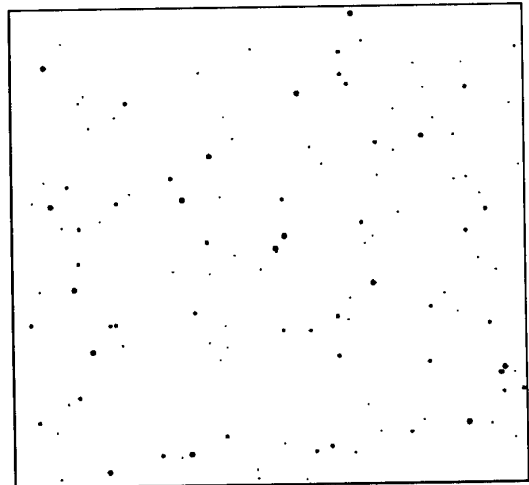
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



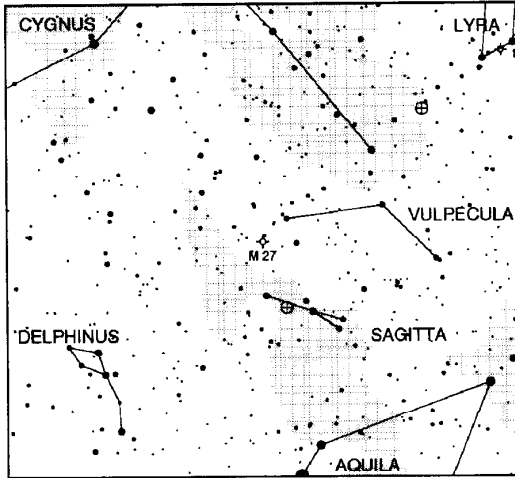
1 degree field, North up, Mirrored

# M 27

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
27	6853	Vul 19 59.6	22 43 8	8	8 x 5	PIN	.9k	Dumbbell Nebula

M27 - bright central bar easily seen with smaller scopes, surrounding nebulosity shows well even with a 6" scope, some structure is resolvable.

Messier objects on 30 degree chart: 56, 57, 71



30 degree field, North up

Notes: \_\_\_\_\_

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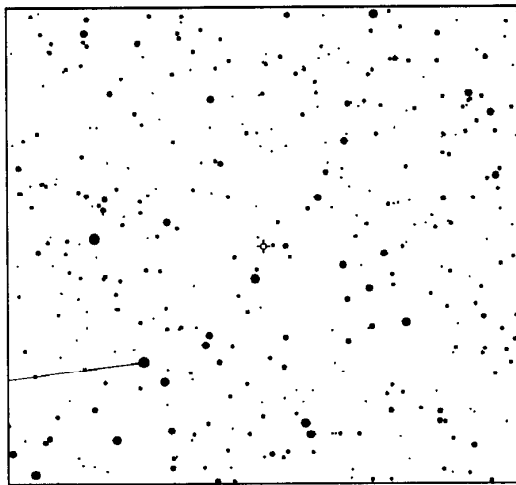
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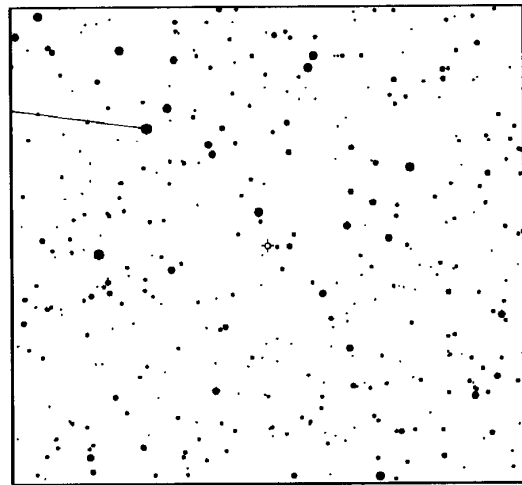
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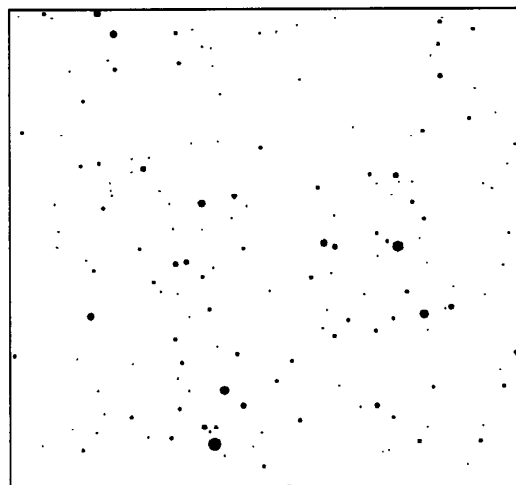
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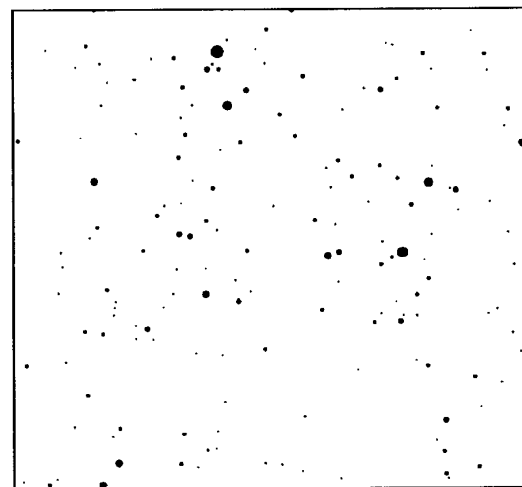
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



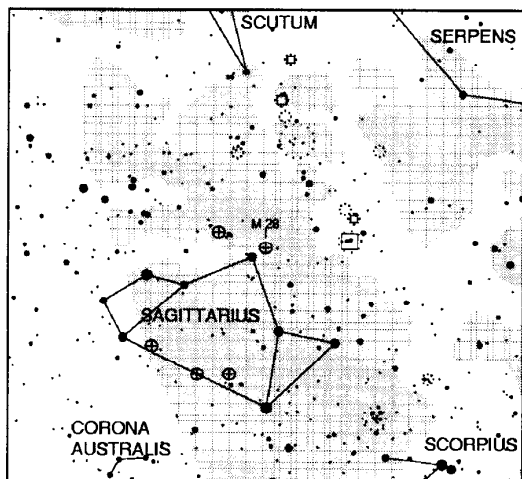
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
28	6626	Sgr 18 24.5	-24 52	8.5	6	GCl	18k	

# M 28

M28 - look for a small fuzzy patch, larger apertures will resolve individual stars.

Messier objects on 30 degree chart: 6, 7, 8, 16, 17, 18, 20, 21, 22, 23, 24, 25, 54, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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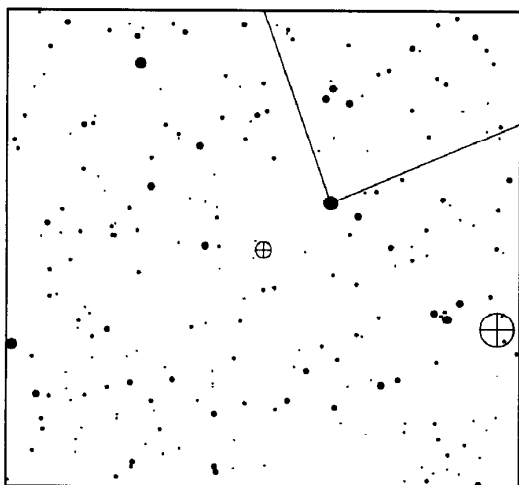
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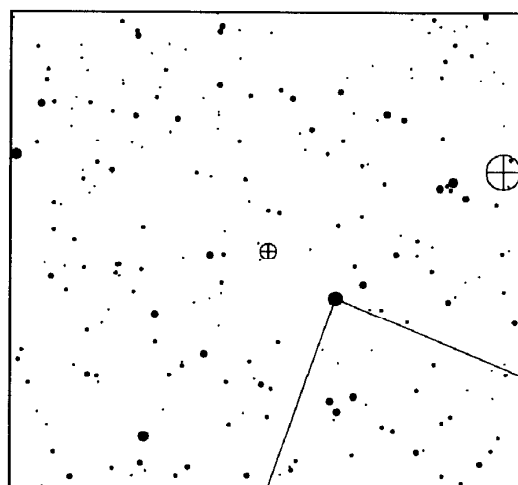
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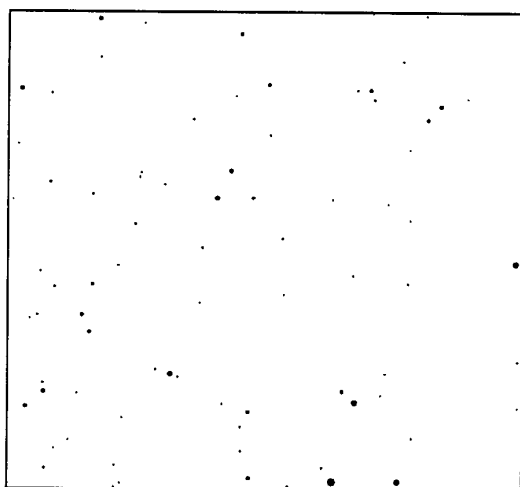
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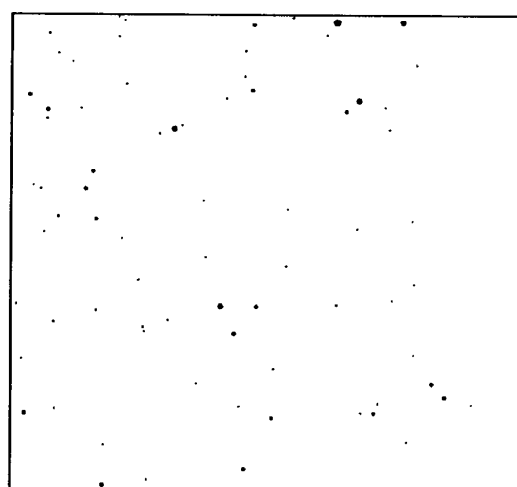
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



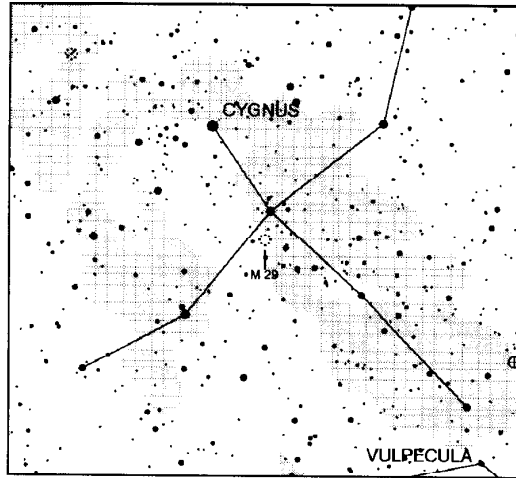
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
29	6913	Cyg	20 23.9	38 32	7.0	7.0	OCI	7.2k	

# M 29

M29 - a small, sparse group of stars. A good low power object.

Messier objects on 30 degree chart: 39, 56



30 degree field, North up

Notes: \_\_\_\_\_

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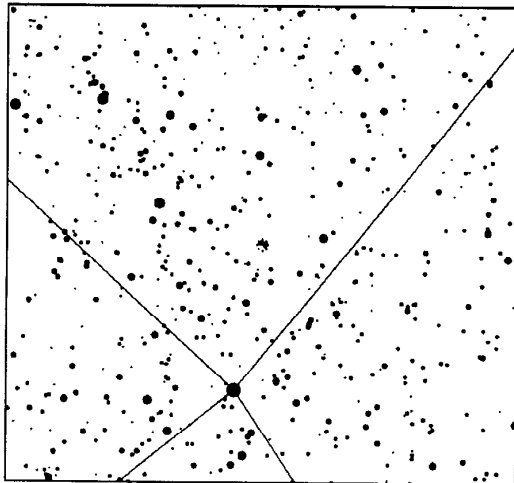
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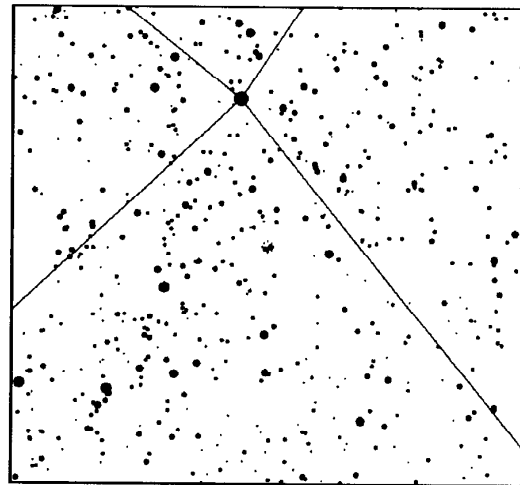
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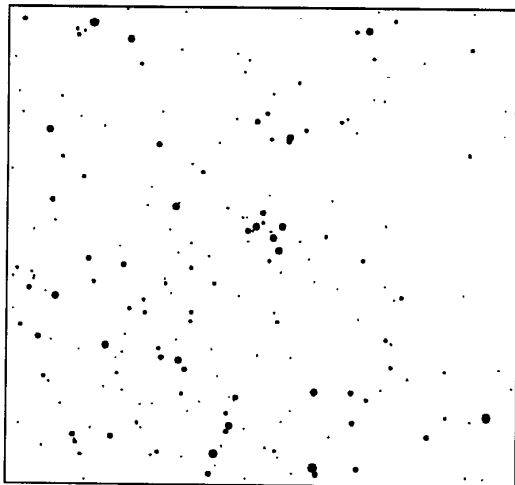
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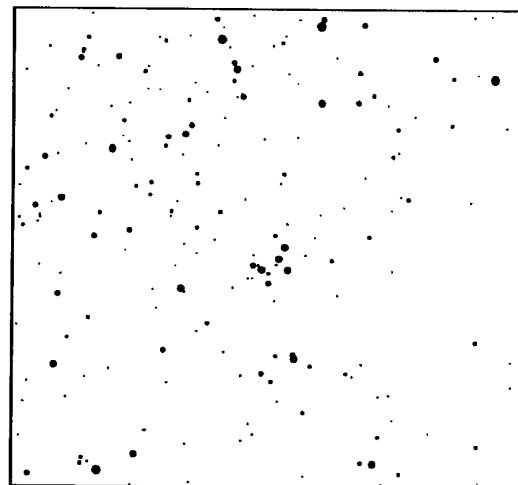
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



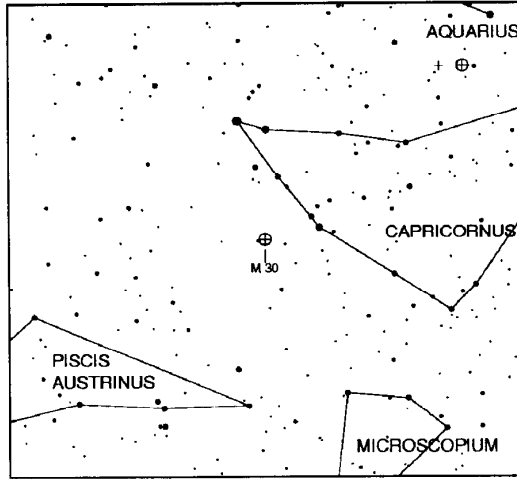
1 degree field, North up, Mirrored

# M 30

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
30	7099	Cap	21 40.4	-23 11	8.0	16.0	GCl	40k	

M30 - a small fuzzy ball of light, bright in the center fading to the edges, easy to find. Look for two streams of stars emerging from the N edge.

Messier objects on 30 degree chart: 72, 73



30 degree field, North up

Notes: \_\_\_\_\_

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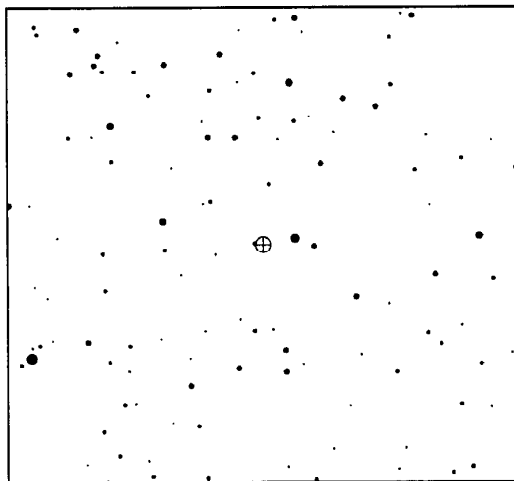
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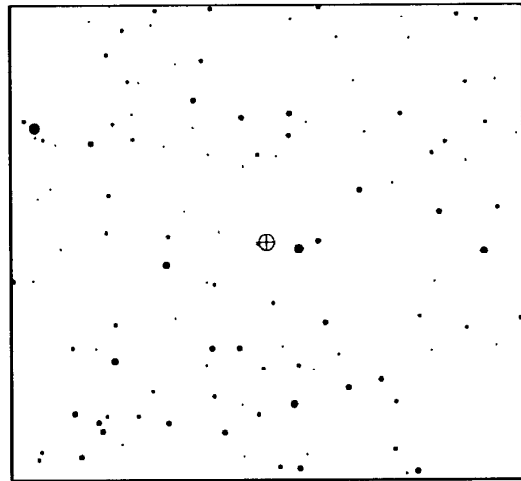
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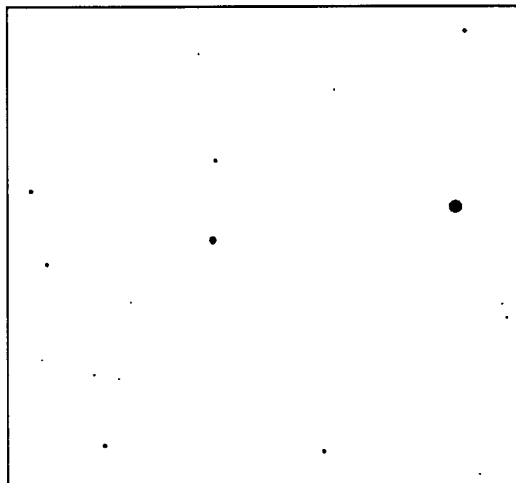
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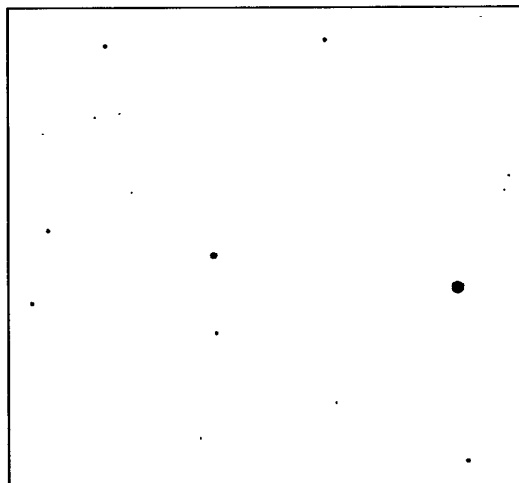
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



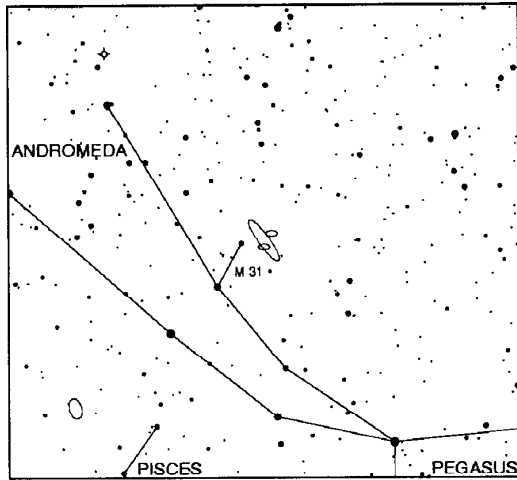
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
31	224	And	00 42.7	41 16	5	160 x 40	Gal	2200k	Andromeda Galaxy

# M 31

M31 - the largest, brightest galaxy to be seen in the northern sky. Look for an elongated patch of light, with a bright, round central core. Don't forget nearby companions M32 and M110.

Messier objects on 30 degree chart: 32, 33, 76, 110



30 degree field, North up

Notes: \_\_\_\_\_

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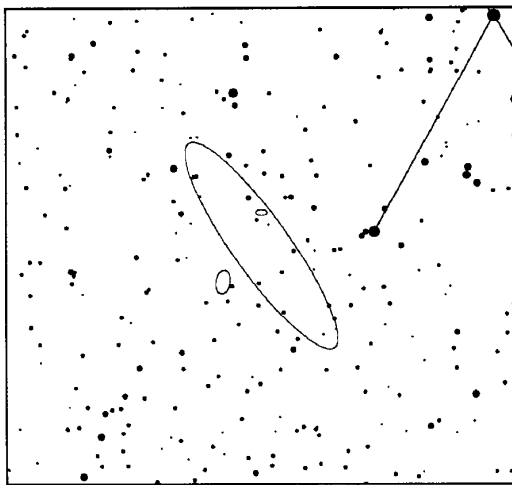
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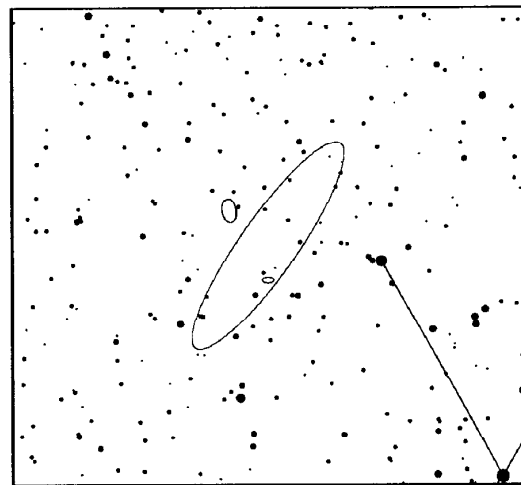
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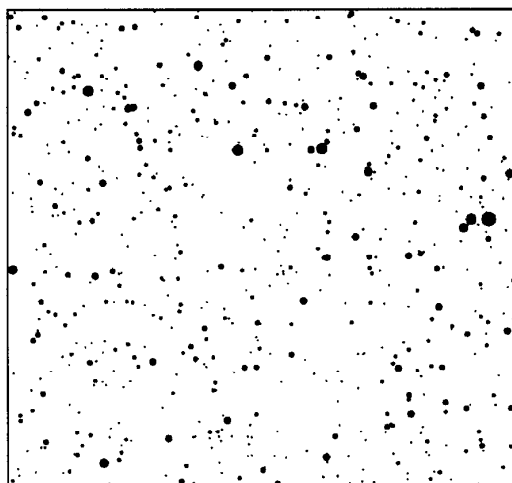
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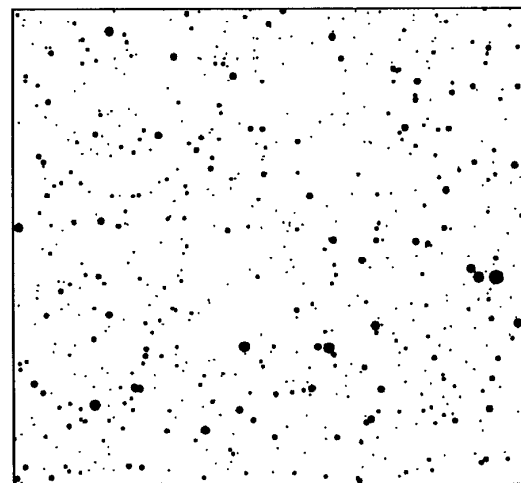
6 degree field, North down



6 degree field, North up, Mirrored



3 degree field, North down



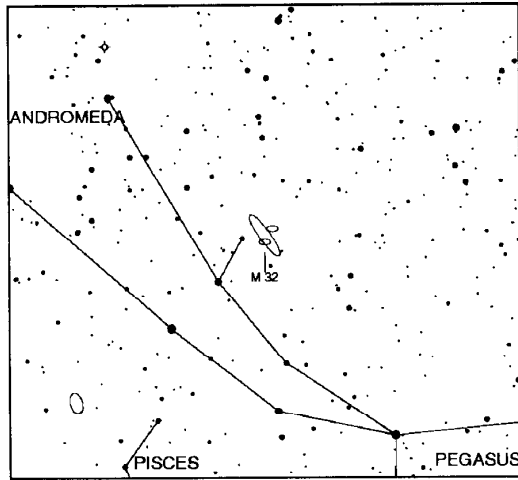
3 degree field, North up, Mirrored

# M 32

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
32	221	And	00 42.7	40 52	9.5	3.6 x 3.1	Gal	2200k	

M32 - look for a slightly oval ball of fuzz, with a somewhat brighter core, in the same low power field as M31.

Messier objects on 30 degree chart: 31, 33, 76, 110



30 degree field, North up

Notes: \_\_\_\_\_

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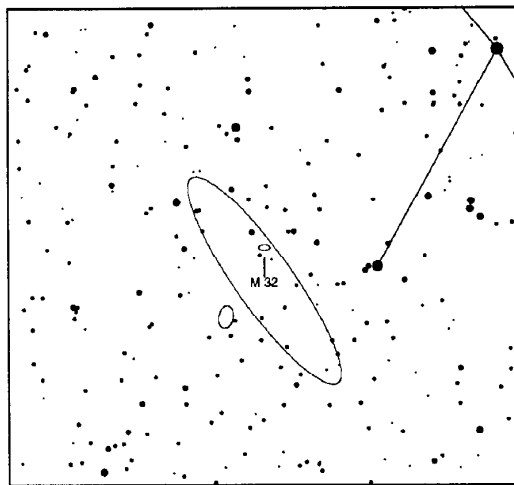
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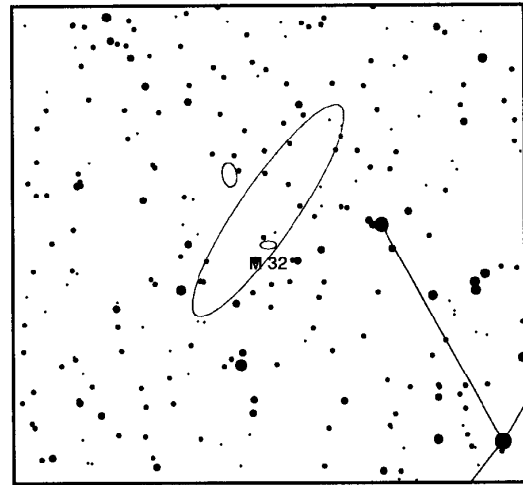
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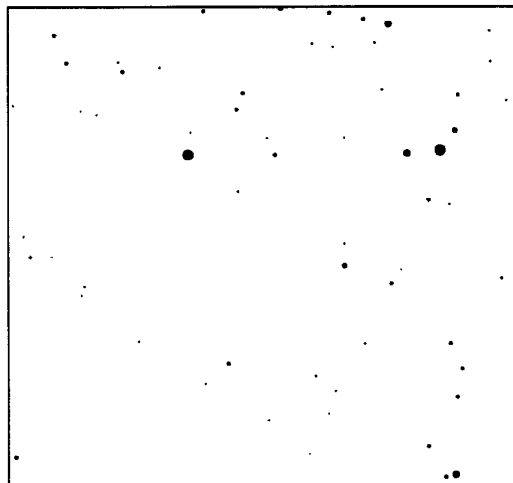
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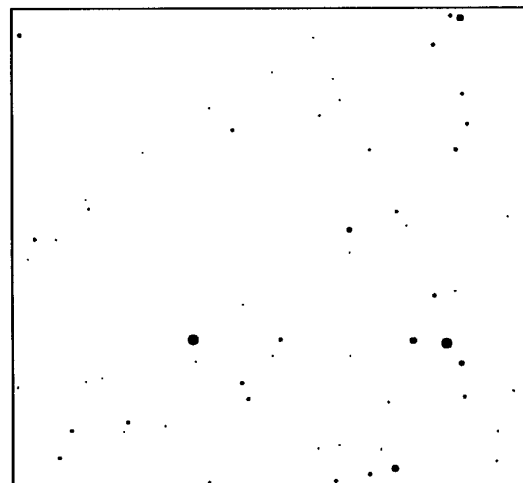
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

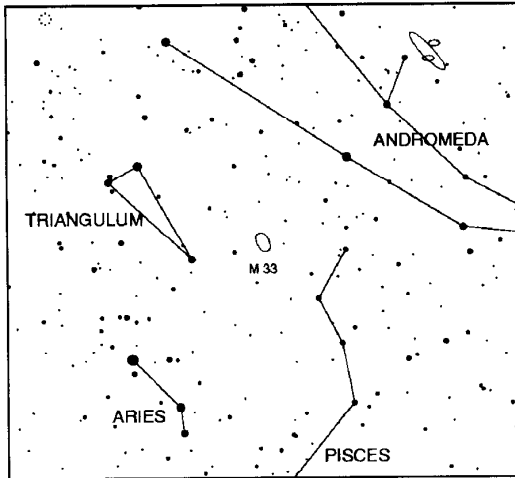


# M 33

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
33	598	Tri 01 33.9	30 39	6.5	60 x 40	Gal	2400k	Triangulum Galaxy

M33 - is about magnitude 5.3, but when spread out over its large area it yields a very low surface brightness. Use a wide field eyepiece and look for a change in contrast to identify the galaxy. Moving and jiggling the scope can help.

Messier objects on 30 degree chart: 31, 32, 34, 110



30 degree field, North up

Notes: \_\_\_\_\_

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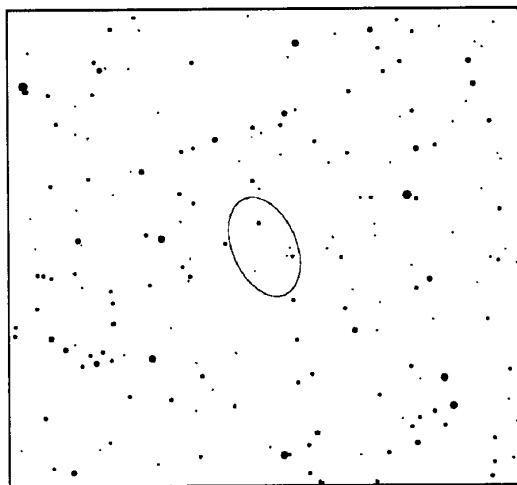
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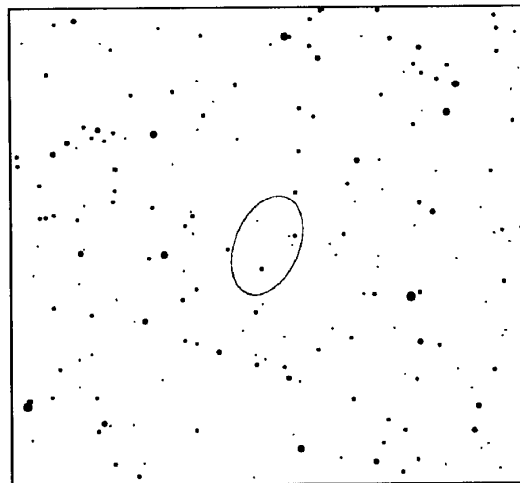
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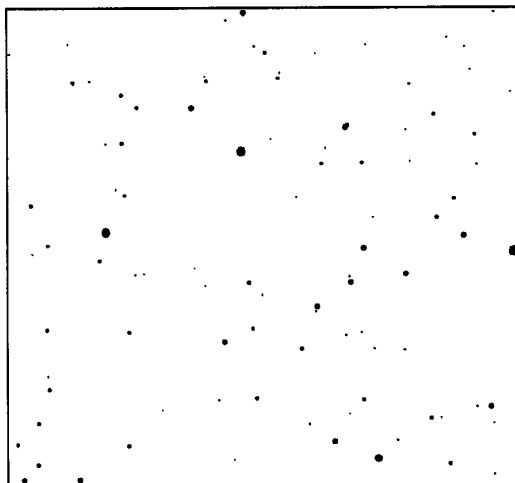
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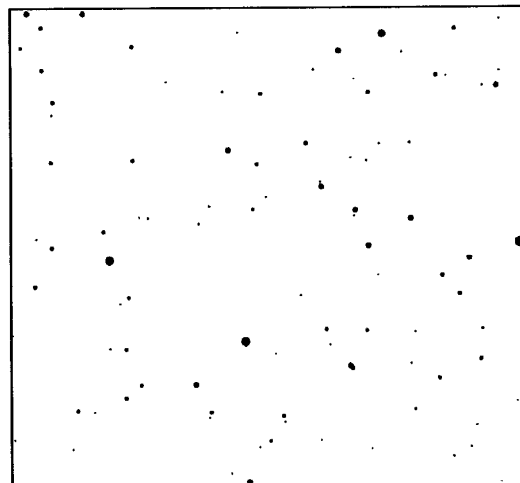
6 degree field, North down



6 degree field, North up, Mirrored



1.5 degree field, North down



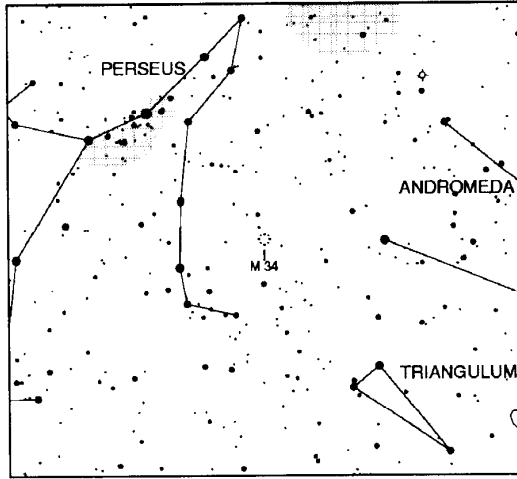
1.5 degree field, North up, Mirrored

# M 34

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
34	1039	Per	02 42.0	42 47	6.0	20.0	OCI	1.4k	

M34 - This is a large, but sparse open cluster of 9th magnitude stars. Low power and a wide field eyepiece will show this one well.

Messier objects on 30 degree chart: 33, 76



30 degree field, North up

Notes: \_\_\_\_\_

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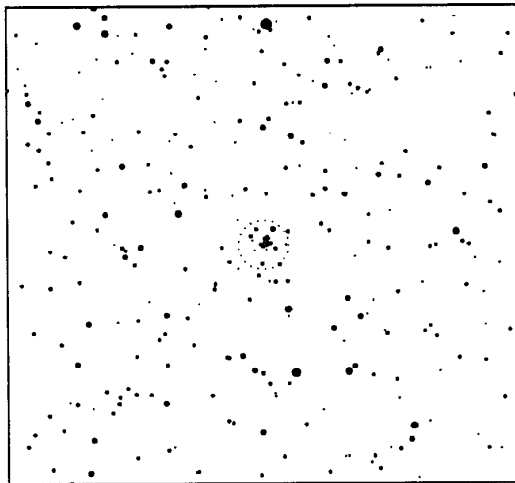
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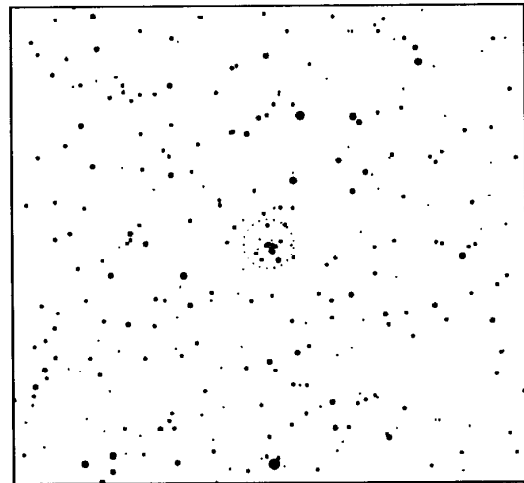
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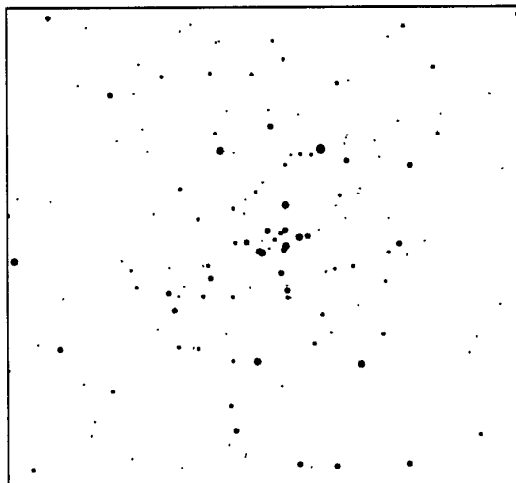
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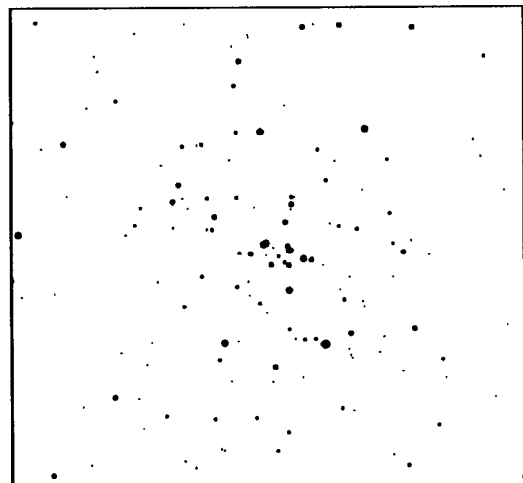
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



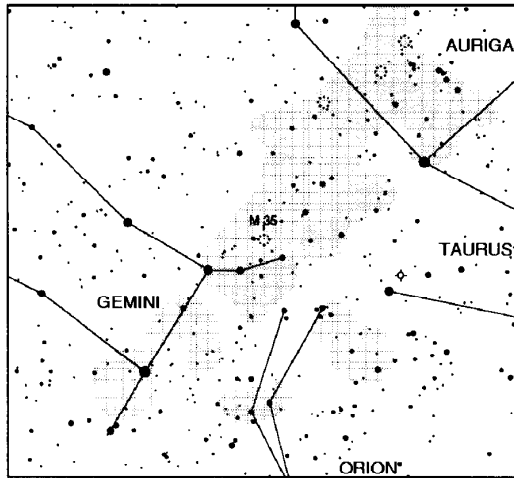
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
35	2168 Gem	06 08.9	24 20	5.5	20.0	OCI	2.2k	

# M 35

M35 - a rich compressed cluster, a real treat in a larger scope. Visible easily through binoculars as a hazy spot. Have a look at NGC 2158 right beside it.

Messier objects on 30 degree chart: 1, 36, 37, 38



30 degree field, North up

Notes: \_\_\_\_\_

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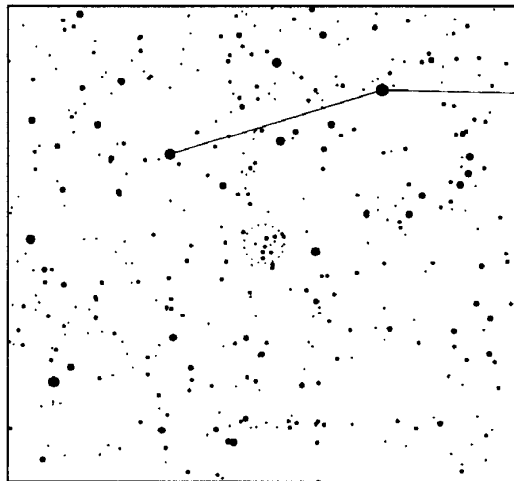
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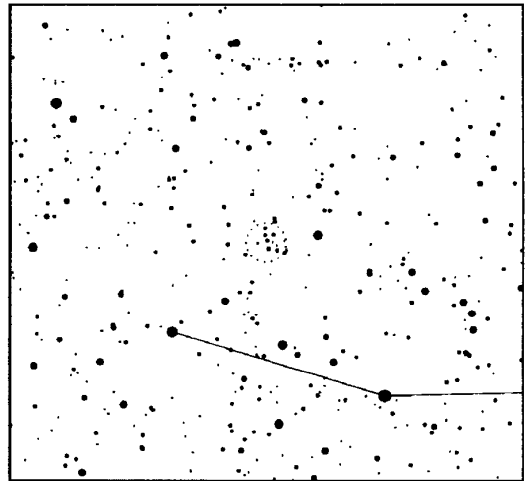
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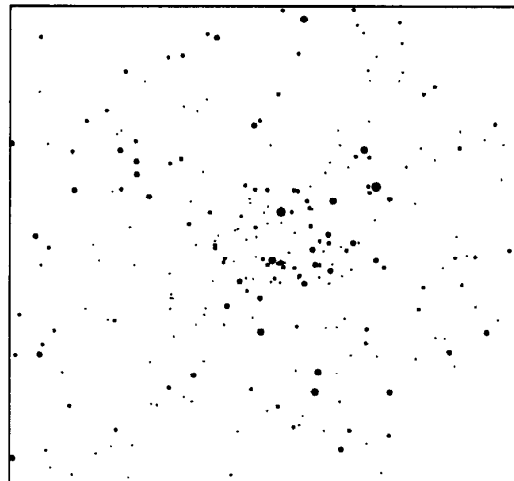
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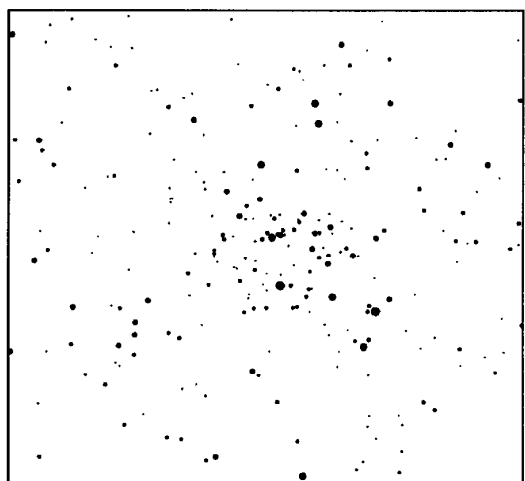
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



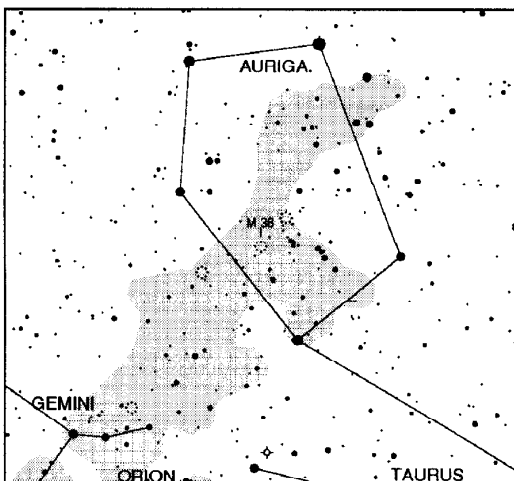
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
36	1960	Aur	05 36.1	34 08	6.5	12.0	OCI	4.1k	

# M 36

M36 - an easy open cluster, rich. Look for color contrasts between the stars.

Messier objects on 30 degree chart: 1, 35, 37, 38



30 degree field, North up

Notes: \_\_\_\_\_

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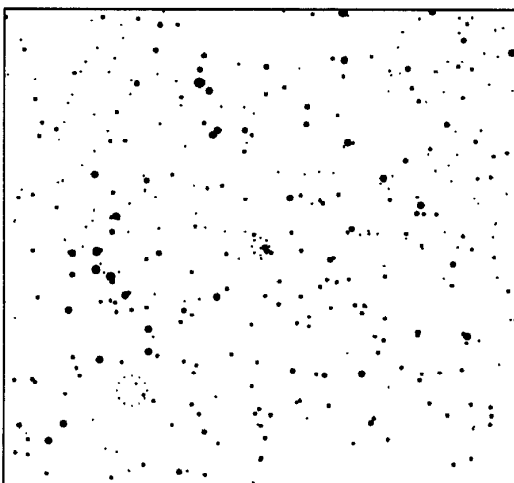
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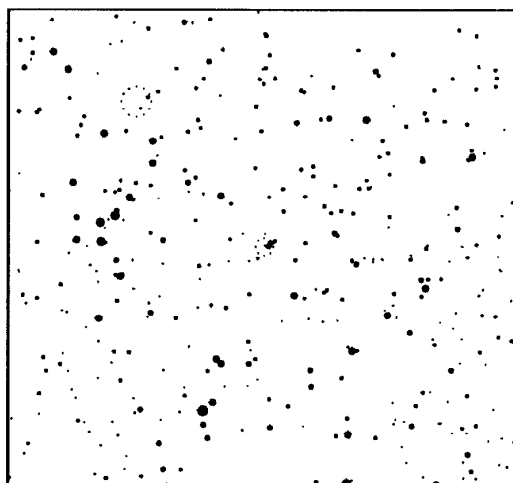
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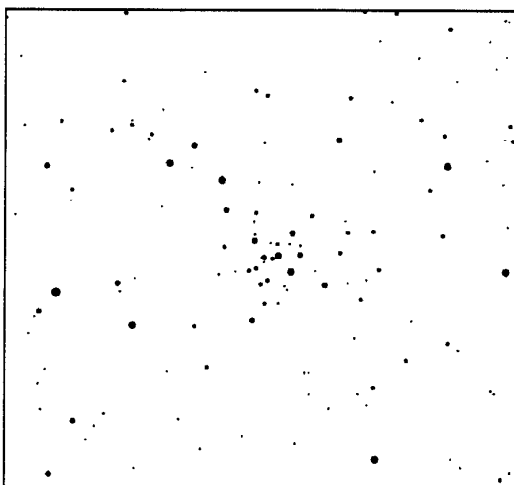
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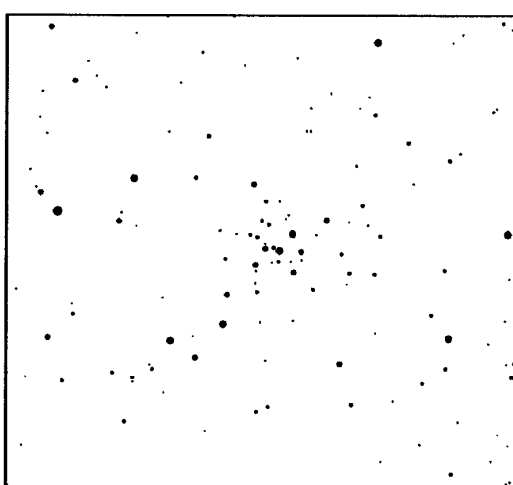
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



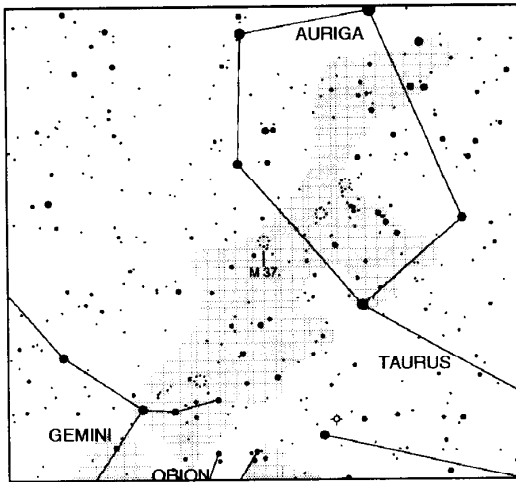
1 degree field, North up, Mirrored

# M 37

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
37	2099	Aur	05 52.4	32 33	6.0	20.0	OCI	4.6k	

M37 - probably one of the best open clusters for the northern viewer! Look for Magnitude 9.5 red giant in center of the cluster, "Ruby in a diamond setting."

