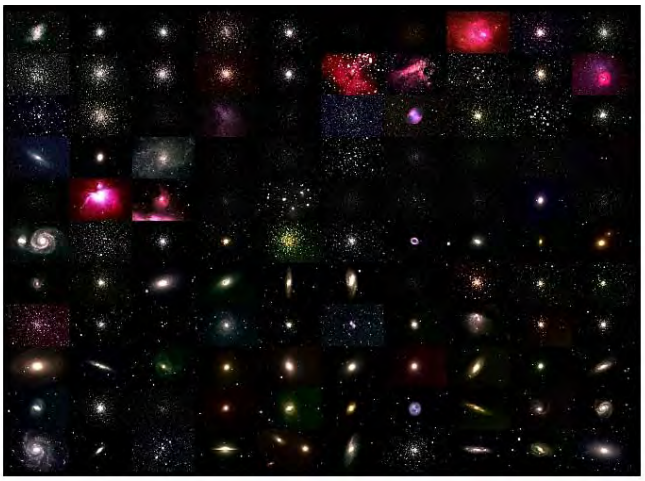


ASTRONOMY CLUB OF TULSA

Messier Marathon Charts

Prepared by Tom McDonough

http://astrotulsa.com/pub/Messier/

Log Sheet Legend

Seq	Marathon observing sequence
Cht	Chart number on which object appears
PMC	Chart number from *The Year-Round Messier Marathon Field Guide* by Harvard Pennington
M#	Messier catalog number
NGC#	New General Catalog number
Con	Constellation
Type	Object type AM Asterism DN Diffuse Nebula DS Double Star EG Elliptical Galaxy GC Globular Cluster IG Irregular Galaxy LG Lenticular Galaxy OC Open Cluster PN Planetary Nebula SG Spiral Galaxy SC Star Cloud SR Supernova Remnant
RA	Right Ascension coordinates
Dec	Declination coordinates
Mag	Visual magnitude
Date	Date of observation
Time	Time of observation
Notes	Comments about object

Messier Marathon

Observer: _____

The Evening Objects 8:30PM - 9:30PM

Seq	Cht	PMC	M#	NGC#	Con	Type	RA	Dec	Mag	Date	Time	Notes
1	1	2	M77	1068	Cet	SG	02 42.7	-00 01	8.9	/ /2010		
2	1	1	M74	628	Psc	SG	01 36.7	+15 47	9.4	/ /2010		
3	1	4	M33	598	Tri	SG	01 33.9	+30 39	5.7	/ /2010		
4	2	3	M31	224	And	SG	00 42.7	+41 16	3.4	/ /2010		
5	2	3	M32	221	And	EG	00 42.7	+40 52	8.1	/ /2010		
6	2	3	M110	205	And	EG	00 40.4	+41 41	8.5	/ /2010		
7	2	10	M52	7654	Cas	OC	23 24.2	+61 35	7.3	/ /2010		
8	2	10	M103	581	Cas	OC	01 33.2	+60 42	7.4	/ /2010		
9	2	5	M76	650	Per	PN	01 42.4	+51 34	10.1	/ /2010		
10	2	5	M34	1039	Per	OC	02 42.0	+42 47	5.5	/ /2010		
11	3	11	M45	-	Tau	OC	03 47.0	+24 07	1.6	/ /2010		
12	3	6	M79	1904	Lep	GC	05 24.5	-24 33	7.7	/ /2010		
13	3	7	M42	1976	Ori	DN	05 35.4	-05 27	4.0	/ /2010		
14	3	7	M43	1982	Ori	DN	05 35.6	-05 16	9.0	/ /2010		

14 Objects Objects Observed: _____

Minutes per object: 4.5

3/13/2010 Sunset - 7:27PM Astronomical Twilight Ends - 8:52PM

NOTE: Since DST starts on the 14th these charts are all DST for clarity

Messier Marathon

Observer: _____

The Winter Objects 9:30PM - 10:30PM

Seq	Cht	PMC	M#	NGC#	Con	Type	RA	Dec	Mag	Date	Time	Notes
15	3	7	M78	2068	Ori	DN	05 46.7	+00 03	8.3	/ /2010		
16	4	11	M1	1952	Tau	SR	05 34.5	+22 01	8.4	/ /2010		
17	4	13	M35	2168	Gem	OC	06 08.9	+24 20	5.3	/ /2010		
18	4	12	M37	2099	Aur	OC	05 52.4	+32 33	6.2	/ /2010		
19	4	12	M36	1960	Aur	OC	05 36.1	+34 08	6.3	/ /2010		
20	4	12	M38	1912	Aur	OC	05 28.4	+35 50	7.4	/ /2010		
21	5	9	M41	2287	CMa	OC	06 46.0	-20 44	4.6	/ /2010		
22	5	9	M93	2447	Pup	OC	07 44.6	-23 52	6.0	/ /2010		
23	5	8	M47	2422	Pup	OC	07 36.6	-14 30	5.2	/ /2010		
24	5	8	M46	2437	Pup	OC	07 41.8	-14 49	6.0	/ /2010		
25	5	8	M50	2323	Mon	OC	07 03.2	-08 20	6.3	/ /2010		
26	5	14	M48	2548	Hya	OC	08 13.8	-05 48	5.5	/ /2010		
27	6	15	M44	2632	Cnc	OC	08 40.1	+19 59	3.7	/ /2010		
28	6	15	M67	2682	Cnc	OC	08 50.4	+11 49	6.1	/ /2010		

14 Objects

Objects Observed: _____

Minutes per object: 4.6

Messier Marathon

Observer: _____

The Spring Objects 10:30PM - 12:00AM

Seq	Cht	PMC	M#	NGC#	Con	Type	RA	Dec	Mag	Date	Time	Notes
29	6a	17	M95	3351	Leo	SG	10 44.0	+11 42	9.7	/ /2010		
30	6a	17	M96	3368	Leo	SG	10 46.8	+11 49	9.2	/ /2010		
31	6a	17	M105	3379	Leo	EG	10 47.8	+12 35	9.3	/ /2010		
32	6a	16	M65	3623	Leo	SG	11 18.9	+13 05	9.3	/ /2010		
33	6a	16	M66	3627	Leo	SG	11 20.2	+12 59	8.9	/ /2010		
34	7	22	M81	3031	UMa	SG	09 55.6	+69 04	6.9	/ /2010		
35	7	22	M82	3034	UMa	IG	09 55.8	+69 41	8.4	/ /2010		
36	7	22	M97	3587	UMa	PN	11 14.8	+55 01	9.9	/ /2010		
37	7	23	M108	3556	UMa	SG	11 11.5	+55 40	10.0	/ /2010		
38	7	23	M109	3992	UMa	SG	11 57.6	+53 23	9.8	/ /2010		
39	7	21	M40	Win4	UMa	DS	12 22.4	+58 05	8.4	/ /2010		
40	7	21	M106	4258	CVn	SG	12 19.0	+47 18	8.4	/ /2010		
41	7	25	M94	4736	CVn	SG	12 50.9	+41 07	8.2	/ /2010		
42	7	25	M63	5055	CVn	SG	13 15.8	+42 02	8.6	/ /2010		
43	7	20	M51	5194	CVn	SG	13 29.9	+47 12	8.4	/ /2010		
44	7	20	M101	5457	UMa	SG	14 03.2	+54 21	7.9	/ /2010		
45	7	24	M102	5866	Dra	LG	15 06.5	+55 46	9.9	/ /2010		
46	8	18	M53	5024	Com	GC	13 12.9	+18 10	7.6	/ /2010		
47	8	19	M64	4826	Com	SG	12 56.7	+21 41	8.5	/ /2010		
48	8	18	M3	5272	CVn	GC	13 42.2	+28 23	6.2	/ /2010		

20 Objects Objects Observed: _____

Minutes per object: 4.5

Messier Marathon

Observer: _____

The Virgo Cluster 12:00AM - 1:30AM

Seq	Cht	PMC	M#	NGC#	Con	Type	RA	Dec	Mag	Date	Time	Notes
49	8a	28d	M98	4192	Com	SG	12 13.8	+14 54	10.1	/ /2010		
50	8a	28d	M99	4254	Com	SG	12 18.8	+14 25	9.9	/ /2010		
51	8a	28d	M100	4321	Com	SG	12 22.9	+15 49	9.3	/ /2010		
52	8a	19	M85	4382	Com	LG	12 25.4	+18 11	9.1	/ /2010		
53	8a	28b	M84	4374	Vir	LG	12 25.1	+12 53	9.1	/ /2010		
54	8a	28b	M86	4406	Vir	LG	12 26.2	+12 57	8.9	/ /2010		
55	8a	28b	M87	4486	Vir	EG	12 30.8	+12 24	8.6	/ /2010		
56	8a	28c	M89	4552	Vir	EG	12 35.7	+12 33	9.8	/ /2010		
57	8a	28c	M90	4569	Vir	SG	12 36.8	+13 10	9.5	/ /2010		
58	8a	28b	M88	4501	Com	SG	12 32.0	+14 25	9.6	/ /2010		
59	8a	28c	M91	4548	Com	SG	12 35.4	+14 30	10.2	/ /2010		
60	8a	28a	M58	4579	Vir	SG	12 37.7	+11 49	9.7	/ /2010		
61	8a	28a	M59	4621	Vir	EG	12 42.0	+11 39	9.6	/ /2010		
62	8a	28a	M60	4649	Vir	EG	12 43.7	+11 33	8.8	/ /2010		
63	8a	28	M49	4472	Vir	EG	12 29.8	+08 00	8.4	/ /2010		
64	8a	27	M61	4303	Vir	SG	12 21.9	+04 28	9.7	/ /2010		
65	9	27	M104	4594	Vir	SG	12 40.0	-11 37	8.0	/ /2010		
66	9	26	M68	4590	Hya	GC	12 39.5	-26 45	7.8	/ /2010		
67	9	26	M83	5236	Hya	SG	13 37.0	-29 52	7.6	/ /2010		

