

## Messier Objects in TriAtlas

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M #	MO	NGC	Con	Dist	RA	Deg	Sec	Mn	Type	A	B	How to locate	Comments
1	16	1952	TAU	6.5	5:34	22	1	8.4	PN	A16	B41	EI Nath ( $\beta$ Tau), $\zeta$ Tau, 1d9m NW	Crab nebula. Remnant of a supernova in 1054.
2	107	7089	AQR	37.5	21:33	0	-49	6.5	GC	A10	B47	Sadalsuud ( $\beta$ Aqr), 4d45m N	150000 stars, 21 known variable stars, elliptical.
3	48	5272	CVN	33.9	13:42	28	23	6.4	GC	A13	B34	Cor Caroli ( $\alpha$ CVn), Arcturus, halfway	Huge, 500000 stars, 274 known variable stars.
4	82	6121	SCO	7.2	16:24	-26	32	5.9	GC	A12	B70	Antares ( $\alpha$ Sco), 1d18m W	Loose. 13 billion year old white dwarfs.
5	68	5904	SER	24.5	15:19	2	5	5.8	GC	A12	B52	Unukalhai ( $\alpha$ Ser), 7d44m SW, near 5 Ser	Large, 1-500000 stars, 105 variable stars.
6	86	6405	SCO	1.6	17:40	-32	13	4.2	OC	A20	B69	$\lambda$ Sco, 5d NNE (Alnasi ( $\gamma$ Sag), 5d48m, SWW)	Butterfly cluster. 80 stars identified.
7	87	6475	SCO	1.0	17:54	-34	49	3.3	OC	A20	B69	Lesath ( $\nu$ Sco)-Shaula ( $\lambda$ Sco) line, 4d42m NE	Ptolemy Cluster. 200 million years old, 80 stars.
8	98	6523	SGR	4.1	18:03	-24	23	5.8	DN	A11	B69	M20, 1d23m S (or $\phi$ - $\lambda$ Sgr line, 5d35m W)	Lagoon nebula. Star formation. Emission nebula.
9	81	6333	OPH	25.8	17:19	-18	31	7.9	GC	A11-12	B69	Sabik ( $\eta$ Oph), 3.5d SE	120,000 $M_{\odot}$ , 13 variable stars, 12 billion years old.
10	78	6254	OPH	14.3	16:57	-4	6	6.6	GC	A12	B51	M12, 3d15m SE (30 Oph is 1d E)	225,000 $M_{\odot}$ , 4 variable stars, blue stragglers.
11	88	6705	SCT	6.2	18:51	-6	16	5.8	OC	A11	B49	$\lambda$ - $\iota$ Aql - $\eta$ - $\beta$ Sct, 1d48m SE	Wild duck cluster. 2900 stars, 220 million years old.
12	79	6218	OPH	15.7	16:47	-1	57	6.6	GC	A12	B51	Yed Prior ( $\delta$ Oph), 12 Oph, 2d45m E	Loose. 13 variable stars. Low mass stars stripped.
13	69	6205	HER	22.2	16:42	36	28	5.9	GC	A03	B32	Kornephoros ( $\beta$ Her)- $\zeta$ Her- $\eta$ Her line, 2.5d S	Hercules cluster. 300,000 stars, diameter 145 ly.
14	80	6402	OPH	30.3	17:38	-3	15	7.6	GC	A11	B50	M10, 10d E, halfway to $\eta$ Ser (outside hexagon)	Mass > 1 million $M_{\odot}$ . 70 variable stars. Elongated.
15	106	7078	PEG	33.6	21:30	12	10	6.4	GC	A10	B47	Biham ( $\theta$ Peg)-Enif ( $\epsilon$ Peg) line, 4d10m NW	Old, dense, collapsed core. 112 variable stars.
16	90	6611	SER	7.0	18:19	-13	47	6.0	DN	A11	B68	M17, 2d27m N	Eagle nebula. Star formation (Pillars of Creation).
17	91	6618	SGR	5.5	18:21	-16	11	6.0	DN	A11	B68	M18, 1d N	Omega (Swan, Horseshoe) nebula. Star formation.