Messier objects on 30 degree chart: 1, 35, 36, 38



30 degree field, North up

Notes: \_\_\_\_\_

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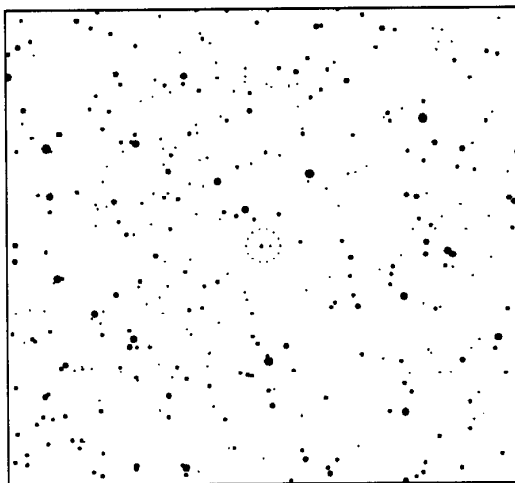
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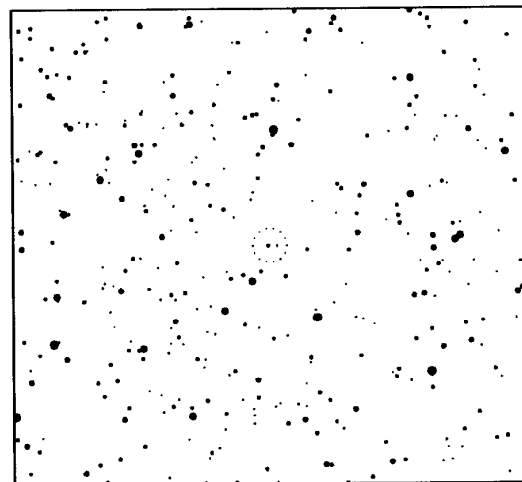
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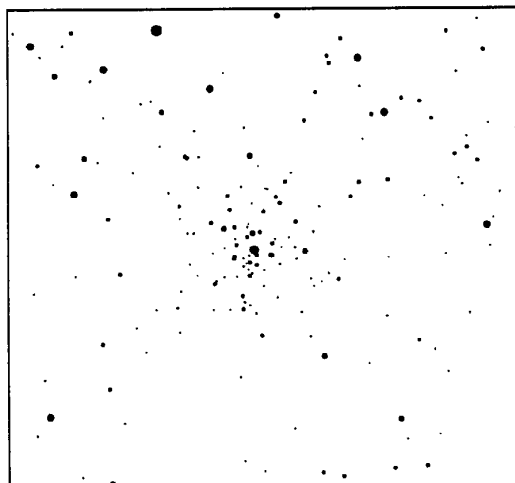
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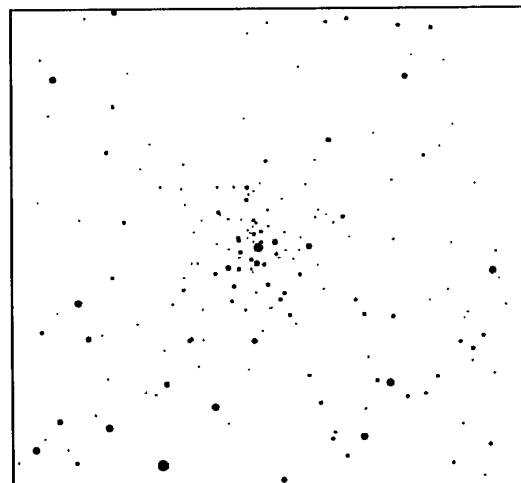
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



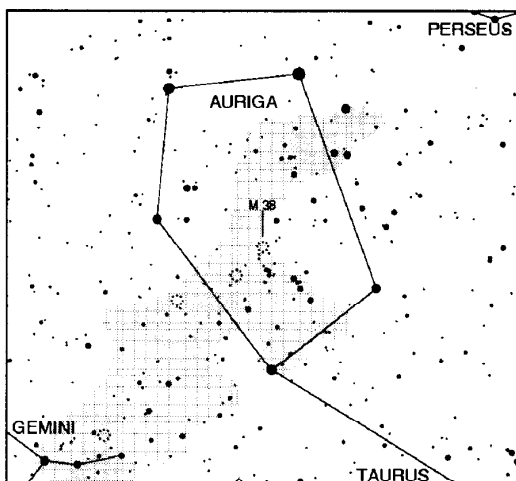
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
38	1912	Aur	05 28.7	35 50	7.0	20.0	OCI	4.2k	

# M 38

M38 - look for a question mark asterism of brighter stars within the cluster.

Messier objects on 30 degree chart: 1, 35, 36, 37



30 degree field, North up

Notes: \_\_\_\_\_

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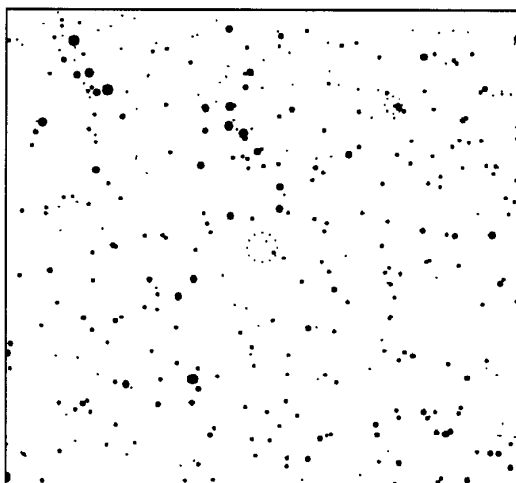
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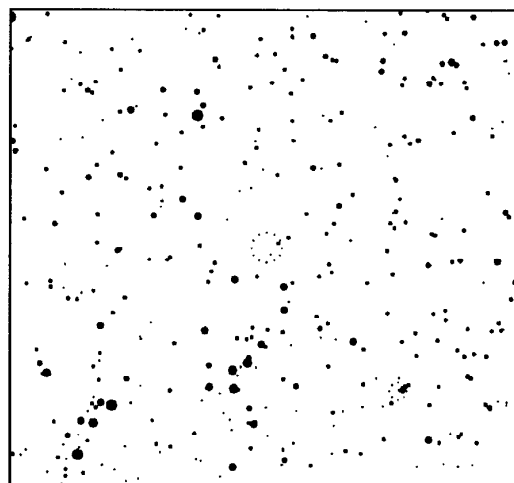
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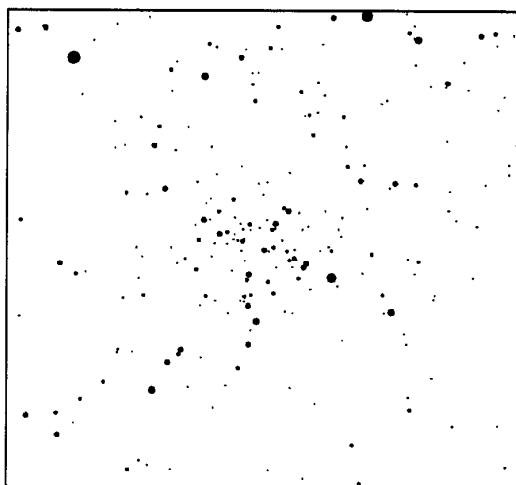
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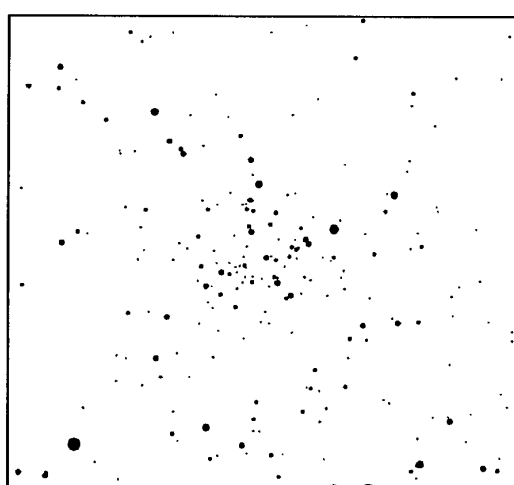
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



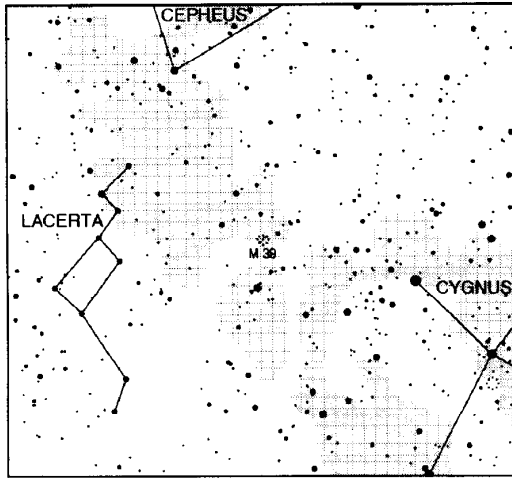
1 degree field, North up, Mirrored

# M 39

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
39	7092	Cyg	21 32.2	48 26	5	30.0	OCI	0.8k	

M39 - this cluster has bright and widely scattered members, lowest power to view its structure.

Messier objects on 30 degree chart: 29



30 degree field, North up

Notes: \_\_\_\_\_

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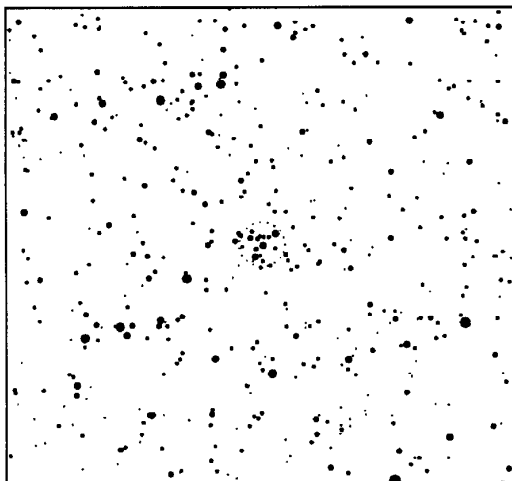
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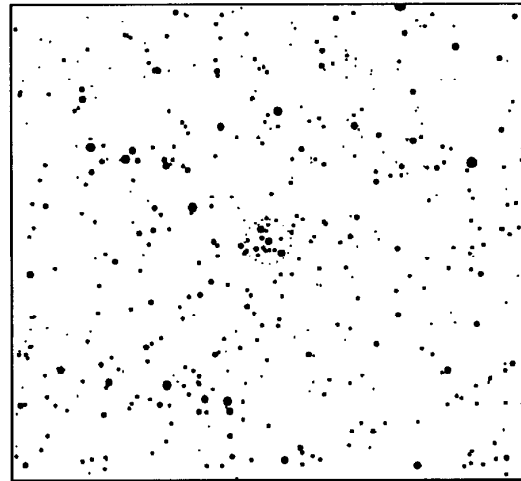
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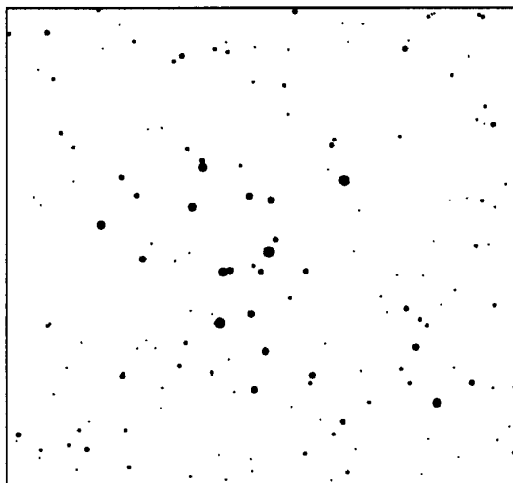
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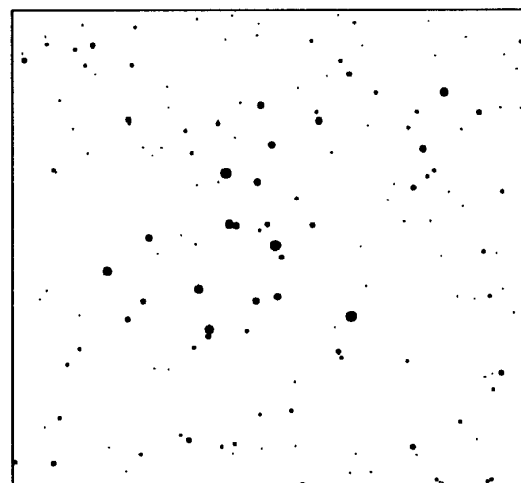
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



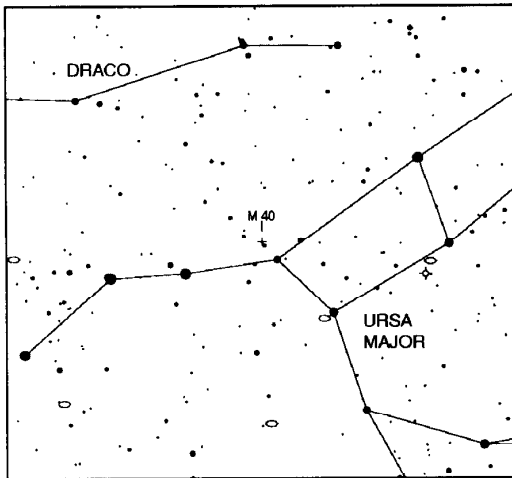
1 degree field, North up, Mirrored

# M 40

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
40	---	UMa	12 22.4	58 05	9.0	0.8	Double Star		Winnecke 4

M40 - one of the oddest entries in Messiers catalog, this double star is an *easy* split. No neblosity or anything else of interest.

Messier objects on 30 degree chart: 51, 97, 101, 106, 108, 109



30 degree field, North up

Notes: \_\_\_\_\_

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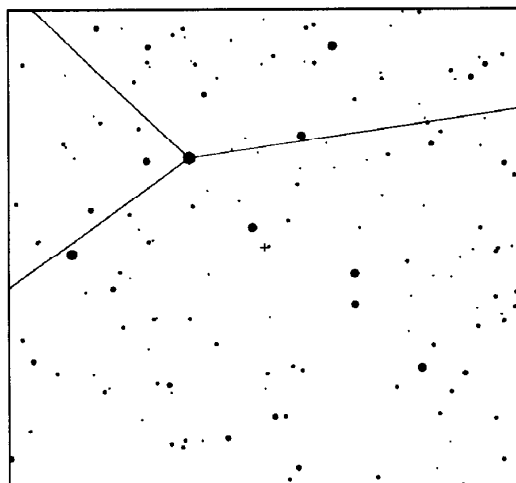
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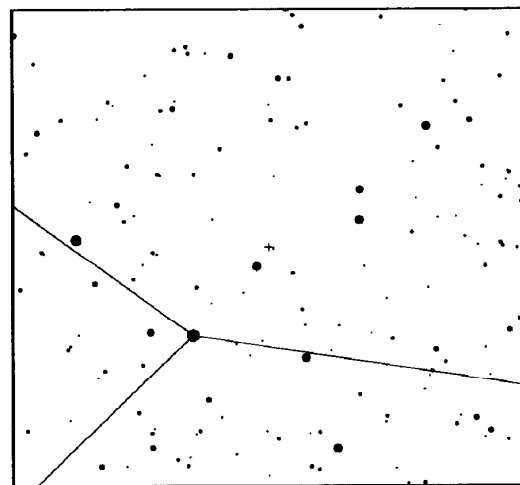
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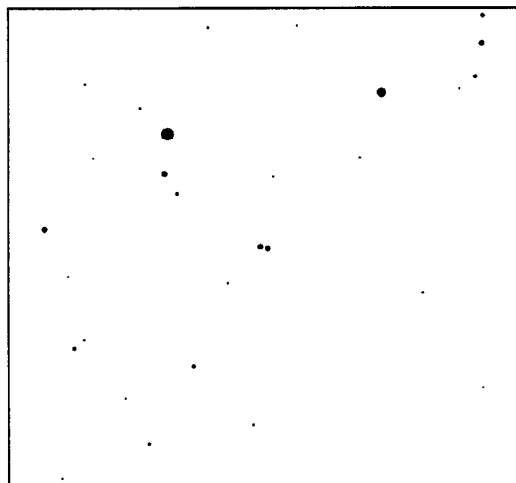
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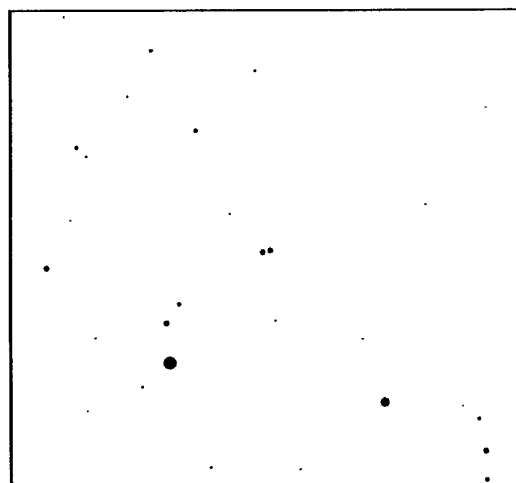
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

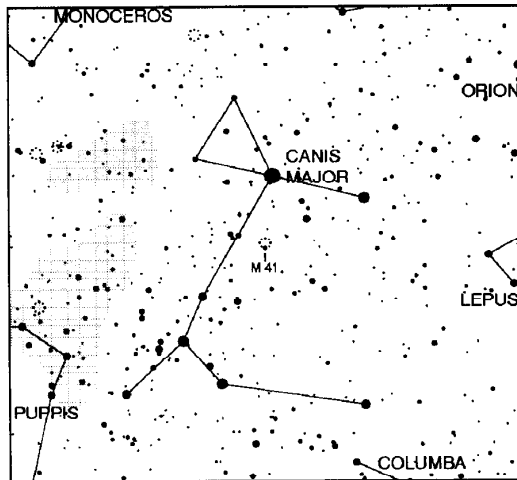


M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
41	2287	CMa	06 47.0	-20 44	6.0	20.0	OCI	2.4k	

# M 41

M41 - is resolvable in binoculars and appears fairly loose in telescopes at low power. Bright reddish star near center.

Messier objects on 30 degree chart: 46, 47, 50, 93



30 degree field, North up

Notes: \_\_\_\_\_

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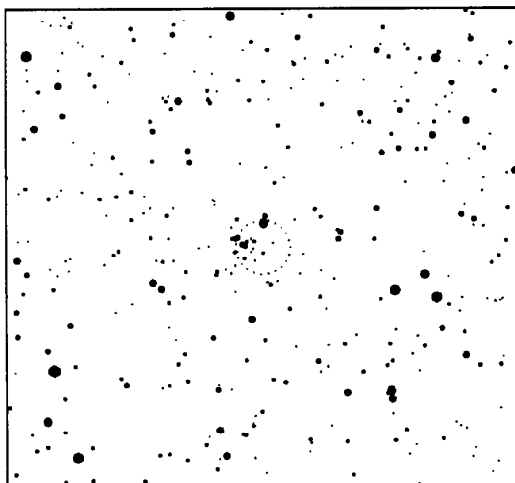
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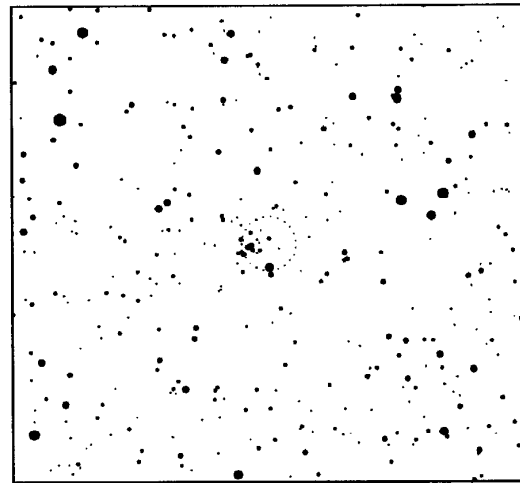
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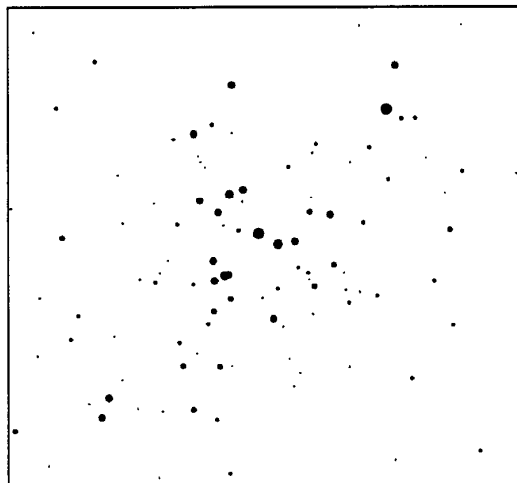
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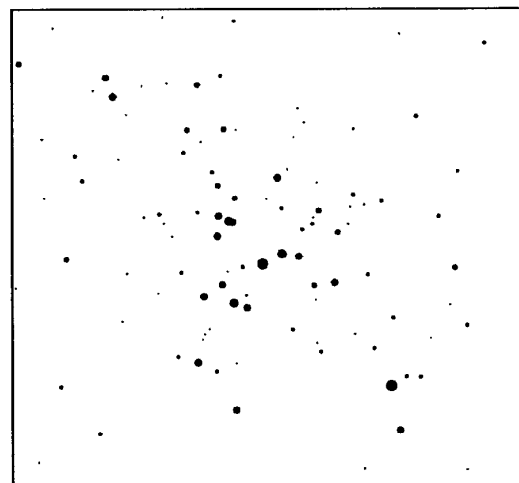
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

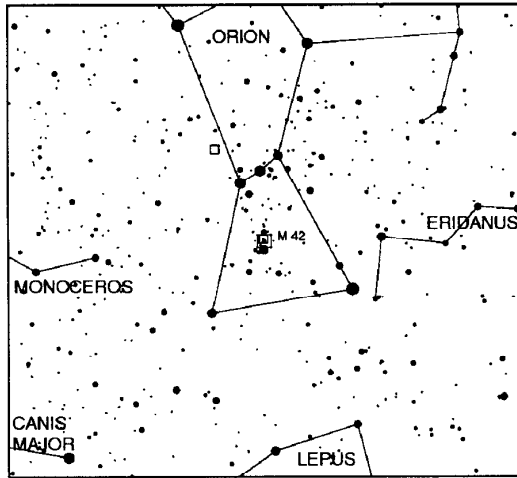


1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
42	1976	Ori	05 35.4	-05 27	5.0	85 x 60	DfN	1.6k	Orion Nebula
43	1982	Ori	05 35.6	-05 16	7.0	20 x 15	DfN	1.6k	de Mairan's nebula

M42, M43 - Use low to moderate powers for the best view of this pair.

Messier objects on 30 degree chart: 43, 78



30 degree field, North up

Notes: \_\_\_\_\_

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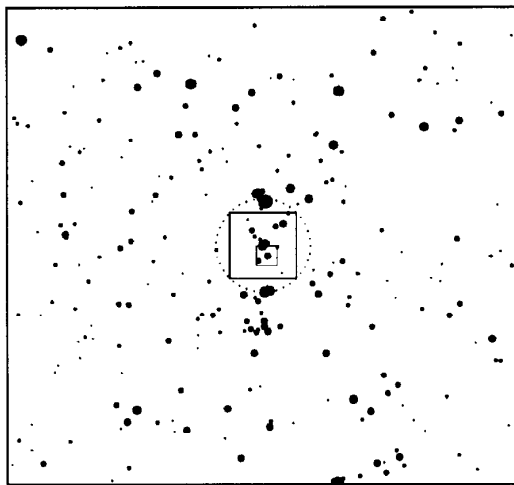
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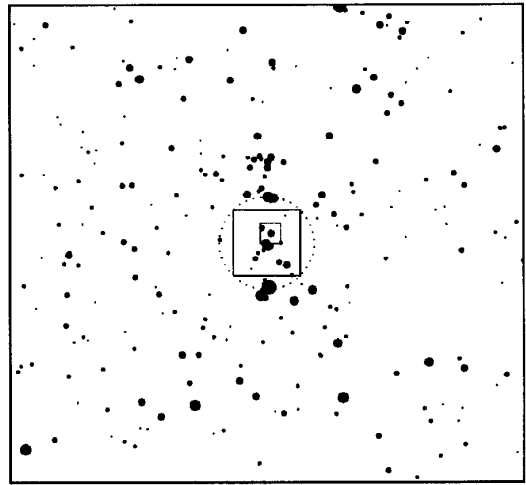
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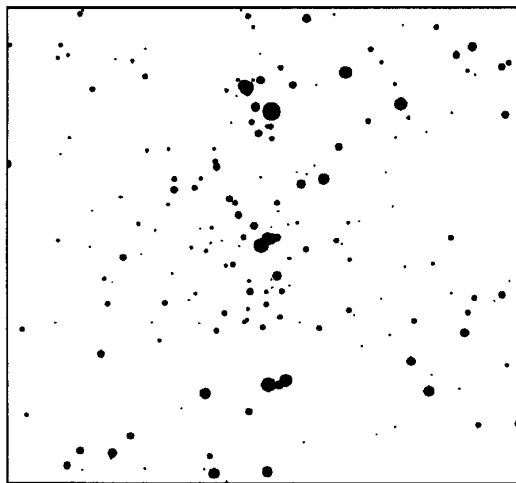
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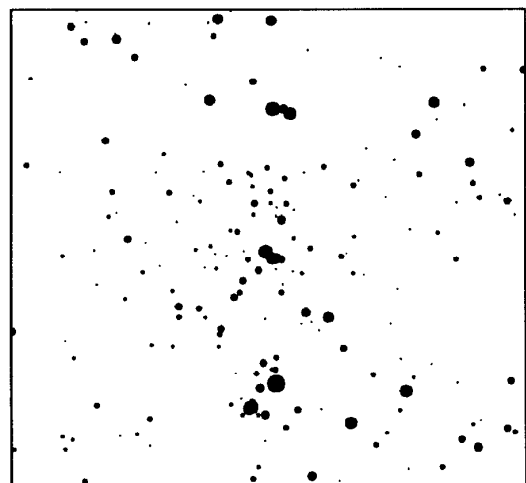
6 degree field, North down



6 degree field, North up, Mirrored



2 degree field, North down



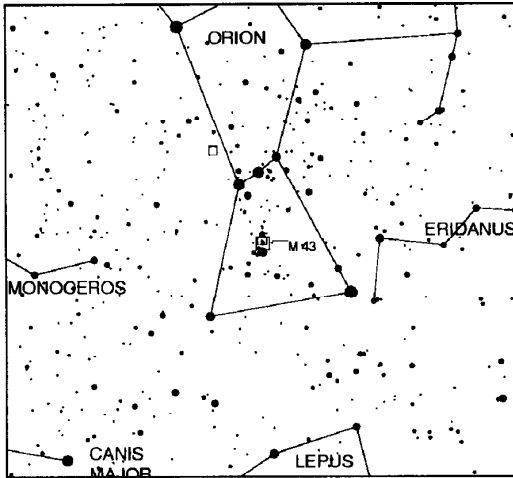
2 degree field, North up, Mirrored

# M 43

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
42	1976	Ori	05 35.4	-05 27	5.0	85 x 60	DfN	1.6k	Orion Nebula
43	1982	Ori	05 35.6	-05 16	7.0	20 x 15	DfN	1.6k	de Mairan's nebula

M42, M43 - Use low to moderate powers for the best view of this pair.

Messier objects on 30 degree chart: 42, 78



30 degree field, North up

Notes: \_\_\_\_\_

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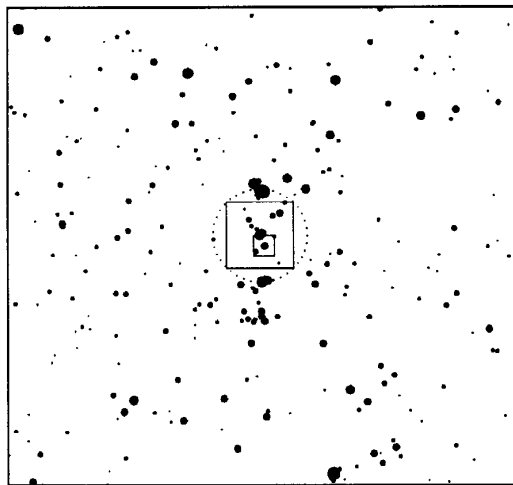
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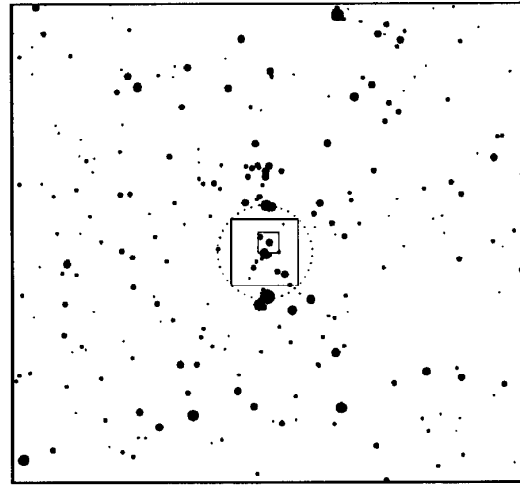
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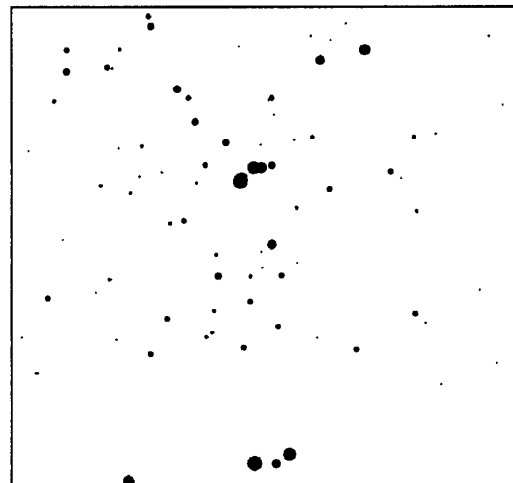
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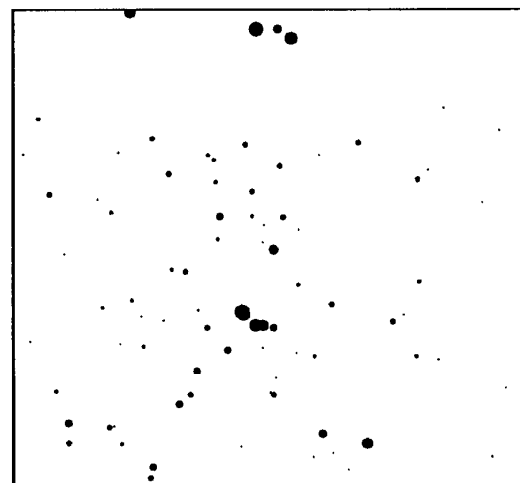
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



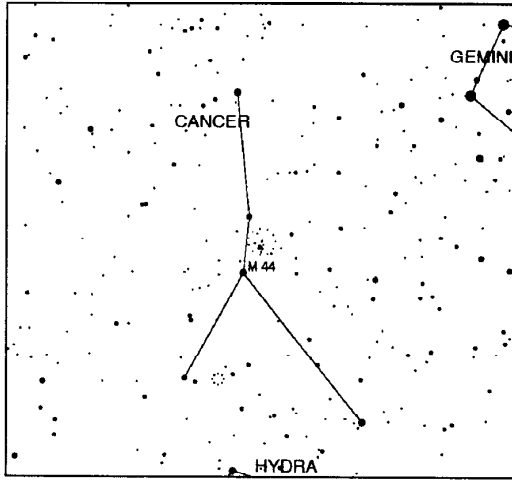
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
44	2632	Cnc	08 40.1	19 59	4.5	80.0	OCI	0.5k	Præsepe, Beehive Cluster

# M 44

M44 - binoculars or very wide field telescopes provide the best view.

Messier objects on 30 degree chart: 67



30 degree field, North up

Notes: \_\_\_\_\_

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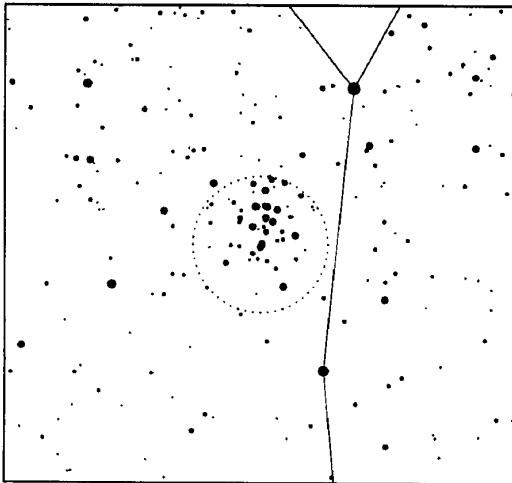
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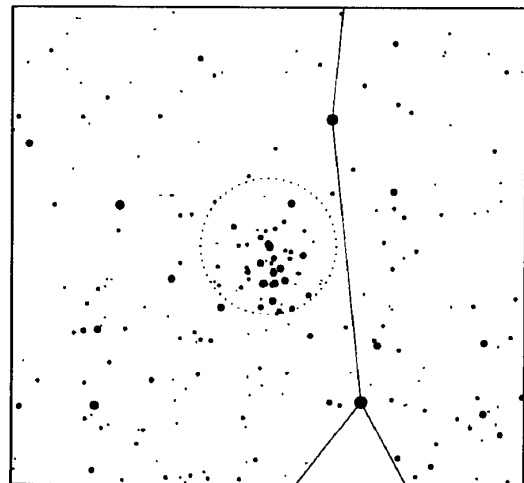
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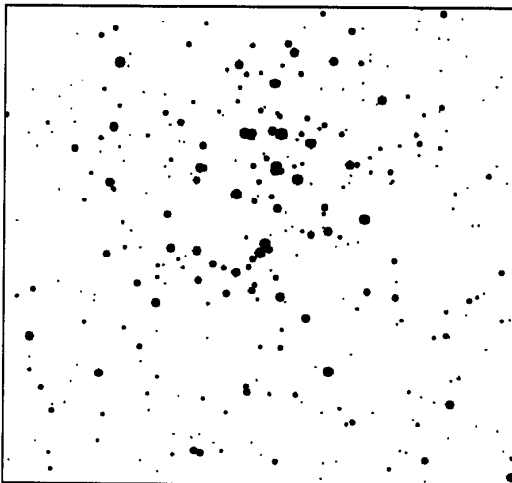
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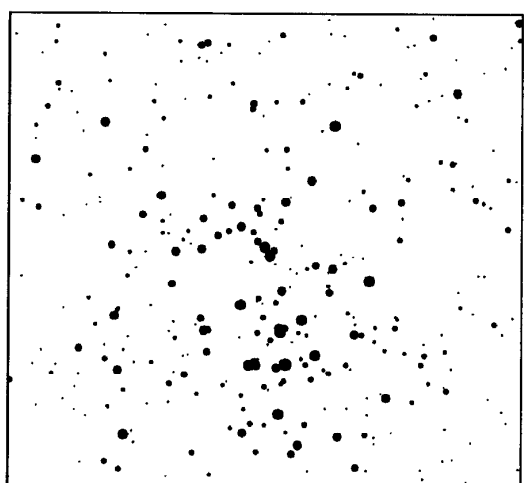
6 degree field, North down



6 degree field, North up, Mirrored



2 degree field, North down



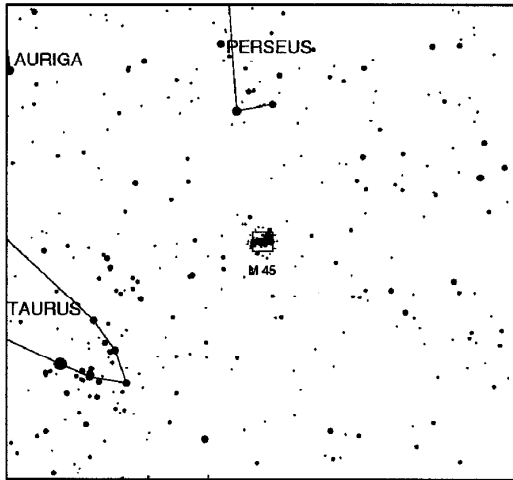
2 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
45	1432	Tau	03 47.0	24 07	1.4	100.0	OCI	0.4k	Subaru, Pleiades, Seven Sisters

# M 45

M45 - look for nebulosity around Merope, and other brighter components.

Messier objects on 30 degree chart: none



30 degree field, North up

Notes: \_\_\_\_\_

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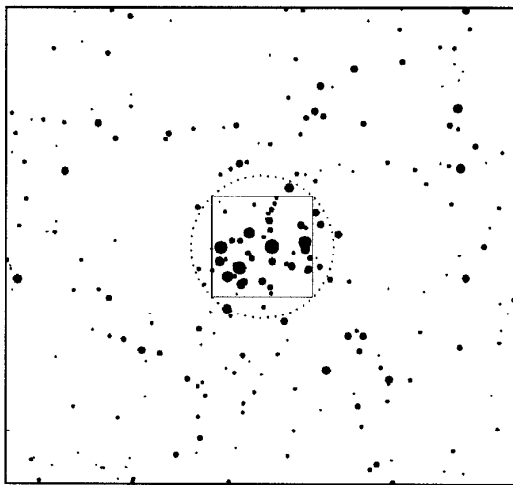
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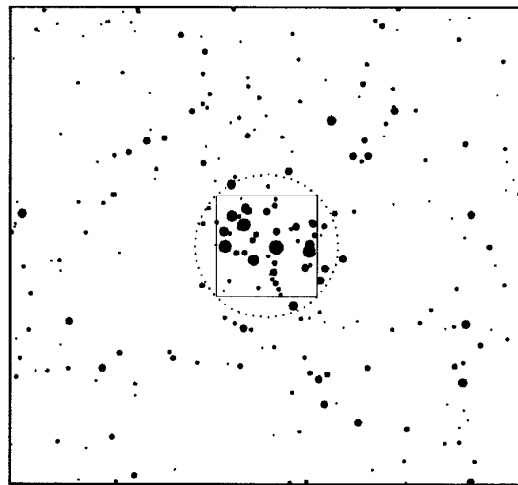
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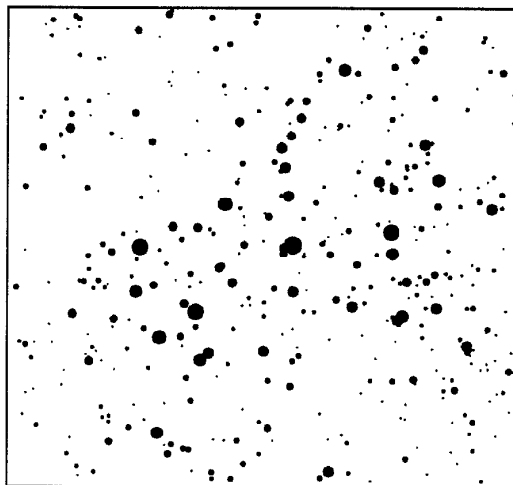
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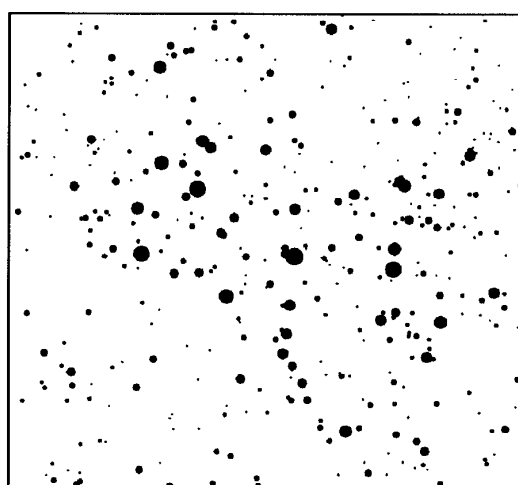
6 degree field, North down



6 degree field, North up, Mirrored



2 degree field, North down



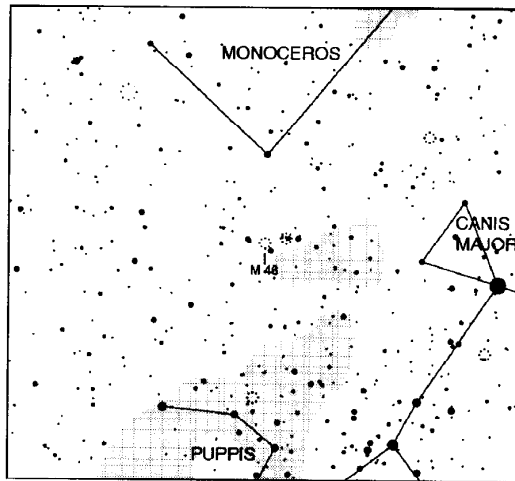
2 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
46	2437	Pup	07 41.8	-14 49	8	25.0	OCI	5.4k	

# M 46

M46 - many faint stars. NGC 2438, a planetary nebula, appears as a faint uneven ring within the cluster.

Messier objects on 30 degree chart: 41, 47, 48, 50, 93



30 degree field, North up

Notes: \_\_\_\_\_

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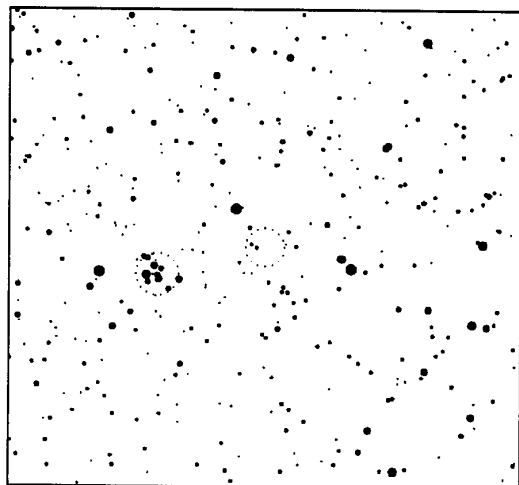
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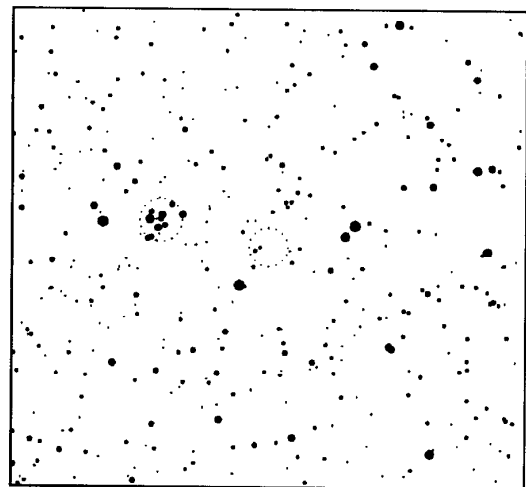
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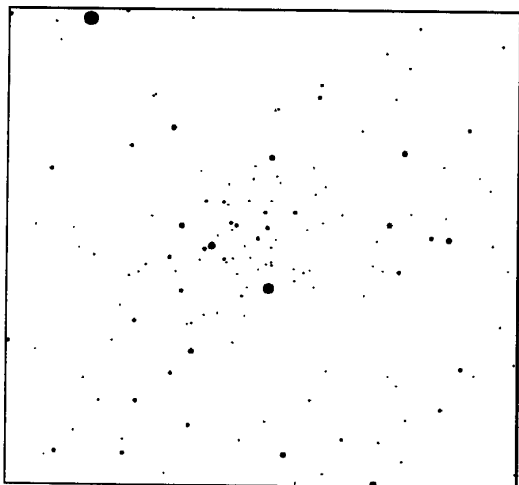
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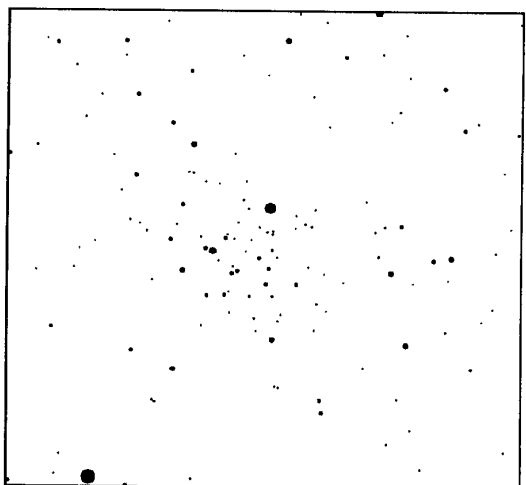
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



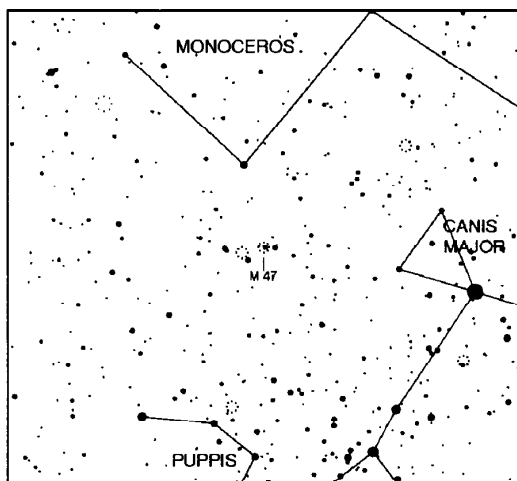
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
47	2422	Pup	07 36.6	-14 30	5	20.0	OCI	1.6k	

# M 47

M47 - easily visible to the naked eye. A fairly loose cluster. This cluster contains Struve 1121, a close double star.

