Observing Local Group Members

Alvin Huey
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The Local Group

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Hickson Group Observer's Guide, Second edition

The Abell Planetary Observer's Guide, Second edition

Observing the Arp Peculiar Galaxies, Revised edition

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Selected Small Galaxy Groups

Galaxy Trios and Triple Systems

Globular Clusters – North of -50°

Planetary Nebulae and Supernovae Remnants

The Local Group

Flat Galaxies

Abell Galaxy Clusters

Voronstov-Velyaminov Catalogue – Part I and II

Rose Catalogue of Compact Galaxies

Variable Galaxies

Selected Shakhbazian Groups

Ring Galaxies

Palomar Compact Galaxy Catalogue

Object of the Week 2012 and 2013 – Deep Sky Forum

All Maps by MegaStar™ v5
All DSS images (Digital Sky Survey) http://archive.stsci.edu/dss/acknowledging.html
Front Cover: Leo I

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Contents

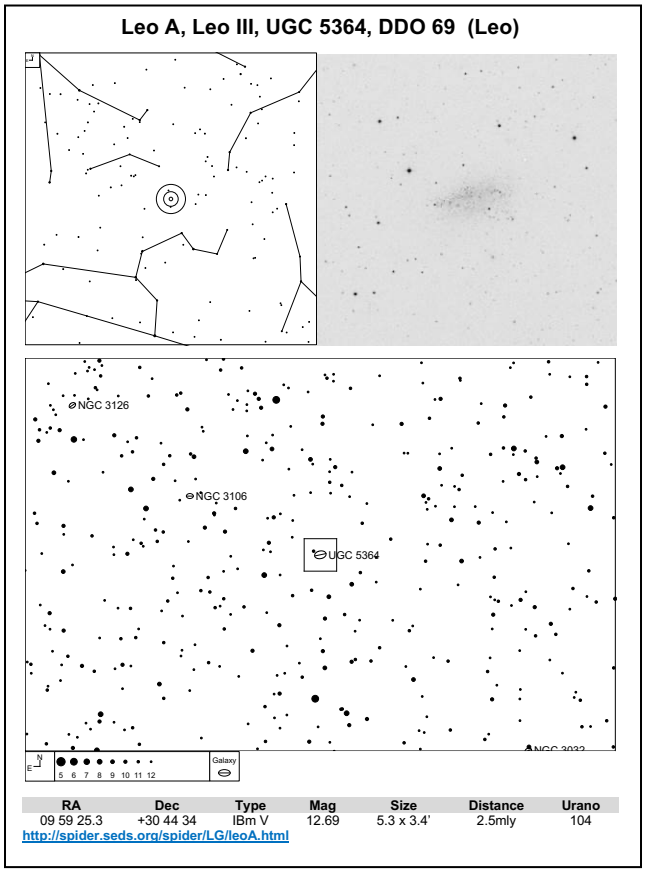
Local Group Catalogue

Page	Member	RA	Dec	Mag	Size	Con	Urano	iDSA	Dist
10	Pegasus Dwarf	23 28 34	+14 44 48	12.59	8.2 x 2.5’	Peg	81R	-	3.0 mly
11	IC 10	00 20 18	+59 18 06	10.4	6.3 x 5.1’	Cas	18L	8L, 15R	4.2 mly
13	NGC 147	00 33 12	+48 30 28	9.5	13.2 x 7.7’	Cas	30L	27R	2.4 mly
16	NGC 185	00 38 58	+48 20 14	9.2	11.9 x 10.1’	Cas	30L	27R	2.3 mly
18	Selected GCs of M31	00 42 44	+41 16 09	3.4	3.2 x 1 deg	And	30L	27R	
21	M-110	00 40 23	+41 41 22	8.06	21.9 x 10.9	And	30L	27R	2.9 mly
23	Andromeda VII	23 26 32	+50 40 33	12.9v	2.5 x 2.0'	And	30R	16L	2.5 mly
24	Andromeda VI	23 51 46	+24 35 06	11.2	3.5 x 3.5’	Peg	63R	-	2.7 mly
25	Andromeda I	00 45 42	+38 02 09	12.8	4.0 x 3.0’	And	62R	27R, 39R	2.9 mly
26	Andromeda III	00 35 31	+36 30 31	15	2.0 x 2.0’	And	45L	27R, 39R	2.9 mly
27	Andromeda IV	00 42 33	+40 34 24	16.6b	1.3 x 0.9’	And	30L	27R	2.8 mly
28	Andromeda IX	00 52 53	+43 11 45	16.1v	5'	And	44R	-	2.5 mly
29	Andromeda X	01 06 34	+44 48 16	16.1v	7'	And	44R	-	2.9 mly
30	Andromeda V	01 10 17	+47 37 41	15.9	2.0 x 1.5'	And	44R	27L	2.5 mly
31	Andromeda II	01 16 26	+33 25 37	13.5	2.0 x 2.0’	Psc	62R	39L	2.9 mly
32	Pisces Dwarf (LGS3)	01 03 53	+21 53 05	18	2.0 x 2.0’	Psc	80R	51L	3.0 mly
33	WLM	00 01 56	-15 27 21	10.42	11.6 x 4.0’	Cet	123L	75R	3.4 mly
35	M-33 complex	01 33 51	+30 39 37	6.3b	66 x 38'	Tri	62L	39L	2.6 mly
40	Cetus Dwarf	00 26 11	-11 02 27	14.4	5.0 x 4.3’	Cet	123L	75R	2.8 mly
41	IC 1613	01 04 47	+02 07 05	15.9	16.3 x 14.5’	Cet	120R	63L	2.9 mly
42	Fornax Dwarf	02 39 59	-34 26 57	9.3	17.0 x 12.6’	For	175R	86R	530 kly
44	SMC	00 52 45	-72 49 43	2.7	320 x 185'	Tuc	204L	108L, D29	199 kly
45	Sculptor Dwarf	01 00 11	-33 43 15	10.5b	39.8 x 30.8'	Scl	176R	87R	280 kly
46	Phoenix Dwarf	01 51 06	-44 26 42	13.1p	4.8 x 3.9'	Phe	191L	-	1.4 mly
47	LMC	05 23 35	-69 45 22	0.9	650 x 550'	Dor	212L	112R	158 kly
48	Carina Dwarf	06 41 37	-50 57 58	11.3b	23 x 16'	Car	188R	96R	330 kly
49	Canis Major Dwarf	07 12 35	-27 40 00	-	12 x 12 deg	Cma	154L	-	25 kly
50	UGC 4879	09 16 02	+52 50 42	13.2v	2.5 x 1.5'	Uma		12R	4.2 mly
51	Leo A, Leo III	09 59 25	+30 44 34	12.69	5.3 x 3.4’	Leo	73L	35L	2.5mly
52	Leo I, Regulus Dwarf	10 08 28	+12 18 27	10.2	5.1 x 3.5’	Leo	93L	46R	900 kly
53	Leo II	11 13 29	+22 09 12	11.9	10.1 x 9.0’	Leo	73L	34L	750 kly
54	Leo T	09 34 51	+17 03 02	16	1.4 x 1.4’	Leo	93R	-	1.4 mly
55	Sextans Dwarf	10 13 03	-01 36 53	10.4v	30 x 12'	Sex	112R	-	290 kly
56	Coma Berenices Dwarf	12 26 59	+23 54 15	14.5	5.0 x 2.5’	Com	72L	-	143 kly
57	Ursa Minor	15 08 48	+67 11 00	10.6	30.4 x 19.1’	Umi	12L	75L	240 kly
58	Draco Dwarf	17 20 08	+57 54 58	11	35.5 x 24.5’	Dra	21R	10L	280 kly
59	SagDIG	19 29 59	-17 40 42	14.2	3.2 x 1.5’	Sag	144R	66L	4.2 mly
60	NGC 6822	19 44 57	-14 48 11	8.52	15.6 x 13.5’	Sag	126R	66L	1.8 mly
64	Aquarius Dwarf	20 46 52	-12 50 51	13.88	2.2 x 1.1	Cap	125R	65R	3.4 mly
65	Tucana Dwarf	22 41 49	-64 25 15	15.7	2.9 x 1.2'	Tuc	205L	100L	3.2 mly

Just Outside the Local Group List

Page	Member	RA	Dec	Mag	Size	Con	Urano	iDSA	Dist
68	UKS2323-326	23 26 27	-32 23 17	13.9p	1.5 x 1.5’	Scl	159R	-	4.7 mly
69	NGC 55	00 15 08	-39 12 53	8.4b	32.3 x 5.6'	Scl	159L	88L, 99R	6.5 mly
71	UGCA 86	03 59 51	+67 08 35	15.2	5.4 x 3.5’	Cam	16R	7L	6.2 mly
72	UGCA 92	04 32 06	+63 36 57	13.8	2.0 x 1.0’	Cam	16R	14L	4.7 mly
73	Sextans B	09 59 59	+05 19 53	11.9b	5.1 x 3.5	Sex	113L	59L, 58R	4.7 mly
75	Sextans A	10 11 0.4	-04 41 57	11.5	5.7 x 5.1	Sex	113L	58R	5.2 mly
77	GR 8, UGC 8091	12 58 40	+14 13 04	14.6	1.9 x 1.3’	Vir	90R	45R	7.9 mly
78	NGC 3109	10 03 06	-26 09 26	10.4b	21.0 x 3.7’	Hya	151R	82R, 83L	4.5 mly
79	Antlia Dwarf	10 04 03	-27 19 47	14.6	1.9 x 1.4’	Ant	151R	82R, 83L	4.6 mly
80	IC 5152	22 02 41	-51 17 47	11.1p	5.2 x 3.2'	Ind	178R	89L, 100R	5.9 mly

How to Use the Atlas



The left panel contains the naked eye field with the TelRad™ superimposed on the center of the Local Group object. The top right panel contains the inverted DSS image. The image is generally 15' square, otherwise larger.

The middle panel is a finder field of about 4.8º across and 3.0º high. The finder field is wide enough for the finder scope and detailed enough for those who choose to use a low-power eyepiece as a "finder". The limiting magnitude of the field stars is generally set to 12 but set to a lower limit in star-rich regions. A magnitude scale is provided on the bottom left. The field of the DSS image is superimposed on the finder chart. A hyperlink is provided at the bottom that takes you to the SEDS website for that object containing a wealth of information and data.

Some galaxies have their own set of globular clusters, H II regions, open clusters and star clusters visible in amateur telescopes. I've included what I could find so far in subsequent pages. It is a rapidly evolving as many were discovered recently and likely more will be discovered in the future.

A table is provided below giving the basic information on the Local Group member.

- **RA** and **Dec** are in Epoch 2000.0
- The **Type** is provided by NASA Extragalactic Database (NED).
- The **Mag**nitude and **Size** provided is from various sources, namely NED or MegaStar which is pulled from RC3 (Third Reference Catalogue of Bright Galaxies).
- **Distance** in kly (kilo/thousand light-years) or mly (million light-years) are provided by NED.
- **Urano**metria is the chart number of the 2nd edition of the Uranometria star charts.

Note: I've split the catalogue into two sections as some are considered within the Local Group and some were recently deemed as outside of the Local Group.[1]

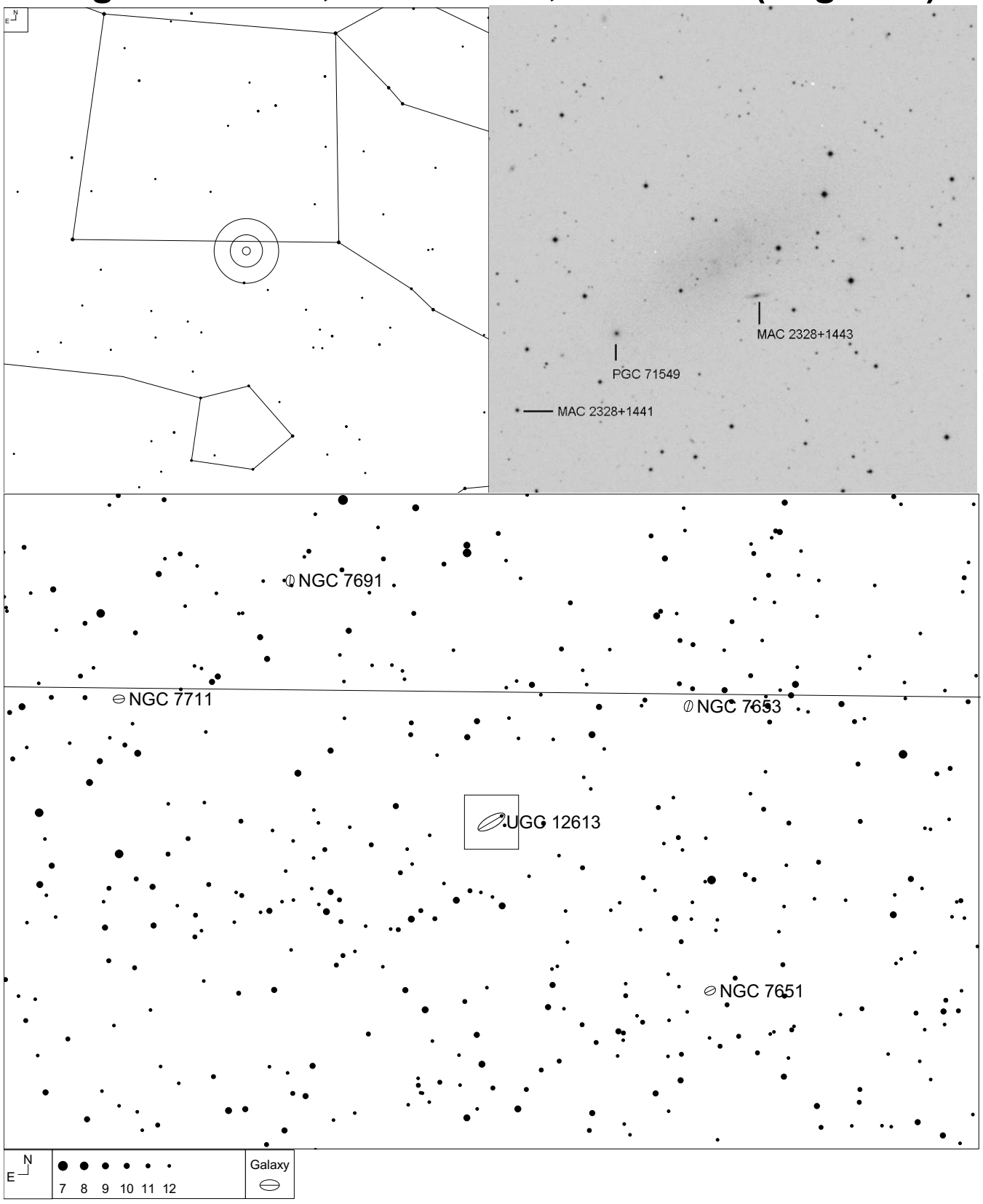
Any comments or to share any observations, send them to Alvin.Huey@FaintFuzzies.com.

Any feedback or suggestions would be greatly appreciated. I hope to keep this resource updated and made available to all of you, the deep sky observer.

[1] Thanks to Scott Harrington for bringing it to my attention. See Table 1 in Alan W. NcConnachie's journal article for those inside or outside of the Local Group. Specifically, any objects after UGC 4879 were deemed outside of the Local Group. Alan W. McConnachie. "The Observed Properties of Dwarf Galaxies in and Around the Local Group". *The Astrophysical Journal* (Vol. 144, Iss. 1, July 2012), 36 pp.

The Local Group Atlas

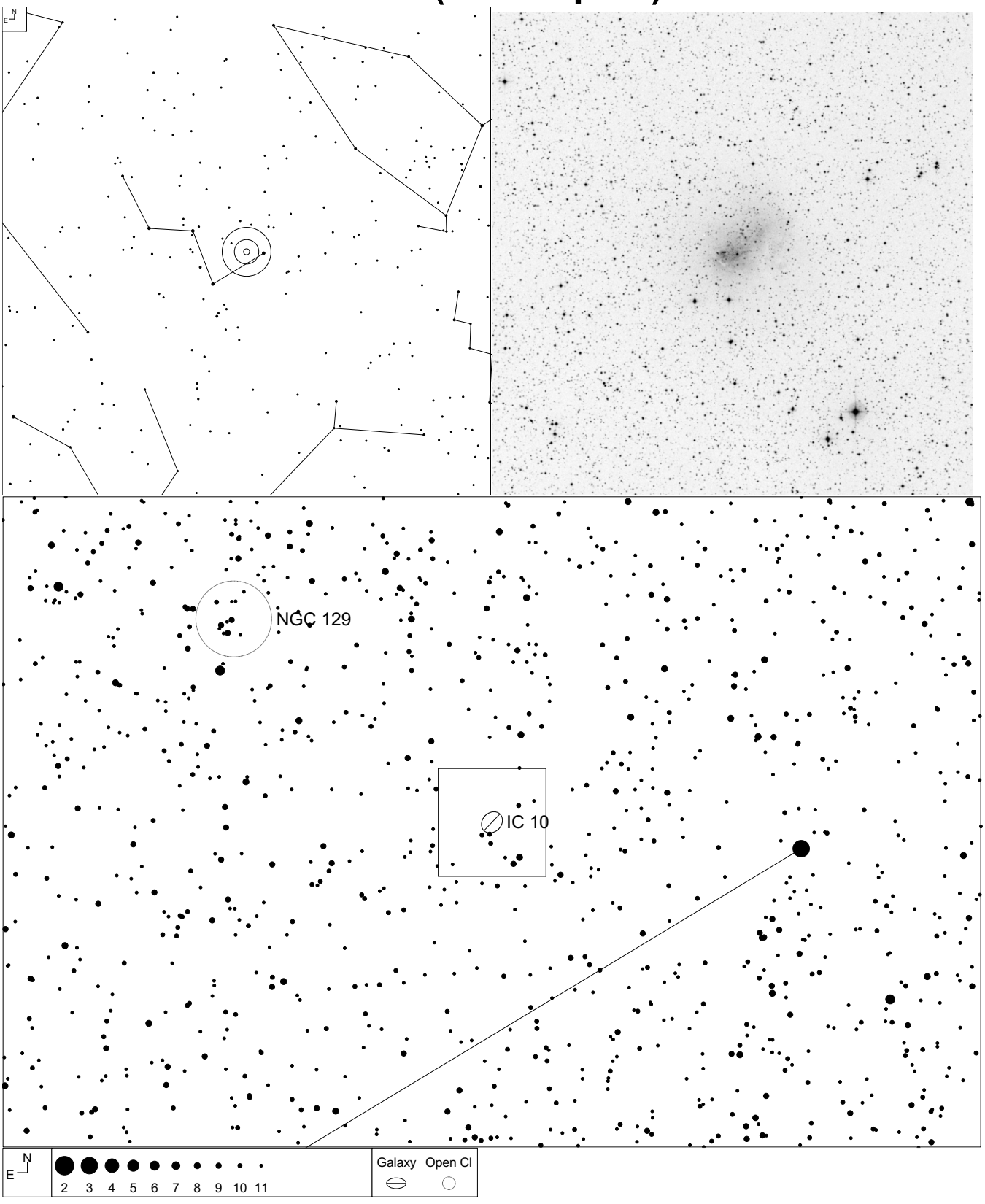
Pegasus Dwarf, UGC 12613, DDO 216 (Pegasus)



RA	Dec	Type	Mag	Size	Distance	Urano
23 28 34	+14 44 48	Im V	12.59	8.2 x 2.5’	3.0 mly	81R

SEDS website: http://spider.seds.org/spider/LG/peg_dw.html

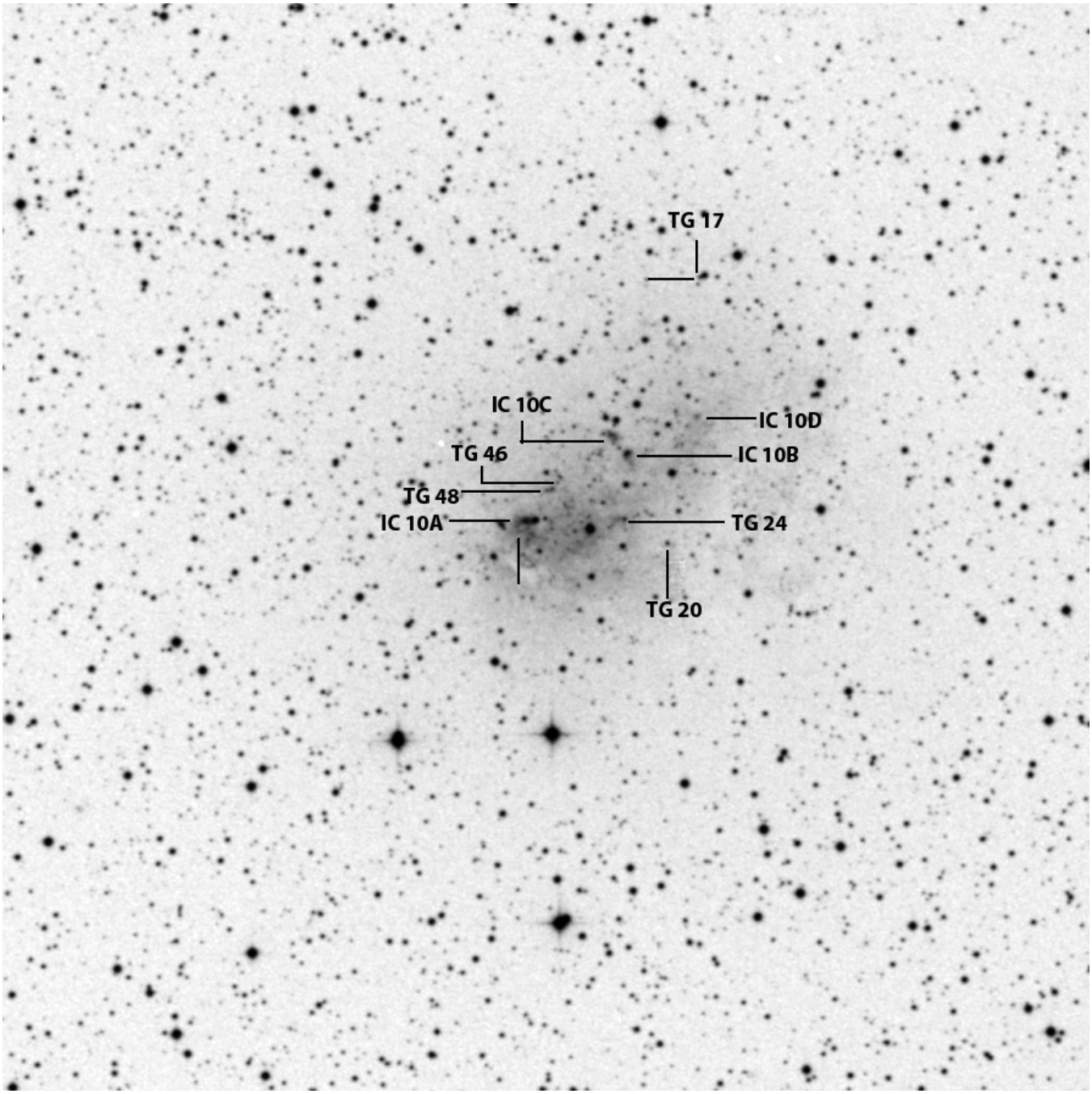
IC 10 (Cassiopeia)



RA	Dec	Type	Mag	Size	Distance	Urano
00 20 18	+59 18 06	KBm?	10.4	6.3 x 5.1’	4.2 mly	18L

SEDS website: http://www.messier.seds.org/xtra/ngc/i0010.html

Non-stellar objects within IC 10

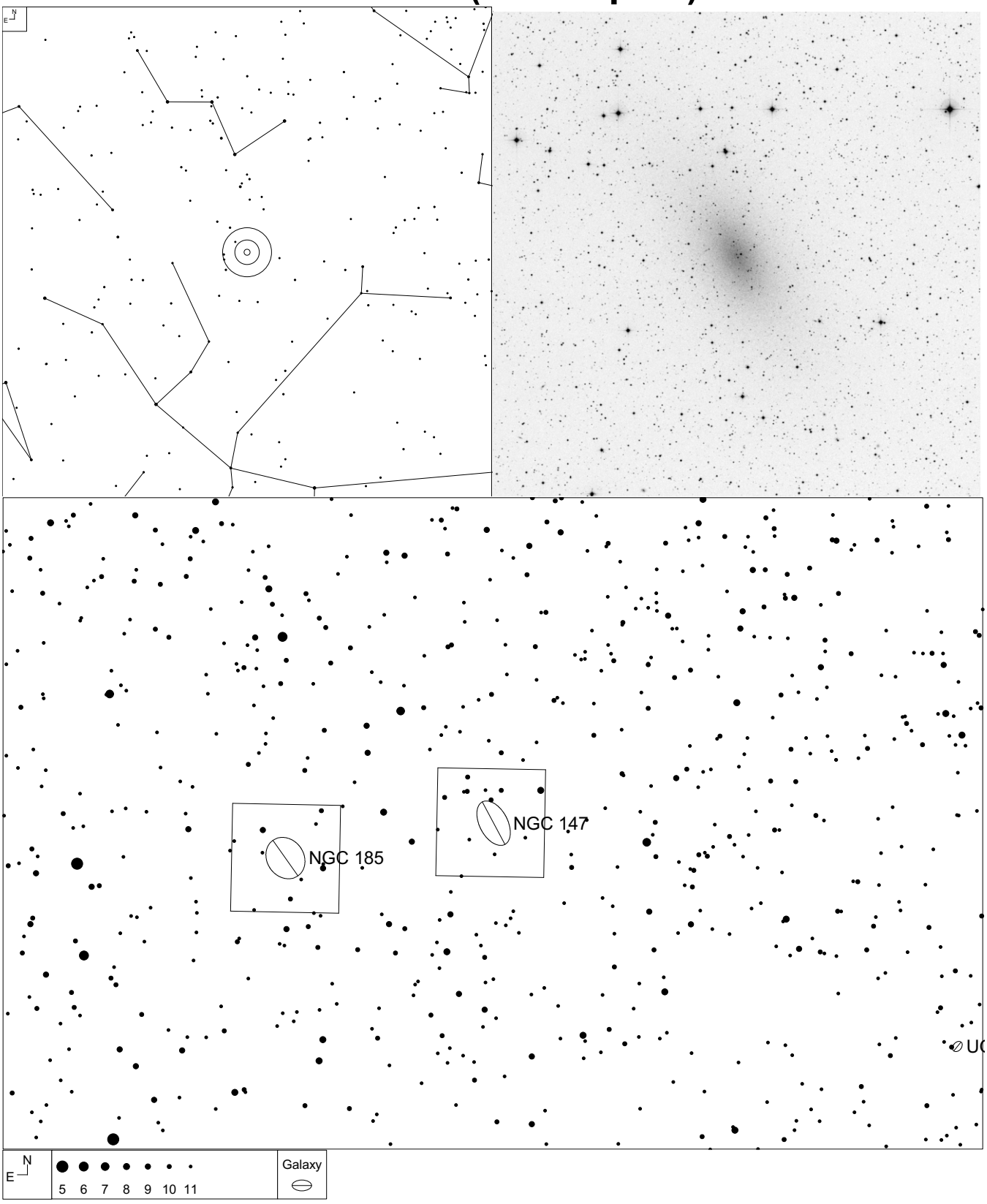


Object[2]	Type	Mag	Object	Type	Mag
IC 10A	H II region[3]	-	TG 20	Globular	17.6v
IC 10B	H II region	-	TG 17	Open cluster	17.3v
IC 10C	H II region	-	TG 48	Star cluster	18.0v
TG 24	Globular	17.6v	TG 46	Star cluster	18.4v

[2] See Scott Harrington, "IC 10 – The Hidden Dwarf". *Sky and Telescope* (Dec 2023), 57-59 for a list of H II regions, globular clusters, open cluster and star clusters. I've used Harrington's object titles in the image above.

[3] See Paul Hodge and Myung Gyoon Lee, "The H II regions of IC 10", *Publications of the Astronomical Society of the Pacific*, (Vol. 102, Number 647, Jan 1990), 26-40 for the list of H-II regions in IC 10.

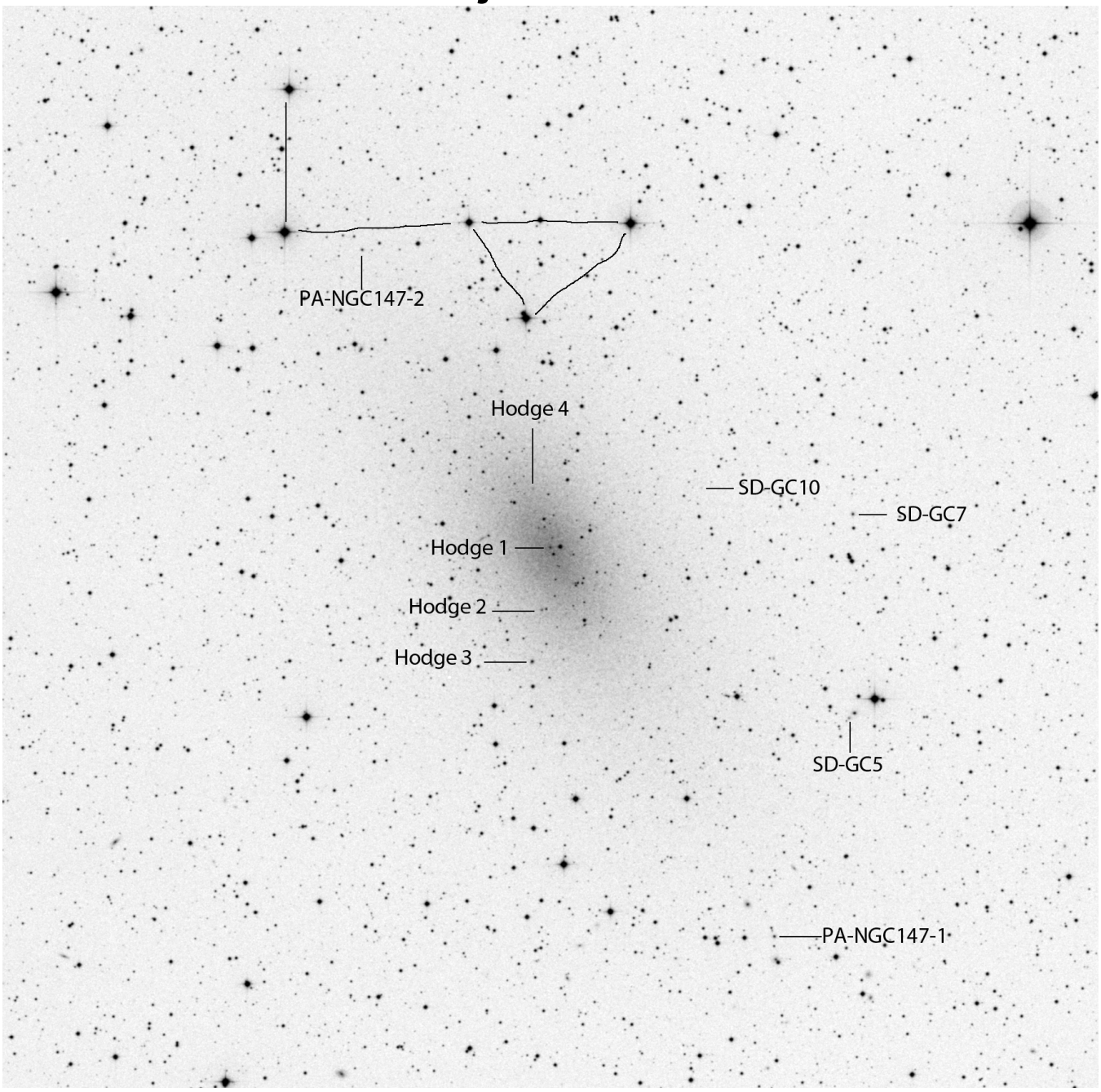
NGC 147 (Cassiopeia)



RA	Dec	Type	Mag	Size	Distance	Urano
00 33 12	+48 30 28	dE5 pec	9.5	13.2 x 7.7’	2.4 mly	30L

SEDS website: http://spider.seds.org/spider/LG/n0147.html

Non-stellar objects within NGC 147



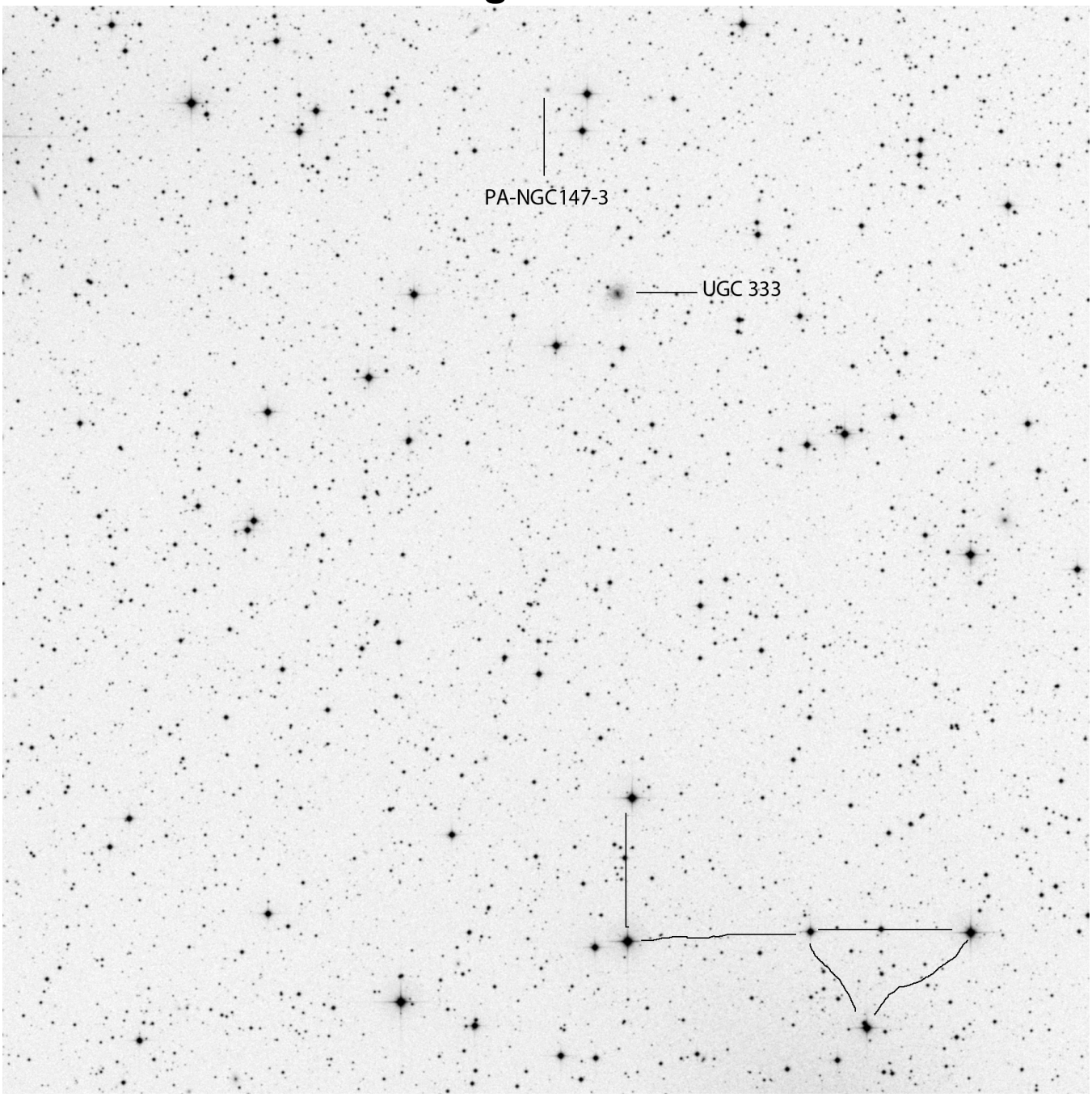
Object	Type	Mag[4]	Object	Type	Mag
Hodge 1	Globular	18.5	SD-GC7	Globular	17.4
Hodge 2	Globular	18.7	SD-GC10	Globular	19.6
Hodge 3	Globular	16.8	PA-N147-1[5]	Globular	16.7
Hodge 4	Globular	19.8	PA-N147-2	Globular	17.1
SD-GC5	Globular	18.8	PA-N147-3[6]	Globular	17.2

[4] M. Sharina and E. Davoust. "Globular Cluster Content and Evolutionary History of NGC 147". *Astronomy and Astrophysics*. (Vol 497, No 1 April 2009), 65-80

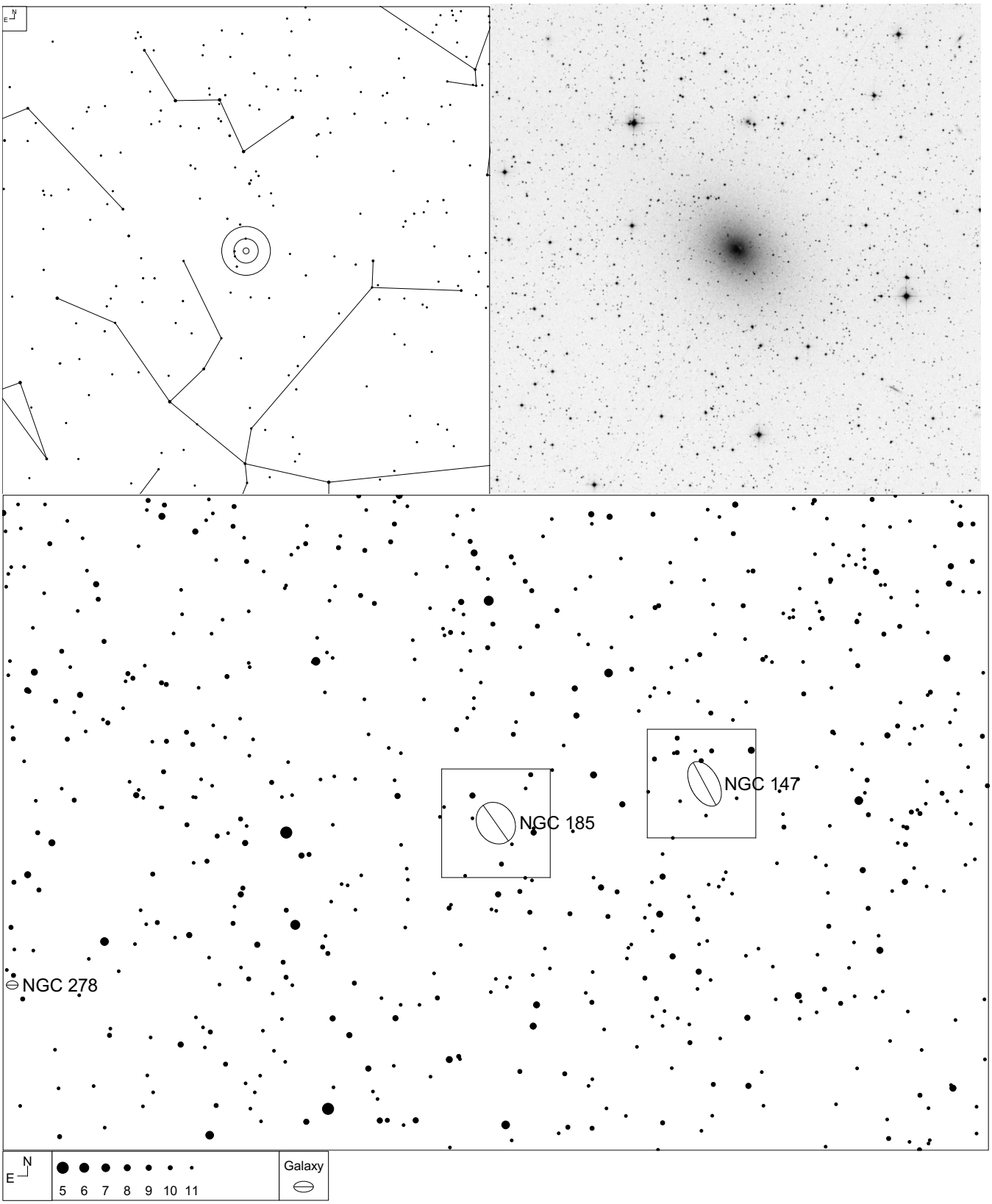
[5] J. Veljanoski, A. M. N. Ferguson, et al "Newly-Discovered Globular Clusters in NGC 147 and NGC 185 from PAndAS". *Monthly Notices of the Royal Astronomical Society*. (Vol. 435, Iss. 4, Nov 2013), 3654-3666. Note: Mag figures for the PA globulars is from this paper.