18	92	6613	SGR	4.9	18:20	-17	8	6.9	OC	A11	B68	$\pi$ - $\xi$ 2 Sgr line, 9d46m NWW	20 stars, 32 million years old.
19	84	6273	OPH	28.7	17:03	-26	16	7.2	GC	A12	B69-70	Antares, 7d25m E, 2/3 way to $\theta$ Oph	1.2 million $M_{\odot}$ . Oblate. 4 RR Lyrae variable stars.
20	97	6514	SGR	5.2	18:02	-23	2	6.3	DN	A11	B69	M21, 45m SW	Trifid nebula. 30 embryonic, 120 newborn stars.
21	96	6531	SGR	4.3	18:05	-22	30	5.9	OC	A11	B69	M23, 4d SE	Only 4.6 million years old, 57 stars, mainly dim.
22	100	6656	SGR	10.6	18:36	-23	54	5.1	GC	A11	B68	$\tau$ -Nunki ( $\sigma$ Sgr) line, 4d50m NW	Contains a planetary nebula. 2 black holes.
23	95	6494	SGR	2.2	17:57	-19	1	5.5	OC	A11	B69	$\tau$ -Nunki ( $\sigma$ )- $\mu$ Sgr line, 4d28m NW	150 stars, radius 15-20 ly.
24	93	6603	SGR	10.0	18:18	-18	29	4.6	OC	A11	B69	M18, 1d20 S	Small Sagittarius Star Cloud. Thousands of stars.
25	94		SGR	2.0	18:32	-19	15	4.6	OC	A11	B68	$\pi$ - $\xi$ 2 Sgr line, 6.5d NWW	Delta Cephei type variable star, U Sagittarii.
26	89	6694	SGR	5.0	18:45	-9	24	8.0	OC	A11	B49	M11- $\epsilon$ - $\delta$ Sct, 45m SEE	Low density near the nucleus. 89 myears old.
27	75	6853	VUL	1.4	20:00	22	43	8.1	PN	A10-11	B29	$\eta$ Sge, right angle to arrow, 3d NW	Dumbbell nebula. Age 10000 yr. Expands 31km/s.
28	99	6626	SGR	17.9	18:25	-24	52	6.9	GC	A11	B68	Kaus Borealis ( $\lambda$ Sgr), 58m NW	18 RR Lyrae variable stars, 11 millisecond pulsars.
29	73	6913	CYG	4.0	20:24	38	32	6.6	OC	A02	B12	Sadir ( $\gamma$ Cyg), 1d45m S	10 million years old. Approaching us at 28 km/s.
30	110	7099	CAP	29.4	21:40	-23	11	7.5	GC	A10	B66	$\zeta$ Cap, 3d15m SEE	160000 $M_{\odot}$ . Collapsed core. Retrograde orbit.
31	4	224	AND	2540	0:43	41	16	3.4	SG	A01	B25-10	reflect Mirach ( $\beta$ And) to $\mu$ And	Andromeda galaxy. Largest of the Local Group.
32	5	221	AND	2490	0:43	40	52	8.2	EG	A01	B25-10	reflect Mirach ( $\beta$ And) to $\mu$ And	Satellite of Andromeda galaxy. Dwarf galaxy.
33	3	598	TRI	2700	1:34	30	39	5.7	SG	A08-01	B44	Hamal ( $\alpha$ Ari), Mirach ( $\beta$ And) halfway	Triangulum galaxy. Low surface brightness.
34	10	1039	PER	1.5	2:42	42	47	5.2	OC	A08	B24	Algol ( $\beta$ Per), $\rho$ - $\pi$ -12 Per, 2d35m N	400 stars, 200-250 million years old.
35	17	2168	GEM	2.8	6:09	24	20	5.1	OC	A16	B40	Mebstuta ( $\epsilon$ Gem), $\mu$ - $\eta$ -1 Gem, 1d31m NE	Mass between 1600 and 3200 $M_{\odot}$ .