19 Objects Objects Observed: _____

Minutes per object: 4.75

Messier Marathon

Observer: _____

The Summer Objects **I** *3:00AM - 4:00AM*

Seq	Cht	PMC	M#	NGC#	Con	Type	RA	Dec	Mag	Date	Time	Notes
68	10	33	M5	5904	Ser	GC	15 18.6	+02 05	5.6	/ /2010		
69	10	29	M13	6205	Her	GC	16 41.7	+36 28	5.8	/ /2010		
70	10	29	M92	6341	Her	GC	17 17.1	+43 08	6.4	/ /2010		
71	11	30	M57	6720	Lyr	PN	18 53.6	+33 02	8.8	/ /2010		
72	11	30	M56	6779	Lyr	GC	19 16.6	+30 11	8.3	/ /2010		
73	11	32	M29	6913	Cyg	OC	20 23.9	+38 32	7.1	/ /2010		
74	11	32	M39	7092	Cyg	OC	21 32.2	+48 26	4.6	/ /2010		
75	11	31	M27	6853	Vul	PN	19 59.6	+22 43	7.4	/ /2010		
76	11	31	M71	6838	Sge	GC	19 53.8	+18 47	8.2	/ /2010		
77	12	34	M107	6171	Oph	GC	16 32.5	-13 03	7.9	/ /2010		
78	12	34	M12	6218	Oph	GC	16 47.2	-01 57	6.7	/ /2010		
79	12	34	M10	6254	Oph	GC	16 57.1	-04 06	6.6	/ /2010		
80	12	35	M14	6402	Oph	GC	17 37.6	-03 15	7.6	/ /2010		
81	12	35	M9	6333	Oph	GC	17 19.2	-18 31	7.7	/ /2010		
82	12	39	M4	6121	Sco	GC	16 23.6	-26 32	5.6	/ /2010		
83	12	39	M80	6093	Sco	GC	16 17.0	-22 59	7.3	/ /2010		
84	12	38	M19	6273	Oph	GC	17 02.6	-26 16	6.8	/ /2010		
85	12	38	M62	6266	Oph	GC	17 01.2	-30 07	6.5	/ /2010		
86	13	38	M6	6405	Sco	OC	17 40.1	-32 13	5.3	/ /2010		
87	13	38	M7	6475	Sco	OC	17 53.9	-34 49	4.1	/ /2010		

20 Objects

Objects Observed: _____

Minutes per object: 3.0

Messier Marathon

Observer: _____

The Summer Objects **II** *4:00AM - 5:00AM*

Seq	Cht	PMC	M#	NGC#	Con	Type	RA	Dec	Mag	Date	Time	Notes
88	12	36	M11	6705	Sct	OC	18 51.1	-06 16	6.3	/ /2010		
89	12	36	M26	6694	Sct	OC	18 45.2	-09 24	8.0	/ /2010		
90	13	37	M16	6611	Ser	OC	18 18.8	-13 47	6.4	/ /2010		
91	13	37	M17	6618	Sgr	DN	18 20.8	-16 11	7.0	/ /2010		
92	13	37	M18	6613	Sgr	OC	18 19.9	-17 08	7.5	/ /2010		
93	13	41	M24	6603	Sgr	SC	18 16.9	-18 29	4.6	/ /2010		
94	13	41	M25	I4725	Sgr	OC	18 31.6	-19 15	6.5	/ /2010		
95	13	41	M23	6494	Sgr	OC	17 56.8	-19 01	6.9	/ /2010		
96	13	40	M21	6531	Sgr	OC	18 04.6	-22 30	6.5	/ /2010		
97	13	40	M20	6514	Sgr	DN	18 02.6	-23 02	9.0	/ /2010		
98	13	40	M8	6523	Sgr	DN	18 03.8	-24 23	6.0	/ /2010		
99	13	42	M28	6626	Sgr	GC	18 24.5	-24 52	6.8	/ /2010		
100	13	42	M22	6656	Sgr	GC	18 36.4	-23 54	5.1	/ /2010		
101	13	43	M69	6637	Sgr	GC	18 31.4	-32 21	7.6	/ /2010		
102	13	43	M70	6681	Sgr	GC	18 43.2	-32 18	7.9	/ /2010		
103	13	43	M54	6715	Sgr	GC	18 55.1	-30 29	7.6	/ /2010		
104	14	44	M55	6809	Sgr	GC	19 40.0	-30 58	6.3	/ /2010		
105	14	45	M75	6864	Sgr	GC	20 06.1	-21 55	8.5	/ /2010		

18 Objects

Objects Observed: _____

Minutes per object: 3.3

Messier Marathon

Observer: _____

The Morning Objects 5:30AM - 7:00AM

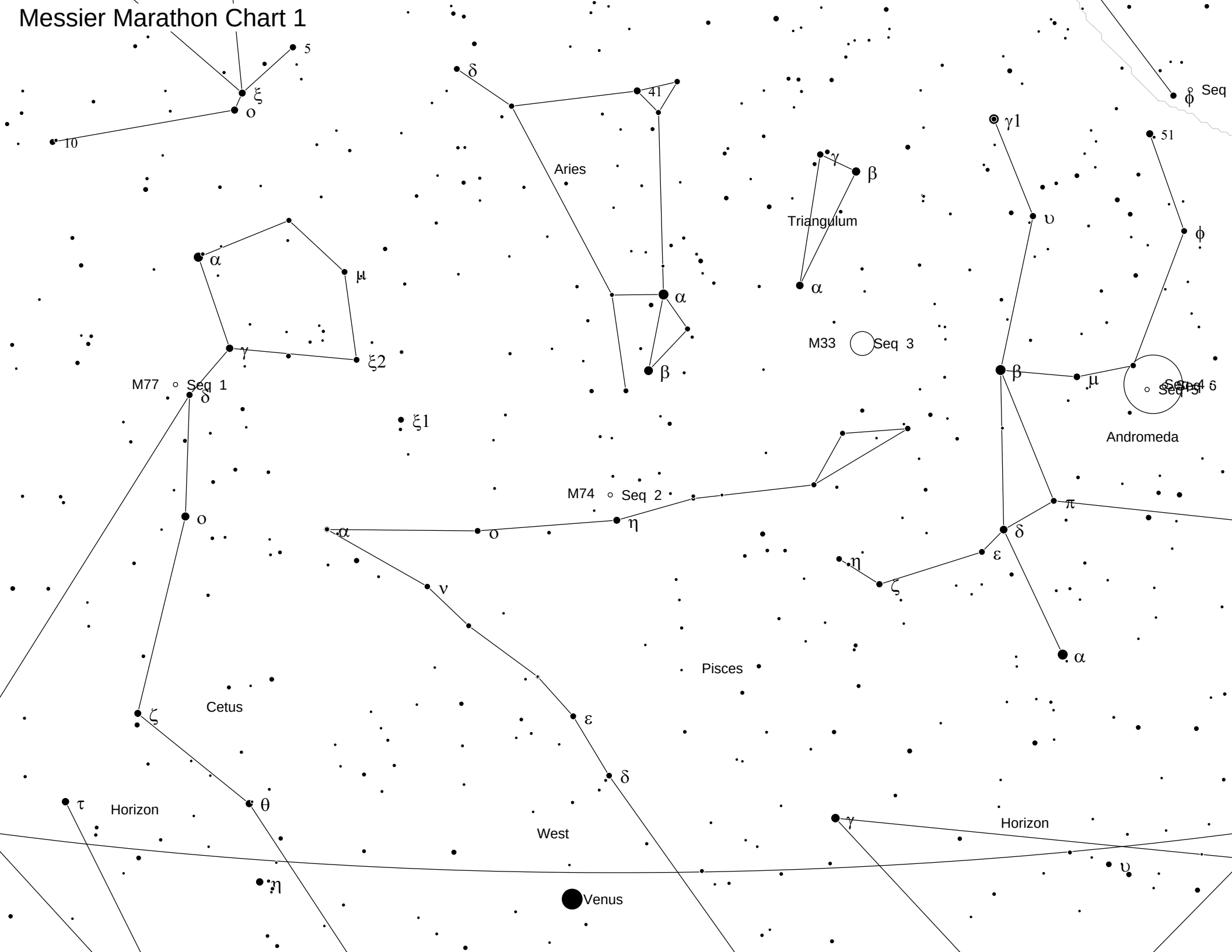
Seq	Cht	PMC	M#	NGC#	Con	Type	RA	Dec	Mag	Date	Time	Notes
106	14	46	M15	7078	Peg	GC	21 30.0	+12 10	6.2	/ /2010		
107	14	47	M2	7089	Aqr	GC	21 33.5	-00 49	6.5	/ /2010		
108	14	47	M72	6981	Aqr	GC	20 53.5	-12 32	9.3	/ /2010		
109	14	47	M73	6994	Aqr	AM	20 58.9	-12 38	9.0	/ /2010		
110	14	48	M30	7099	Cap	GC	21 40.4	-23 11	7.2	/ /2010		

