

DEEP-SKY GEMS

BY DAVID H. LEVY

The 154 objects in this personal list are selected from nearly 400 deep-sky objects that I assembled over forty-plus years of comet-hunting. My observing program, called CN-3, began on 1965 Dec. 17 and has continued without interruption since then (see www.rasc.ca/david-h-levy-logbooks). The objects are numbered chronologically (L#) in the order I first located them in the night sky, and these numbers match those in my book, *Deep Sky Objects: The best and brightest from four decades of comet chasing* (Prometheus Books, New York, 2005, 262 pp). **UI** refers to the charts in *Uranometria 2000.0*. **UII** refers to charts in *Uranometria 2000.0 Deep Sky Atlas* (the 2nd edition of **UI**). Chart numbers in parentheses indicate unlabeled objects.

This selection complements the other Handbook deep-sky observing lists. Specifically, the following objects are not included here: all objects that appear in THE MESSIER CATALOGUE, THE FINEST NGC OBJECTS, and THE DEEP-SKY CHALLENGE OBJECTS; also, several double stars and variable stars, a few asterisms, some photographic objects, and the gegenschein are not included, though observing them is strongly encouraged; finally, several objects with southern declinations are left out to ensure that the Deep-Sky Gems observing certificate can be earned without travel by the typical RASC member. Levy 384 deserves special note: Just as the terms “Plaskett’s Star” and “Kemble’s Cascade” recognize Canadian astronomers from the past, “Levy 384” has become the recognized name for a previously unnamed asterism.

On a final, personal note, the late Leo Enright deserves great credit and thanks for the amount of time and effort he invested since he originated this project in 2007. A dear and special friend, Leo devoted his life to inspiring people to take up skywatching. He was one of my closest friends and I miss him deeply.

The main list is grouped by season and ordered by RA. The list below is a cross-reference aid.

NUMERICAL LISTING OF DEEP-SKY GEMS

L#	Sky	RA	L#	Sky	RA	L#	Sky	RA	L#	Sky	RA	L#	Sky	RA	L#	Sky	RA	
5	SPR	14	59	AUT	1	133	SPR	9	172	SPR	12	206	SUM	16	240	AUT	0	
6	SUM	16	62	AUT	2	134	SPR	12	178	SPR	12	207	SUM	17	243	SUM	17	
8	WIN	4	64	AUT	1	135	SPR	12	181	SPR	11	208	SUM	17	247	AUT	22	
19	SUM	16	81	AUT	0	136	SPR	11	182	SPR	12	209	SPR	9	249	AUT	23	
27	SPR	13	82	SPR	14	137	SPR	11	183	SPR	12	210	SPR	12	255	SPR	13	
28	SPR	14	83	SPR	14	138	SPR	11	184	SPR	13	211	SPR	12	256	WIN	8	
29	SPR	14	95	WIN	5	140	SPR	12	185	SPR	13	212	SPR	12	257	SPR	12	
31	AUT	1	96	WIN	8	145	SPR	12	186	SPR	13	213	SPR	12	259	SPR	12	
34	AUT	1	98	SUM	18	147	SUM	18	187	SPR	13	214	SPR	12	260	SPR	12	
35	WIN	7	99	AUT	2	149	SUM	18	188	SPR	12	215	SPR	12	261	SPR	13	
36	SUM	17	110	SUM	19	156	SUM	20	189	SPR	13	217	SPR	11	262	SUM	19	
37	SPR	9	112	AUT	21	158	WIN	7	190	SPR	13	219	SPR	10	263	AUT	21	
38	AUT	23	114	WIN	4	159	WIN	6	191	SPR	12	220	SUM	20	266	SPR	15	
41	SPR	11	116	WIN	6	160	WIN	6	192	SPR	12	223	AUT	0	267	SPR	13	
42	SPR	12	120	SUM	17	161	WIN	6	193	SPR	12	224	AUT	2	268	SPR	14	
44	WIN	3	121	SPR	15	162	WIN	6	195	WIN	7	225	WIN	3	270	SUM	18	
50	WIN	4	123	WIN	4	164	SPR	11	196	SPR	14	226	WIN	8	271	SUM	17	
51	SPR	9	124	WIN	6	165	SPR	10	201	SPR	11	231	SPR	13	273	WIN	5	
53	AUT	1	125	WIN	5	167	SPR	10	202	SPR	14	232	SPR	13	276	AUT	0	
55	AUT	23	129	SPR	10	169	SPR	9	203	SPR	14	236	SUM	16	277	AUT	22	
56	AUT	0	130	SPR	10	170	SPR	12	204	SPR	15	238	AUT	1	278	AUT	1	
57	AUT	23	131	SPR	9	171	SPR	12	205	SUM	16	239	AUT	0	279	SUM	18	
																<i>401</i>	<i>SPR</i>	9

