MARCH 25th, 2017 Sunset 8:07 pm Sunrise 7:48 Am Big Bend, TX

Messier Marathon Tracking List

By C.E. Stewart Dewar

M #	Order	NGC	Con	Mag	Type	Time	4	Location/Observing Notes
77	1	1068	Cetus	8.8	SG	9:09	S	1 degree to left of Delta Ceti (bottom 2 stars of Orion point to it) - look for diagonal row of four 9th mag stars - last "star" is M77.
74	2	628	Pisces	9.2	S	9:08	S	**Phantom** - Up from Eta Piscium and look for the "hat"
33	3	598	Triangulum	5.7	SG	9:15	B	**PinWheel**Trace M31 back to Mirach - same distance on other side - also, line from Mirach to Hamal and line from 41 Arietas to Razalmothallah.
31	4	224	Andromeda	3.4	SG	9:02	B	**Andromeda**
32	5	221	Andromeda	8.2	EG	9:03	S	Small, round Satellite galaxy of Andromeda
110	6	205	Andromeda	8.0	EG	9:18	S	Larger, fainter satellite galaxy of Andromeda
52	7	7654	Cassiopea	6.9	OC	9:02	S	**Scorpion -** Small cluster - salt & pepper type - Line from Schedar to Caph and extend same distance on other side + 1 degree.
103	8	581	Cassiopea	7.4	OC	9:02	S	Not very impressive, but easily found - one degree from Ruchbah
76	9	650	Perseus	11.5	PN	9:14	S	Cork nebula (aka little DumbBell nebula) V. difficult use 3 middle stars in Cass'pa to find 51 And and Phi Persei - 1deg from Phi Persei ("fish")
34	10	1039	Perseus	5.2	OC	9:18	B	**Spiral Cluster** - Very open cluster - line from Schedar in Cassopeia through Phi Persei - same distance on other side
45	11		Taurus	1.2	OC	9:18	B	**Pleiades**
79	12	1904	Lepus	8.0	GC	9:20	S	Line from Arneb to Nihal, extend same distance downwards plus a bit
42	13	1976	Orion	4.0	DN	8:58	S	**Orion Nebula**
43	14	1982	Orion	9.0	DN	8:58	S	**De Mairan's Nebula** - right next to Great Orion Nebula
78	15	2068	Orion	8.0	DN	~~8:58~~	S	right angle "up" from Alnitak, slightly less than distance to Mintaka
1	16	1952	Taurus	8.4	PN	9:22	S	**Crab Nebula.** Remnant of a supernova in the year 1054.
35	17	2168	Gemini	5.1	OC	9:24	B	Open Cluster - line from Zeta Tauri(Crab) 8 deg. towards Castor - look for last 3 stars in Gemini on Auriga side
37	18	2099	Auriga	5.6	OC	9:24	B	Auriga **Salt-and-Pepper** - open cluster
36	19	1960	Auriga	6.0	OC	9:24	B	**Pinwheel Cluster**
38	20	1912	Auriga	6.4	OC	9:24	B	Open Cluster
41	21	2287	Canis Major	4.5	OC	8:58	S	**Little Beehive -** 4 deg. Down From Sirius on right.

B = 11x56 binoculars
S = SATURN III binoculars
~~8 = Celestron SET 8~~ (not needed/used)