36	19	1960	AUR	4.1	5:36	34	8	6.0	OC	A07	B41	EI Nath ( $\beta$ Tau), $\theta$ Aur halfway, then 2d W	60 stars, 14 ly diameter.
37	18	2099	AUR	4.5	5:52	32	33	5.6	OC	A07	B40	EI Nath ( $\beta$ Tau), $\theta$ Aur halfway, then 2d SE	Richest among M36, M37, M38, outside hexagon.

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38	20	1912	AUR	4.2	5:29	35	50	6.4	OC	A07	B41	2d15m NW of M36	Oblique cross shape of brighter stars.
39	74	7092	CYG	0.8	21:32	48	26	4.6	OC	A02	B12	Deneb ( $\alpha$ Cyg), $\xi$ - $\rho$ Cyg, 2d50m N	30 stars, 7 ly diameter, 200 to 300 myears old.
40	39		UMa	0.5	12:22	58	5	10.0	dbl	A05	B18	Megrez ( $\delta$ UMa), 1d24m NE	WNC 4 in TriAtlas C42, just a double star.
41	21	2287	CMA	2.3	6:47	-20	44	4.5	OC	A15	B78	Sirius ( $\alpha$ CMA), 4d towards Adhara ( $\epsilon$ CMA)	100 stars, 25 ly diameter, 240 myears old.
42	13	1976	ORI	1.3	5:35	-5	27	4.0	DN	A16	B60	Betelgeuse ( $\alpha$ Ori)-Alnitak ( $\zeta$ Ori) line	Great Orion nebula. Star formation.
43	14	1982	ORI	1.6	5:36	-5	16	9.0	DN	A16	B60	Betelgeuse ( $\alpha$ Ori)-Alnitak ( $\zeta$ Ori) line	De Mairan's Nebula, part of Orion nebula
44	27	2632	CNC	0.6	8:40	19	59	3.1	OC	A15	B38	W to $\gamma$ - $\delta$ Cnc (Asellus Borealis-Australis)	Beehive cluster. 358 stars, 23 ly diameter.
45	11		TAU	0.4	3:47	24	7	1.2	OC	A17	B42	Aldebaran ( $\alpha$ Tau)	Pleiades. Hot blue stars. 100 million years old.
46	24	2437	PUP	5.4	7:42	-14	49	6.1	OC	A15	B77	1d20m E of M47	Contains nebula NGC 2438. 150 resolvable stars.
47	23	2422	PUP	1.6	7:37	-14	30	4.4	OC	A15	B77	Mirzam ( $\beta$ CMA) - Sirius ( $\alpha$ CMA) - $\alpha$ Mon, 5d S	50 stars, 12 ly diameter, 78 myears old.
48	26	2548	HYA	1.5	8:14	-5	48	5.8	OC	A15	B57-58	$\beta$ - $\alpha$ CMA - $\alpha$ - $\zeta$ Mon, 3d SE	80 stars, 23 ly diameter, 300 myears old.
49	63	4472	VIR	55900	12:30	8	0	8.4	EG	A13	B54	M60, 4d55m SW (6m star to SE)	First galaxy discovered in Virgo Cluster.
50	25	2323	MON	3.2	7:03	-8	20	5.9	OC	A15	B58	reflect Sirius ( $\alpha$ CMA) to $\theta$ CMA	Heart-shaped cluster. 100 stars, 10 ly diameter.
51	43	5194	CVN	23000	13:30	47	12	8.1	SG	A05	B17	Alkaid ( $\eta$ UMa), 24 CVn, 2d S (triangle)	Whirlpool galaxy. Cross of dust rings in nucleus.
52	7	7654	CAS	5.0	23:24	61	35	6.9	OC	A01	B11	reflect Schedar ( $\alpha$ Cas) to Caph ( $\beta$ Cas)	200 members, 35 million years old.
53	46	5024	COM	58.0	13:13	18	10	7.7	GC	A13	B35	Arcturus, Muphrid ( $\eta$ Boo), $\alpha$ Com, 55m NE	Distant. 220 ly diameter. Almost 200 blue stragglers.