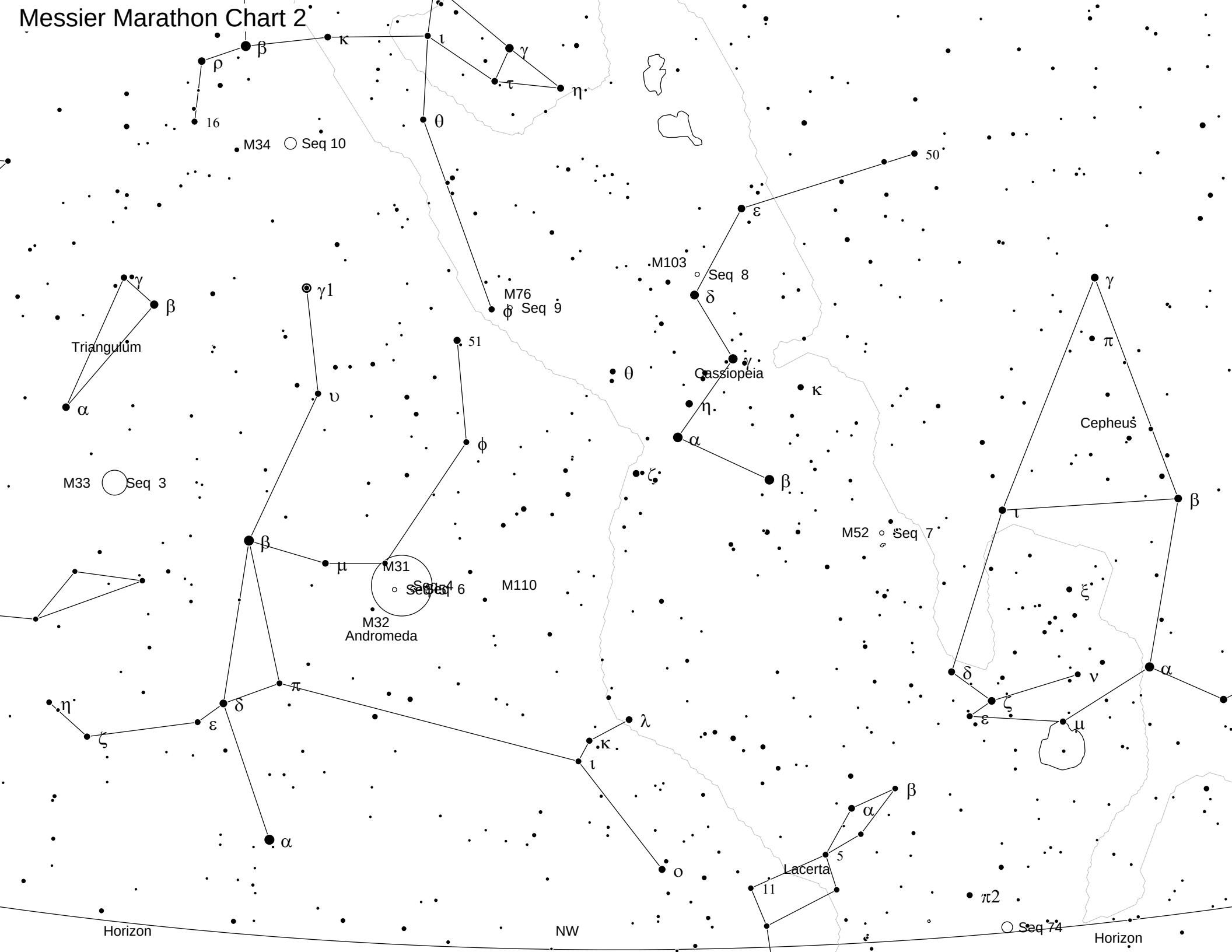
5 Objects Objects Observed: _____

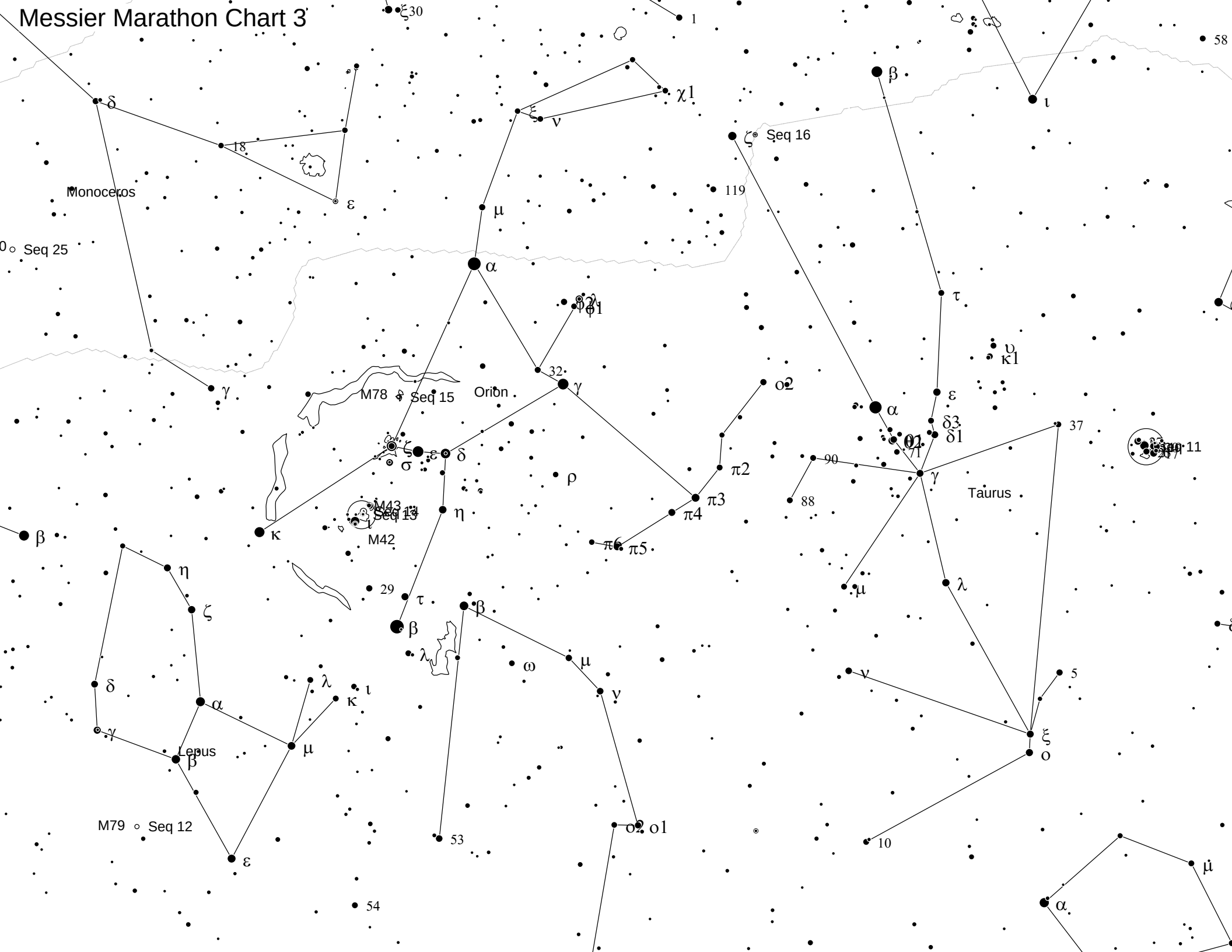
Minutes per object: 18.0

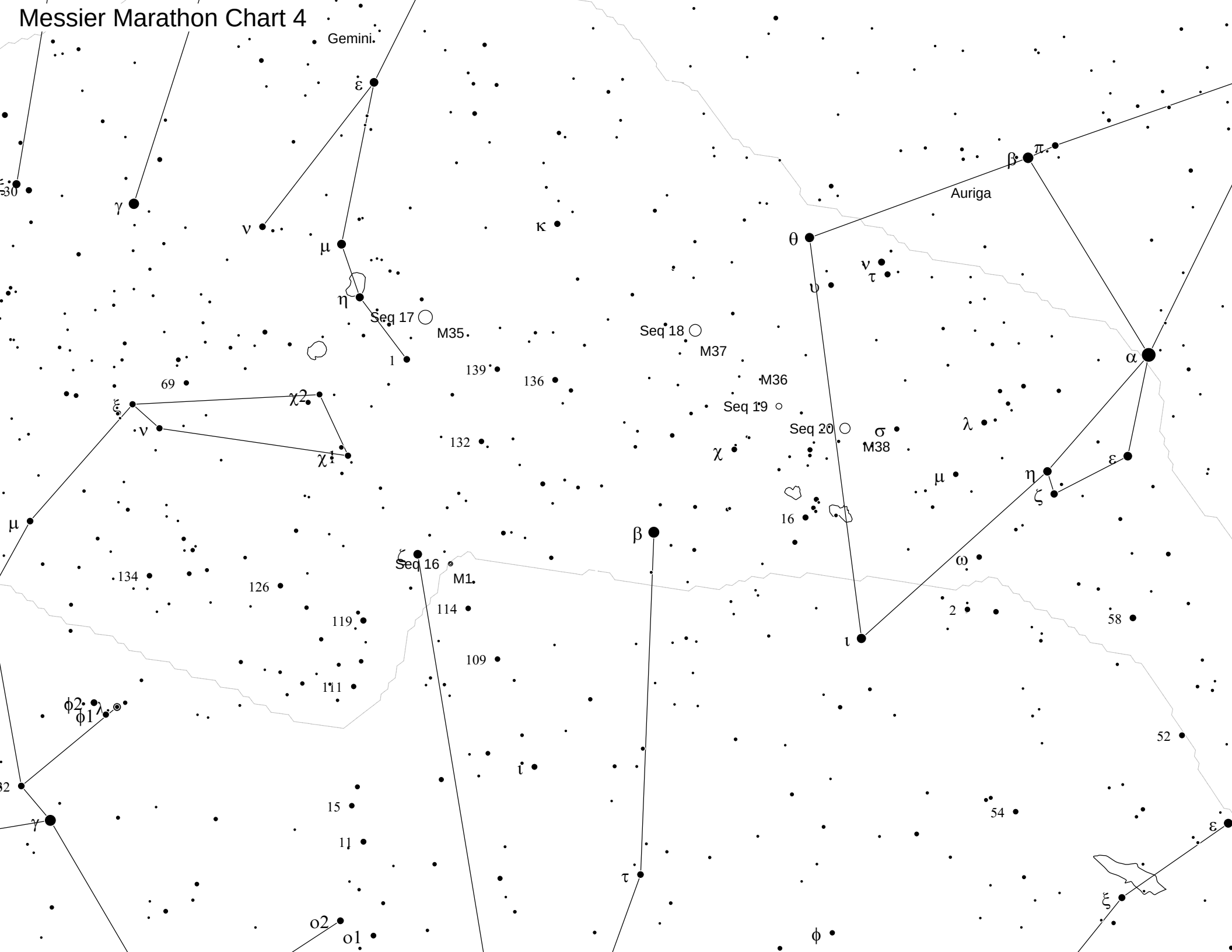
3/14/2010 Sunrise - 7:35AM Astronomical Twilight Begins - 6:10AM

