



The Sharpless Observing Guide

Reiner Vogel 2012



Original data are from **Stewart Sharpless** (1959) A catalogue of HII regions.
Astrophys J Suppl. 4: 257

http://adsabs.harvard.edu/cgi-bin/nph-bib_query?bibcode=1959ApJS...4..257S

Data, descriptions, and POSS composite images (IR/red/blue) are from **Kevin Jardine** and his website
<http://galaxymap.org>



Many Narrowband (mostly SII/HII/OIII) and H-alpha RGB images are from **Dean Salman's** excellent collection of Sharpless images at
<http://www.sharplesscatalog.com>

2000 coordinates are from **Steve Gottlieb** <http://www.astronomy-mall.com/Adventures.In.Deep.Space/>

DSS finder images have all the same scale of 60'x60' and are derived mostly from POSS II red plates

Small images are from mostly POSS II blue and red plates

All images and charts are oriented with **north to the top**

Finder charts are 20° (with 6° circle) and 5° and were prepared with Cartes du Ciel by Patrick Chevalley <http://www.ap-i.net/skychart/>

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Last updates: 01/2012 (complete revision)

03/2013 (added observations)

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The Sharpless Catalog

Coordinates 2000

Name	Other names	RA	Dec	Diameter	Form	Structure	Brightness
Sh 2-001		15 58 50.8	-26 07 14	150	3	2	3
Sh 2-002		17 04 06.5	-38 08 33	60	3	2	2
Sh 2-003		17 13 44.7	-38 30 11	12	2	3	3
Sh 2-004		17 19 48.5	-39 20 19	5	2	3	3
Sh 2-005		17 20 02.9	-38 27 17	100	3	2	2
Sh 2-006	Bug nebula	17 15 03.2	-37 06 60	4	3	2	3
Sh 2-007		16 00 19.1	-22 57 03	240	3	2	1
Sh 2-008	NGC6334, Cat's paw	17 21 24.5	-36 02 05	120	3	3	3
Sh 2-009		16 21 10.6	-25 35 22	80	3	2	2
Sh 2-010		17 18 59.1	-34 05 26	60	3	2	2
Sh 2-011	NGC6357:	17 26 30.6	-34 12 20	90	3	3	3
Sh 2-012	Contains NGC6383	17 35 55.2	-32 35 58	120	1	2	2
Sh 2-013		17 30 28.4	-31 33 46	40	2	2	2
Sh 2-014		17 30 18.3	-30 15 46	2	3	1	2
Sh 2-015		17 50 34.2	-31 15 50	30	2	2	2
Sh 2-016		17 47 52.1	-29 18 14	20	3	2	2
Sh 2-017		17 46 08.4	-28 51 28	25	3	2	2
Sh 2-018		17 48 45.1	-29 15 06	4	1	2	2
Sh 2-019		17 49 20.9	-29 07 01	12	1	1	2
Sh 2-020		17 49 14.2	-28 40 02	10	3	2	2
Sh 2-021		17 51 38.6	-28 53 40	5	3	2	2
Sh 2-022		17 55 02.9	-25 02 10	60	3	2	2
Sh 2-023		16 13 24.4	-08 22 20	50	3	2	1
Sh 2-024		16 11 03.0	-07 04 38	30	2	1	2
Sh 2-025	M8 = Lagoon	18 05 25.0	-24 23 39	90	3	3	3
Sh 2-026		17 58 58.5	-23 19 35	20	3	2	1
Sh 2-027		16 37 12.3	-10 34 11	480	3	2	2
Sh 2-028		18 02 40.9	-23 35 03	40	1	2	1
Sh 2-029		18 10 30.5	-23 59 55	40	3	2	2
Sh 2-030	M20 = Trifid	18 03 34.1	-23 00 55	20	3	3	3
Sh 2-031	IC 1275	18 11 18.2	-23 47 48	8	1	1	2
Sh 2-032	IC 1274	18 10 53.0	-23 38 51	8	1	2	2
Sh 2-033		15 59 52.3	-01 37 03	35	3	2	1
Sh 2-034		18 06 24.3	-21 39 31	90	3	2	2
Sh 2-035		18 15 50.3	-20 15 07	20	3	1	2
Sh 2-036		16 05 30.3	+00 23 40	45	1	2	1
Sh 2-037	IC 1283/1284	18 17 42.6	-19 39 51	20	3	2	2
Sh 2-038		18 08 44.8	-18 16 09	3	3	2	1
Sh 2-039		18 16 46.2	-18 38 59	3	3	1	2
Sh 2-040		18 12 02.1	-17 44 41	15	3	2	2
Sh 2-041		18 15 50.7	-18 14 07	90	3	2	2
Sh 2-042		18 10 16.9	-16 48 55	3	3	1	2

Sh 2-043		18 16 24.6	-17 24 02	15	2	1	2
Sh 2-044	IC 4701	18 16 28.8	-16 44 01	60	3	2	2
Sh 2-045	M17 = NGC6618 = Swan Nebula	18 20 46.0	-16 10 24	60	3	3	3
Sh 2-046		18 06 10.6	-14 09 31	25	2	2	2
Sh 2-047		18 17 44.4	-15 36 50	5	1	2	2
Sh 2-048		18 22 24.1	-14 35 09	10	3	2	2
Sh 2-049	M16 = NGC6611 = Eagle Nebula	18 18 40.3	-13 57 42	90	3	3	3
Sh 2-050		18 25 30.2	-14 42 42	35	3	2	2
Sh 2-051		18 40 46.3	-16 33 30	35	3	1	1
Sh 2-052	PN Abell 65	19 47 46.3	-23 05 15	2	2	1	2
Sh 2-053		18 25 14.4	-13 13 44	15	3	2	2
Sh 2-054	Contains NGC6604	18 17 52.6	-11 43 48	140	3	3	3
Sh 2-055		18 32 10.5	-11 45 44	5	3	2	1
Sh 2-056		18 31 06.1	-09 42 52	7	1	2	1
Sh 2-057		18 30 32.8	-08 36 58	2	3	2	1
Sh 2-058		18 31 26.6	-08 27 50	8	3	2	2
Sh 2-059		18 37 00.6	-07 36 01	20	3	2	1
Sh 2-060		18 36 40.5	-06 42 04	20	3	2	2
Sh 2-061		18 32 54.5	-05 00 36	2	3	2	3
Sh 2-062		18 27 34.2	-03 51 22	4	3	1	1
Sh 2-063		19 57 42.5	-14 06 57	55	3	2	1
Sh 2-064		18 31 35.0	-01 54 47	25	3	2	2
Sh 2-065		18 46 58.0	-03 44 35	7	3	2	2
Sh 2-066		18 45 30.0	-01 59 47	8	3	2	2
Sh 2-067		18 49 24.4	-02 21 13	10	2	1	1
Sh 2-068	PN	18 25 10.8	+00 51 17	8	3	2	2
Sh 2-069		18 44 26.1	-00 16 55	20	2	2	2
Sh 2-070		18 14 38.5	+07 03 47	5	3	1	2
Sh 2-071	PN	19 02 02.3	+02 09 35	3	2	2	3
Sh 2-072		19 03 50.2	+02 18 50	25	3	2	2
Sh 2-073		16 11 06.9	+21 52 26	75	3	2	1
Sh 2-074		19 08 48.5	+05 36 32	3	3	2	2
Sh 2-075		18 59 14.7	+07 07 12	10	1	2	1
Sh 2-076		18 56 24.9	+07 48 48	7	1	2	1
Sh 2-077		19 48 16.6	+01 08 52	8	2	1	1
Sh 2-078	CTSS 3, PN	19 03 10.6	+14 07 46	12	1	1	1
Sh 2-079		19 23 18.2	+13 58 34	40	3	2	1
Sh 2-080	M1-67, WR shell	19 11 28.5	+16 51 57	2	3	2	3
Sh 2-081		20 01 12.7	+11 47 33	10	3	1	1
Sh 2-082		19 30 20.4	+18 16 31	9	3	1	2
Sh 2-083		19 24 32.1	+20 47 45	2	1	2	2
Sh 2-084		19 49 04.0	+18 24 01	15	3	2	3
Sh 2-085		19 03 16.6	+25 49 49	6	3	2	2
Sh 2-086	NGC6820	19 43 08.8	+23 17 15	40	1	2	2
Sh 2-087		19 46 24.4	+24 37 41	10	3	1	1
Sh 2-088		19 45 58.4	+25 20 38	25	3	2	2
Sh 2-089		19 50 02.2	+26 29 10	5	1	2	1
Sh 2-090		19 49 12.7	+26 52 04	6	3	2	2
Sh 2-091	part of SNR	19 35 34.0	+29 36 16	120	3	3	2
Sh 2-092		19 46 38.7	+28 14 44	50	1	1	1

Sh 2-093		19 55 00.6	+27 12 48	1	3	2	3
Sh 2-094	part of SNR	19 27 50.8	+31 28 14	25	3	3	1
Sh 2-095	NGC6842, PN	19 55 00.9	+29 17 49	1	1	2	2
Sh 2-096	part of SNR	19 28 42.0	+32 41 21	25	3	2	1
Sh 2-097		19 56 04.6	+30 15 57	10	1	2	1
Sh 2-098		19 58 44.3	+31 25 18	15	1	1	1
Sh 2-099		20 00 50.5	+33 29 34	5	3	2	3
Sh 2-100	NGC6857	20 01 50.6	+33 30 41	4	3	2	3
Sh 2-101		19 59 56.8	+35 17 27	20	3	2	2
Sh 2-102		20 31 46.6	+30 36 19	40	3	1	1
Sh 2-103	Veil Nebula	20 50 32.3	+30 55 25	210	3	3	3
Sh 2-104		20 17 44.6	+36 44 40	7	1	2	2
Sh 2-105	NGC<6888 = Crescent Nebula	20 12 02.4	+38 20 59	18	2	3	3
Sh 2-106		20 27 26.9	+37 23 49	3	3	2	3
Sh 2-107		20 42 46.4	+36 20 34	5	2	2	2
Sh 2-108	IC 1318	20 22 34.8	+40 15 15	180	3	3	3
Sh 2-109		20 33 38.3	+40 20 33	1080	2	3	2
Sh 2-110		21 20 48.5	+32 27 28	50	3	2	1
Sh 2-111	Veil Nebula	21 41 52.7	+30 06 20	90	3	1	1
Sh 2-112		20 33 50.2	+45 39 35	15	1	2	2
Sh 2-113		21 20 48.2	+38 05 29	15	3	1	1
Sh 2-114		21 21 10.5	+38 42 31	9	3	3	2
Sh 2-115		20 34 33.0	+46 52 40	50	3	2	2
Sh 2-116	Abell 71	20 32 18.6	+47 21 25	2	1	2	2
Sh 2-117	NGC7000 North American N.	20 58 46.3	+44 19 19	240	3	3	2
Sh 2-118		21 37 00.7	+40 12 57	480	3	2	1
Sh 2-119		21 18 25.0	+43 56 16	160	2	2	3
Sh 2-120		21 03 46.6	+49 52 51	1	1	1	1
Sh 2-121		21 05 12.4	+49 38 59	1	3	2	1
Sh 2-122		23 08 46.7	+14 55 30	40	3	2	1
Sh 2-123		21 42 22.5	+44 32 25	13	2	2	2
Sh 2-124		21 38 20.9	+50 21 05	70	1	2	2
Sh 2-125	IC 5146 = Cocoon Nebula	21 53 32.7	+47 16 18	9	2	2	3
Sh 2-126		22 33 26.9	+38 34 56	160	3	2	2
Sh 2-127		21 28 41.0	+54 37 14	2	3	2	2
Sh 2-128		21 32 08.4	+55 51 34	1	3	2	3
Sh 2-129		21 11 44.4	+59 57 40	140	3	2	2
Sh 2-130		20 42 59.6	+63 13 43	3	3	2	2
Sh 2-131	IC 1396	21 39 00.2	+57 29 10	170	1	2	2
Sh 2-132		22 18 47.0	+56 08 05	90	3	3	2
Sh 2-133		21 28 59.8	+64 18 19	80	3	1	1
Sh 2-134		22 11 29.1	+59 24 37	160	3	2	2
Sh 2-135		22 22 11.0	+58 44 18	15	3	2	2
Sh 2-136		21 16 29.5	+68 15 12	5	3	2	3
Sh 2-137		21 57 06.6	+64 41 37	90	3	2	1
Sh 2-138		22 32 39.0	+58 28 55	1	3	2	2
Sh 2-139		22 34 59.4	+58 13 02	10	3	2	1
Sh 2-140		22 19 07.0	+63 17 07	30	2	2	3
Sh 2-141		22 28 30.4	+61 38 41	5	1	1	2
Sh 2-142	Contains NGC7380	22 47 35.1	+58 03 39	30	3	3	3

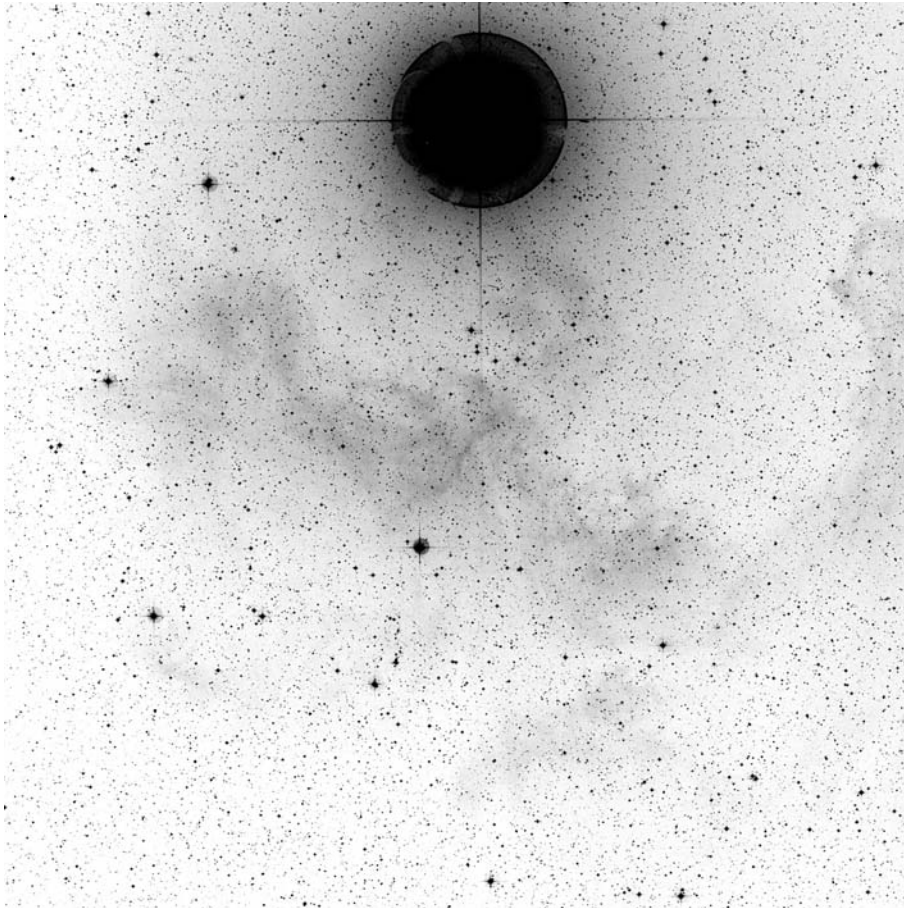
Sh 2-143		22 50 14.8	+57 42 47	4	3	1	1
Sh 2-144		22 44 51.4	+59 53 32	4	3	2	1
Sh 2-145		22 25 33.0	+64 18 31	90	2	2	1
Sh 2-146		22 49 25.5	+59 55 45	2	3	2	2
Sh 2-147		22 55 29.2	+58 28 01	2	1	1	1
Sh 2-148		22 56 11.4	+58 31 02	2	3	2	3
Sh 2-149		22 56 23.5	+58 32 03	1	1	1	2
Sh 2-150		22 31 11.1	+65 06 51	40	3	2	2
Sh 2-151		23 03 03.0	+57 04 18	20	3	1	1
Sh 2-152		22 58 37.2	+58 47 08	2	3	2	3
Sh 2-153		22 59 13.6	+58 44 10	5	1	2	2
Sh 2-154		22 51 24.6	+61 10 50	60	3	2	2
Sh 2-155		22 56 43.2	+62 37 04	60	3	2	2
Sh 2-156	IC 1470	23 05 09.6	+60 15 23	2	1	2	3
Sh 2-157		23 16 03.2	+60 02 44	90	3	3	3
Sh 2-158	NGC7538	23 13 39.6	+61 30 40	10	2	3	3
Sh 2-159		23 15 43.0	+61 08 44	7	3	2	2
Sh 2-160		23 05 47.2	+64 40 24	80	3	2	1
Sh 2-161		23 15 29.2	+61 51 43	55	2	2	2
Sh 2-162	NGC7635 = Bubble Nebula	23 20 41.5	+61 11 52	40	3	3	3
Sh 2-163		23 33 19.3	+60 47 09	10	3	2	2
Sh 2-164		23 38 25.3	+59 58 13	3	3	2	2
Sh 2-165		23 39 48.1	+61 56 15	10	2	2	2
Sh 2-166		23 42 09.8	+60 58 17	10	1	1	1
Sh 2-167		23 35 21.8	+64 51 11	2	1	1	1
Sh 2-168		23 53 03.5	+60 28 23	7	2	2	2
Sh 2-169		23 53 58.0	+60 22 23	5	1	1	1
Sh 2-170		00 01 42.0	+64 37 24	20	1	2	2
Sh 2-171	NGC7822 + Ced214	00 04 40.0	+67 09 24	180	3	2	3
Sh 2-172		00 15 32.2	+61 15 21	1	2	1	1
Sh 2-173		00 21 51.8	+61 44 17	30	1	2	2
Sh 2-174		23 46 49.1	+80 56 20	10	3	2	1
Sh 2-175		00 27 18.6	+64 42 13	2	1	2	2
Sh 2-176		00 31 38.3	+57 17 09	10	3	2	1
Sh 2-177		00 31 32.4	+62 28 09	40	3	1	1
Sh 2-178		22 18 55.4	+87 45 41	420	3	2	1
Sh 2-179	BV 5-2	00 40 24.6	+62 51 58	1	1	1	1
Sh 2-180		00 48 46.3	+62 55 45	15	3	1	1
Sh 2-181		00 49 16.5	+65 12 44	15	3	1	1
Sh 2-182		00 50 16.4	+64 44 42	2	3	1	1
Sh 2-183		00 53 59.1	+65 42 35	35	3	2	1
Sh 2-184	NGC281	00 52 50.1	+56 36 37	40	3	2	3
Sh 2-185	IC 59/63	00 60 00.0	+60 59 23	120	3	2	2
Sh 2-186		01 08 50.7	+63 08 02	1	3	2	2
Sh 2-187		01 23 07.0	+61 51 24	10	3	3	2
Sh 2-188	Simeis 22	01 30 38.6	+58 22 01	9	3	3	2
Sh 2-189	Abell 3	02 12 07.6	+64 10 18	2	1	1	1
Sh 2-190	IC 1805	02 33 22.7	+61 26 32	150	3	3	3
Sh 2-191	Maffei I	02 36 38.7	+59 38 14	2	3	1	3
Sh 2-192		02 47 13.3	+61 59 17	1	2	1	1

Sh 2-193		02 47 32.5	+62 00 15	2	2	1	1
Sh 2-194		02 47 19.1	+61 56 17	2	2	1	2
Sh 2-195		02 40 05.1	+59 38 56	3	3	1	1
Sh 2-196		02 51 18.8	+62 13 53	4	1	1	2
Sh 2-197	Maffei II	02 41 54.8	+59 38 46	5	3	2	1
Sh 2-198		02 50 01.0	+59 42 01	9	2	2	2
Sh 2-199	IC 1848	02 54 32.9	+60 24 34	120	3	2	3
Sh 2-200	PN HDW 2	03 10 44.7	+62 48 55	6	2	2	1
Sh 2-201		03 03 10.3	+60 28 42	5	3	2	3
Sh 2-202		03 18 50.8	+59 38 03	170	3	2	1
Sh 2-203		03 22 00.3	+54 52 40	45	1	2	1
Sh 2-204		03 55 45.6	+57 25 45	40	3	2	2
Sh 2-205		03 56 07.7	+53 11 40	120	3	2	2
Sh 2-206	NGC1491	04 03 13.1	+51 19 46	50	3	2	3
Sh 2-207		04 20 04.0	+53 08 37	4	1	2	2
Sh 2-208	PK 151+02.1	04 19 45.5	+52 58 39	1	1	2	3
Sh 2-209		04 11 03.0	+51 09 47	14	3	2	2
Sh 2-210		04 30 59.0	+52 33 10	20	3	1	2
Sh 2-211		04 36 57.3	+50 56 22	2	3	2	3
Sh 2-212	NGC1624	04 40 37.3	+50 22 52	5	1	2	3
Sh 2-213		04 20 42.9	+44 55 30	1	3	2	1
Sh 2-214		04 21 34.8	+44 22 22	4	1	1	1
Sh 2-215		04 17 32.8	+42 36 54	2	3	2	2
Sh 2-216	Simeiz 288	04 44 56.9	+46 49 15	80	3	2	2
Sh 2-217		04 58 47.1	+48 00 20	9	2	2	2
Sh 2-218		05 41 16.4	+52 11 18	70	2	1	1
Sh 2-219		04 56 07.3	+47 23 43	3	2	2	3
Sh 2-220	NGC1499	04 00 37.5	+36 37 02	320	3	2	3
Sh 2-221		05 01 39.3	+46 20 56	120	3	2	1
Sh 2-222	NGC1579	04 30 09.2	+35 16 13	6	3	2	3
Sh 2-223		05 17 11.1	+42 12 43	70	3	2	2
Sh 2-224		05 27 15.2	+42 58 16	30	3	3	2
Sh 2-225		05 27 00.3	+40 37 17	10	3	2	2
Sh 2-226		05 11 06.6	+37 59 33	3	3	2	3
Sh 2-227		05 19 52.8	+38 57 19	20	3	2	2
Sh 2-228		05 13 34.7	+37 27 12	8	3	2	3
Sh 2-229	IC 405, Flaming Star N., LBN 795	05 16 18.6	+34 27 48	65	3	2	3
Sh 2-230		05 22 30.3	+34 07 55	300	3	2	2
Sh 2-231		05 39 18.9	+35 55 30	12	3	1	2
Sh 2-232		05 42 26.4	+36 12 03	40	2	2	2
Sh 2-233		05 38 42.6	+35 47 35	2	3	2	2
Sh 2-234	IC 417	05 28 07.0	+34 26 06	12	3	2	3
Sh 2-235		05 41 00.8	+35 51 15	10	3	2	3
Sh 2-236	IC 410	05 22 33.0	+33 21 54	55	3	2	3
Sh 2-237	NGC1931	05 31 24.8	+34 16 38	7	3	2	3
Sh 2-238	NGC1554/1555	04 21 49.2	+19 32 16	1	3	2	3
Sh 2-239		04 31 16.9	+18 07 00	5	3	2	2
Sh 2-240	Simeiz 147 SNR	05 41 00.2	+28 06 14	180	1	3	2
Sh 2-241		06 04 06.7	+30 14 52	10	3	2	3
Sh 2-242		05 51 50.7	+27 00 38	7	1	2	2

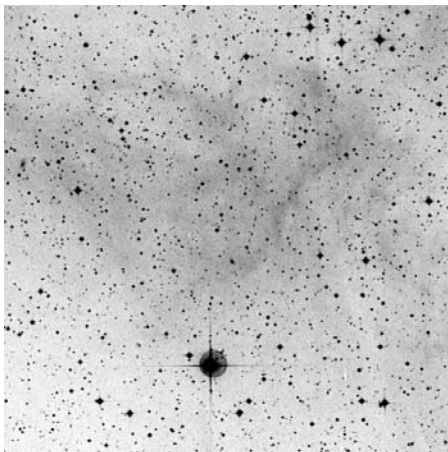
Sh 2-243		05 39 22.3	+23 17 27	6	3	2	1
Sh 2-244	M1 = NGC1952 = Crab Nebula	05 34 30.4	+21 57 09	5	2	3	3
Sh 2-245		04 02 32.8	+04 07 42	720	3	2	2
Sh 2-246		05 02 08.9	+14 05 44	65	3	1	1
Sh 2-247		06 08 30.2	+21 37 12	9	1	1	2
Sh 2-248	IC 443:	06 16 38.4	+22 30 01	50	2	3	3
Sh 2-249		06 20 58.1	+23 05 23	80	3	2	2
Sh 2-250	near NGC1633/1634	04 40 10.8	+07 21 47	10	3	2	1
Sh 2-251		04 32 49.0	+05 51 46	35	3	3	1
Sh 2-252	NGC2174/2175/IC 2159	06 09 38.7	+20 30 01	40	3	2	3
Sh 2-253		06 25 43.0	+20 01 41	5	3	1	1
Sh 2-254		06 12 20.5	+18 02 37	11	2	2	2
Sh 2-255		06 13 08.4	+17 58 31	3	1	2	3
Sh 2-256		06 12 38.3	+17 56 35	1	3	2	2
Sh 2-257	IC 2162	06 12 50.4	+17 58 33	3	1	2	3
Sh 2-258		06 13 32.3	+17 55 27	1	3	2	2
Sh 2-259		06 11 36.7	+17 26 44	2	1	1	1
Sh 2-260		04 55 07.0	+05 39 43	22	3	3	1
Sh 2-261		06 08 56.6	+15 48 07	45	3	2	2
Sh 2-262		05 06 44.7	+06 10 04	20	3	2	1
Sh 2-263		05 21 44.4	+08 23 56	22	2	2	2
Sh 2-264		05 35 12.3	+09 56 00	390	1	1	2
Sh 2-265		05 18 36.3	+07 26 23	70	3	2	2
Sh 2-266		06 18 48.9	+15 16 40	1	2	2	3
Sh 2-267	LBN 875 = PK 196-01.1	06 15 52.7	+14 16 06	4	1	1	2
Sh 2-268		06 10 14.6	+13 19 55	60	3	1	1
Sh 2-269		06 14 34.1	+13 49 18	4	3	2	3
Sh 2-270		06 10 12.9	+12 48 55	1	3	2	3
Sh 2-271	PK 197-02.1	06 14 54.3	+12 21 14	2	1	2	3
Sh 2-272		06 15 00.3	+12 20 14	1	2	1	2
Sh 2-273	NGC2264 = Christmas Tree	06 40 48.3	+09 54 28	250	3	2	3
Sh 2-274	Abell 21	07 29 06.4	+13 15 43	8	3	3	3
Sh 2-275	NGC2246 = Rosette Nebula	06 31 42.5	+04 55 47	100	1	2	3
Sh 2-276	Barnard's Loop	05 27 28.1	-03 57 55	1200	2	2	2
Sh 2-277	IC 434 or NGC2024?	05 40 42.9	-02 26 49	120	3	2	3
Sh 2-278		05 19 48.2	-05 39 49	50	3	2	2
Sh 2-279	NGC1973/1975/1977	05 35 20.1	-04 48 03	20	3	2	3
Sh 2-280		06 34 18.7	+02 32 23	40	3	2	2
Sh 2-281	M42/43 = Orion Nebula	05 34 54.4	-05 28 00	60	3	2	3
Sh 2-282		06 37 58.5	+01 30 51	35	3	2	2
Sh 2-283		06 38 38.6	+00 42 45	3	3	1	1
Sh 2-284		06 45 02.0	+00 13 51	80	2	2	2
Sh 2-285		06 55 12.2	-00 30 37	1	1	2	3
Sh 2-286		06 54 32.6	-04 30 32	6	2	1	1
Sh 2-287		06 59 32.3	-04 48 14	12	3	2	2
Sh 2-288	IC 466	07 08 33.0	-04 18 30	1	3	2	3
Sh 2-289		06 45 56.3	-07 20 18	11	2	1	1
Sh 2-290	Abell 31	08 54 10.5	+08 55 16	17	2	2	2
Sh 2-291		06 55 24.6	-08 01 40	8	2	1	2
Sh 2-292	vdB 93 = Gum 1	07 04 24.9	-10 26 56	21	3	2	3

Sh 2-293		07 01 46.9	-11 18 34	11	1	1	2
Sh 2-294		07 16 34.3	-09 26 38	7	3	2	3
Sh 2-295		07 02 40.7	-11 27 42	8	1	1	1
Sh 2-296	IC 2177 = Seagull Nebula	07 05 48.0	-11 13 08	200	3	2	3
Sh 2-297		07 05 14.7	-12 20 04	7	3	2	3
Sh 2-298	NGC2359 = Thor's Helmet	07 18 38.0	-13 11 55	22	3	3	3
Sh 2-299		07 30 38.9	-15 17 34	1	3	1	1
Sh 2-300		07 31 02.8	-15 24 37	3	2	1	1
Sh 2-301		07 09 48.4	-18 28 43	9	2	2	3
Sh 2-302		07 31 41.0	-16 58 43	21	2	1	2
Sh 2-303		06 54 00.9	-22 25 31	90	2	2	2
Sh 2-304		06 43 26.3	-24 07 59	200	3	2	2
Sh 2-305		07 30 08.1	-18 31 31	4	3	2	3
Sh 2-306		07 30 36.4	-19 06 35	30	3	2	1
Sh 2-307		07 35 32.0	-18 45 13	6	3	2	3
Sh 2-308		06 54 08.9	-23 56 31	35	3	3	2
Sh 2-309		07 32 06.1	-19 25 47	12	2	1	2
Sh 2-310		07 13 02.7	-24 35 11	480	3	2	2
Sh 2-311	NGC2467	07 52 20.4	-26 26 28	45	3	2	3
Sh 2-312		08 59 08.9	-25 41 19	720	3	2	2
Sh 2-313	Abell 35	12 53 31.0	-22 51 35	12	1	2	2

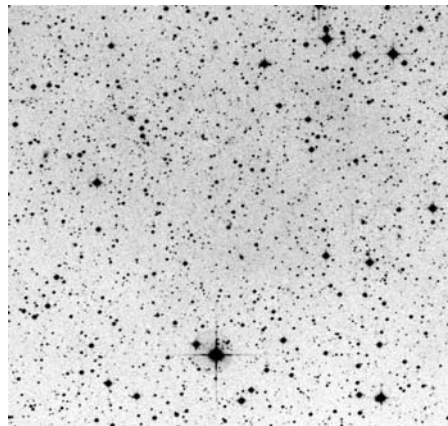
Sh 2 - 1 in Scorpius



60x60, blue



POSS blue



POSS red



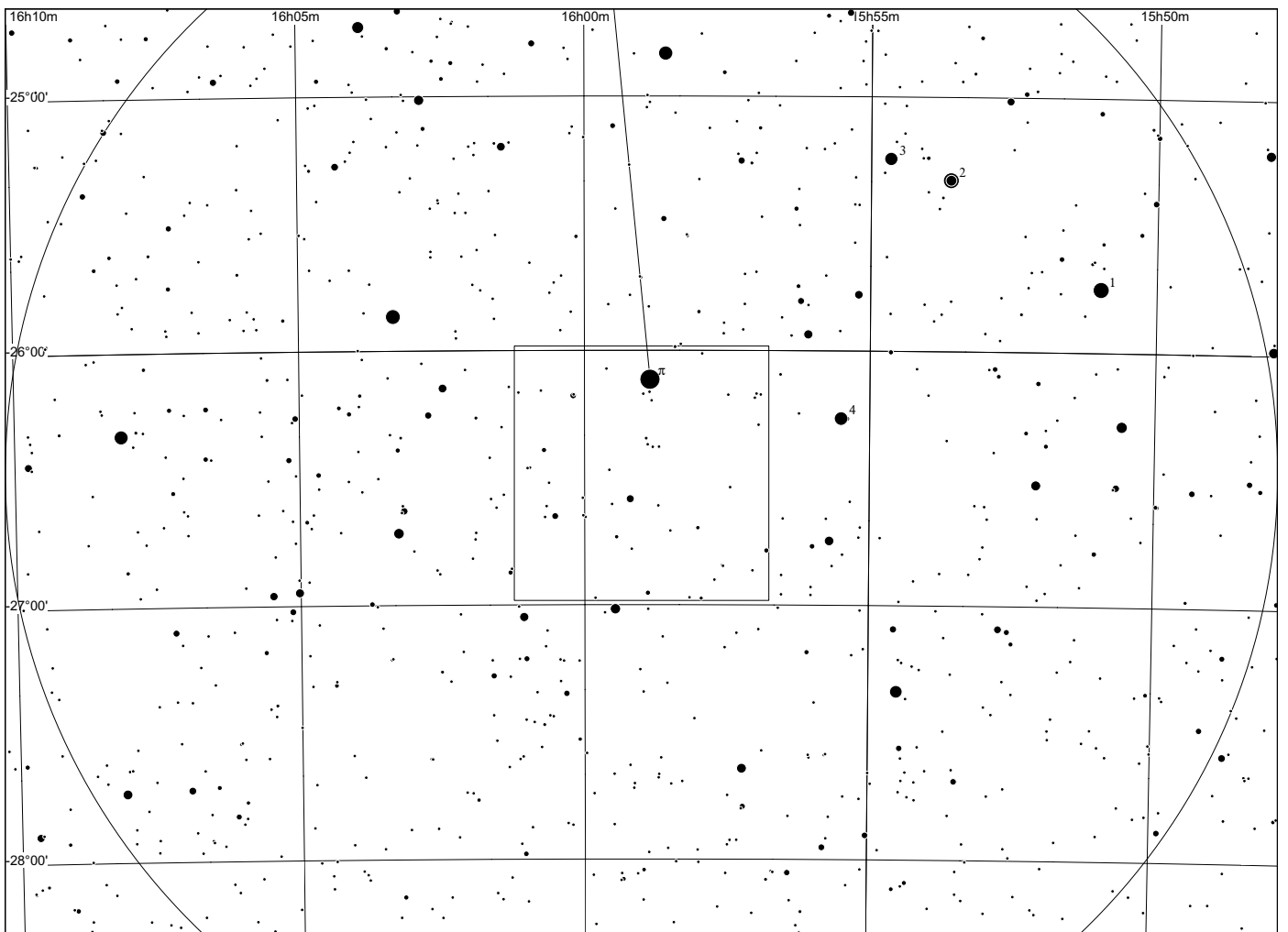
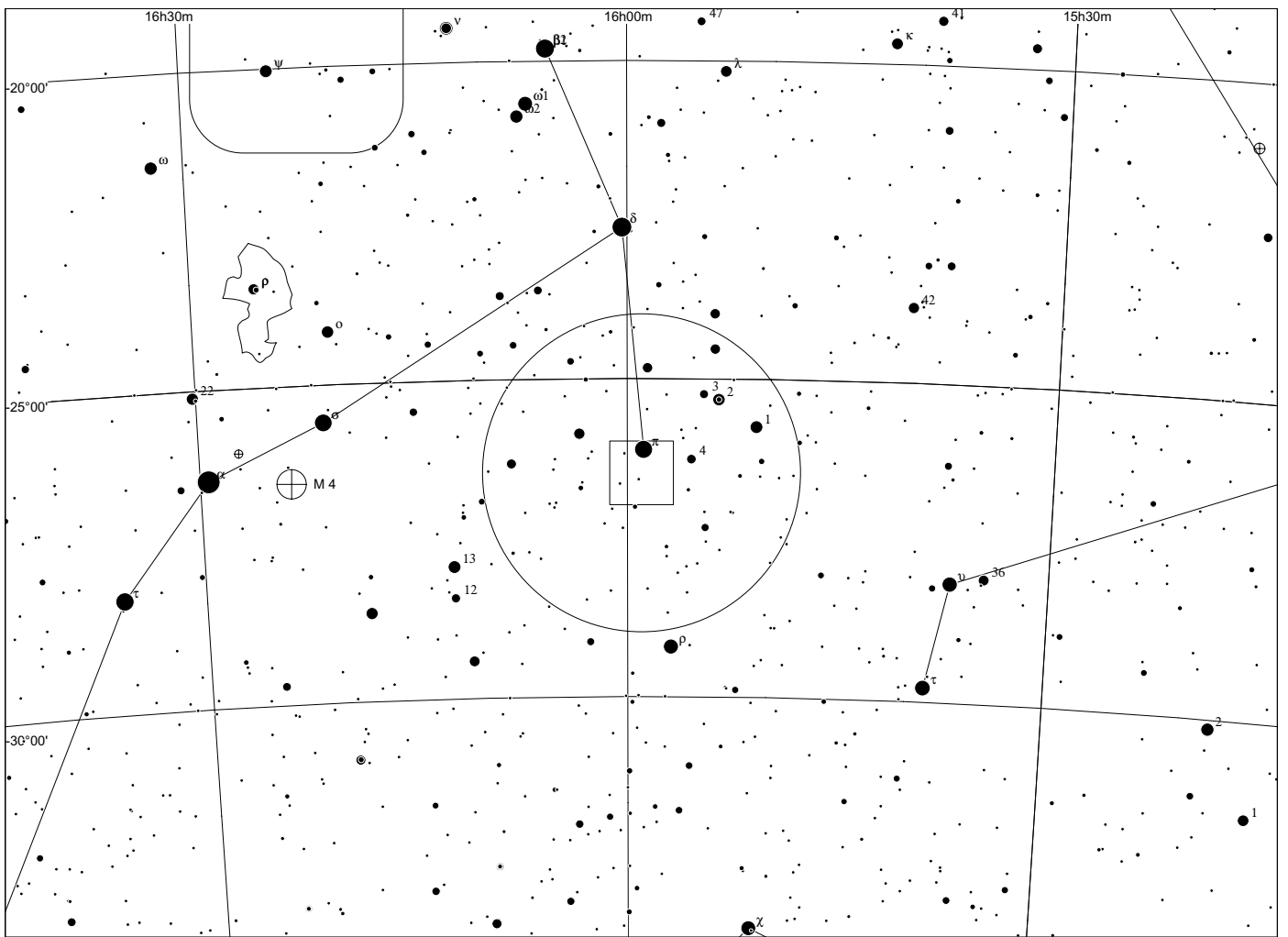
RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-001		15 58 50.8	-26 07 14	150	3	2	3

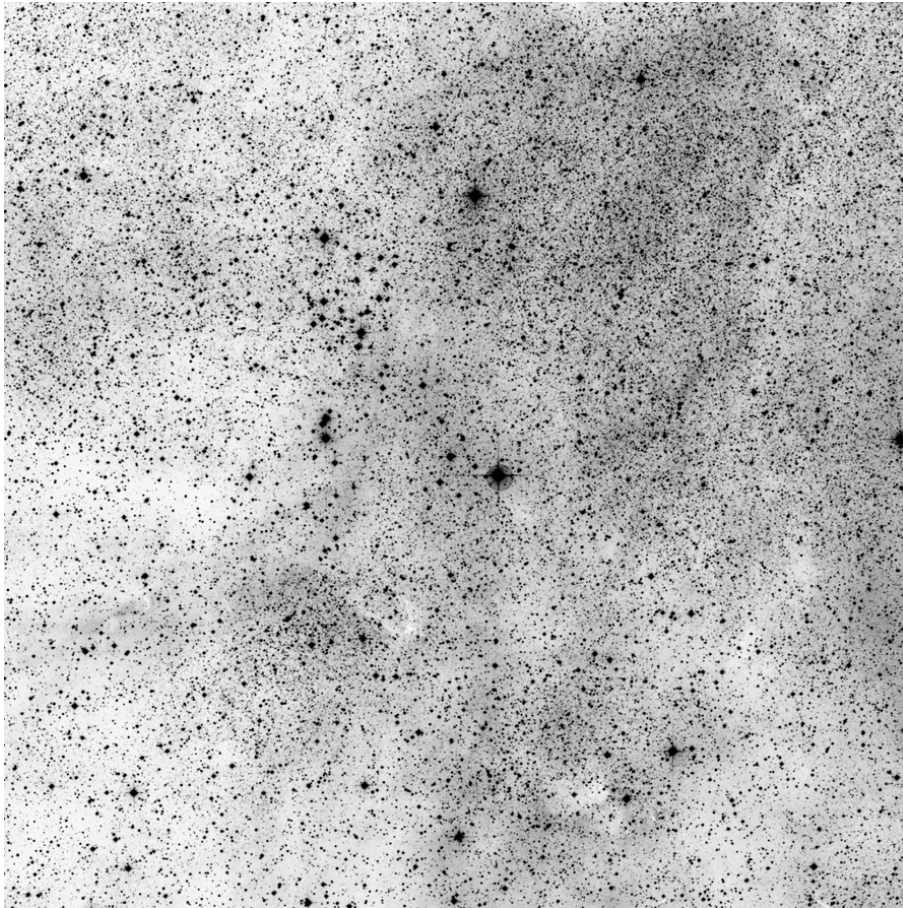
Distance: 200 pc, Size: 8.7 pc, Source: [2003A&A...397..133R](#)

Associated with the star π Scorpii in the nearby Upper Scorpius subgroup of the Scorpius OB2 association.

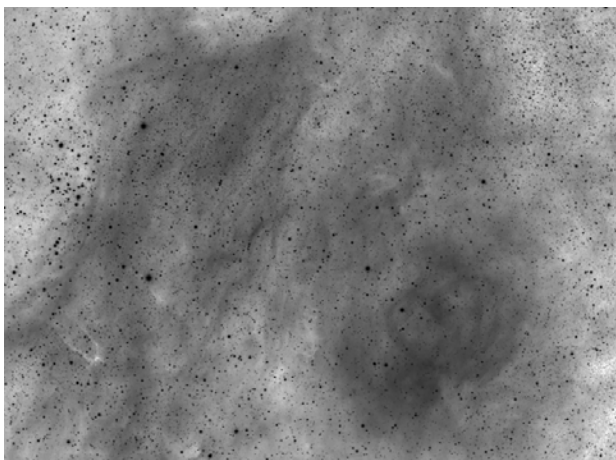
Observing notes:



Sh 2 - 2 in Scorpius



60x60, red



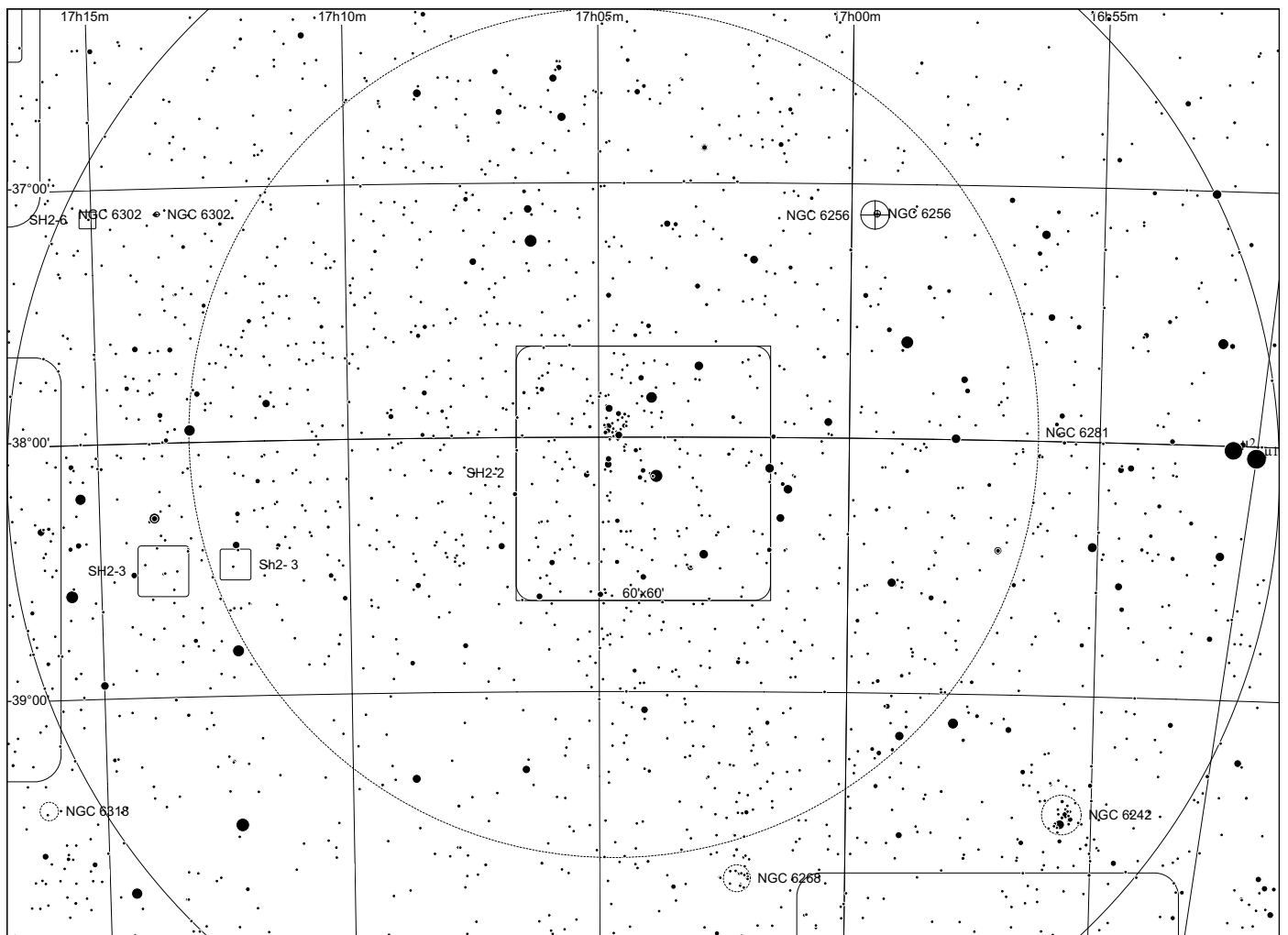
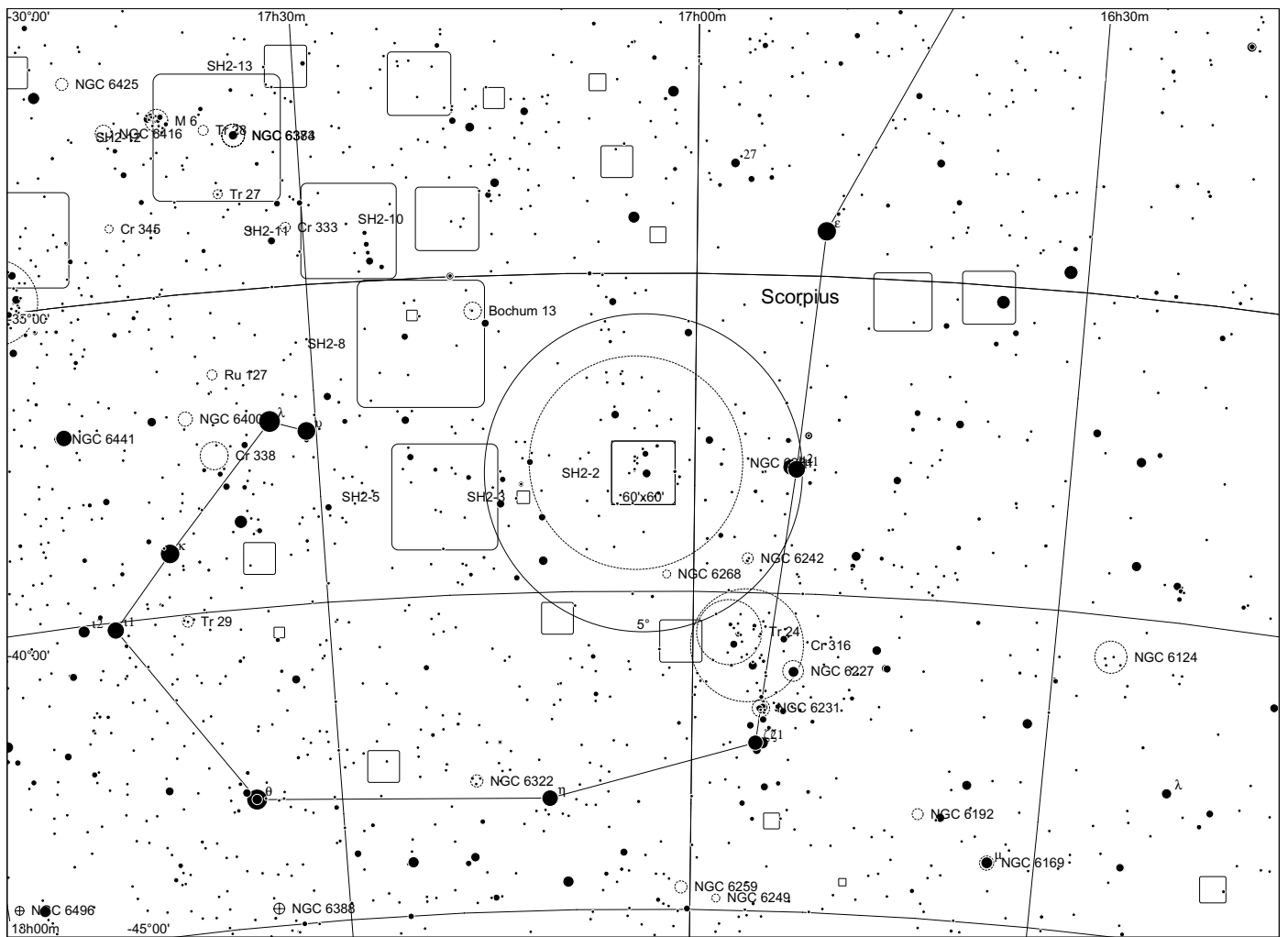
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-002	RCW 119	17 04 06.5	-38 08 33	60	3	2	2

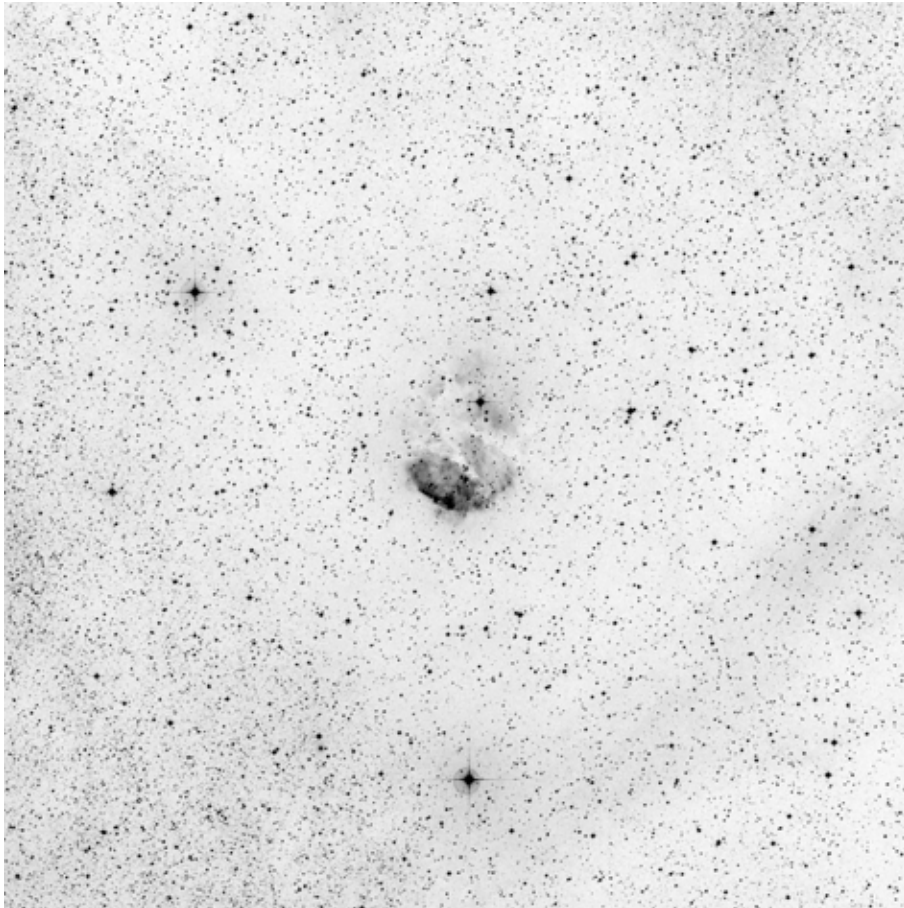
Distance: 1700 pc, Size: 89.0 pc Source: 1999A&A...346..979B

This HII region is a wind blown bubble surrounding the O6.5 Ia star and prominent X-ray eclipsing binary HD 153919 and is in the same direction (but much further) as the star cluster NGC 6281.

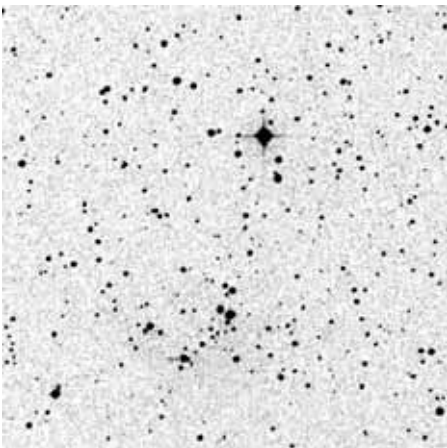
Observing notes:



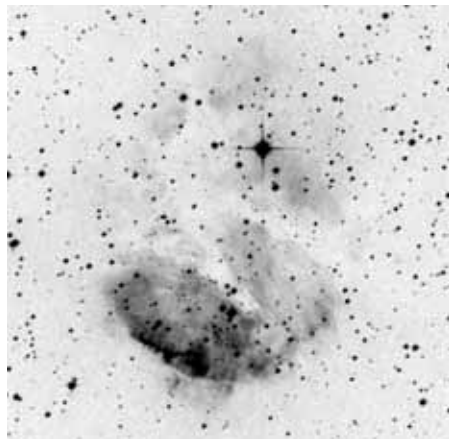
Sh 2 - 3 in Scorpius



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-003		17 13 44.7	-38 30 11	12	2	3	3

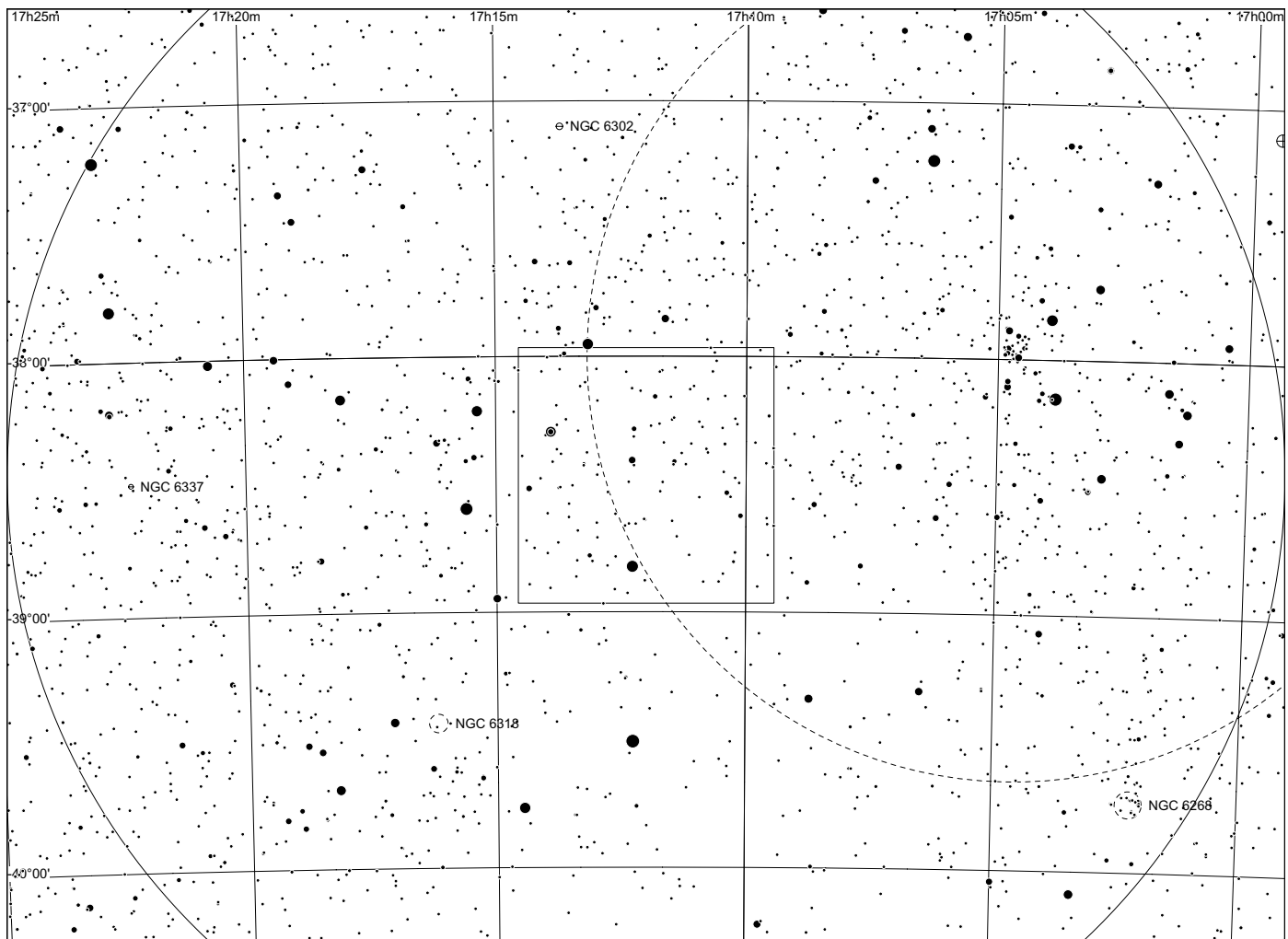
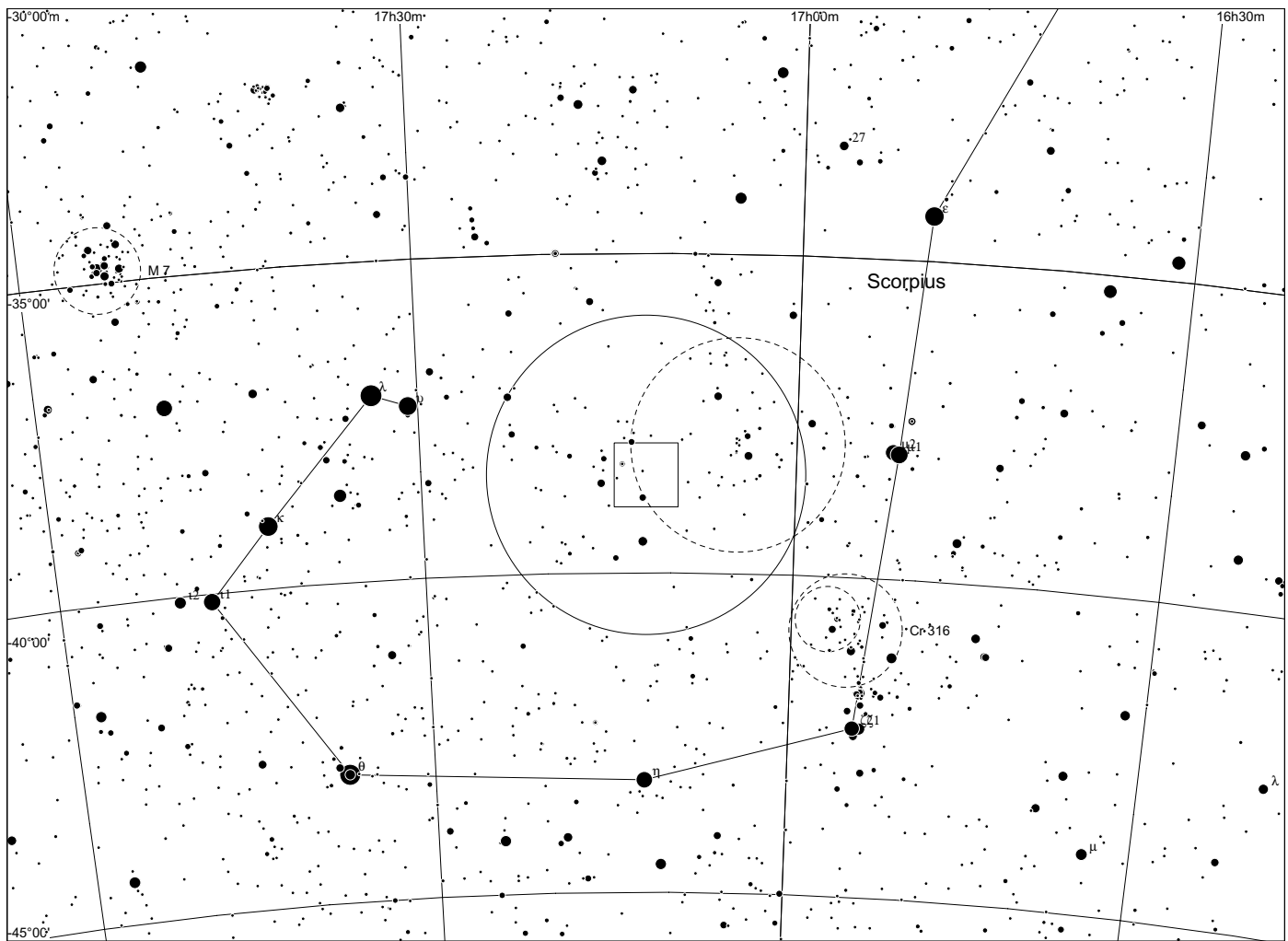
Distance: 1300 pc, Size: 4.5 pc, Source: [2005A&A...433..565D](#)

Gum 58 is ionised by an O6 V star, most likely CGO 439.

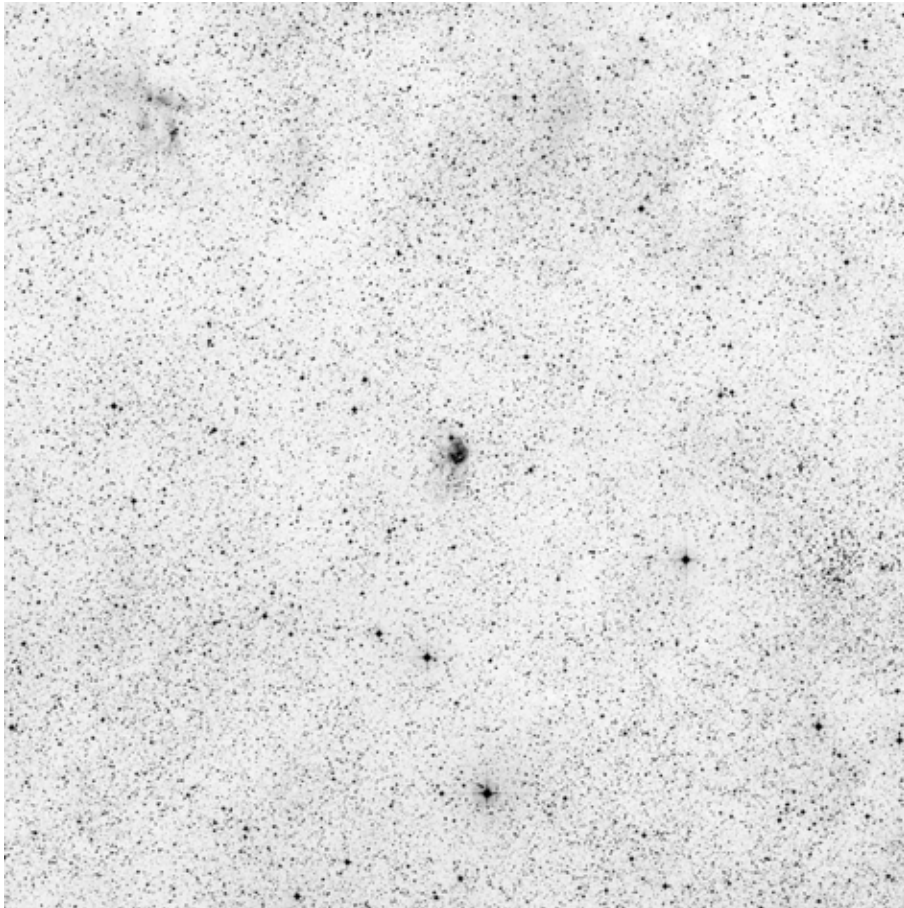
Observing notes:

16" f/4.5

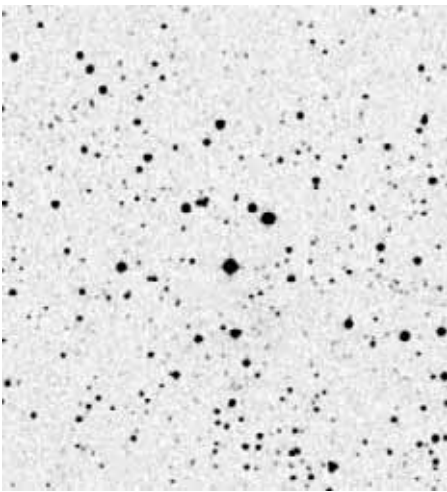
07/09: unsuccessful



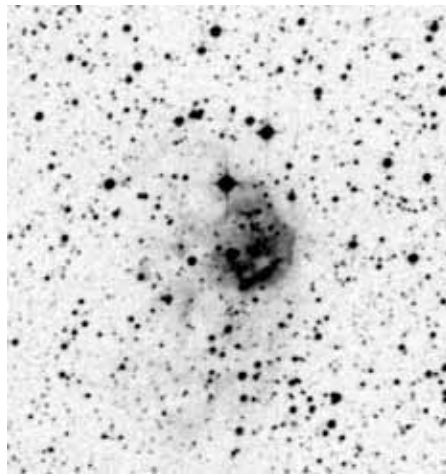
Sh 2 - 4 in Scorpius



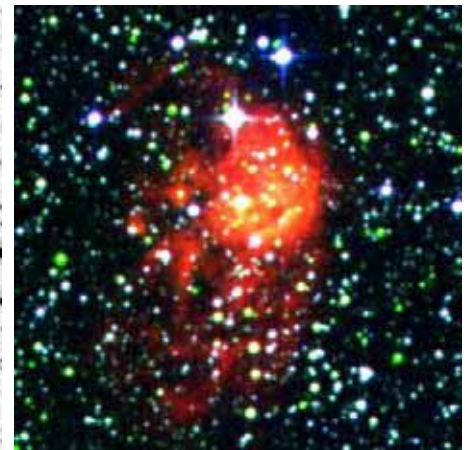
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-004		17 19 48.5	-39 20 19	5	2	3	3

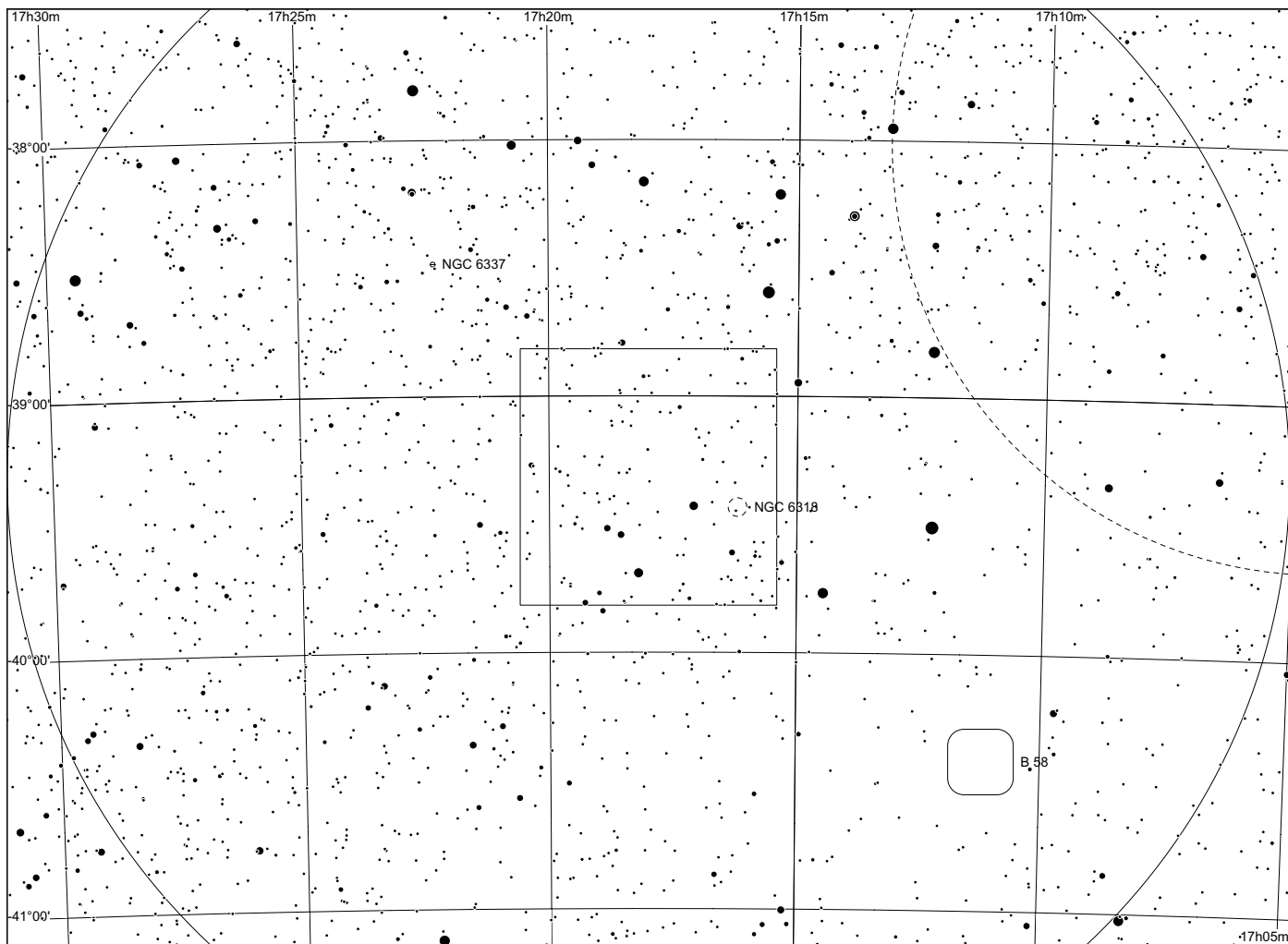
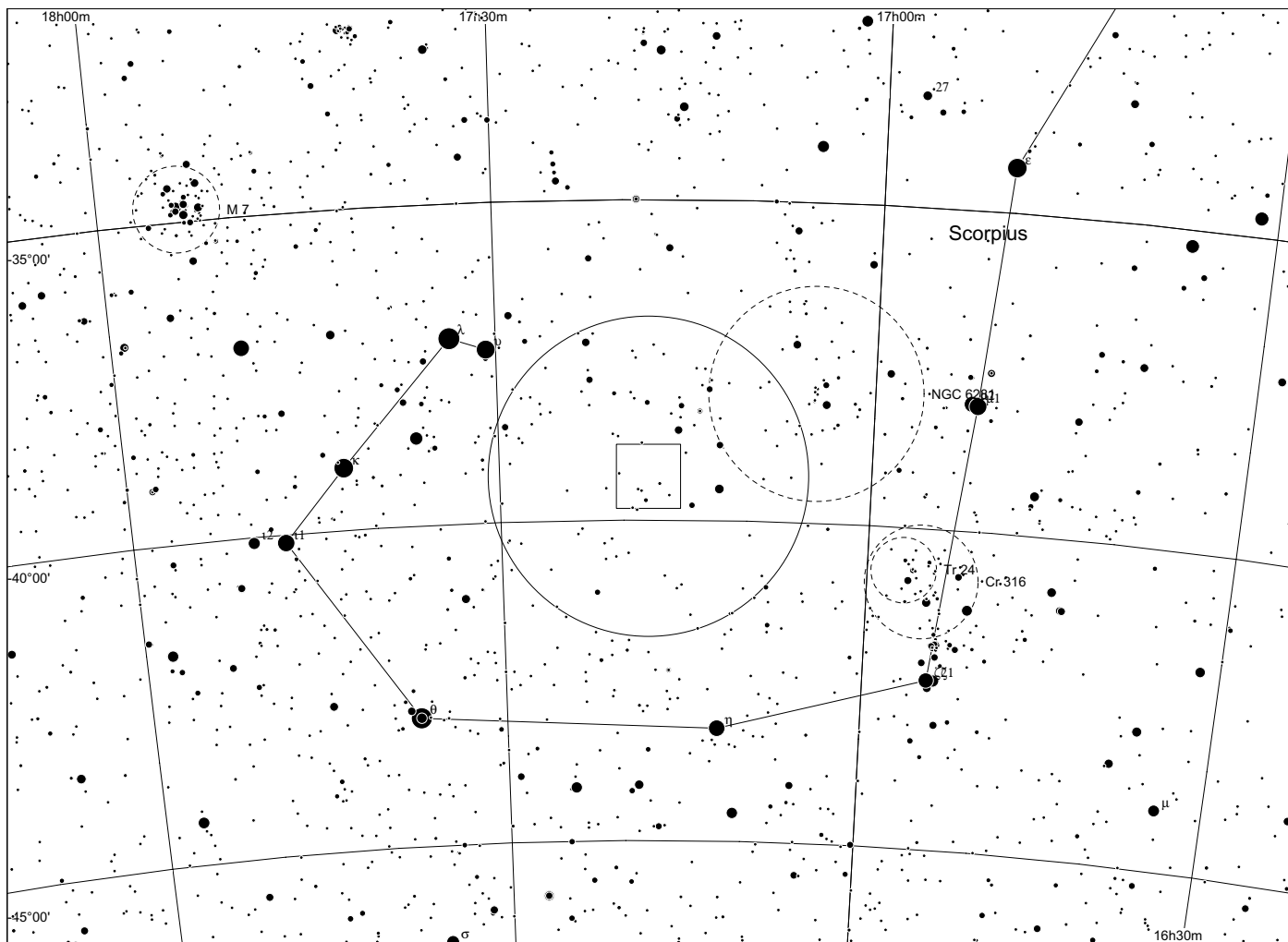
Distance: 2510 pc, Size: 0.9 pc, Source: [2003A&A...397..213P](#)

This HII region may be associated with the star cluster Havlen-Moffat 1.

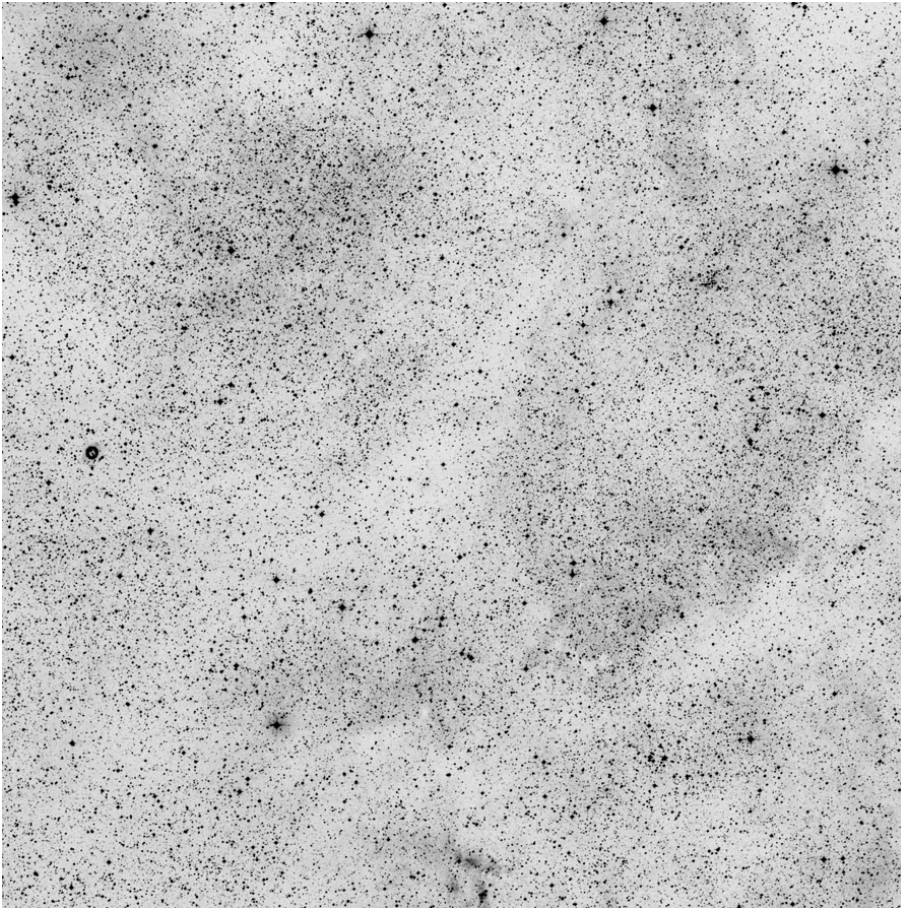
Observing notes:

16" f/4.5

07/09: unsuccessful



Sh 2 - 5 in Scorpius



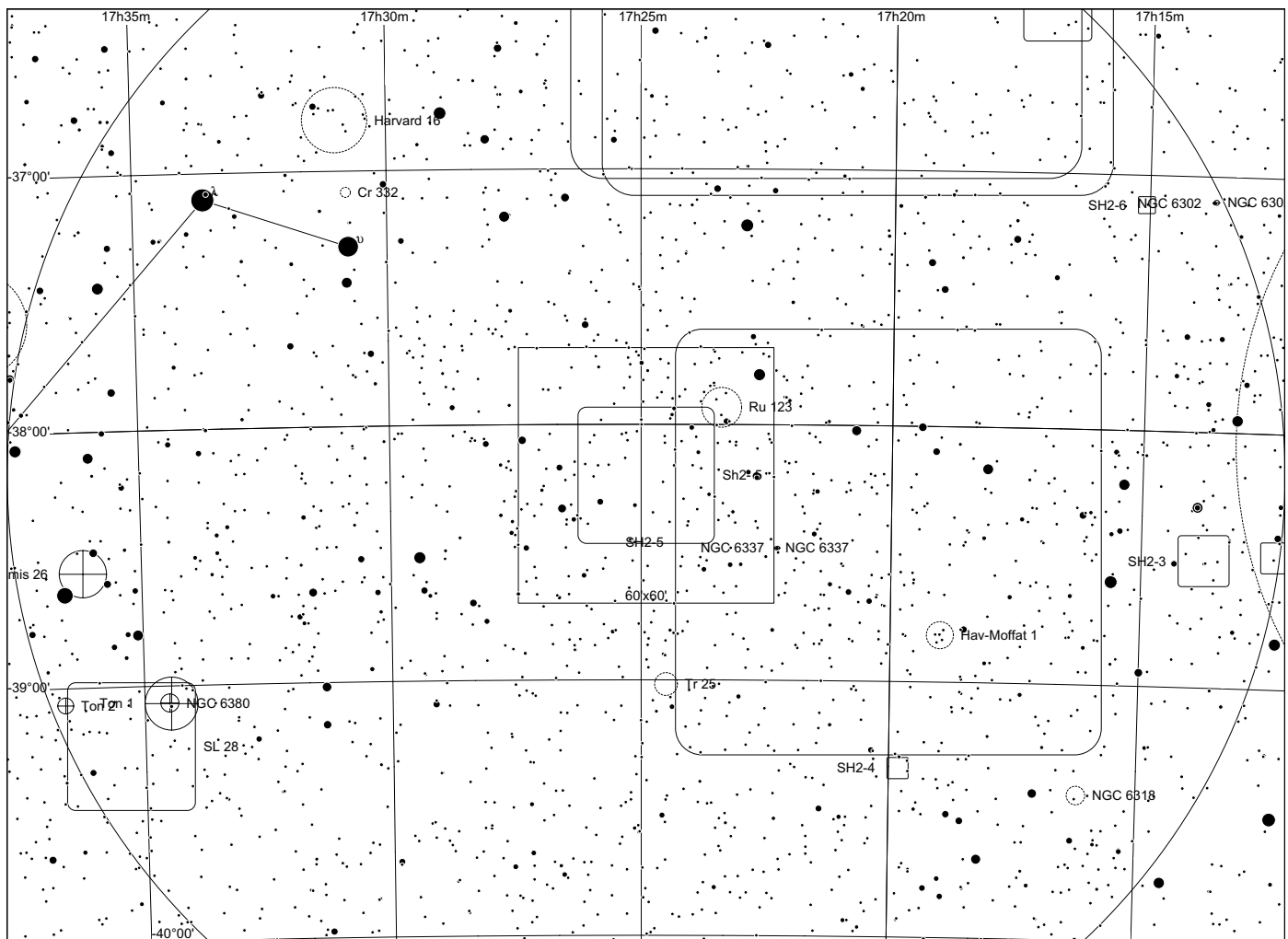
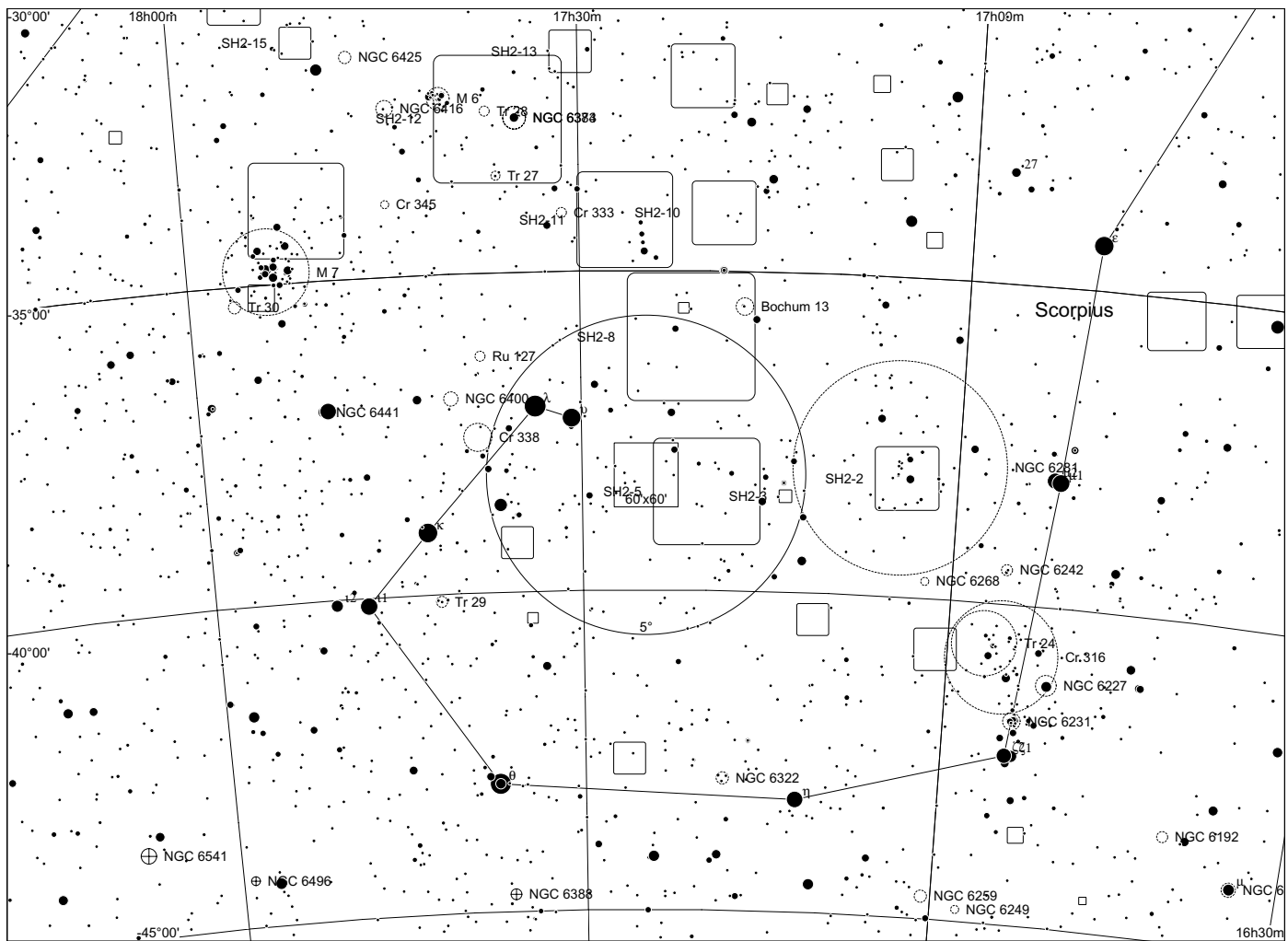
60x60, red

	other name	RA	dec	dia. '	F	S	B
Sh 2-005		17 20 02.9	-38 27 17	100	3	2	2

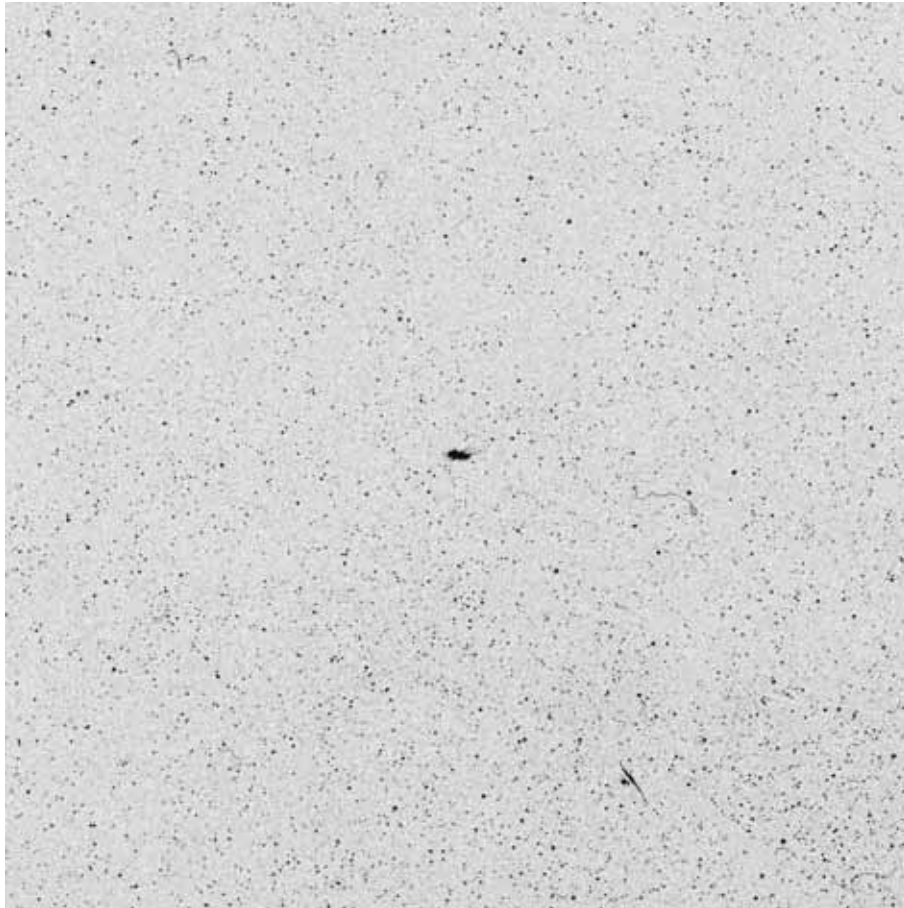
Distance: 2900 pc, Size: 84.4 pc Source: 2003A&A...397..133R

This large diffuse nebula is in the same direction and distance as WR 89 in the cluster Havlen-Moffat 1 and may be the same object as Gum 59b and RCW 123.

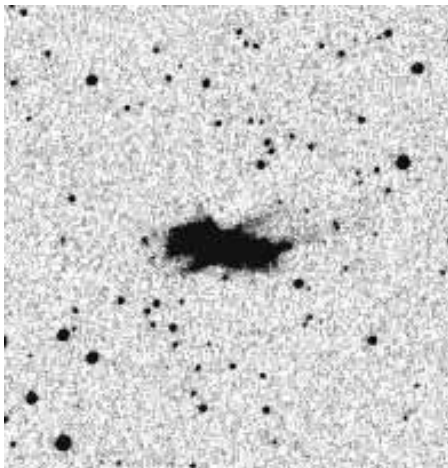
Observing notes:



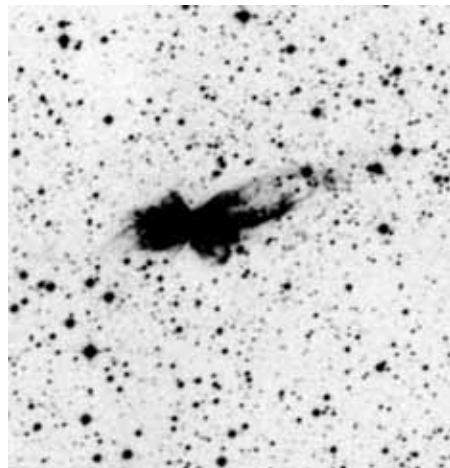
Sh 2 - 6 in Scorpius



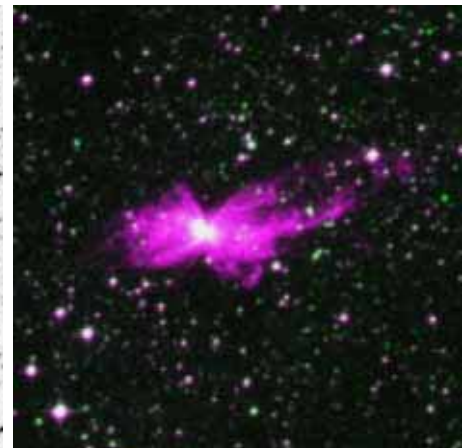
60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-006	Bug nebula	17 15 03.2	-37 06 60	4	3	2	3

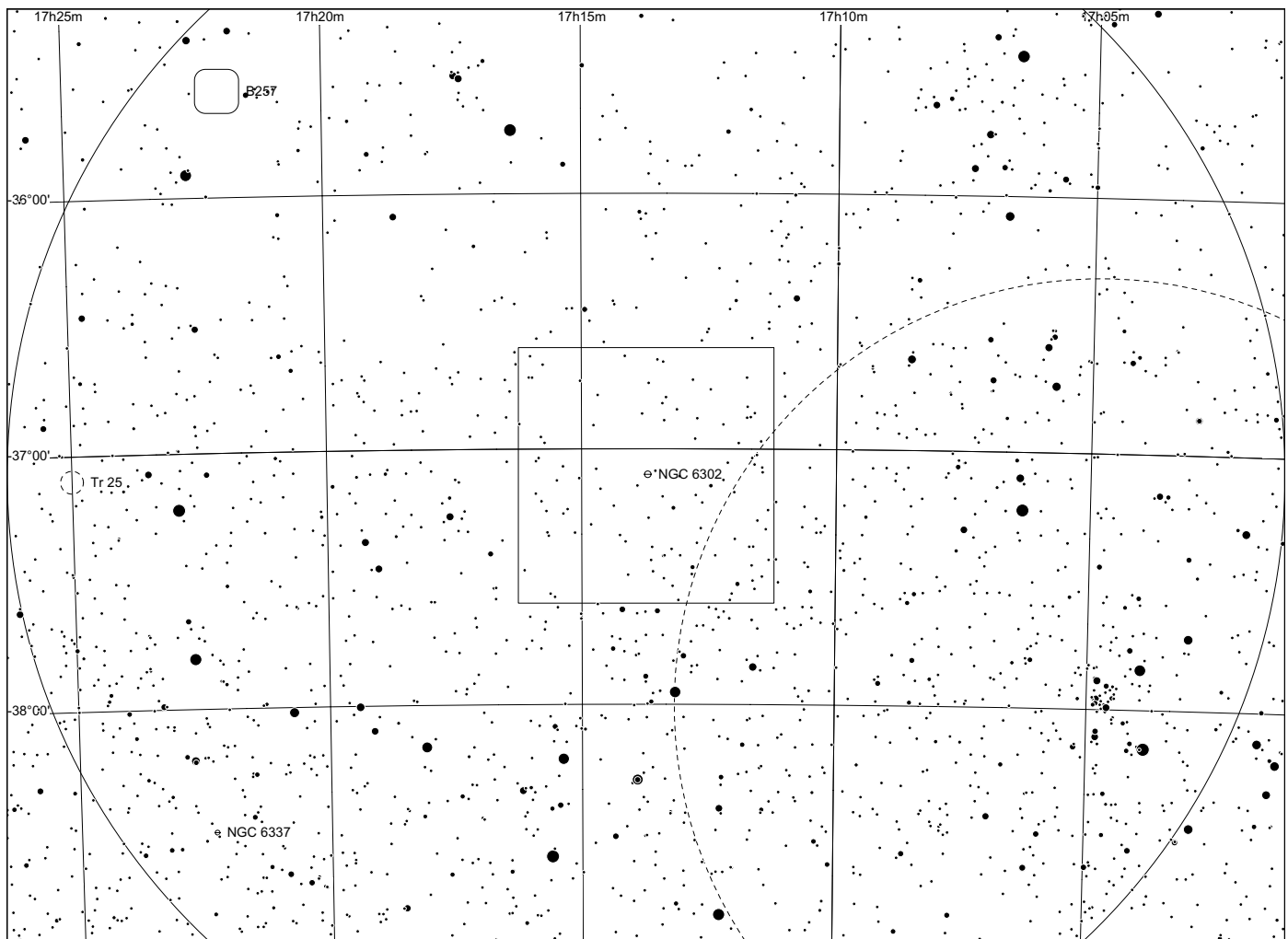
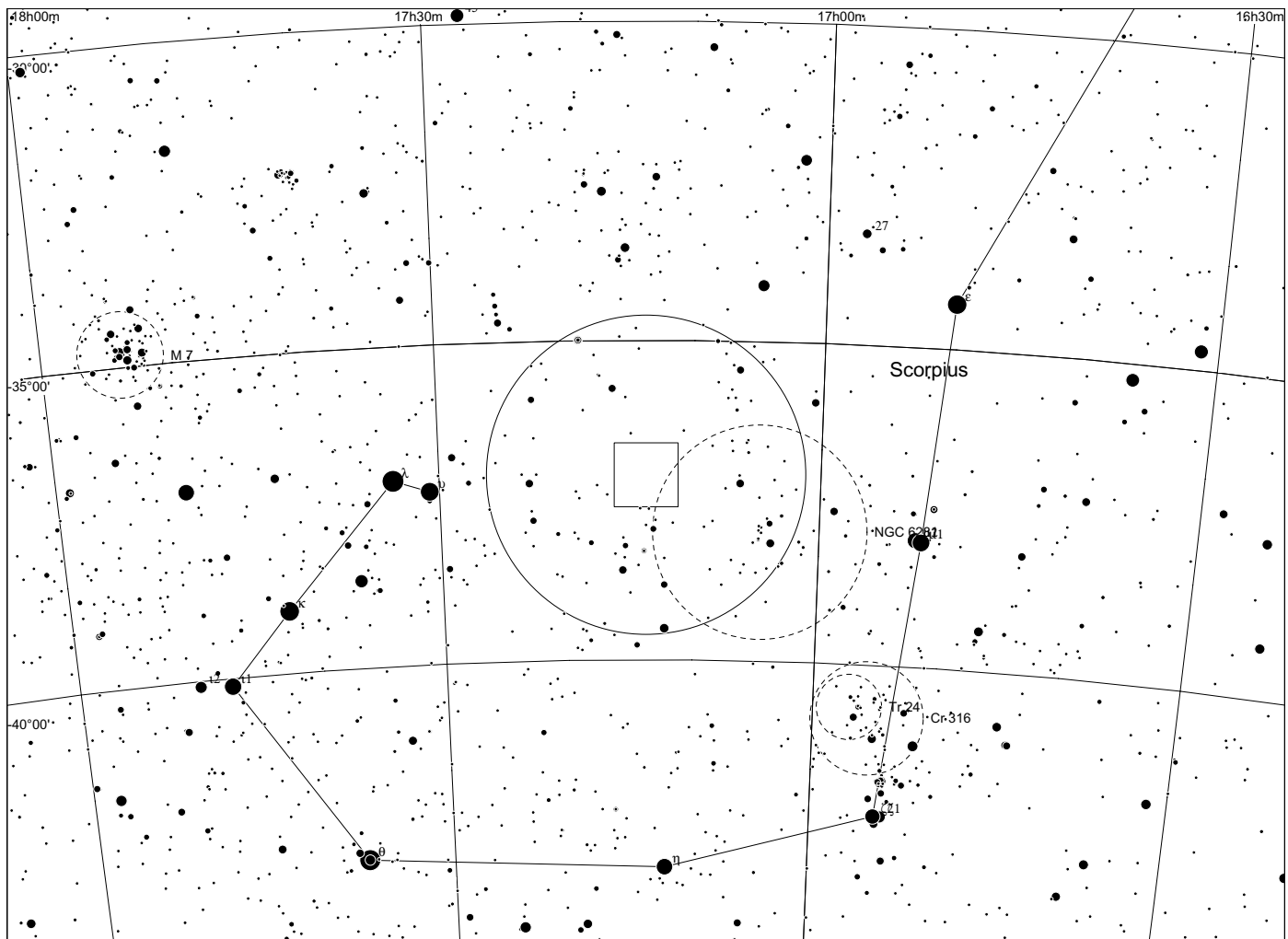
Distance: 910 pc, Size: 1.1 pc, Source: [2002A&A...394..679K](#)

This is the Bug nebula, a planetary nebula.

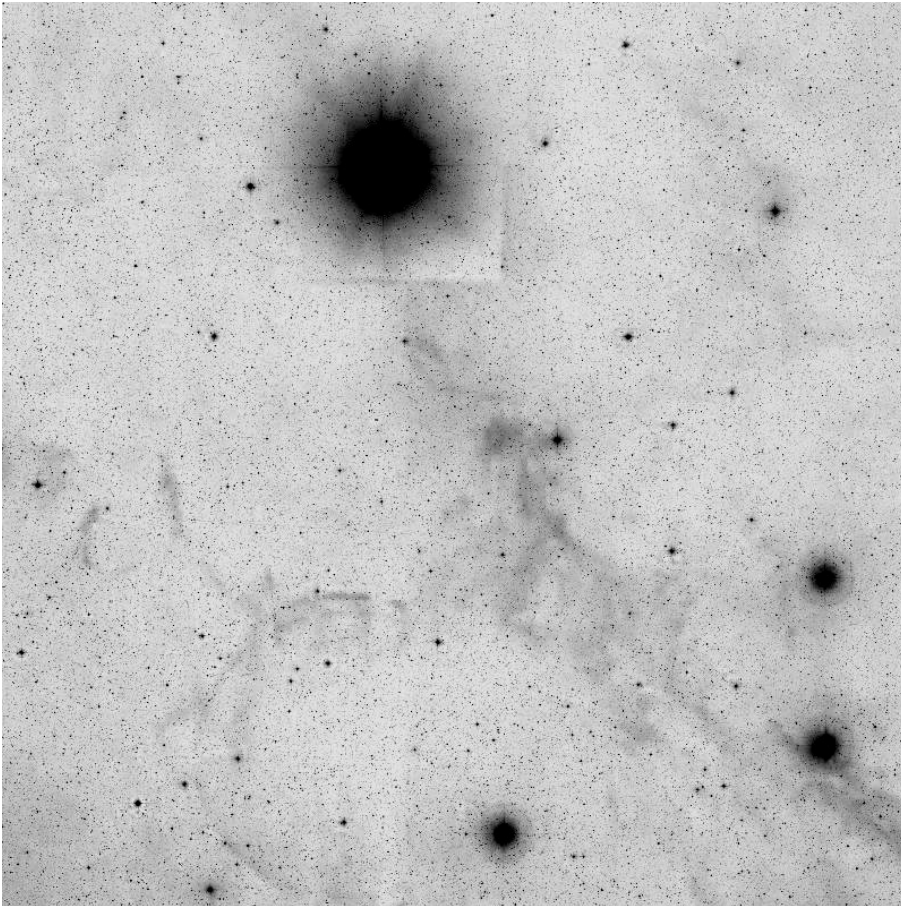
Observing notes:

16" f/4.5

07/09: bright PN with distinct shape, only little detail due to the low elevation



Sh 2 - 7 in Scorpius



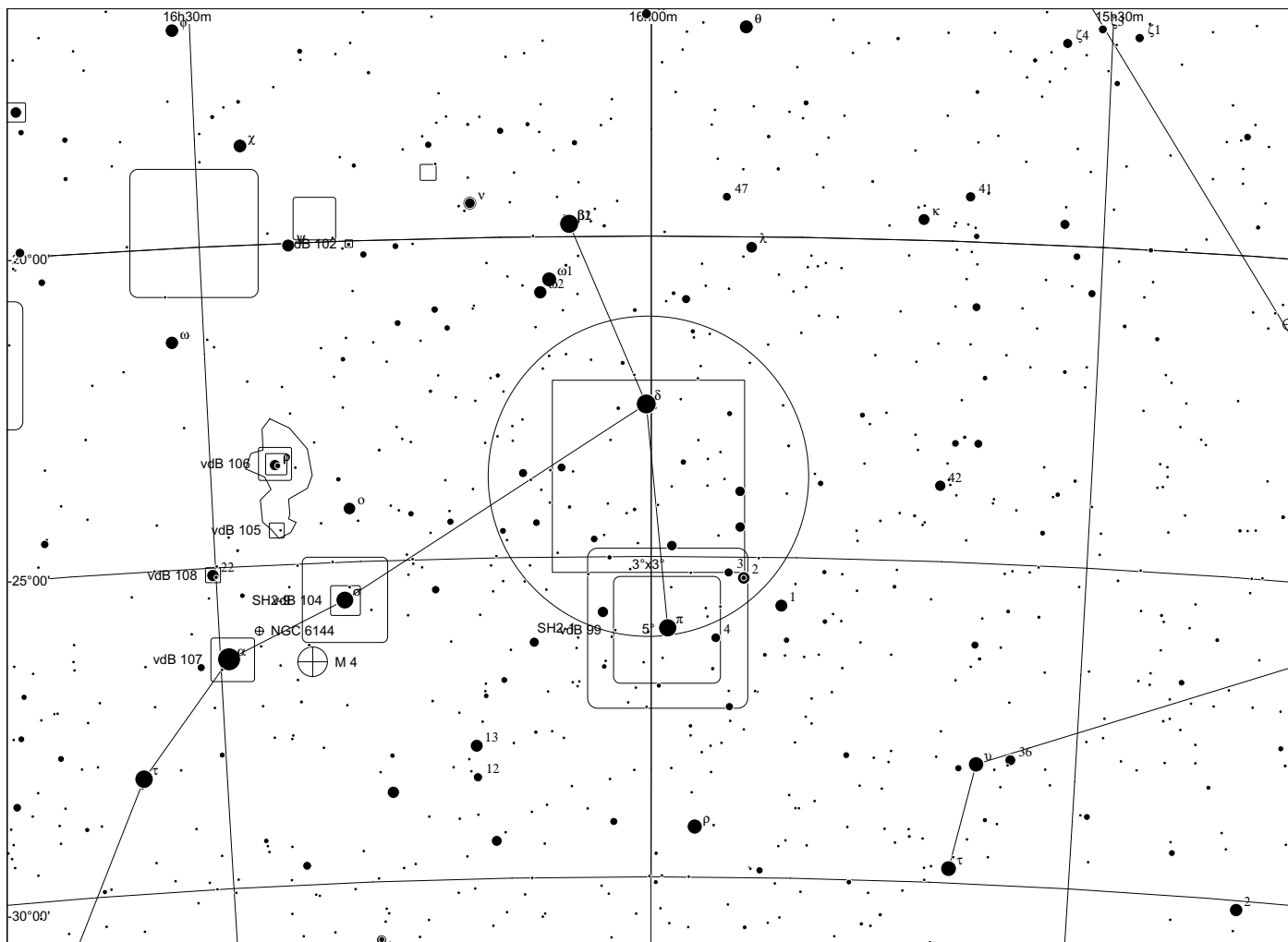
3°x3°, blue



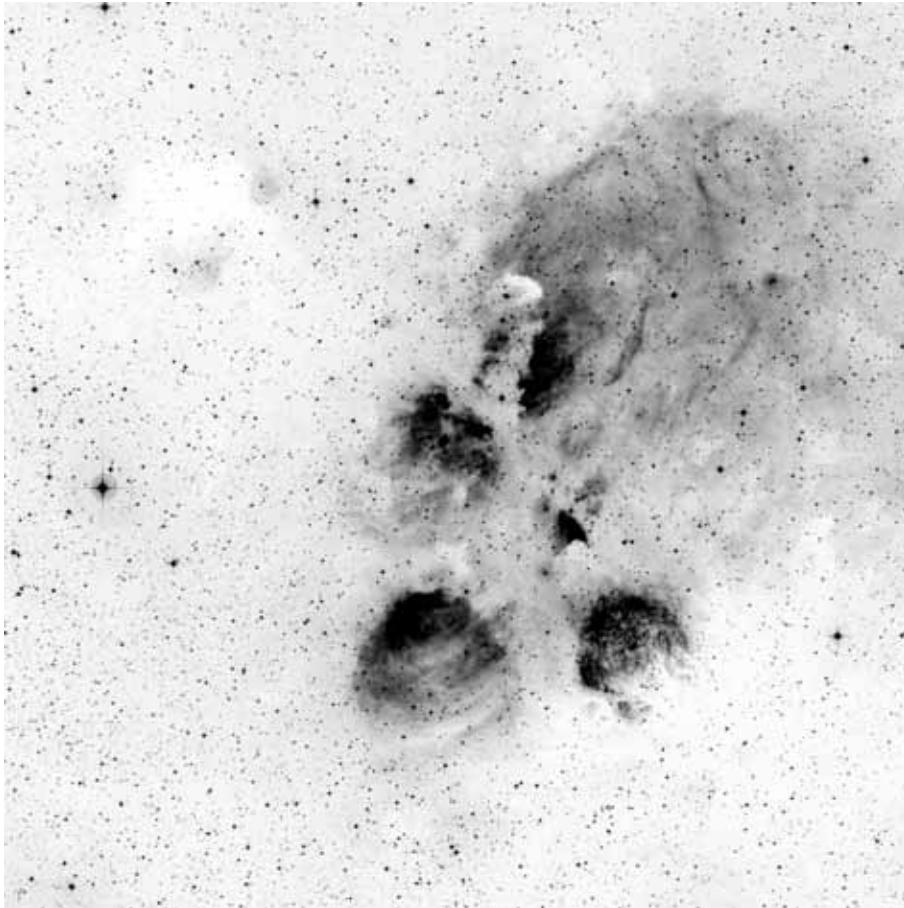
	other name	RA	dec	dia. '	F	S	B
Sh 2-007		16 00 19.1	-22 57 03	240	3	2	1

Distance: 200 pc, Size: 14.0 pc Source: 2003A&A...397..133R
This is excited by the nearby star delta Sco.