Editor’s note: for certificate purposes, this list was revised in summer 2019 by introducing Levy 401 (see entry in italics) in place of previous entry Levy 163.

DEEP-SKY GEMS (continued)

L#	NGC	RA (2000) h m	Dec ° ′	m_v	Size ($''$)	UI	UII	Remarks
The Autumn Sky								
112	7023	21 00.5	+68 10	7.0	10 × 8	32	9	Unusual-looking nebula in Cepheus
263	7006	21 01.5	+16 11	10.5	2.8	209	83	Globular cluster in Delphinus
277	7184	22 02.7	-20 49	11.2	6.5 × 1.4	346	142	Very elongated galaxy in Aquarius
247	7217	22 07.9	+31 22	10.1	3.5 × 3.0	122	46	Round galaxy in Pegasus
282	7314	22 35.8	-26 03	10.9	4.2 × 1.7	347	142	Elongated galaxy in Piscis Austrinus
249	7457	23 01.0	+30 09	11.2	4.1 × 2.5	124	46	Elongated galaxy in Pegasus
55	7664	23 26.6	+25 04	12.7	3.0 × 1.7	169	63	Galaxy in Pegasus
57	7723	23 38.8	-12 58	11.2	2.8 × 1.9	304	121	Galaxy in Aquarius
280	7721	23 38.8	-06 31	11.6	3.3 × 1.3	304	121	Elongated galaxy in Aquarius
281	7727	23 39.9	-12 18	10.6	5.6 × 4.0	304	121	Round galaxy in Aquarius
38	7753	23 47.1	+29 20	12.0	3.2 × 1.7	89	45	Slightly elongated galaxy in Pegasus
276	7814	00 03.3	+16 09	10.6	6.0 × 2.5	170	81	Elongated galaxy in Pegasus
342	91	00 21.8	+22 25	13.7	2.2 × 0.8	126	63	Galaxy in And, in galaxy cluster
81	147	00 33.2	+48 30	9.5	15.0 × 9.4	60	30	Comet-like galaxy; satellite of M31
223	150	00 34.3	-27 48	11.3	3.4 × 1.6	306	141	Elongated galaxy in Sculptor
240	157	00 34.8	-08 24	10.4	4.0 × 2.4	261	121	Elongated "Amoeba Galaxy" in Cetus
239	247	00 47.1	-20 46	9.2	19.0 × 5.5	306	158	Very elongated galaxy in Cetus
56	270	00 50.6	-08 39	12.1	2.0 × 1.7	262	140	Galaxy in Cetus
64	404	01 09.4	+35 43	10.3	6.1 × 6.1	91	62	Round galaxy near β Andromedae
278	474	01 20.1	+03 25	11.5	10.0 × 9.2	217	120	Galaxy near NGC 470 in Pisces
34	488	01 21.8	+05 15	10.3	5.5 × 4.0	217	100	Elongated galaxy in Pisces
31	514	01 24.1	+12 55	11.7	3.9 × 2.9	173	100	Easily seen galaxy in Pisces
59	524	01 24.8	+09 32	10.2	3.5 × 3.5	173	100	Round galaxy in Pisces
238	578	01 30.5	-22 40	11.0	3.9 × 2.2	308	158	Elongated galaxy in Cetus
367	613	01 34.3	-29 25	10.0	5.2 × 2.6	352	158	Special galaxy in Sculptor
284	718	01 53.2	+04 12	11.7	2.4 × 2.0	218	119	Round galaxy in Pisces