[6] See next page for finder chart for PA-N147-3 as it is ½ degree north of the field. See star pattern to align the two charts.

PA-NGC147-3 globular of NGC 147



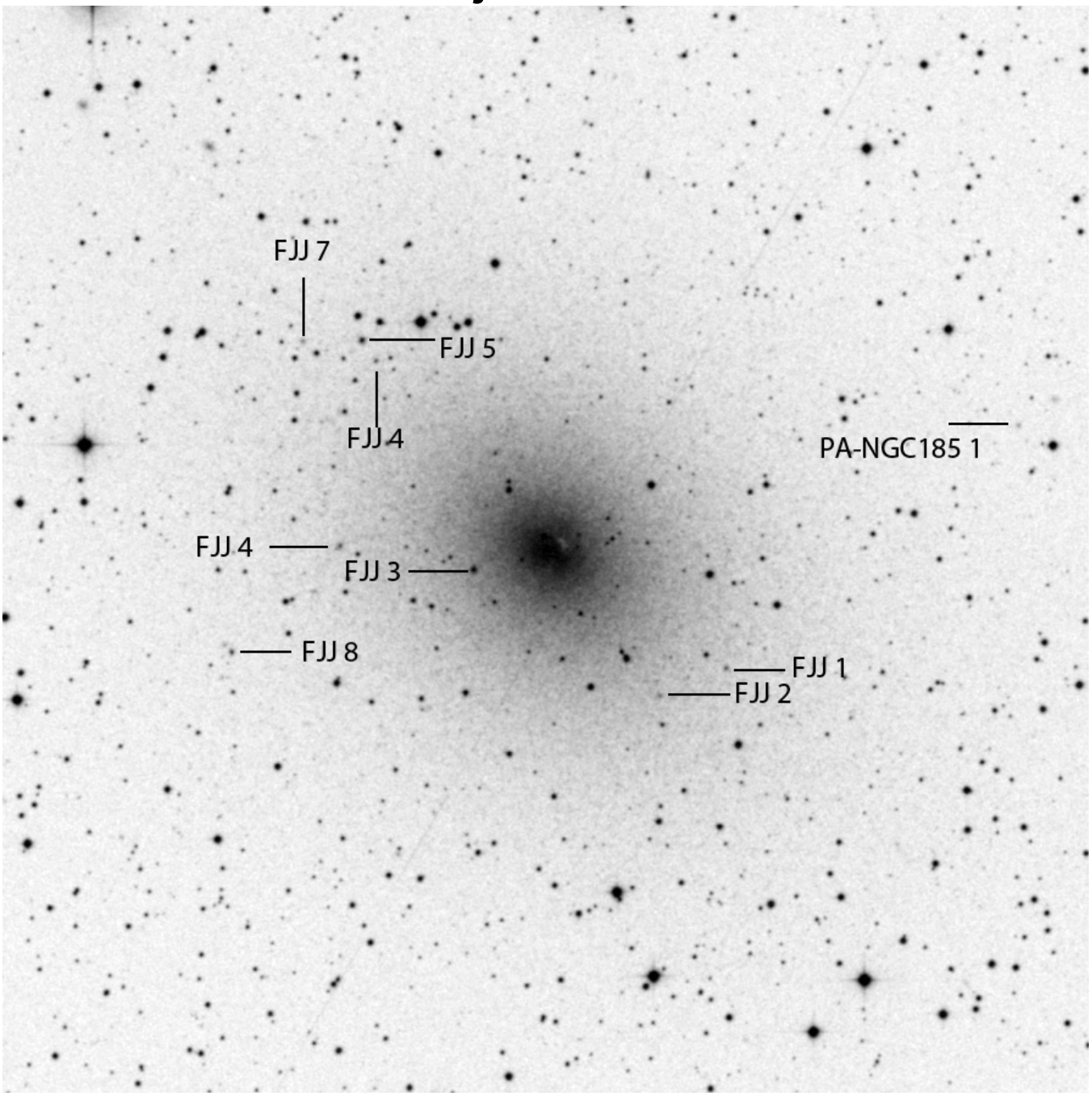
NGC 185 (Cassiopeia)



RA	Dec	Type	Mag	Size	Distance	Urano
00 38 58	+48 20 14	dE3 pec	9.2	11.9 x 10.1’	2.3 mly	30L

SEDS website: http://spider.seds.org/spider/LG/n0185.html

Non-stellar objects within NGC 185

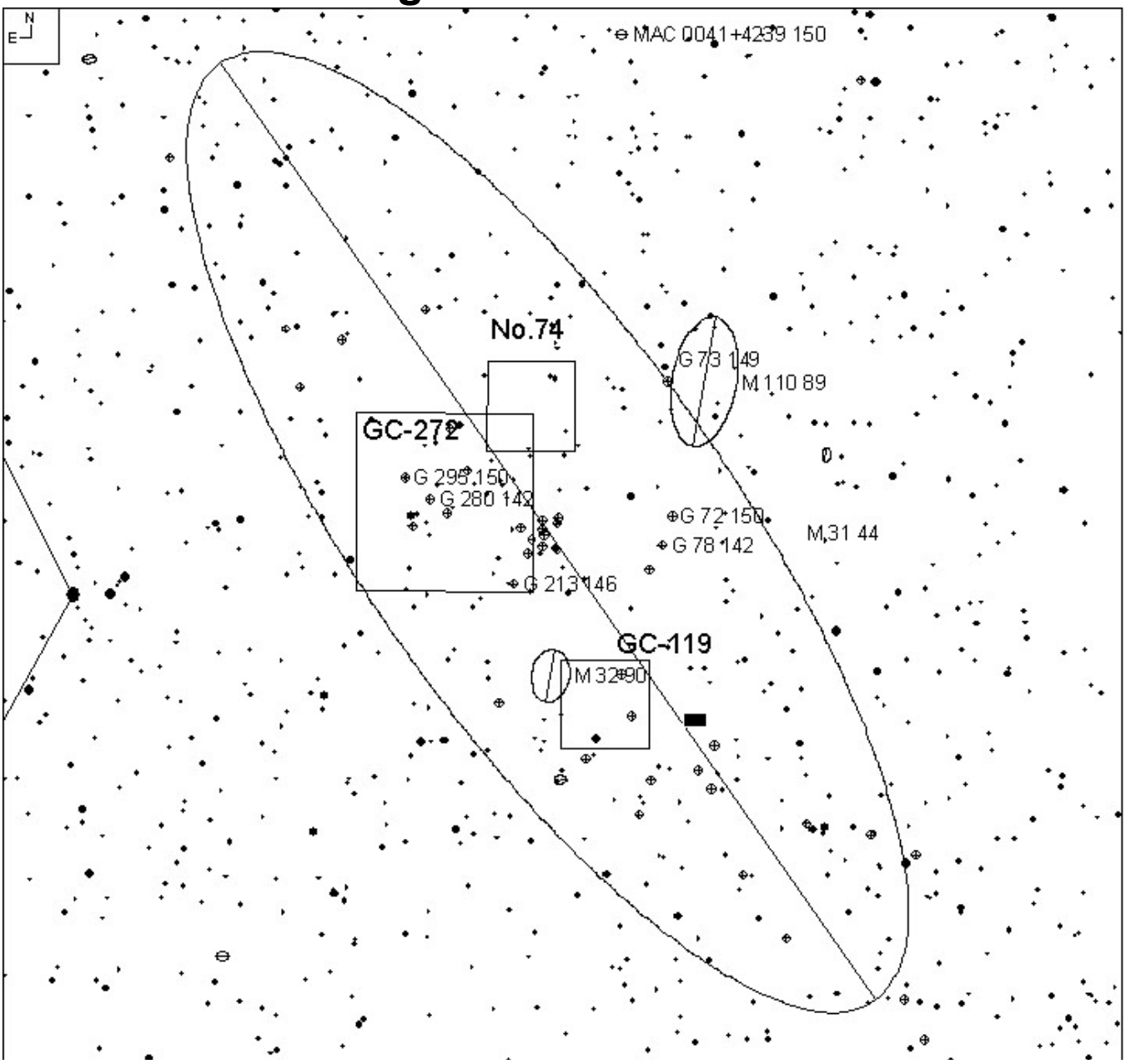


Object	Type	Mag[7]	Object	Type	Mag
FJJ-1	Globular	18.38	FJJ-6	Globular	-
FJJ-2	Globular	19.71	FJJ-7	Globular	18.4
FJJ-3	Globular	16.76	FJJ-8	Globular	17.3
FJJ-4	Globular	17.6	PA-N185-1[8]	Globular	18.4
FJJ-5	Globular	16.80			

[7] A. S. Sharov and V. M. Liutyi. "Photoelectric catalogue of globular clusters in the Andromeda Nebula M31 and its companions NGC 147, NGC 185, and NGC 205". *Astrophysics and Space Science*. (Vol. 90, No. 2, Feb. 1983), 371-384.

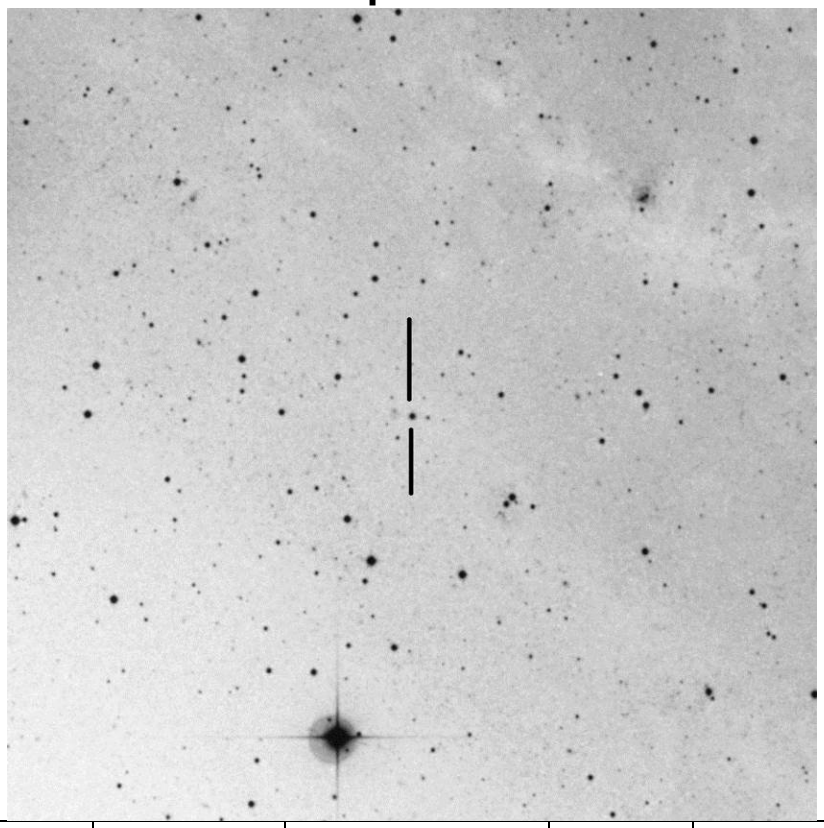
[8] J. Veljanoski, A. M. N. Ferguson, et al "Newly-Discovered Globular Clusters in NGC 147 and NGC 185 from PAndAS". *Monthly Notices of the Royal Astronomical Society*. (Vol. 435, Iss. 4, Nov 2013), 3654-3666. Note: The mags for FJJ-4, FJJ-7, FJJ-8, and PA-N185-1 is from article.

Selected globular clusters in M-31



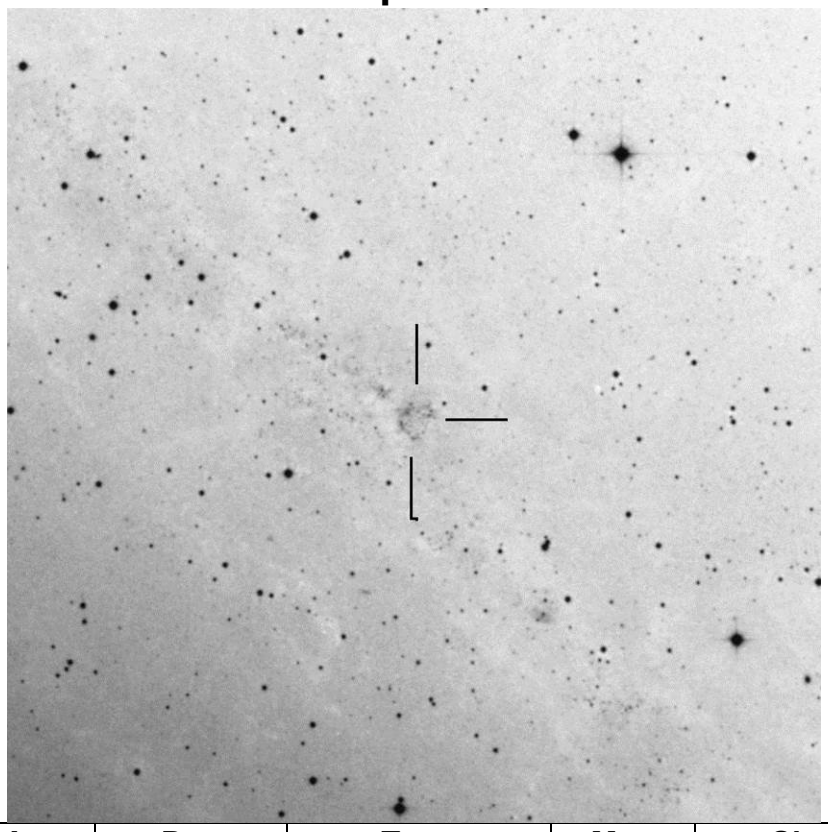
SEDS Website: http://www.messier.seds.org/m/m031.html

M-31 complex – GC-119



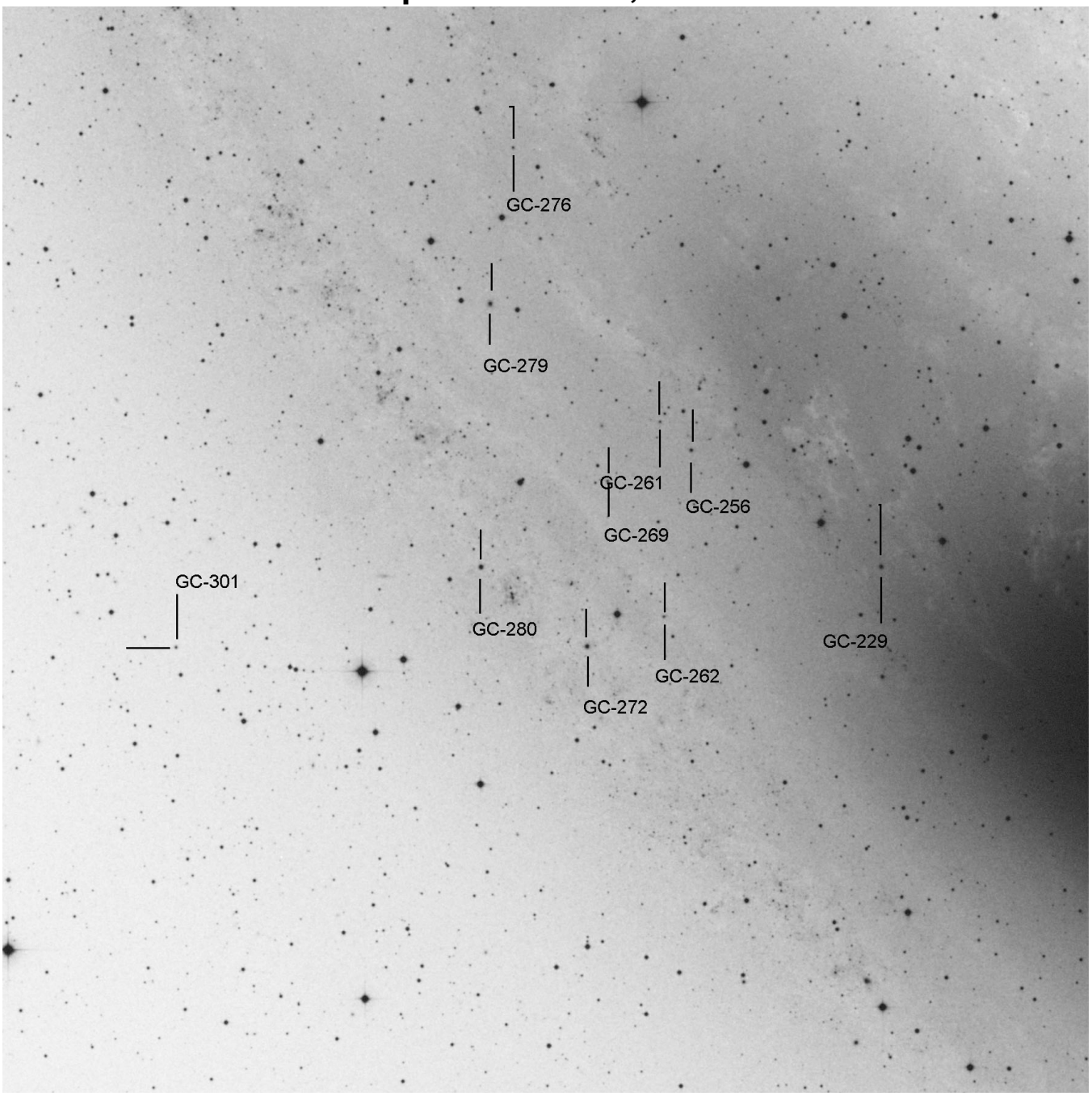
RA	Dec	Type	Mag	Size
00 41 53.0	+40 47 10	Globular	15.04	-

M-31 complex – No. 74



RA	Dec	Type	Mag	Size
00 42 58.9	+41 37 17	H-II region	16.0	4.0’

M-31 complex – GC-272, 279 and 280

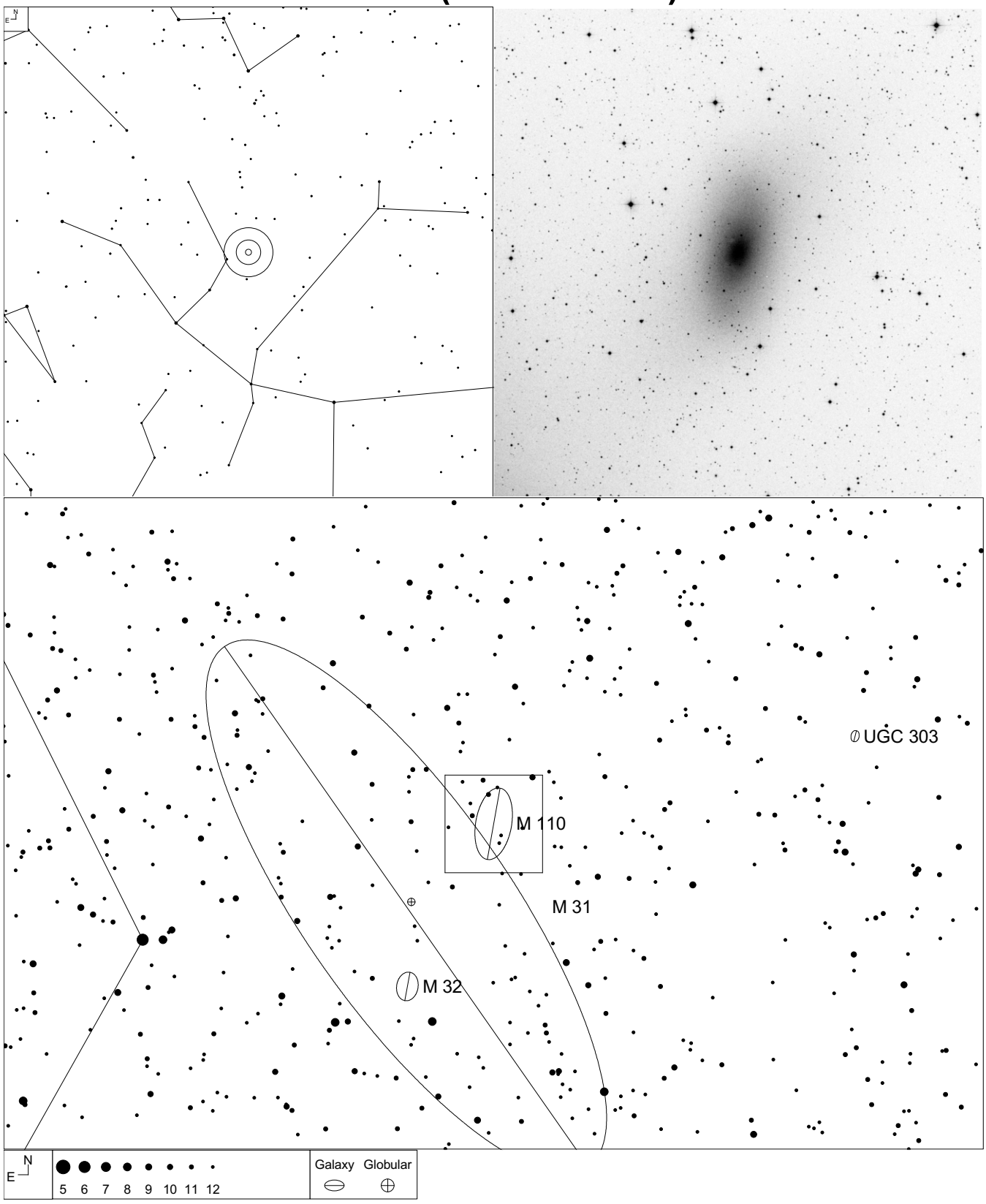


Object	Mag	Size	Object	Mag	Size
GC-272	14.75	-	GC-279	15.4	0.3’
GC-229	15.1	0.3’	GC-280	14.2	0.4’
GC-256	15.4v	0.3’	GC-276	16.8	0.2’
GC-261	16.6	0.2’	GC-280	14.2v	0.4’
GC-262	16.4	0.3’	GC-301	16.5	0.2’
GC-269	16.4	0.2’			

For a full-field globular cluster map from Robert Gendler
http://www.robgendlerastropics.com/M31NMmosaicglobs2.html

P. Barmby and J. P. Huchra. “M31 Globular Clusters in the Hubble Space Telescope Archive I. Cluster Detection and Completeness”. *The Astronomical Journal*, Volume 122, Number 5 (2001), 2458-2468

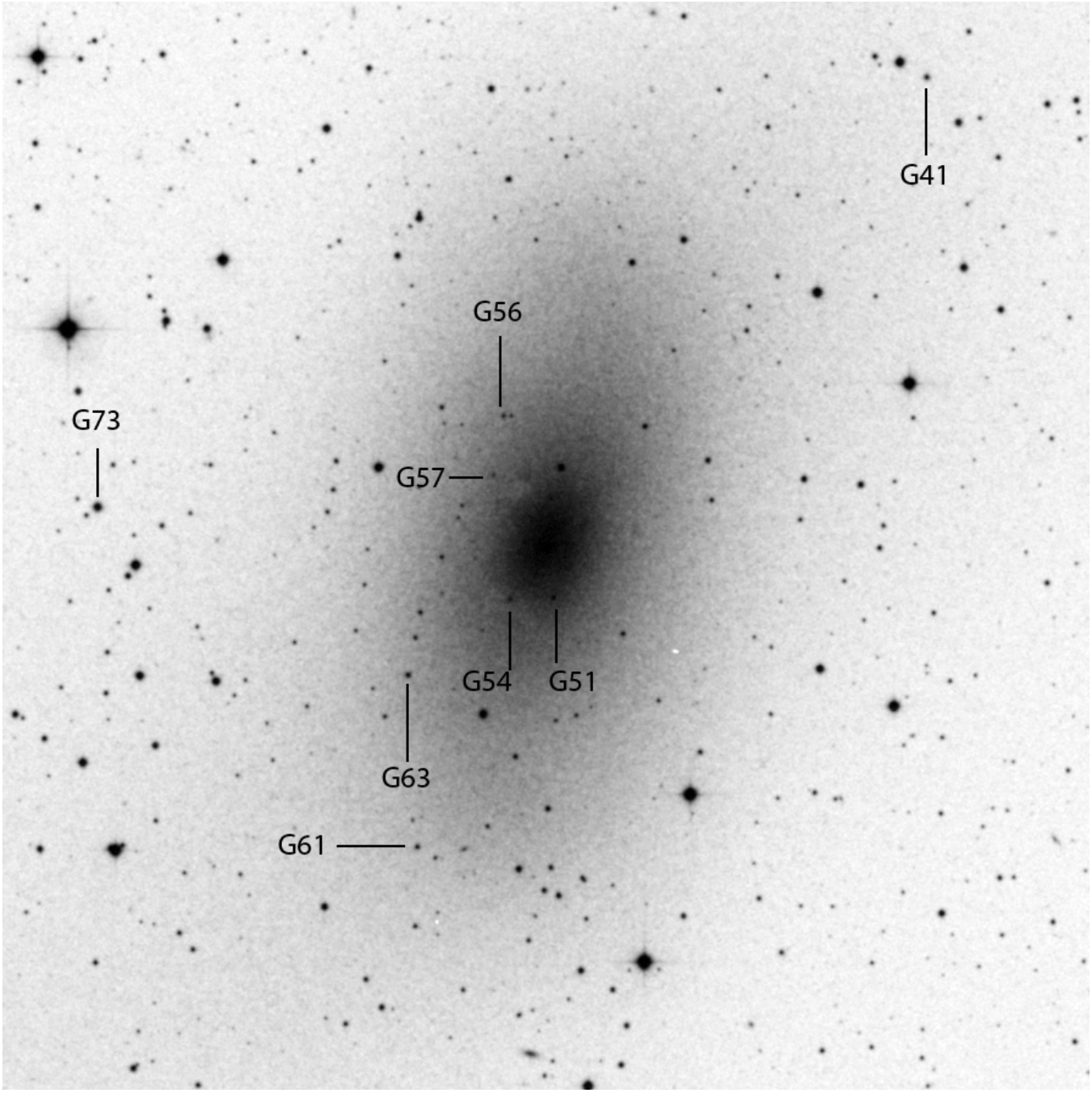
M-110 (Andromeda)



RA	Dec	Type	Mag	Size	Distance	Urano
00 40 23	+41 41 22	E5 pec	8.06	21.9 x 10.9	2.9 mly	30L

SEDS Website: http://spider.seds.org/spider/LG/m110.html

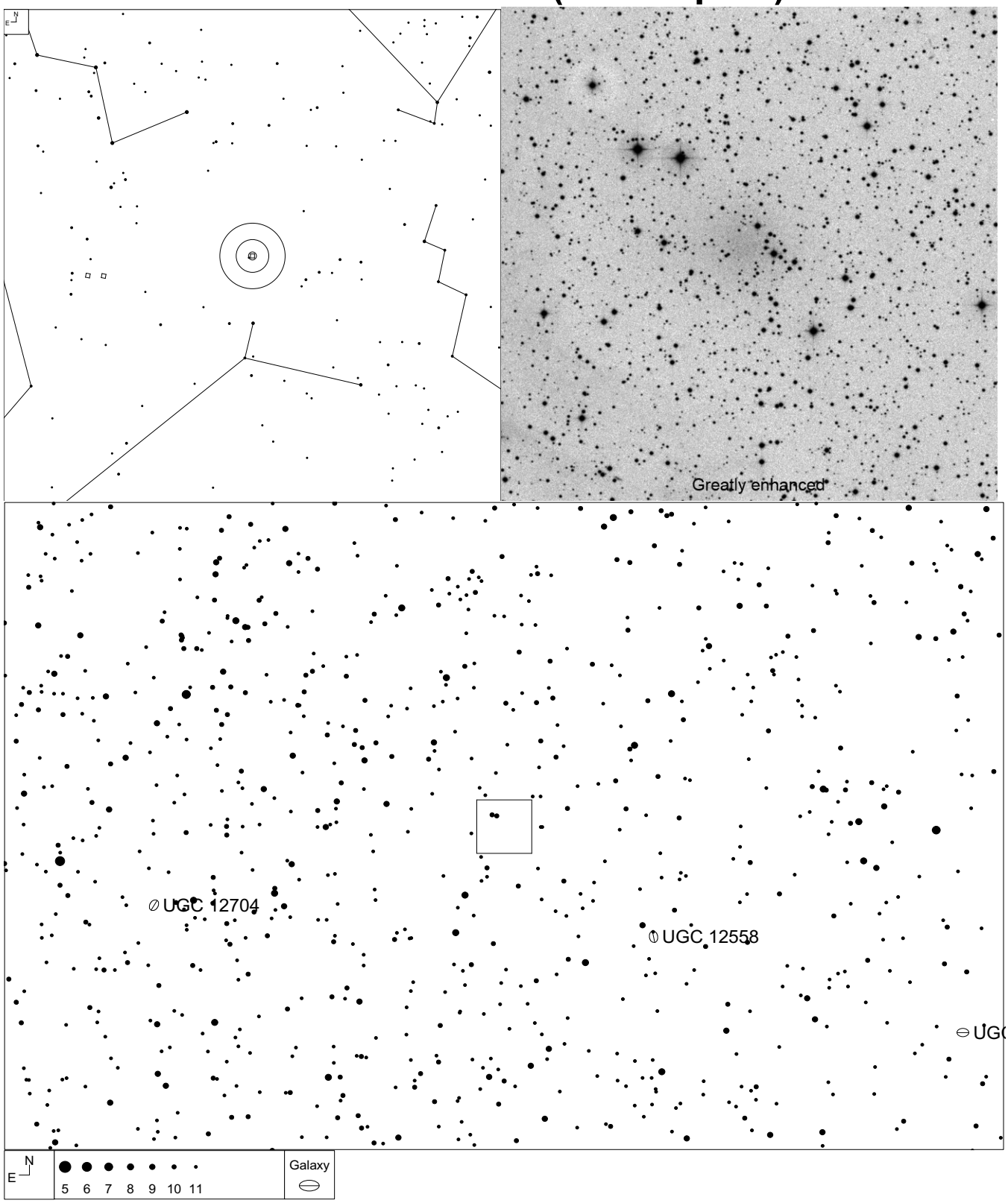
Non-stellar objects within M-110



Object	Type	Mag[9]	Object	Type	Mag
G-41	Globular	-	G-57	Globular	17.86
G-51	Globular	16.73	G-61	Globular	16,97
G-54	Globular	18.52	G-63	Globular	16,64
G-56	Globular	17.24	G-73	Globular	14.96

[9] A. S. Sharov and V. M. Liutyi "Photoelectric catalogue of globular clusters in the Andromeda Nebula M31 and its companions NGC 147, NGC 185, and NGC 205". *Astrophysics and Space Science* (Vol. 90, No. 2, Feb 1983), 371-384

Andromeda VII[10] (Cassiopeia)

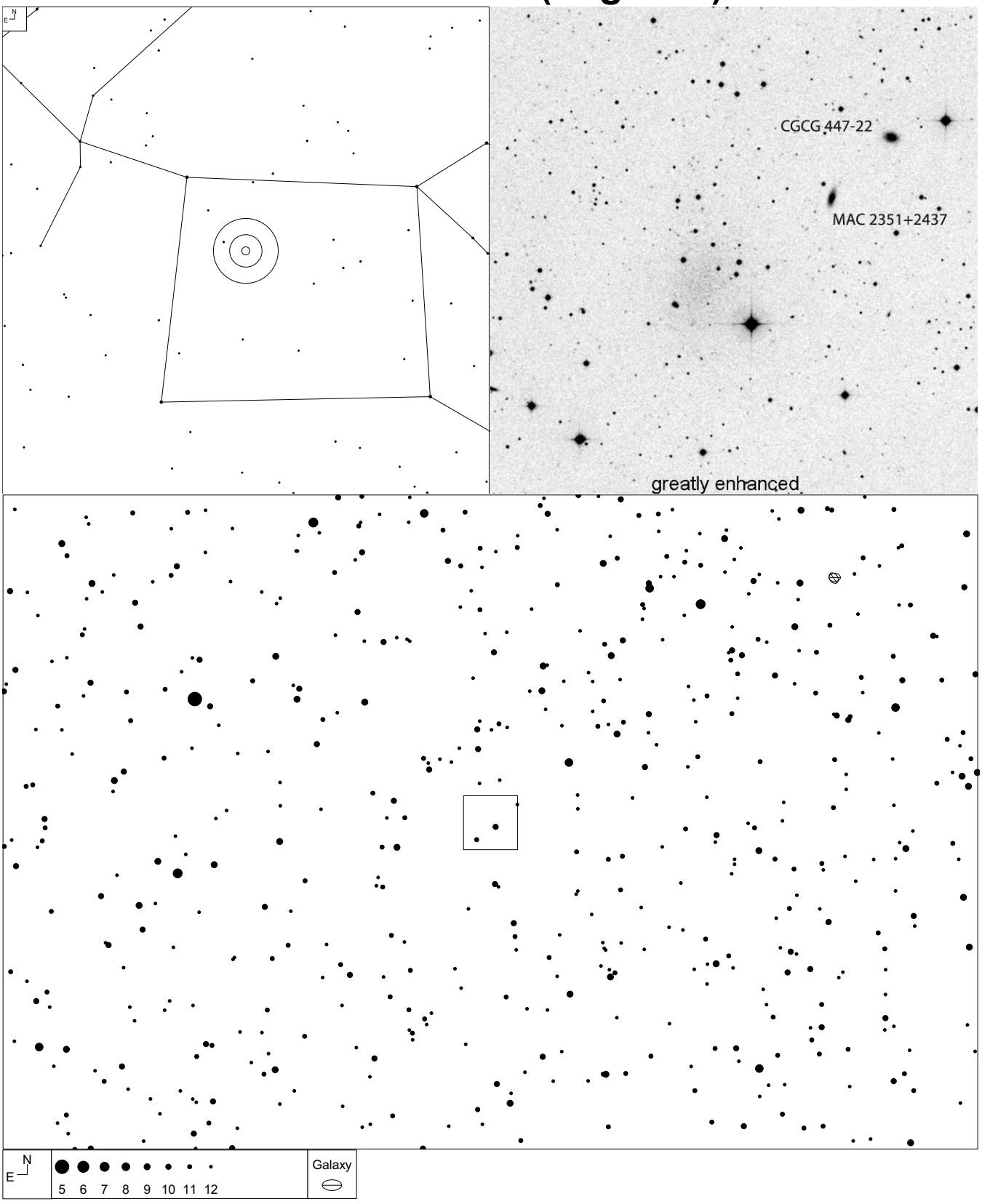


RA	Dec	Type	Mag	Size	Distance	Urano
23 26 32	+50 40 33	dSph	13.6	2.5 x 2.0’	2.5 mly	30R

SEDS Website: http://spider.seds.org/spider/LG/and7.html

[10] For a list of possible satellite galaxies of M31, see McConnachie, The Observed Properties of Dwarf Galaxies in and Around the Local Group”, Table 1. Also see Amandine Doliva-Dolinsky, et al “The Pandas View of the Andromeda Satellite System. IV Global Properties”, *Astrophysical Journal*, (Vol. 952, No. 1, 2023), 72-83

Andromeda VI (Pegasus)