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93	22	2447	Puppis	6.2	OC	9:26	B	1 1/2 degrees from Asmidiske (nice double with arc of 4 stars) - Line from Orion Nebula through Sirius - another "Butterfly Cluster" ?)
47	23	2422	Puppis	4.4	OC	9:24	B	Nice Open Cluster TYC5409-4230-1 is pretty double star,with 7.4" separation. Line from Mirzam through Sirius and Adhara through Wesen
46	24	2437	Puppis	6.1	OC	9:24	B	Cluster - Has Planetary Nebula - only 1.2 deg. from m47
50	25	2323	Monocerus	5.9	OC	9:30	B	**Heart Shaped Cluster** - Line from Sirius to Gomeisa crossing line between Alpha/Beta Monoceritus
48	26	2548	Hydra	5.8	OC	9:30	B	Line from Gomeisa to Procyon, 4x distance on Sirius side of Zeta Monoc. - 3 deg. Away
44	27	2632	Cancer	3.1	OC	9:31	B	**Beehive Cluster**. Next to Saturn in 2006
67	28	2682	Cancer	6.9	OC	9:32	B	**King Cobra** - Haze of faint stars - very pretty. Line from Orion Nebula through Procyon - < 2deg from Acubens
95	29	3351	Leo	9.7	SG	9:40	S	See M105 - then look 2deg or so towards Sirius to see M95 and M96
96	30	3368	Leo	9.2	SG	9:40	S	See above.
105	31	3379	Leo	9.3	EG	9:40	S	Find 52 Leonis 5.5mag on line between Regulus and Chertan, look for Y-shape below - leads to M105/NGC3384 pair
65	32	3623	Leo	9.3	SG	9:41	S	**Leo's triplet** - nice appearance all in same field of view! From Chertan - pair of stars 1deg away point to "Half of Diamond Ring" with M65/66 inside it
66	33	3627	Leo	9.0	SG	9:41	S	Leo's triplet - see above
81	34	3031	Ursa Major	6.8	SG	9:42	S	**Bodes nebula.** Line from Phecda a bit below Dubhe on the Mergrez side, about same distance out - also find 24 Ursae Majoris and work back.
82	35	3034	Ursa Major	8.4	IG	9:42	S	**Cigar Nebula** - Cigar shape readily apparent
97	36	3587	Ursa Major	11.2	PN	9:42	S	**Owl Nebula** - Faint round blob. Start Merak work towards Phecda - M97/108 are on that line, M108 is 20' outside it, M97 is 1deg outside. M108 is 1.5deg from Merak.
108	37	3556	Ursa Major	10.0	SG	9:42	S	In-line with two 8m stars makes it easy to find. Starry Nights lists apparent magntitude as 10.66
109	38	3992	Ursa Major	9.8	SG	9:42	S	Very Close to Phecda -- look for 3 stars in a line in direction of Cor Coroli - M109 is on Cor Coroli side near middle star

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40	39		Ursa Major	8.0	dbl	9:42	S	Two separated faint stars - line from Phecda through Megrez to 5.5 mag star (70 Ursae Majoris) - double is just beyond it.
106	40	4258	Canes Venatici	8.3	SG	9:48	S	Faint galaxy - Line from Chara to Phecda - exactly 1/2 way
94	41	4736	Canes Venatici	8.1	SG	9:44	S	**Cat's Eye Galaxy -** make triangle with Chara and Cor Coroli - 1º30' from line on Ursa Major side
63	42	5055	Canes Venatici	8.6	SG	9:51	S	**Sunflower galaxy -**
51	43	5194	Canes Venatici	8.1	SG	9:49	S	**Whirlpool galaxy -** line from Alkaid to Cor Coroli - above it by 40' - 3º30' from Alkaid
101	44	5457	Ursa Major	7.7	SG	9:53	B	**Pinwheel Galaxy** - follow line on Mizar->Alcor to arc of 3 stars, follow 2º more to M101..
102	45	5457	Draco	7.7	SG	9:56	S	**Spindle Galaxy,** Locate Edasich in Draco (form triangle with Mizar and Alkaid. Follow line towards Seginus in Bootes, 3º to arc of 3 stars - follow towards Alkaid 48' - in mouth of upside-down 'Y'.
53	46	5024	Coma Berenice	7.7	GC	9:57	S	Next to notable asterism so easy to find - 1deg. From Diadem
64	47	4826	Coma Berenice	8.5	SG	10:06	S	**Black Eye Galaxy** - follow line from Diadem to gamma coma Berenices and find 4.8 mag star 48 Coma Berencies - M64 is less than a degree away.
3	48	5272	Canes Venatici	6.4	GC	10:07	S	Outer core resolved - impressive sight
98	49	4192	Coma Berenice	10.1	SG	10:17	S	Look for 5th mag 6 Comae Berenices on line from Regular through Denebola
99	50	4254	Coma Berenice	9.8	SG	10:17	S	**Coma Pin Wheel Galaxy**
100	51	4321	Coma Berenice	9.4	SG	10:18	S	Look for three 6th/5th mag stars in a line between M98 and M100
85	52	4382	Coma Berenice	9.2	EG	10:21	S	Look for this along with M98/99/100 - all in the same region
84	53	4374	Virgo	9.3	EG	11:01	S	Markarian's chain
86	54	4406	Virgo	9.2	EG	11:01	S	Faint but easy because no stars around
87	55	4486	Virgo	8.6	EG	10:59	S	Virgo A
89	56	4552	Virgo	9.8	EG	10:45	S	Seemed brighter than M58 although supposedly it's dimmer (?)
90	57	4569	Virgo	9.5	SG	10:45	S	Not very easy to find
88	58	4501	Coma Berenice	9.5	SG	10:49	S	Very difficult to find - borderline
91	59	4548	Coma Berenice	10.2	SG	10:51	S	Very difficult to find - borderline
58	60	4579	Virgo	9.8	SG	10:45	S	Very, very faint - barely visible
59	61	4621	Virgo	9.8	EG	10:41	S	Very, very faint - barely visible
60	62	4649	Virgo	8.8	EG	10:41	S	faint - but reasonably visible
49	63	4472	Virgo	8.4	EG	11:05	S	Very faint, but no stars nearby so reasonably visible