341	755	01 56.4	-09 04	12.6	2.8 × 1.1	264	139	Elongated galaxy in Cetus
53	752	01 57.8	+37 41	5.7	50	92	61	Very large open cluster in Andromeda
62	898	02 23.3	+41 57	12.9	1.8 × 0.5	91	43	Elongated galaxy in Andromeda
99	949	02 30.8	+37 08	11.8	3.3 × 2.1	93	61	Very cometary galaxy in Triangulum
224	IC 1830	02 39.1	-27 27	11.9	1.9 × 1.5	310	157	Galaxy in Fornax
338	1042	02 40.4	-08 26	11.0	4.2 × 3.3	215	139	Galaxy in Cetus
340	1134	02 53.6	+13 00	12.1	2.3 × 0.8	175	99	Round galaxy in Aries
The Winter Sky								
225	1187	03 02.6	-22 52	10.7	5.2 × 3.0	311	157	Round galaxy in Eridanus
44	1333	03 29.2	+31 25	—	6 × 3	94	60	A weird reflection nebula in Perseus
286	1360	03 33.3	-25 51	9.4	6.5	312	156	Beautiful planetary nebula in Fornax
324	Tom* 5	03 47.8	+59 03	8.4	14.0	28	39	Open cluster in Camelopardalis
50	1579	04 30.2	+35 16	—	12 × 8	96	60	Reflection nebula in Perseus
123	1600	04 31.7	-05 05	10.9	2.3 × 1.5	223	117	Round, diffuse galaxy in Eridanus
8	1624	04 40.4	+50 27	13.0	5 × 5	40	42	Cluster with nebulosity in Perseus
114	1637	04 41.5	-02 51	10.8	3.4 × 2.6	224	117	Comet-like round galaxy in Eridanus
273	1746	05 03.6	+23 49	6.1	42	134	77	Beautiful open cluster in Taurus
95	1999	05 36.5	-06 42	10.0	2 × 2	271	136	Diffuse nebula in Orion
125	2023	05 41.6	-02 14	—	10 × 10	226	116	Nebula near ζ Orionis
116	2158	06 07.5	+24 06	8.6	5	136	76	Compact cluster near M35 in Gemini
124	2174	06 09.7	+20 30	—	40 × 30	137	76	Large field of dust in Orion
161	2245	06 32.7	+10 10	—	5 × 4	182	95	Comet-like bright nebula in Mon
162	2252	06 35.0	+05 23	7.7	20	227	95	Open cluster like rope of stars, in Mon
160	2254	06 36.6	+07 40	9.1	4	182	95	Open cluster and star chain in Mon
159	2264	06 41.1	+09 53	3.9	20	183	95	"Christmas Tree Cluster" in Mon
296	2362	07 18.8	-24 57	4.1	8	319	153	Open cluster in Canis Major
158	IC 2194/67	07 33.7	+31 19	(12.5)	—	(100)	57	Three of the "Castor Cluster" galaxies
195	2419	07 38.1	+38 53	10.3	4.1	100	95	"Intergalactic Wanderer" in Lynx
35	2420	07 38.5	+21 34	8.3	10	139	75	Open cluster in Gemini

* "Tom" refers to the catalog of 5 open clusters discovered by Clyde Tombaugh, better known as the discoverer of Pluto.