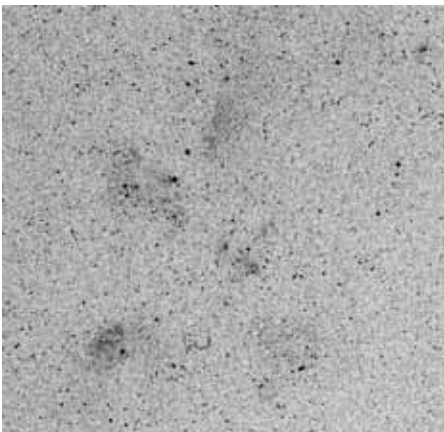
Observing notes:



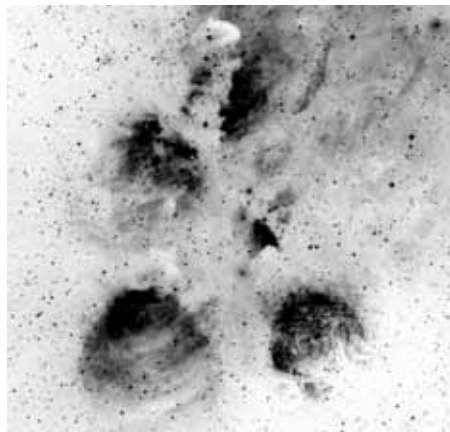
Sh 2 - 8 in Scorpius



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-008	NGC6334, Cat's paw	17 21 24.5	-36 02 05	120	3	3	3

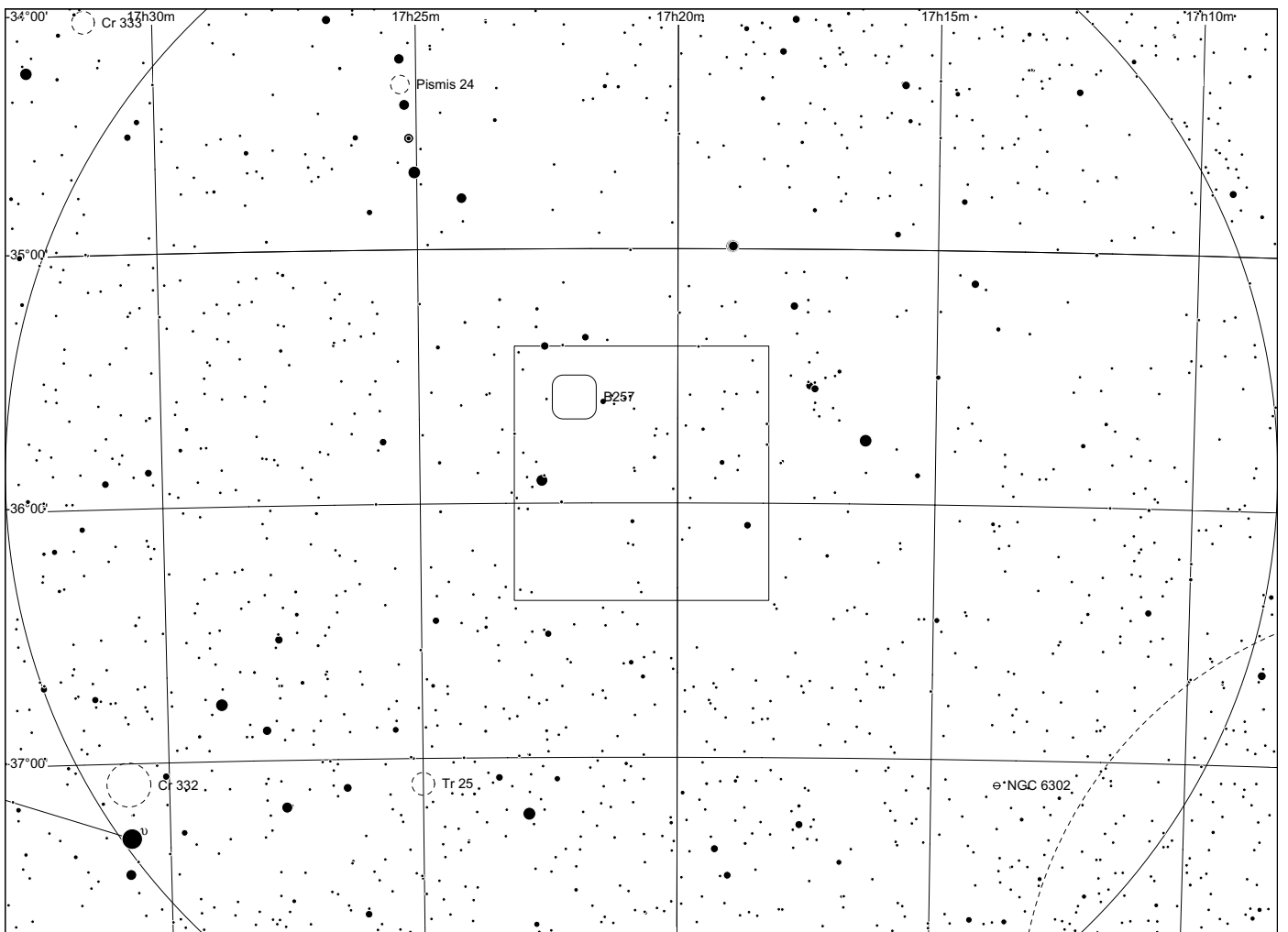
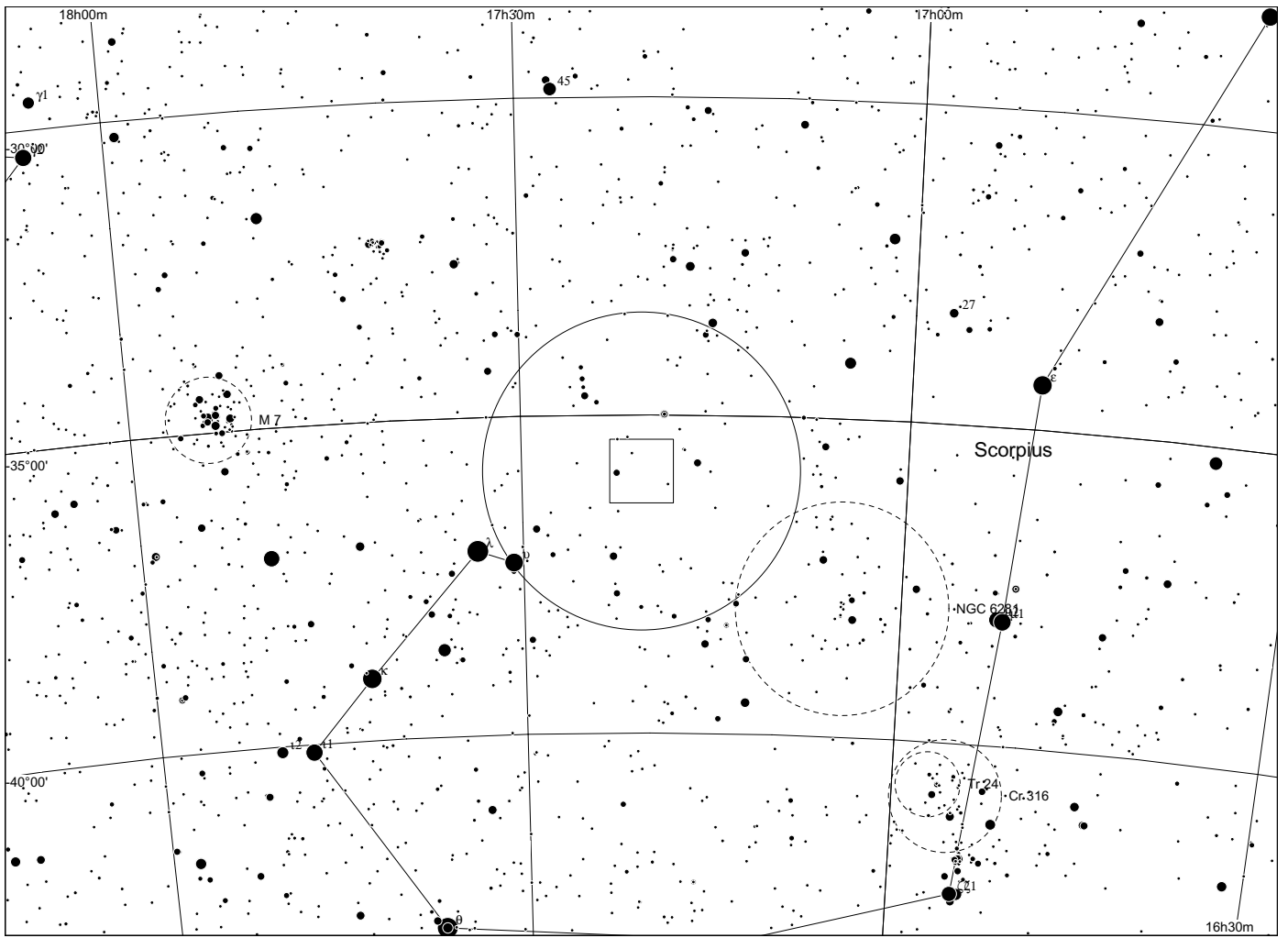
Distance: 1700 pc, Size: 59.3 pc, Source: [1982ApJS...49..183B](#)

This is NGC 6334, the Cat's Paw nebula. This nebula contains five cloud fragments and at least eleven major infrared sources that are probably mostly cooler B stars. It lies at the same distance as [NGC 6357](#), the War and Peace nebula, and is separated from it by a dark cloud. You can [see both nebula together](#) in this image. The Gum catalog divides this nebula into six pieces (Gum 61, 62, 63, 64a, 64b and 64c).

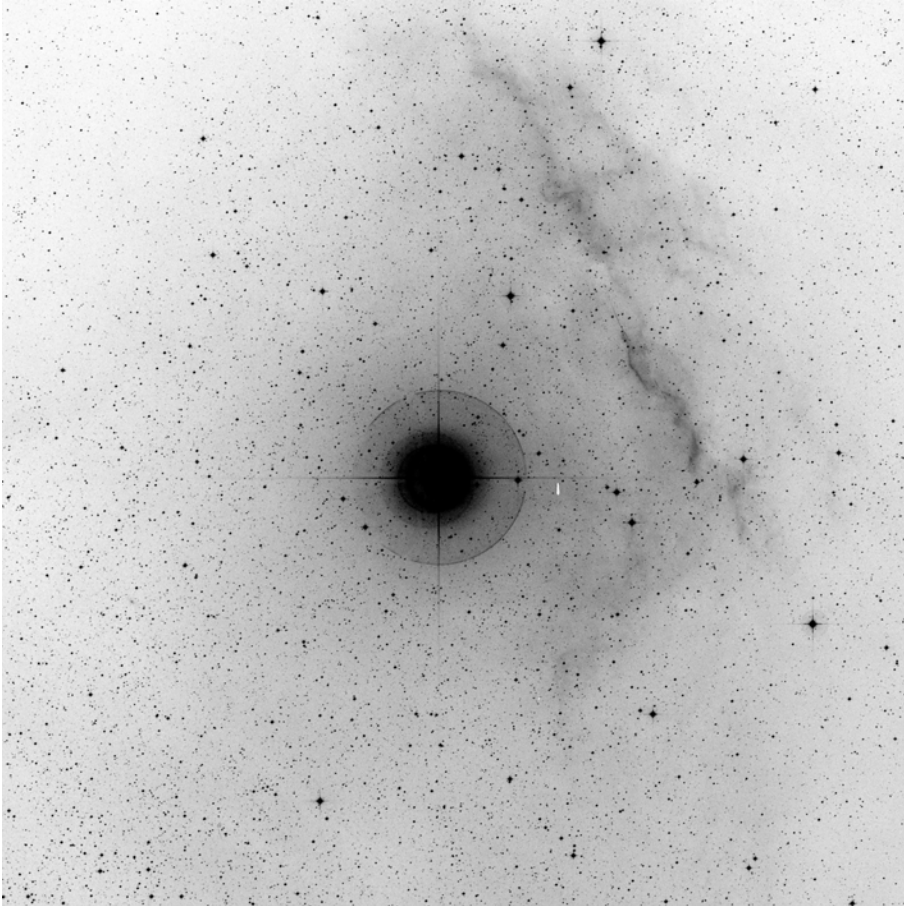
Observing notes:

16" f/4.5

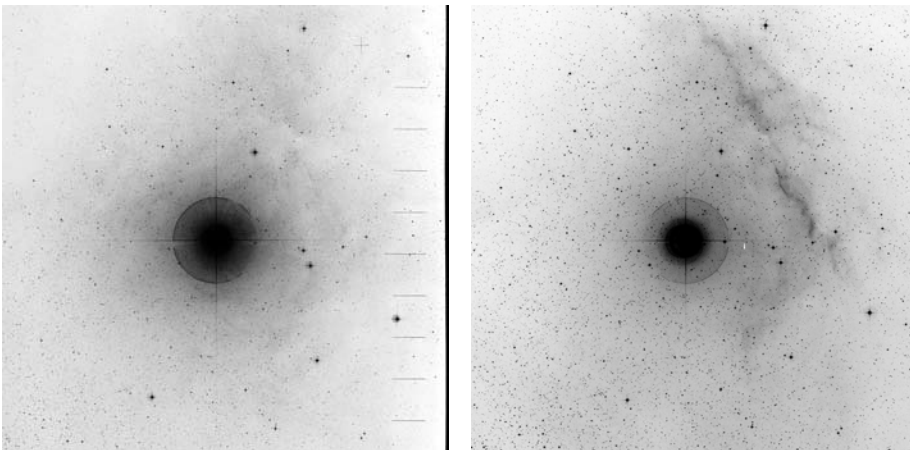
07/09: object is only slightly above the horizon, three nebulous patches around stars could be discerned with difficulty using UHC filtering



Sh 2 - 9 in Scorpius



60x60, red



POSS blue

POSS red



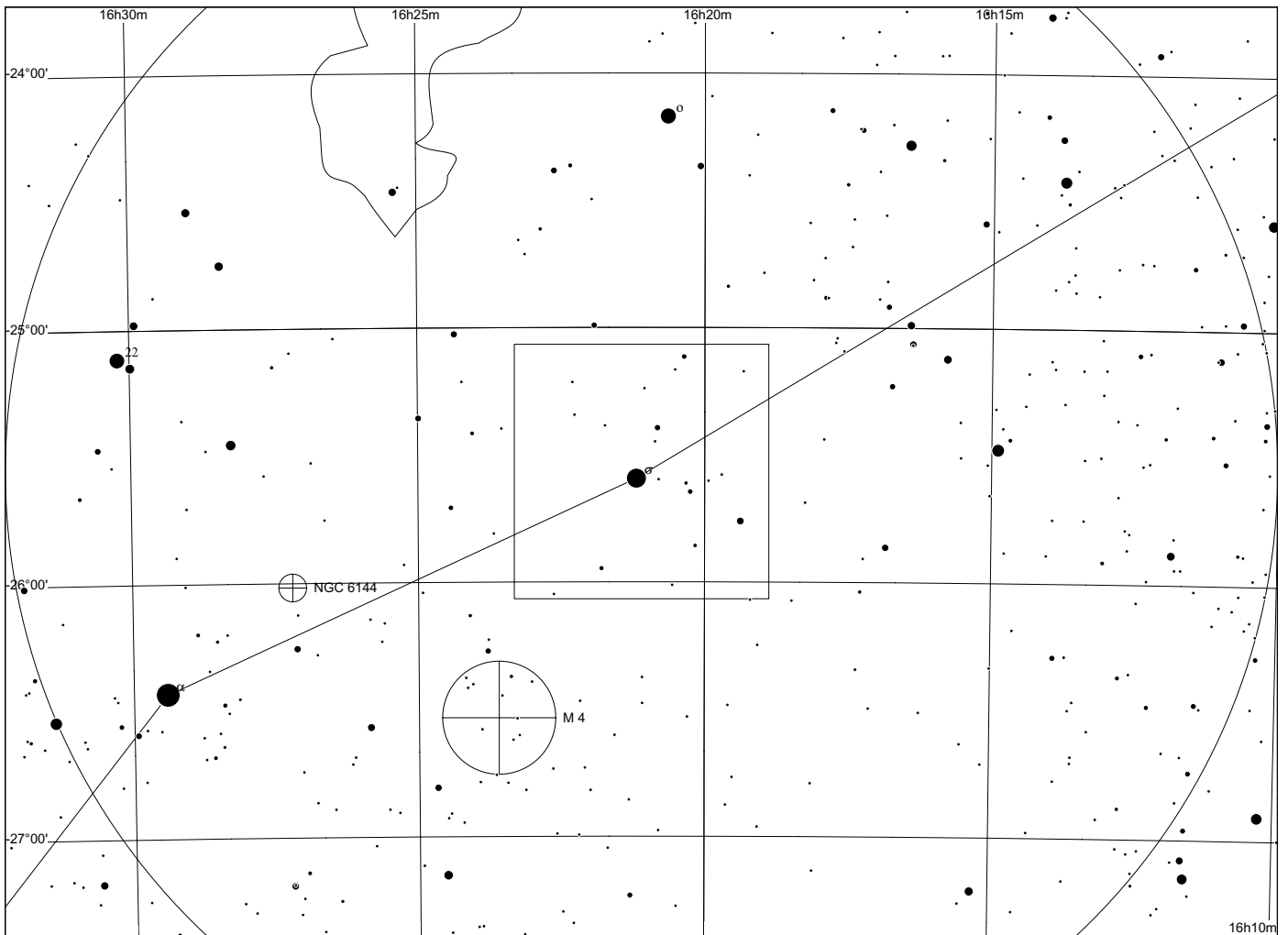
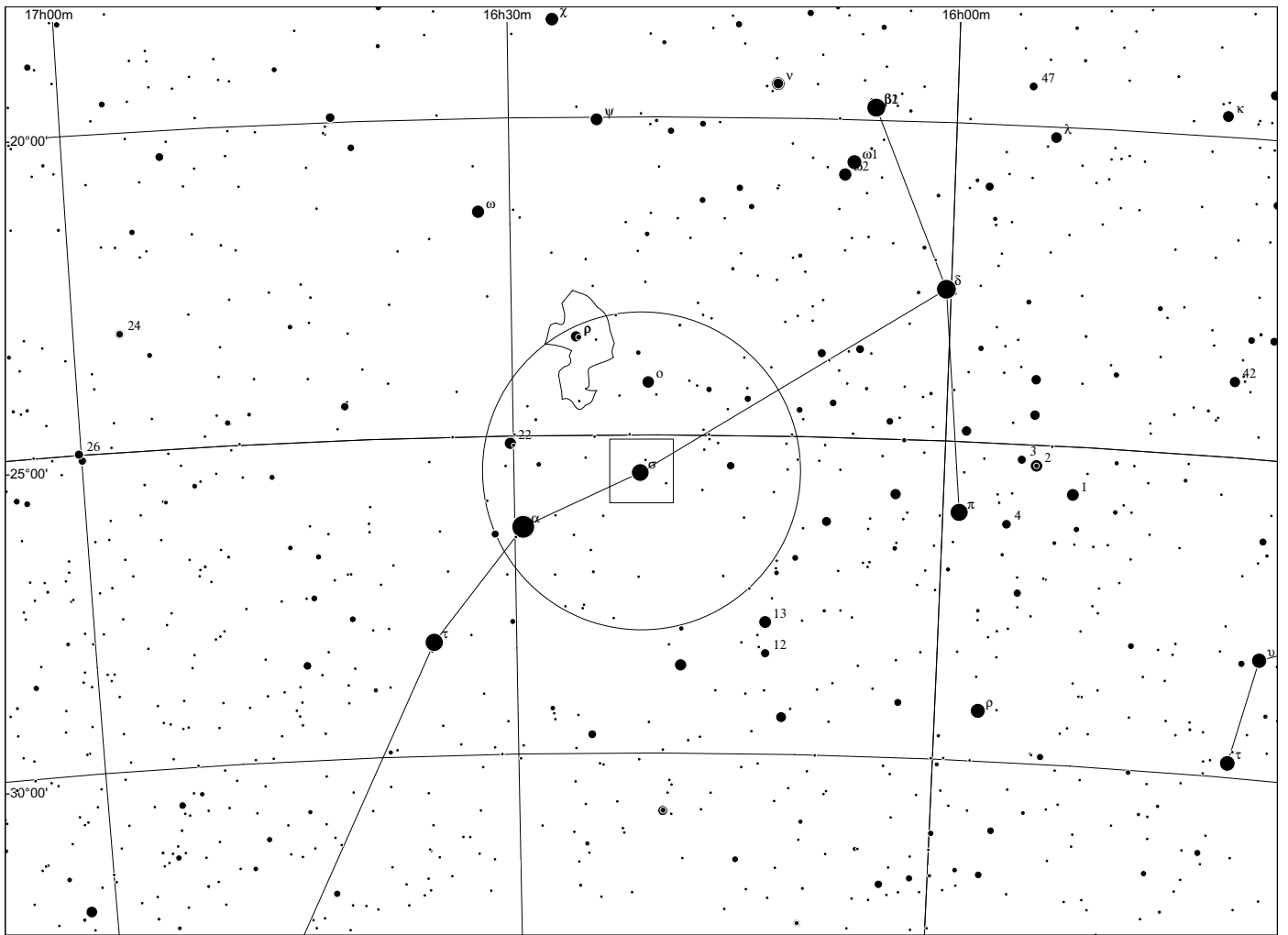
RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-009		16 21 10.6	-25 35 22	80	3	2	2

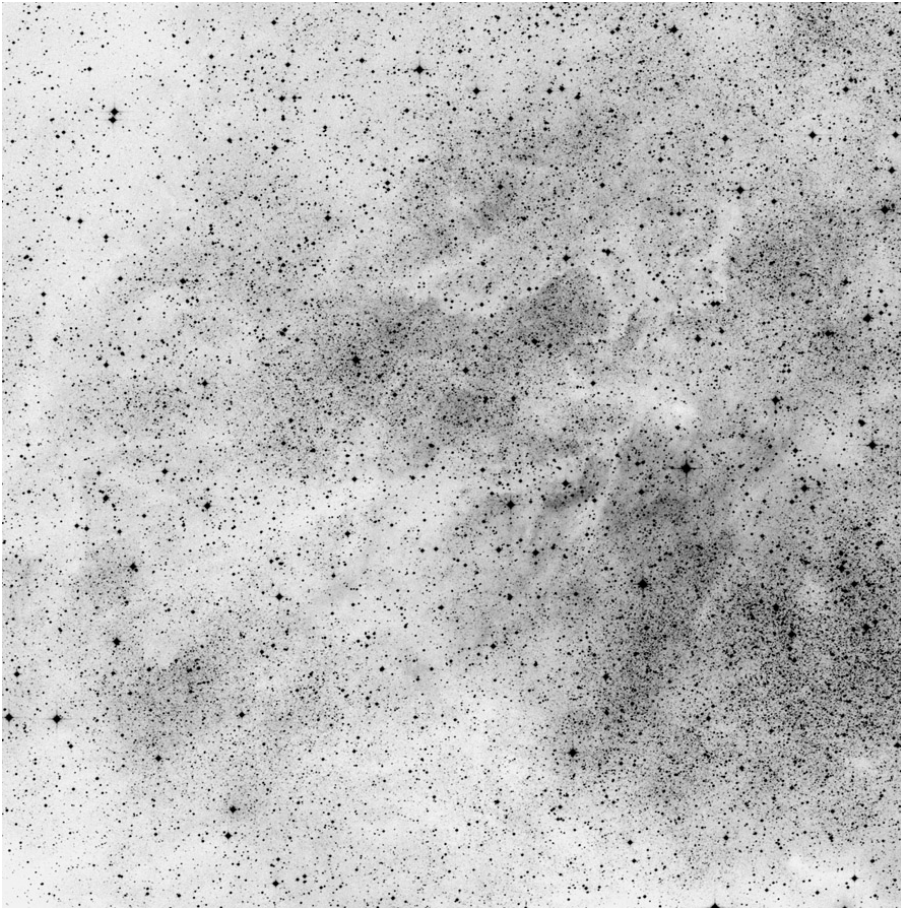
Distance: 200 pc, Size: 4.7 pc, Source: [2003A&A...397..133R](#)

Associated with the star sigma Scorpii in the nearby Upper Scorpius subgroup of the Scorpius OB2 association.

Observing notes:



Sh 2 - 10 in Scorpius

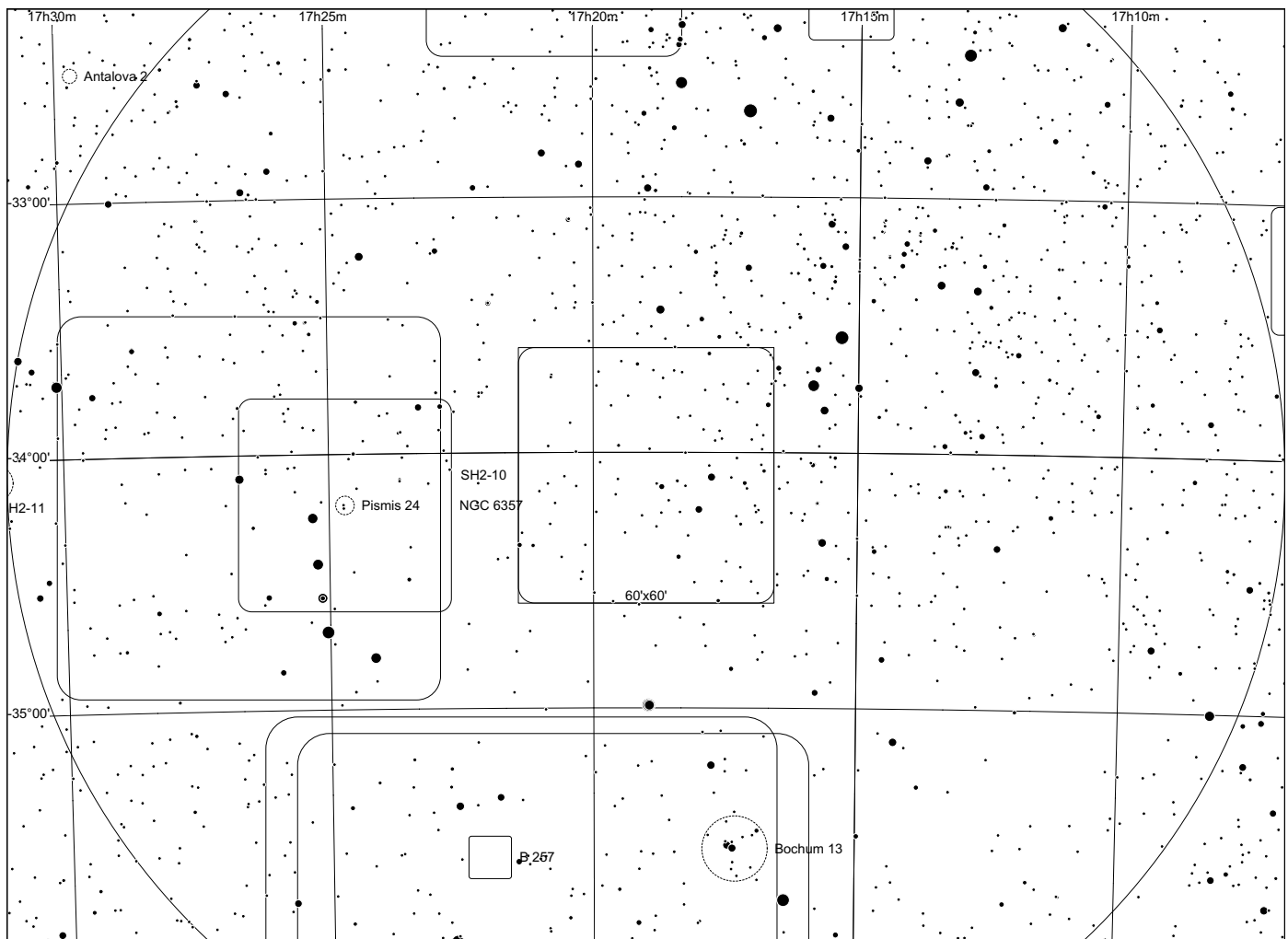
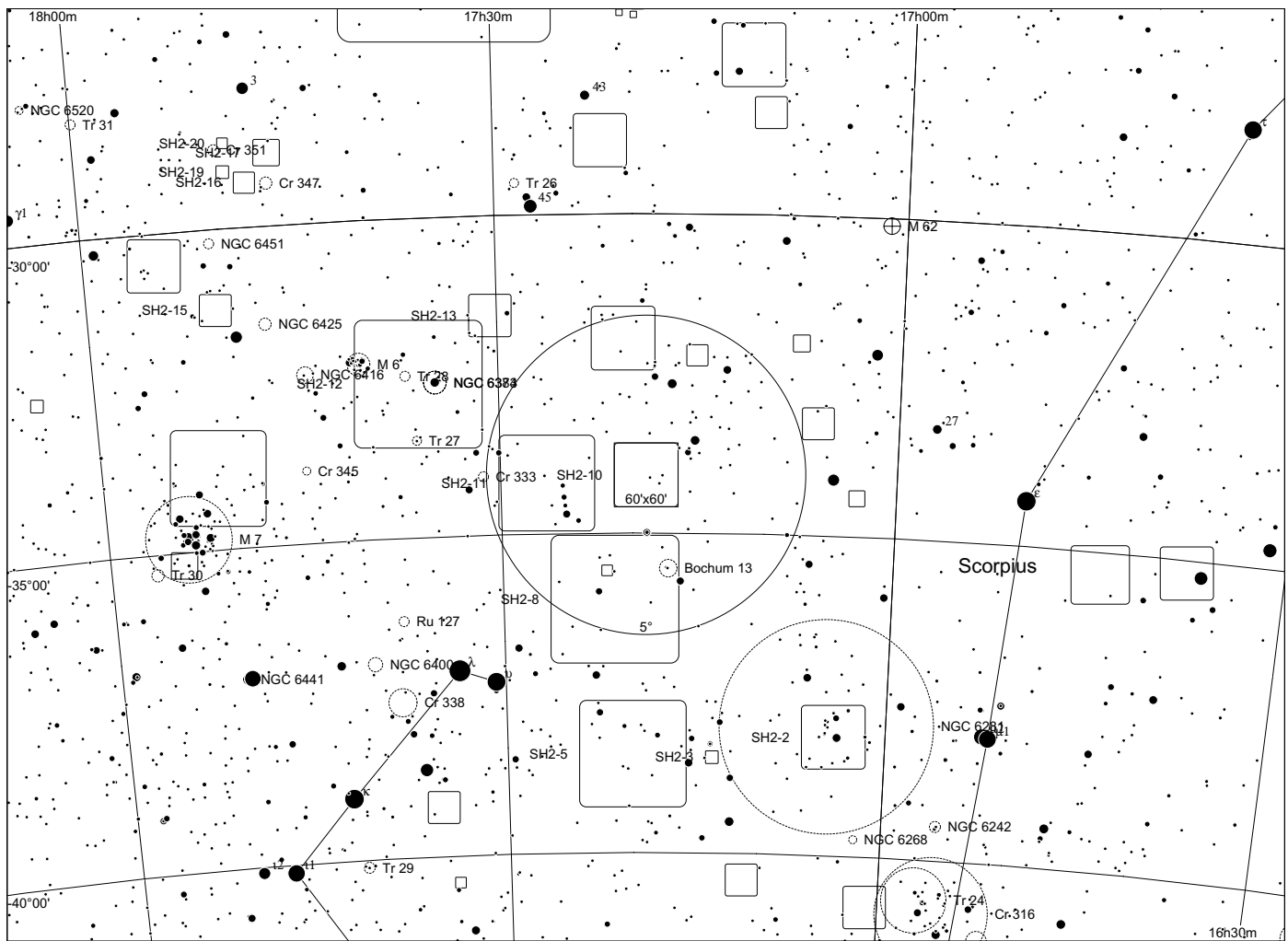


60x60, red

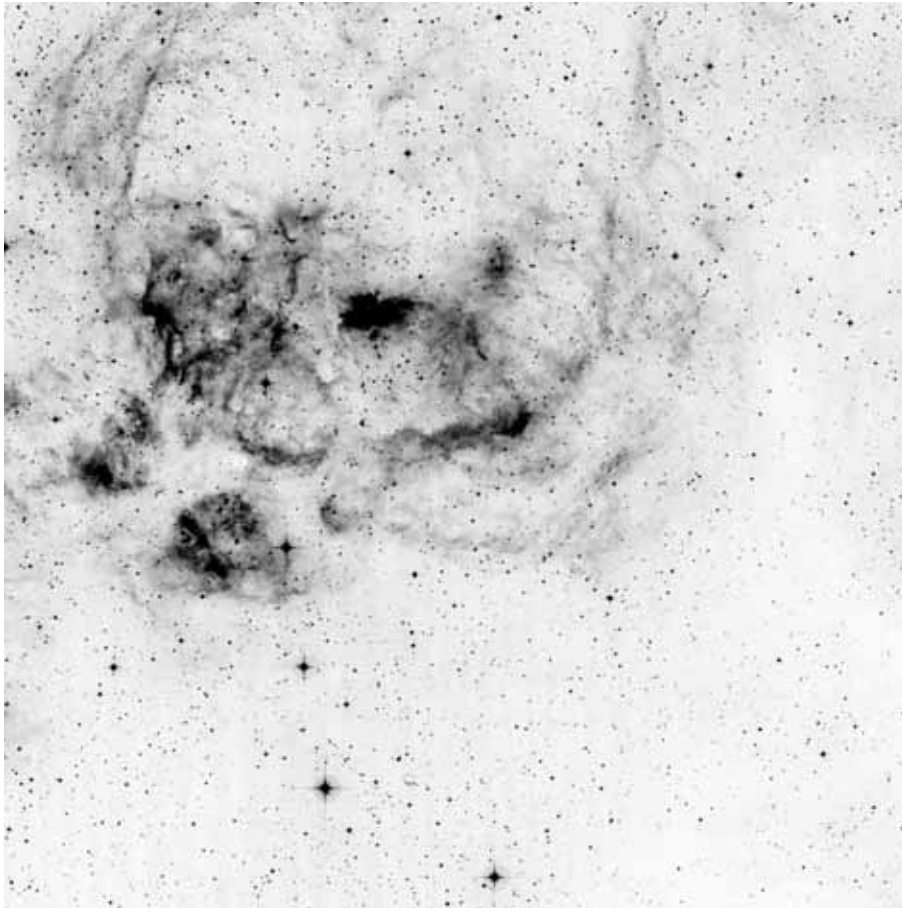
	other name	RA	dec	dia. '	F	S	B
Sh 2-010	RCW 130	17 18 59.1	-34 05 26	60	3	2	2

Distance: 1000 pc, Size: 17.5 pc Source: 2003A&A...397..133R
This is in the same direction as the Wolf-Rayet star WR 88.

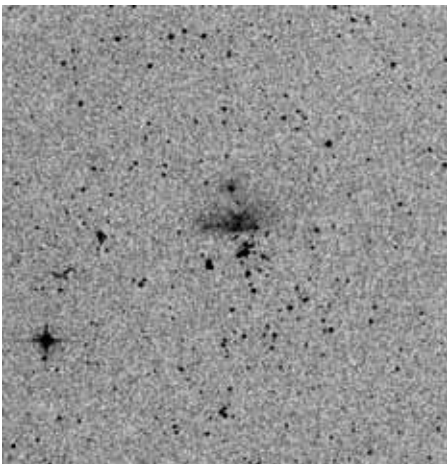
Observing notes:



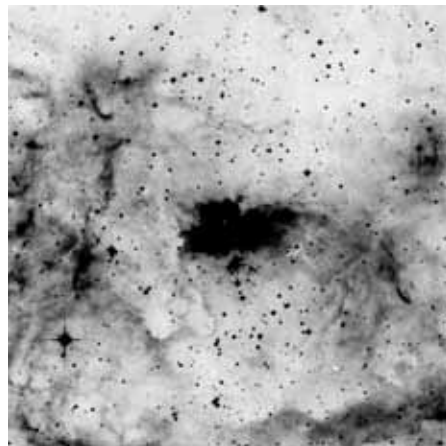
Sh 2 - 11 in Scorpius



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-011	N6357:	17 26 30.6	-34 12 20	90	3	3	3

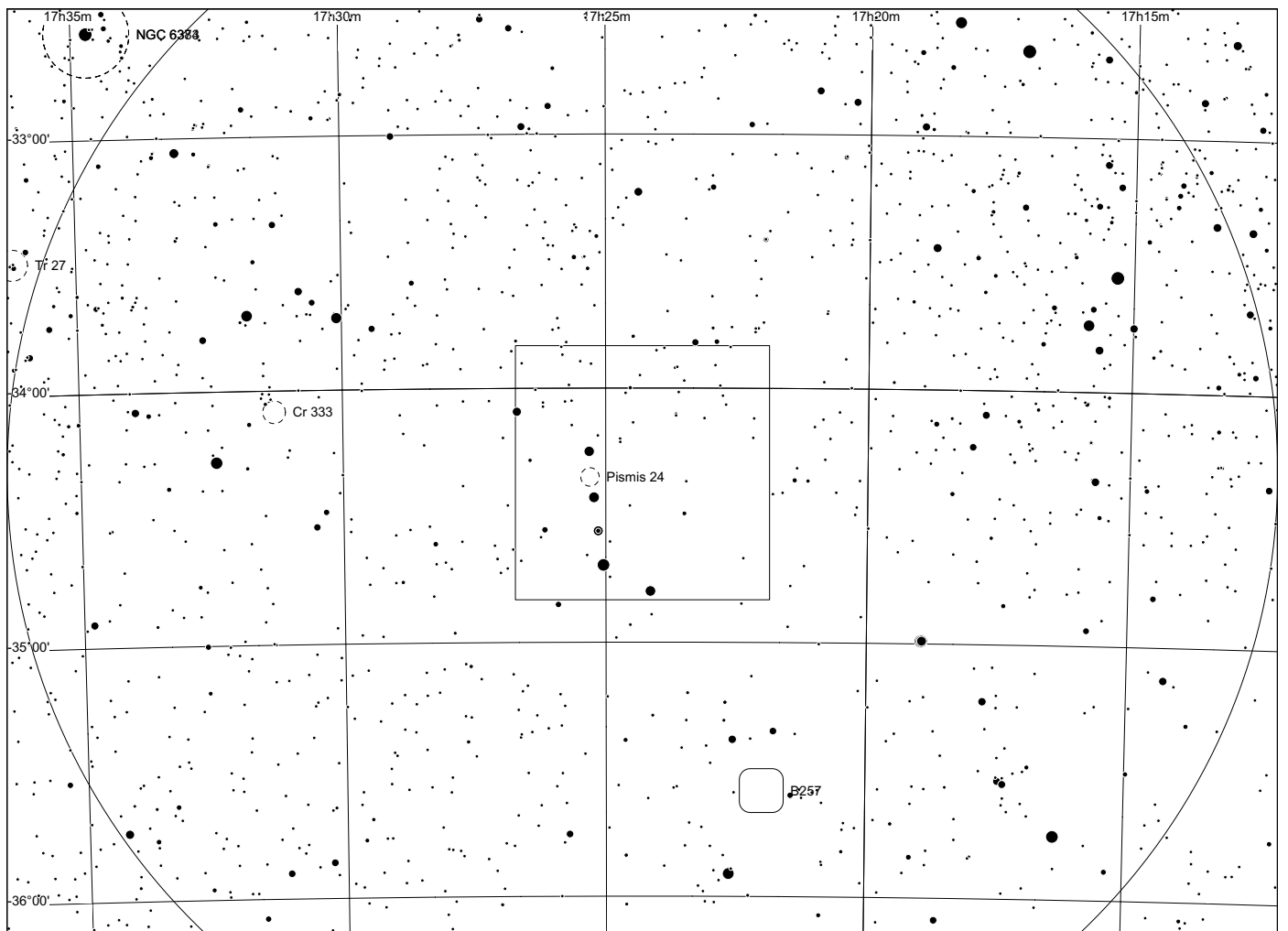
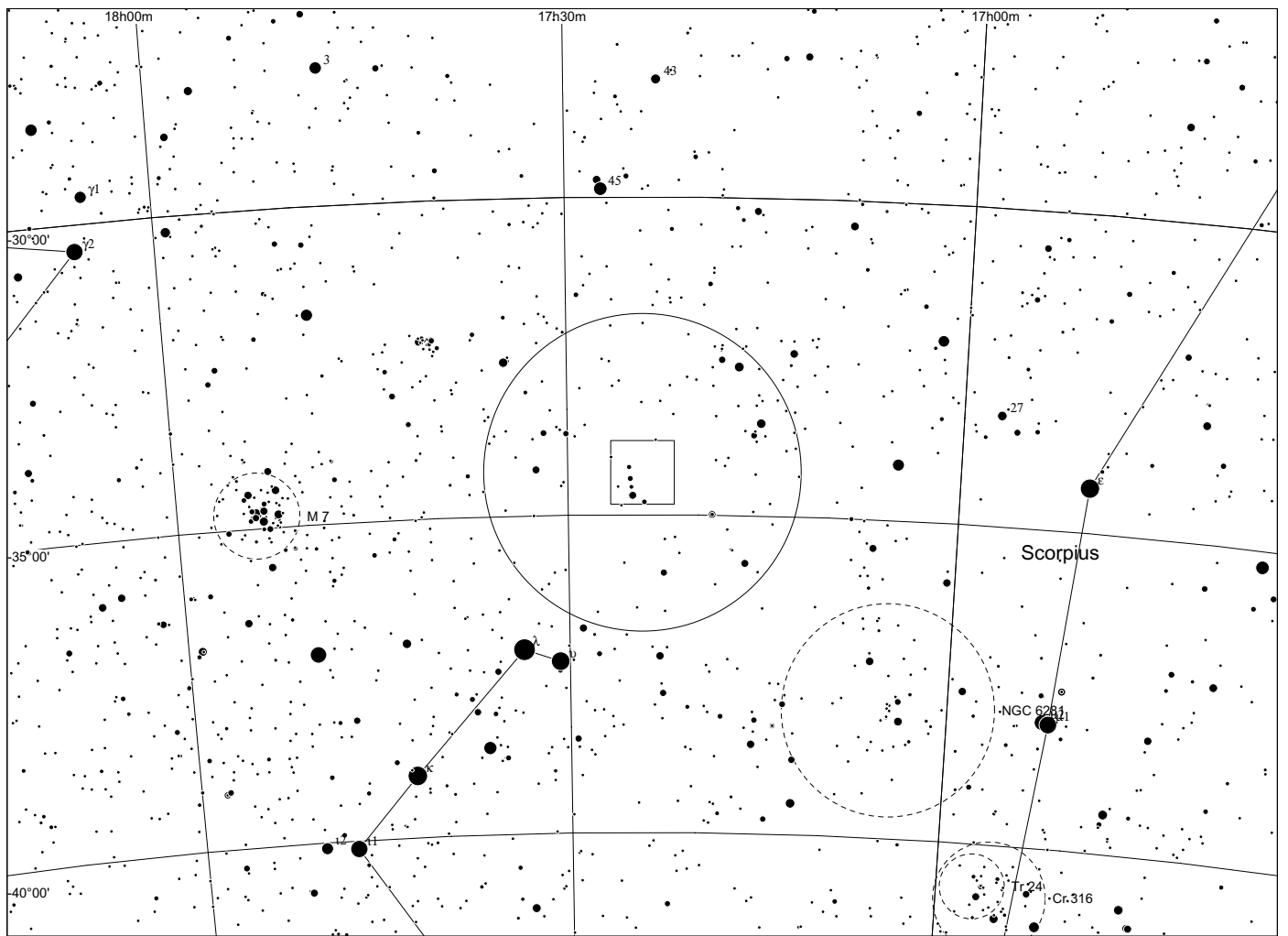
Distance: 1740 pc, Size: 45.6 pc, Source: [1982ApJS...49..183B](#)

This is the star formation region W22, also called the War and Peace Nebula or NGC 6357. Contains the star cluster Pismis 24 which includes a multiple O4 and O4-5 star system. Near by is the Wolf-Rayet star WR 93, which is also a multiple star system with a class O7-9 companion. At the same distance as the Cat's Paw nebula [NGC 6334](#) and separated from it by a dark cloud.

Observing notes:

16" f/4.5

07/09: Only the central part of this large HII region could be observed. With OIII, this part is relatively bright and appears not homogeneous, but distinctly mottled



Sh 2 - 12 in Scorpius



2°x2°, blue

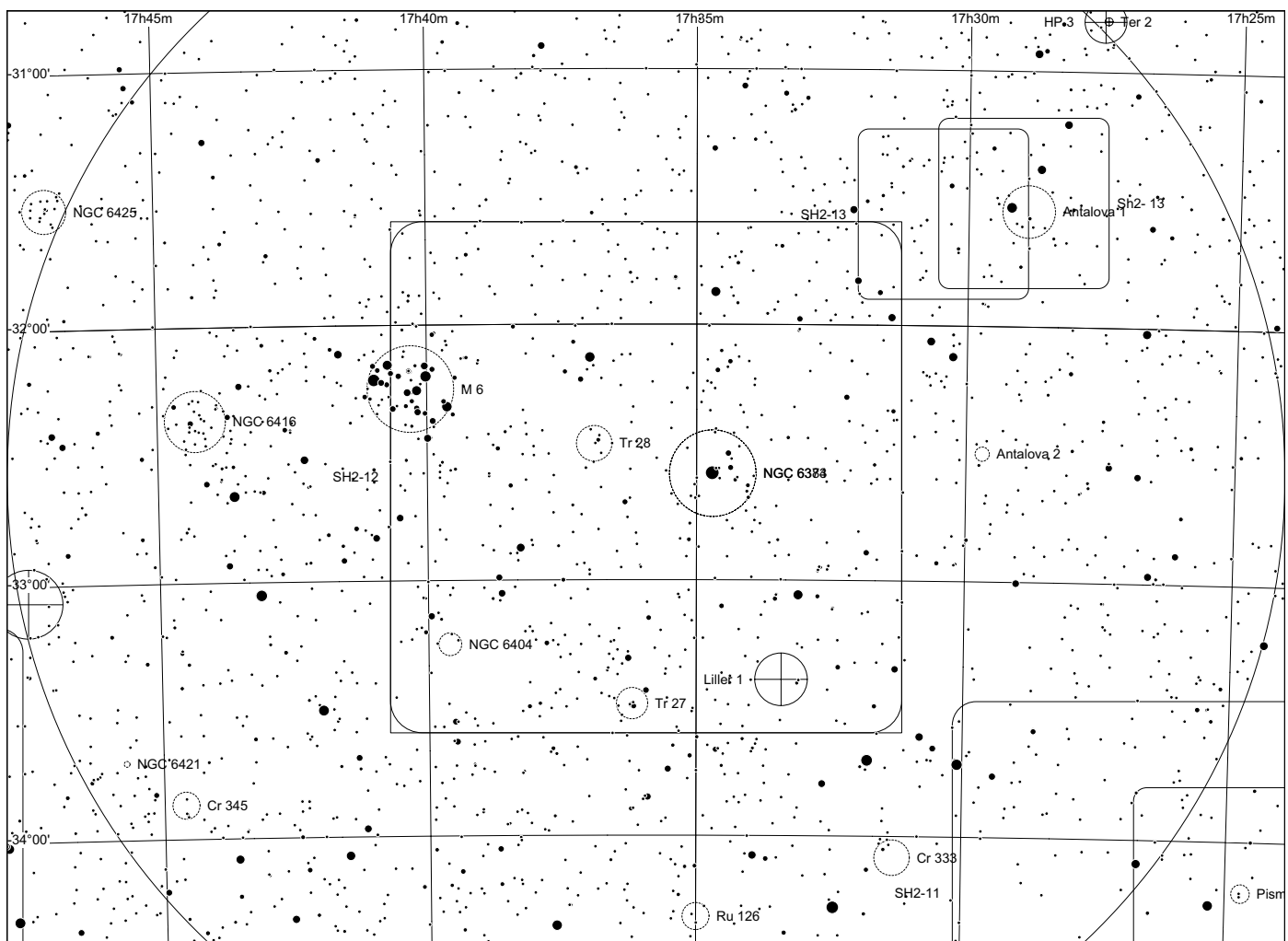
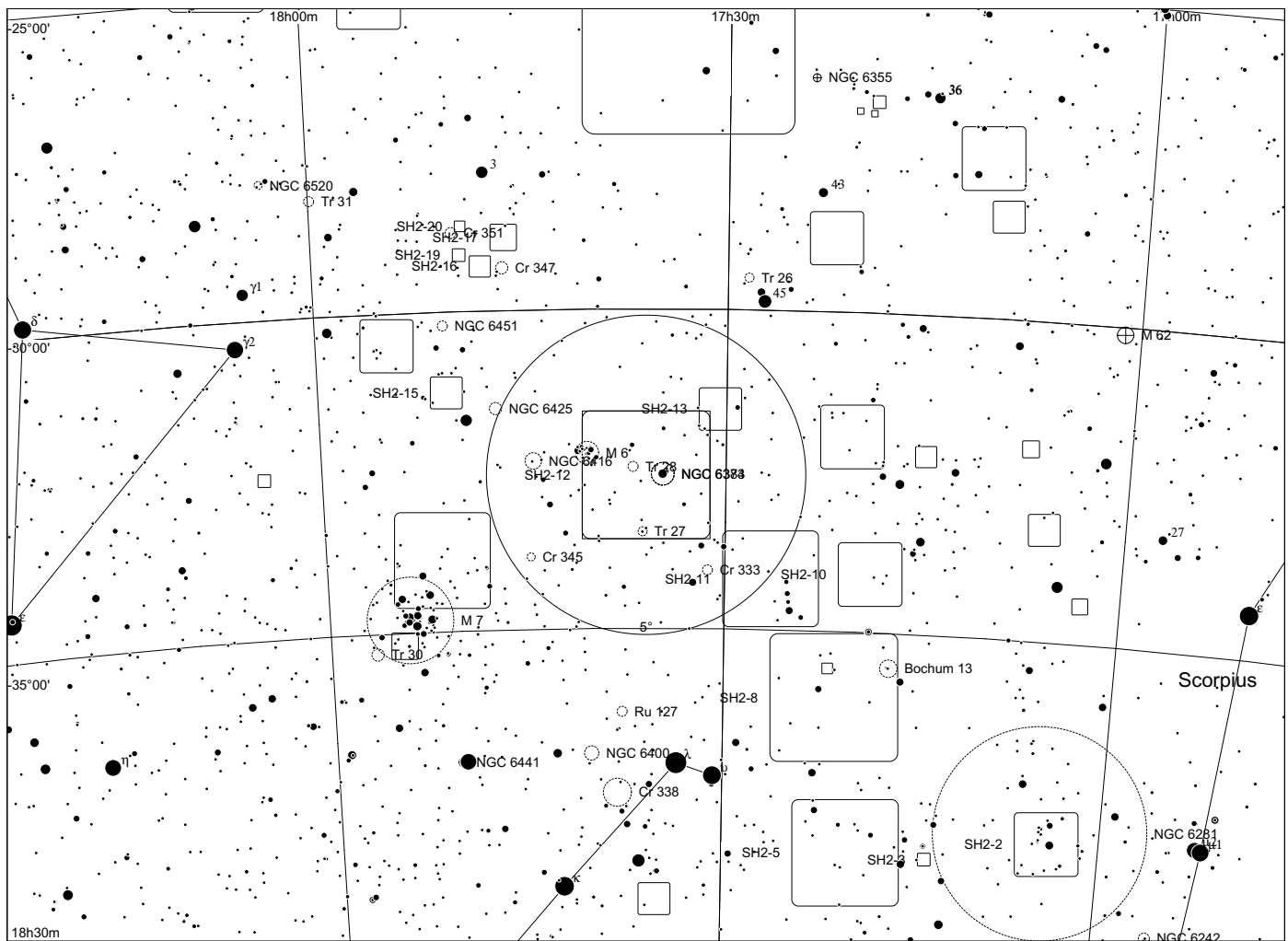


	other name	RA	dec	dia. '	F	S	B
Sh 2-012	Contains NGC6383	17 35 55.2	-32 35 58	120	1	2	2

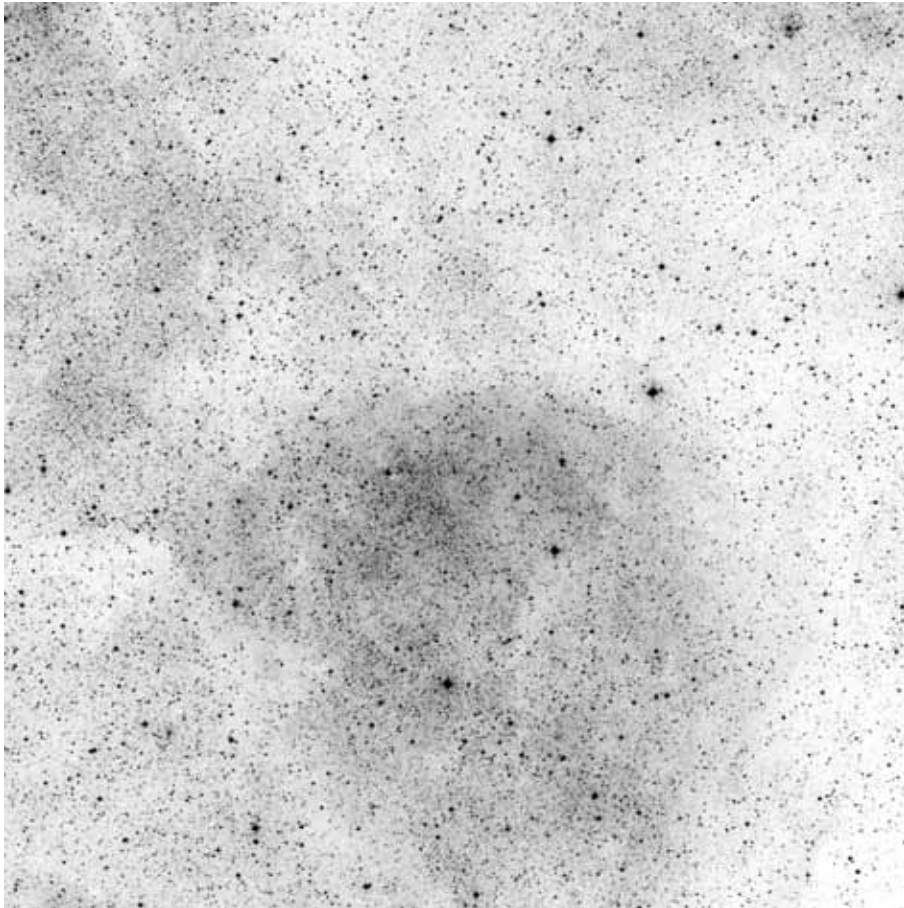
Distance: 985 pc, Size: 31.5 pc Source: 2002A&A...389..871D

This is ionised by the binary O-star (O7V + O7V) HD 159176, which is in the star cluster NGC 6383 which in turn is in Sgr OB1. A recent 2007 study finds that NGC 6383 (and hence Sh 2-12) is actually at a distance of 1700 pc.

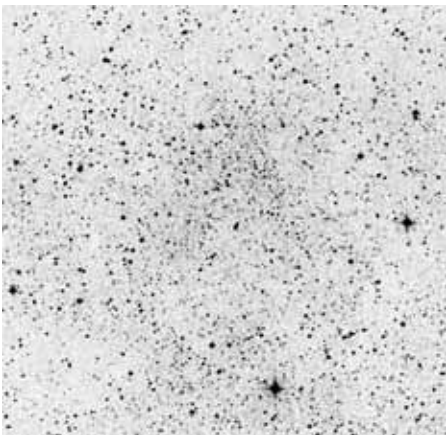
Observing notes:



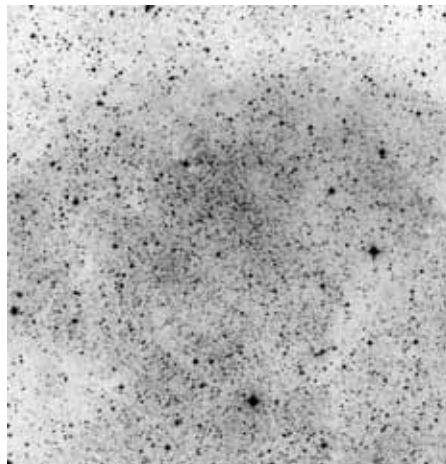
Sh 2 - 13 in Scorpius



60x60, red



POSS blue



POSS red



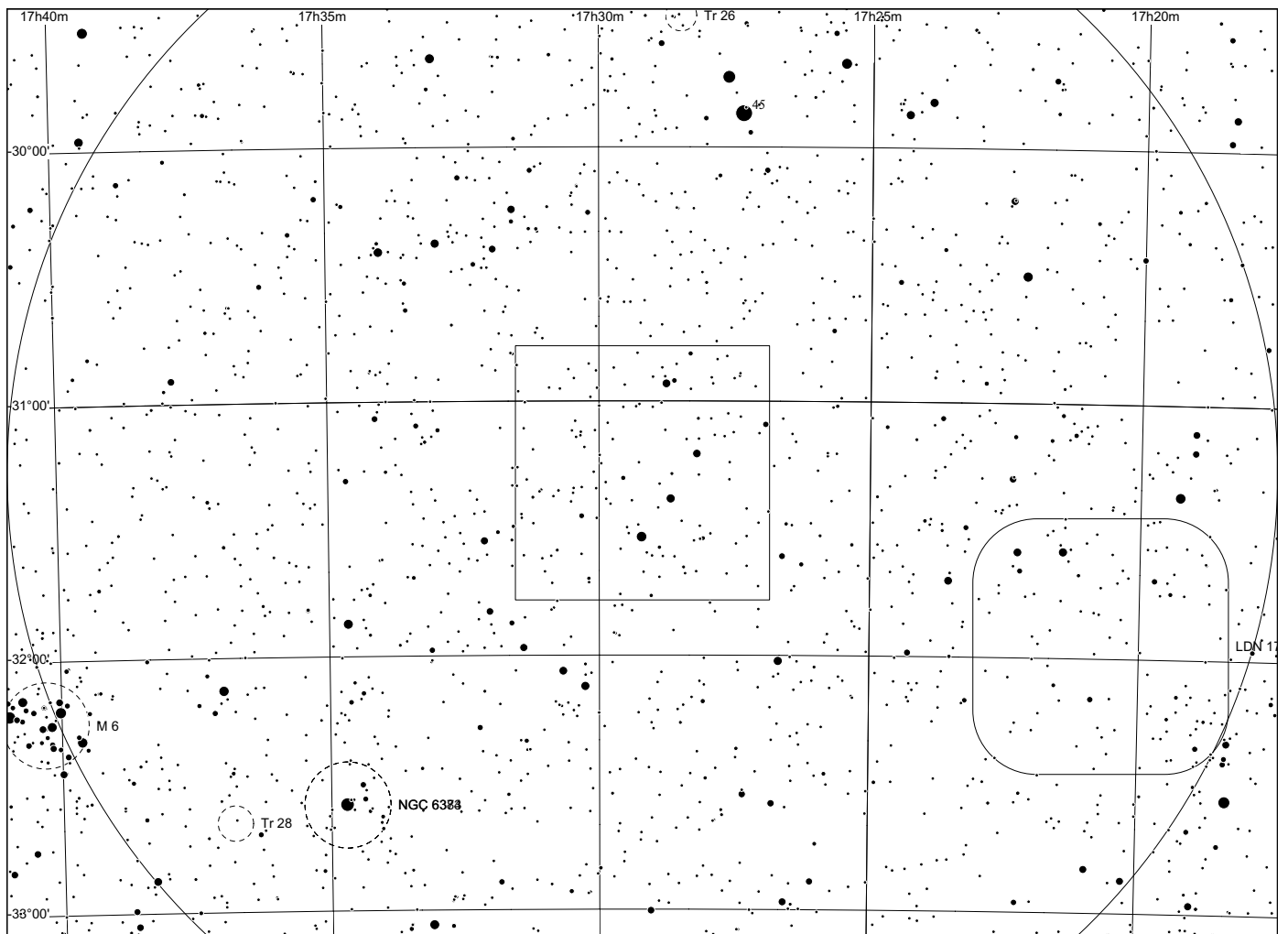
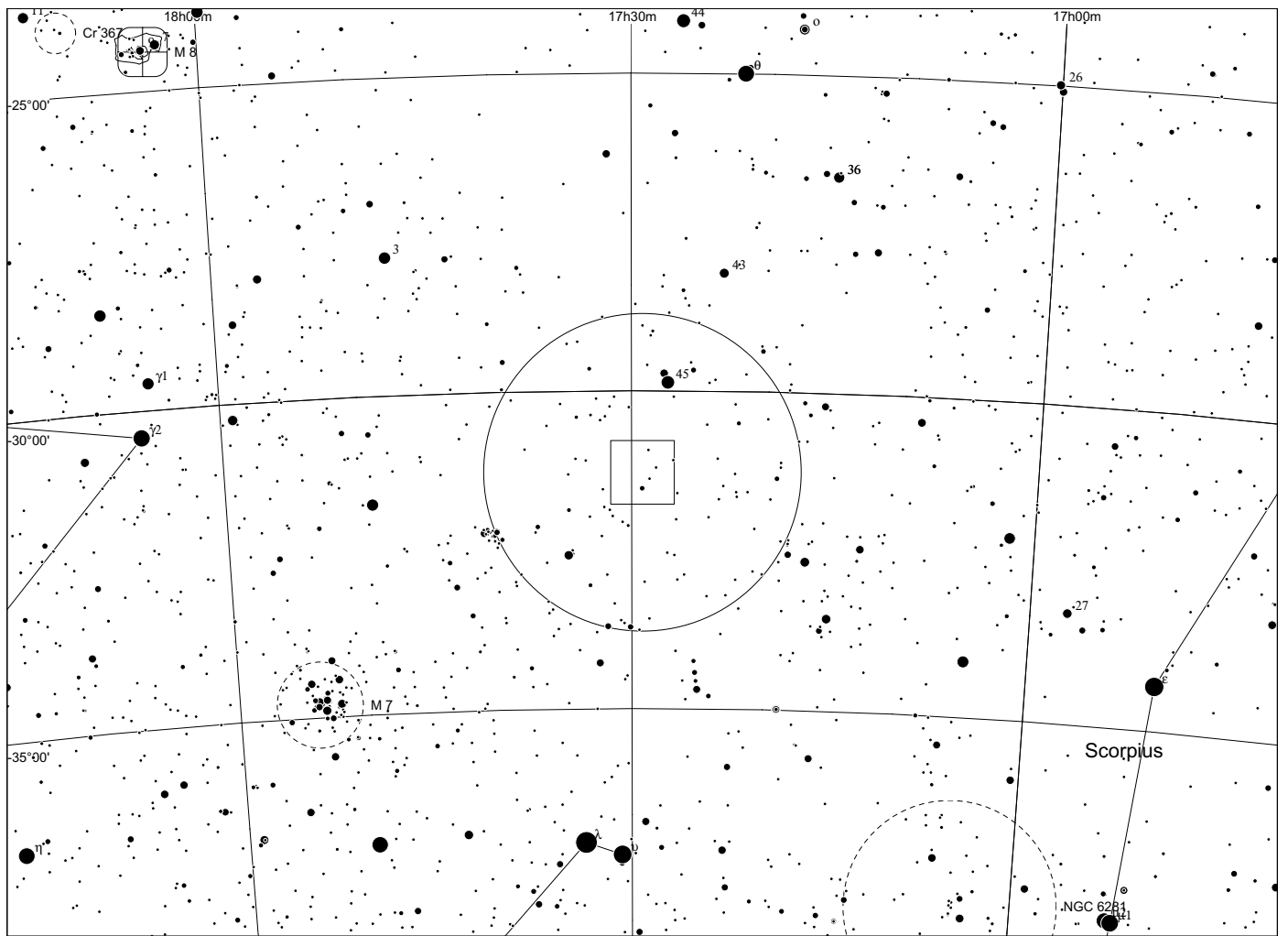
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-013		17 30 28.4	-31 33 46	40	2	2	2

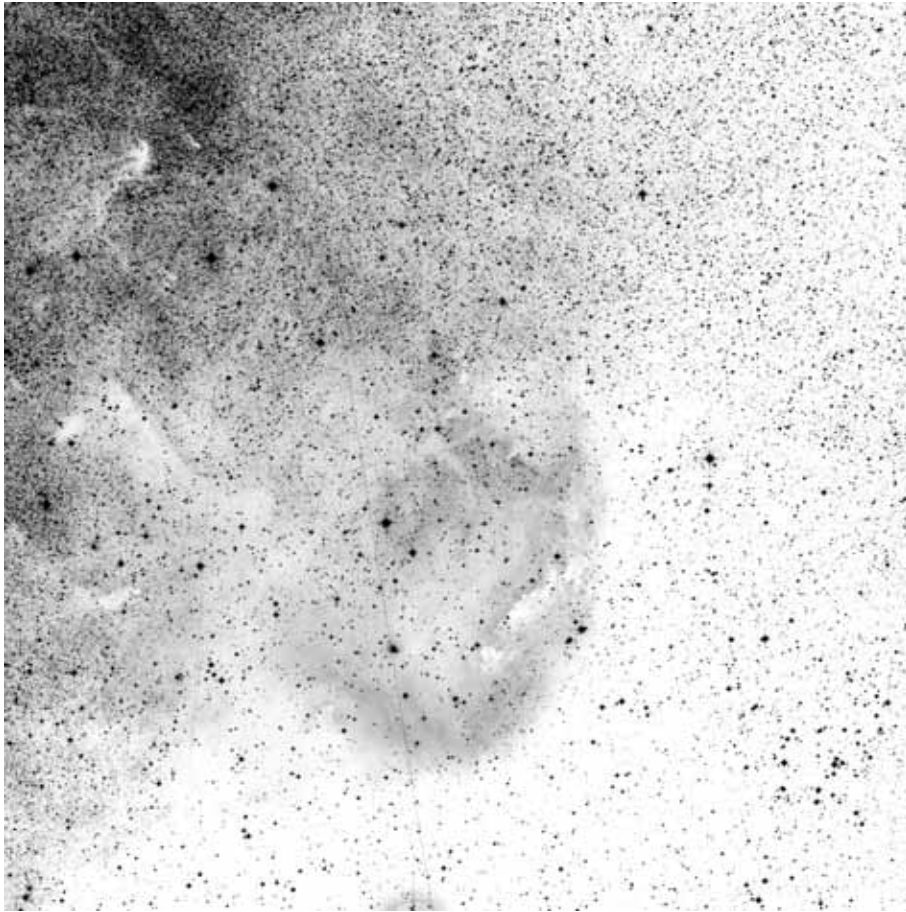
Distance: 1200 pc, Size: 15.7 pc, Source: [1989BAICz..40...42A](#)

This nebula may be ionised by the O9.5V star HD 158186 and is next to Sh 2-12 (part of which is on the lower left of this image). HD 158186 may be a runaway star ejected from NGC 6383, the star cluster at the heart of Sh 2-12.

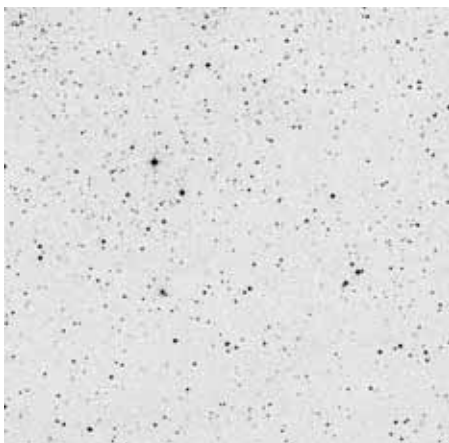
Observing notes:



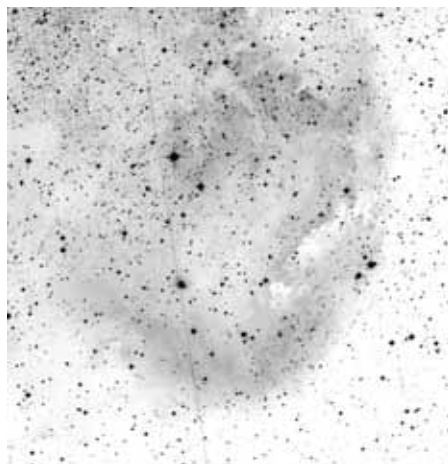
Sh 2 - 15 in Scorpius



60x60, red



POSS blue



POSS red



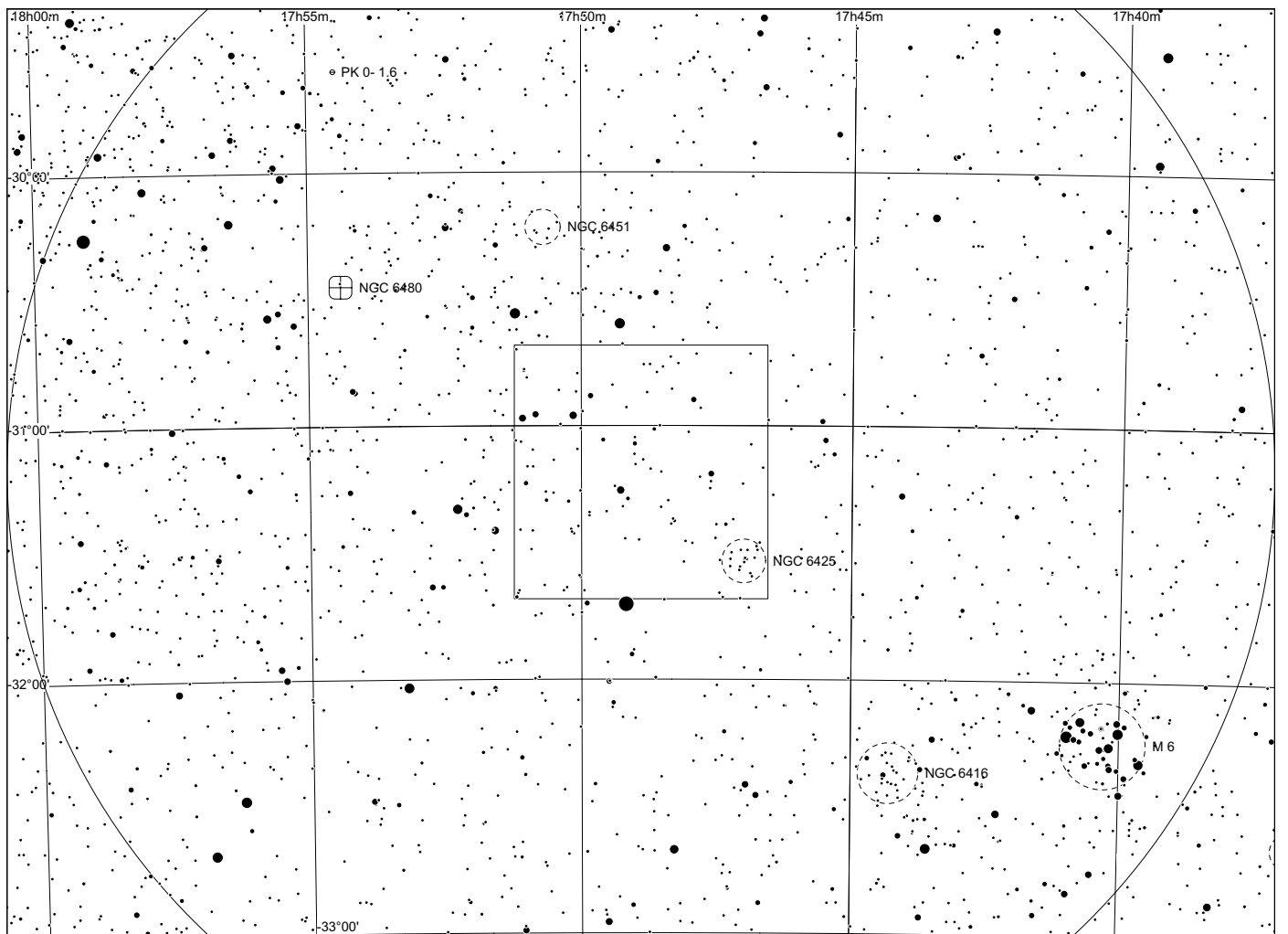
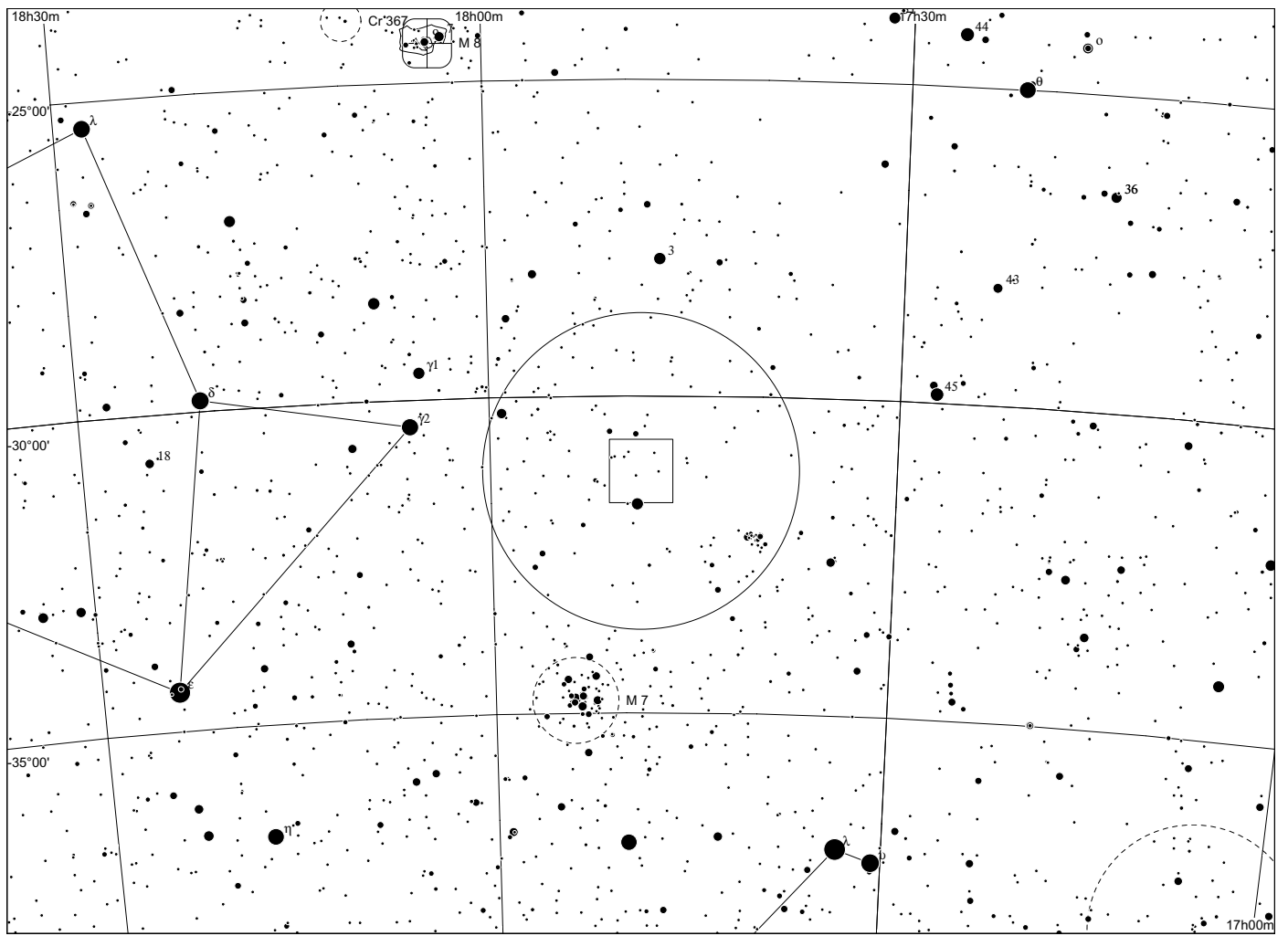
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-015		17 50 34.2	-31 15 50	30	2	2	2

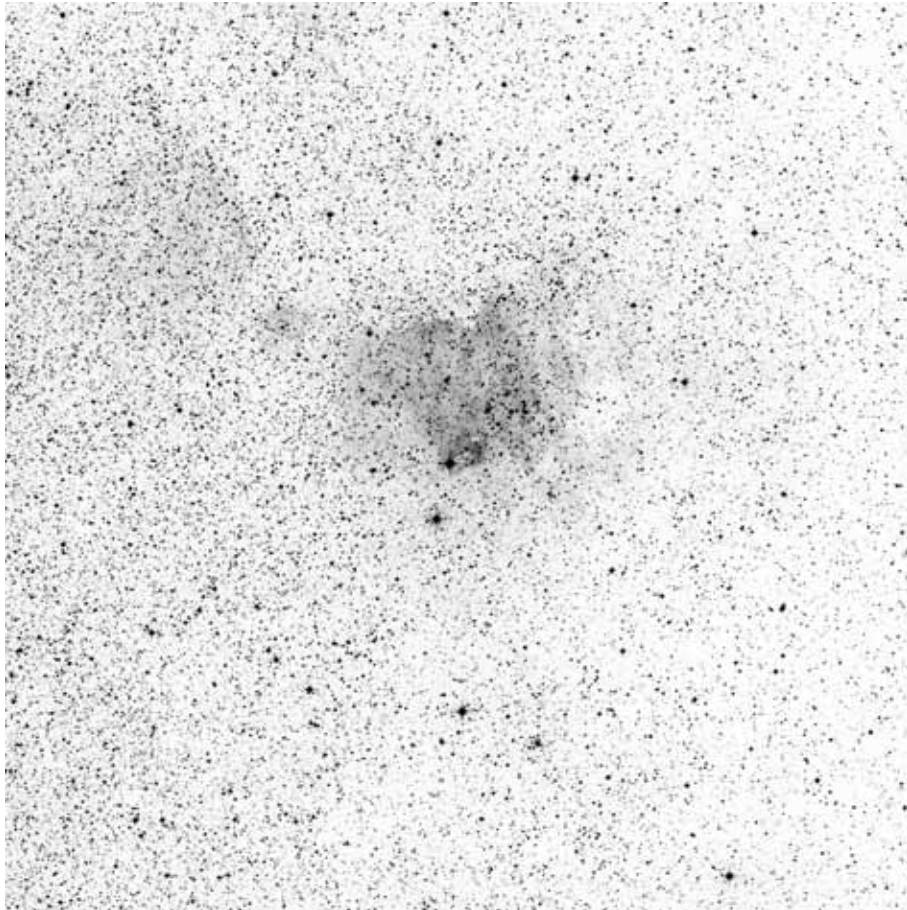
Distance: 1500 pc, Size: 13.1 pc, Source: [2003A&A...397..133R](#)

This HII region is ionised by the O8 V star HD 161853 and is part of the S15-S20 complex of HII regions. This region is also called W25 or Gum 69.

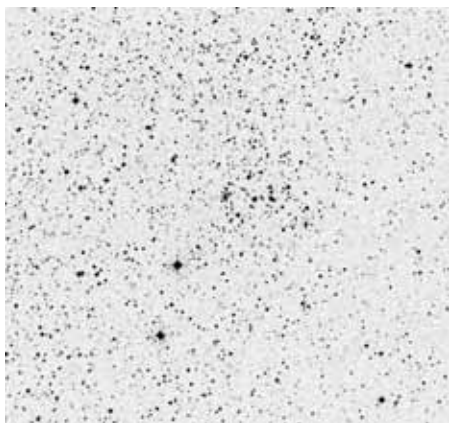
Observing notes:



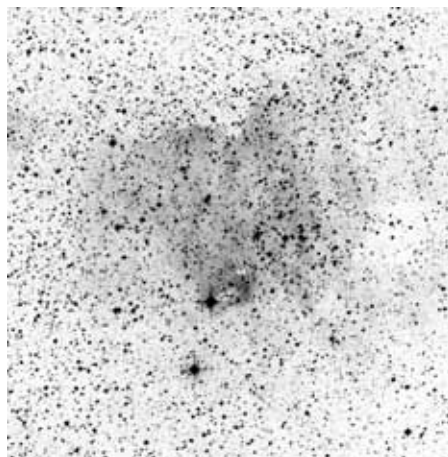
Sh 2 - 16 in Sagittarius



60x60, red



POSS blue



POSS red



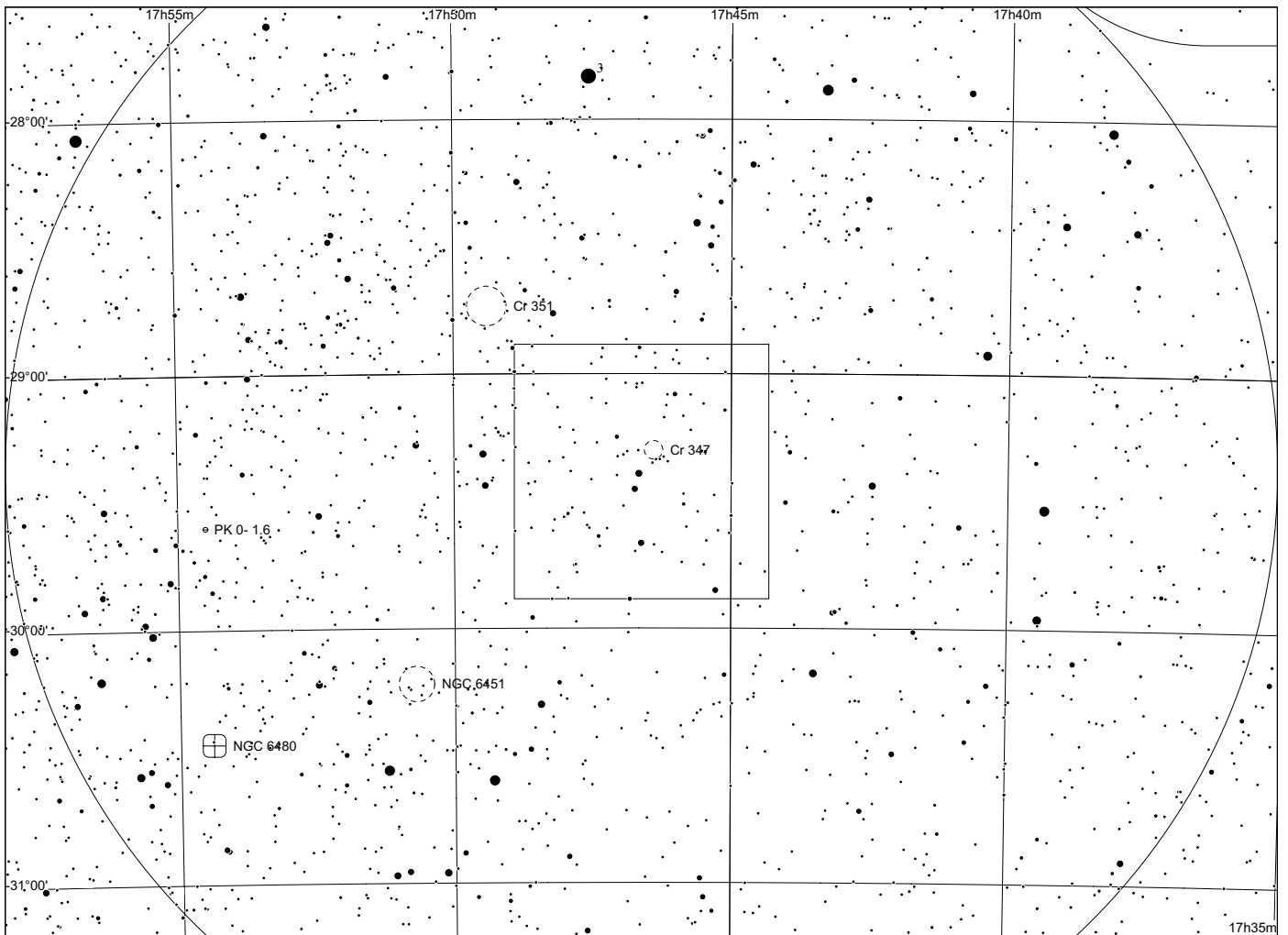
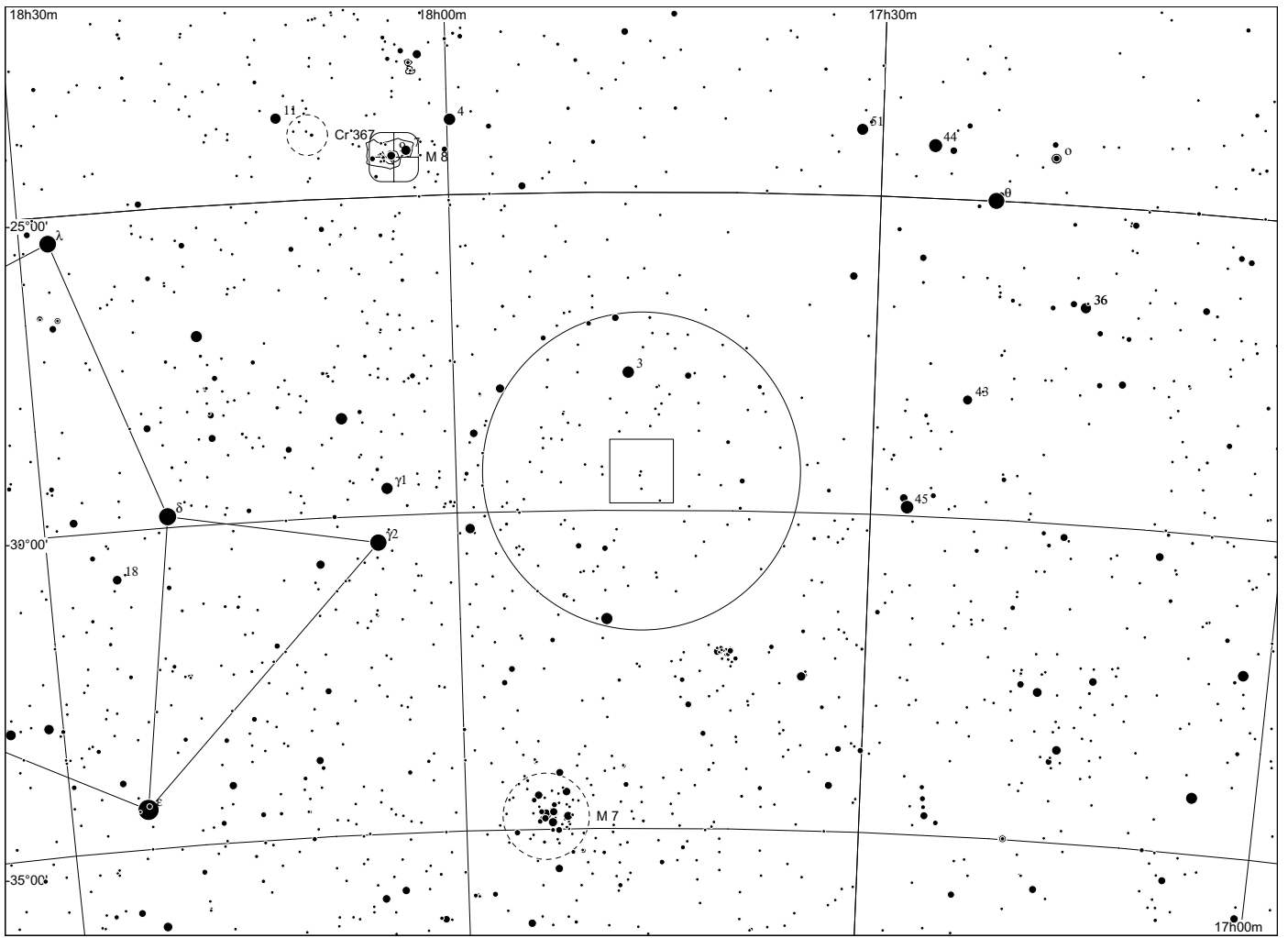
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-016		17 47 52.1	-29 18 14	20	3	2	2

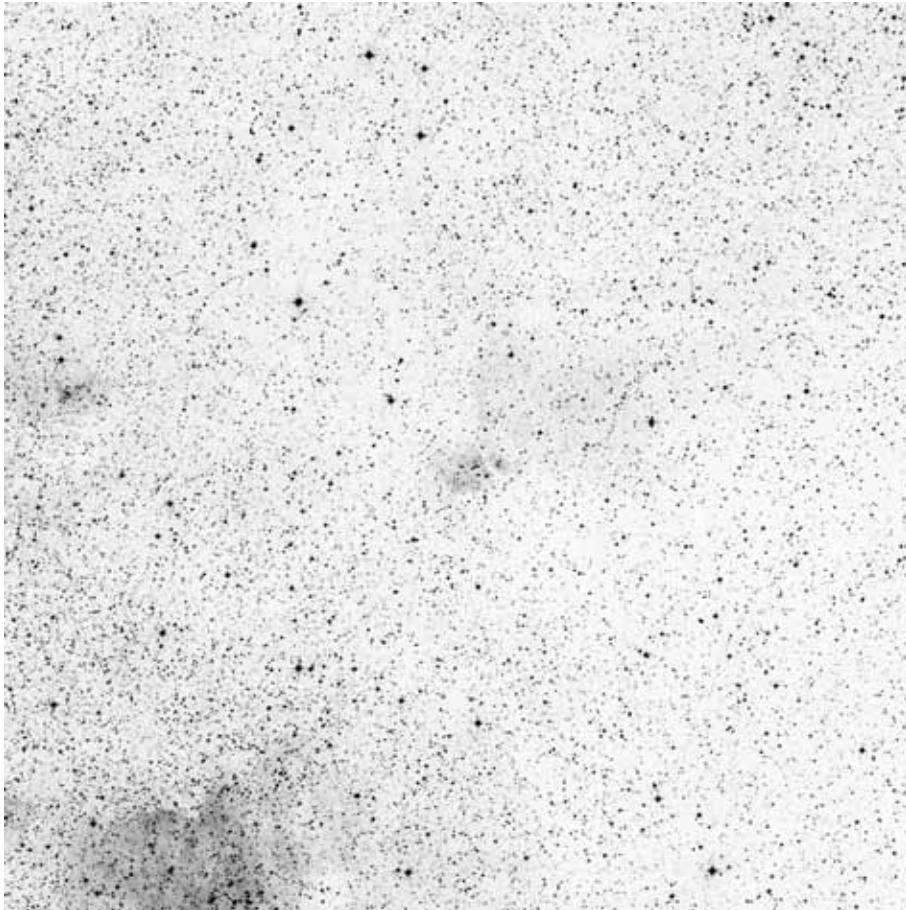
Distance: 1500 pc, Size: 8.7 pc, Source: [2003A&A...397..133R](#)

Part of the S15-S20 complex of HII regions. The star cluster Collinder 347, and the [DB 2000] 56 infra-red cluster both appear to be embedded in Sh 2-16. The intense gamma ray source 2EG J1746-2852 appears to be embedded in Collinder 347, however, since this cluster is in the same direction as the centre of the galaxy, it is also possible that 2EG J1746-2852 is generated by a source in the Arches cluster near the galactic centre.

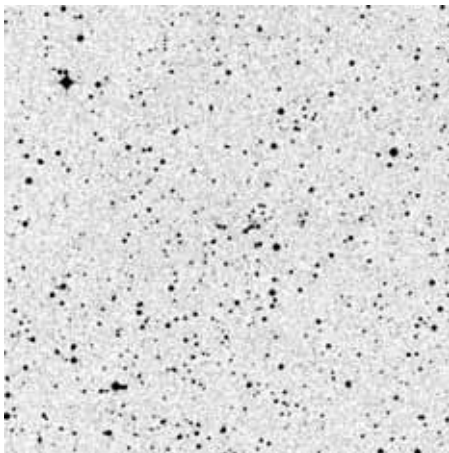
Observing notes:



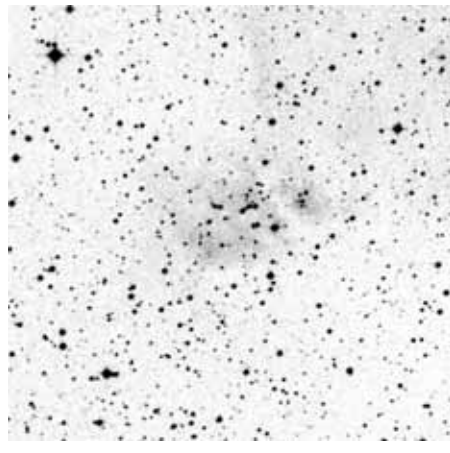
Sh 2 - 17 in Sagittarius



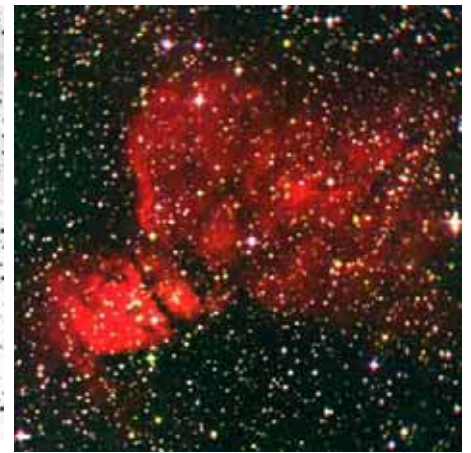
60x60, red



POSS blue



POSS red



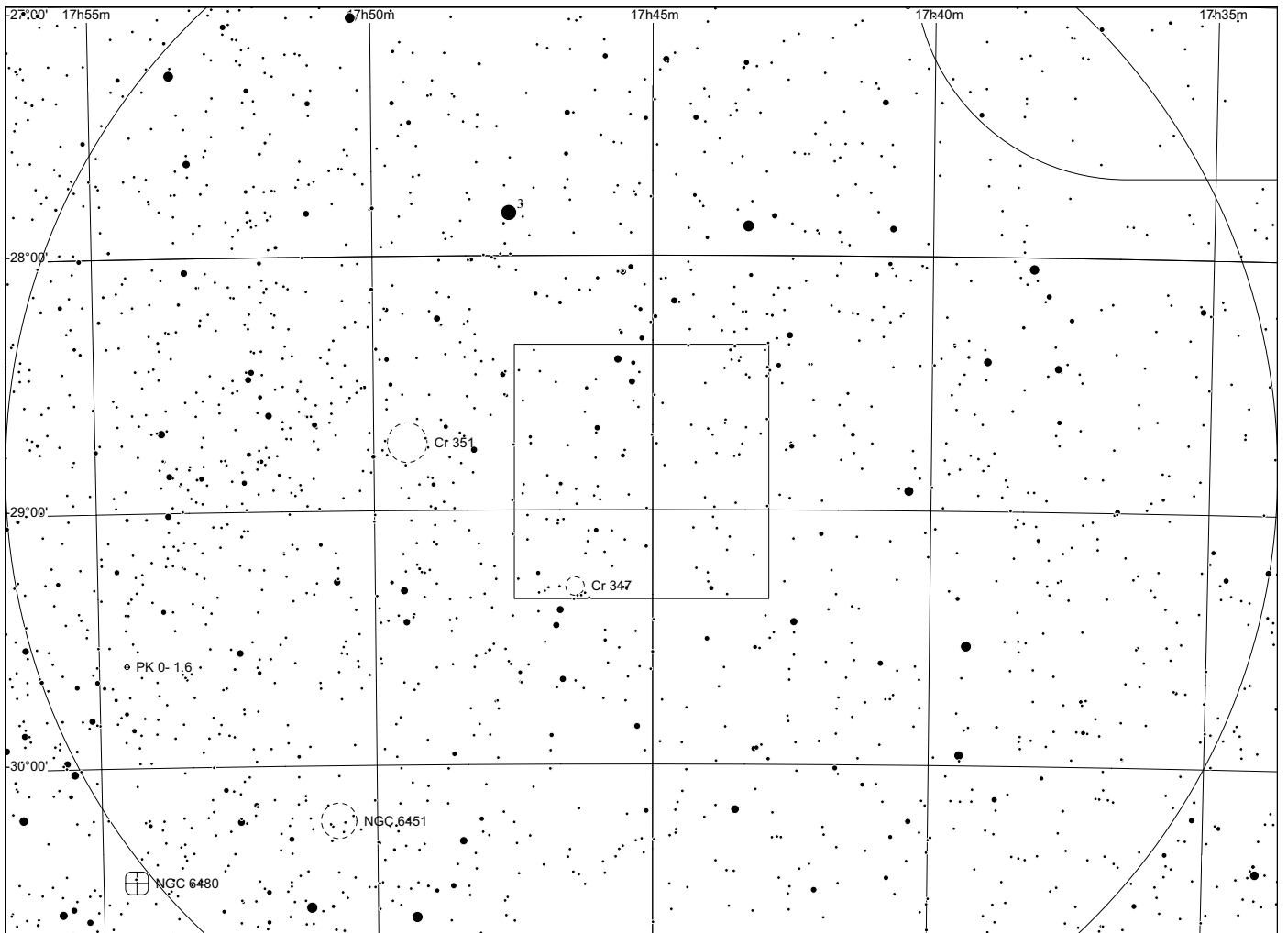
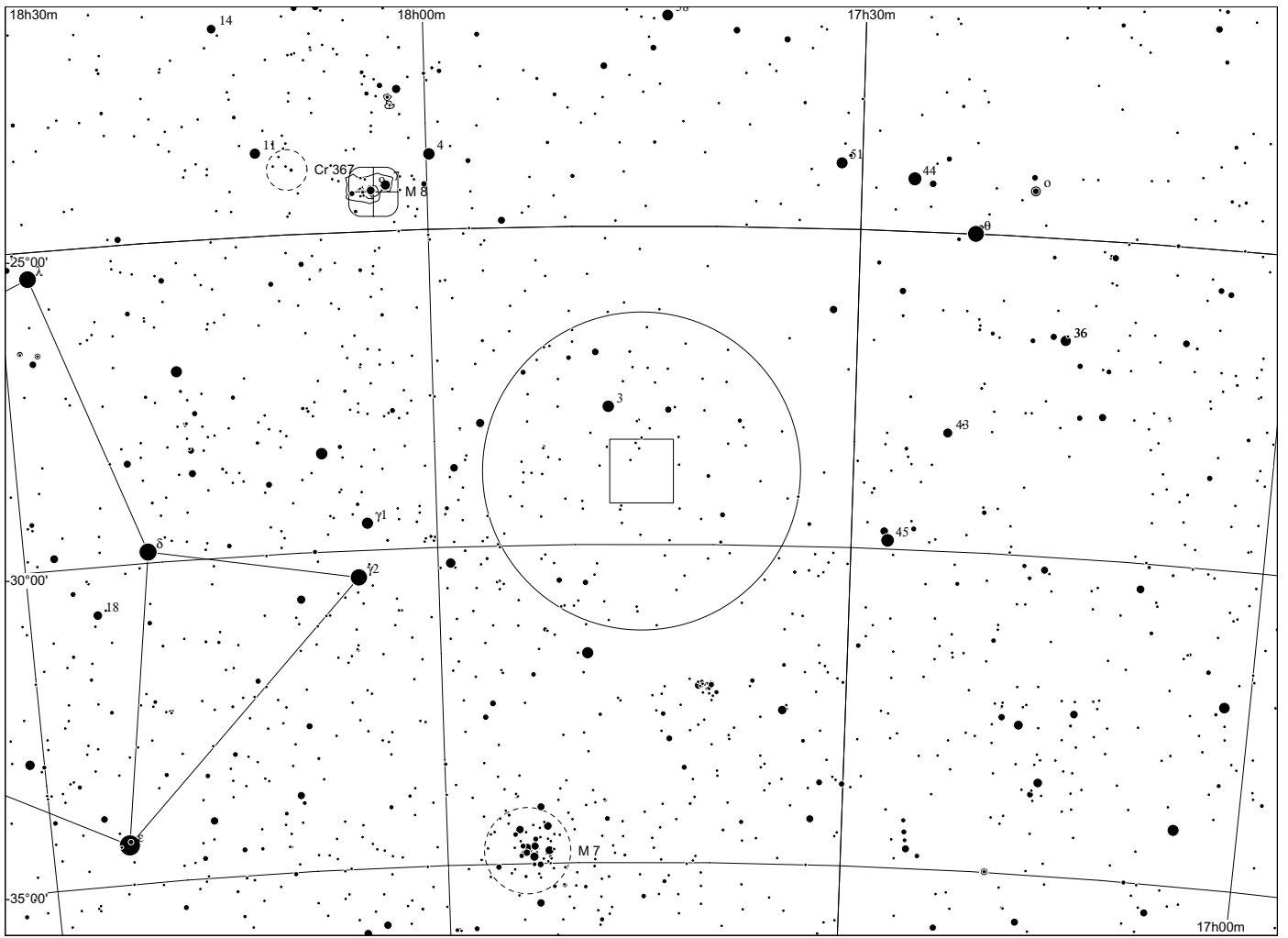
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-017		17 46 08.4	-28 51 28	25	3	2	2

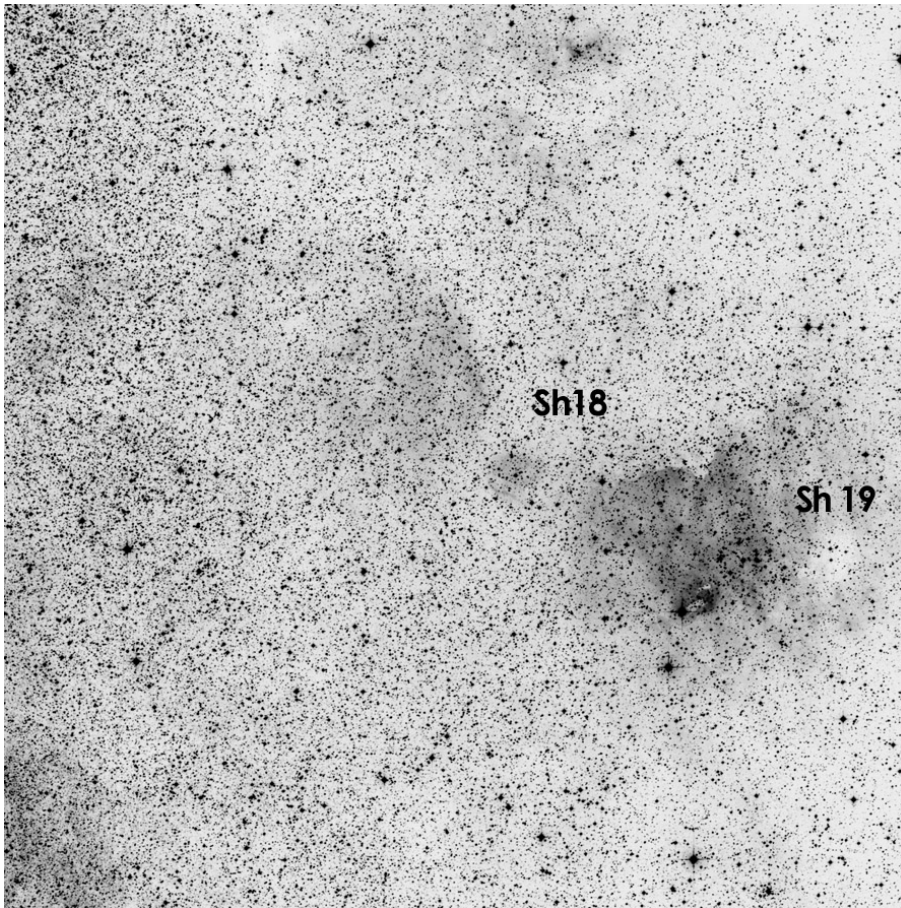
Distance: 1500 pc, Size: 10.9 pc, Source: [2003A&A...397..133R](#)

Part of the S15-S20 complex of HII regions. About a dozen stars associated with this HII region may form the infrared star cluster [DB2000] 58

Observing notes:



**Sh 2 - 18/19
in Sagittarius**



60x60, red



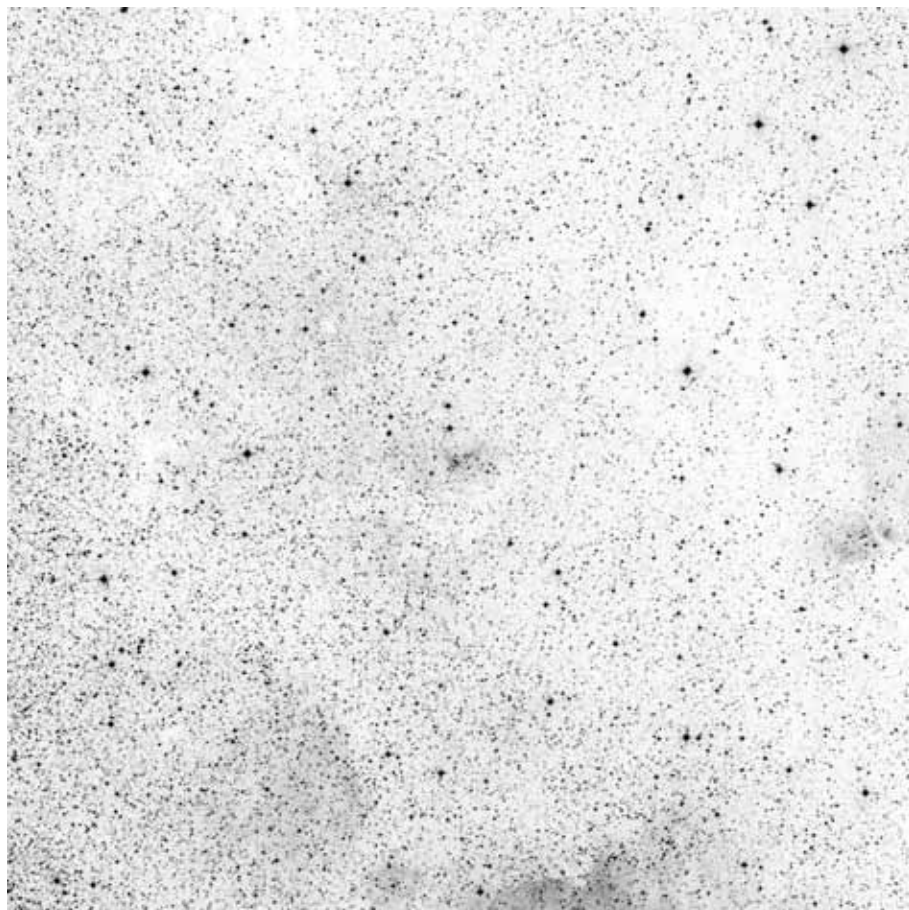
	other name	RA	dec	dia. '	F	S	B
Sh 2-018		17 48 45.1	-29 15 06	4	1	2	2
Sh 2-019		17 49 20.9	-29 07 01	12	1	1	2

Distance: 1500 pc, Size: 5.2 pc Source: 2003A&A...397..133R

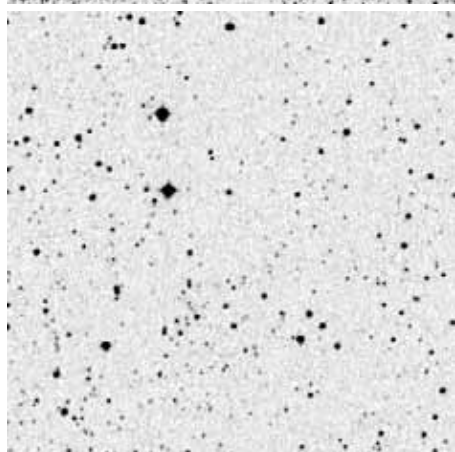
Part of the S15-S20 complex of HII regions. This image shows both RCW 140 (Sh 2-19) and the smaller nebula RCW 139 (Sh 2-18).

