## VISUAL MAGNITUDES OF OBJECTS IN MESSIER'S CATALOGUE

Geoffrey Gaherty, Jr.

All magnitudes taken from Appendix XI, Field Book of the Skyes, Olcott, Mayall, & Mayall, Putnam, New York, 1954.

M	Vis.	M	Vis.	M	Vis.	M	Vis.	M	Vis.	М	Vis.	M
	Mag.		Mag.		Mag.		Mag.		Mag.		Mag.	(m) .
451	6.0	981	6.6		7.6	27	8.6	491	9.2	107	10.0	90 1
	6.1	671	6.6			53	8.6	106V	9.3	26	10.0	108
241	6.2	51	6.6	62	7.7	14	8.7	321	9.3	571	10.1	61 1
411	6.2	371	6.7	101	7.7	801	8.7	104	9.3	65	10.1	83 V.
311	6.2	921	6.7	33	7.9	79	8.8	64	9.3	84	10.1	991
39	6.3	21	6.9	23	7.9	81	8.8	82	9.3	85	10.2	74
61	6.3	111	7.1	291	7.9	941	8.9	601	9.5	63	10.2	88 1
35	6.3	361	7.3	91	8.0	75/	8.9	691	9.5	89	10.4	95V
341	6.3	50	7.3	281	8.1	511	8.9	77	9.6	59	10.6	100 1
131	6.4	31	7.3	52	8.2	56	9.1	96	9.6	70	10.7	98 1
221	6.4	41	7.4	381	8.4	11	9.2	58	9.6	101	11.0	109V
	6.4	161	7.4	1031	8.4	301	9.2	871	9.7	86	12.0	97
46	6.5	211	7.5	181	8.4	66	9.2	105	9.8	72	12.2	76
	45 44J 24 41 31 39 6 35 35 34 13	Mag. 45V 6.0 44J 6.1 24V 6.2 41V 6.2 31V 6.2 39V 6.3 6V 6.3 35V 6.3 35V 6.3 34V 6.3 13V 6.4 22V 6.4 15V 6.4	Mag. 45 6.0 98 44J 6.1 67 24 6.2 5 41 6.2 37 31 6.2 92 39 6.3 2 6 6.3 11 35 6.3 36 34 6.3 50 13 6.4 3 22 6.4 4 15 6.4 16	Mag.Mag. $45\vee$ $6.0$ $92\vee$ $6.6$ $44J$ $6.1$ $67\vee$ $6.6$ $24\vee$ $6.2$ $5\vee$ $6.6$ $41\vee$ $6.2$ $37\vee$ $6.7$ $31\vee$ $6.2$ $92\vee$ $6.7$ $39\vee$ $6.3$ $2\vee$ $6.9$ $6\vee$ $6.3$ $11\vee$ $7.1$ $35\vee$ $6.3$ $36\vee$ $7.3$ $34\vee$ $6.4$ $3^\vee$ $7.3$ $22\vee$ $6.4$ $4^\vee$ $7.4$ $15\vee$ $6.4$ $16^\vee$ $7.4$	Mag.Mag. $45^{\vee}$ $6.0$ $93^{\vee}$ $6.6$ $12^{\vee}$ $44^{\vee}$ $6.1$ $67^{\vee}$ $6.6$ $19^{\vee}$ $24^{\vee}$ $6.2$ $5^{\vee}$ $6.6$ $62^{\vee}$ $41^{\vee}$ $6.2$ $5^{\vee}$ $6.6$ $62^{\vee}$ $41^{\vee}$ $6.2$ $37^{\vee}$ $6.7$ $10^{\vee}$ $31^{\vee}$ $6.2$ $92^{\vee}$ $6.7$ $33$ $39^{\vee}$ $6.3$ $2^{\vee}$ $6.9$ $23^{\vee}$ $6^{\vee}$ $6.3$ $11^{\vee}$ $7.1$ $29^{\vee}$ $35^{\vee}$ $6.3$ $36^{\vee}$ $7.3$ $9^{\vee}$ $34^{\vee}$ $6.4$ $3^{\vee}$ $7.3$ $28^{\vee}$ $13^{\vee}$ $6.4$ $4^{\vee}$ $7.4$ $38^{\vee}$ $15^{\vee}$ $6.4$ $16^{\vee}$ $7.4$ $103^{\vee}$	Mag.Mag.Mag. $45^{\vee}$ $6.0$ $96^{\vee}$ $6.6$ $12^{\vee}$ $7.6$ $44^{\downarrow}$ $6.1$ $67^{\vee}$ $6.6$ $19^{\vee}$ $7.6$ $24^{\vee}$ $6.2$ $5^{\vee}$ $6.6$ $62^{\vee}$ $7.7$ $41^{\vee}$ $6.2$ $5^{\vee}$ $6.6$ $62^{\vee}$ $7.7$ $41^{\vee}$ $6.2$ $92^{\vee}$ $6.7$ $10^{\vee}$ $7.7$ $31^{\vee}$ $6.2$ $92^{\vee}$ $6.7$ $33^{\vee}$ $7.9$ $39^{\vee}$ $6.3$ $2^{\vee}$ $6.9$ $23^{\vee}$ $7.9$ $6^{\vee}$ $6.3$ $11^{\vee}$ $7.1$ $29^{\vee}$ $7.9$ $35^{\vee}$ $6.3$ $36^{\vee}$ $7.3$ $9^{\vee}$ $8.0$ $34^{\vee}$ $6.3$ $50^{\vee}$ $7.3$ $28^{\vee}$ $8.1$ $13^{\vee}$ $6.4$ $3^{\vee}$ $7.3$ $52^{\vee}$ $8.2$ $22^{\vee}$ $6.4$ $4^{\vee}$ $7.4$ $38^{\vee}$ $8.4$ $15^{\vee}$ $6.4$ $16^{\vee}$ $7.4$ $103^{\vee}$ $8.4$	Mag.Mag.Mag. $45^{\prime}$ $6.0$ $93^{\prime}$ $6.6$ $12^{\prime}$ $7.6$ $27^{\prime}$ $44^{\prime}$ $6.1$ $67^{\prime}$ $6.6$ $19^{\prime}$ $7.6$ $53^{\prime}$ $24^{\prime}$ $6.2$ $5^{\prime}$ $6.6$ $62^{\prime}$ $7.7$ $14^{\prime}$ $41^{\prime}$ $6.2$ $37^{\prime}$ $6.7$ $10^{\prime}$ $7.7$ $80^{\prime}$ $31^{\prime}$ $6.2$ $92^{\prime}$ $6.7$ $33^{\prime}$ $7.9$ $79^{\prime}$ $39^{\prime}$ $6.3$ $2^{\prime}$ $6.9$ $23^{\prime}$ $7.9$ $81^{\prime}$ $6^{\prime}$ $6.3$ $11^{\prime}$ $7.1$ $29^{\prime}$ $7.9$ $94^{\prime}$ $35^{\prime}$ $6.3$ $36^{\prime}$ $7.3$ $9^{\prime}$ $8.0$ $75^{\prime}$ $34^{\prime}$ $6.3$ $50^{\prime}$ $7.3$ $28^{\prime}$ $8.1$ $51^{\prime}$ $13^{\prime}$ $6.4$ $3^{\prime}$ $7.3$ $52^{\prime}$ $8.2$ $56^{\prime}$ $22^{\prime}$ $6.4$ $4^{\prime}$ $7.4$ $38^{\prime}$ $8.4$ $1^{\prime}$ $15^{\prime}$ $6.4$ $16^{\prime}$ $7.4$ $103^{\prime}$ $8.4$ $30^{\prime}$	Mag.Mag.Mag.Mag.Mag. $45^{\prime}$ 6.092.6.6 $12^{\prime}$ 7.6 $27^{\prime}$ 8.6 $44^{\prime}$ 6.167.6.6 $19^{\prime}$ 7.6 $53^{\prime}$ 8.6 $24^{\prime}$ 6.25^{\prime}6.6 $62^{\prime}$ 7.7 $14^{\prime}$ 8.7 $41^{\prime}$ 6.2 $37^{\prime}$ 6.7 $10^{\prime}$ 7.7 $80^{\prime}$ 8.7 $31^{\prime}$ 6.2 $92^{\prime}$ 6.7 $33^{\prime}$ 7.9 $79^{\prime}$ $8.8$ $39^{\prime}$ 6.3 $2^{\prime}$ 6.9 $23^{\prime}$ 7.9 $81^{\prime}$ $8.8$ $6^{\prime}$ 6.3 $11^{\prime}$ $7.1$ $29^{\prime}$ $7.9$ $94^{\prime}$ $8.9$ $35^{\prime}$ 6.3 $36^{\prime}$ $7.3$ $9^{\prime}$ $8.0$ $75^{\prime}$ $8.9$ $34^{\prime}$ $6.3$ $50^{\prime}$ $7.3$ $28^{\prime}$ $8.1$ $51^{\prime}$ $8.9$ $13^{\prime}$ $6.4$ $3^{\prime}$ $7.3$ $52^{\prime}$ $8.2$ $56^{\prime}$ $9.1$ $22^{\prime}$ $6.4$ $4^{\prime}$ $7.4$ $38^{\prime}$ $8.4$ $1^{\prime}$ $9.2$ $15^{\prime}$ $6.4$ $16^{\prime}$ $7.4$ $103^{\prime}$ $8.4$ $30^{\prime}$ $9.2$	Mag.Mag.Mag.Mag. $45^{\prime}$ $6.0$ $93^{\prime}$ $6.6$ $12^{\prime}$ $7.6$ $27^{\prime}$ $8.6$ $49^{\prime}$ $44^{\prime}$ $6.1$ $67^{\prime}$ $6.6$ $19^{\prime}$ $7.6$ $53^{\prime}$ $8.6$ $106^{\prime}$ $24^{\prime}$ $6.2$ $5^{\prime}$ $6.6$ $62^{\prime}$ $7.7$ $14^{\prime}$ $8.7$ $32^{\prime}$ $41^{\prime}$ $6.2$ $37^{\prime}$ $6.7$ $10^{\prime}$ $7.7$ $80^{\prime}$ $8.7$ $104^{\prime}$ $31^{\prime}$ $6.2$ $92^{\prime}$ $6.7$ $33$ $7.9$ $79^{\prime}$ $8.8$ $64^{\prime}$ $39^{\prime}$ $6.3$ $2^{\prime}$ $6.9$ $23^{\prime}$ $7.9$ $81^{\prime}$ $8.8$ $82^{\prime}$ $6^{\prime}$ $6.3$ $11^{\prime}$ $7.1$ $29^{\prime}$ $7.9$ $81^{\prime}$ $8.8$ $82^{\prime}$ $6^{\prime}$ $6.3$ $36^{\prime}$ $7.3$ $9^{\prime}$ $8.0$ $75^{\prime}$ $8.9$ $69^{\prime}$ $34^{\prime}$ $6.3$ $50^{\prime}$ $7.3$ $28^{\prime}$ $8.1$ $51^{\prime}$ $8.9$ $69^{\prime}$ $34^{\prime}$ $6.4$ $3^{\prime}$ $7.3$ $52^{\prime}$ $8.2$ $56^{\prime}$ $9.1$ $96^{\prime}$ $22^{\prime}$ $6.4$ $4^{\prime}$ $7.4$ $38^{\prime}$ $8.4$ $1^{\prime}$ $9.2$ $87^{\prime}$ $15^{\prime}$ $6.4$ $16^{\prime}$ $7.4$ $103^{\prime}$ $8.4$ $30^{\prime}$ $9.2$ $87^{\prime}$	Mag.Mag.Mag.Mag.Mag.Mag. $45^{\prime}$ 6.092.6.612.7.627.8.649.9.2 $44^{\prime}$ 6.167.6.619.7.653.8.6106.9.3 $24^{\prime}$ 6.25.6.662.7.714.8.732.9.3 $41^{\prime}$ 6.237.6.710.7.780.8.7104.9.3 $31^{\prime}$ 6.292.6.733.7.979.8.864.9.3 $39^{\prime}$ 6.32.6.923.7.981.8.882.9.3 $6^{\prime}$ 6.311.7.129.7.994.8.960.9.5 $35^{\prime}$ 6.336.7.39.8.075.8.969.9.5 $34^{\prime}$ 6.350.7.328.8.151.8.9779.6 $13^{\prime}$ 6.43.7.352.8.256.9.196.9.622.6.44.7.438.8.41.9.258.9.615.6.416.7.4103.8.430.9.287.9.7	Mag.Mag.Mag.Mag.Mag.Mag. $45^{\prime}$ 6.098.6.612.7.627.8.649.9.2107. $44^{\prime}$ 6.167.6.619.7.653.8.6106.9.326. $24^{\prime}$ 6.25.6.662.7.714.8.732.9.357. $41^{\prime}$ 6.237.6.710.7.780.8.7104.9.365. $31^{\prime}$ 6.292.6.7337.979.8.864.9.384. $39^{\prime}$ 6.326.923.7.981.8.882.9.385. $6^{\prime}$ 6.311.7.129.7.994.8.960.9.563. $35^{\prime}$ 6.336.7.39.8.075.8.969.9.589. $34^{\prime}$ 6.350.7.328.8.151.8.977.9.659. $13^{\prime}$ 6.43.7.352.8.256.9.196.9.670. $22^{\prime}$ 6.44.7.438.8.41.9.258.9.6101. $15^{\prime}$ 6.416.7.4103.8.430.9.287.9.786.	Mag.Mag.Mag.Mag.Mag.Mag.Mag.Mag. $45^{\prime}$ 6.092.6.612.7.627.8.649.9.2107.10.0 $44^{\prime}$ 6.167.6.619.7.653.8.6106.9.326.10.0 $24^{\prime}$ 6.25.6.662.7.714.8.732.9.357.10.1 $41^{\prime}$ 6.237.6.710.7.780.8.7104.9.365.10.1 $31^{\prime}$ 6.292.6.733.7.97.98.864.9.384.10.1 $39^{\prime}$ 6.32.6.923.7.981.8.882.9.385.10.2 $6^{\prime}$ 6.311.7.129.7.994.8.960.9.563.10.2 $35^{\prime}$ 6.336.7.39.8.075.8.969.9.589.10.4 $34^{\prime}$ 6.350.7.328.8.151.8.977.9.659.10.6 $13^{\prime}$ 6.43.7.352.8.256.9.196.9.670.10.7 $22^{\prime}$ 6.44.7.438.8.41.9.258.9.6101.11.015.0 $15^{\prime}$ 6.416.7.4103.8.430.9.287.9.786.12.0