DEEP-SKY GEMS (continued)

L#	NGC	RA (2000)	Dec	m_v	Size ($'$)	UI	UII	Remarks
		h m	$^{\circ}$ $'$					
The Winter Sky (continued)								
384	Levy384	08 15.6	-13 58	—	2	(275)	(134)	Compact asterism in Puppis (special!)
256	IC2367	08 24.2	-18 46	12.5	2.3×0.5	321	153	Galaxy in Puppis
226	2613	08 33.4	-22 58	10.5	7.6×1.9	321	153	Edge-on galaxy in Pyxis
96	2681	08 53.5	+51 19	10.3	5.3×3.5	44	39	Galaxy in Ursa Major
The Spring Sky								
401		09 06.5	+38 30	—	—	—	—	Winston Churchill's "V" Signal
51	Arp321	09 38.9	-04 52	(12.5)	—	(233)	113	"Larry, Moe, & Curly" galaxies in Hya
131	2964	09 42.9	+31 51	11.3	3.2×1.8	103	56	Galaxy contains Mrk 404 in Leo
169	2986	09 44.3	-21 17	10.6	4.1×3.4	323	152	Round galaxy in Hydra
209	3049	09 54.8	+09 16	12.1	2.3×1.5	188	93	Comet-like galaxy in Leo
37	3055	09 55.3	+04 16	12.1	2.0×1.1	234	113	Comet-like galaxy in Sextans
133	3070	09 58.0	+10 22	12.3	1.6×1.6	189	93	Round galaxy near NGC 3069, in Leo
129	U5373	10 00.0	+05 20	11.3	5.5×3.7	234	113	Sextans B galaxy; Local Group member
337	0957	10 01.3	+55 54	15.5	—	45	25	Famous double quasar in Ursa Major (gravitational lens; distinct in 16" scope)
+561A/B								
130	3198	10 19.9	+45 33	10.3	9.2×3.5	72	39	Very elongated galaxy in Ursa Major
300	3226	10 23.4	+19 54	11.4	2.5×2.2	144	73	Galaxy in Leo
165	3245	10 27.3	+28 30	10.8	2.9×2.0	105	73	Elongated galaxy in Leo Minor
219	3309	10 36.6	-27 31	11	4.4×3.1	325	151	Hydra I galaxy cluster (five members)
	+3311	10 36.7	-27 32	10.9	4.0×3.6			
	+3312	10 37.0	-27 34	11.8	3.4×1.1			
	+3314	10 37.4	-27 41	12.8	1.5×0.8			(actually two spirals!!)
	+3316	10 37.6	-27 36	12.6	1.4×1.2			
167	3310	10 38.7	+53 30	10.8	3.5×3.2	46	25	Round galaxy in Ursa Major
331	3319	10 39.2	+41 41	11.1	6.9×4.0	72	38	Graceful spiral galaxy in Ursa Major
164	3486	11 00.4	+28 58	10.5	6.6×4.7	106	73	Round galaxy in Leo Minor
382	U6253	11 13.5	+22 10	12	15.0×12.5	146	73	Galaxy in Leo