Observing notes:

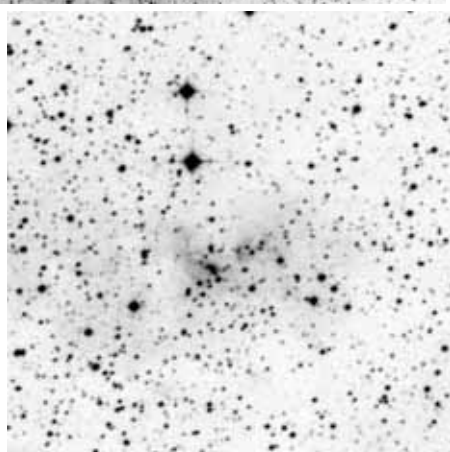
Sh 2 - 20 in Sagittarius



60x60, red



POSS blue



POSS red



composite

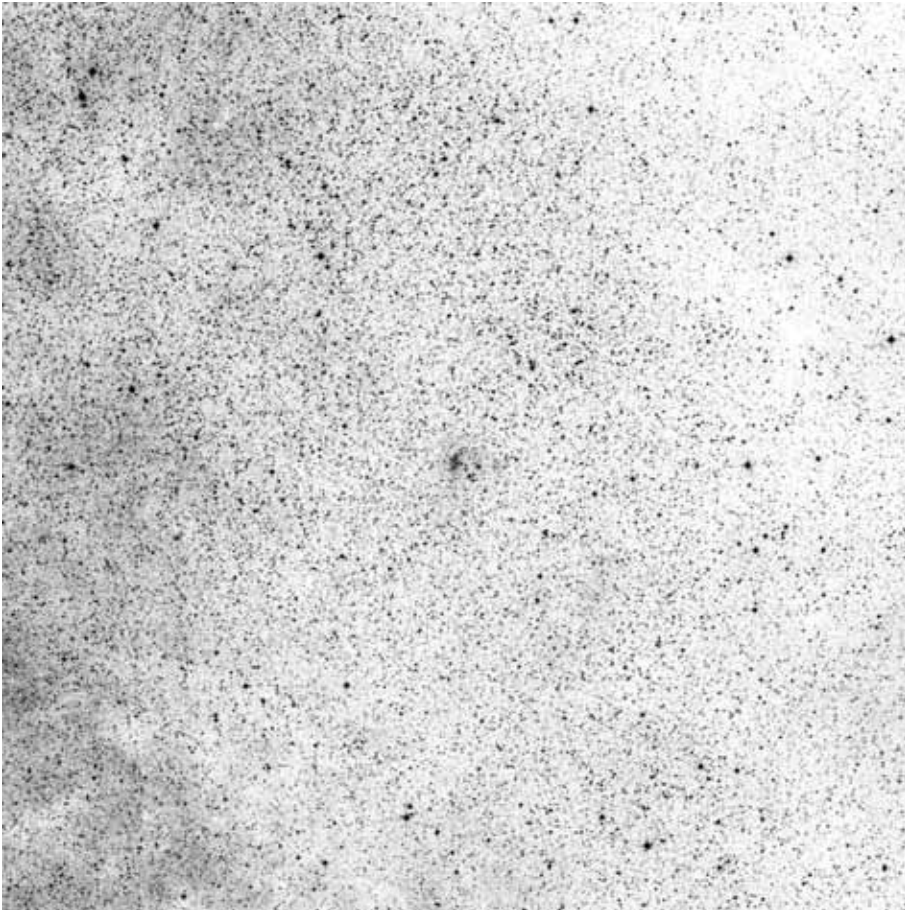
	other name	RA	dec	dia. '	F	S	B
Sh 2-020		17 49 14.2	-28 40 02	10	3	2	2

Distance: 1500 pc, Size: 4.4 pc, Source: [2003A&A...397..133R](#)

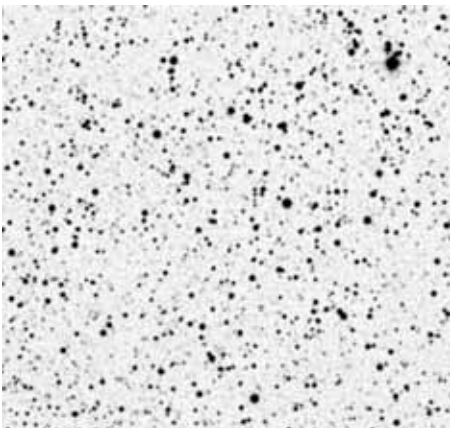
Part of the S15-S20 complex of HII regions.

Observing notes:

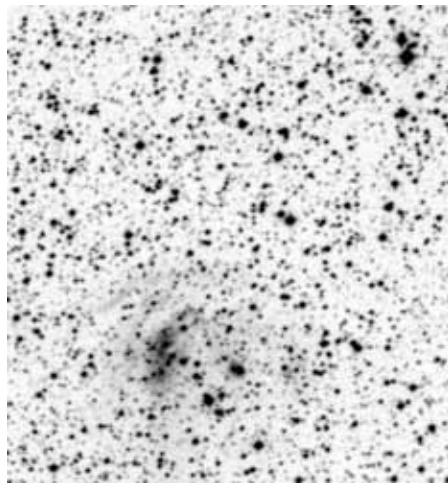
Sh 2 - 21 in Sagittarius



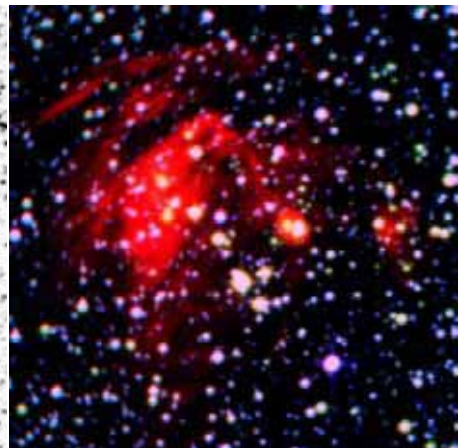
60x60, red



POSS blue



POSS red



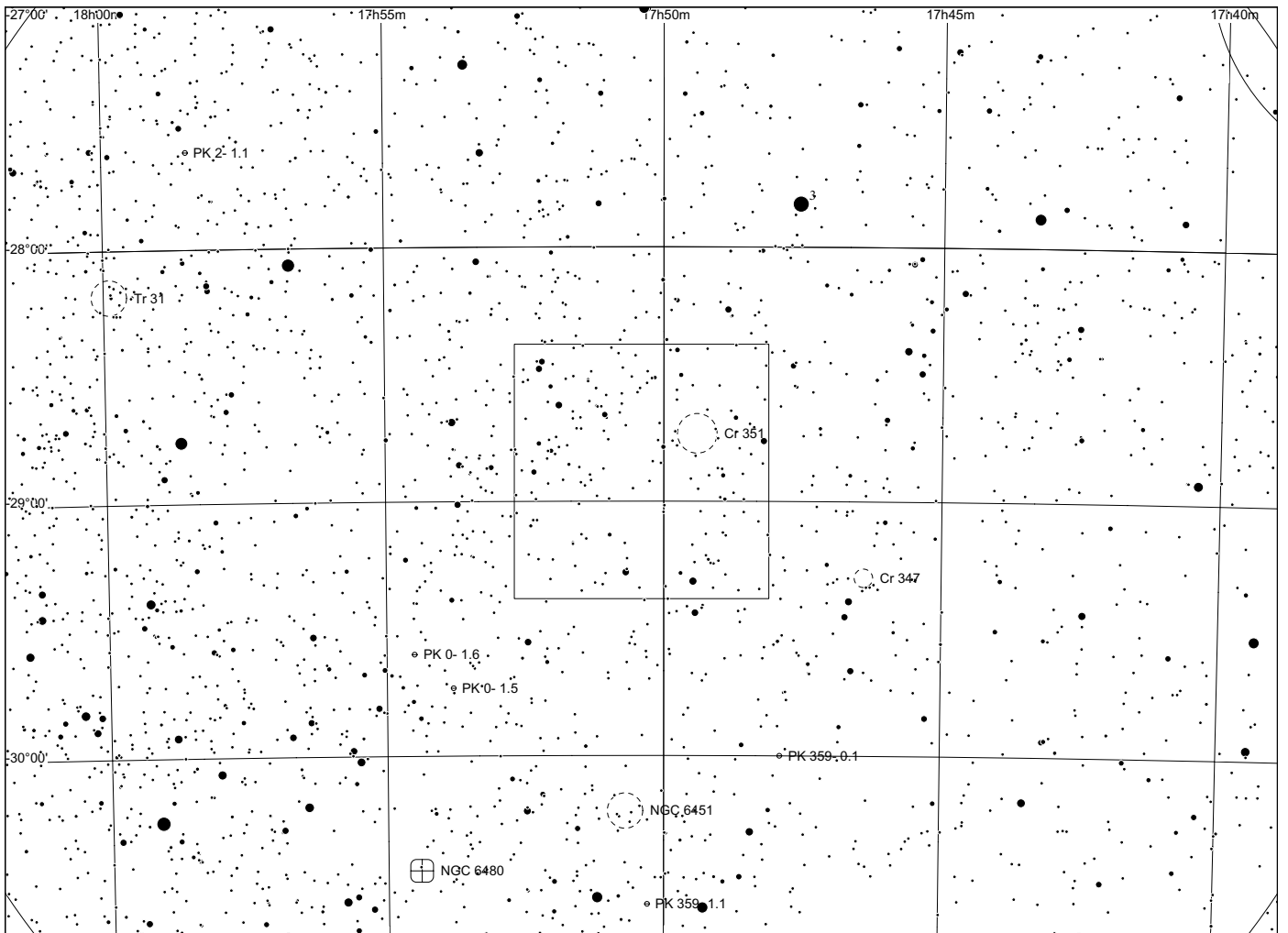
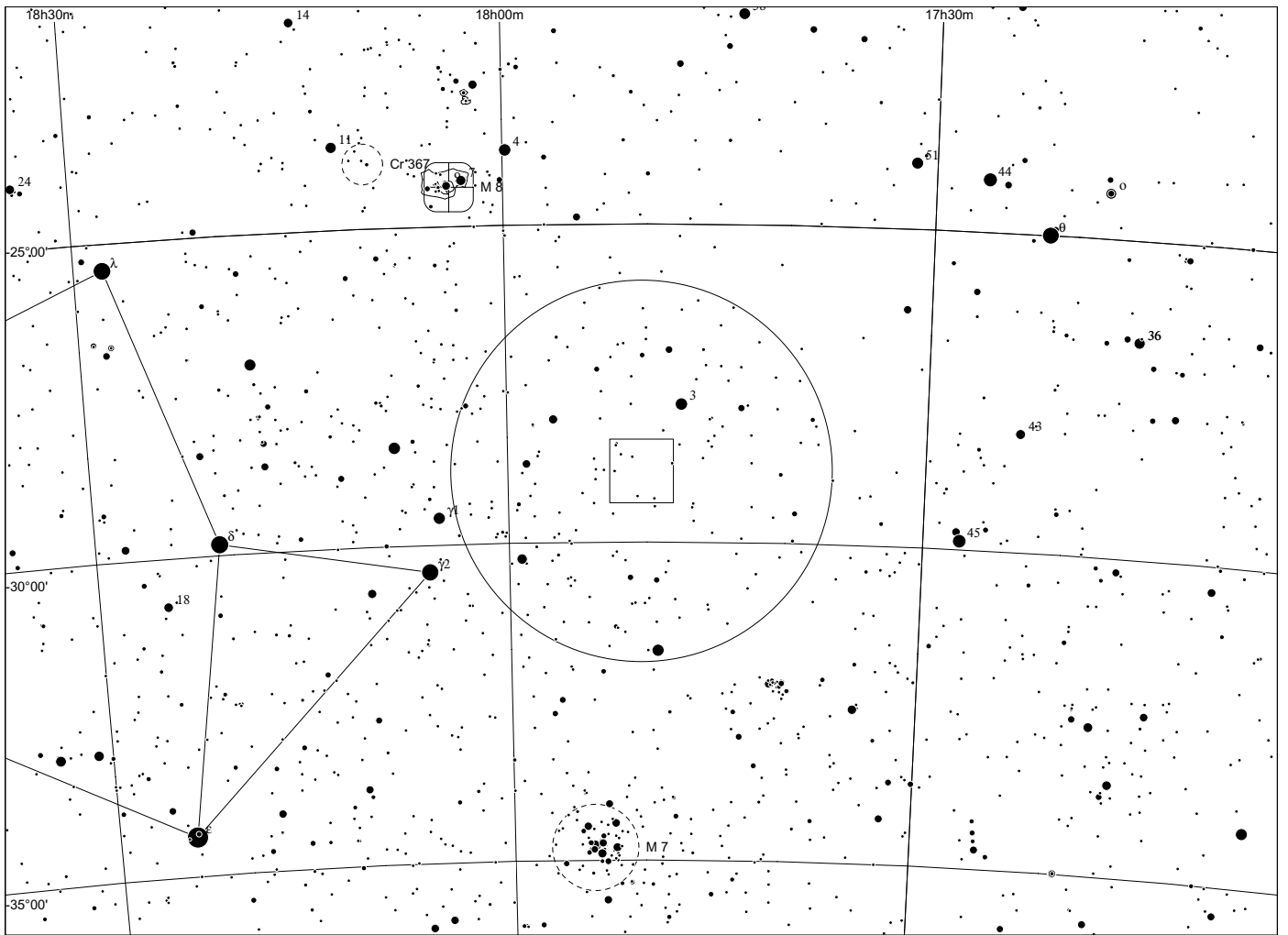
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-021		17 51 38.6	-28 53 40	5	3	2	2

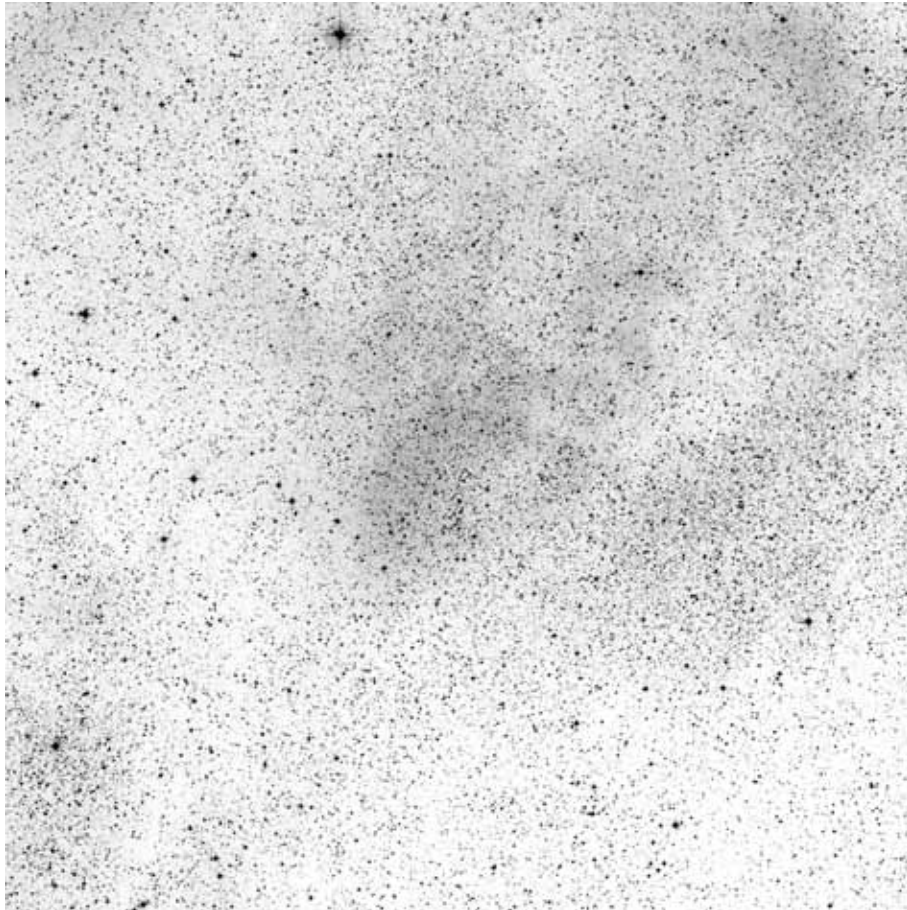
Distance: 8000 pc, Size: 11.6 pc, Source: [2003A&A...397..133R](#)

This HII region is located near the galactic nucleus and is associated with a giant molecular cloud and two star clusters.

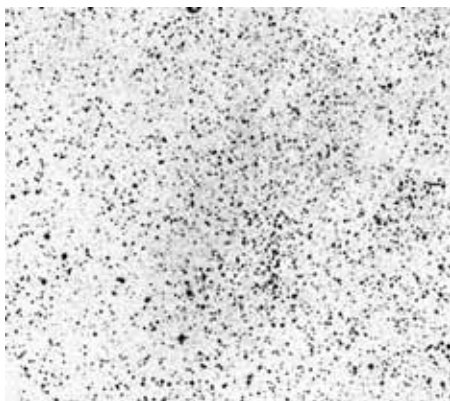
Observing notes:



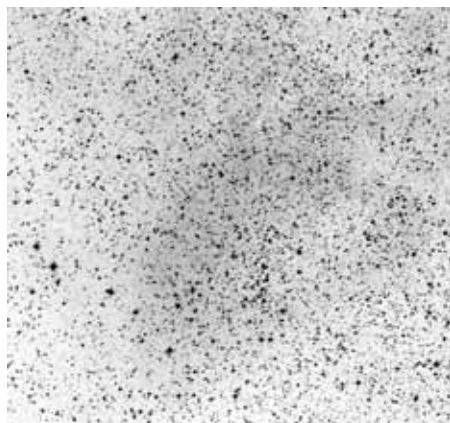
Sh 2 - 22 in Sagittarius



60x60, red



POSS blue



POSS red



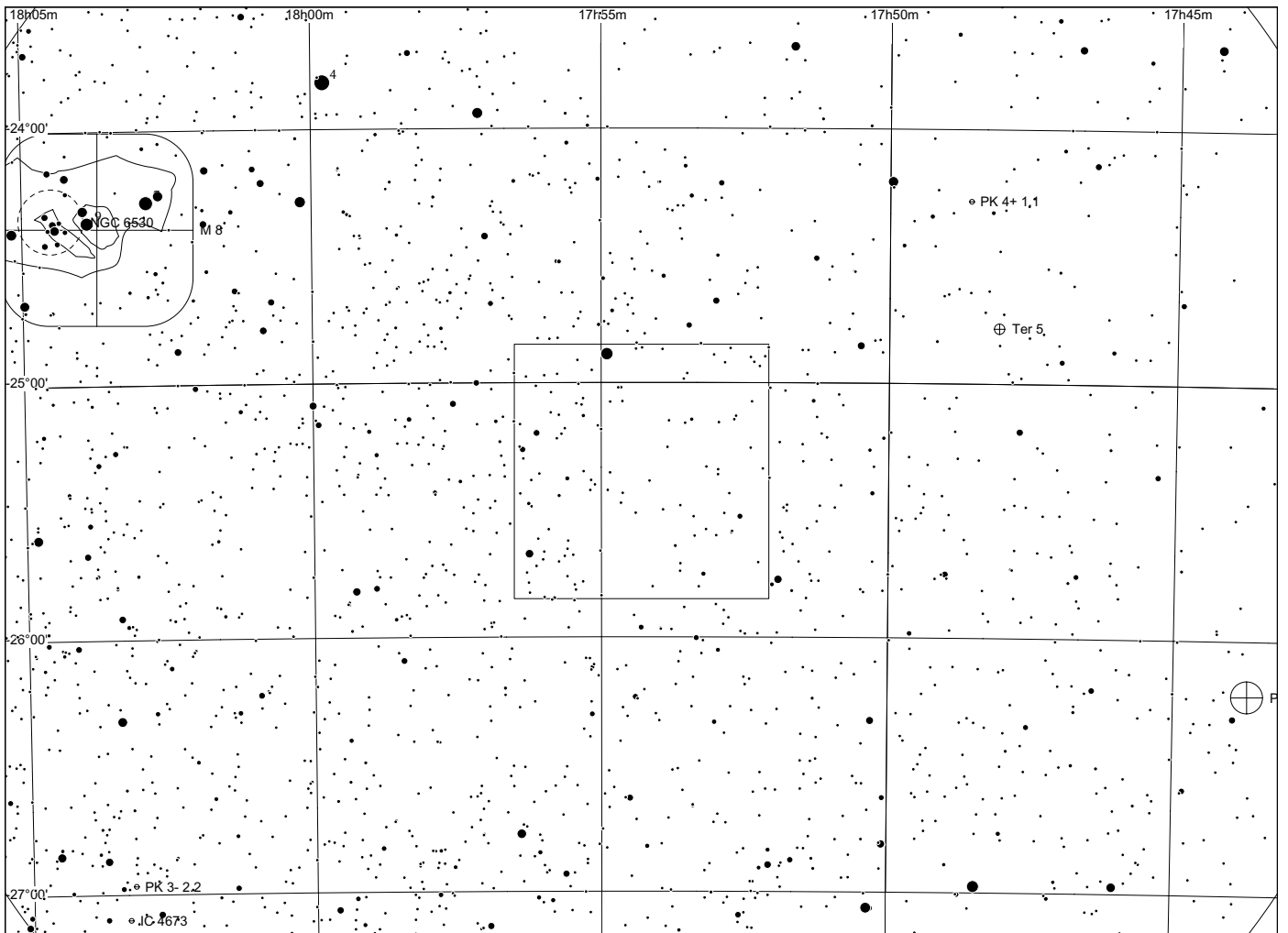
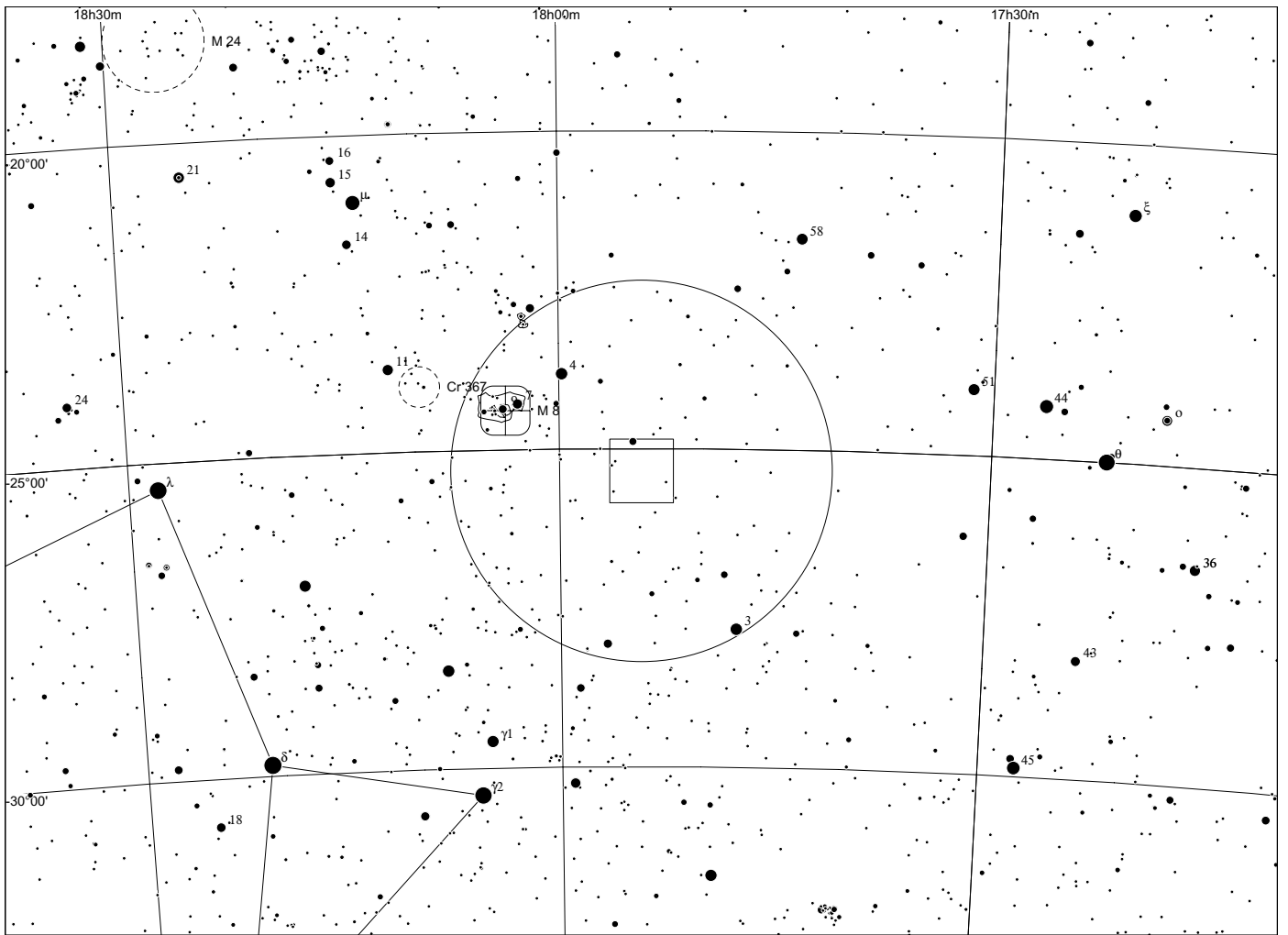
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-022		17 55 02.9	-25 02 10	60	3	2	2

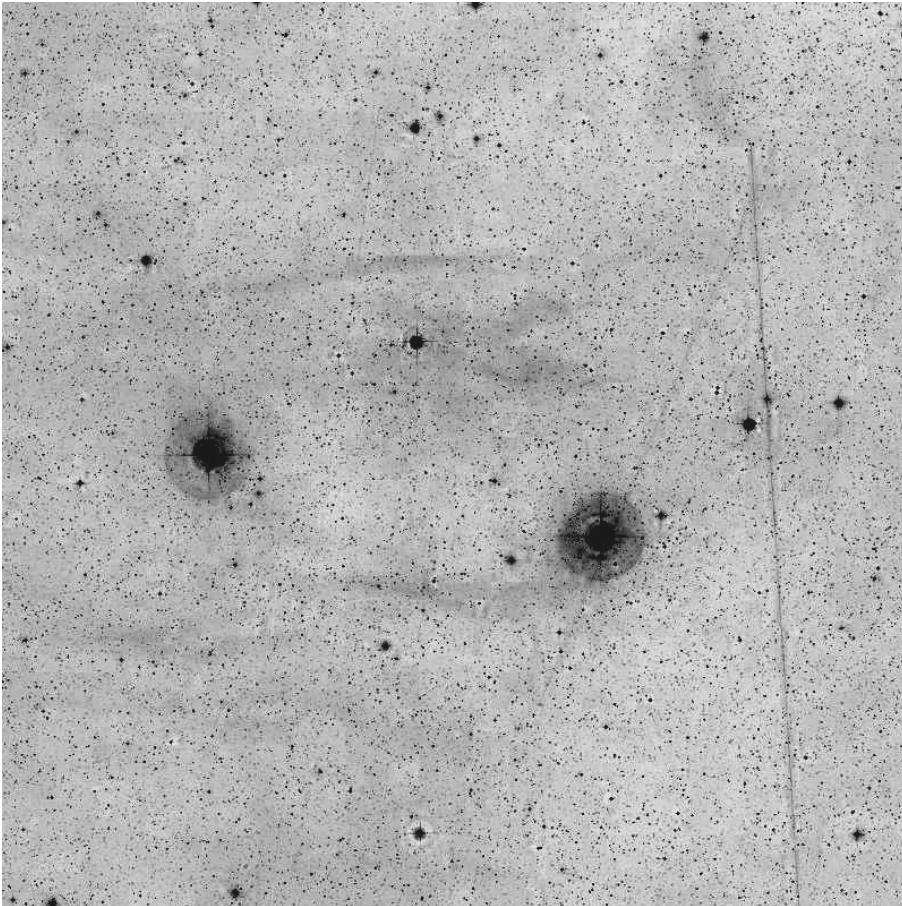
Distance: 1200 pc, Size: 20.9 pc, Source: 1982ApJS...49..183B

This is a ring nebula surrounding the O-star HD 162978.

Observing notes:



**Sh 2 - 23
in Scorpio**



2°x2° blue

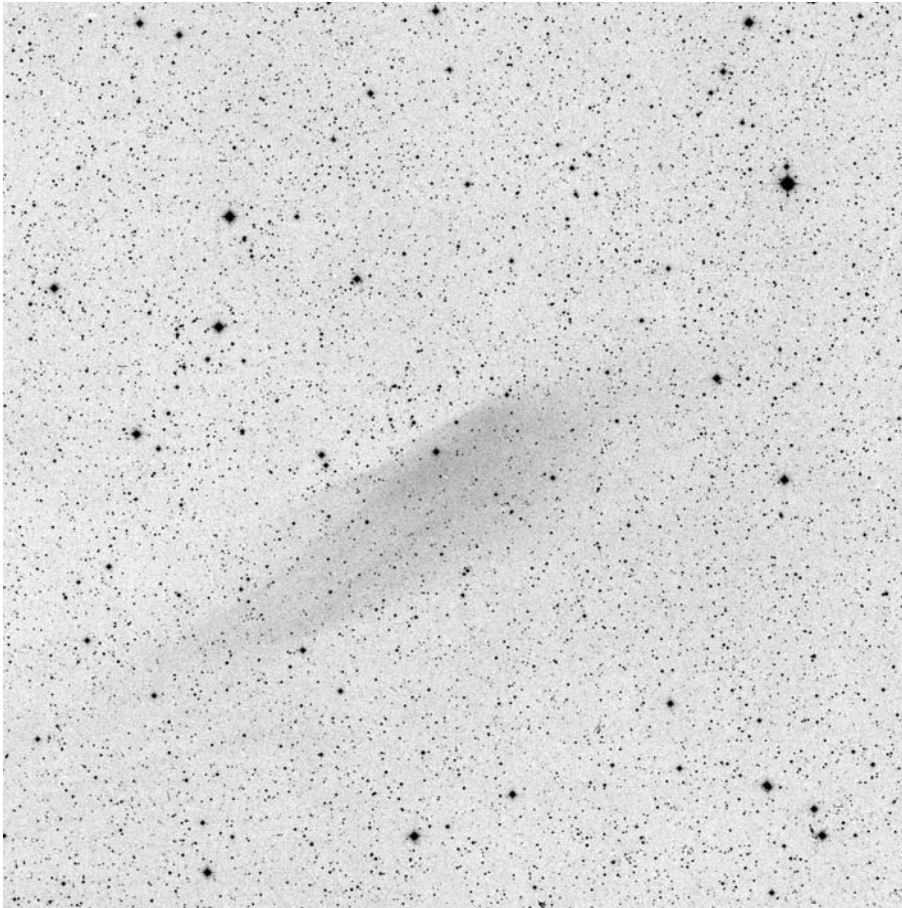


	other name	RA	dec	dia. '	F	S	B
Sh 2-023		16 13 24.4	-08 22 20	50	3	2	1

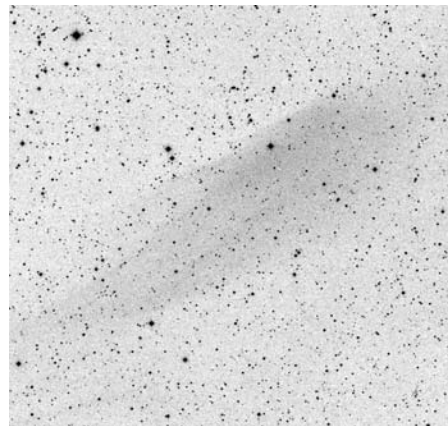
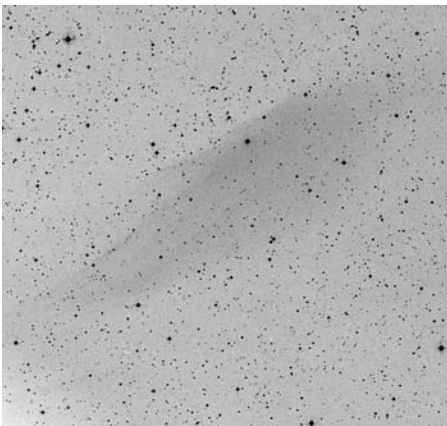
Distance: 200 pc, Size: 2.9 pc Source: 2003A&A...397..133R
Close to the A4V star 16 Sco

Observing notes:

Sh 2 - 24 in Ophiuchus



60x60, red



POSS blue

POSS red

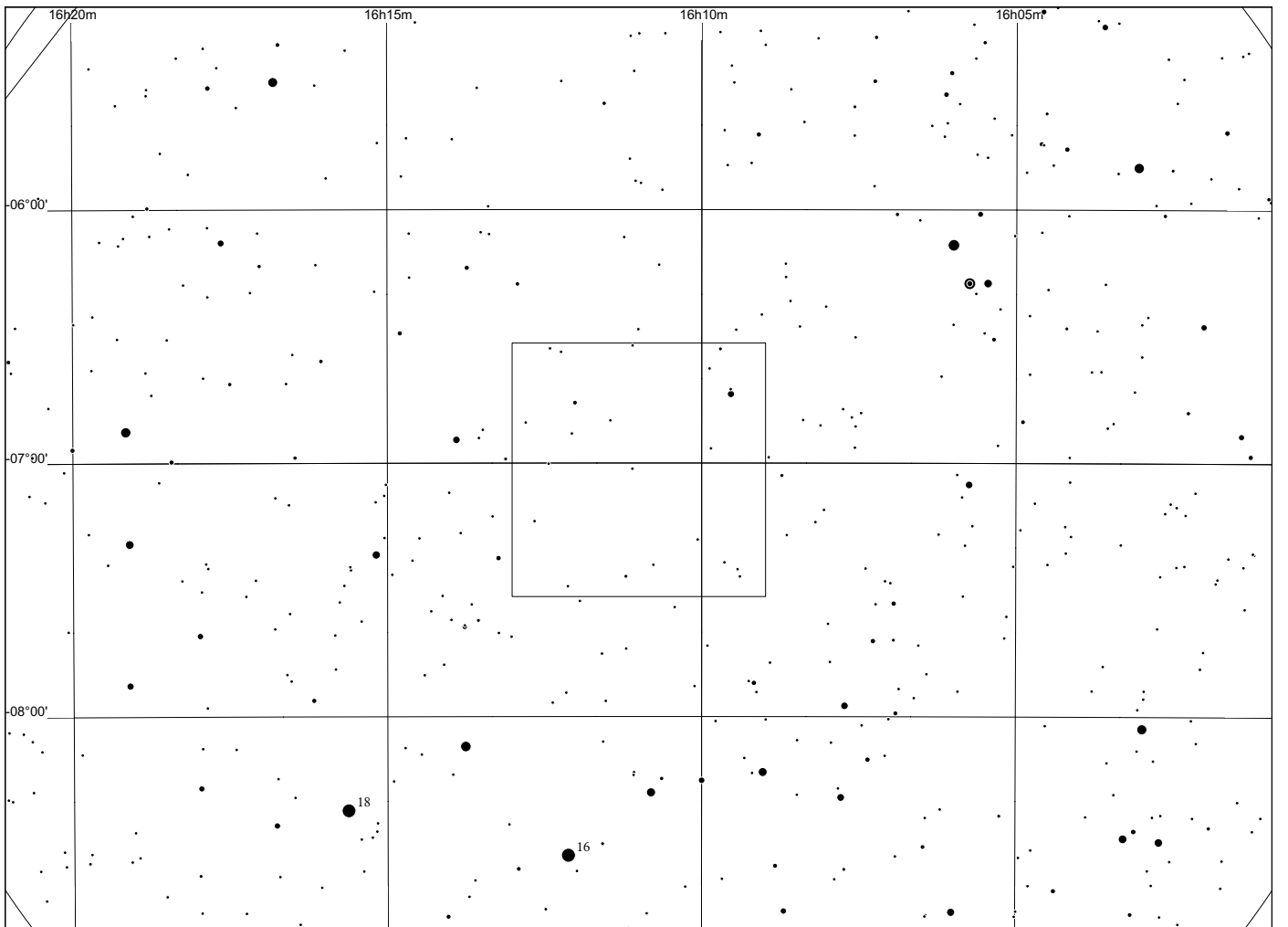
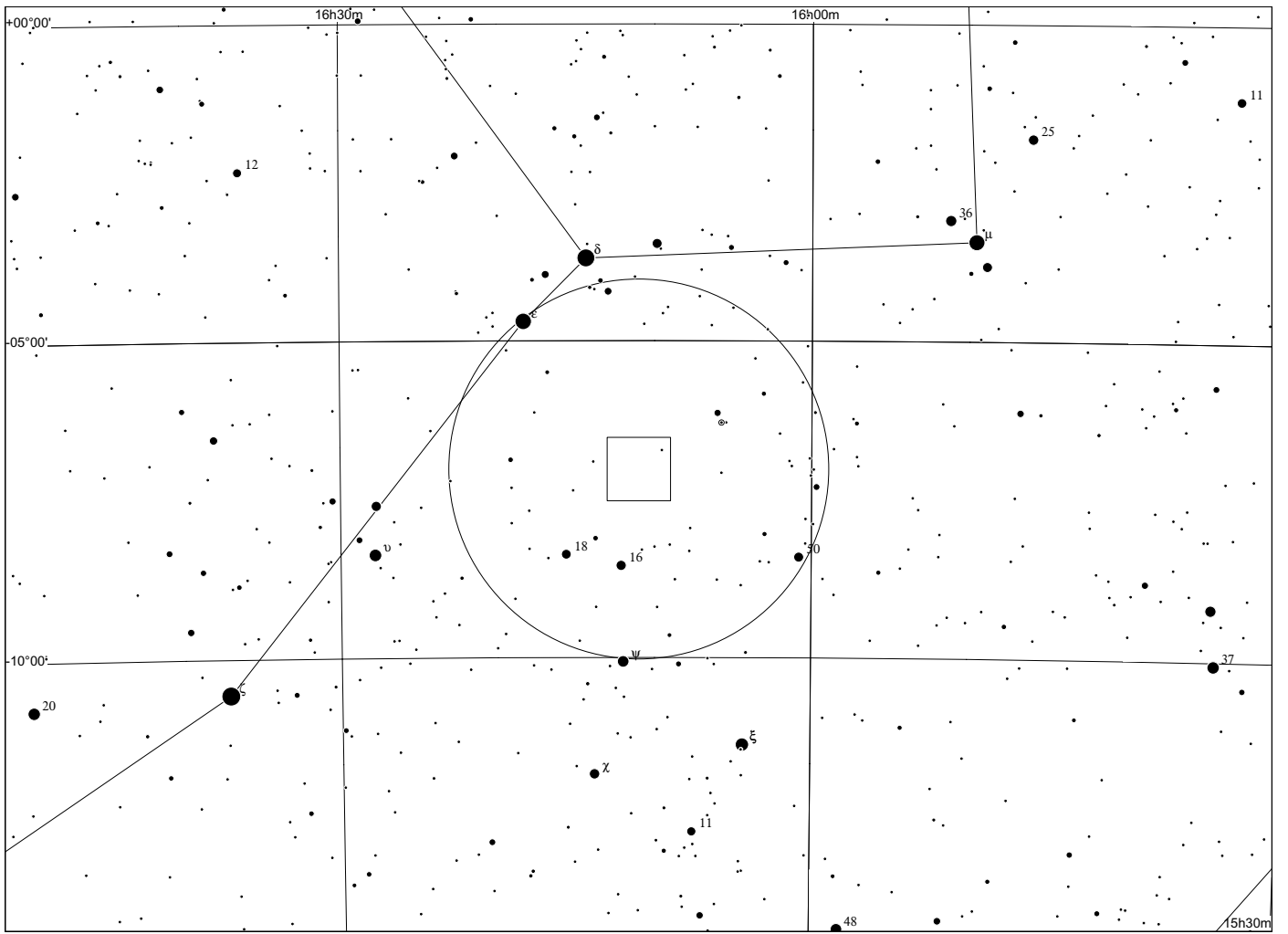
RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-024		16 11 03.0	-07 04 38	30	2	1	2

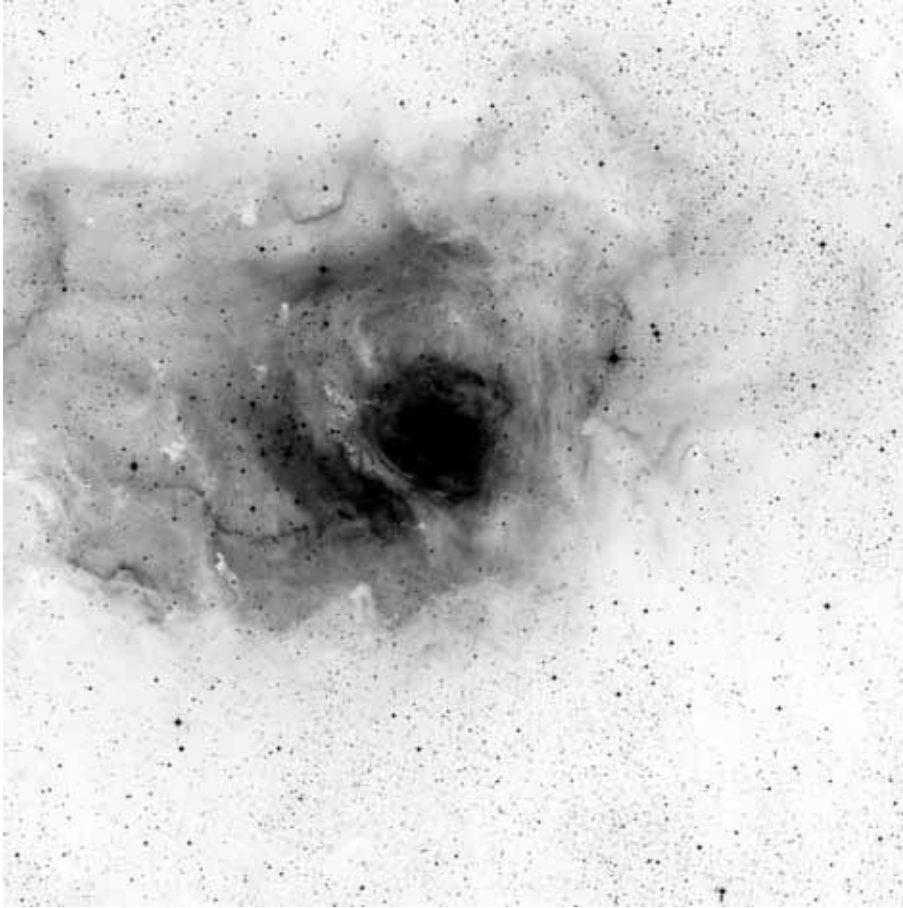
Distance: 145 pc, Size: 1.3 pc, Source: [1993ApJS...88..433P](#)

The eerie blue glow of MBM 57 is at a distance stretching between 50 and 240 pc, making it one of the closest known molecular clouds.

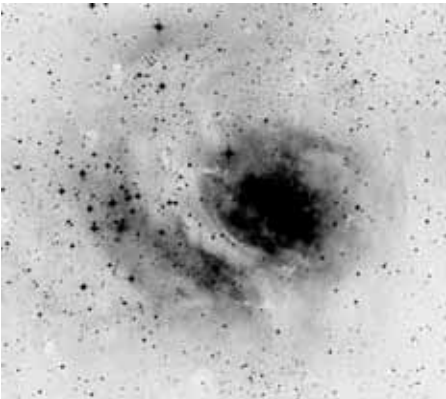
Observing notes:



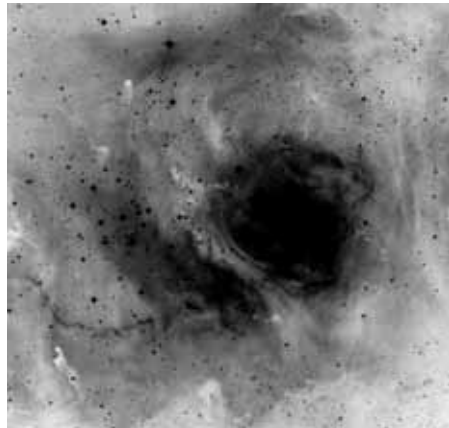
Sh 2 - 25 in Sagittarius



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-025	M8 = Lagoon	18 05 25.0	-24 23 39	90	3	3	3

Distance: 1250 pc, Size: 32.7 pc, Source: [2005A&A...430..941P](#)

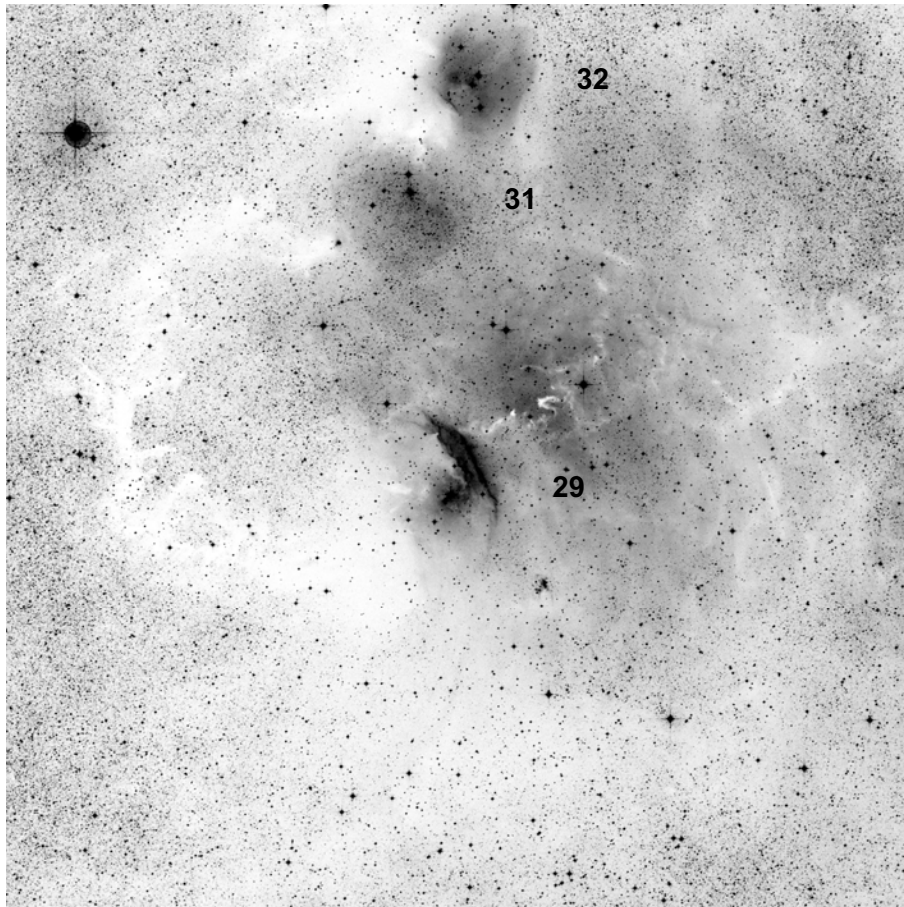
The Lagoon nebula (M8 = NGC 6523-NGC 6530) is a large HII region mainly ionized by two O-class stars, 9 Sagittarii [O4V((f))] and HD 165052 (O6.5V + O7.5V). It is embedded within a molecular cloud which extends to the star cluster NGC 6530. Within M8's core lies a distinctive bipolar nebula called the Hourglass, a blister-type HII region which has been produced by the O7.5V star Herschel 36 (Her 36).

Note that RCW 146 also includes Gum 75 (Sh 2-29, Sh 2-31, and Sh 2-32), the nebula complex next to the Lagoon nebula.

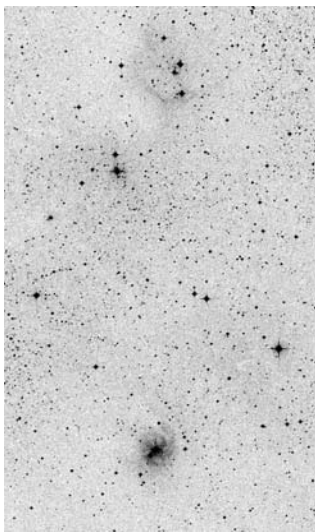
Observing notes:

Observed many times with various telescopes

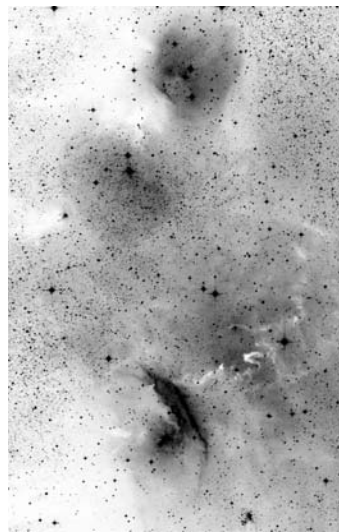
Sh 2 - 29/31/32 in Sagittarius



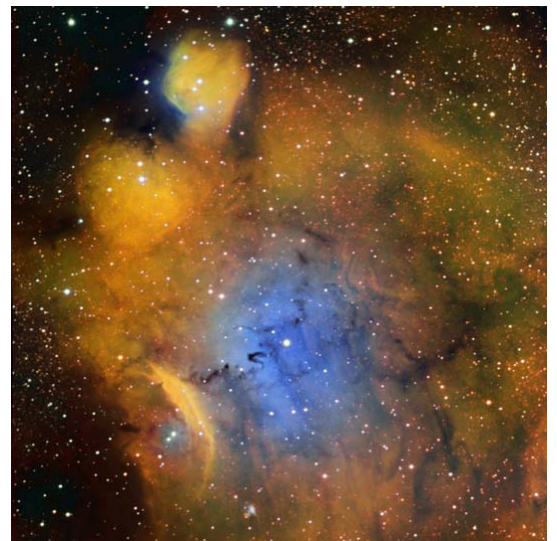
60x60, red



POSS blue



POSS red



narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-029		18 10 30.5	-23 59 55	40	3	2	2
Sh 2-031	IC 1275	18 11 18.2	-23 47 48	8	1	1	2
Sh 2-032	IC 1274	18 10 53.0	-23 38 51	8	1	2	2

Distance: 1300 pc, Size: 15.1 pc, Source: [1982ApJS...49..183B](#)

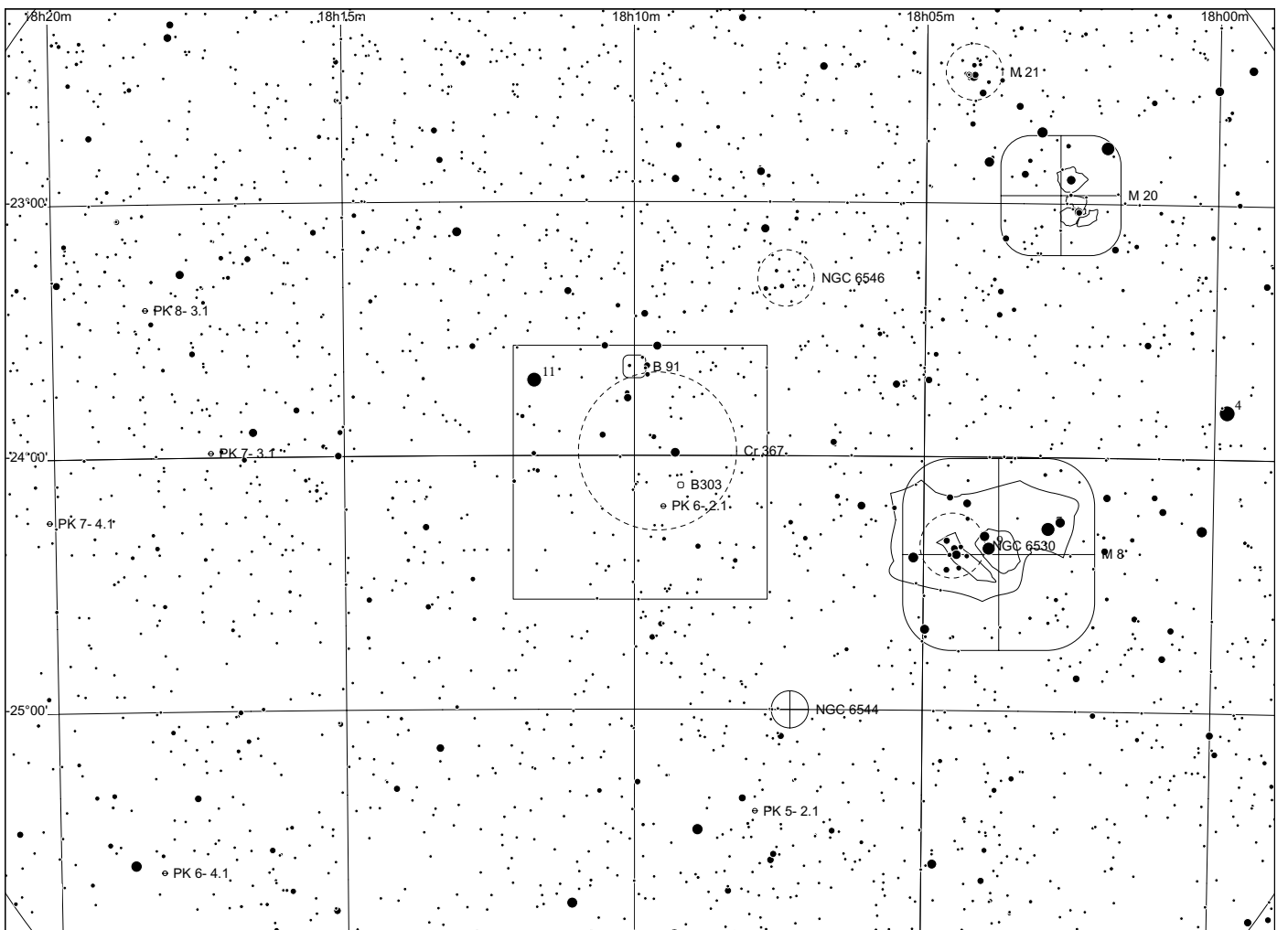
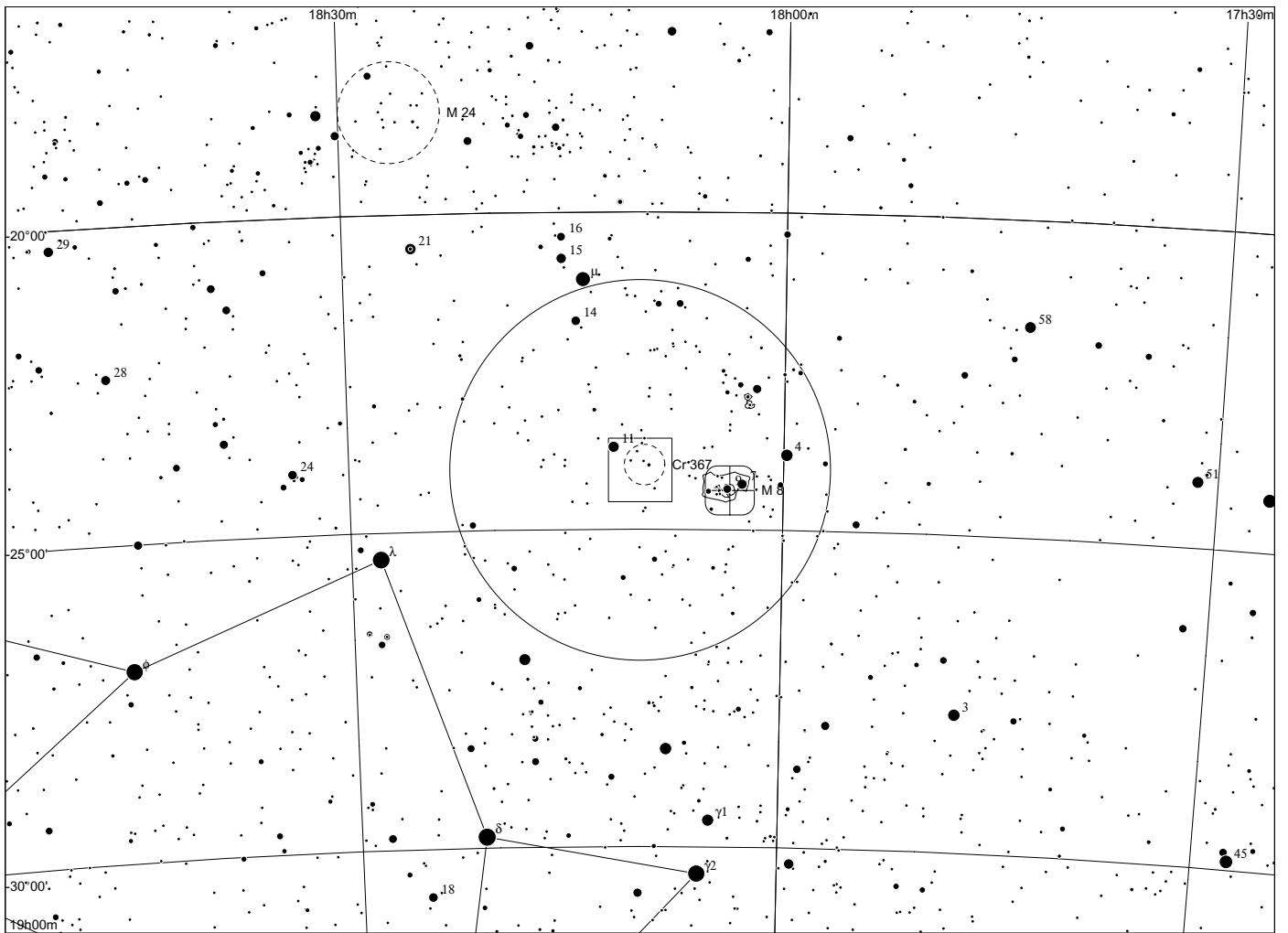
In 2003, an infrared cluster was reported in NGC 6559, which is part of Sh 2-29. Sh 2-29, Sh 2-31, and Sh 2-32 all appear to be part of the same nebula complex although the associated CO elocities suggest that these objects may have quite different distances.

22" f/4.5

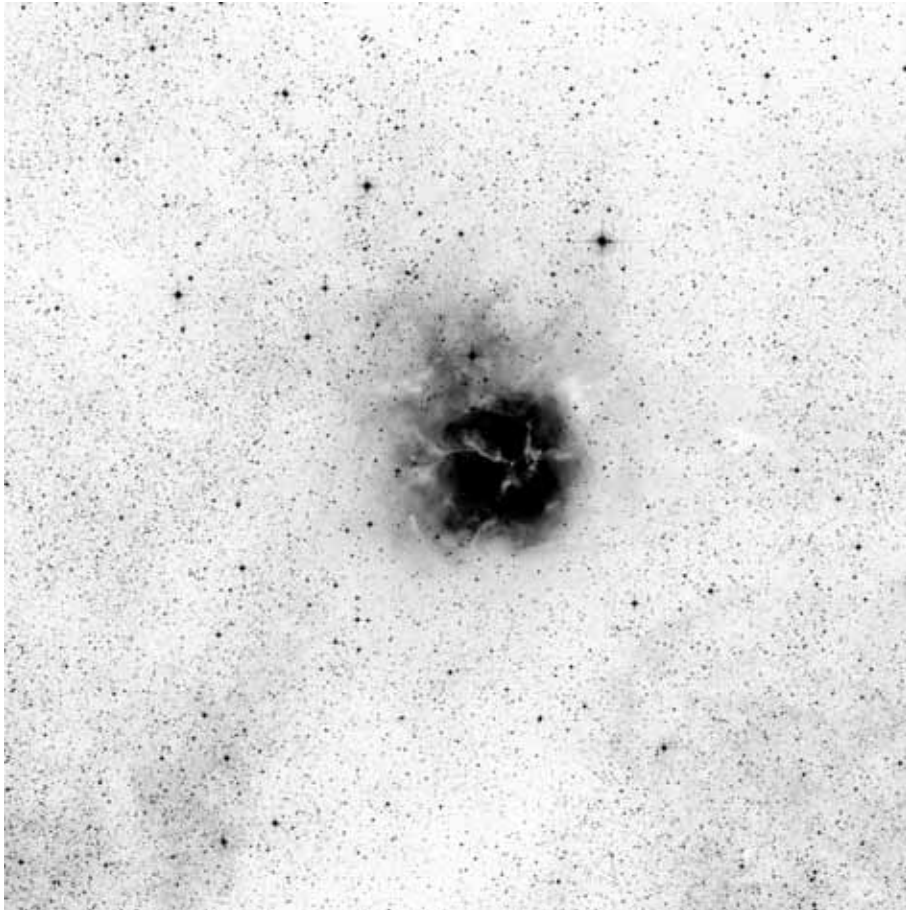
08/2008 and 06/2010: respond best to H beta filter, in particular Sh 32 and 29. Sh 31 is more difficult and could not be seen unambiguously.

08/2012:

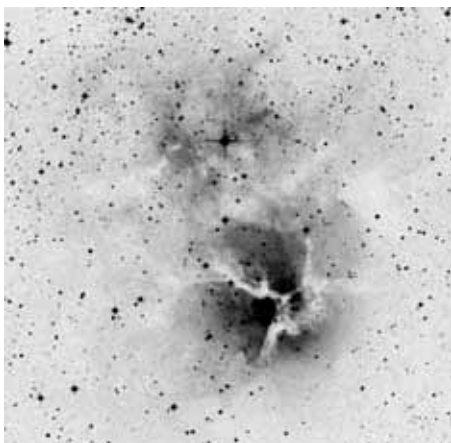
Sh29: RN around star, with H beta crescent shaped part in NE/SW direction, the RN part towards NW was not observed; Sh 31: visible with H beta as a faint glowaround star; Sh32, visible both with H beta (HIII part) and without filter (RN Part)



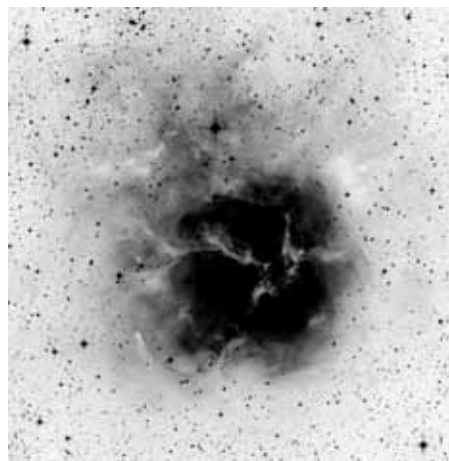
Sh 2 - 30 in Sagittarius



60x60, red



POSS blue



POSS red



composite

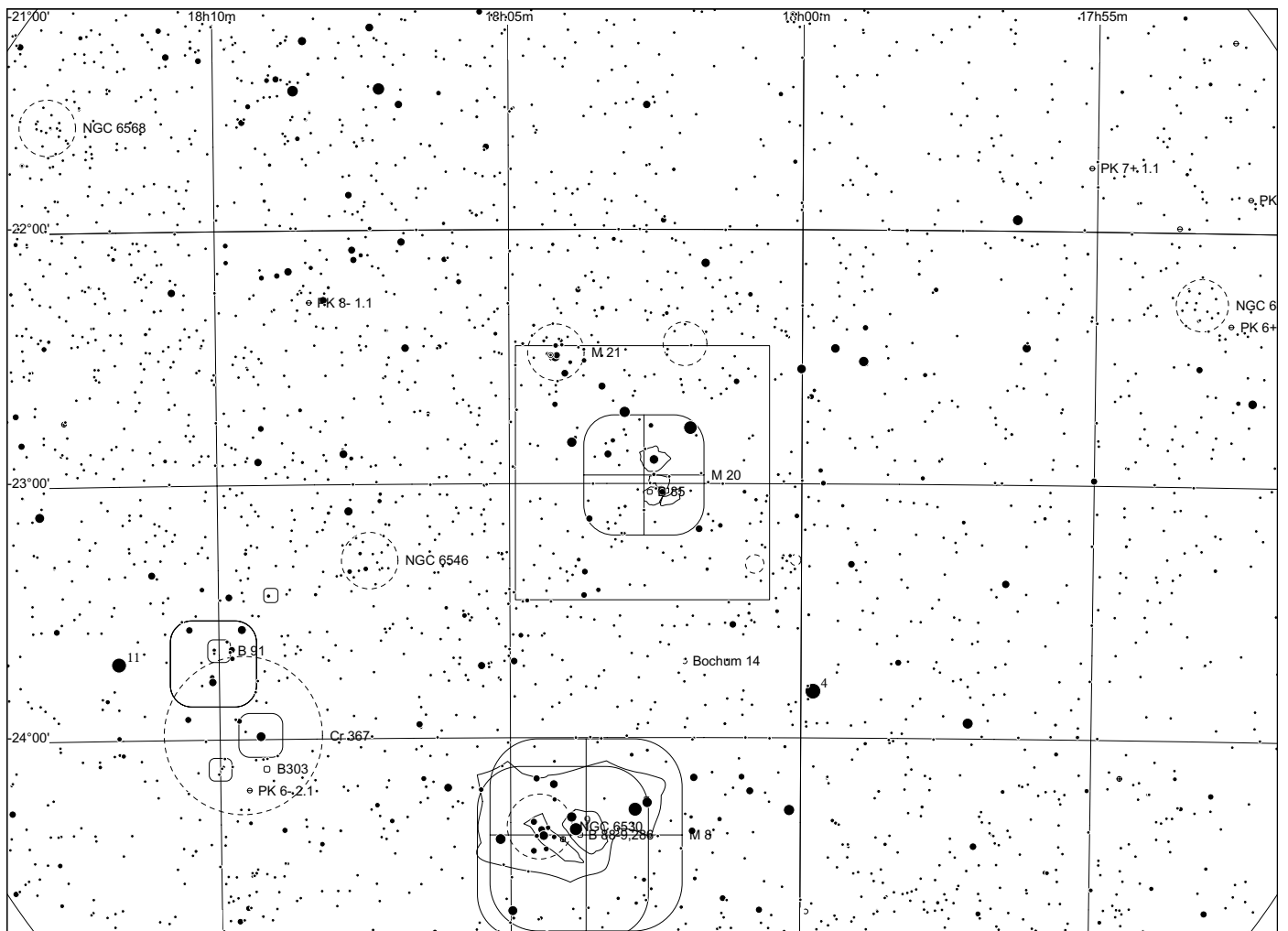
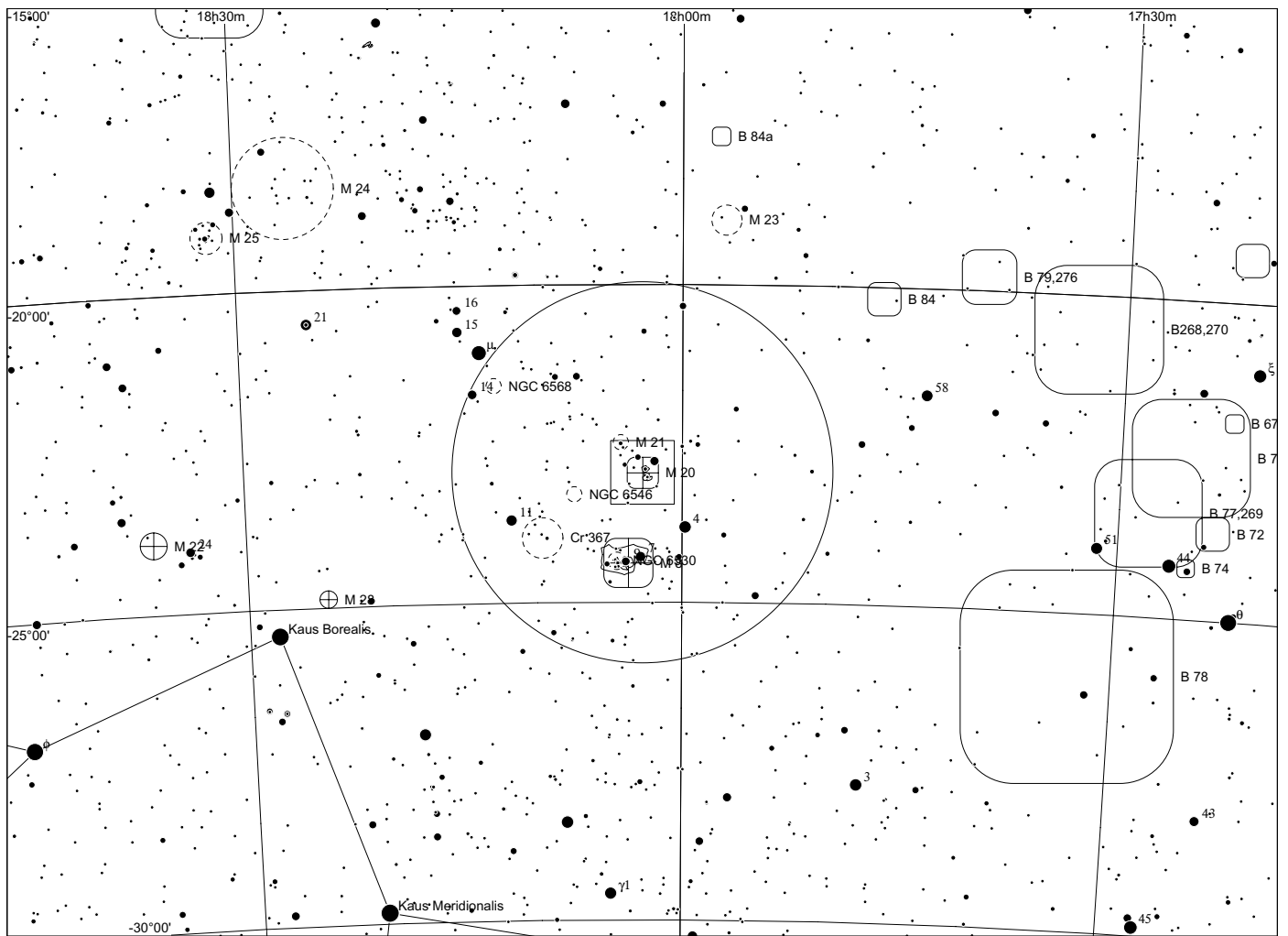
	other name	RA	dec	dia. '	F	S	B
Sh 2-030	M20 = Trifid	18 03 34.1	-23 00 55	20	3	3	3

Distance: 3010 pc, Size: 4.9 pc, Source: [2003A&A...397..213P](#)

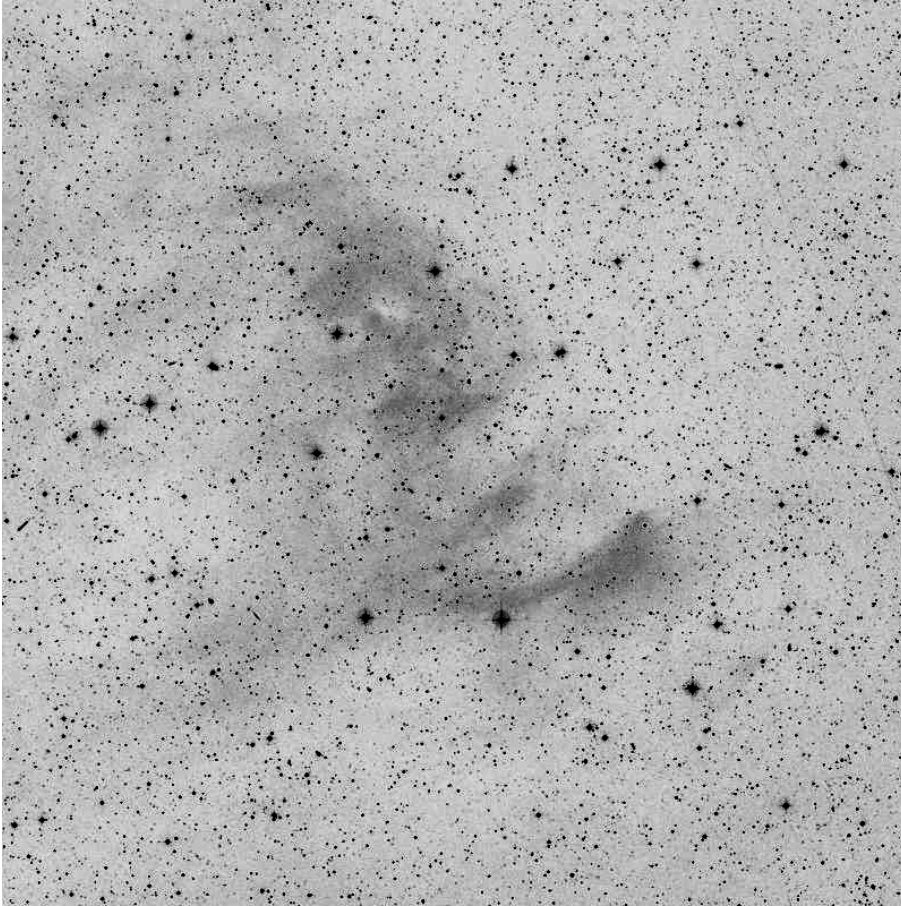
The Trifid nebula, M20, is an HII region ionised by the O7.5 star HD 164492A and is divided into three parts by dust lanes. A blue reflection nebula surrounds the HII region and also appears just to the north. It is only 300 thousand years old.

Observing notes:

Observed many times with varying telescopes



Sh 2 - 33
in Serpens Caput



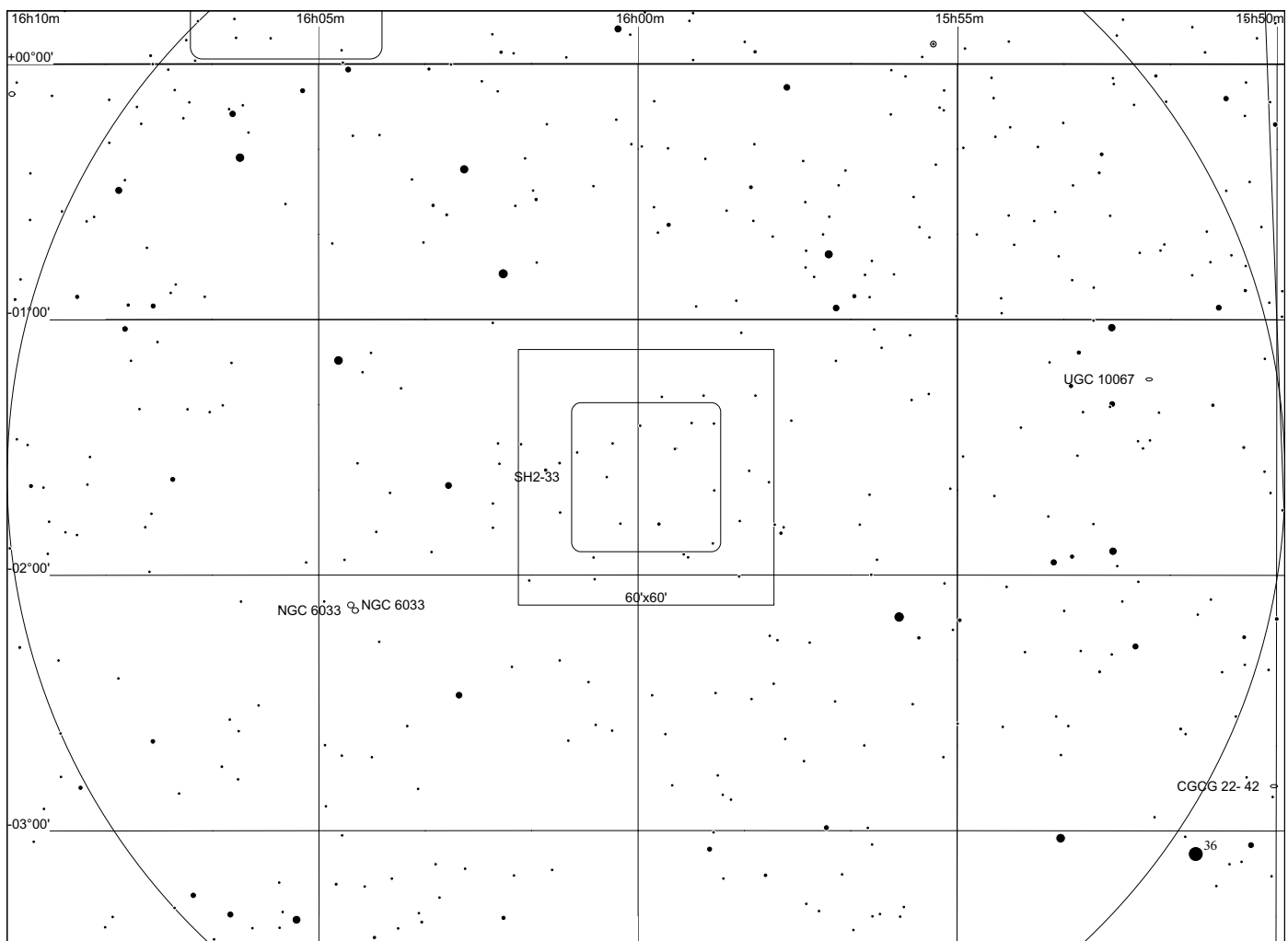
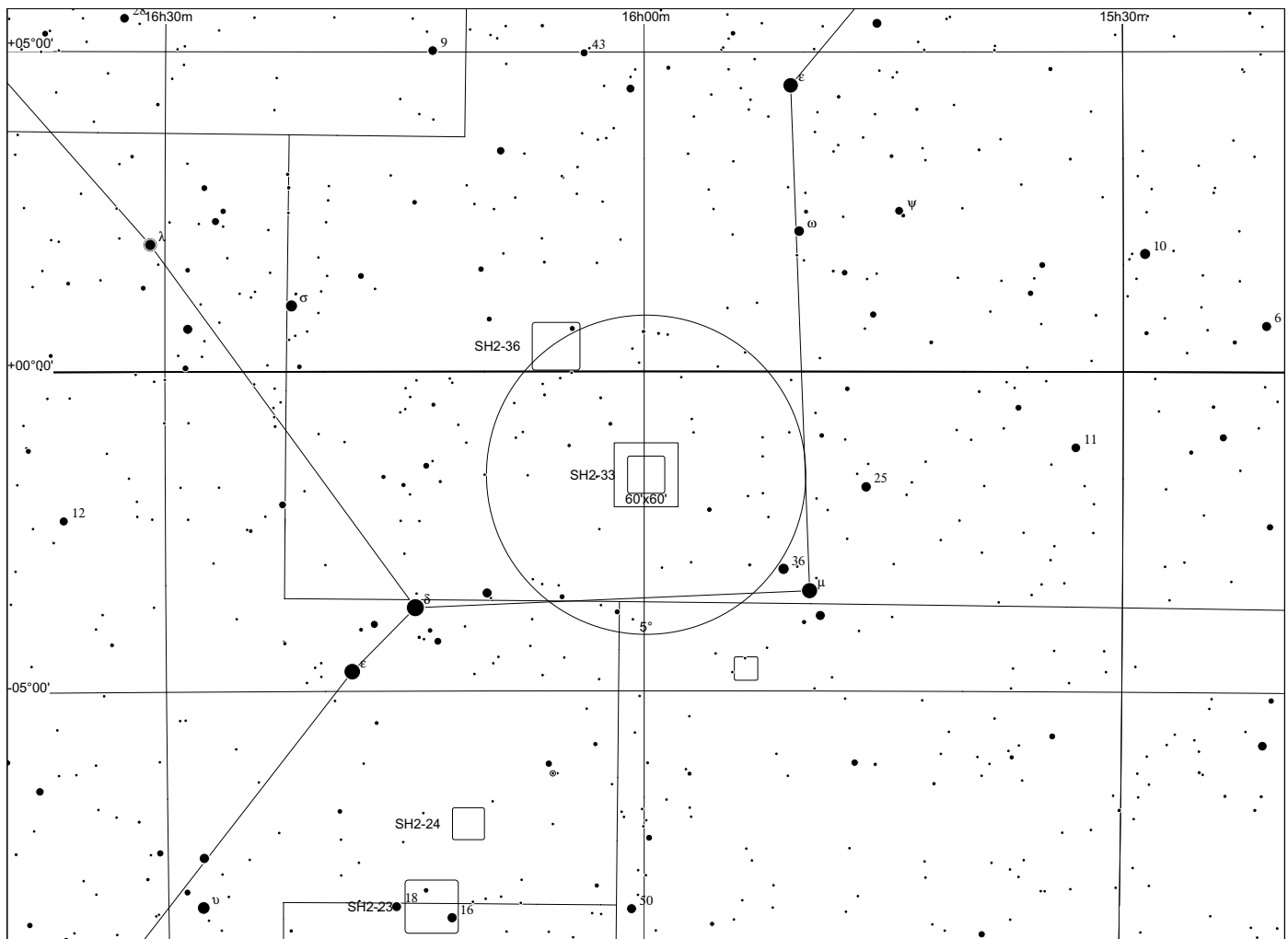
60x60



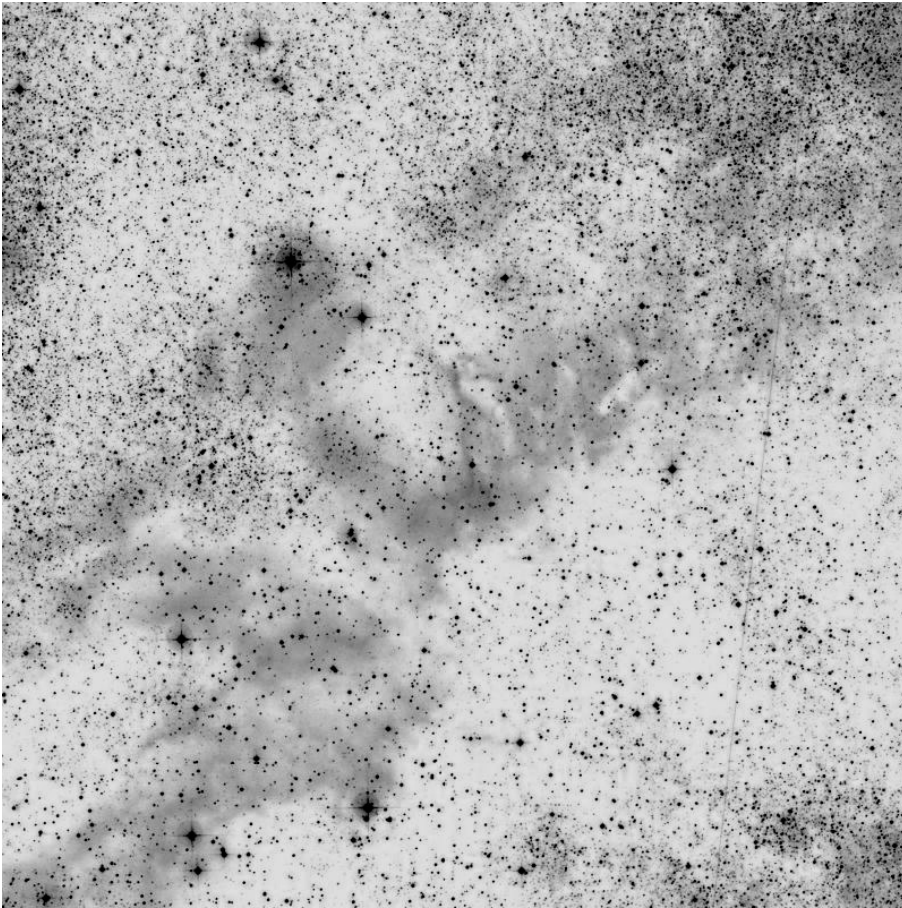
	other name	RA	dec	dia. '	F	S	B
Sh 2-033		15 59 52.3	-01 37 03	35	3	2	1

Distance: 110 pc, Size: 1.1 pc Source: 1995ApJS..101...87L
 The faint red glow of the nearby molecular cloud MBM 38.

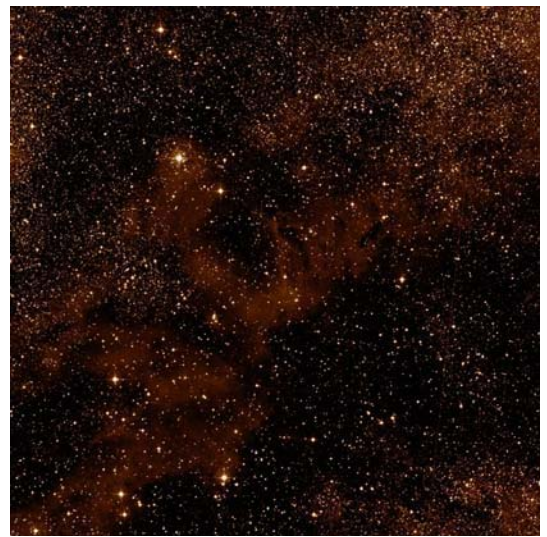
Observing notes:



Sh 2 - 34 in Sagittarius



60x60, red

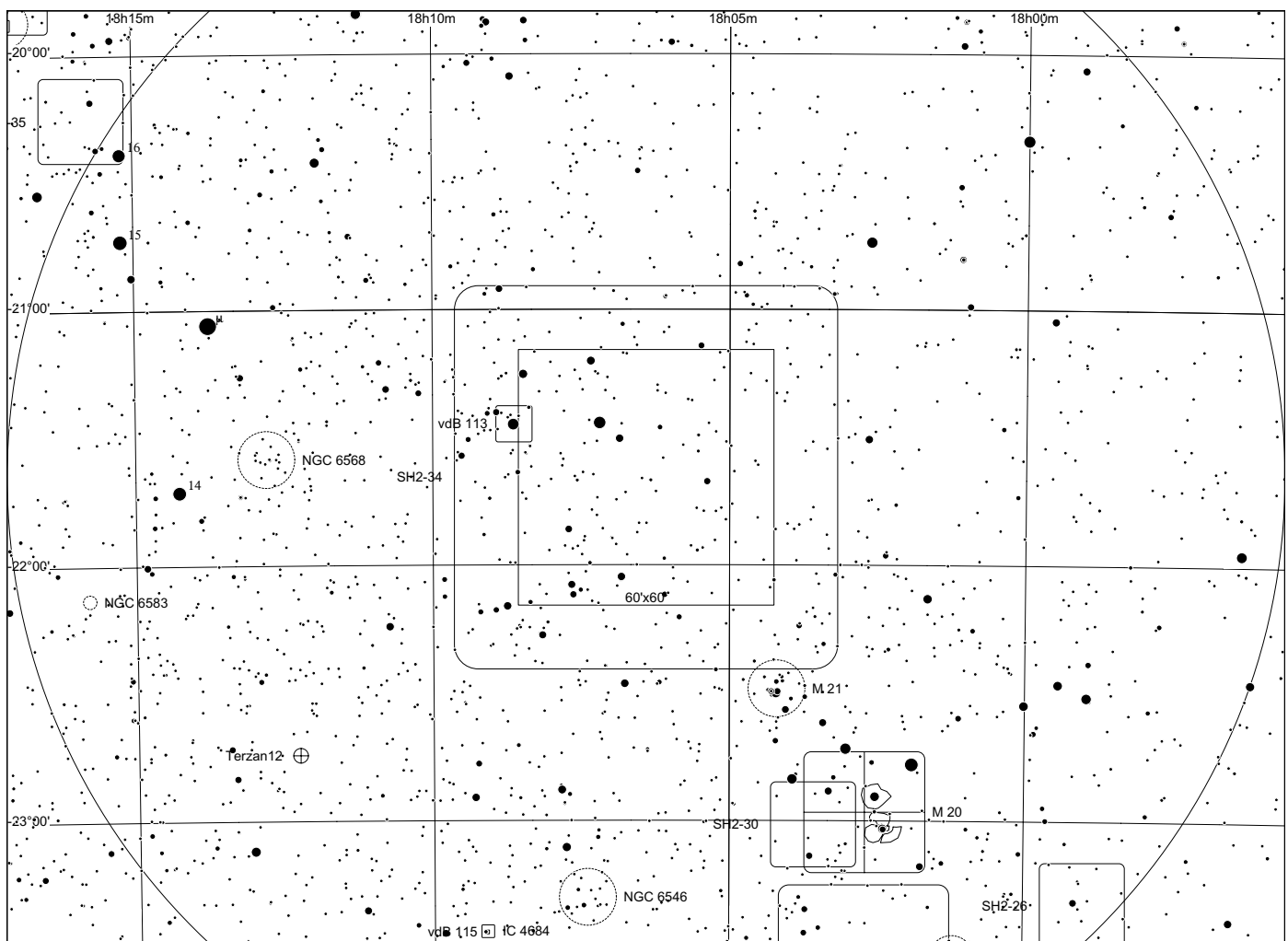
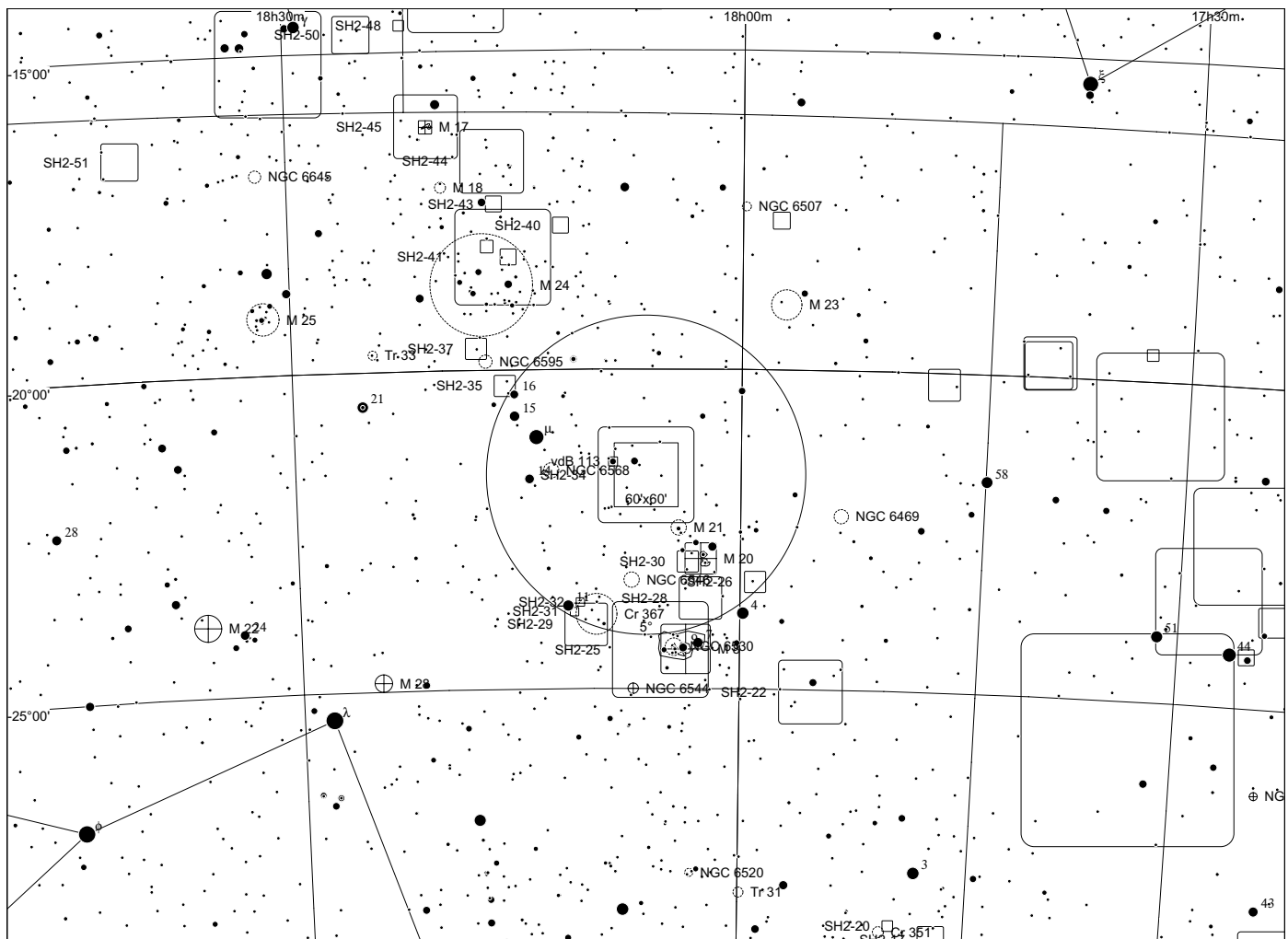


	other name	RA	dec	dia. '	F	S	B
Sh 2-034		18 06 24.3	-21 39 31	90	3	2	2

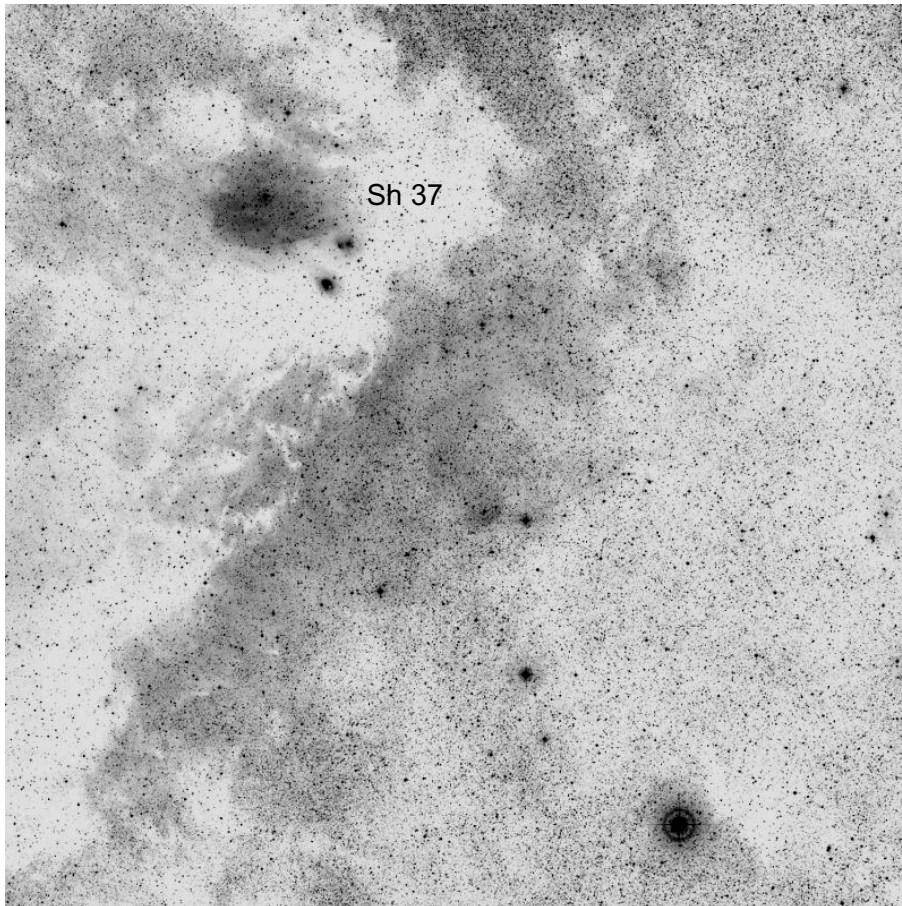
Distance: 1400 pc, Size: 36.7 pc Source: 1982ApJS...49..183B

This large diffuse HII region is near the Sgr OB1 association and the Lagoon nebula.

Observing notes:



Sh 2 - 35 in Sagittarius



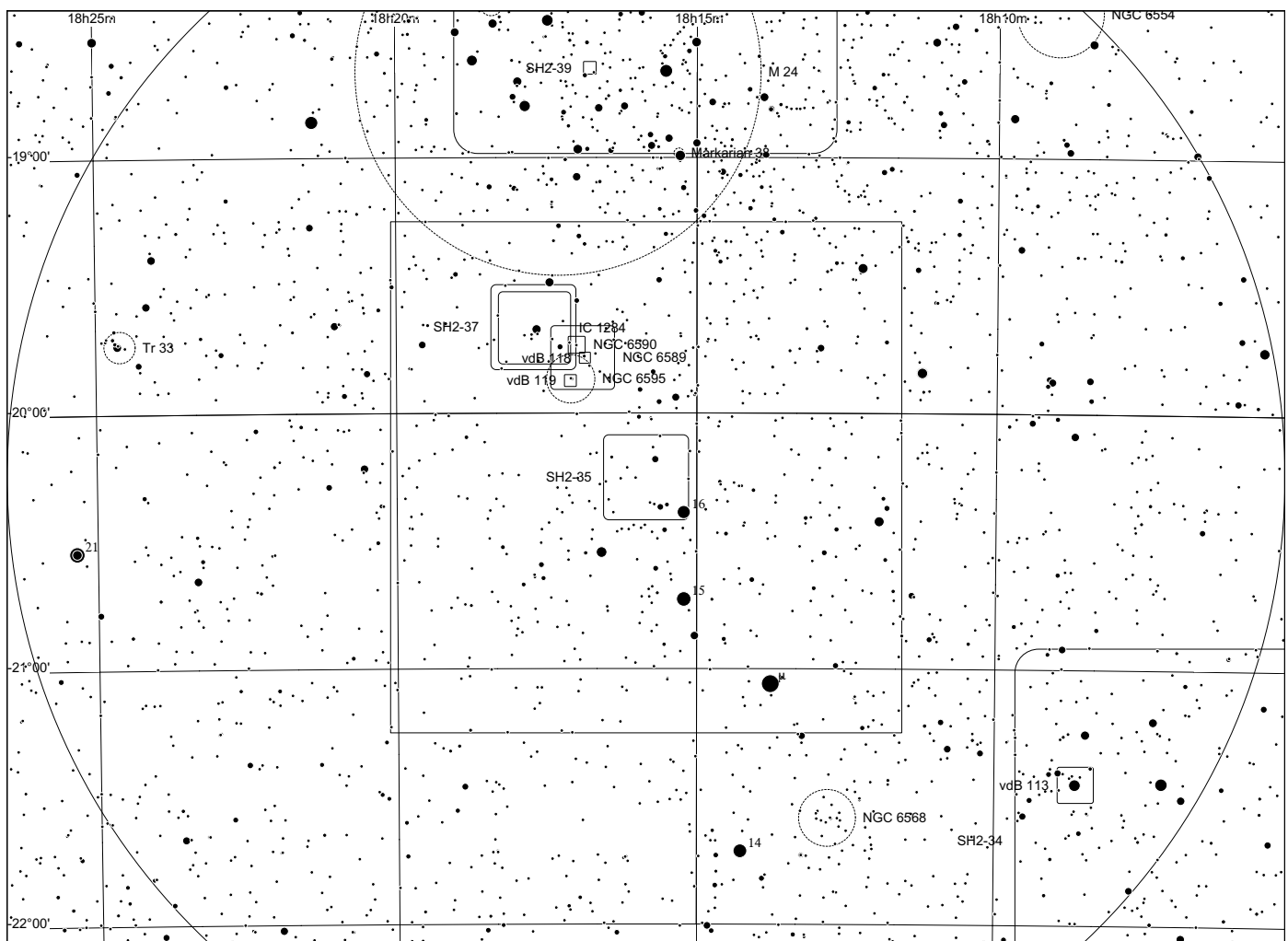
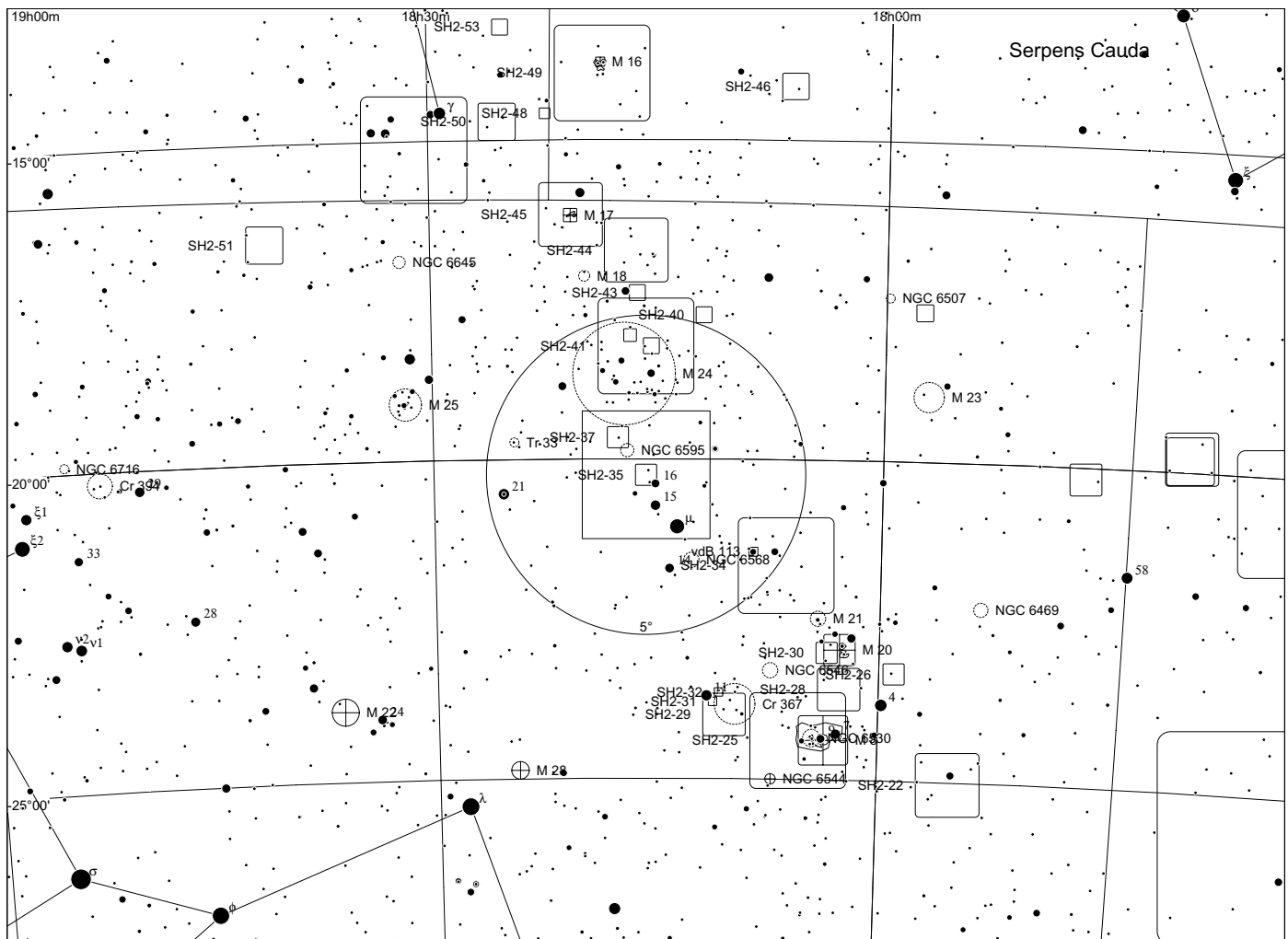
2°x2° red



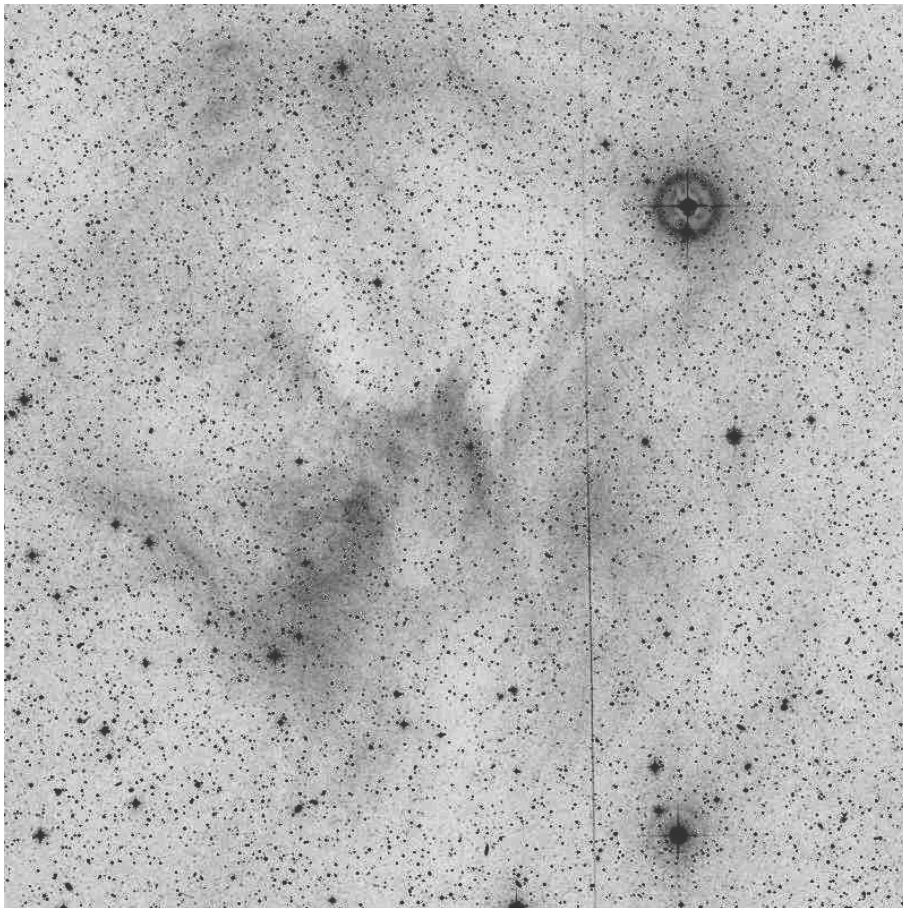
	other name	RA	dec	dia. '	F	S	B
Sh 2-035		18 15 50.3	-20 15 07	20	3	1	2

Distance: 1800 pc, Size: 10.5 pc Source: 1999PASJ...51..819S
Sh 2-35 is part of a 130 thousand solar mass giant molecular cloud.