54	103	6715	SGR	87.4	18:55	-30	29	7.7	GC	A11-20	B68	Ascella ( $\zeta$ Sgr)- $\epsilon$ Sgr line, 1d45m from $\zeta$	Belongs to the Sagittarius Dwarf Elliptical Galaxy.
55	104	6809	SGR	17.6	19:40	-30	58	7.0	GC	A19	B67	60-c-b- $\omega$ Sgr (kite), 5d46m SW	100 ly diameter, 55 variable stars, 56 blue stragglers.
56	72	6779	LYR	32.9	19:17	30	11	8.2	GC	A03-11	B30	Sulafat ( $\gamma$ Lyr), Albireo ( $\beta$ 1 Cyg), halfway	85 ly diameter. 12 variable stars, a bright Cepheid.
57	71	6720	LYR	2.3	18:54	33	2	9.0	PN	A03	B30	Sheliak ( $\beta$ Lyr), Sulafat ( $\gamma$ Lyr), halfway	Ring nebula, age 7000 years, expansion 25 km/s.
58	60	4579	VIR	62000	12:38	11	49	9.8	SG	A13	B54	M91, 2d 46m S (E of 8m star)	Virgo cluster, low star formation, two supernovae.
59	61	4621	VIR	60000	12:42	11	39	9.8	EG	A13	B54	M58, 1d4m E ( $\rho$ Vir is 1d25m S, Y shape)	Virgo cluster. Rich in globular clusters.
60	62	4649	VIR	55000	12:44	11	33	8.8	EG	A13	B54	M59, 25m E (Vindemiatrix ( $\epsilon$ Vir) is 4.5d E)	Virgo cluster, central black hole is 4.5 billion $M_{\odot}$ .
61	64	4303	VIR	52500	12:22	4	28	9.7	SG	A13	B54	M49, 4d4m SW (c Vir is 1d13m to S)	Virgo cluster. Large, active star formation.
62	85	6266	OPH	22.2	17:01	-30	7	6.6	GC	A12-20	B69-70	$\epsilon$ Sco, 4d45m NE (or M19, 3d50m S)	89 variable stars, several X-ray sources.
63	42	5055	CVN	37000	13:16	42	2	8.6	SG	A05	B17	Cor Caroli ( $\alpha$ CVn), 20 CVn (T pattern), 1.5d N	Sunflower galaxy, part of the M51 Group.
64	47	4826	COM	24000	12:57	21	41	8.5	SG	A13	B35	M53, 5d10m NW (near 35 Com)	Black eye galaxy (dark band of absorbing dust).
65	32	3623	LEO	35000	11:19	13	5	9.3	SG	A14	B36	Chertan ( $\theta$ Leo), 2d36m SE	Leo's triplet. Low star formation.
66	33	3627	LEO	36000	11:20	12	59	9.0	SG	A14	B36	20m E of M65	Leo's triplet. High central mass concentration.
67	28	2682	CNC	2.7	8:50	11	49	6.9	OC	A15	B38-57	Acubens ( $\alpha$ Cnc), 2d W	Very old: 4 billion years. 500 stars.
68	66	4590	HYA	33.0	12:40	-26	45	8.2	GC	A13	B73	Algorab ( $\delta$ Crv)- $\beta$ Crv line, 3.5d S	Loosely concentrated. 250 giant, 42 variable stars.
69	101	6637	SGR	29.7	18:31	-32	21	7.7	GC	A20	B68	Kaus Australis ( $\epsilon$ Sgr), 2d32m NE	Old, but metal-rich. Few variable stars.
70	102	6681	SGR	29.4	18:43	-32	18	8.1	GC	A20	B68	Ascella ( $\zeta$ Sgr)- $\epsilon$ Sgr line, halfway	1800 ly from M69. 68 ly diameter.
71	76	6838	SGE	13.0	19:54	18	47	8.3	GC	A11	B29	$\gamma$ - $\delta$ Sge, halfway, 15m S	Young age of 9-10 billion years, rich in metals.