Messier objects on 30 degree chart: 41, 46, 48, 50, 93



30 degree field, North up

Notes: \_\_\_\_\_

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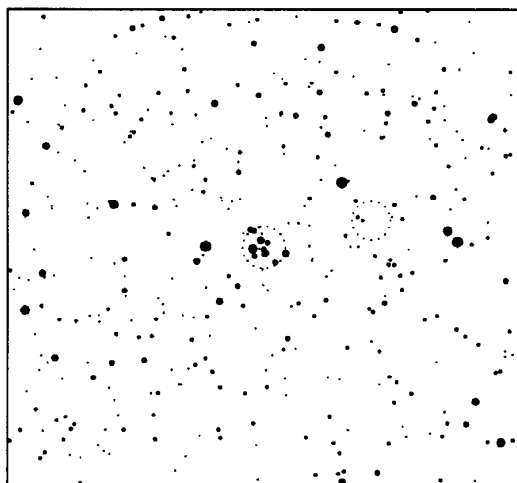
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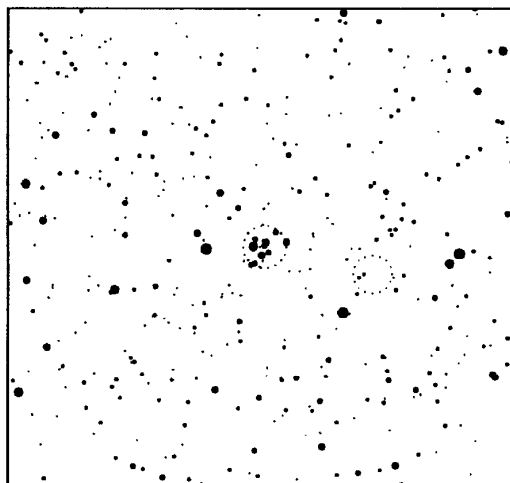
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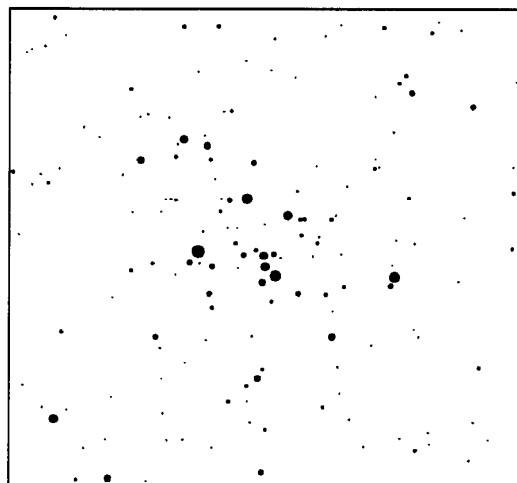
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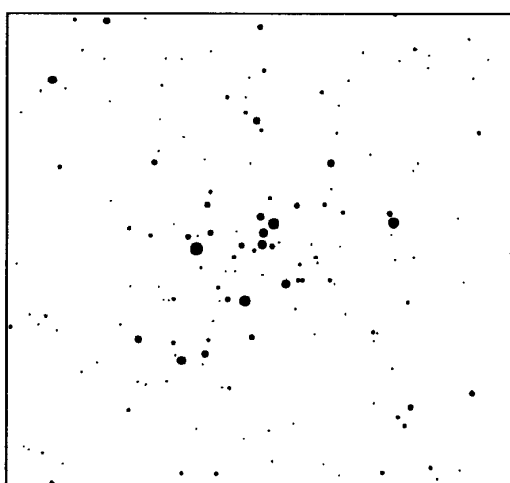
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



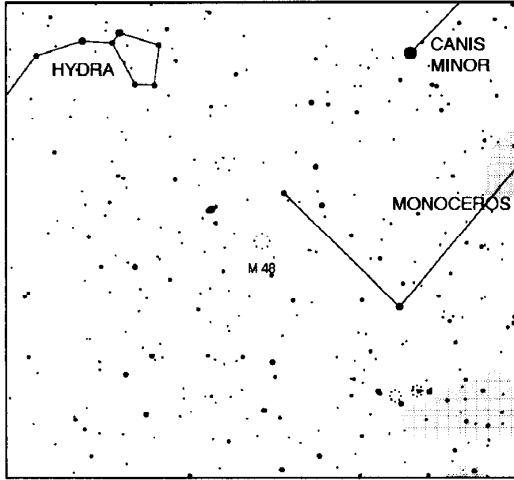
1 degree field, North up, Mirrored

# M 48

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
48	2548	Hya	08 13.8	-05 48	5.5	40	OCI	1.7k	

M48 - very loose, very open cluster, the finder may give a better view than the main scope. Chain of 10 and 11 magnitude stars in middle.

Messier objects on 30 degree chart: 46, 47



30 degree field, North up

Notes: \_\_\_\_\_

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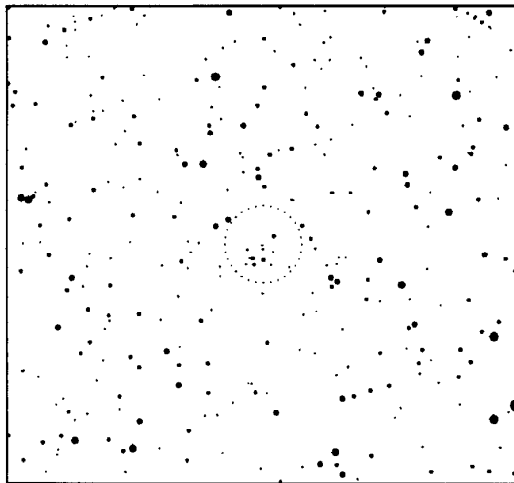
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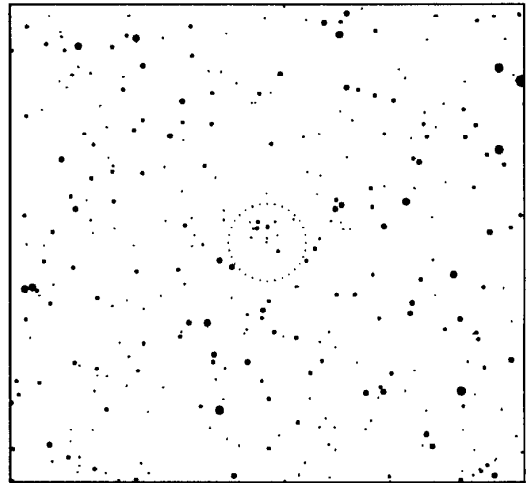
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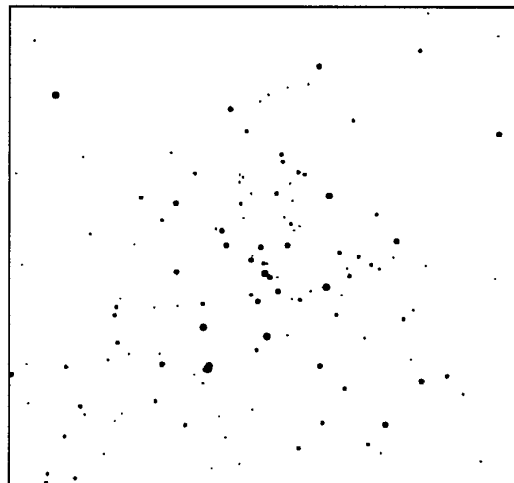
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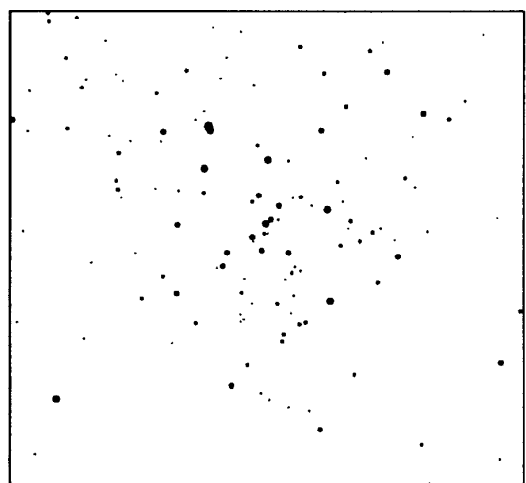
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

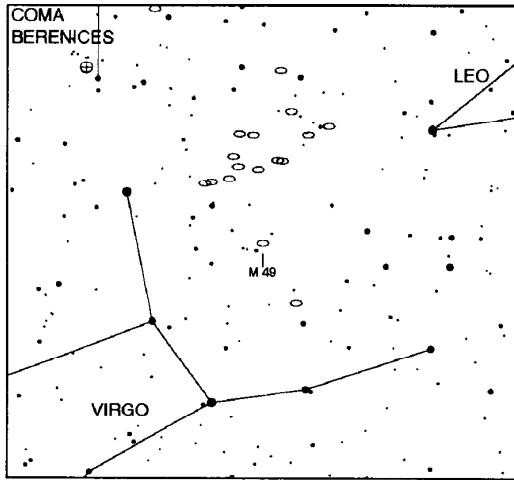


M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
49	4472	Vir	12 29.8	08 00	10.1	4 x 3.4	Gal	42000k	

# M 49

M49 - a round patch of light with bright center gradually fading.

Messier objects on 30 degree chart: 53, 58, 59, 60, 61, 64, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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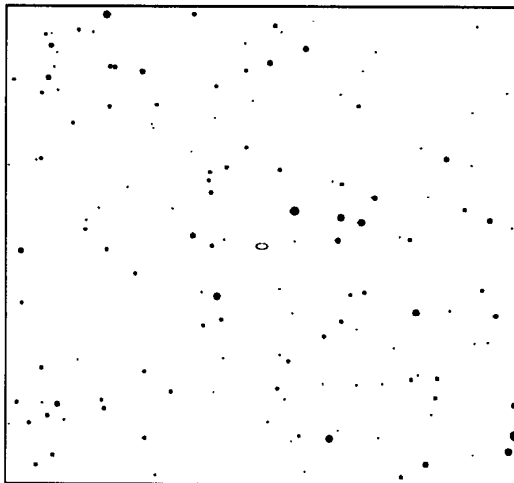
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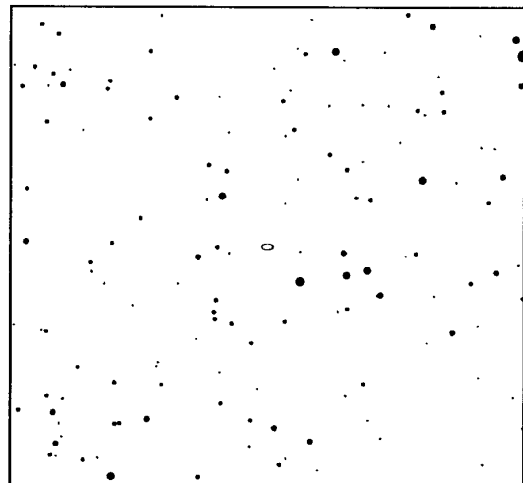
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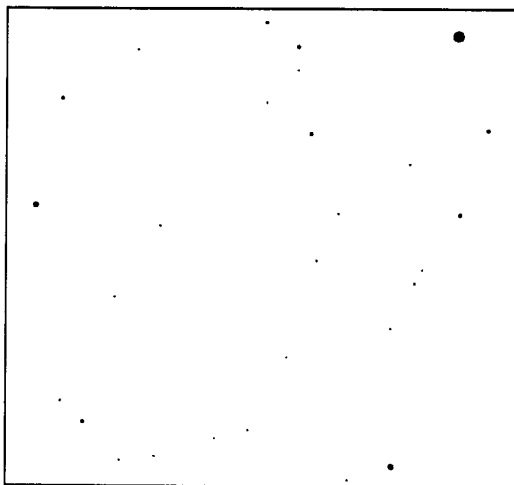
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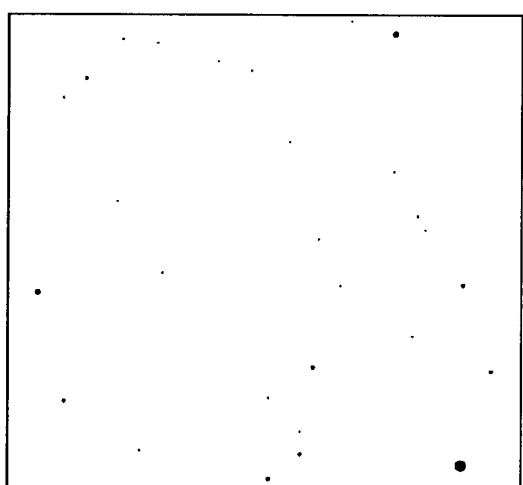
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



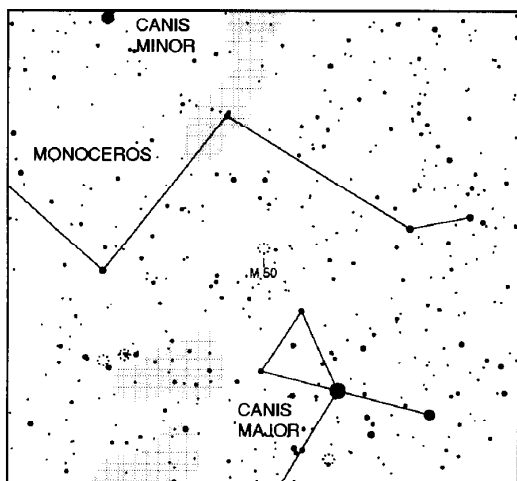
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
50	2323	Mon	07 03.2	-08 20	6.0	10.0	OCI	2.9k	

# M 50

M50 - a fairly tight cluster at low power with an impression of haziness or dusting of stars around brighter members. Note red star 7' South of center, also arcs of stars.

Messier objects on 30 degree chart: 41, 46, 47



30 degree field, North up

Notes: \_\_\_\_\_

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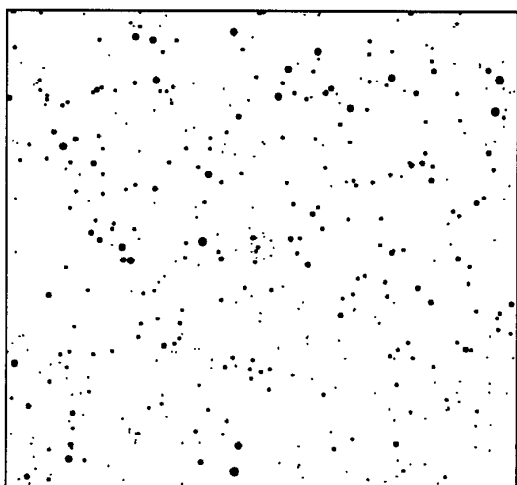
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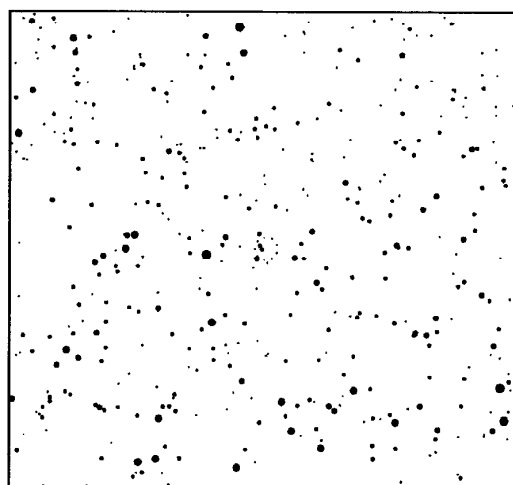
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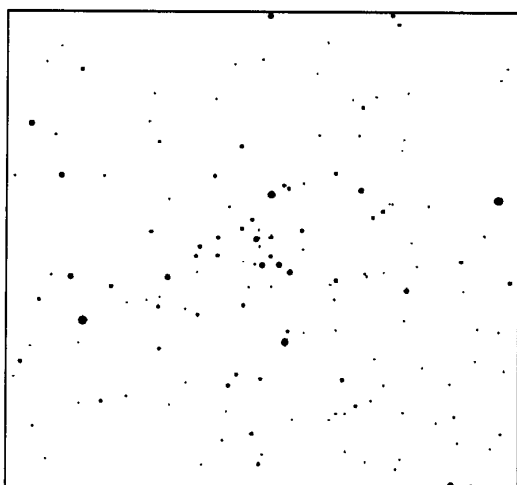
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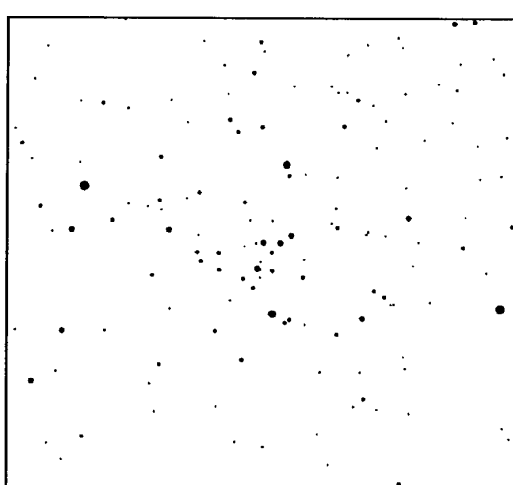
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



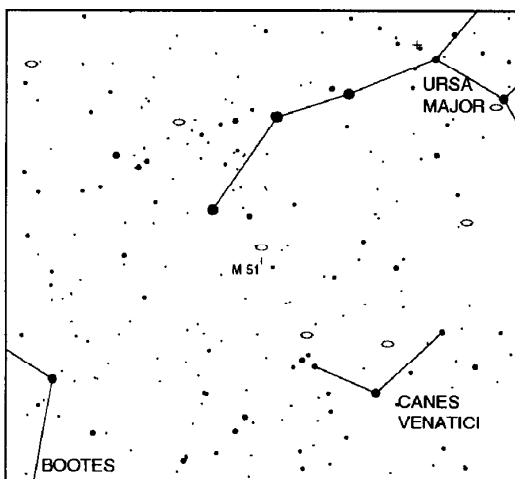
1 degree field, North up, Mirrored

# M 51

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
51	5194 CVn	13 29.9	47 12	8.7	10 x 5.5	Gal	35000k	Whirlpool Galaxy

M51 - look for a pair of fuzzy patches of light. The larger, brighter one is M51 and it's companion NGC 5195 as the smaller patch. Look for some spiral structure in M51, its visible even in smaller scopes.

Messier objects on 30 degree chart: 40, 63, 94, 101, 102, 106, 109



Notes: \_\_\_\_\_

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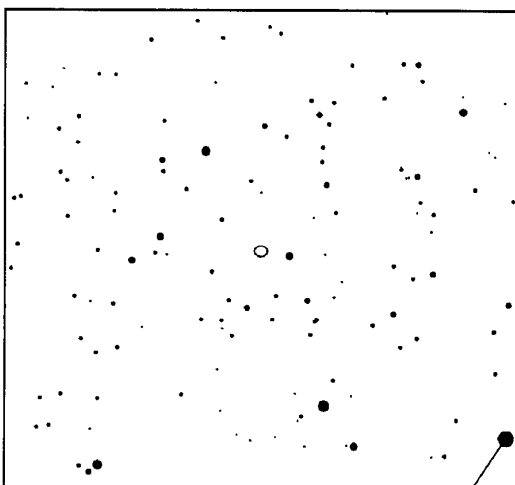
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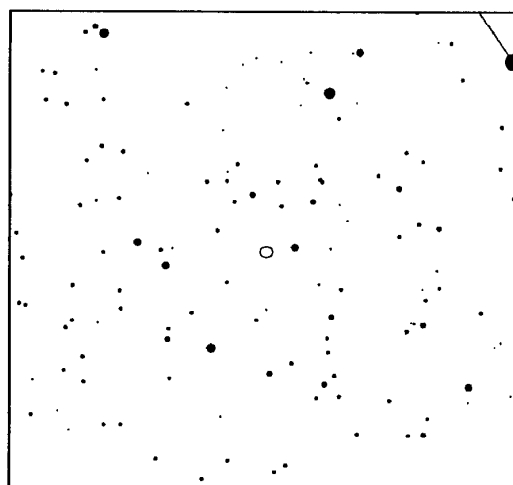
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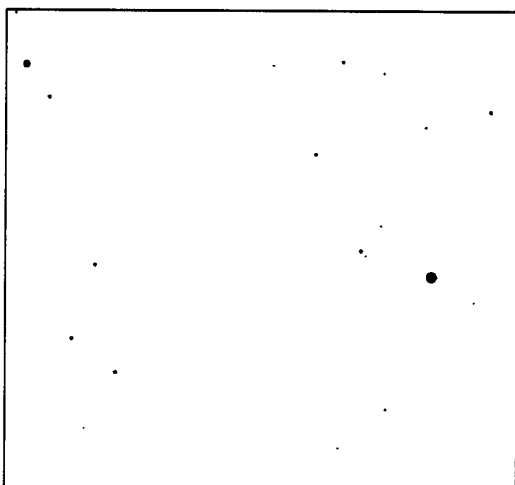
30 degree field, North up



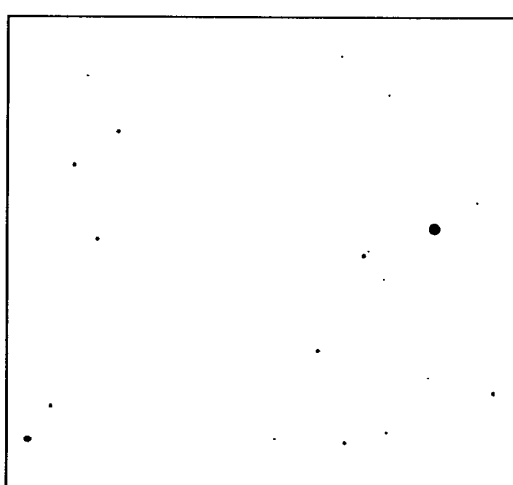
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



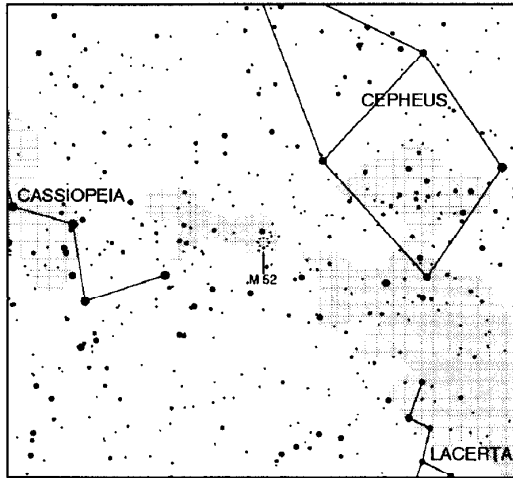
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
52	7654	Cas	23 24.2	61 35	7.0	12.0	OCI	5k	

# M 52

M52 - rich open cluster. Look for a roundish patch of light with some stars clearly resolved, but most of the cluster members provide only a hint of graininess. Note the somewhat irregular shape.

Messier objects on 30 degree chart: none



30 degree field, North up

Notes: \_\_\_\_\_

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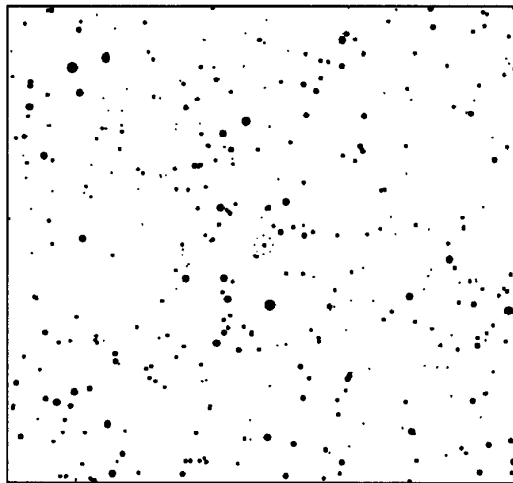
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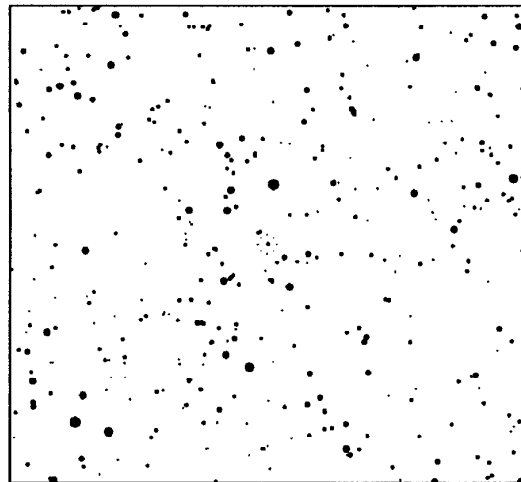
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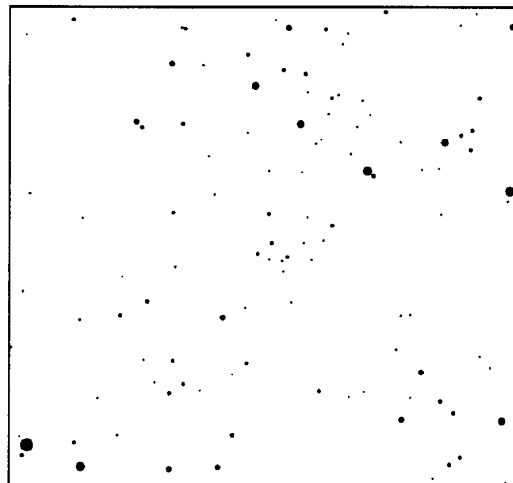
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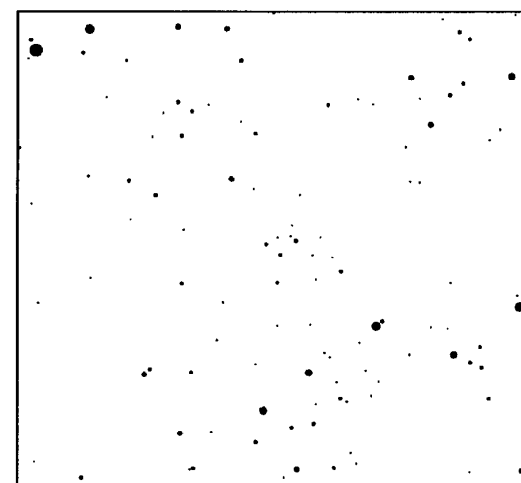
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



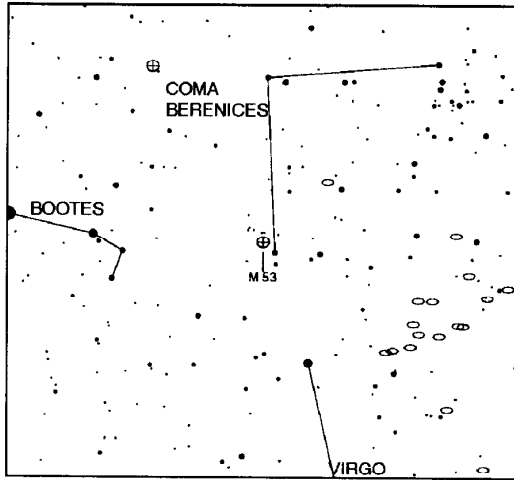
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
53	5024	Com	13 12.9 18 10	8	10	GCl	50k	

# M 53

M53 - Resolvable in small telescopes, it is an easy object to find. Look for NGC 5053 one degree to the south and east.

Messier objects on 30 degree chart: 3, 49, 58, 59, 60, 61, 64, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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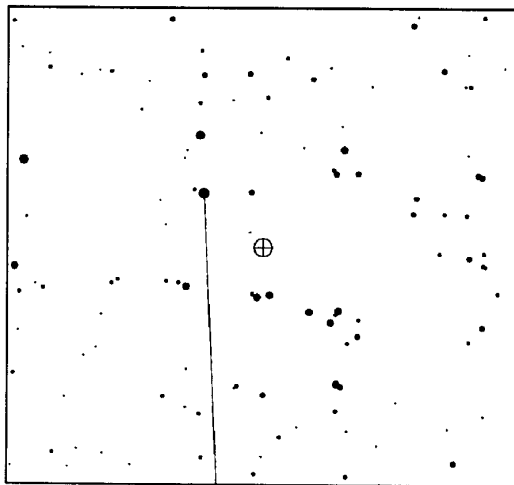
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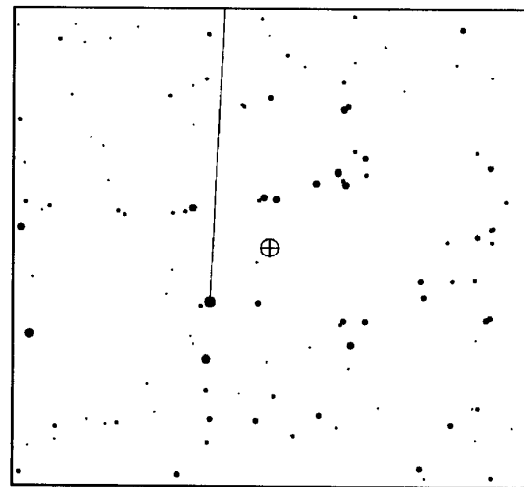
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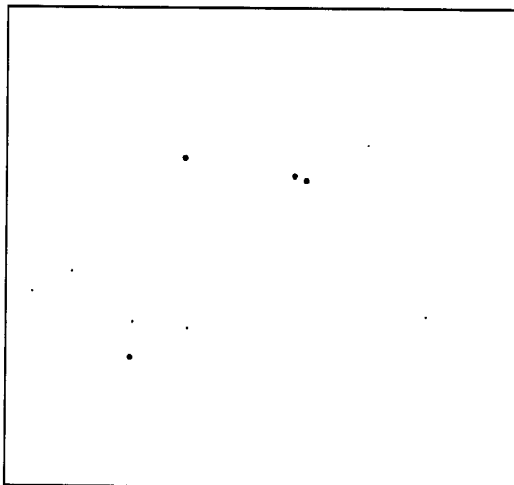
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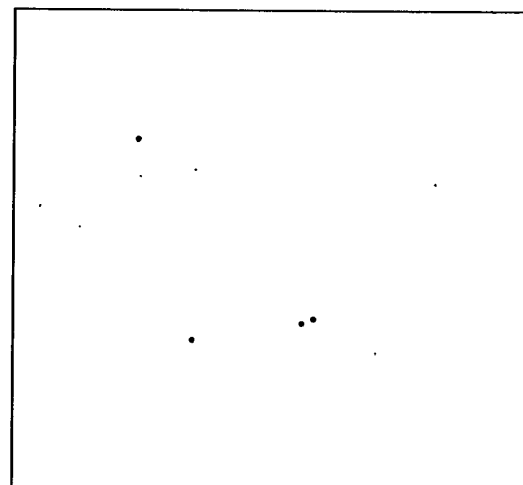
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



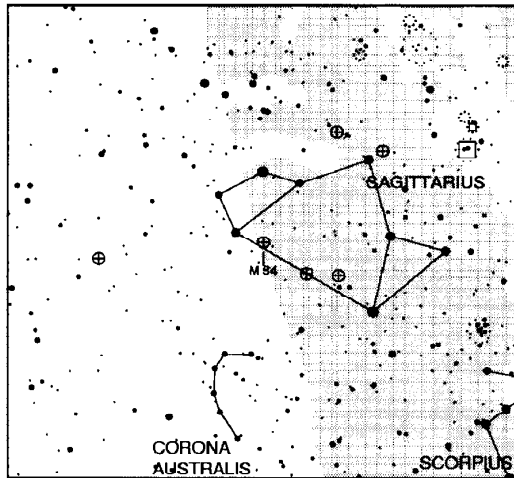
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
54	6715	Sgr	18 55.1	-30 29	9	6	GCl	50k	

# M 54

M54 - A difficult object for northern observers. A very nice, small globular, would like to see this one from a much more southern site!

Messier objects on 30 degree chart: 7, 8, 18, 20, 21, 22, 23, 24, 25, 28, 55, 69, 70



30 degree field, North up

Notes: \_\_\_\_\_

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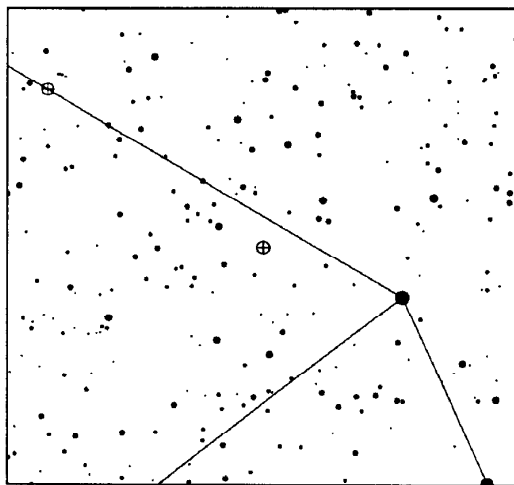
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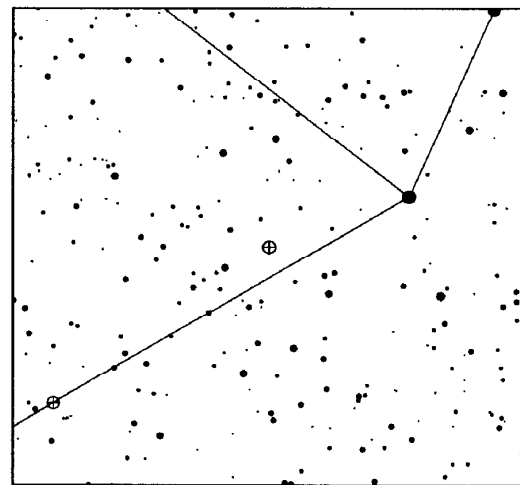
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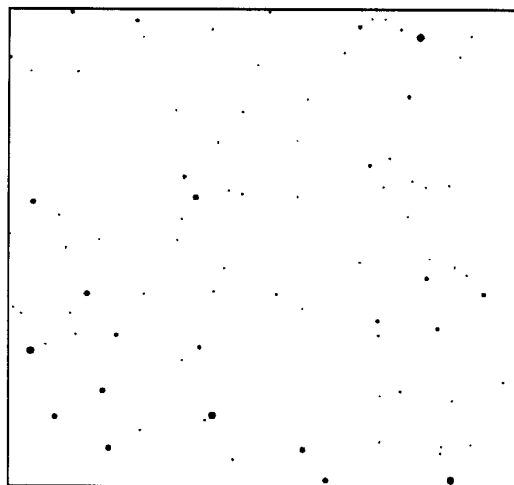
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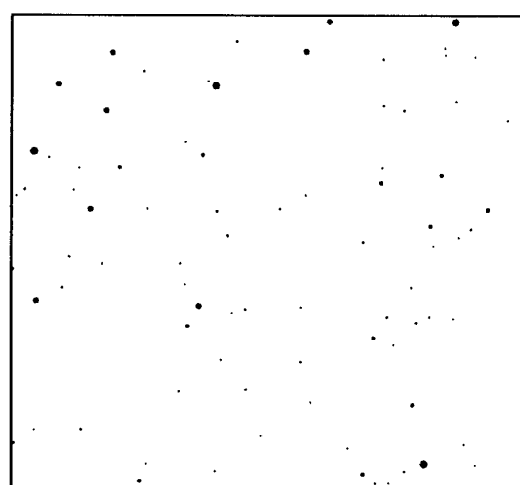
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



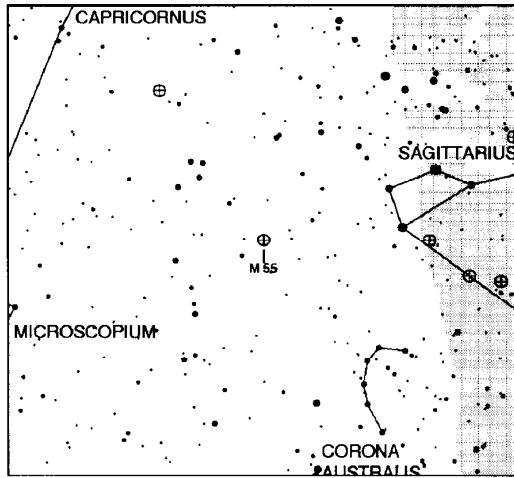
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
55	6809	Sgr	19 40.0	-30 58	7.0	15.0	GCl	20k	

# M 55

M55 - a round, diffuse patch showing some granularity and fading toward the edges.

Messier objects on 30 degree chart: 22, 54, 69, 70, 75



30 degree field, North up

Notes: \_\_\_\_\_

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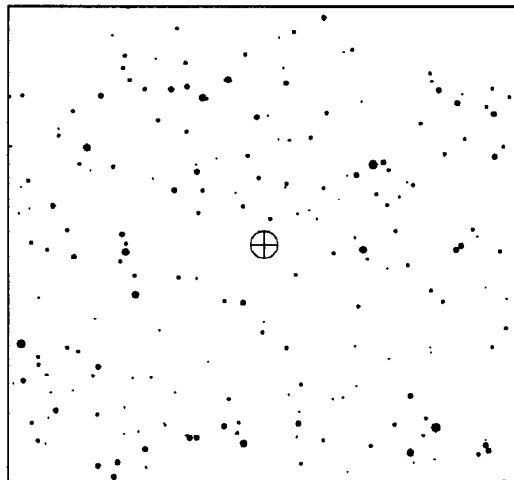
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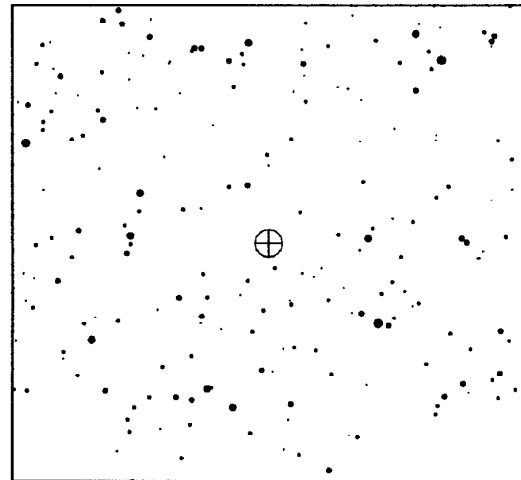
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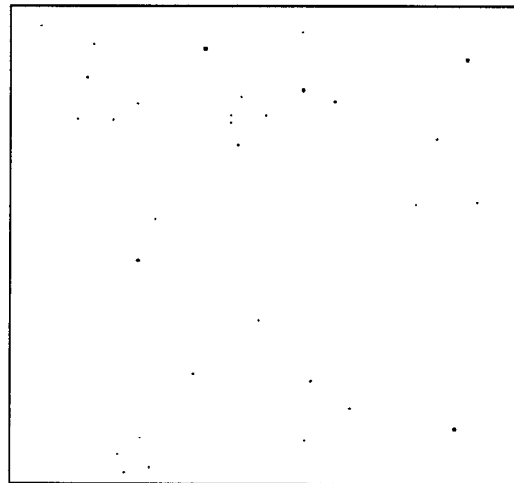
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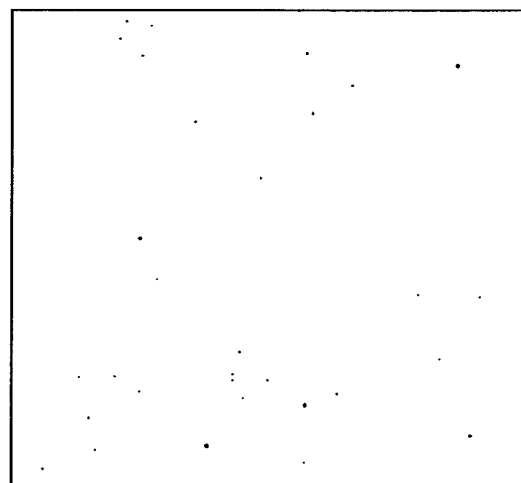
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



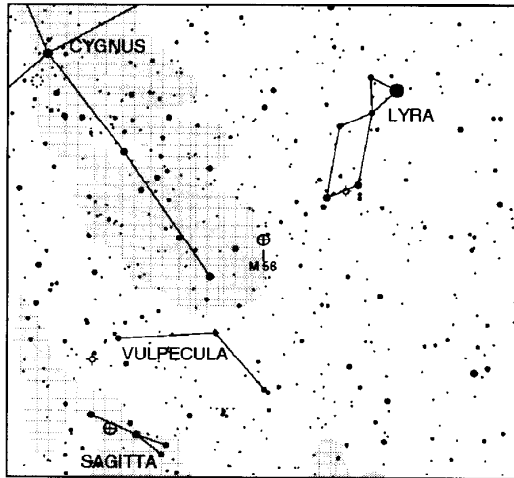
1 degree field, North up, Mirrored

# M 56

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
56	6779	Lyr	19 16.6	30 11	8	5	GCl	46k	

M56 - look for a small round ball of light, slightly brighter in the center, and showing some granularity.

Messier objects on 30 degree chart: 27, 29, 57, 71



30 degree field, North up

Notes: \_\_\_\_\_

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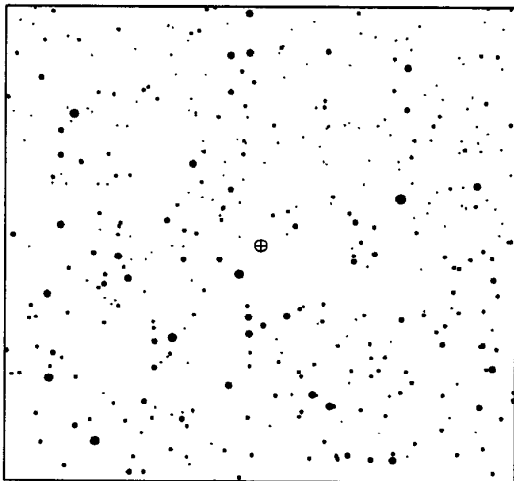
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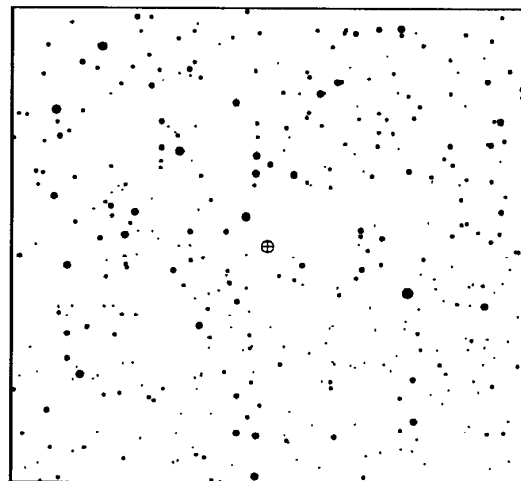
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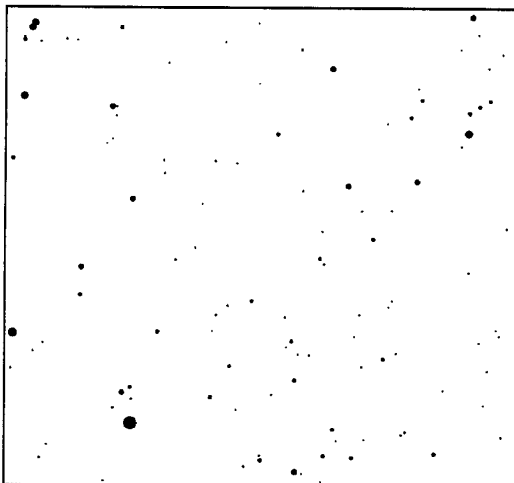
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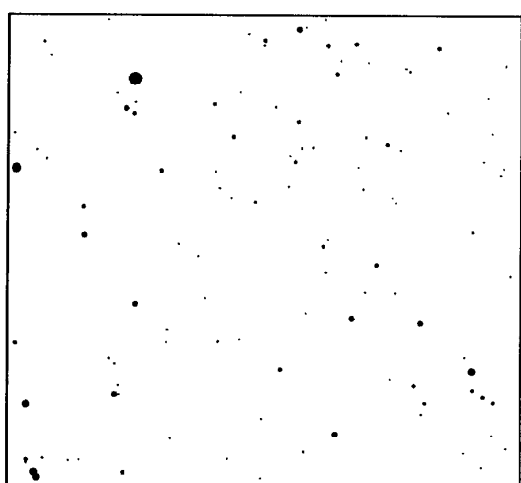
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



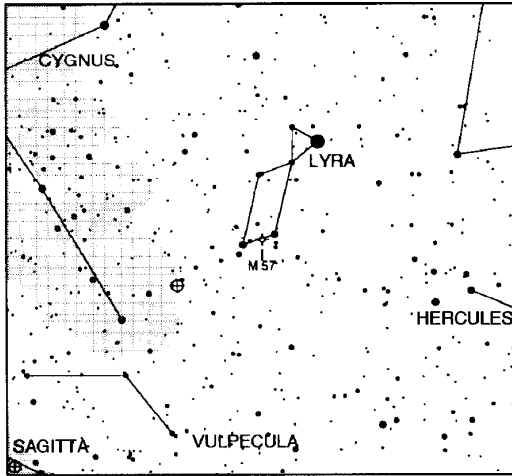
1 degree field, North up, Mirrored



M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
57	6720	Lyr	18 53.6	33 02	9	1.4 x 1.0	PIN	1.6k	Ring Nebula

M57 - low power views show a very small disk. Medium to high power will magnify the size of the nebula while leaving the surrounding stars the same size. Look for faint streaks transversing the ring.

Messier objects on 30 degree chart: 56, 71



30 degree field, North up

Notes: \_\_\_\_\_

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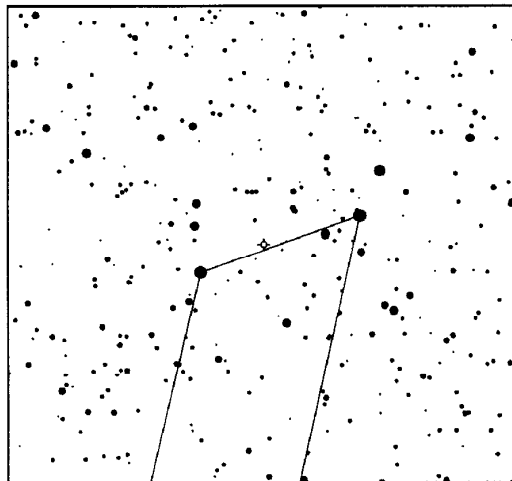
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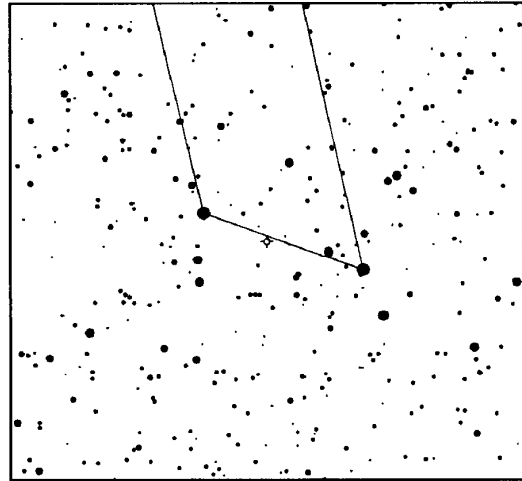
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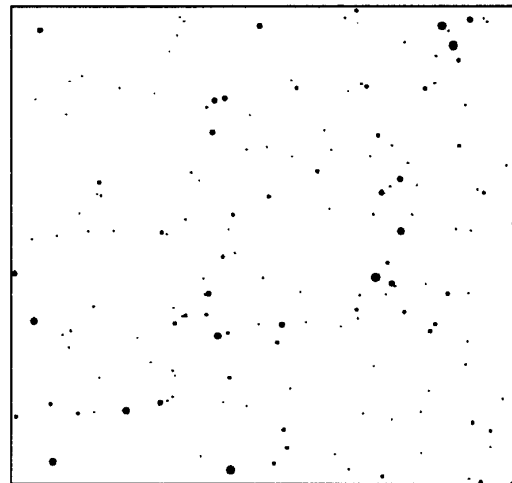
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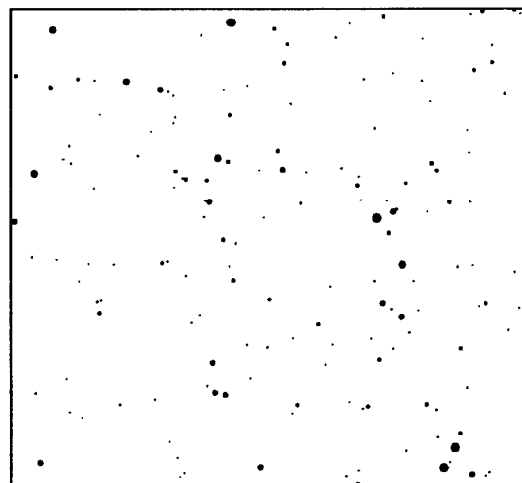
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



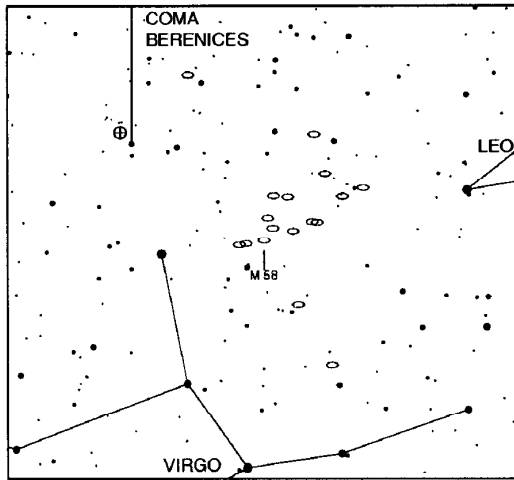
1 degree field, North up, Mirrored

# M 58

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
58	4579	Vir	12 37.7	11 49	10.5	4 x 3.5	Gal	60000k	

M58 - slightly oval shaped fuzzy patch of light.