Observing notes:



Sh 2 - 36
in Serpens
Caput



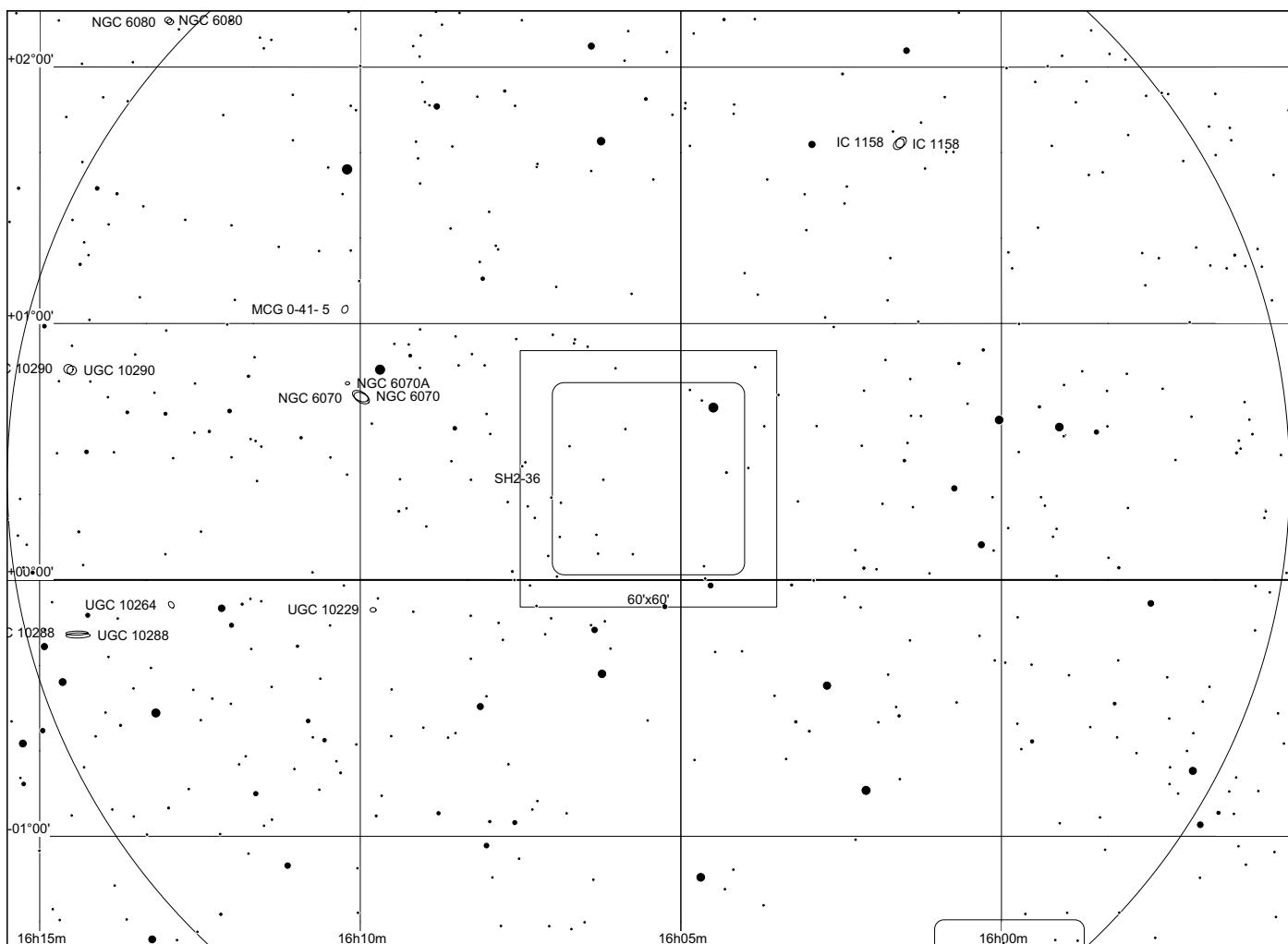
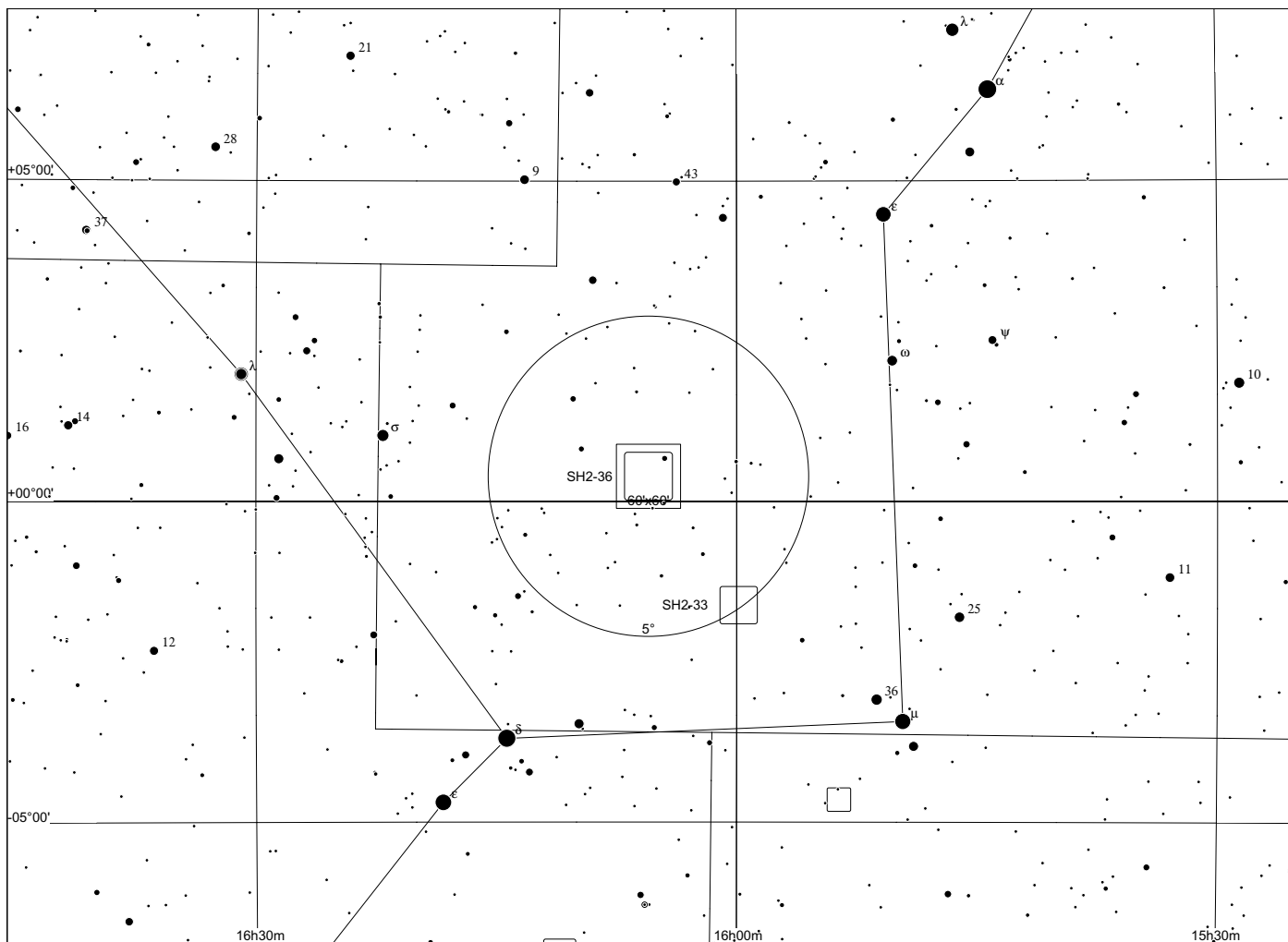
60x60



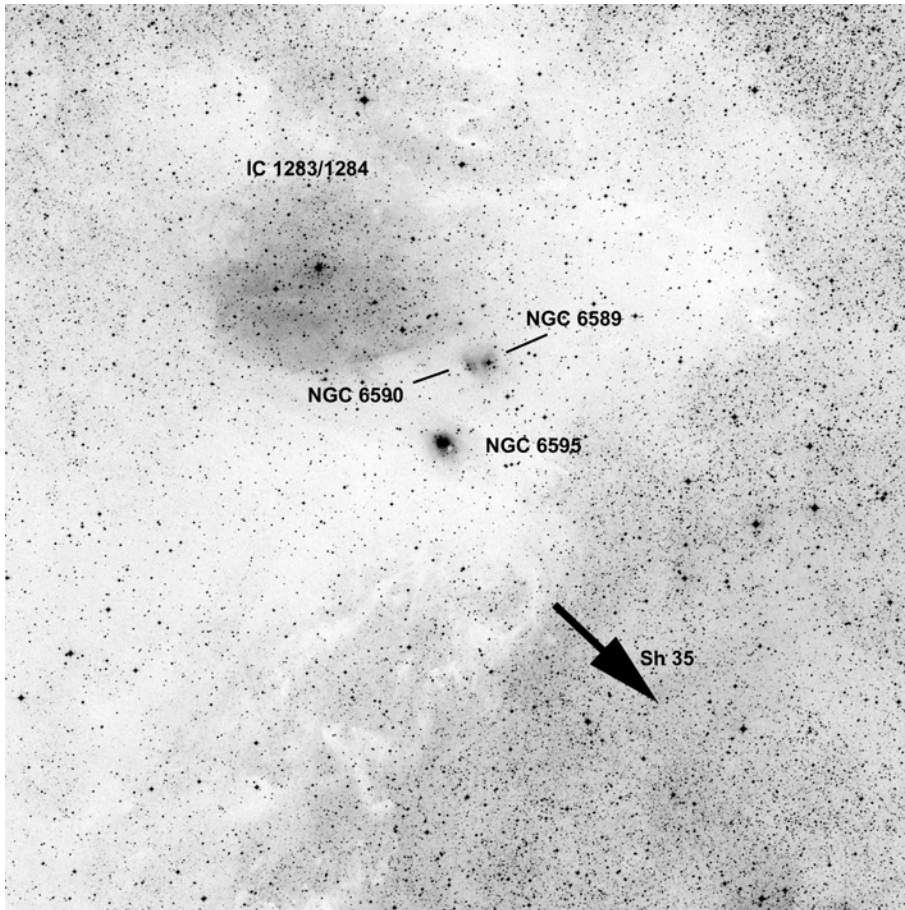
	other name	RA	dec	dia. '	F	S	B
Sh 2-036		16 05 30.3	+00 23 40	45	1	2	1

Distance: 110 pc, Size: 1.4 pc Source: 1995ApJS..101...87L
 The faint rusty red glow of nearby giant molecular cloud MBM 39.

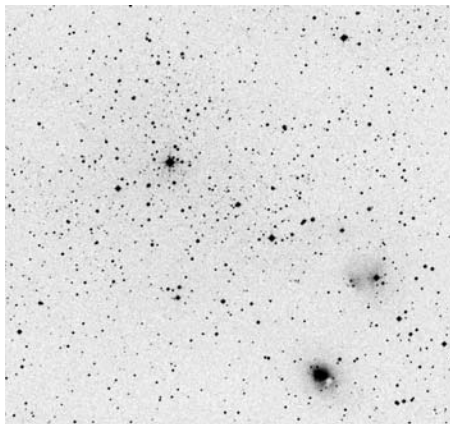
Observing notes:



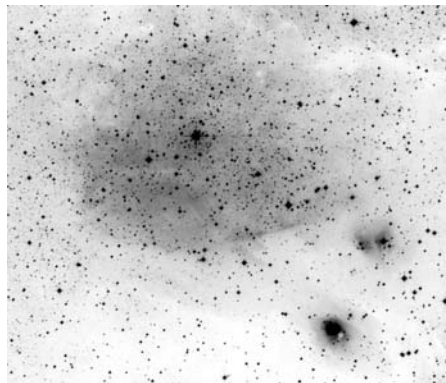
Sh 2 - 37 in Sagittarius



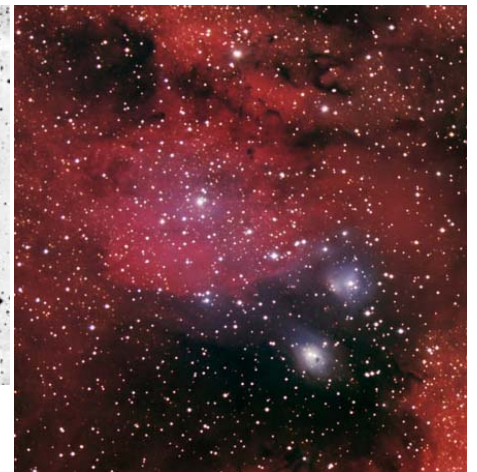
60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-037	IC 1283/1284	18 17 42.6	-19 39 51	20	3	2	2

Distance: 1800 pc, Size: 10.5 pc, Source: [1999PASJ...51..819S](#)

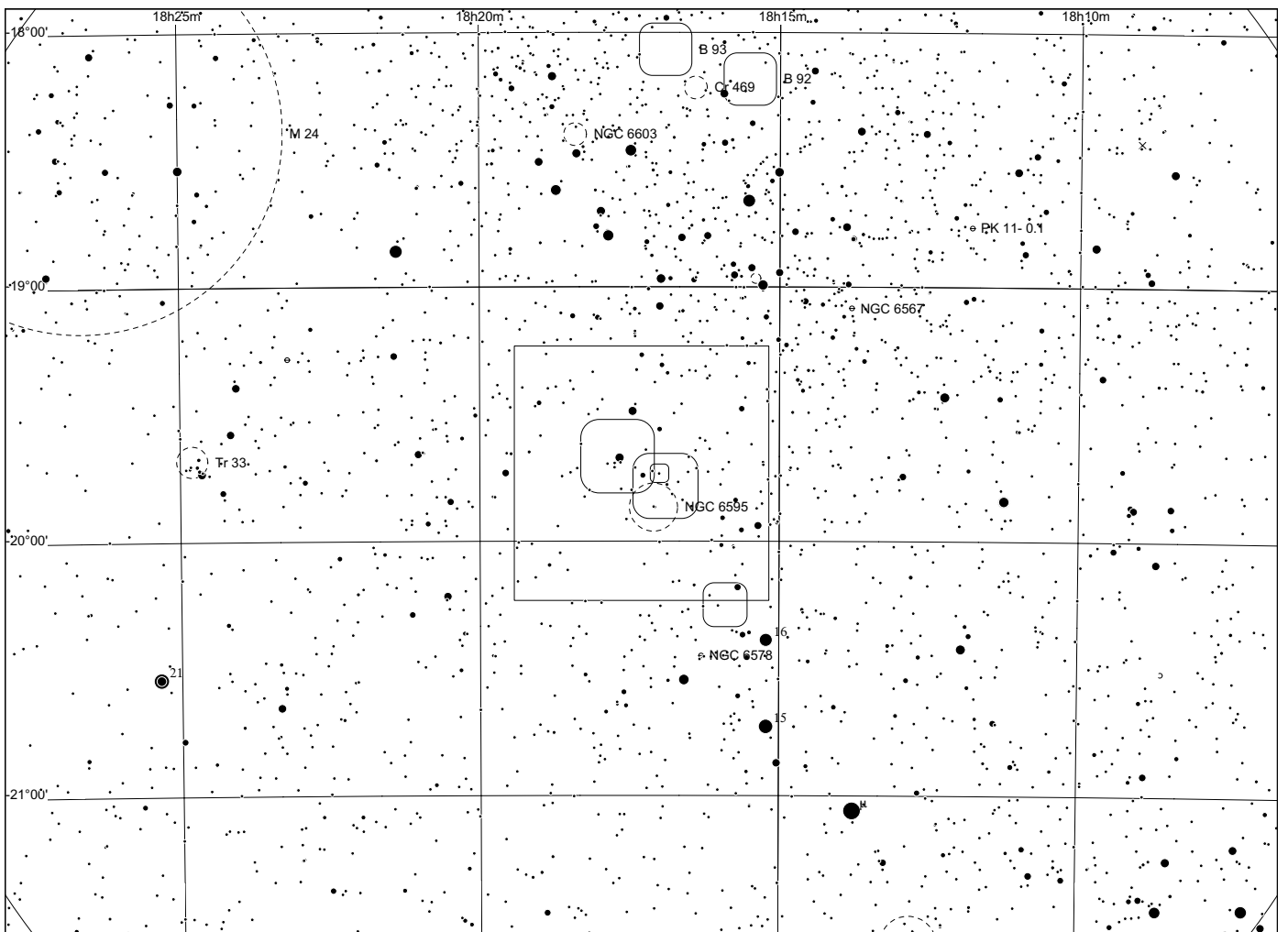
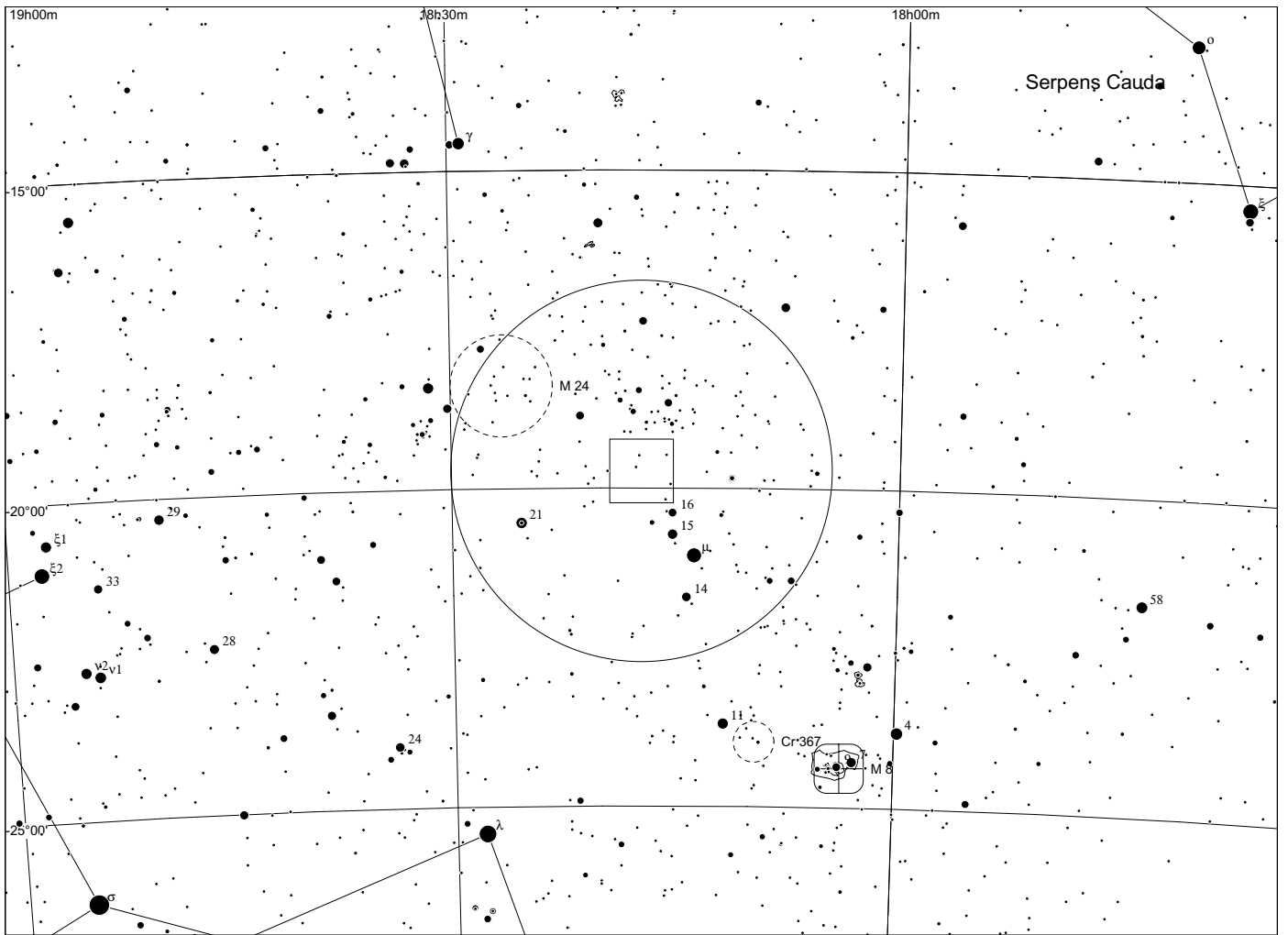
[Sh 2-35](#) and Sh 2-37 are associated with a 130 thousand solar mass giant molecular cloud at a distance of 1800 pc and appear to be part of the Sagittarius OB7 association. Sh 2-37 is visible through a hole in this molecular cloud. This is a very active star formation region.

Sh 2-37 is also known as IC 1283/1284 and the powerful radio source [W34](#). Sharpless notes that this HII region is associated with the bright stars HD 167722 (B5), HD 167815 (B2) and HD 313098 (B5).

Observing notes:

22" f/4.5

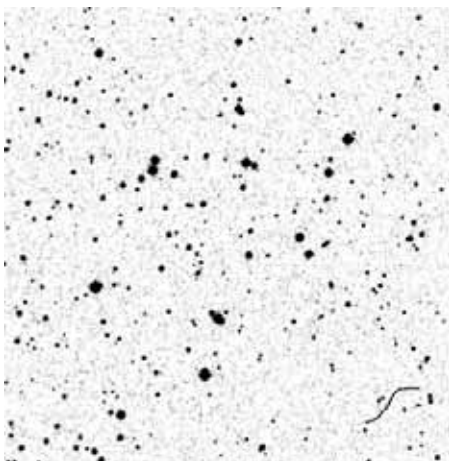
IC 1283, the HII part of this molecular cloud is difficult and was only suspected as a weak glow around a small clump of stars. There are two RN associated with this molecular cloud: NGC6595 is a bright RN around two stars of similar brightness, NGC6589/90 is a somewhat weaker RN around an unequal pair of stars.



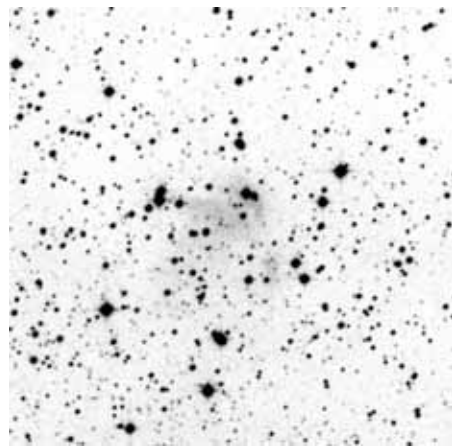
Sh 2 - 38 in Sagittarius



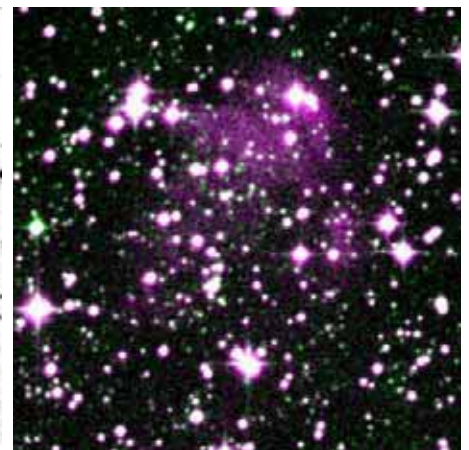
60x60, red



POSS blue



POSS red



composite

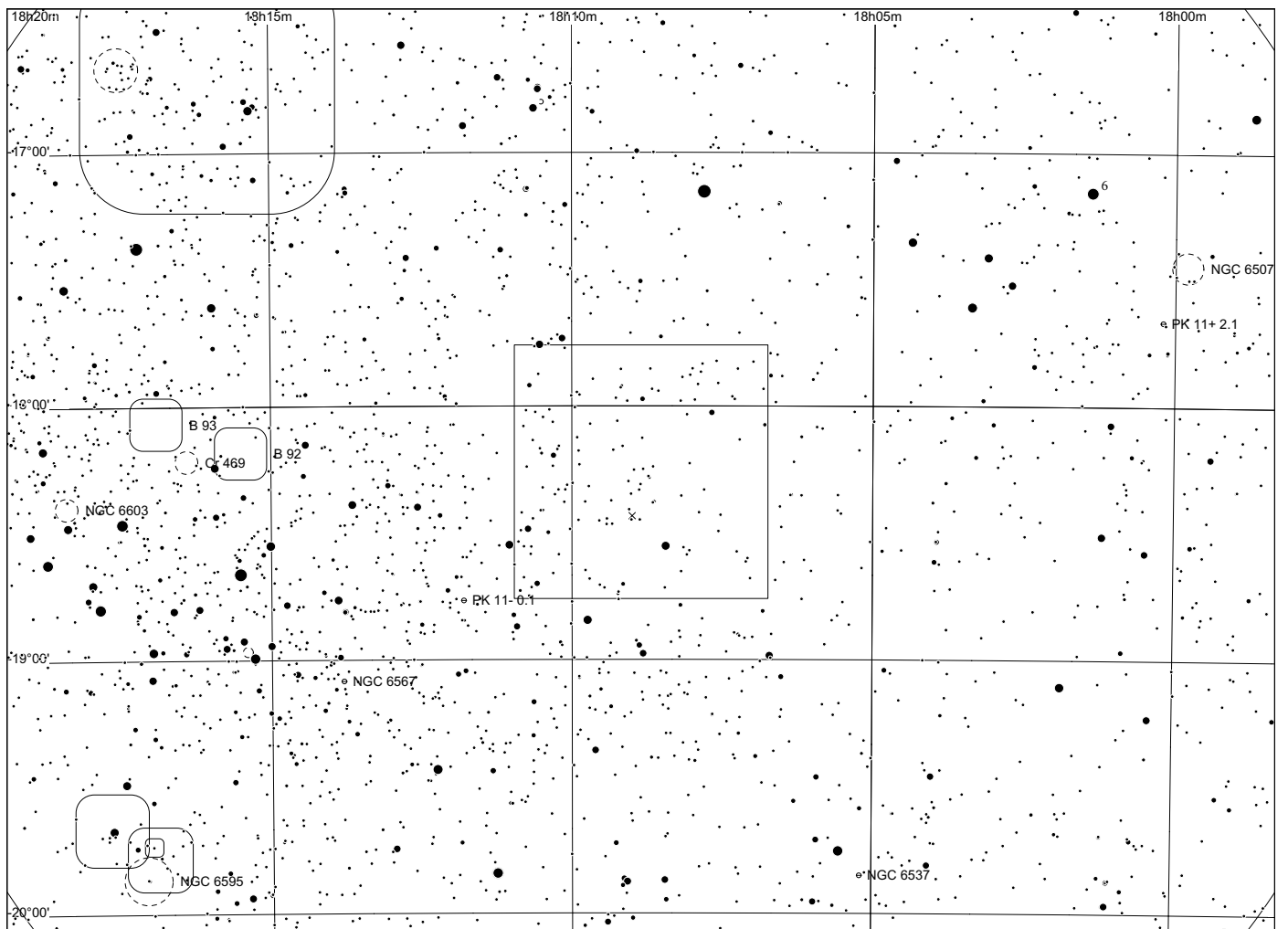
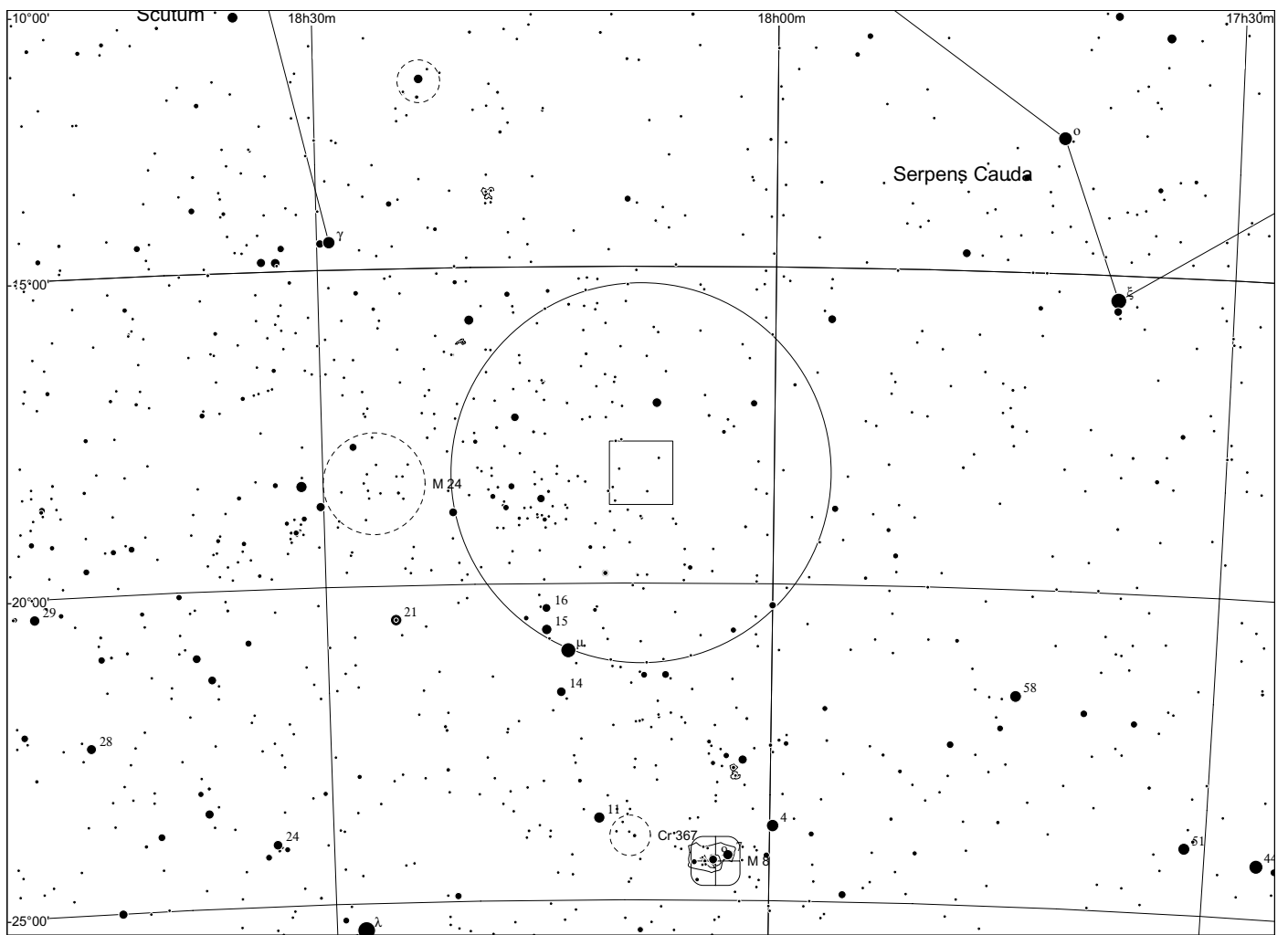
	other name	RA	dec	dia. '	F	S	B
Sh 2-038		18 08 44.8	-18 16 09	3	3	2	1

Distance: 2400 pc, Size: 2.1 pc, Source: [2003A&A...397..133R](#)

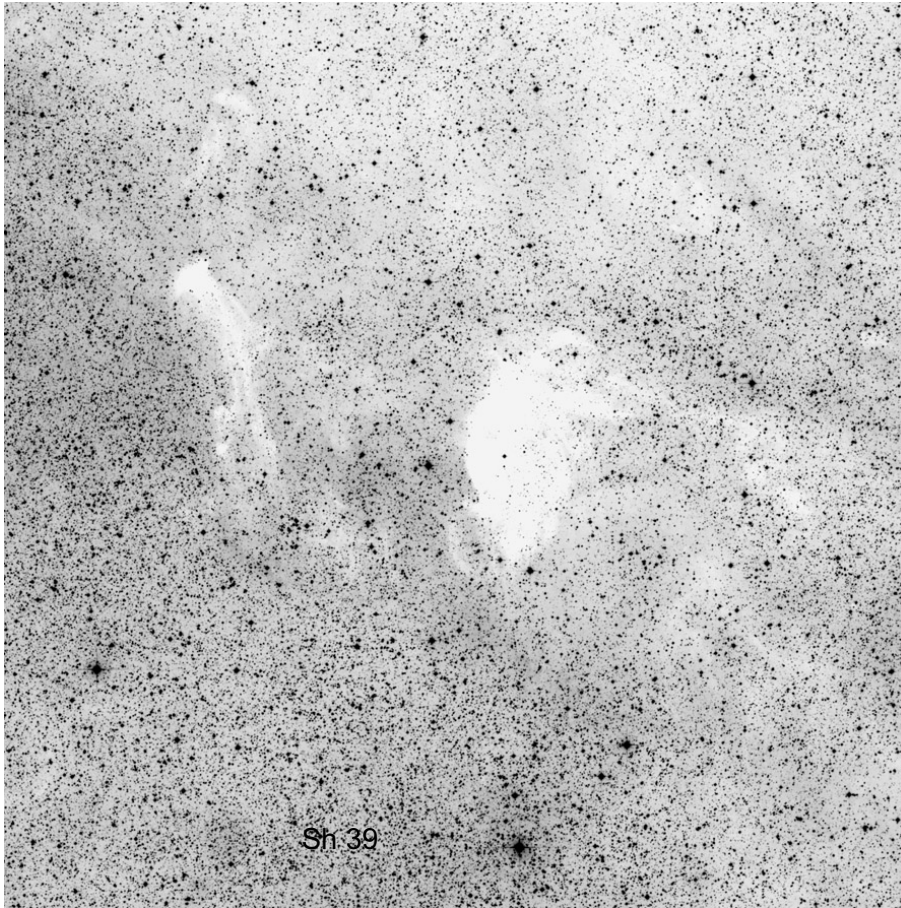
This appears to be the same as the reflection nebula VdB 114 surrounding the B8/B9Ib star HD 165811. It shows a strong (if small) image in hydrogen-alpha, however, so perhaps there is both emission and reflection in this little nebula.

Sh 2-38, Sh 2-40, Sh-41 and Sh 2-42 all appear to be embedded in the Sagittarius OB4 association.

Observing notes:



**Sh 2 - 39/41
in Sagittarius**

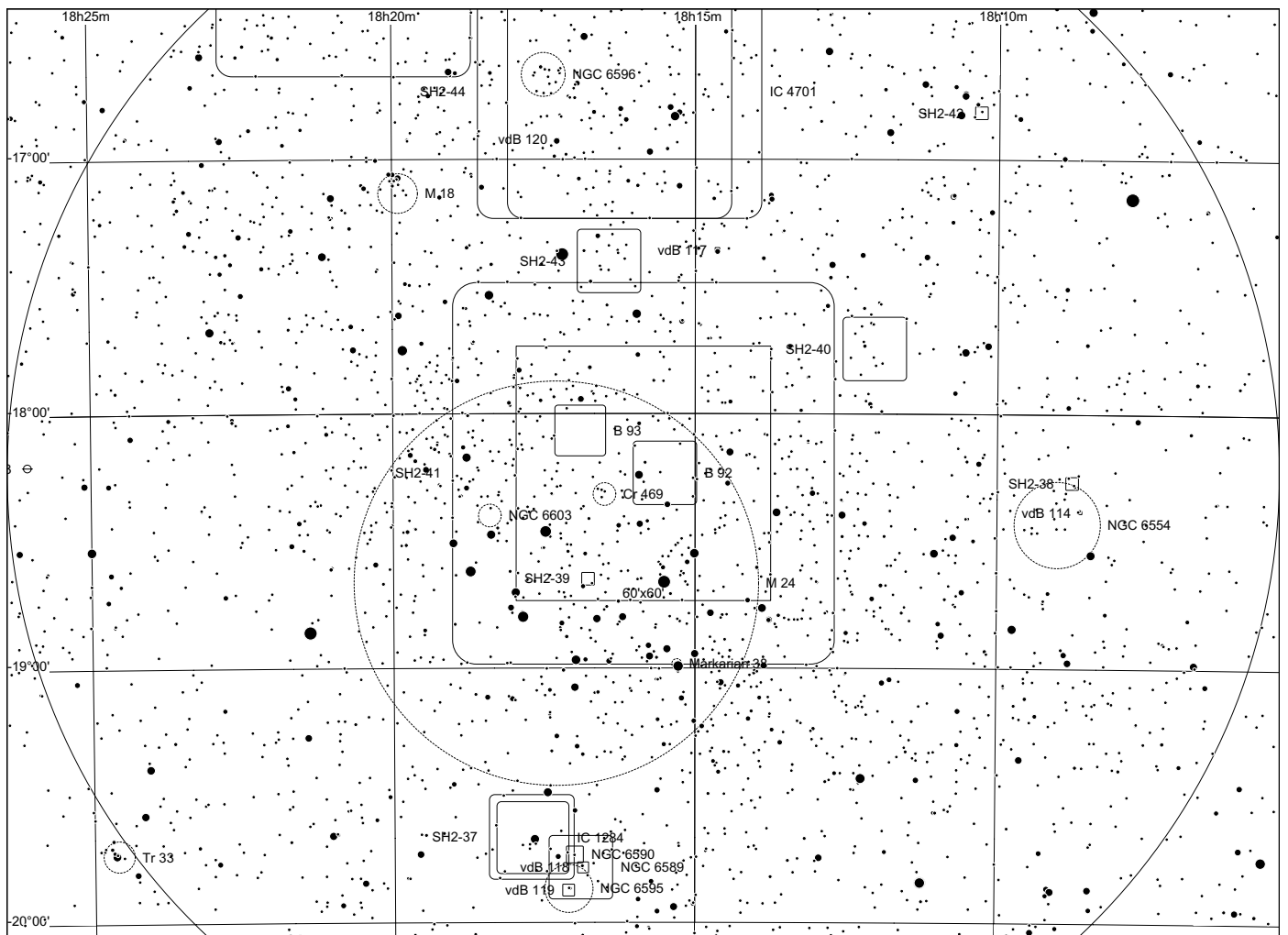
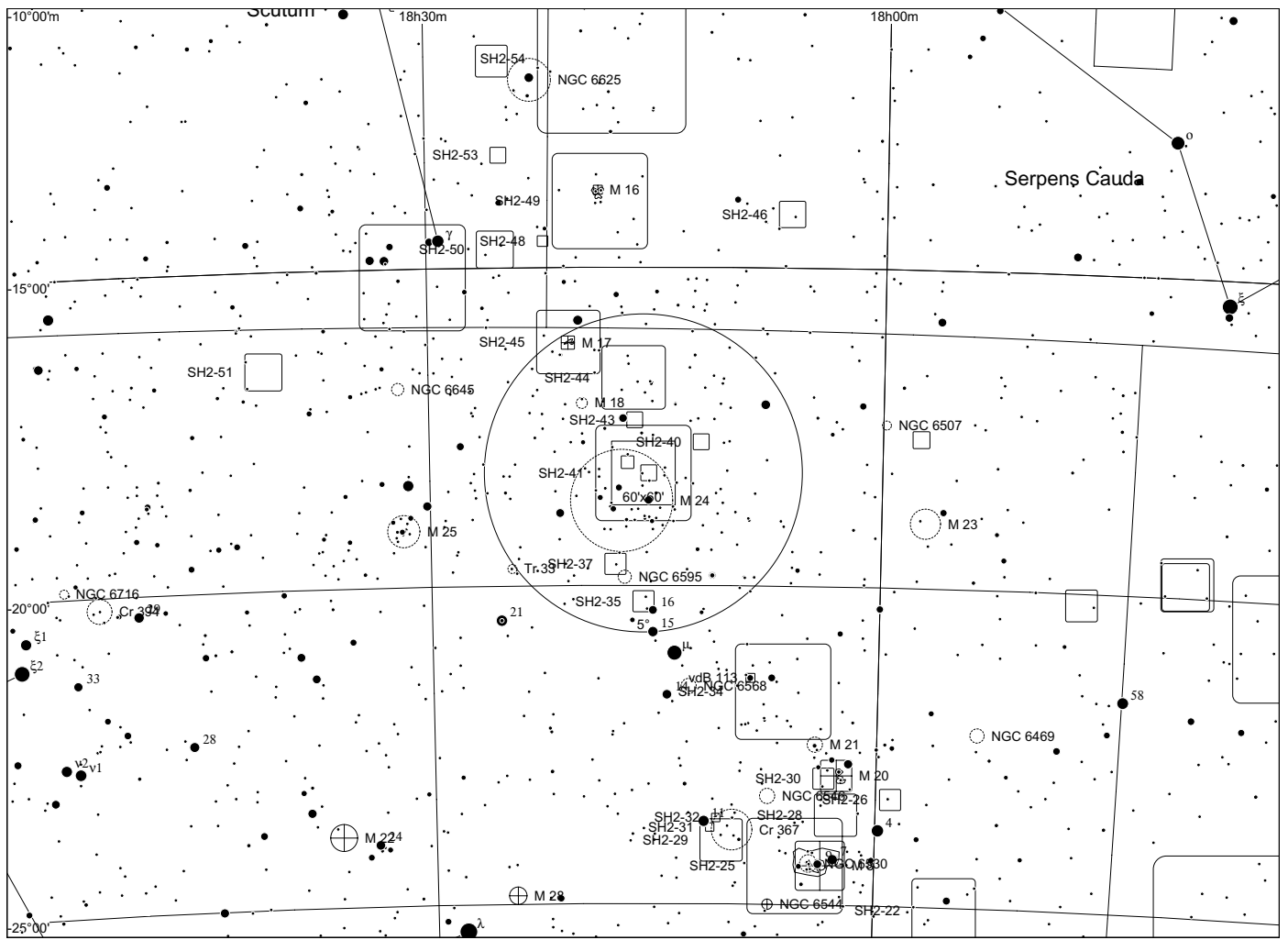


60x60, red

	other name	RA	dec	dia. '	F	S	B
Sh 2-039		18 16 46.2	-18 38 59	3	3	1	2
Sh 2-041		18 15 50.7	-18 14 07	90	3	2	2

Distance: 2200 pc, Size: 57.6 pc Source: 1982ApJS...49..183B
This seems to be in front of the star formation region W33.

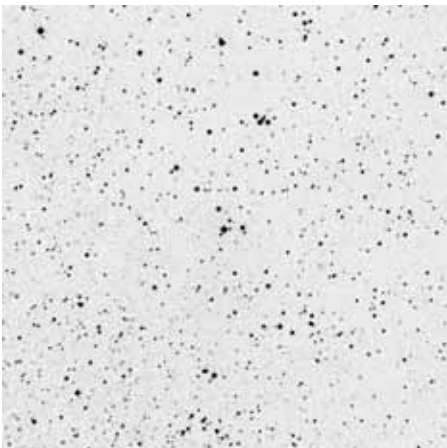
Observing notes:



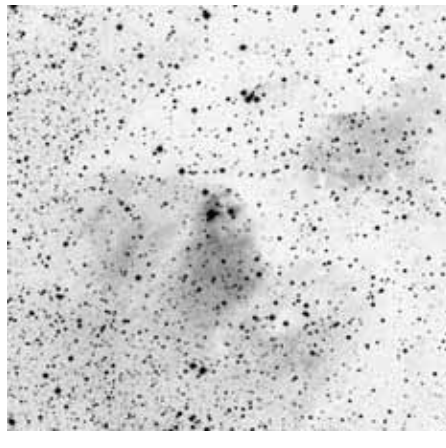
Sh 2 - 40 in Sagittarius



60x60, red



POSS blue



POSS red



composite

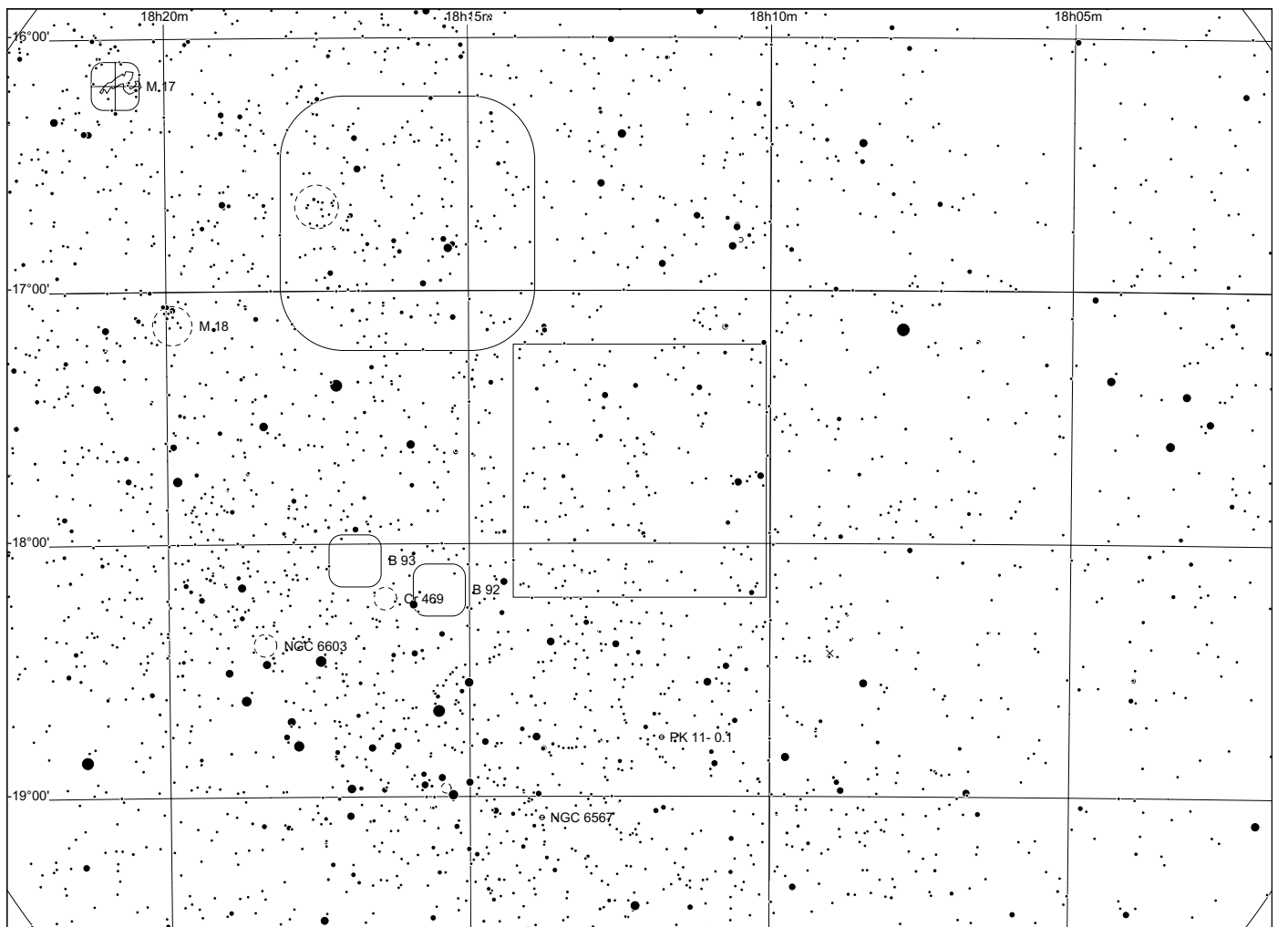
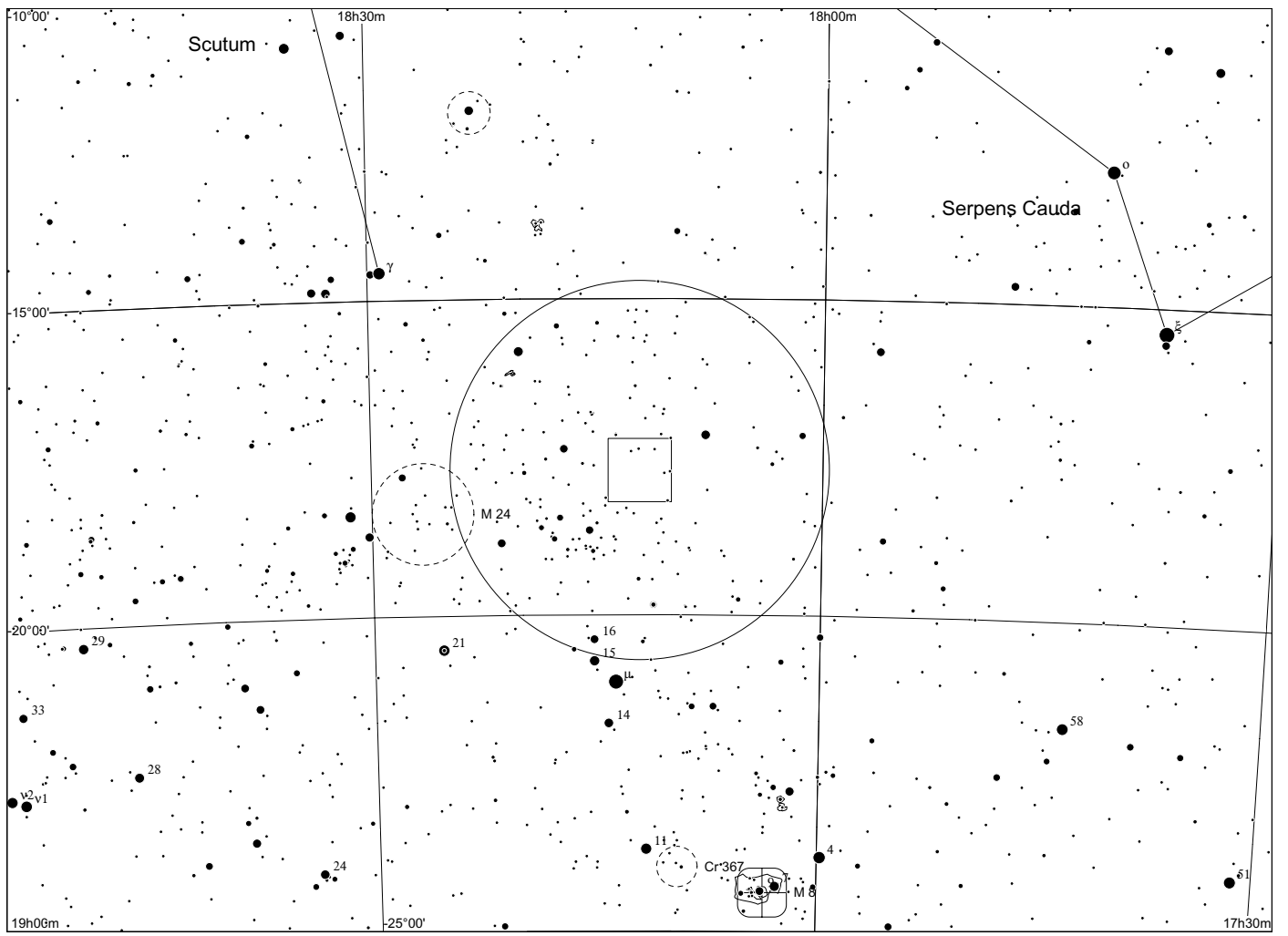
	other name	RA	dec	dia. '	F	S	B
Sh 2-040		18 12 02.1	-17 44 41	15	3	2	2

Distance: 2400 pc, Size: 10.5 pc, Source: [2003A&A...397..133R](#)

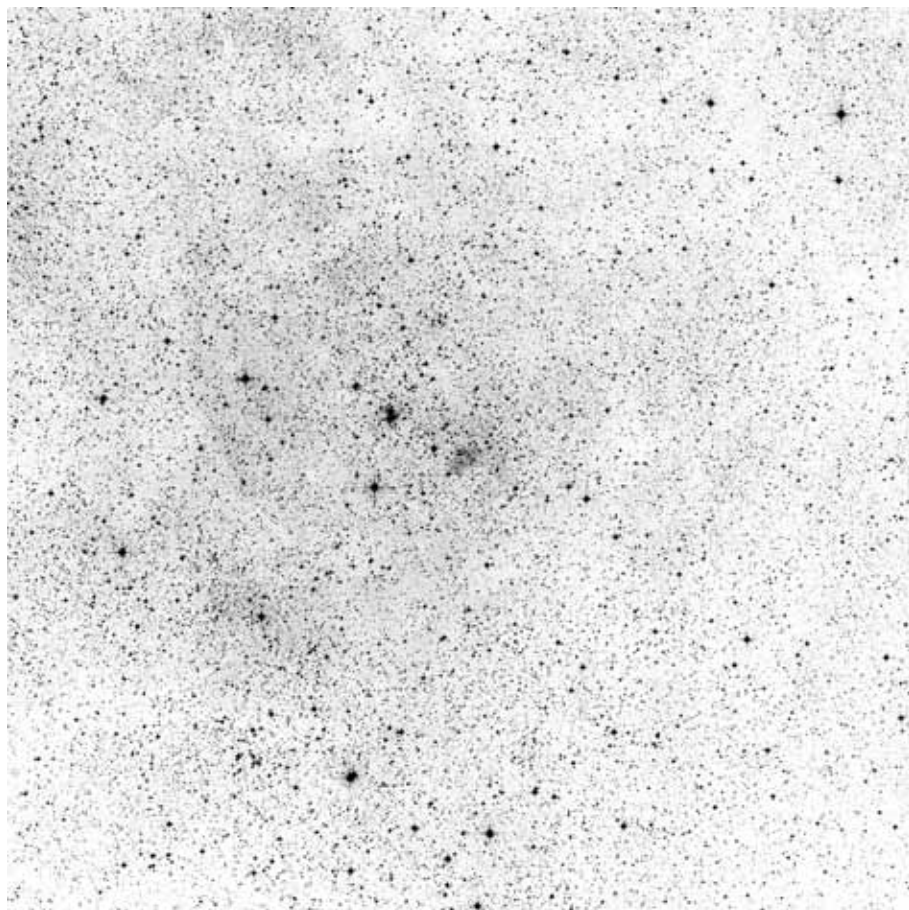
A look at this region in hydrogen-alpha shows that Sh 2-40 appears to be several bright knots of nebulosity extending north from the much larger nebula [Sh 2-41](#). Sh 2-40 lies in the same direction as the powerful radio source [W33](#), but [the distance estimate for W33 is about 4000 pc](#). So there seem to be two objects here in the same field of view, one visible only at radio frequencies.

Sh 2-38, Sh 2-40, Sh-41 and Sh 2-42 all appear to be embedded in the Sagittarius OB4 association. The massive protostellar object IRAS 18089-1732 is in the same area of sky but is located at a distance of 3600 pc.

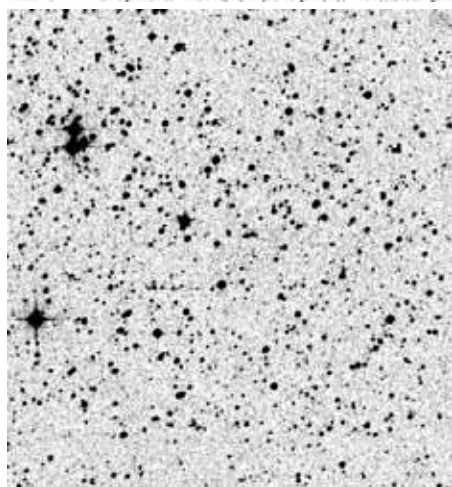
Observing notes:



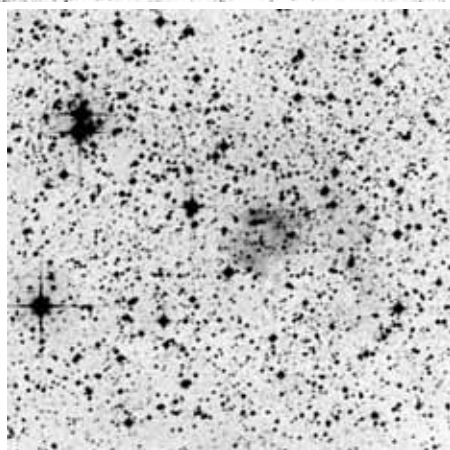
Sh 2 - 42 in Sagittarius



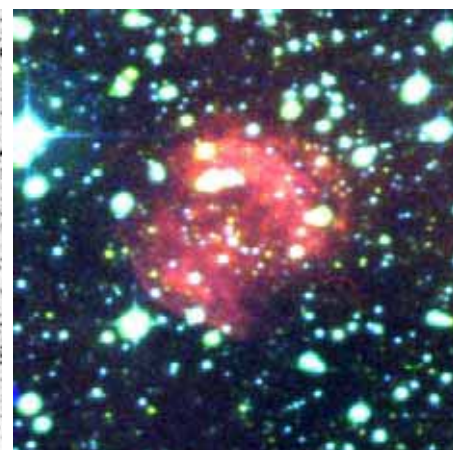
60x60, red



POSS blue



POSS red



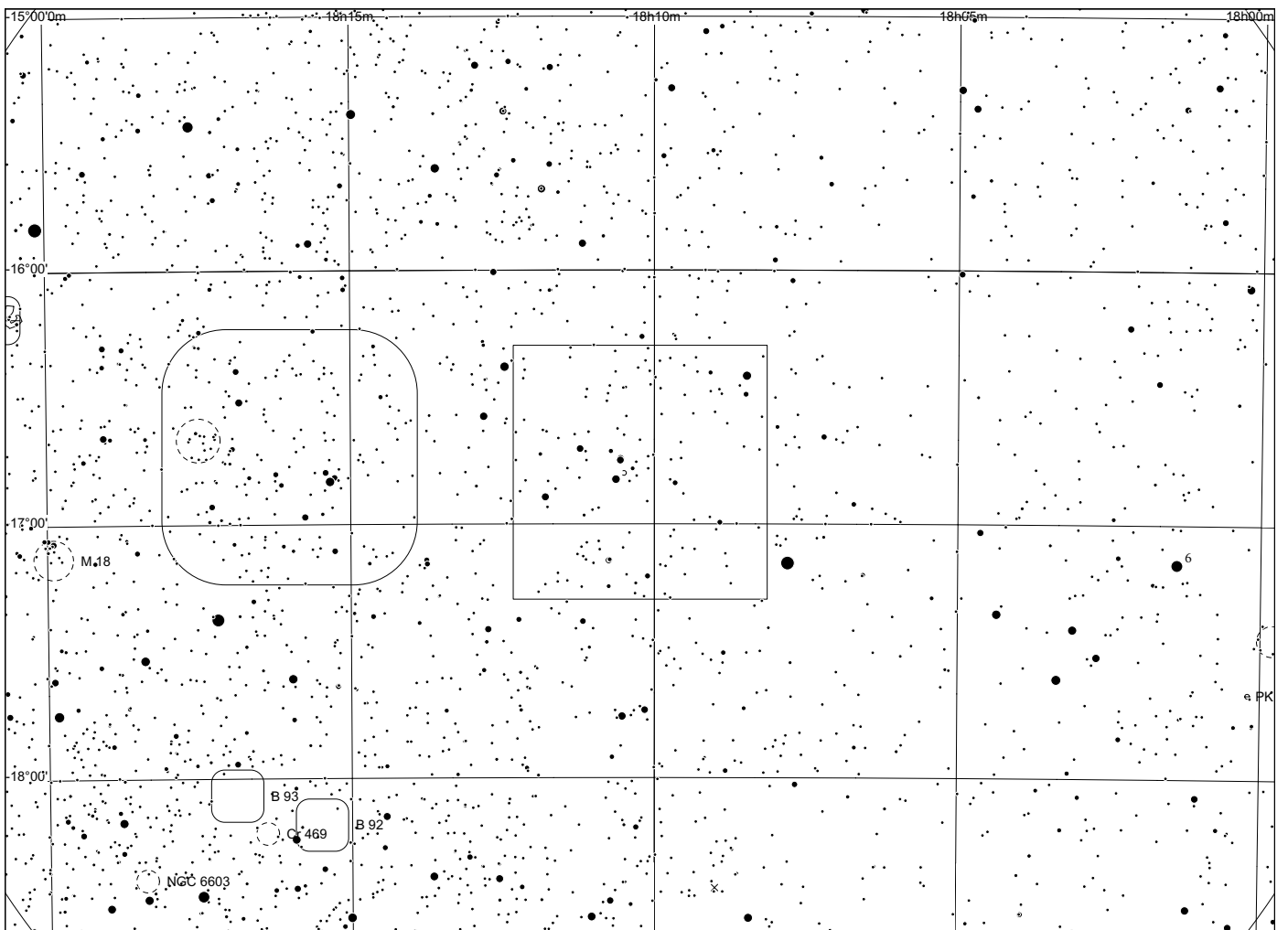
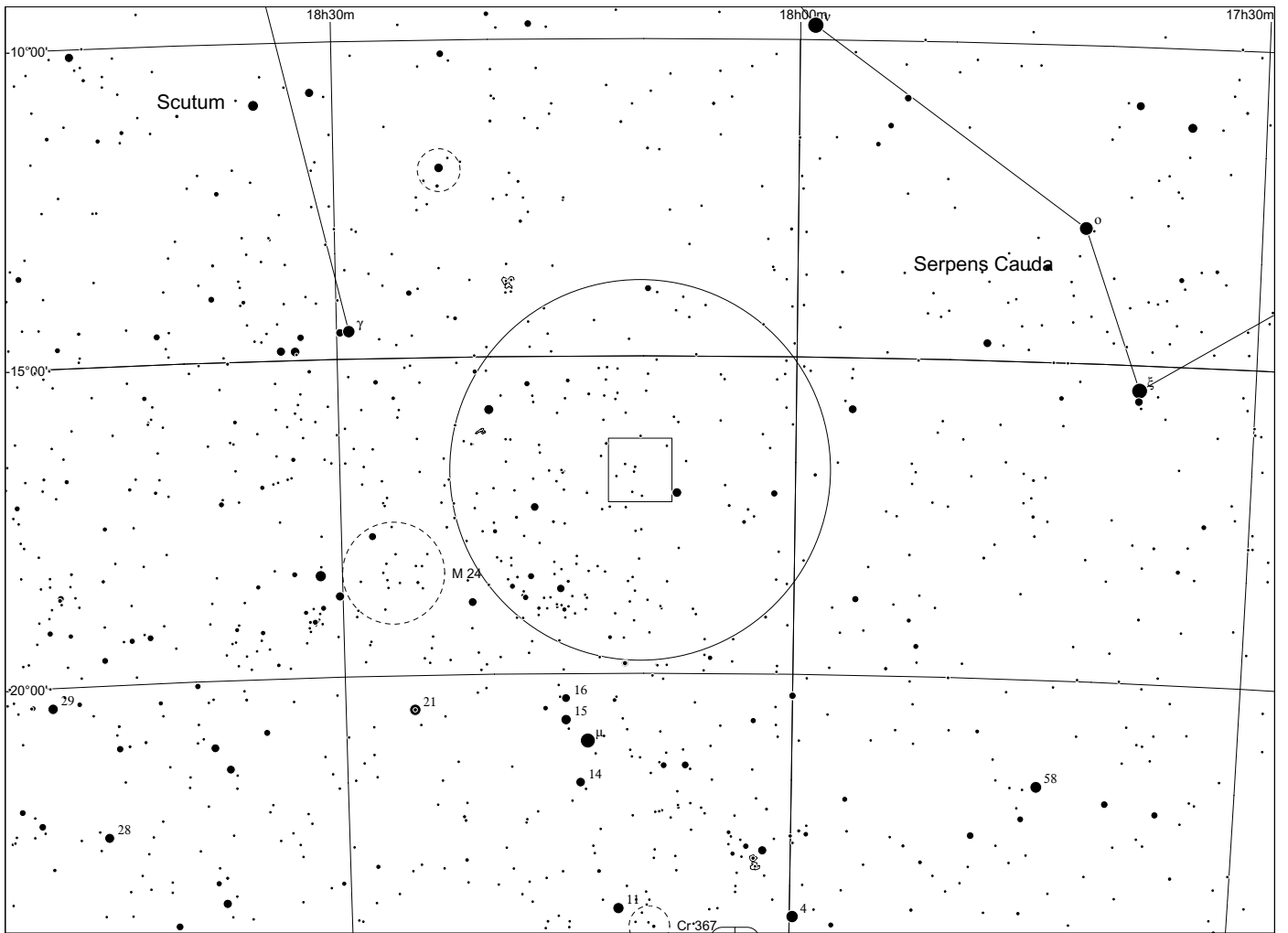
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-042		18 10 16.9	-16 48 55	3	3	1	2

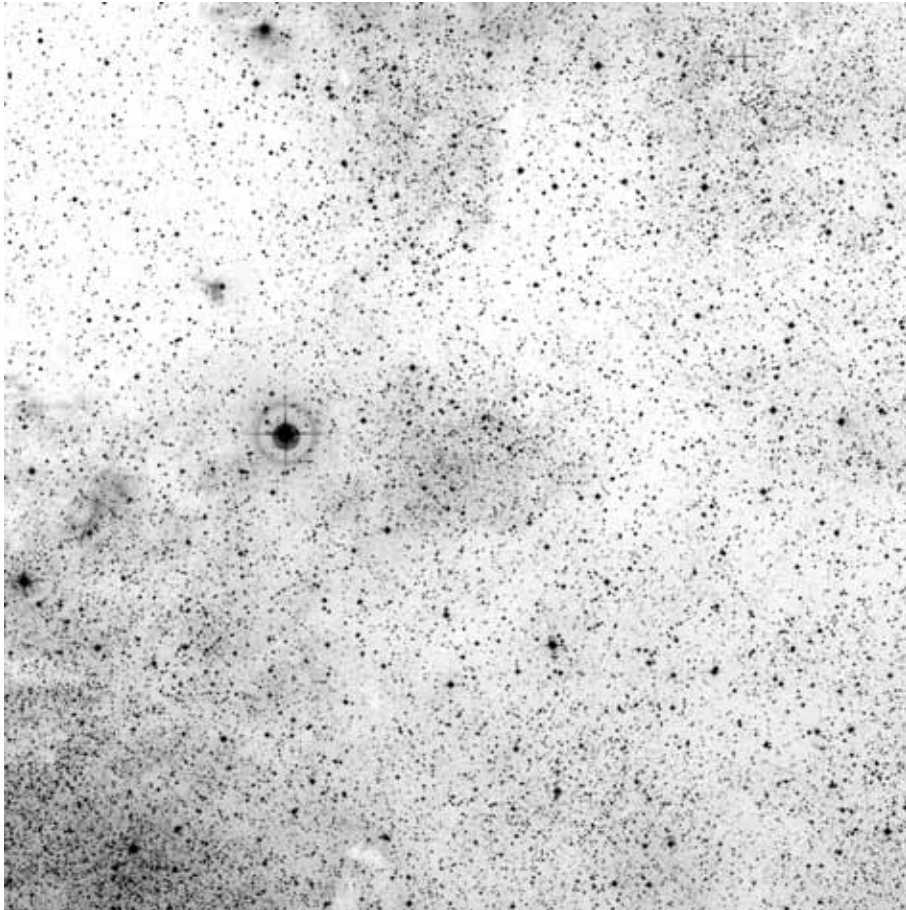
Distance: 2400 pc, Size: 2.1 pc, Source: [2003A&A...397..133R](#)

Sh 2-42 is believed to be the planetary nebula [PN G013.3+01.1](#).

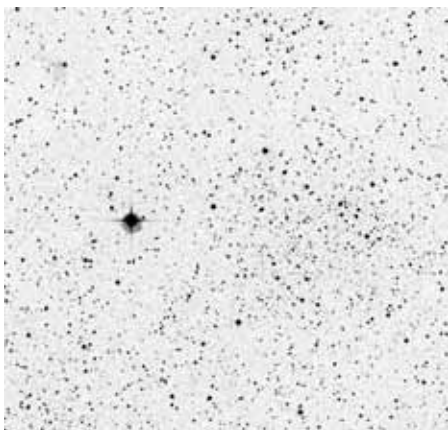
Observing notes:



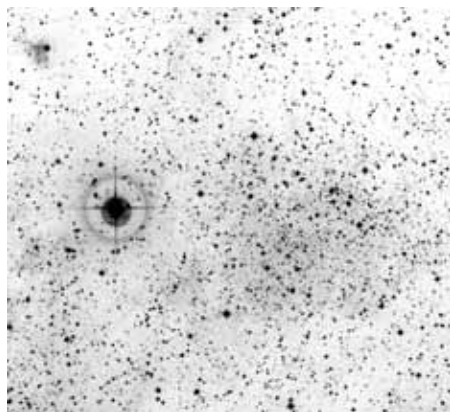
Sh 2 - 43 in Sagittarius



60x60, red



POSS blue



POSS red



composite

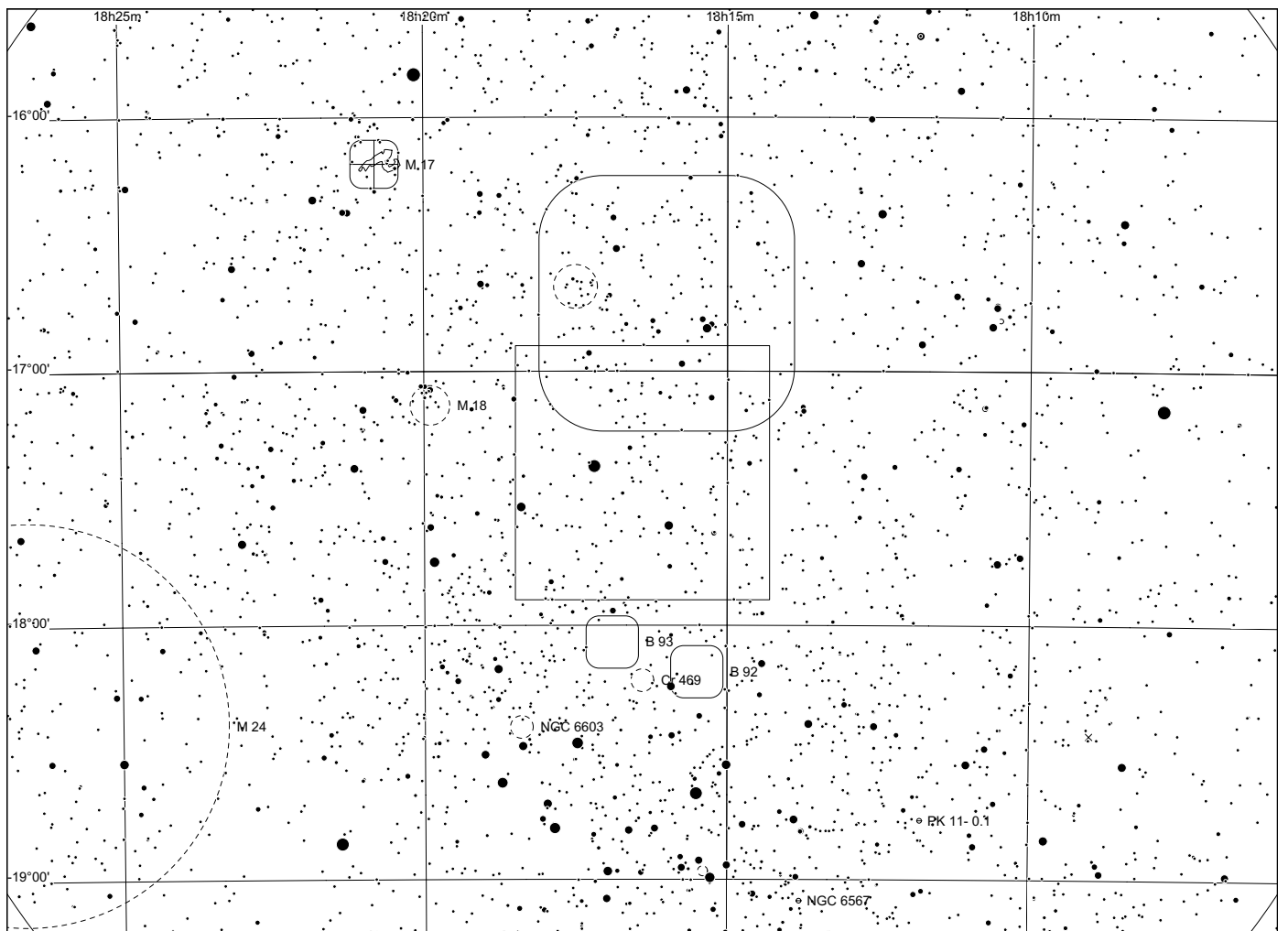
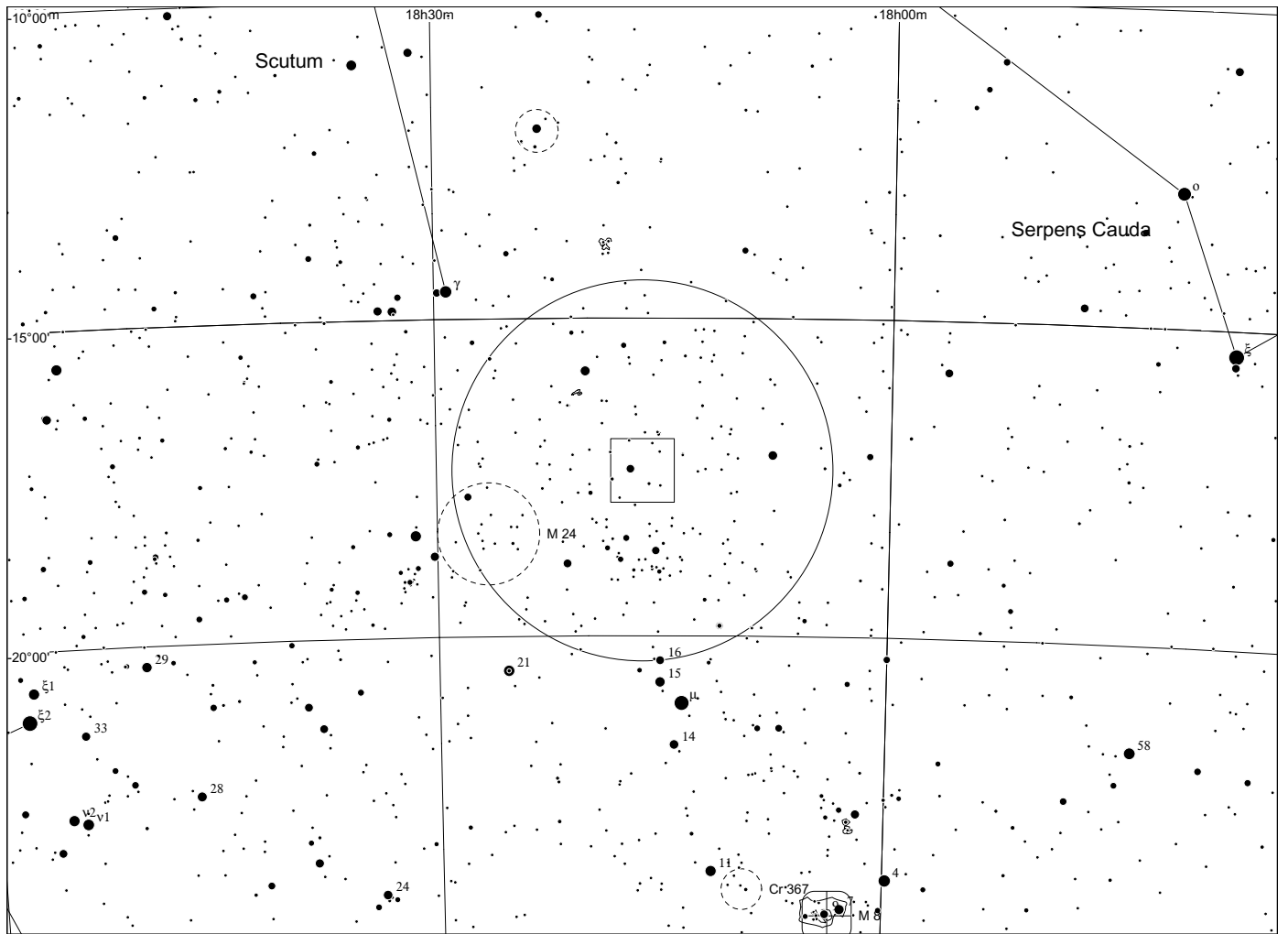
	other name	RA	dec	dia. '	F	S	B
Sh 2-043		18 16 24.6	-17 24 02	15	2	1	2

Distance: 1600 pc, Size: 7.0 pc, Source: [2003A&A...397..133R](#)

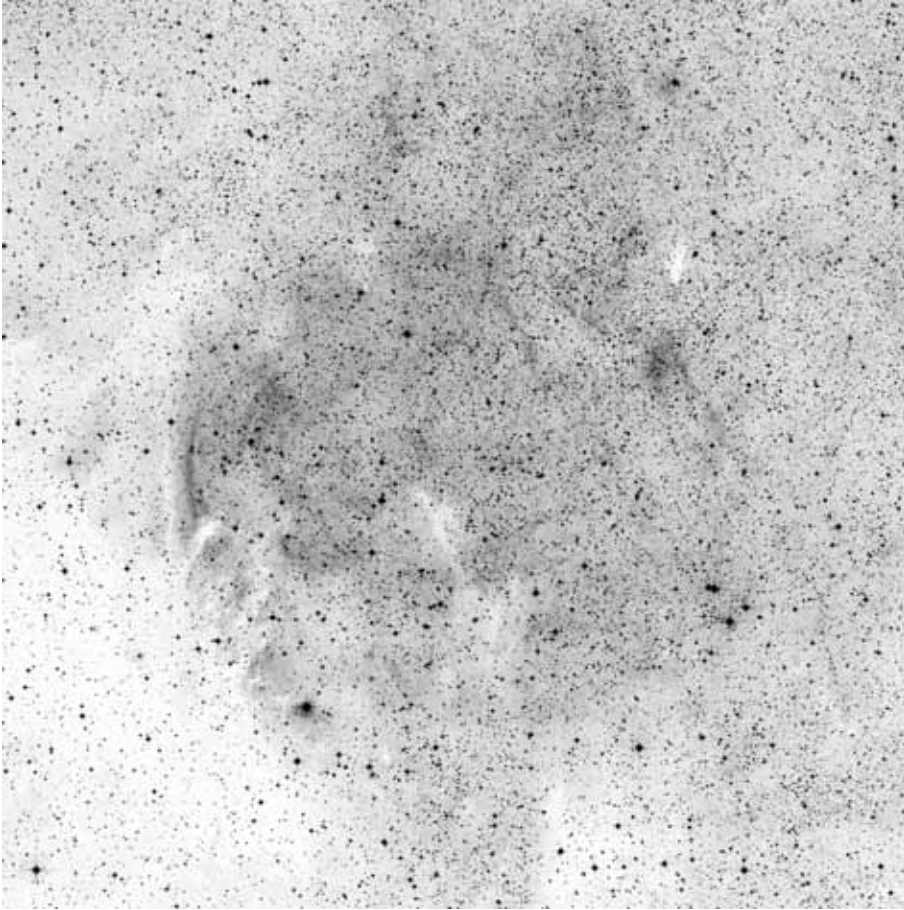
This faint diffuse nebula is in the same location as the suspected supernova remnant GAL 013.1-00.5 and appears to be located in an empty region bordered by the OB regions SGR OB1, SGR OB7 and SCT OB3.

There is a 0.3 degree difference between the positions of RCW 156 and Sh 2-43. Sharpless gives the diameter of Sh 2-43 as 15 minutes = 0.25 degrees. RCW gives the diameter of RCW 156 as 50x50 minutes. These objects **may** not be part of the same nebula, but they are clearly very close in the sky.

Observing notes:



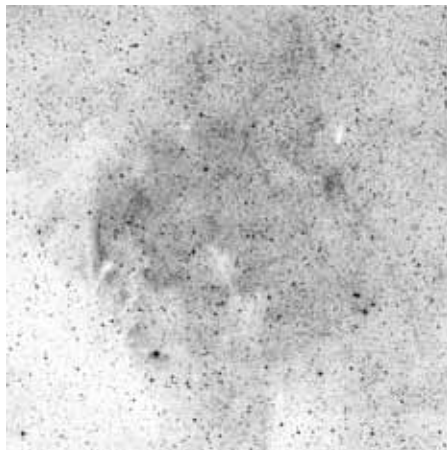
Sh 2 - 44 in Sagittarius



60x60, red



POSS blue



POSS red



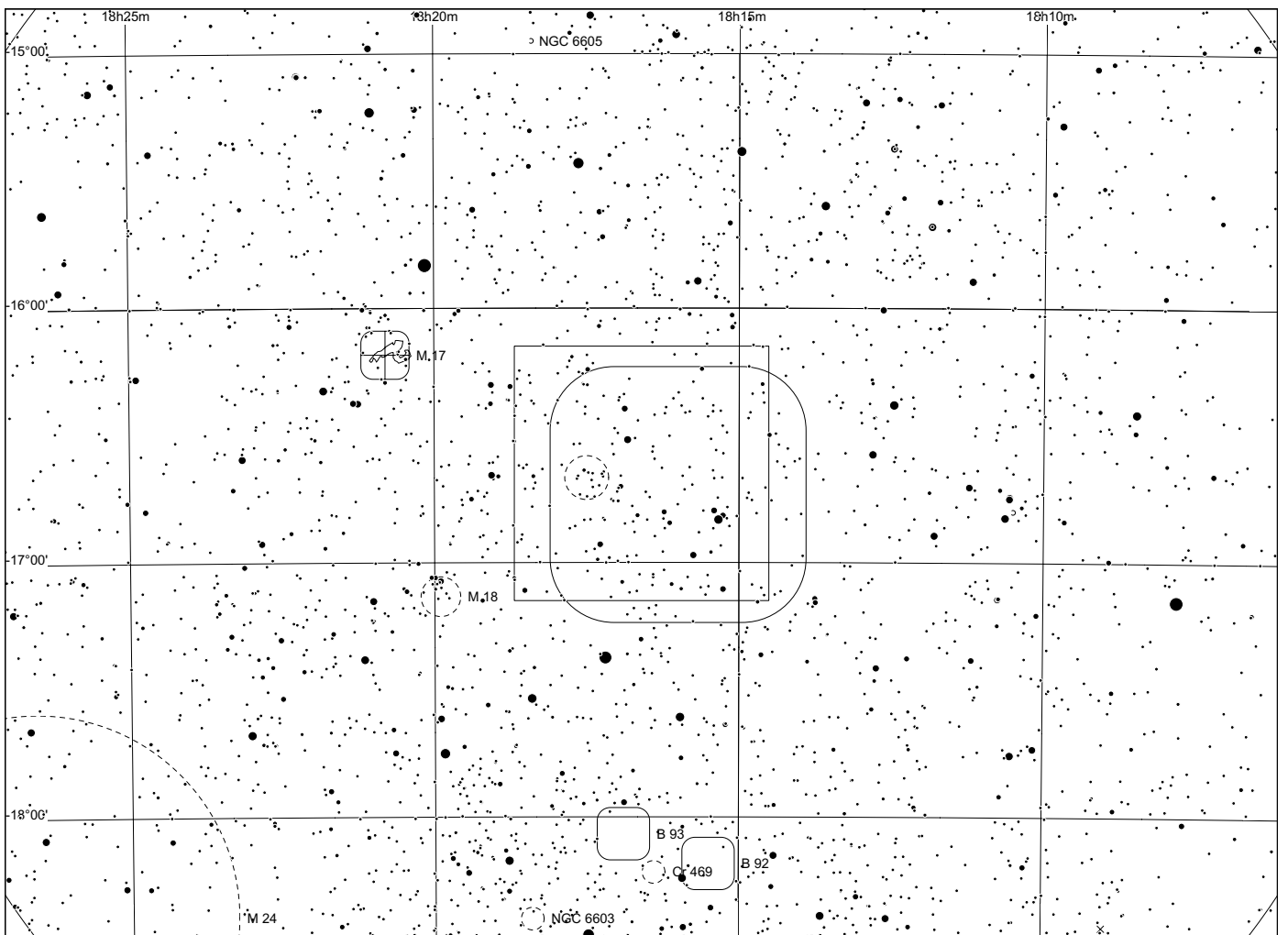
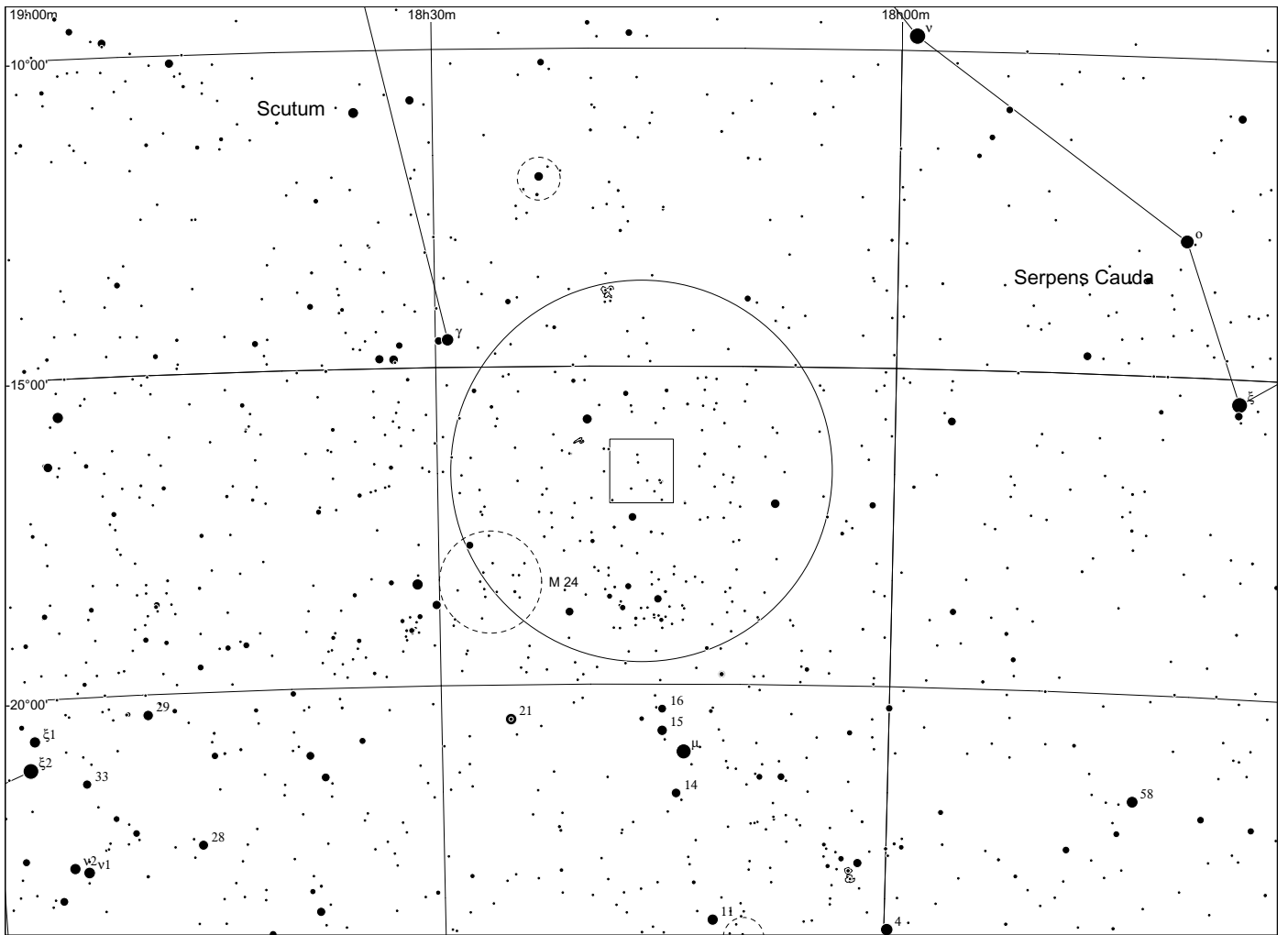
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-044	IC 4701	18 16 28.8	-16 44 01	60	3	2	2

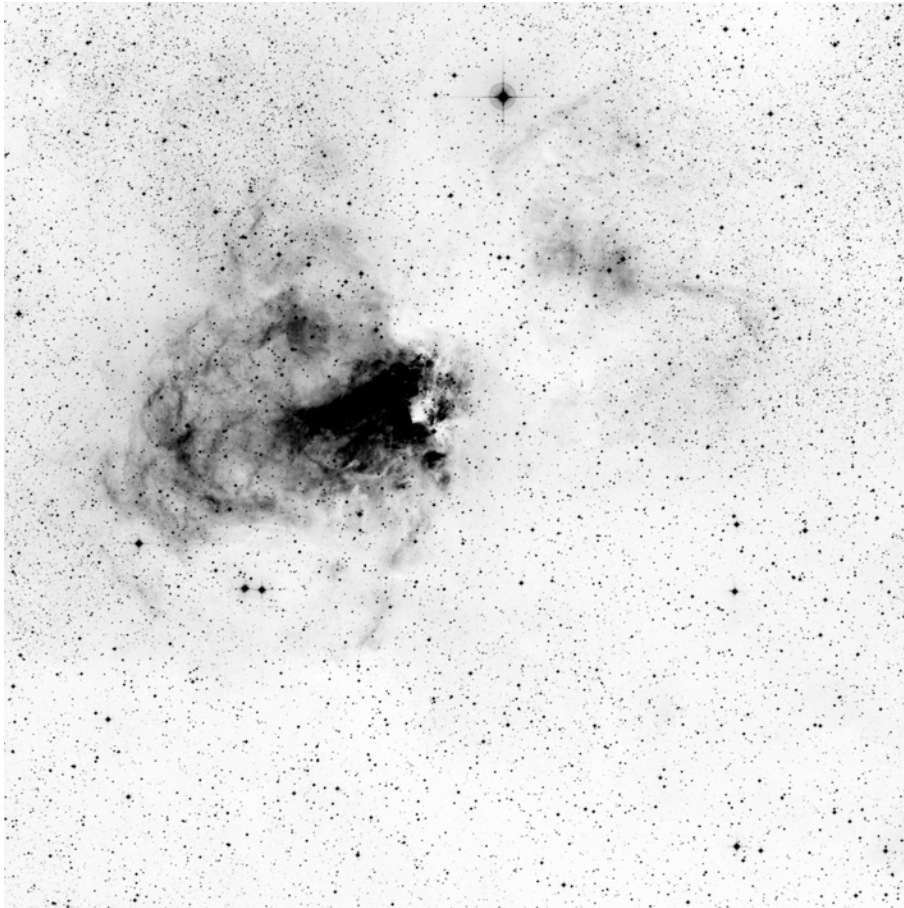
Distance: 3610 pc, Size: 4.7 pc, Source: [2003A&A...397..213P](#)

This nebula is connected to the Oe star [HD 167633](#) (which Humphreys connects to the Serpens OB1 association) and may be part of the [Scutum supershell](#) in the inner galaxy.

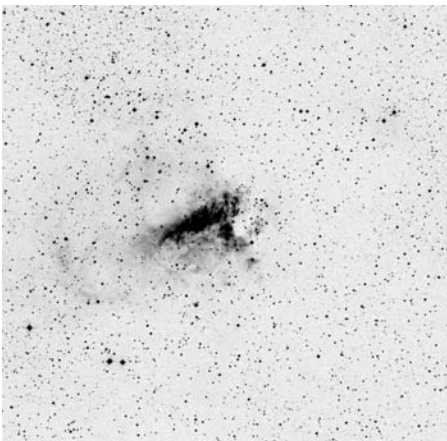
Observing notes:



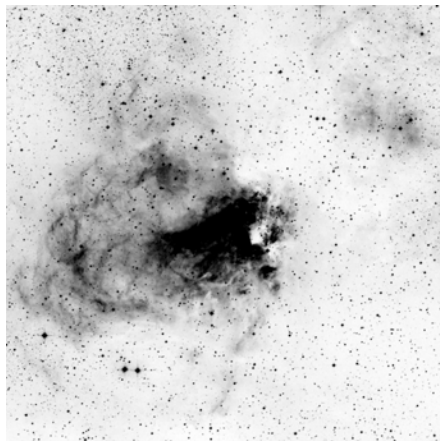
Sh 2 - 45 in Sagittarius



60x60, red



POSS blue



POSS red



narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-045	M17 = NGC6618 = Swan Nebula	18 20 46.0	-16 10 24	60	3	3	3

Distance: 2095 pc, Size: 3.7 pc, Source: [2003A&A...397..213P](#)

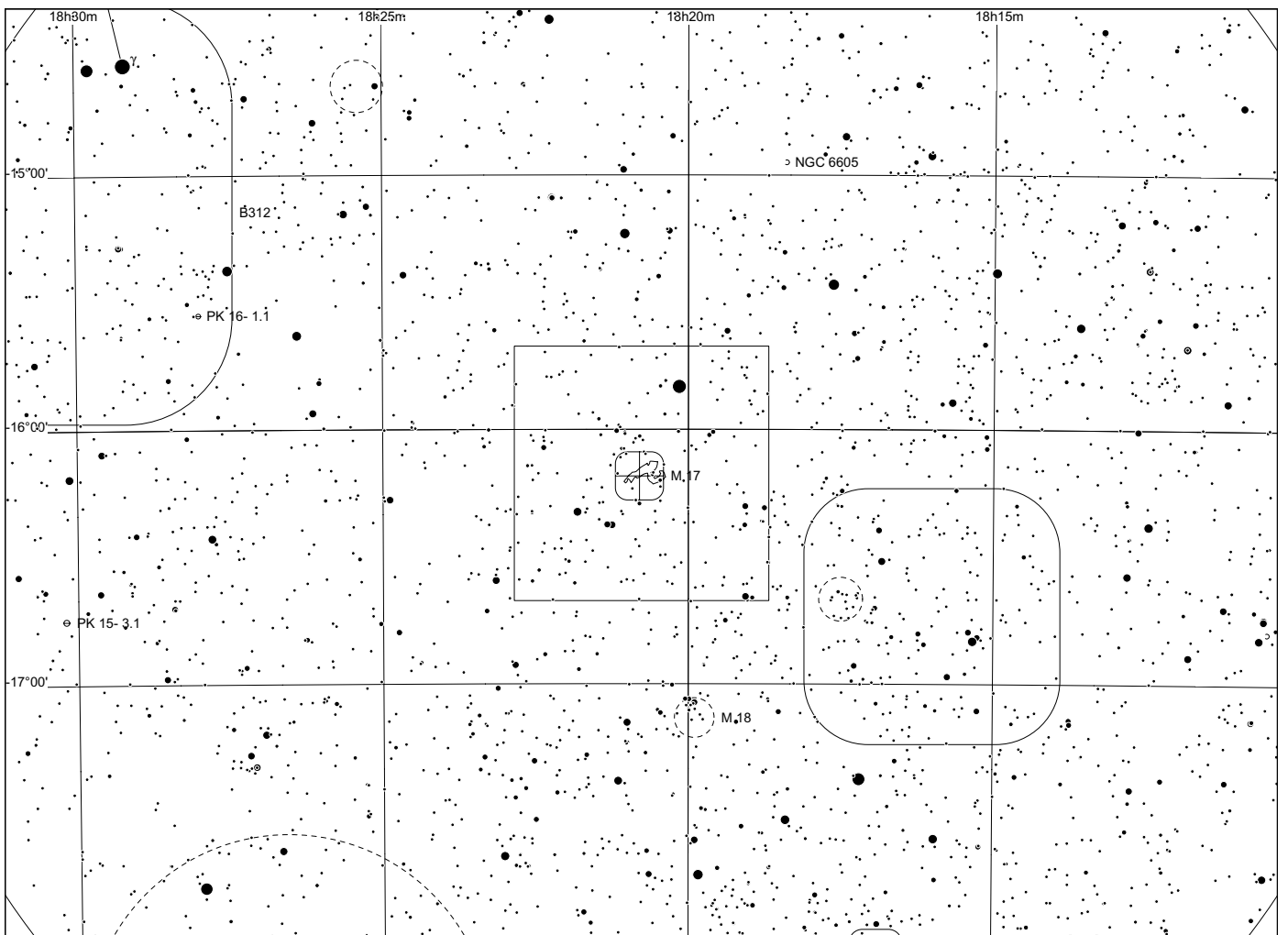
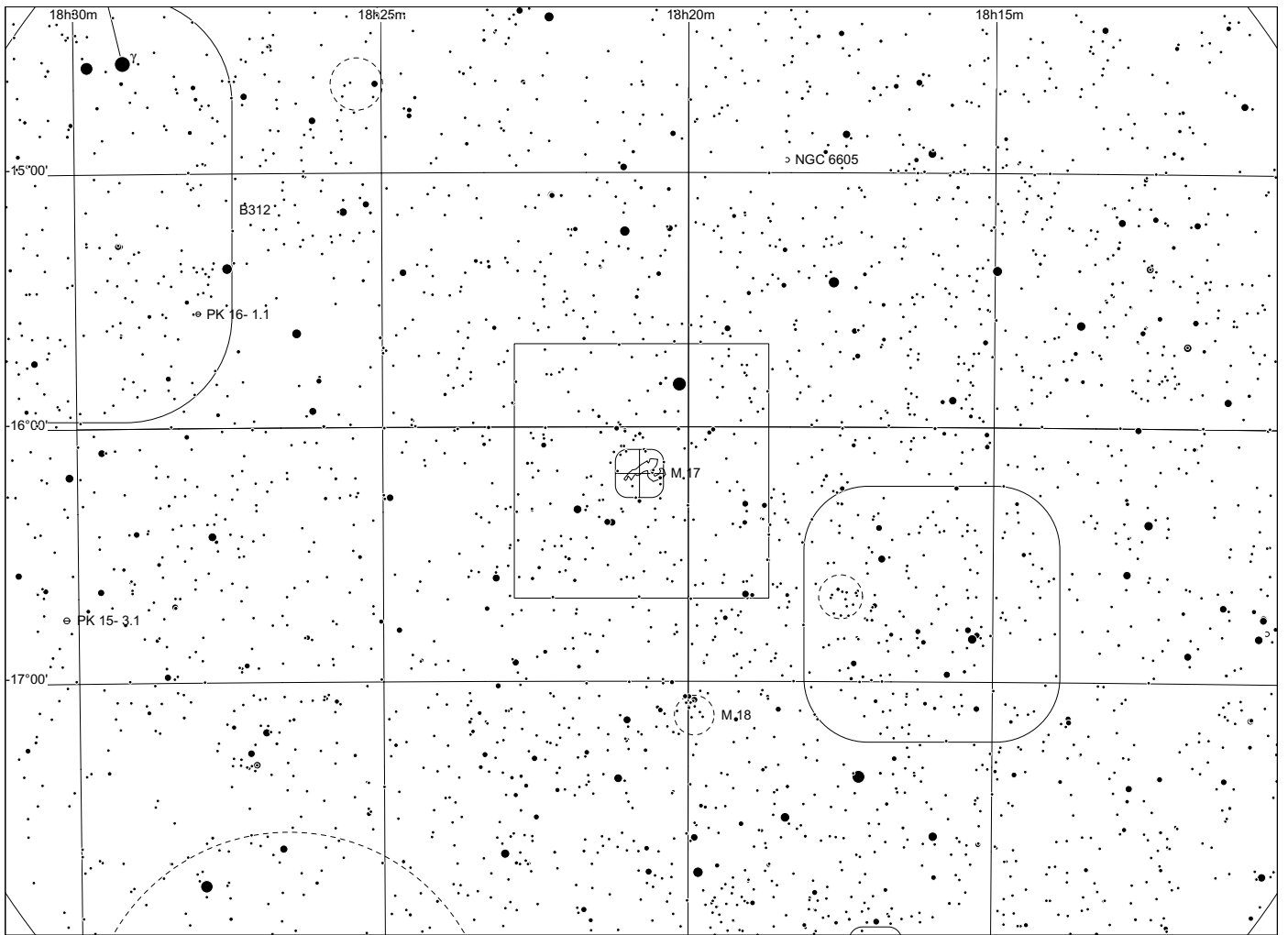
This is M17, the Omega nebula, also called W38, the Swan nebula, and the Lobster nebula among other names. M17 is ionised by an O4V-O4V double star system ([Kleinmann's star](#)) at the core of the massive young cluster NGC 6618 (about one million years old), which contains over 800 stars, including 2 O5V star systems and 100 stars hotter than B9 (by comparison, Orion has 8 stars hotter than B9). The total ultraviolet flux is about 25 times higher than for Orion

A large part of the nebula is hidden by a dark dust lane that runs near the central cluster and splits the main visible nebula from two attached nebulae on the other side of the dust lane (IC 4706 and IC 4707). M17 is a blister on the side of a much larger giant molecular cloud and star formation region (M17SW) that contains 30 thousand solar masses of molecular hydrogen.

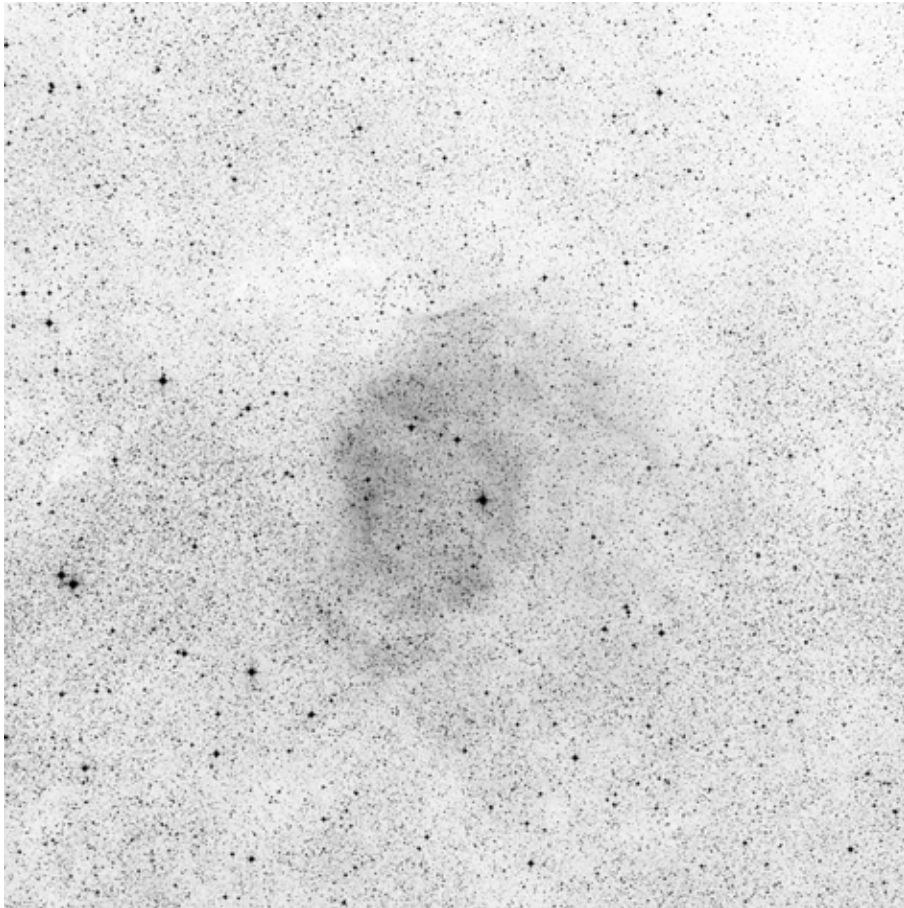
Observing notes:

Observed many times with various telescopes

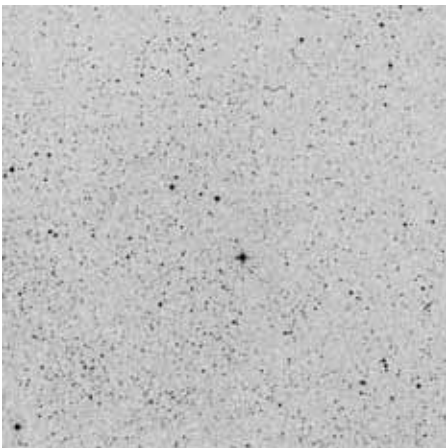
Very bright nebula with wide extensions in particular toward E from the main mass.



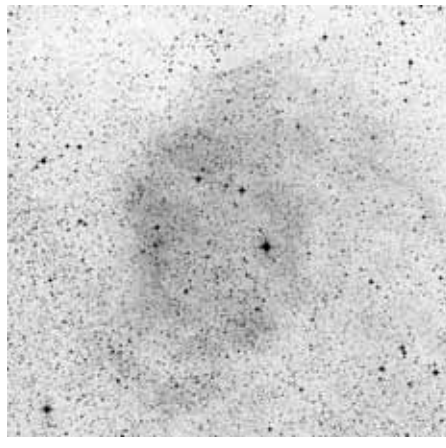
Sh 2 - 46 in Serpens



60x60, red



POSS blue



POSS red



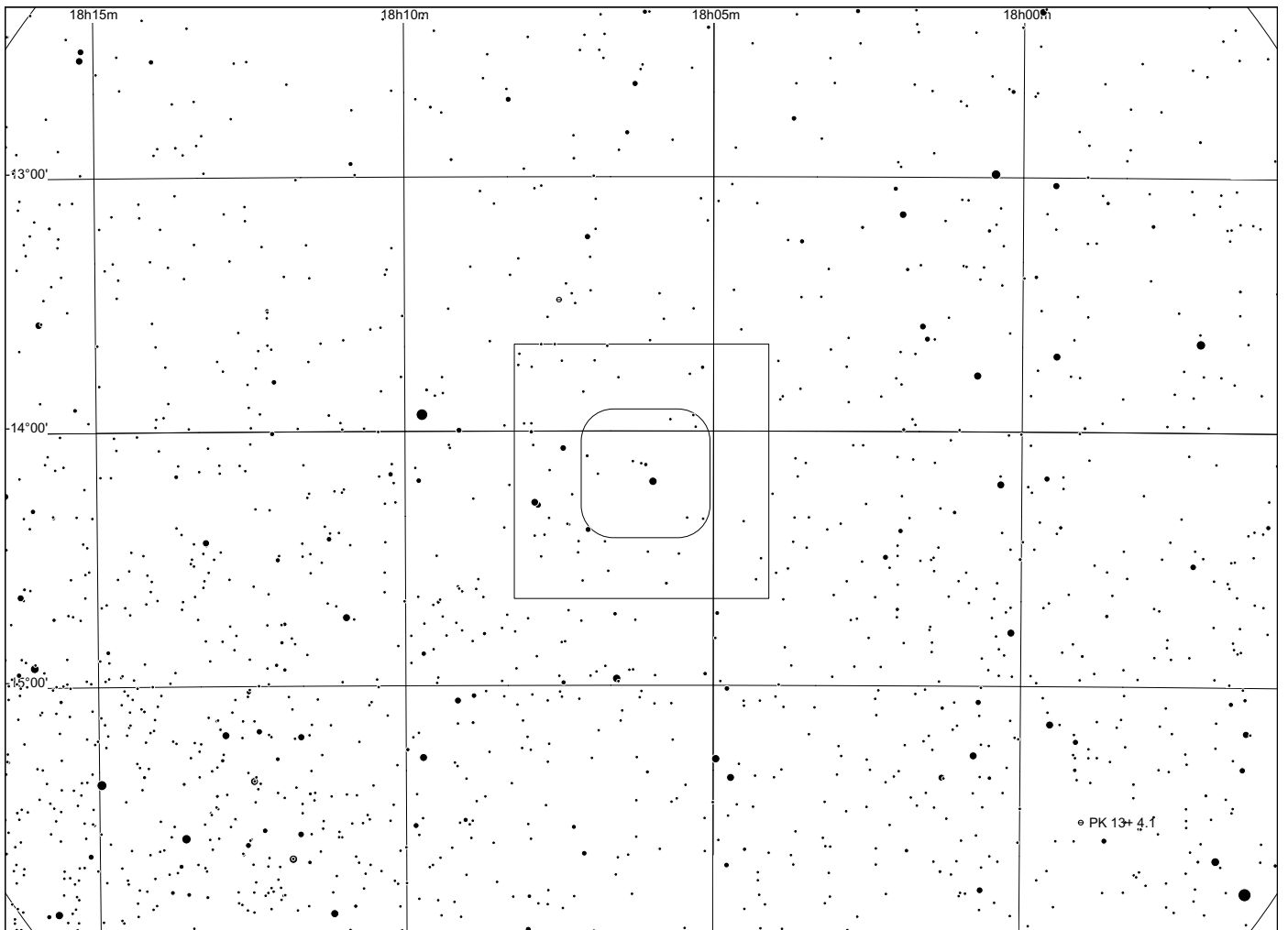
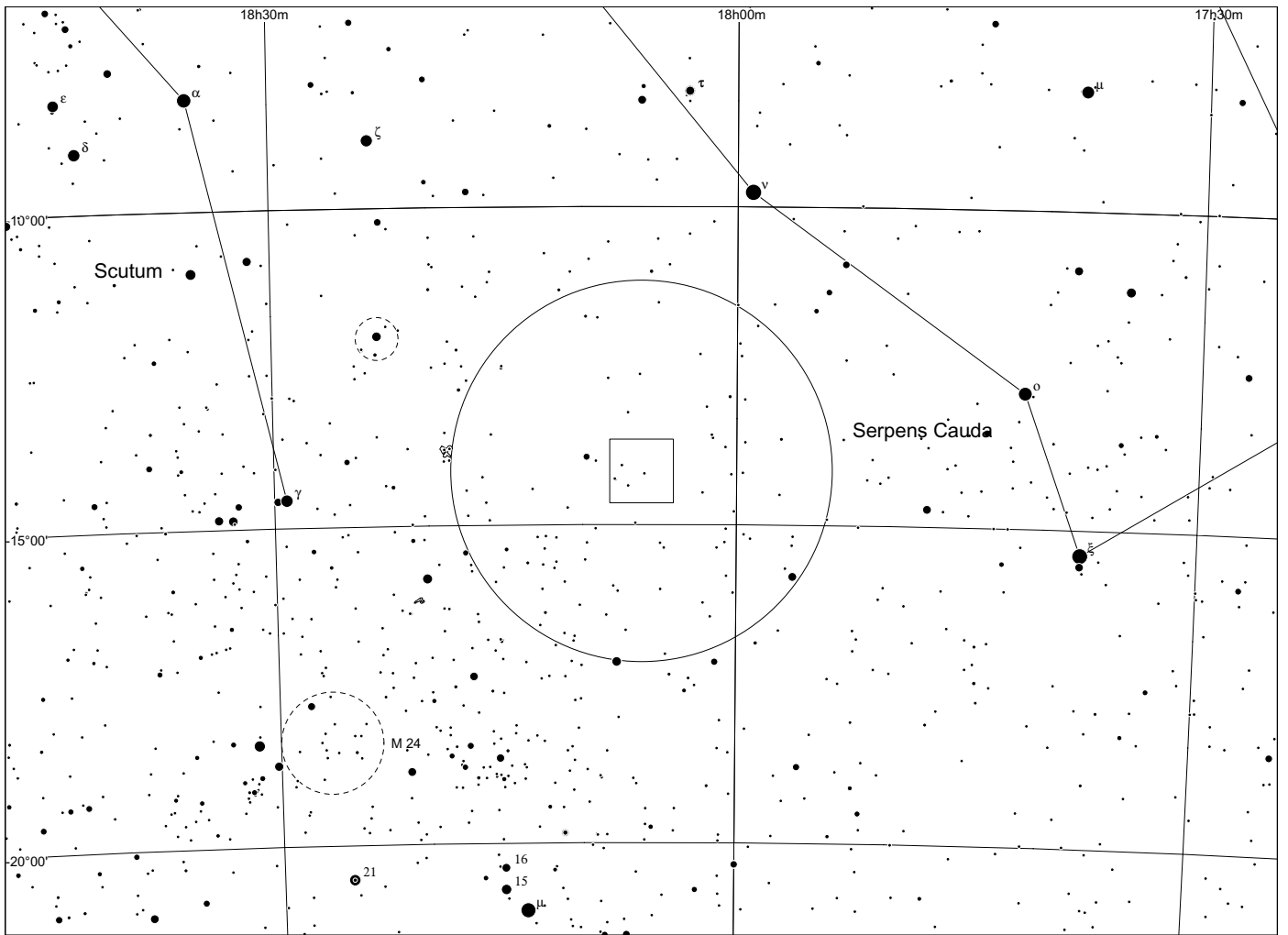
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-046		18 06 10.6	-14 09 31	25	2	2	2

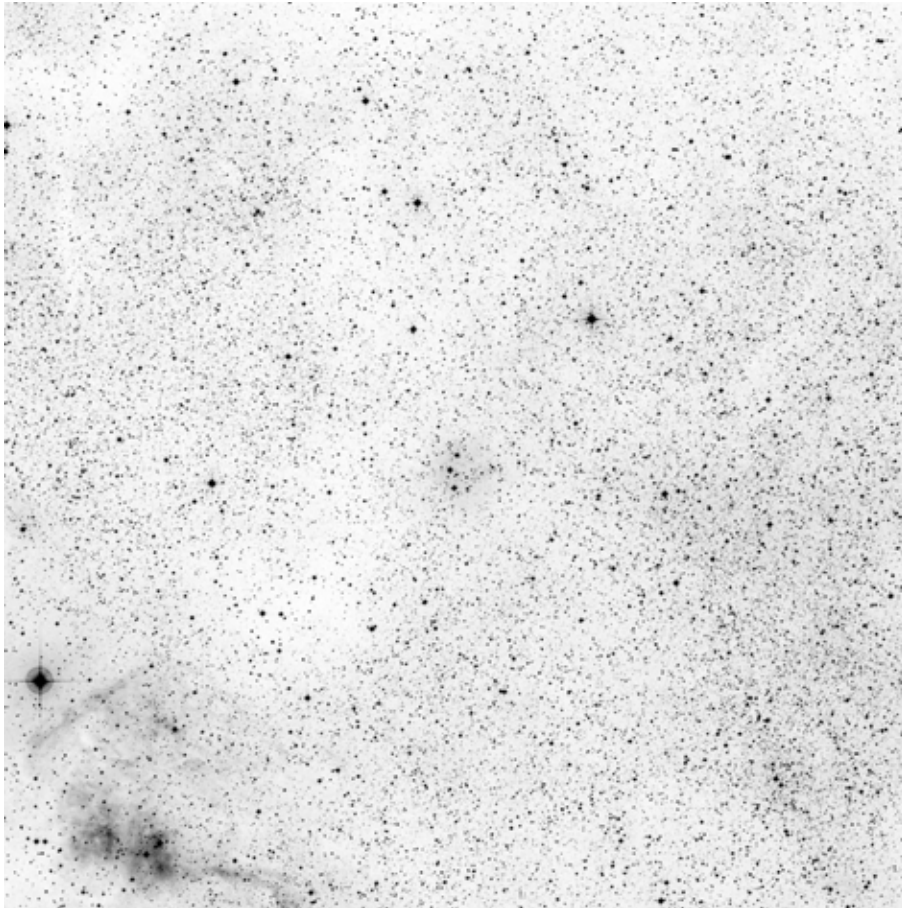
Distance: 2000 pc, Size: 14.5 pc, Source: [1982ApJS...49..183B](#)

This nebula is located well above the galactic plane. The potential runaway O-star HD 165319 lies within or behind this nebula, which is nearest to the OB association Sagittarius OB6. Polycyclic aromatic hydrocarbons (PAHs) have been detected in this HII region.