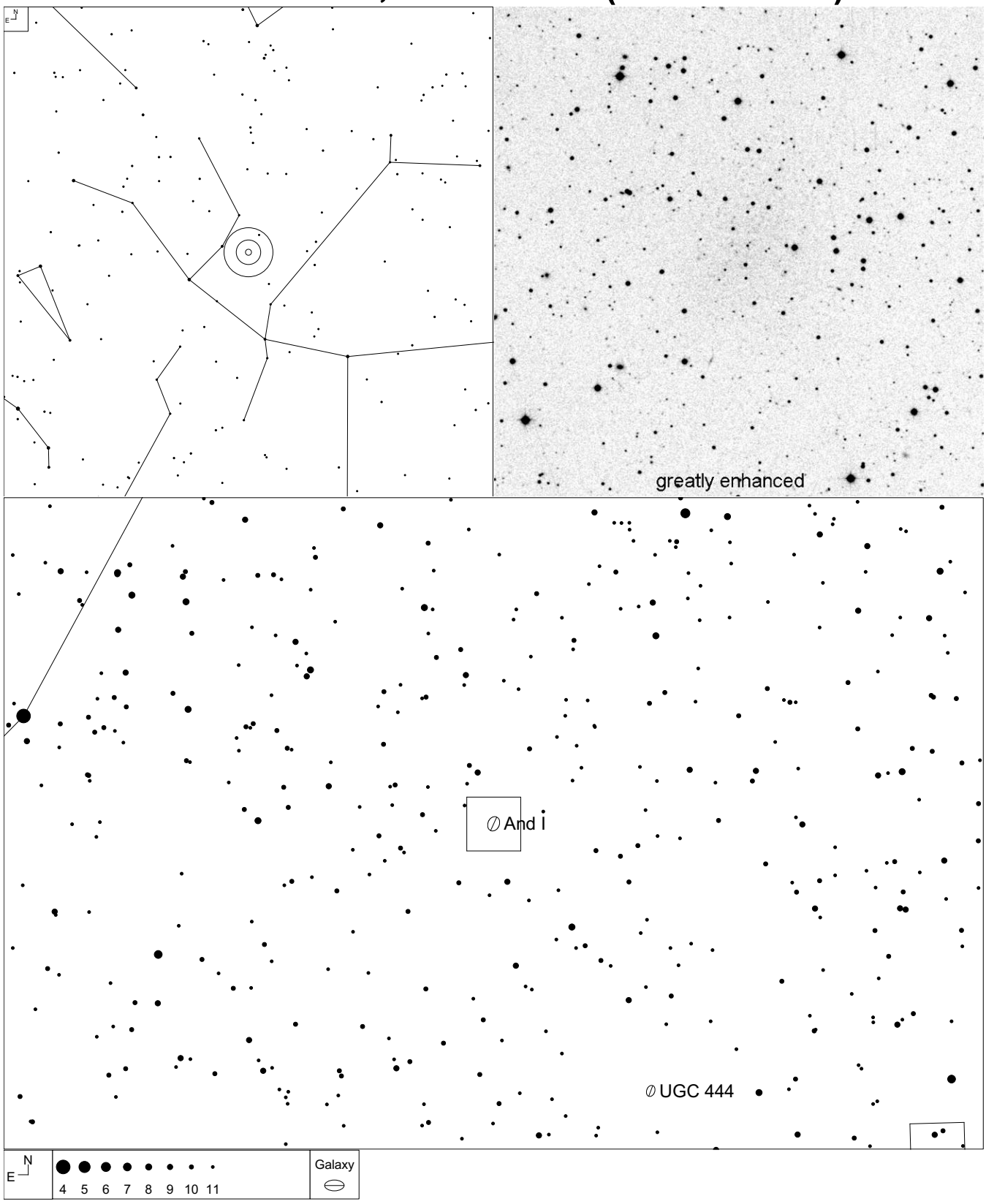


RA	Dec	Type	Mag	Size	Distance	Urano
23 51 46	+24 35 06	dE?	11.2	3.5 x 3.5’	2.7 mly	63R

SEDS Website: http://spider.seds.org/spider/LG/and6.html

For a recent image taken with a 3.5-meter WIYN telescope at Kitt Peak Observatory released in June 2020, see https://noirlab.edu/public/images/noao-02752/

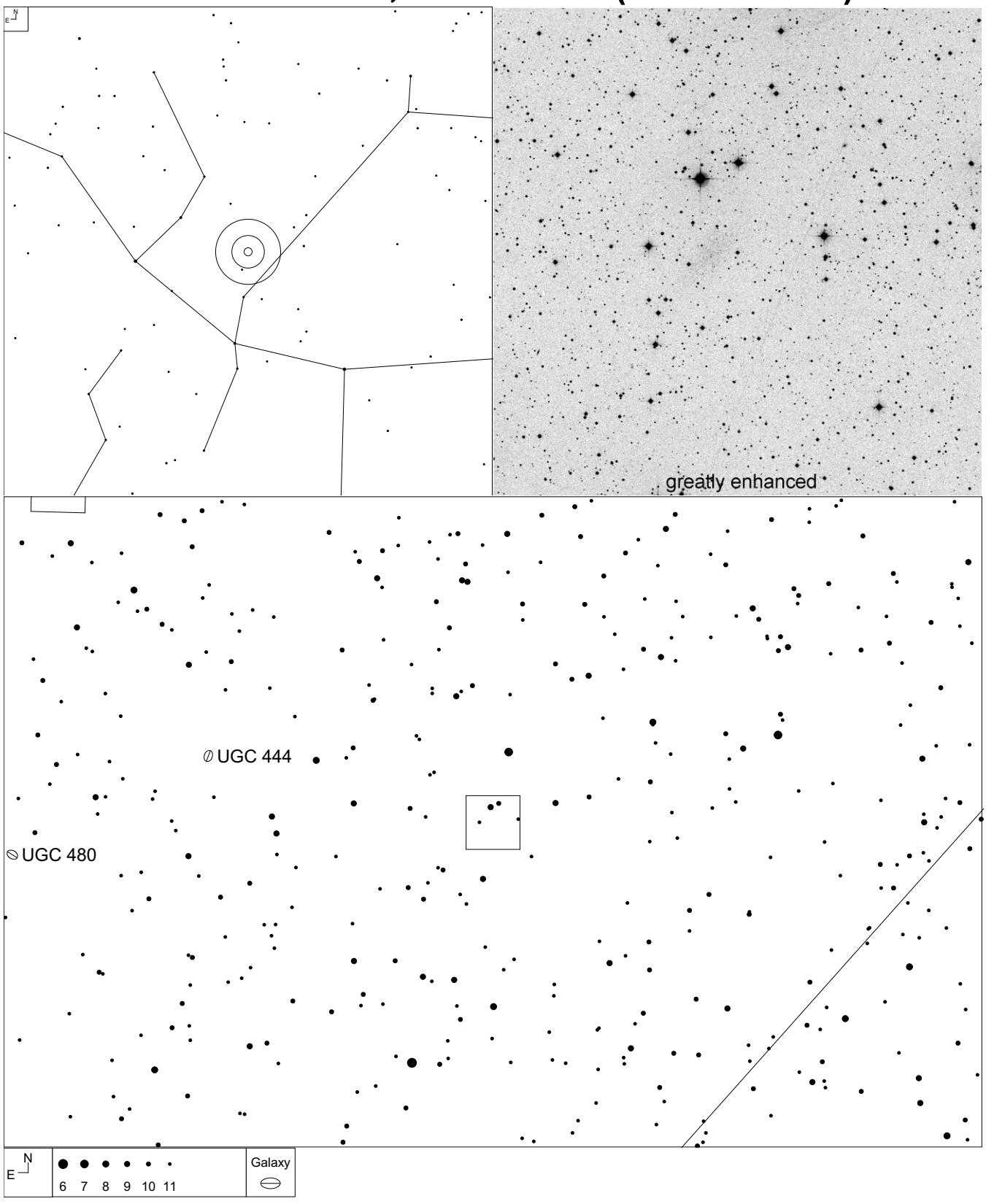
Andromeda I, PGC 2666 (Andromeda)



RA	Dec	Type	Mag	Size	Distance	Urano
00 45 42	+38 02 09	dE3 pec	12.75	4.0 x 3.0’	2.9 mly	62R

SEDS Website: http://spider.seds.org/spider/LG/and1.html

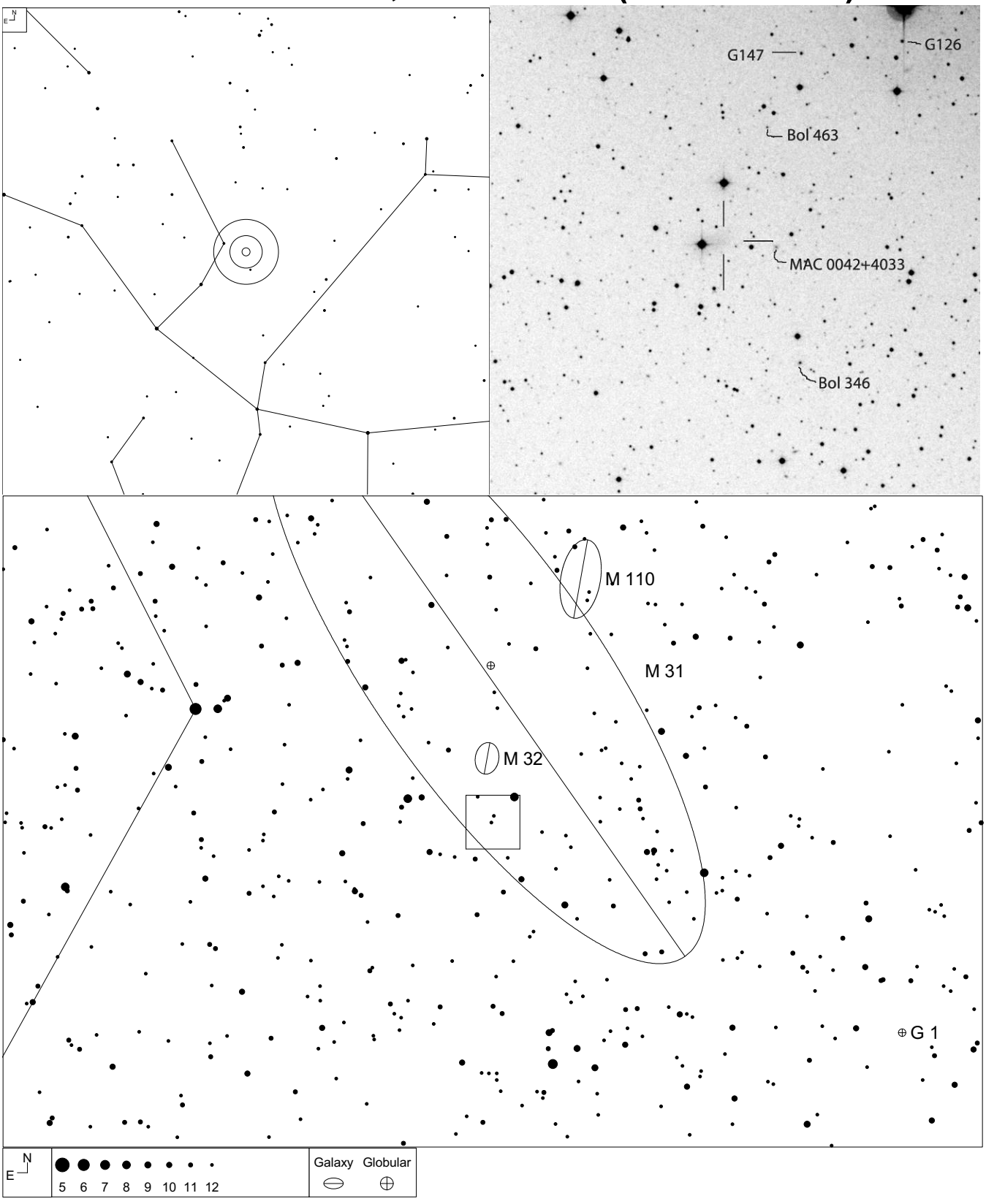
Andromeda III, PGC 2121 (Andromeda)



RA	Dec	Type	Mag	Size	Distance	Urano
00 35 31	+36 30 31	dE2	15.0	2.0 x 2.0’	2.9 mly	45L

SEDS Website: http://spider.seds.org/spider/LG/and3.html

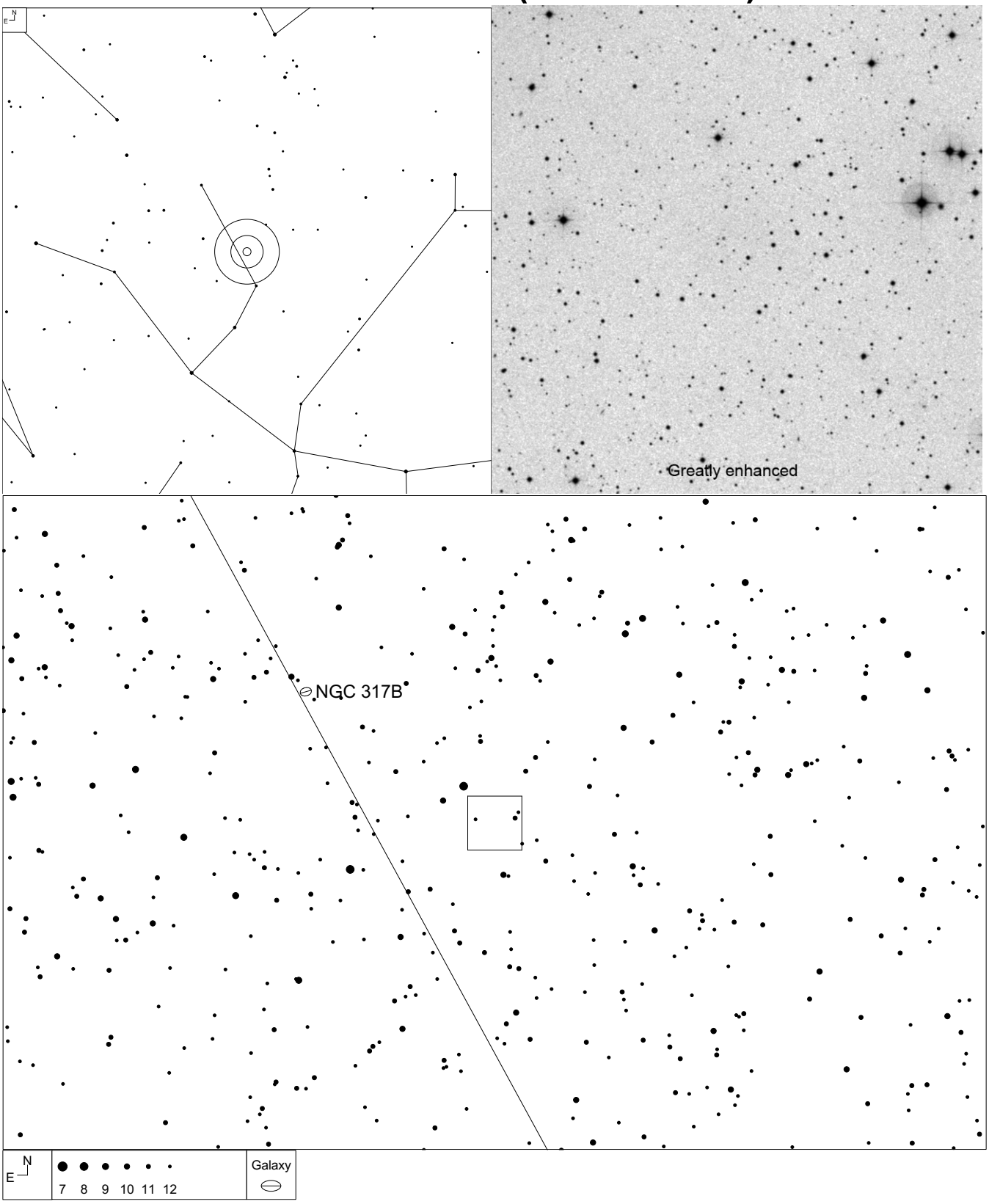
Andromeda IV, PGC 2544 (Andromeda)



RA	Dec	Type	Mag	Size	Distance	Urano
00 42 33	+40 34 24	?	-	1.3 x 0.9’	2.8 mly	30L

SEDS Website: http://spider.seds.org/spider/LG/and4.html

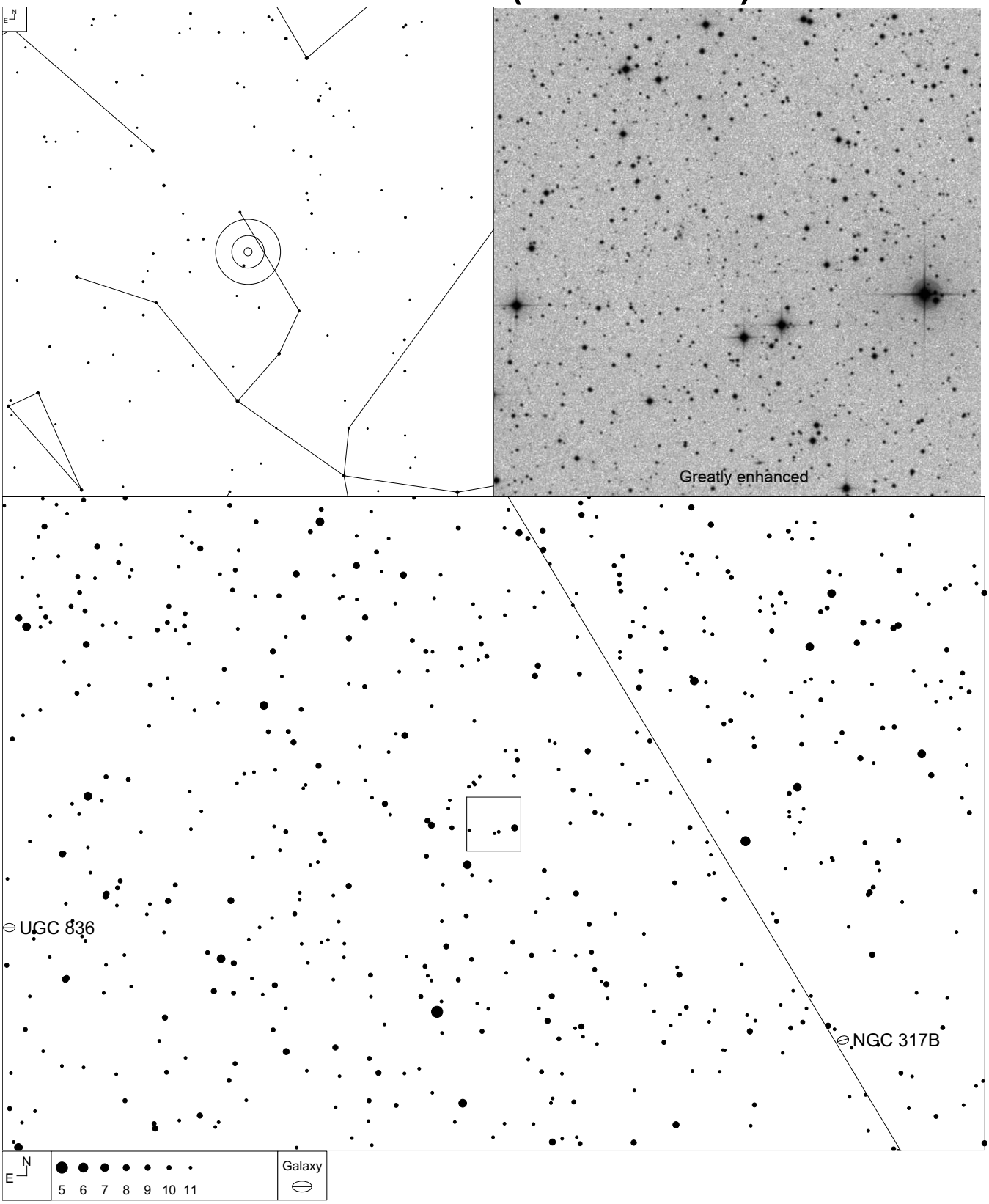
Andromeda IX (Andromeda)



RA	Dec	Type	Mag	Size	Distance	Urano
00 52 53	+43 11 45	dE	16.1v	5’	2.5 mly	44R

SEDS Website: http://spider.seds.org/spider/LG/and9.html

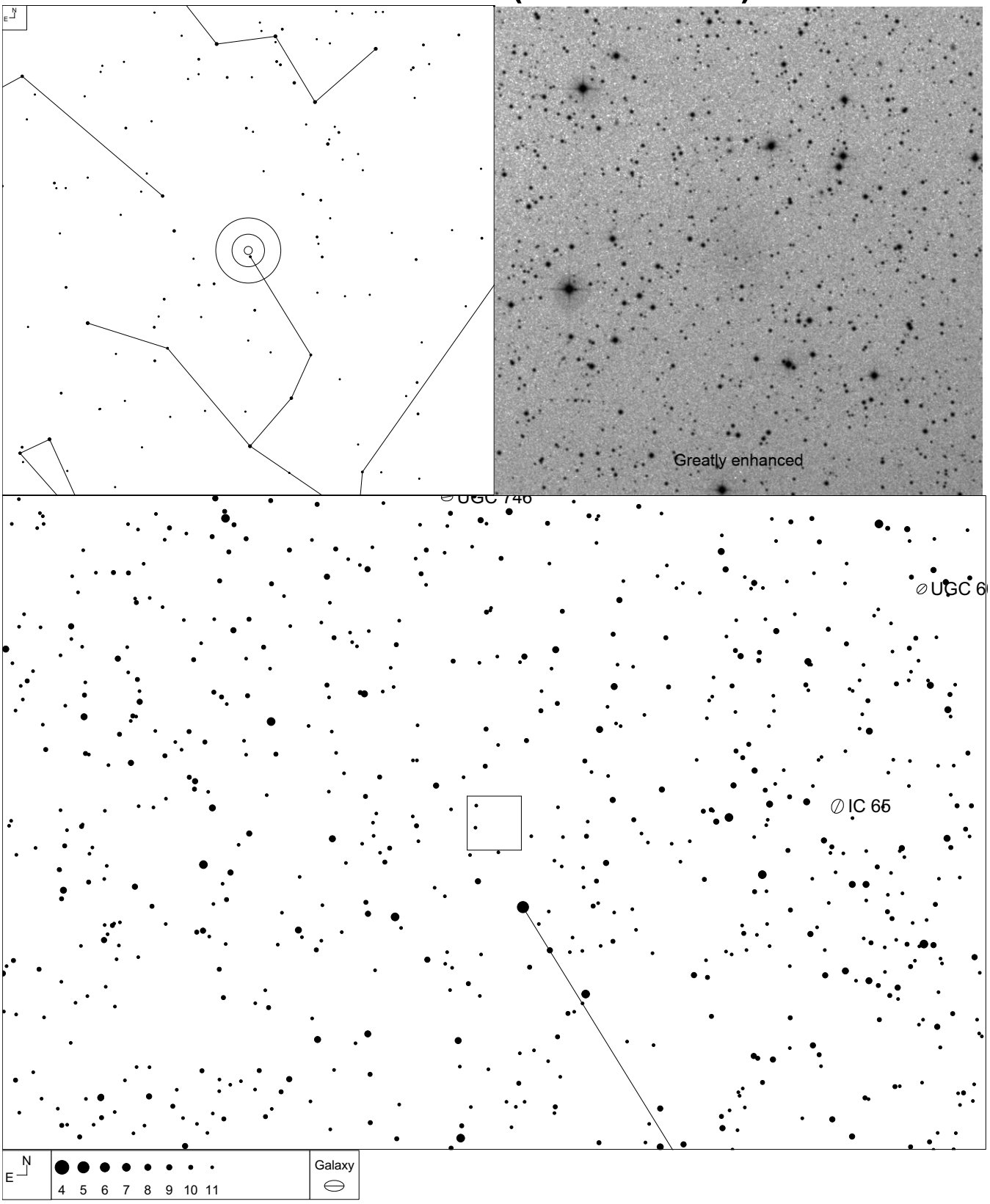
Andromeda X (Andromeda)



RA	Dec	Type	Mag	Size	Distance	Urano
01 06 34	+44 48 16	dSph	16.1v	7’	2.9 mly	44R

SEDS Website: http://spider.seds.org/spider/LG/and10.html

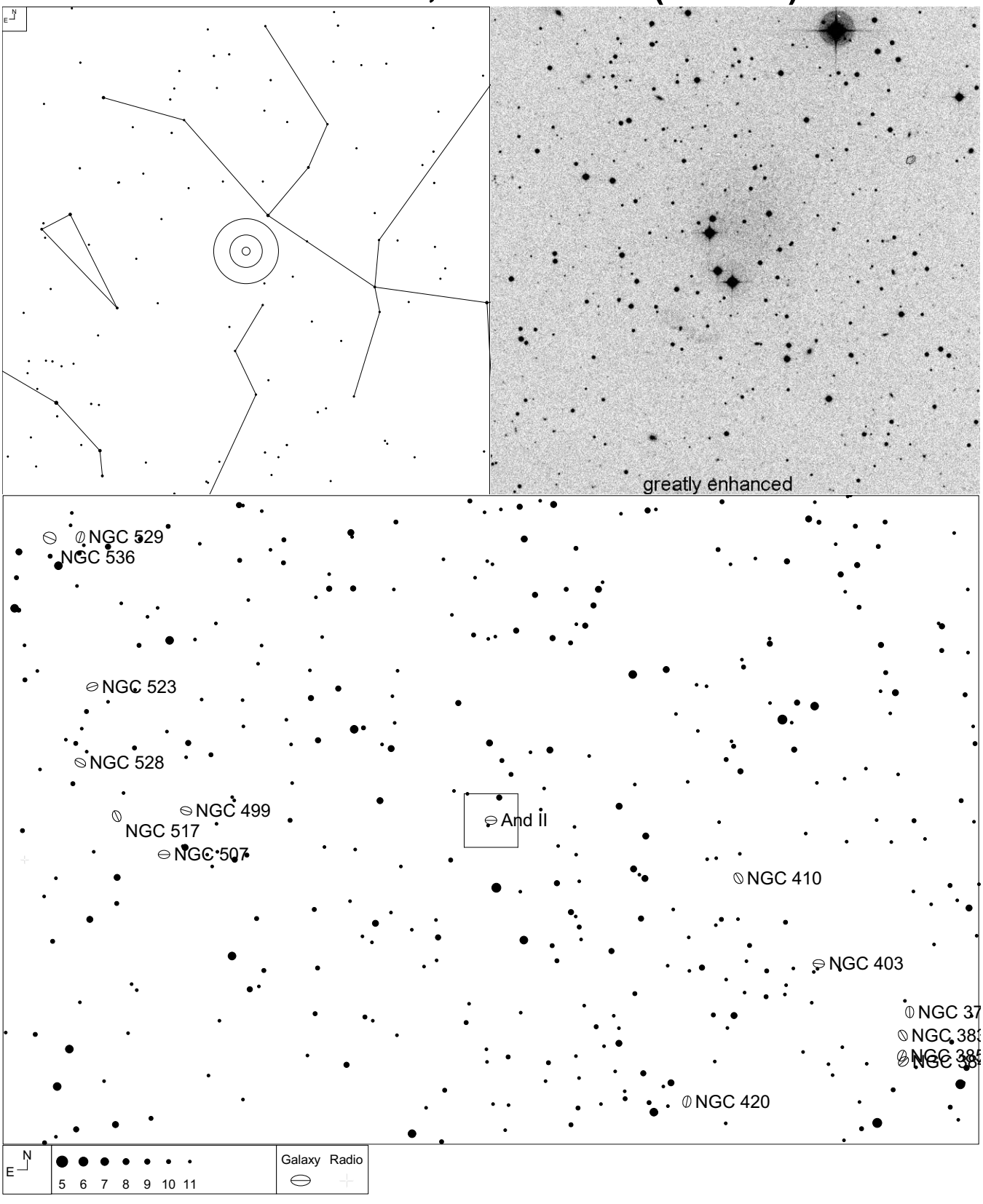
Andromeda V (Andromeda)



RA	Dec	Type	Mag	Size	Distance	Urano
01 10 17	+47 37 41	dSph	15.92	2.0 x 1.5’	2.5 mly	44R

SEDS Website: http://spider.seds.org/spider/LG/and5.html

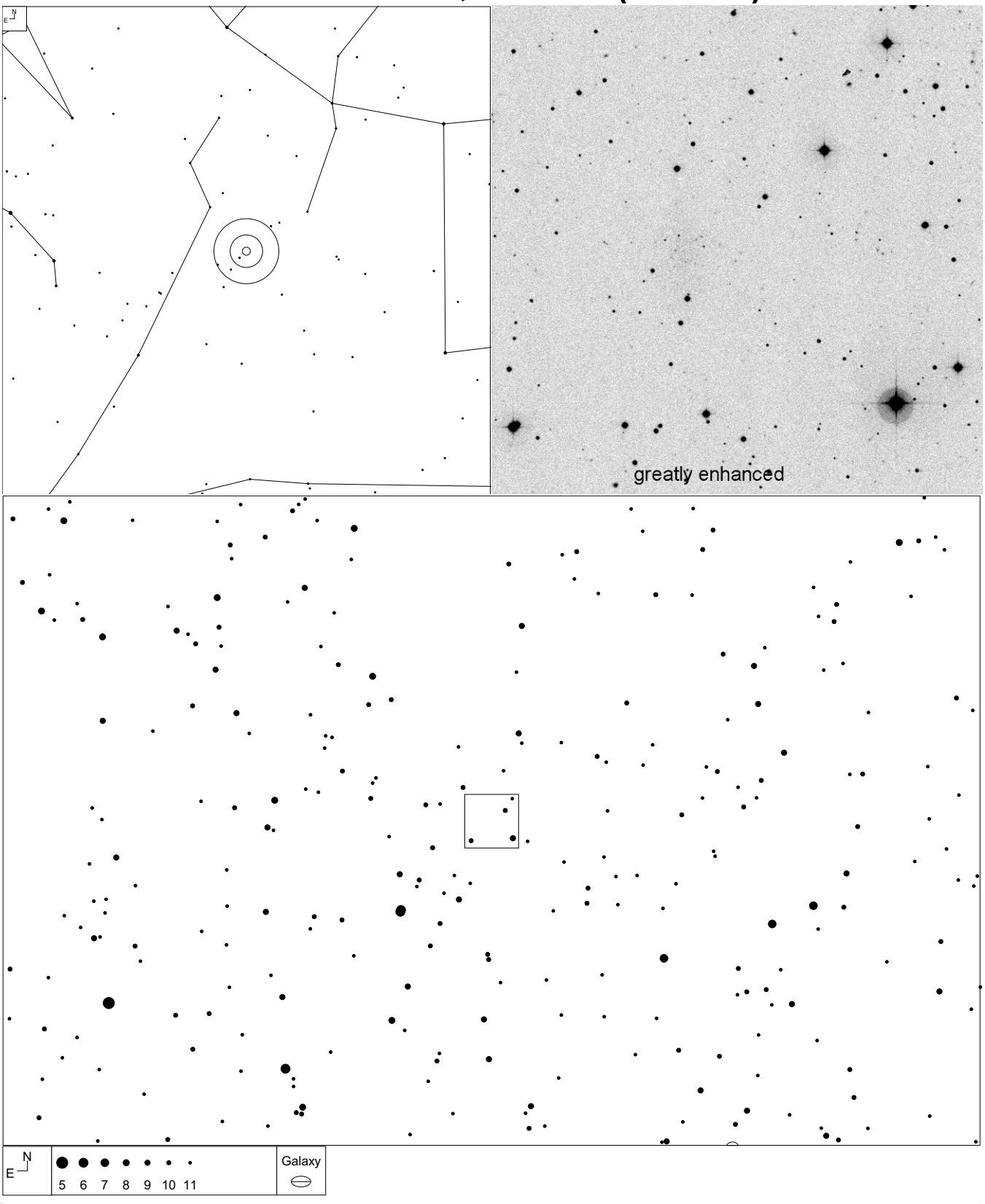
Andromeda II, PGC 4601 (Pisces)



RA	Dec	Type	Mag	Size	Distance	Urano
01 16 26	+33 25 37	dE0	13.5	2.0 x 2.0’	2.9 mly	62R

SEDS Website: http://spider.seds.org/spider/LG/and2.html

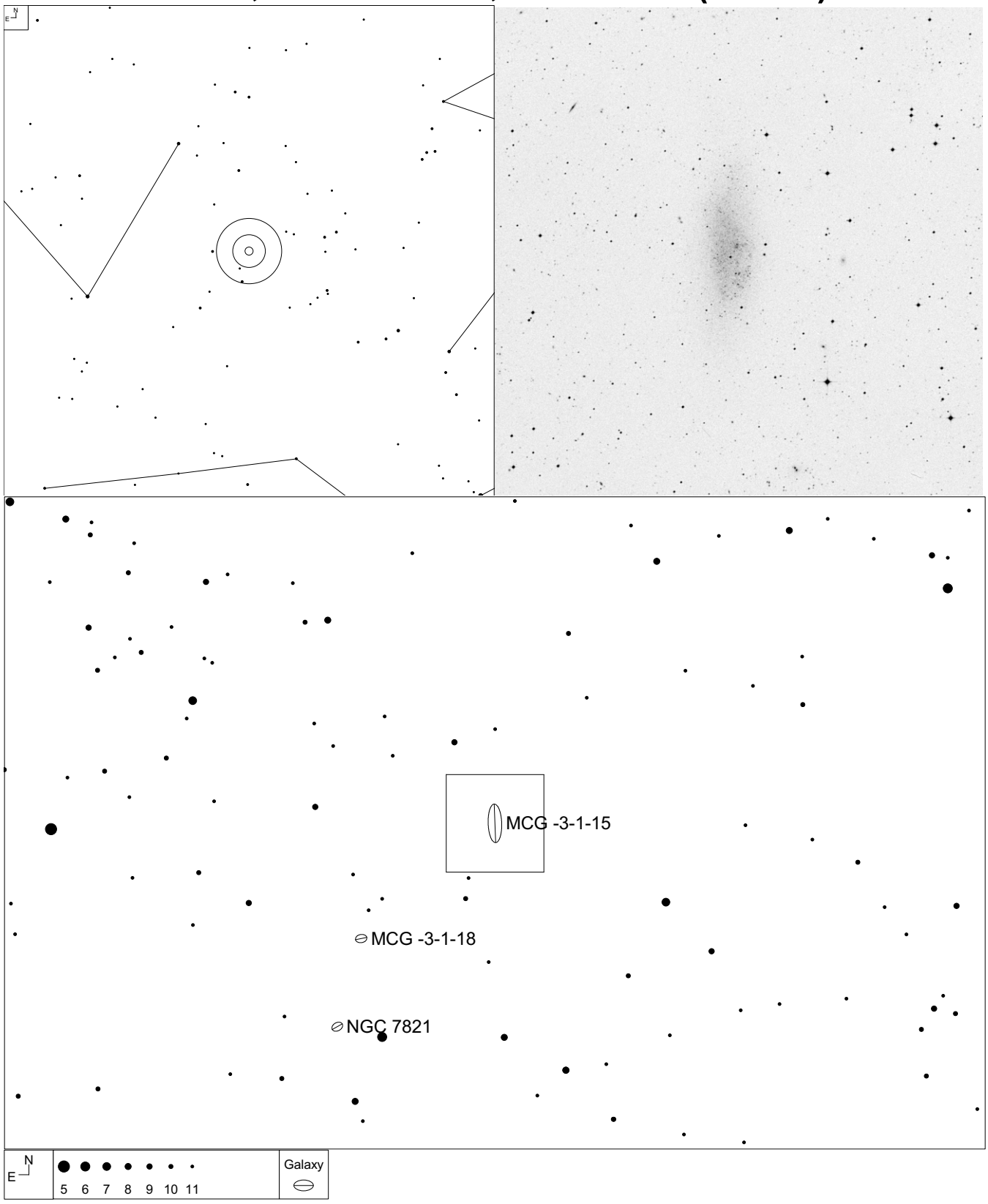
Pisces Dwarf, LGS 3 (Pisces)



RA	Dec	Type	Mag	Size	Distance	Urano
01 03 53	+21 53 05	dIrr	18.0	2.0 x 2.0’	3.0 mly	80R

SEDS Website: http://spider.seds.org/spider/LG/lgs3.html

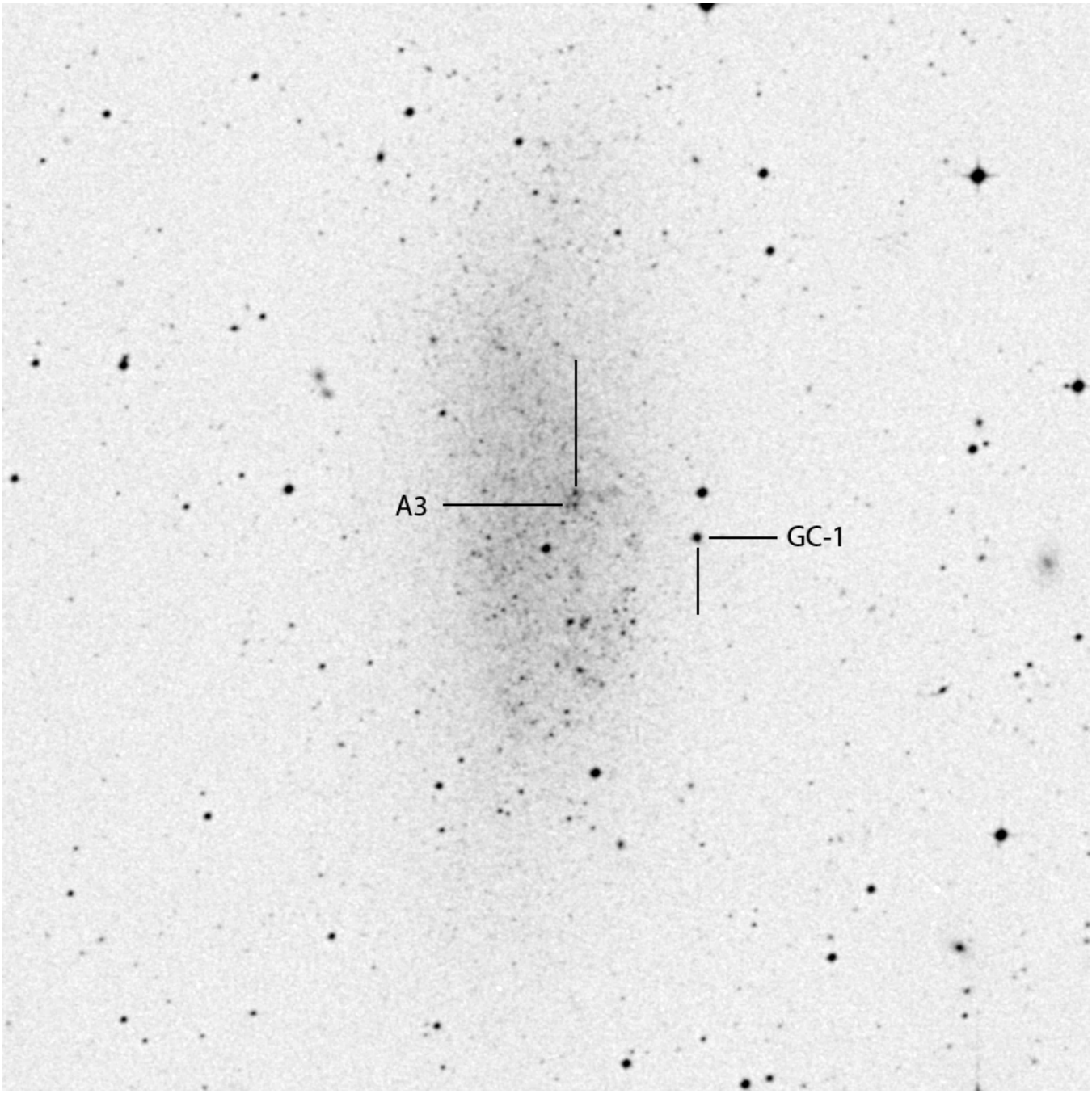
WLM, MCG-3-1-15, DDO 221 (Cetus)