Messier objects on 30 degree chart: 49, 53, 59, 60, 61, 64, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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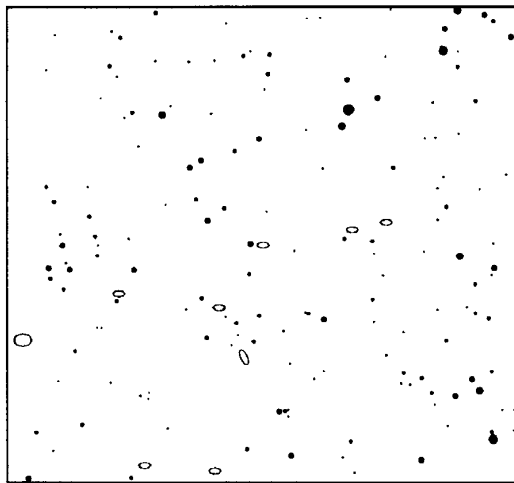
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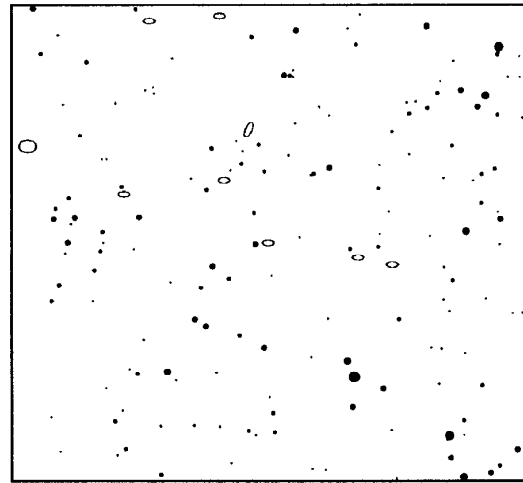
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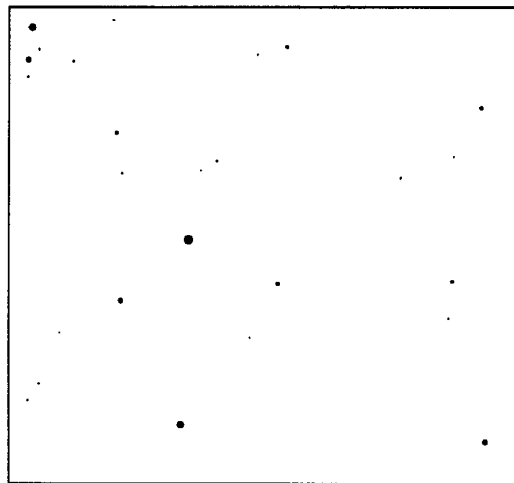
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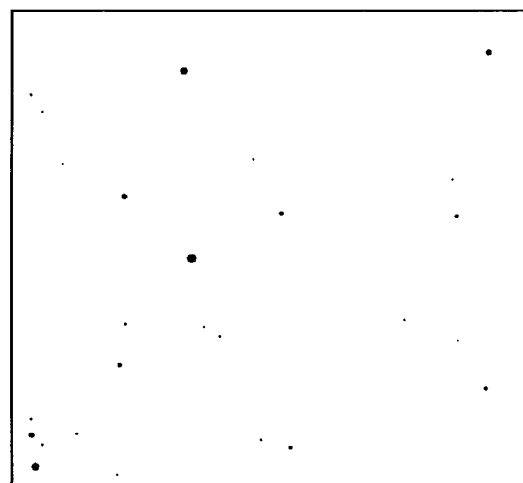
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



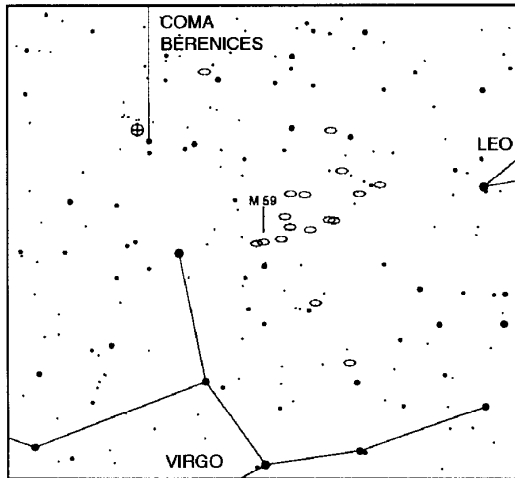
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
59	4621	Vir	12 42.0	11 39 11		2 x 1.5	Gal	60000k	

# M 59

M59 - a small, hazy oval patch, not all that easy to see.

Messier objects on 30 degree chart: 49, 53, 58, 60, 61, 64, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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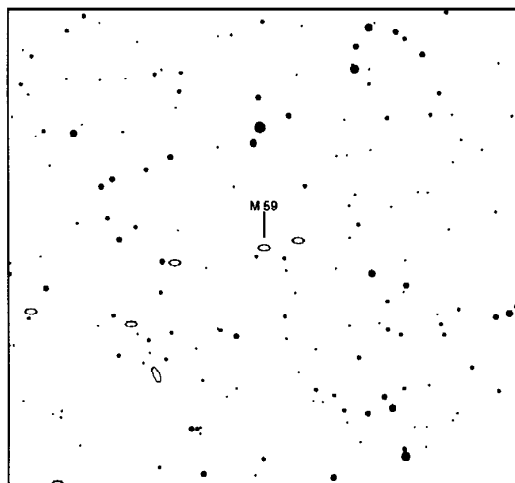
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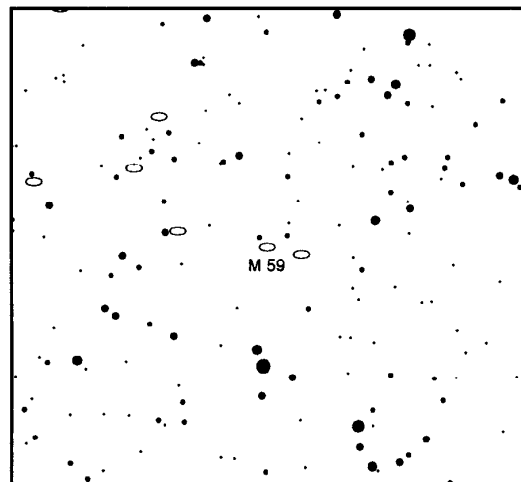
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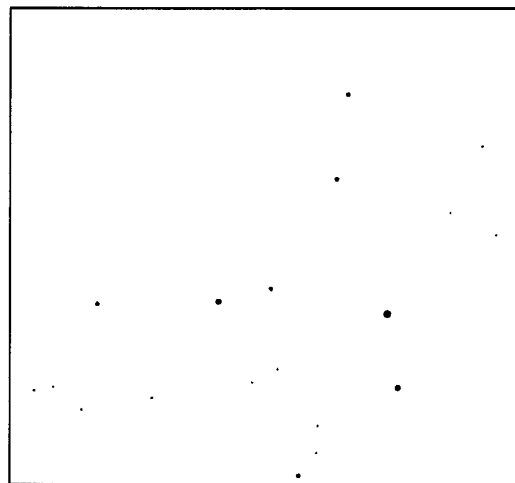
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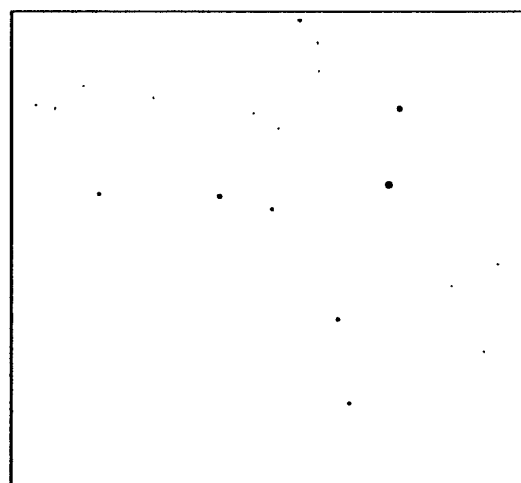
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



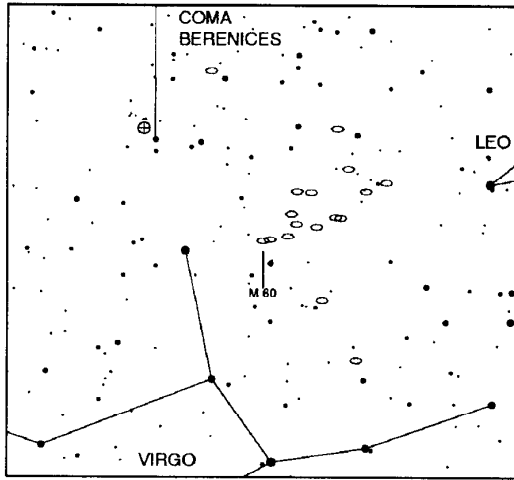
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
60	4649 Vir	12 43.7	11 33	10	3 x 2.5	Gal	60000k	

# M 60

M60 - a fuzzy oval patch of light, larger and brighter than M59. Look for its fainter companion, NGC 4647, right beside it.

Messier objects on 30 degree chart: 49, 53, 58, 59, 61, 64, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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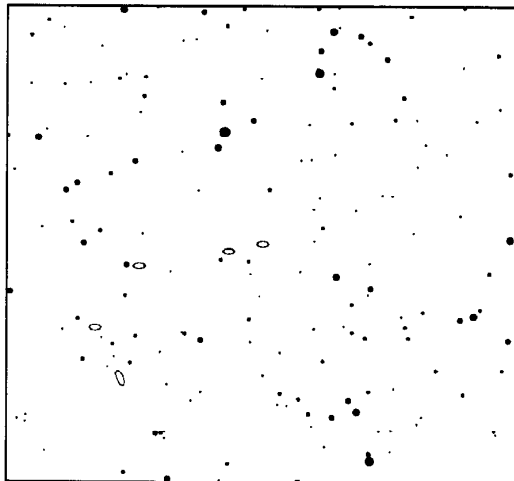
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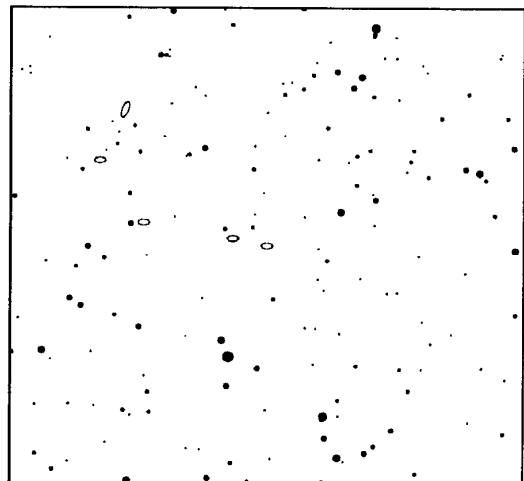
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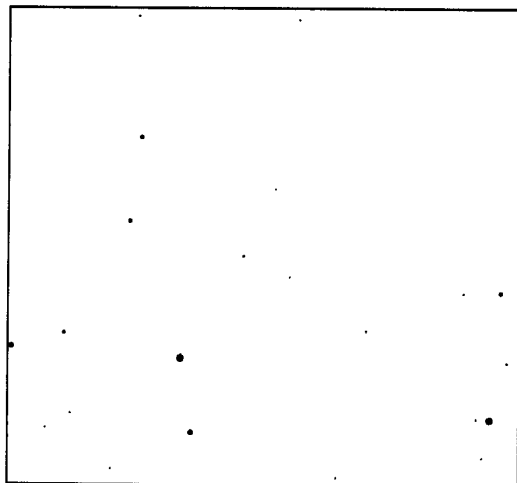
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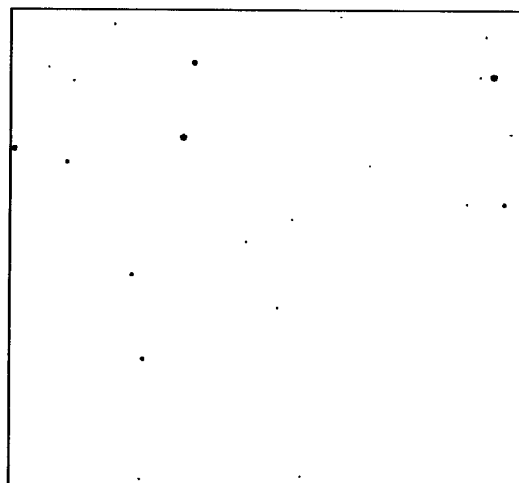
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



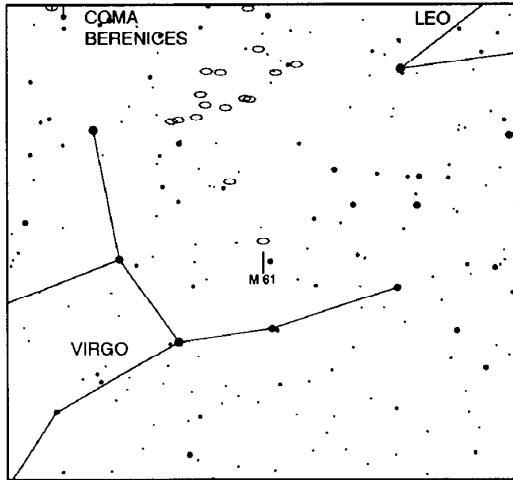
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
61	4303	Vir	12 21.9	04 28	10.2	5.7 x 5.5	Gal	60000k

# M 61

M61 - look for a faint, round fuzzy patch of light, with a surprisingly stellar core.

Messier objects on 30 degree chart: 49, 58, 59, 60, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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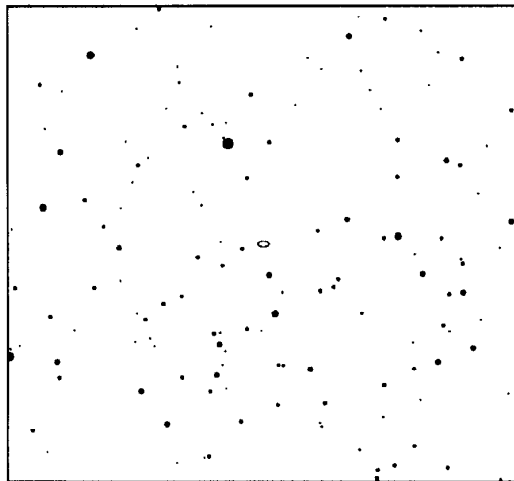
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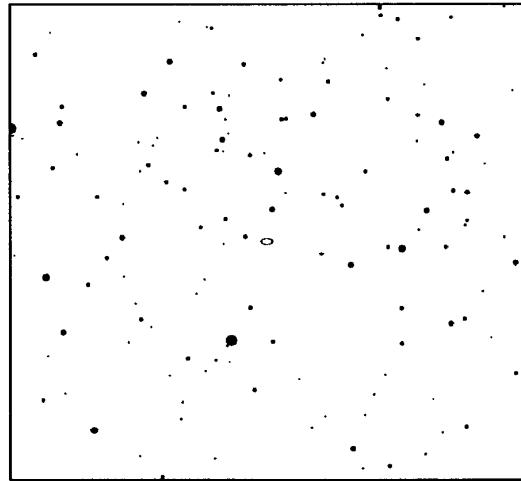
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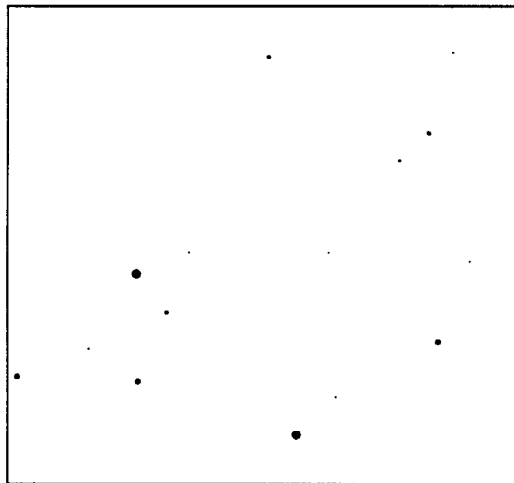
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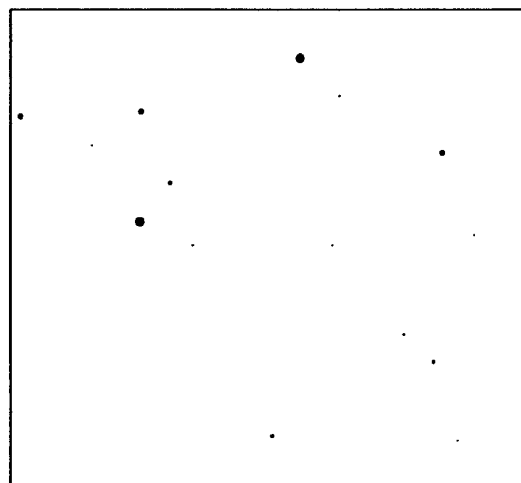
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

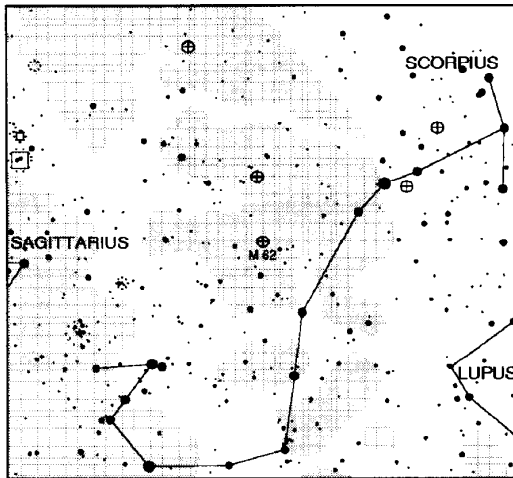


1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
62	6266	Oph	17 01.2	-30 07	6.5	6	GCl	22k	

M62 - This cluster appears as a round fuzzy patch brightening towards the center, with some granularity. Noted as one of the most unsymmetrical globulars.

Messier objects on 30 degree chart: 4, 6, 7, 8, 9, 19, 20, 21, 23, 80



30 degree field, North up

Notes: \_\_\_\_\_

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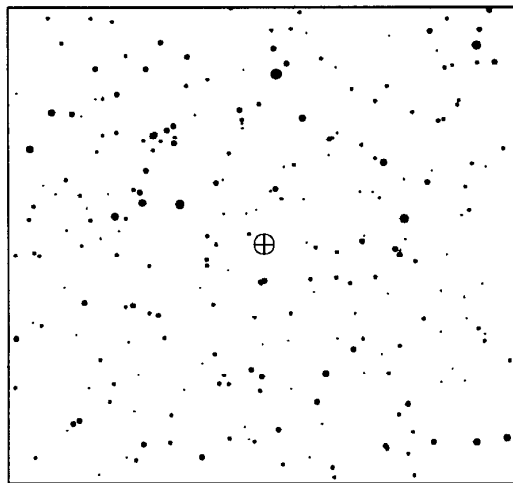
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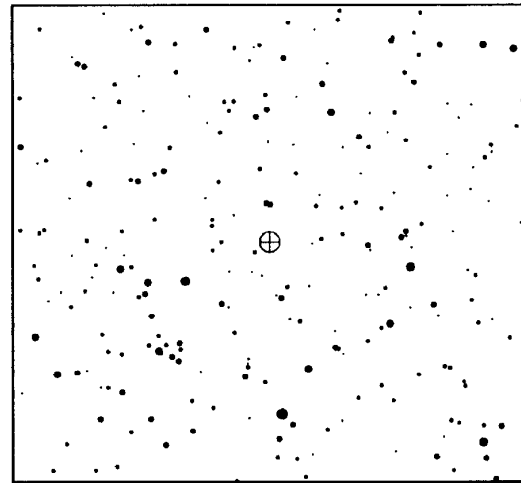
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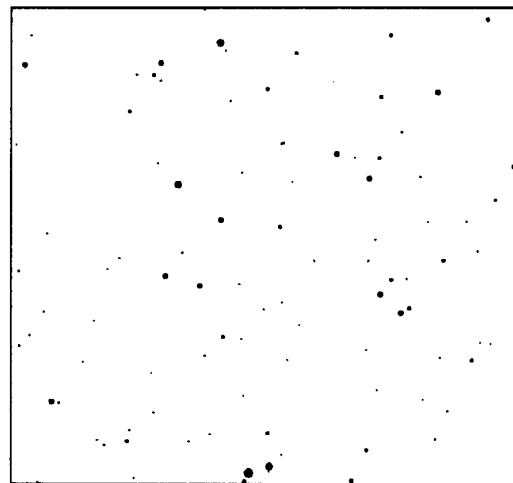
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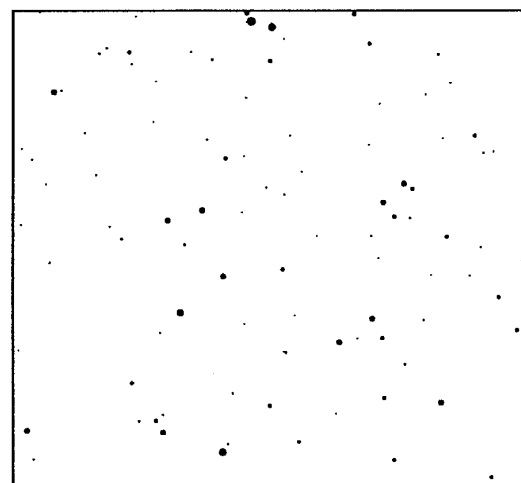
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



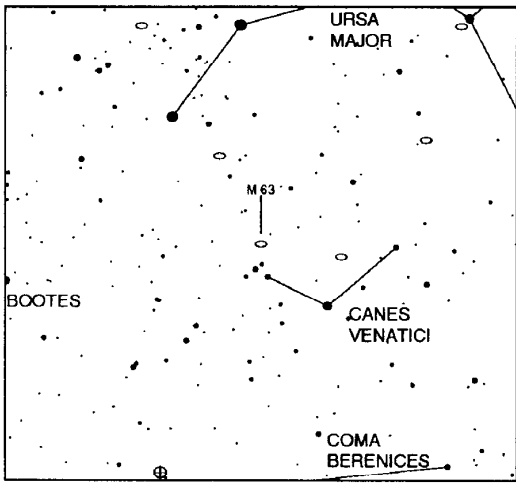
1 degree field, North up, Mirrored

# M 63

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
63	5055	CVn	13 15.8	42 02	9.8	9 x 4	Gal	35000k	Sunflower Galaxy

M63 - spiral galaxy, the galaxy appears as an elongated patch of light with a bright star at one end. Look for a faint halo.

Messier objects on 30 degree chart: 3, 51, 63, 94, 101, 106, 109



30 degree field, North up

Notes: \_\_\_\_\_

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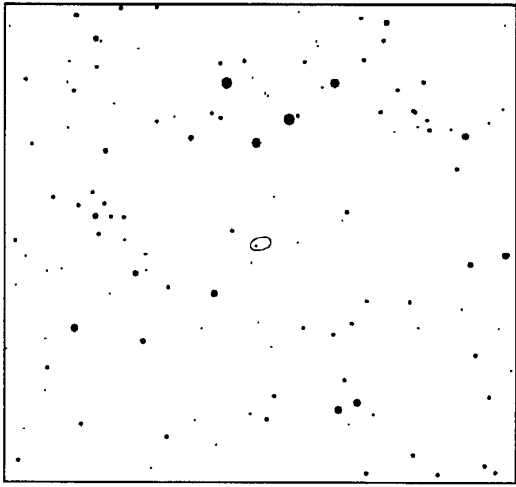
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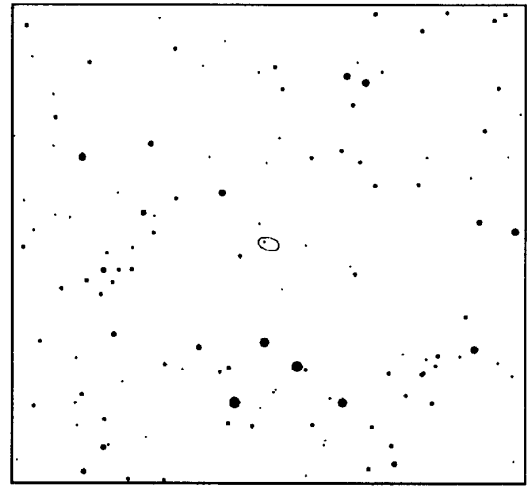
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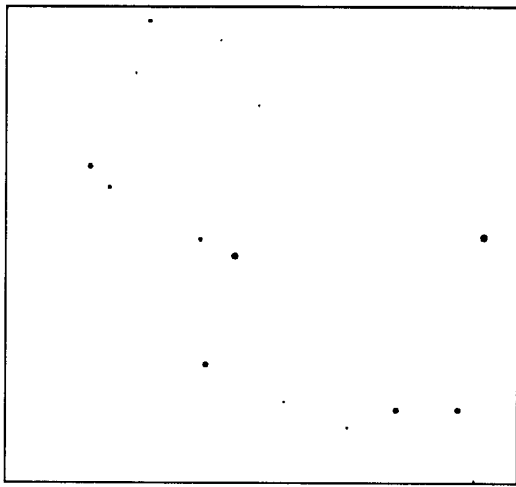
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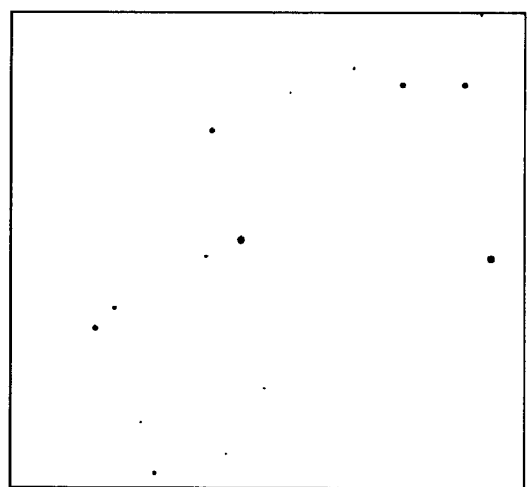
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



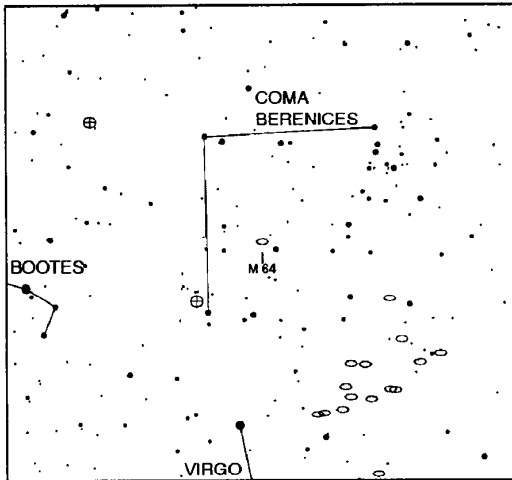
1 degree field, North up, Mirrored

# M 64

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
64	4826	Com	12 56.7	21 41	8.6	9 x 4	Gal	20000k	Blackeye Galaxy

M64 - slightly oval shaped patch of light. Look for the dark patch. It can be somewhat difficult. Use higher powers to increase the contrast.

Messier objects on 30 degree chart: 3, 49, 53, 58, 59, 60, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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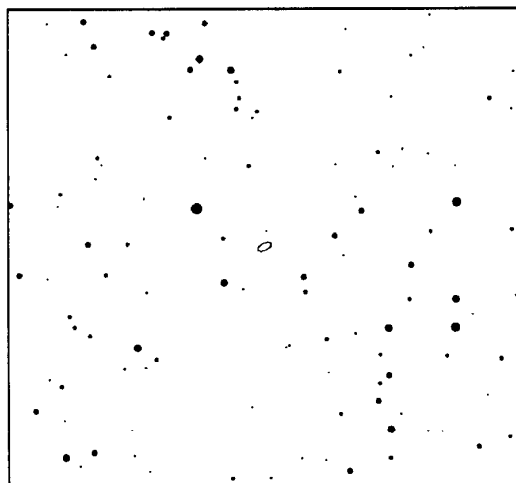
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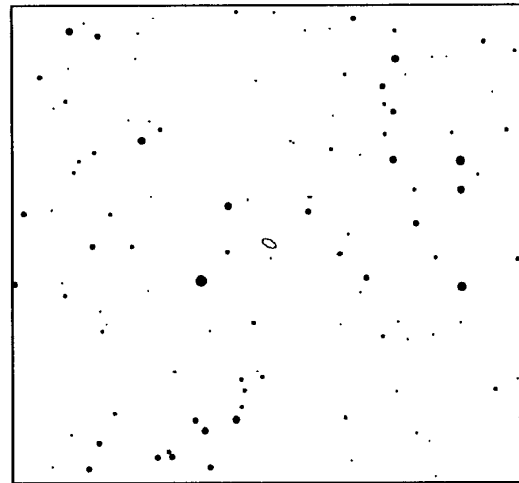
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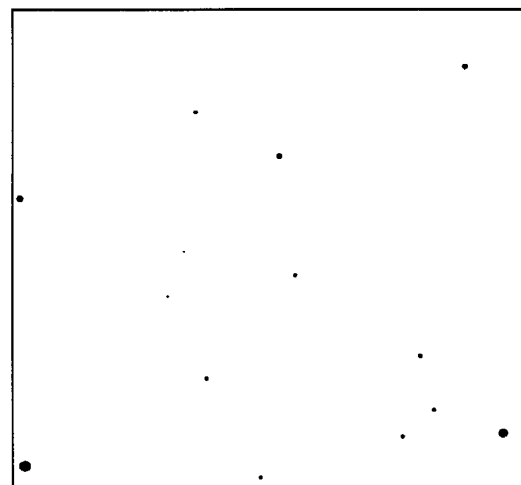
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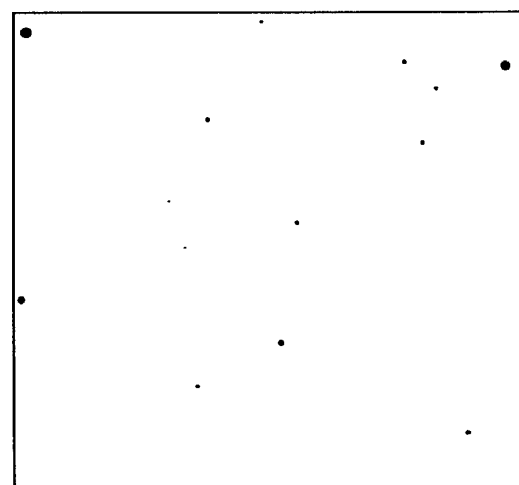
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

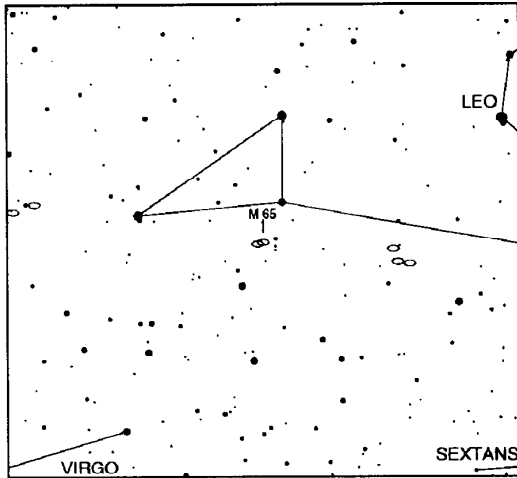


# M 65

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
65	3623	Leo II	18.9	13 05	10.3	7.8 x 1.6	Gal	29000k	

65 - It is an elongated oval patch of light with a bright stellar core with hints of granulation at the core.

Messier objects on 30 degree chart: 66, 95, 96, 98, 99, 105



Notes: \_\_\_\_\_

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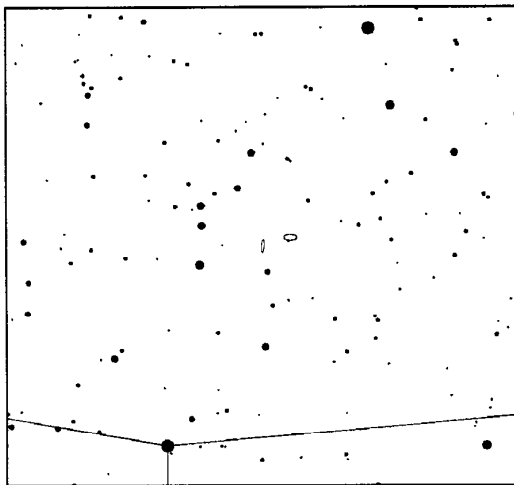
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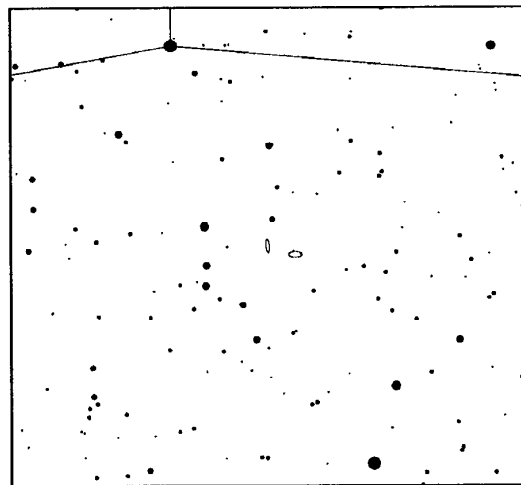
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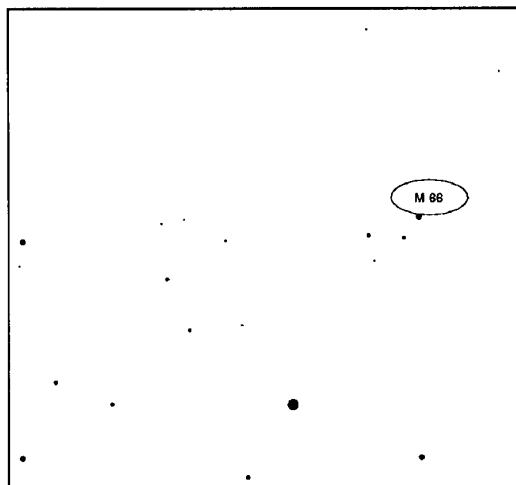
30 degree field, North up



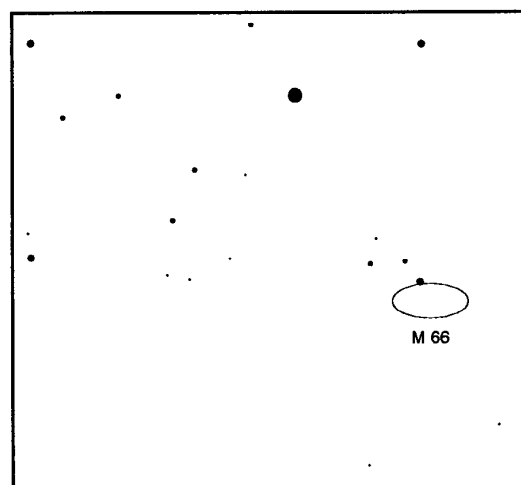
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



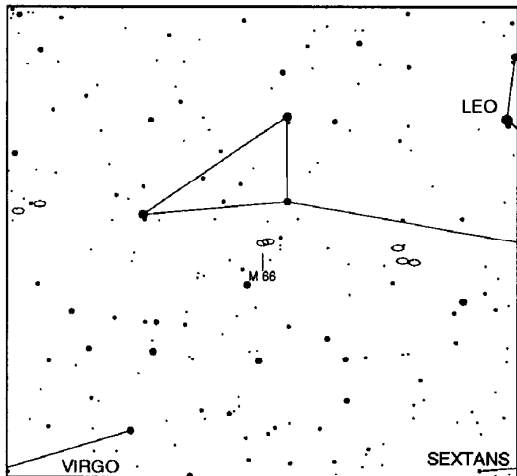
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
66	3627	Leo II	20.2	12 59	9.7	8 x 2.5	Gal	29000k	

# M 66

M66 - Can be seen in the same low to medium power field as M65. Oval patch of light, brighter and slightly wider than M65. Look for mottling in the area surrounding the core.

Messier objects on 30 degree chart: 65, 95, 96, 98, 99, 105



Notes: \_\_\_\_\_

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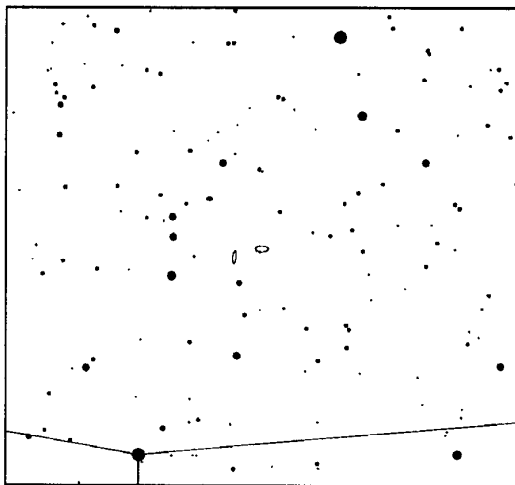
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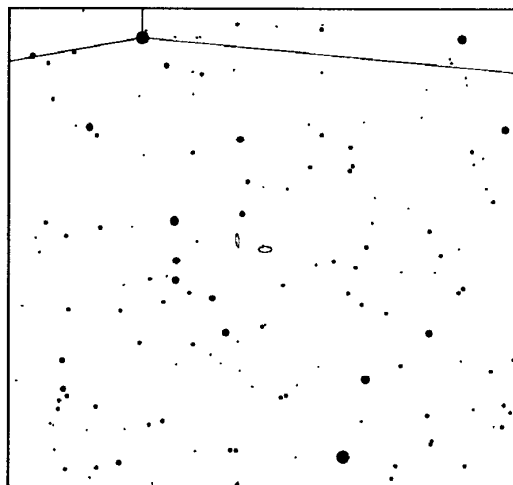
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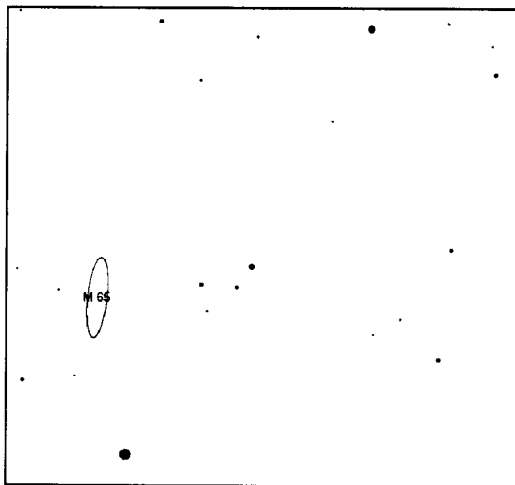
30 degree field, North up



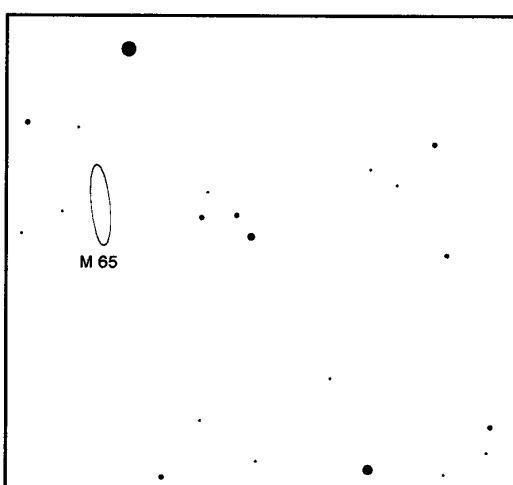
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



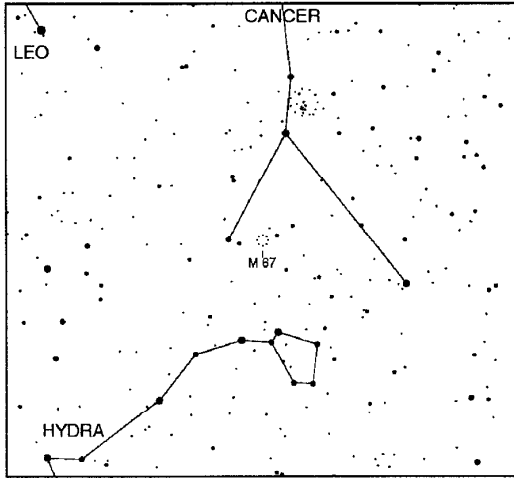
1 degree field, North up, Mirrored

# M 67

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
67	2682	Cnc	08 50.4	11 49	7.5	15	OCI	2.5k	

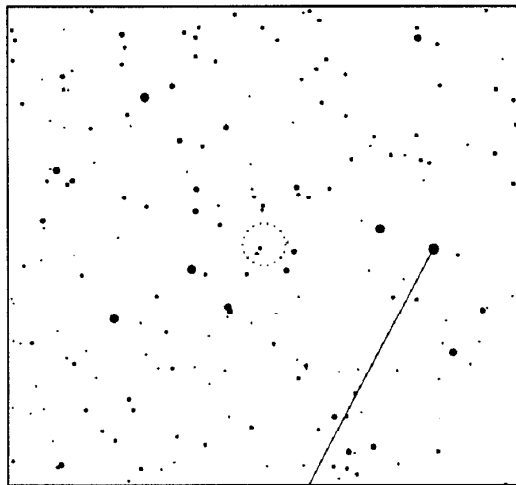
M67 - Readily resolved, look for star colors. One of the oldest clusters, many stars in the redder end of the spectrum.

Messier objects on 30 degree chart: 44

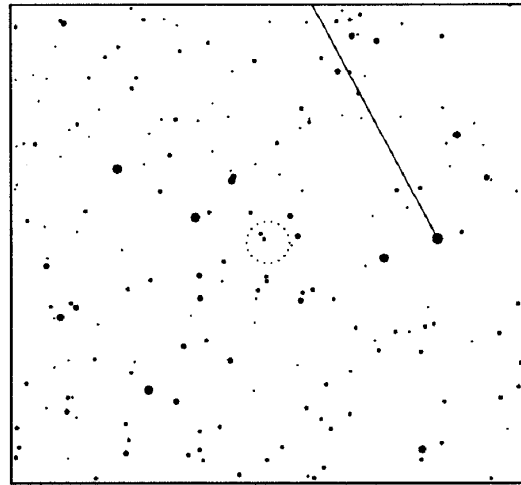


30 degree field, North up

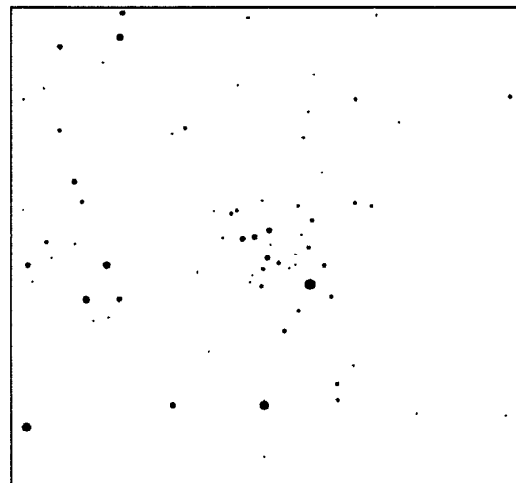
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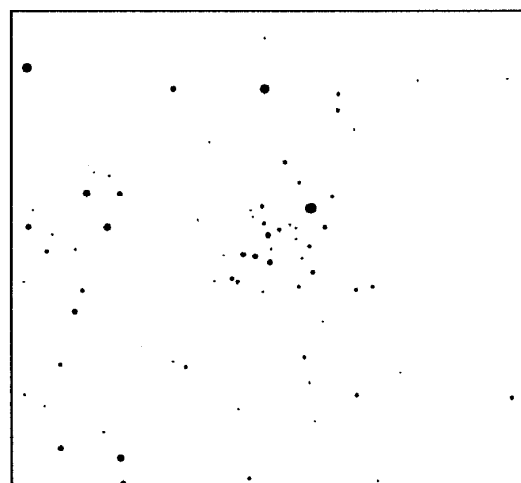
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



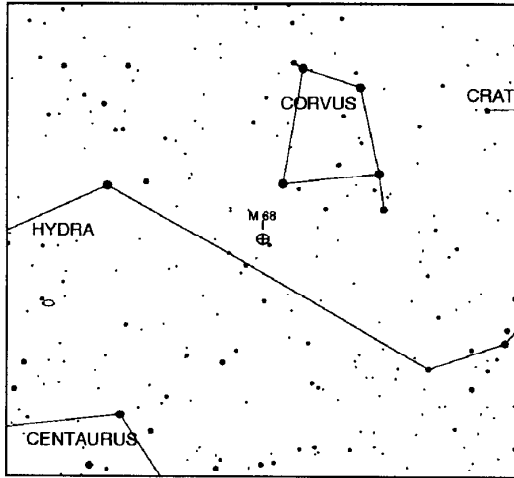
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
68	4590	Hya	12 39.5	-26 45	8	9	GCl	32k	

# M 68

M68 - Appears as a round fuzzy patch in a 6" telescope.

Messier objects on 30 degree chart: 83



30 degree field, North up

Notes: \_\_\_\_\_

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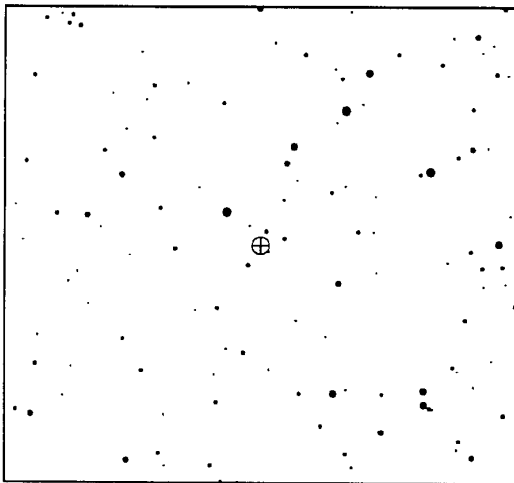
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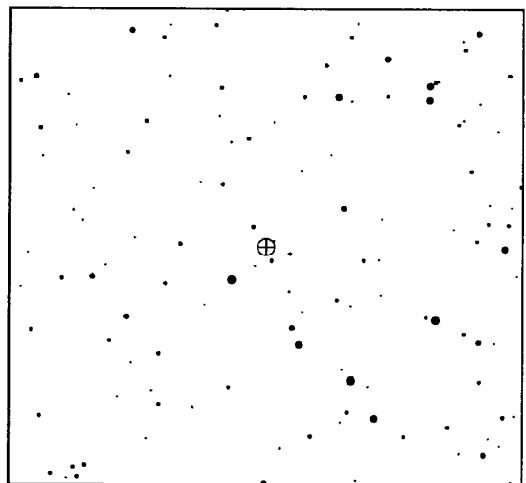
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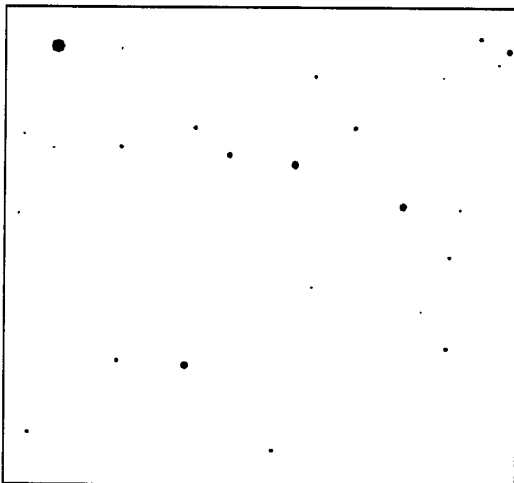
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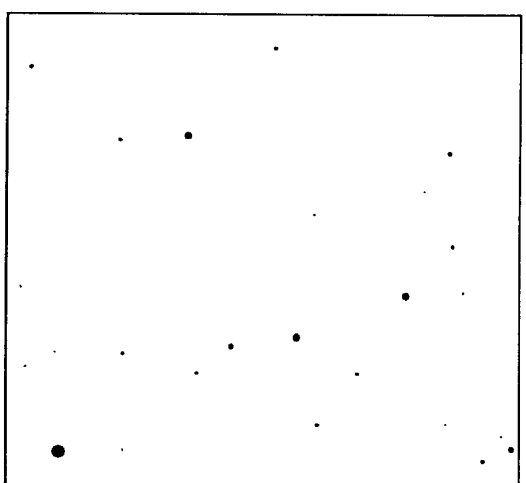
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



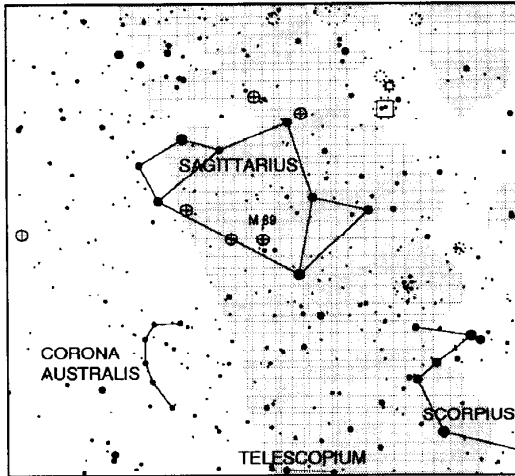
1 degree field, North up, Mirrored

# M 69

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
69	6637 Sgr	18 34.4	-32 21	7.5	4	GCl	36k	

M69 - a small, hazy spot, resembling a small comet nucleus.