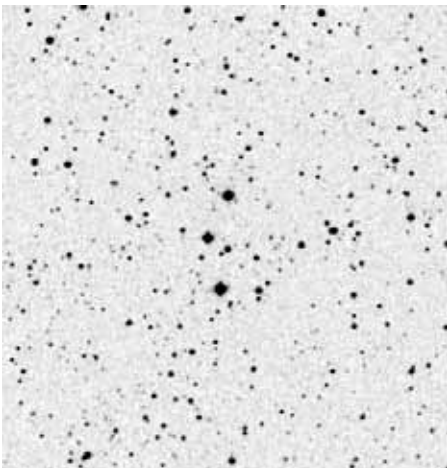
Observing notes:



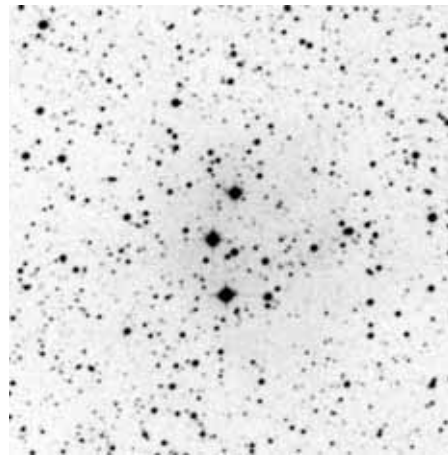
Sh 2 - 47 in Serpens



60x60, red



POSS blue



POSS red



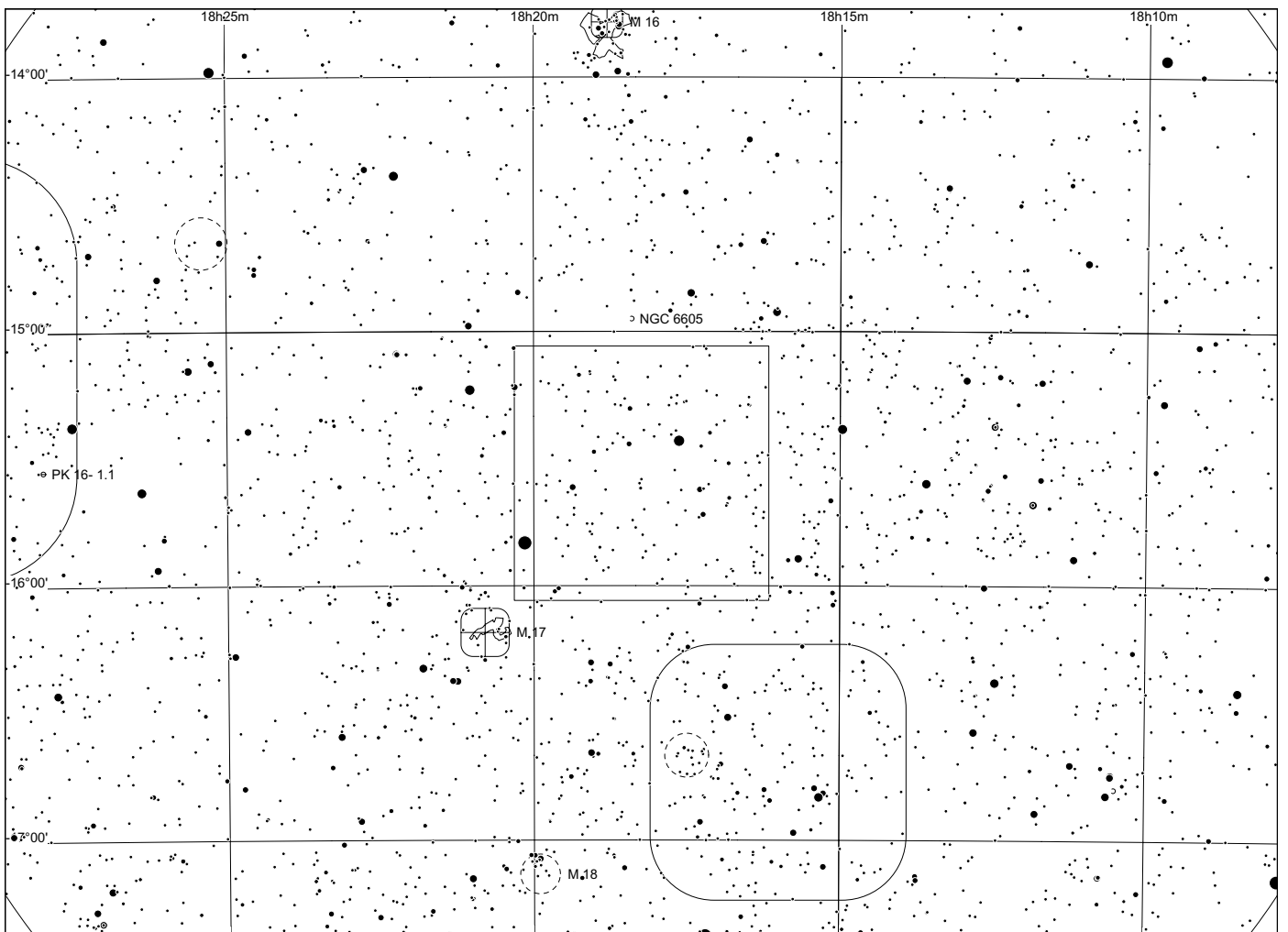
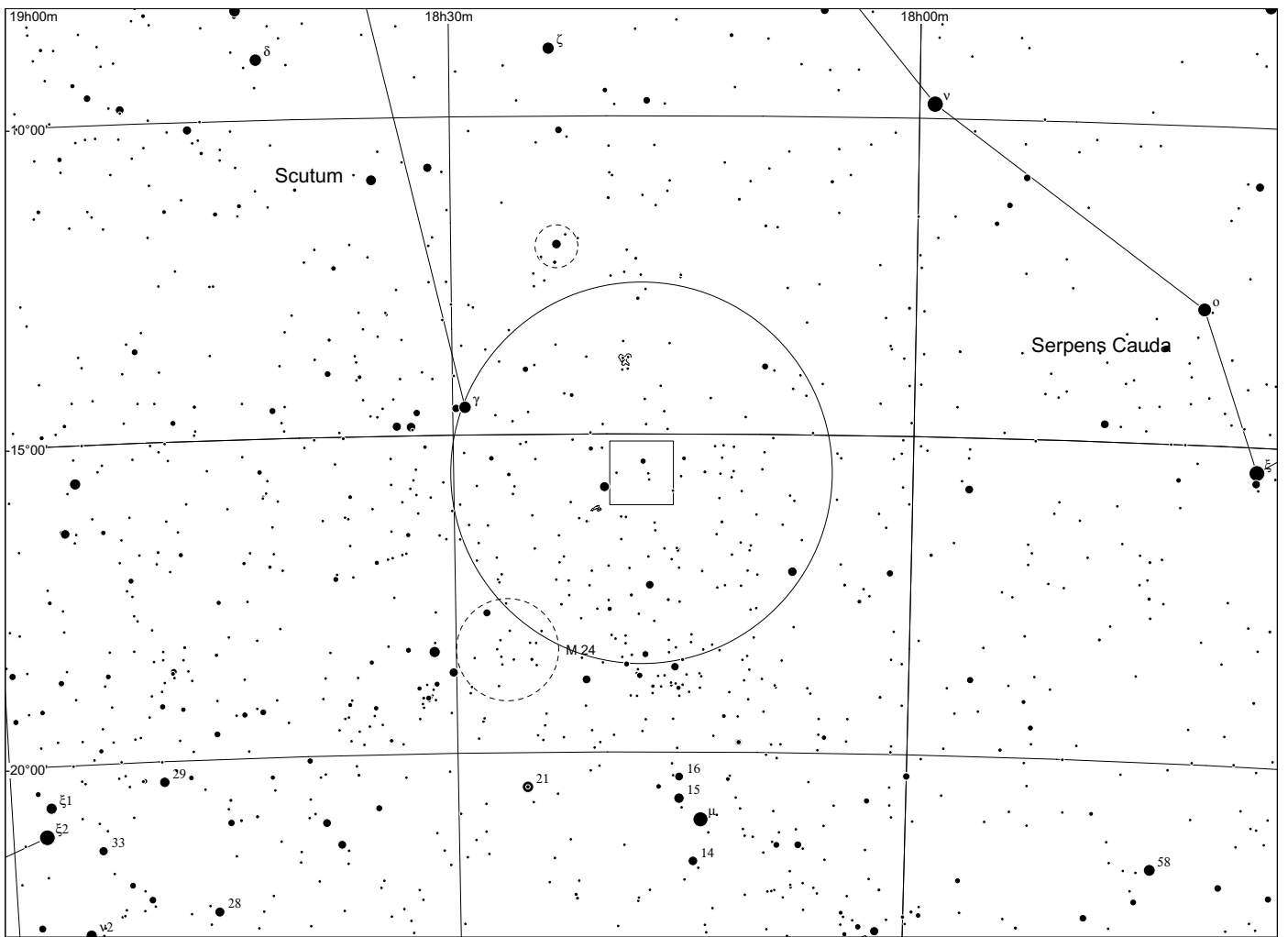
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-047		18 17 44.4	-15 36 50	5	1	2	2

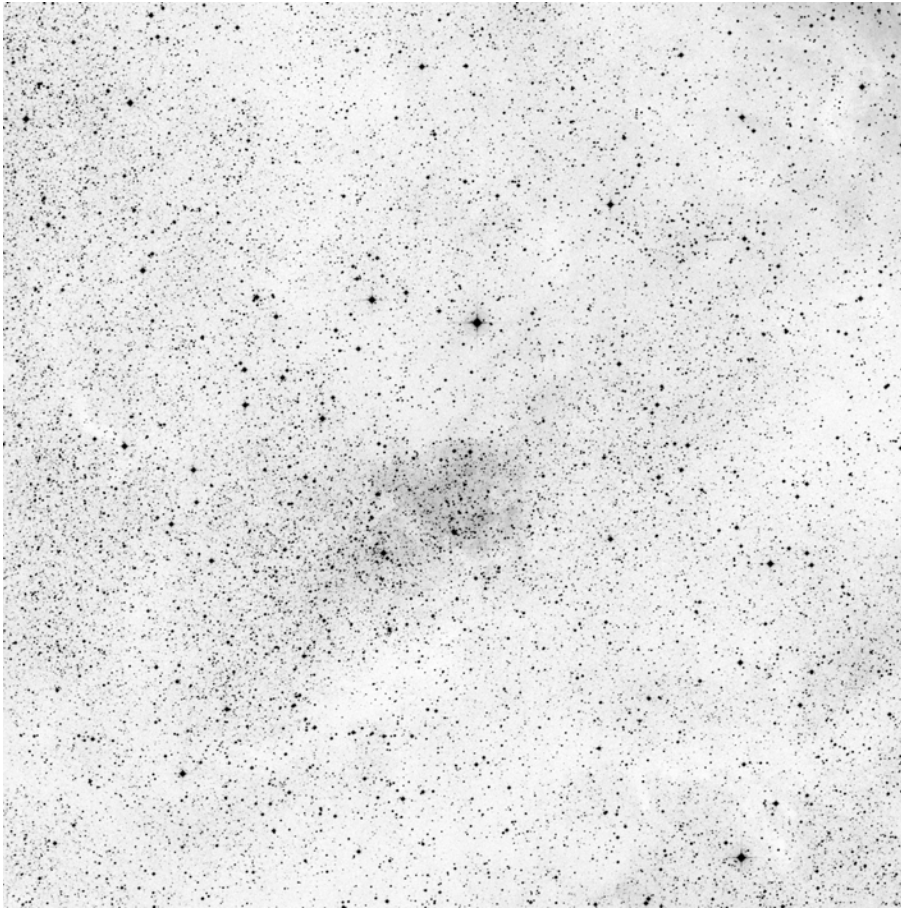
Distance: 3100 pc, Size: 4.5 pc, Source: [1985A&AS...61..537L](#)

The ionising star for this small nebula is probably the B0.5 III giant star S-47/3, which is at a distance of about 3100 pc.

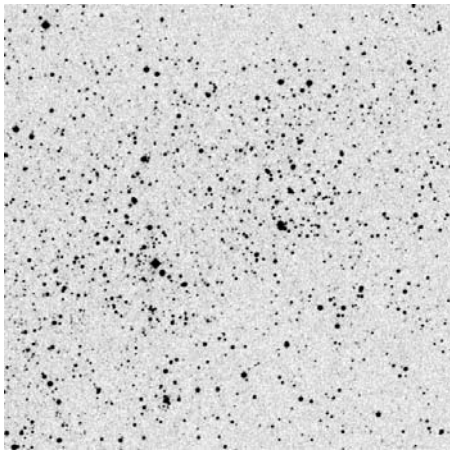
Observing notes:



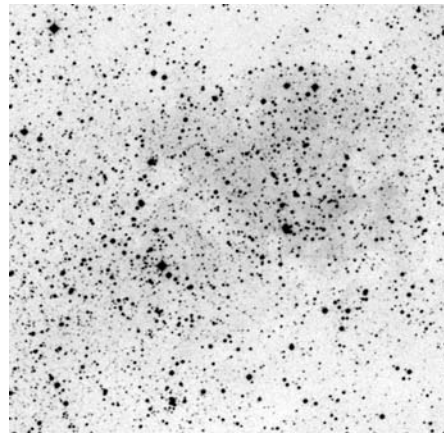
Sh 2 - 48 in Serpens



60x60, red



POSS blue



POSS red



RGB Dean Salman

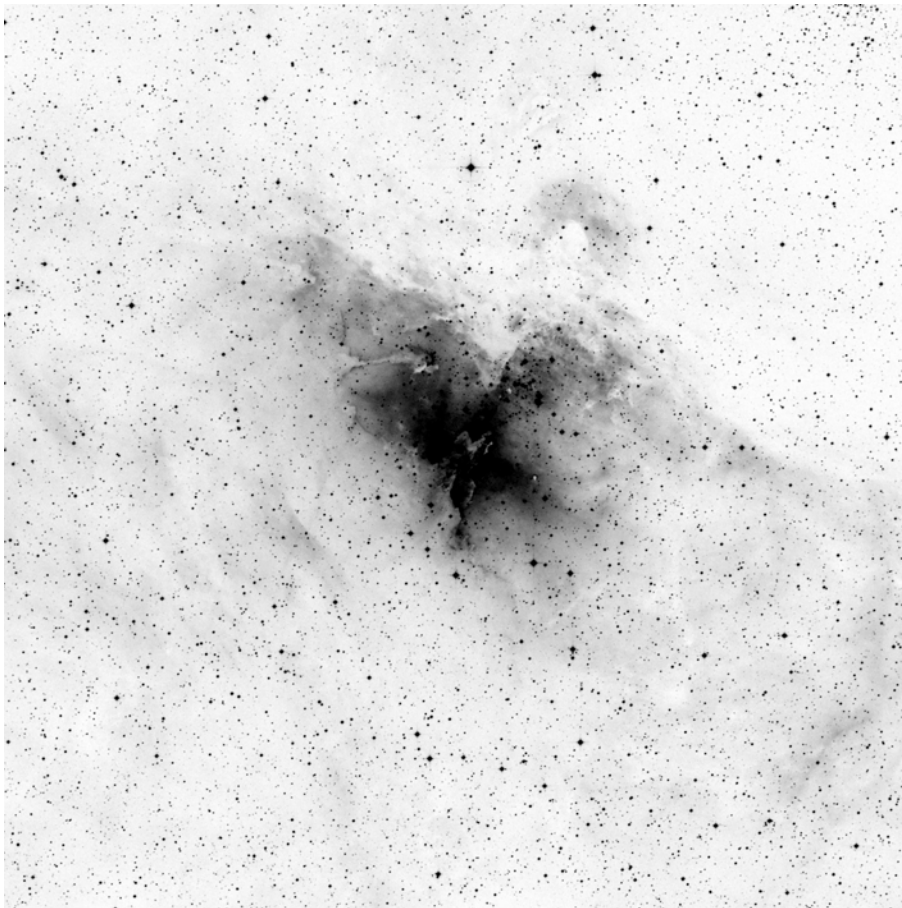
	other name	RA	dec	dia. '	F	S	B
Sh 2-048		18 22 24.1	-14 35 09	10	3	2	2

Distance: 3838 pc, Size: 12.3 pc, Source: [2003A&A...397..213P](#)

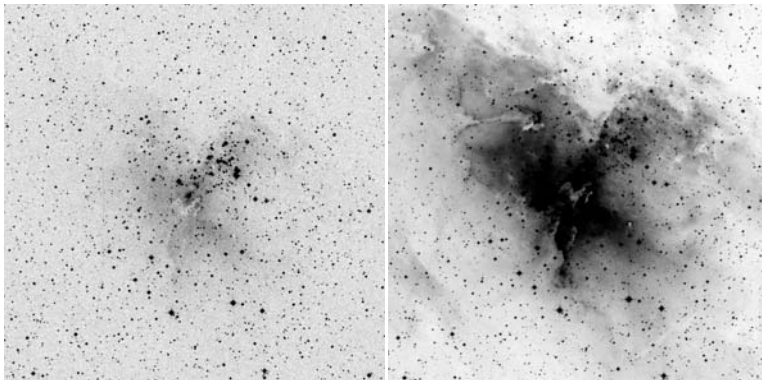
This region may be associated with the Scutum supershell.

Observing notes:

Sh 2 - 49 in Serpens



60x60, red



POSS blue

POSS red



narrow band Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-049	M16 = NGC6611 = Eagle Nebula	18 18 40.3	-13 57 42	90	3	3	3

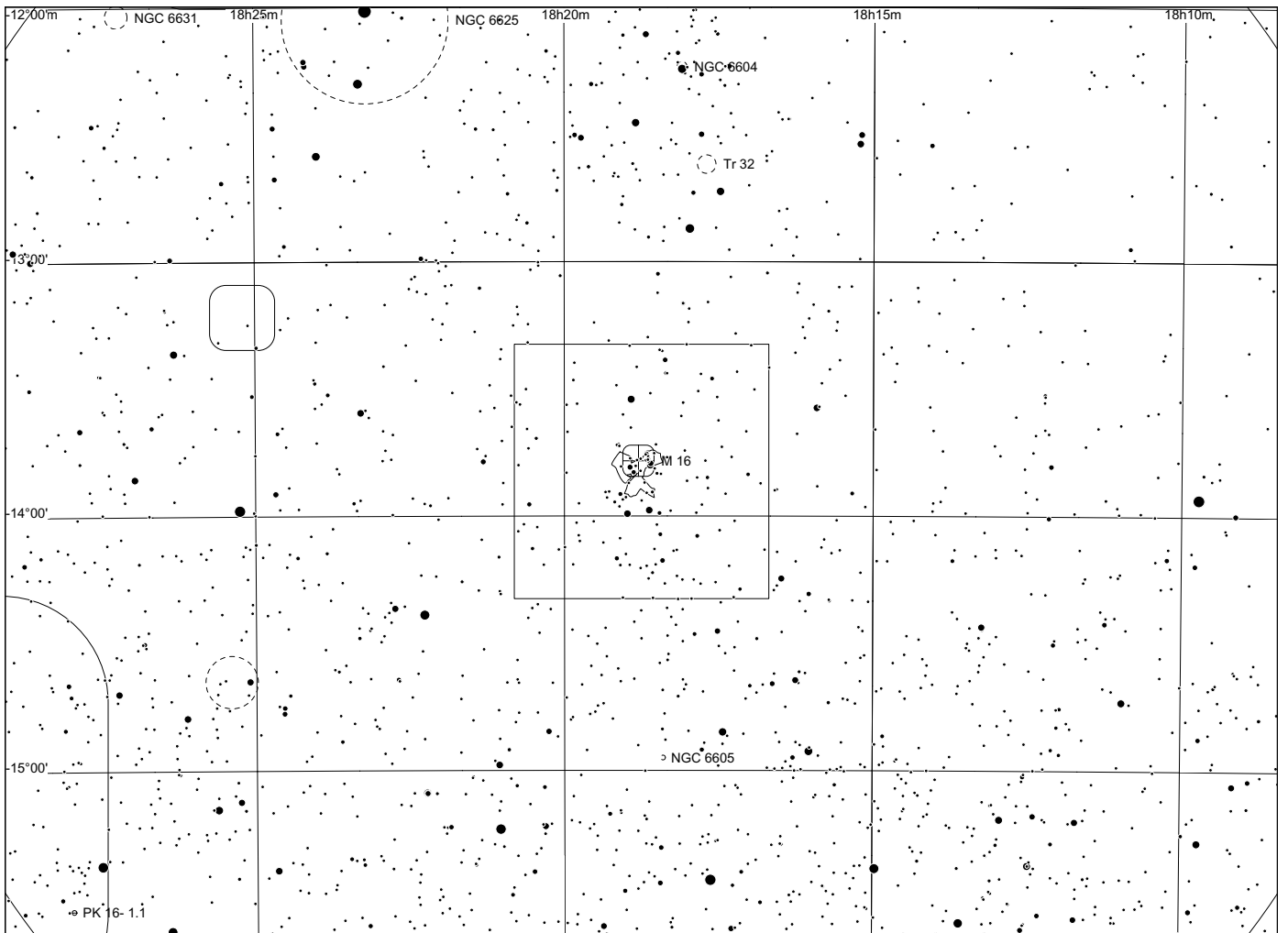
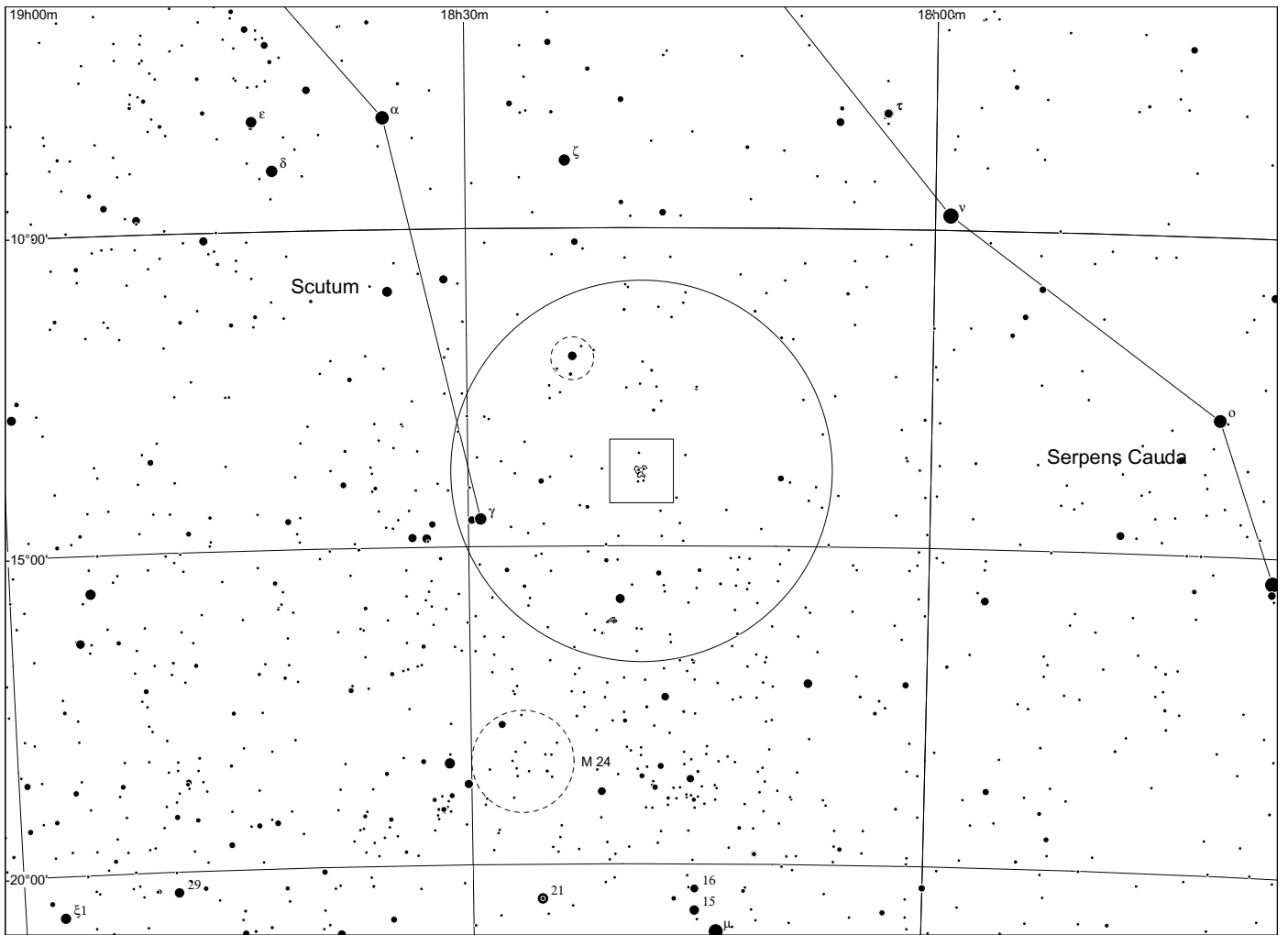
Distance: 1995 pc, Size: 51.8 pc, Source: [1993AJ....106.1906H](#)

This is M16, the Eagle Nebula. It is part of the W37 molecular cloud and is ionized by the NGC 6611 star cluster, which is part of the Serpens OB1 association.

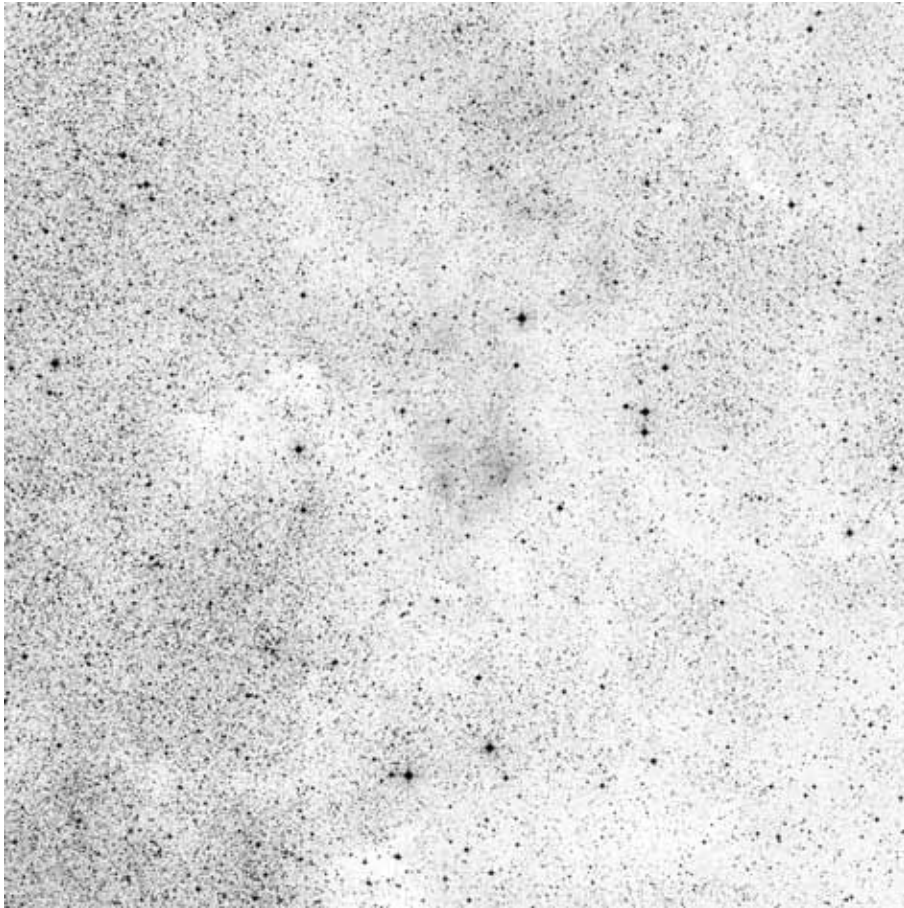
Observing notes:

22" f/4.5

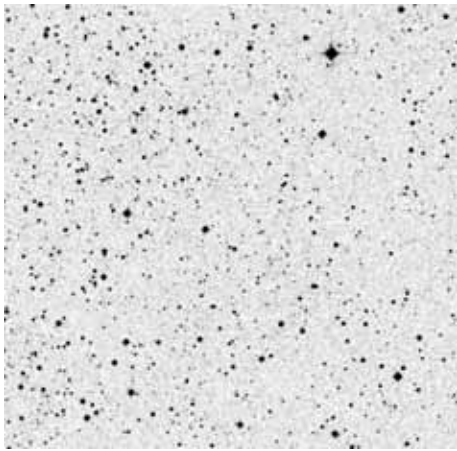
Besides the nebula and the associated OC, there are several dark structures visible: The dark notch from N is easy. The Star Queen or Pillars of creation are more difficult, two pillars of different length could be traced with OIII filter, the third and shortest one was observed close to the bright star and was the most difficult. There is another dark pillar in the E part (dubbed "Burning Pig" from its appearance on Hubble images).



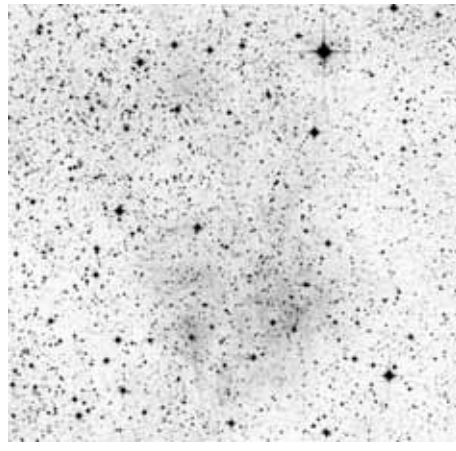
Sh 2 - 50 in Scutum



60x60, red



POSS blue



POSS red



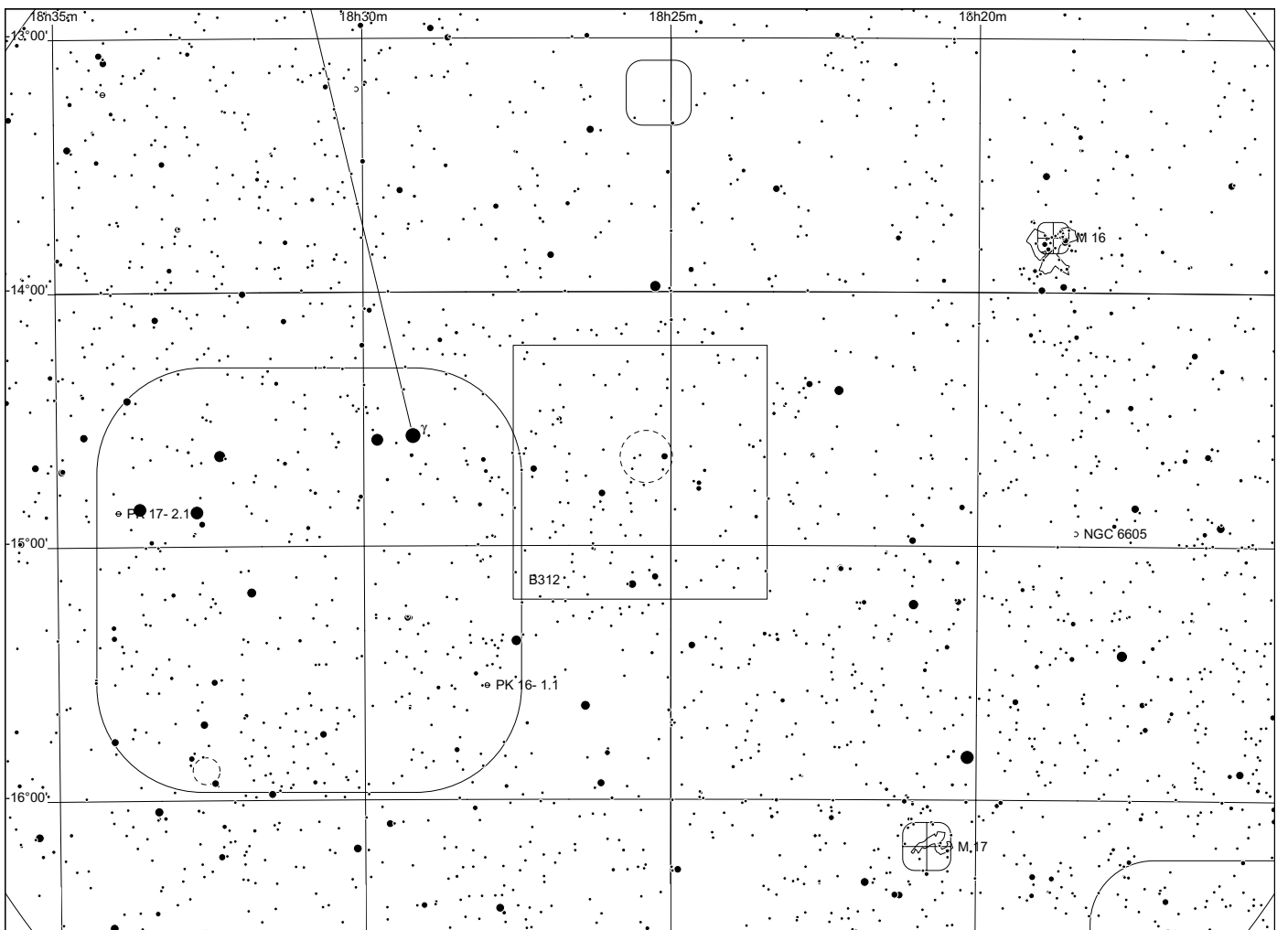
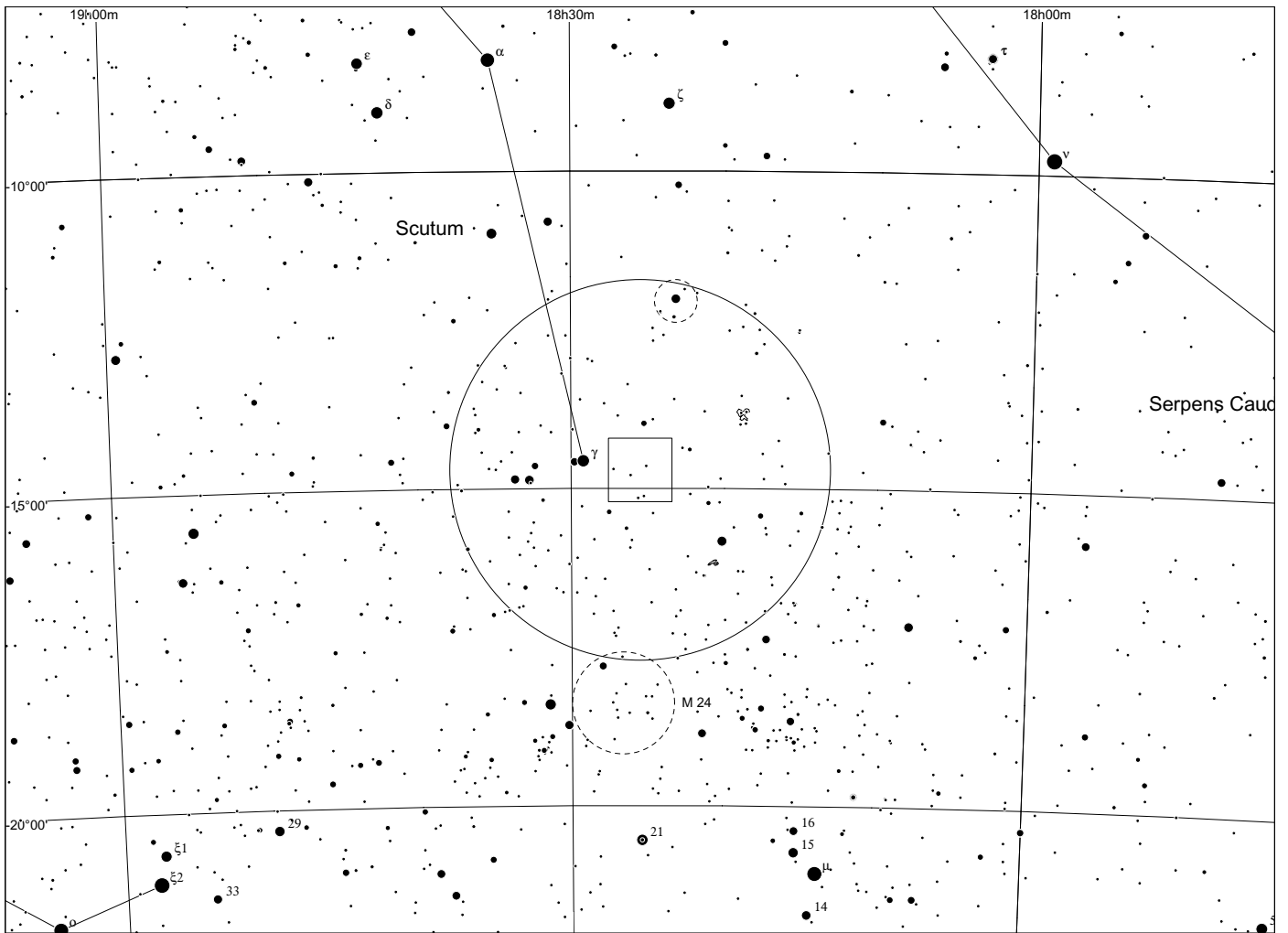
narrow band

	other name	RA	dec	dia. '	F	S	B
Sh 2-050		18 25 30.2	-14 42 42	35	3	2	2

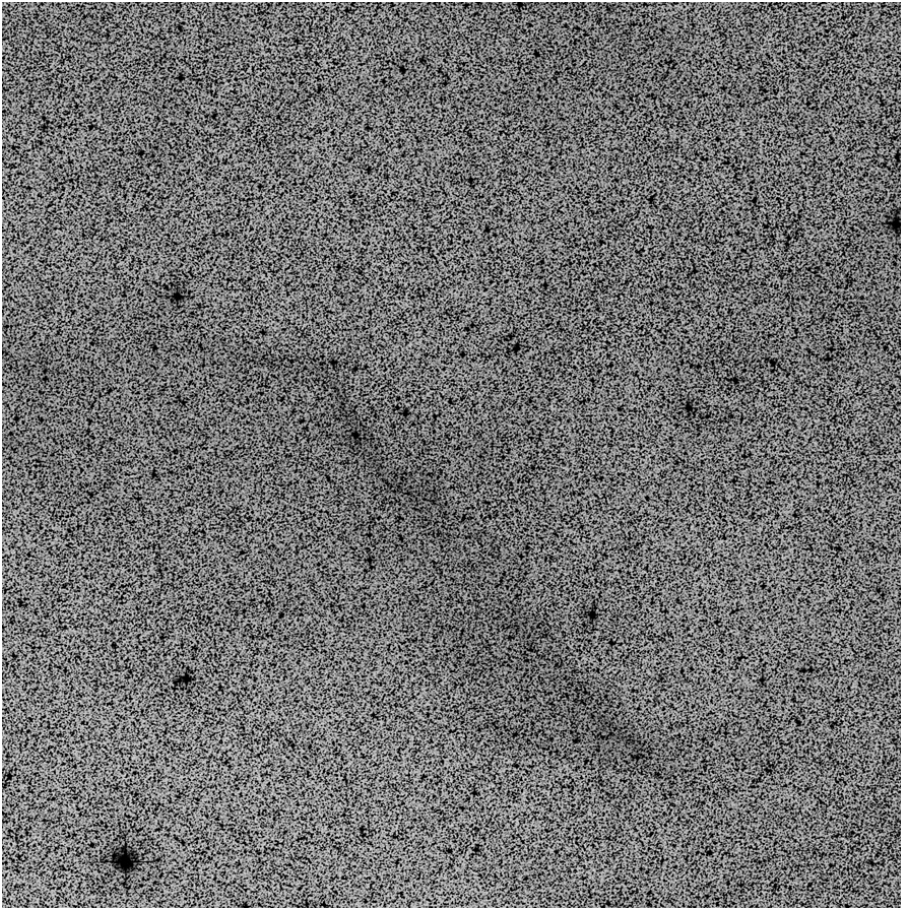
Distance: 1700 pc, Size: 17.3 pc, Source: 1982ApJS...49..183B

This may be associated with the Scutum supershell.

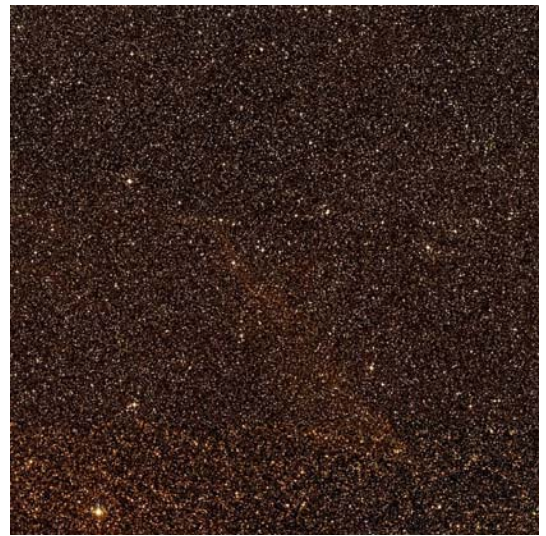
Observing notes:



**Sh 2 - 51
in Sagittarius**



60x60, red

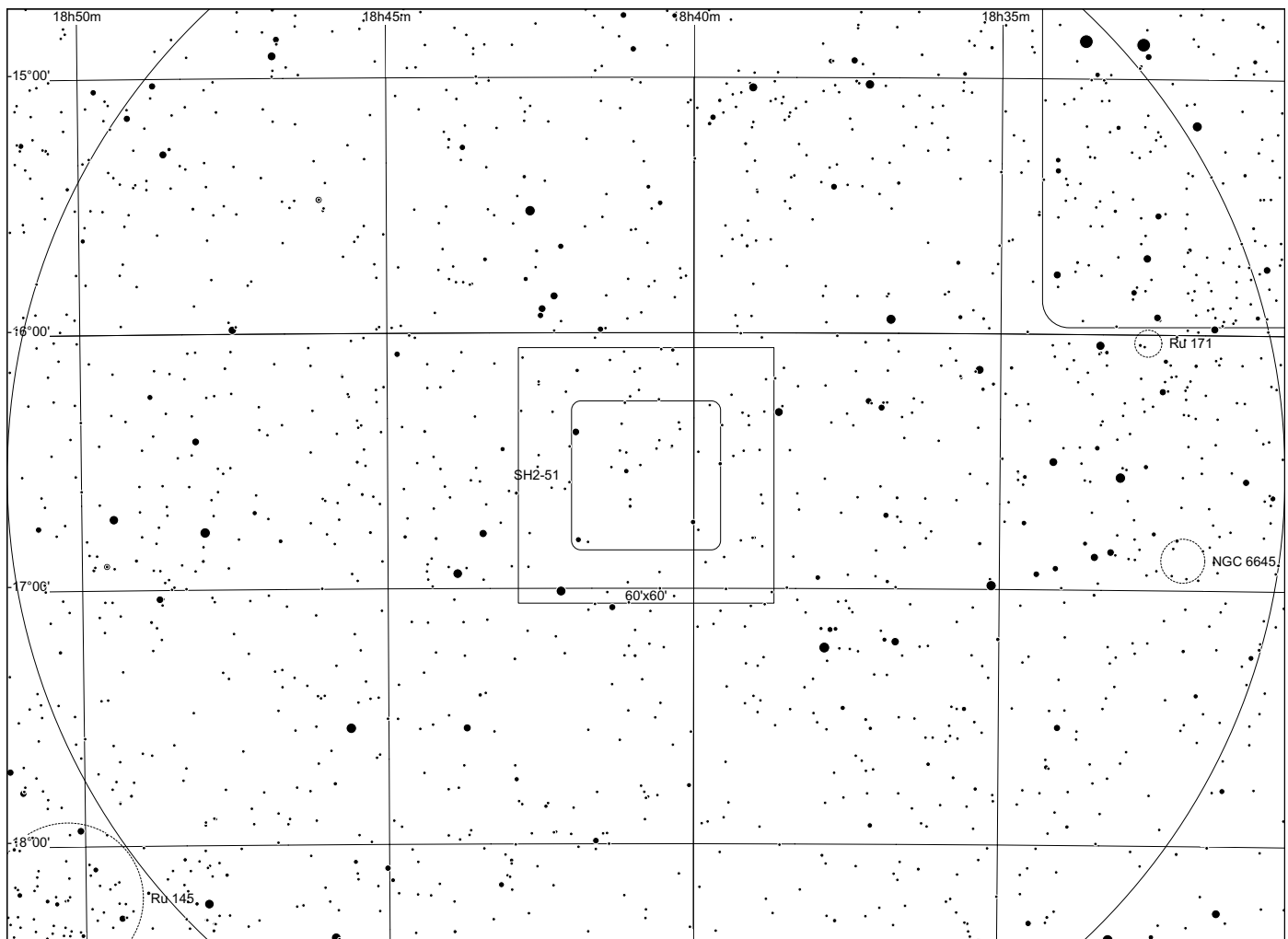
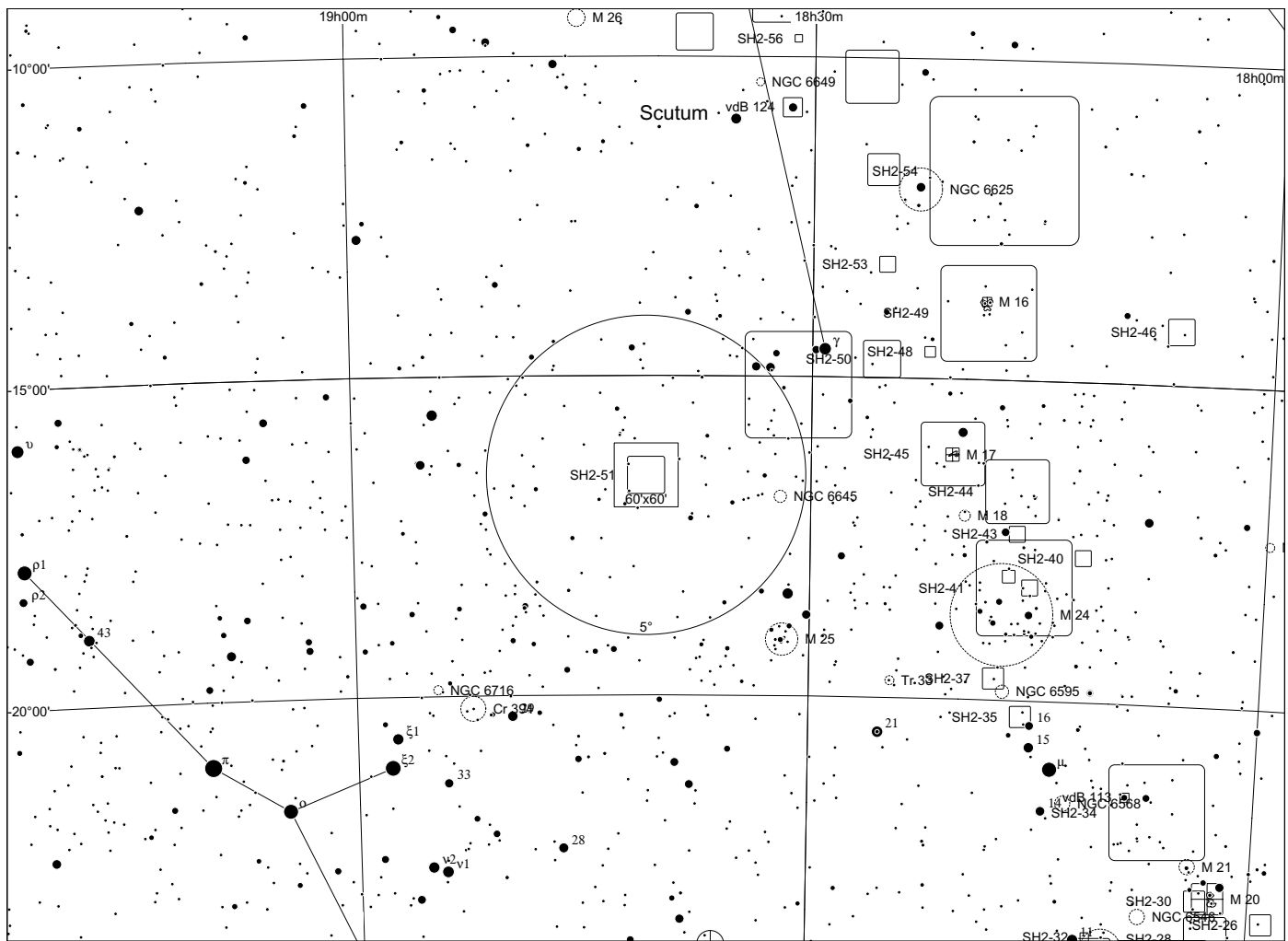


composite

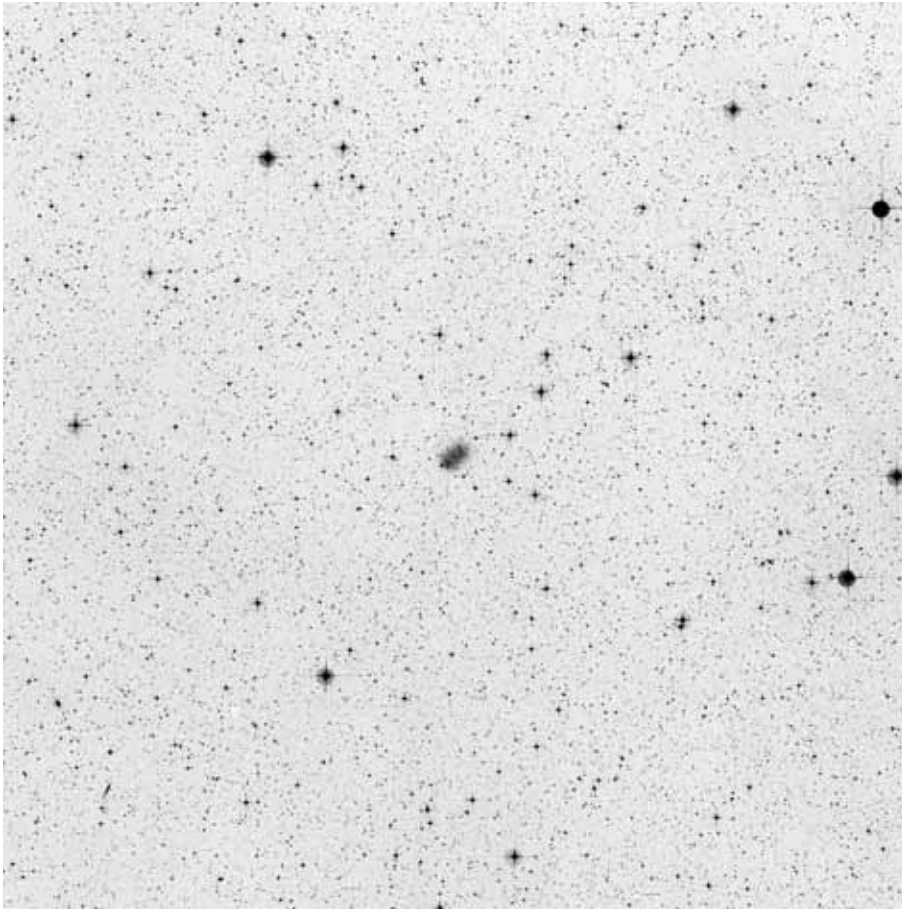
POSS blue

	other name	RA	dec	dia. '	F	S	B
Sh 2-051		18 40 46.3	-16 33 30	35	3	1	1

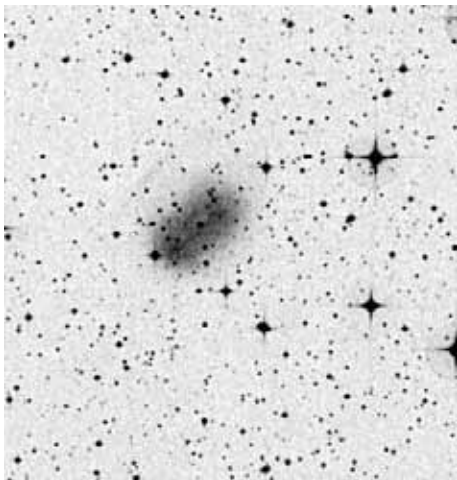
Observing notes:



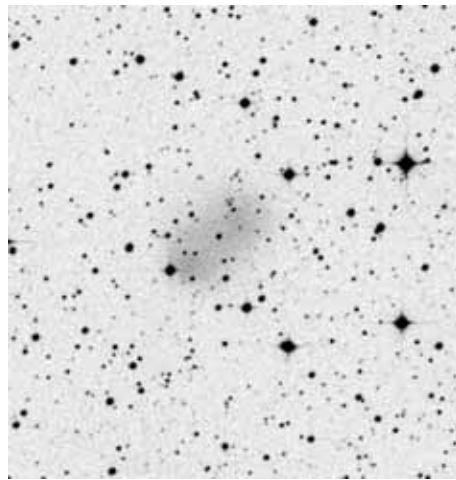
Sh 2 - 52 in Sagittarius



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-052	PN Abell 65	19 47 46.3	-23 05 15	2	2	1	2

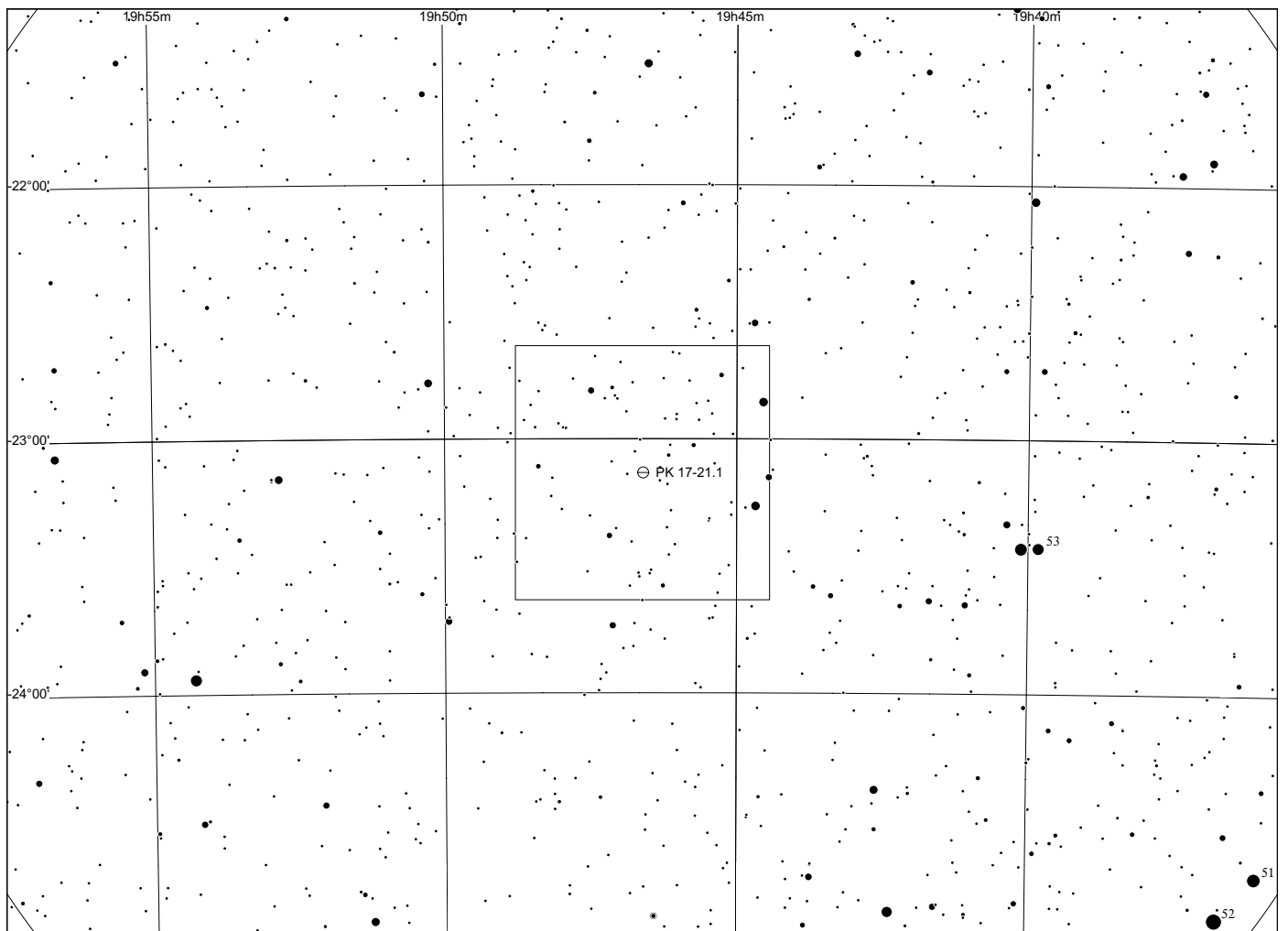
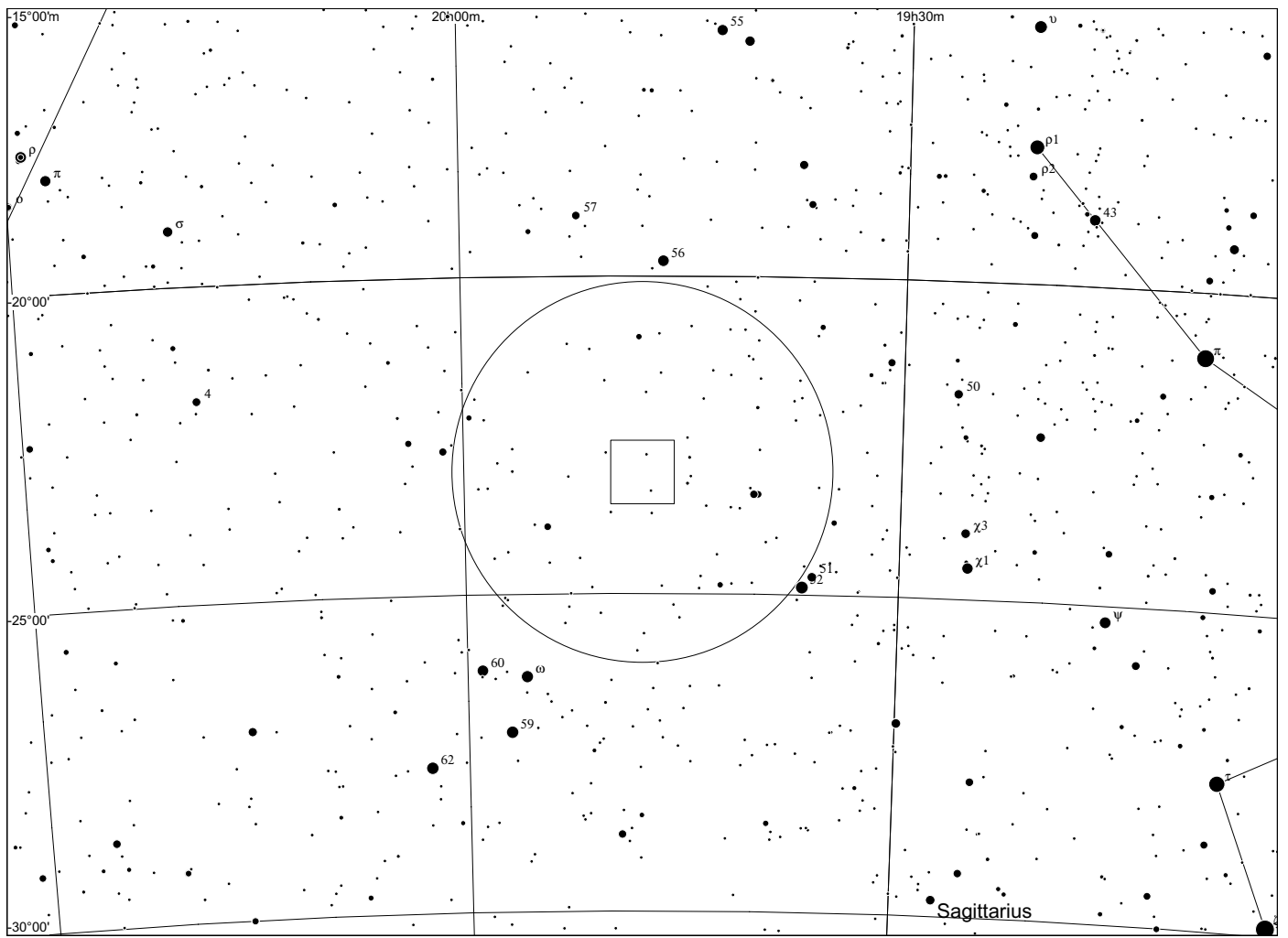
Distance: 1500 pc, Size: 0.9 pc, Source: 1996A&A...315..253W

The faint blue glow comes from the planetary nebula also known as Abell 65. It is highly unusual for a planetary nebula because it contains an eclipsing binary central star. See Sh 2-313 for another example of such a blue planetary nebula with a binary central star.

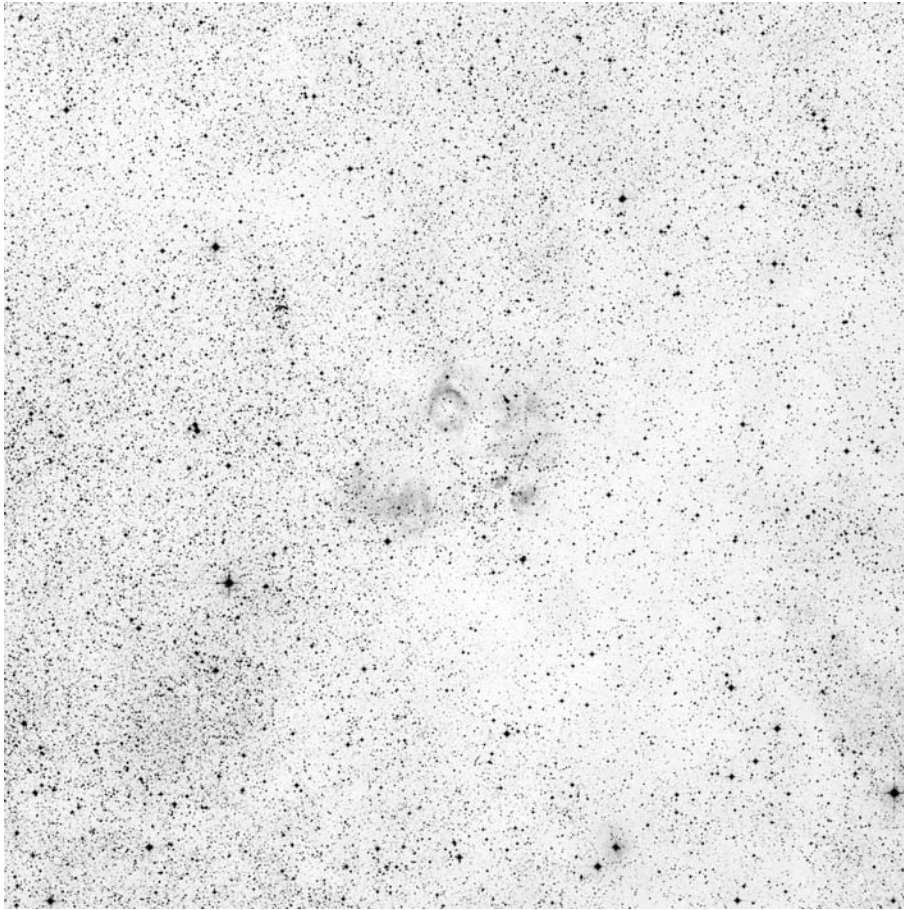
Observing notes:

22" f/4.5

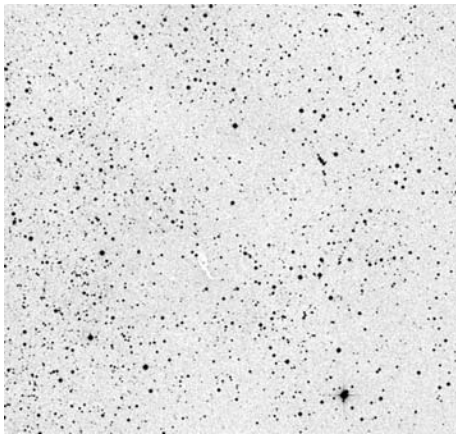
08/2008: at 200x and with OIII filter, Abell 65 is an obvious elongated patch of light. Response to OIII is better than UHC, faintly visible w/o filter. Nice asterism nearby.



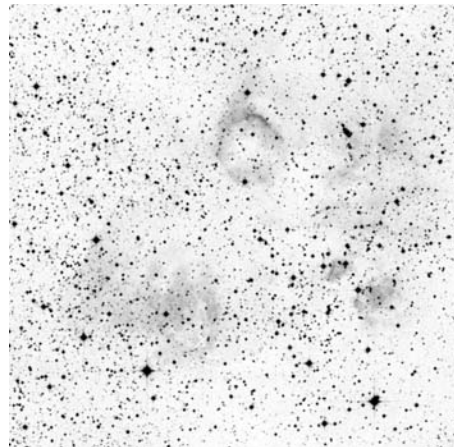
Sh 2 - 53 in Scutum



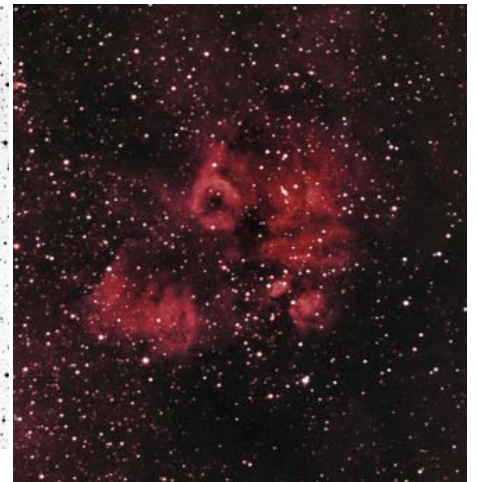
60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-053		18 25 14.4	-13 13 44	15	3	2	2

Also: RCW 166 (18.20°, -0.30°) Distance: 3798 pc, Size: 9.4 pc Source: 2003A&A...397..213P

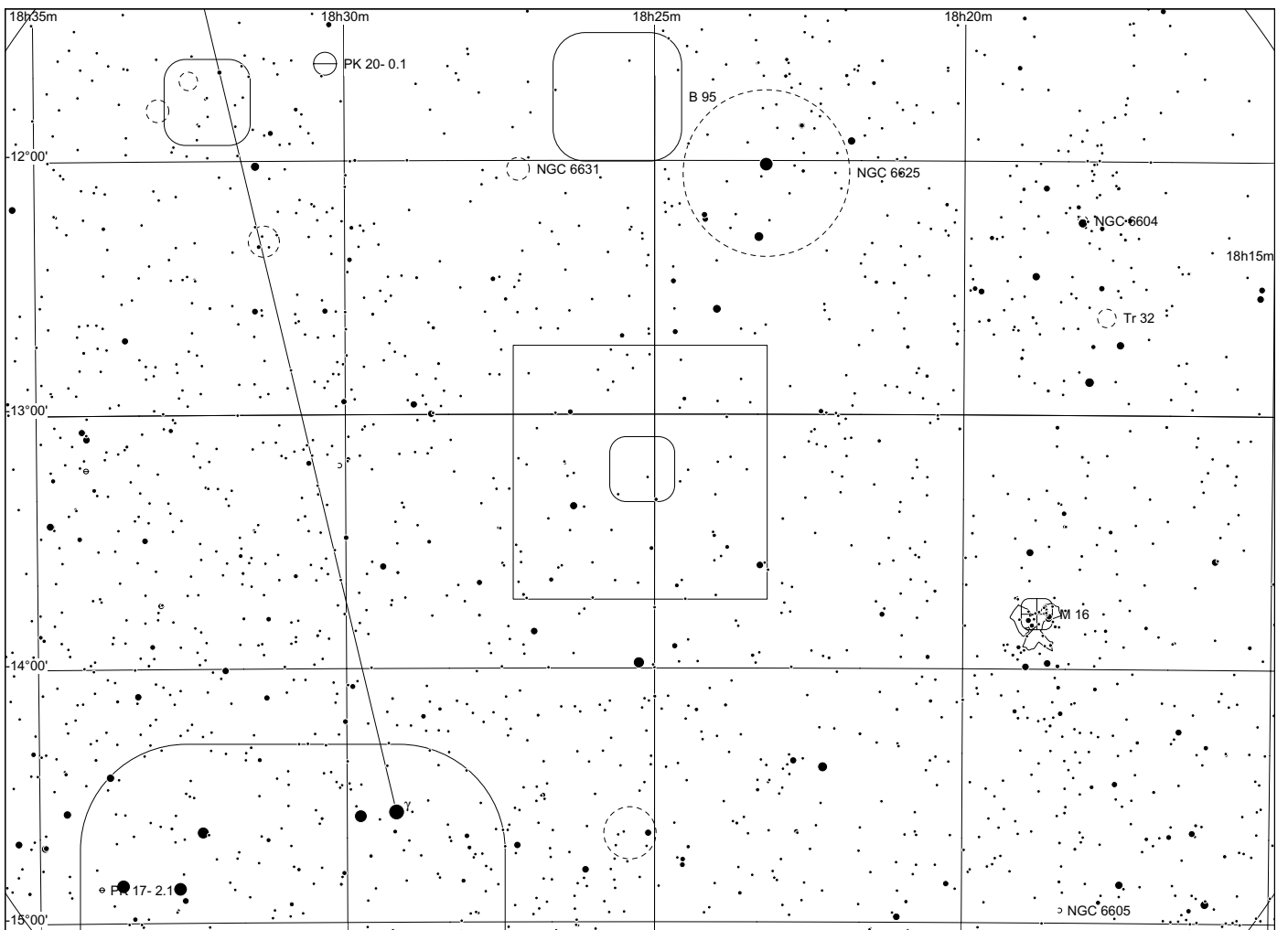
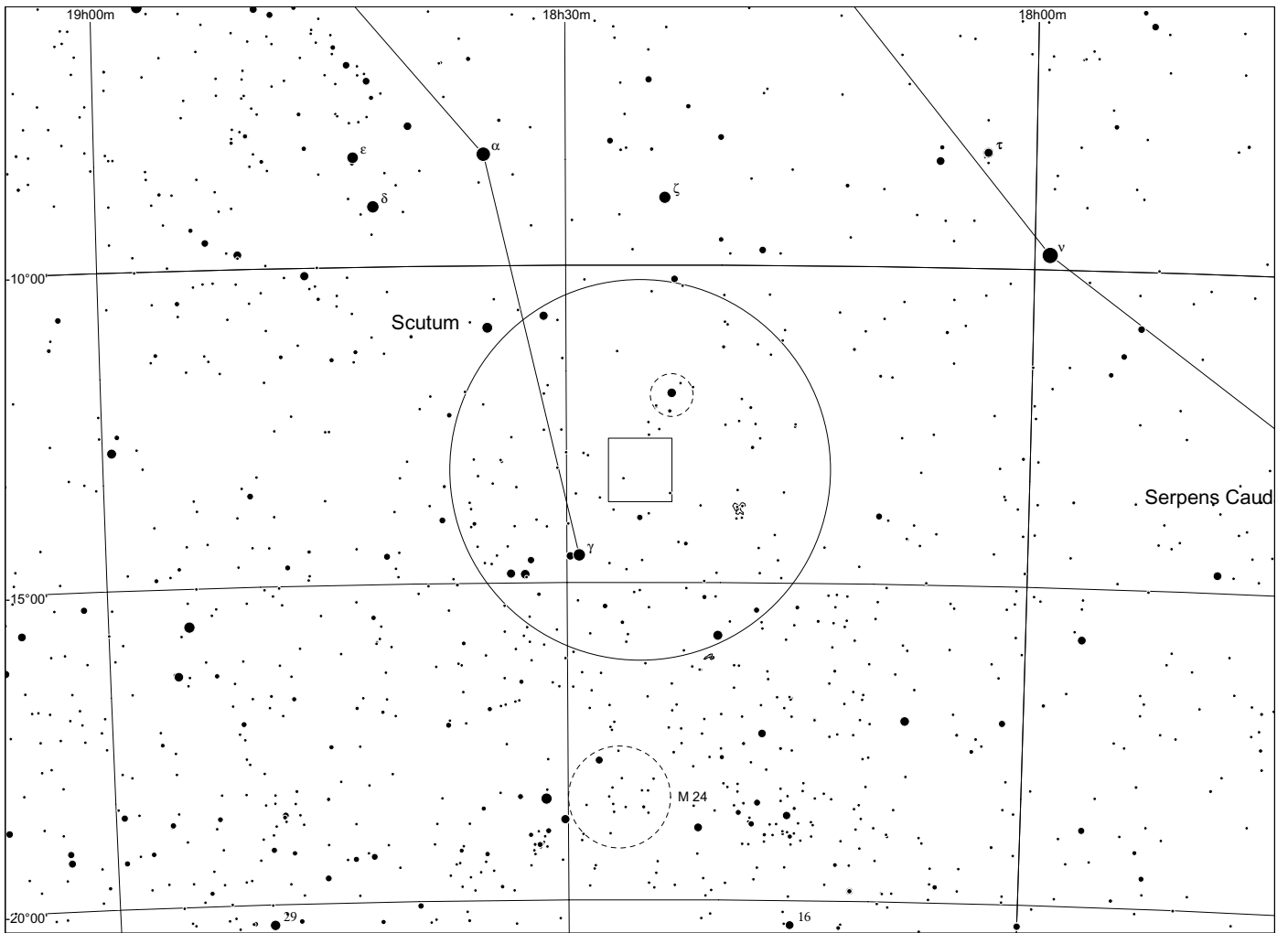
This is in the same area of sky as the Scutum supershell.

This nebula is mentioned in connection to gamma ray source 2EG J1825-1307, which is assigned a distance estimate of 4300 parsecs. SIMBAD identifies this gamma ray source with the pulsar PWN G18.0-0.7 and the supernova remnant SNR 018.0-00.7.

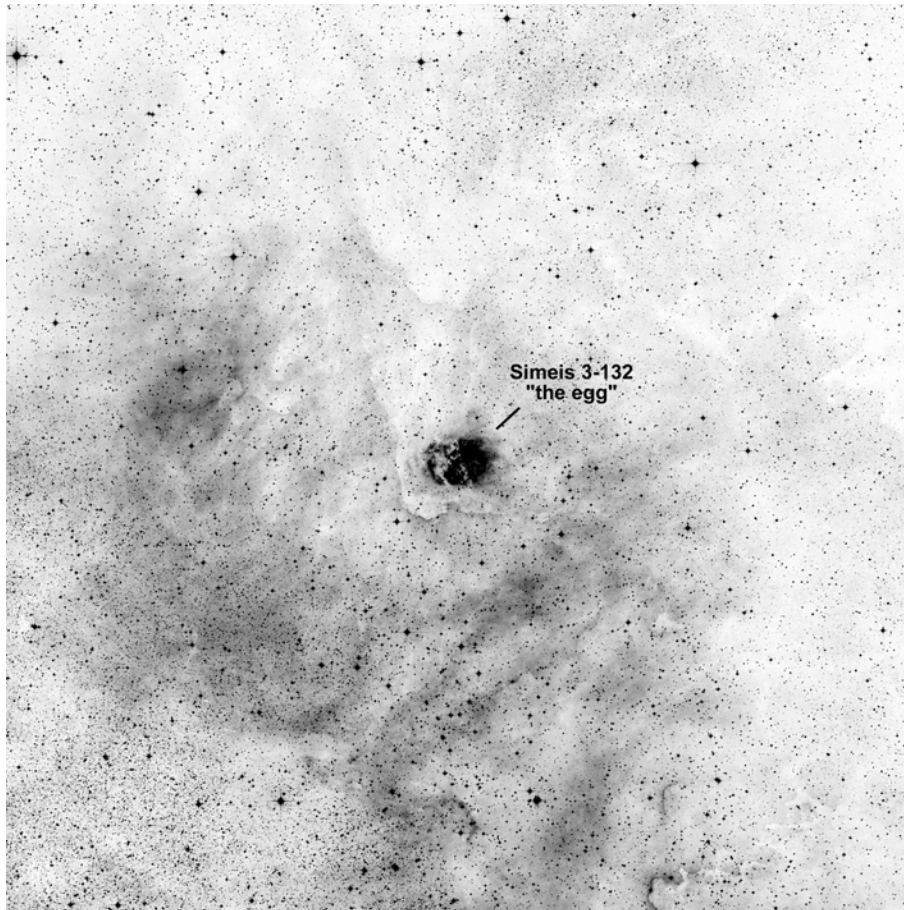
Observing notes:

22" f/4.5

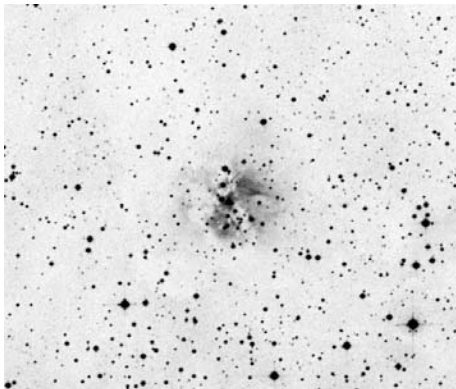
08/2008: unsuccessful observation



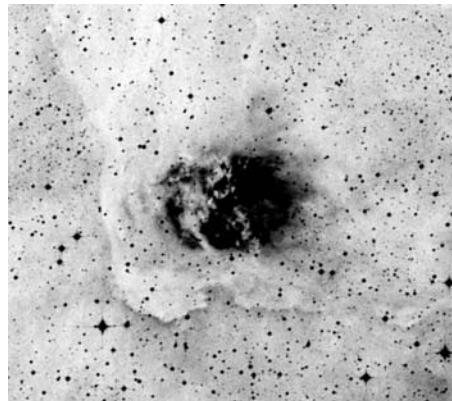
Sh 2 - 54 in Serpens



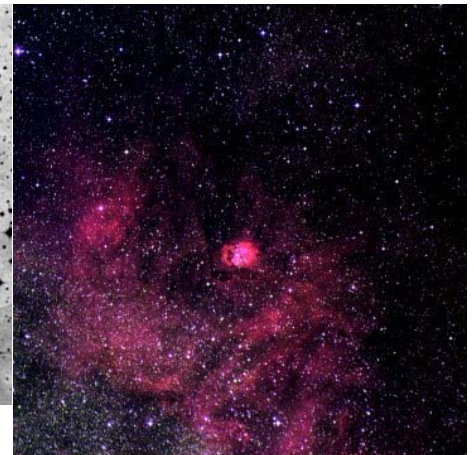
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-054	Contains NGC6604	18 17 52.6	-11 43 48	140	3	3	3

Also: Gum 85 (18.70°, 2.00°) Distance: 1900 pc, Size: 10.8 pc Source: 2000AJ....120.2594F

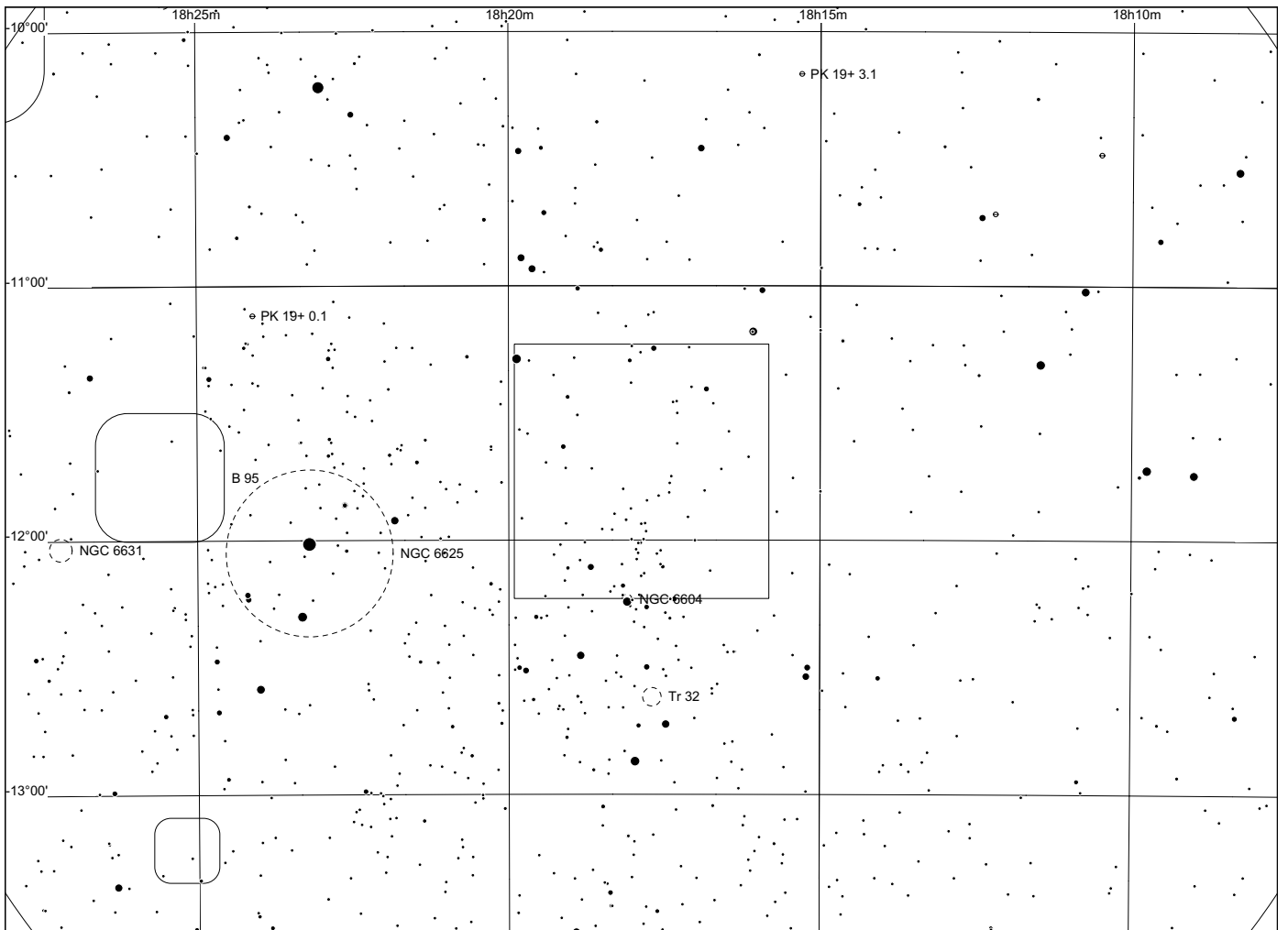
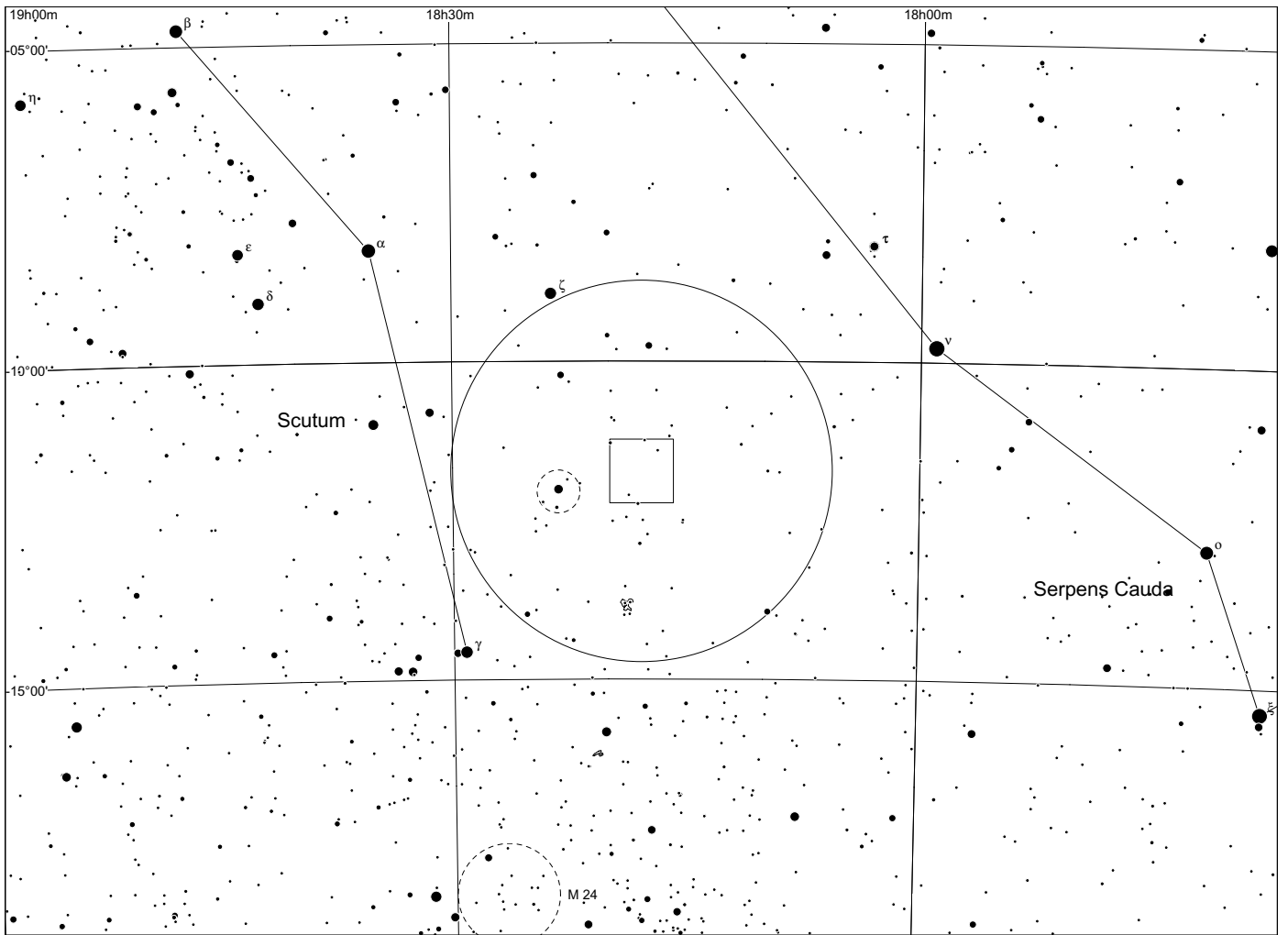
This HII region is associated with the Serpens OB2 association and the NGC 6604 star cluster and is the core of the W35 star formation region. It lies, unusually, about 70 parsecs above the galactic plane. Serpens OB2 contains over 100 OB stars with a common age of about 5 million years.

Sharpless describes a large region, so this nebula would be the large nebula, not just the small bright one within. A good image of this nebula, which looks like a nest carrying a tiny egg, can be seen here. NGC 6604 lies towards the bottom of Sh 2-54. It is not clear from the scientific literature what is causing the remarkably intense glow of the "egg".

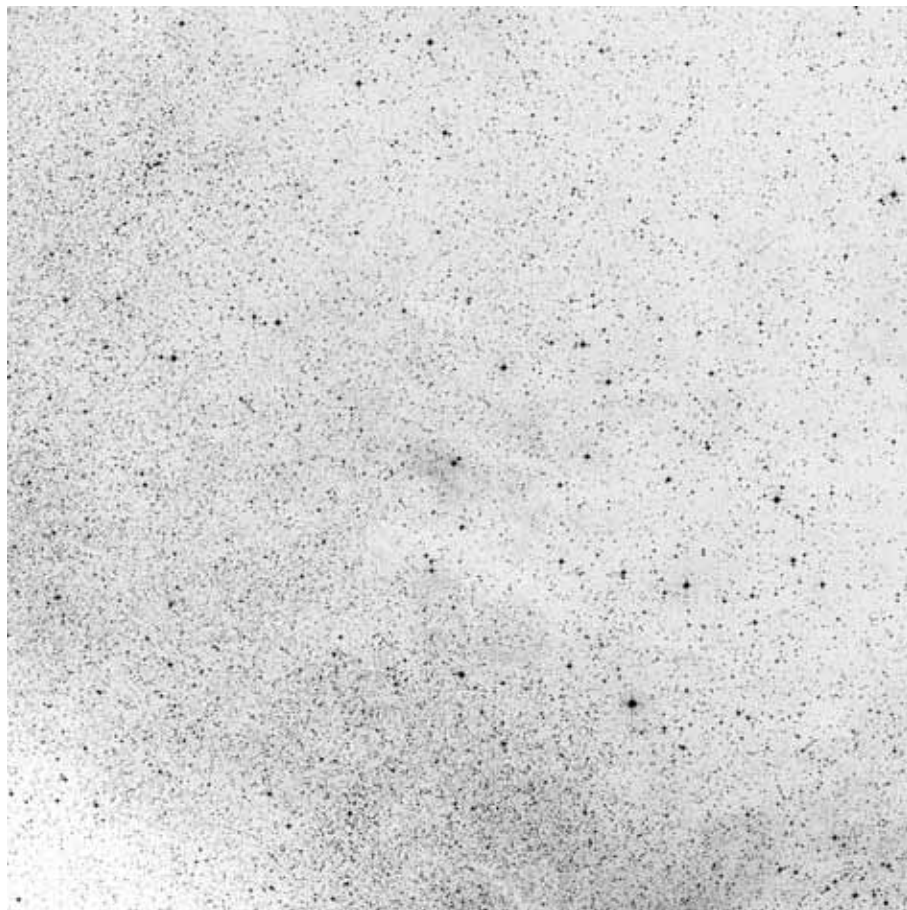
Observing notes:

22" f/4.5

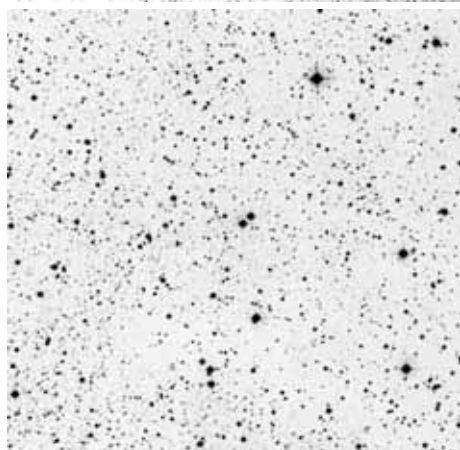
08/2008: The central part of this HII region is S3-132 and appears as a bright nebulous knot with internal structure. Very distinct.



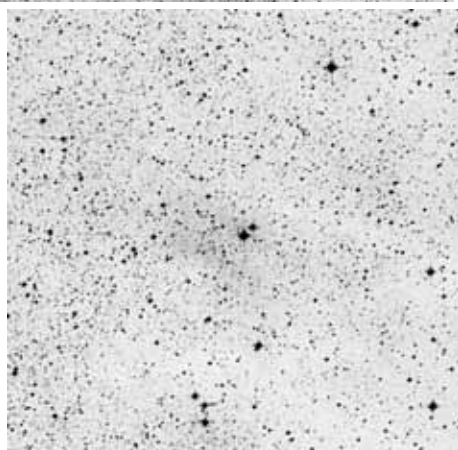
Sh 2 - 55 in Scutum



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-055		18 32 10.5	-11 45 44	5	3	2	1

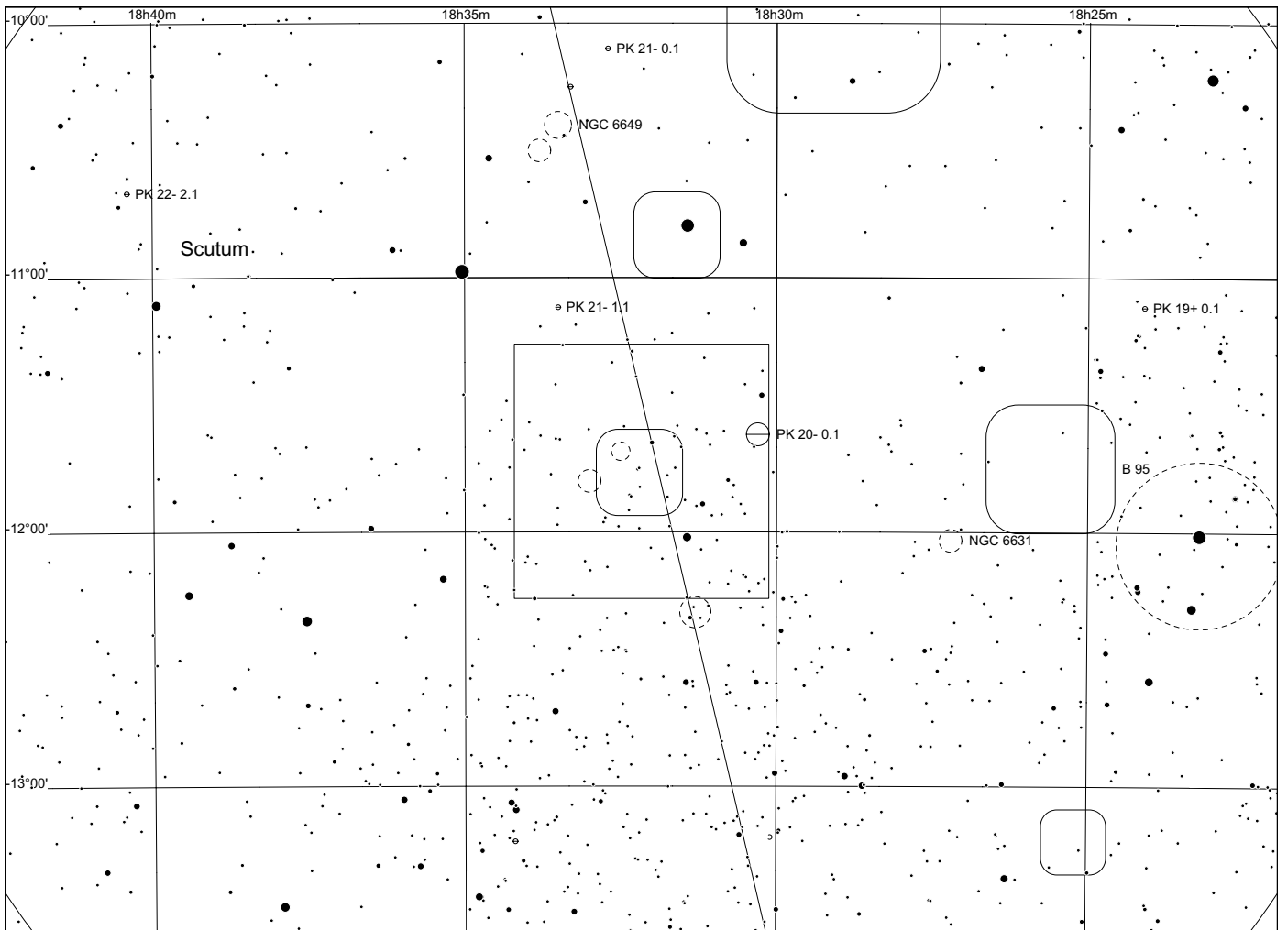
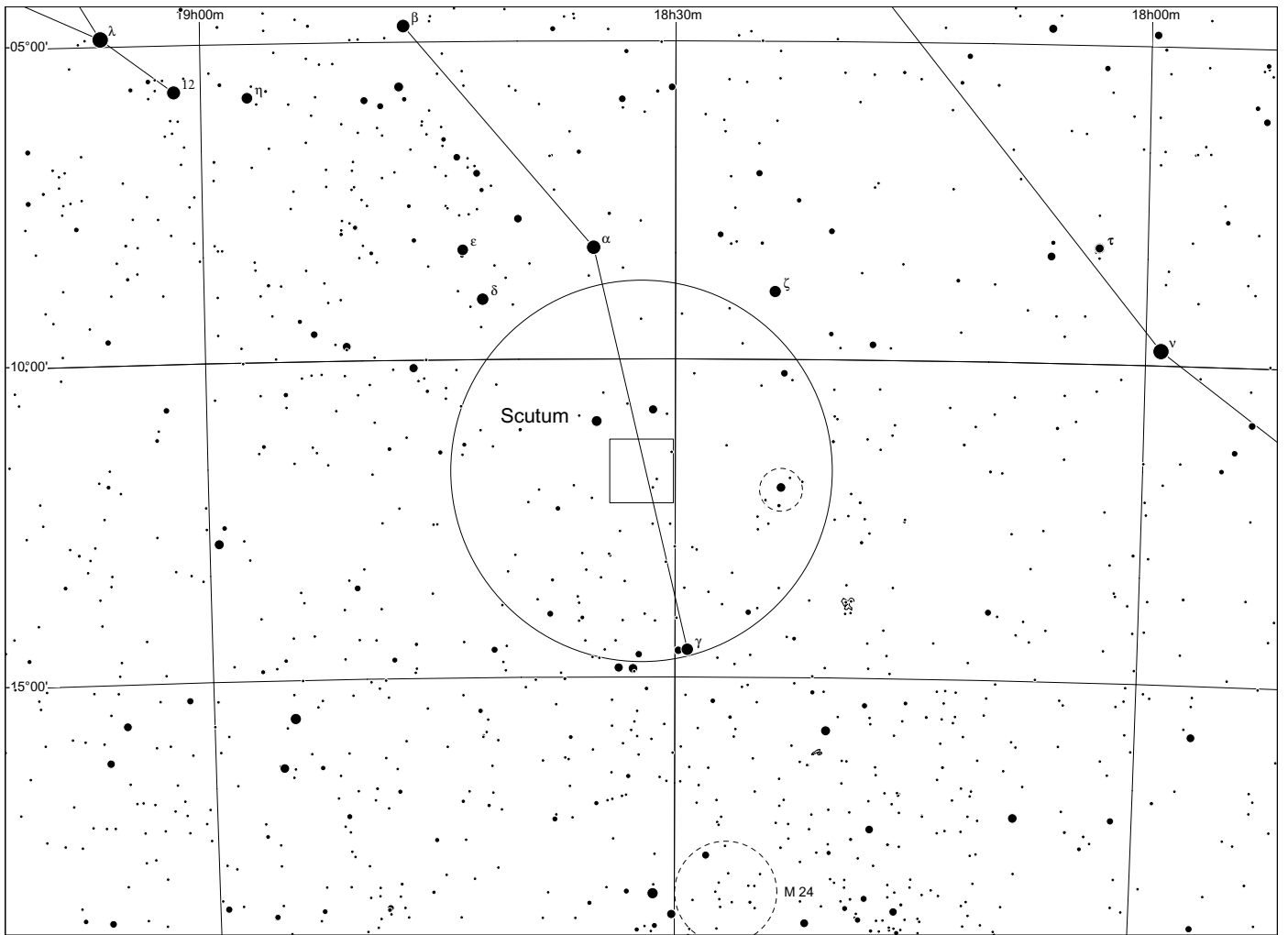
Distance: 3300 pc, Size: 4.8 pc Source: 2003A&A...397..133R

This HII region, also called LBN 73, may be part of the Scutum supershell. The dark nebula immediately below Sh 2-55 is LDN 412. Sh 2-55 is near a large nebular region in hydrogen-alpha that appears to mark the main boundary of the Scutum Supershell.