RA	Dec	Type	Mag	Size	Distance	Urano
00 01 56	-15 27 21	Ib(s) IV-V	10.42	11.6 x 4.0’	3.4 mly	123L

SEDS Website: http://spider.seds.org/spider/LG/wlm.html

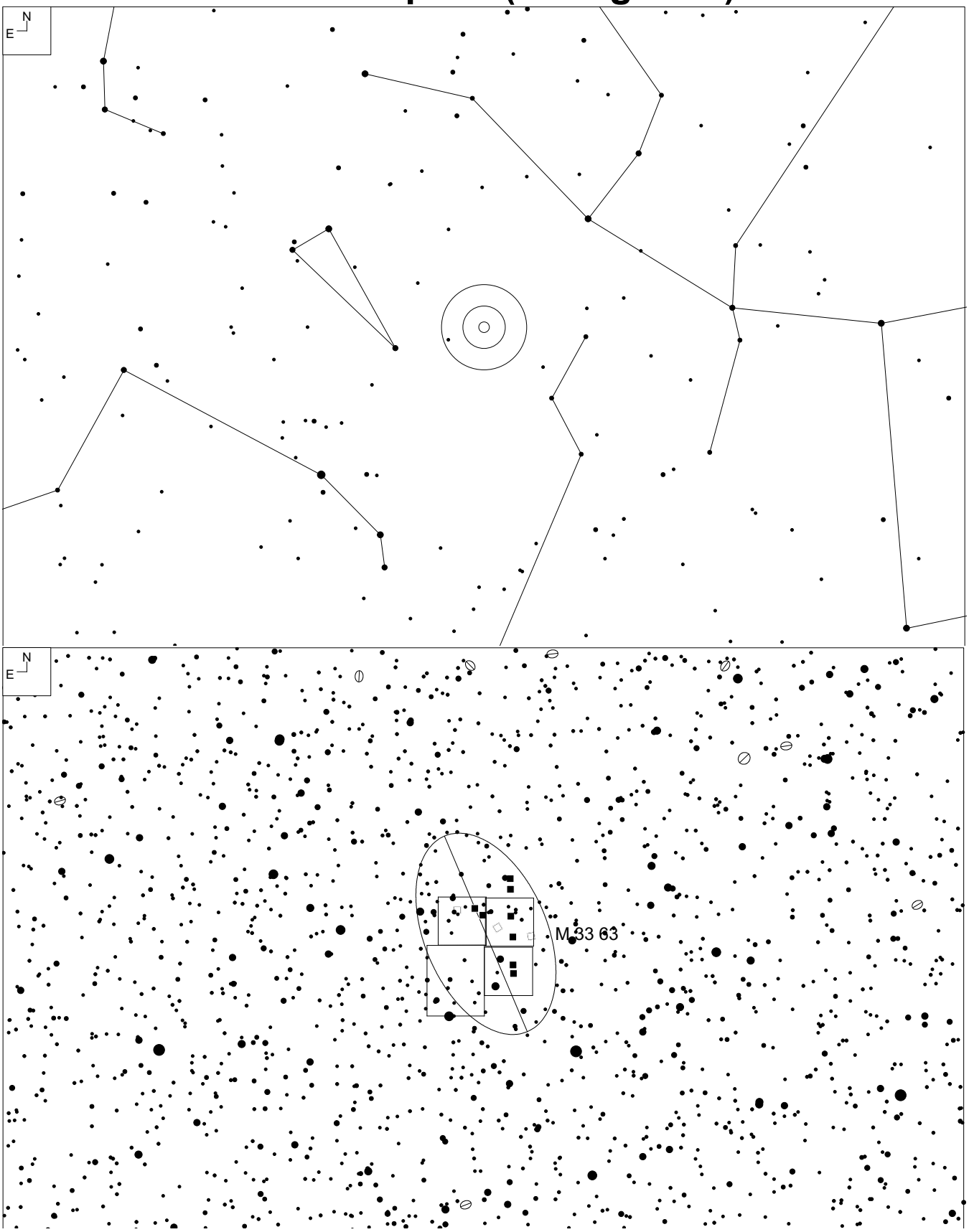
Non-Stellar Objects within WLM



Object	Type	Mag	Size
GC-1	Globular Cluster	16.1	-
A3	OB Association	-	-

James Webb Telescope peers into WLM (2022): https://www.space.com/james-webb-space-telescope-wlm-dwarf-galaxy-image

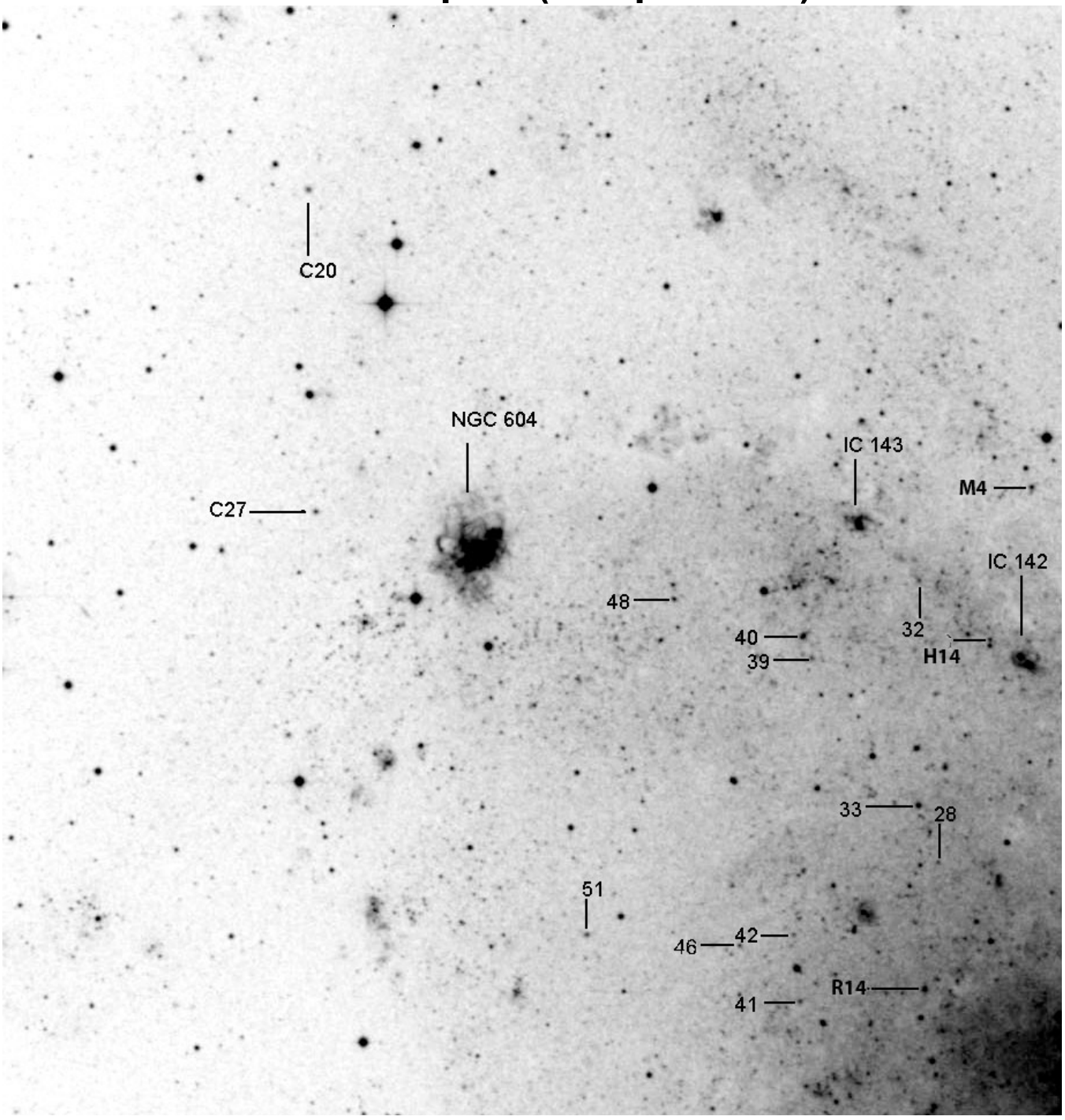
M-33 complex (Triangulum)



SEDS Website: http://www.messier.seds.org/m/m033.html

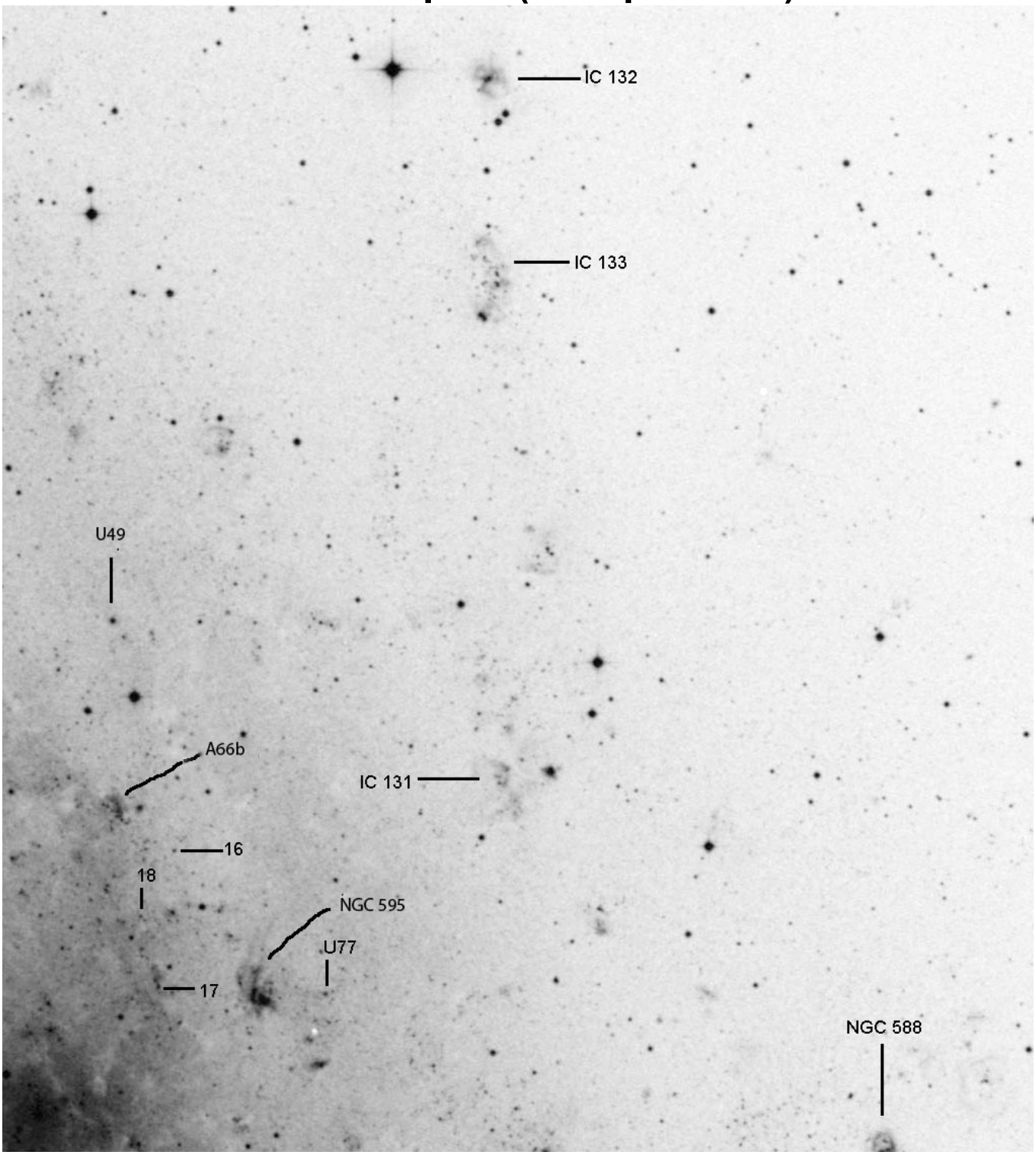
For a superb M-33 observing guide, see Scott Harrington's guide, click on this link.

M-33 complex (NE quadrant)



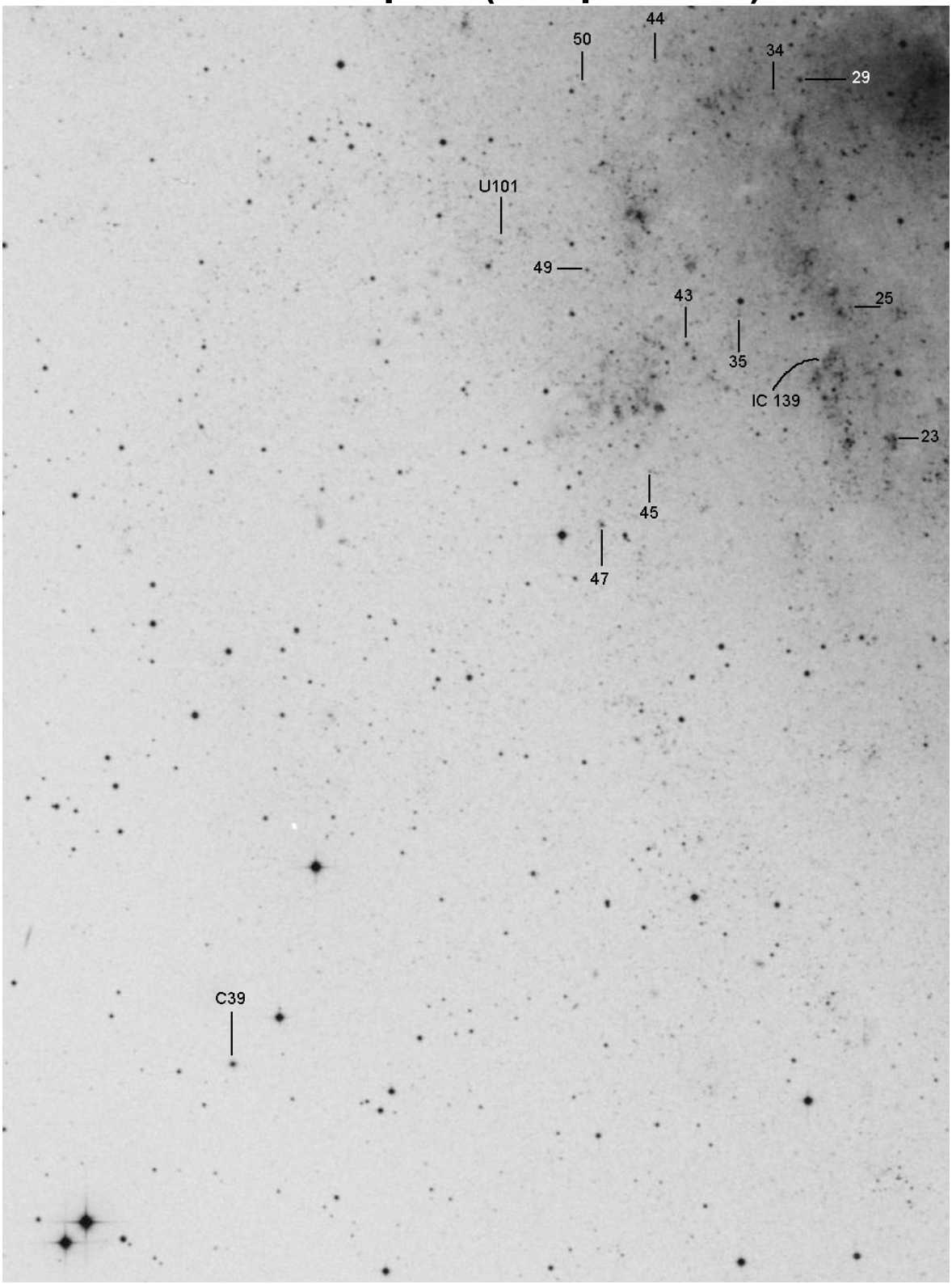
Object	Mag	Object	Mag	Object	Mag
M4	16.5	G-33	16.3	G-46	17.5
H-14	17.1	G-39	17.4	G-48	16.7
G-28	17.9	G-40	16.0	G-51	17.4
R-14	16.9	G-41	17.8	C20	17.67
G-32	17.6	G-42	18.2	C27	16.48

M-33 complex (NW quadrant)



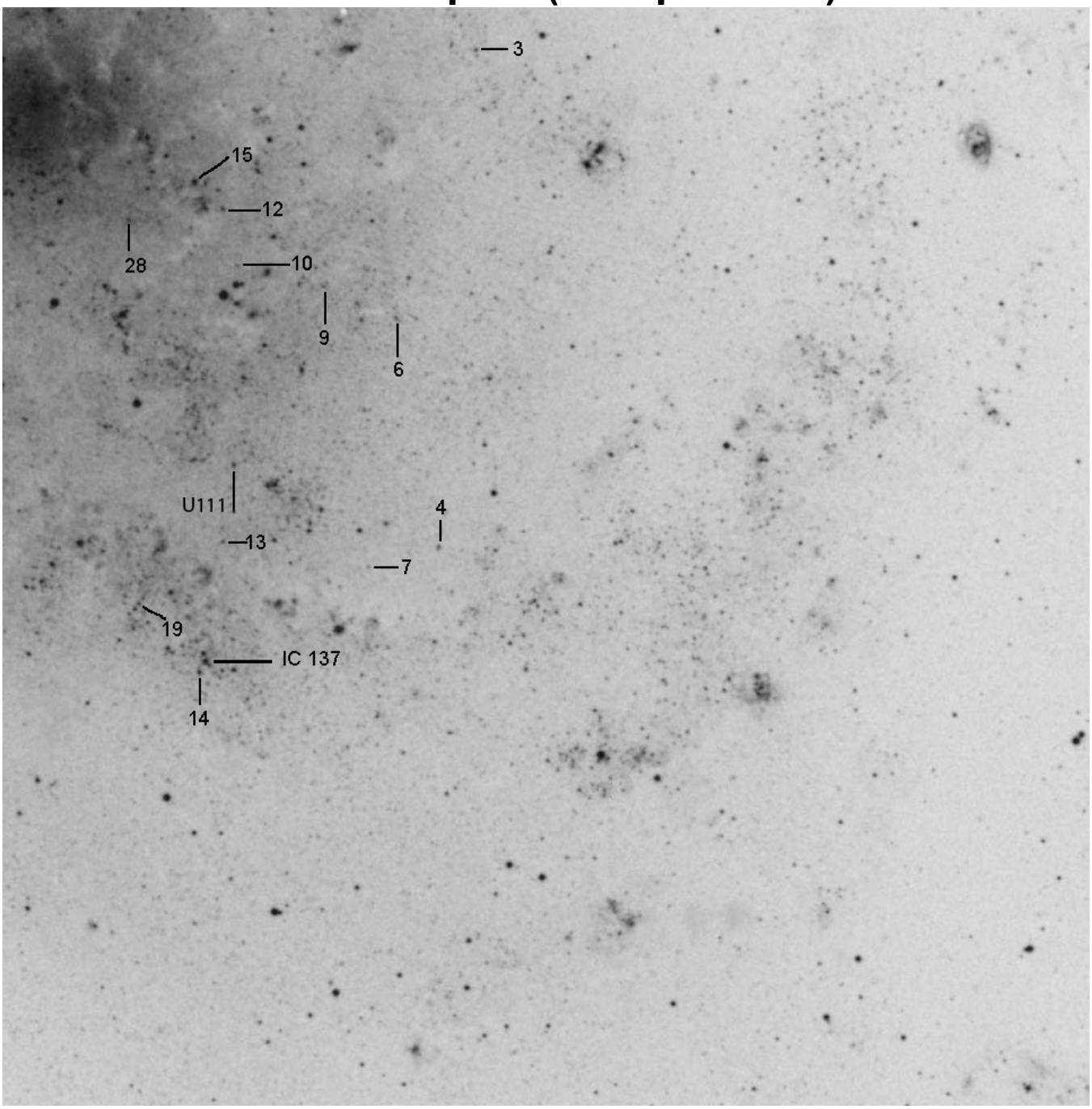
Object	Mag	Object	Mag	Object	Mag
G-16	17.1	G-17	17.0	G-18	17.1
U49	16.0	H38	17.24	U77	17.19

M-33 complex (SE quadrant)



Object	Mag	Object	Mag	Object	Mag
G-23	17.2	G-35	18.0	G-45	18.1
G-25	18.2	G-36	16.4	G-47	16.7
G-27	16.1	G-37	16.3	G-49	17.1
G-29	16.2	G-38	17.8	G-50	18.6
G-30	17.1	G-43	16.5	U101	17.69
G-34	17.9	G-44	17.9	C39	15.9

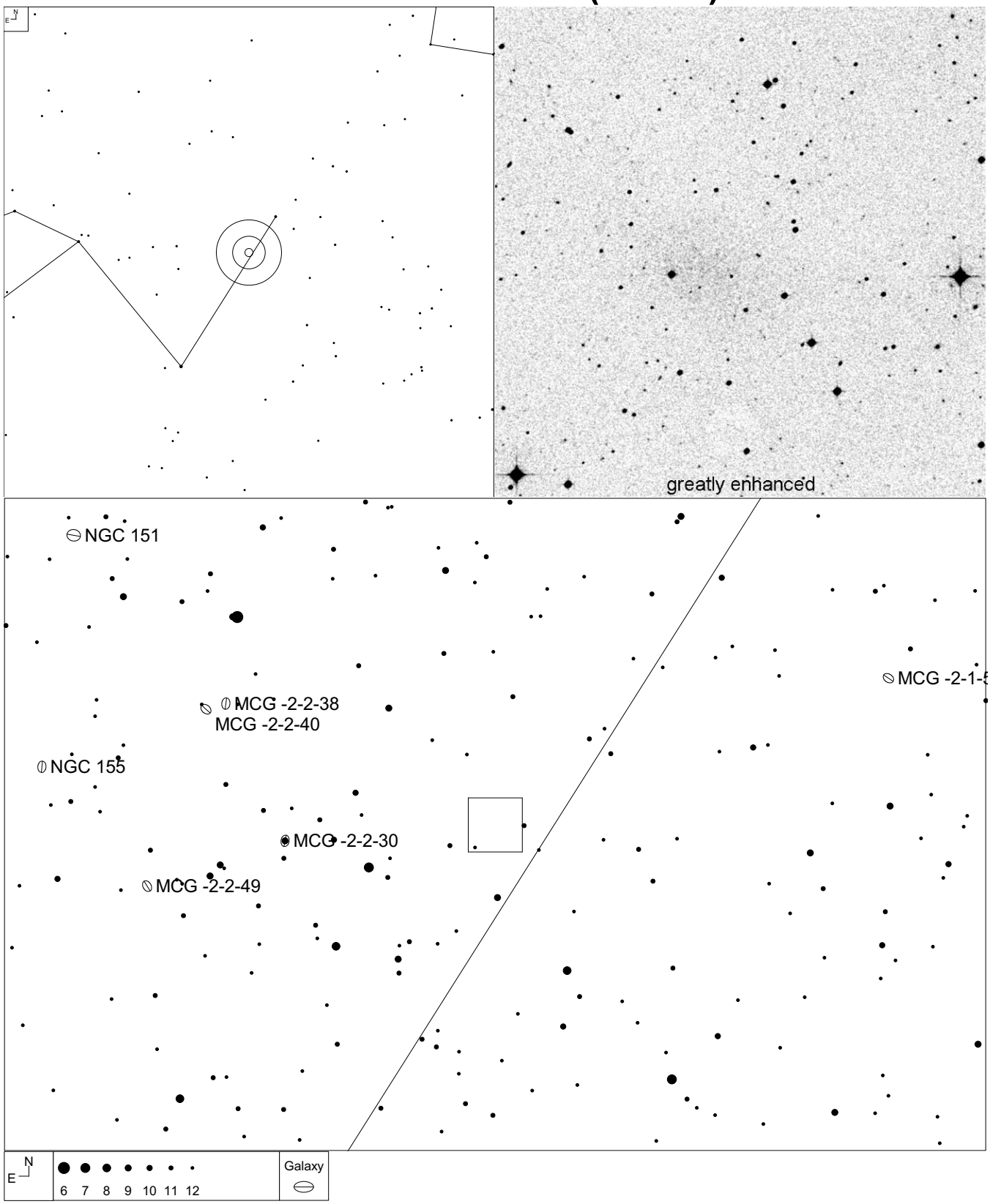
M-33 complex (SW quadrant)



Object[11]	Mag	Object	Mag	Object	Mag
G-3	16.4	G-10	18.5	G-14	16.4
G-4	17.3	U111	17.0	G-15	15.8
G-6	17.8	G-12	17.4	G-19	17.8
G-7	18.4	G-13	17.6	G-28	17.4
G-9	18.3	H38	17.24		

[11] B.J. Mochejska, J. Kaluzny, M. Krockenberger, D.D. Sasselov, and K.Z. Stanek. "Identification and Photometry of Globular Clusters in M31 and M33 Galaxies". *Acta Astronomica. (Vol 48, Sept 1998),* 455-488

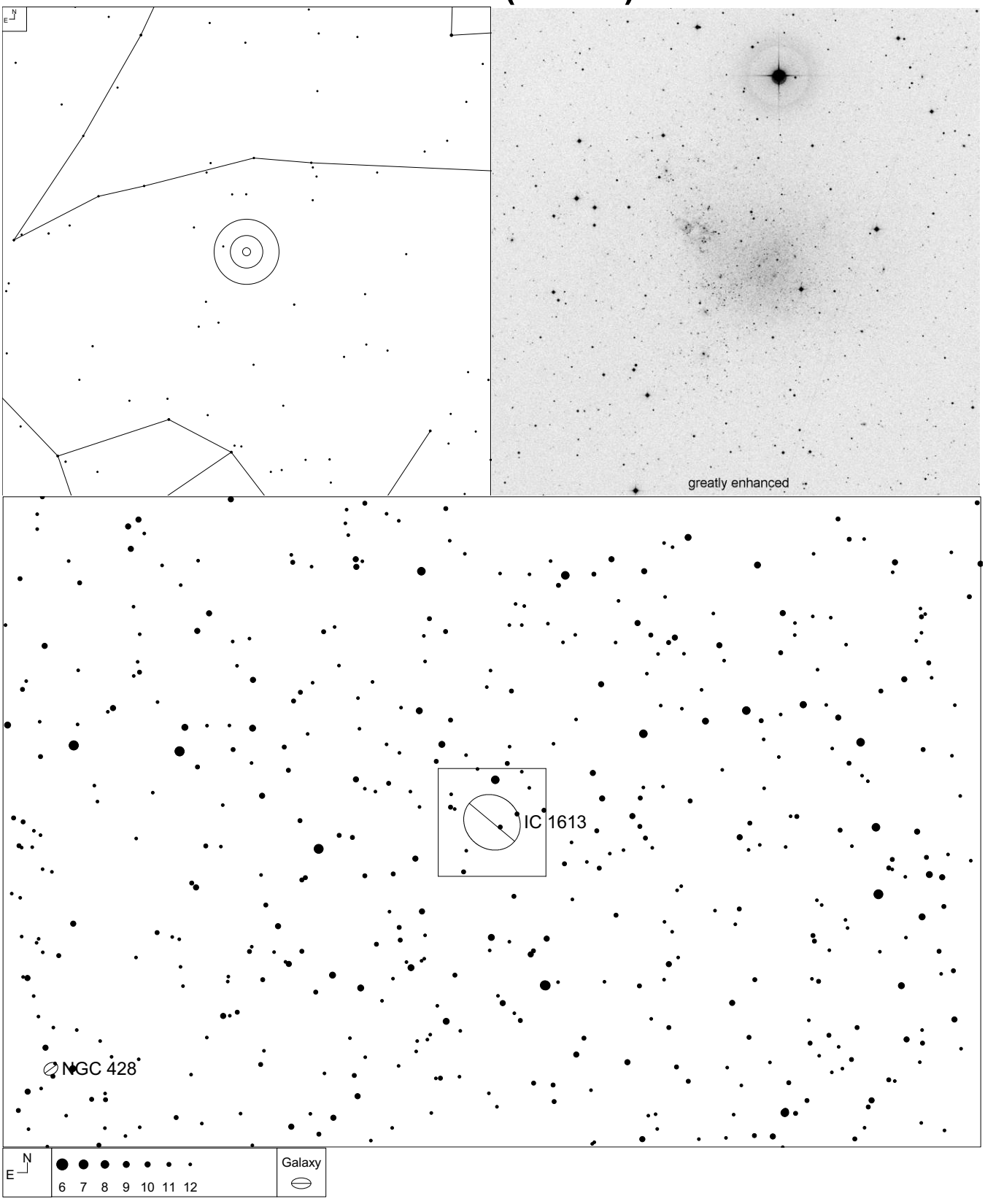
Cetus Dwarf (Cetus)



RA	Dec	Type	Mag	Size	Distance	Urano
00 26 11	-11 02 27	dE4	14.4	5.0 x 4.3’	2.8 mly	123L

SEDS Website: http://spider.seds.org/spider/LG/cet_dw.html

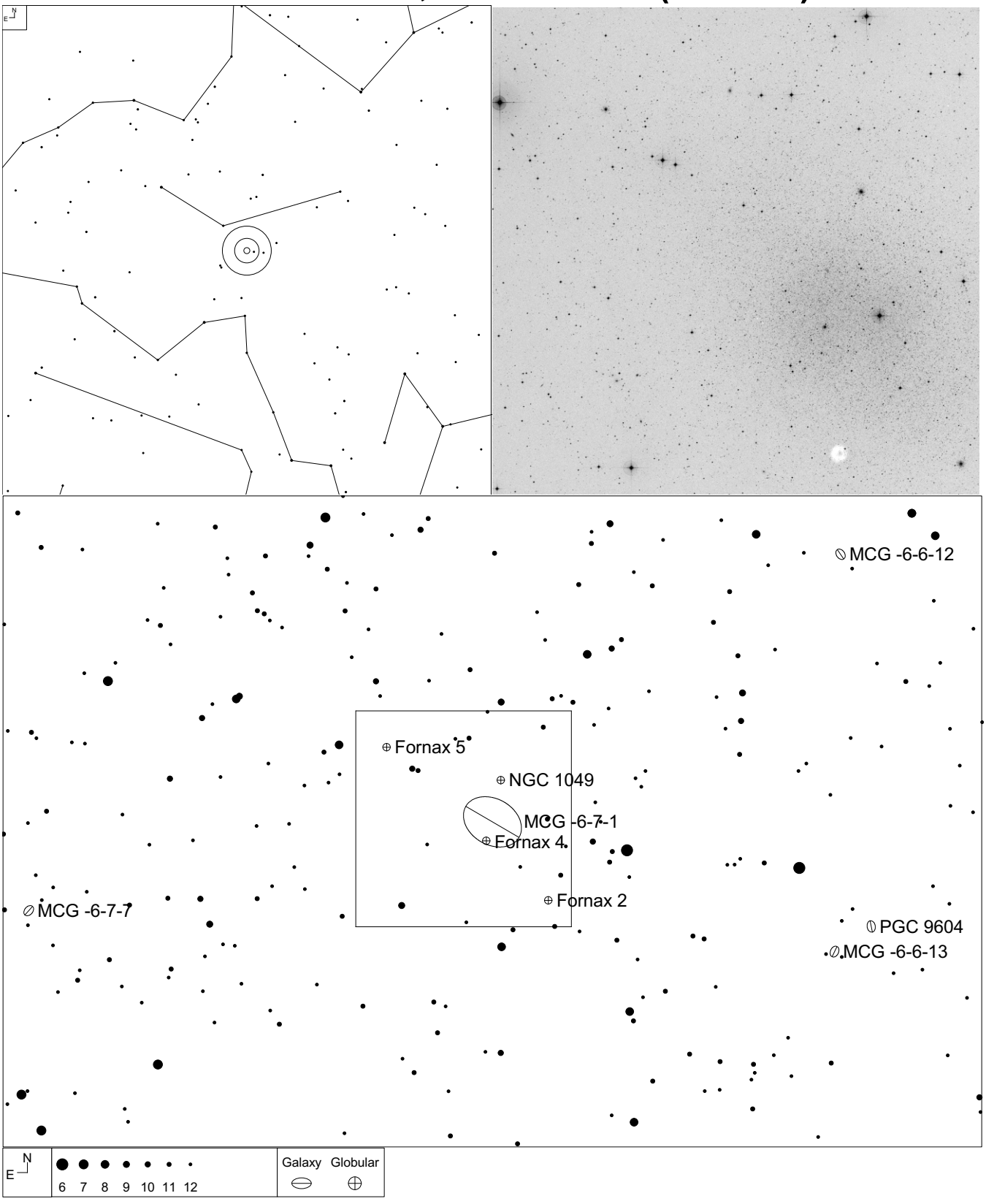
IC 1613 (Cetus)



RA	Dec	Type	Mag	Size	Distance	Urano
01 04 47	+02 07 05	IAB(s)m V	15.9	16.3 x 14.5’	2.9 mly	120R

SEDS Website: http://spider.seds.org/spider/LG/i1613.html

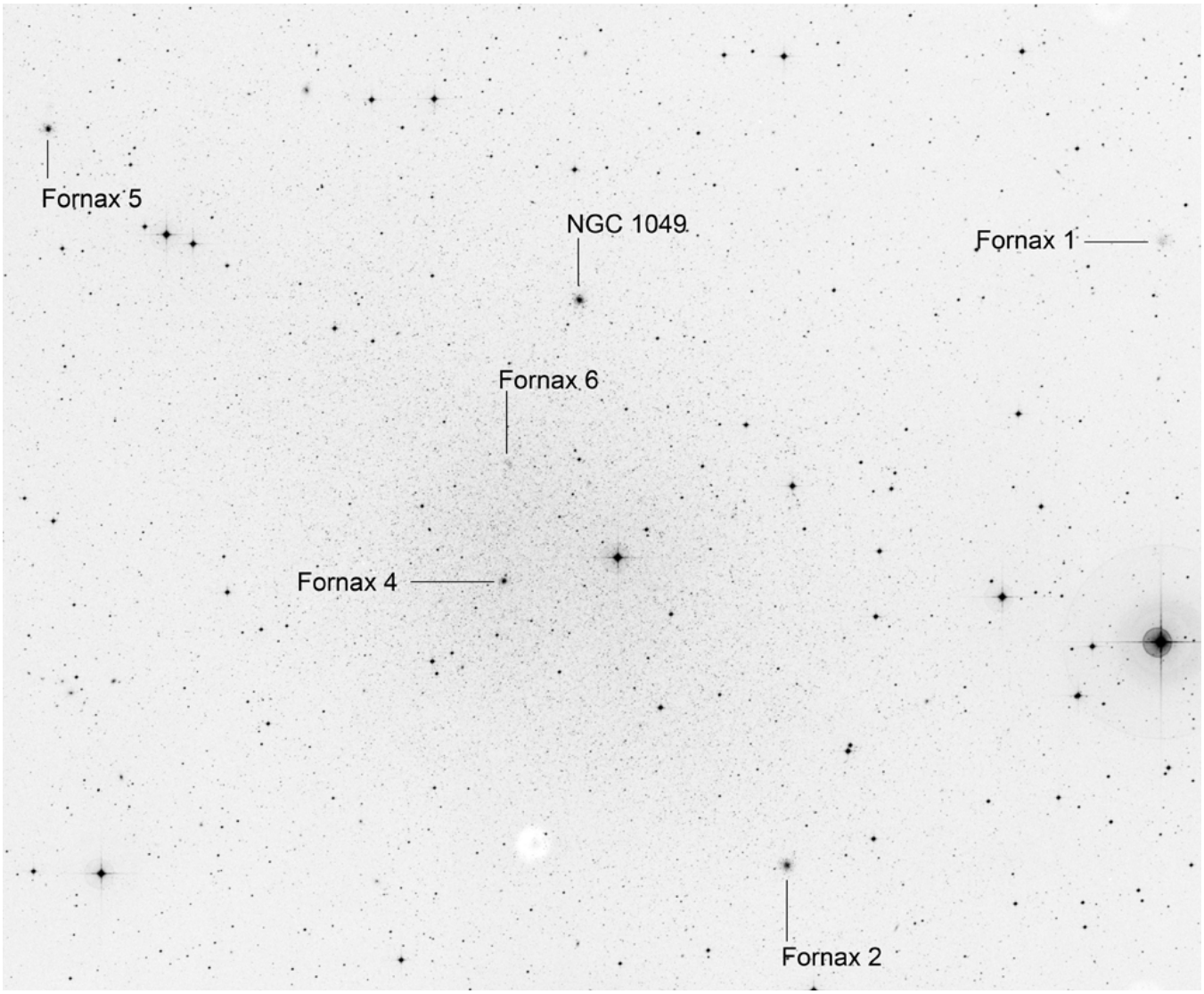
Fornax Dwarf, MCG-6-7-1 (Fornax)