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61	64	4303	Virgo	9.7	SG	10:36	S	**Swelling Spiral**
104	65	4594	Virgo	8.3	SG	10:27	B	**Sombrero galaxy** - Arc up from Algorab towards Virgo
68	66	4590	Hydra	8.2	GC	10:29	S	Below Corvus: Line from Algorab to Kraz, extend 3.5° to HIP61621 then up and to left by 25'.
83	67	5236	Hydra	7.6	SG	11:13	S	**Southern Pinwheel galaxy** - Below Hydra to left of Corvus - 7° to right of Pi Hydrae. rises 10:30pm
5	68	5904	Serpens Caput	5.8	GC	11:17	S	Easy to find, next to 5th mag 5 Serpentis - on line from Tau Virginis to 109 Virginis rises 10:53pm
13	69	6205	Hercules	5.9	GC	11:21	S	Hercules cluster. 100,000 stars rises 10:40pm
92	70	6341	Hercules	6.5	GC	M:26		Not nearly as impressive as M13, but nice rises 10:45p
57	71	6720	Lyra	9.0	PN	3:04	S	**Ring nebula.** Looks like smoke ring. rises 1:08am
56	72	6779	Lyra	8.2	GC	3:05	S	Rather faint, but visible even with first Q moon rises 1:41AM
29	73	6913	Cygnus	6.6	OC	3:06	S	**Cooling Tower Cluster**: A dozen or so brightish stars at mag 6
39	74	7092	Cygnus	4.6	OC	3:12	S	Easily found, not very exciting though
27	75	6853	Vulpecula	8.1	PN	3:23	S	**Dumbbell nebula**
71	76	6838	Sagitta	8.3	GC	3:26	S	Just a smudge - seemed fainter than 8.3 but found in 2" binos as well
107	77	6171	Ophiucus	8.1	GC	3:29	S	Easy enough to find, but pretty dim
12	78	6218	Ophiucus	6.6	GC	3:30	S	**Gumball Globular**
10	79	6254	Ophiucus	6.6	GC	3:30	S	Smaller than M12, easy to find
14	80	6402	Ophiucus	7.6	GC	3:31	S	Easily seen
9	81	6333	Ophiucus	7.9	GC	3:31	S	Rather Faint, but easy to find from Sabik
4	82	6121	Scorpio	5.9	GC	3:02	S	Surprisingly large globular
80	83	6093	Scorpio	7.2	GC	3:32	S	Easy to find, quite small, a bit difficult in 2" Binos
19	84	6273	Ophiucus	7.2	GC	3:34	S	Stumbled onto this globular - so quite easy to find
62	85	6266	Ophiucus	6.6	GC	3:35	S	**Flickering Globular**
6	86	6405	Scorpio	4.2	OC	3:37	B	**Butterfly cluster**
7	87	6475	Scorpio	3.3	OC	3:37	B	**Ptolemy's Cluster**
11	88	6705	Scutum	5.8	OC	3:39	B	**Wild duck cluster**
26	89	6694	Scutum	8.0	OC	3:43	S	Pretty dim OC - not much to see - also marked as in Sagittarius
16	90	6611	Serpens Claud	6.0	DN	3:44	B	**Eagle Nebula** - not as impressive as Omega
17	91	6618	Sagittarius	7.0	DN	3:44	B	Omega nebula, deep orange star next to it - shape is VERY clear
18	92	6613	Sagittarius	6.9	OC	3:48	S	Nice small cluster
24	93	6603	Sagittarius	4.5	OC	3:44	B	**Saggitarius Star Cloud** - Fills entire view - cluster with nebulosity
25	94		Sagittarius	4.6	OC	3:49	B	2.5x distance from Delta Aquilae to Althalimain