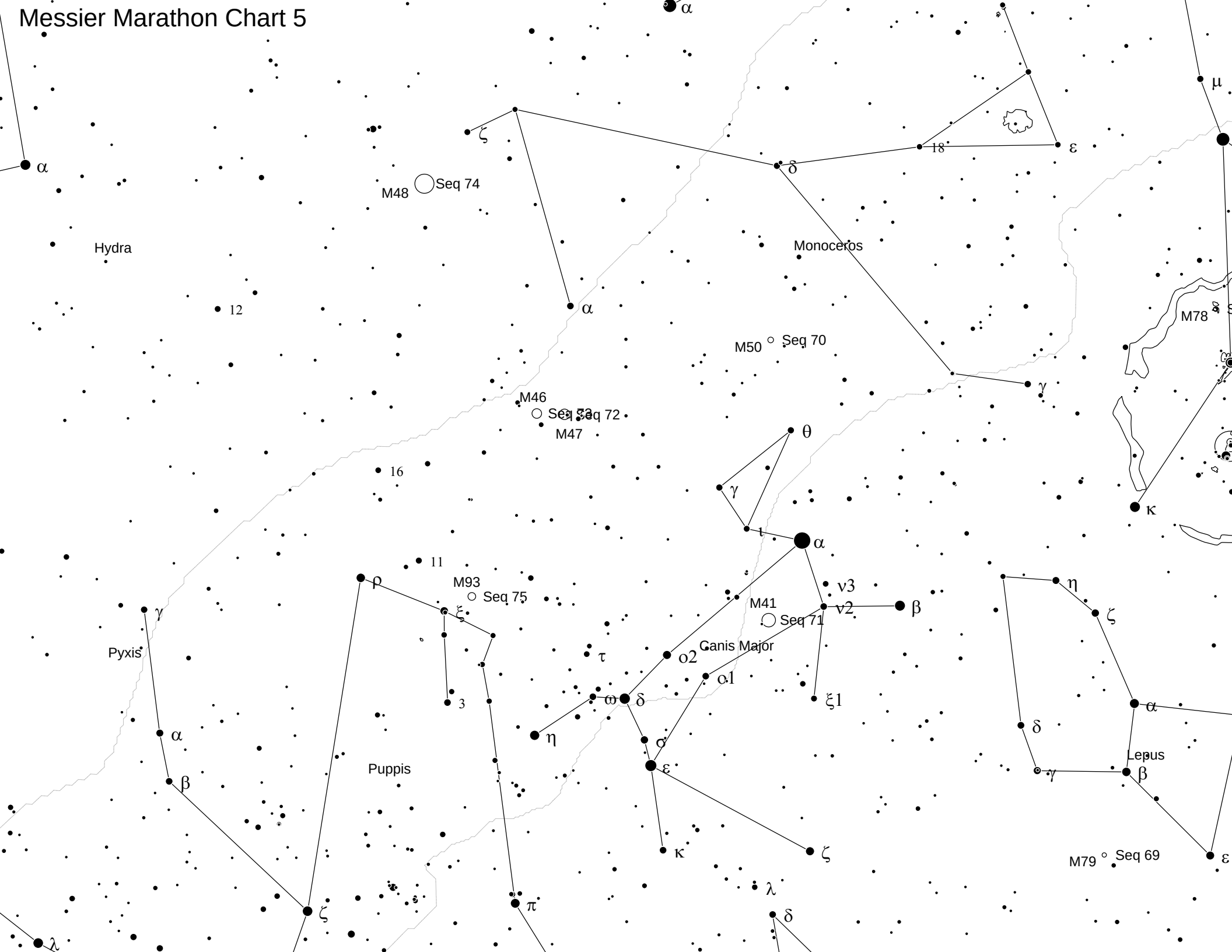
Messier Marathon Chart 1



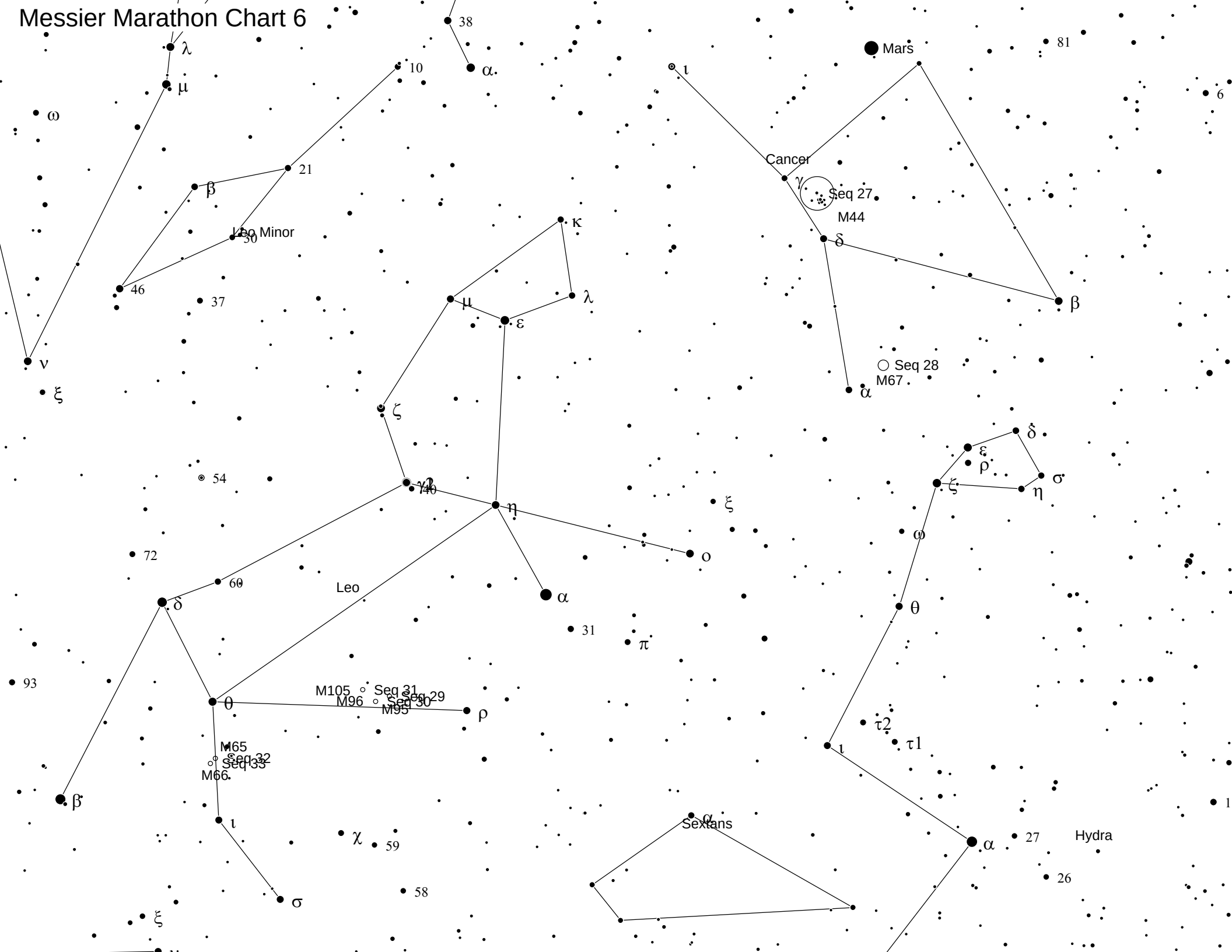

Messier Marathon Chart 2
β
κ
ι
γ
ρ
τ
η
16
θ
M34
Seq 10
50
ε
M103
Seq 8
δ
γ
M76
Seq 9
γ1
Triangulum
β
γ
51
θ
Cassiopeia
κ
η
υ
α
ϕ
Cepheus
π
M33
Seq 3
ζ
β
ι
β
M52
Seq 7
μ
M31
M110
ξ
M32
Andromeda
δ
ν
α
η
π
ζ
ε
δ
ε
μ
λ
κ
ι
α
β
α
5
Lacerta
o
11
π2
Seq 74
Horizon
NW
Horizon