Messier objects on 30 degree chart: 6, 7, 8, 20, 21, 22, 23, 24, 25, 28, 55, 54, 70



30 degree field, North up

Notes: \_\_\_\_\_

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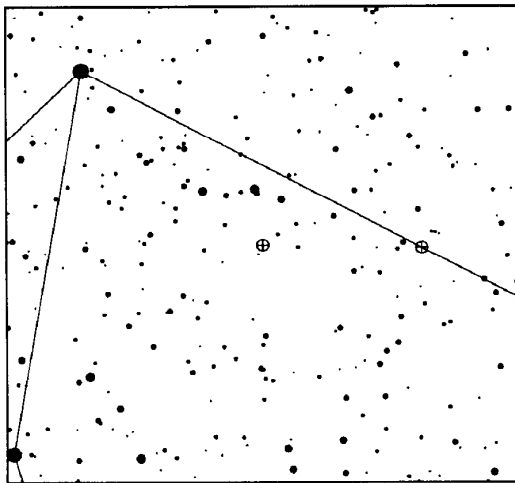
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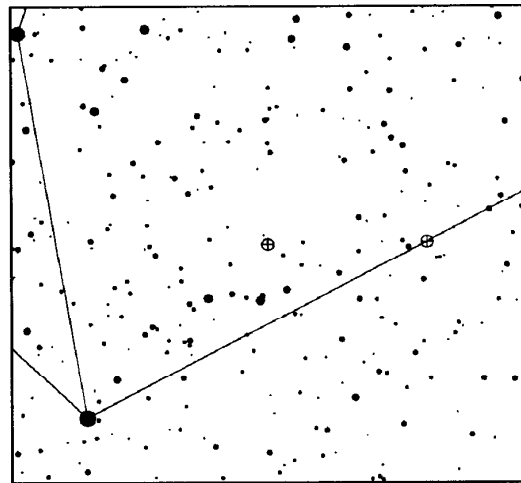
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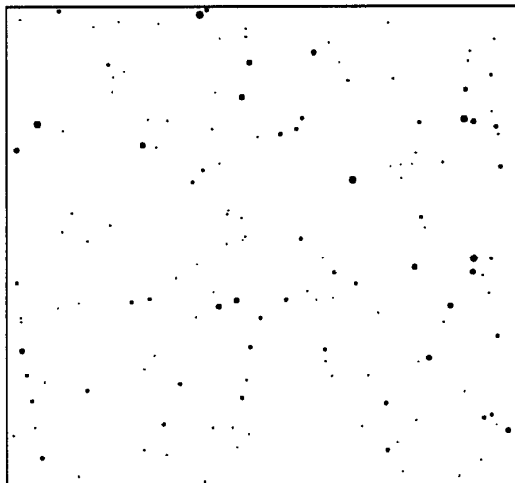
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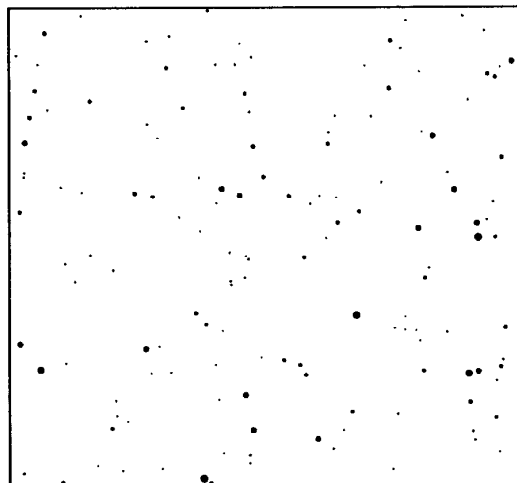
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



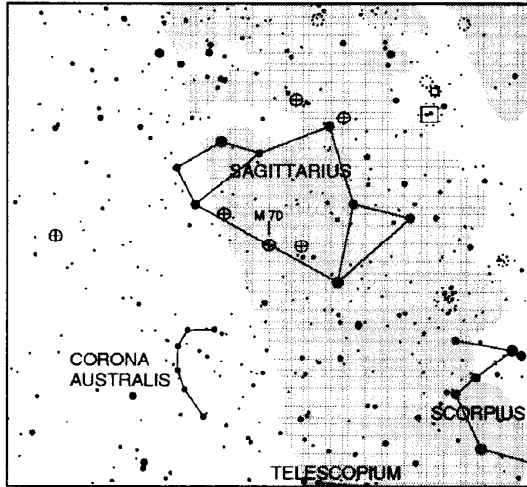
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
70	6681	Sgr	18 43.2	-32 18	8	4	GCl	65k	

# M 70

M70 - diffuse patch, no detail seen.

Messier objects on 30 degree chart: 6, 7, 8, 20, 21, 22, 23, 24, 25, 28, 55, 54, 69



30 degree field, North up

Notes: \_\_\_\_\_

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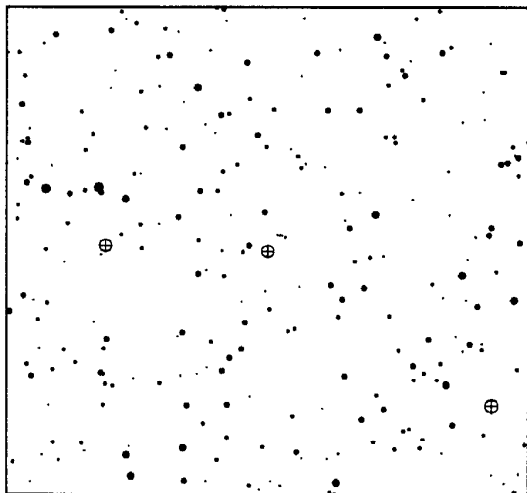
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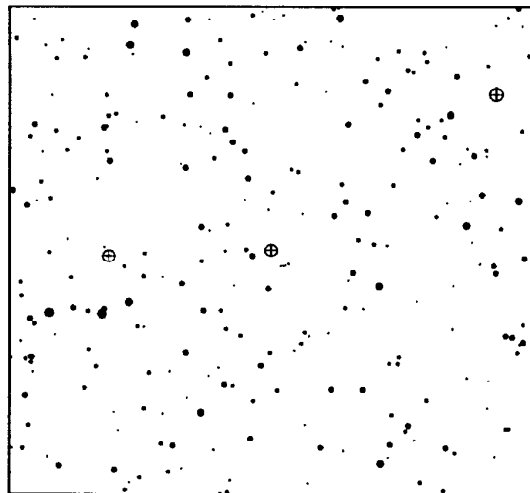
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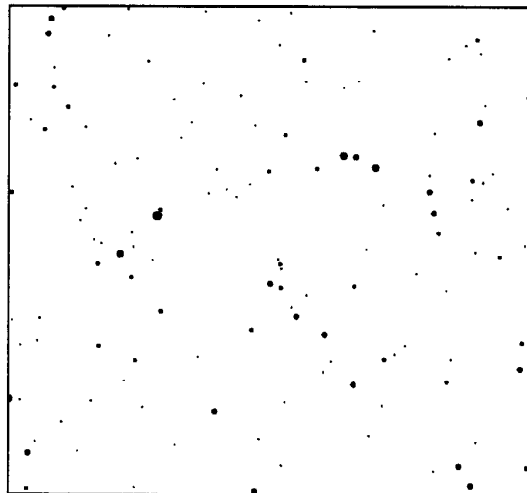
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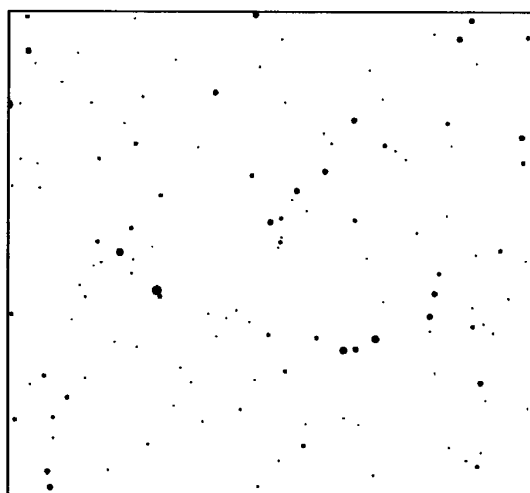
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



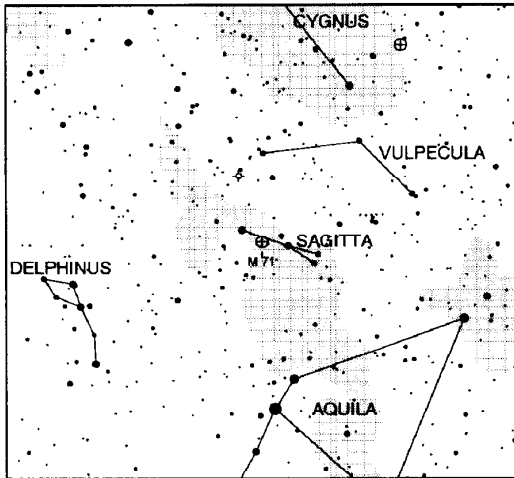
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
71	6838	Sge	19 53.8	18 47	9	6	GCl	18k	

# M 71

M71 - a faint oval hazy patch of light, slightly brighter to the West. Resolves with larger apertures.

Messier objects on 30 degree chart: 27, 56



30 degree field, North up

Notes: \_\_\_\_\_

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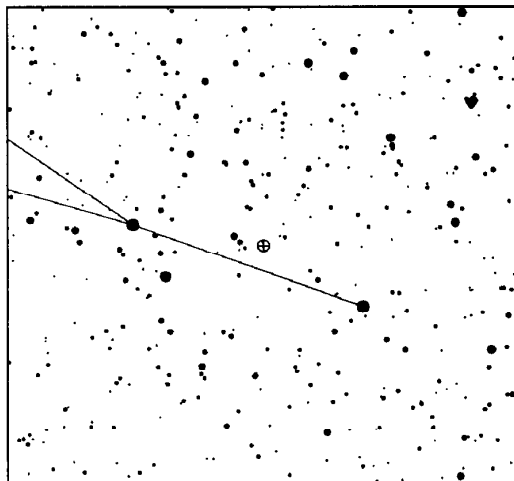
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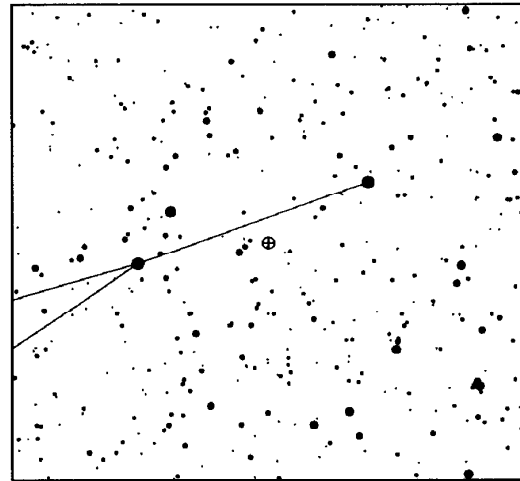
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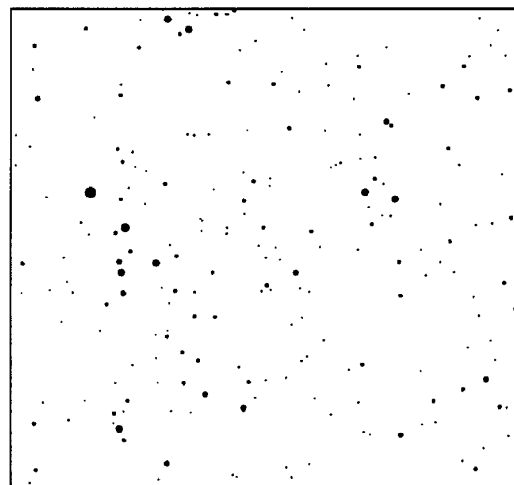
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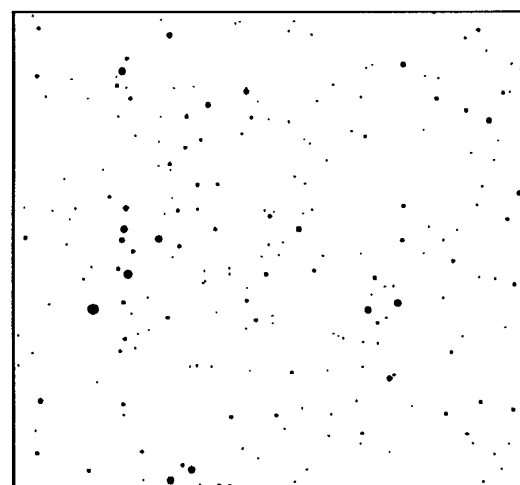
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



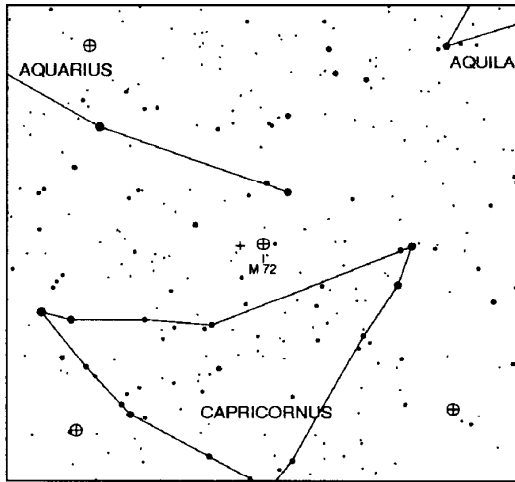
1 degree field, North up, Mirrored

# M 72

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
72	6981	Aqr	20 53.5	-12 32	9	6	GCl	18k	

M72 - faint oval patch of light, gradually brighter towards the middle, with slight granularity.

Messier objects on 30 degree chart: 2, 30, 73, 75



30 degree field, North up

Notes: \_\_\_\_\_

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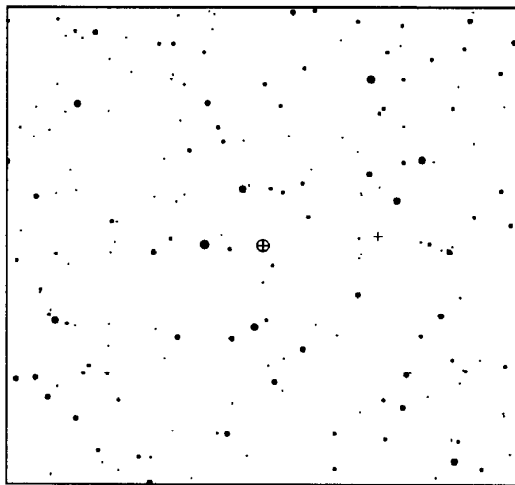
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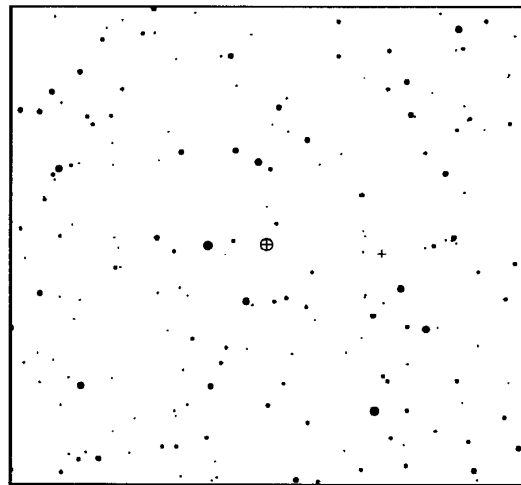
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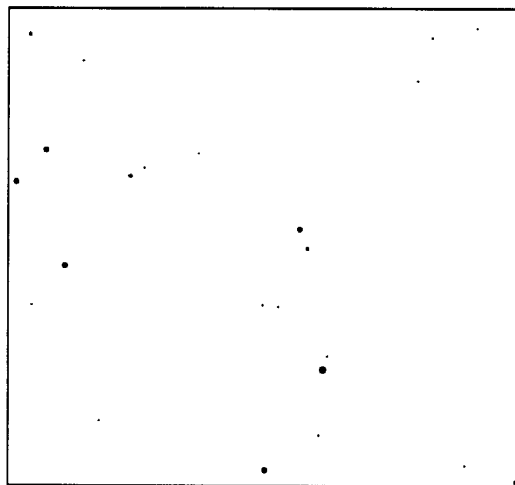
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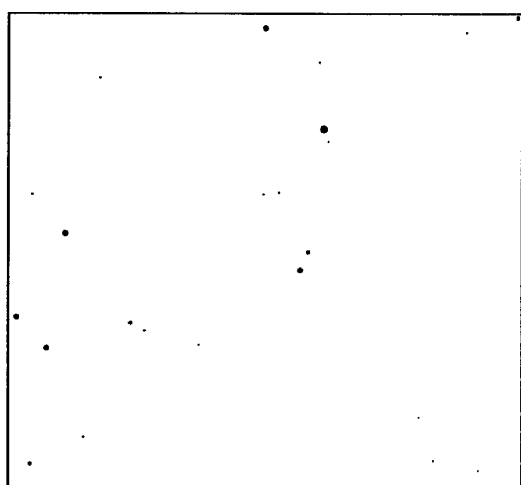
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



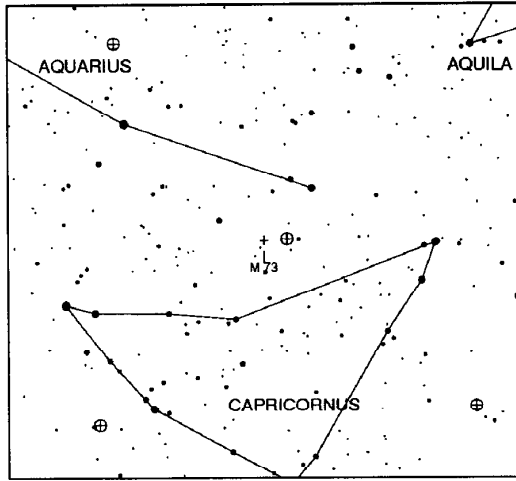
1 degree field, North up, Mirrored



M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
73	6994	Aqr	20 58.9	-12 38	-	1.2	Asterism		

M73 - described by Messier "cluster of three or four stars containing very little nebulosity". 4 stars, no nebulosity is present.

Messier objects on 30 degree chart: 2, 30, 72, 75



30 degree field, North up

Notes: \_\_\_\_\_

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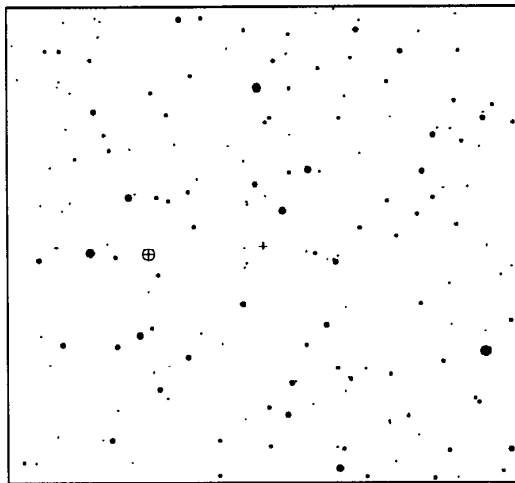
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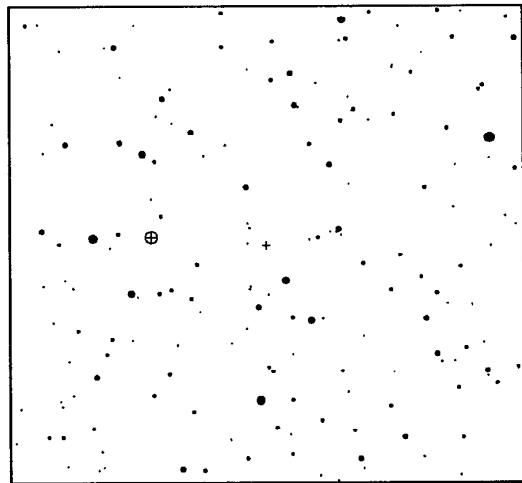
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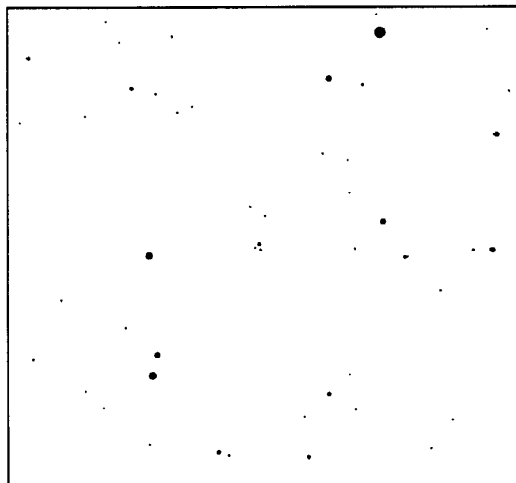
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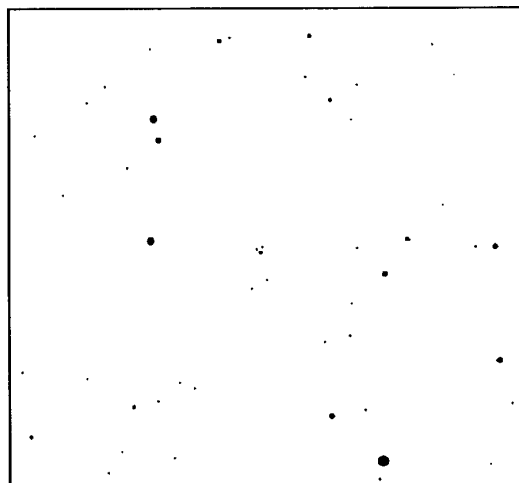
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



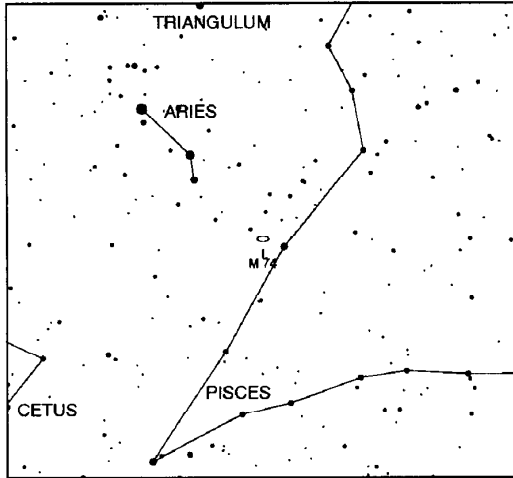
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
74	628	Psc	01 36.7	15 47	11	9 x 9	Gal	30000k	

# M 74

M74 - very faint. You will need very transparent skies to see it. Look for a very faint fuzzy star, which is the core, surrounded by a very faint glow. A low power eyepiece may show it best.

Messier objects on 30 degree chart: none



30 degree field, North up

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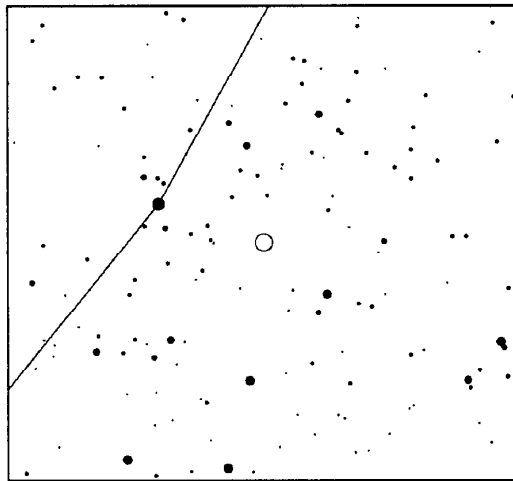
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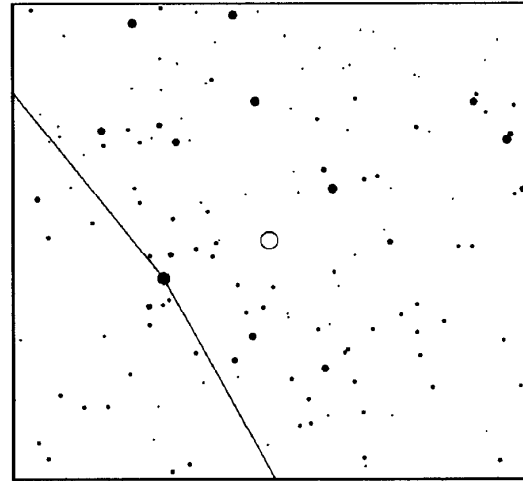
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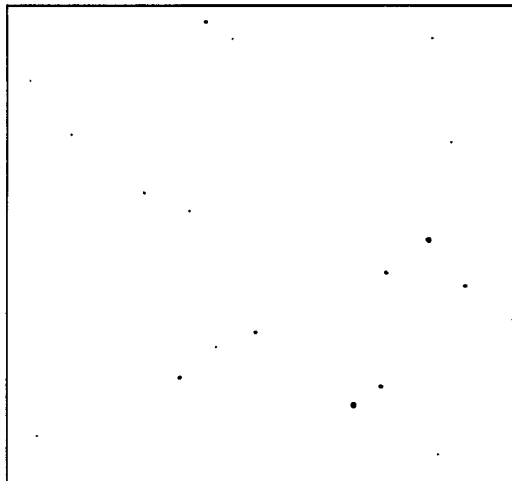
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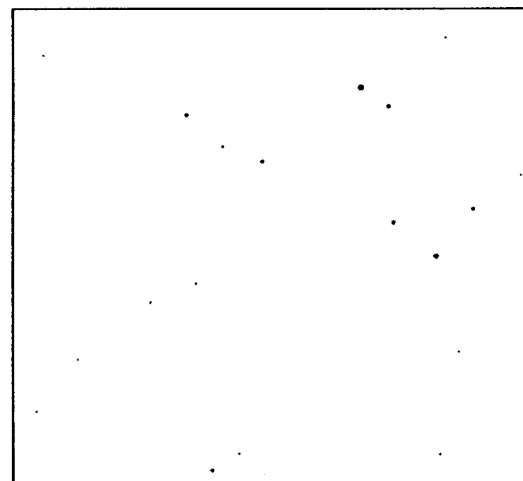
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



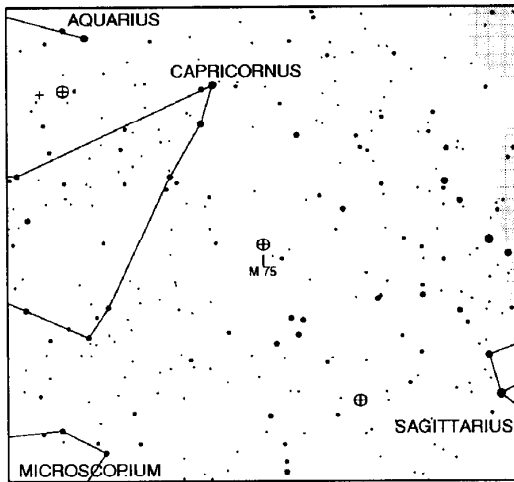
1 degree field, North up, Mirrored

# M 75

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
75	6864	Sgr 20 06.1	-21 55	8	3	GCl	95k	

M75 - a nice condensed bright object! One of the most concentrated, but distant globulars in the Messier catalog.

Messier objects on 30 degree chart: 55, 72, 73



30 degree field, North up

Notes: \_\_\_\_\_

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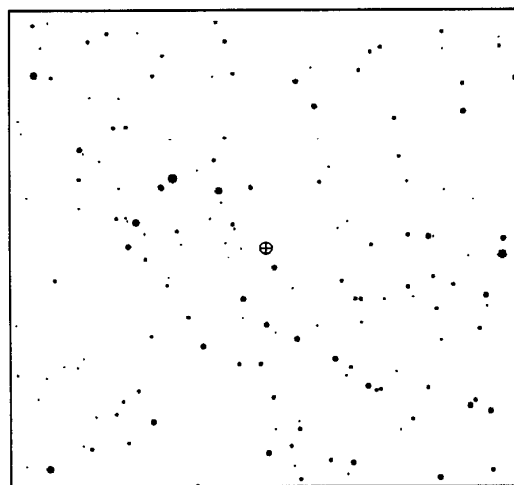
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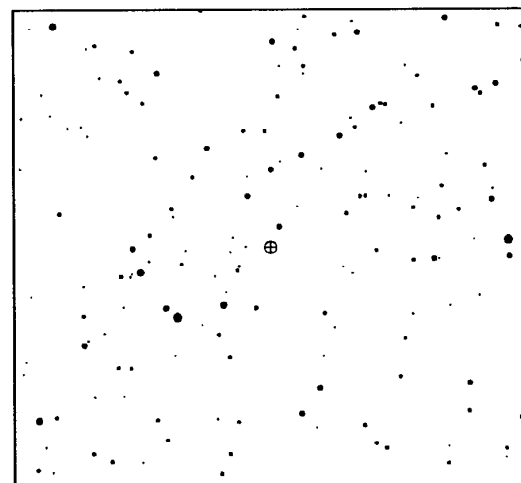
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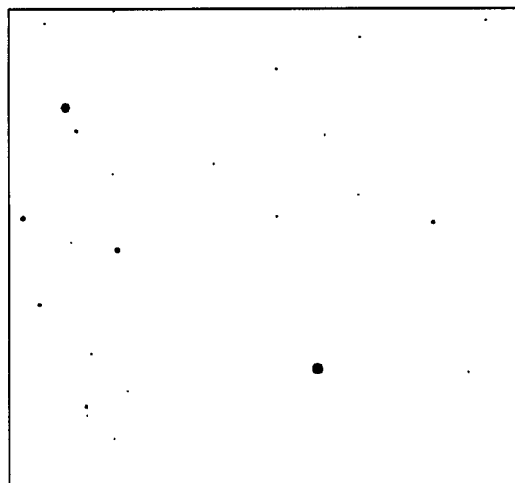
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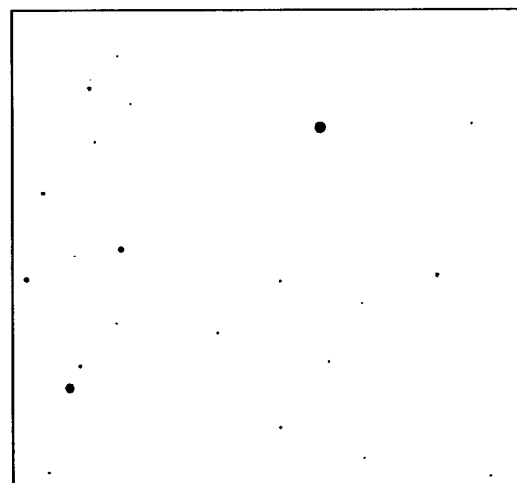
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



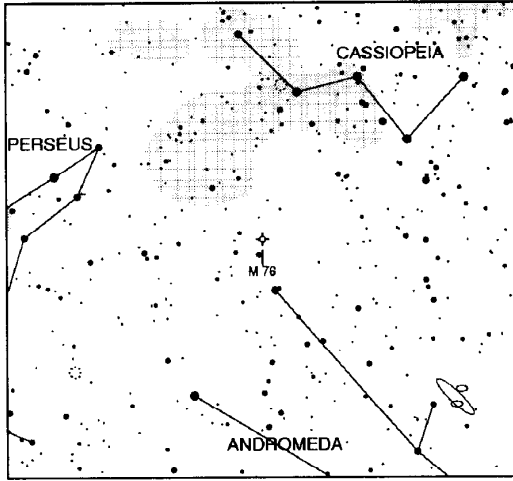
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
76	650	Per 01 42.4	51 34	11.0	2 x 1	PIN	1.7k	Little Dumbbell Nebula, Cork Nebula

# M 76

M76 - Look for a small, oblong patch of light. Fairly easy to find.

Messier objects on 30 degree chart: 31, 32, 34, 103, 110



30 degree field, North up

Notes: \_\_\_\_\_

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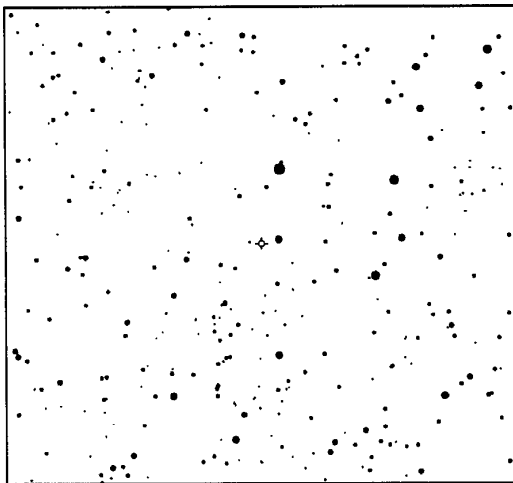
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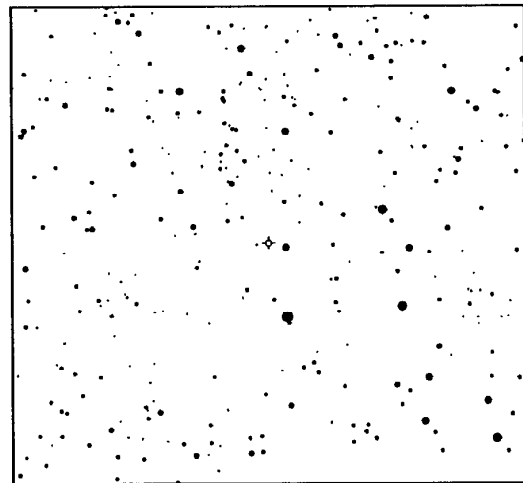
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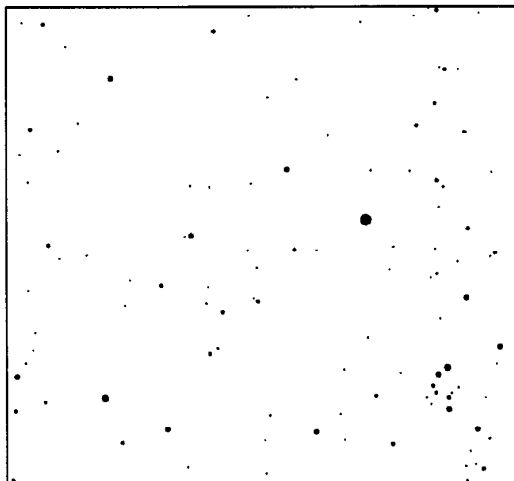
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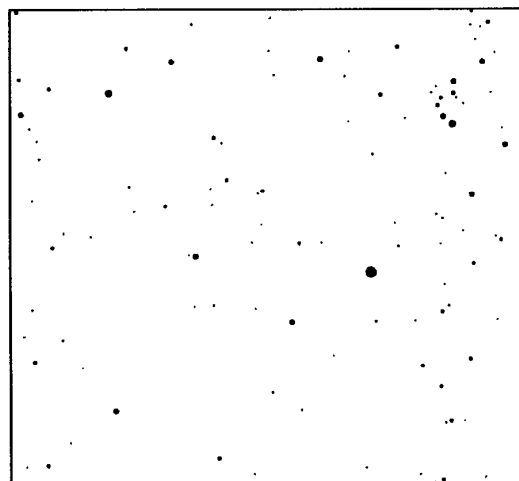
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



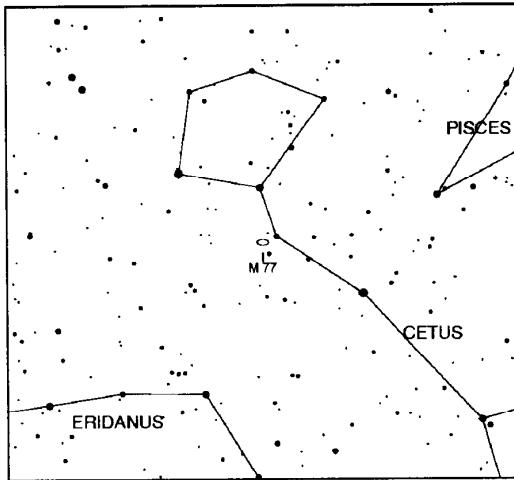
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
77	1068	Cer	02 42.7	-00 01 10	10	2.5 x 1.7	Gal	60000k	

# M 77

M77 - Look for a fuzzy, oval shaped patch of light, bright in the center, fading towards the edges. Look for mottling under good conditions.

Messier objects on 30 degree chart: none



30 degree field, North up

Notes: \_\_\_\_\_

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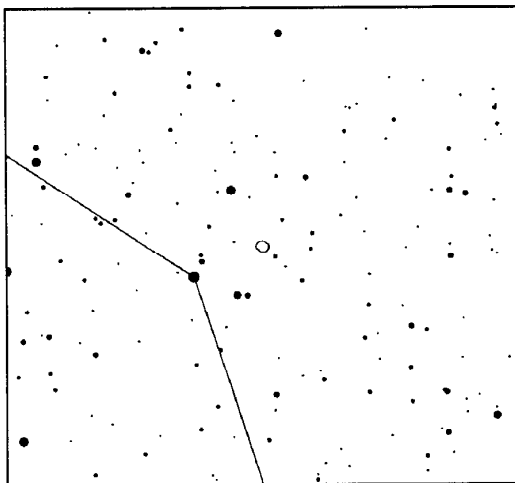
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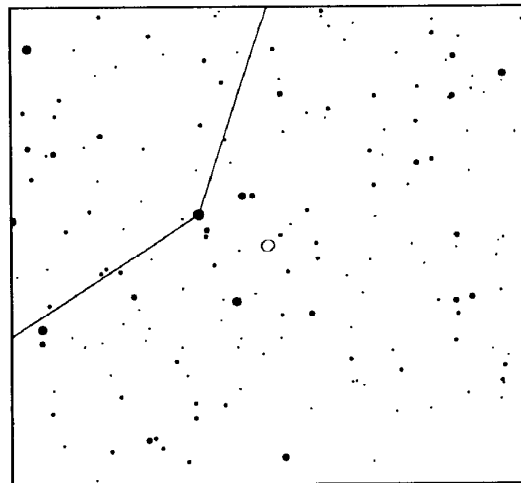
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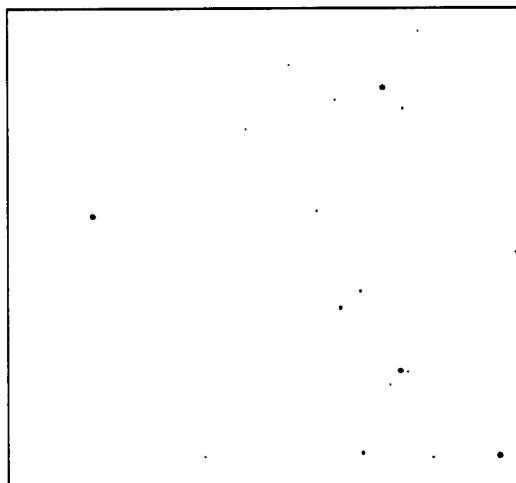
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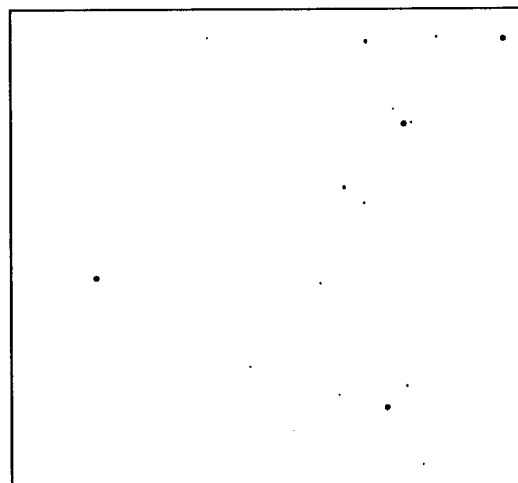
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



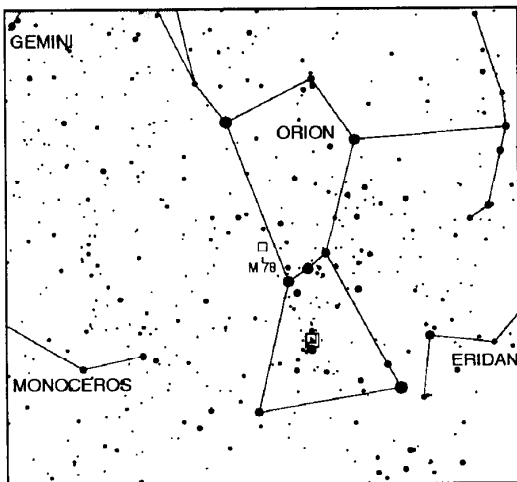
1 degree field, North up, Mirrored

# M 78

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
78	2068 Ori	05 46.7	00 03	8.0	8 x 6	DfN	1.6k	

M78 - A small emission nebula, two stars with involved neblosity.

Messier objects on 30 degree chart: 42, 43



30 degree field, North up

Notes: \_\_\_\_\_

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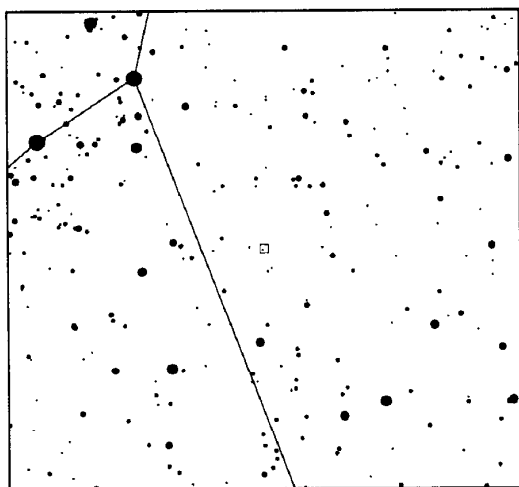
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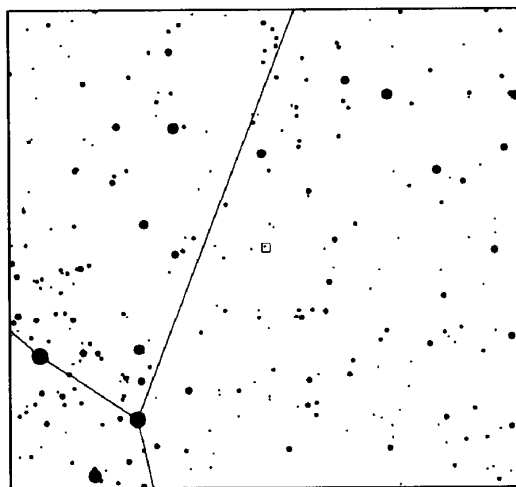
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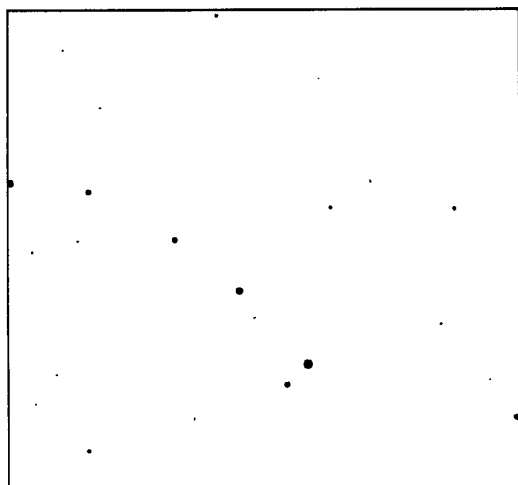
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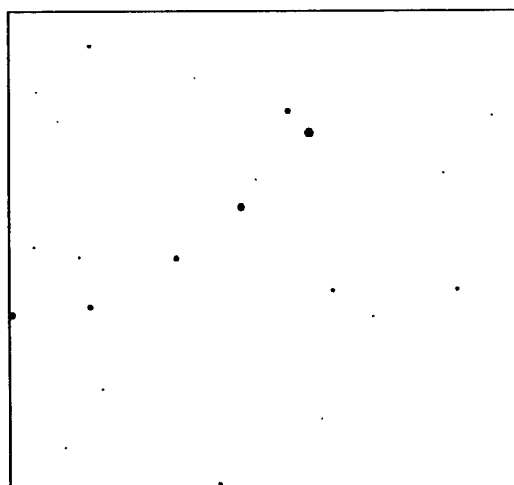
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



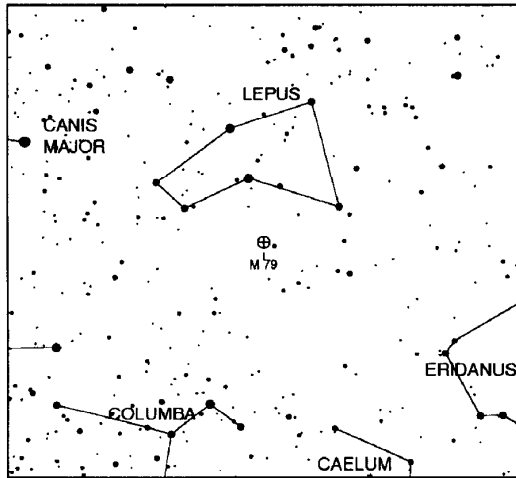
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
79	1904	Lep	05 24.5	-24 33	8.4	7.5	GCl	50k	

# M 79

M79 - Very faint and small cloudy patch.