The following objects are not on the above list:

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	17 Diff. Neb.	Sgtr. Sgtr.	Lagoon Nebula Omega, or Horseshoe Nebula Trifid Nebula
	40	-	2 faint stars taken for Nebula
		Orio.	Great Nebula in Orion
	43/Diff. Neb.	Orio.	dicat hebdia in dilon
		Pupp.	
	48 Open Cl.	Hyda.	
	54/Glob. Cl.	Sgtr.	
	55/Glob. Cl.	Sgtr.	
	68 Glob. Cl.	Hyda.	
	71 Glob. Cl.	Sgte.	
	73 Open Cl.	Agar.	
	78√Diff. Neb.		Drehebler a samet
٦	-	Drog	Probably a comet
1	or obre dar.	Drac.	Probably same as 101 (Vis. Mag.: 10.8)

December 5, 1957.

## OBJECTS IN MESSIER'S CATALOGUE LISTED BY RIGHT ASCENSION

## Geoffrey Gaherty, Jr.

All visual magnitudes taken from Appendix XI, Field Book of the Skies, Olcott, Mayall, & Mayall, Putnam, New York, 1954. All right ascensions taken from Messier's Catalogue of Clusters and Nebulae, Royal Astronomical Society of Canada, Montreal Centre.

√96 √105 √97 √108	R. A. m 2362306665105546687722252038357555555555566667778888990001111112223555555555555555566667777888899000111111111111111111111111111	mag tp 8.7 SG 4.8 SG 7.4 OC 6.7 SG 10.2 SG 12.2 PN 5.5 OC 8.9 SG 1.6 OC 7.9 GC 7.4 OC 8.4 DN 6.3 OC DN 6.2 OC 5.3 OC 4.6 OC 6.0 OC 6.0 OC 6.0 OC 6.0 OC 6.1 OC 7.9 SG 8.8 SG 10.4 SG 9.1 SG 9.2 SG 12.0 PN 10.0 SG 9.3 SG	R. A. M h m 99 12 13.8 61 12 16.8 106 12 17 40 12 17.4 100 12 17.9 84 12 20.0 85 12 20.4 86 12 21.1 49 12 24.7 87 12 25.8 88 12 26.9 89 12 30.6 90 12 31.8 58 12 34.2 91 12 36.0 59 12 37.0 59 12 37.0 50 12 38.6 51 13 25.7 50 16 11.1 50 6 102 15 3.8 50 16 11.1 50 6 50 16 30 50 16 38.1 50 16 16 16 16 16 16 16 16 16 16 16	mag tp 10.1 SG 10.1 SG 8.6 SG 9.3 SG 9.3 SG 9.2 SG 9.2 SG 10.2 SG 9.2 SG 10.2 SG 9.2 SG 10.2 SG 9.2 SG 10.2 SG 9.2 SG 9.5	R. A. M h m 9 17 13.3 92 17 14.1 14 17 32.4 14 17 32.4 17 33.5 7 17 47.3 20 17 58.6 21 17 58.6 21 17 58.6 21 17 58.6 24 18 12.6 24 18 13.2 18 18 14.1 28 18 24.8 25 18 25.8 70 18 36.7 26 18 39.8 11 18 48.7 57 18 49.9 56 19 12.7 55 19 33.7 27 19 55.3 20 20 33.5 29 20 20.3 75 21 25.2 39 21 28.6 30 21 34 7 