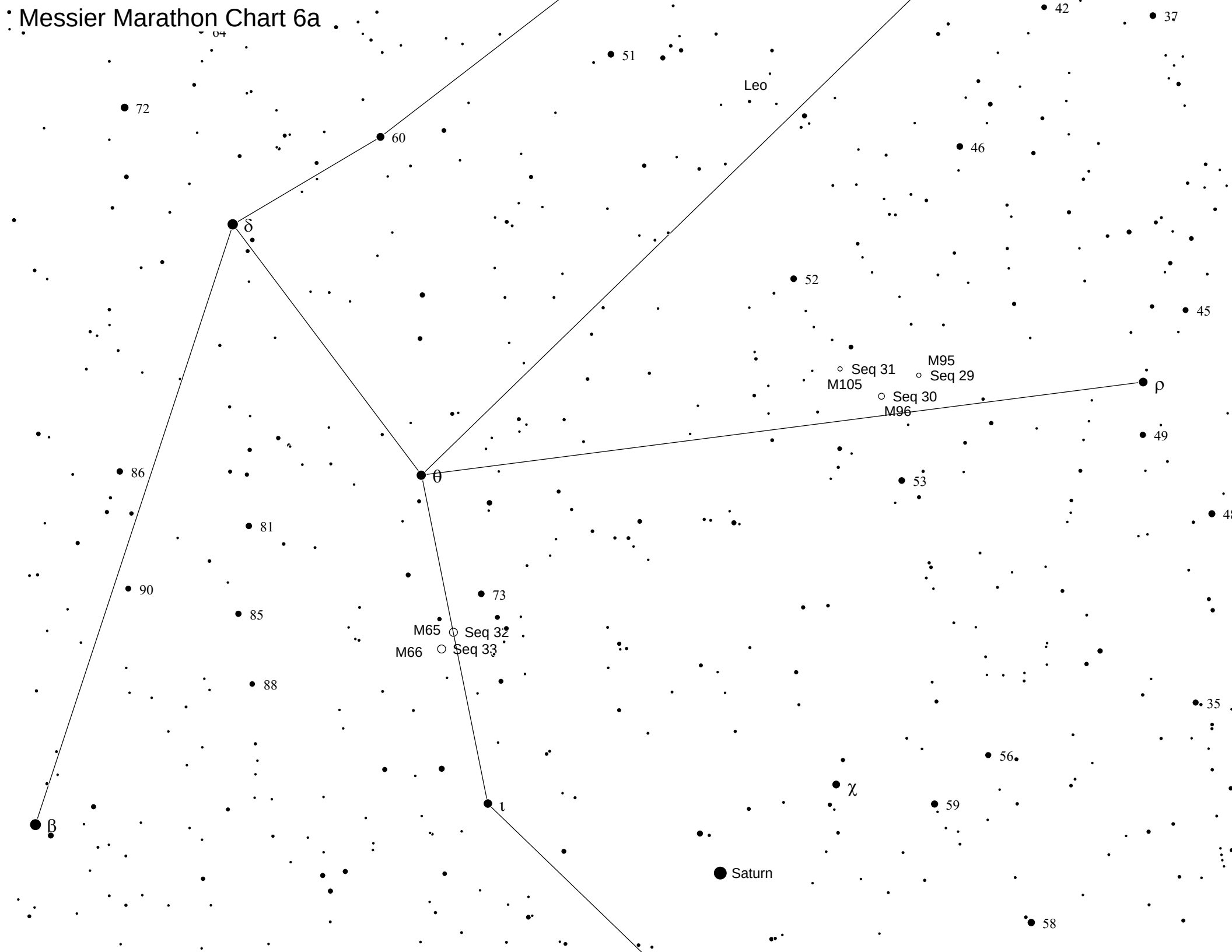

Messier Marathon Chart 3
Monoceros
Orion
Taurus
Lepus
M78
M43
M42
M79
Seq 15
Seq 16
Seq 25
Seq 12
Seq 13
Seq 14
ξ30
1
χ1
ν
δ
18
ε
μ
119
α
γ
φ2
φ1
32
ο2
ρ
π2
π3
π4
π5
π6
σ
ζ
ε
δ
η
κ
β
29
τ
β
λ
ω
μ
ν
ο2
ο1
53
54
β
η
ζ
δ
α
λ
κ
ι
γ
β
μ
ε
ζ
β
ι
58
υ
κ1
ε
α
δ3
θ2
θ1
δ1
71
37
90
γ
88
μ
λ
ν
5
ξ
ο
10
μ
α

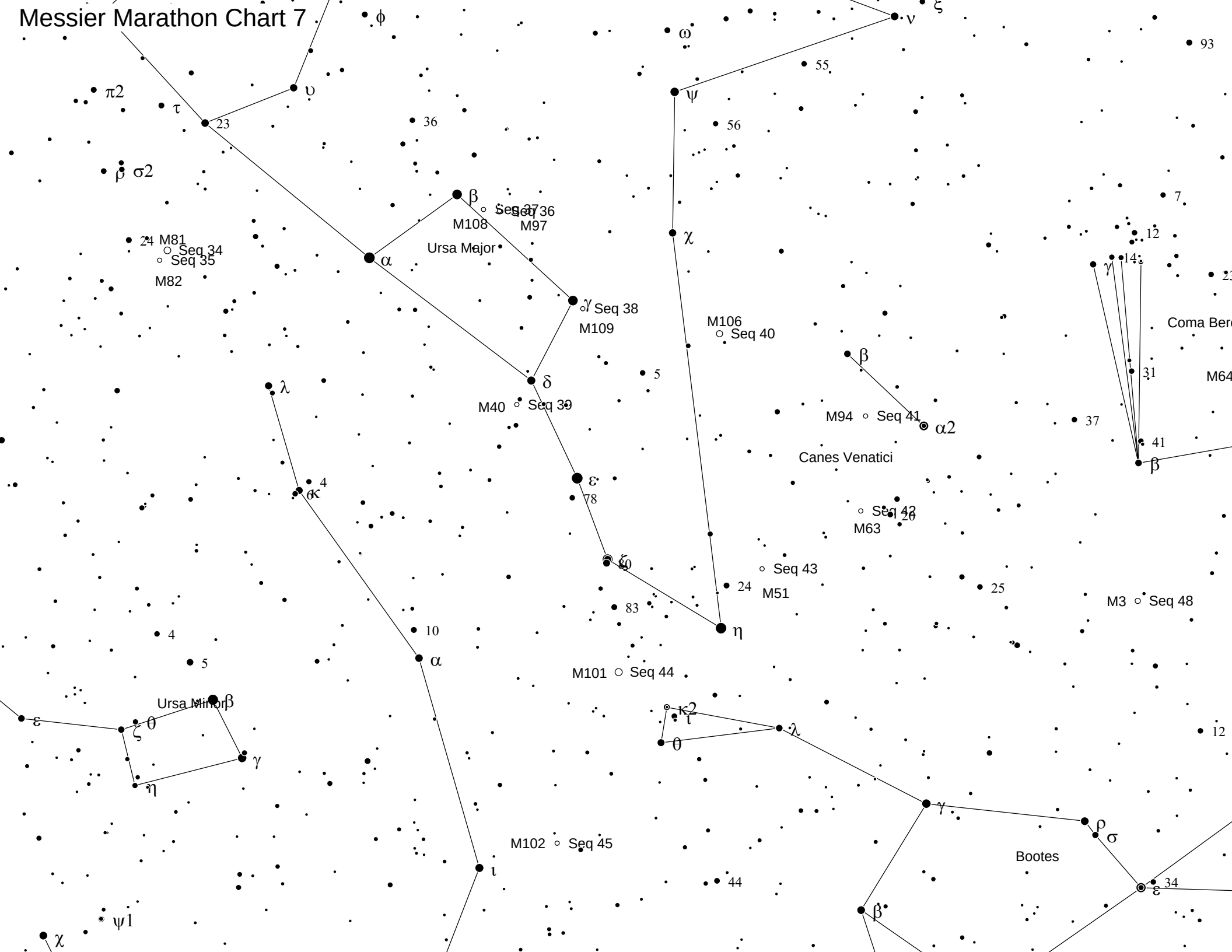

Messier Marathon Chart 4
Gemini
Auriga
Seq 17
M35
Seq 18
M37
M36
Seq 19
Seq 20
M38
Seq 16
M1
ε
γ
ν
μ
κ
η
θ
ν
τ
υ
β
π
α
λ
σ
ε
η
ζ
μ
χ
χ2
χ1
ξ
ν
μ
β
ω
ι
ι
τ
ϕ
ϕ2
ϕ1
λ
γ
o2
o1
69
139
136
132
134
126
119
114
109
111
16
2
58
52
54
15
11


Messier Marathon Chart 5
α
M48
Seq 74
Hydra
ζ
δ
18
ε
μ
Monoceros
12
α
M78
M50
Seq 70
γ
M46
Seq 72
M47
θ
16
γ
κ
1
α
11
ρ
M93
Seq 75
ν3
M41
ν2
β
Seq 71
γ
ξ
Pyxis
τ
o2
Ganis Major
o1
ξ1
3
ω
δ
η
σ
ε
α
β
Puppis
η
ζ
α
δ
γ
Lepus
β
κ
ζ
M79
Seq 69
ε
λ
π
δ
ζ
λ