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23	95	6494	Sagittarius	5.5	OC	3:53	B	Salt & Pepper type appearance - large
21	96	6531	Sagittarius	5.9	OC	3:51	S	Not easy to see as a cluster and separate from Triffid
20	97	6514	Sagittarius	8.5	DN	3:46	B	**Triffid Nebula** - Much less nebulosity than M8 -expected more
8	98	6523	Sagittarius	5.8	DN	3:46	B	**Lagoon Nebula -** A lot of nebulosity -
28	99	6626	Sagittarius	6.9	GC	3:55	S	Next to Kaus Borealis so easy to locate from that dimmer than 6.9 would indicate
22	100	6656	Sagittarius	5.1	GC	3:55	S	Sagittarius Cluster - Tau Sat to Nunki - 1x that distance - 2 stars on either side
69	101	6637	Sagittarius	7.7	GC	4:01	S	Follow line from Atkab to Kaus Australis"
70	102	6681	Sagittarius	8.1	GC	4:36	S	Look for the 4 9th mag stars in a tight row just underneath - line from Kaus Australis to Ascella
54	103	6715	Sagittarius	7.7	GC	4:32	S	Pretty small and faint globular not easy, 1d 44m from Ascella in direction of a bit above Kaus Australis
55	104	6809	Sagittarius	7.0	GC	5:03	S	Line from Nunki to Tau Sag - 2x that distance rises 4:34
75	105	6864	Sagittarius	8.6	GC	5:08	S	Tau Ag to 52 Sag, 1x that distance rises 4:33
15	106	7078	Pegasus	6.4	GC	5:13	S	Take Zeta Cygni to 1 Pegasi, extend same distance/direction rises 4:36
2	107	7089	Aquarius	6.5	GC	5:48	S	in dark field no nearby stars to easy to spot. but rises 5:10
72	108	6981	Aquarius	9.4	GC	5:43	S	Very faint globular. rises 4:57
73	109	6994	Aquarius		ast	5:47	S	Very difficult, very small grouping of just 3 or 4 stars (5:00)
30	110	7099	Capricornus	7.5	GC	6:32	S	Small, [redacted] difficult to find rises 6:10 AM

Virgo - Coma Berenices: (DAWN @ 7:25AM) Sunrise @ 7:49 AM — 5° @ 6:40pm — 7° @ 6:50pm — 9° @ 7:00 AM

Line from Vindemiatrix to Denebola - look for two bright stars (6th mag 34 Virginis - they point the way to M60. M59 is in same view.
Follow line from M60 to m59 keep going to hit M58. Follow line of stars to left (in direction of gamma Coma Berenices up to M90 - m89 is on left.
Follow line from m58 to m90 up to m91 then make a right angel to right to hit m88

Saturn III's @ 39x 60° AFOV = 1.7° TFOV

So 4° = 2 Fields + 1/3rd

M61 look for Zaniah head in direction of gamma Coma Berenices to 5th mag star: 16 Virginis - M61 is in same field a bit further on. Then head in direction of Beta Coma Berenices (middle star of Coma Beren) for m49 - 4 degrees away look got it half way between two mag 6 stars.

TOTAL observing time = 3hrs

For M87, go back to m58 and head towards Denebola. M87 has an 8th mag star right next to it. The continue in the same direction towards m86 and m84 in same field together

After m92, next object, m57 does not rise until 2 1/2 hrs later - so that's the time to take a break!!!