72	108	6981	AQR	54.6	20:54	-12	32	9.4	GC	A10	B47-66	Albali ( $\epsilon$ Aqr), 3d20m SSE	9.5 billion years old, 43 variable stars.
73	109	6994	AQR	2.5	20:58	-12	38		ast	A10	B47-66	M72, 1d20m E	Very difficult, small grouping of stars.
74	2	628	PSC	30000	1:37	15	47	9.2	SG	A17	B44	Sheratan ( $\beta$ Ari), $\eta$ Psc, 1d20m E	The most difficult Messier object to observe.

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75	105	6864	SGR	67.5	20:06	-21	55	8.6	GC	A10	B67	60-c-b- $\omega$ Sgr (kite), 5d NNE	Densely concentrated, distant, bright.
76	9	650	PER	2.5	1:42	51	34	11.5	PN	A08	B25	Schedar ( $\alpha$ Cas), $\theta$ Cas, $\phi$ Per, 54m N	Cork (Little Dumbbell) nebula. Very hard to find.
77	1	1068	CET	47000	2:43	0	1	8.8	SG	A17	B62	Menkar ( $\alpha$ Cet), $\delta$ Cet, 52m SE	Diameter is 170,000 ly.
78	15	2068	ORI	1.6	5:47	0	3	8.0	DN	A16	B59	Alnitak ( $\zeta$ Ori) to Betelgeuse ( $\alpha$ Ori), 2d31m	45 variable stars. Star formation.
79	12	1904	LEP	41.0	5:24	-24	33	8.0	GC	A16	B79	project $\epsilon$ Lep to Arneb ( $\alpha$ Lep)-Nihal ( $\beta$ Lep)	Belongs to the Canis Major Dwarf Galaxy.
80	83	6093	SCO	32.6	16:17	-22	59	7.2	GC	A12	B70	Antares, Acrab ( $\beta$ Sco), halfway (near $\sigma$ Sco)	Many blue stragglers (younger than the cluster).
81	34	3031	UMa	11800	9:56	69	4	6.8	SG	A05	B06	reflect Phad ( $\gamma$ UMa) to Dubhe ( $\alpha$ UMa)	Bode's galaxy. Starburst activity in the nucleus.
82	35	3034	UMa	11500	9:56	69	41	8.4	SG	A05	B06	37m N of M81, close to 24=d of UMa	Cigar galaxy. Similar and close to M81.
83	67	5236	HYA	14700	13:37	-29	52	7.6	SG	A13-21	B72	$\pi$ Hya, 7d12m SWW or Menkent ( $\theta$ Cen), 9d NW	Southern pinwheel galaxy. Barred.
84	53	4374	VIR	60000	12:25	12	53	9.3	EG	A13	B35	M85, 5d14m S	Virgo cluster, inner core.
85	50	4382	COM	60000	12:25	18	11	9.2	EG	A13	B35	M100, 2d26m N (near NGC 4394)	Virgo cluster. Poor in neutral hydrogen.
86	54	4406	VIR	52000	12:26	12	57	9.2	EG	A13	B35	M84, 17m E	Virgo cluster. Approaching us at 244 km/s.
87	55	4486	VIR	53000	12:31	12	24	8.6	EG	A13	B35	M86, 1d15m SE	Virgo A. Very massive. 12,000 globular clusters.
88	58	4501	COM	47000	12:32	14	25	9.5	SG	A13	B35	M90, 1d43m NW	Virgo cluster. Inclined to the line of sight by 64°.
89	56	4552	VIR	50000	12:36	12	33	9.8	EG	A13	B35	M87, 1d12m E	Virgo cluster. Looks spherical. Particle jets.
90	57	4569	VIR	58700	12:37	13	10	9.5	SG	A13	B35	M89, 40m NNE	Virgo cluster. Large, absolute magnitude -22.
91	59	4548	COM	63000	12:35	14	30	10.2	SG	A13	B35	M88, 50m E	Virgo cluster. Barred, anemic.