Messier objects on 30 degree chart: none



30 degree field, North up

Notes: \_\_\_\_\_

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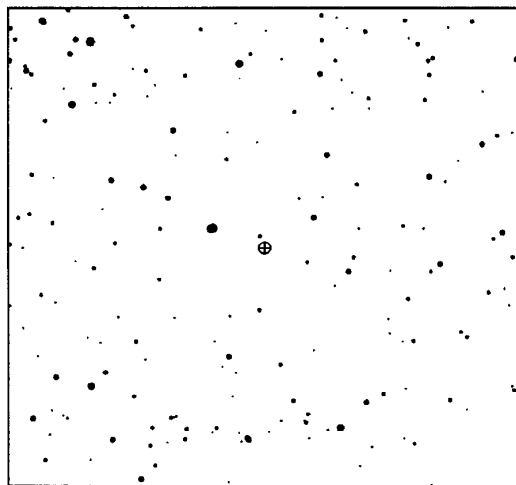
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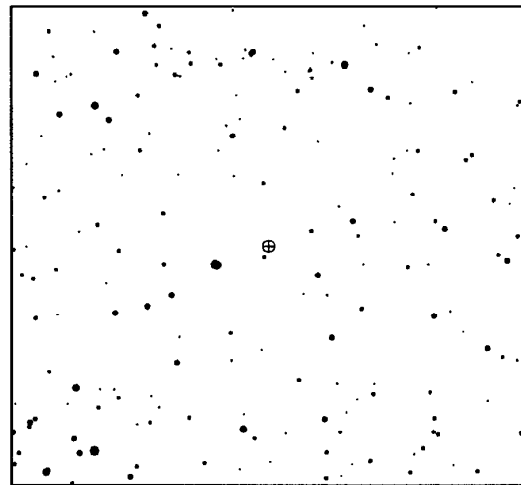
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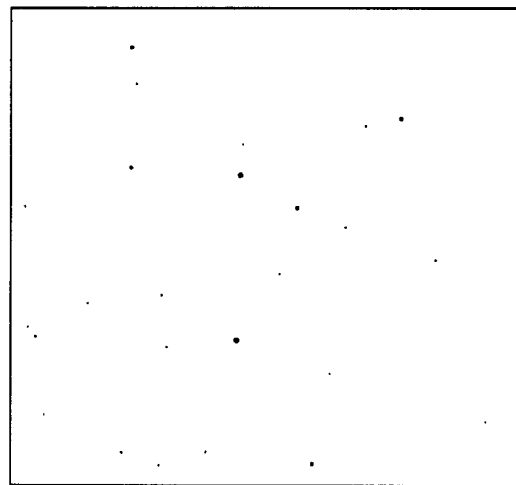
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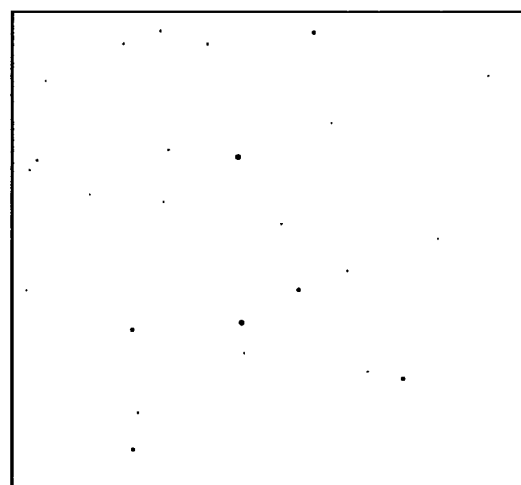
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



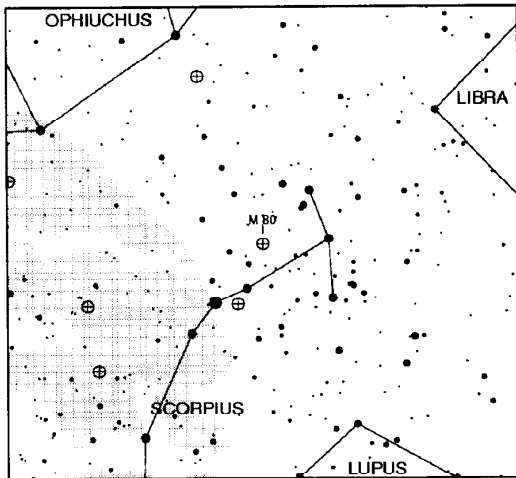
1 degree field, North up, Mirrored

# M 80

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
80	6093	Scor	16 17.0	-22 59	8	7	GCl	27k	

M80 - very condensed, with a hint of resolution.

Messier objects on 30 degree chart: 4, 9, 19, 62, 107



30 degree field, North up

Notes: \_\_\_\_\_

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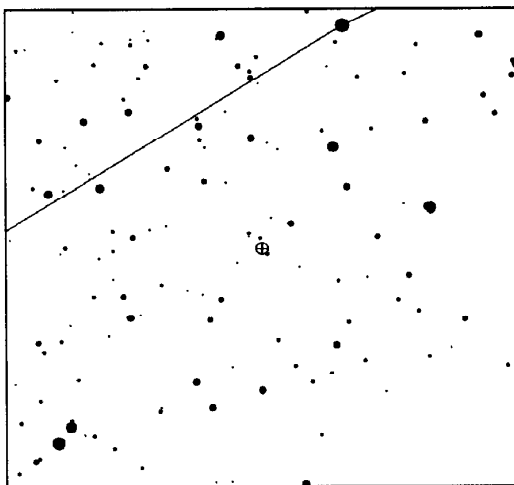
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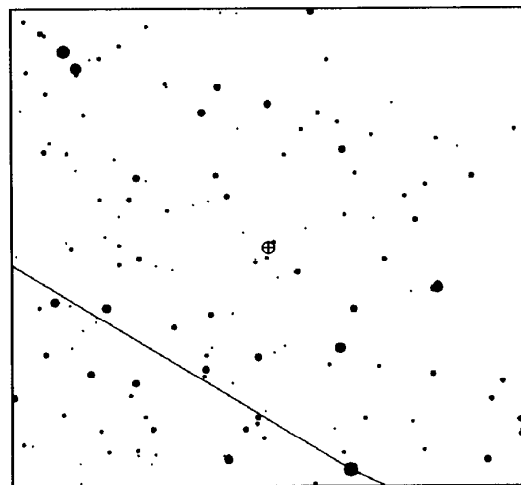
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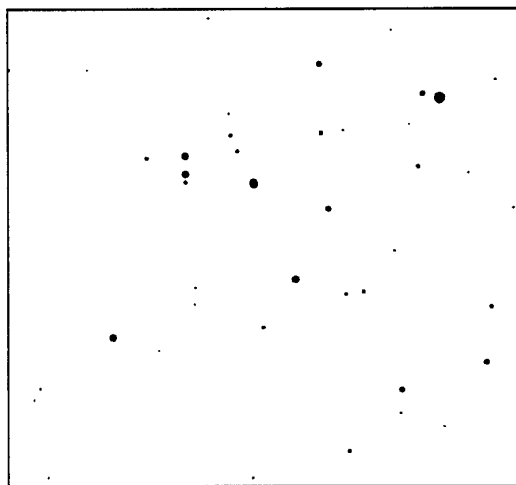
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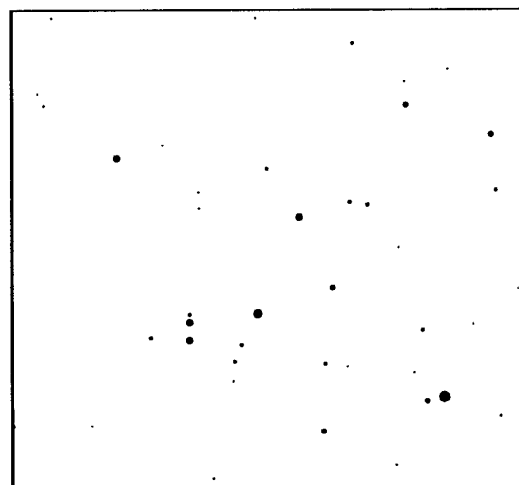
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

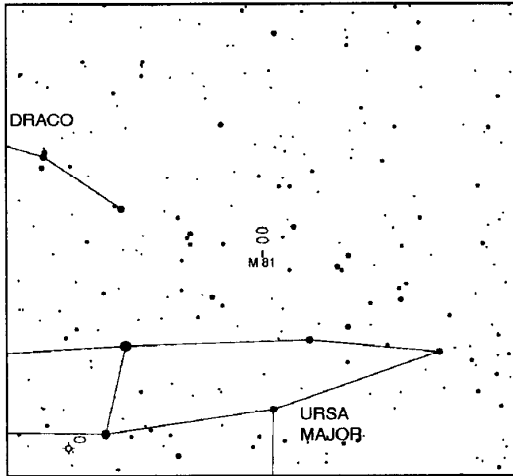


# M 81

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
81	3031	UMa	09 55.6	69 04	8	18 x 10	Gal	6500k	Bode's Galaxy

M81 - Note granularity in central region. Look for hints of outer arms, small luminous patches outside the main body of object. Three foreground stars superimposed on galaxy. Same field as M82.

Messier objects on 30 degree chart: 82, 97, 108



30 degree field, North up

Notes: \_\_\_\_\_

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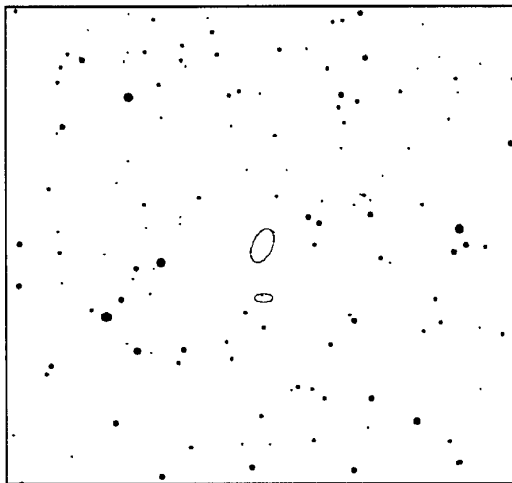
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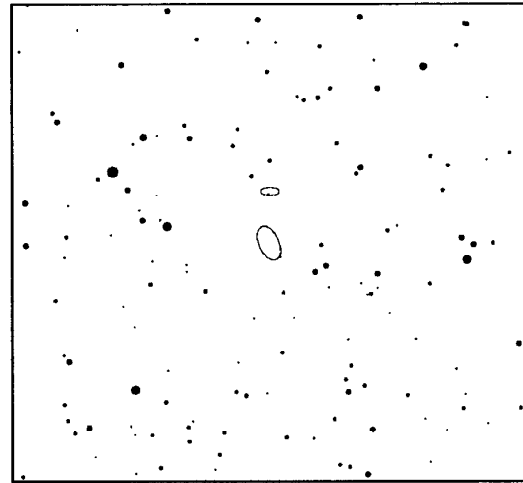
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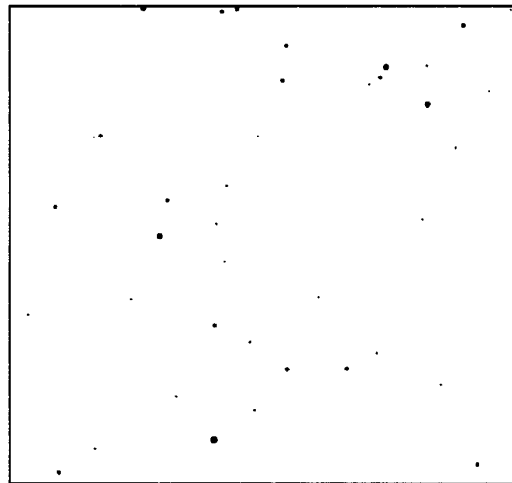
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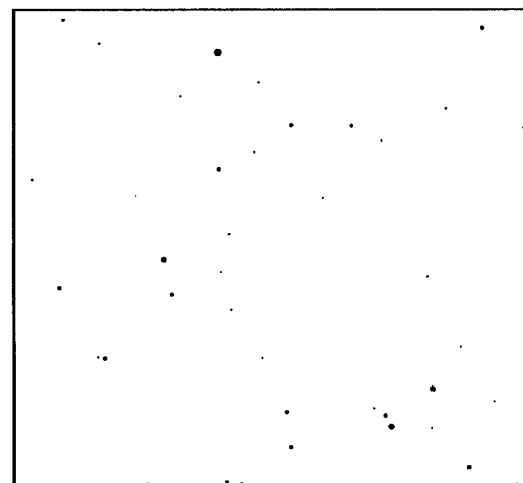
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



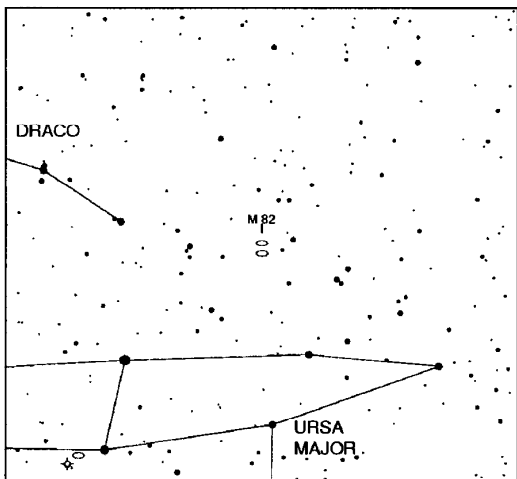
1 degree field, North up, Mirrored

# M 82

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
82	3034	UMa	09 55.8	69 41	9.2	8 x 3	Gal	11000k	Cigar Galaxy

M82 - a long, thin taper, with core slightly offset. Star very close to southern edge. Same field as M81.

Messier objects on 30 degree chart: 81, 97, 108



30 degree field, North up

Notes: \_\_\_\_\_

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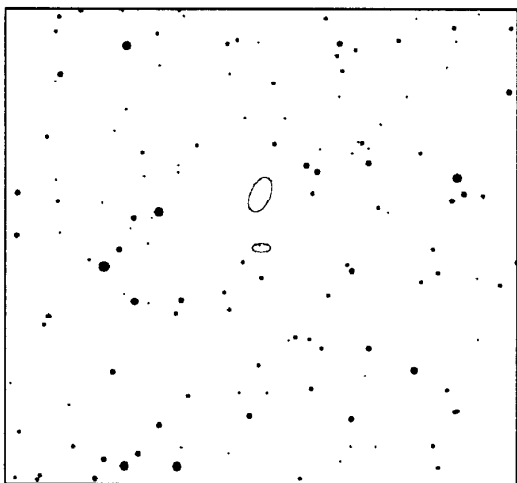
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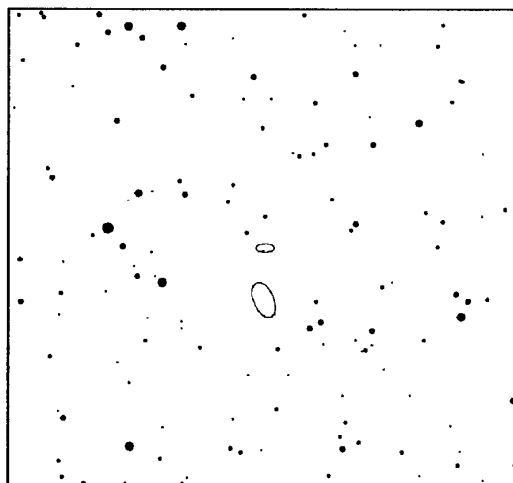
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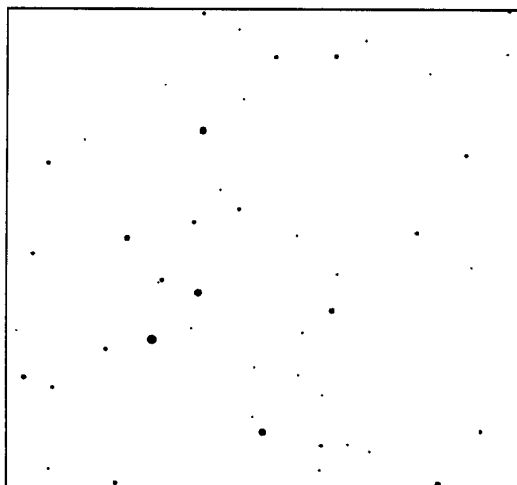
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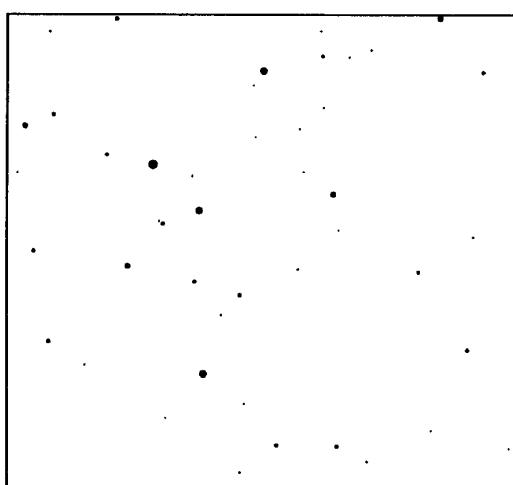
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



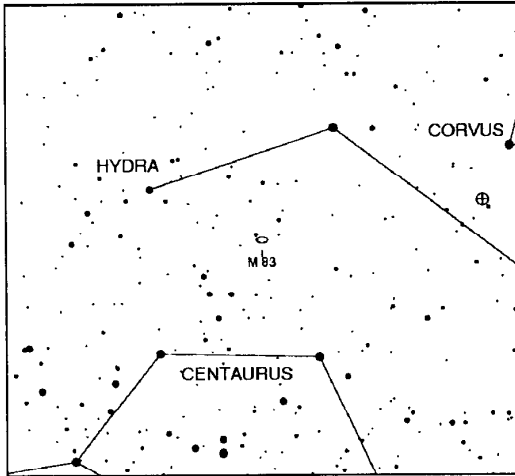
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
83	5236	Hya	13 37.0	-29 52	8	10 x 8	Gal	10000k	Southern Pinwheel Galaxy

**M 83**

M83 - central core with some mottling visible.

Messier objects on 30 degree chart: 68



30 degree field, North up

Notes: \_\_\_\_\_

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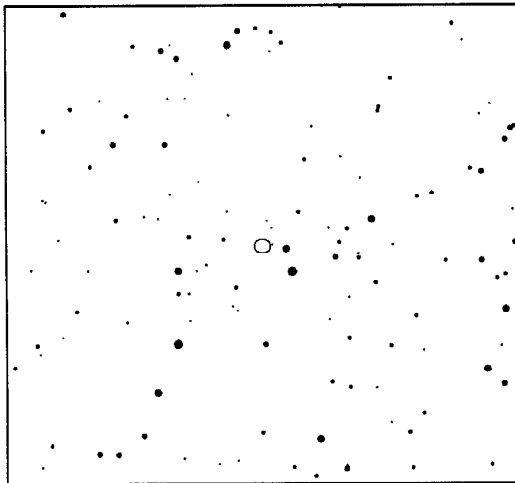
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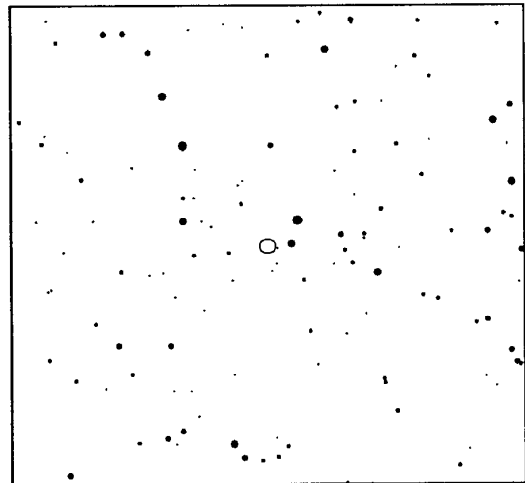
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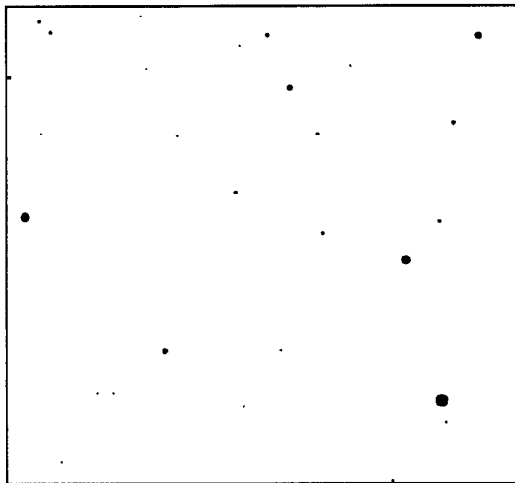
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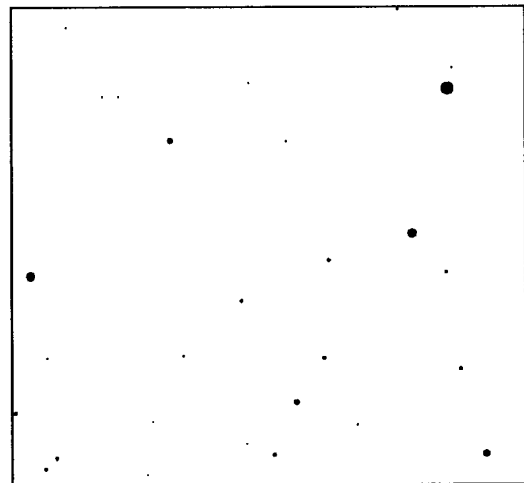
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



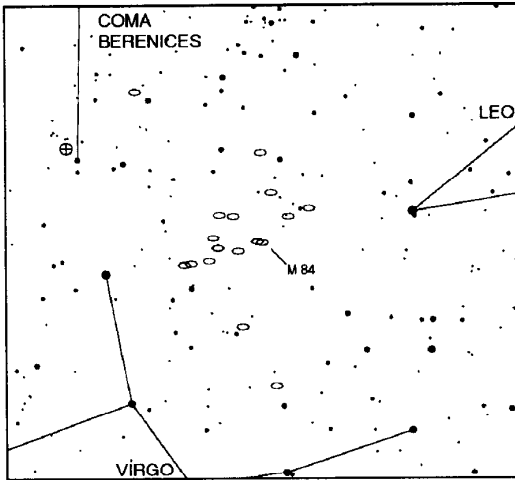
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
84	4374	Vir	12 25.1	12 53	10.5	2 x 1.8	Gal	25000k	

# M 84

M84 - A small fuzz ball with bright, almost stellar core. Same low power field as M86.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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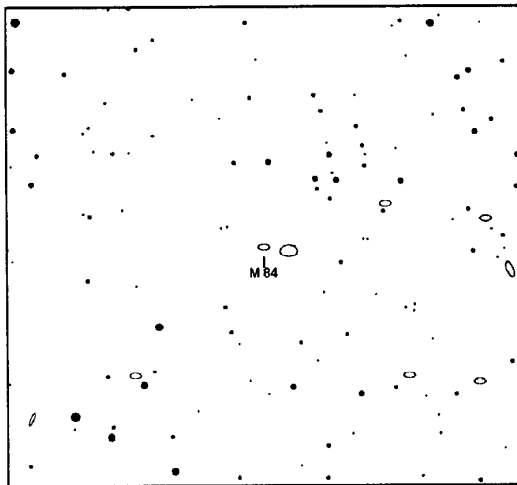
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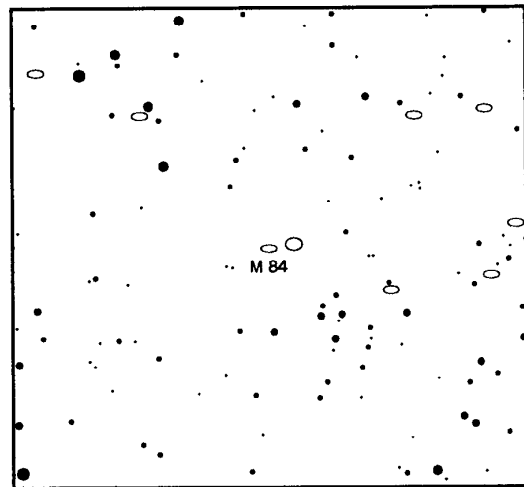
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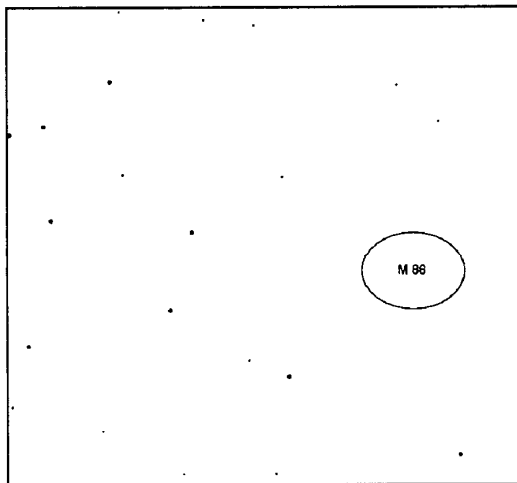
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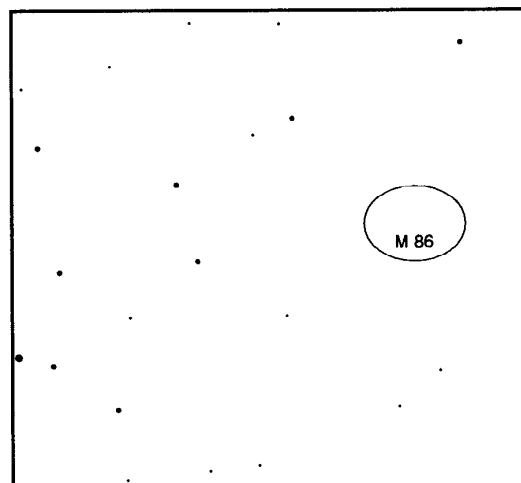
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



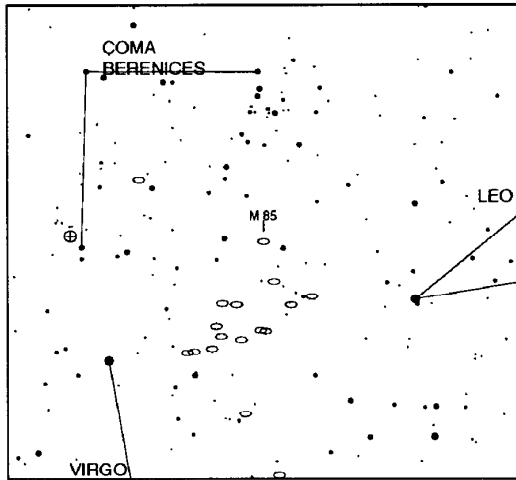
1 degree field, North up, Mirrored

# M 85

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
85	4382	Com	12 25.4	18 11	10.5	3 x 2	Gal	44000k	

M85 - appears as a bright, small, patch of light with a stellar core.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 86, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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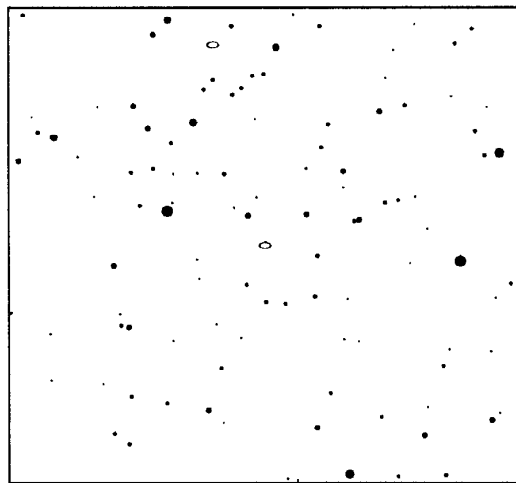
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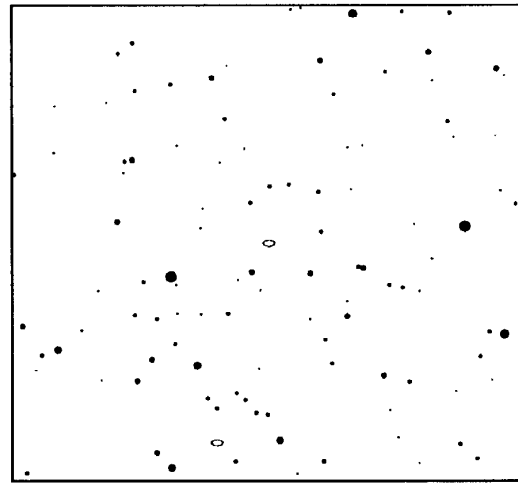
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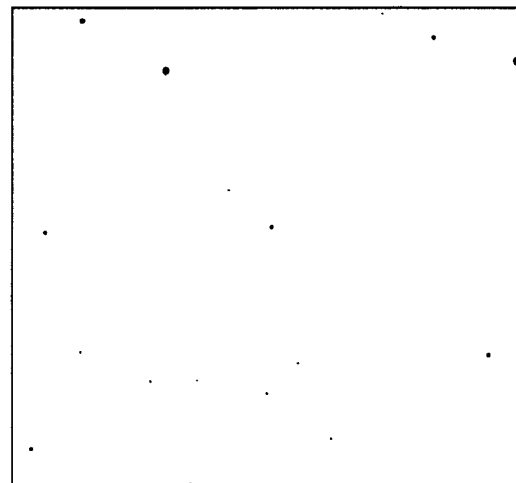
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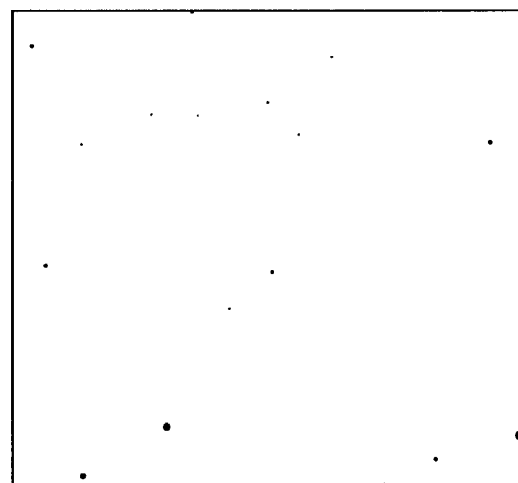
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



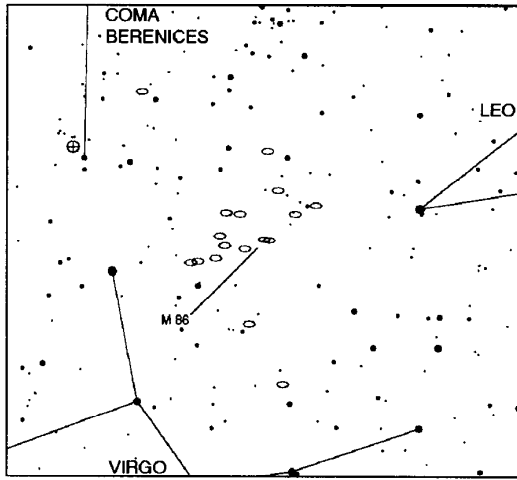
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
86	4406 Vir	12 26.2	12 57	10.5	3 x 2	Gal	20000k	

# M 86

M86 - A small fuzz ball, more elongated and larger than M84. Same low power field as M84.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 85, 87, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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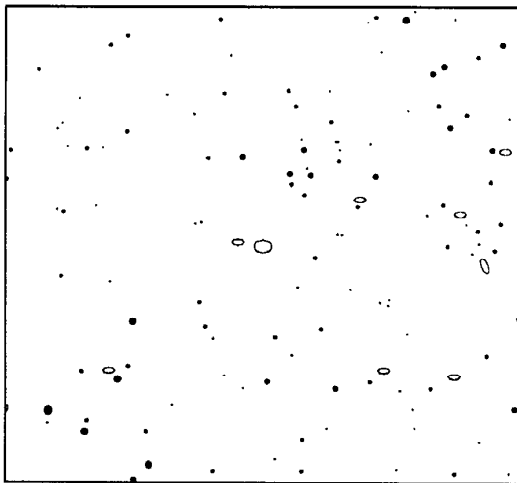
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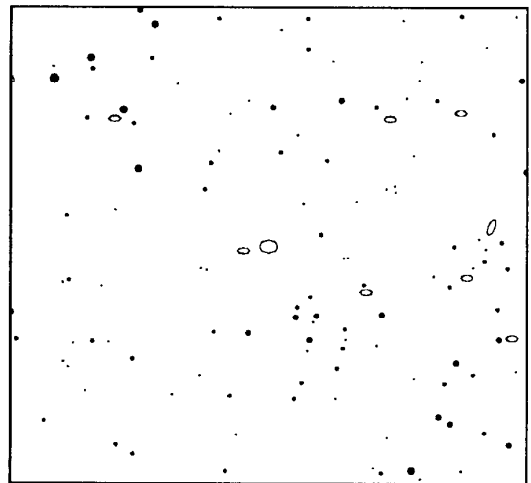
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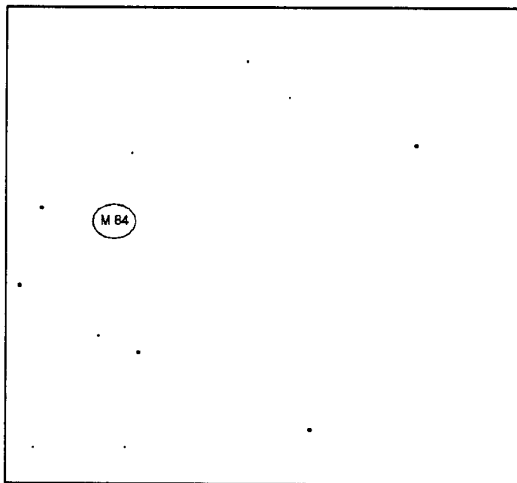
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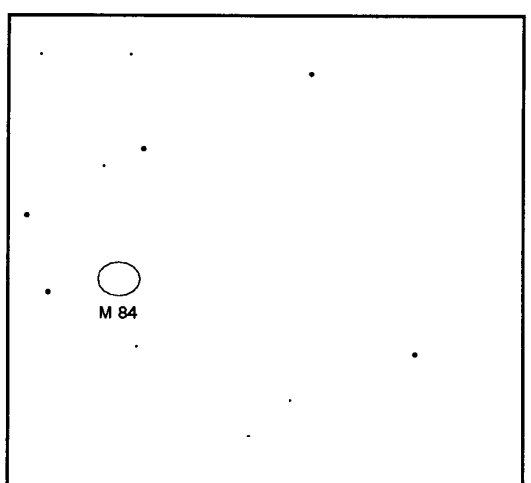
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



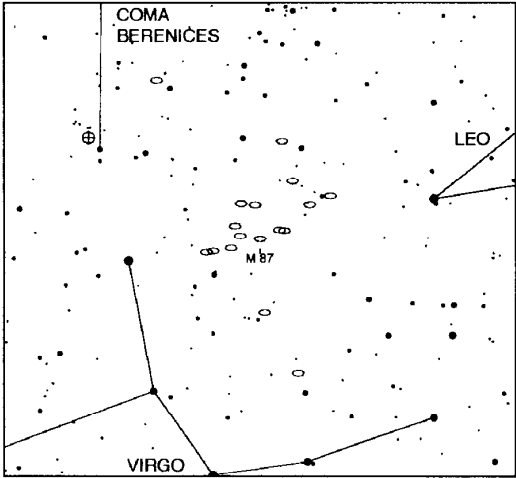
1 degree field, North up, Mirrored

# M 87

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
87	4486	Vir	12 30.8	12 24	10.1	3 x 3	Gal	60000k	Virgo A

M87 - Another very round fuzzy ball with a bright core. Slightly brighter than both M84 and M86. NGC 4478 in same field.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 85, 86, 88, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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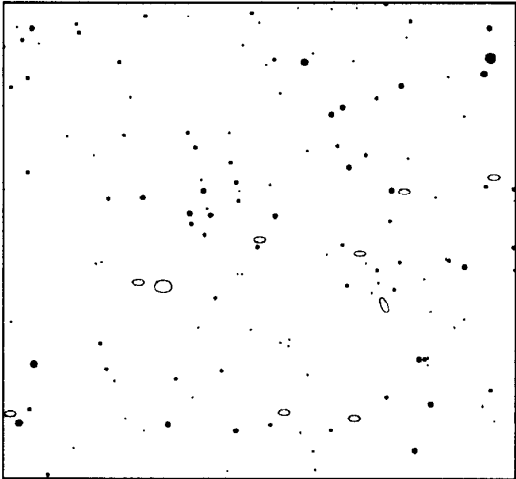
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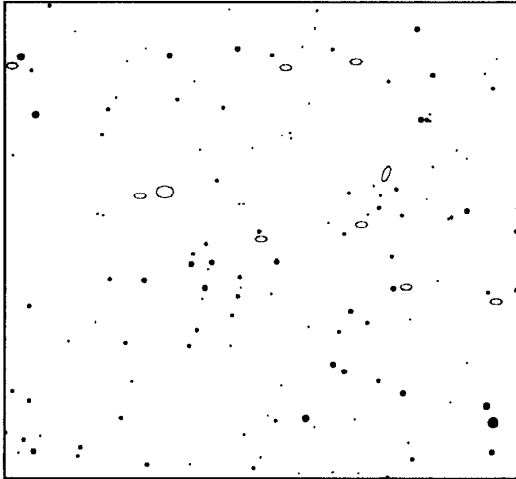
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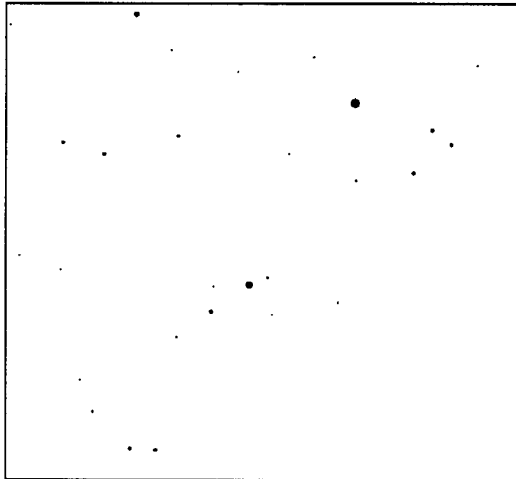
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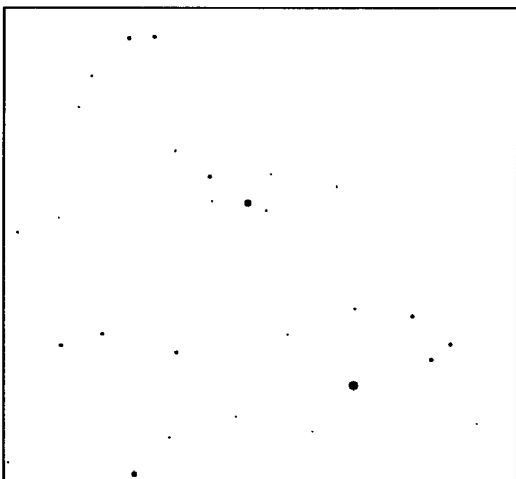
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



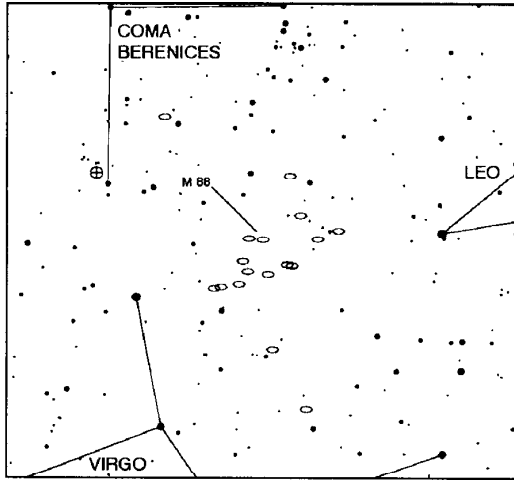
1 degree field, North up, Mirrored

# M 88

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
88	4501 Com	12 32.0	14 25	10.5	5.7 x 2.5	Gal	41000k	

M88 - A small oval shaped fuzzy patch with a bright stellar core.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 85, 86, 87, 89, 90, 91, 98, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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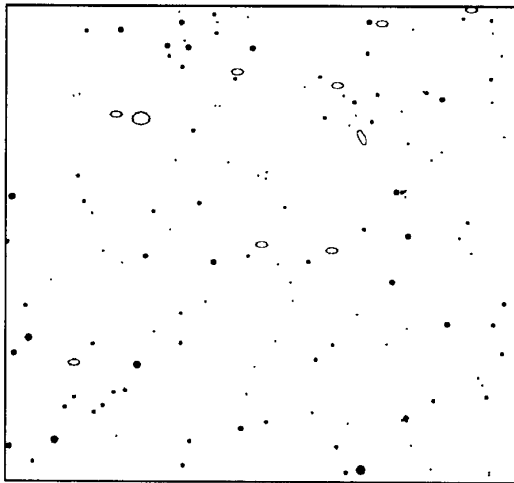
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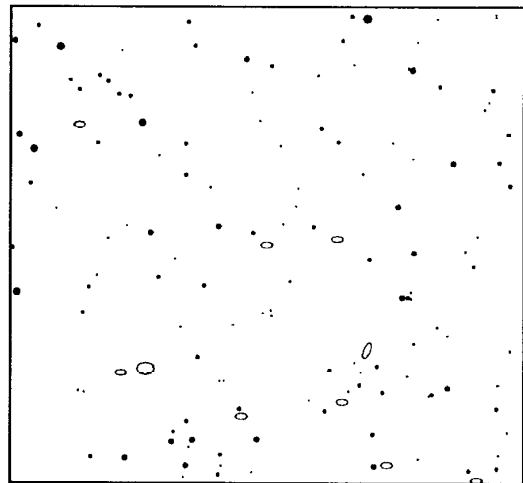
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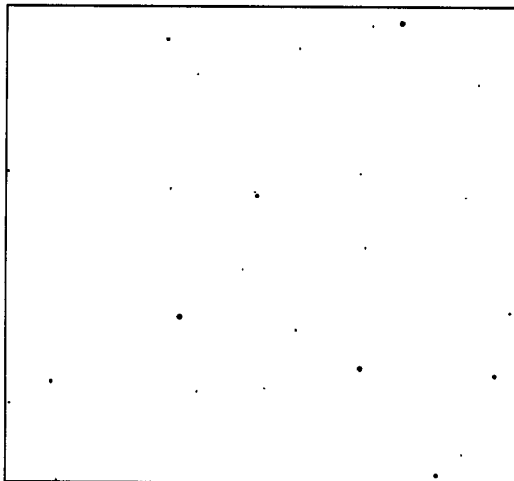
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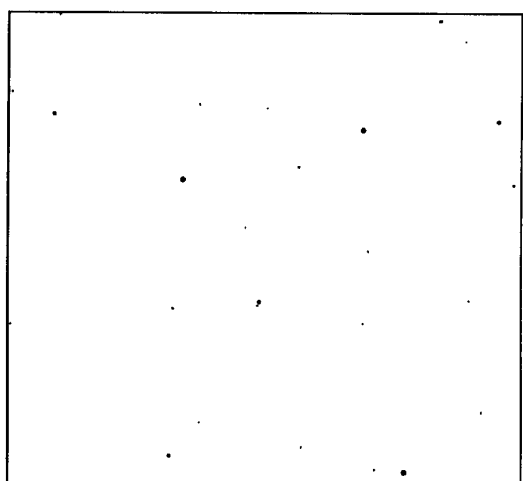
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

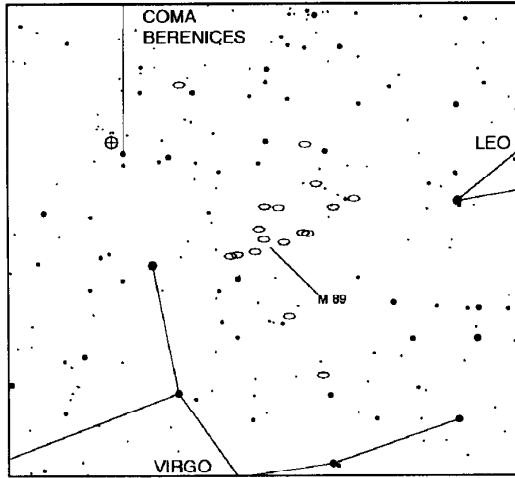


# M 89

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
89	4552	Vir	12 35.7	12 33	11	2 x 2	Gal	35000k	

M89 - very round, fairly evenly illuminated.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 85, 86, 87, 88, 90, 91, 98, 99, 100



30 degree field, North up

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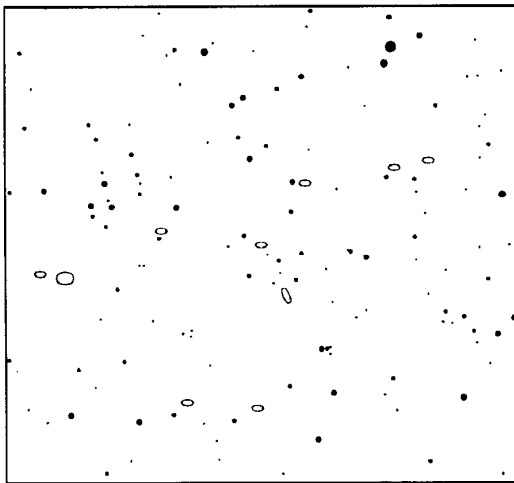
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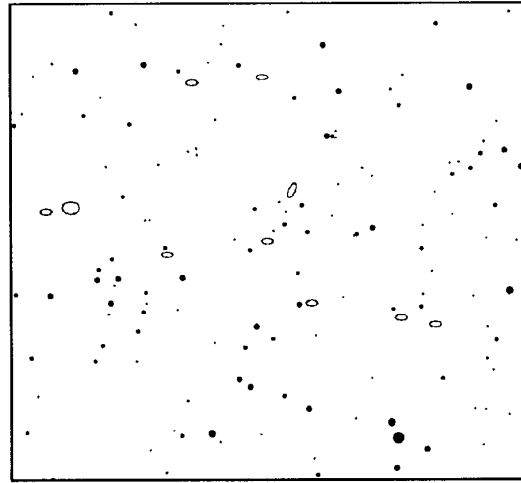
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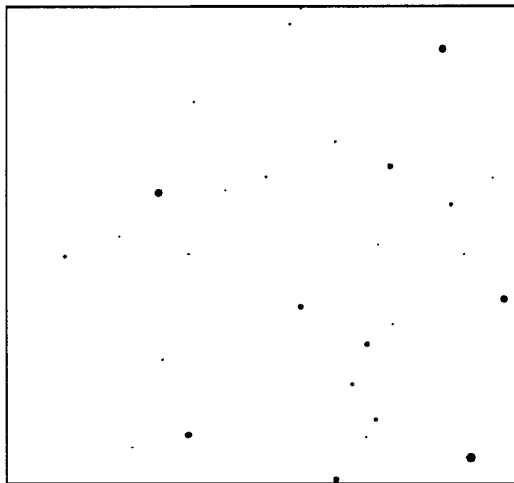
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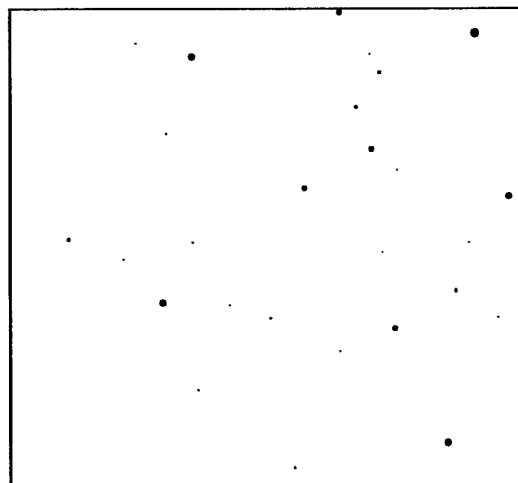
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