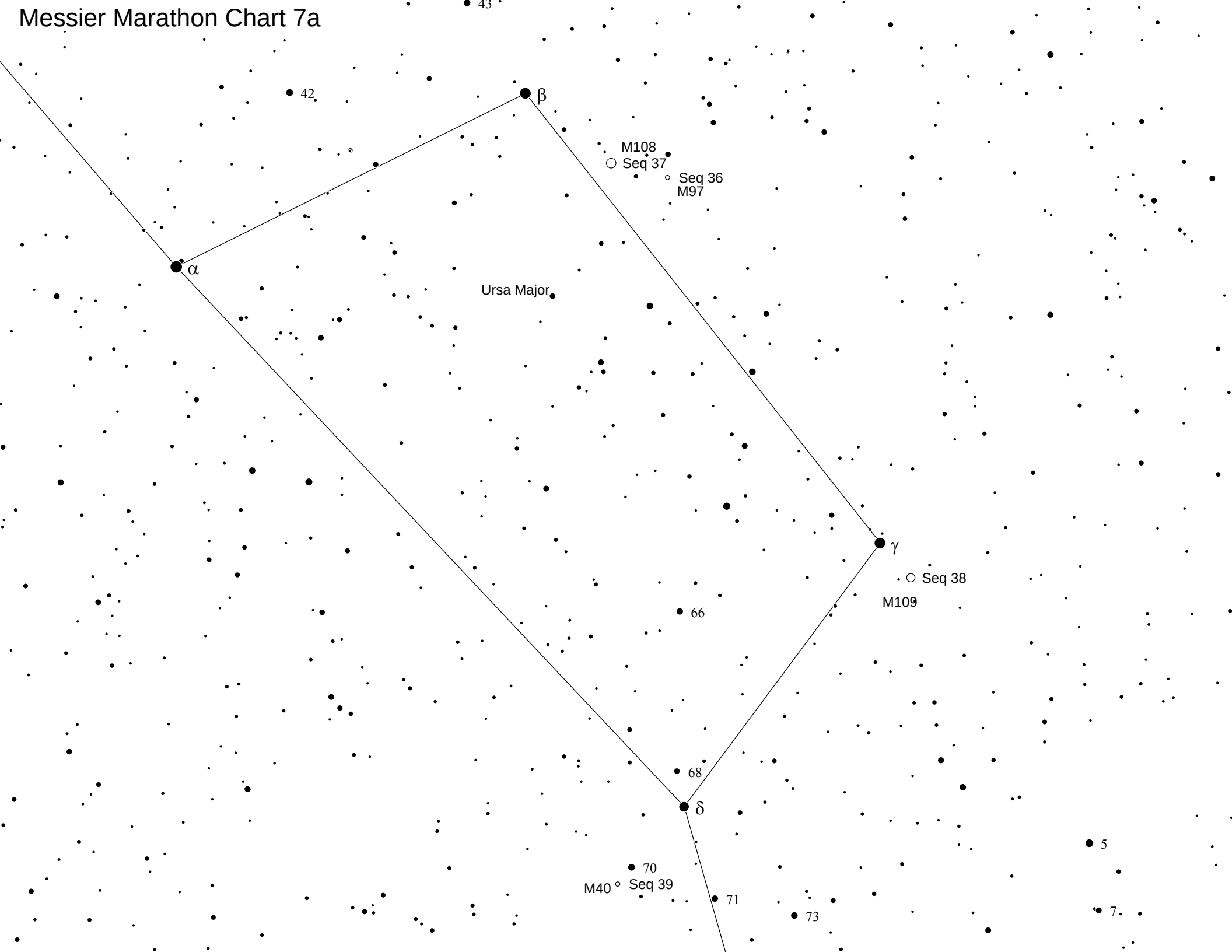
Messier Marathon Chart 6

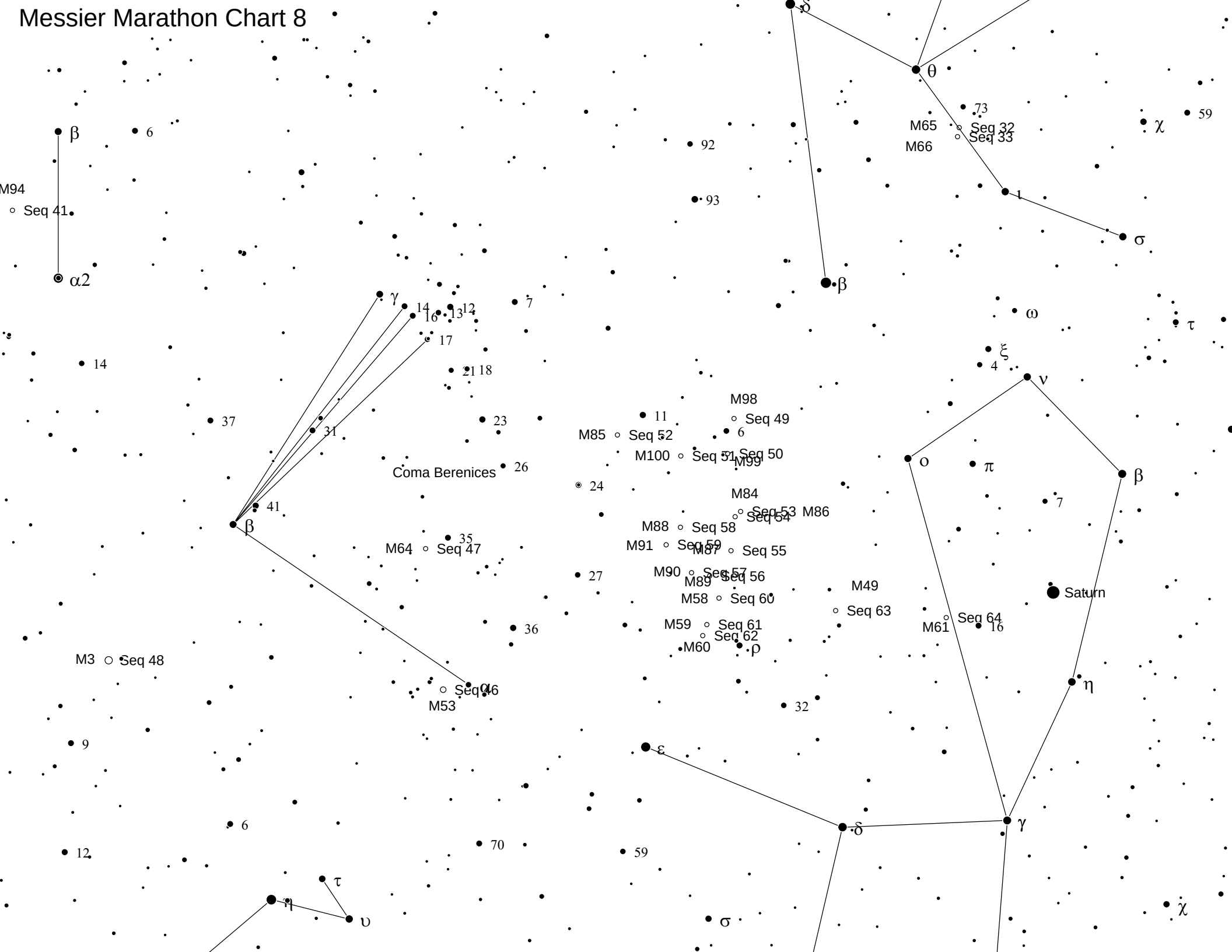


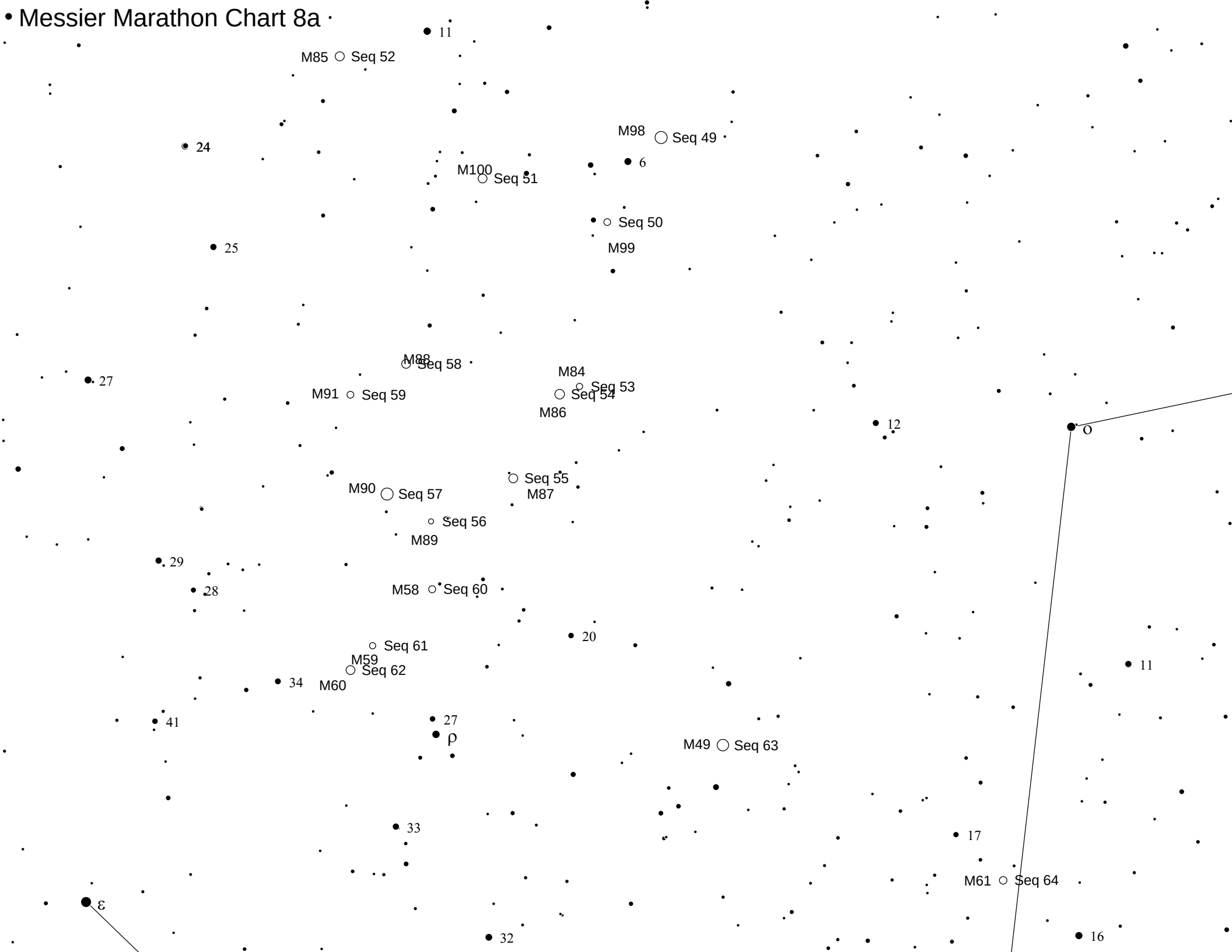

Messier Marathon Chart 6a
Leo
δ
θ
ρ
β
ι
χ
Saturn
M65
Seq 32
M66
Seq 33
Seq 31
M95
M105
Seq 29
Seq 30
M96
64
51
42
37
72
60
46
52
45
86
53
81
49
90
73
85
88
56
59
58


Messier Marathon Chart 7
Ursa Major
Ursa Minor
Canes Venatici
Coma Ber
Bootes
M81
M82
M108
M97
M109
M40
M106
M94
M63
M51
M101
M102
M64
M3
Seq 34
Seq 35
Seq 36
Seq 37
Seq 38
Seq 39
Seq 40
Seq 41
Seq 42
Seq 43
Seq 44
Seq 45
Seq 48
α
β
γ
δ
ε
ζ
η
θ
ι
κ
λ
υ
τ
φ
ω
ν
ξ
ψ
χ
ρ
σ
π2
σ2
α2
κ2
ψ1
93
55
56
7
12
14
23
31
37
41
36
24
5
4
78
10
83
25
44
34