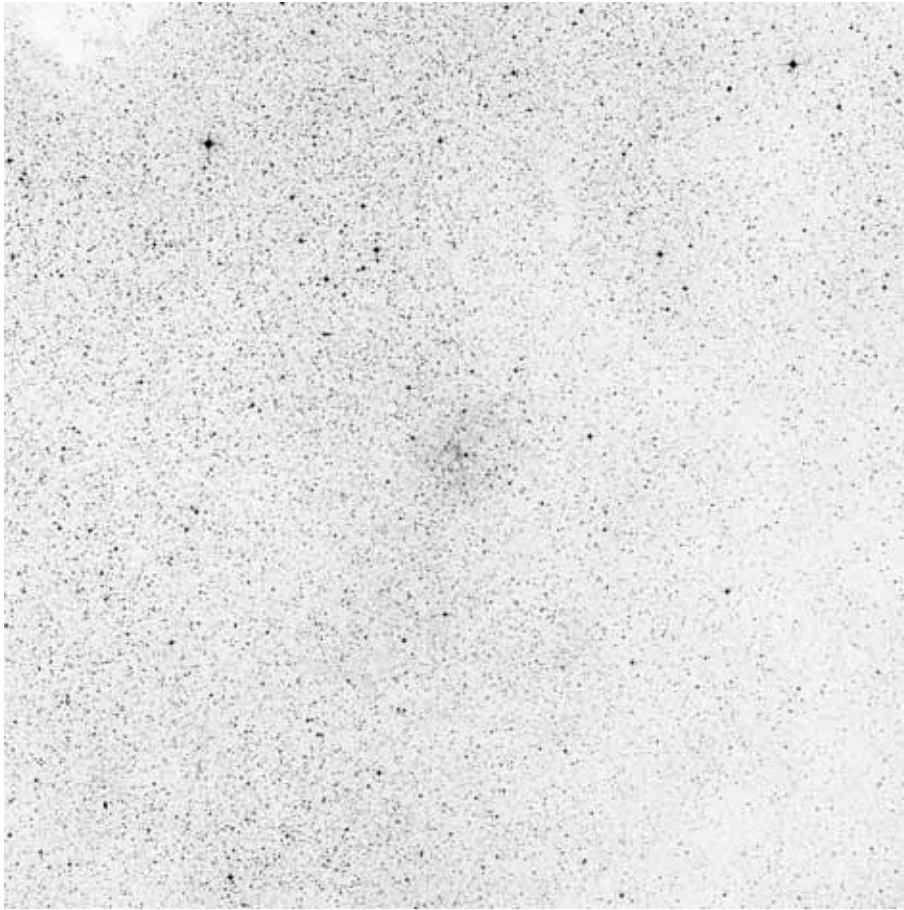
Observing notes:

22" f/4.5

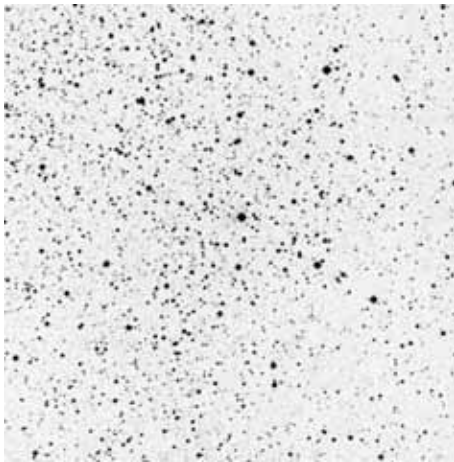
08/2008: unsuccessful observation



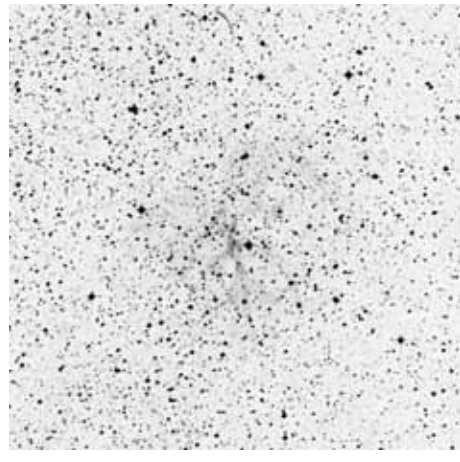
Sh 2 - 56 in Scutum



60x60, red



POSS blue



POSS red



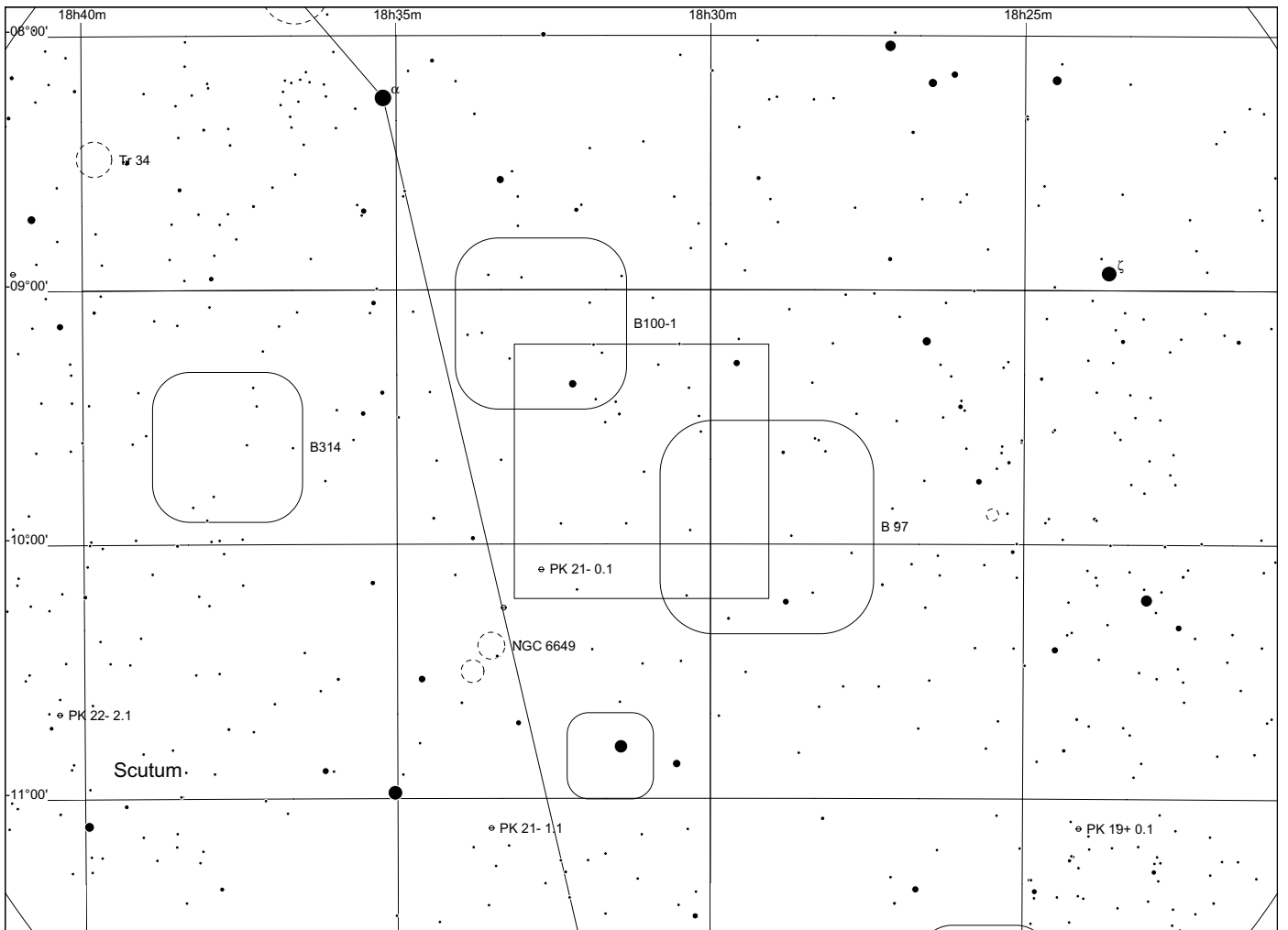
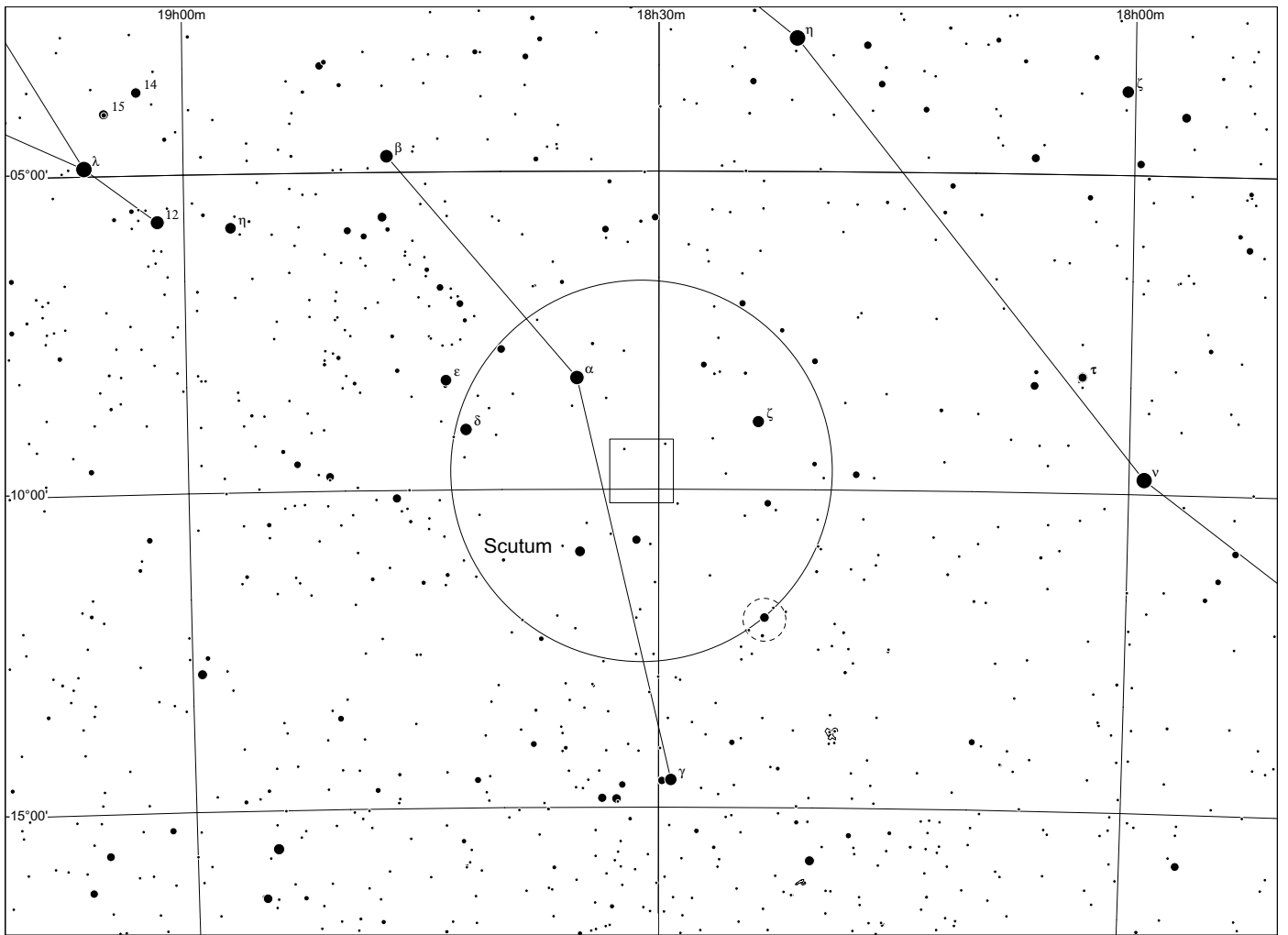
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-056		18 31 06.1	-09 42 52	7	1	2	1

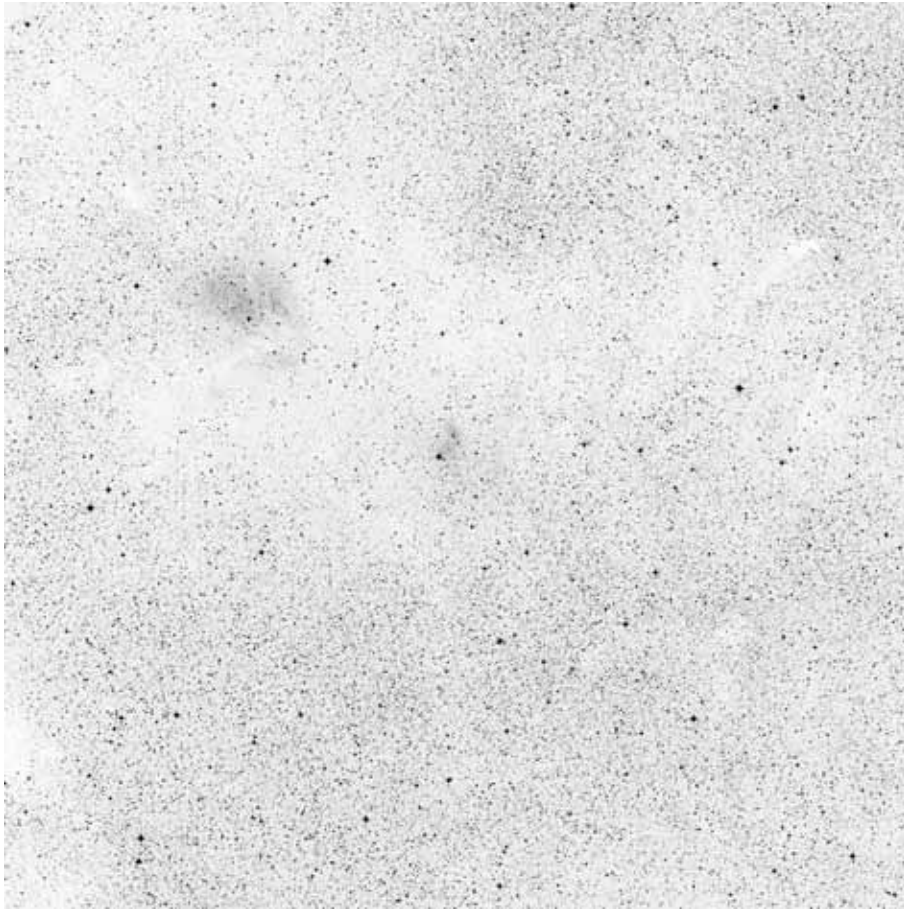
Also: RCW 169 (21.97°, 0.06°) Distance: 4800 pc, Size: 9.8 pc Source: 2003A&A...397..133R

This HII region is the luminous water maser GAL 021.88+00.02

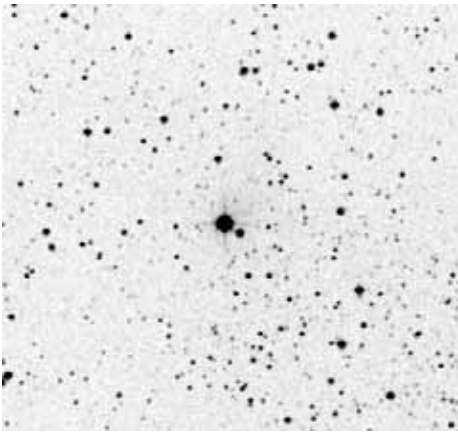
Observing notes:



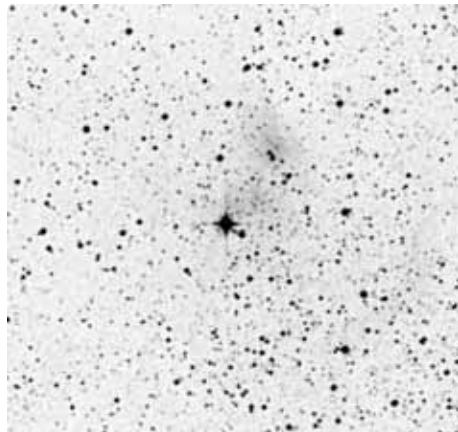
Sh 2 - 57 in Scutum



60x60, red



POSS blue



POSS red



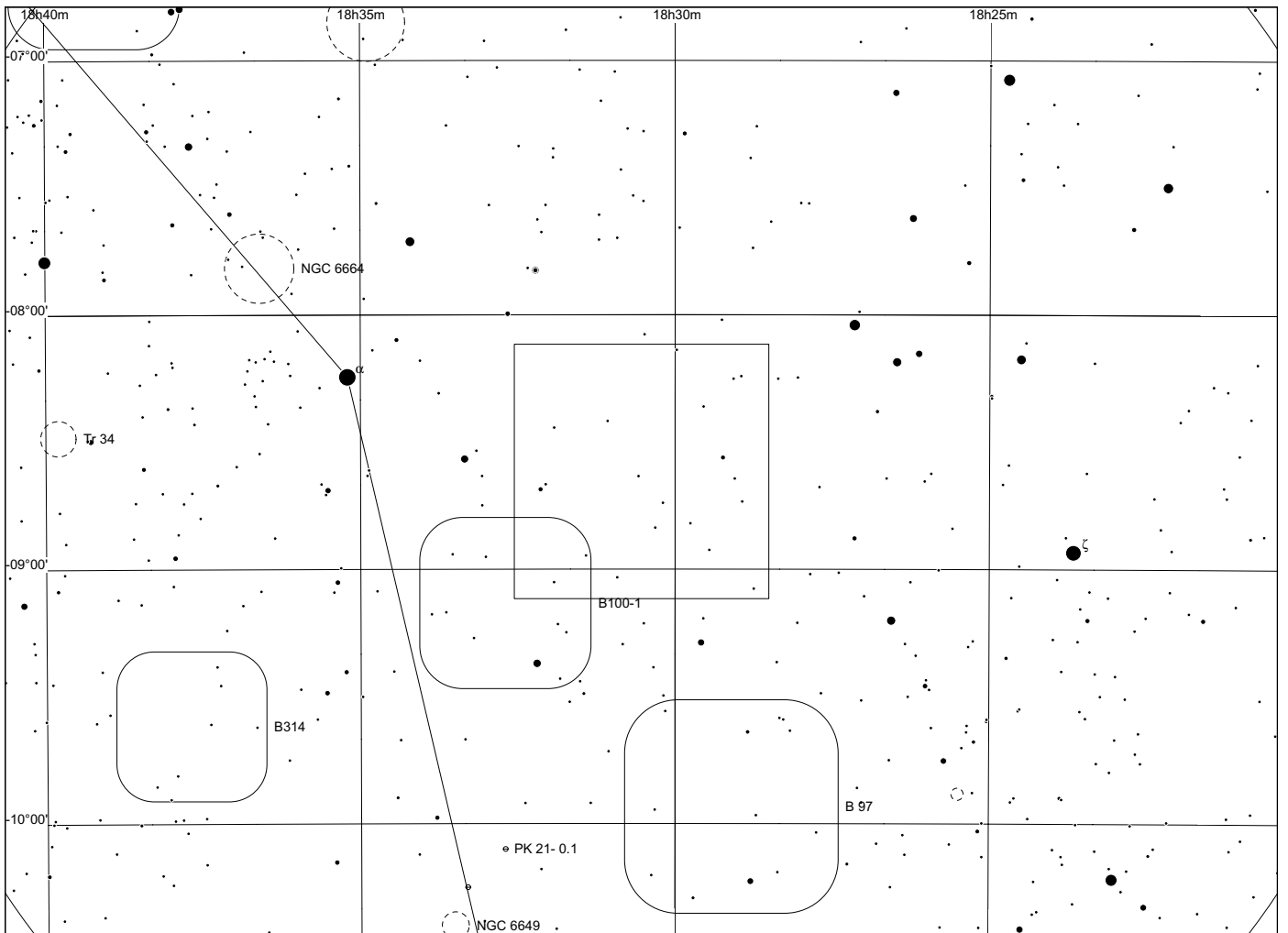
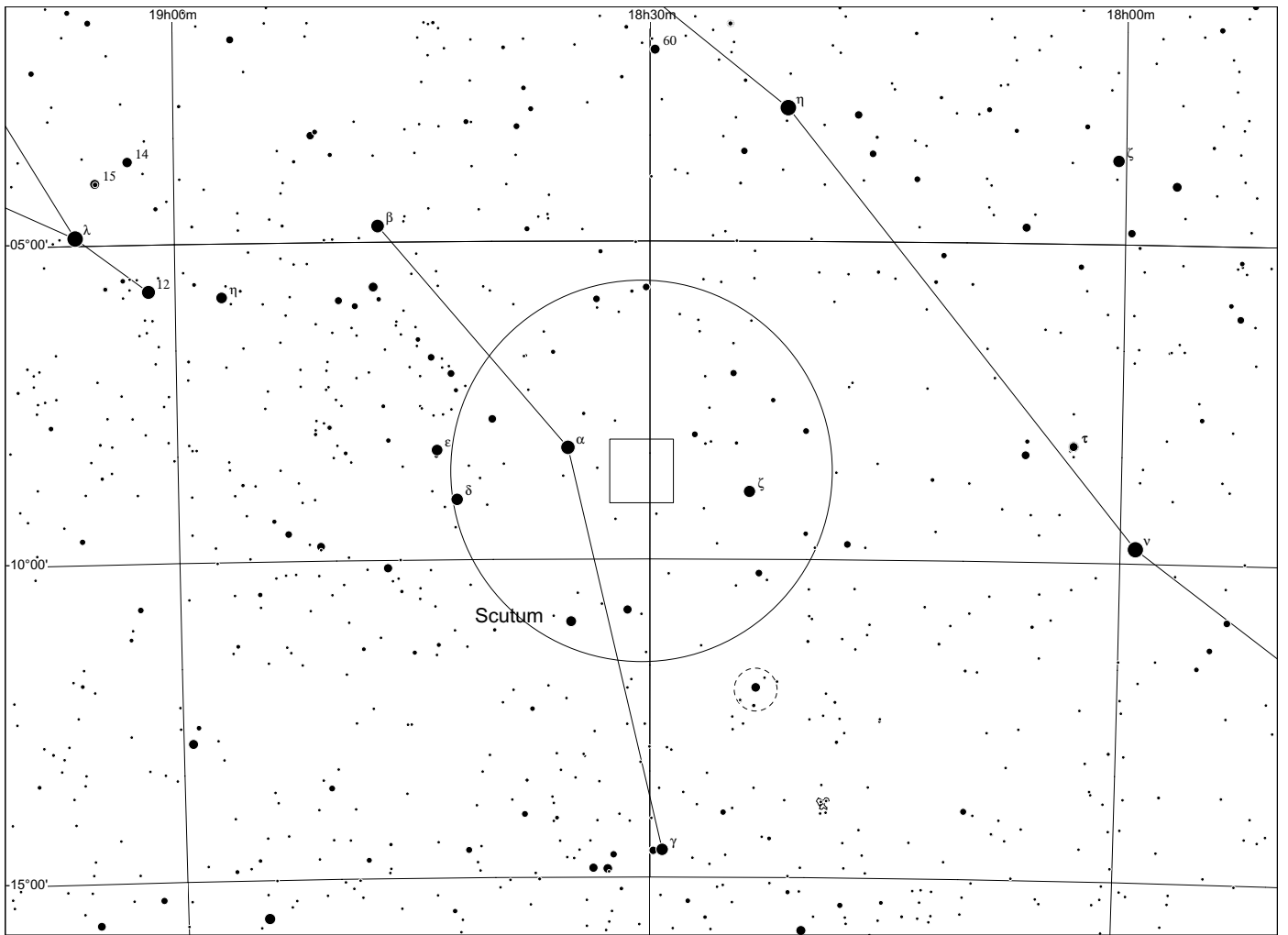
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-057		18 30 32.8	-08 36 58	2	3	2	1

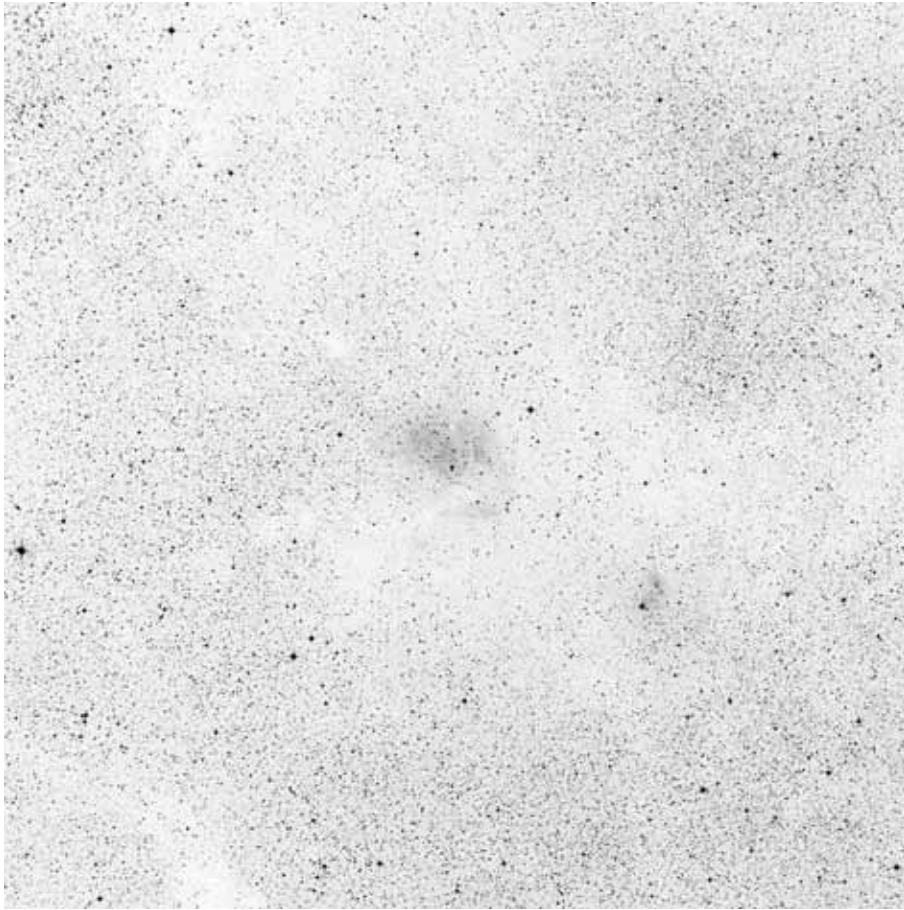
(22.89°, 0.68°) Distance: 1500 pc, Size: 0.9 pc Source: 1982ApJS...49..183B

Sh 2-57 and Sh 2-58 are visible together in the sky (as shown by this hydrogen-alpha image), divided by the dark nebula LDN 446 and just east of the Scutum Supershell. However, they seem to be located at quite different distances, with Sh 2-58 at about the same distance as the Supershell and Sh 2-57 in front of this region.

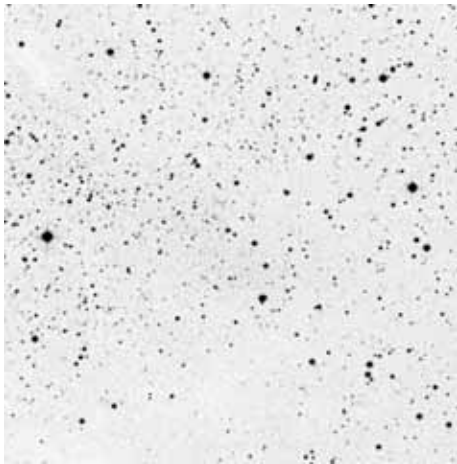
Observing notes:



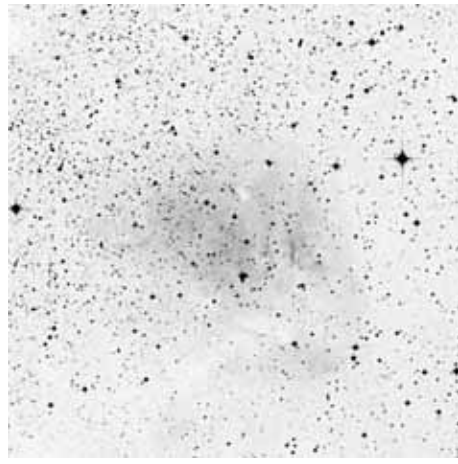
Sh 2 - 58 in Scutum



60x60, red



POSS blue



POSS red



composite

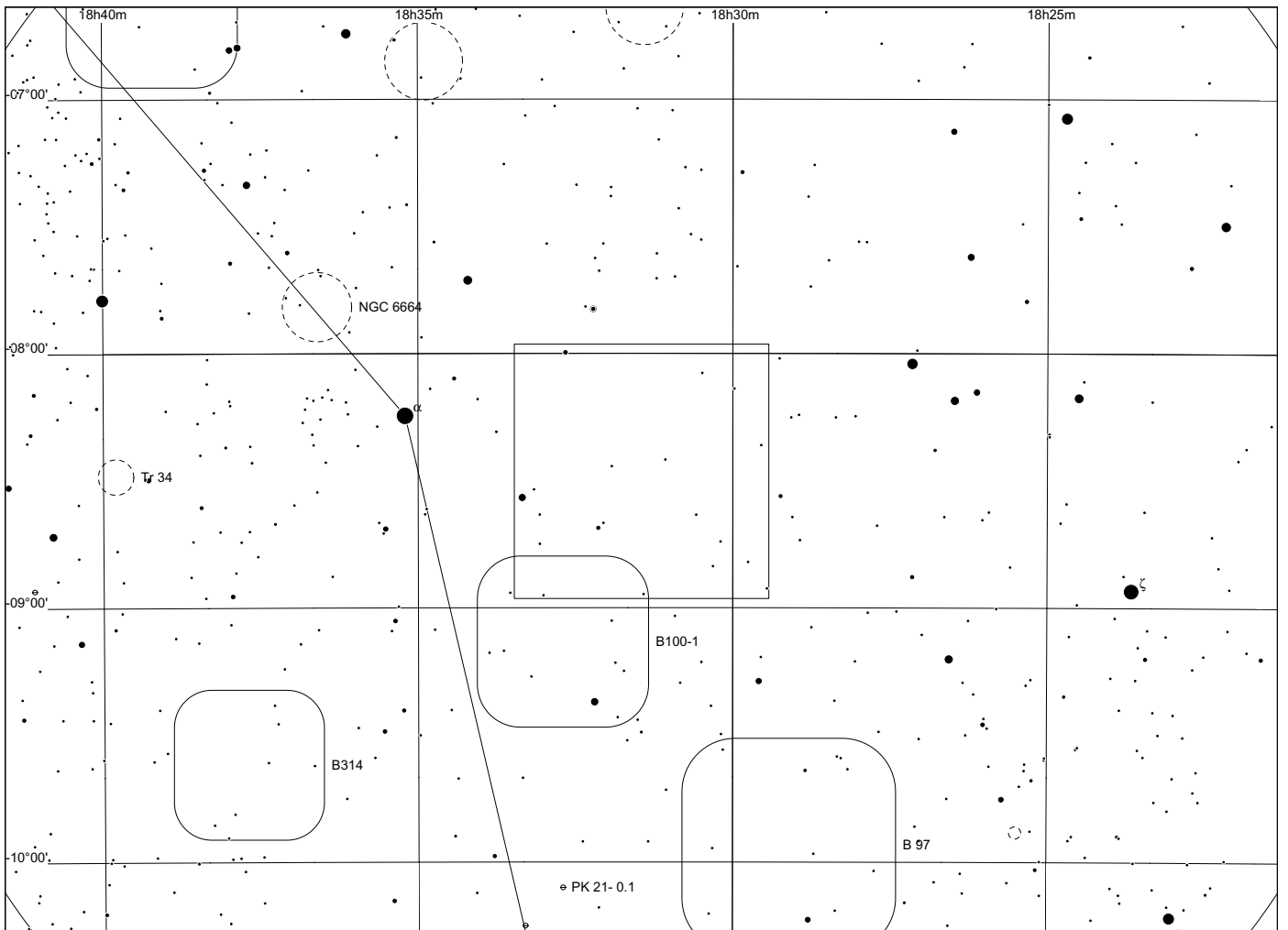
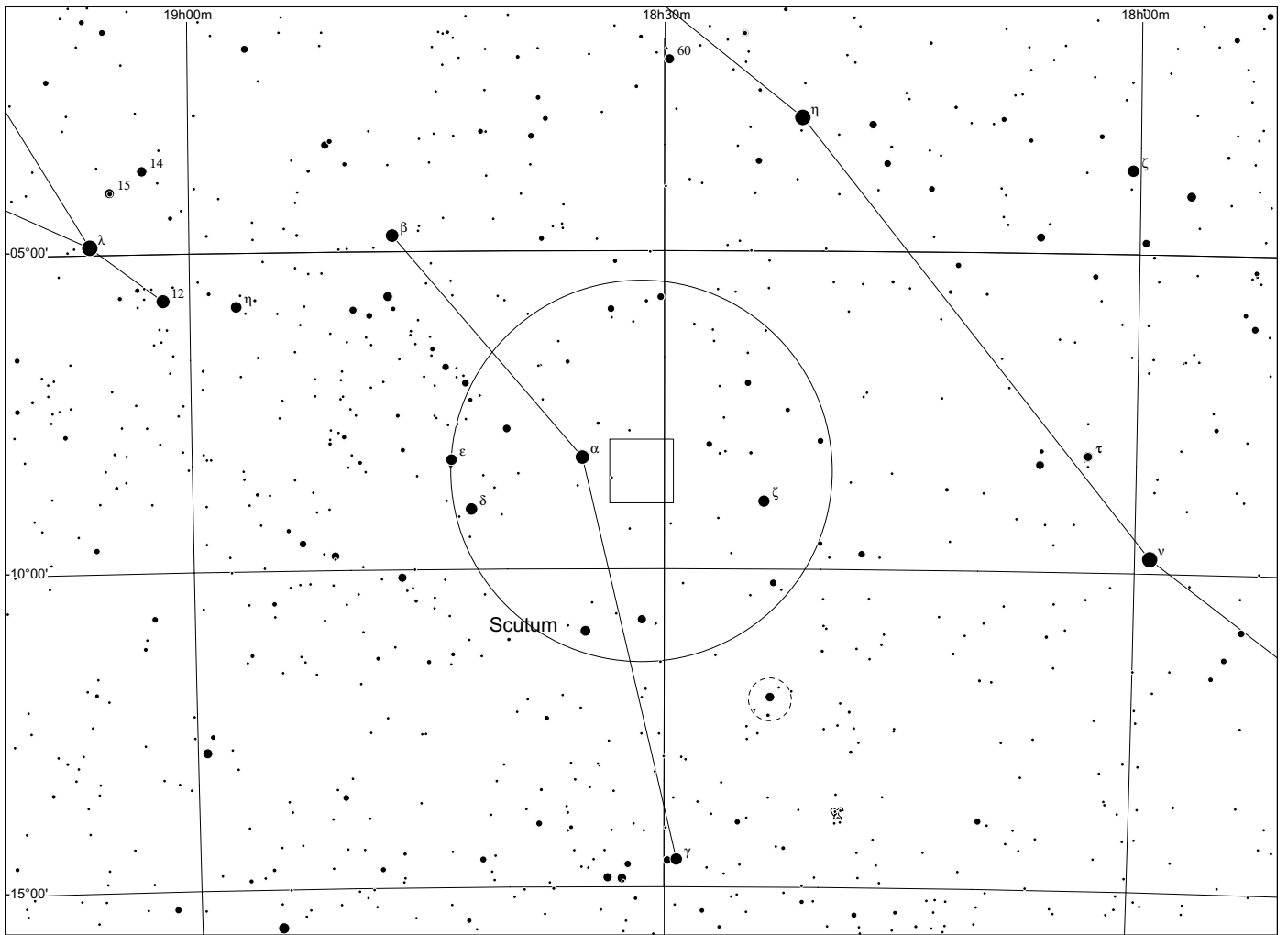
	other name	RA	dec	dia. '	F	S	B
Sh 2-058		18 31 26.6	-08 27 50	8	3	2	2

Also: RCW 171 (23.10°, 0.60°) Distance: 2472 pc, Size: 2.7 pc Source: 2003A&A...397..213P

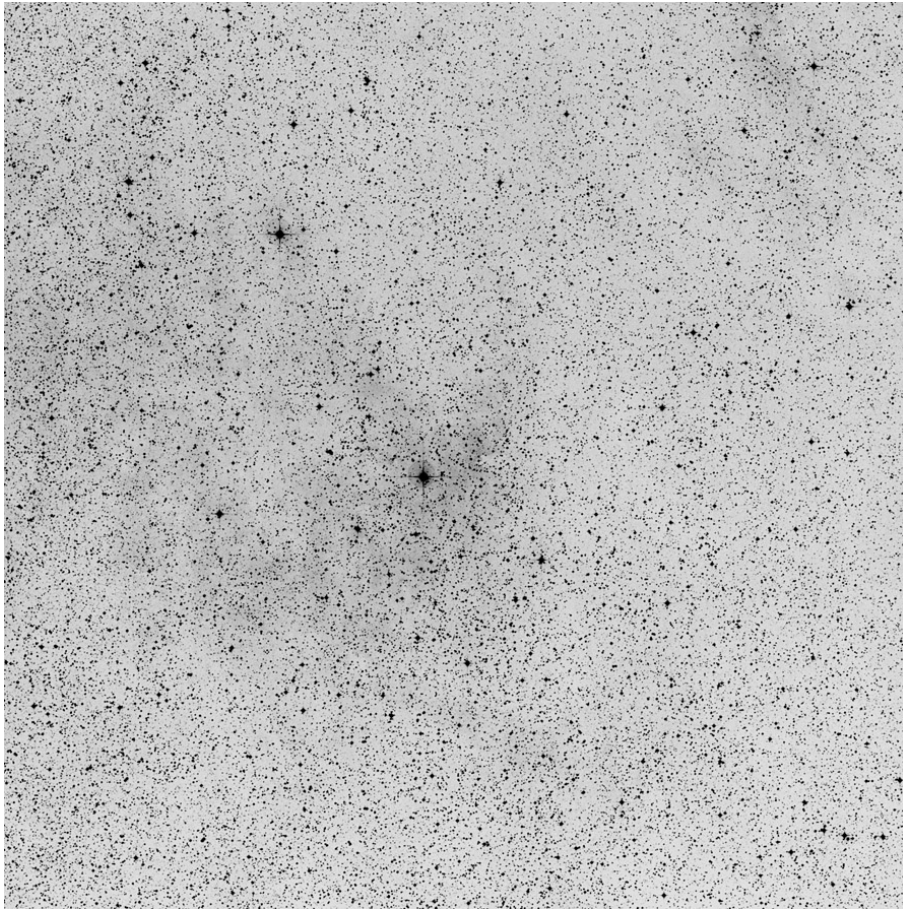
Sh 2-57 and Sh 2-58 are visible together in the sky (as shown by this hydrogen-alpha image), divided by the dark nebula LDN 446 and just east of the Scutum Supershell. However, they seem to be located at quite different distances, with Sh 2-58 at about the same distance as the Supershell and Sh 2-57 in front of this region.

Sh 2-58 is close in the sky to the supernova remnant W41, which is estimated to have a distance of about 4000 pc.

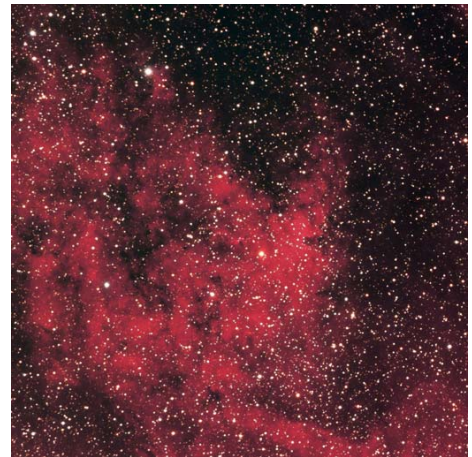
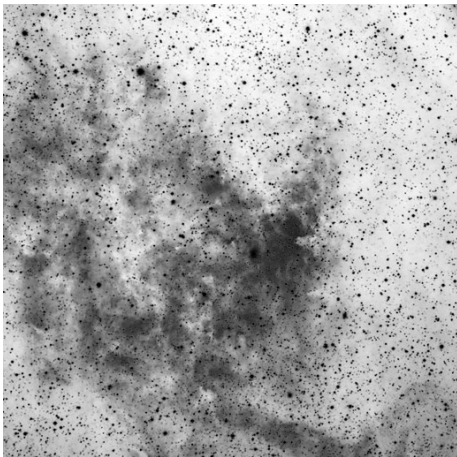
Observing notes:



Sh 2 - 59 in Scutum



60x60, red

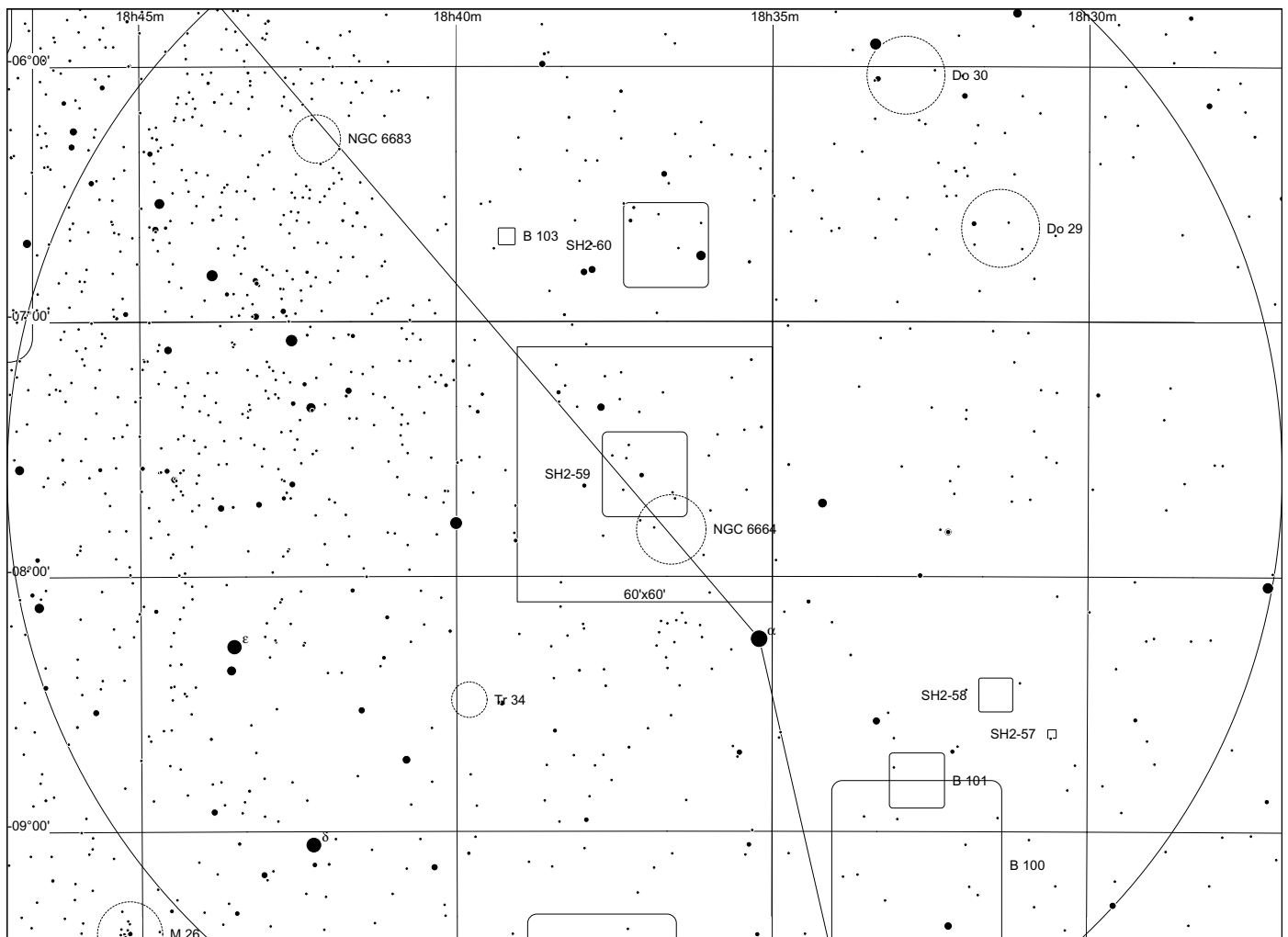
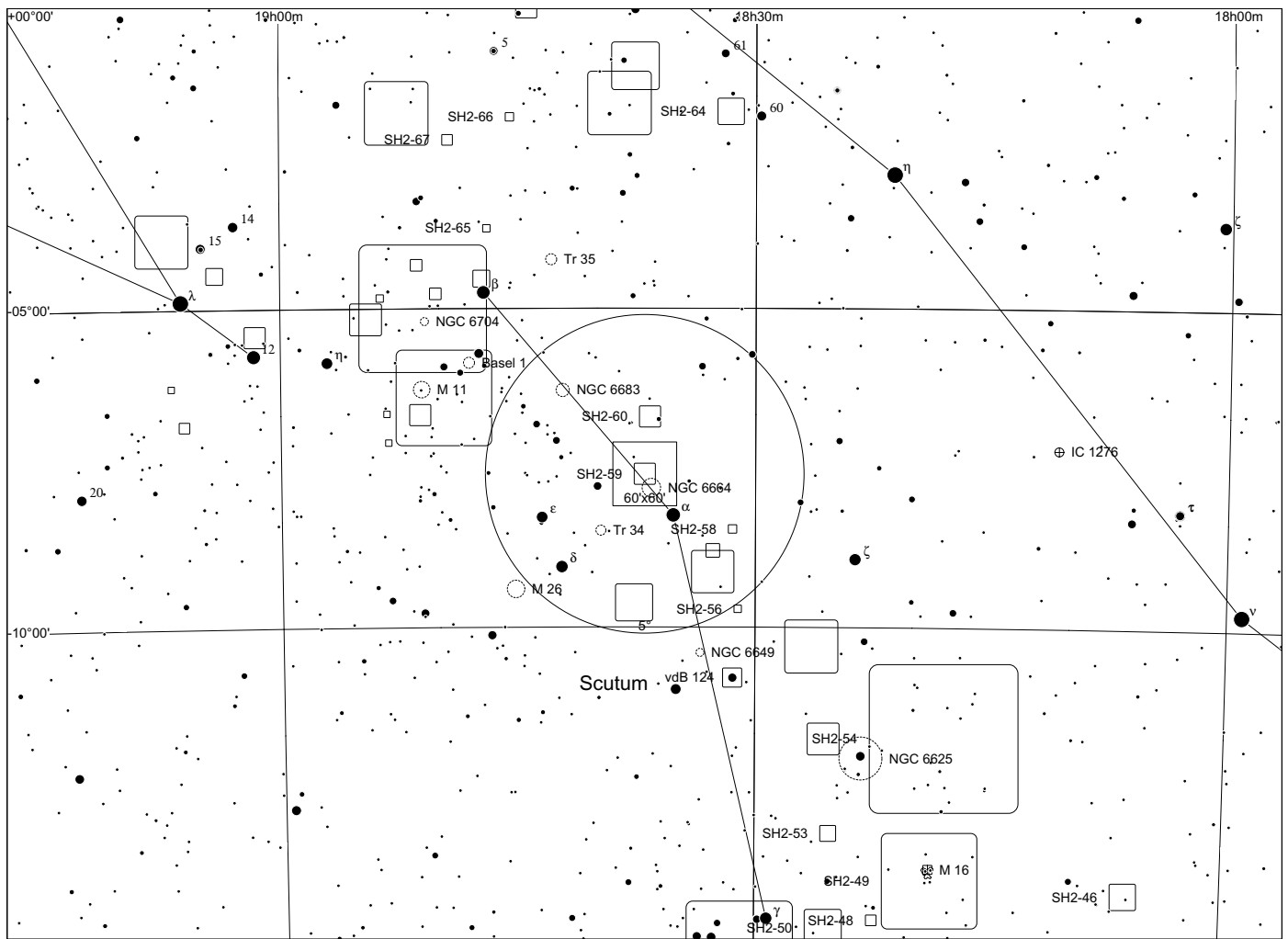


Dean Salman H alpha

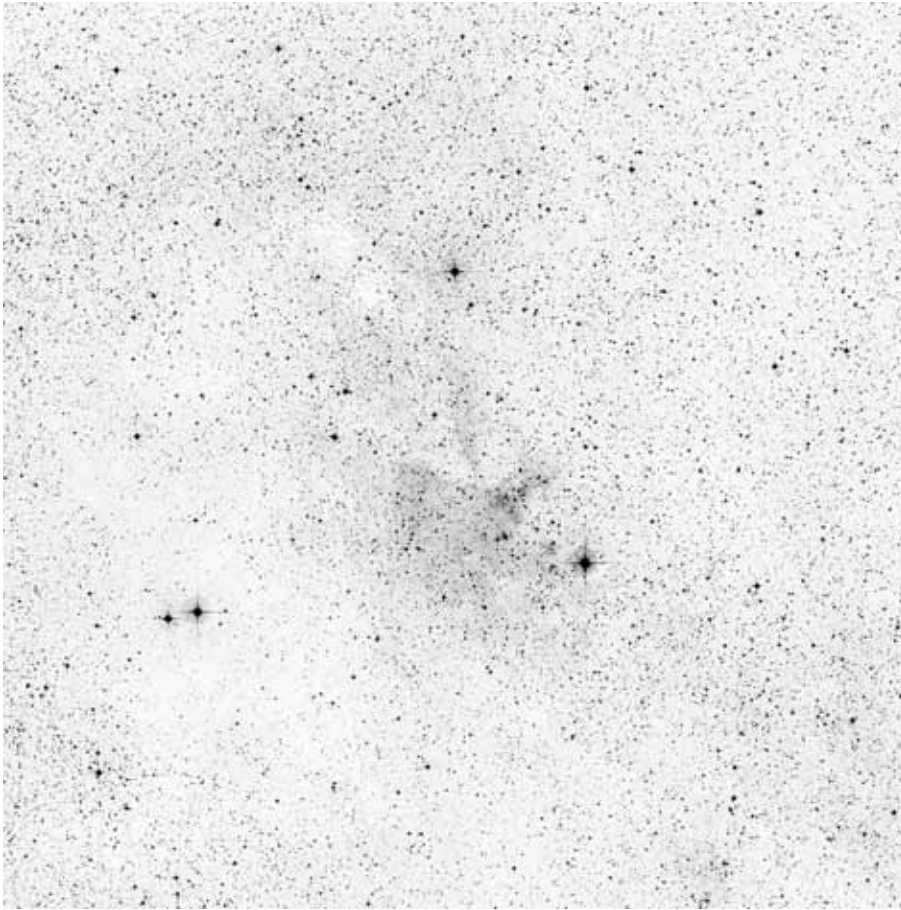
	other name	RA	dec	dia. '	F	S	B
Sh 2-059	RCW 172	18 37 00.6	-07 36 01	20	3	2	1

Distance: 5468 pc, Size: 18.0 pc Source: 2003A&A...397..213P
This is actually at 3100 pc.

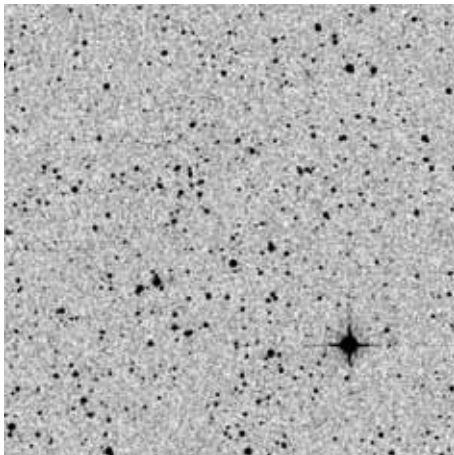
Observing notes:



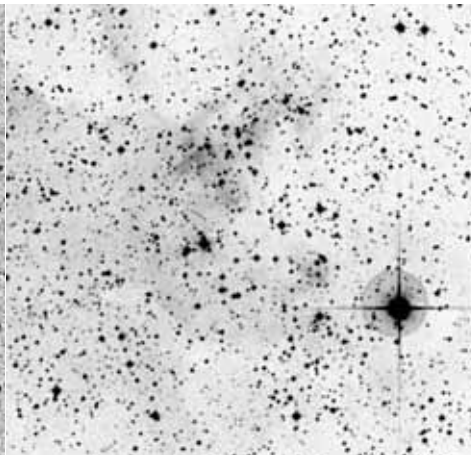
Sh 2 - 60 in Scutum



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-060		18 36 40.5	-06 42 04	20	3	2	2

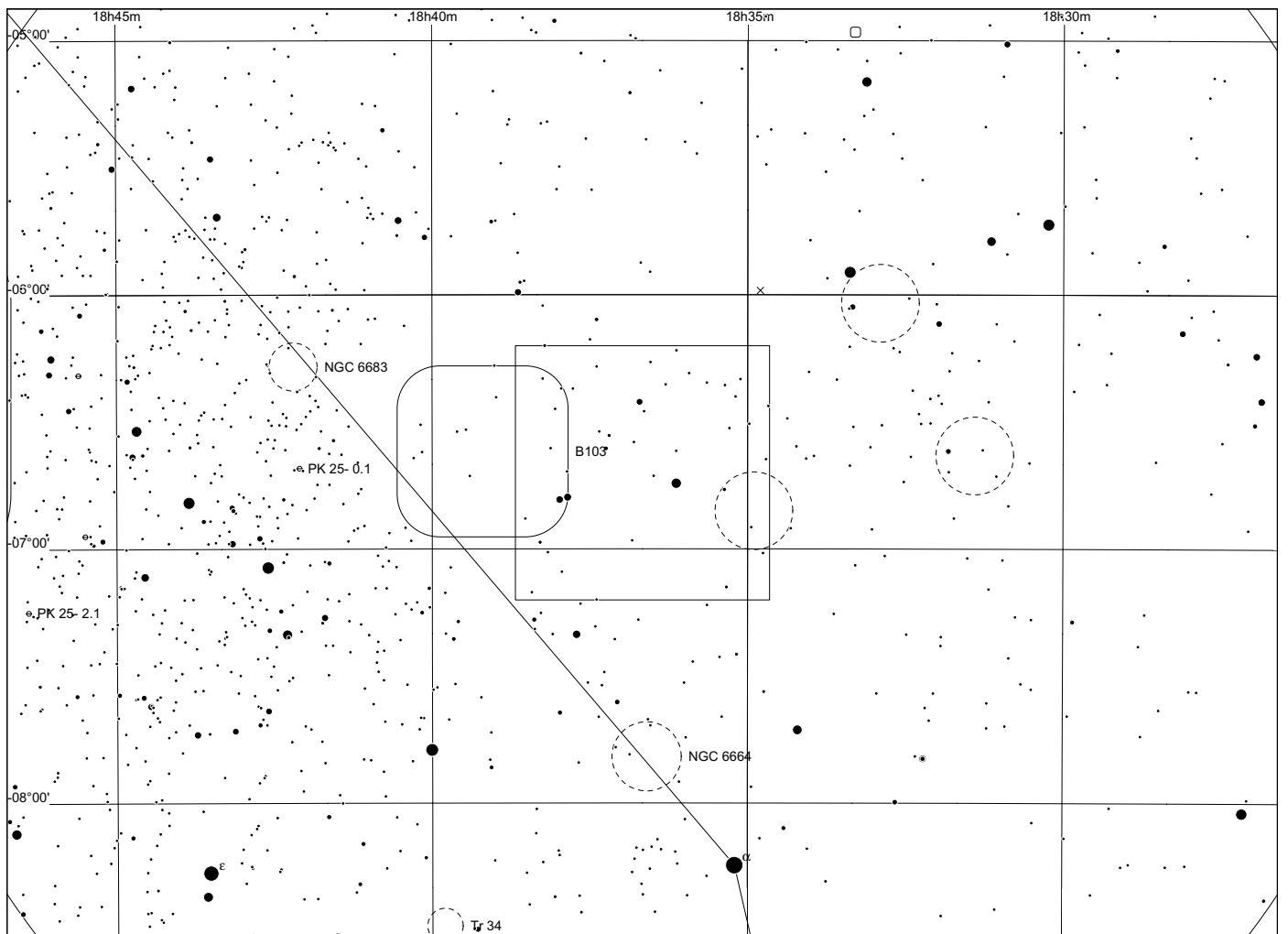
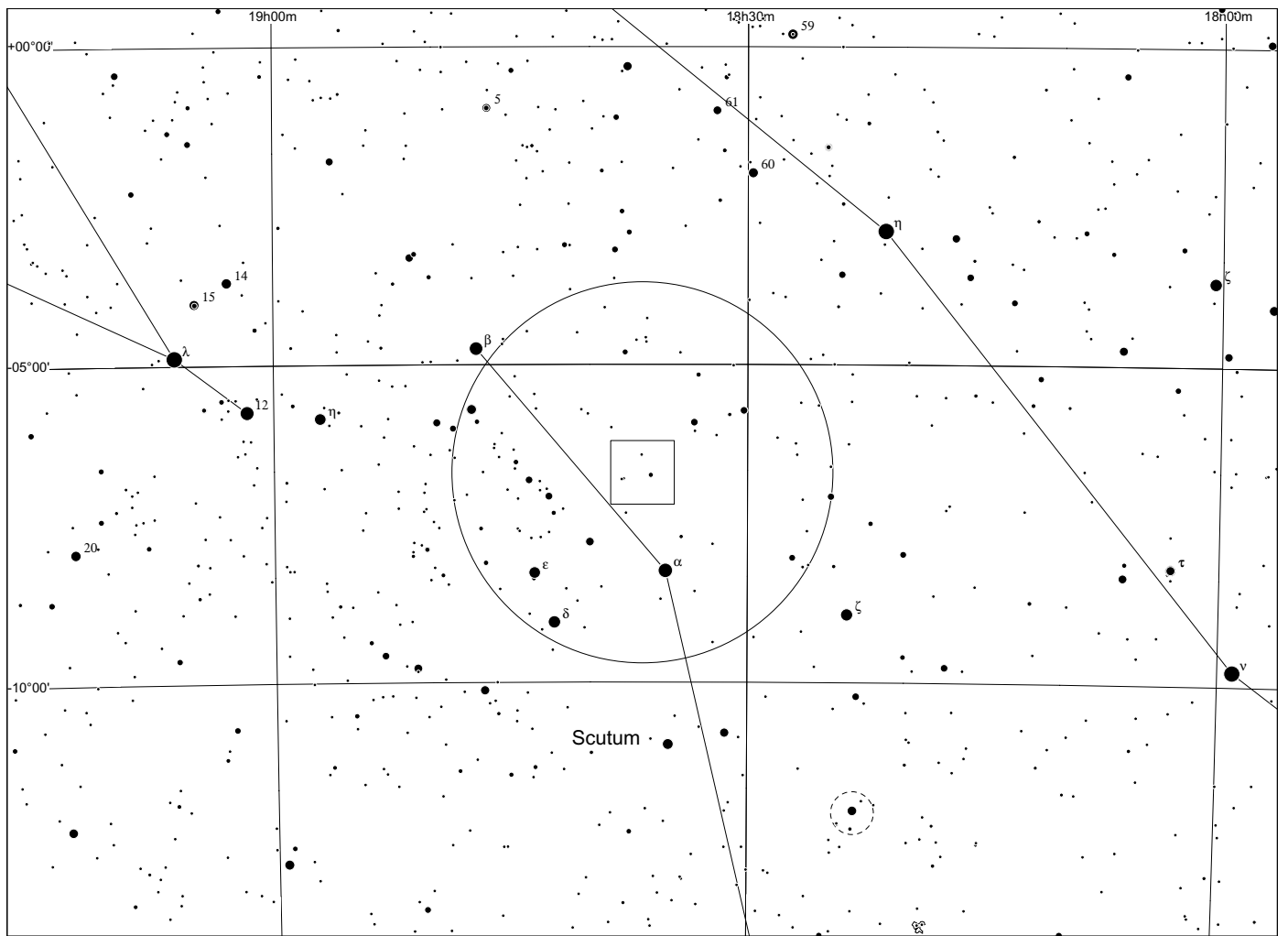
Also: RCW 173 (25.30°, 0.21°) Distance: 2200 pc, Size: 12.8 pc Source: 2003A&A...397..133R

This large nebula, which is also called LBN 82 and W42, but is most often referenced as GAL 025.4-00.2 or GAL 025.38-00.18 in the scientific literature, has a bewildering number of different names in SIMBAD (not all cross-referenced).

The radio source W42 has wildly varying distance estimates (from 13400 parsecs to 2200 parsecs). If the near estimate of 2200 parsecs (which is from a recent paper published in 2000) is accepted, then W42 is likely part of the Sh 2-60 nebula. Infrared imagery in the same paper shows that W42 is energised by a massive, dense and young OB star cluster embedded in an obscuring dust cloud in the bottom left part of this image.

To compound the confusion, the nebulosity in this direction actually consists of several distinct HII regions, one (G25.4SE) that has a distance estimated at 4600 parsecs (although the above paper identifies this as W42 at 2200 parsecs) and another (G25.4NW) at a distance of about 12000 parsecs. The distant (14500 parsecs) radio source GAL 025.52+00.22, is also in this field and is believed to house a Luminous Blue Variable similar to Eta Carinae.

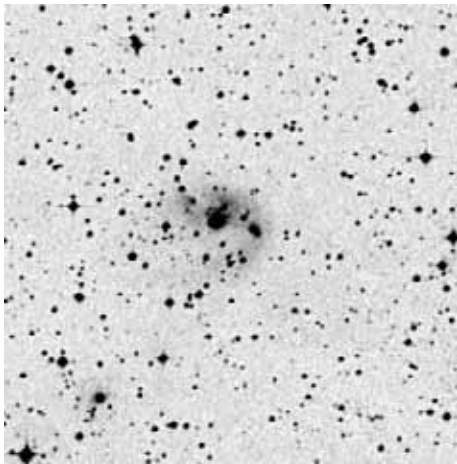
Observing notes:



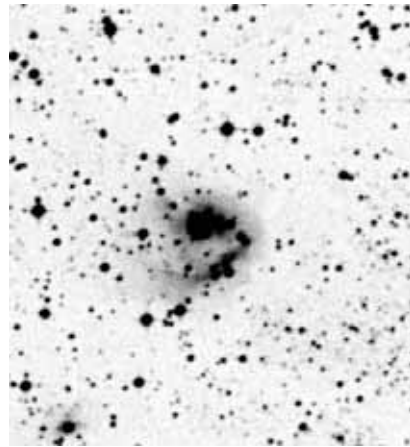
Sh 2 - 61 in Scutum



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-061		18 32 54.5	-05 00 36	2	3	2	3

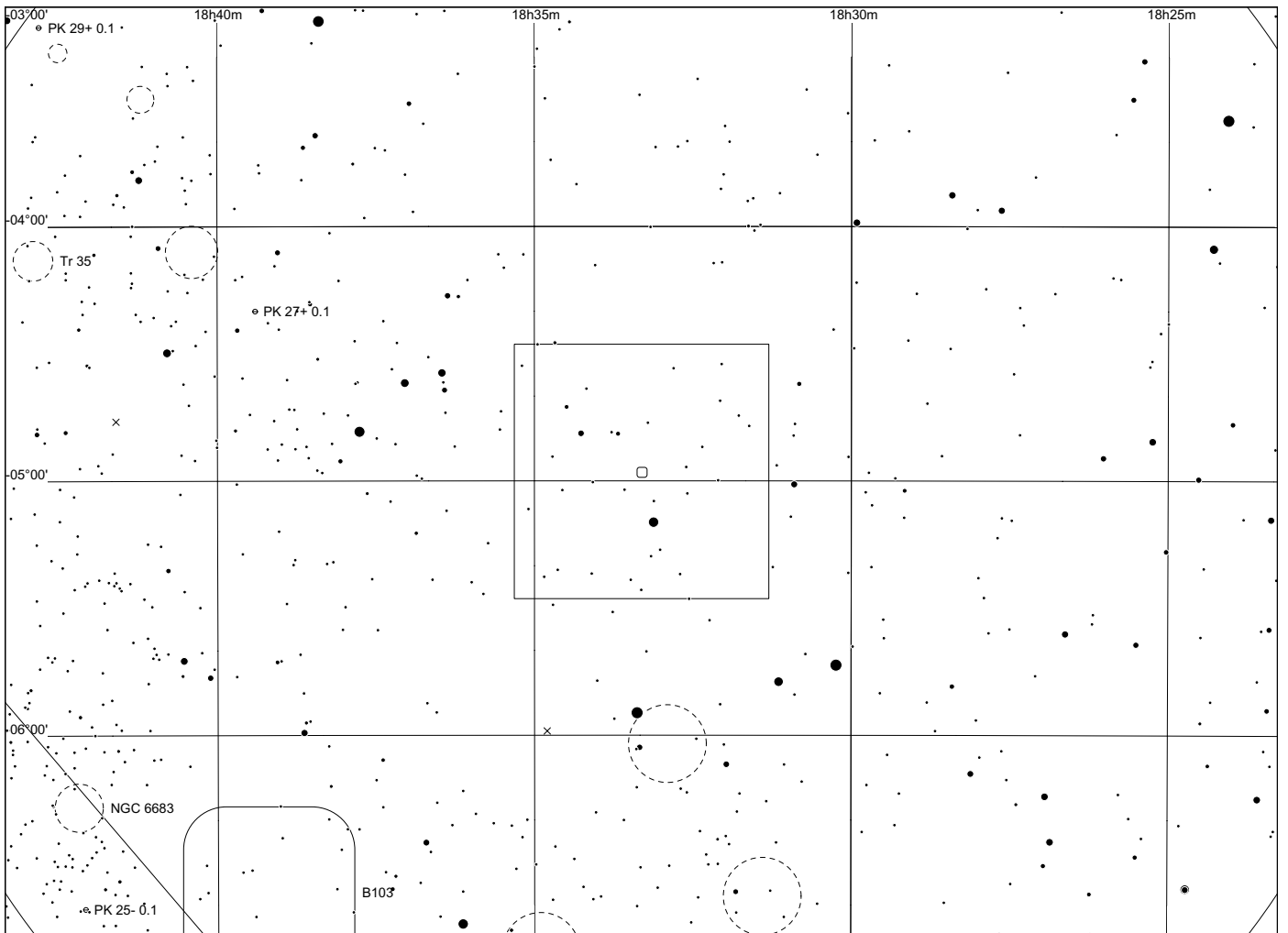
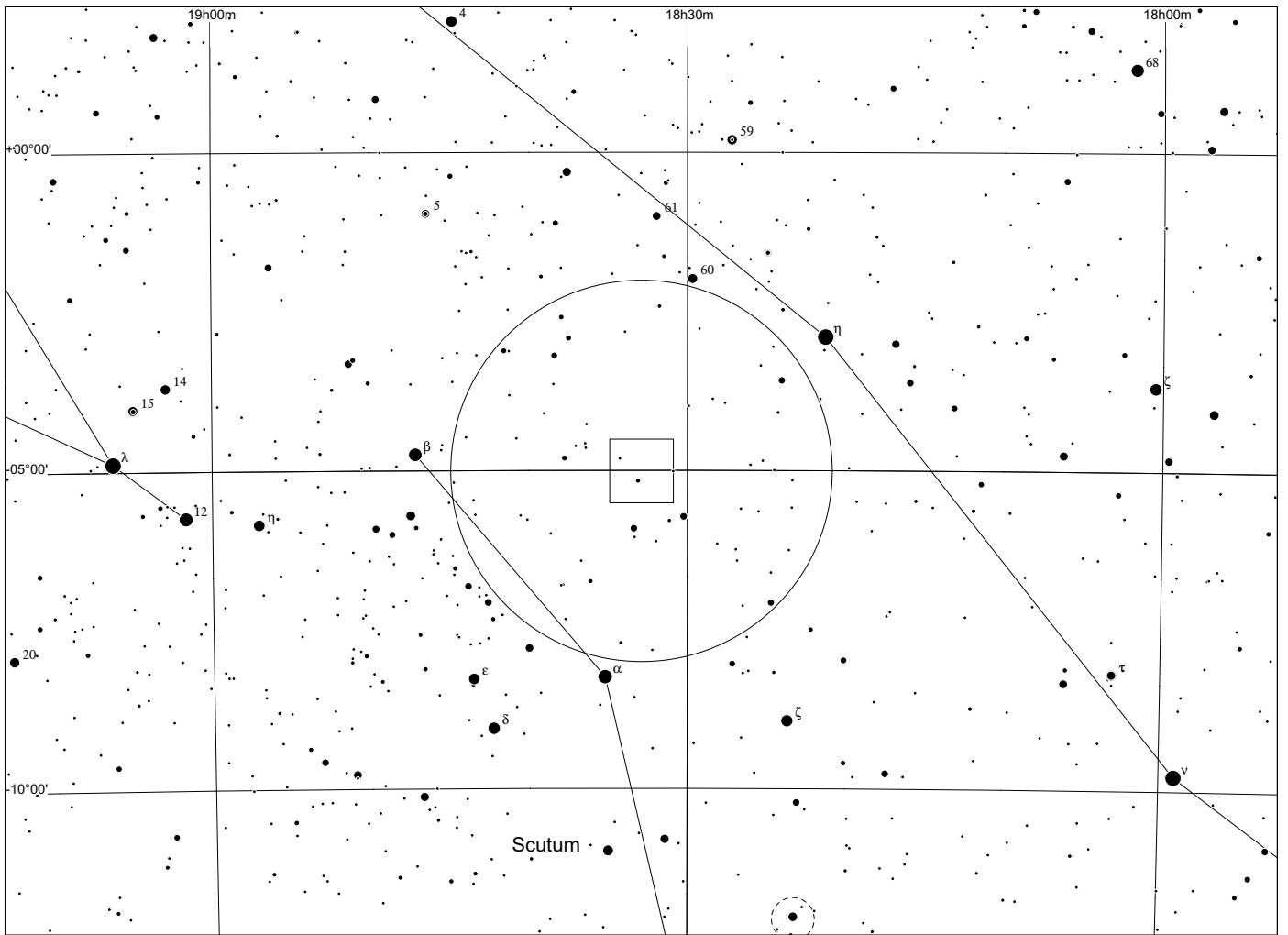
(26.44°, 1.74°) Distance: 2300 pc, Size: 1.3 pc Source: 2003A&A...397..133R

This object is sometimes mistaken for a planetary nebula but in fact is a compact HII region ionised by at least 3 B1 stars and embedded in a 23 thousand solar mass molecular cloud. There is a second distance estimate of 1700 parsecs.

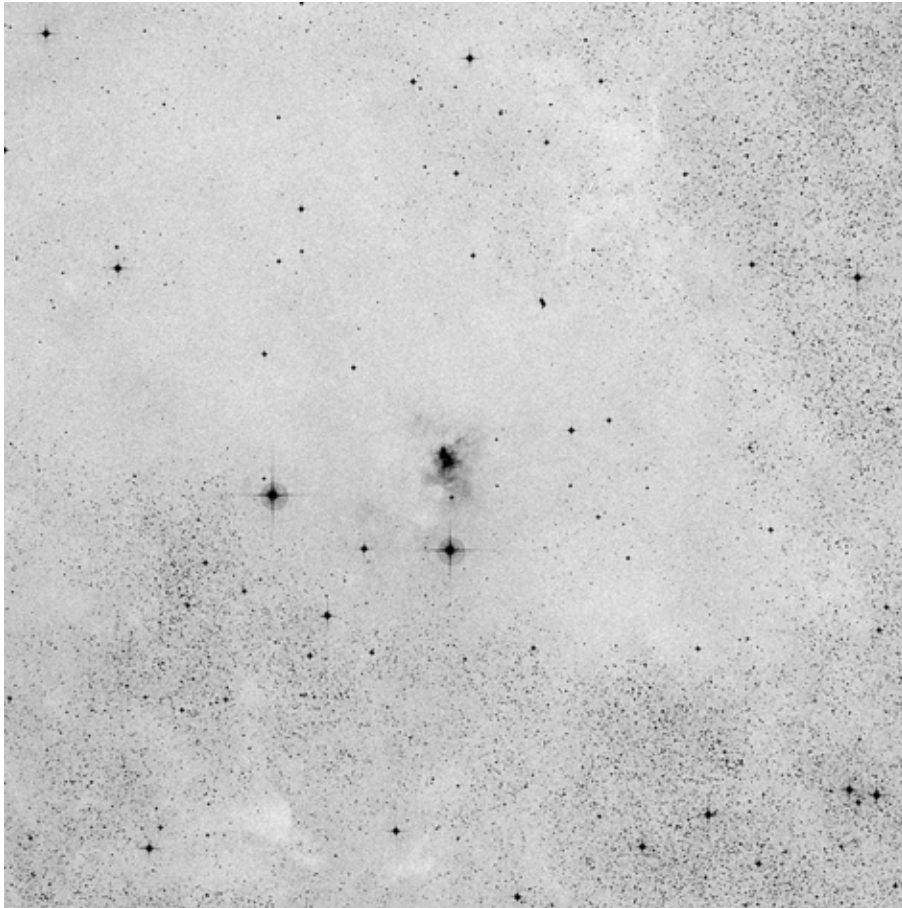
Observing notes:

22" f/4.5

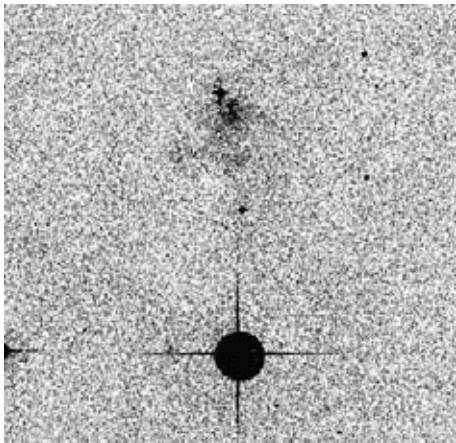
08/2012: unsuccessful



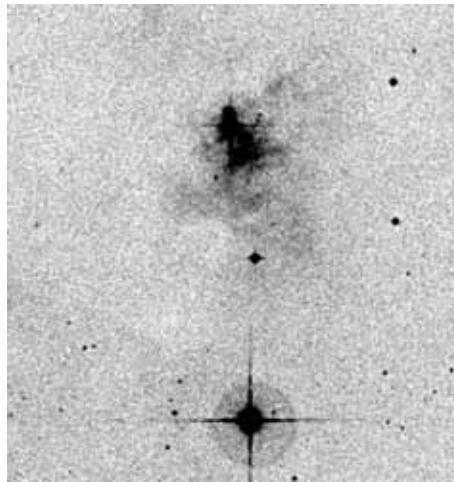
Sh 2 - 62 in Serpens



60x60, red



POSS blue



POSS red



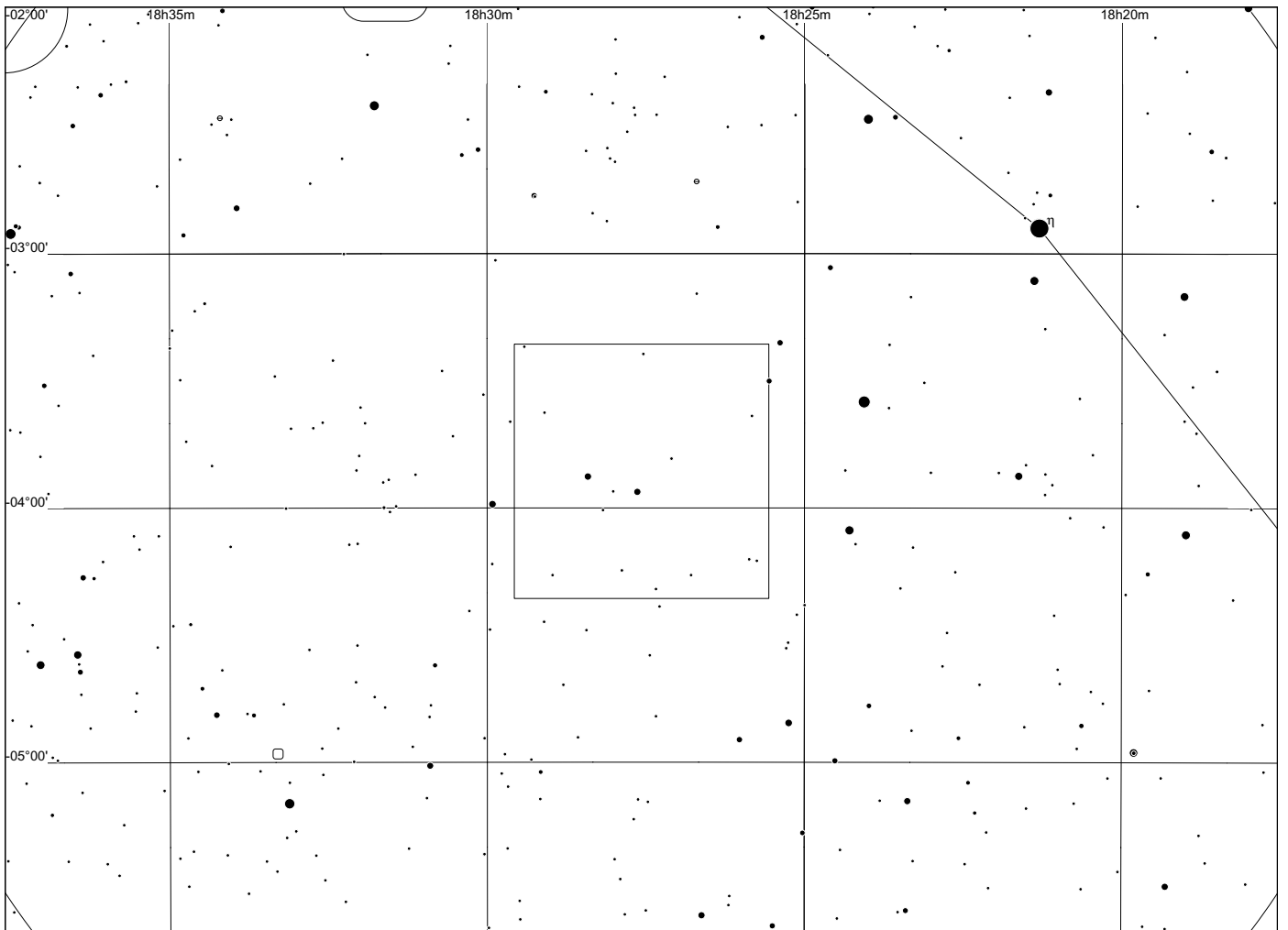
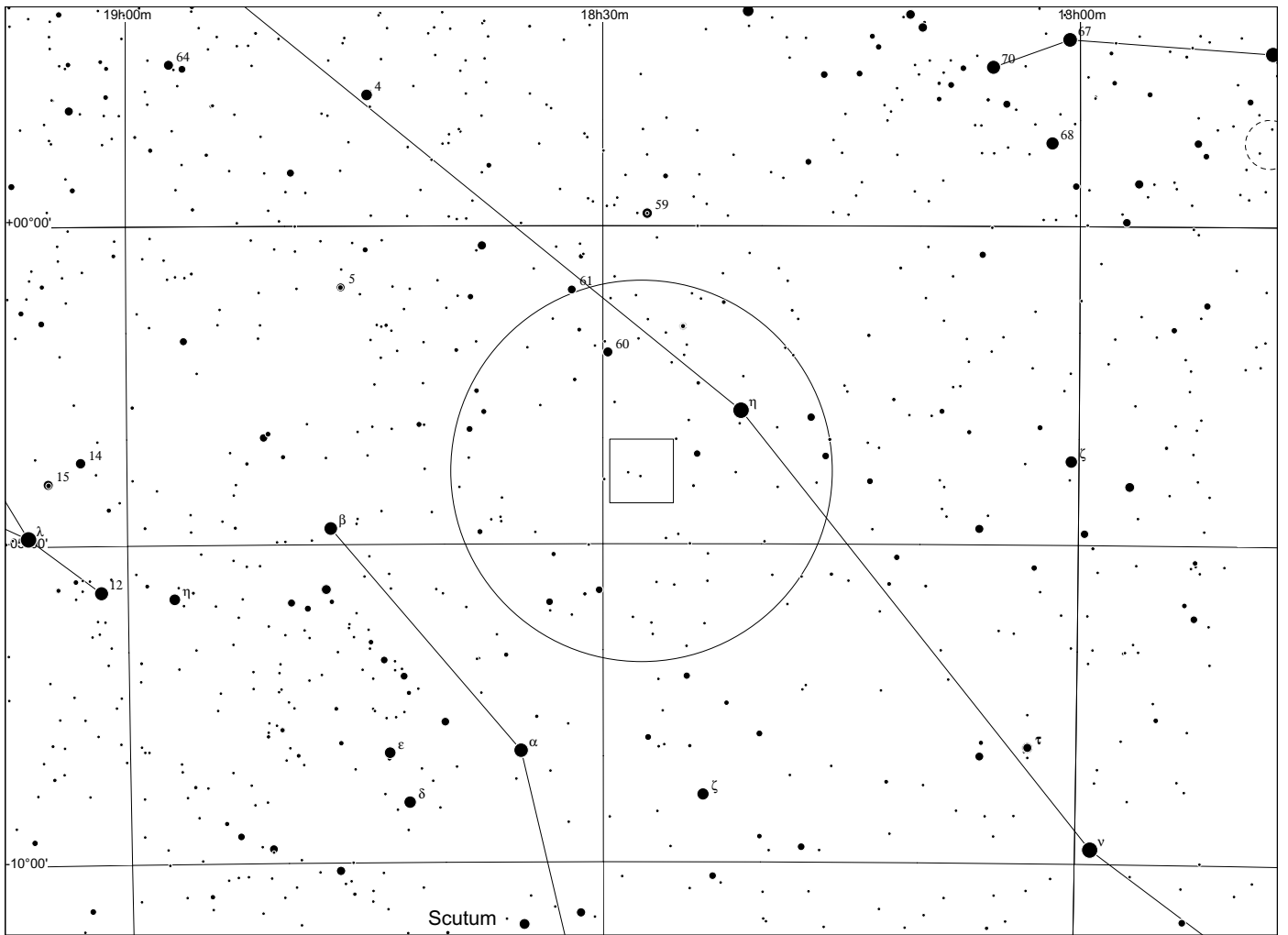
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-062		18 27 34.2	-03 51 22	4	3	1	1

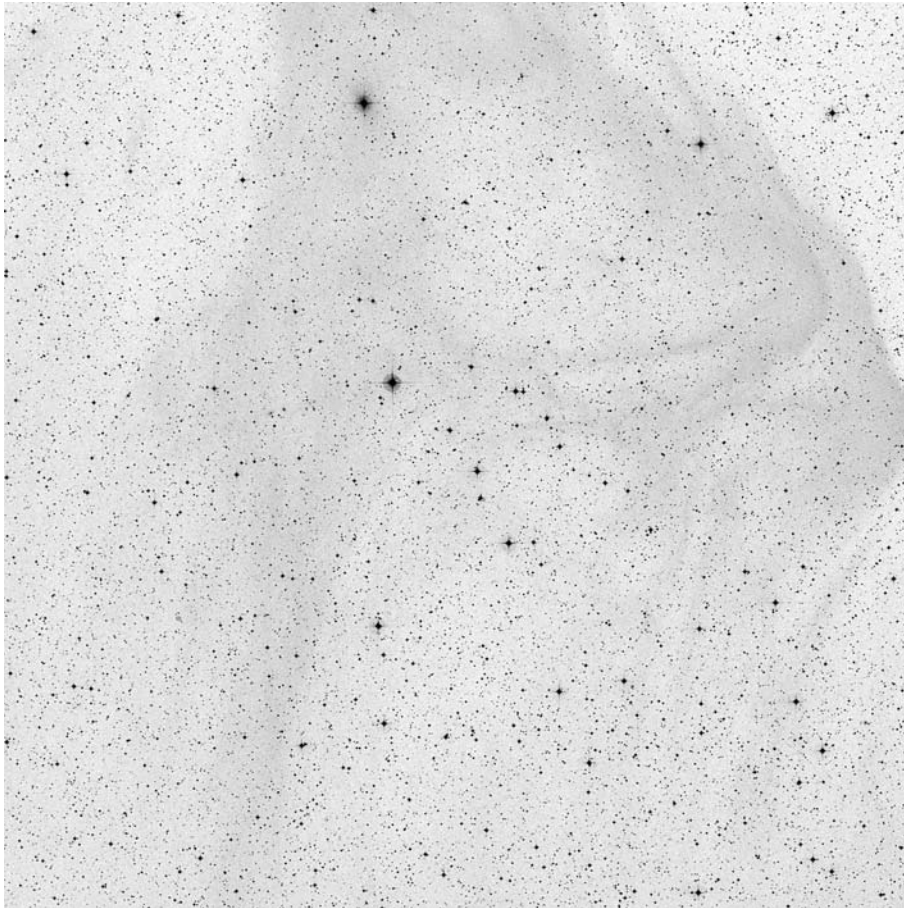
This tiny nebula is visible against and perhaps embedded in, the Aquila Rift complex of dark clouds.

Superimposed on this nebula is the B1.5e V Herbig Be star MWC 297.

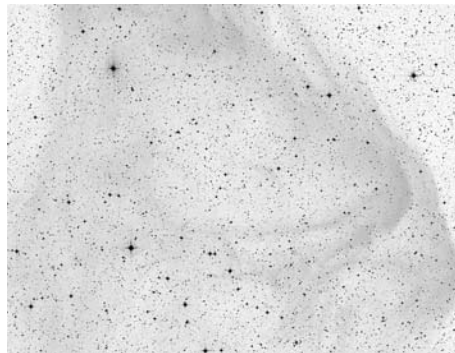
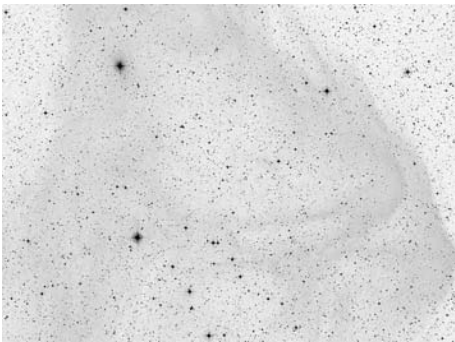
Observing notes:



Sh 2 - 63 in Sagittarius



60x60, blue



POSS blue

POSS red

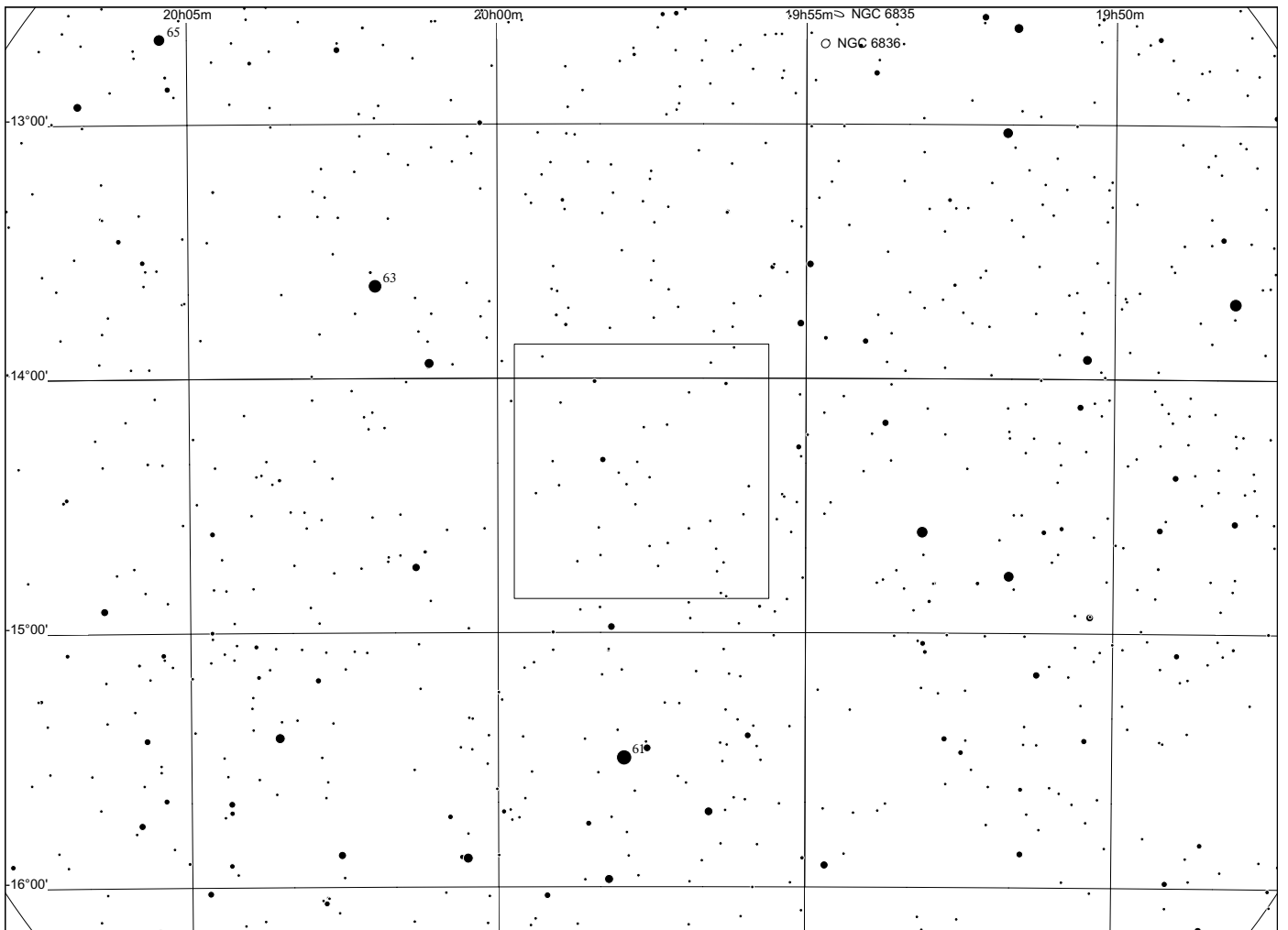
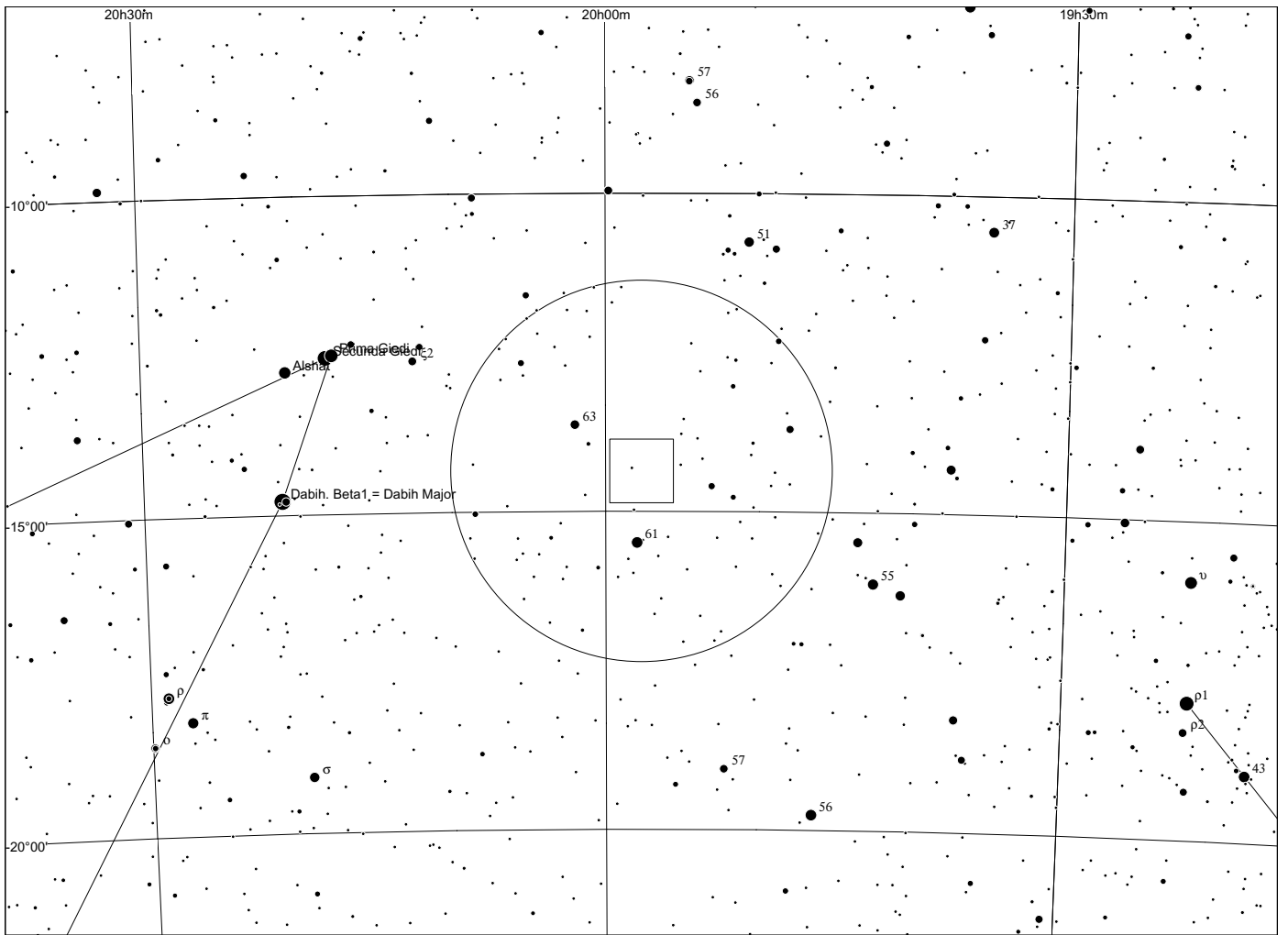
RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-063		19 57 42.5	-14 06 57	55	3	2	1

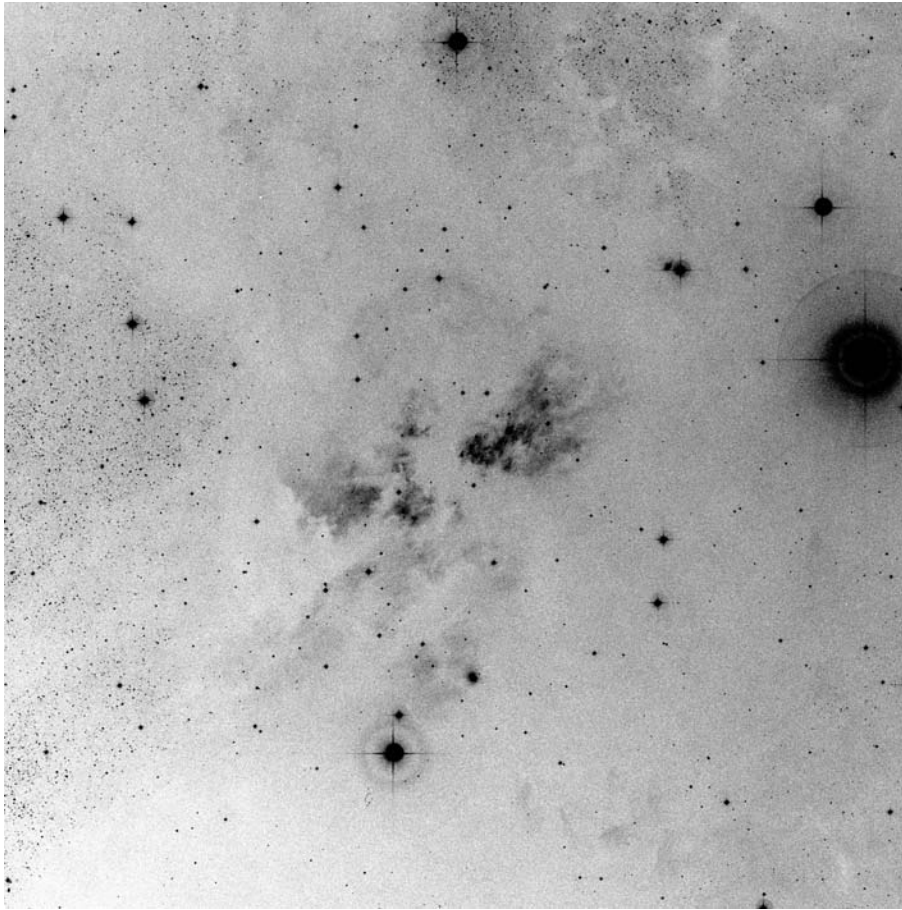
(27.34°, -20.94°) Distance: Unknown

This is the high latitude molecular cloud MBM 159, which is located at a distance of about 220 pc and may form part of the Aquila rift.

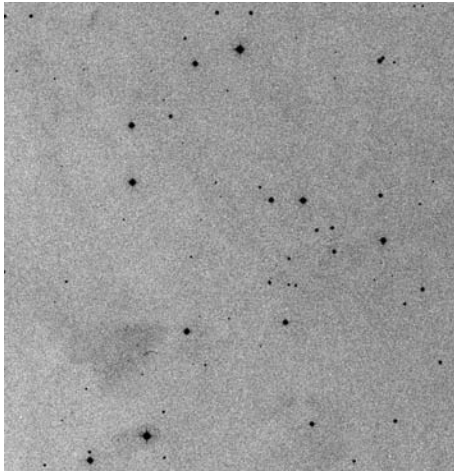
Observing notes:



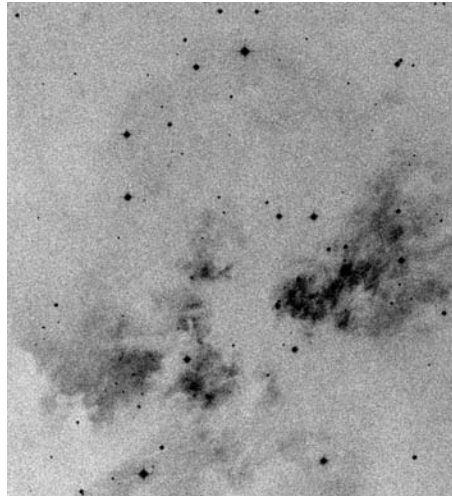
Sh 2 - 64 in Serpens



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-064		18 31 35.0	-01 54 47	25	3	2	2

Also: RCW 174 (28.96°, 3.54°) Distance: 400 pc, Size: 2.9 pc Source: 1999ApJ...520..149S

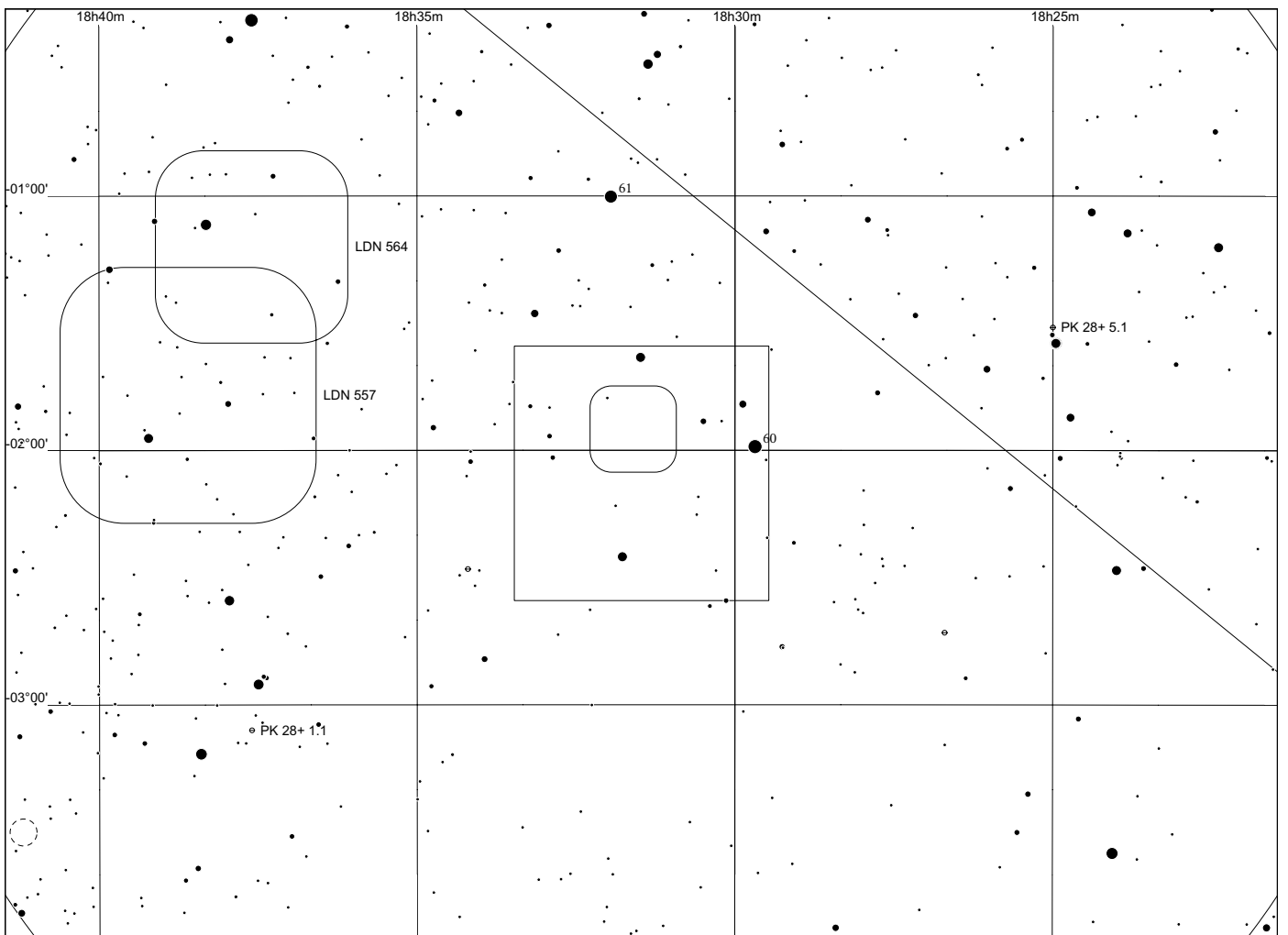
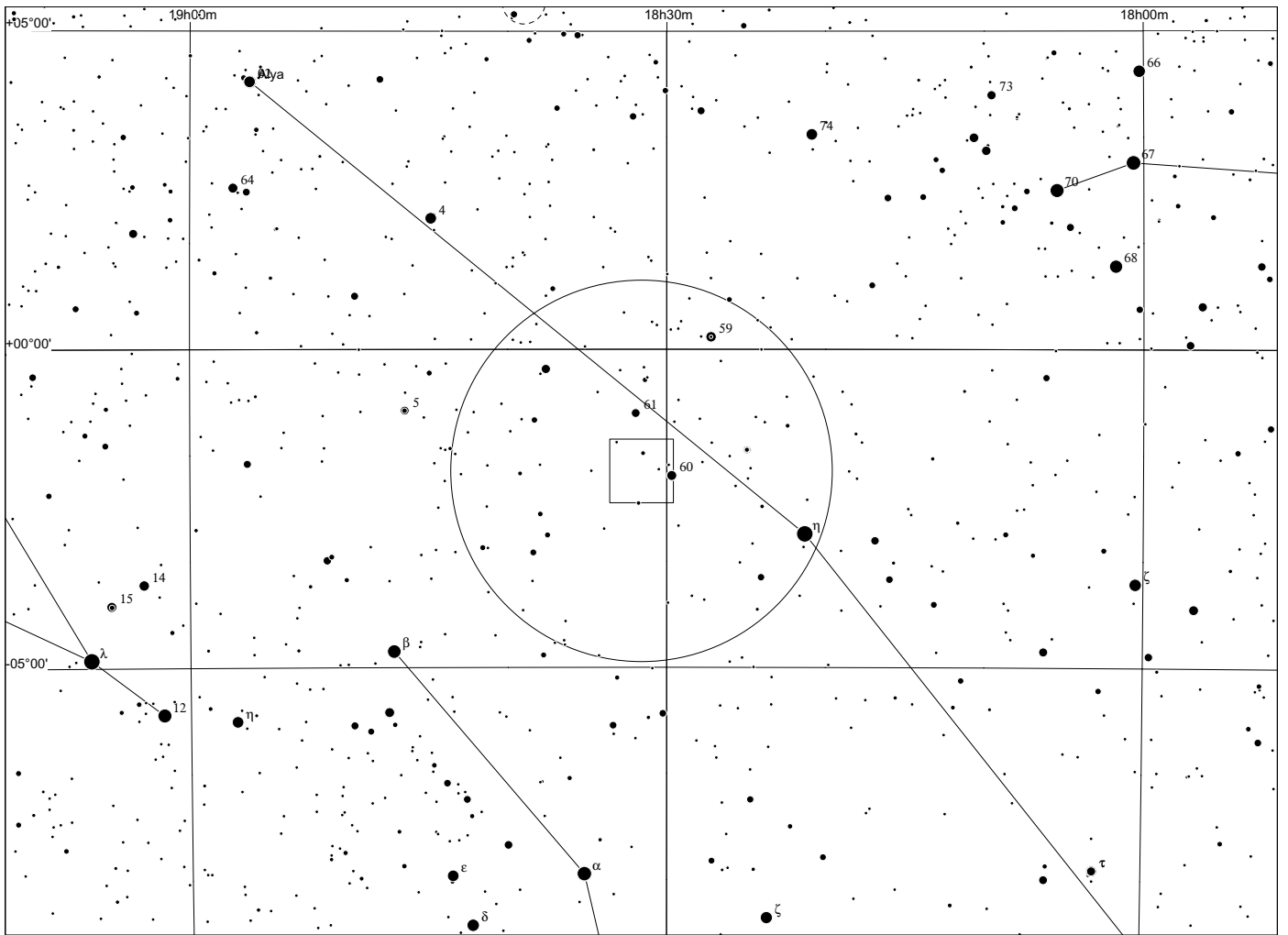
This is the W40 star formation region, also called LBN 90, and is ionised by the three B1V stars W 40 OS 1a, W 40 OS 2a and W 40 OS 3a.

It is obscured by the dust clouds called the Rift, which are located between W40 and our solar system.

Observing notes:

22" f/4.5

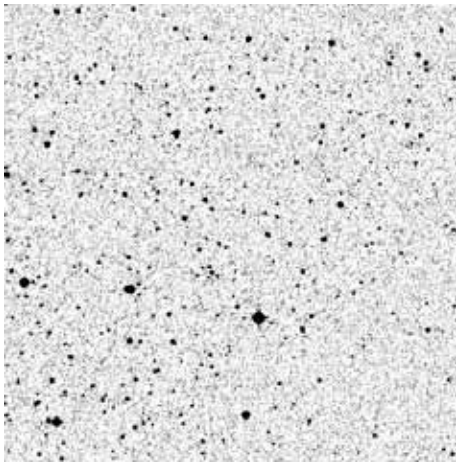
08/2012: with 100x and H beta filter, two very faint condensations, a smaller one (SE) and a larger one (NW)



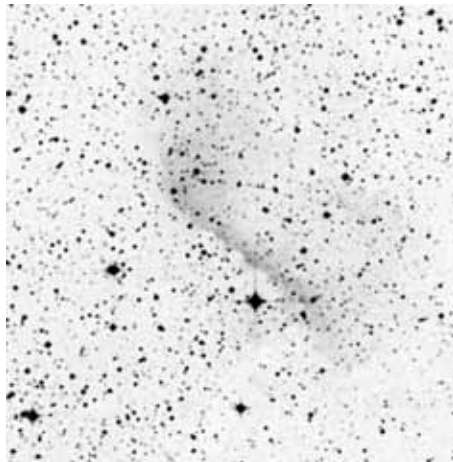
Sh 2 - 65 in Aquila



60x60, red



POSS blue



POSS red



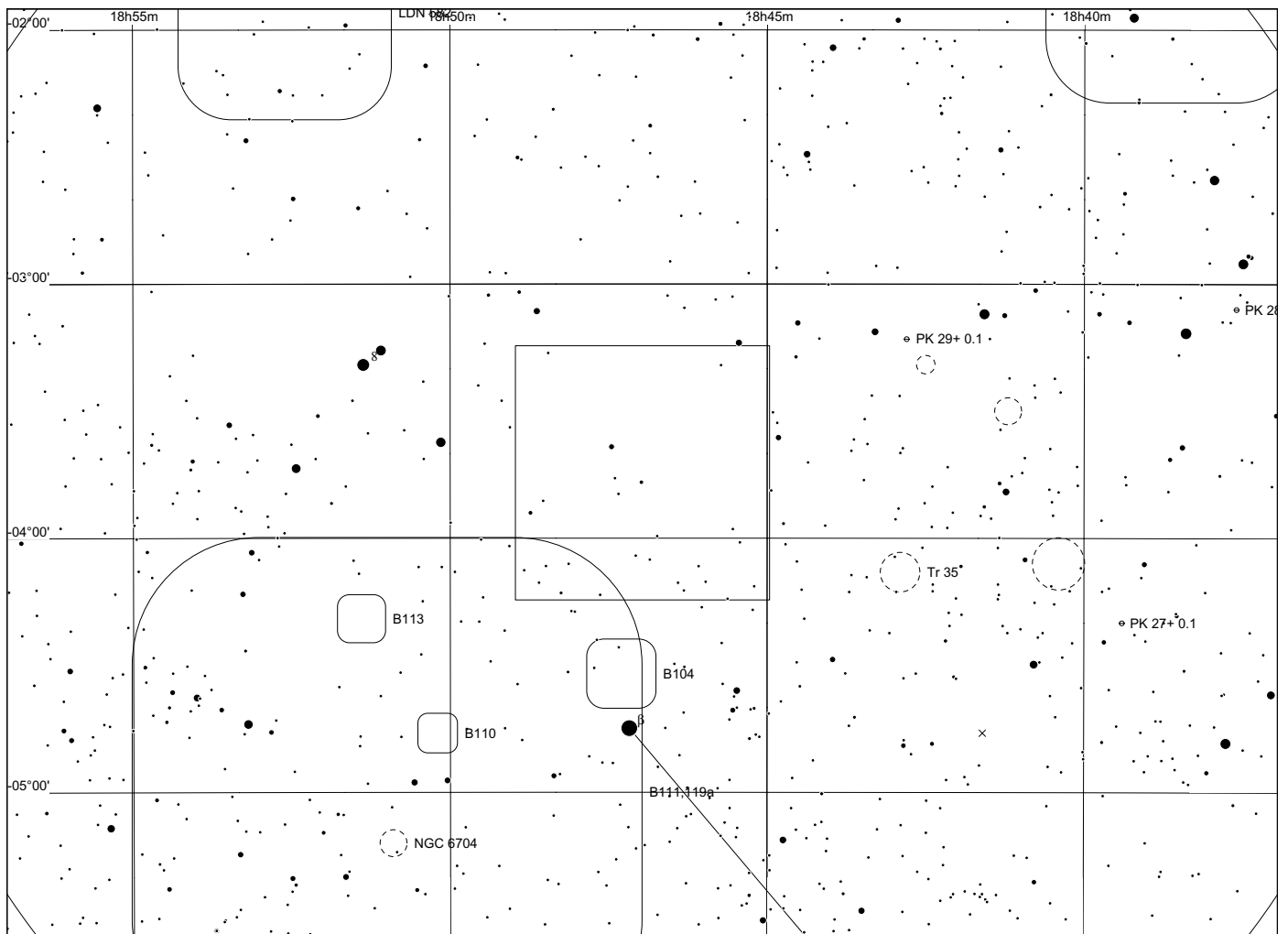
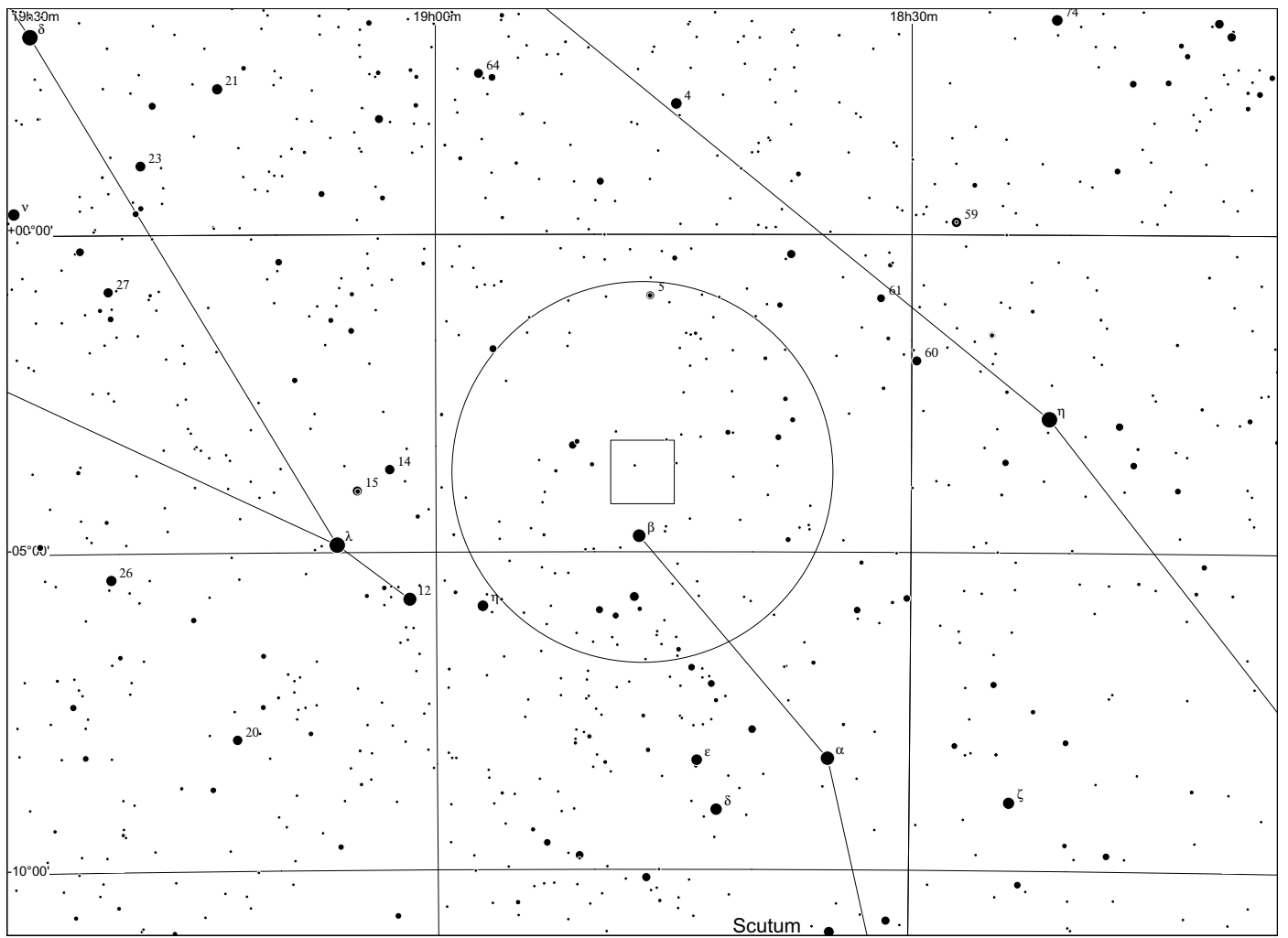
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-065		18 46 58.0	-03 44 35	7	3	2	2

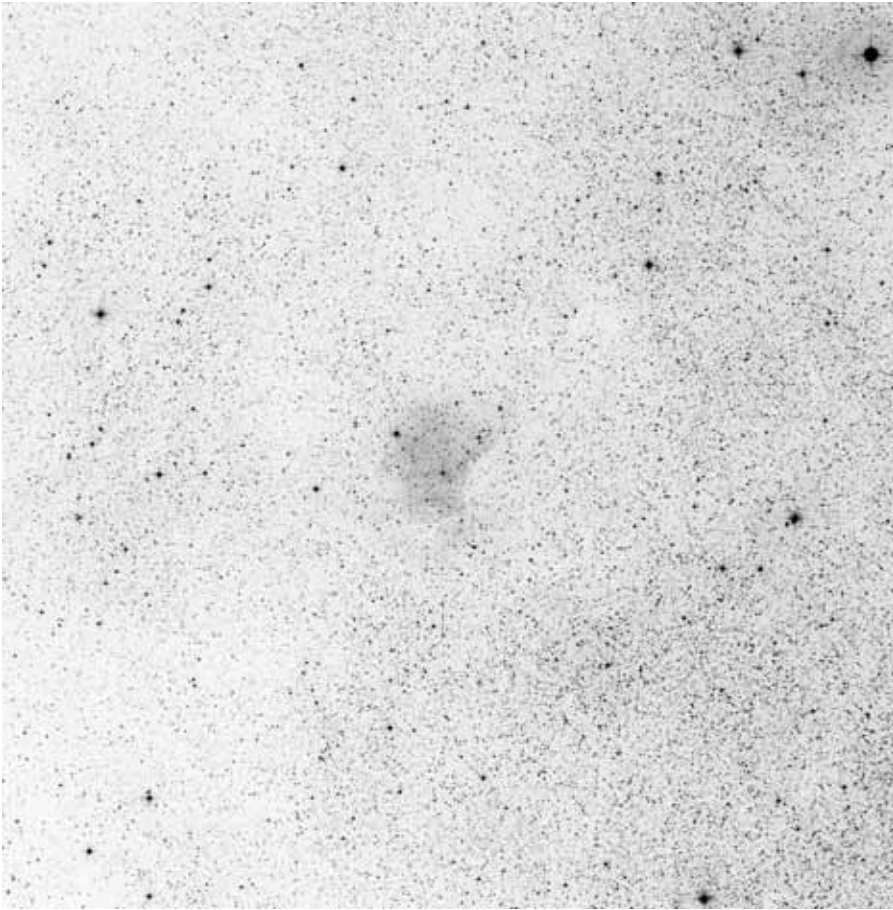
Also: RCW 175 (29.10°, -0.70°) Distance: 3261 pc, Size: 4.2 pc Source: 2003A&A...397..213P

Excited by the B1 II star S65-4, which SIMBAD says should be called [F89b] S65 4.