RA	Dec	Type	Mag	Size	Distance	Urano
02 39 59	-34 26 57	dE0	9.3	17.0 x 12.6’	530 kly	175R

SEDS Website: http://spider.seds.org/spider/LG/for_dw.html

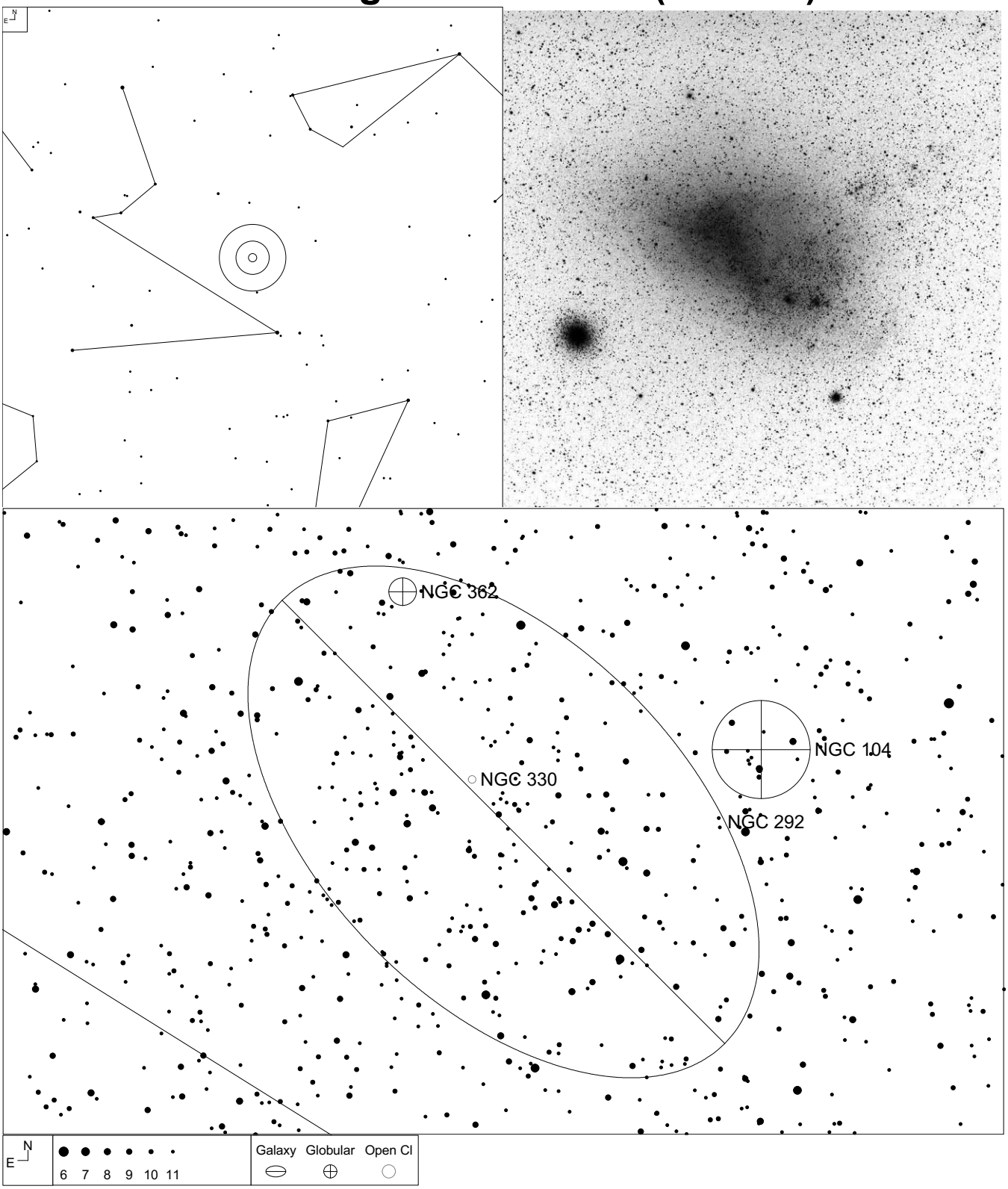
Fornax Dwarf Globular Clusters



Object	Type[12]	Mag	Size
NGC 1049	Globular Cluster	12.6	0.8’
Fornax 1	Globular Cluster	15.6	0.9’
Fornax 2	Globular Cluster	13.5	0.8’
Fornax 4	Globular Cluster	13.6	0.8’
Fornax 5	Globular Cluster	13.4	1.7’
Fornax 6	Globular Cluster	-	0.6’

[12] K. S. Oh, D. N. C. Lin, Harvey B. Richer. “Globular Clusters in the Fornax Dwarf Spheroidal Galaxy”. *The Astrophysical Journal*. (Vol 531, March 2010), 727-738

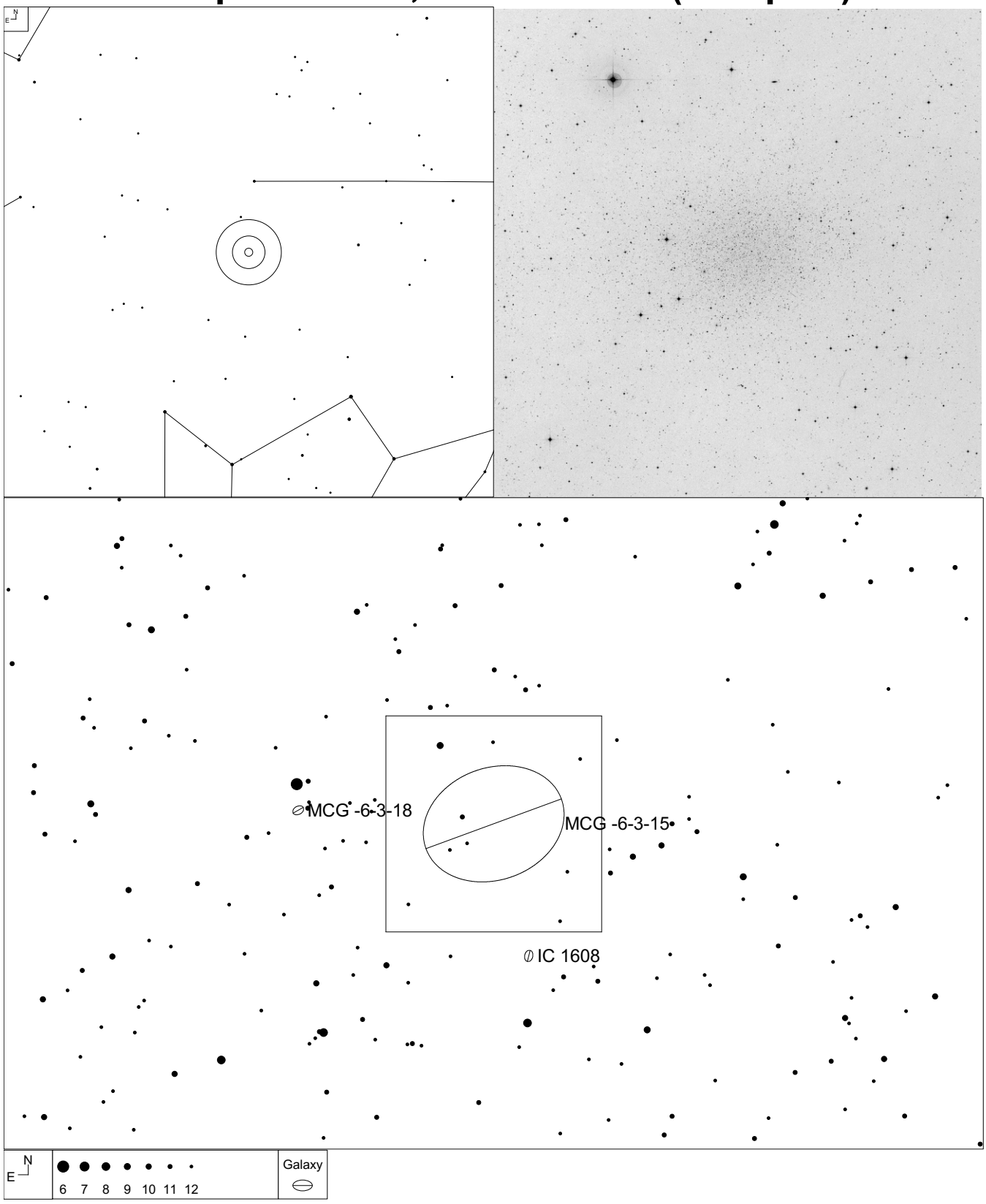
Small Magellanic Cloud (Tucana)



RA	Dec	Type	Mag	Size	Distance	Urano
00 52 45	-72 49 43		2.7	320 x 185’	199 kly	204L

SEDS Website: http://spider.seds.org/spider/LG/smc.html

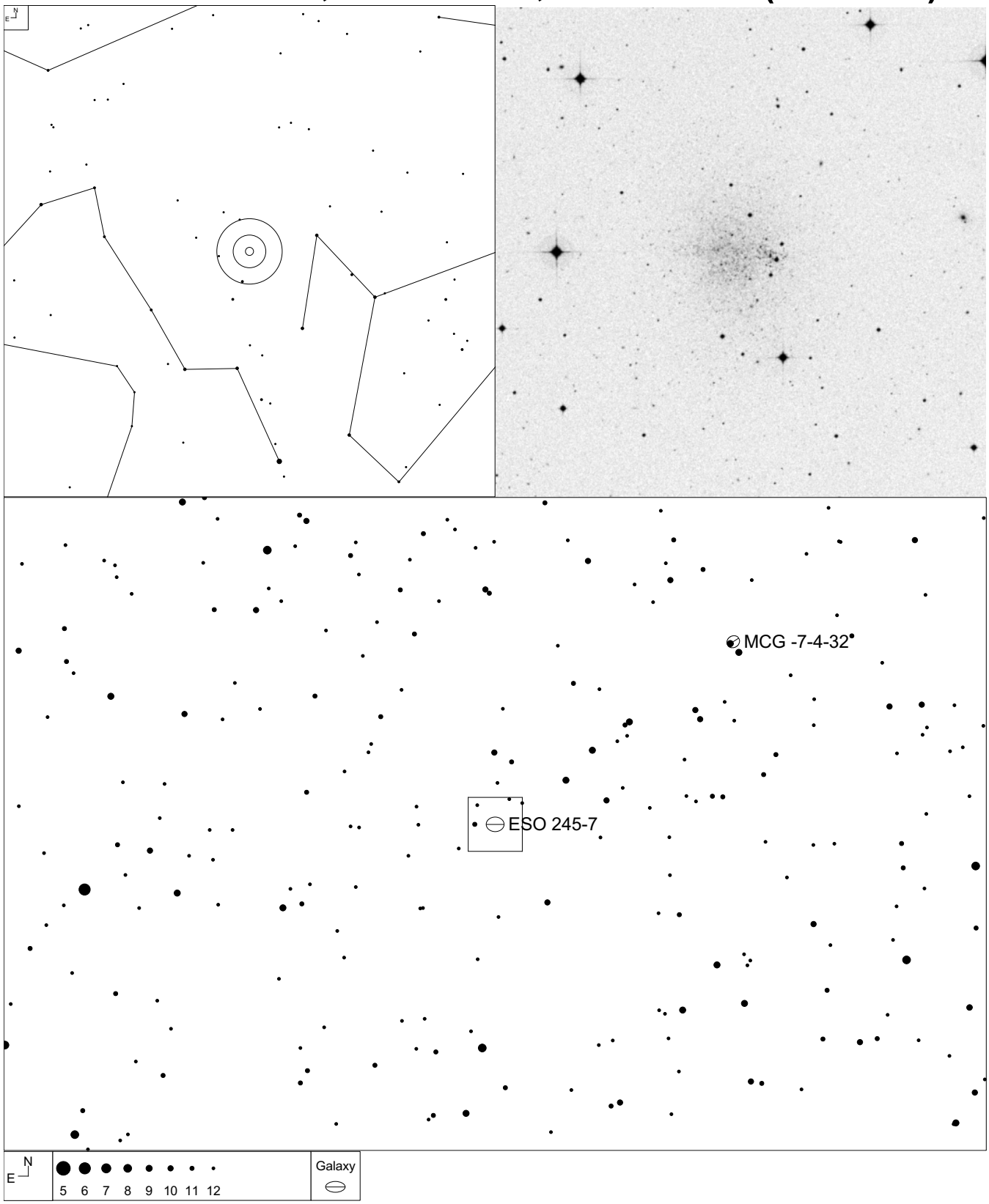
Sculptor Dwarf, MCG-6-3-15 (Sculptor)



RA	Dec	Type	Mag	Size	Distance	Urano
01 00 11	-33 43 15	E?	10.5b	39.8 x 30.8’	280 kly	176R

SEDS Website: http://spider.seds.org/spider/LG/scl_dw.html

Phoenix Dwarf, ESO 245-7, PGC 6830 (Phoenix)

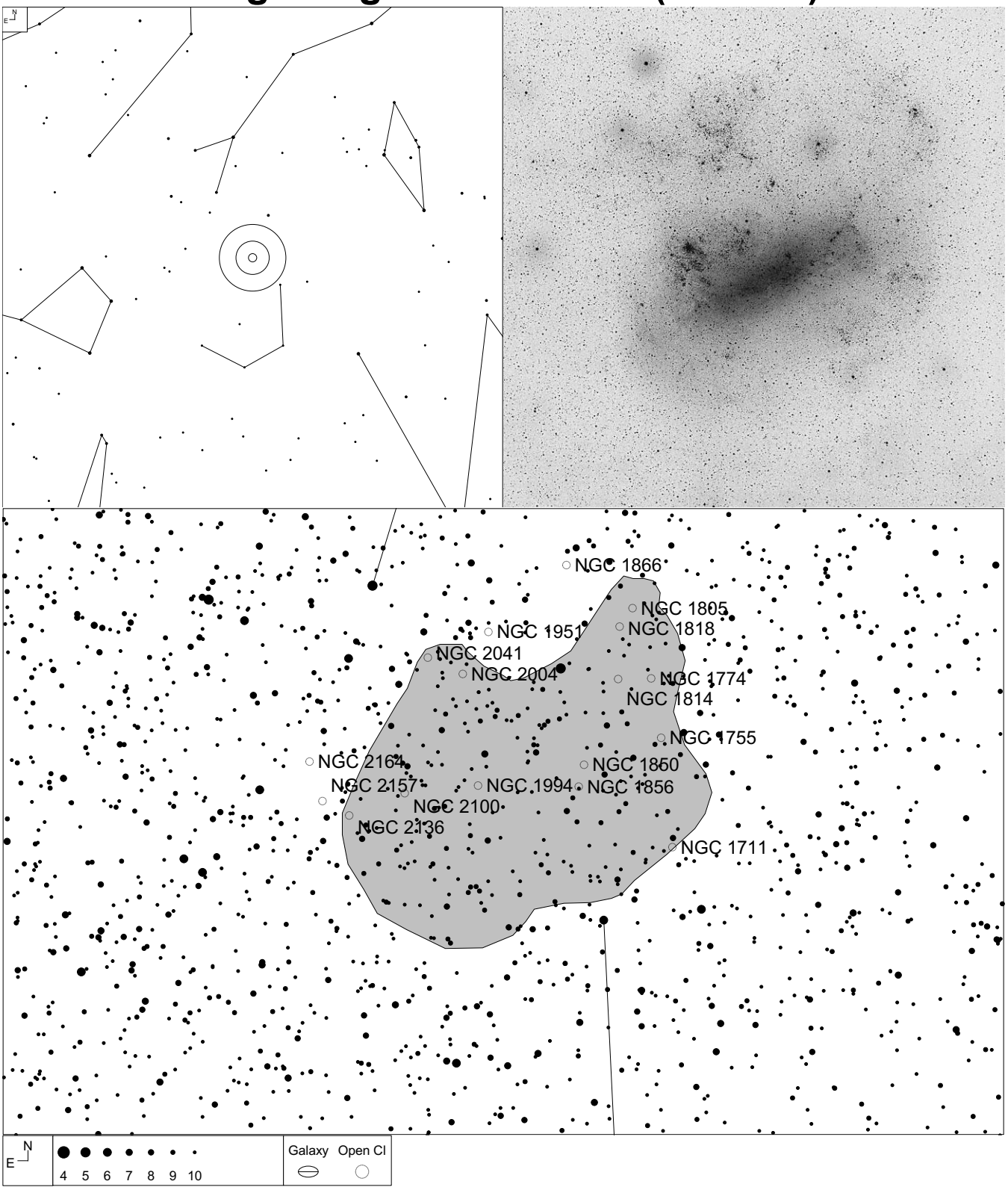


RA	Dec	Type	Mag	Size	Distance	Urano
01 51 06	-44 26 42	IAm	13.1p	4.9 x 4.1’	1.4 mly	191L

SEDS Website: http://spider.seds.org/spider/LG/phe_dw.html

For the Hubble image of the Phoenix Dwarf (2011), see https://esahubble.org/images/potw1143a/

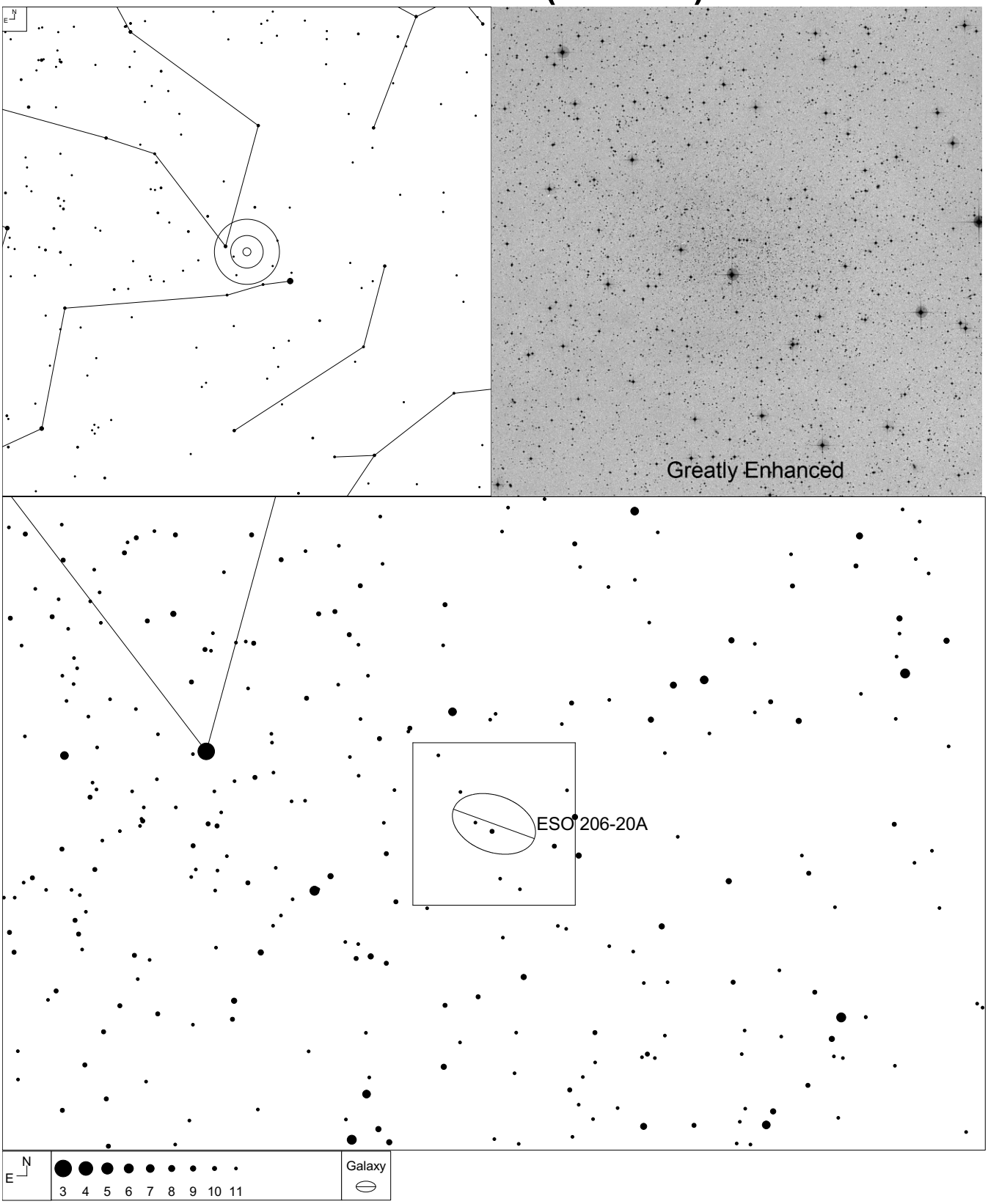
Large Magellanic Cloud (Toucan)



RA	Dec	Type	Mag	Size	Distance	Urano
05 23 35	-69 45 22	SB(s)m	0.9	650 x 550’	158 kly	212L

SEDS Website: http://spider.seds.org/spider/LG/lmc.html

Carina Dwarf (Tucana)

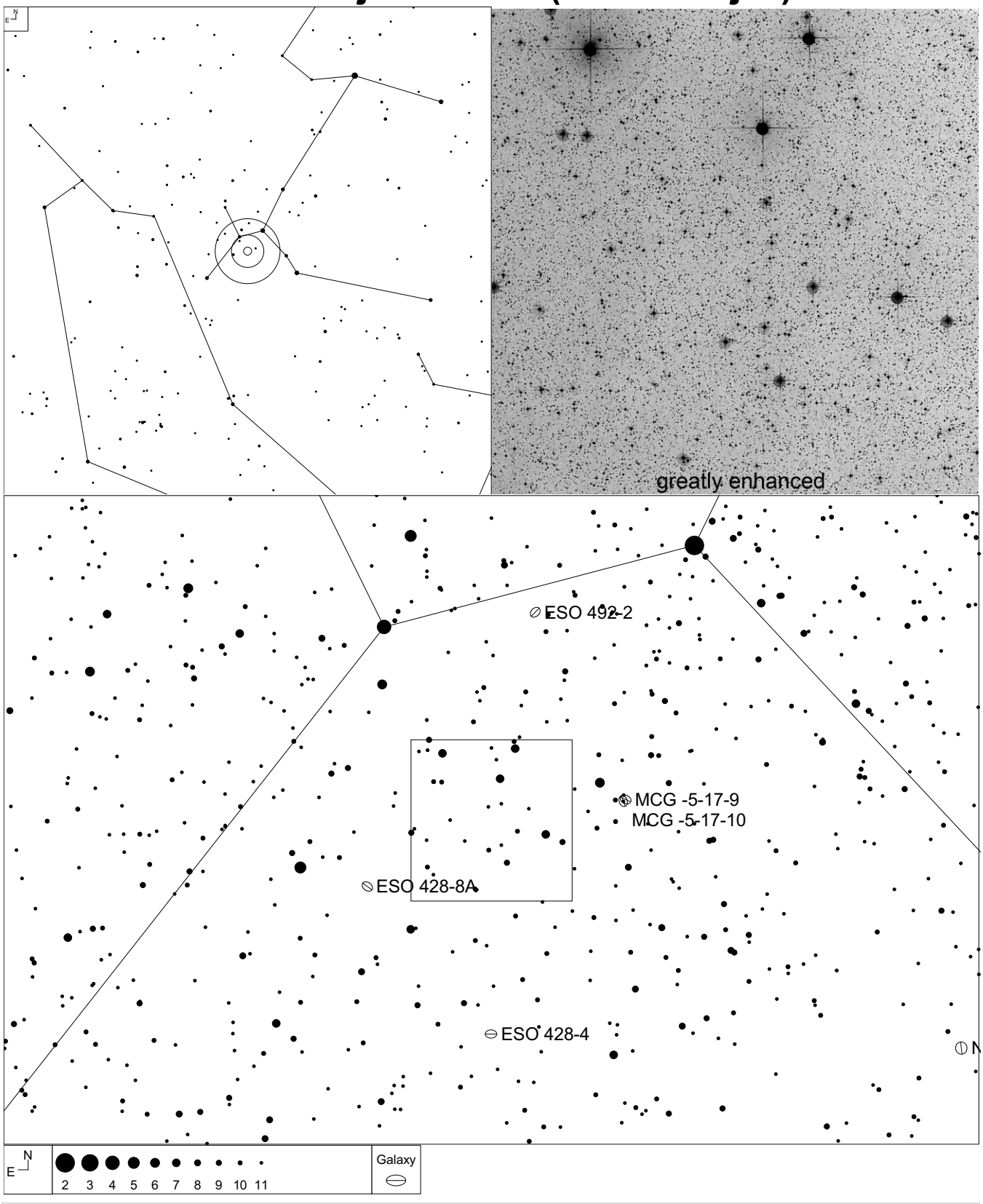


RA	Dec	Type	Mag	Size	Distance	Urano
06 41 37	-50 57 58	dE3	11.3b	23.4 x 15.5’	330 kly	188R

SEDS Website: http://spider.seds.org/spider/LG/car_dw.html

For a brief article “Hiding in Plain Sight – the Elusive Carina Dwarf Galaxy” (2011), see https://www.eso.org/public/images/potw1126a/

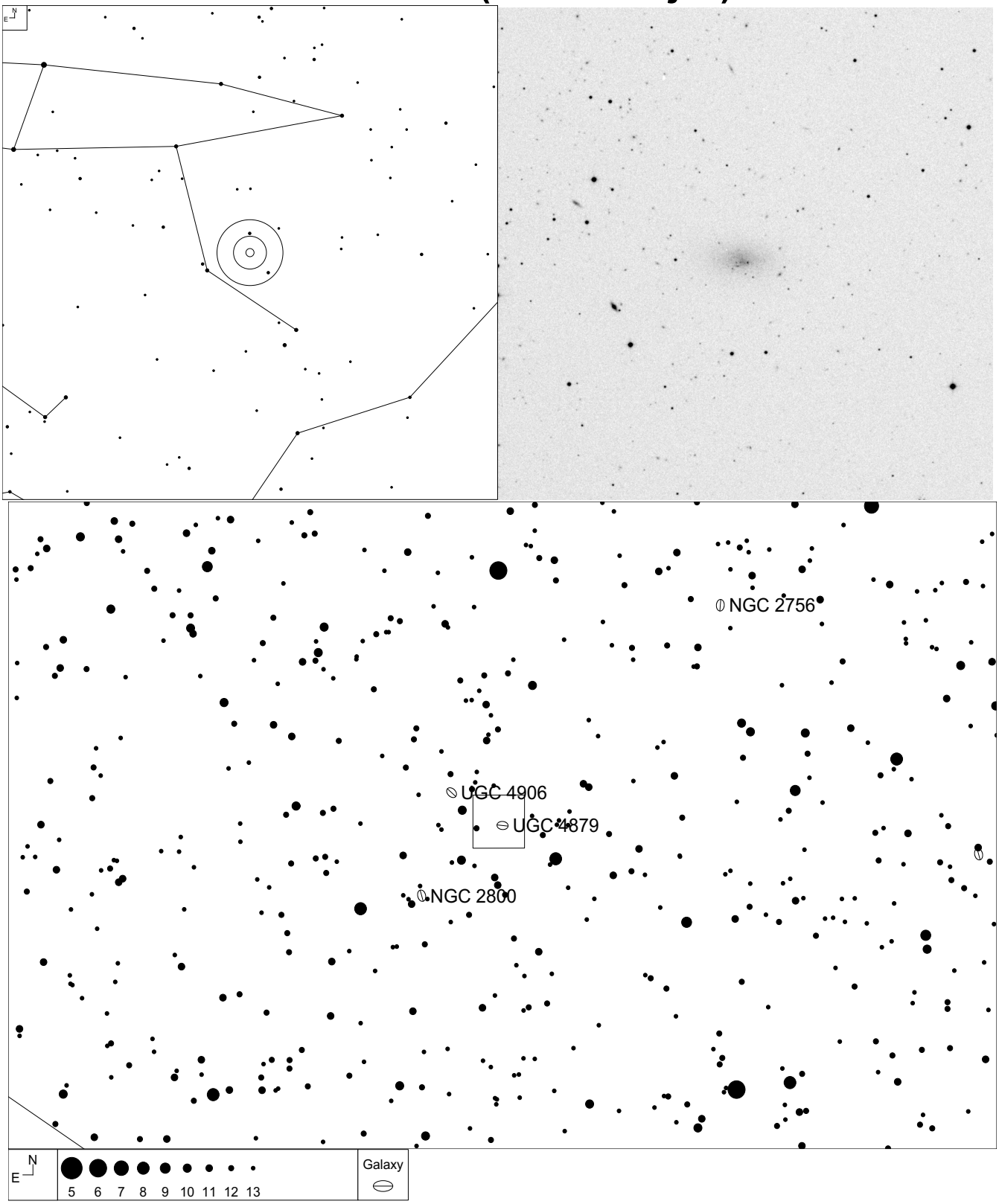
Canis Major Dwarf (Canis Major)



RA	Dec	Type	Mag	Size	Distance	Urano
07 12 35	-27 40 00		?	?	25 kly	154L

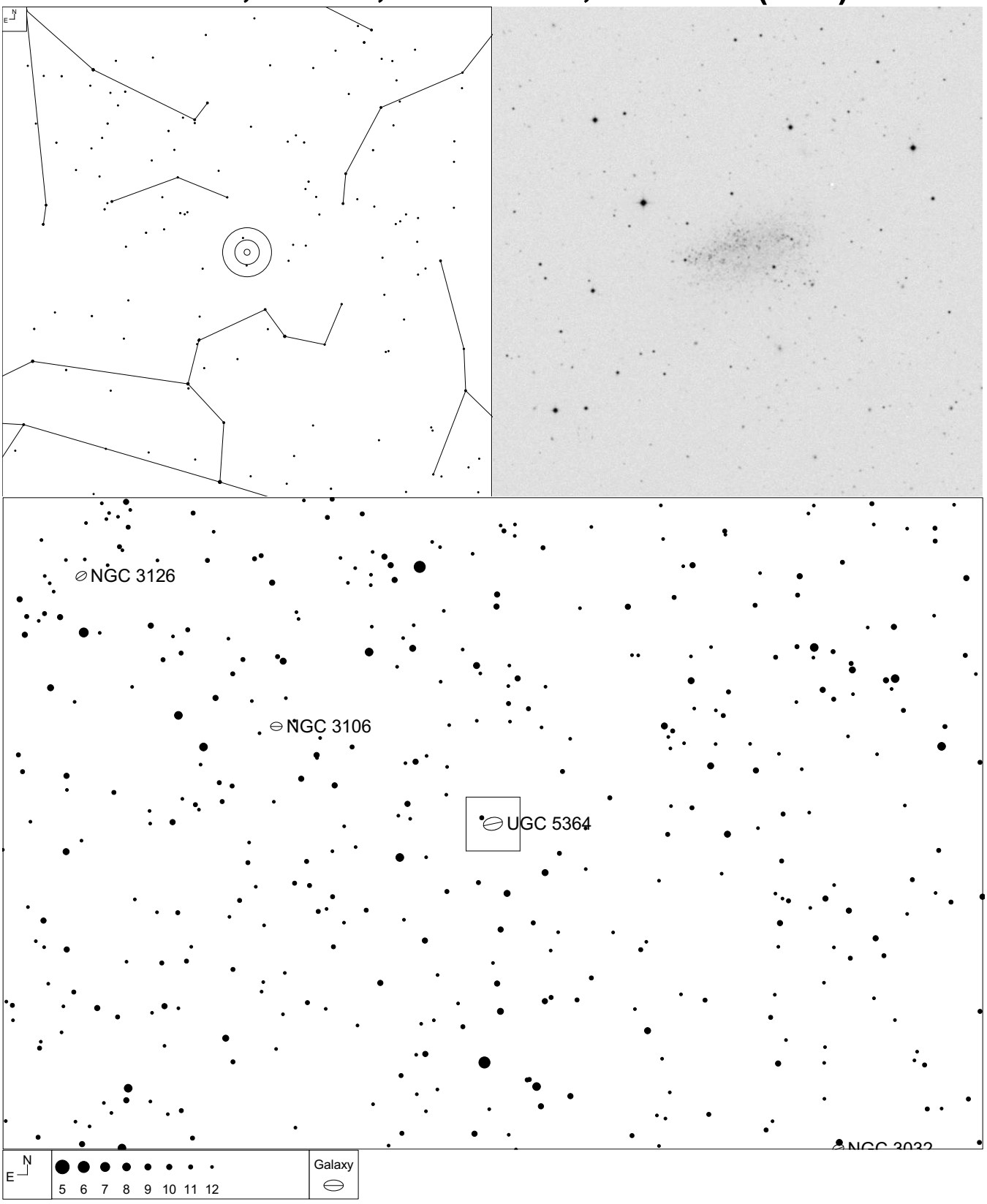
Probably not observable as this dwarf is 12 x 12 degrees and being shredded by the Milky Way as it orbits around our galaxy. See NGC 5907 link for an example of what it could look like.
SEDS Website: http://spider.seds.org/spider/LG/cma_dw.html

UGC 4879 (URSA Major)



RA	Dec	Type	Mag	Size	Distance	Urano
09 16 02	+52 50 42	IAm	13.2v	2.5 x 1.5’	4.2 mly	

Leo A, Leo III, UGC 5364, DDO 69 (Leo)

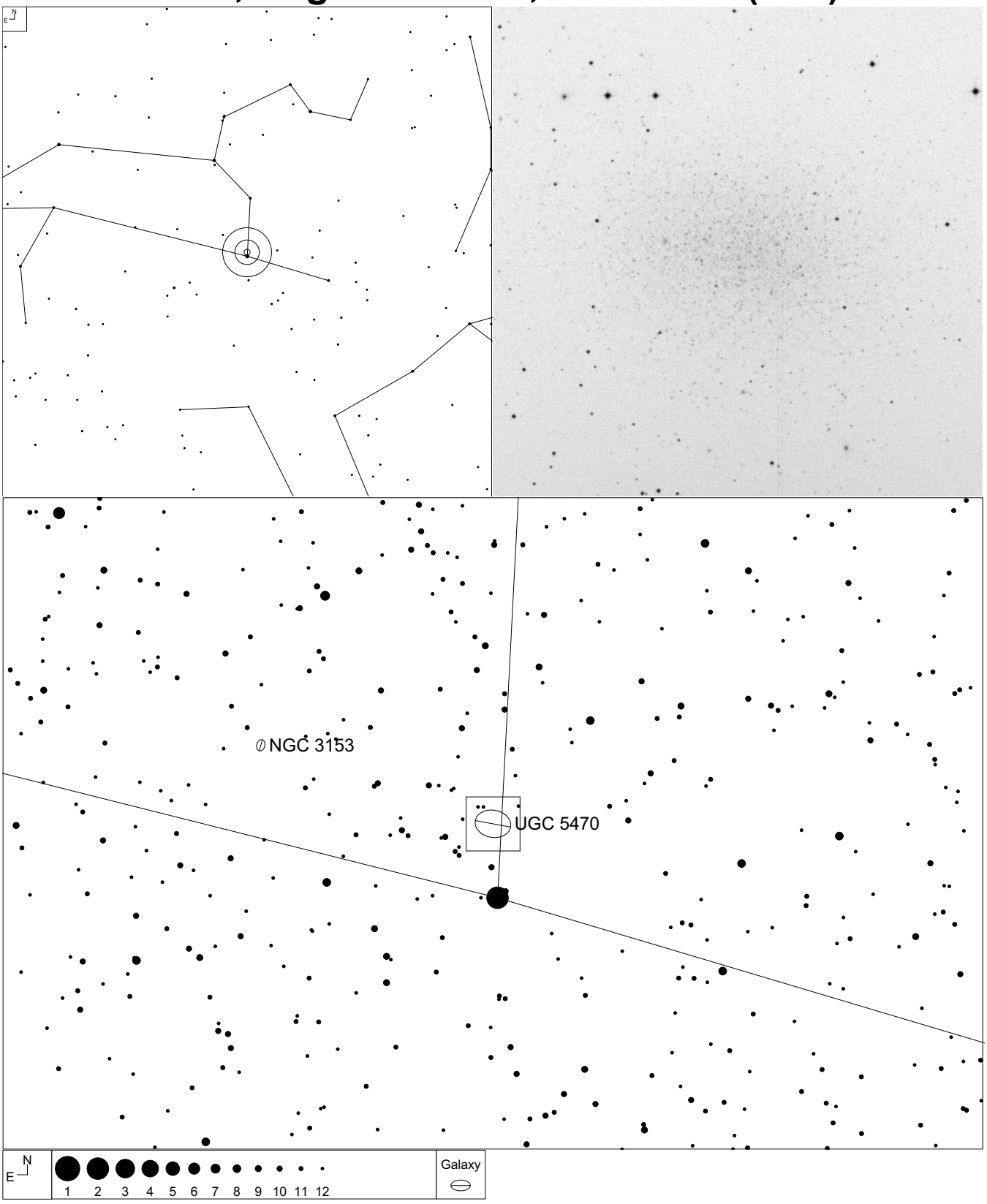


RA	Dec	Type	Mag	Size	Distance	Urano
09 59 25	+30 44 34	IBm V	12.69	5.3 x 3.4’	2.5 mly	73L

SEDS Website: http://spider.seds.org/spider/LG/leoA.html

For a brief article “Hubble Peers into the Mouth of Leo A”, see https://science.nasa.gov/missions/hubble/hubble-peers-into-the-mouth-of-leo-a/

Leo I, Regulus Dwarf, UGC 5470 (Leo)