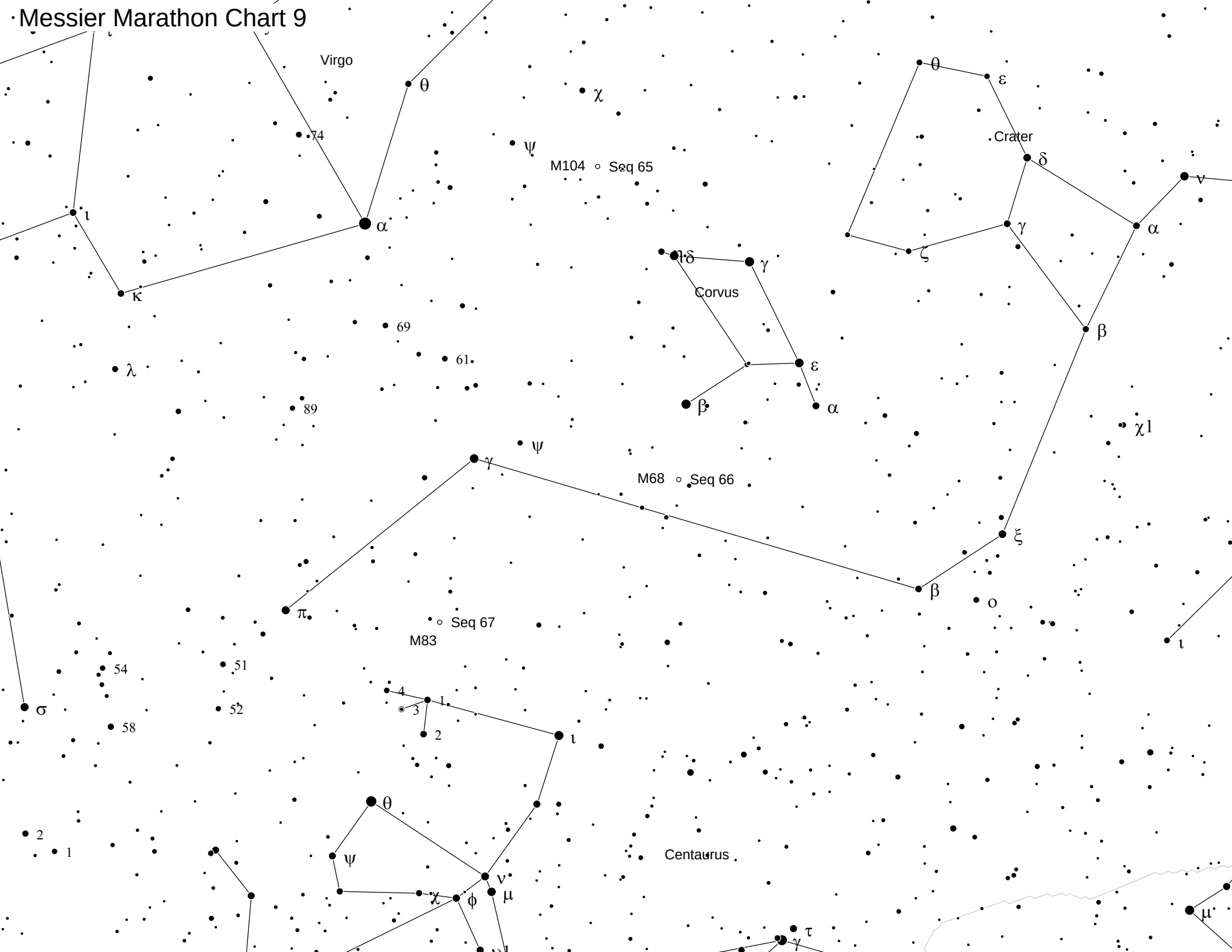
Messier Marathon Chart 7a



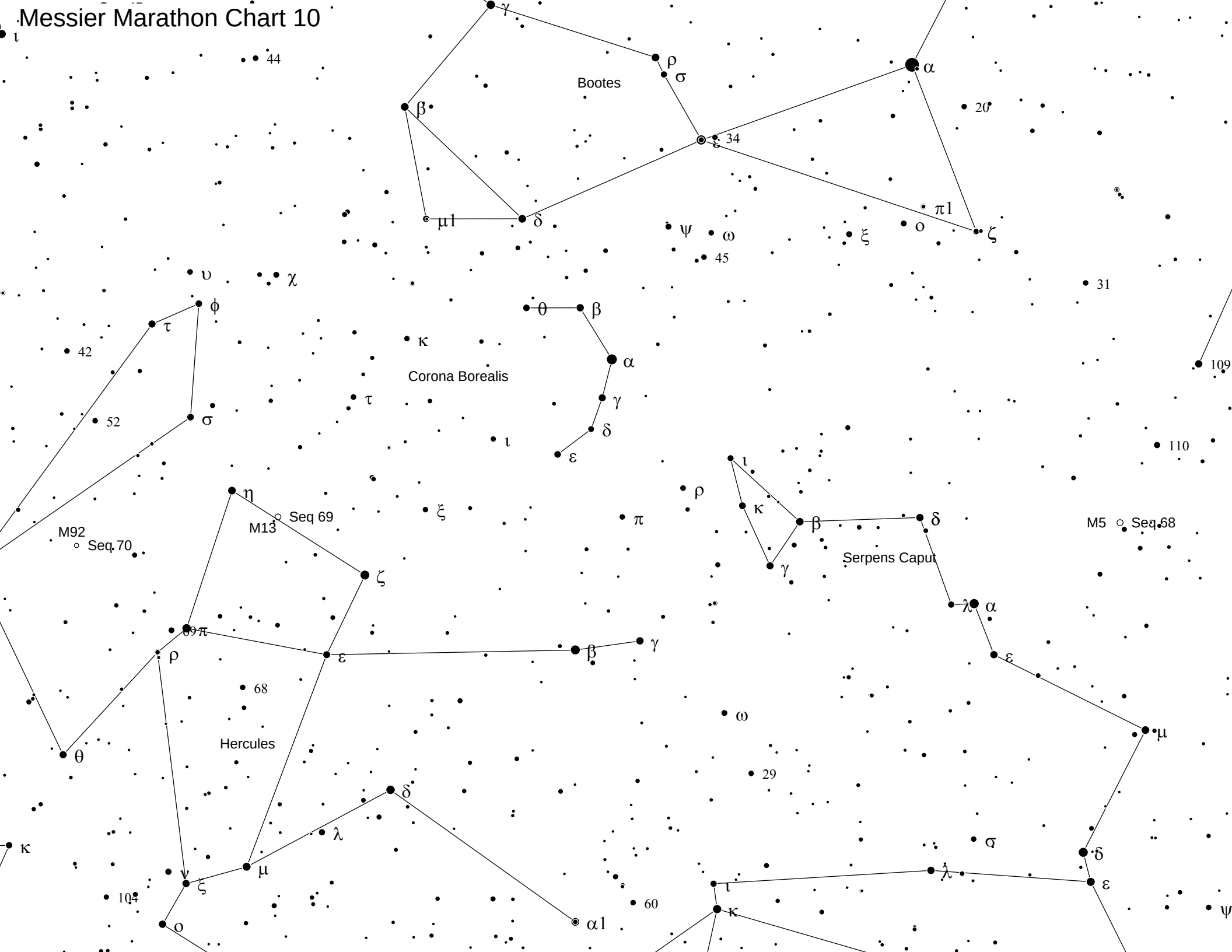

Messier Marathon Chart 8
β
6
M94
Seq 41
α2
γ
14
16
13
12
7
17
14
21
18
37
31
23
Coma Berenices
26
41
β
24
M64
Seq 47
35
27
36
M3
Seq 48
α
Seq 46
M53
9
6
12
70
59
τ
η
υ
σ
ε
δ
γ
χ
32
M49
Seq 63
M61
Seq 64
16
Saturn
η
M59
Seq 61
Seq 62
M60
ρ
M58
Seq 60
M90
Seq 57
M89
Seq 56
M91
Seq 59
M87
Seq 55
M88
Seq 58
M84
Seq 53
M86
Seq 54
M85
Seq 52
11
M98
Seq 49
6
M100
Seq 51
Seq 50
M99
ο
π
β
7
ν
ξ
4
ω
τ
92
93
β
δ
M65
Seq 32
Seq 33
M66
73
θ
59
χ
1
σ