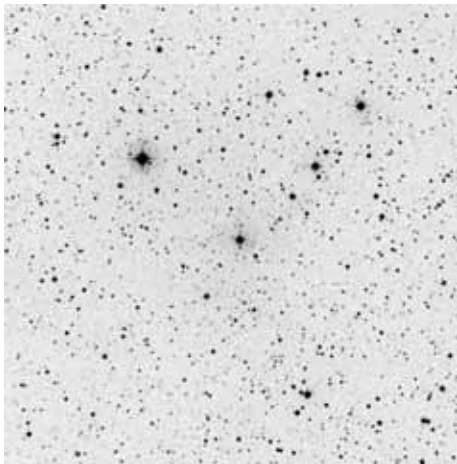
Observing notes:



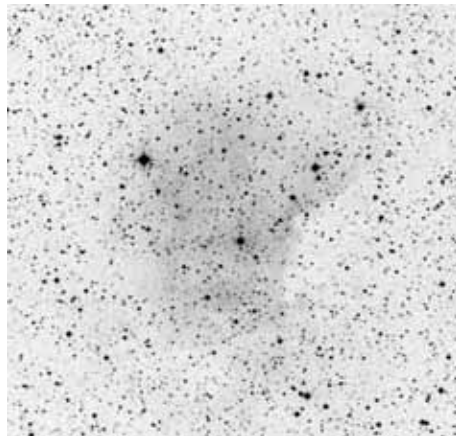
Sh 2 - 66 in Aquila



60x60, red



POSS blue



POSS red



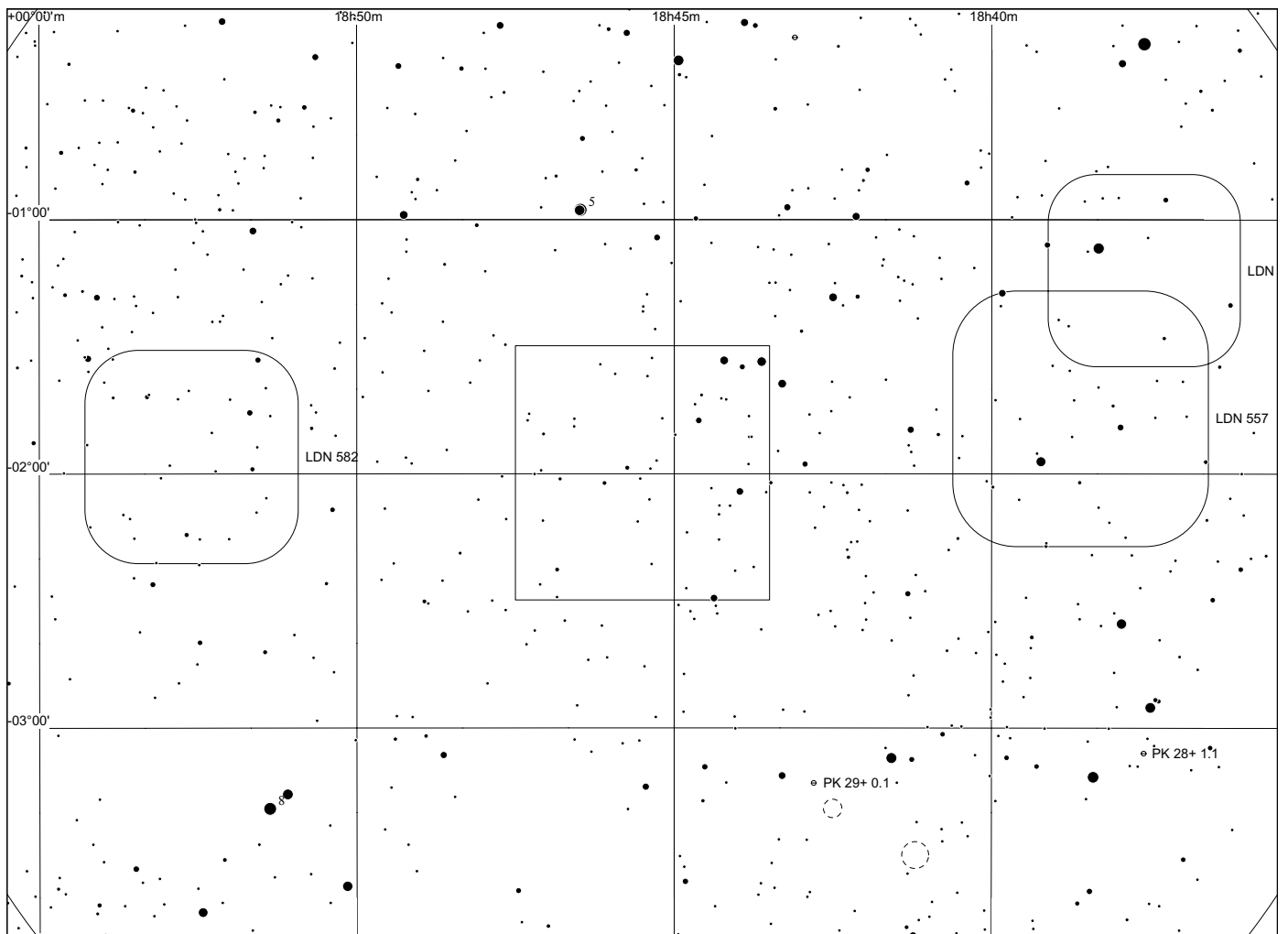
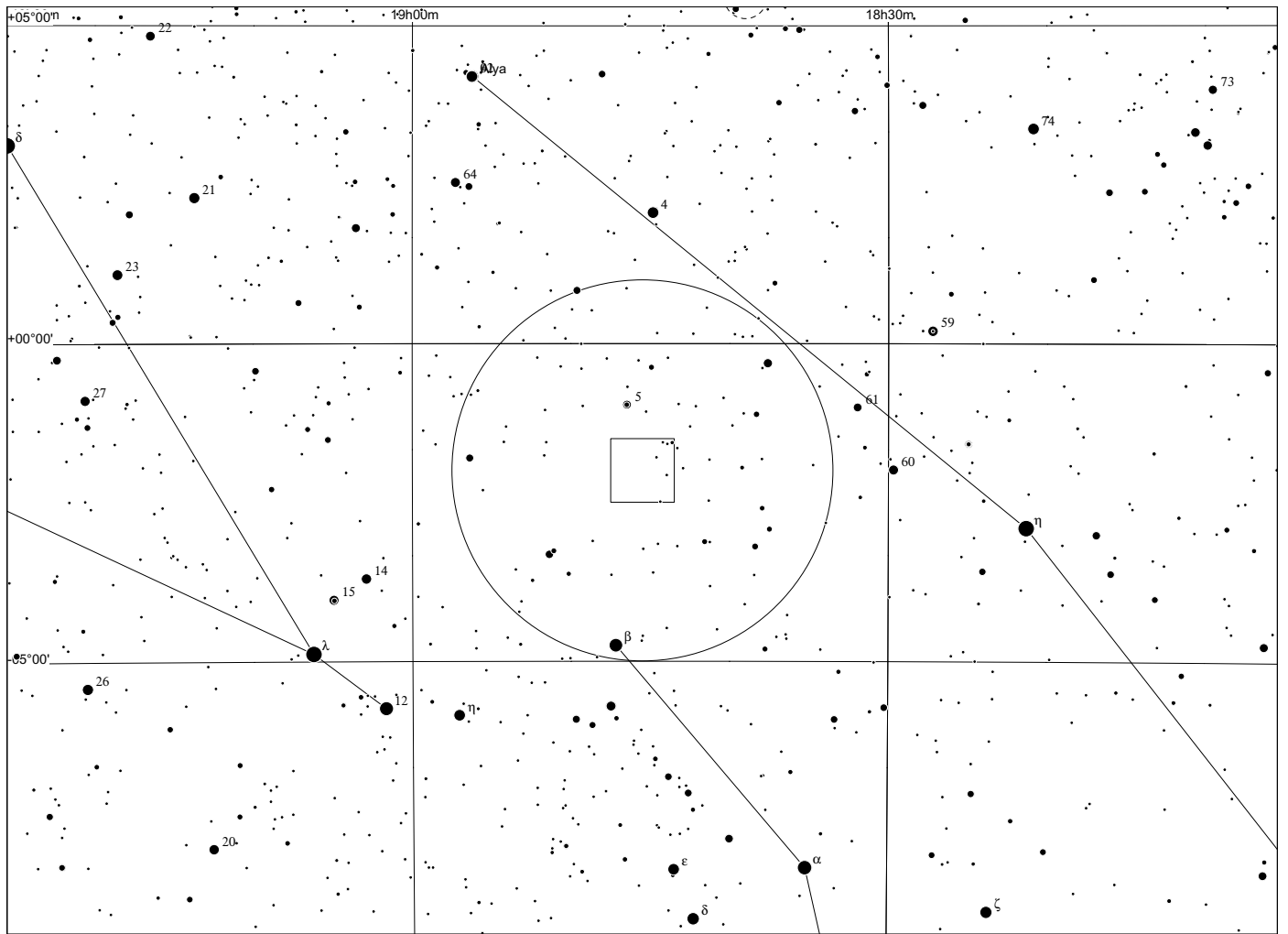
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-066		18 45 30.0	-01 59 47	8	3	2	2

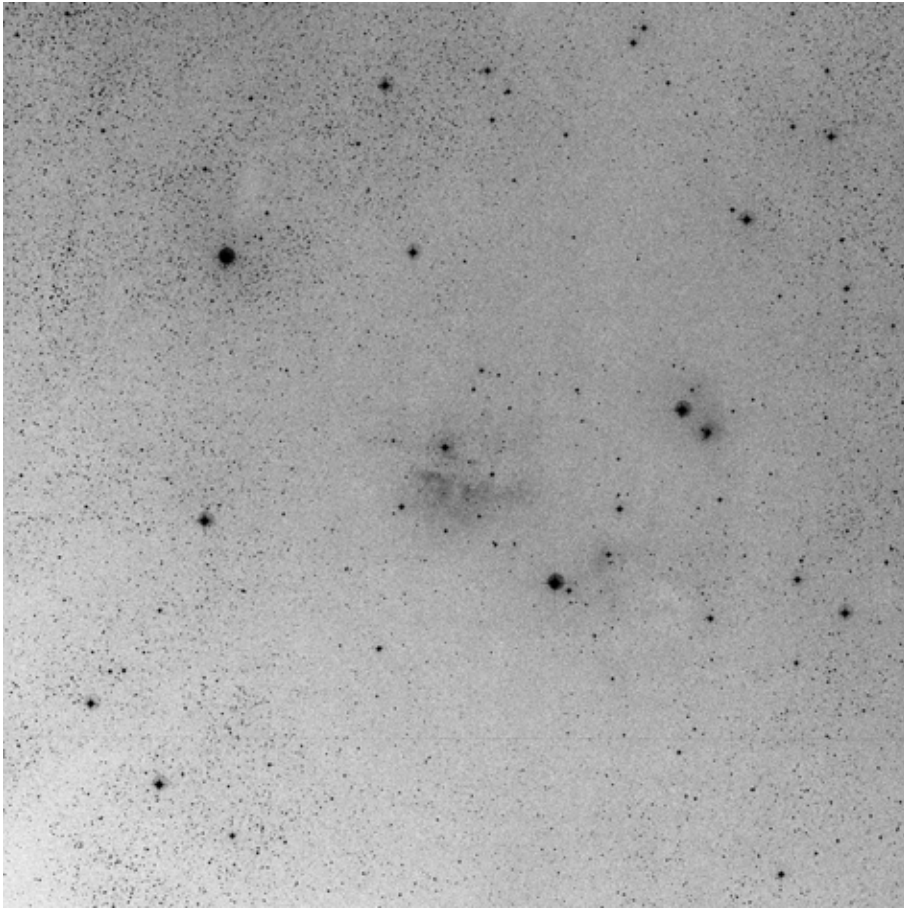
Also: RCW 176 (30.50°, 0.40°) Distance: 3780 pc, Size: 5.9 pc Source: 2003A&A...397..213P

The exciting star for this HII region is the O9.5 III star LS IV -02 16

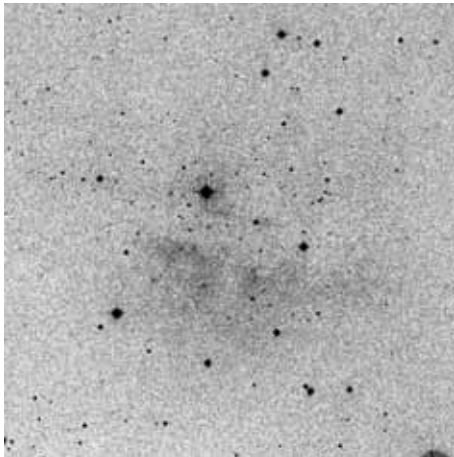
Observing notes:



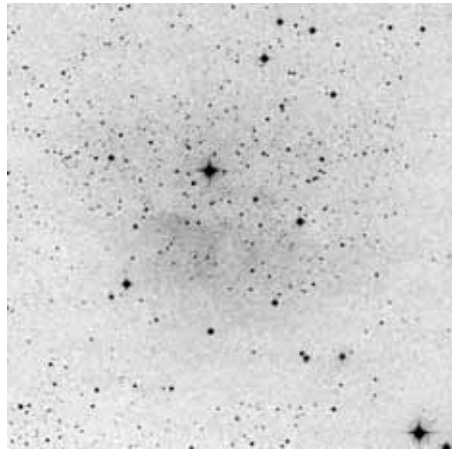
Sh 2 - 67 in Aquila



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-067		18 49 24.4	-02 21 13	10	2	1	1

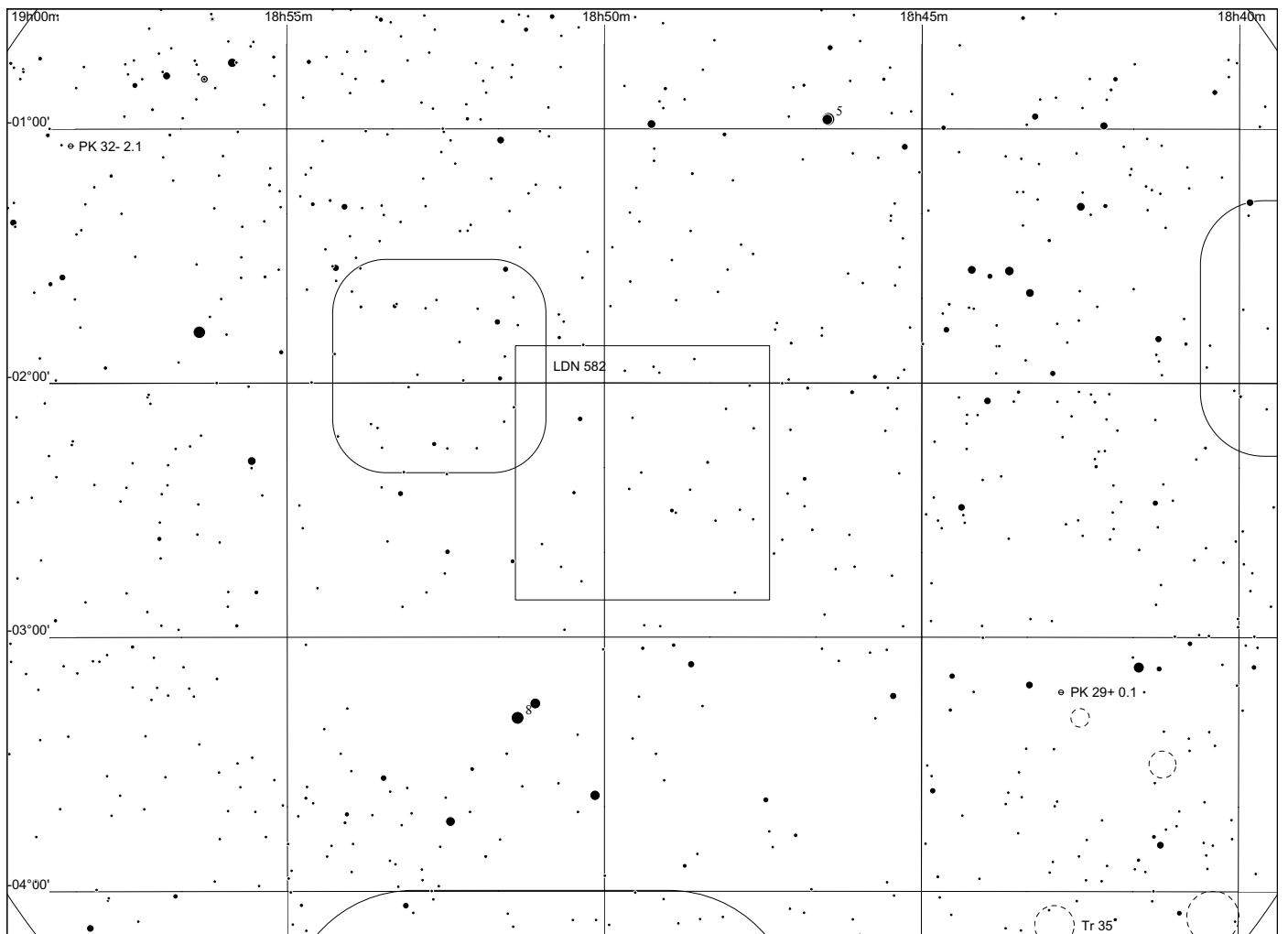
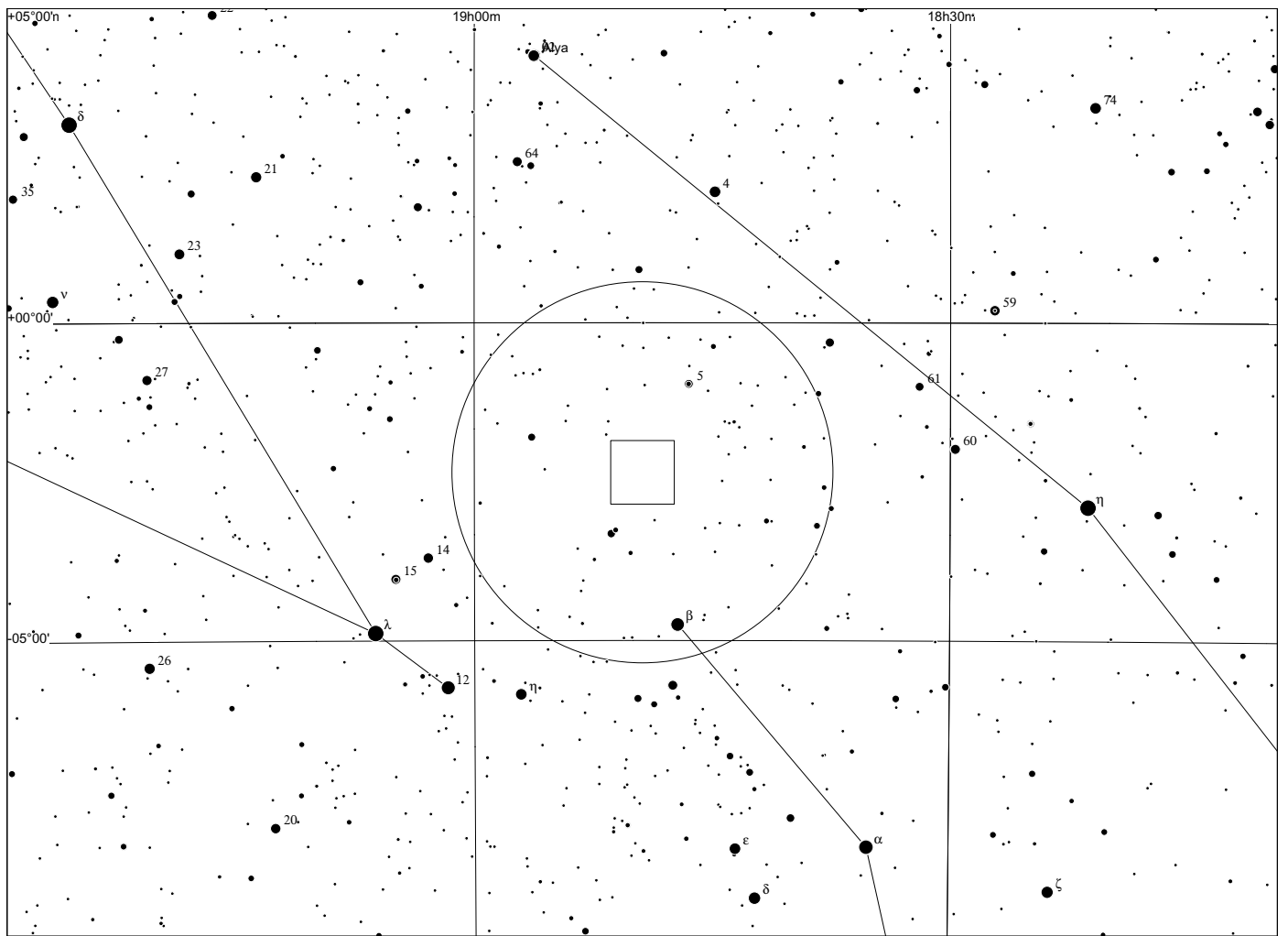
Distance: 400 pc, Size: 1.2 pc, Source: 1982ApJS...49..183B

Also called LBN 94, this nearby nebula is ionised by the B0.5 V star BD -2 4752.

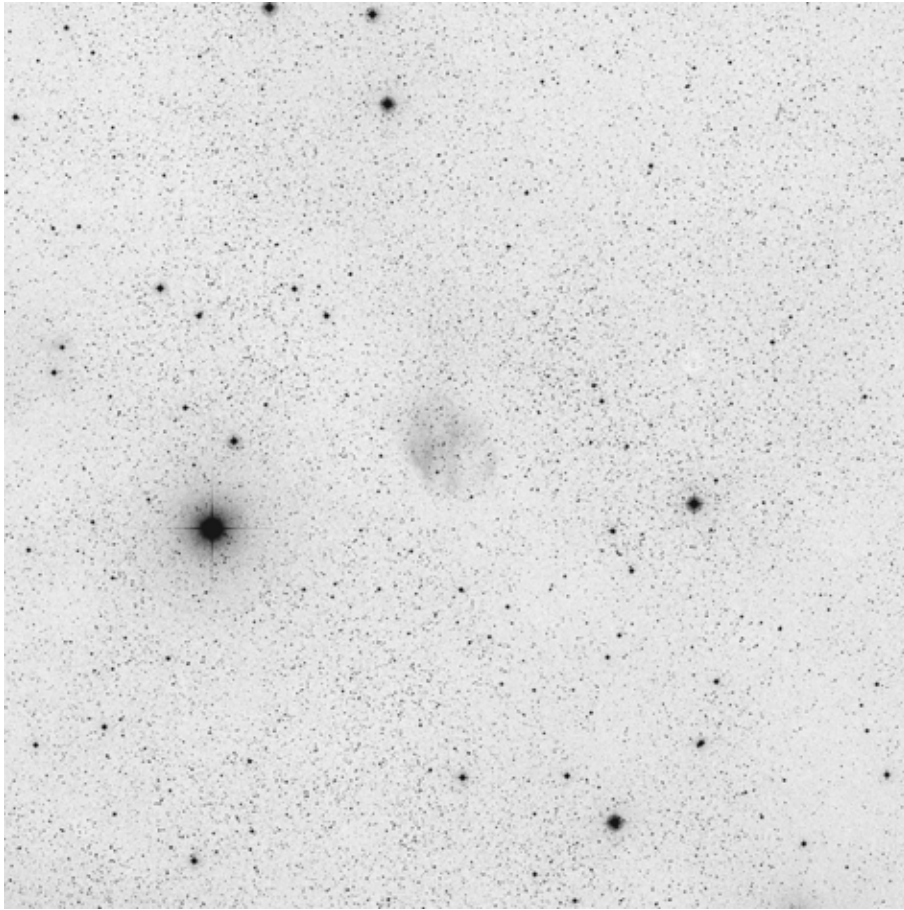
Observing notes:

22" f/4.5

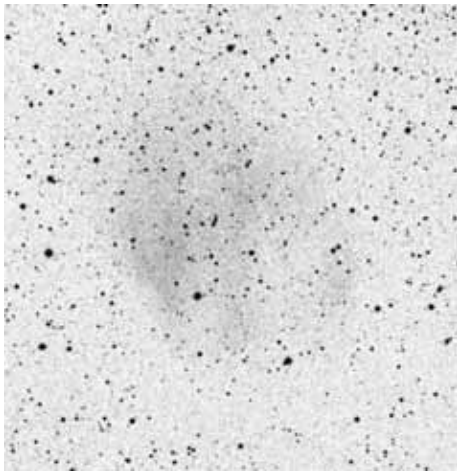
08/2008: sometimes, a nebulous patch was suspected with UHC. Doubtful observation.



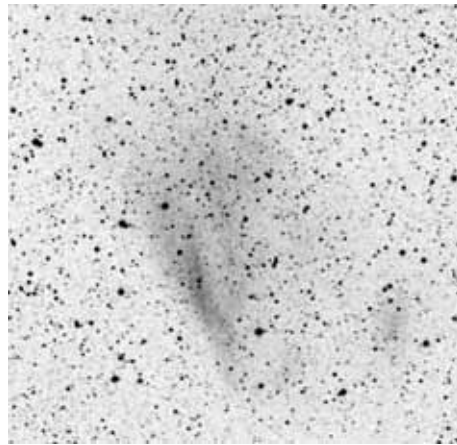
Sh 2 - 68 in Serpens



60x60, blue



POSS blue



POSS red



composite

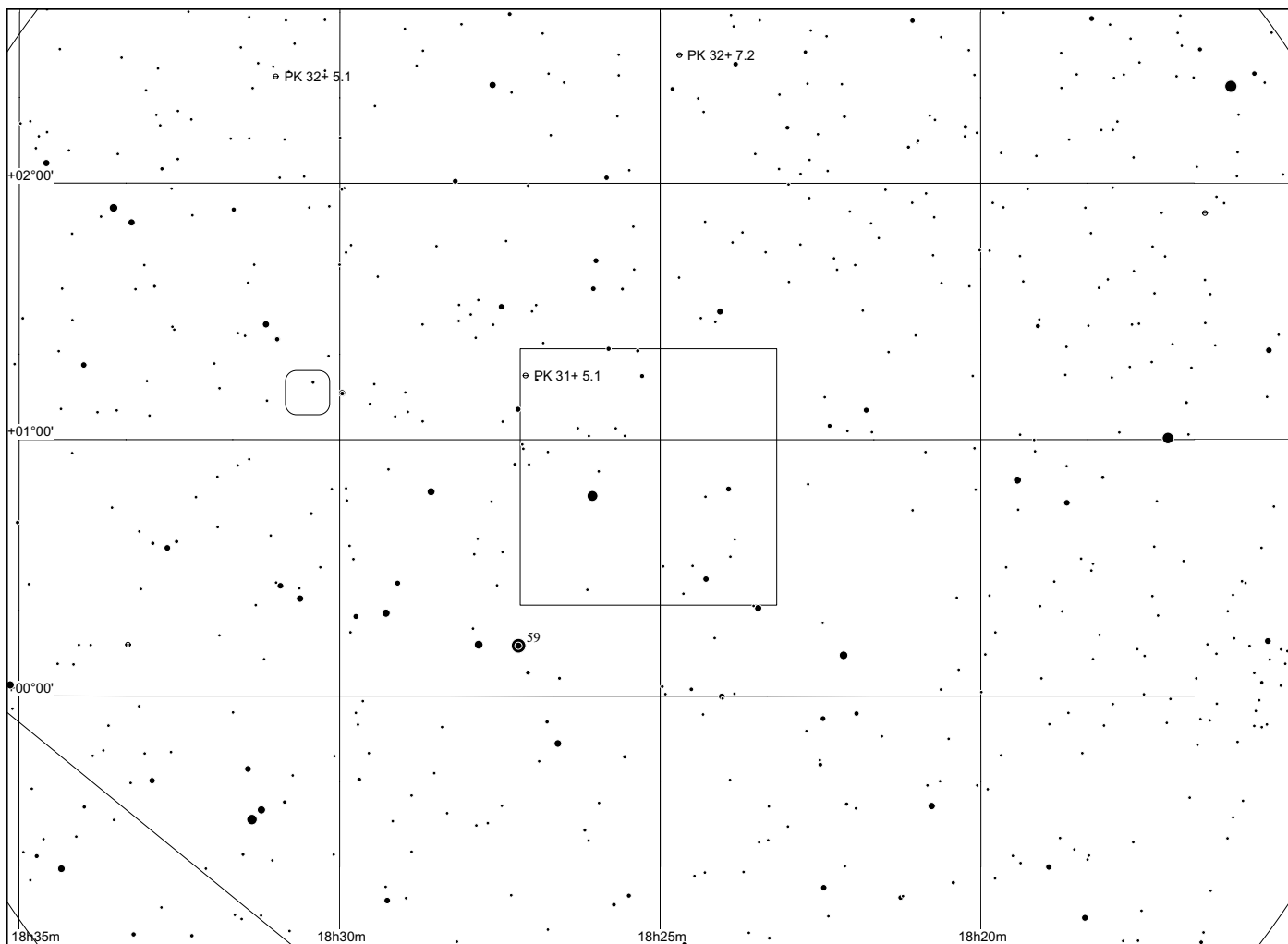
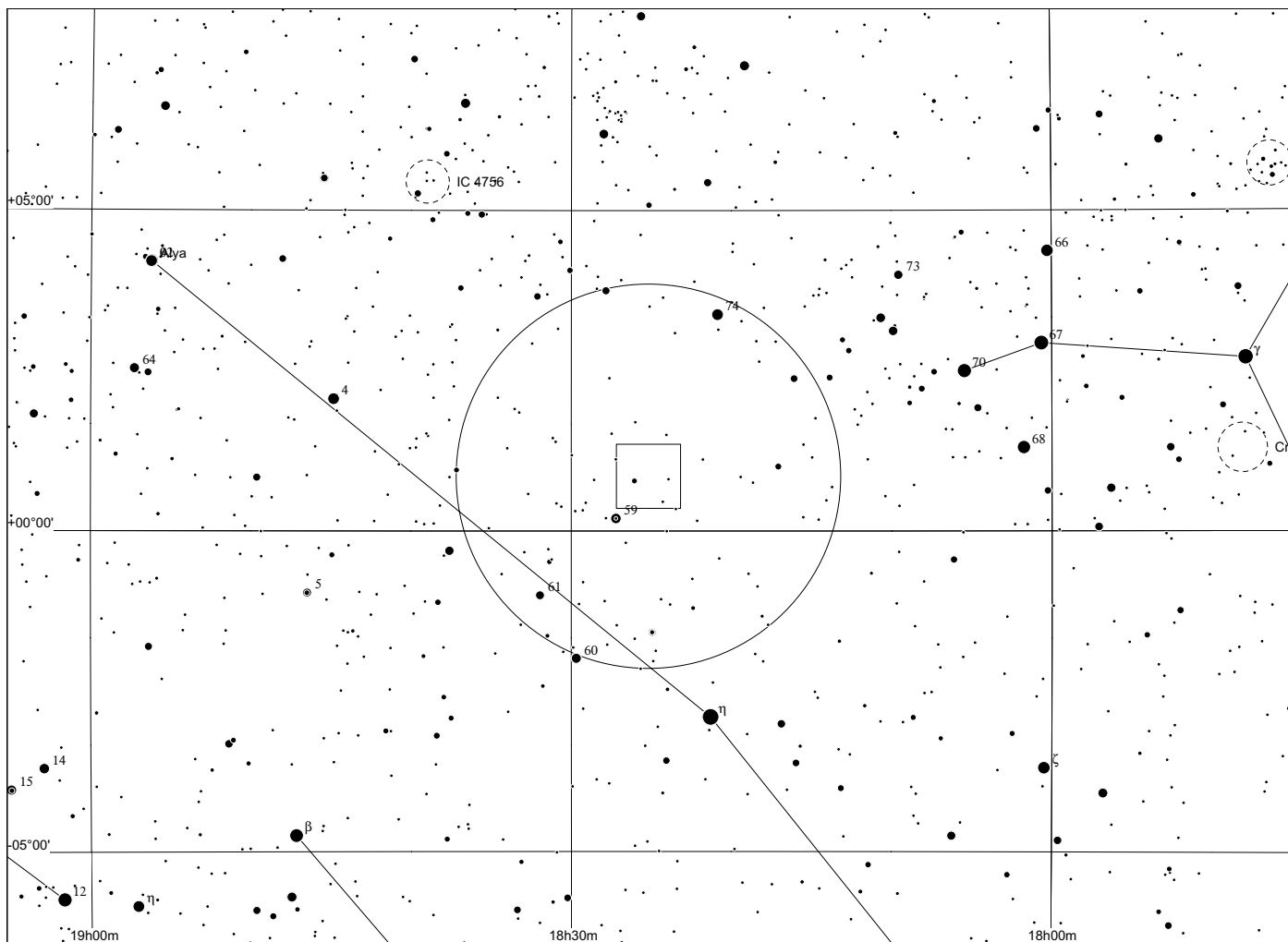
	other name	RA	dec	dia. '	F	S	B
Sh 2-068	PN	18 25 10.8	+00 51 17	8	3	2	2

The expansion of this planetary nebula has been halted by the surrounding local gas but the central star has continued to move so as a result the star is no longer at the centre of the nebula.

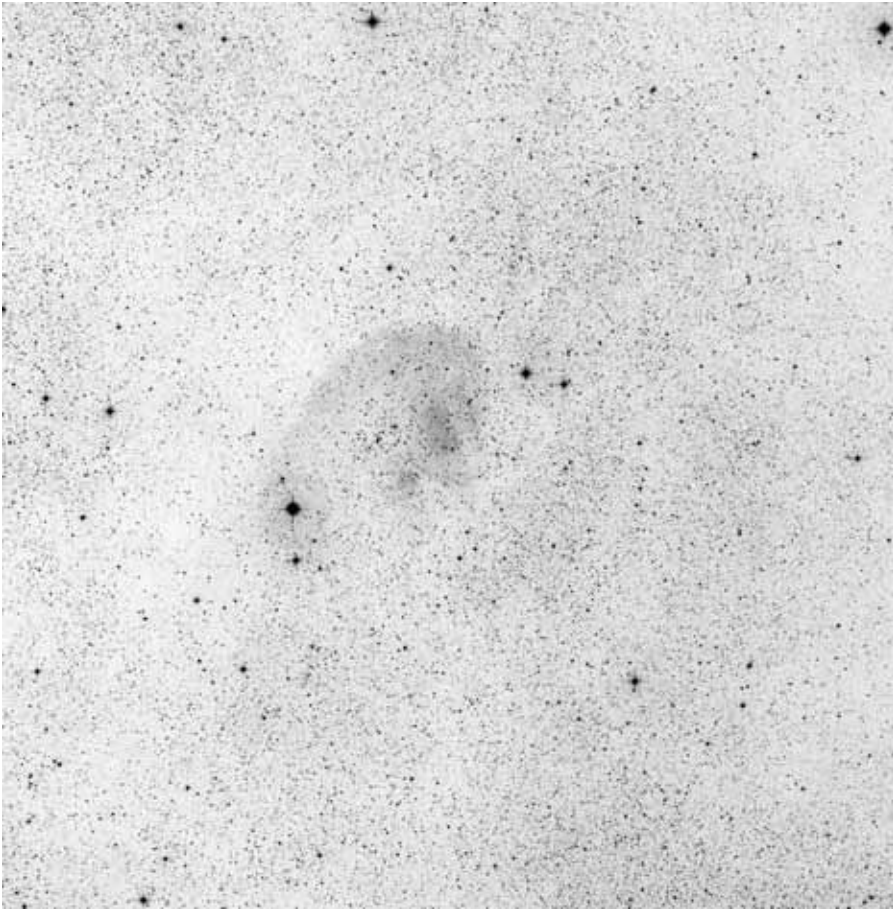
Observing notes:

22" f/4.5

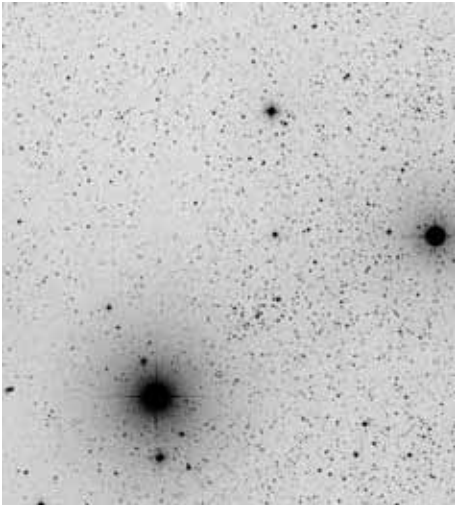
08/2008: At 100x with OIII, large and not overly faint oval glow with even surface brightness (no brightening to E was noticed), diffuse boundaries, quite distinct.



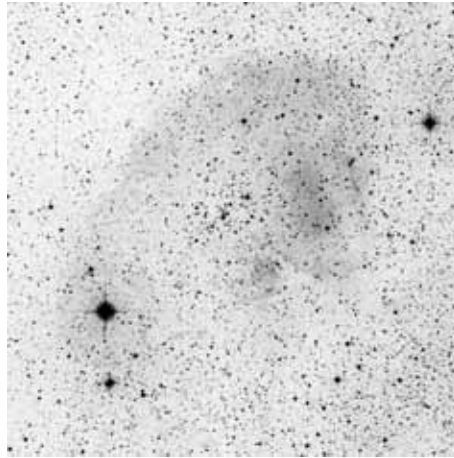
Sh 2 - 69 in Aquila



60x60, red



POSS blue



POSS red



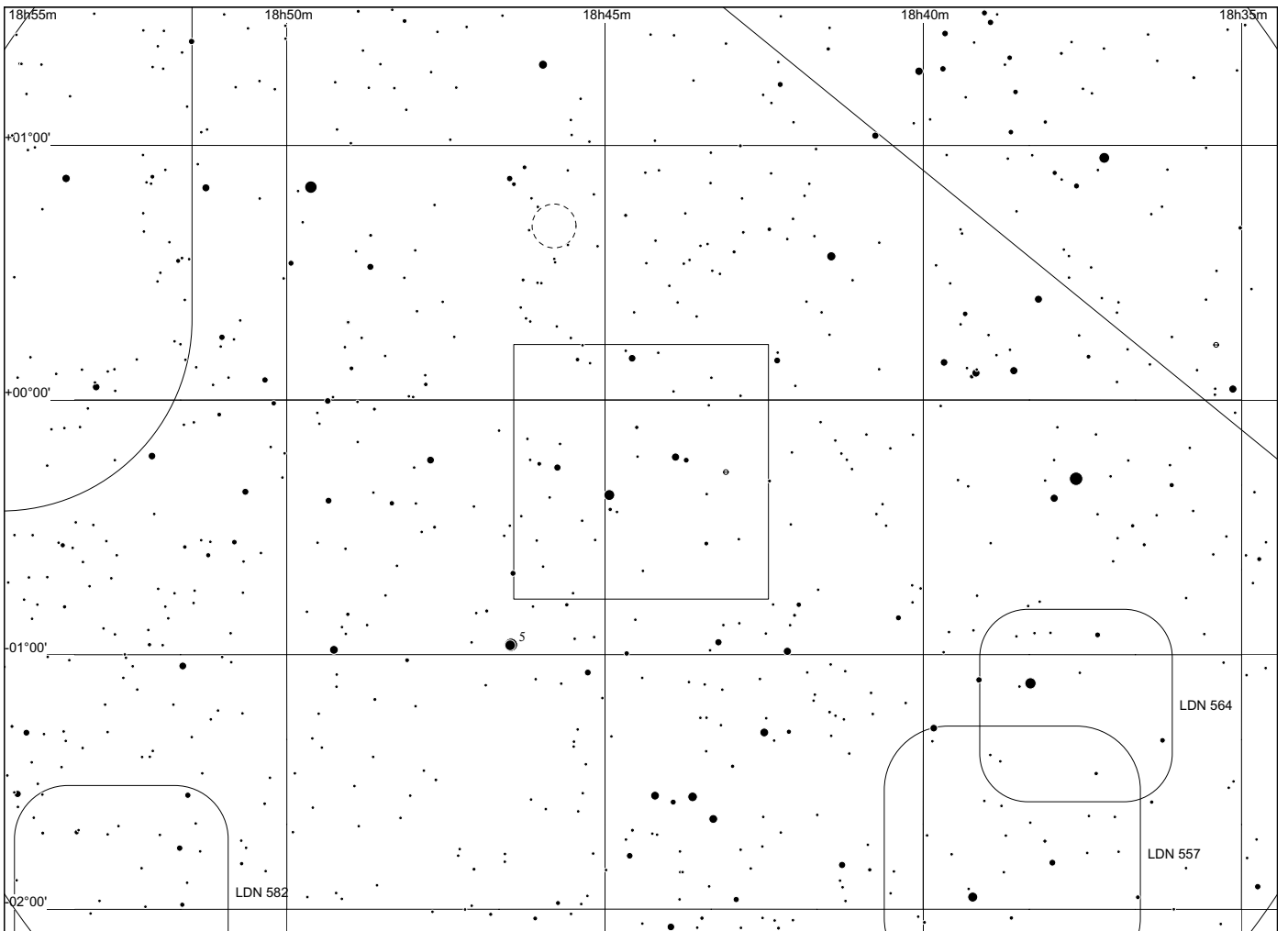
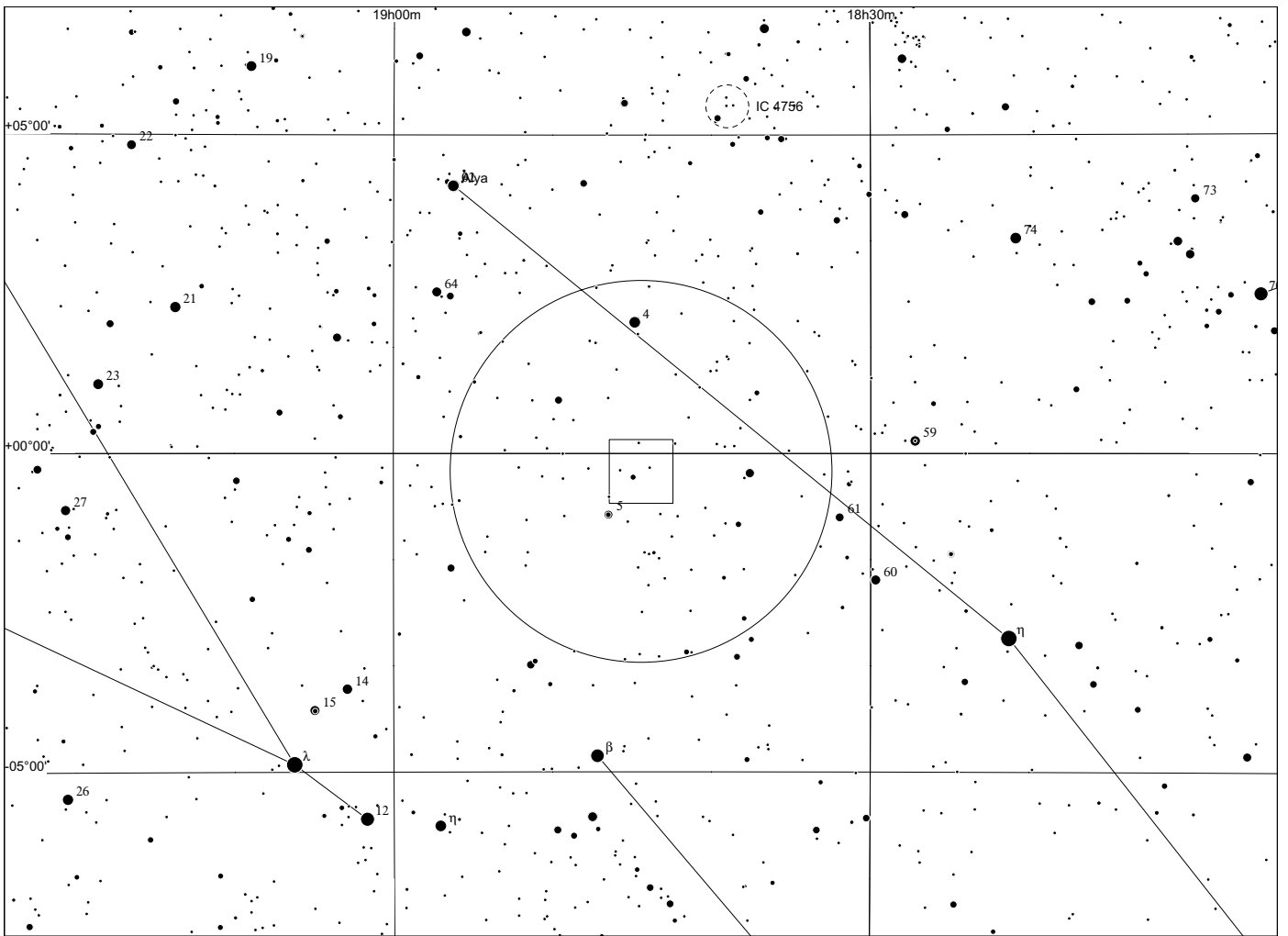
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-069		18 44 26.1	-00 16 55	20	2	2	2

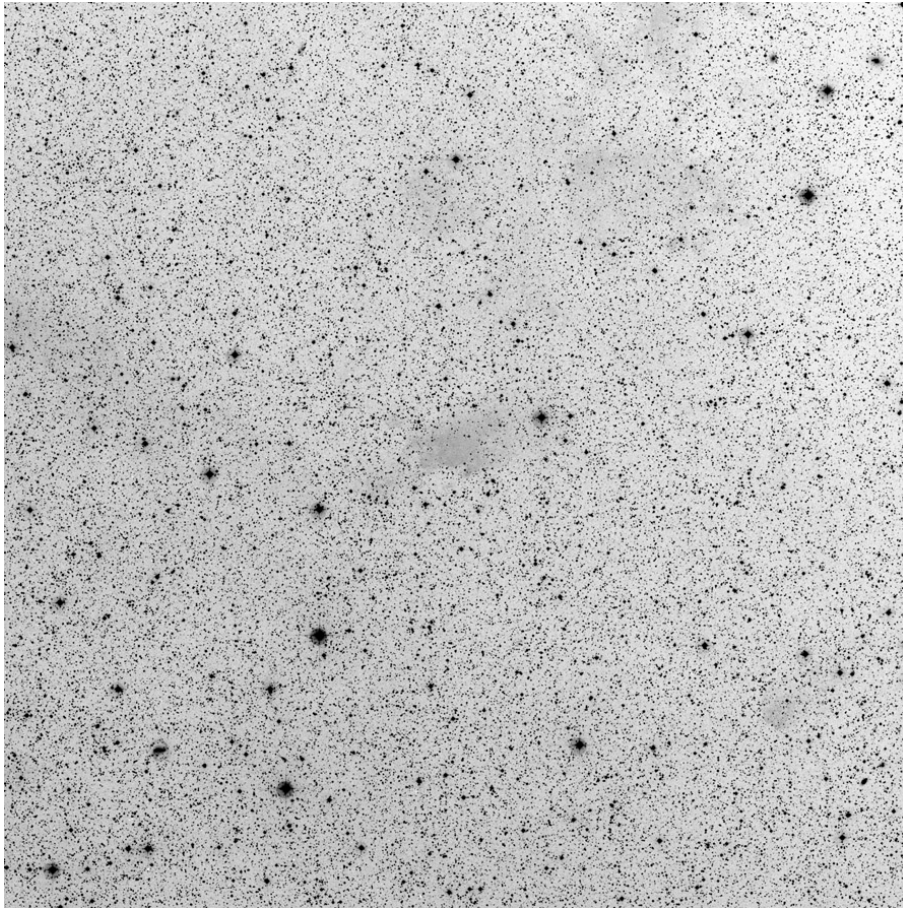
Also: RCW 177 (31.89°, 1.42°) Distance: 3800 pc, Size: 22.1 pc Source: 2003A&A...397..133R

Excited by the B0.5 IV star S69-2, which SIMBAD says should be called [F89b] S69 2.

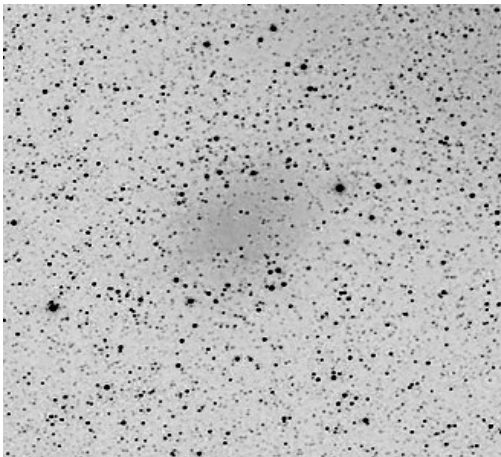
Observing notes:



Sh 2 - 70 in Ophiuchus



60x60, red



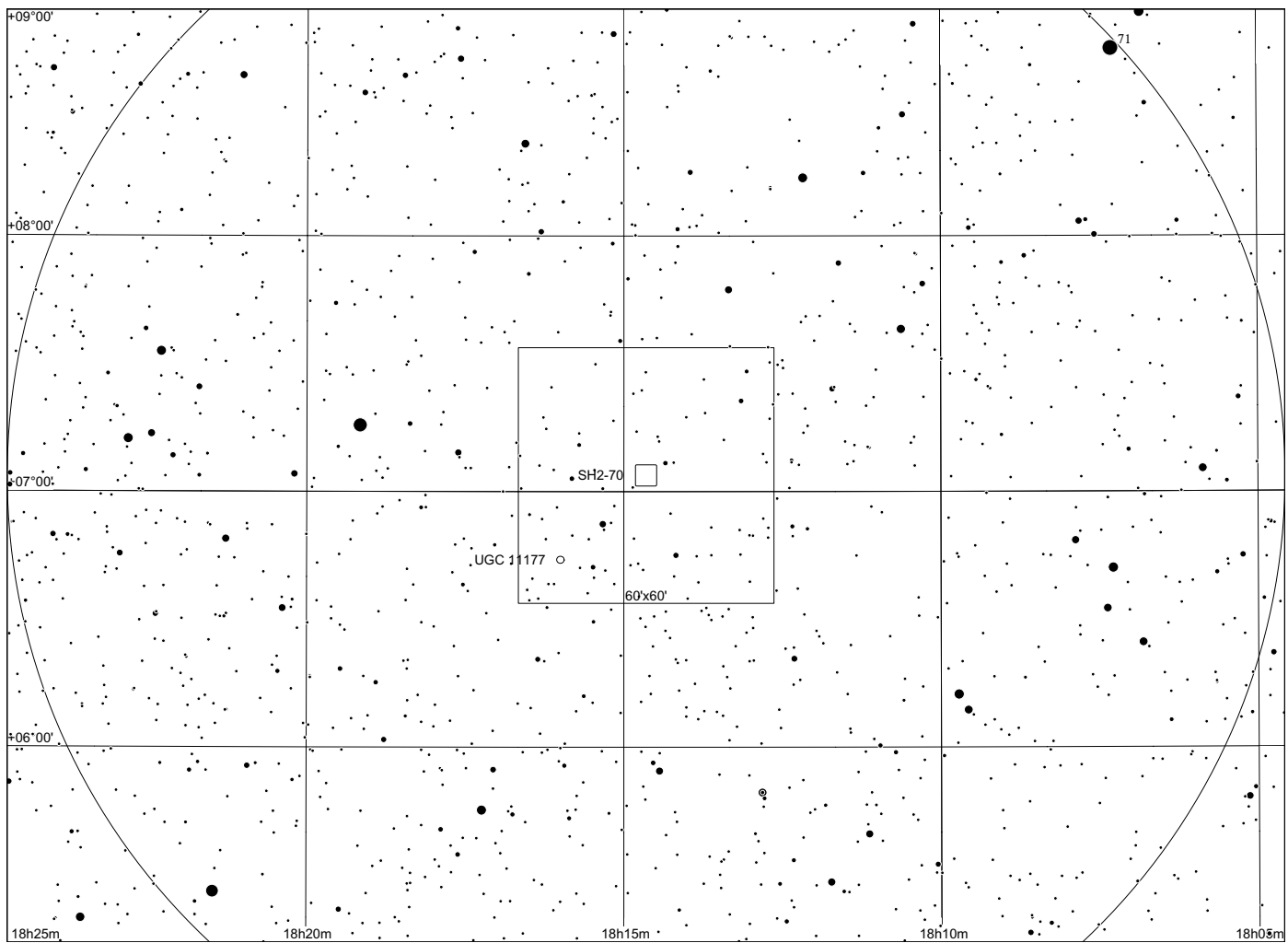
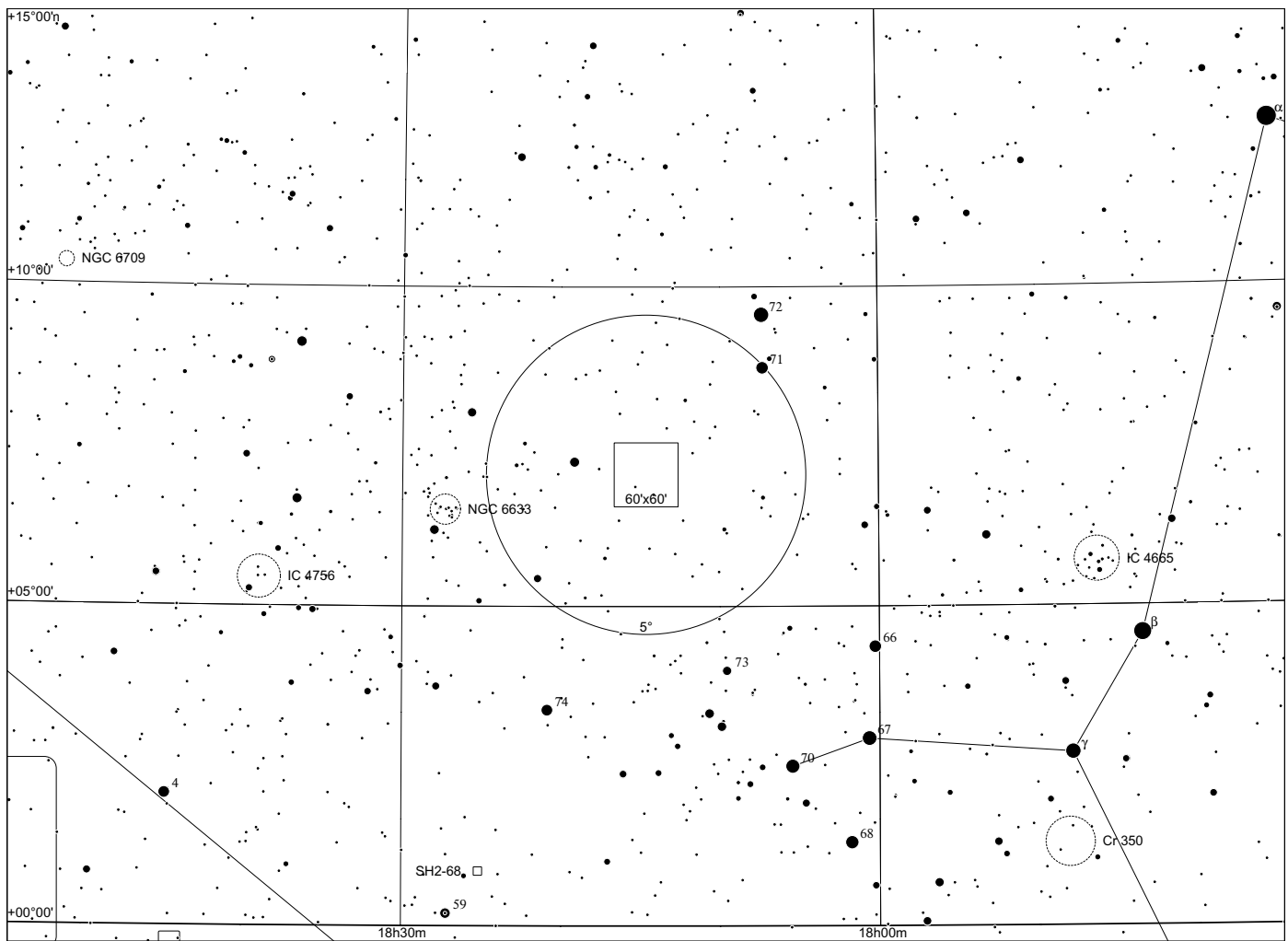
Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-070		18 14 38.5	+07 03 47	5	3	1	2

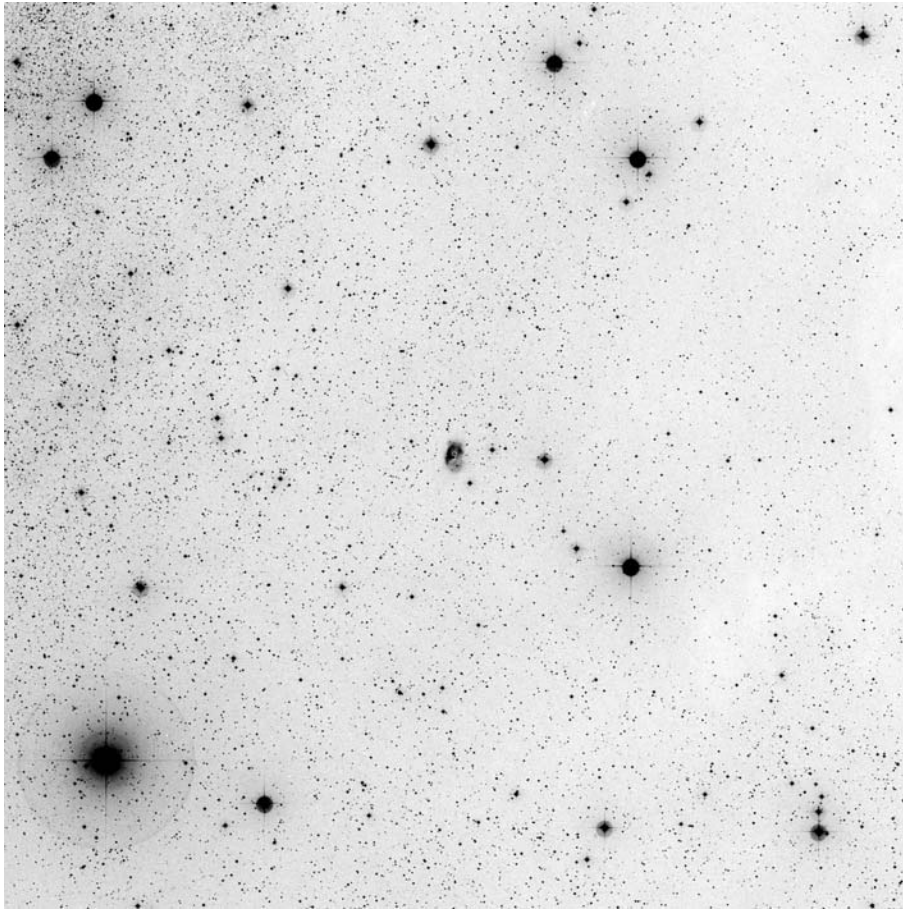
Distance: 1200 pc, Size: 1.7 pc Source: 2003A&A...397..133R

Although usually classified as an HII region, this peculiar high latitude nebula, also called LBN 102, looks more like a dust cloud in this image, and indeed this object is in the same direction as the small molecular cloud [CB88] 124.

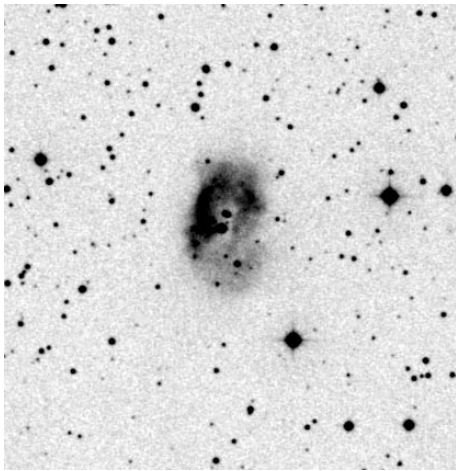
Observing notes:



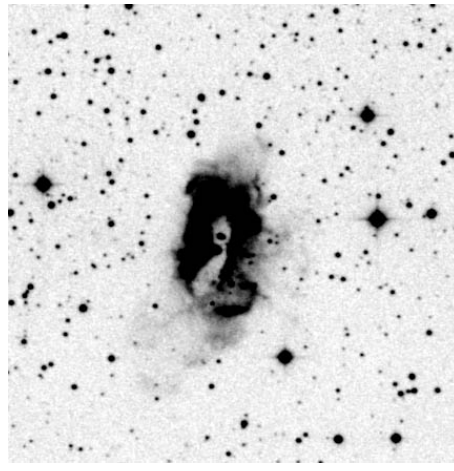
Sh 2 - 71 in Aquila



60x60, blue



POSS blue



POSS red



narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-071		19 02 02.3	+02 09 35	3	2	2	3

This is an unusual planetary nebula that appears to have a binary central star.

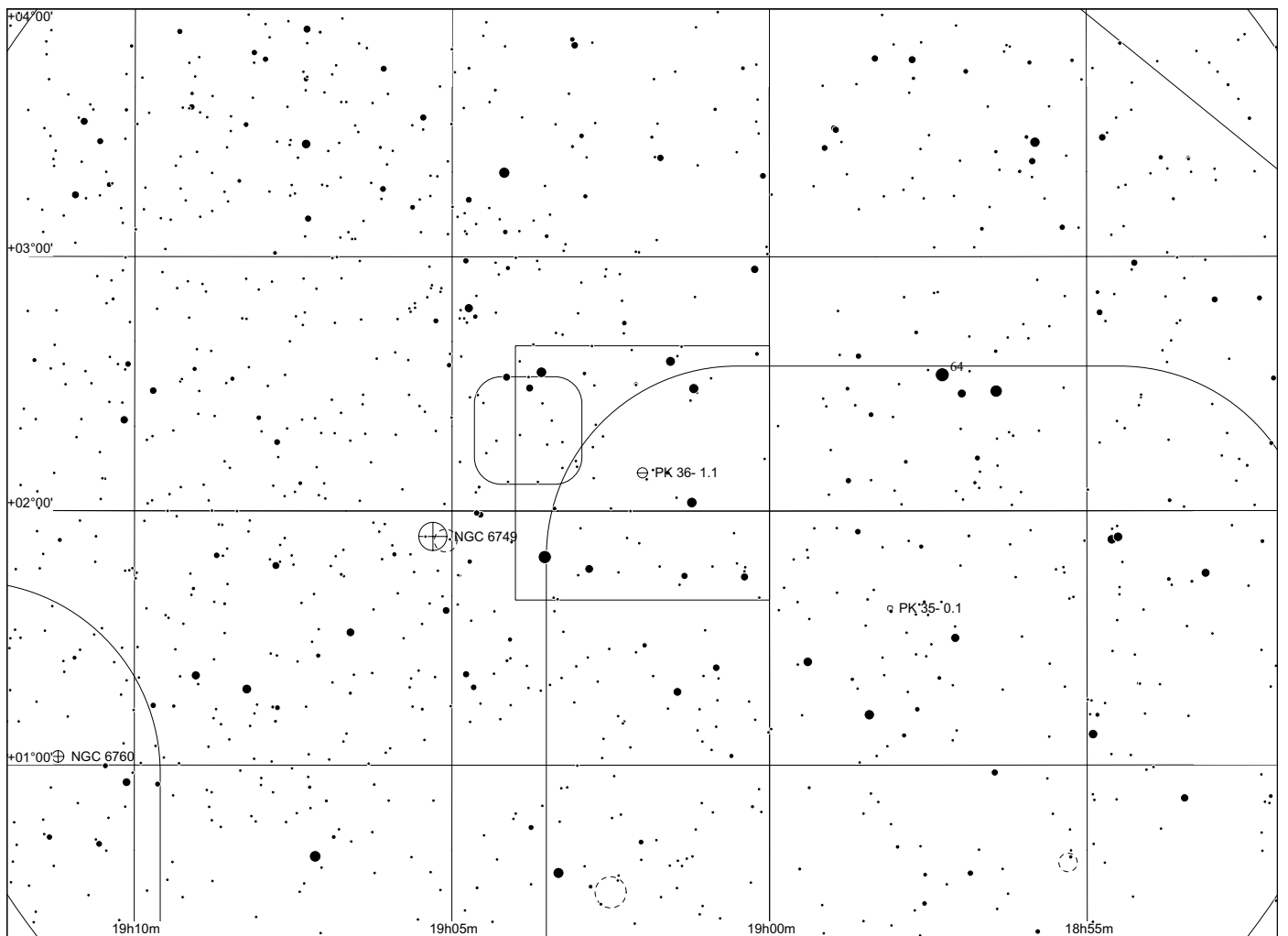
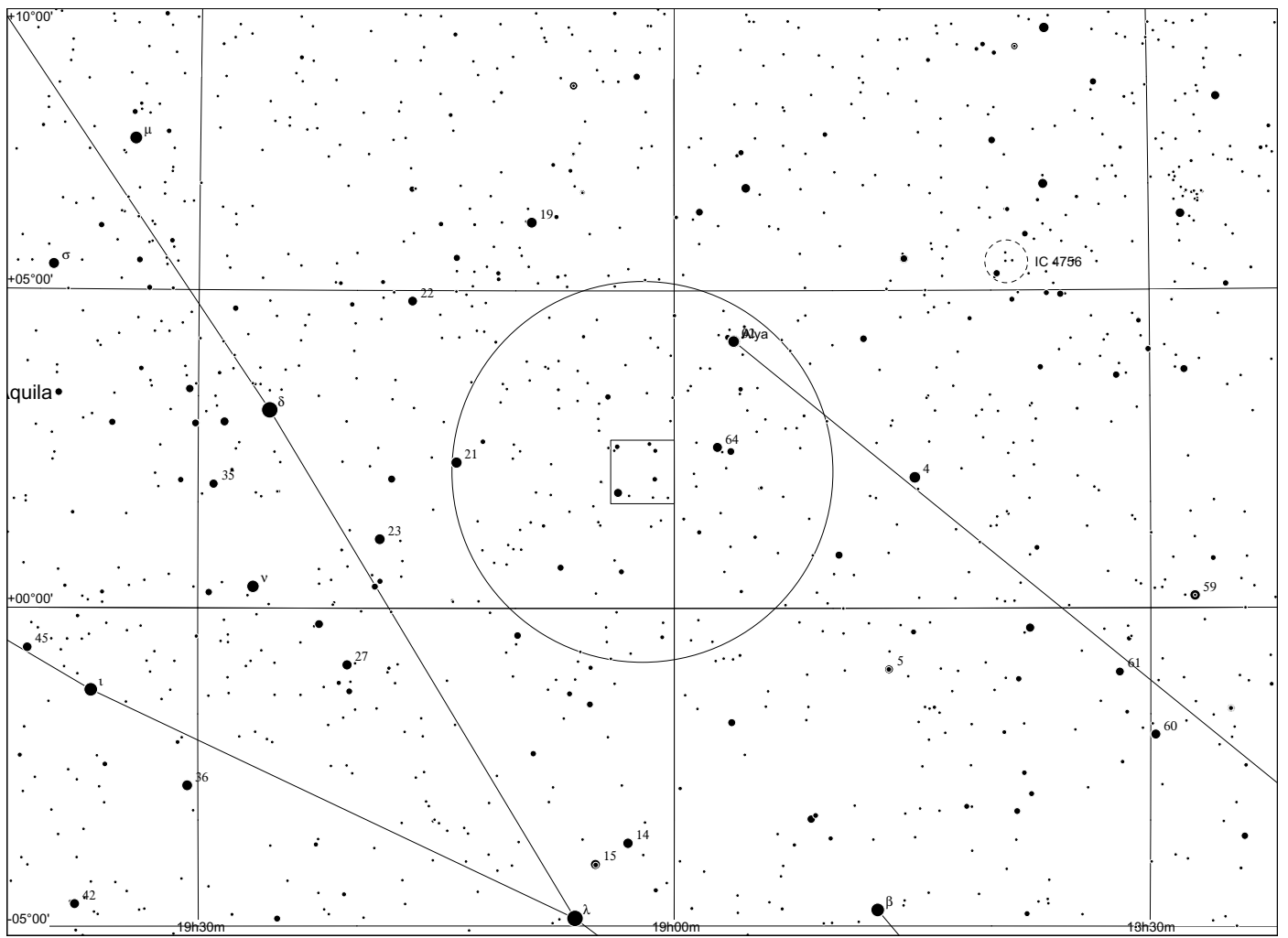
Observing notes:

22" f/4.5

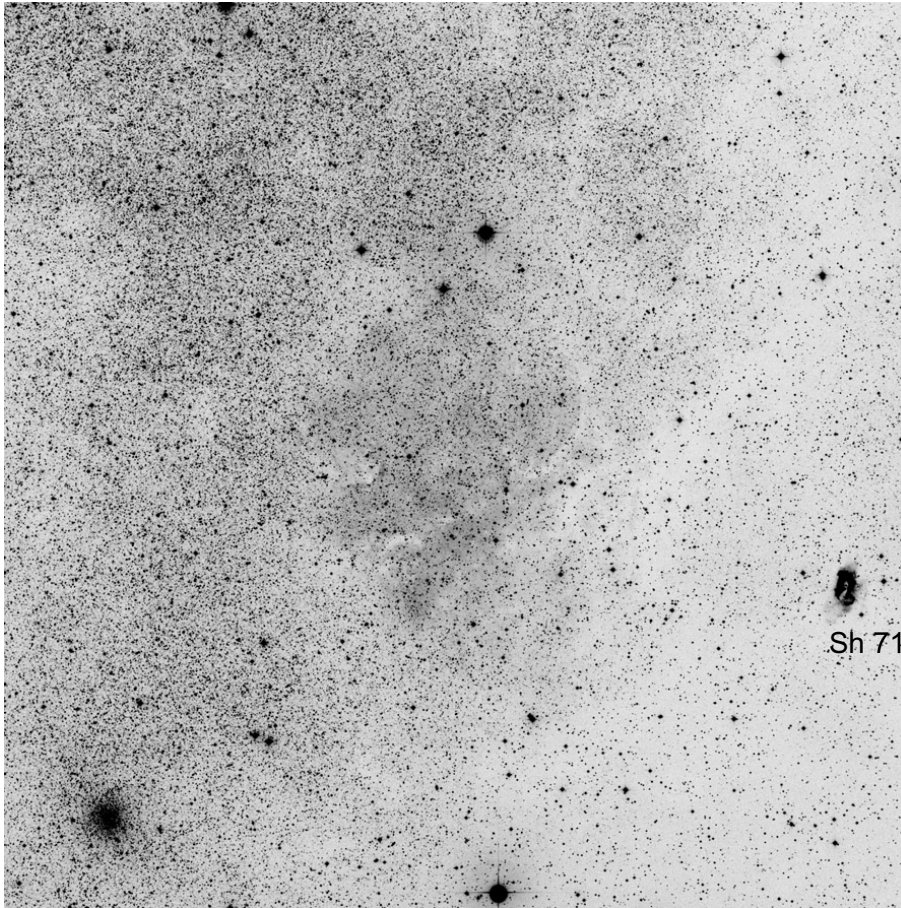
08/2008: With UHC filtering, the central star and a weak surrounding glow could be observed.

07/2010: Response to OIII is better than to UHC, glow is more extended to S toward the bright star.

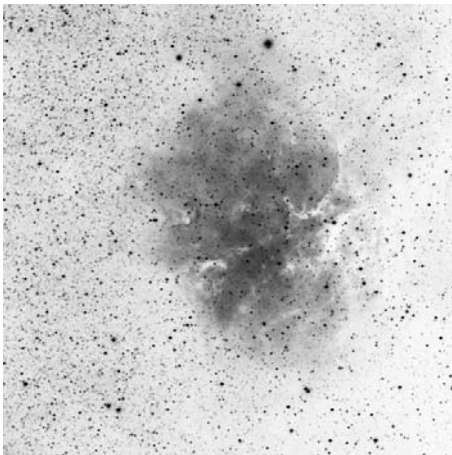
08/2012: distinct, even without tilter, best with UHC, dark area around star suspected, extends towards S, difficult.



Sh 2 - 72 in Aquila



60x60, red



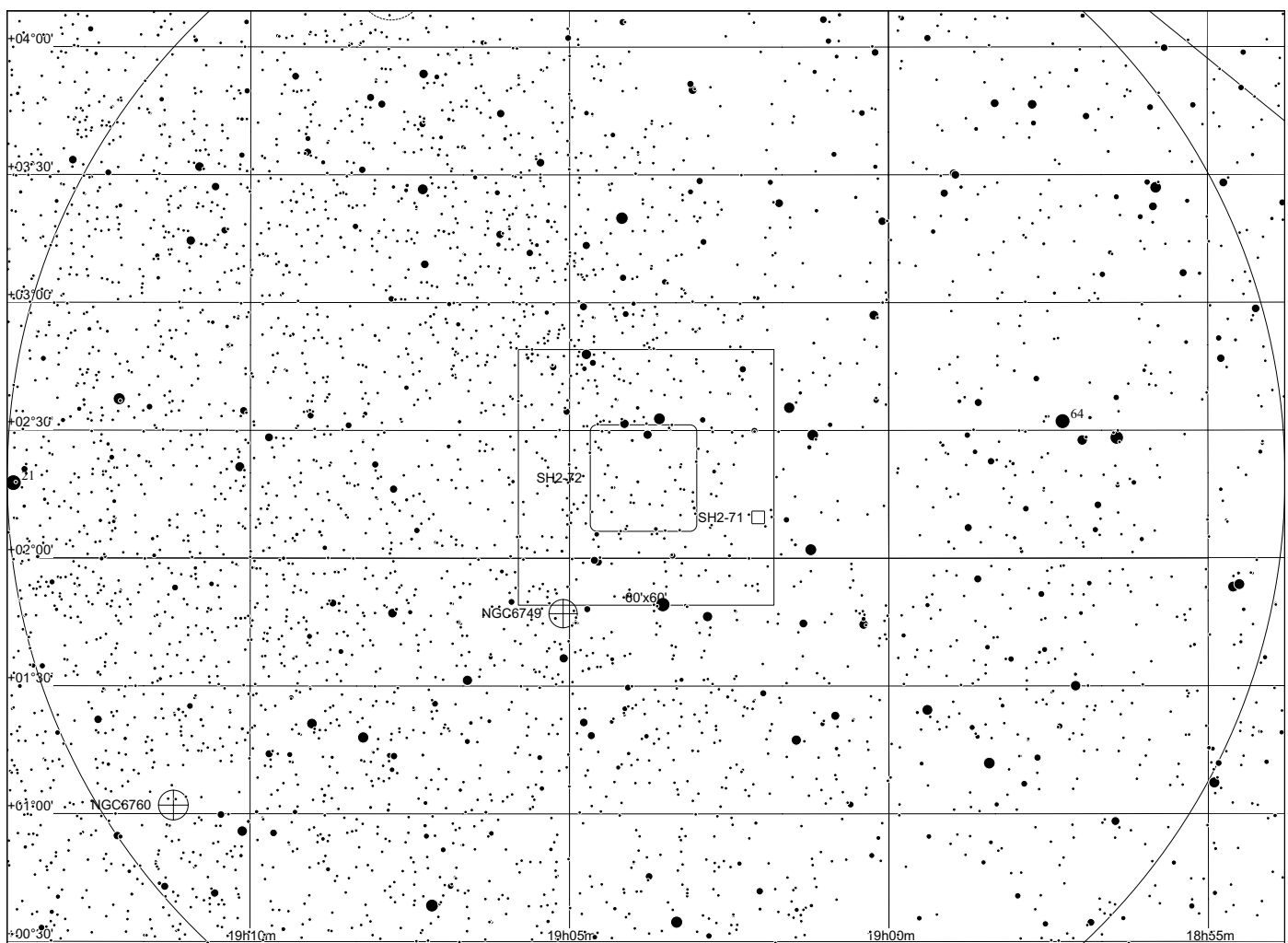
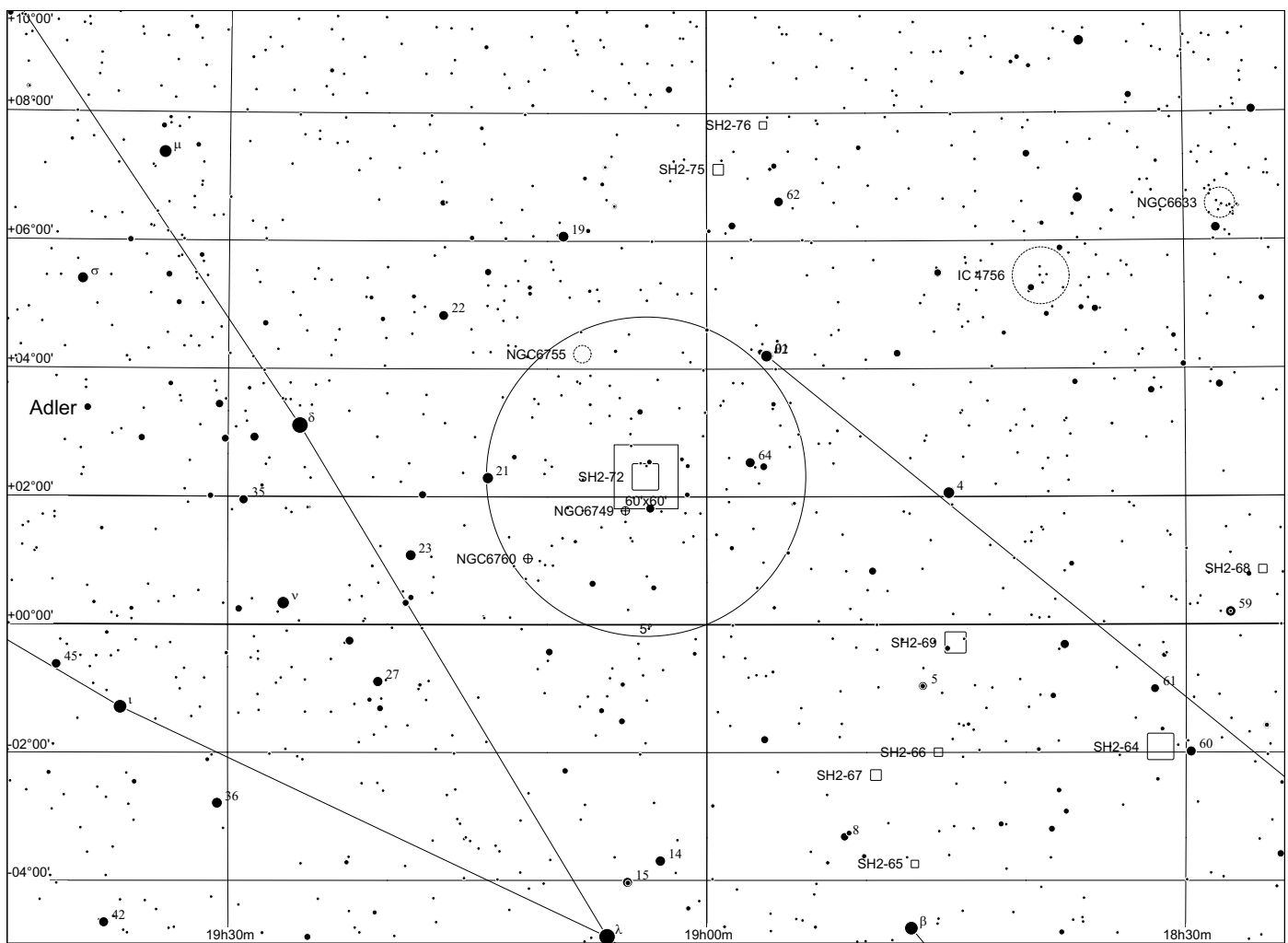
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-072	RCW 179	19 03 50.2	+02 18 50	25	3	2	2

Distance: 1800 pc, Size: 13.1 pc Source: 2003A&A...397..133R

A relatively large HII region nearby the much smaller planetary nebula Sh 2-71.

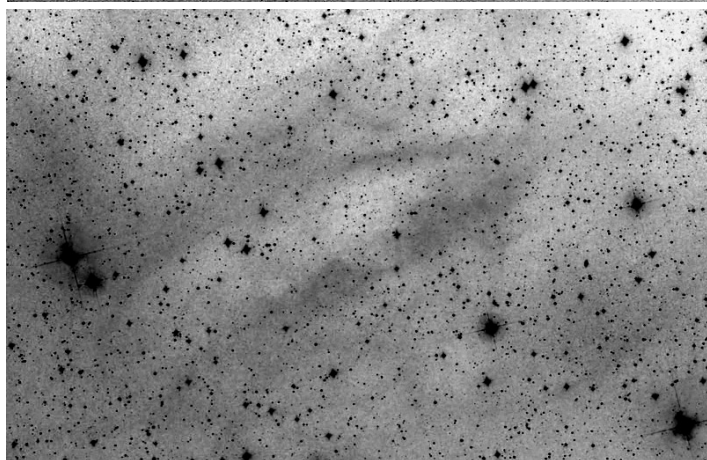
Observing notes:



Sh 2 - 73 in Hercules



60x60, blue



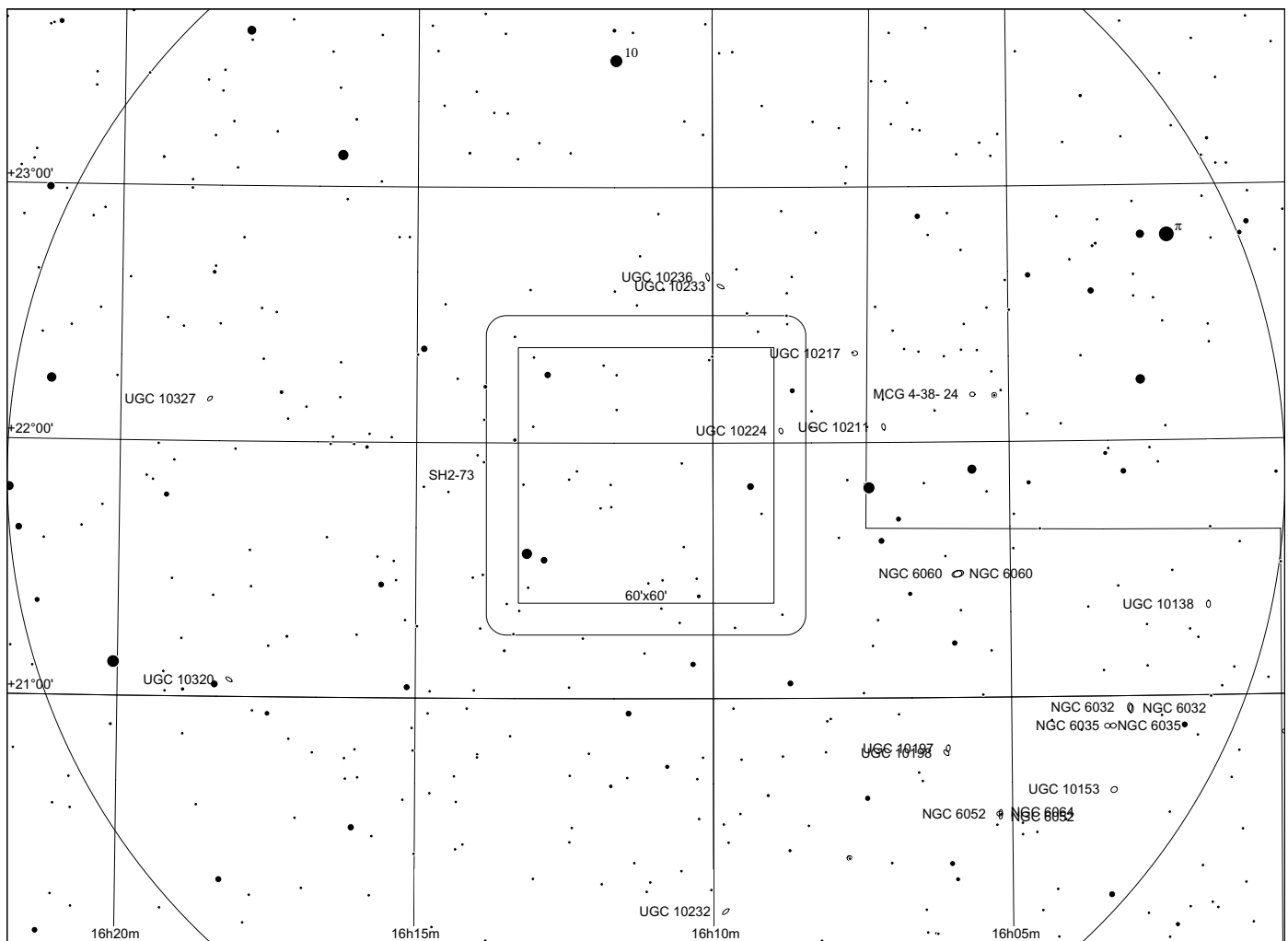
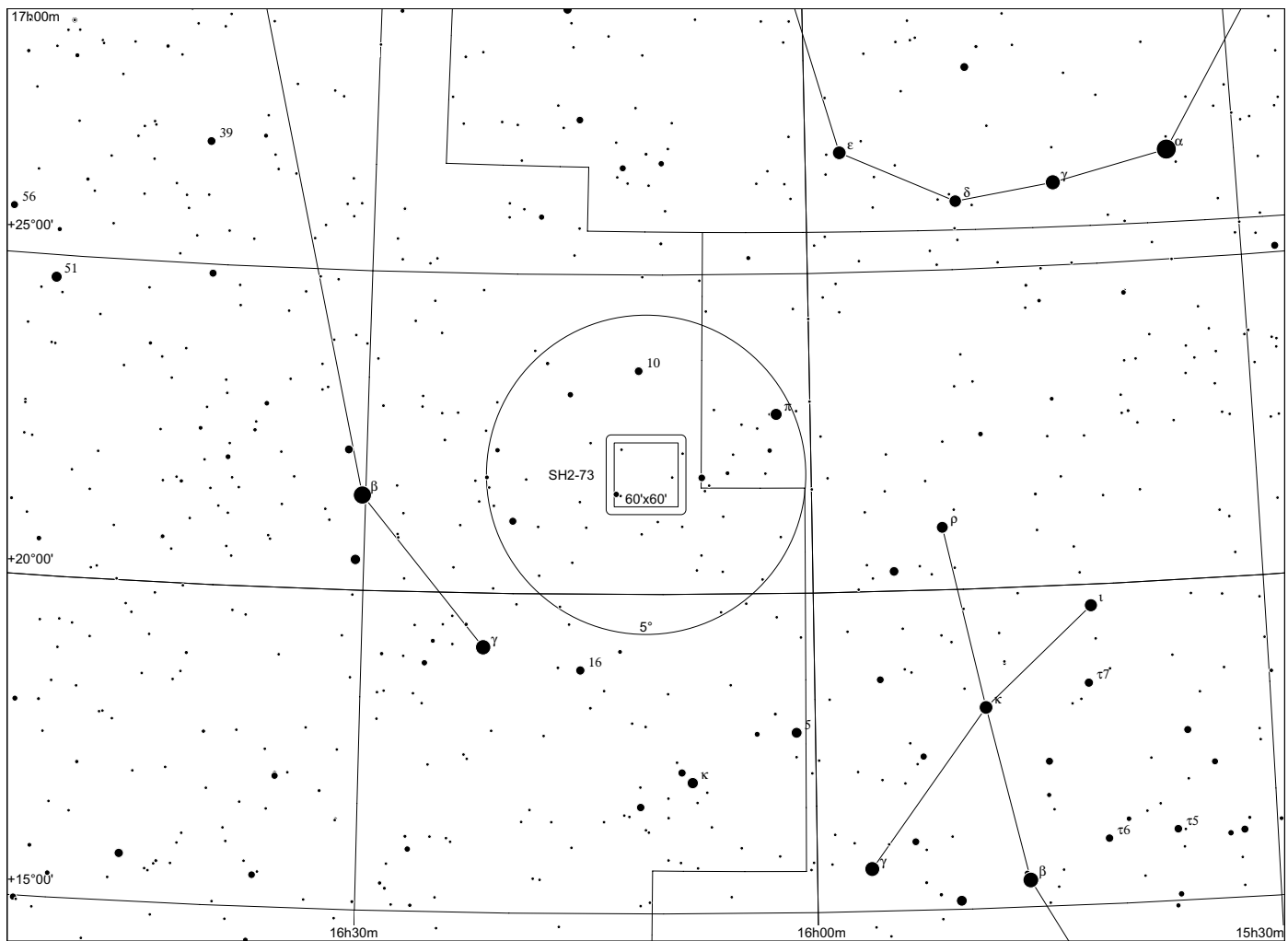
Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-073		16 11 06.9	+21 52 26	75	3	2	1

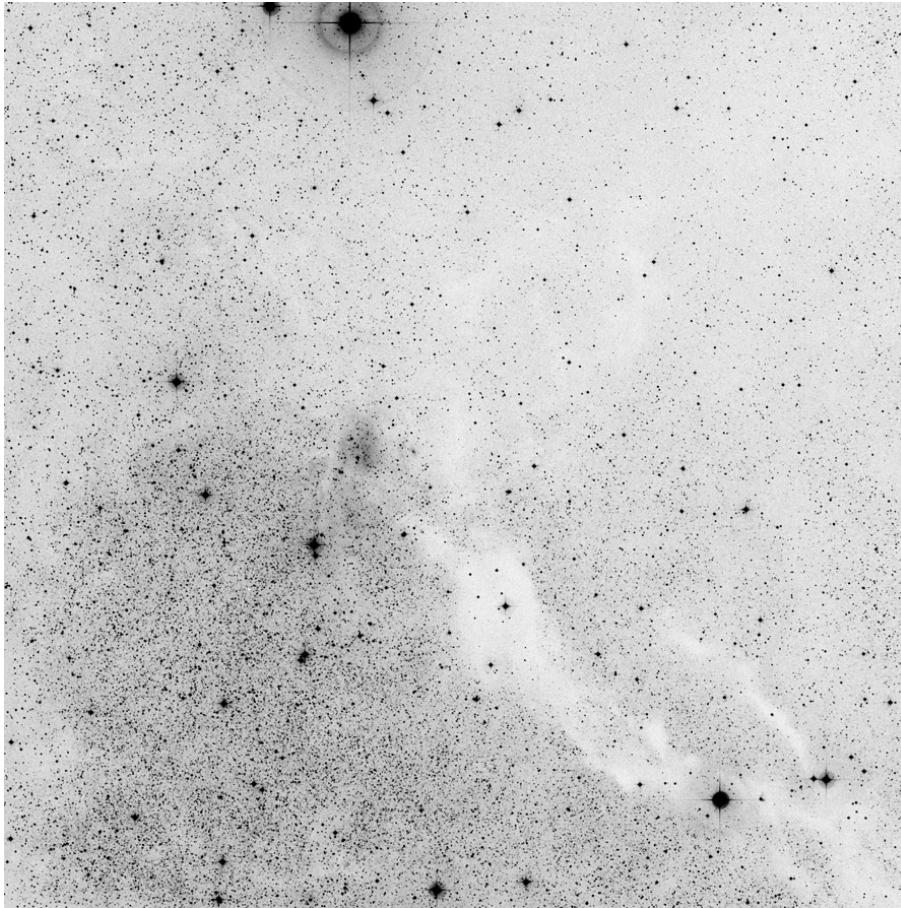
Distance: 200 pc, Size: 4.4 pc Source: 1989A&AS...77..439F

This local molecular cloud is also known as LBN 105, MBM 40 and IREC 53. MBM 40 is located at a distance of 120 parsecs and contains 20 to 40 solar masses of gas. There are no signs of star formation. Like several other local molecular clouds, MBM 40 has a pronounced hairpin shape.

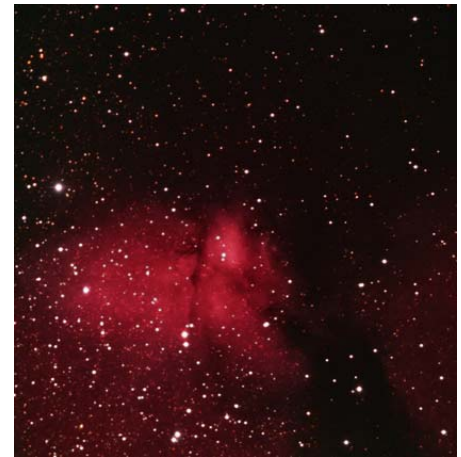
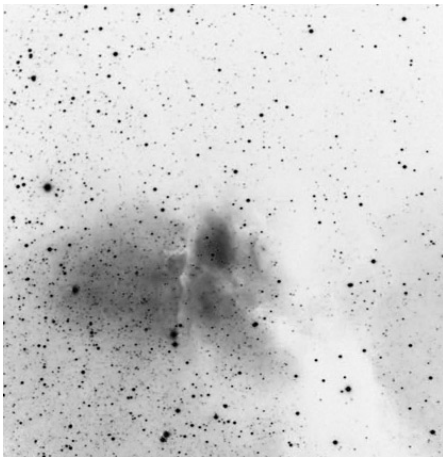
Observing notes:



Sh 2 - 74 in Aquila



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-074	RCW 12	19 08 48.5	+05 36 32	3	3	2	2

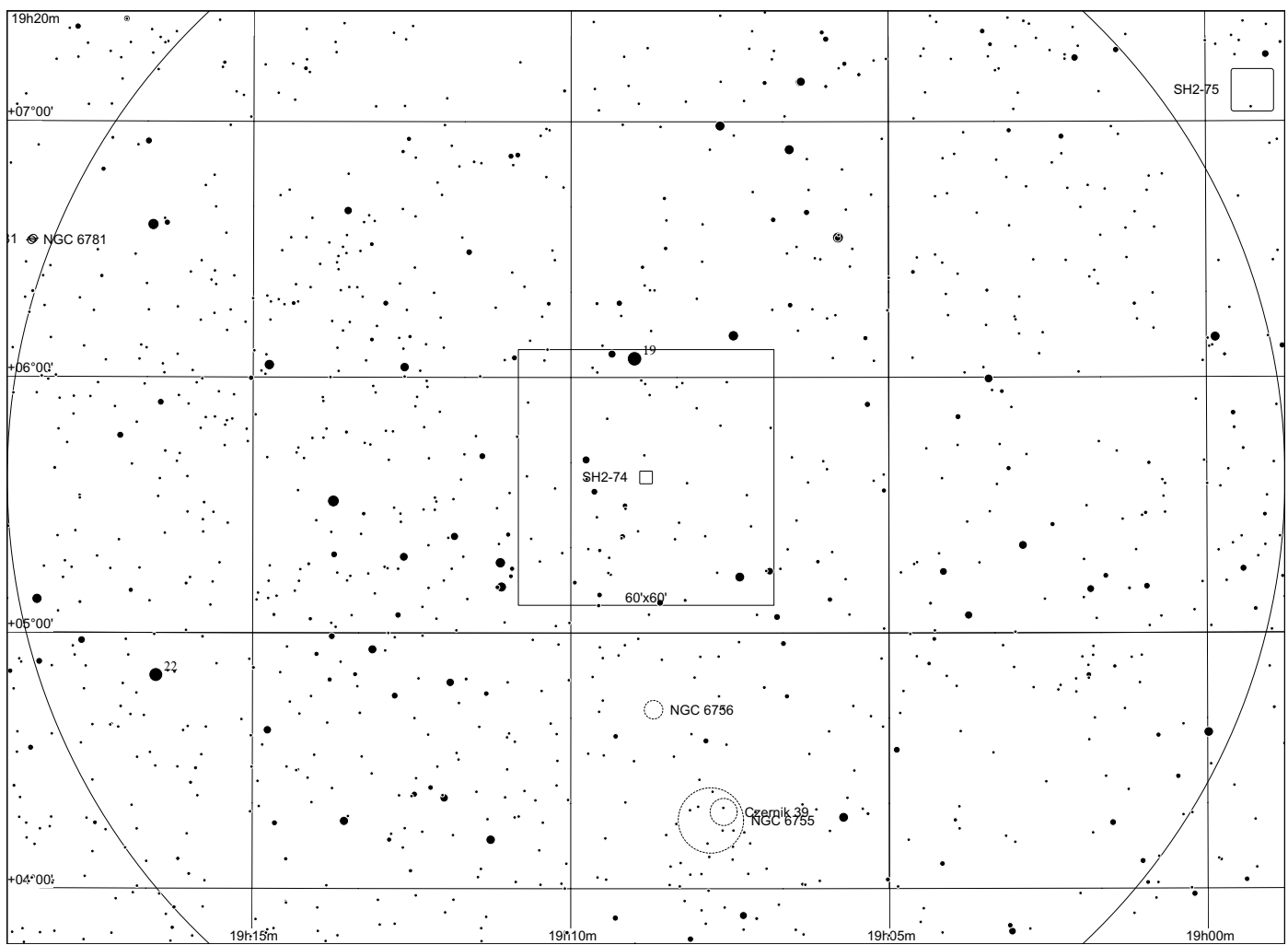
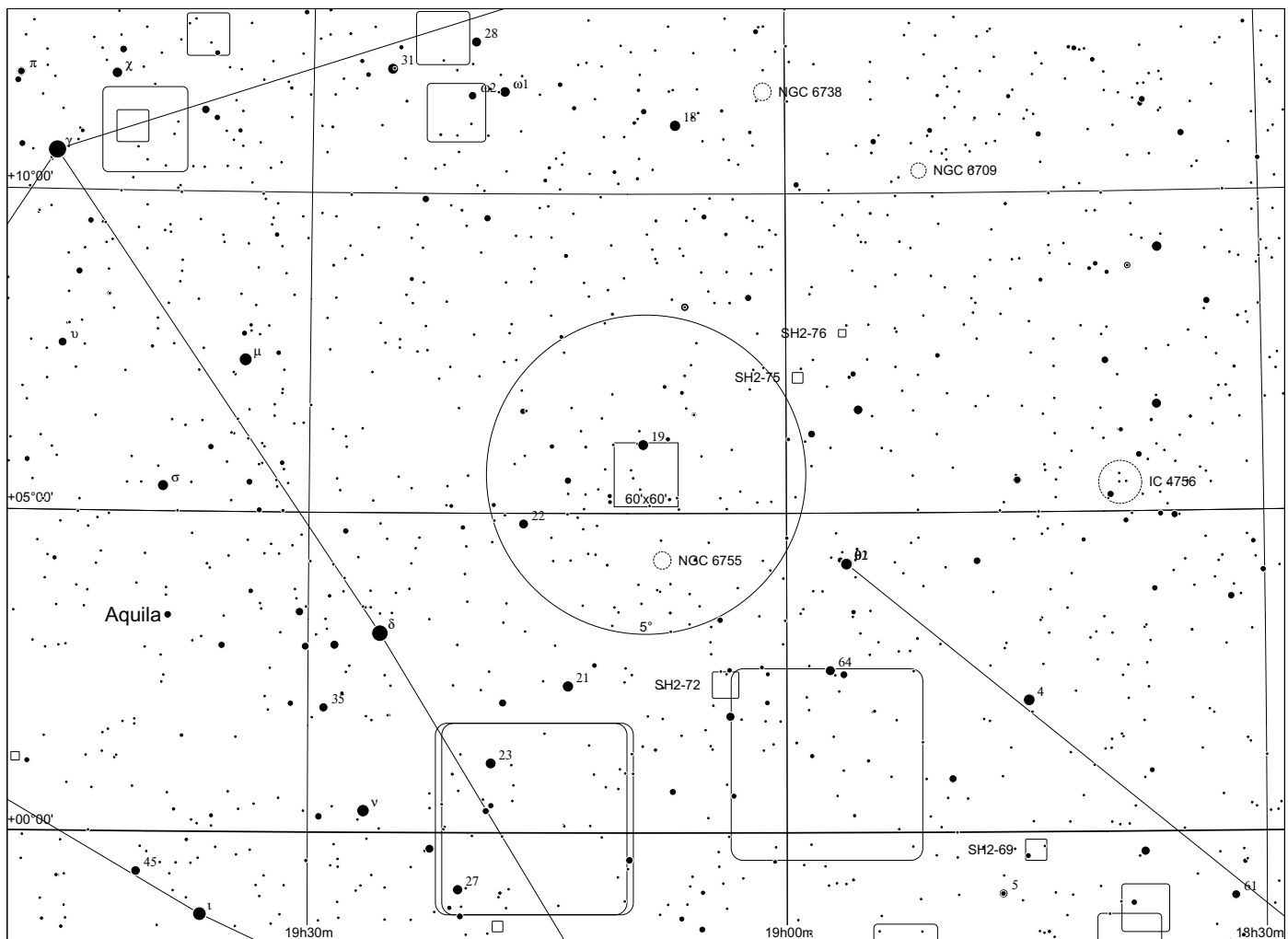
Distance: 3105 pc, Size: 5.3 pc Source: 2003A&A...397..213P

This nebula is either the location of the powerful radio source W50, or sits in front of it, depending upon the authority. The microquasar SS 433 is part of W50. This bizarre object, also called V1343 Aquilae, is spewing out two jets of material at more than one-quarter the speed of light.

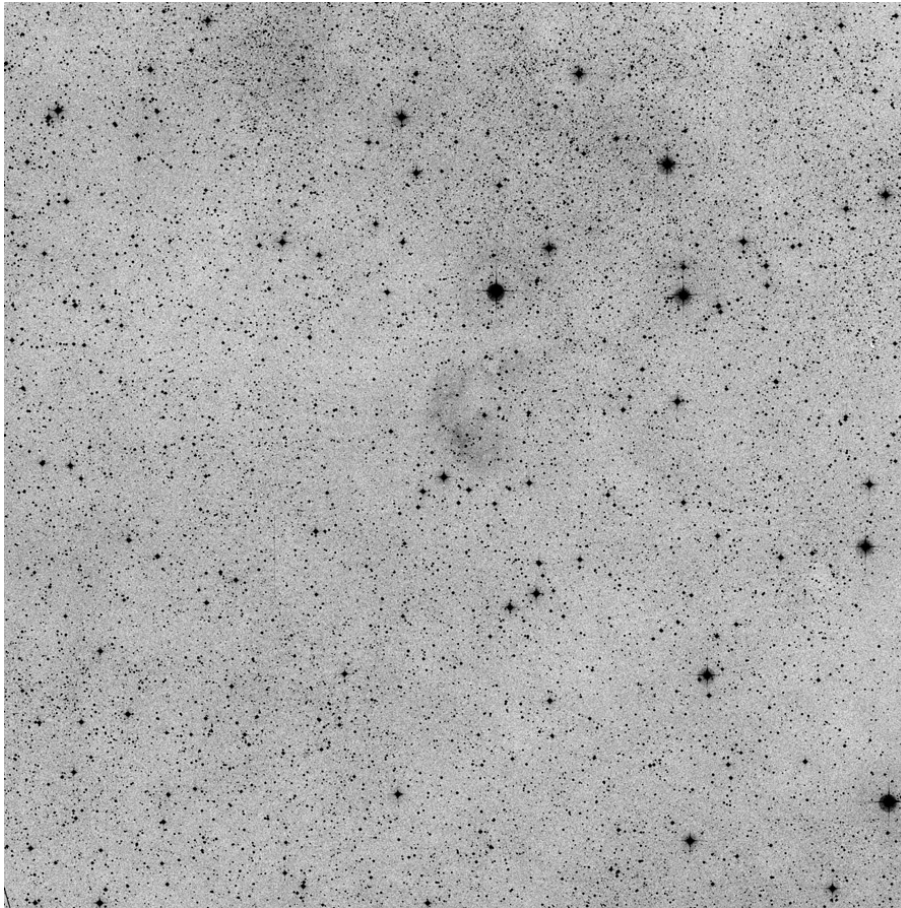
Observing notes:

22" f/4.5

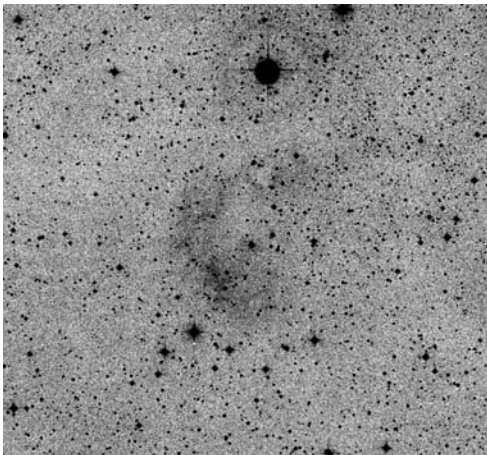
08/2012: only suspected.