137	3718	11 32.6	+53 04	10.8	10.0×4.7	47	24	Elongated galaxy in Ursa Major
136	3738	11 35.8	+54 31	11.7	3.2×2.8	47	24	Galaxy near M97 in Ursa Major
41	3810	11 41.0	+11 28	10.8	3.8×2.6	192	91	Round galaxy in Leo
201	3865	11 44.9	-09 14	12.0	2.0×1.6	282	131	Diffuse galaxy in Crater
181	3887	11 47.1	-16 51	10.6	3.5×2.4	292	131	Round galaxy in Crater
217	3923	11 51.0	-28 48	9.6	6.9×4.8	368	150	Elongated galaxy in Hydra
138	3953	11 53.8	+52 20	10.1	6.0×3.2	47	24	Very elongated galaxy in Ursa Major
193	4129	12 08.9	-09 02	12.5	2.3×0.7	283	131	Elongated galaxy in Virgo
135	4256	12 18.7	+65 54	11.9	4.1×0.8	25	13	Edge-on galaxy in Draco
134	4319	12 21.7	+75 19	11.9	2.8×2.1	9	5	Galaxy near 4291 & 4386 in Draco
42	4340	12 23.0	+16 43	11.2	3.7×3.1	193	91	Galaxy near NGC 4350 in Coma
171	4450	12 28.5	+17 05	10.1	5.0×3.4	148	72	Elongated galaxy in Coma
145	4473	12 29.8	+13 26	10.2	3.7×2.4	193	91	Very elongated galaxy in Coma
140	4485	12 30.5	+41 42	11.9	2.0×1.3	37	75	<i>Elong. galaxy N of NGC 4490 in CVn</i>
260	4519	12 33.5	+08 39	11.8	3.5×2.3	194	90	Galaxy in Virgo
192	4536	12 34.5	+02 11	10.6	6.4×2.6	239	110	Very elongated galaxy in Virgo
326	4570	12 36.9	+07 15	10.9	4.3×1.3	194	90	Comet-like elongated galaxy in Virgo
188	4591	12 39.3	+06 01	13.0	1.6×0.8	194	90	Elongated galaxy in Virgo
178	4596	12 39.9	+10 11	10.4	4.6×4.1	194	90	Elongated galaxy in Virgo
213	4623	12 42.2	+07 41	12.2	2.0×0.7	194	90	Very elongated galaxy in Virgo
182	4636	12 42.8	+02 41	9.5	7.1×5.2	239	110	Galaxy with bright core in Virgo
170	4651	12 43.7	+16 24	10.8	3.5×2.3	194	90	Round galaxy in Coma
210	4685	12 47.1	+19 28	12.6	1.5×0.9	149	71	"Winking Galaxy" in Coma
172	4689	12 47.8	+13 46	10.9	3.7×3.2	194	90	Elongated galaxy in Coma
215	4688	12 47.8	+04 20	11.9	4.0×4.0	239	110	Very large galaxy in Virgo
214	4713	12 50.0	+05 19	11.7	2.9×1.8	194	90	Elongated galaxy in Virgo
259	4722	12 51.5	-13 19	12.9	1.5×0.7	284	130	Round galaxy in Corvus