50 20 21 34 7 50 20 20 35 2 20 20 34 7 50 21 25.2 50 20 20 35 2 50 21 25.2 50 20 20 20 20 20 20 20 20 20 20 20 20 20	mag tp 7.3 GC 6.2 GC 7.7 GC 5.3 OC 6.9 ODN 6.5 OC 4.6 OC 7.5 DN 6.4 OC 7.5 DN 6.5 OC 4.6 OC 7.5 DN 7.3 GC 6.9 GC 7.5 DN 7.3 GC 9.3 PN 8.9 GC 6.7 GC 7.6 PN 8.0 GC 7.1 OC 6.3 GC 7.1 GC 6.3 CC 7.5 CC 8.9 CC 6.3 CC 7.5 CCC 7.5 CCC 7.5 CCC 7.5 CCC 7.5 CCC 7.5 CCC 7.5 CCC 7.5 CCC 7.5 CCC
√97 √108 √65 √66 √109	11 9.0	12.00PN	107 16 30	9.2 GC	v15 21 25.2 v2 21 28.3 v39 21 28.6 v30 21 34.7 v52 23 19.8	6.3 GC

Abbreviations: SG - Spiral Galaxy, OC - Open Cluster, PN - Planetary Nebula, GC - Globular Cluster, DN - Diffuse Nebula.

February 14, 1958.

Messiers to get: the 12.2 miles/see Descrets Handbook Spiral palasises; 33 6:7 T 74 19:2 P 77 8:9 CI telles Others TRI PSC Stoo late CET too late 76 PA PER E 10 3 m bield UMA 97 12.0 UMA MOX UMA 81 7.9 HYA Observetory 91X COM 10.8 \$ 10.4 102×56 PRA IEŌ 70-60 9.1 9.6 SORE LEO AQRE 6e 00 9.8 05 9.2 LEO UMA 10.9 108 9.3 CEC LEO 8.4 66 UMA 109 11.0 COM 98 10.7 99 tol COM 65 VIR 10.1 35 9 1091 1196 8.6 CUN 10.6 COM 100 -84 93 VIR 85 COM 9-3 97 -86 VIR 49 VIR 8.6 106 +3 milities 109 VIR 8 88 10. COAA VIR 89 VIR 90 10.0 VIR 58 VIR 59 VIR 104 VIR CVN MOD CVA d.5 CUN 5 HYA 83 UMA 101 35

MC T ARC ARC ARC ARC Xs 2-2-2-2-2 MAR 27/28 tor 94 64 51 63 11次 11次 11次 11次 11次 11次 11次 11次 COM-VIR GR, HYA. AN EL

Spiral Galaxies: 07 TR1: 33 6.7 2.0 PSC: 74 10.2 CET: 77 8.9 81 79 Grat Sp. in UMA 82 8.8 Grangular (looks the bound optical in 6") Stoof or north bor back 108 10:0 Same field as planetary M97 (but Nelilla) 109 11:0 Not platted in Norton's V.n. Y UMA 101 9.6 Stoplike condination VAA: ST -82 1 LEO: 95 10:4= 96 9. 105 65 V 9.3 8.4 V 66 COM: 98 10.7 10.1 .99 10.6 100 85 9.3 88 10.2 Not in Com - Vor. group 1 .8.8 64 VIR: not in Com- Vie group tort 6+ 9.3 -84 86 9.7 8.6 Aug Globular galaxy 9.2 87 89 9.5 90 10.0 58 9.2 9.6 59 8.7 - not in Com. The yroup +04 8.9 -60 Cont

Spiral Galaries (ront.): CVN: 106 8.6 V94 7.9 V63 9.5 V51 8.1 Whichool Neb. 1+1/A: 83 10.1-