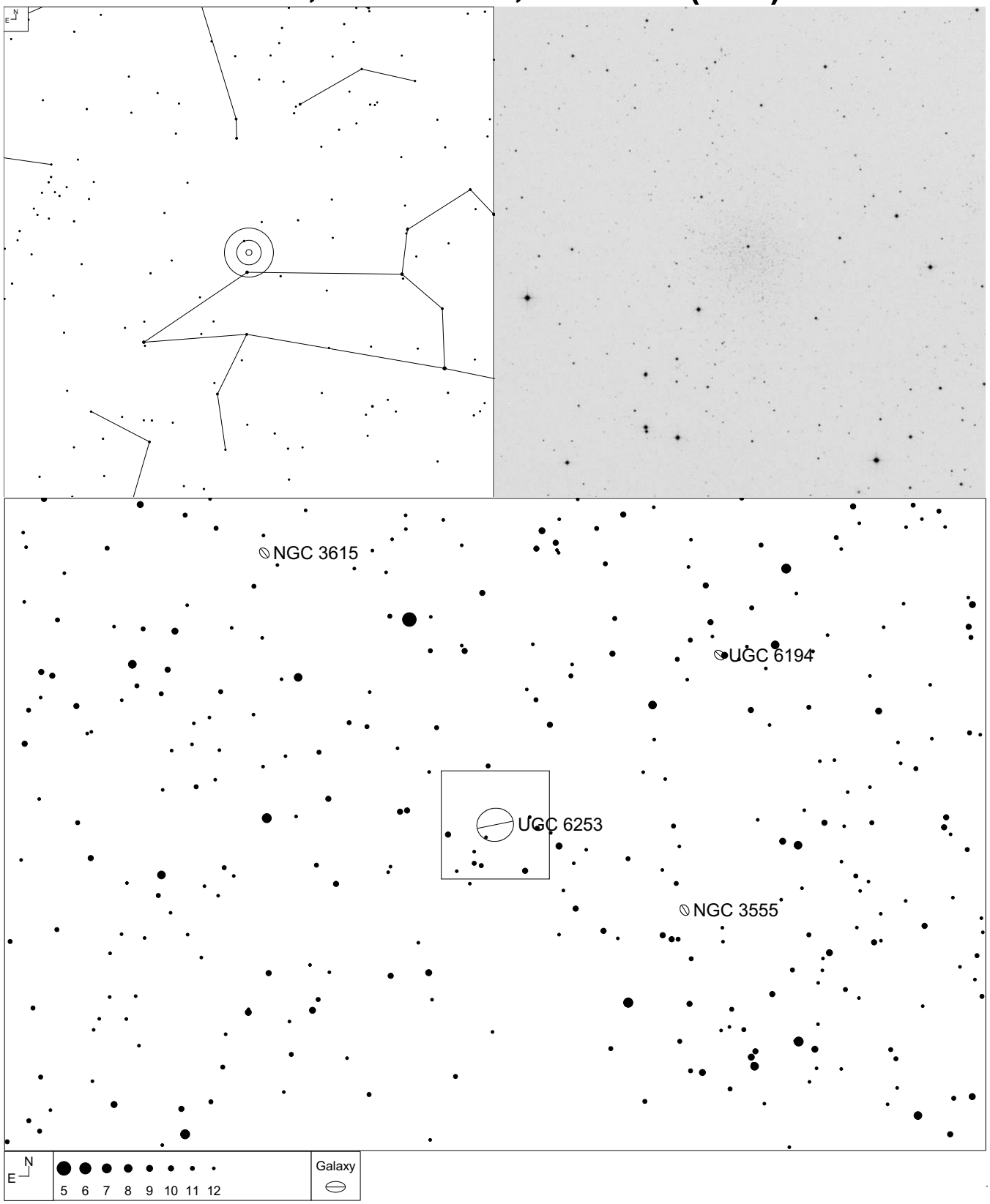


RA	Dec	Type	Mag	Size	Distance	Urano
10 08 28	12 18 27	dE3	10.2	5.1 x 3.5’	900 kly	93L

Recent discovery of a massive black hole in Leo I: https://www.sci.news/astronomy/dwarf-spheroidal-galaxy-leo-i-black-hole-10328.html

SEDS Website: http://spider.seds.org/spider/LG/leo1.html

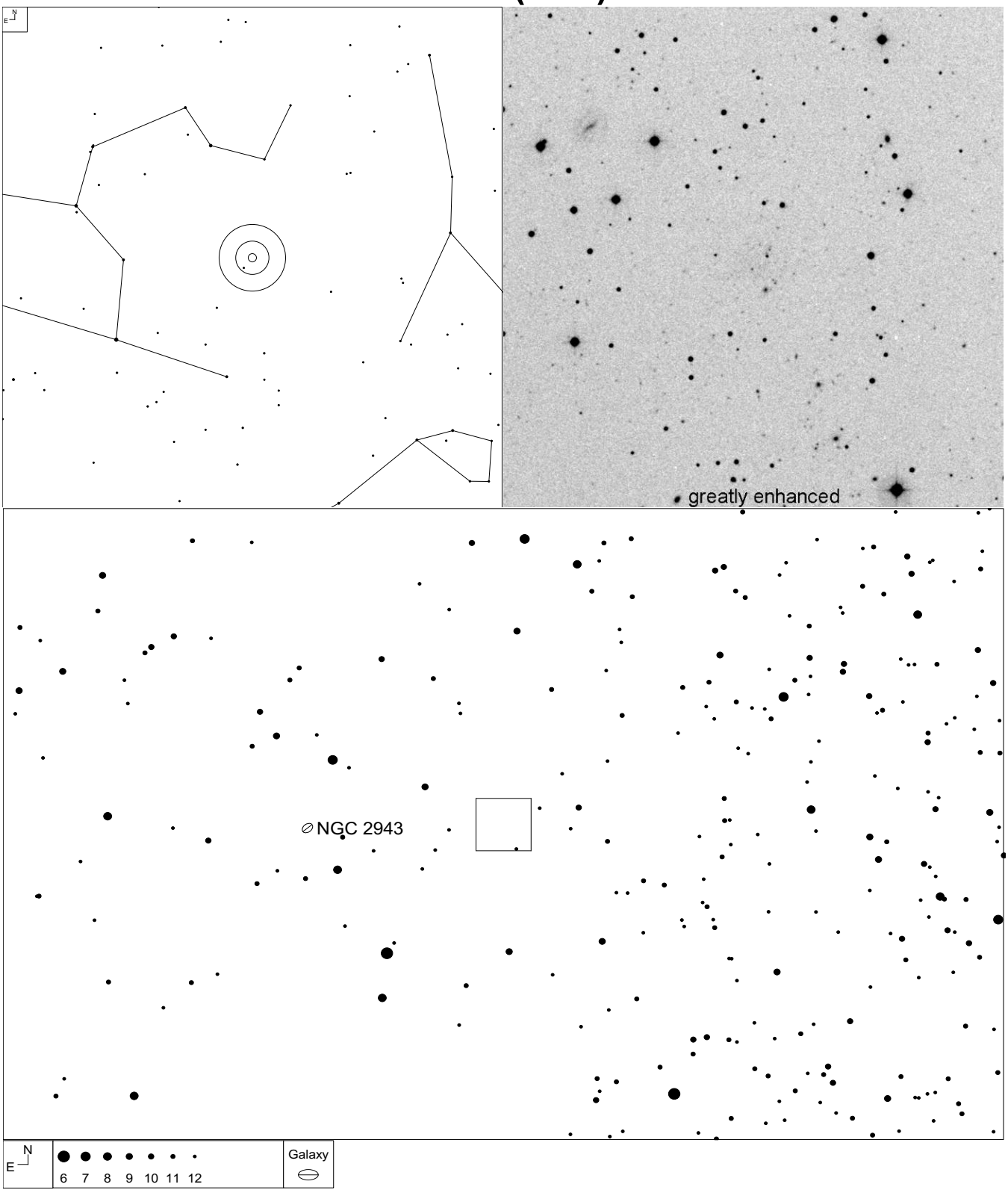
Leo II, UGC 6253, DDO 93 (Leo)



RA	Dec	Type	Mag	Size	Distance	Urano
11 13 29	+22 09 12	dE0 pec	11.9	10.1 x 9.0’	750 kly	73L

SEDS Website: http://spider.seds.org/spider/LG/leo2.html

Leo T (Leo)

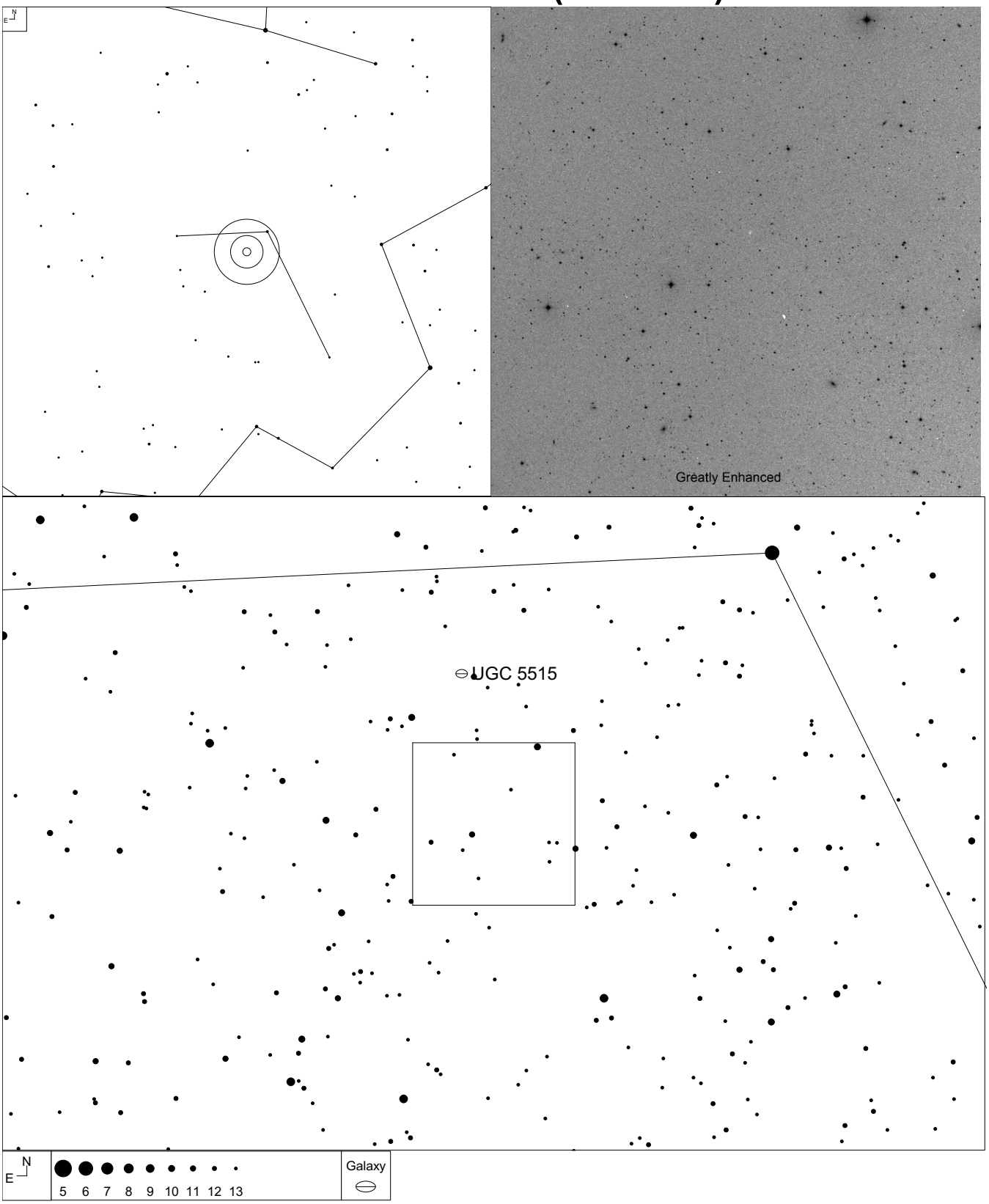


RA	Dec	Type	Mag	Size	Distance	Urano
09 34 51	+17 03 02	dSph	16.0	1.4 x 1.4’	1.4 mly	93R

SEDS Website: http://spider.seds.org/spider/LG/leoT.html

For a journal article discussing star formation in the faintest known star-forming galaxy, see Daniel R. Weisz, Daniel B Zucker, et al, “The Star Formation History of Leo I from Hubble Space Telescope Imaging” *The Astrophysical Journal*. (Vol. 748, No. 2, April 2012), 88-93

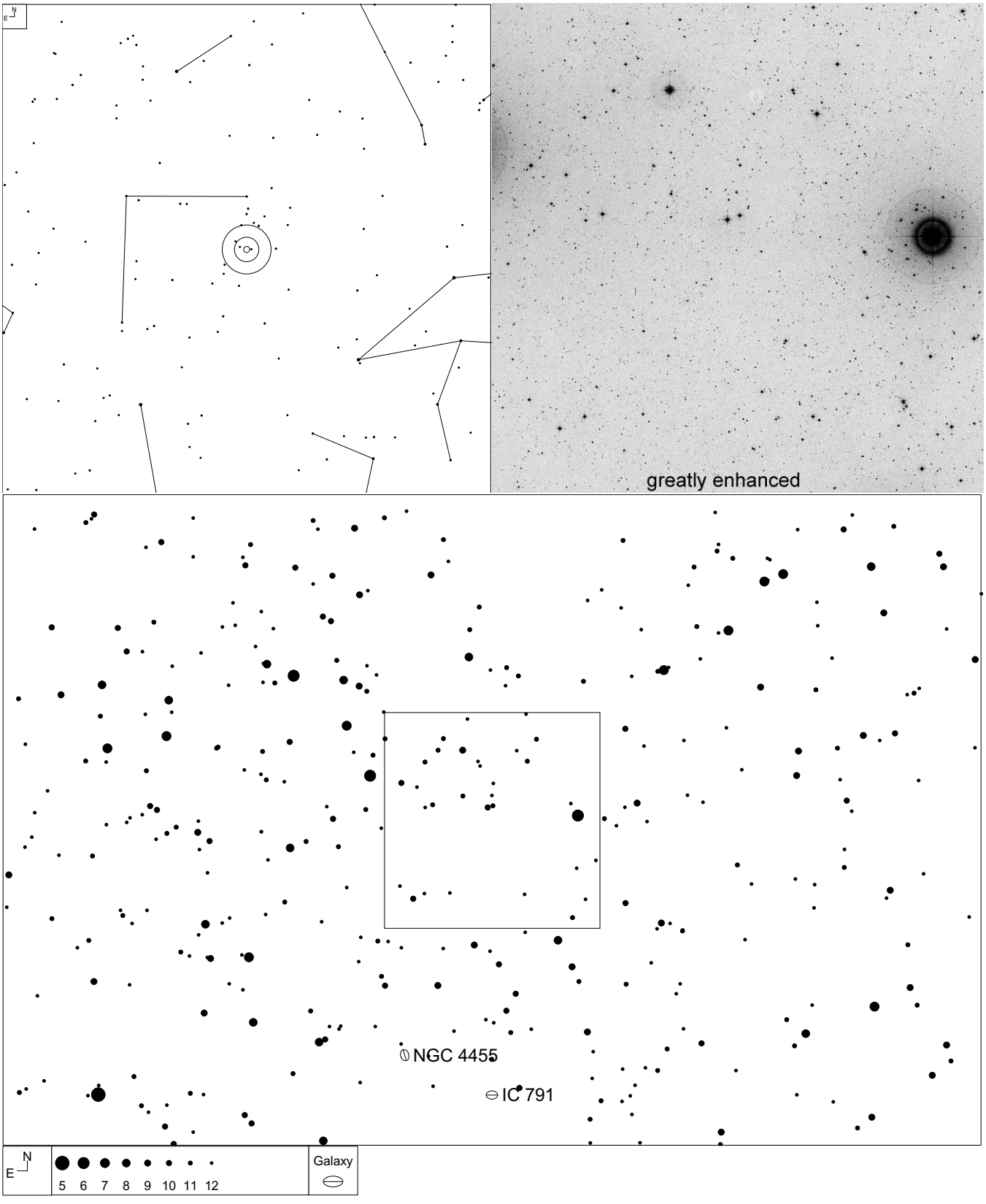
Sextans Dwarf (Sextans)



RA	Dec	Type	Mag	Size	Distance	Urano
10 13 03	-01 36 53	dSph	10.4v	30 x 12’	290 kly	112R

SEDS Website: http://spider.seds.org/spider/LG/sex_dw.html

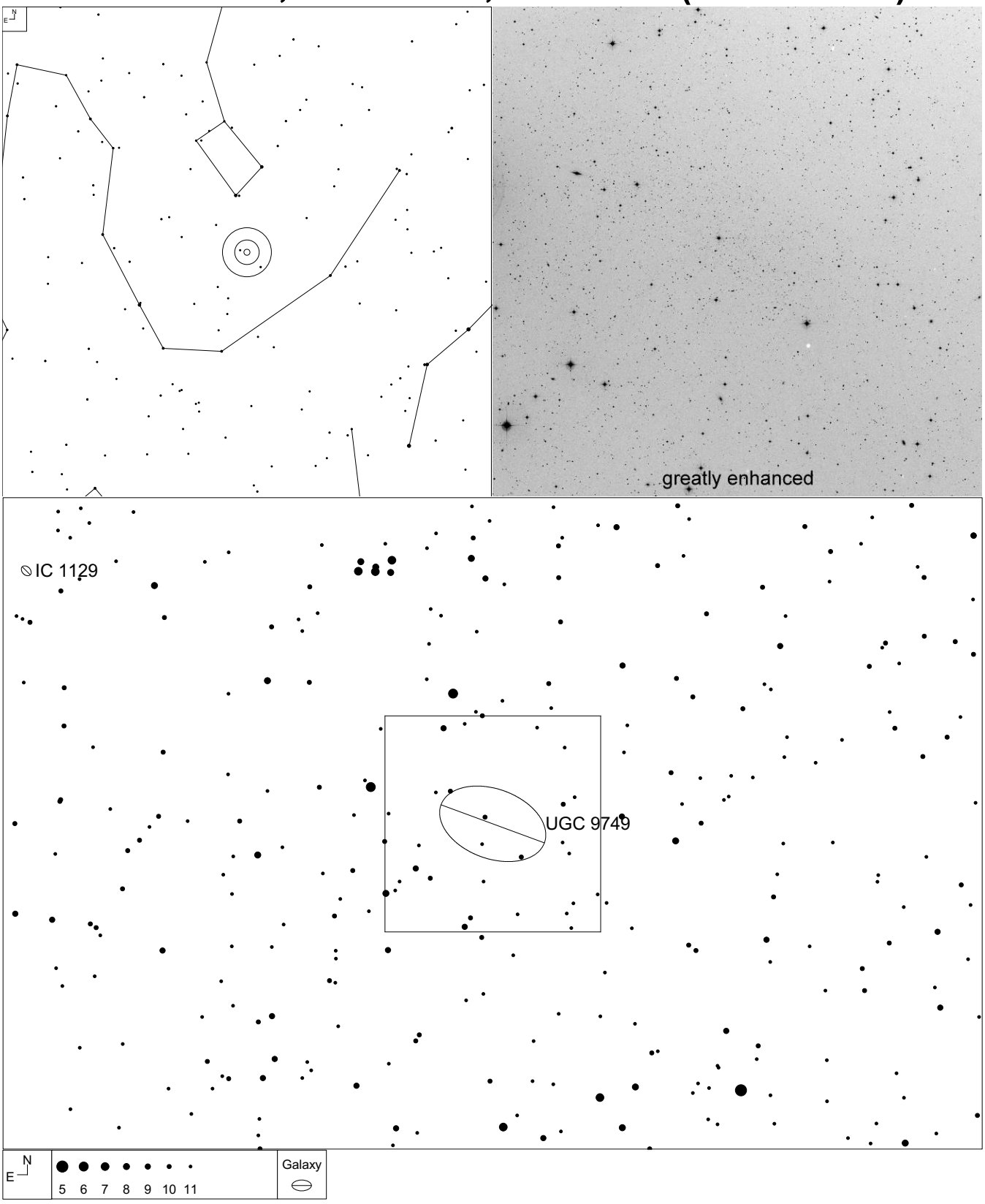
Coma Berenices Dwarf



RA	Dec	Type	Mag	Size	Distance	Urano
12 26 59	+23 54 15	dSph	14.5	5.0 x 2.5’	143 kly	72L

SEDS Website: http://spider.seds.org/spider/LG/com_dw.html

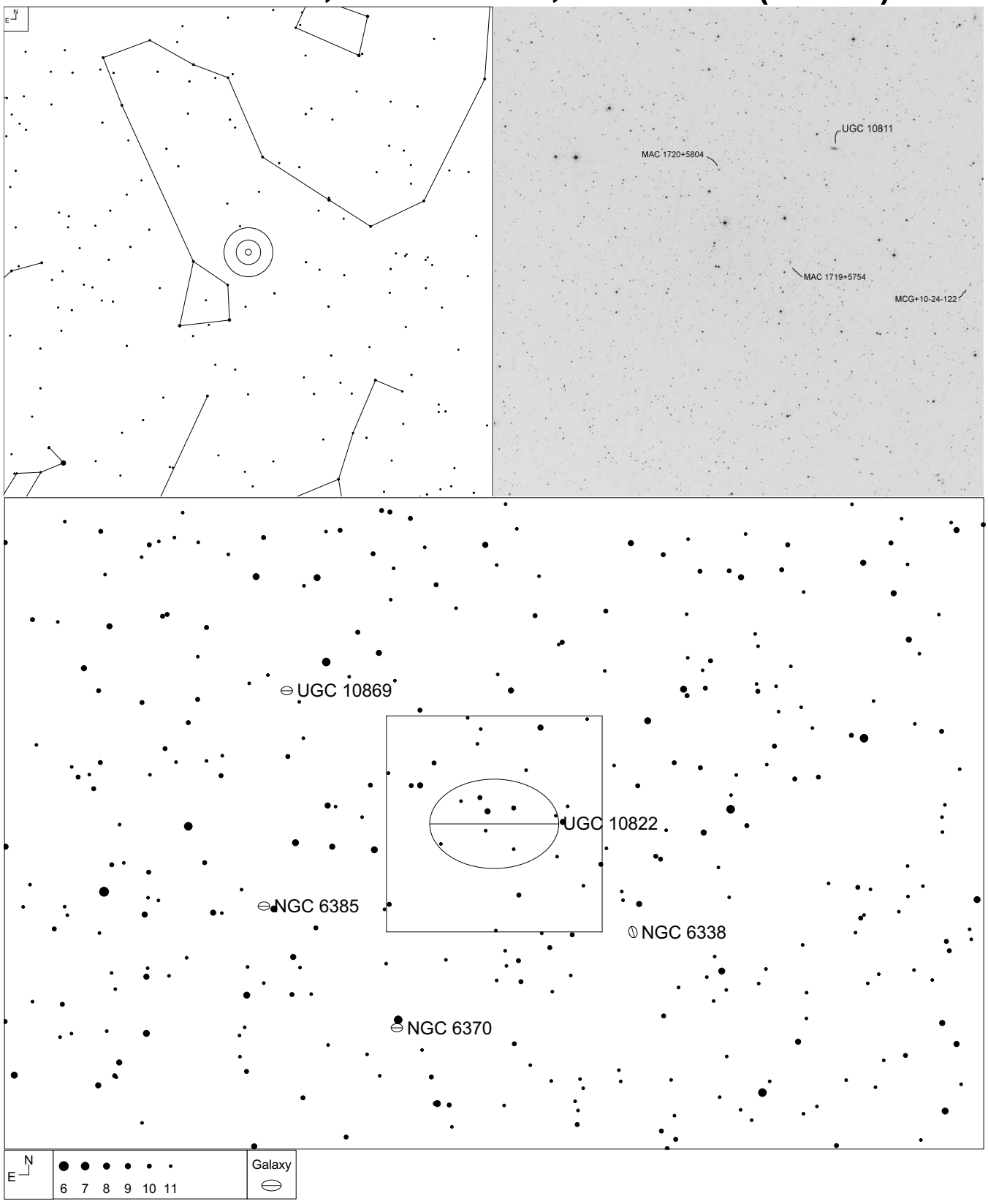
Ursa Minor, UGC 9749, DDO 119 (Ursa Minor)



RA	Dec	Type	Mag	Size	Distance	Urano
15 08 48	+67 11 00	dE4	10.6	30.4 x 19.1’	240 kly	12L

SEDS Website: http://spider.seds.org/spider/LG/umi_dw.html

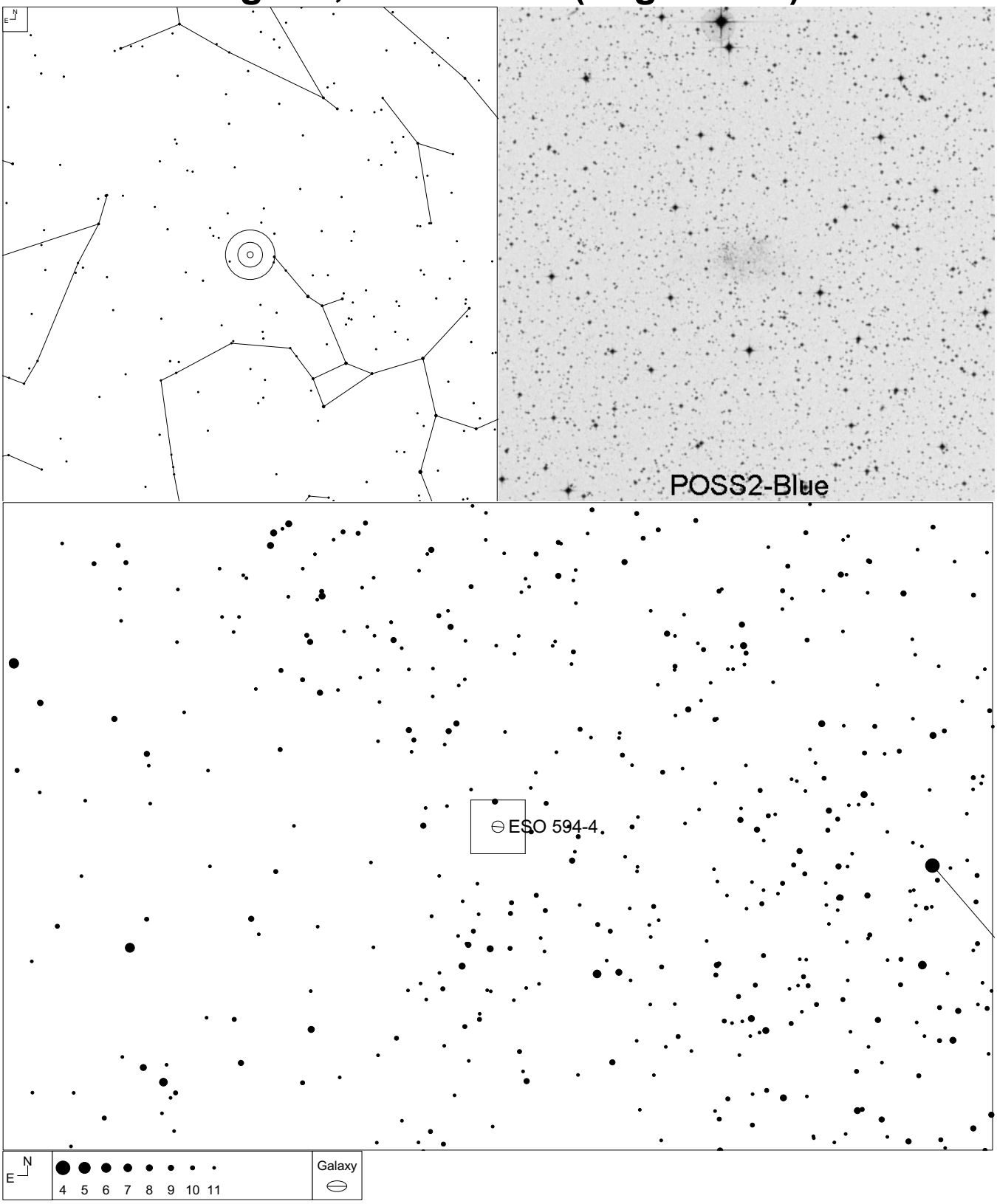
Draco Dwarf, UGC 10822, DDO 208 (Draco)



RA	Dec	Type	Mag	Size	Distance	Urano
17 20 08	+57 54 58	dE0 pec	11.0	35.5 x 24.5’	280 kly	21R

SEDS Website: http://spider.seds.org/spider/LG/dra_dw.html

SagDIG, ESO 594-4 (Sagittarius)

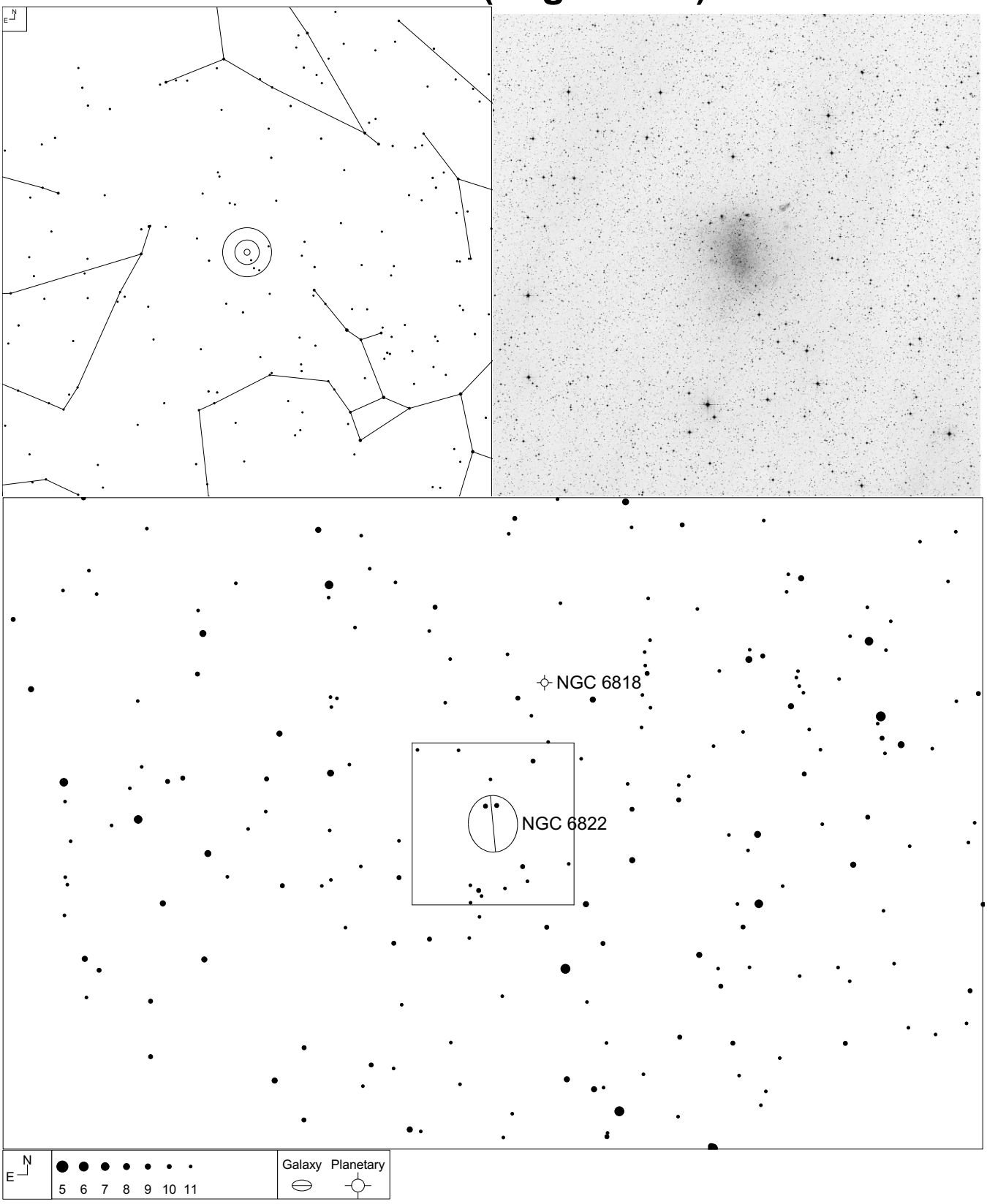


RA	Dec	Type	Mag	Size	Distance	Urano
19 29 59	-17 40 42	Ir V	14.2	3.2 x 1.5’	4.2 mly	144R

SEDS Website: http://spider.seds.org/spider/LG/sdig.html

For a Hubble image of SagDIG (2004), see https://hubblesite.org/contents/media/images/2004/31/1603-Image.html

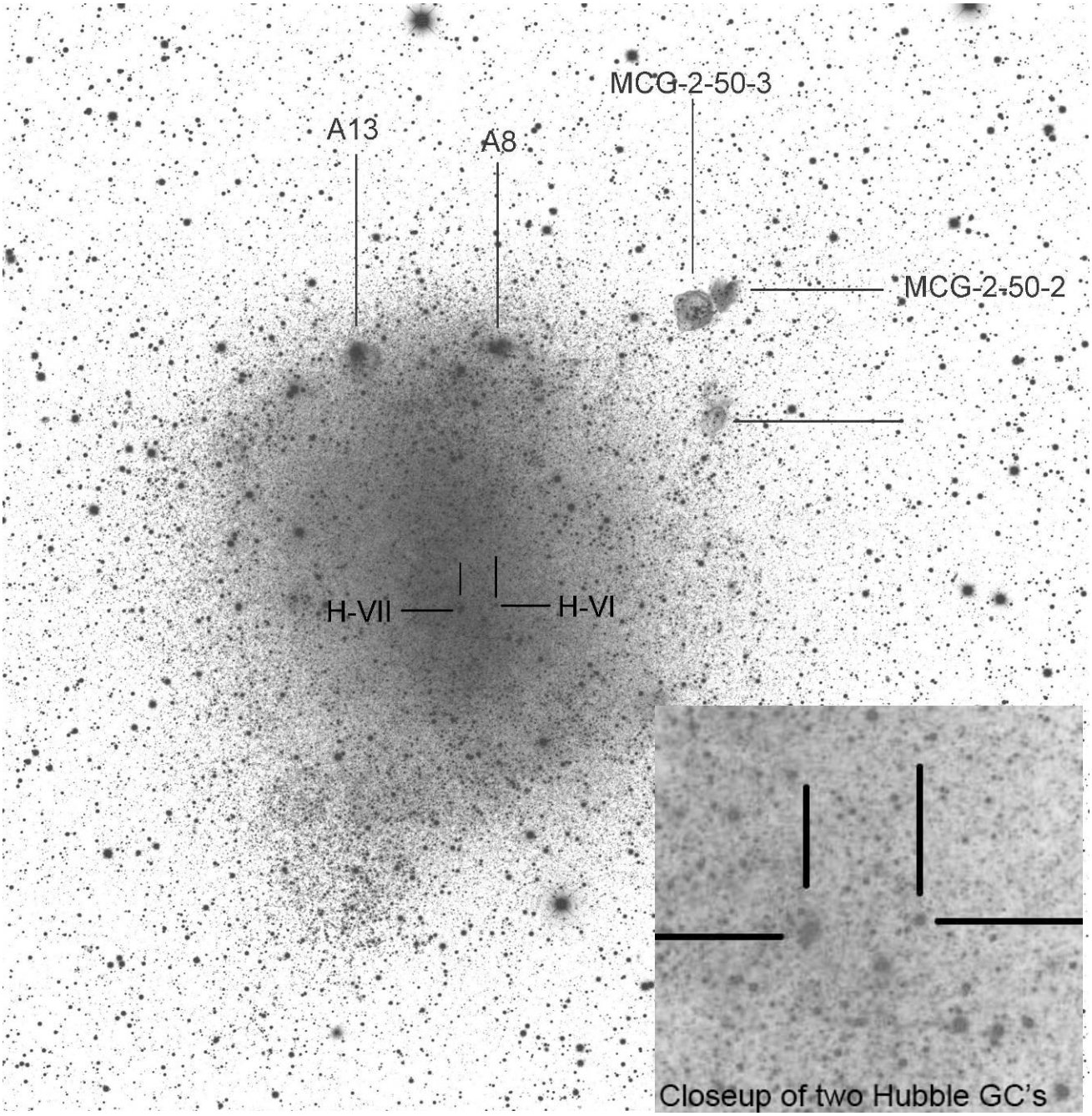
NGC 6822 (Sagittarius)



RA	Dec	Type	Mag	Size	Distance	Urano
19 44 56	-14 48 11	IB(s)m	8.52	15.6 x 13.5’	1.8 mly	126R