DEEP-SKY GEMS (continued)

L#	NGC	RA (2000) h m	Dec ° ′	m_v	Size ($'$)	UI	UII	Remarks
The Spring Sky (continued)								
191	4772	12 53.5	+02 10	11.0	2.7×1.3	239	110	Galaxy in Virgo
211	4779	12 53.8	+09 44	12.4	1.9×1.7	194	90	Round galaxy in Virgo
212	4795	12 55.0	+08 04	12.1	1.9×1.7	194	90	Round galaxy in Virgo
183	4818	12 56.8	-08 31	11.1	3.4×1.4	284	130	Very elongated galaxy in Virgo
257	4866	12 59.5	+14 10	11.2	5.5×1.2	194	90	Elongated galaxy in Virgo
190	4956	13 05.1	+35 11	12.4	1.5×1.5	109	53	Round galaxy in Canes Venatici
255	5016	13 12.1	+24 06	12.8	1.7×1.3	150	71	Round galaxy in Coma
187	5020	13 12.6	+12 36	11.7	3.0×2.6	195	90	Elongated galaxy in Virgo
232	5068	13 18.9	-21 02	9.6	7.1×6.6	330	149	Very large galaxy in Virgo
189	5127	13 23.8	+31 34	11.9	2.3×1.7	109	53	Round galaxy in Canes Venatici
184	5147	13 26.3	+02 06	11.8	1.6×1.5	240	110	Round galaxy in Virgo
315	5146	13 26.5	-12 19	12.3	1.8×1.2	285	130	Round galaxy in Virgo
185	5248	13 37.5	+08 53	10.3	6.2×4.6	196	90	Round galaxy in Boötes
267	5247	13 38.1	-17 53	10.1	5.2×3.2	331	130	Beautiful, diffuse spiral in Virgo
261	5350	13 53.4	+40 22	11.3	3.1×2.5	76	36	Galaxy in Canes Venatici
186	5371	13 55.7	+40 28	10.6	4.1×3.2	76	36	Round galaxy in Canes Venatici
231	5364	13 56.2	+05 01	10.5	6.6×5.1	196	89	Elongated galaxy in Virgo
27	5377	13 56.3	+47 14	11.3	4.1×2.3	76	36	Galaxy near Big Dipper's handle
202	5427	14 03.4	-06 02	11.4	2.6×1.8	286	129	Galaxy, interacting with 5426, in Vir
28	5473	14 04.7	+54 54	11.4	2.2×1.7	49	23	Comet-like galaxy near M101 in UMa
29	5474	14 05.0	+53 40	10.8	6.0×4.9	49	23	Galaxy near M101 in Ursa Major
82	5634	14 29.6	-05 59	9.4	4.9	287	109	Globular cluster in Virgo
83	5638	14 29.7	+03 14	11.2	2.3×2.1	242	109	Comet-like galaxy in Virgo
5	5676	14 32.8	+49 28	11.2	3.7×1.6	77	36	Small elliptical galaxy in Boötes
203	5668	14 33.4	+04 27	11.5	3.2×2.8	242	109	Comet-like galaxy in Virgo
268	5690	14 37.7	+02 17	11.8	3.3×1.0	242	109	Very elongated galaxy in Virgo
196	5694	14 39.6	-26 32	9.2	3.6	332	148	"Tombaugh's Cluster" in Hydra
317	5838	15 05.4	+02 06	10.9	3.5×1.6	242	108	Elongated galaxy in Virgo
121	5846	15 06.4	+01 36	10.0	3.0×3.0	243	108	Galaxy in Virgo
204	5850	15 07.1	+01 33	10.8	4.6×4.1	243	108	Comet-like galaxy in Virgo
266	5962	15 36.5	+16 37	11.3	2.6×1.8	199	88	Round galaxy in Serpens
The Summer Sky								
205	6106	16 18.8	+07 25	12.2	2.3×1.2	201	87	Galaxy in Hercules
206	6118	16 21.8	-02 17	11.7	4.6×1.9	246	107	Galaxy in Serpens
236	6181	16 32.3	+19 50	11.9	2.3×0.9	156	69	Galaxy in Hercules
19	6207	16 43.1	+36 50	11.5	3.0×1.1	114	50	Spiral galaxy near M13 in Hercules
6	6229	16 47.0	+47 32	9.4	4.5	80	34	Compact globular cluster in Hercules
271	6287	17 05.2	-22 42	9.3	5	337	146	Globular cluster in Ophiuchus
334	6342	17 21.2	-19 35	9.8	3	338	146	Globular cluster near M9 in Ophiuchus
36	6364	17 24.5	+29 24	12.9	1.5×1.2	115	50	Comet-like galaxy in Hercules
207	6384	17 32.4	+07 04	10.4	6.4×4.3	203	86	Galaxy in Ophiuchus
208	6426	17 44.9	+03 00	11.1	3.2	248	106	Globular cluster in Ophiuchus
243	6440	17 48.9	-20 22	9.1	5.4	338	146	Globular cluster in Sagittarius
120	6451	17 50.7	-30 13	8.2	7.0	164	377	"Tom Thumb Cluster," OC in Scorpius
279	6522	18 03.6	-30 02	8.3	16.4	163	377	"Baade's Window," two faint GCs close to the galactic center in Sgr
	+ 6528							
270	6535	18 03.8	-00 18	10.5	3.6	249	106	Globular cluster in Serpens
149	6553	18 09.3	-25 54	8.1	8.1	339	145	Faint globular cluster in Sagittarius
147	6638	18 30.9	-25 30	9.1	5	340	145	Globular cluster in Sagittarius
98	6709	18 51.5	+10 21	6.7	13	205	85	Open cluster in Aquila
110	6760	19 11.2	+01 02	9.1	6.6	251	105	Globular cluster in Aquila
262	6814	19 42.7	-10 19	11.2	3.0×3.0	297	125	Round galaxy in Aquila
220	6910	20 23.1	+40 47	7.4	7	84	32	Open cluster in Cygnus
156	6934	20 34.2	+07 24	8.7	5.9	208	84	Globular cluster in Delphinus