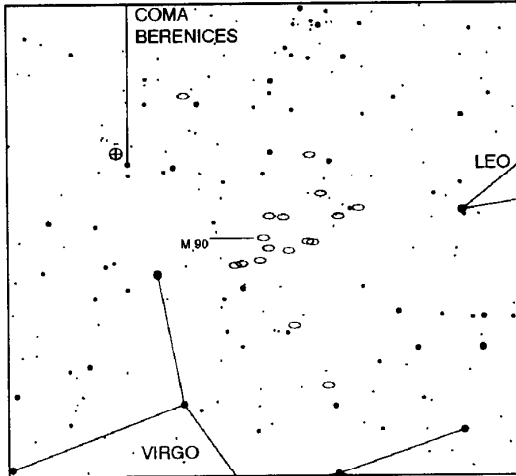
1 degree field, North up, Mirrored

# M 90

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
90	4569	Vir	12 36.8	13 10	11.0	9.5 x 4.5	Gal	42000k	

M90 - appears quite elongated with near stellar core, some mottling.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 85, 86, 87, 88, 89, 91, 98, 99, 100



Notes: \_\_\_\_\_

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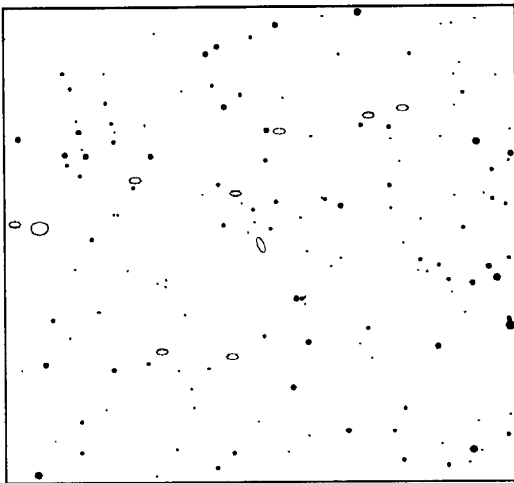
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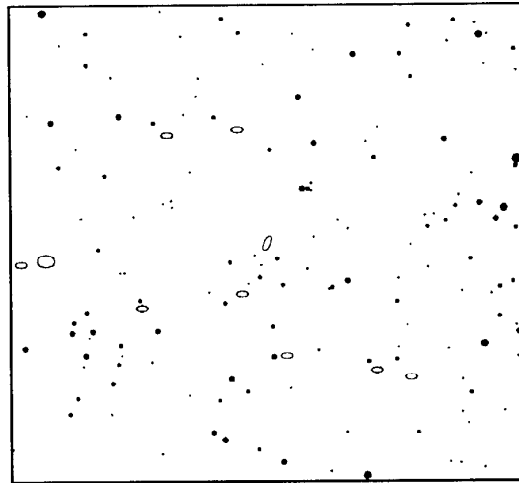
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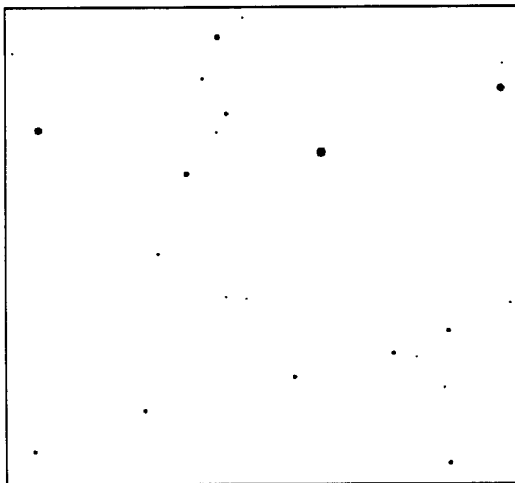
30 degree field, North up



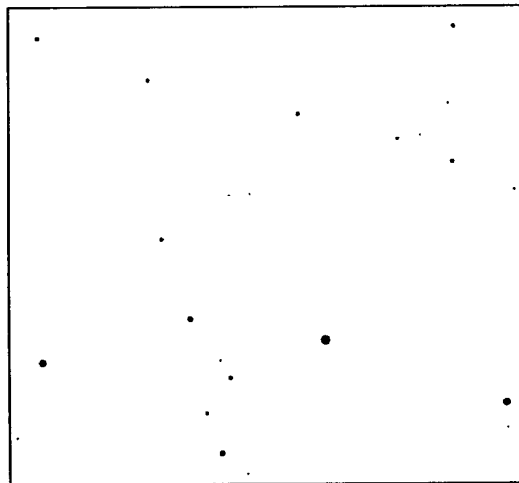
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

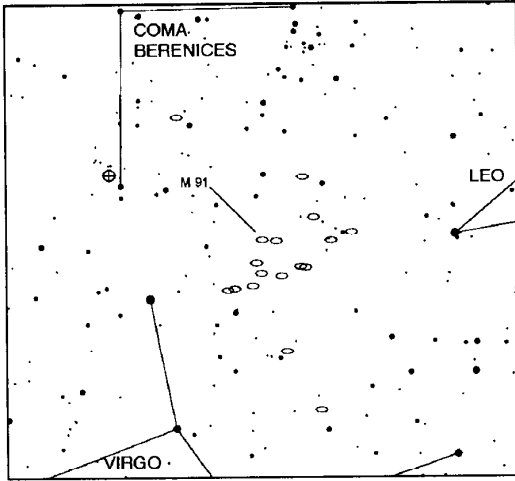


1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
91	4548	Com	12 35.4	14 30	11.1	7 x 2.5	Gal	60000k	

M91 - A faint, slightly irregular oval hazy patch of light.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99, 100



Notes: \_\_\_\_\_

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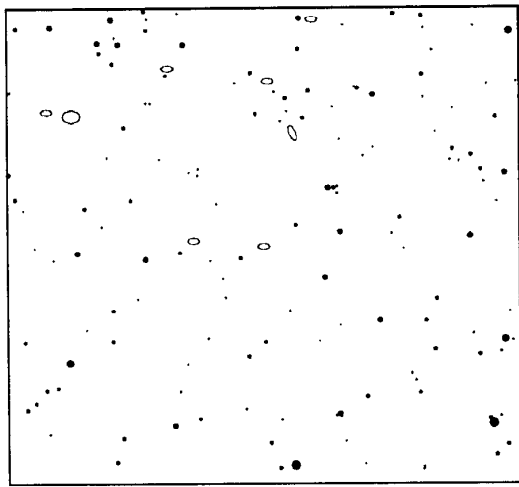
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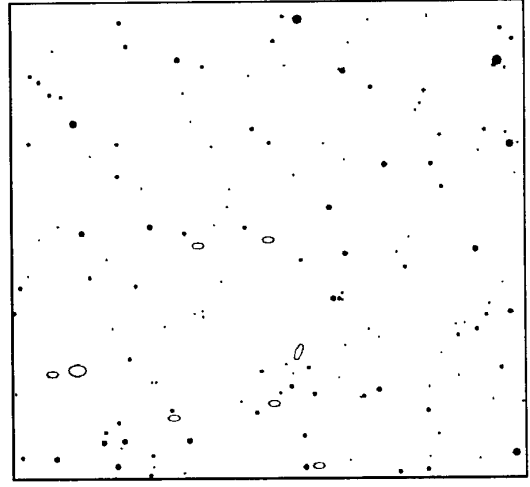
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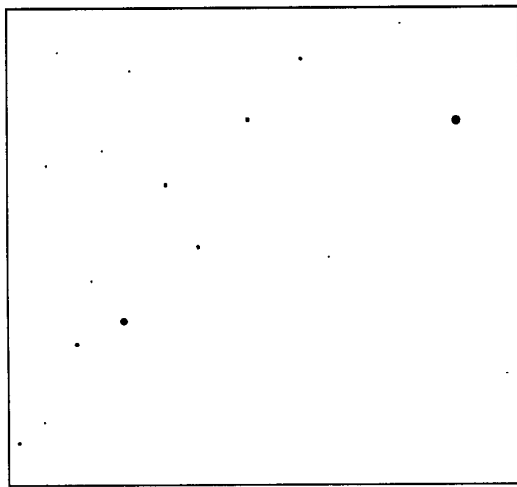
30 degree field, North up



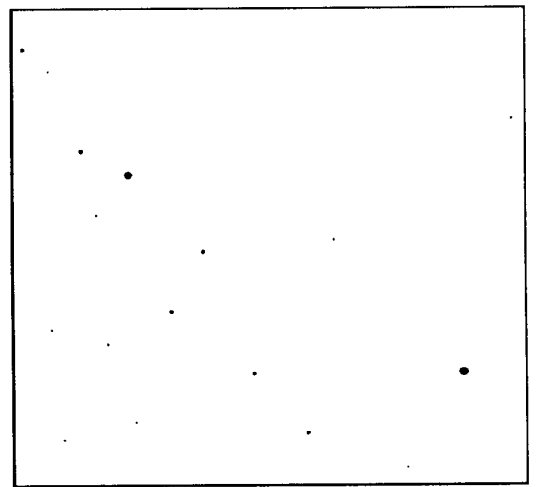
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



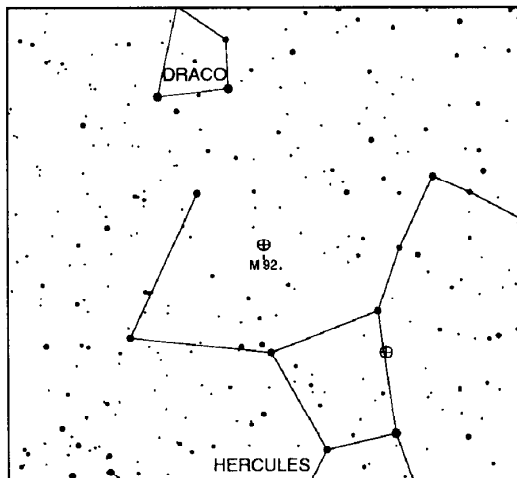
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
92	6341	Her	17 17.1	43 08	7.5	11.2	GCl	35k	

# M 92

M92 - partially resolvable, looks elongated in small scope. Bright core. Look for small, dark patches within the cluster.

Messier objects on 30 degree chart: 13



30 degree field, North up

Notes: \_\_\_\_\_

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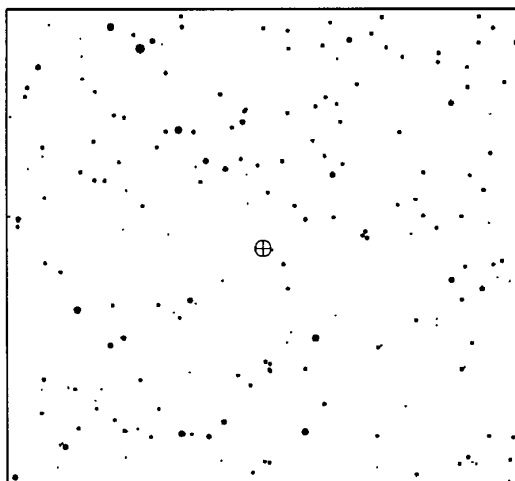
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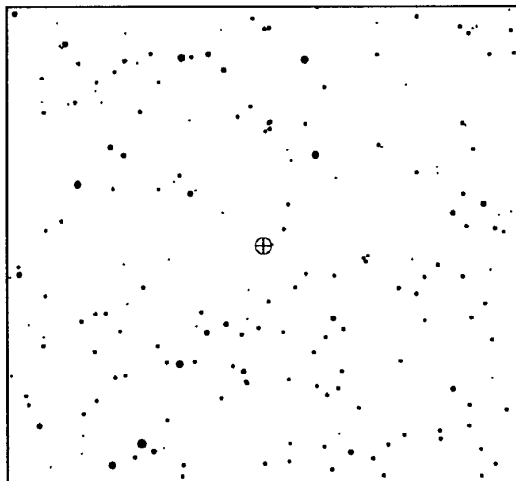
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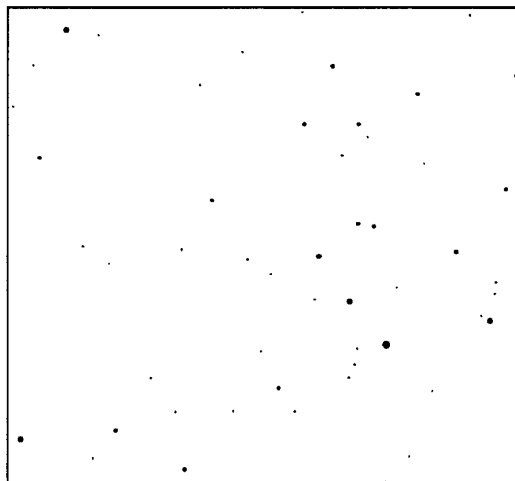
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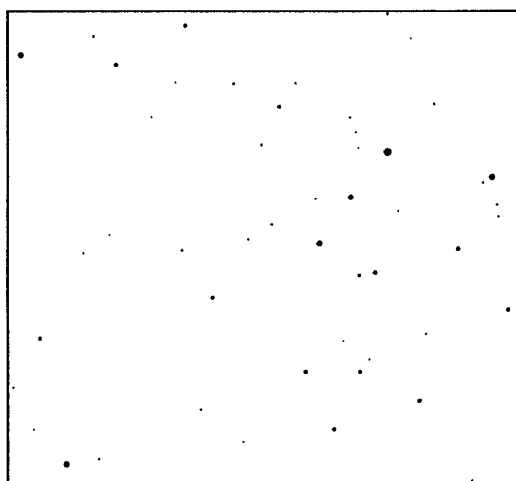
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



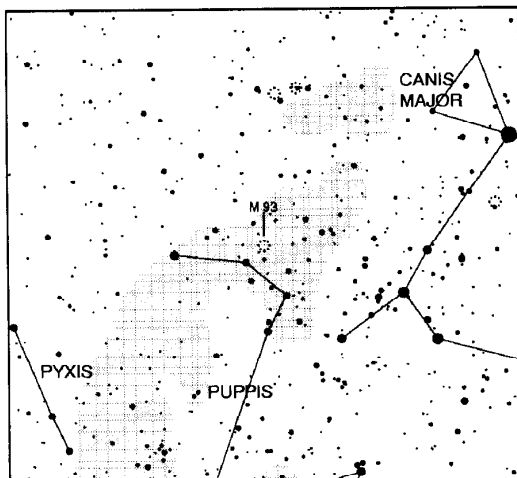
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
93	2447	Pup	07 44.6	-23 52	7	18	OCI	3.4k	

# M 93

M93 - somewhat diamond shaped with two prominent streamers of stars leading off to one side.

Messier objects on 30 degree chart: 41, 46, 47



30 degree field, North up

Notes: \_\_\_\_\_

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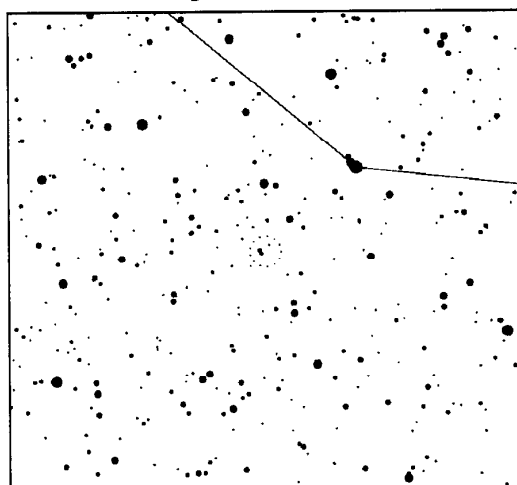
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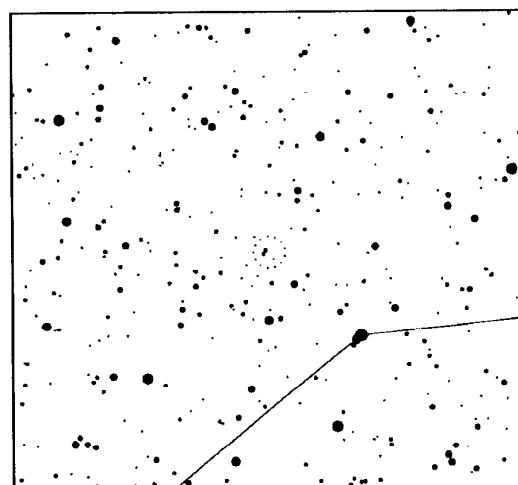
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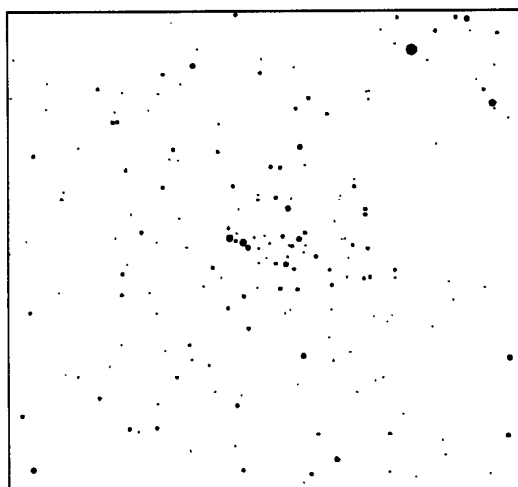
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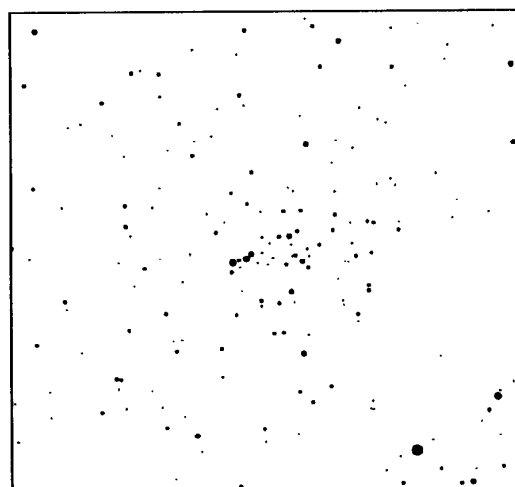
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



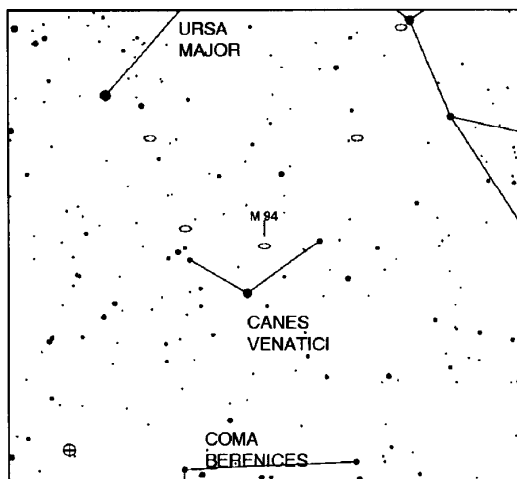
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
94	4736	CVn	12 50.9	41 07	8.9	5 x 3.5	Gal	20000k	

# M 94

M94 - Looks like a bright core surrounded by a faint haze.

Messier objects on 30 degree chart: 3, 51, 63, 106, 109



30 degree field, North up

Notes: \_\_\_\_\_

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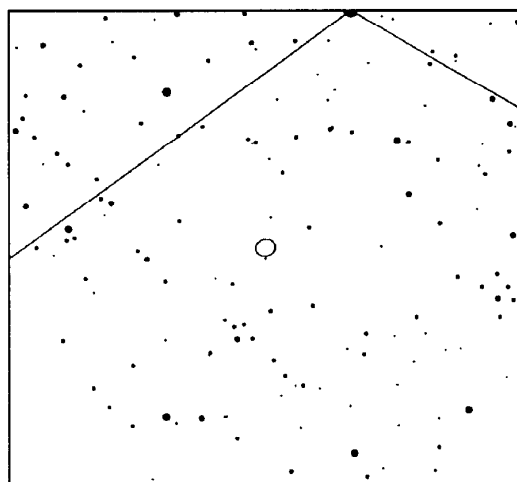
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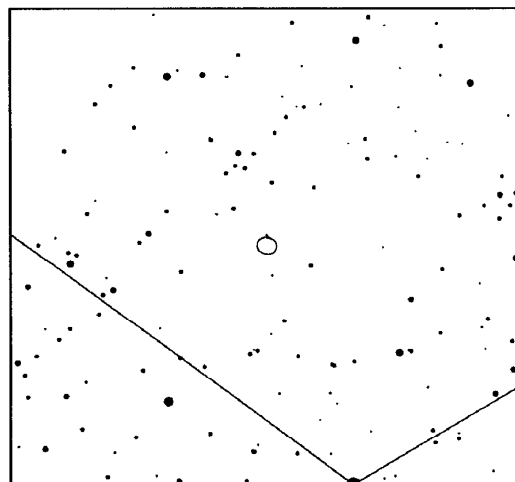
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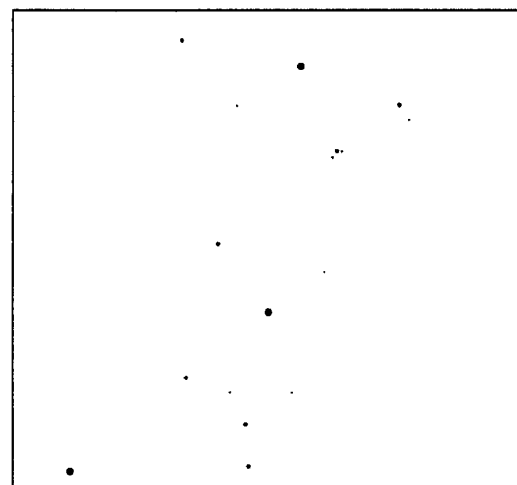
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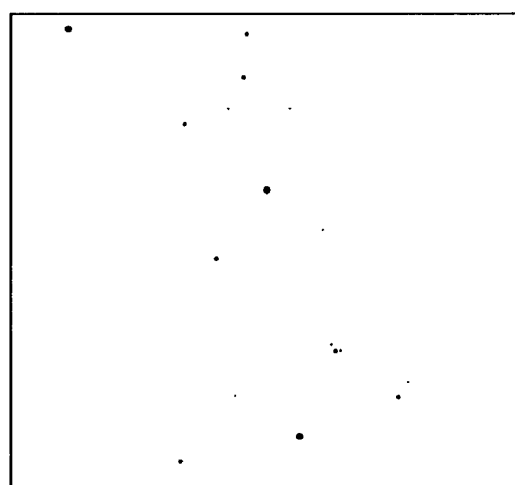
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



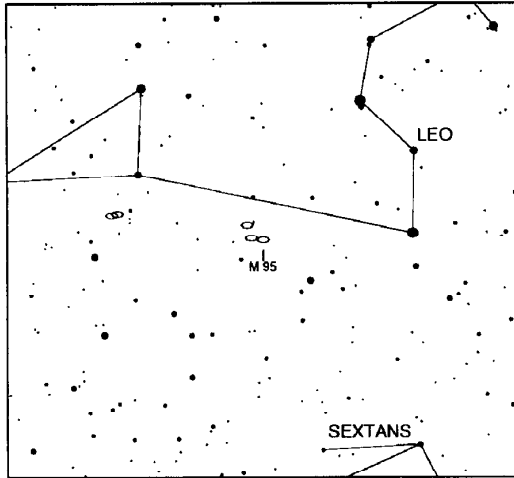
1 degree field, North up, Mirrored

# M 95

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
95	3351	Leo	10 44.0	11 42	11.0	4 x 3	Gal	29000k	

M95 - round bright nucleus with much fainter outer elongated area.

Messier objects on 30 degree chart: 65, 66, 96, 105



30 degree field, North up

Notes: \_\_\_\_\_

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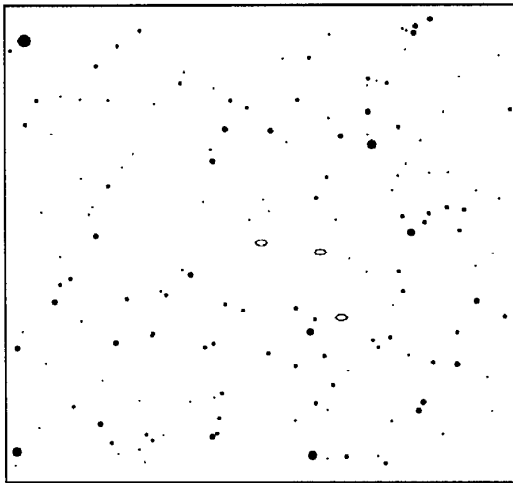
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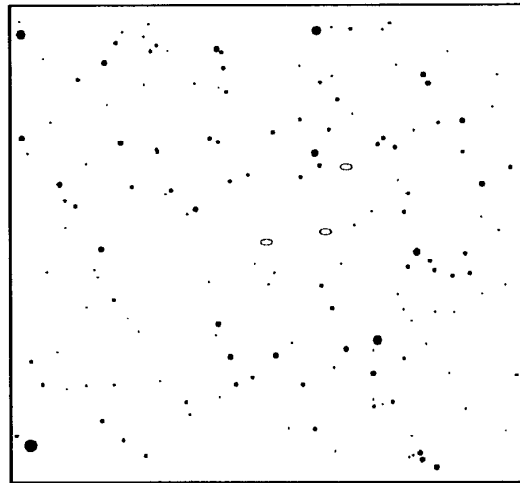
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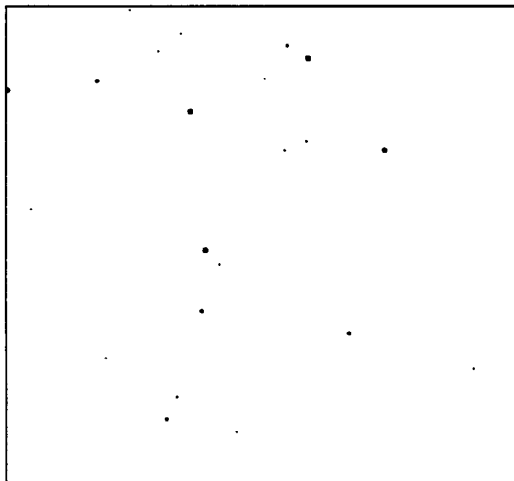
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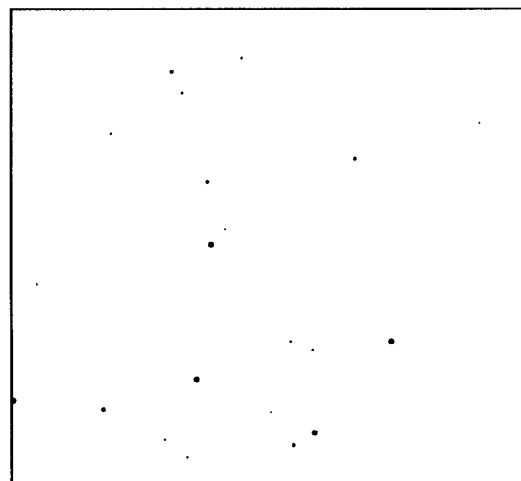
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



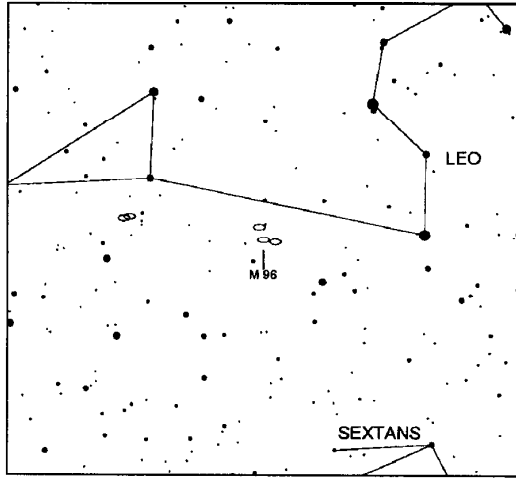
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
96	3368	Leo	10 46.8	11 49	10.2	6 x 4	Gal	29000k	

# M 96

M96 - elongated core surrounded by mottled area.

Messier objects on 30 degree chart: 65, 66, 95, 105



30 degree field, North up

Notes: \_\_\_\_\_

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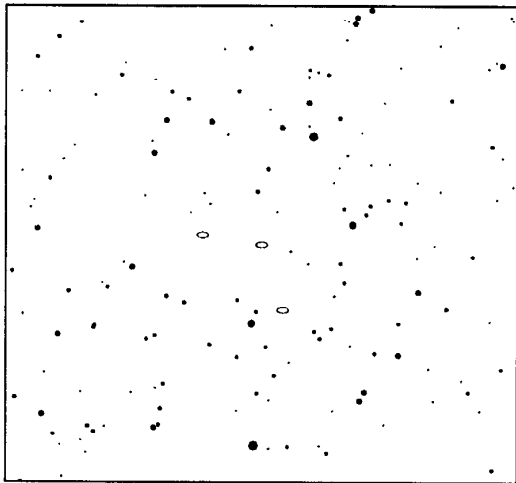
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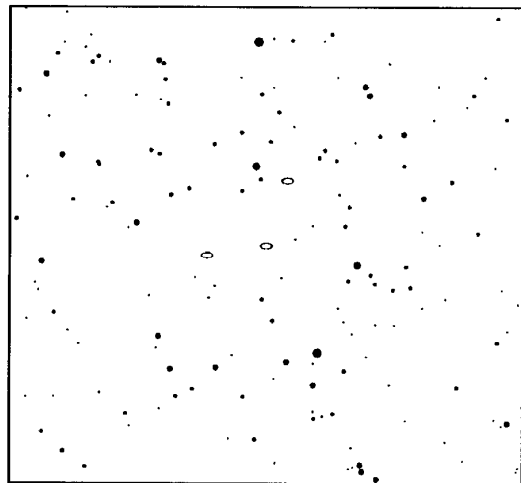
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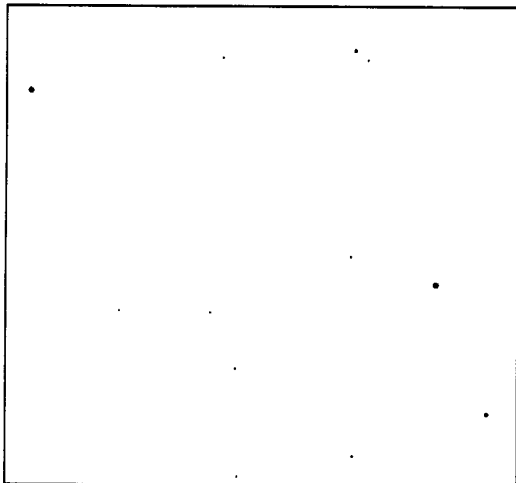
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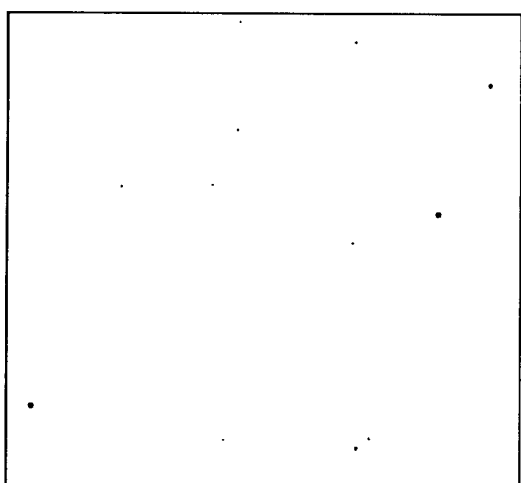
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

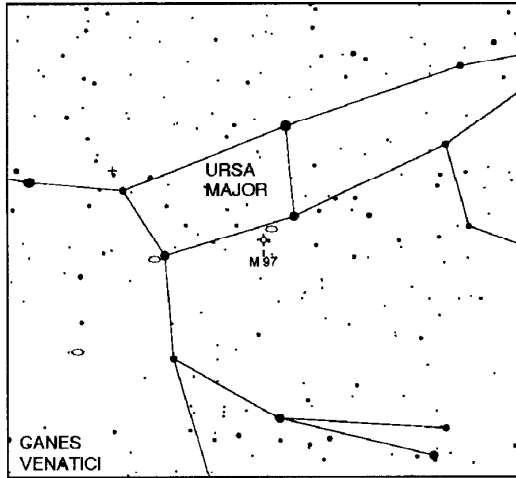


# M 97

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
97	3587	UMa	11 14.8	55 01	11.0	2.5	PIN	2.6k	Owl Nebula

M97 - the Messier that gave me the most grief. Seen as an very faint semi-circle of light, with a brighter area in the center of the arc.

Messier objects on 30 degree chart: 40, 106, 108, 109



30 degree field, North up

Notes: \_\_\_\_\_

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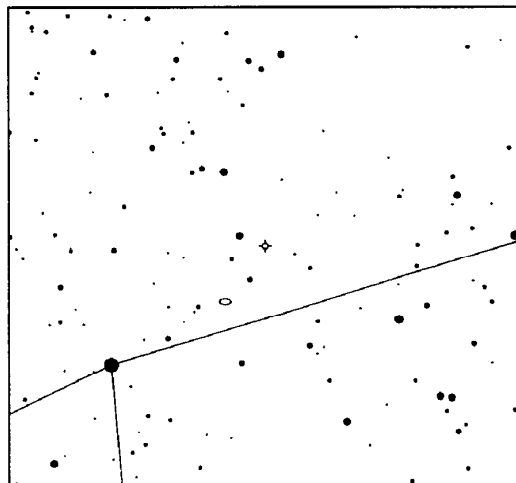
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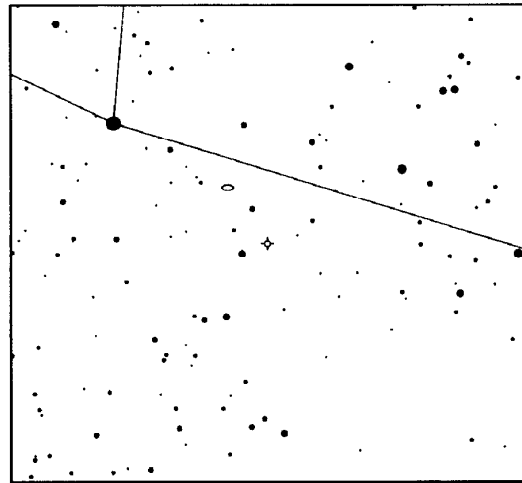
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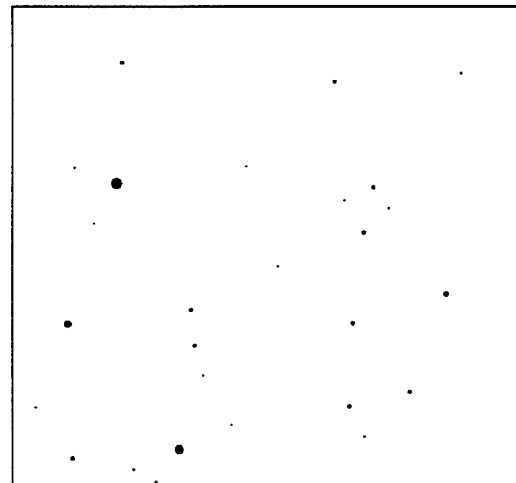
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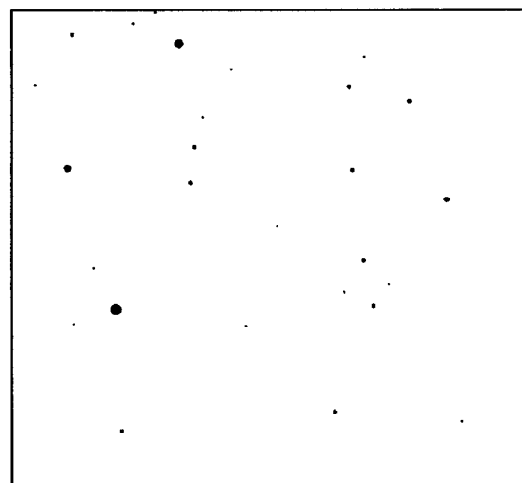
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



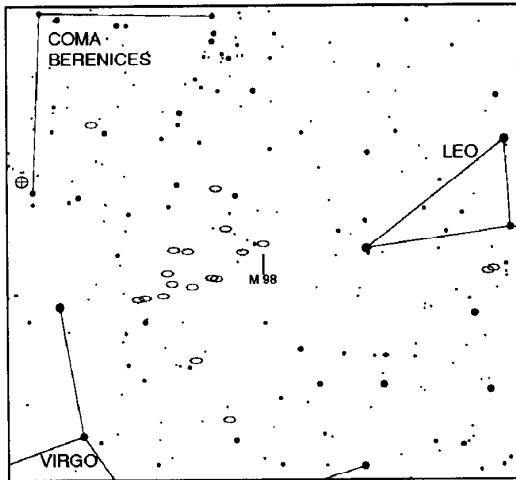
1 degree field, North up, Mirrored

# M 98

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
98	4192	Com	12 13.8 14 54 11.0	8.2 x 2.0	Gal	35000k		

M98 - appears as a streak of light, with a near stellar core.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 65, 66, 84, 85, 86, 87, 88, 89, 90, 91, 99, 100



30 degree field, North up

Notes: \_\_\_\_\_

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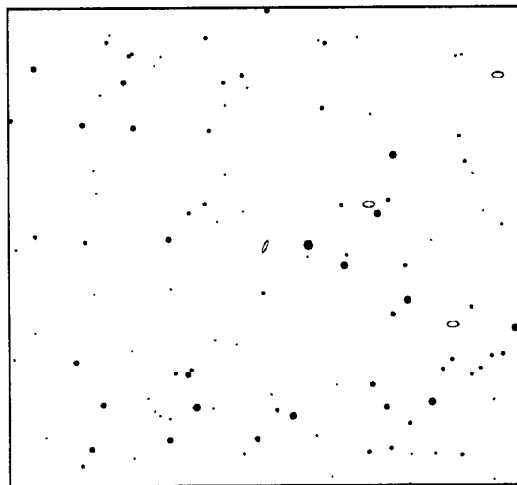
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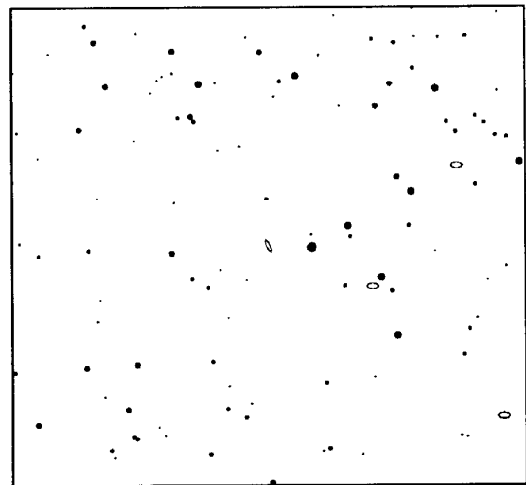
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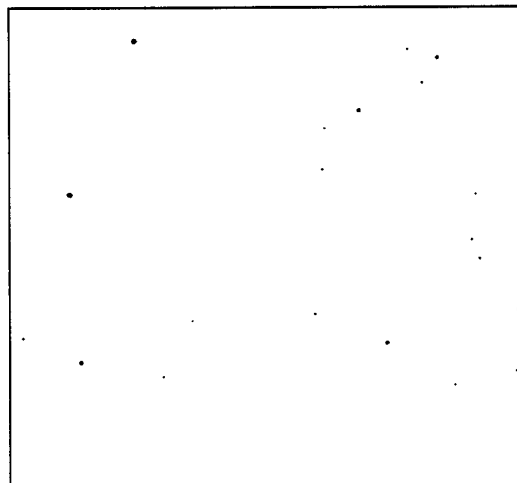
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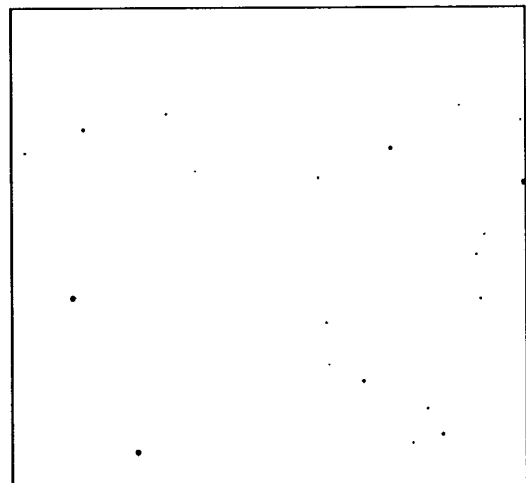
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



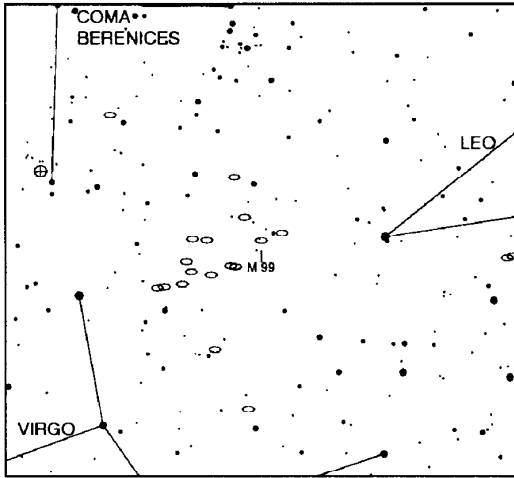
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
99	4254	Com	12 18.8	14 25	10.4	4.5 x 4.0	Gal	50000k	

# M 99

M99 - A round fuzzy with a brighter core.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 65, 66, 84, 85, 86, 87, 88, 89, 90, 91, 98, 100



30 degree field, North up

Notes: \_\_\_\_\_

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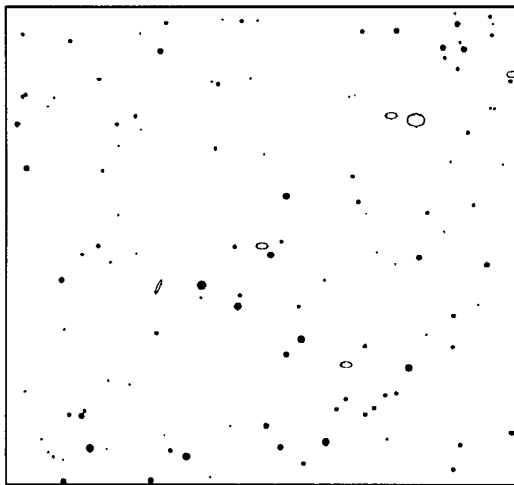
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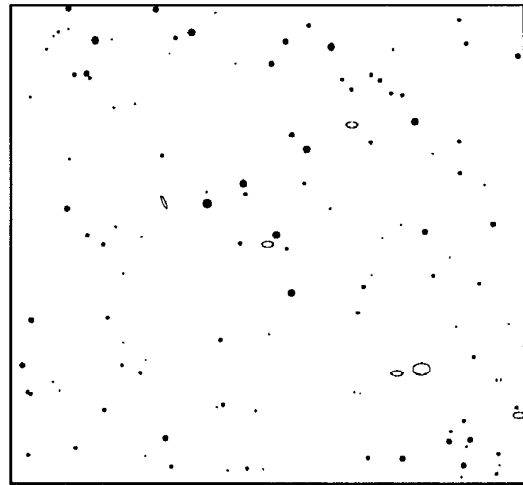
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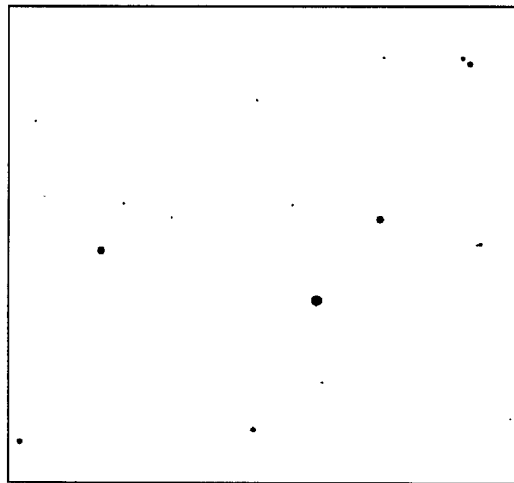
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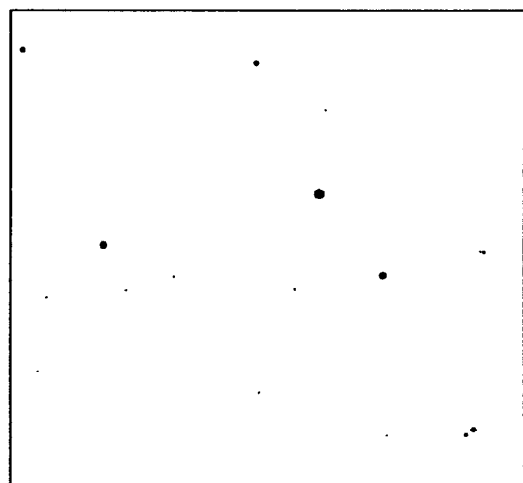
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



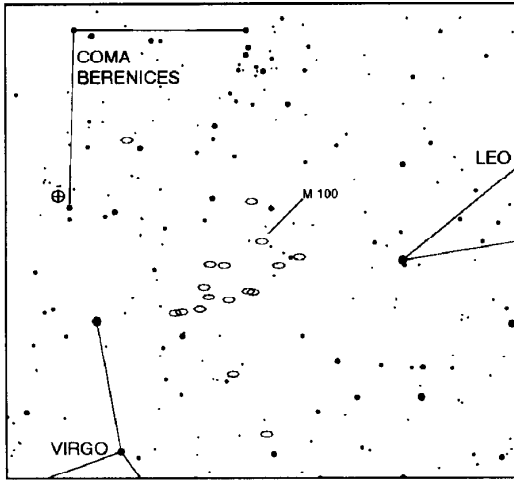
1 degree field, North up, Mirrored

# M 100

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
100	4321	Com	12 22.9	15 49	10.4	5.2 x 5	Gal	40000k	

M100 - A round hazy glow of light, bright in the center. Quite distinct.