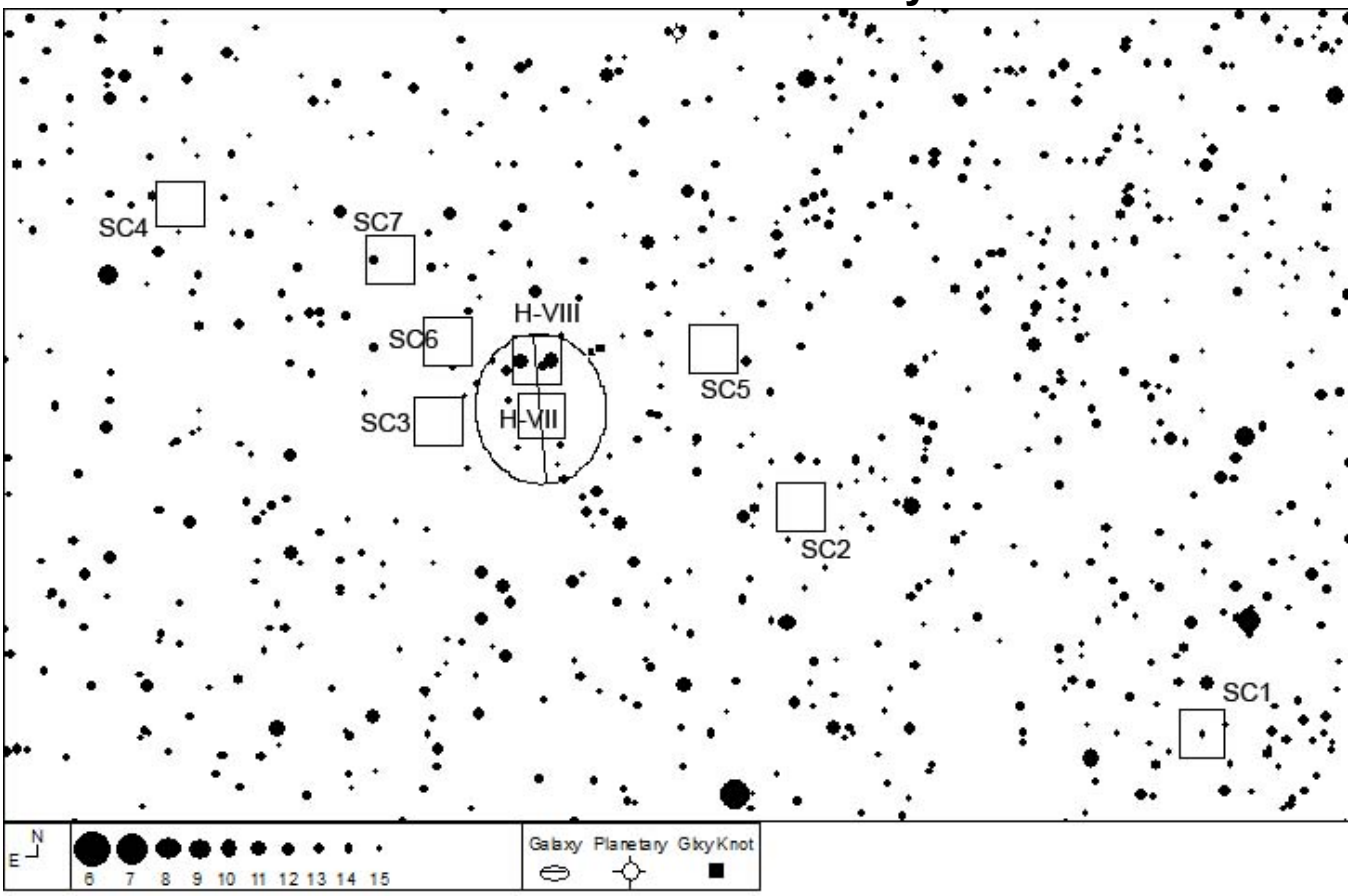
SEDS Website: http://spider.seds.org/spider/LG/n6822.html

Objects within NGC 6822



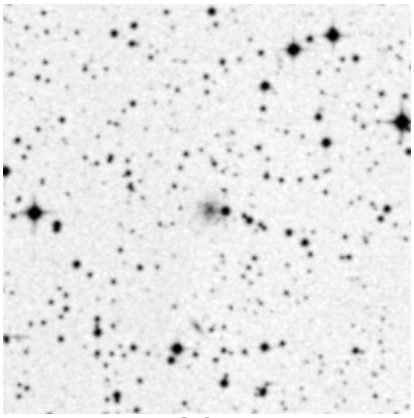
Object	Type	Mag	Size
A8	OB Association	-	-
H-VI	Globular Cluster	-	-
H-VII	Globular Cluster	16.28v	-
A13	OB Association	-	-
MCG-2-50-3	H-II region	14.2	1.1'
MCG-2-50-2	H-II region	15.2	0.7'

NGC 6822 Globular Cluster System

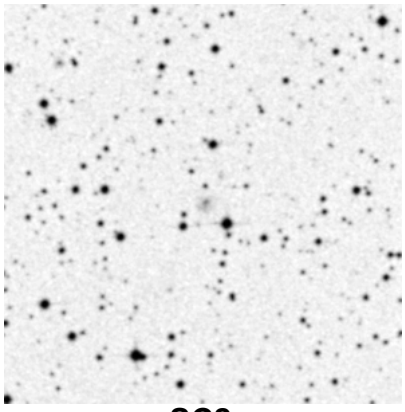


Name[13]	RA	Dec	Size (“)	Mag
SC1	19 40 11.9	−15 21 46.6	3.7	16.35g
SC2	19 43 04.5	−14 58 21.4	7.0	18.25g
SC3	19 45 40.2	−14 49 25.8	8.0	19.23g
SC4	19 47 30.4	−14 26 49.3	3.0	18.16g
SC5	19 43 42.3	−14 41 59.7	8.0	
SC6	19 45 37.0	−14 41 10.8	7.5	
SC7	19 46 00.7	−14 32 35.0	4.7	
Hubble-VII	19 44 55.8	−14 48 56.2	5.0	
Hubble-VIII	19 44 58.2	−14 43 13.4		18.29g

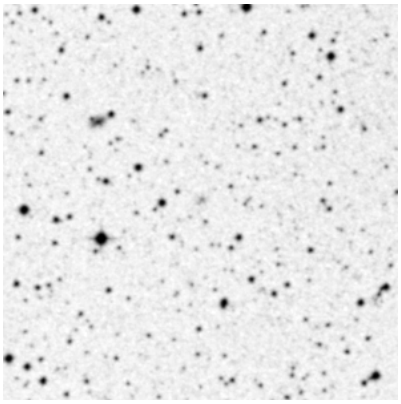
[13] See J. Veljanoski, A. M. N. Ferguson, et al., “The Globular Cluster System of NGC 6822”, *Monthly Notices of the Royal Astronomical Society*. (Volume 452, Issue 1, Sept 2015), 320-332. Thanks to Steve Gottlieb for posting this on CloudyNights.com



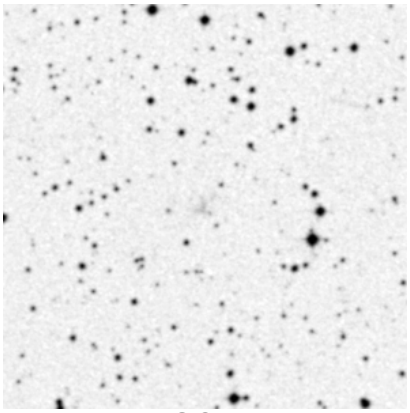
SC1



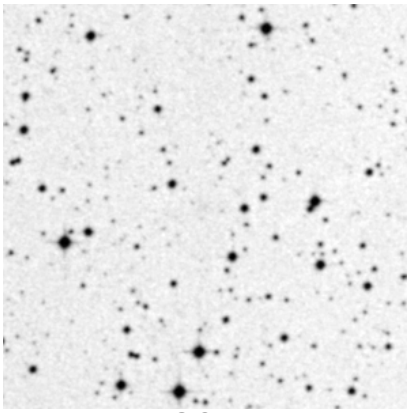
SC2



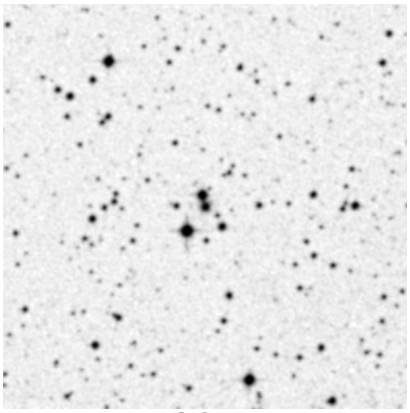
SC3



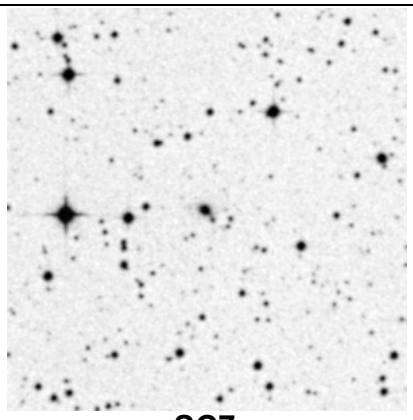
SC4



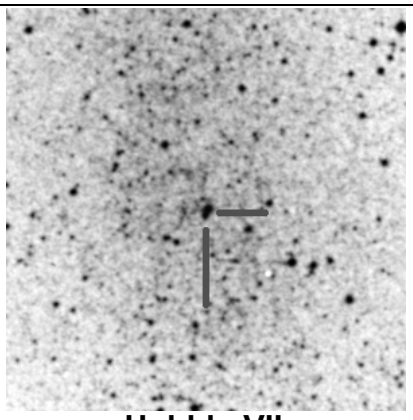
SC5



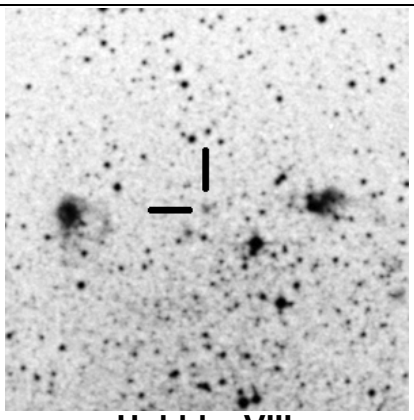
SC6



SC7
19 46 00.7 -14 32 35.0

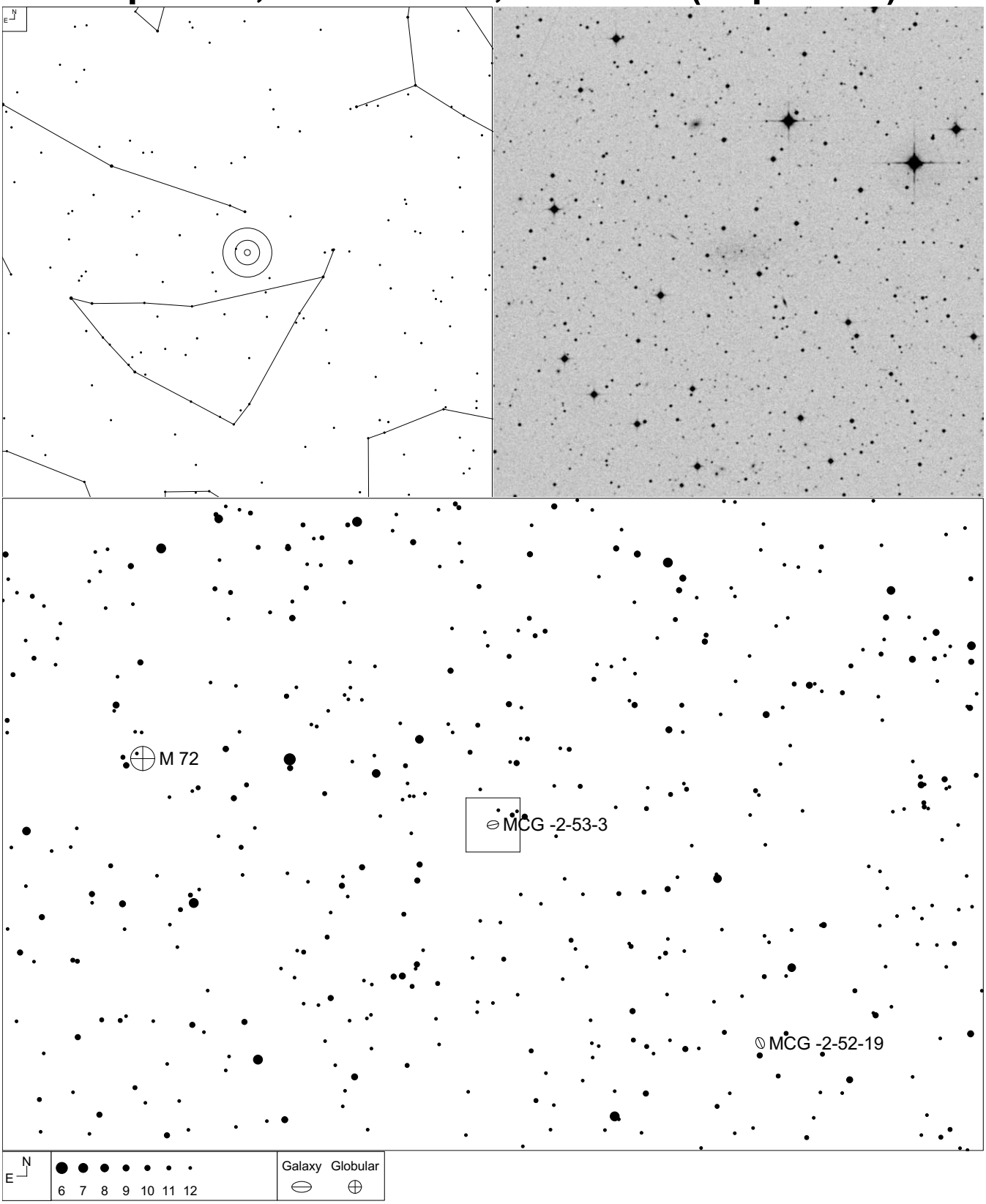


Hubble-VII
19 44 55.8 -14 48 56.2



Hubble -VIII

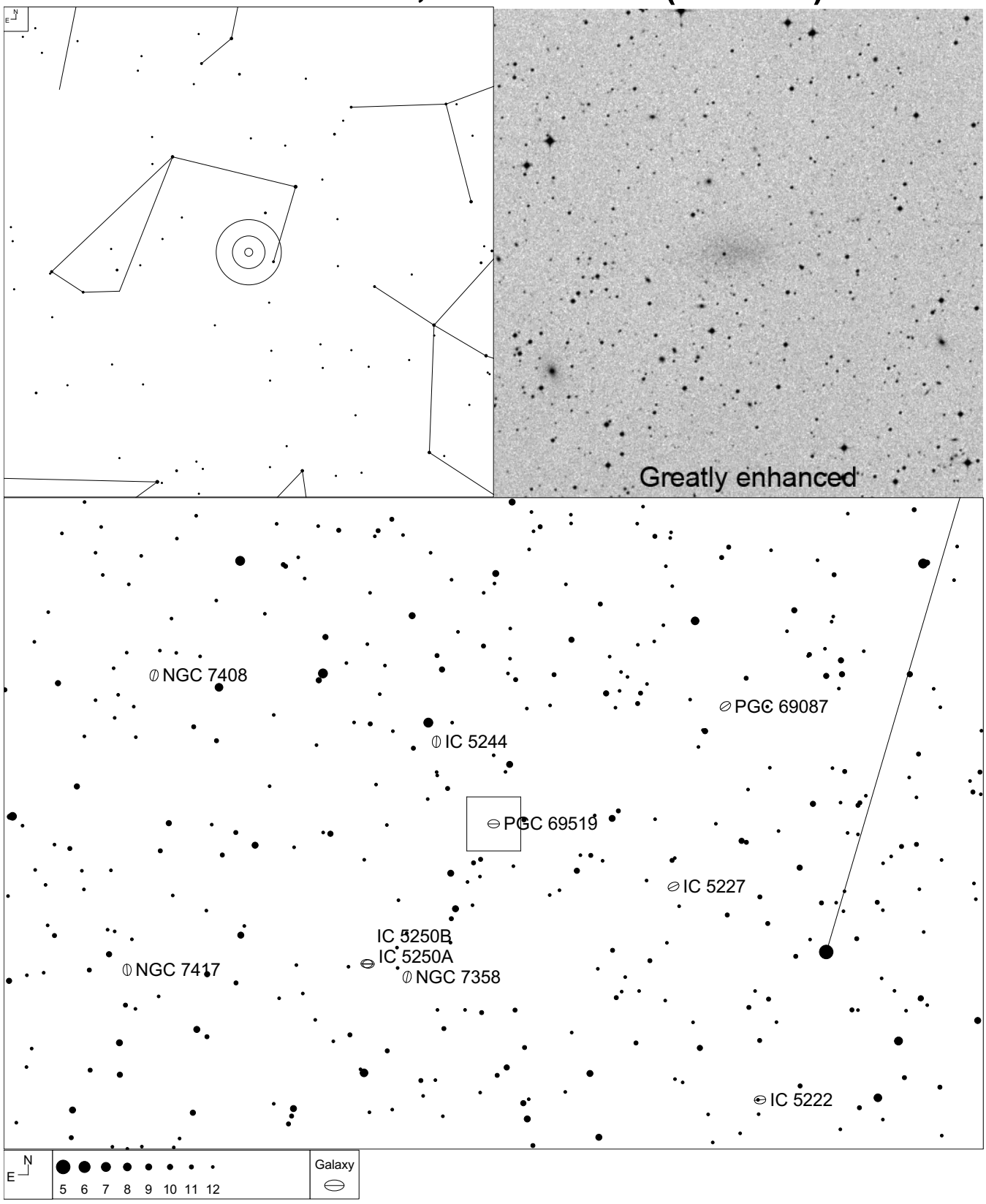
Aquarius, MCG-2-53-3, DDO 210 (Capricorn)



RA	Dec	Type	Mag	Size	Distance	Urano
20 46 52	-12 50 51	Im V	13.88	2.2 x 1.1	3.4 mly	125R

SEDS Website: http://spider.seds.org/spider/LG/aqr_dw.html

Tucana Dwarf, PGC 69519 (Tucana)

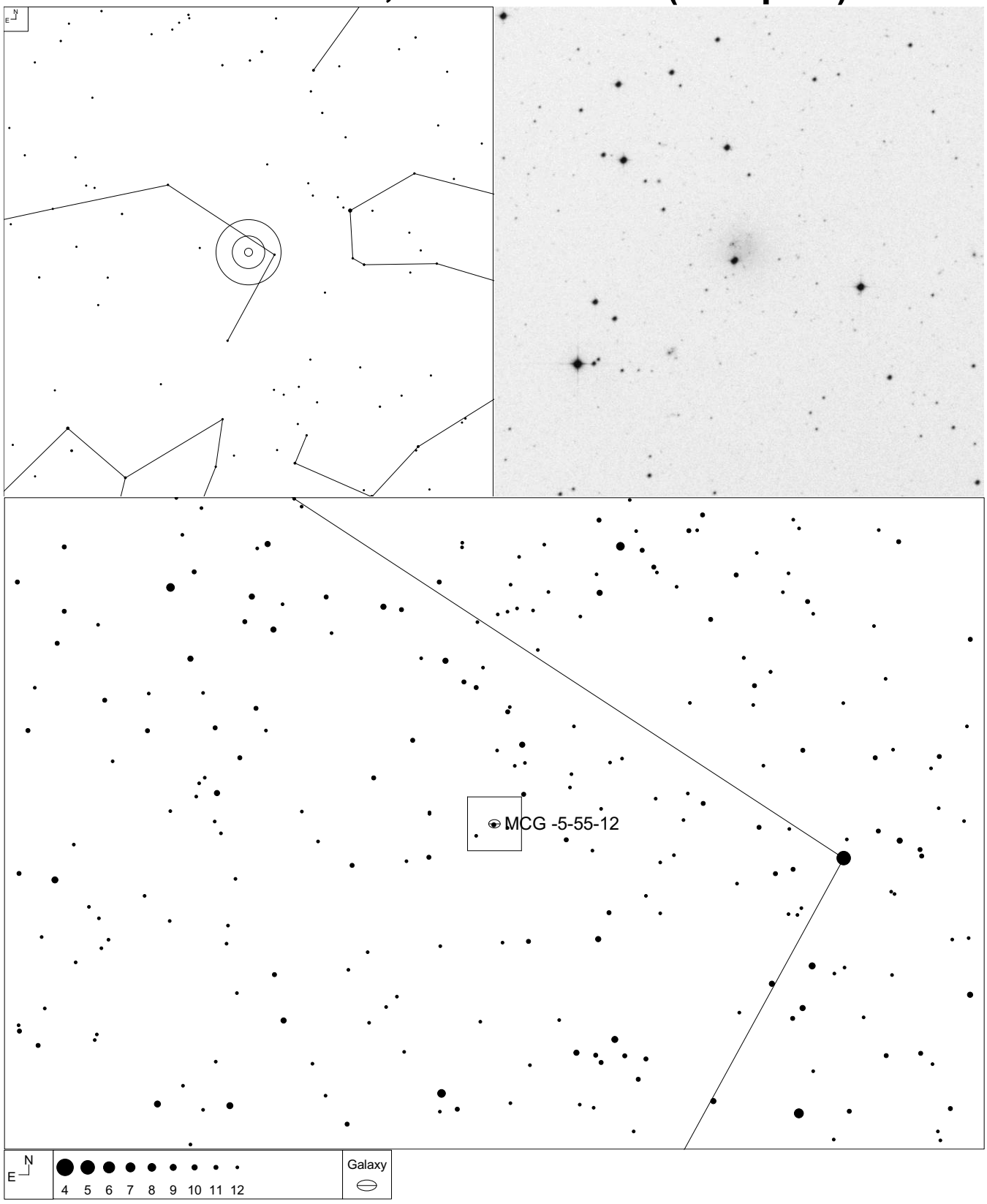


RA	Dec	Type	Mag	Size	Distance	Urano
22 41 49	-64 25 15	dE4	15.7	2.9 x 1.2’	3.2 mly	205L

SEDS Website: http://spider.seds.org/spider/LG/tuc_dw.html

Galaxies “Just Outside the Local Group” Atlas

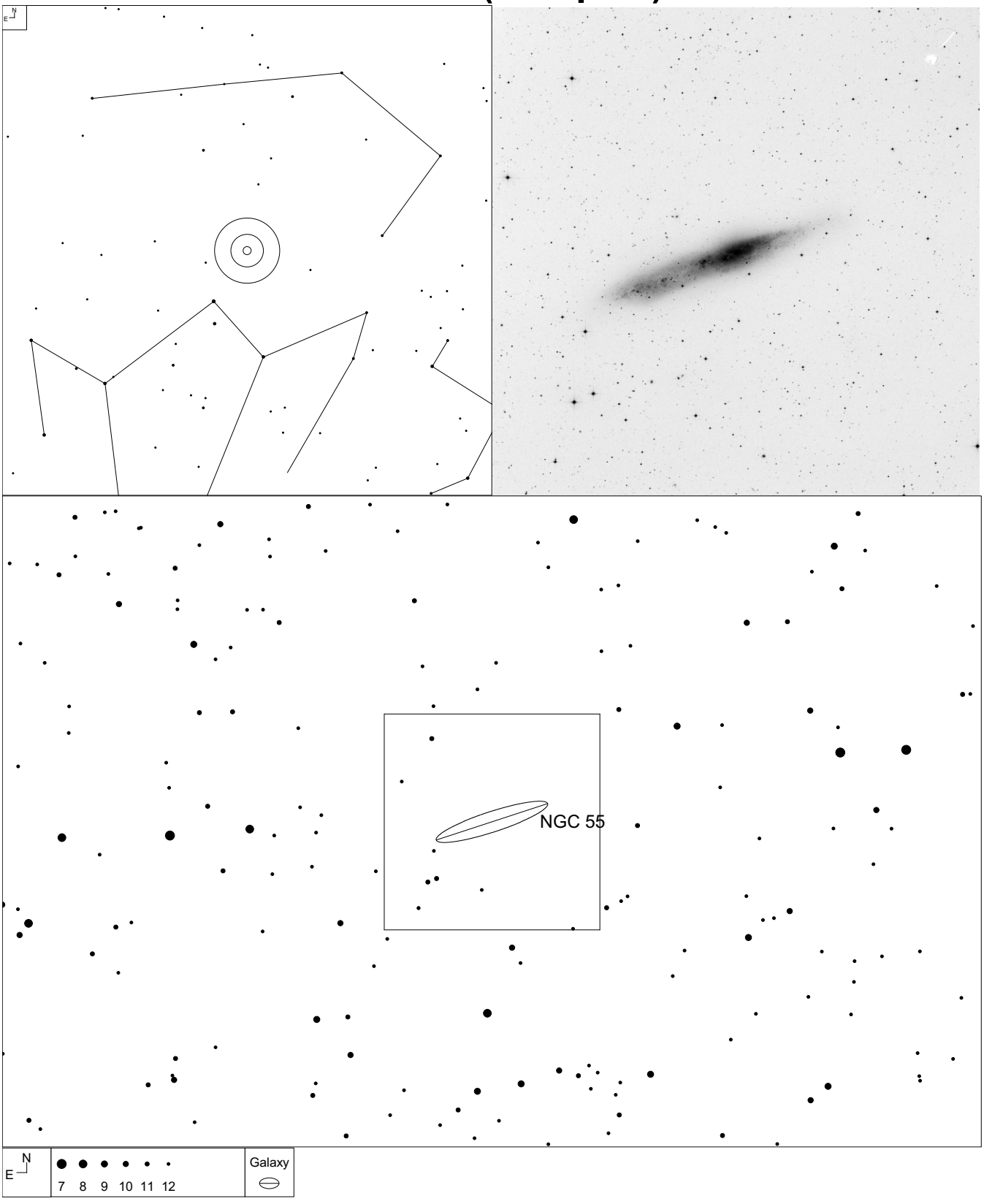
UKS2323-326, MCG-5-55-12 (Sculptor)



RA	Dec	Type	Mag	Size	Distance	Urano
23 26 27	-32 23 17	IB(s)m pec	13.9p	1.5 x 1.5’	4.7 mly	159R

SEDS Website: http://spider.seds.org/spider/LG/uks2323-326.html

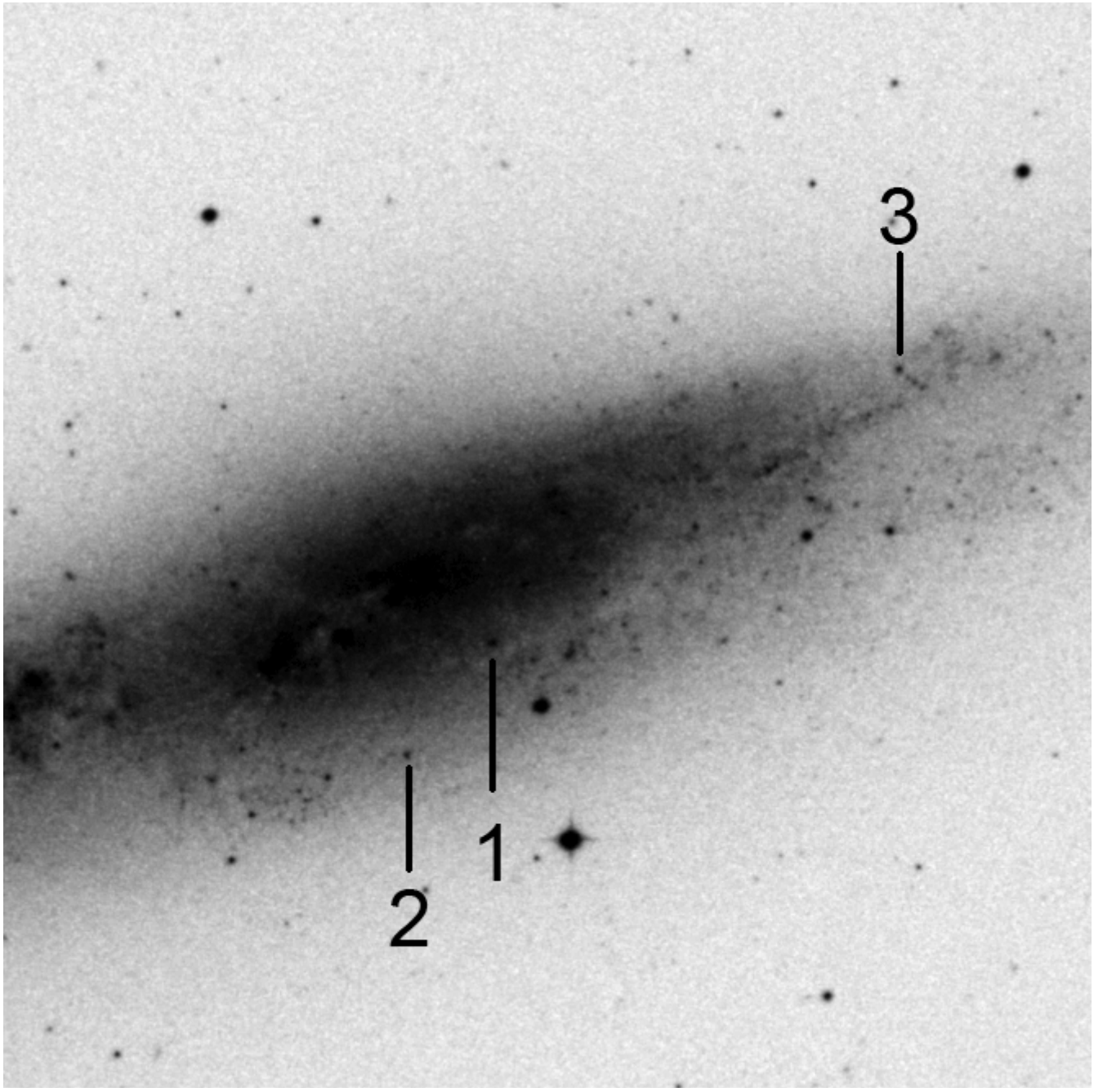
NGC 55 (Sculptor)



RA	Dec	Type	Mag	Size	Distance	Urano
00 15 08	-39 12 53	SB(s)m?	8.4b	32.3 x 5.6’	6.5 mly	159L

SEDS Website: http://spider.seds.org/spider/LG/n0055.html

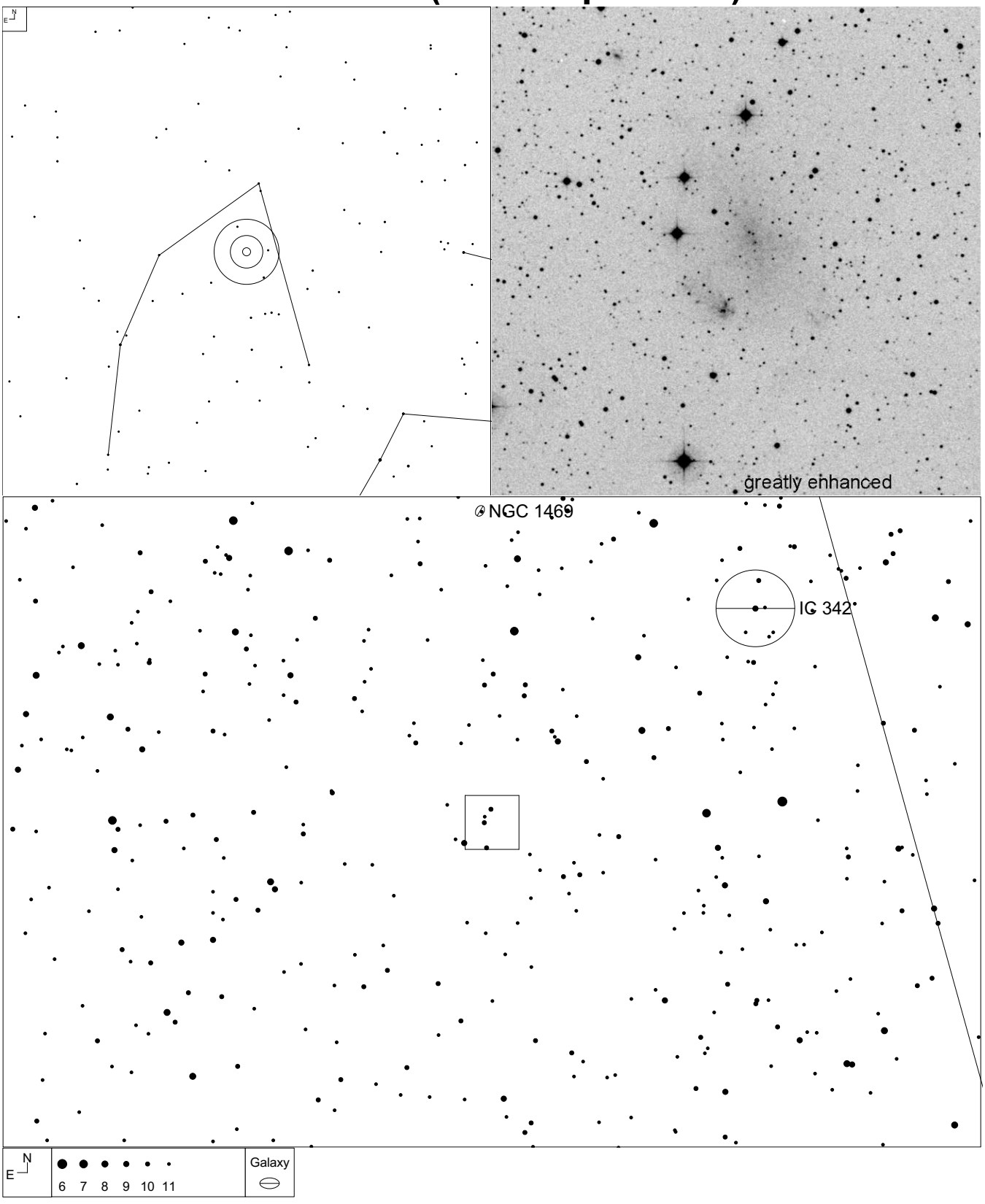
Globular Clusters of NGC 55



Object[14]	Type	Mag	Size
1	Globular Cluster	17.0	-
2	Globular Cluster	17.8	-
3	Globular Cluster	17.8	-

[14] For a journal article discussing globular clusters in NGC 55, see G. S. Da Costa and J. A. Graham. "Globular clusters in the sculptor group Galaxy NGC 55". *Astrophysical Journal*, Part 1. (Vol. 261, Oct. 1, 1982), pp. 70, 71, 73-76.