92	70	6341	HER	26.7	17:17	43	8	6.5	GC	A03	B14-15	reflect $\zeta$ Her to midpoint of $\eta$ - $\pi$ Her	Bright, over 14 billion years old.
93	22	2447	PUP	3.6	7:45	-23	52	6.2	OC	A15	B77	Wezen ( $\delta$ CMa), $\rho$ Pup, $\xi$ Pup, 1d30m NW	100 million years old.
94	41	4736	CVN	16000	12:51	41	7	9.0	SG	A05	B17-18	Cor Caroli ( $\alpha$ CVn), 3d NNW	Inner and outer rings. Weakly ionized nucleus.
95	29	3351	LEO	32600	10:44	11	42	9.7	SG	A14	B55-56	Regulus ( $\alpha$ Leo), $\rho$ Leo, 53=ell Leo, 1d44m NW	Close to M96, M105.
96	30	3368	LEO	31000	10:47	11	49	9.2	SG	A14	B55-56	41m E of M95	Double-barred, asymmetric arms, displaced core.
97	36	3587	UMa	2.0	11:15	55	1	11.2	PN	A05	B19	Merak ( $\beta$ UMa), 2d16m towards Phad ( $\gamma$ UMa)	Owl nebula. 8000 year old. 123,000 K eff. temp.
98	49	4192	COM	44400	12:14	14	54	10.1	SG	A13	B35	Denebola ( $\beta$ Leo), 6.5d E = 6 Com ( $\Delta$ ), 30m W	Virgo cluster. Inclination 74°. Blue shifted.
99	51	4254	COM	50200	12:19	14	25	9.8	SG	A13	B35	M98, 1d18M SE, near the 6m star HIP 60089	Coma pinwheel galaxy. Virgo cluster. Unbarred.
100	52	4321	COM	55400	12:23	15	49	9.4	SG	A13	B35	M98, 6 Com, 1d54m NE (two 6m stars along)	Virgo cluster. Starburst galaxy. Five supernovae.
101	44	5457	UMa	20900	14:03	54	21	7.7	SG	A05	B17	reflect Alioth ( $\epsilon$ UMa) to Mizar ( $\zeta$ UMa)	Pinwheel galaxy. Large, lowest surface brightness.
102	45	5866	DRA	50000	15:06	55	46	10.7	G	A04	B16	$\eta$ Dra, Edasich ( $\iota$ Dra), 4d SW	Spindle galaxy. Lenticular or spiral, edge on.
103	8	581	CAS	10.0	1:33	60	42	7.4	OC	A01	B25	Ruchbach ( $\delta$ Cas), 1d towards $\epsilon$ Cas	172 stars, 25 million years old.
104	65	4594	VIR	29300	12:40	-11	37	8.3	SG	A13	B54	Alchiba ( $\alpha$ Crv)-Algorab ( $\delta$ Crv) line, 5.5d NNE	Sombrero galaxy. Dust lane. Massive black hole.
105	31	3379	LEO	32000	10:48	12	35	9.3	EG	A14	B55-56	48m N of M96	Close to M96. Star formation, though elliptical.
106	40	4258	CVN	23700	12:19	47	18	8.3	SG	A05	B18	Phad ( $\gamma$ UMa), 5 CVn, 4d20m S	Similar in size/luminosity to Andromeda Galaxy.
107	77	6171	OPH	20.9	16:33	-13	3	8.1	GC	A12	B51-70	$\zeta$ Oph, 2d45m SW	Very loose, 25 variable stars.
108	37	3556	UMa	45000	11:12	55	40	10.0	SG	A05	B18	M97, 48m towards Merak ( $\beta$ UMa)	Inclined 75°. Isolated member of UMa cluster.
109	38	3992	UMa	83500	11:58	53	23	9.8	SG	A05	B18	Phad ( $\gamma$ UMa), 38m SE	Three satellite galaxies, one supernova.
110	6	205	AND	2690	0:40	41	41	8.0	EG	A01	B25-10	reflect Mirach ( $\beta$ And) to $\mu$ And	A satellite of the Andromeda Galaxy.