Messier objects on 30 degree chart: 49, 53, 58, 59, 60, 61, 64, 84, 85, 86, 87, 88, 89, 90, 91, 98, 99



30 degree field, North up

Notes: \_\_\_\_\_

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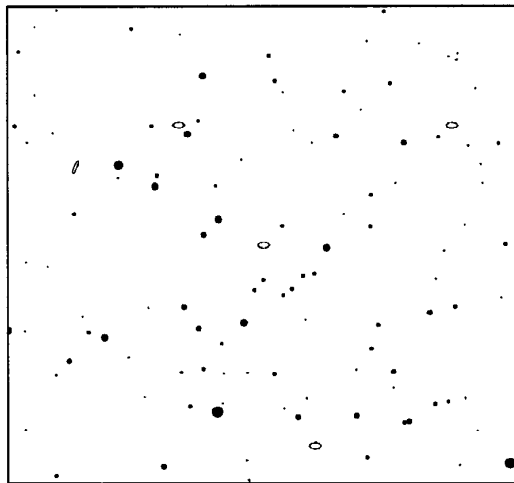
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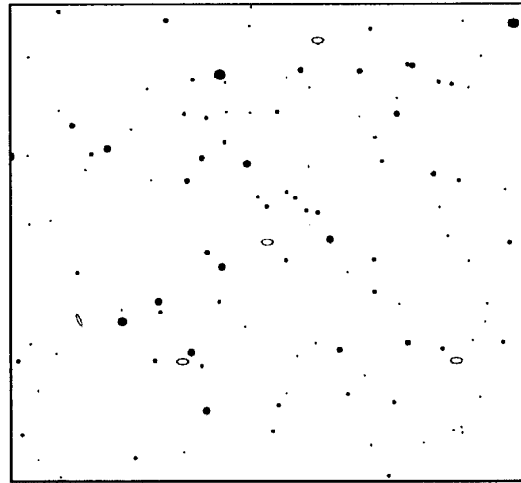
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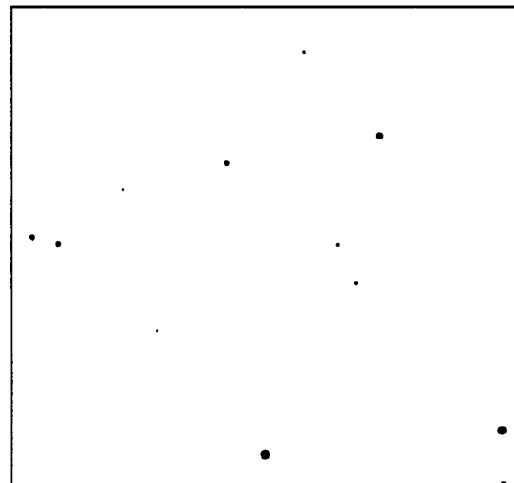
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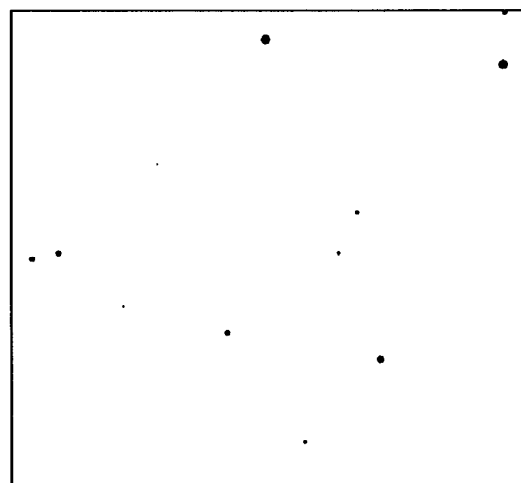
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



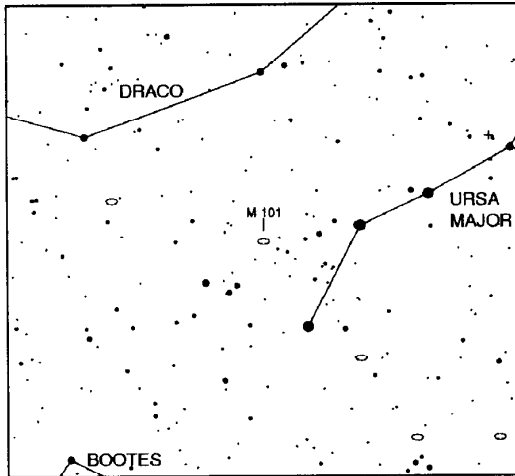
1 degree field, North up, Mirrored

# M 101

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
101	5457	UMa	14 03.3	54 21	9	22 x 20	Gal	15000k	Pinwheel Galaxy

M101 - a large faint patch of light. With patience, spiral structure can be seen even with a small instrument.

Messier objects on 30 degree chart: 40, 51, 63, 94, 102



30 degree field, North up

Notes: \_\_\_\_\_

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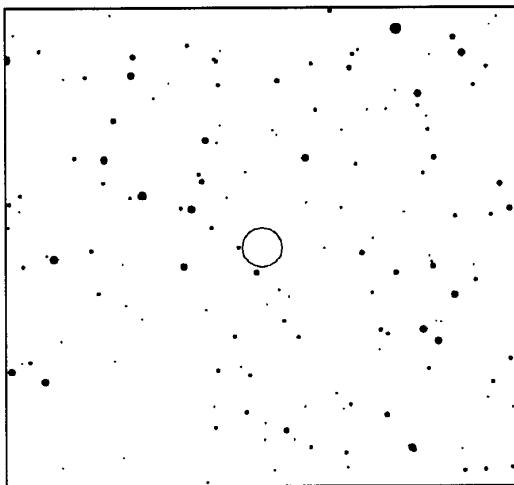
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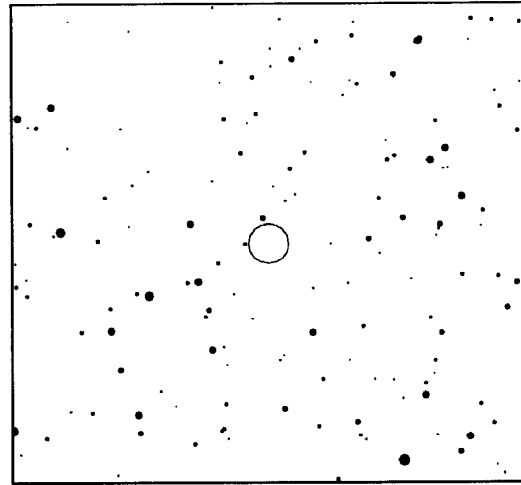
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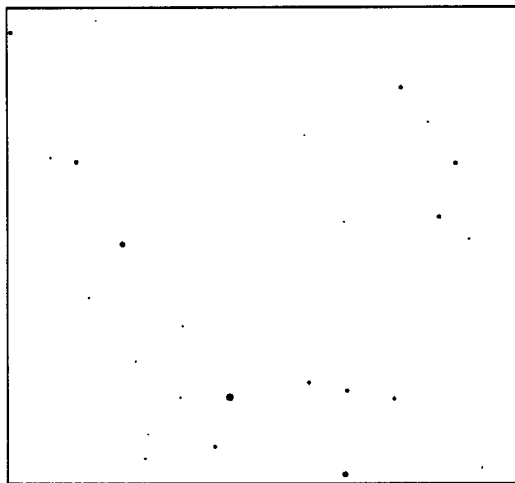
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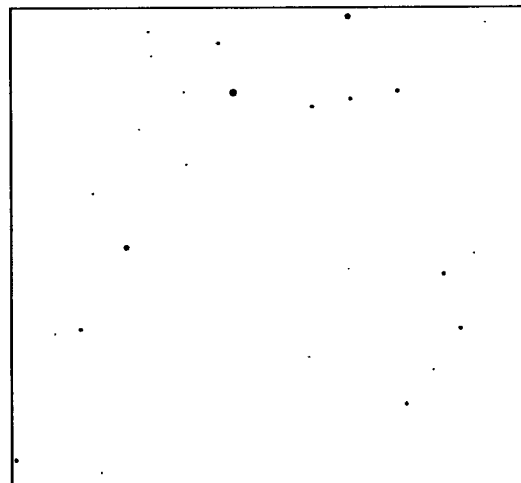
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



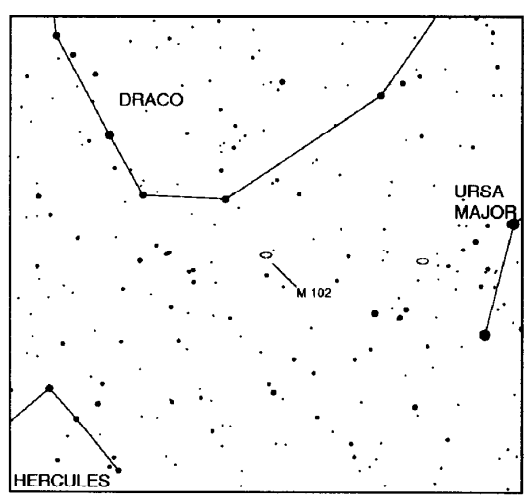
1 degree field, North up, Mirrored

# M 102

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
102	5866	Dra	15 06.5	55 45	11.1	2.9 x 1	Gal	40000k	Spindle Galaxy

M102 - Look for a small, faint patch light that looks like a short fuzzy line.

Messier objects on 30 degree chart: 101



30 degree field, North up

Notes: \_\_\_\_\_

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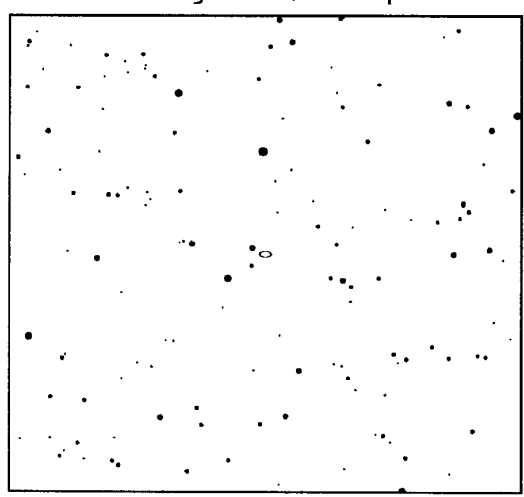
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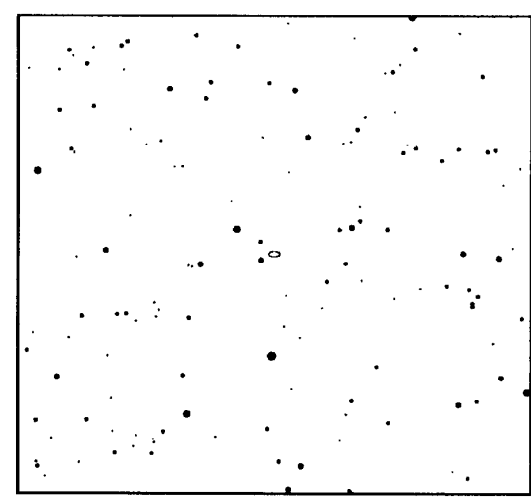
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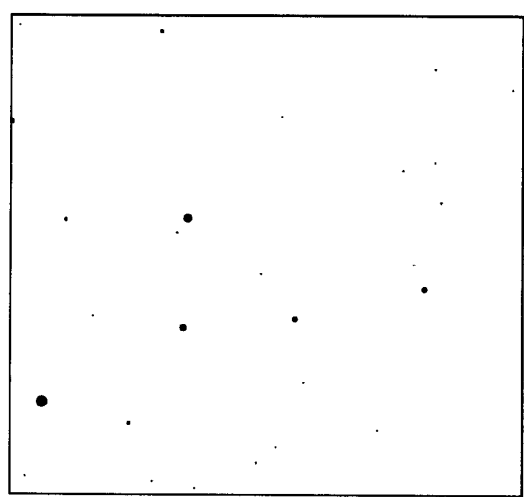
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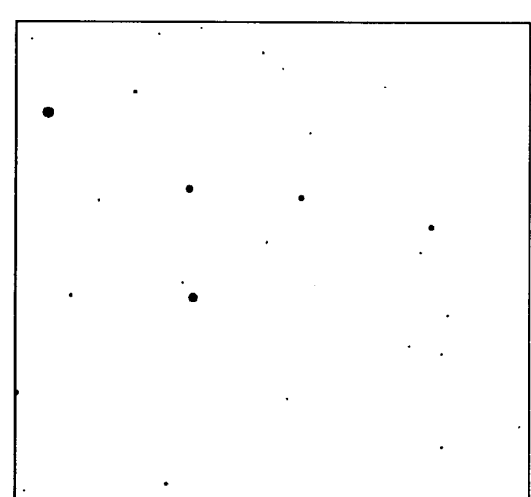
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



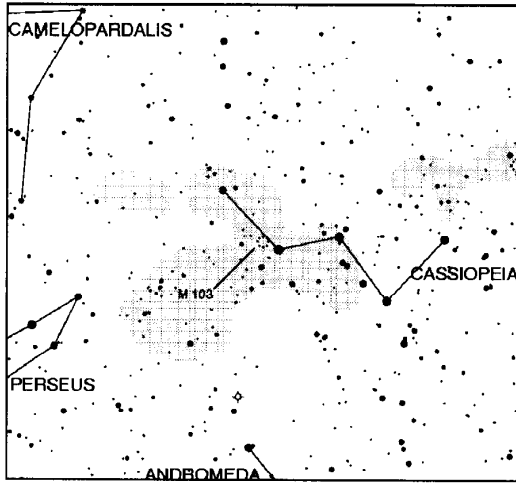
1 degree field, North up, Mirrored

# M 103

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
103	581	Cas	01 33.2	60 42	8.0	8.0	OCI	8k	

M103 - A fine dusting of stars bordered by a kite shaped asterism of brighter stars.

Messier objects on 30 degree chart: 52, 76



30 degree field, North up

Notes: \_\_\_\_\_

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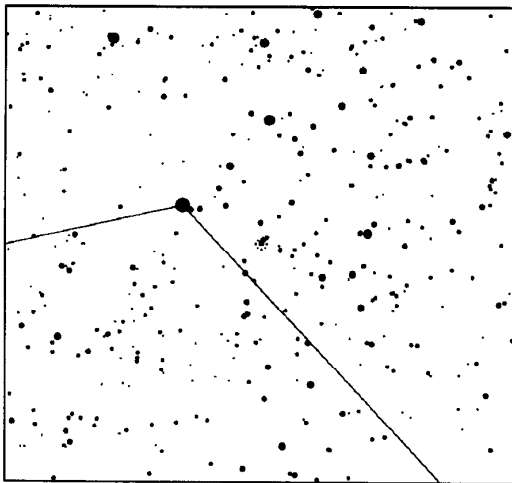
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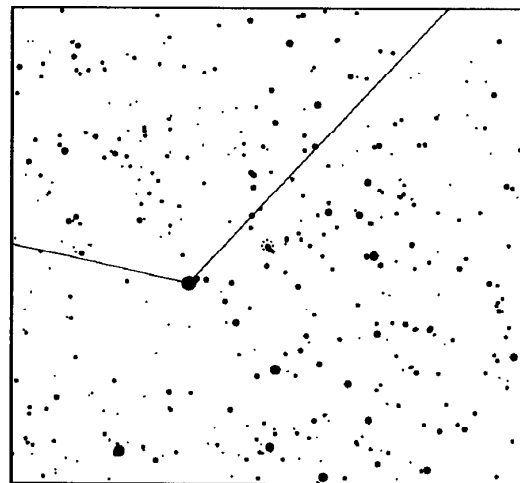
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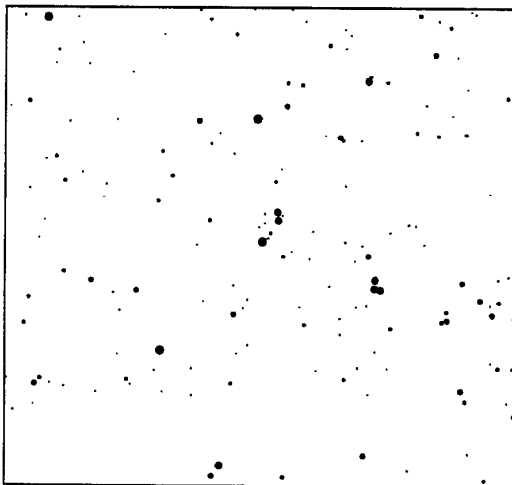
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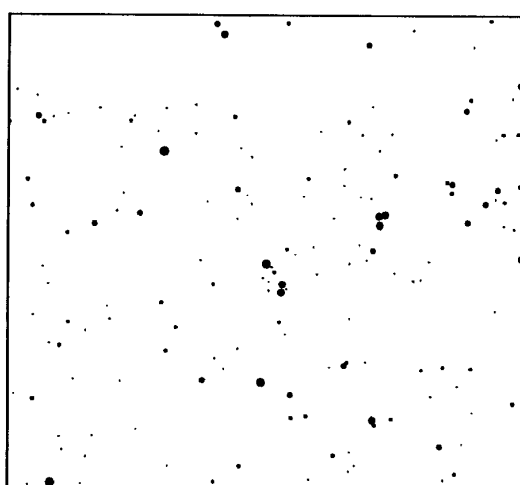
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



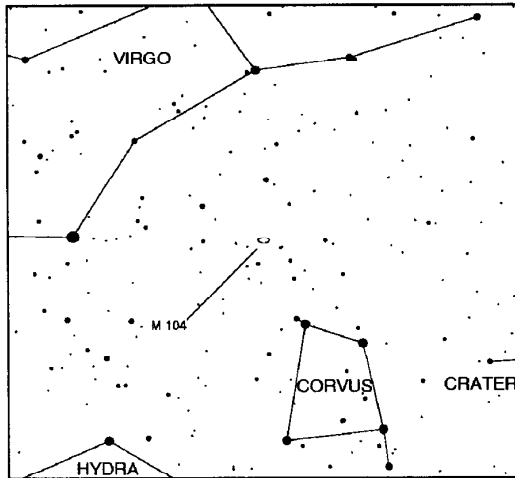
1 degree field, North up, Mirrored

# M 104

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
104	4594	Vir	12 40.0	-11 37	8.2	7 x 1.5	Gal	40000k	Sombrero Galaxy

M104 - Sombrero galaxy, and that's exactly what it looks like.

Messier objects on 30 degree chart: none



30 degree field, North up

Notes: \_\_\_\_\_

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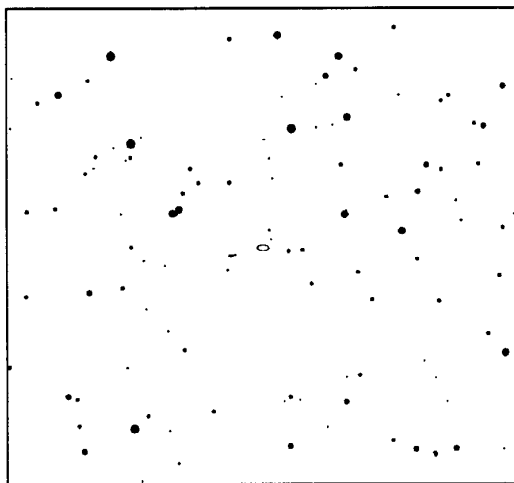
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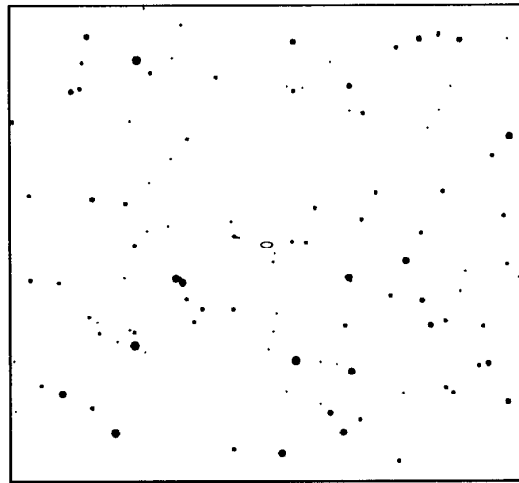
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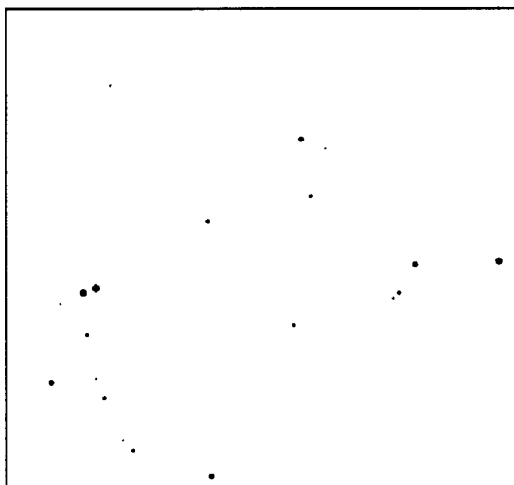
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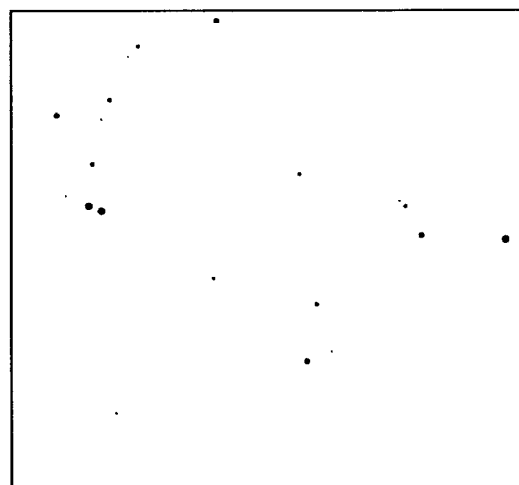
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored

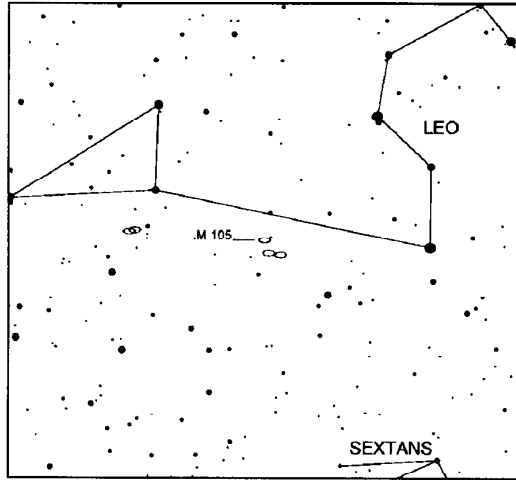


# M 105

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
105	3379	Leo 10 47.8	12 35	10.6	2.1 x 2.0	Gal	38000k	

M105 - M105 has a close companion galaxy, NGC 3384, which is only slightly smaller and fainter than M105. M105 is the rounder of the two.

Messier objects on 30 degree chart: 65, 66, 95, 96



30 degree field, North up

Notes: \_\_\_\_\_

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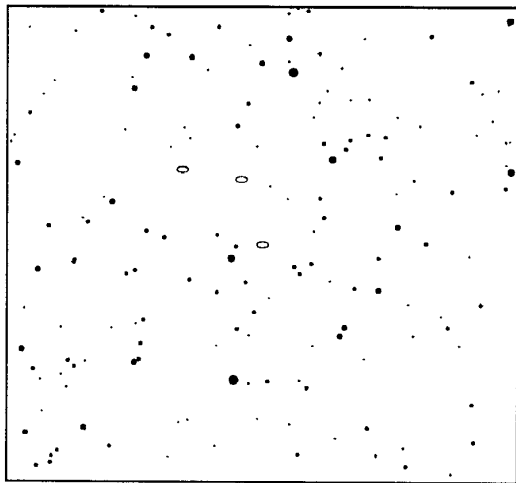
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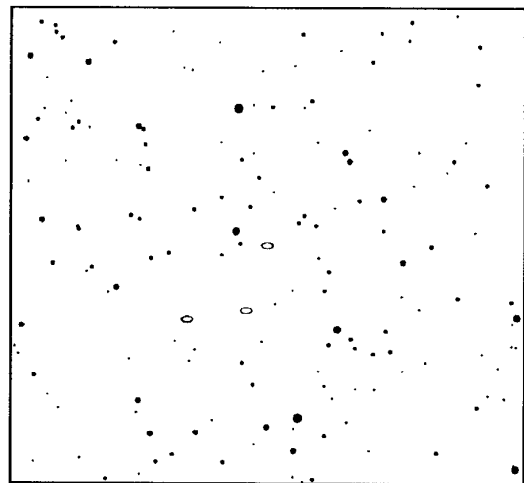
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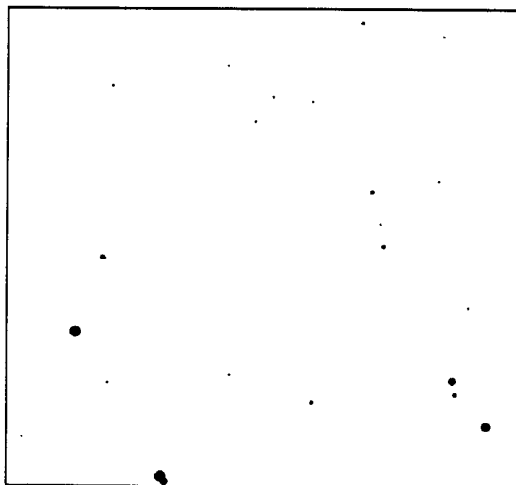
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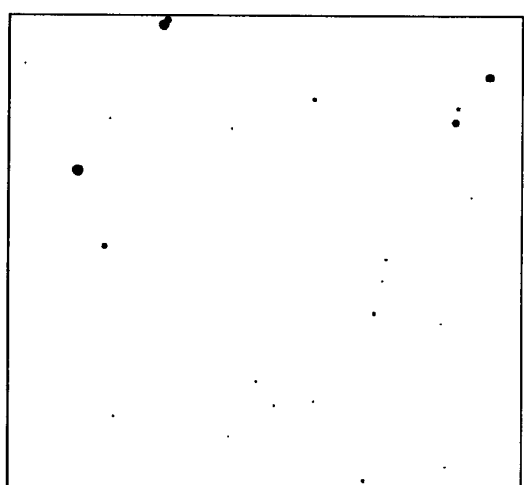
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



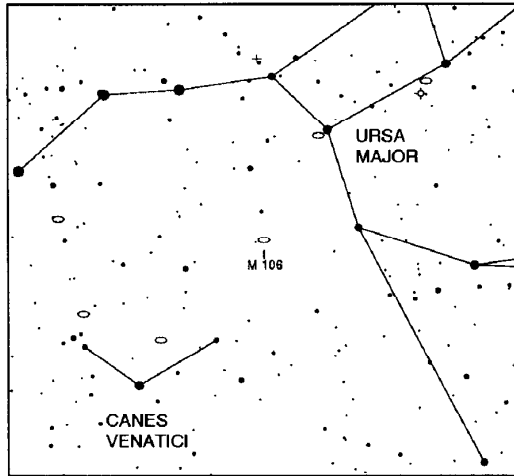
1 degree field, North up, Mirrored

# M 106

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
106	4258 CVn	12 19.0	47 18	8	19 x 8	Gal	25000k	

M106 - Appears as an oval patch of light, with a fairly bright core. Outer region appears quite elongated.

Messier objects on 30 degree chart: 40, 51, 63, 94, 97, 106, 108, 109



30 degree field, North up

Notes: \_\_\_\_\_

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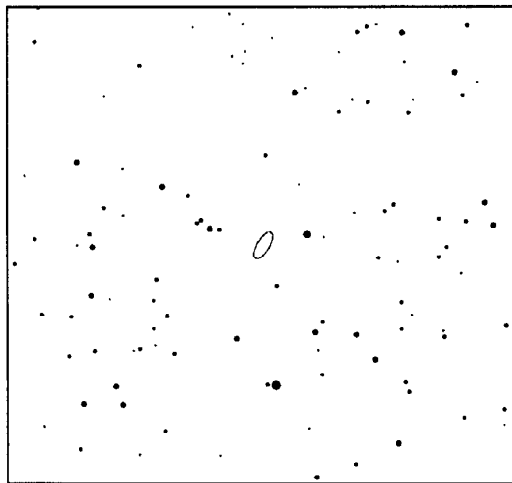
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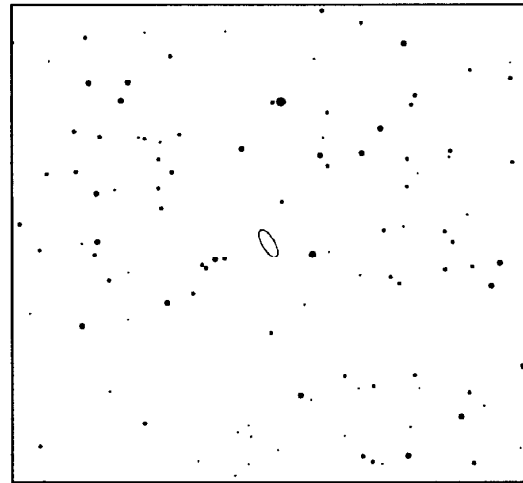
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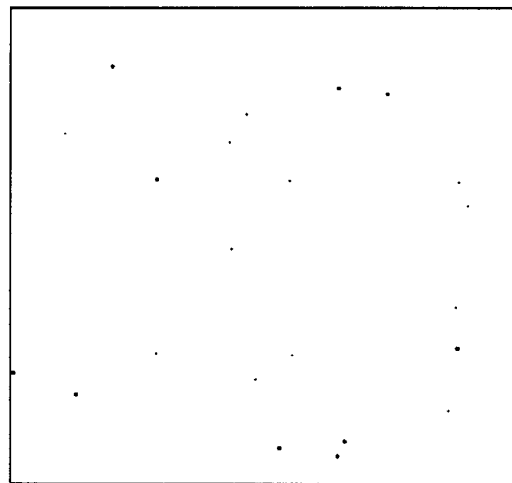
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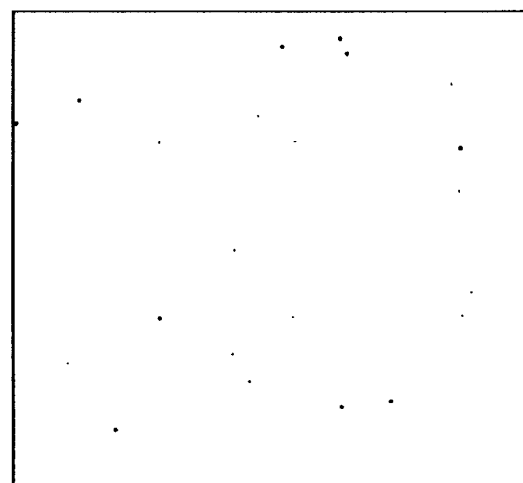
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



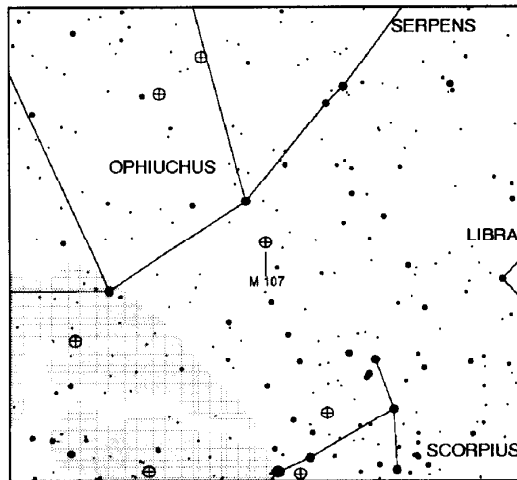
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
107	6171	Oph	16 32.5	-13 03	9	4	GCl	20k	

# M 107

M107 - Small, fairly faint, just visible in 6".

Messier objects on 30 degree chart: 4, 9, 10, 12, 19, 80



30 degree field, North up

Notes: \_\_\_\_\_

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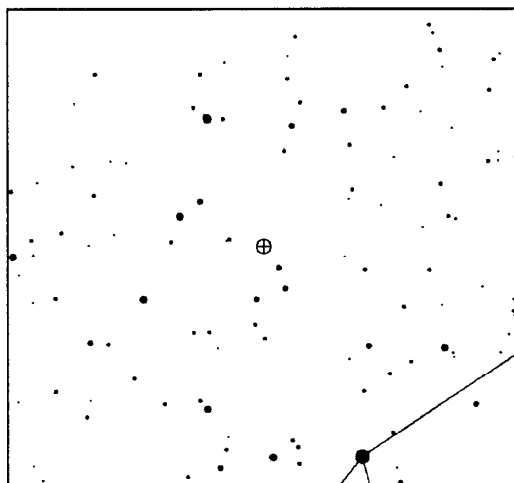
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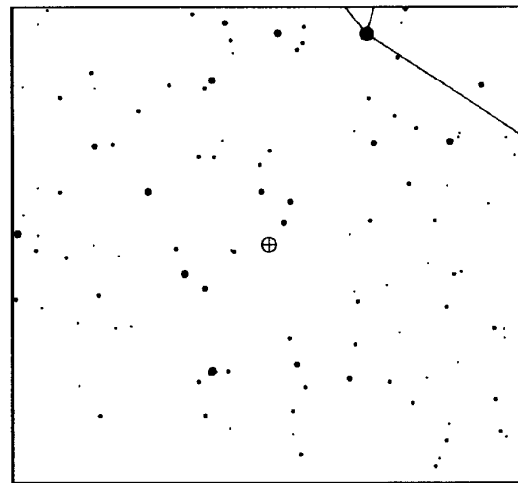
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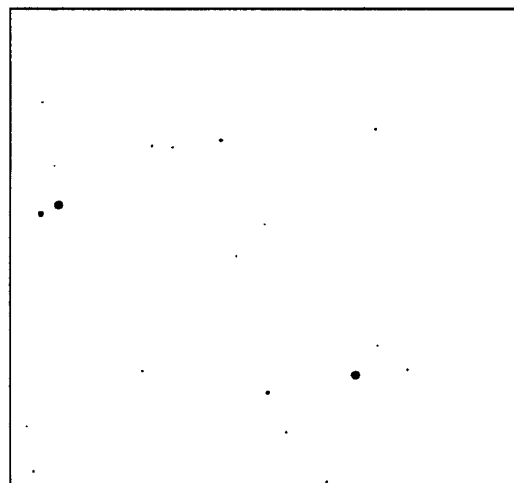
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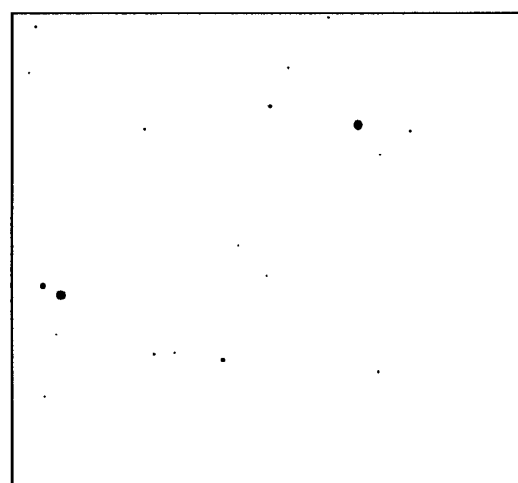
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



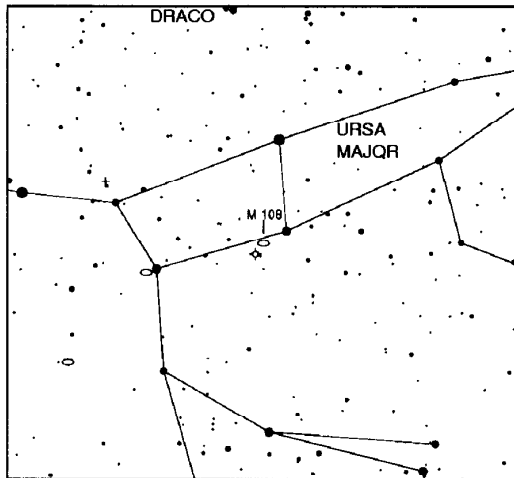
1 degree field, North up, Mirrored

M	NGC	Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
108	3556	UMa	11 11.5	55 40	10.8	7.8 x 1.4	Gal	45000k	

# M 108

M108 - Appears as a long, thin bar of light, quite noticeable and easy. Look for mottling.

Messier objects on 30 degree chart: 40, 97, 106, 109



30 degree field, North up

Notes: \_\_\_\_\_

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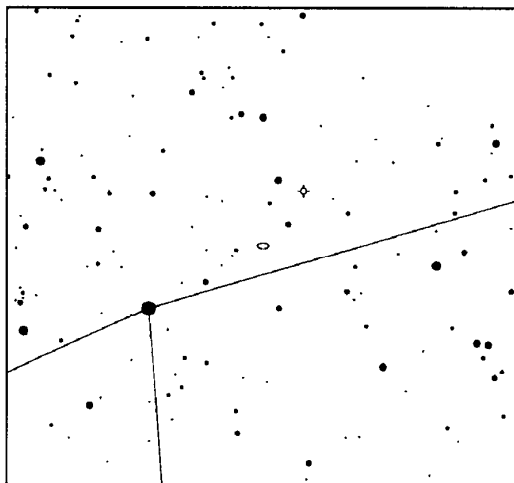
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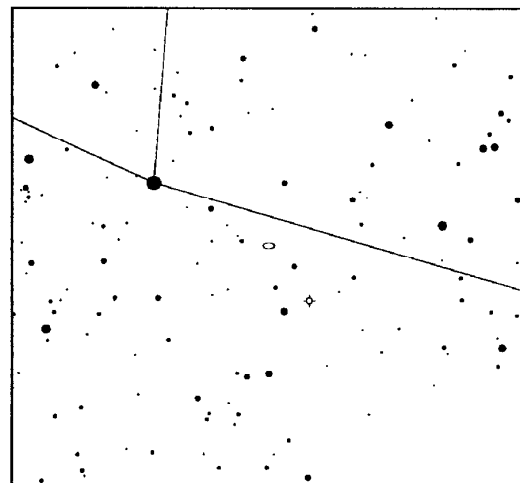
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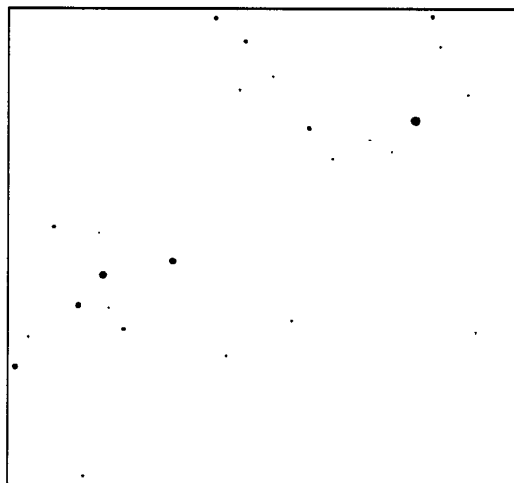
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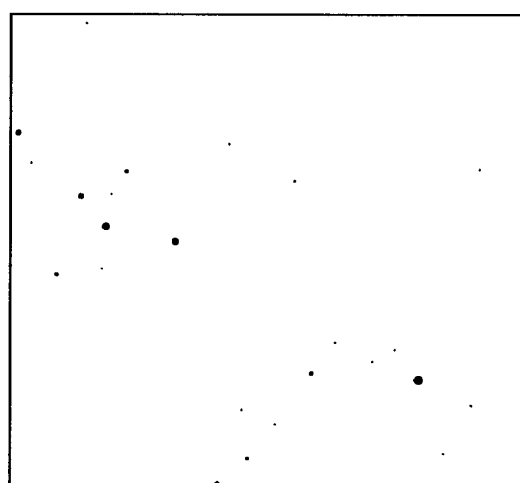
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



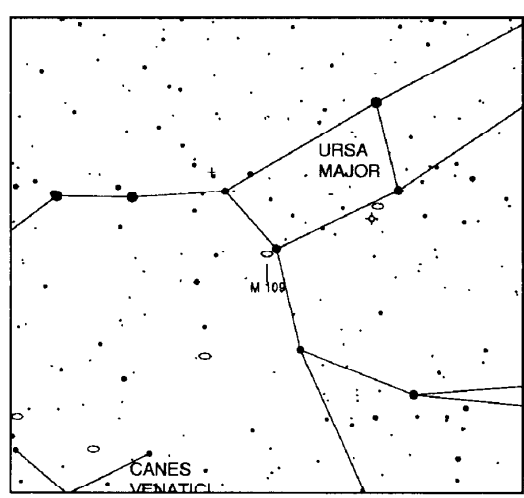
1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Typ	Distance	Common Name
109	3992	UMa	11 57.6 53 23	10.9	6.4 x 3.5	Gal	55000k	

# M 109

M109 - Appears as a small, pear shaped patch of light, possibly due to the glare of a nearby field star.

Messier objects on 30 degree chart: 40, 63, 94, 97, 106, 108



30 degree field, North up

Notes: \_\_\_\_\_

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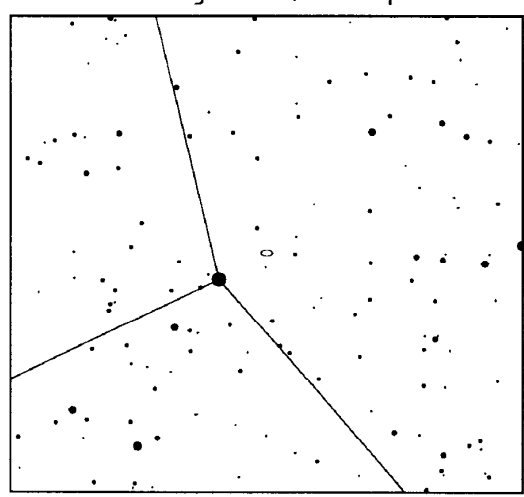
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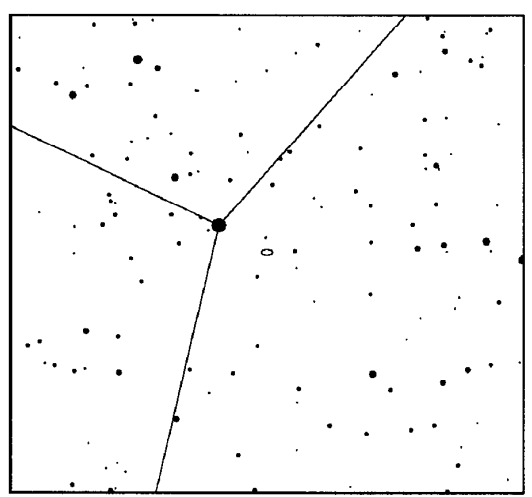
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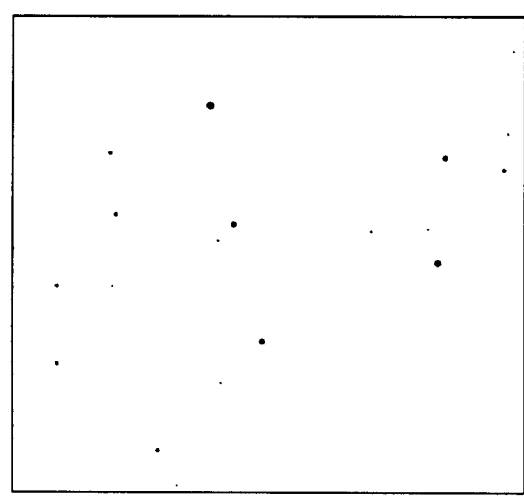
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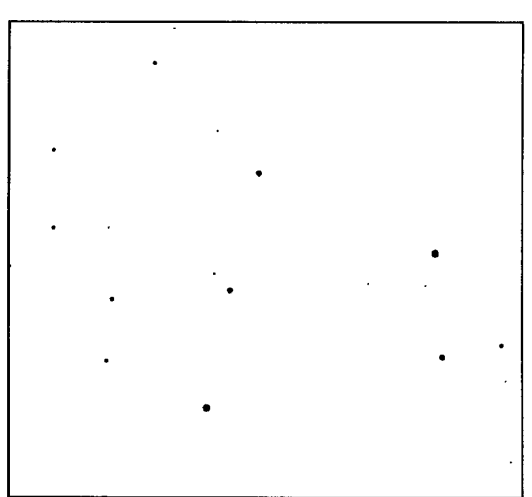
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down

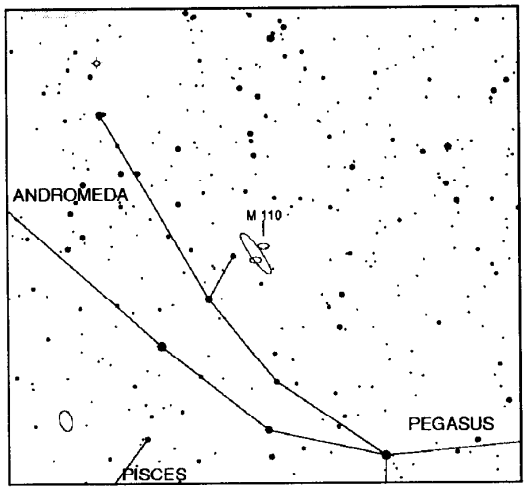


1 degree field, North up, Mirrored

M	NGC Con	RA	Dec	Mag	Size (min)	Type	Distance	Common Name
110	205	And 00 40.4	41 41	10.8	8 x 3	Gal	2200k	<b>M 110</b>

M110 - look for a large, oval patch of light.

Messier objects on 30 degree chart: 31, 32, 33, 76



30 degree field, North up

Notes: \_\_\_\_\_

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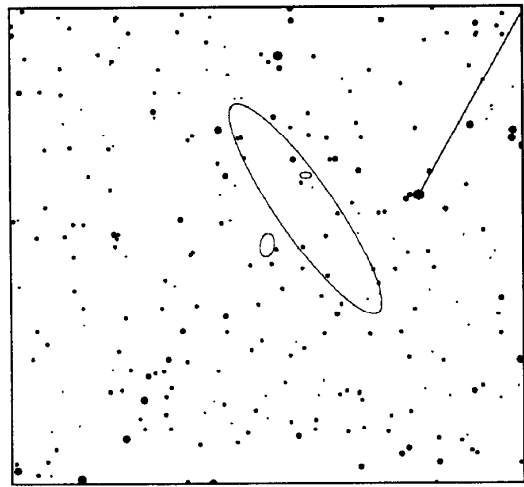
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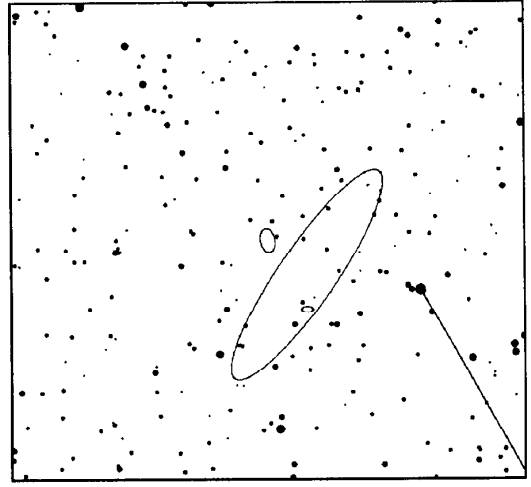
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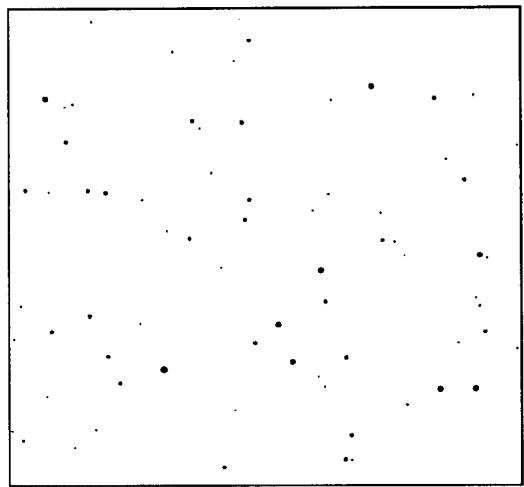
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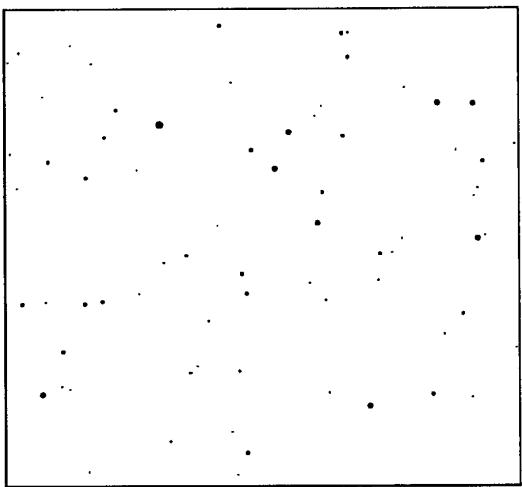
6 degree field, North down



6 degree field, North up, Mirrored



1 degree field, North down



1 degree field, North up, Mirrored