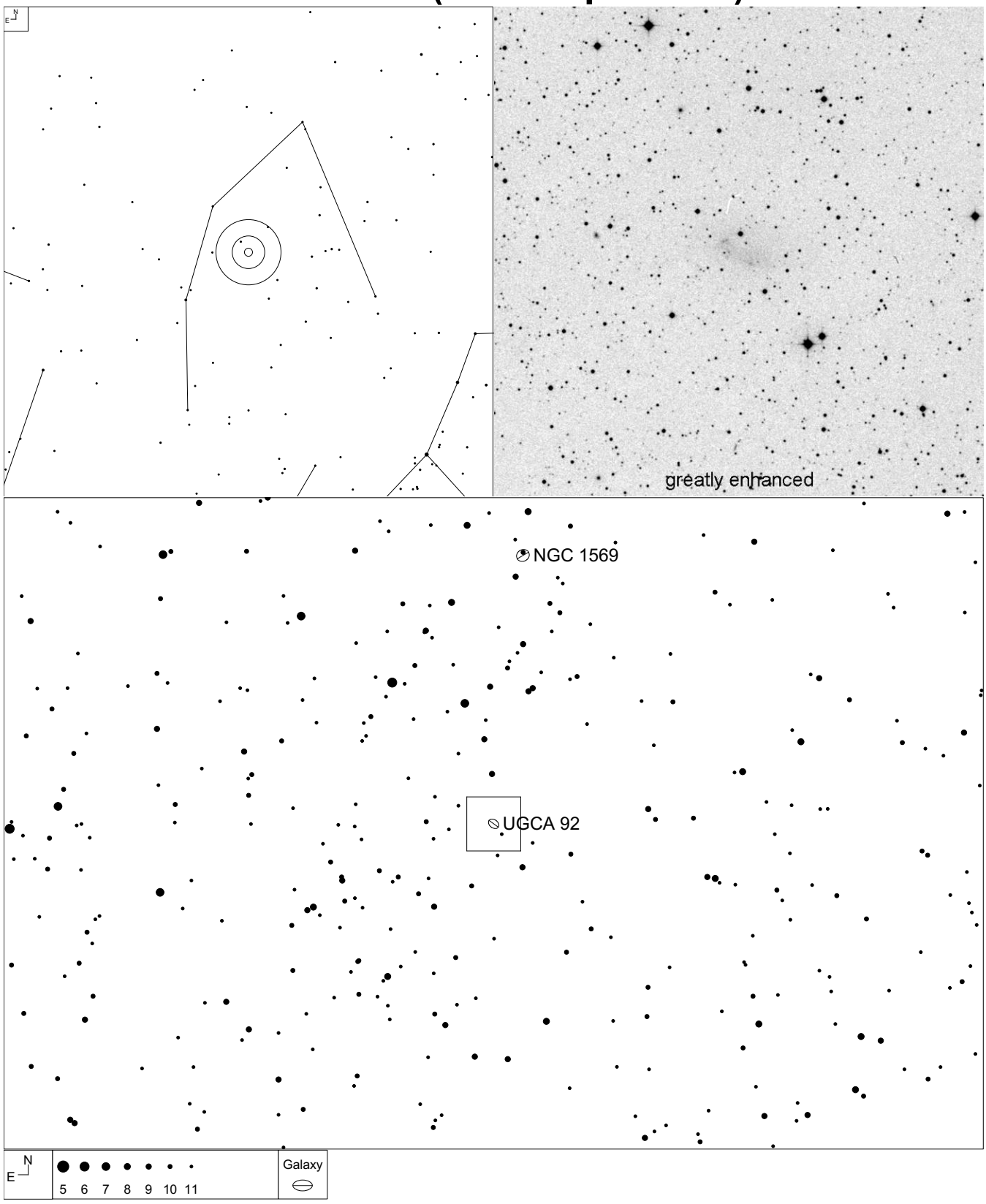
UGCA 86 (Camelopardalis)



RA	Dec	Type	Mag	Size	Distance	Urano
03 59 51	+67 08 35	Irr? S0?	15.2	5.4 x 3.5'	6.2 mly	16R

SEDS Website: http://spider.seds.org/spider/LG/ua86.html

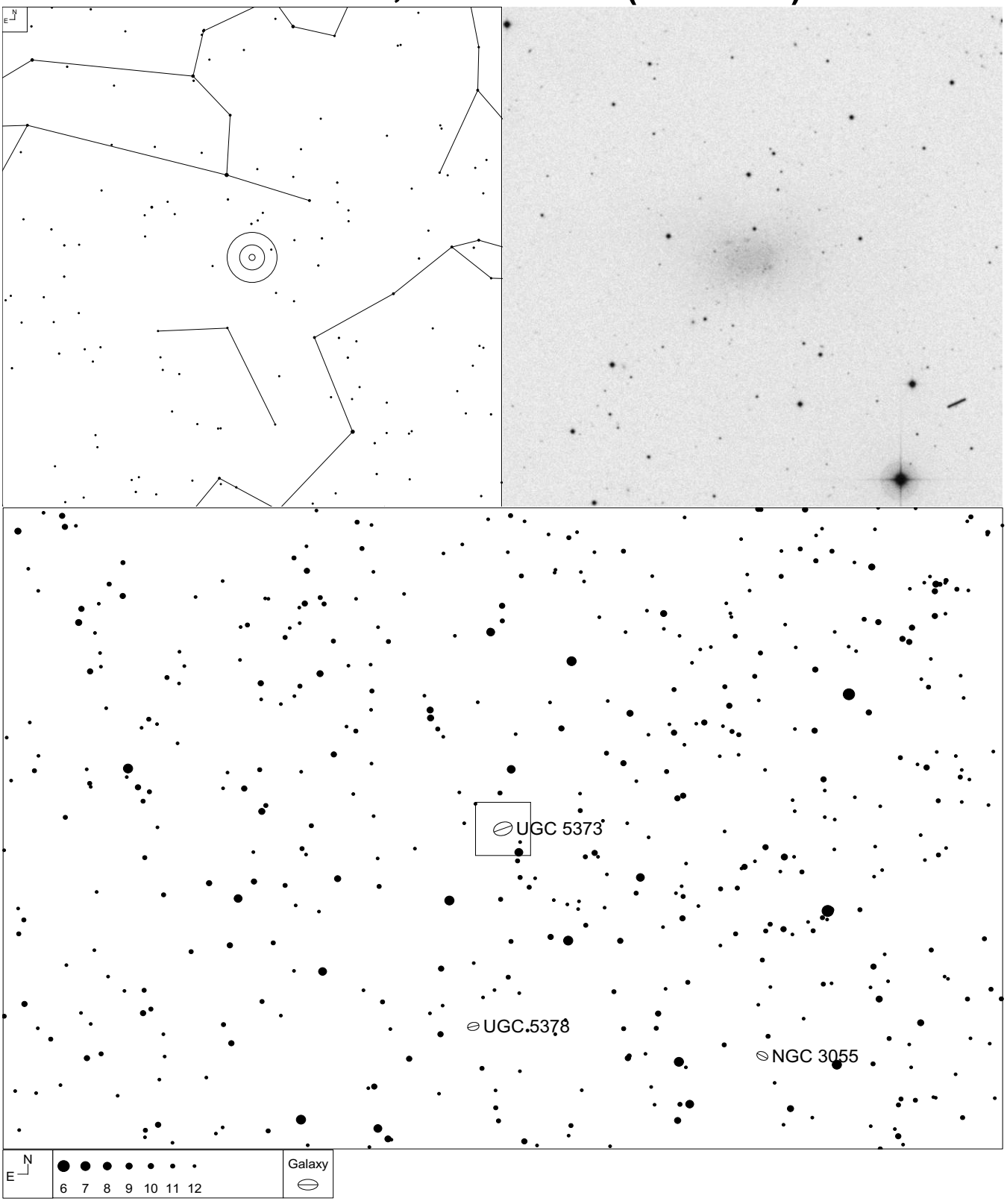
UGCA 92 (Camelopardalis)



RA	Dec	Type	Mag	Size	Distance	Urano
04 32 06	+63 36 57	Irr? S0?	13.8	2.0 x 1.0’	4.7 mly	16R

SEDS Website: http://spider.seds.org/spider/LG/ua92.html

Sextans B, UGC 5373 (Sextans)

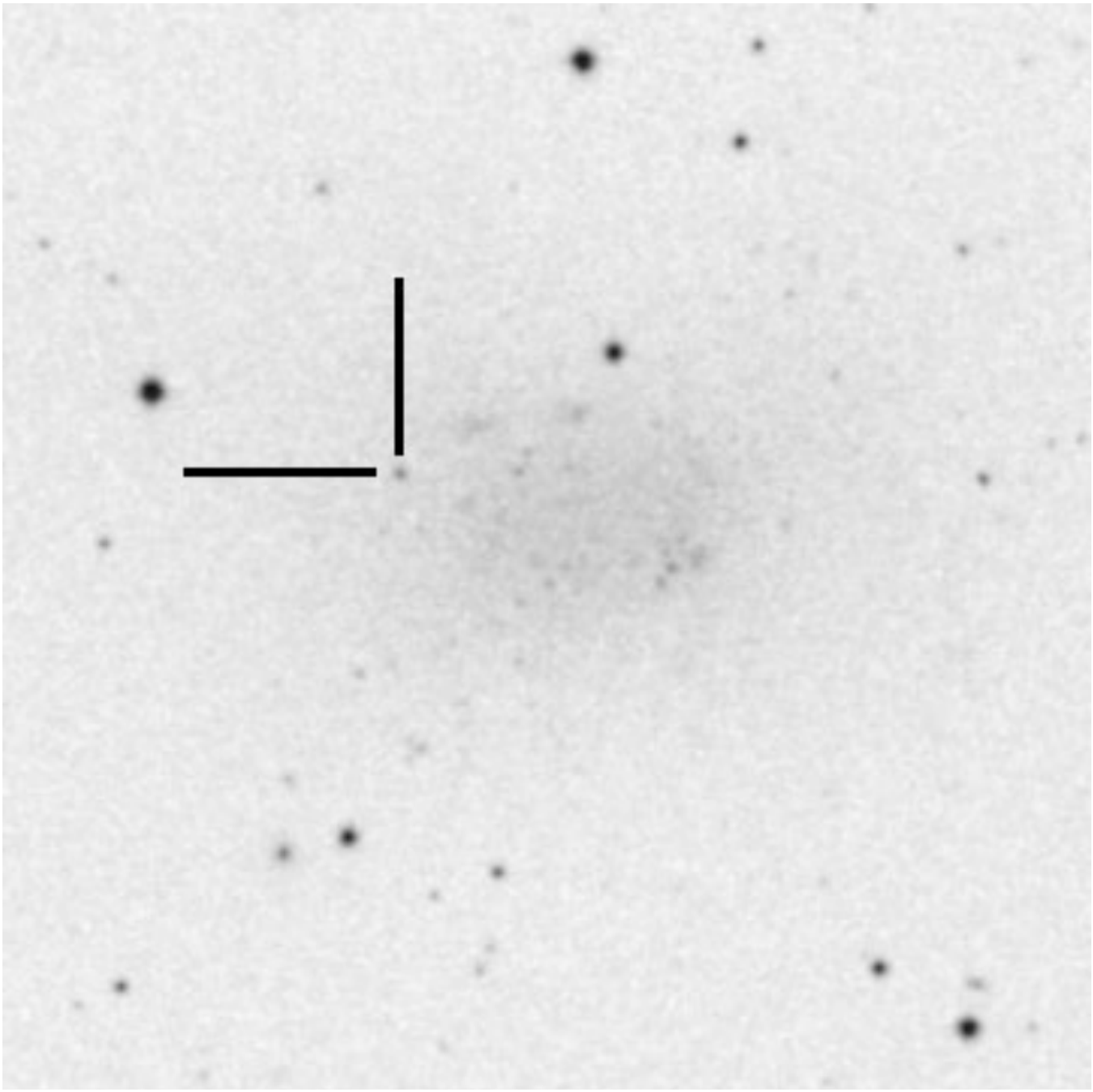


RA	Dec	Type	Mag	Size	Distance	Urano
09 59 59	+05 19 53	Ir+ IV-V	11.9b	5.1 x 3.5	4.7 mly	113L

SEDS Website: http://spider.seds.org/spider/LG/sexB.html

See recent image of Sextans B from the Mayall 4 meter telescope (2021)
https://www.sci.news/astronomy/sextans-b-image-09607.html

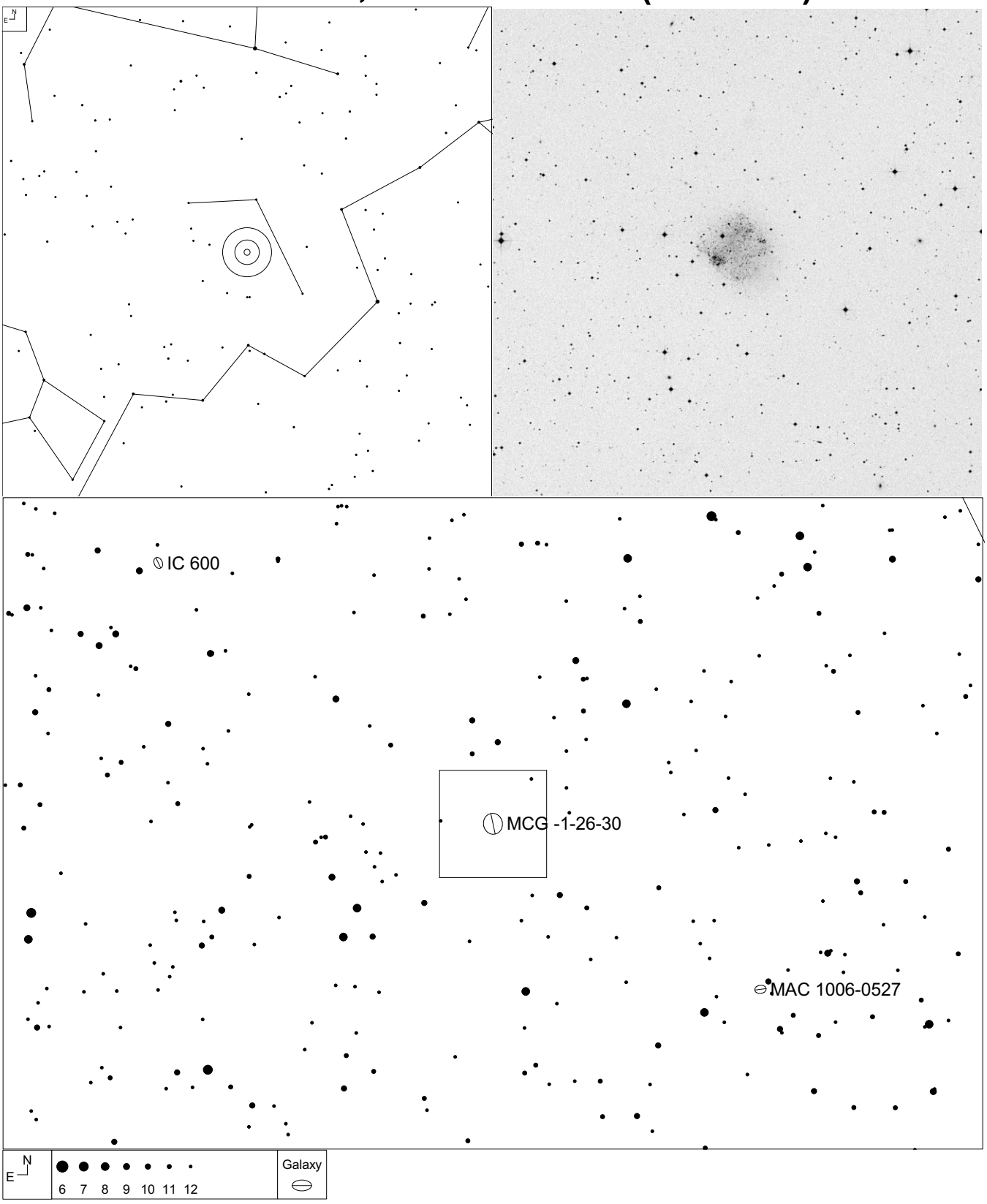
Globular Cluster in Sextans B



Globular cluster discovered in Sextans B using the Hubble Wide field camera.[15]

[15] M. E. Sharina, T. H. Puzia, and A. S. Krylatyh. "A Globular Cluster in the Dwarf Galaxy Sextans B" *Astrophysical Journal*. (Vol 62, Iss 3, Sept 2007), 209-216

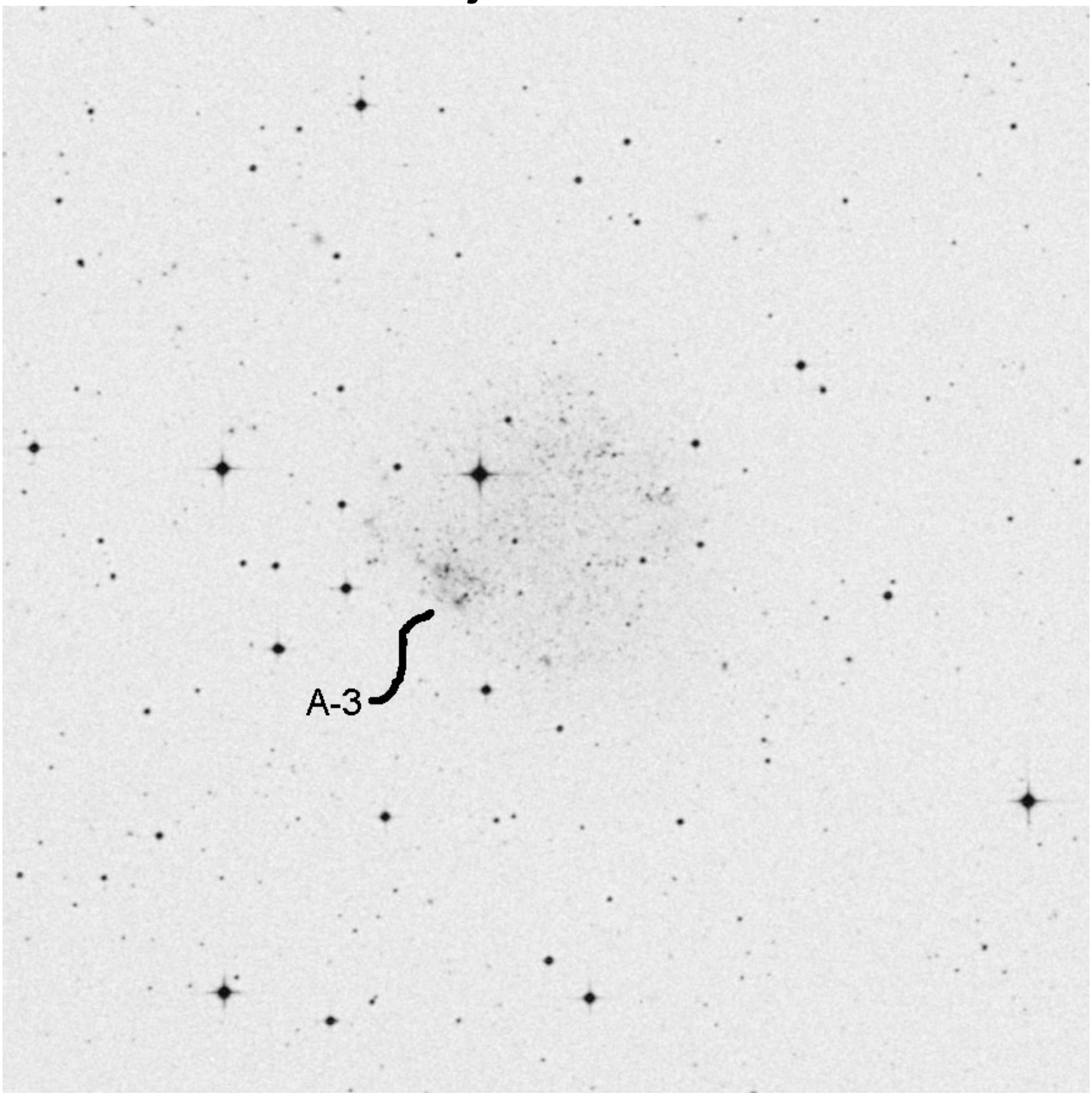
Sextans A, MCG-1-26-30 (Sextans)



RA	Dec	Type	Mag	Size	Distance	Urano
10 11 00	-04 41 57	Ir + V	11.5	5.7 x 5.1	5.2 mly	113L

SEDS Website: http://spider.seds.org/spider/LG/sexA.html

Non-stellar objects within Sextans A



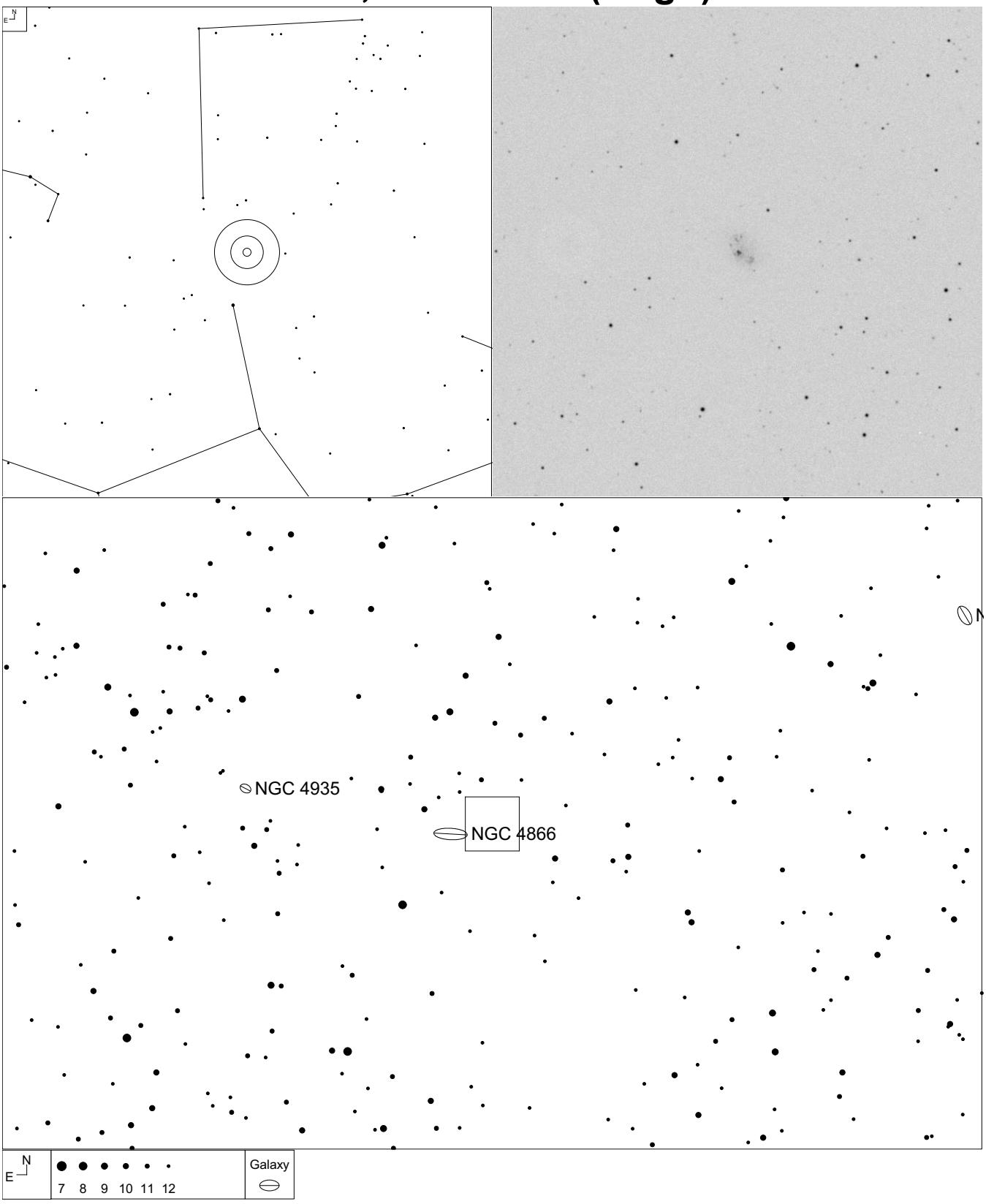
Object	Type	Mag	Size
A-3	OB Association		

Globular cluster candidate in Sextans A.[16]

For a recent image of Sextans A released on June 2021, see the web article "The Cosmic Jewels of Sextans A" https://noirlab.edu/public/images/iotw2126a/

[16] Mario H. Pedreros and Carme Gallart. "New cluster candidates in dwarf galaxies of the Local Group, Extragalactic star clusters" *IAU Symposium Series* (Vol 207, 2002), 177-179

GR 8, UGC 8091 (Virgo)

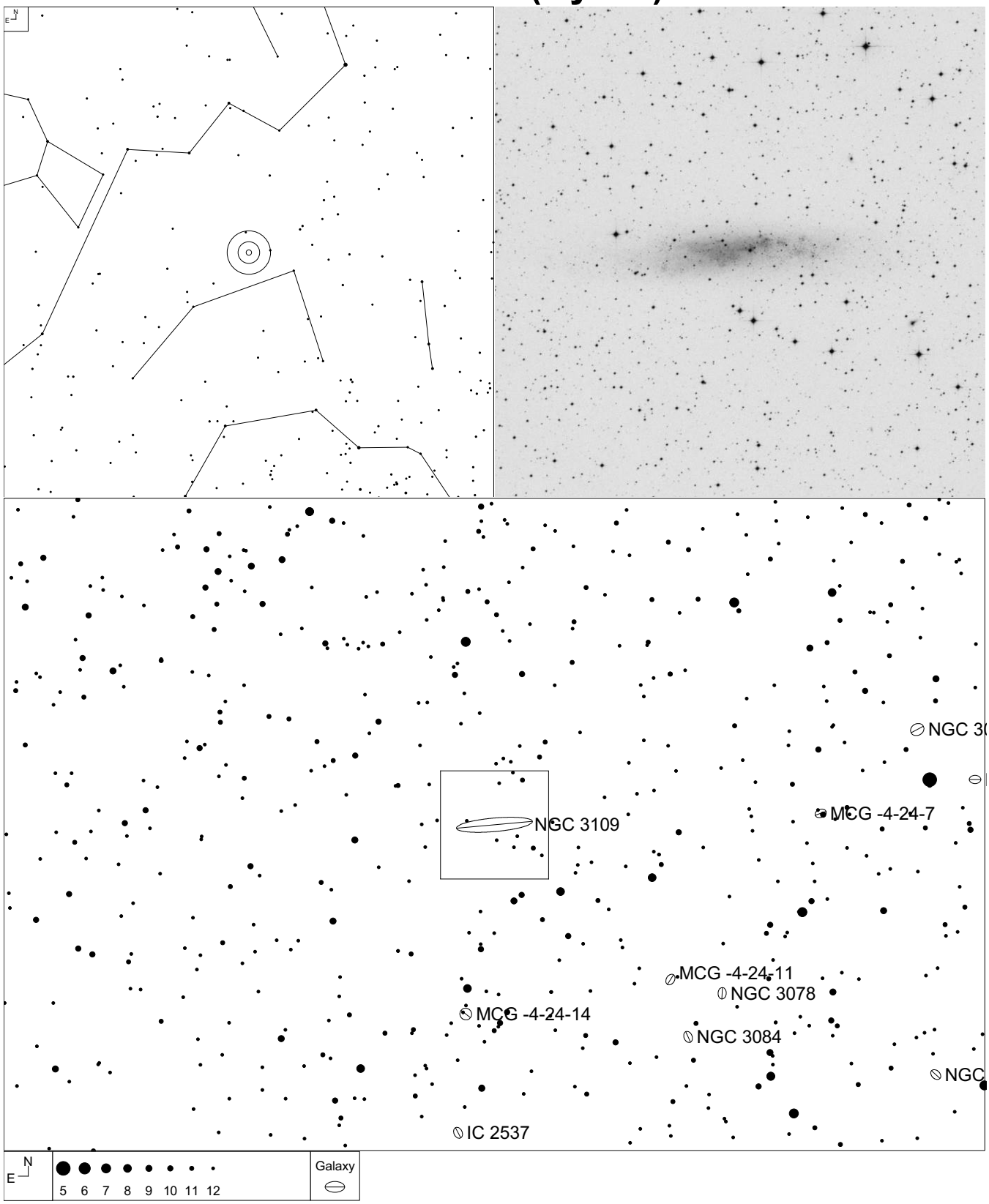


RA	Dec	Type	Mag	Size	Distance	Urano
12 58 40	+14 13 04	Im	14.6	1.9 x 1.3’	7.9 mly	90R

SEDS Website: http://spider.seds.org/spider/LG/gr8.html

In the Dec 2023 article, Hubble take a close look at GR8: See www.esahubble.org/news/heic2313/

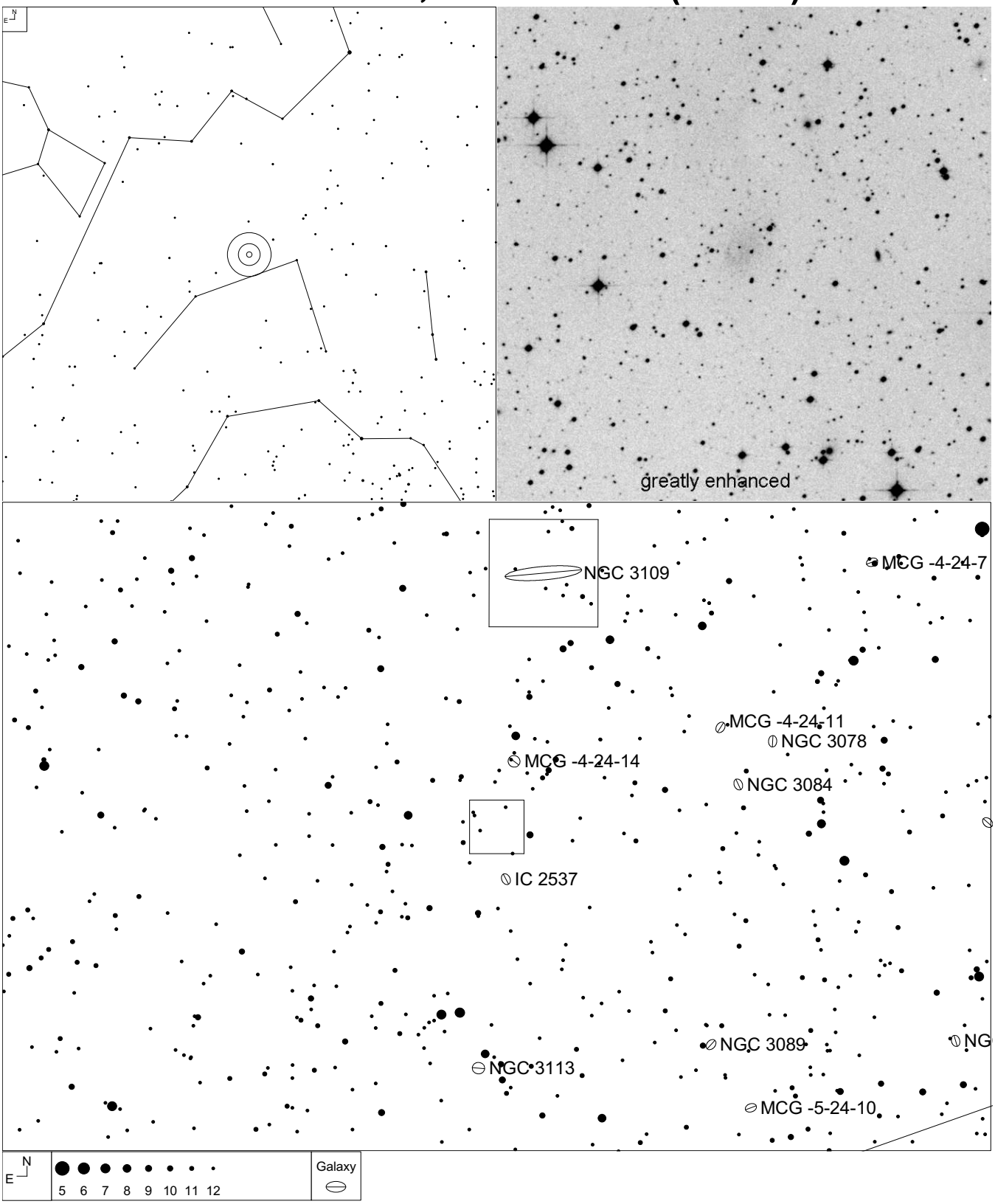
NGC 3109 (Hydra)



RA	Dec	Type	Mag	Size	Distance	Urano
10 03 06	-26 09 26	Ir+ IV-V	10.4b	21.0 x 3.7’	4.5 mly	151R

SEDS Website: http://spider.seds.org/spider/LG/n3109.html

Antlia Dwarf, PGC 29194 (Antlia)

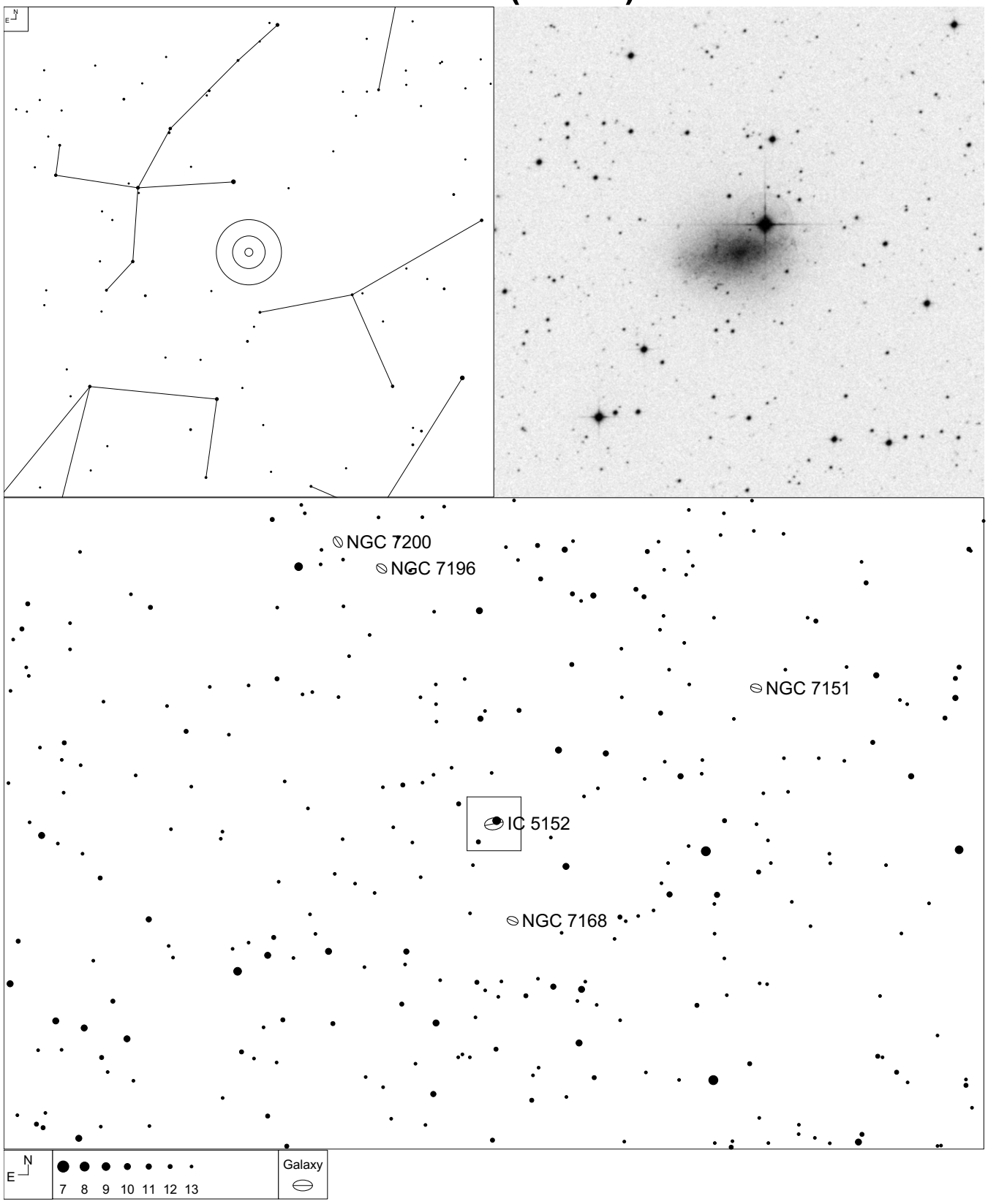


RA	Dec	Type	Mag	Size	Distance	Urano
10 04 03	-27 19 47	dE3	14.6	1.9 x 1.4’	4.6 mly	151R

SEDS Website: http://spider.seds.org/spider/LG/ant_dw.html

For a brief article “Antlia Dwarf Galaxy Peppers the Sky with Stars” (2012) by the Hubble team, see https://science.nasa.gov/missions/hubble/antlia-dwarf-galaxy-peppers-the-sky-with-stars/

IC 5152 (Indus)



RA	Dec	Type	Mag	Size	Distance	Urano
22 02 41	-51 17 47	IA(s)m	11.1p	5.2 x 3.2’	5.9 mly	178R

SEDS Website: http://spider.seds.org/spider/LG/i5152.html

Additional Resources

Books

Coe, Steven R. *Deep Sky Observing. The Astronomical Tourist.* New York: Springer Publishing Company, 2000

Eicher, David J. *Galaxies and the Universe*. Milwaukee, WI: Kalmbach Publishing Co., 1992

Kepple, George R. and Sanner, Glen W. *The Night Sky Observer's Guide, Vol. 1 Autumn & Winter.* Richmond, VA: Willmann-Bell, 1998

Kepple, George R. and Sanner, Glen W. *The Night Sky Observer's Guide, Vol. 2 Spring & Summer.* Richmond, VA: Willmann-Bell, 1998

Luginbuhl, Christian B. and Skiff, Brian A. *Observing Handbook and Catalogue of Deep-Sky Objects.* New York: Cambridge University Press, 1989

Steinicke, Wolfgang and Jakiel, Richard. *Galaxies and How to Observe Them.* New York: Springer Publishing Company, 2007

Stoyan, Ronald and Schurig, Stephan. *interstellarum Deep Sky Atlas*. Cambridge, MA: Cambridge University Press, 2015

Stoyan, Ronald and Glahn, Uwe. *interstellarum Deep Sky Guide*. Cambridge, MA: Cambridge University Press, 2018

Webb Society. *Webb Society Deep-Sky Observer's Handbook, Volume 4: Galaxies.* Edited by Kenneth Glyn Jones. Hillside, NJ: Enslow Publishers Hillside, 1982

Articles

Freeman, Jay Reynolds. "Observing Faint Nearby Galaxies" *Sky and Telescope* (2002), 103-105

Harrington, Scott N. "A Field Guide to Observing Messier 33 – The Triangulum Galaxy" (2021)

Harrington, Scott. "IC 10 – The Hidden Dwarf" *Sky and Telescope* (Dec 2023), 57-59

Higgens, David. "The M31 Globular Cluster System" *Deep Sky*, Vol. 32 (1990), 24-29

Ling, Alister. "Dwarf Galaxies for 'Dwarf' Telescopes" *Deep Sky,* Vol. 34 (1991), 46-47

Mitchell, Larry. "The M31 Challenge" *Sky and Telescope* (1997), 106-109

Polakis, Tom. "Observing the Local Group." *Deep Sky*, Vol. 36 (1991), 12-19

Skiff, Brian. "All About M-31" *Deep Sky*, Vol. 8 (1984), 8-15

Whiteman, Alan. "Digging Deep in M33" *Sky and Telescope* (2004), 92-95

Websites

http://ned.ipac.caltech.edu/level5/ANDROMEDA_Atlas/frames.html - Paul W. Hodge's Atlas of the Andromeda Galaxy

http://ned.ipac.caltech.edu/level5/Mateo/table1.html - Local Group list from NED

http://spider.seds.org/spider/LG/lg.html - SEDS list of Local Group members

www.deepskyforum.com - The premier Deep Sky forum where advanced deep sky observers converge and discuss observing the deep sky

www.astronomy-mall.com/Adventures.In.Deep.Space/ - Great source of observing projects for all skill levels.

https://skyserver.sdss.org/dr8/en/tools/chart/chart.asp - SkyServer DR8 Tools for Visual Exploration (SDSS)

www.cloudynights.com – Great resource for like-minded amateurs discussing most aspects of the hobby.

Sources of Charts and Images

Charts by *Megastar version 5* Willmann-Bell Richmond, VA

DSS images (Digital Sky Survey) http://archive.stsci.edu/dss/acknowledging.html

Revision History

Date	Revision
March 20, 2013	Added the following new objects: • Andromeda VII • Andromeda VIII • Andromeda IX • Andromeda X • Andromeda V • Toucan Dwarf • Small Magellanic Cloud • NGC 55 • Sculptor Dwarf • Phoenix Dwarf • Large Magellanic Cloud • Carina Dwarf • Canis Major Dwarf • Sextans Dwarf • IC 5152 • Many non-stellar objects of various local group galaxies Deleted the following objects: • Wray 16-423 • Arp GC2 • Henize 2-436 • Terzan 8 Enhanced non-stellar objects within some local groups. Enhanced finder charts and resorted starting at Pegasus/Andromeda regions to be consistent with my other guides.
March 26, 2013	• Very minor enhancements o Enhanced TOC o Moved the index to the beginning o Enhanced recommended reading section
April 12, 2013	• Added front cover
July 31, 2017	• Removed G-295 from page 25 (Andromeda Galaxy) as it is a star. • Added NGC 6822 globular cluster systems (pages 73 – 74)

Date	Revision

March 2024	• Deleted GC-295 from M-31. It is actually a star. I forgot to replace the image in the last update, so now it is gone.
	• Added link to Scott Harrington's M-33 observing guide to M-33 page.
	• M-33 corrections
	  o C13 is a background galaxy - deleted
	  o NGC 595 was mislabeled as NGC 592 - corrected
	  o A66b was mislabeled as NGC 595 - corrected
	  o IC 136 was mislabeled, actually is A127 - deleted
	  o IC 135 was mislabeled, actually is A115 – deleted
	  o H-38 globular cluster misplotted – deleted
	• Added a small number of links to recent images by the professional community.
	• Made all hyperlinks clickable for the PDF version.

March 2024	Added new resources based on recent scholarship and discoveries Made corrections to the following objects. Thanks to Scott Harrington to bringing it to my attention. • WLM – mislabeled globular cluster • M110 – G55 is a faint foreground star - deleted. Added G41. • M33-SW region – U111 mislabeled as G-11. • M33 NW region – U49 mislabeled as G-21. • M33 NE region – M4 mislabeled as G24, H14 mislabeled as G26 and R14 mislabeled as G31. • NGC 185 – relabeled GCs as FJJ and added newly discovered globular cluster, PA-N185-1. • NGC 147 – relabeled GC throughout and added three newly discovered globular clusters, PA-N147-1, PA-N147-2, and PA-N147-3. • IC-10 – labeled objects within IC 10 based on Harrington's article. Rearranged the list to "Local Group Members" and "Just Outside the Local Group". Converted some of the notes as footnotes.