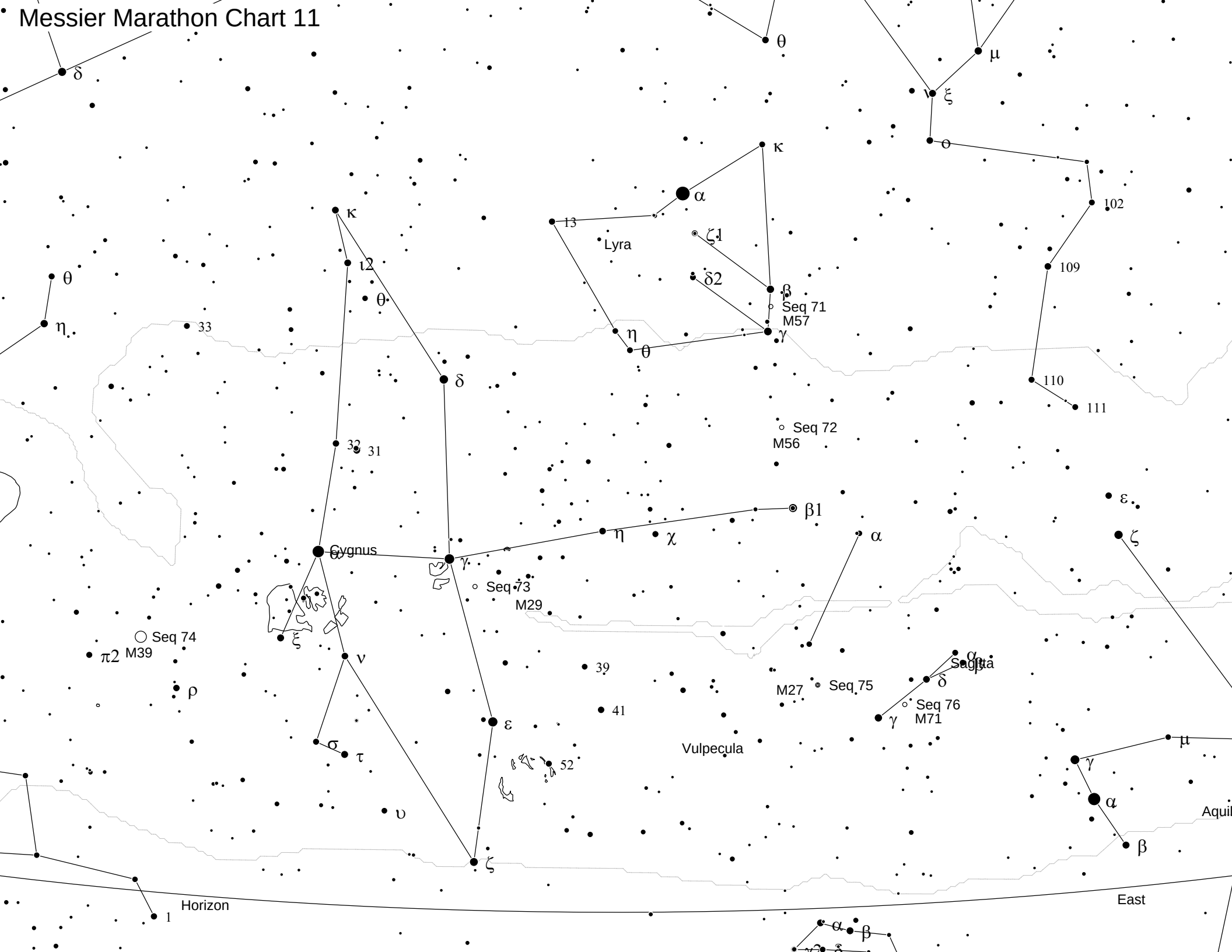

Messier Marathon Chart 8a
11
M85
Seq 52
24
M98
Seq 49
6
M100
Seq 51
Seq 50
25
M99
M88
Seq 58
27
M84
Seq 53
M91
Seq 59
Seq 54
M86
12
o
Seq 55
M90
Seq 57
M87
Seq 56
M89
29
28
M58
Seq 60
20
Seq 61
M59
Seq 62
34
M60
11
41
27
ρ
M49
Seq 63
33
17
M61
Seq 64
ε
32
16

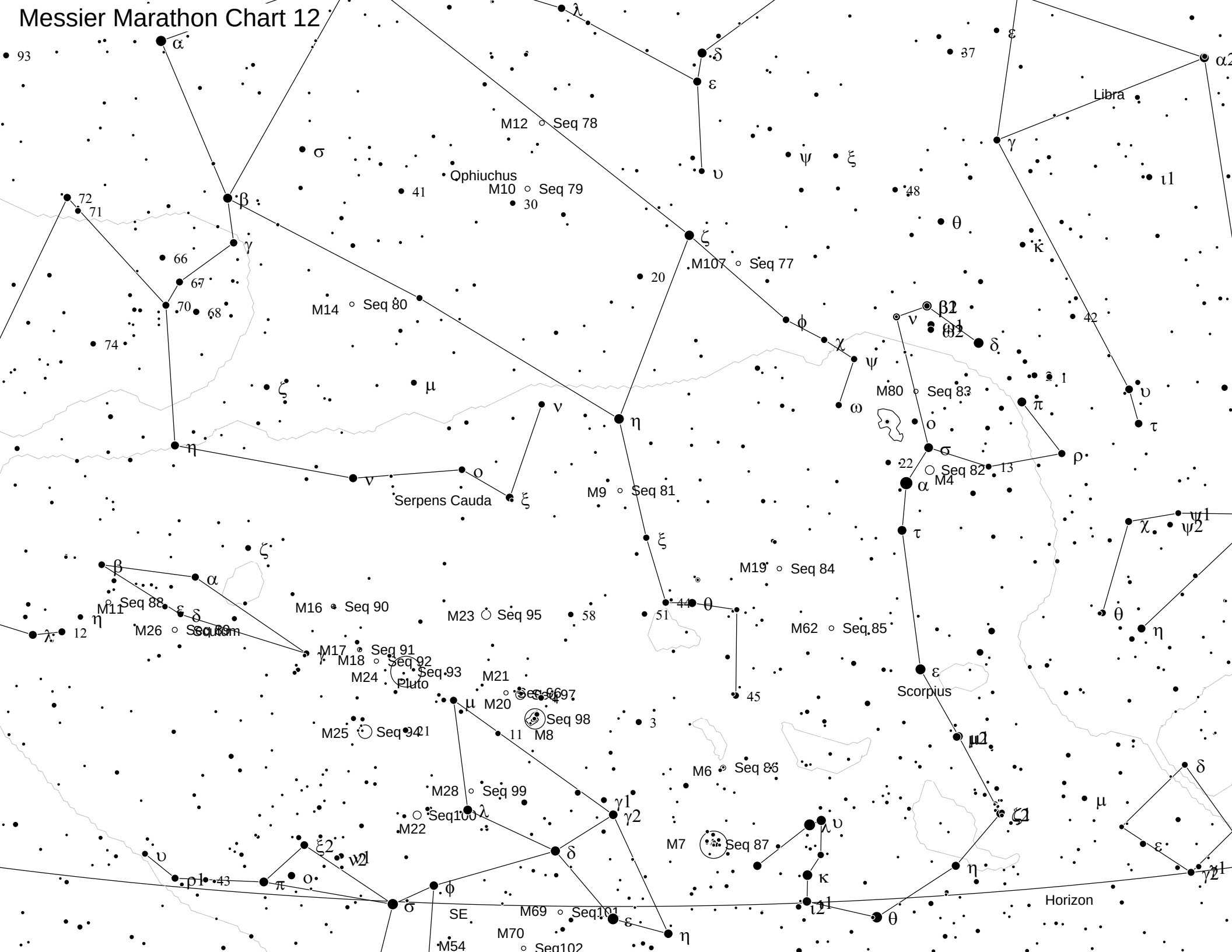
Messier Marathon Chart 9



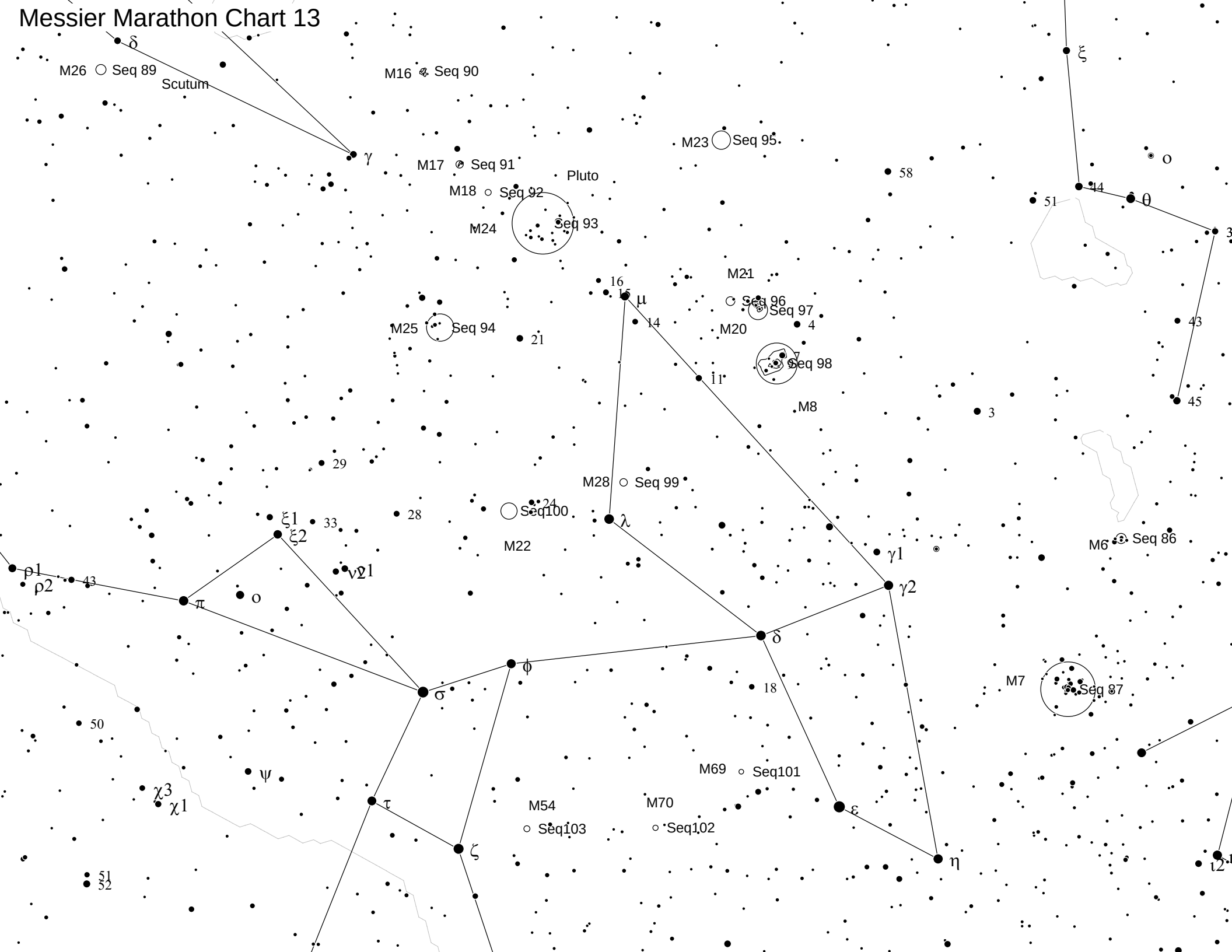
Messier Marathon Chart 10




Messier Marathon Chart 11
Lyra
Cygnus
Vulpecula
Sagitta
Aquil
Horizon
East
M56
M57
M29
M39
M27
M71
Seq 71
Seq 72
Seq 73
Seq 74
Seq 75
Seq 76
102
109
110
111
33
32
31
39
41
52
13
1


Messier Marathon Chart 12
Ophiuchus
Libra
Serpens Cauda
Scorpius
Horizon
SE
M4
M6
M7
M8
M9
M10
M11
M12
M14
M16
M17
M18
M19
M20
M21
M22
M23
M24
M25
M26
M28
M54
M62
M69
M70
M80
M107
Seq 77
Seq 78
Seq 79
Seq 80
Seq 81
Seq 82
Seq 83
Seq 84
Seq 85
Seq 86
Seq 87
Seq 88
Seq 90
Seq 91
Seq 92
Seq 93
Seq 94
Seq 95
Seq 97
Seq 98
Seq 99
Seq100
Seq101
Seq102
Pluto

Messier Marathon Chart 13



Messier Marathon Chart 14