Sh 2 - 75 in Aquila



60x60, red



POSS red



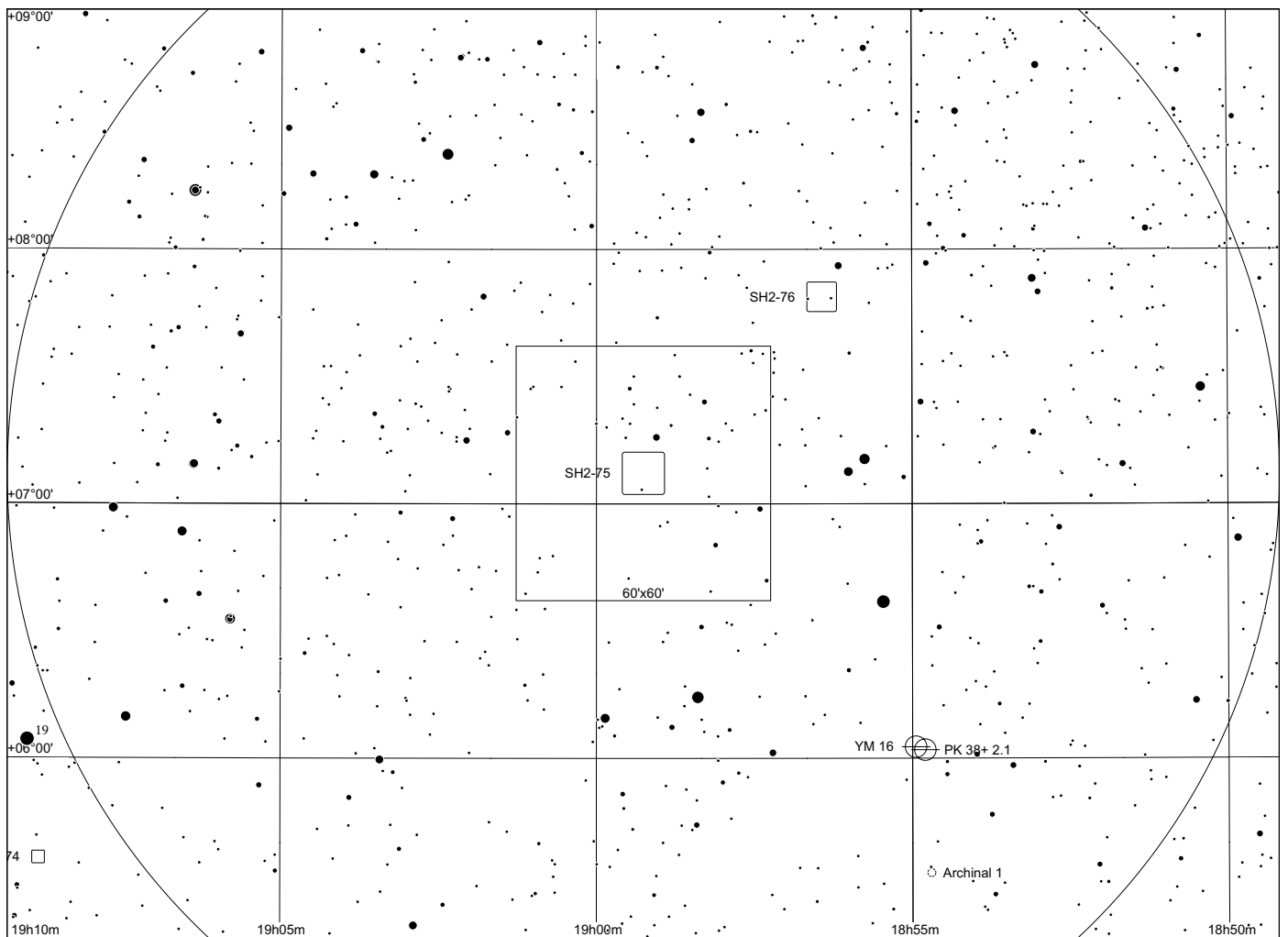
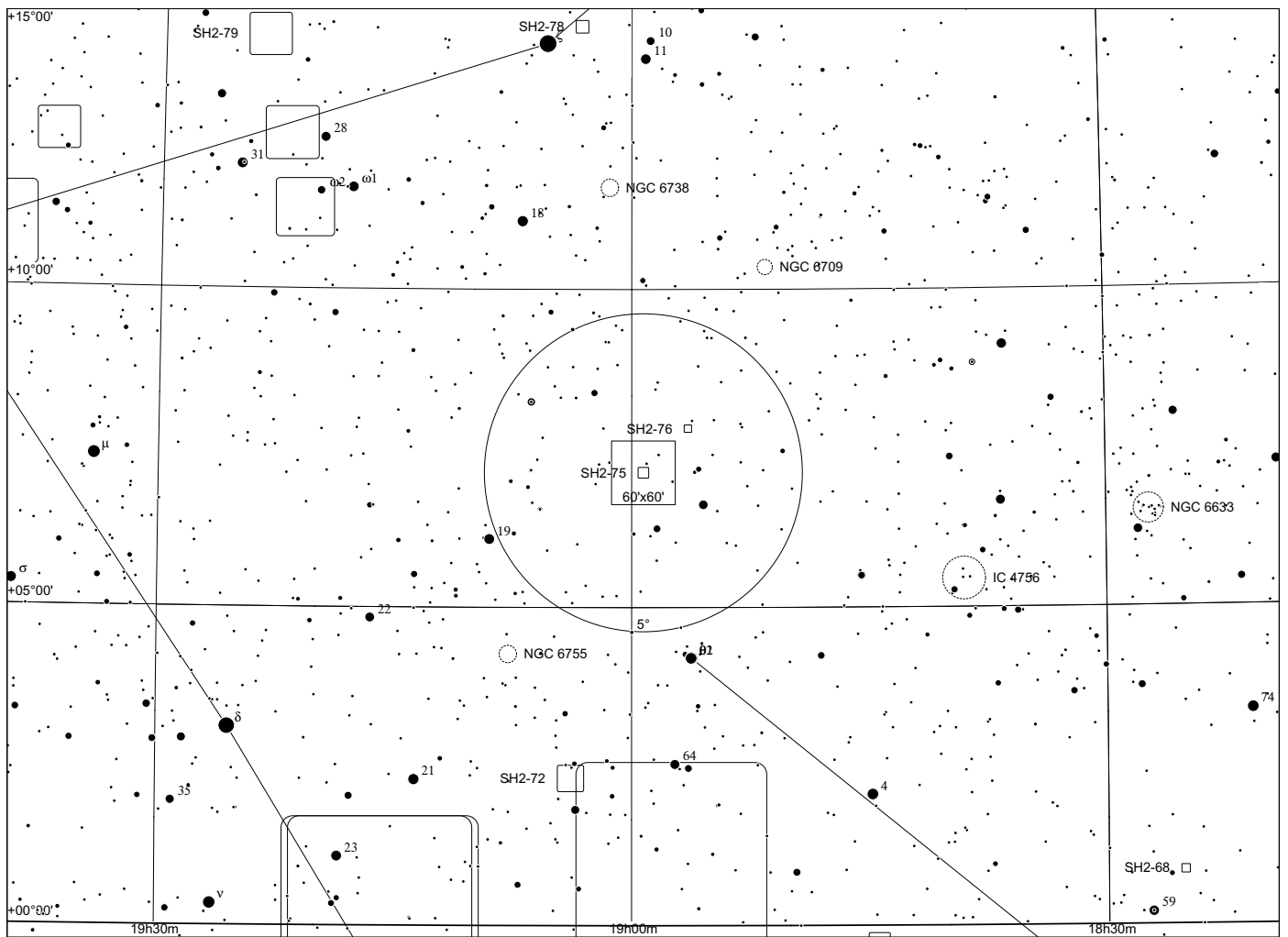
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-075		18 59 14.7	+07 07 12	10	1	2	1

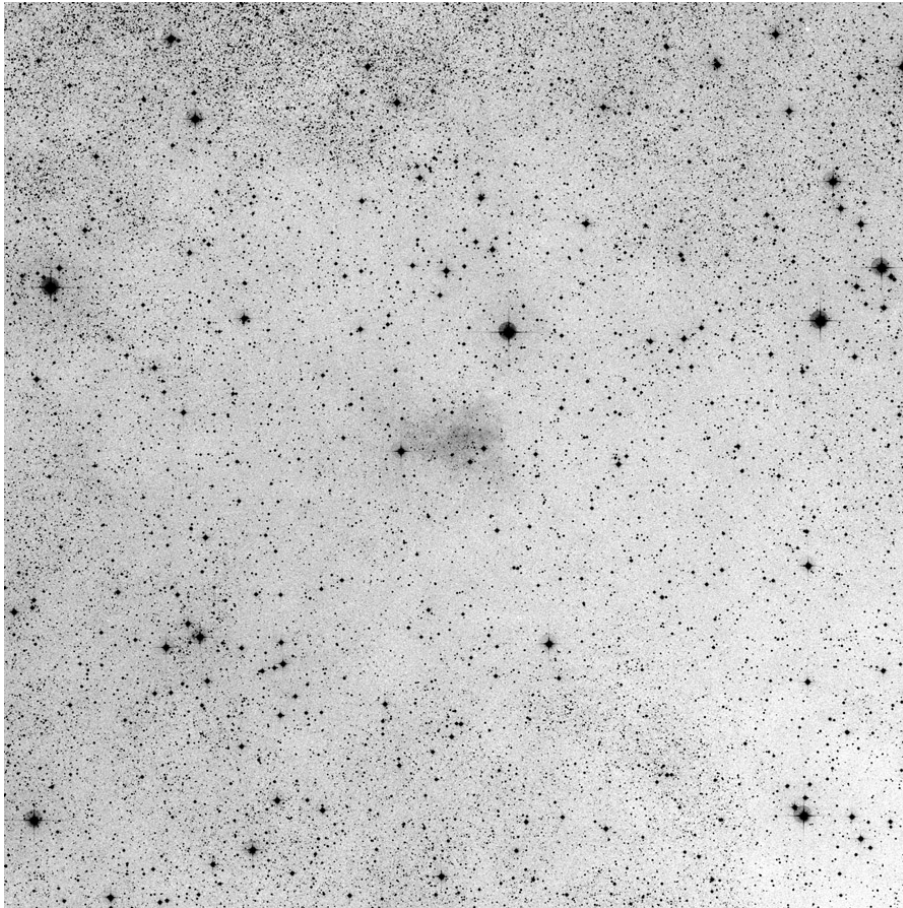
Distance: 1700 pc, Size: 4.9 pc Source: 2003A&A...397..133R

There is very little to report about this faint, obscured nebula except that ammonia was detected in this direction in a 1996 study.

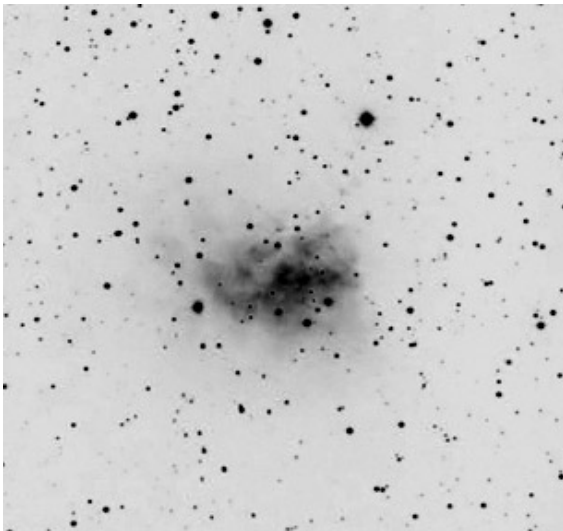
Observing notes:



Sh 2 - 76 in Aquila



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-076		18 56 24.9	+07 48 48	7	1	2	1

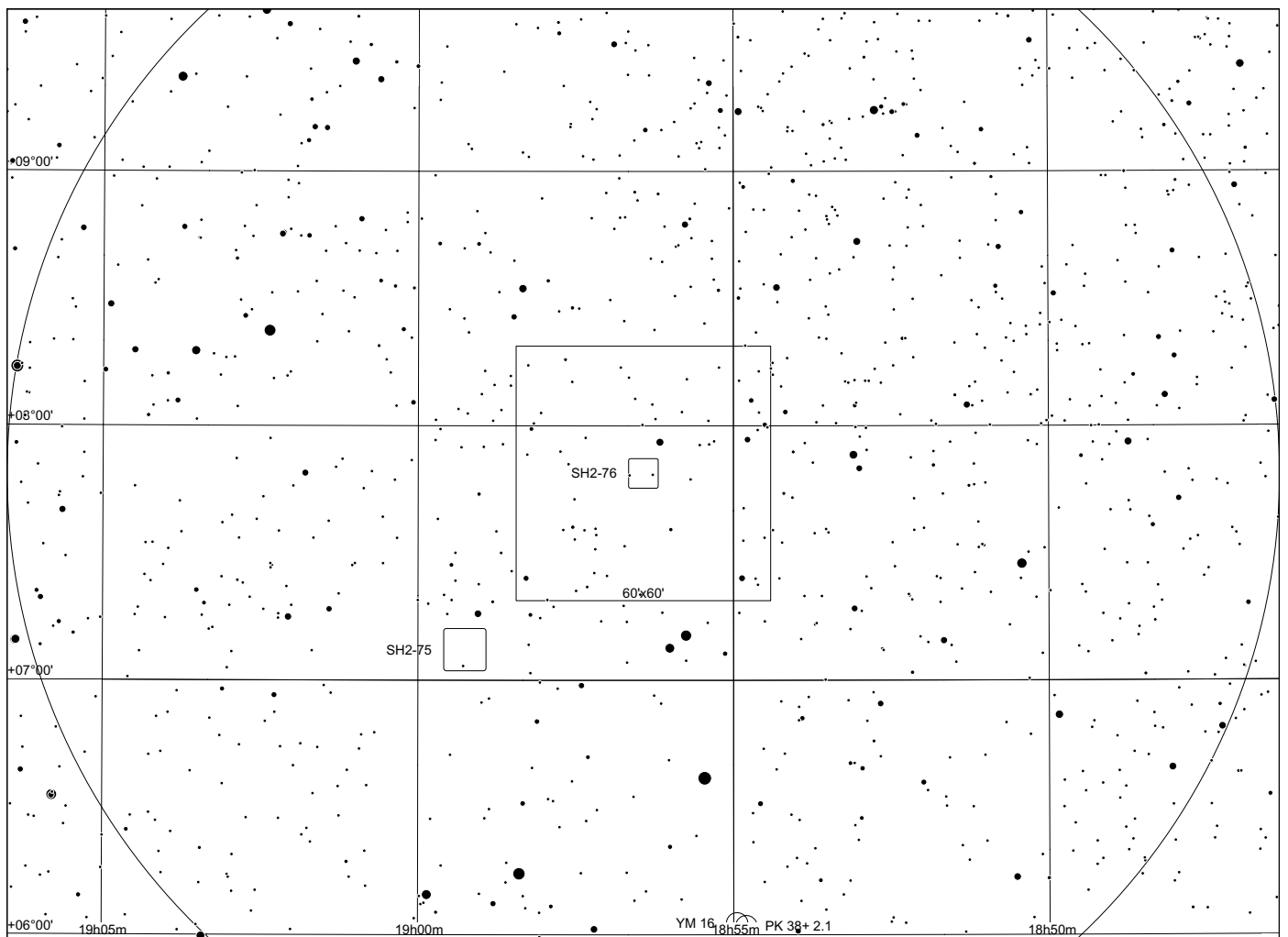
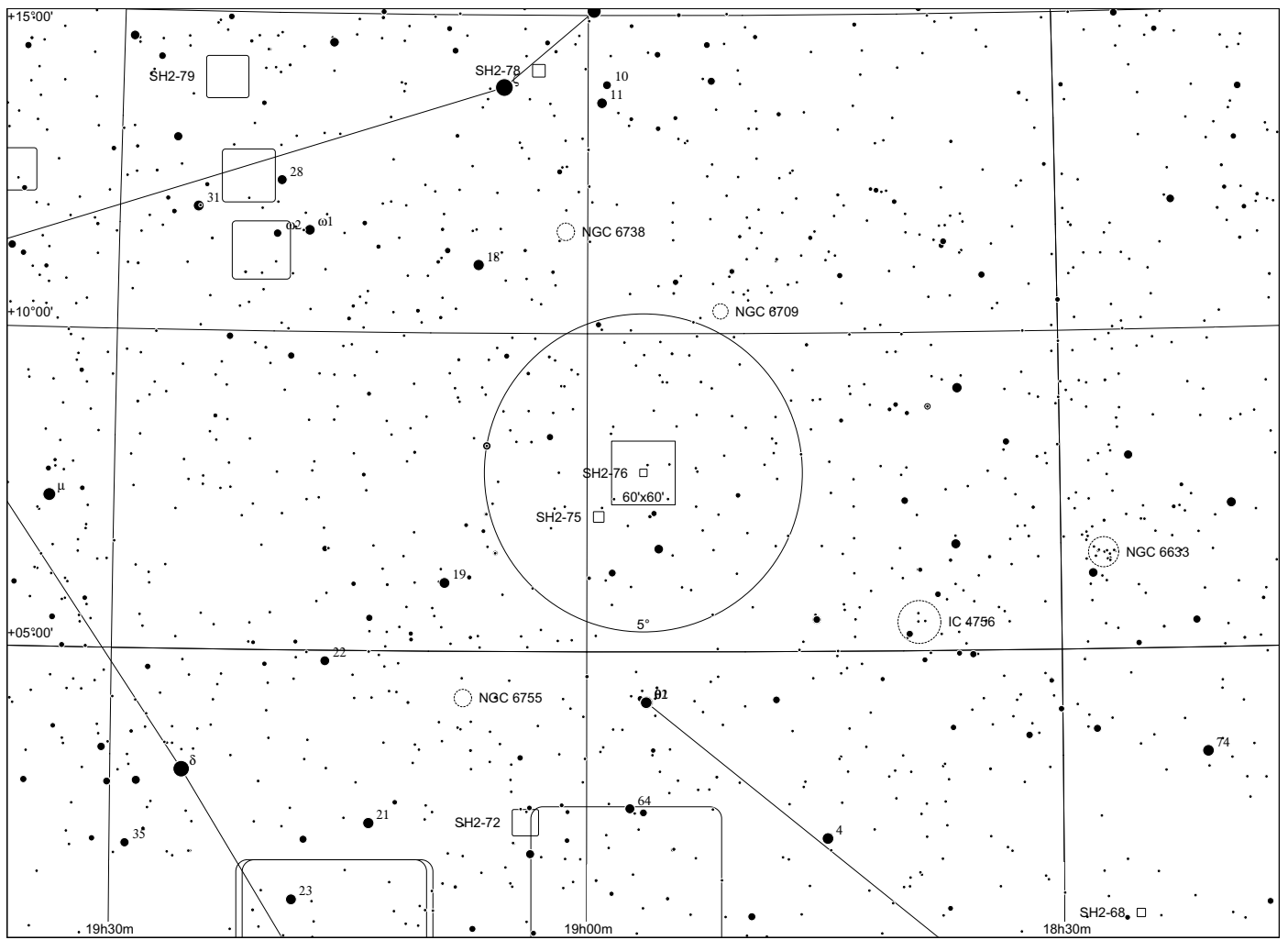
Distance: 1734 pc, Size: 1.8 pc Source: 2003A&A...397..213P

This is in the same approximate direction as W45.

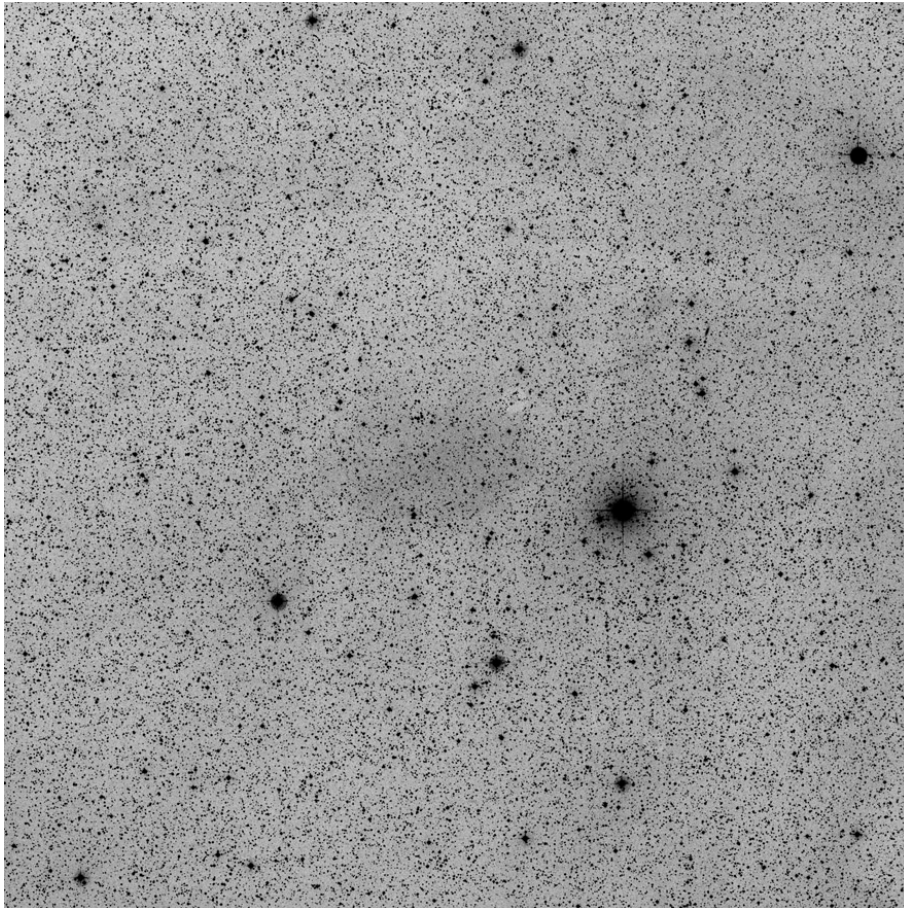
Observing notes:

22" f/4.5

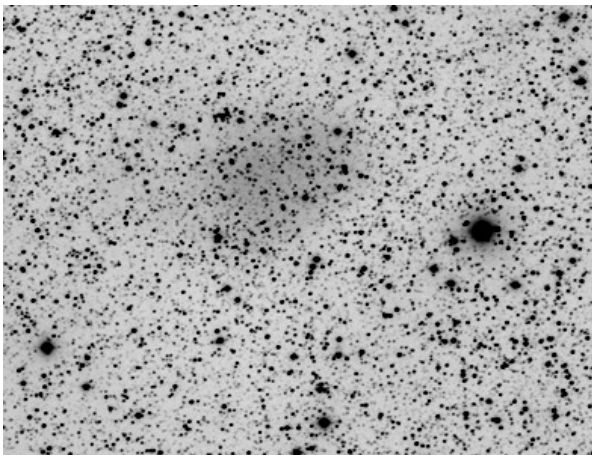
08/2012: unsuccessful with H beta and UHC, needs to be reobserved under better conditions.



Sh 2 - 77 in Aquila



60x60, blue



Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-077		19 48 16.6	+01 08 52	8	2	1	1

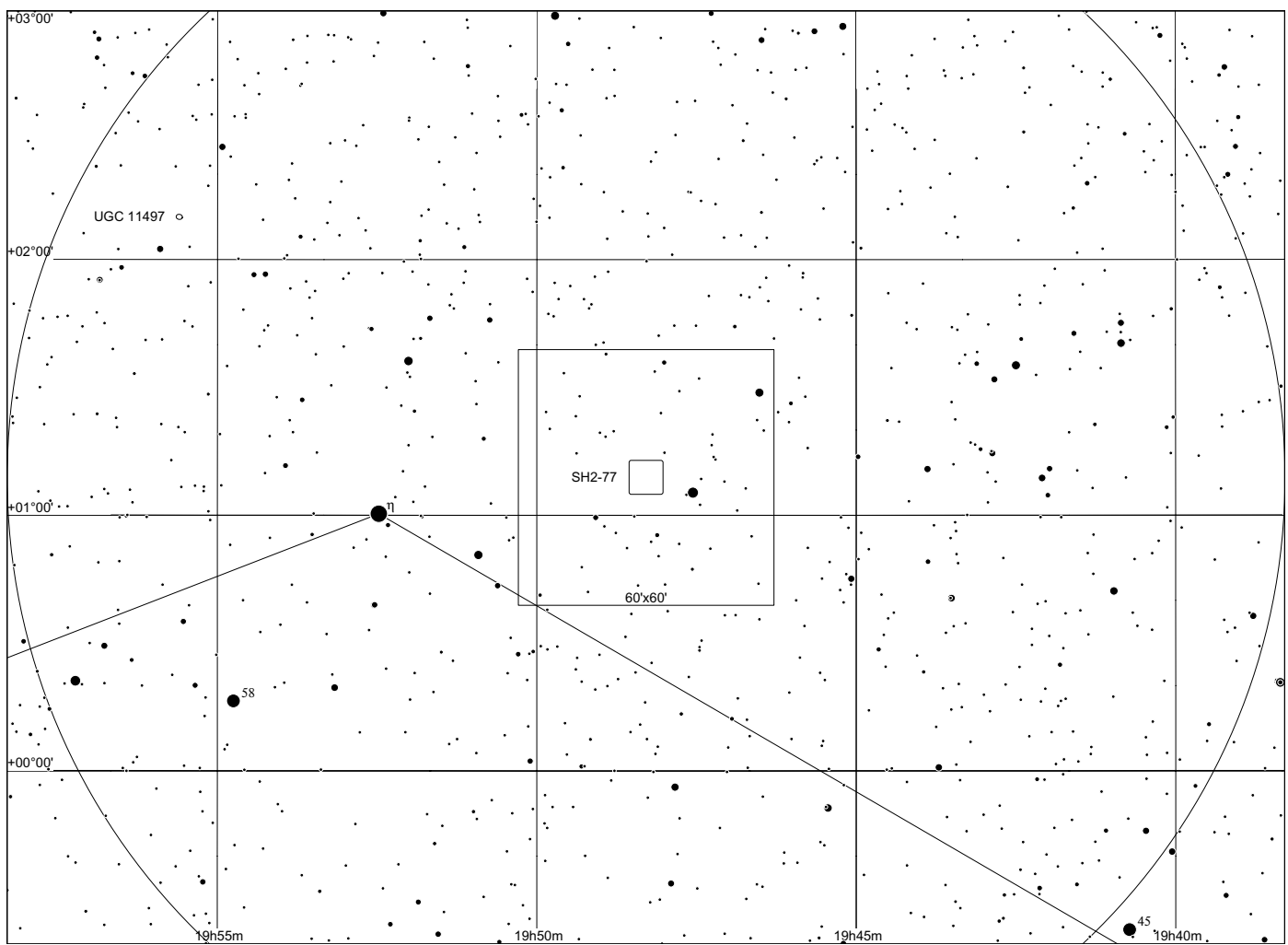
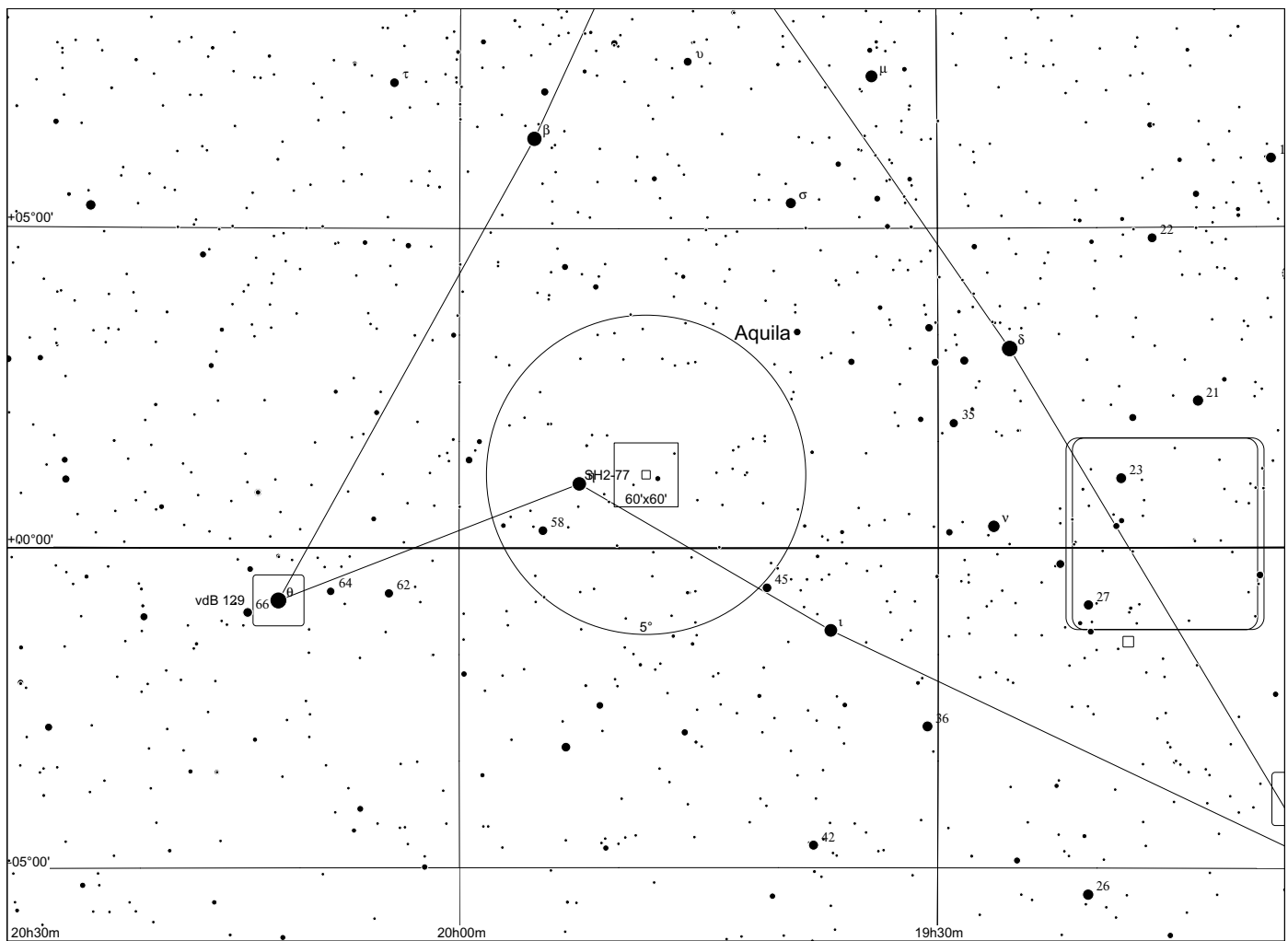
Distance: 1200 pc, Size: 2.8 pc Source: 1989A&AS...77..439F

This appears to be the same as the high velocity cloud [PDS2002] HIPASS HVC 378 = [DBB2002] 106.

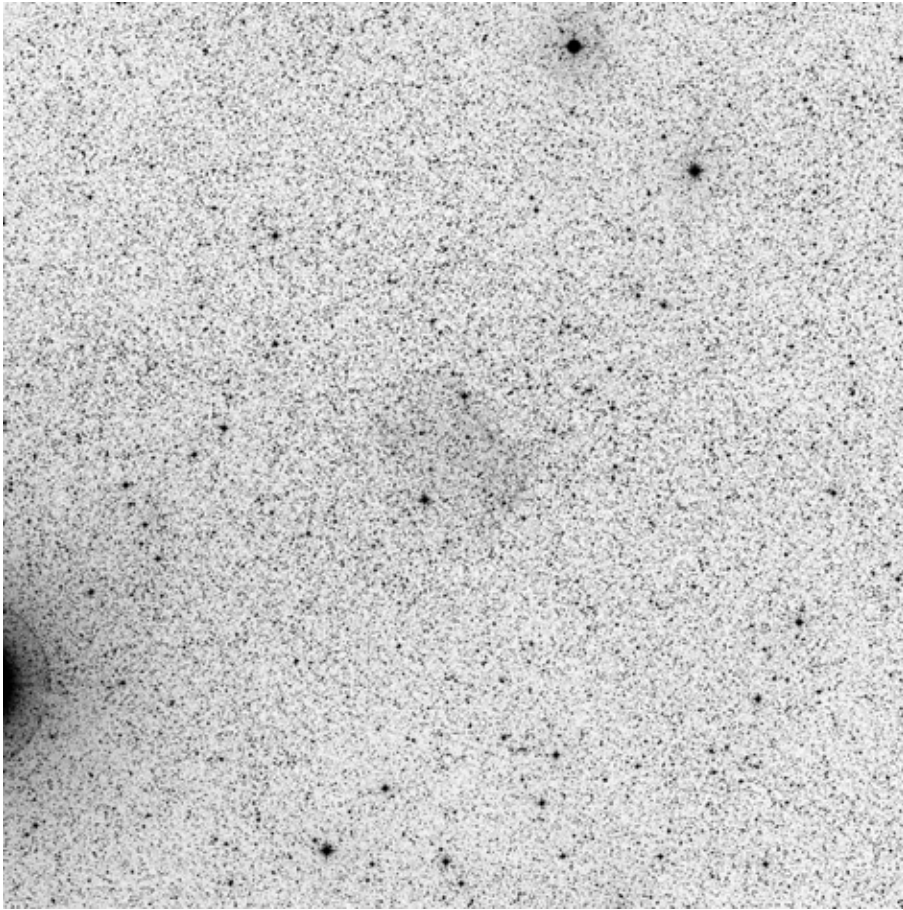
Observing notes:

22" f/4.5

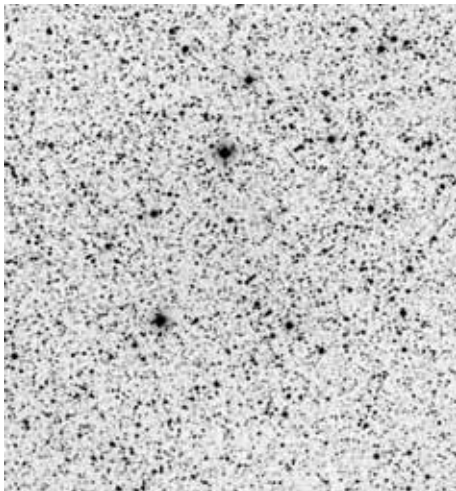
08/2012: Extremely faint object bordered by two stars. SW section is better defined and roughly rectangular, NE section is larger and more diffuse. Responds best to UHC, but is also visible with OIII and H beta.



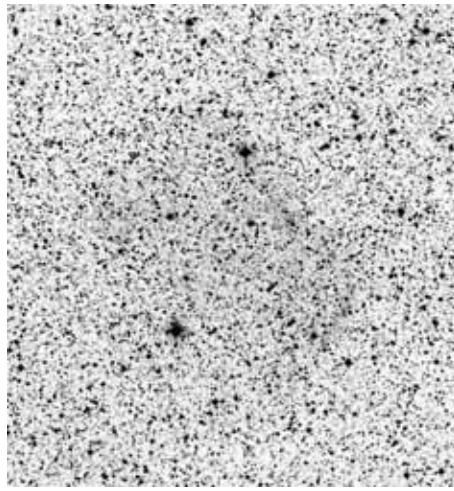
Sh 2 - 78 in Aquila



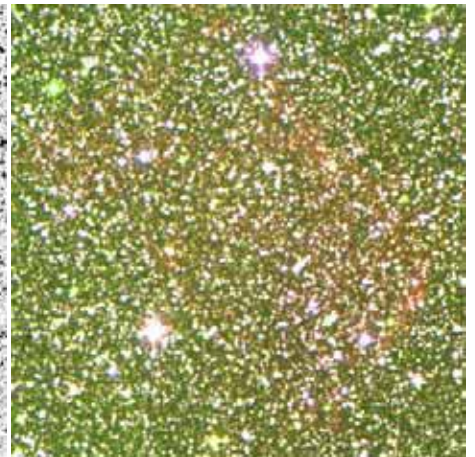
60x60, red enhanced



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-078	CTSS 3, PN	19 03 10.6	+14 07 46	12	1	1	1

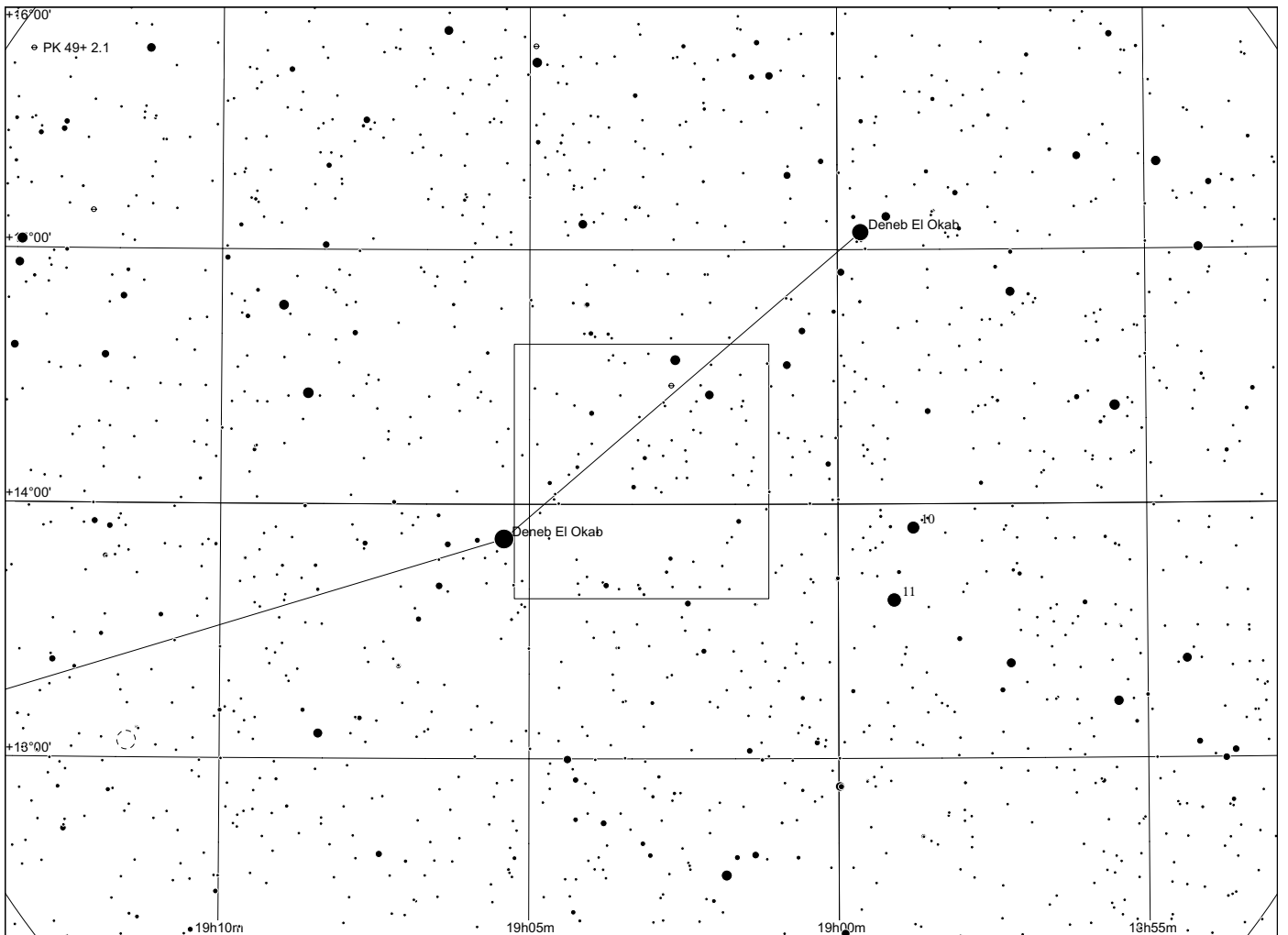
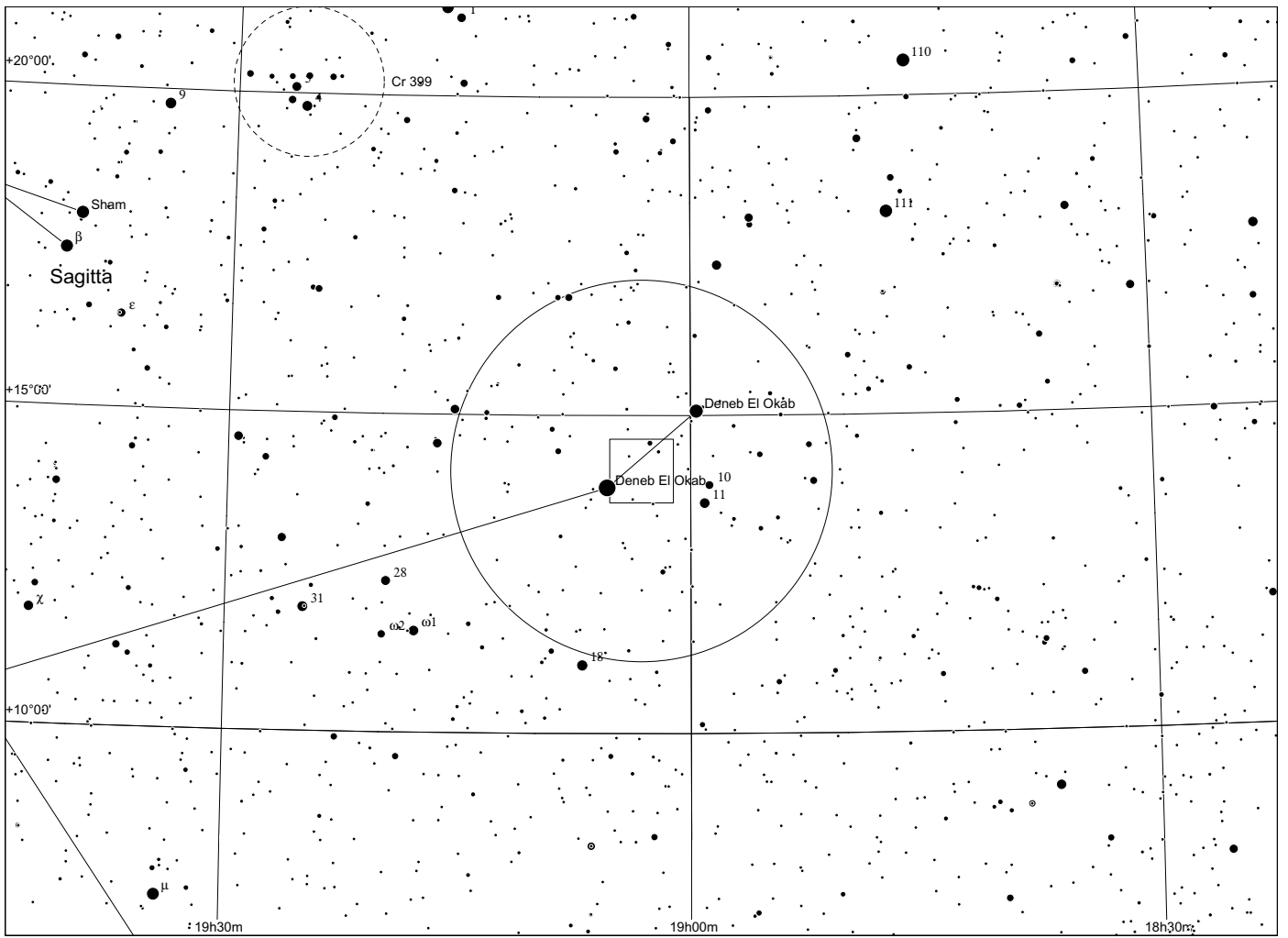
Distance: 4300 pc, Size: 15.0 pc, Source: 1989A&AS...77..439F

This is the old planetary nebula CTSS 3 and actually lies at a distance of 700 parsecs.

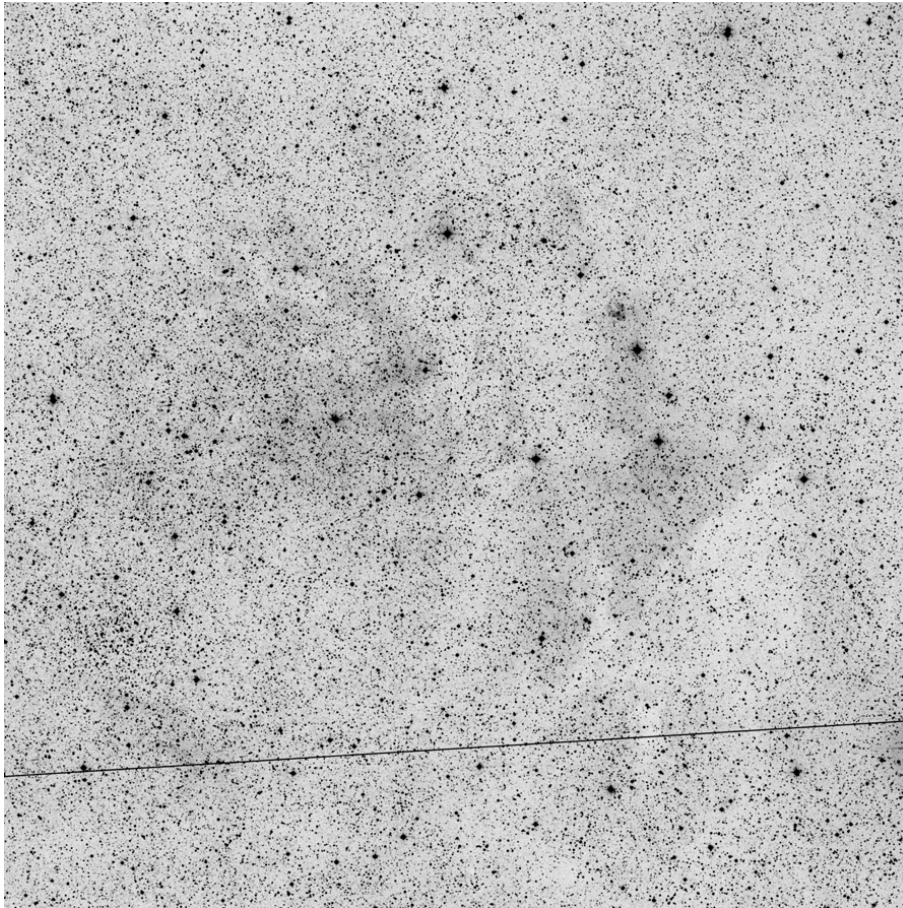
Observing notes:

22" f/4.5

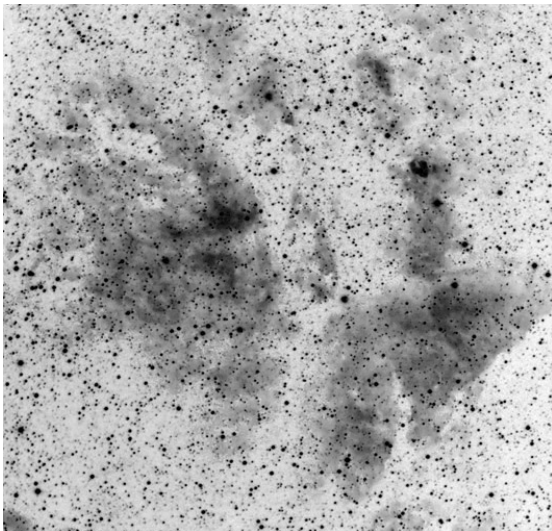
08/2012: extremely faint glow suspected in distinct star pattern without filter, also suspected with UHC



Sh 2 - 79 in Aquila



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-079		19 23 18.2	+13 58 34	40	3	2	1

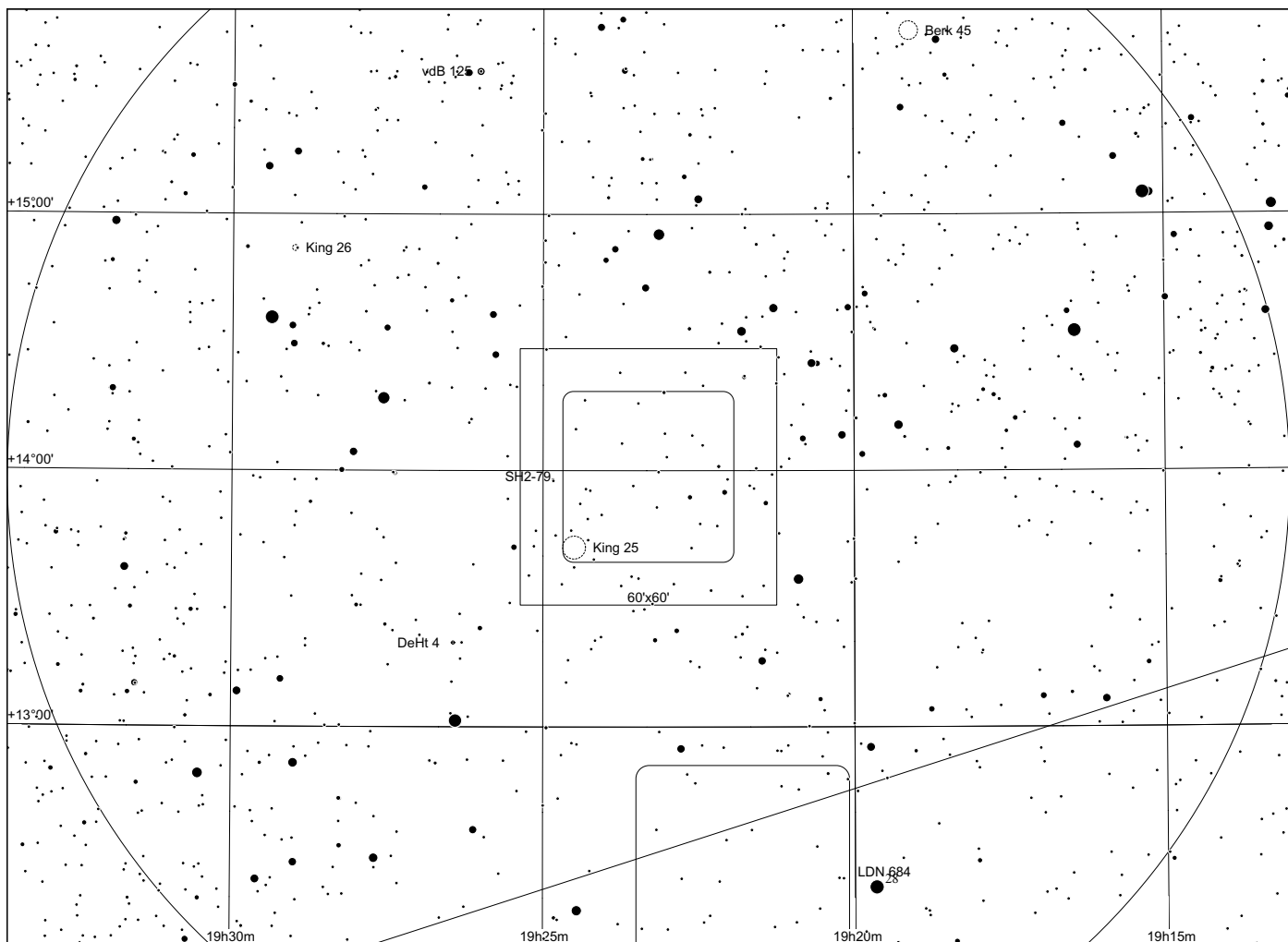
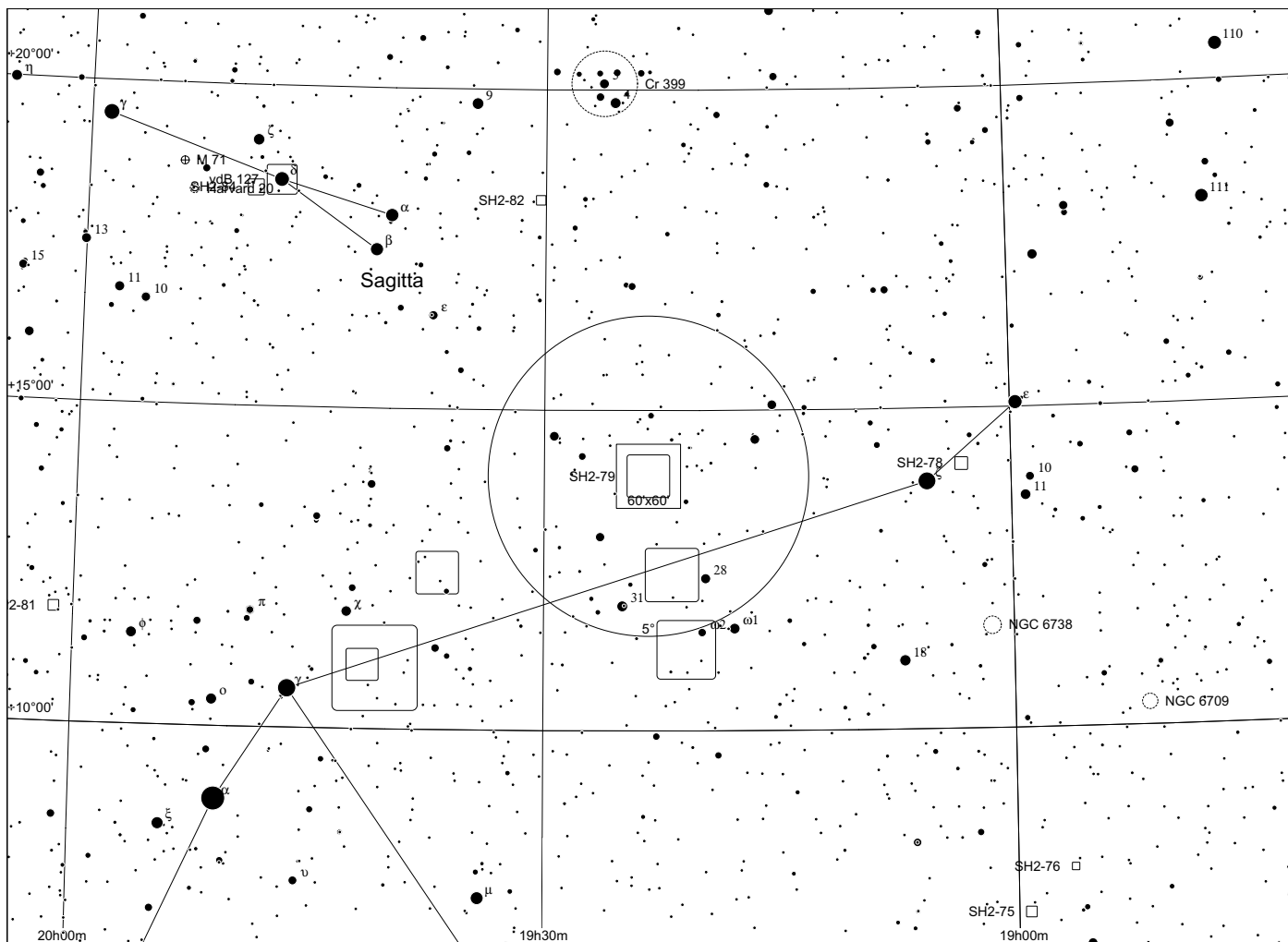
Distance: 6000 pc, Size: 69.8 pc Source: 2001A&A...370..265M

The very faint nebula in the image is associated with the supernova remnant G 49.2-0.7 (also called W51C) and is believed to be at a distance of 6 kpc.

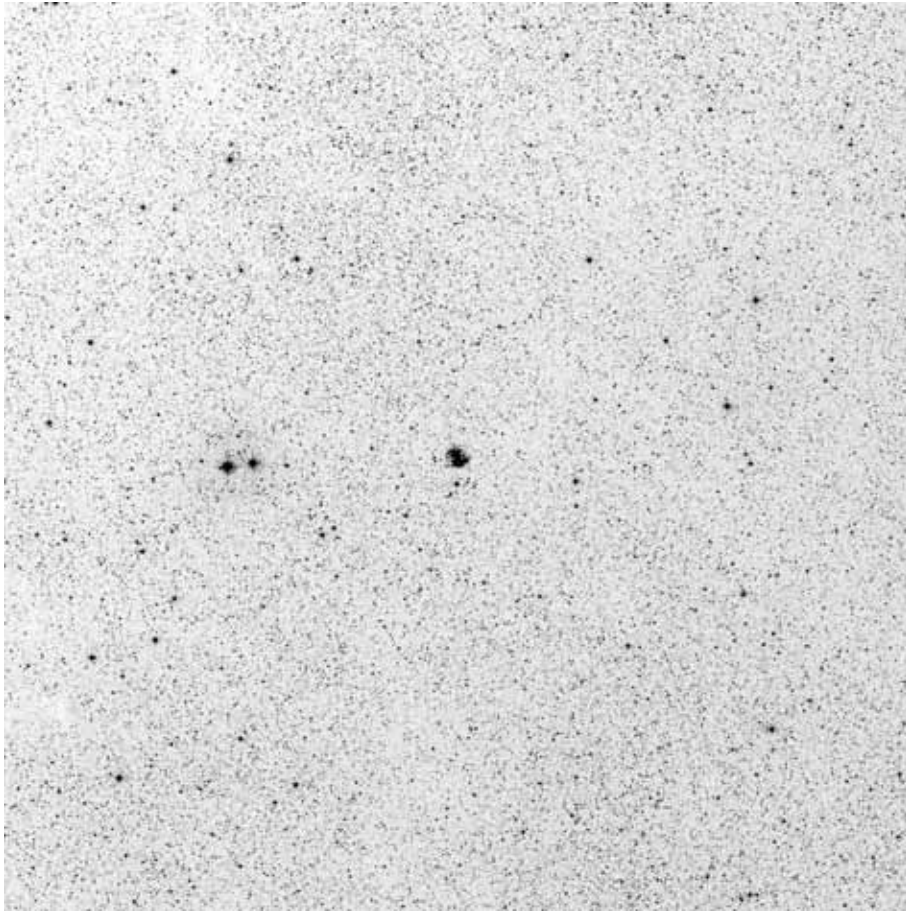
Observing notes:

22" f/4.5

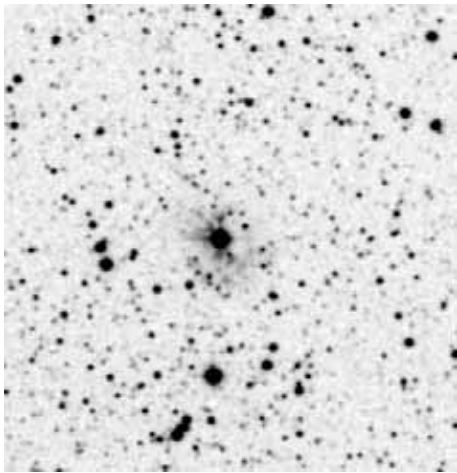
08/2012: more difficult than anticipated from the image. Extremely faint structured area with H beta filter.



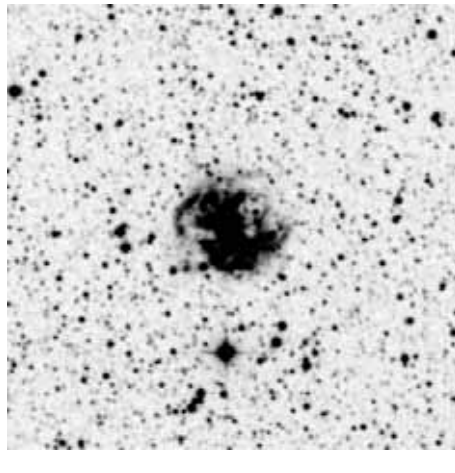
Sh 2 - 80 in Sagitta



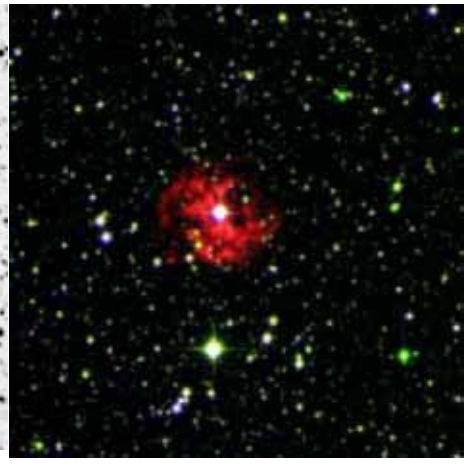
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-080	M1-67, WR shell	19 11 28.5	+16 51 57	2	3	2	3

Distance: 6400 pc, Size: 3.7 pc Source: 2000A&A...360..227N

This is a ring nebula surrounding the Wolf Rayet star WR 124, also known as Merrill's star.

Observing notes:

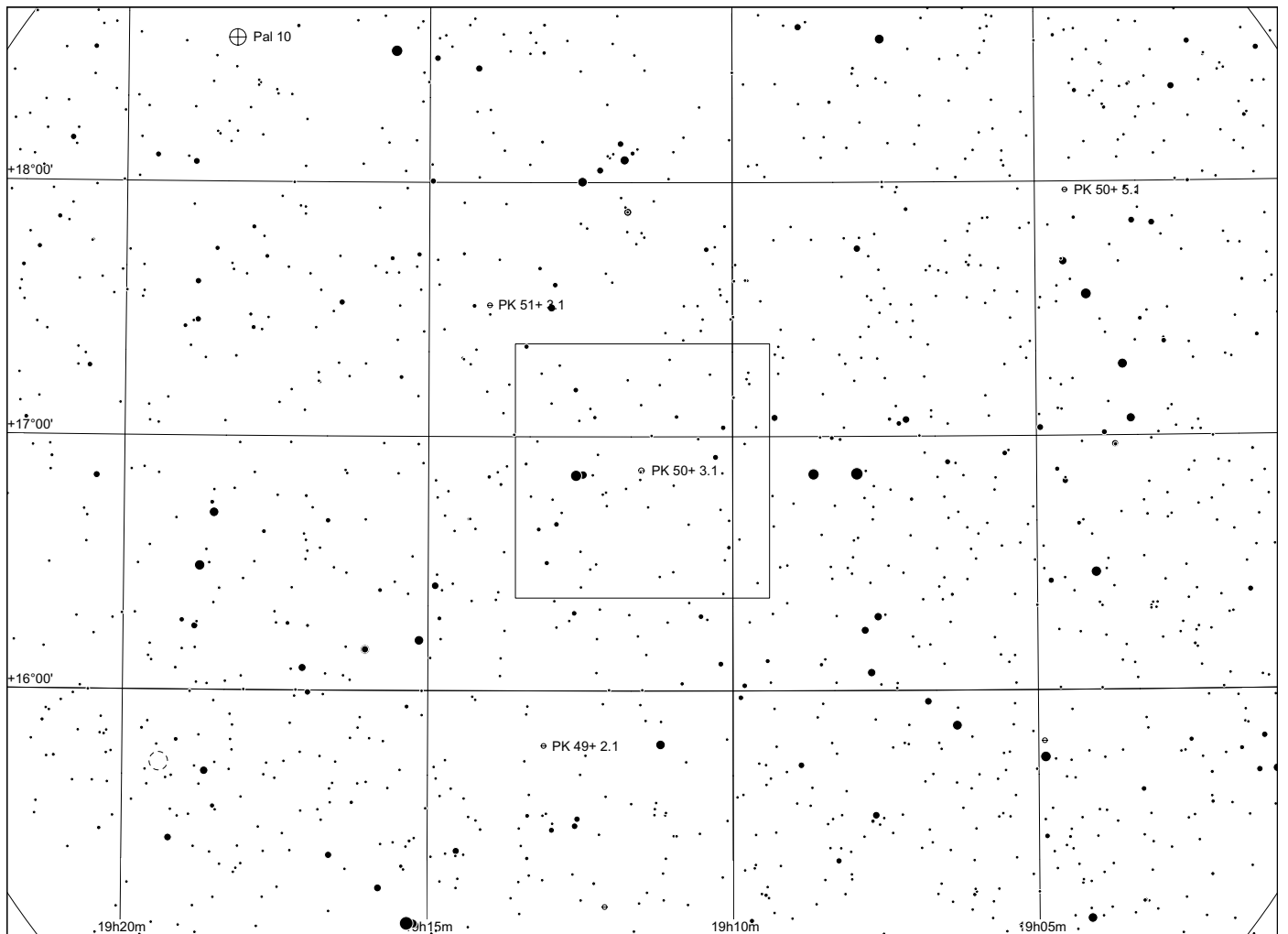
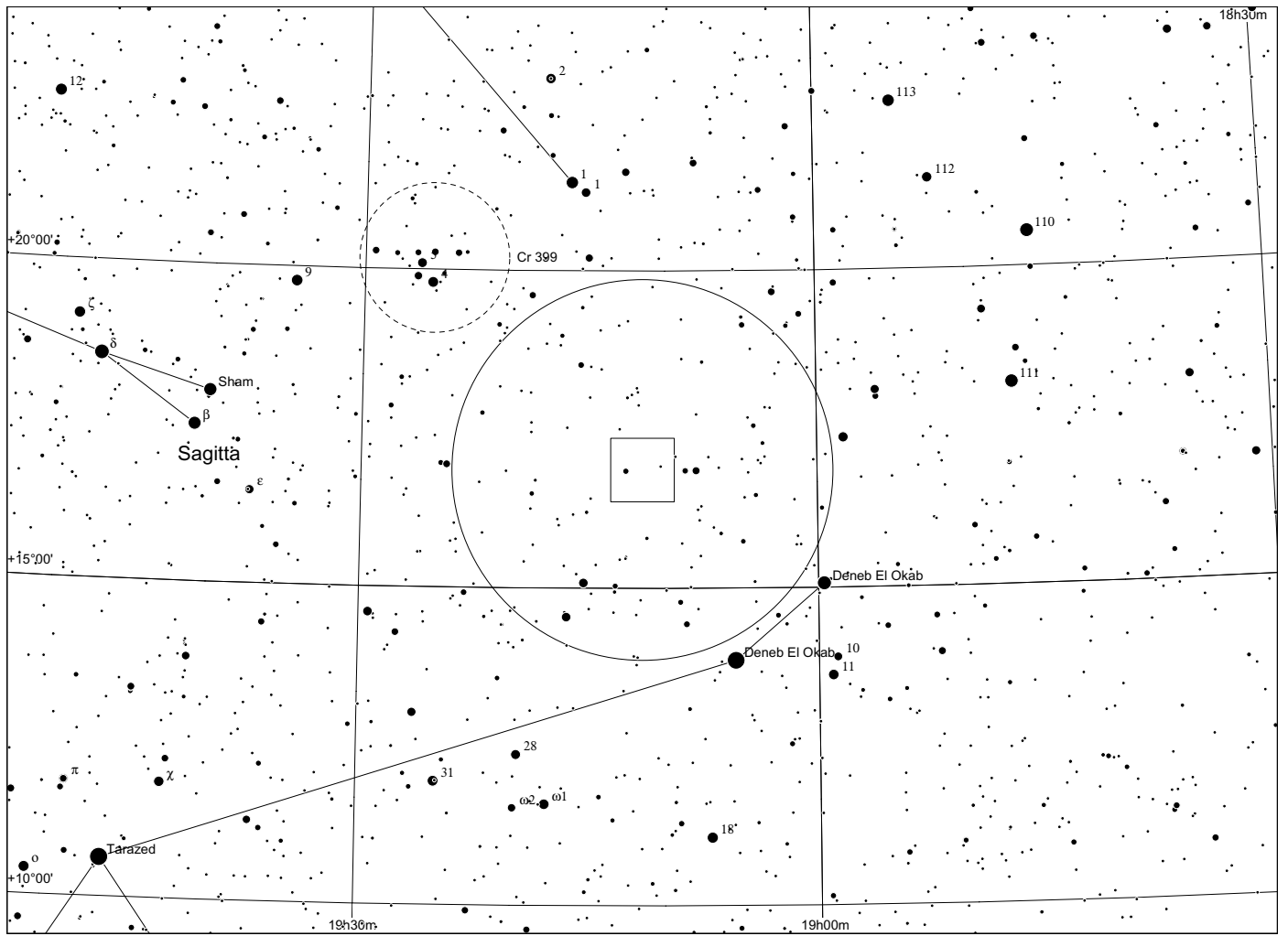
22" f/4.5

08/2008: unsuccessful

06/2010: suspected as a faint glow around WR star with H beta filter

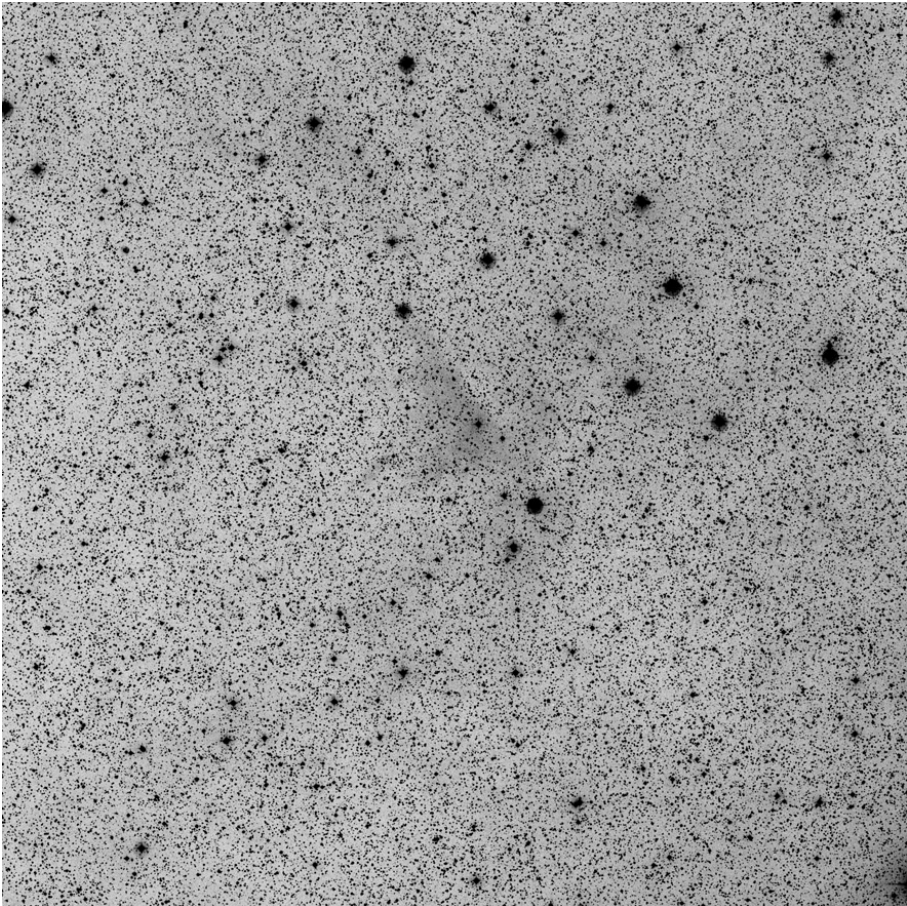
10/2010: at 350x and with H beta filter, a diffuse glow was observed around the WR star.

08/2012: under excellent conditions, at 200 and 350x visible without filter as a very faint shell, small contrast gain with H beta filter.

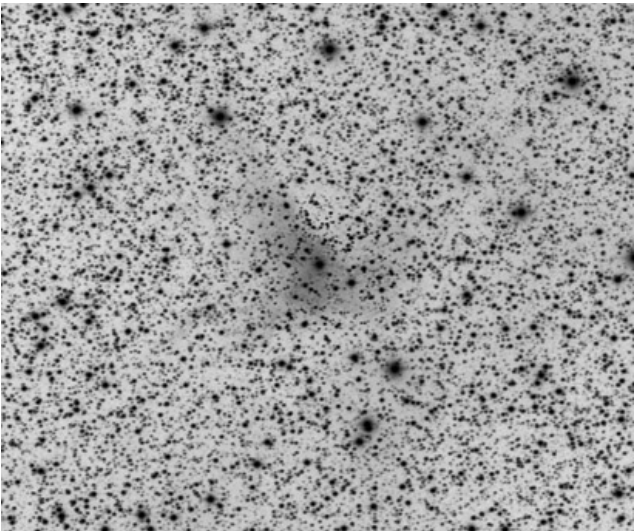


Sh 2 - 81

in Aquila



60x60, blue



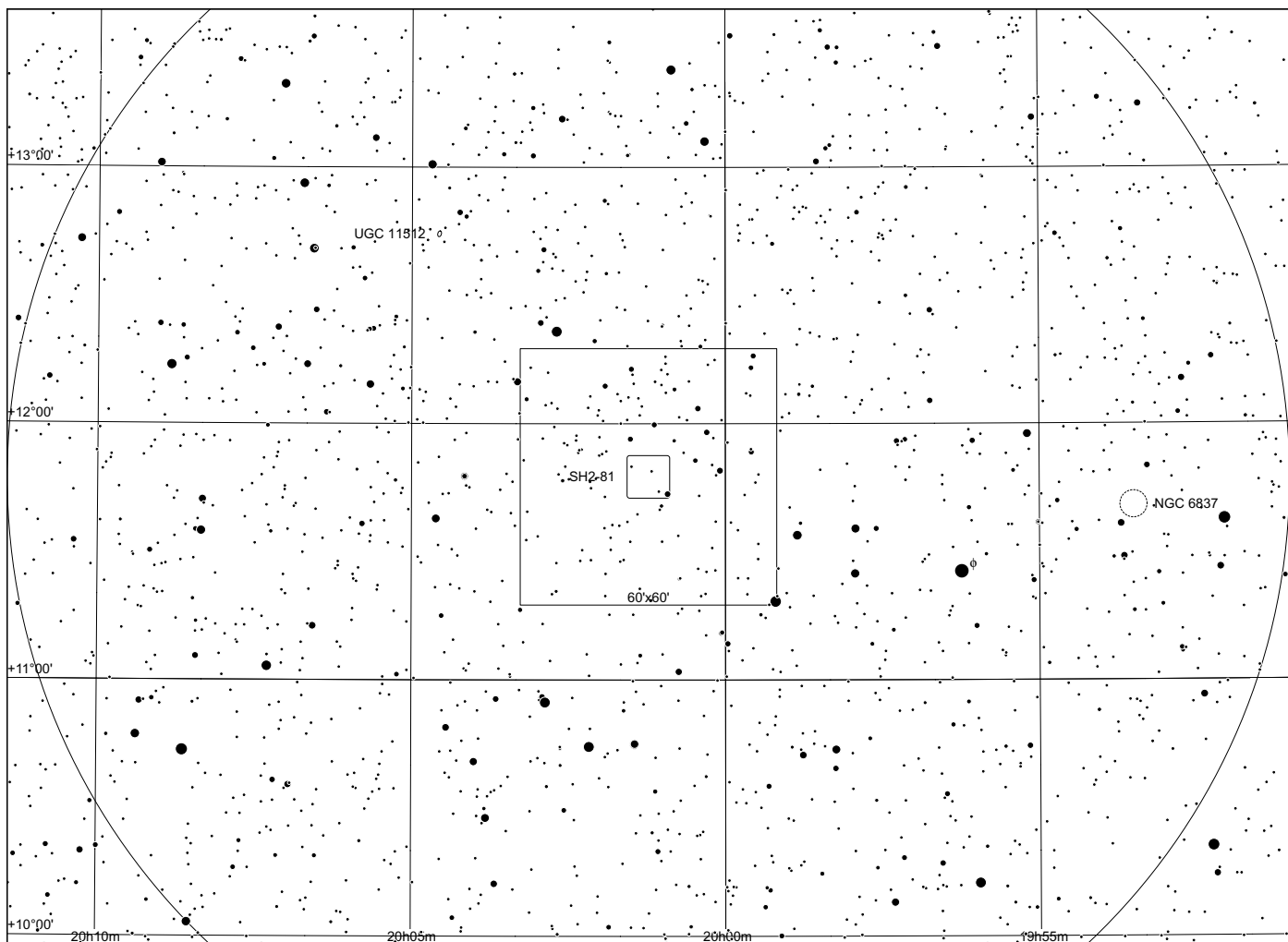
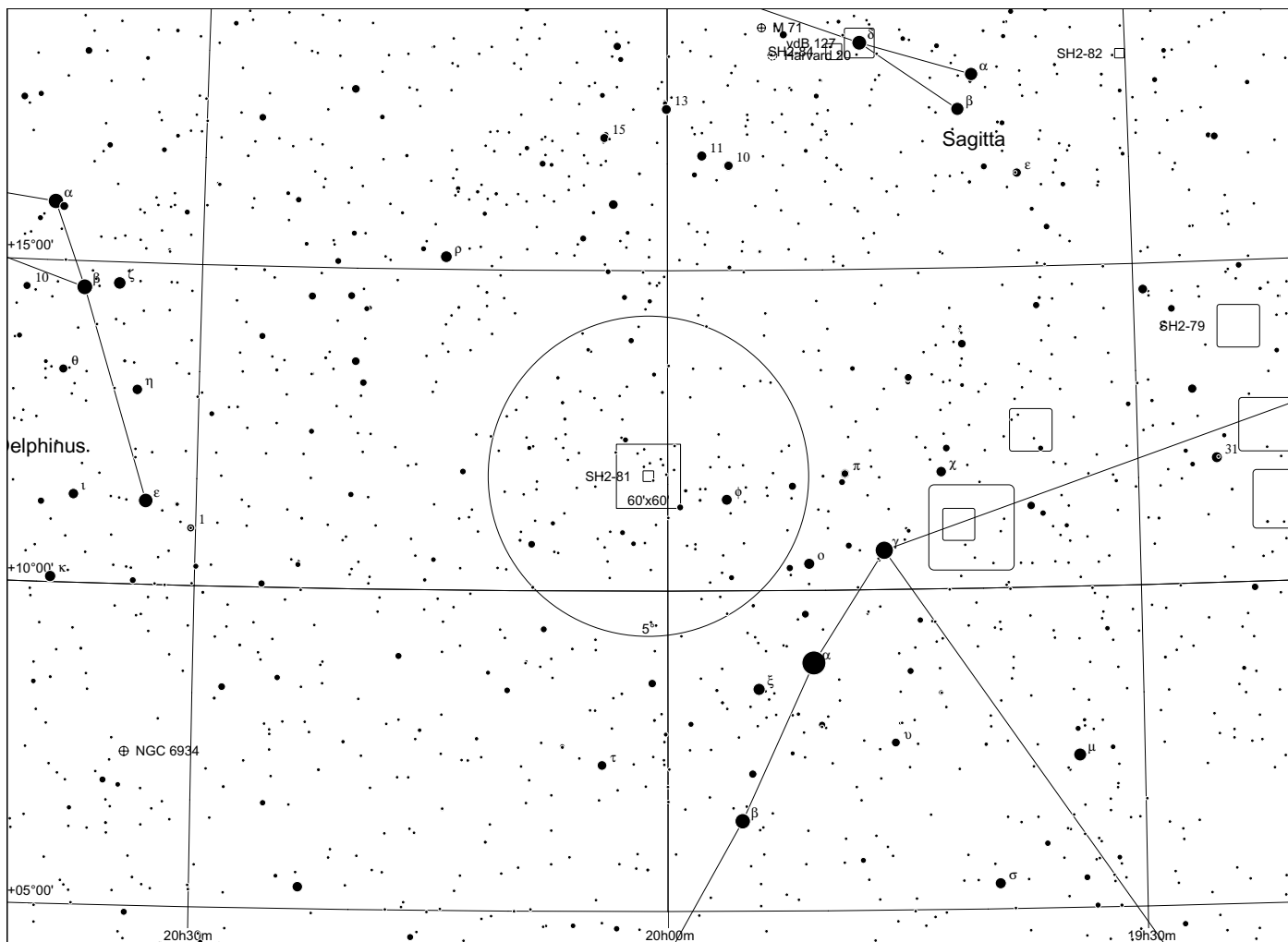
Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-081		20 01 12.7	+11 47 33	10	3	1	1

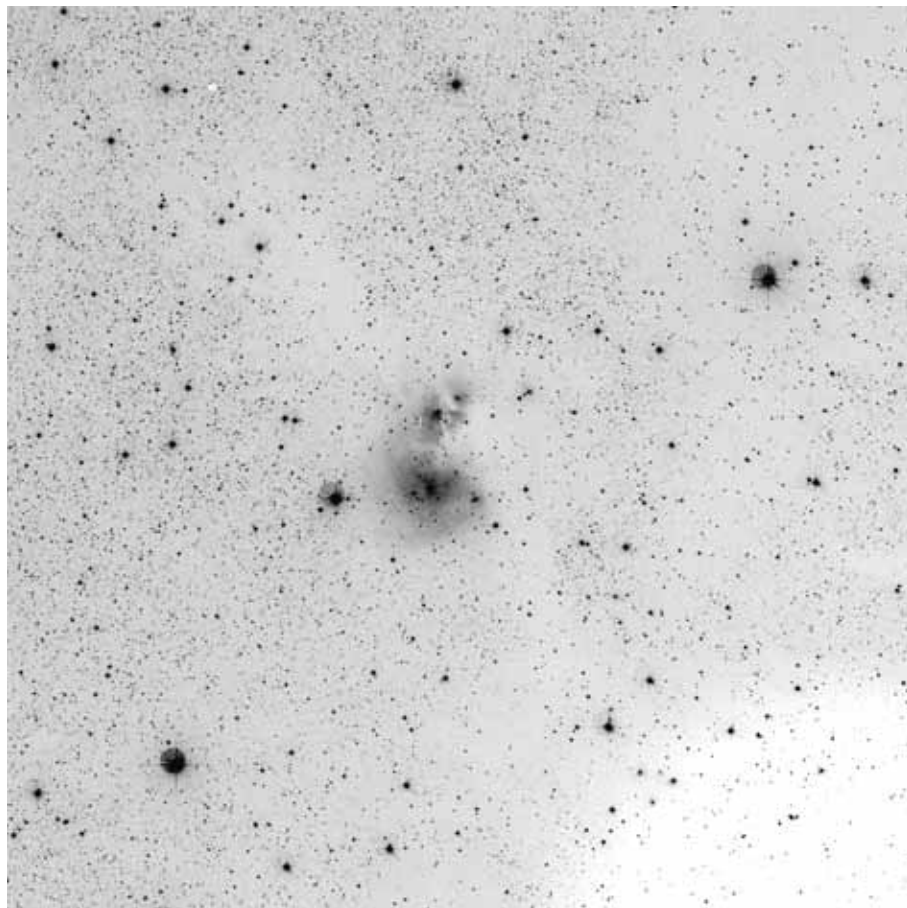
Distance: 2000 pc, Size: 5.8 pc Source: 1989A&AS...77..439F

Essentially nothing appears in the scientific literature on this nebula, which is located far below the galactic plane. The most interesting object in this direction is the low mass X-Ray binary V1408 Aquilae, which may include a black hole. V1408 Aquilae appears to the right (west) of this nebula, but appears to be located at a distance of about 7000 parsecs - far beyond the nebula.

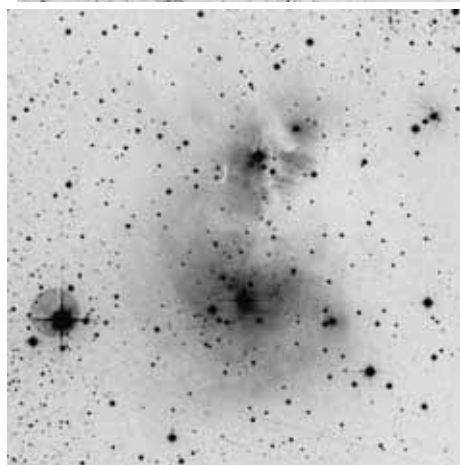
Observing notes:



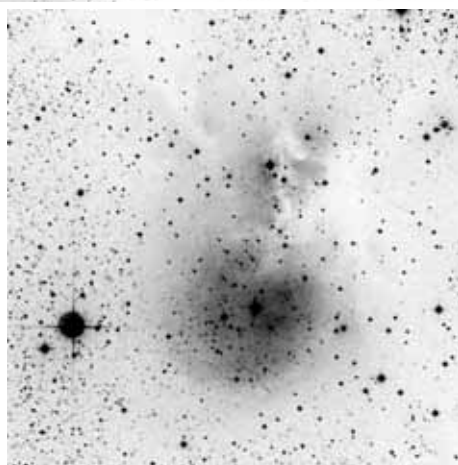
Sh 2 - 82 in Sagitta



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-082		19 30 20.4	+18 16 31	9	3	1	2

Distance: 1100 pc, Size: 2.9 pc Source: 1982ApJS...49..183B

This combination HII region and reflection nebula, also called LBN 129 and DG 159, is ionised by the B0.5V star HD 231616. With the current distance estimate, it appears to be near the Vulpecula OB4 association.

Observing notes:

14" f/5

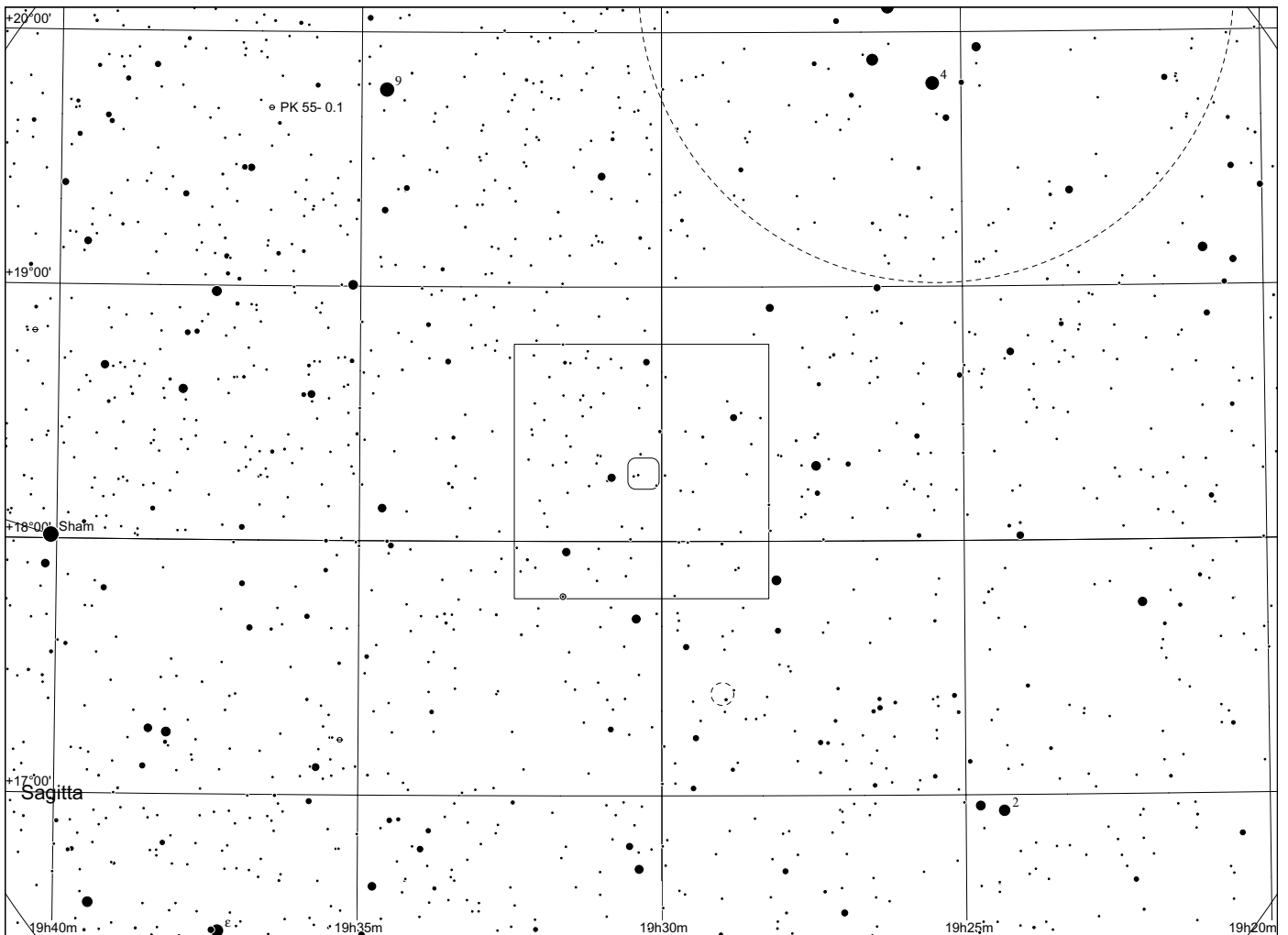
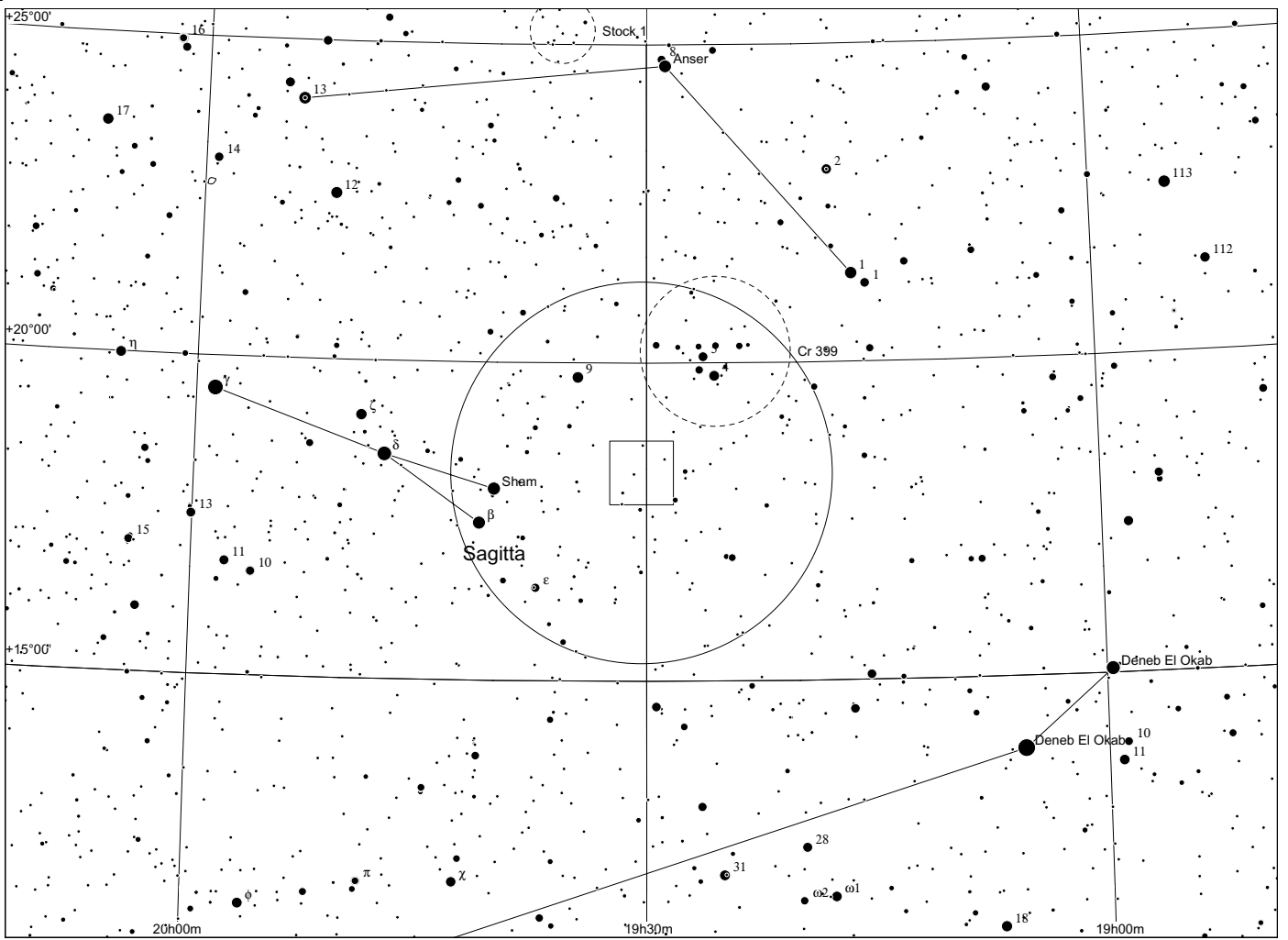
10/2005: large, very faint glow, w/o filter > UHC, hence probably RN

22" f/4.5

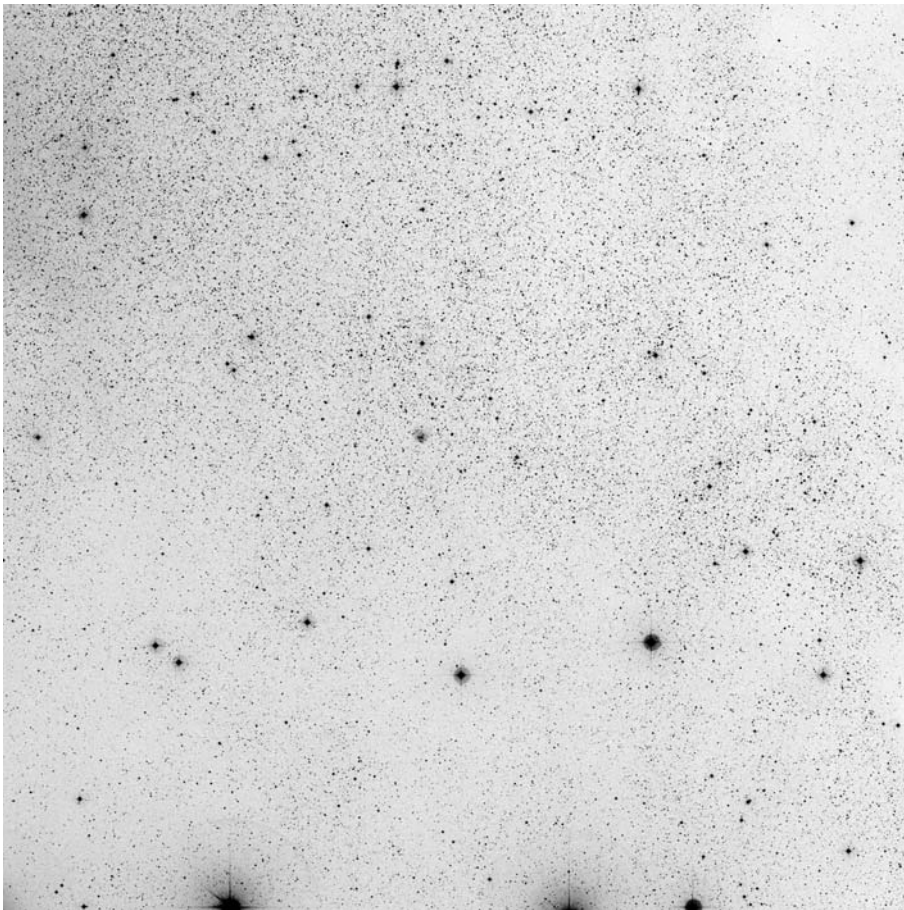
10/2010: mainly RN part visible w/o filter. With H beta filter, likewise a very faint diffuse glow could be detected.

07/2012: very diffuse glow without filter (RN part) , with H beta filter somewhat brighter and more compact.

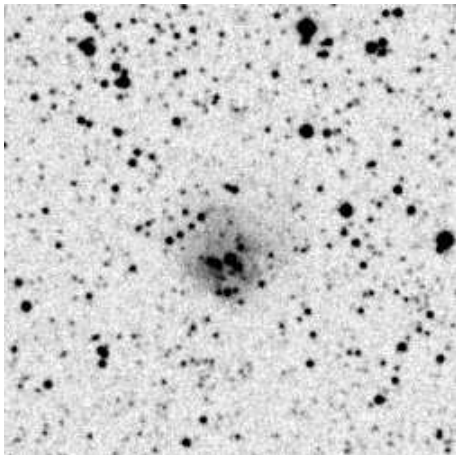
Similar to Cocoon, but much fainter.



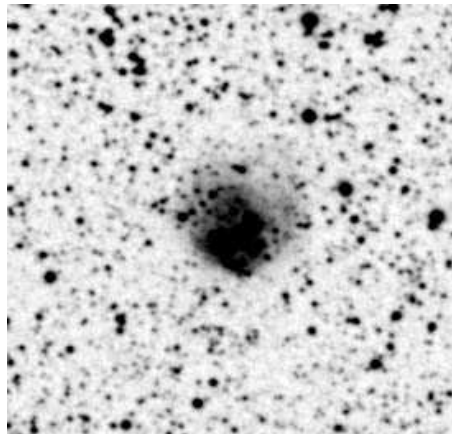
Sh 2 - 83 in Vulpecula



60x60, blue



POSS blue



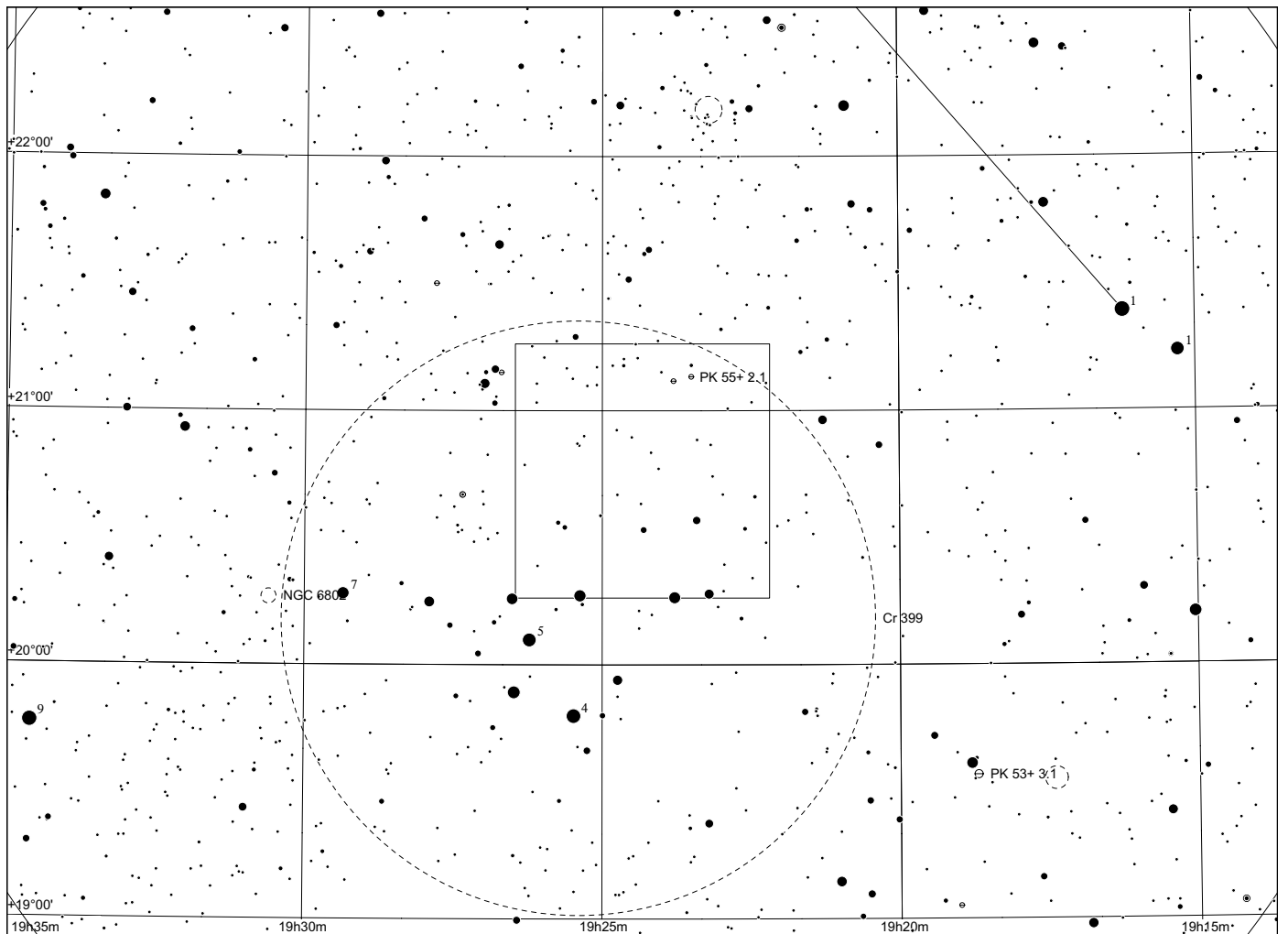
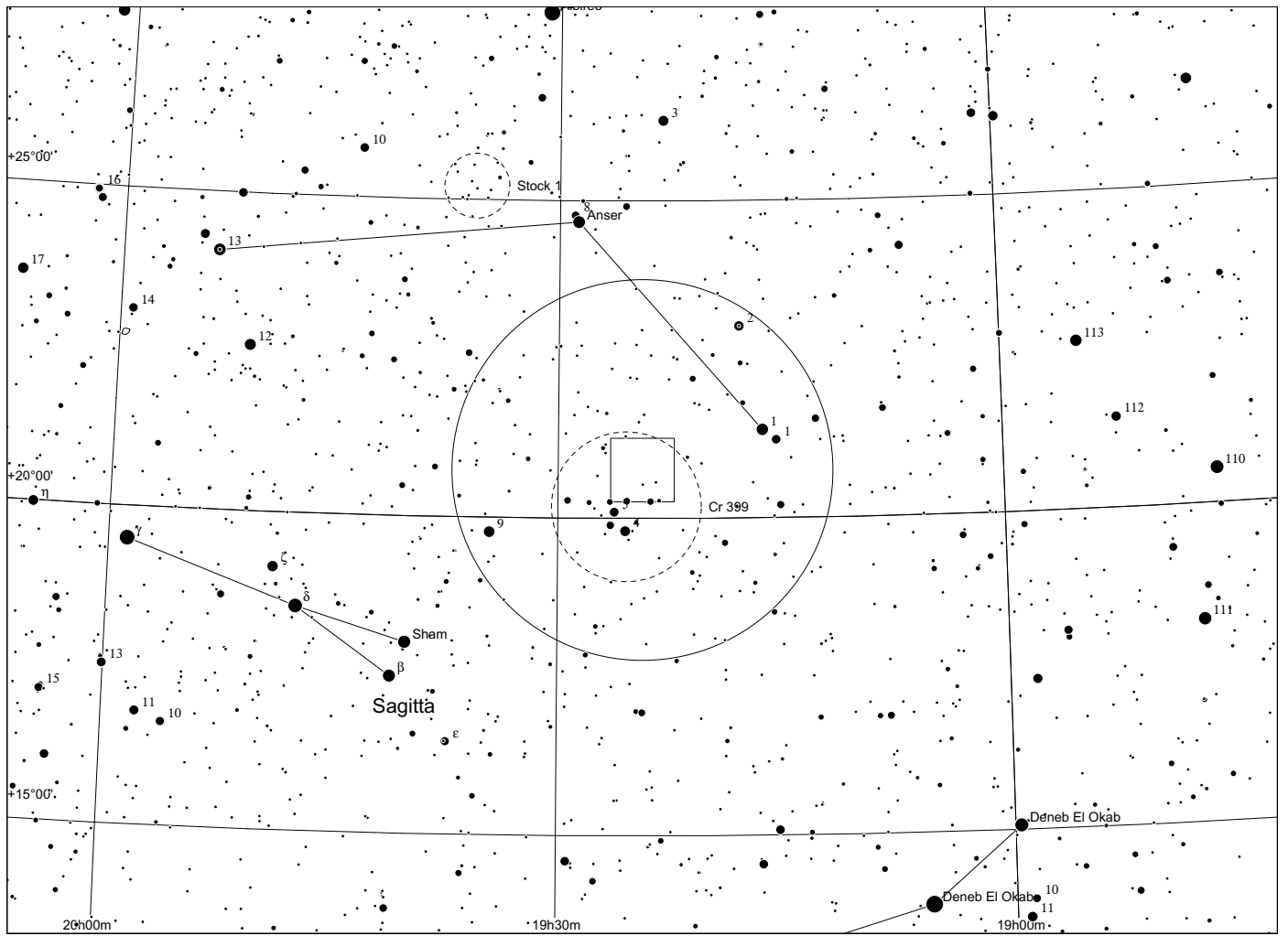
POSS red

	other name	RA	dec	dia. '	F	S	B
Sh 2-083		19 24 32.1	+20 47 45	2	1	2	2

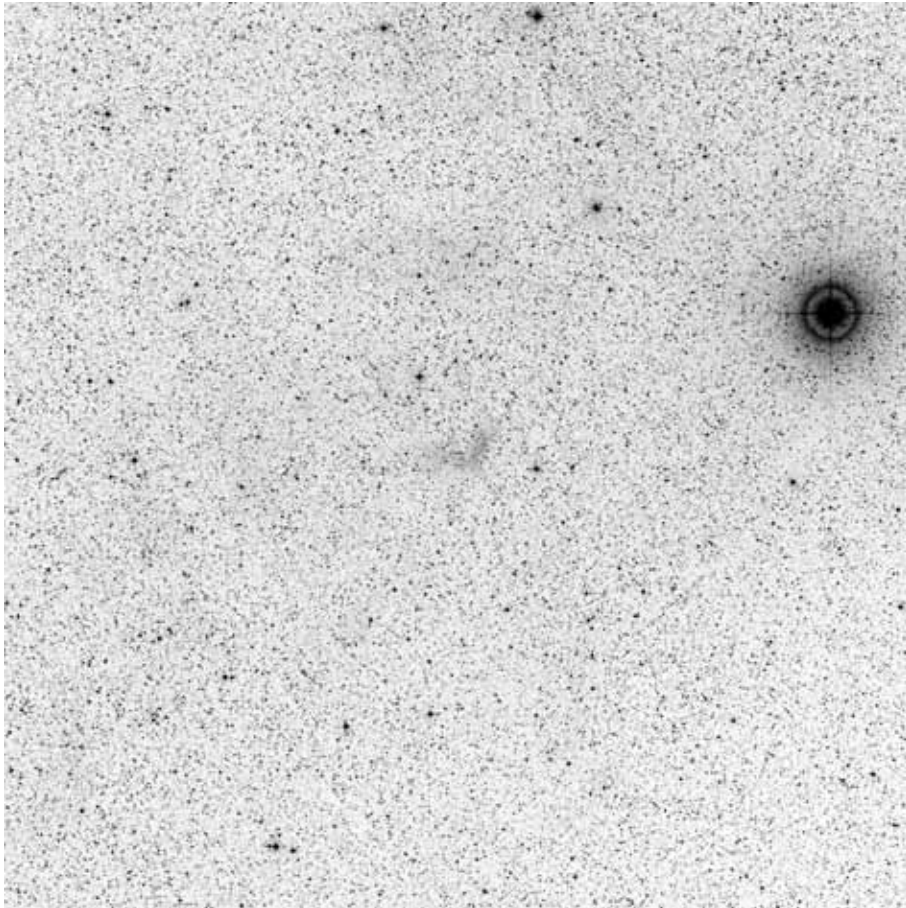
Observing notes:

22" f/4.5

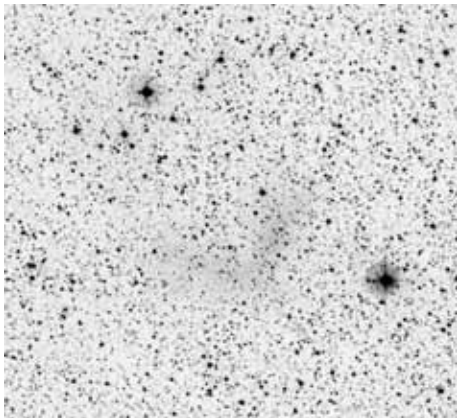
06/2010: At 350x w/o filter, a faint glow could be seen steadily with indirect vision. Similar result with UHC filter, confirming that this is the nebula.



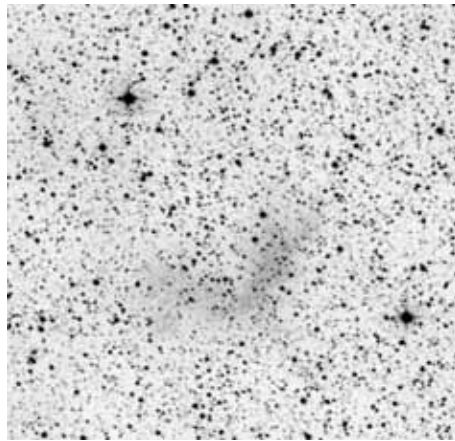
Sh 2 - 84 in Sagitta



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-084		19 49 04.0	+18 24 01	15	3	2	3

Distance: 5000 pc, Size: 21.8 pc Source: 1982ApJS...49..183B

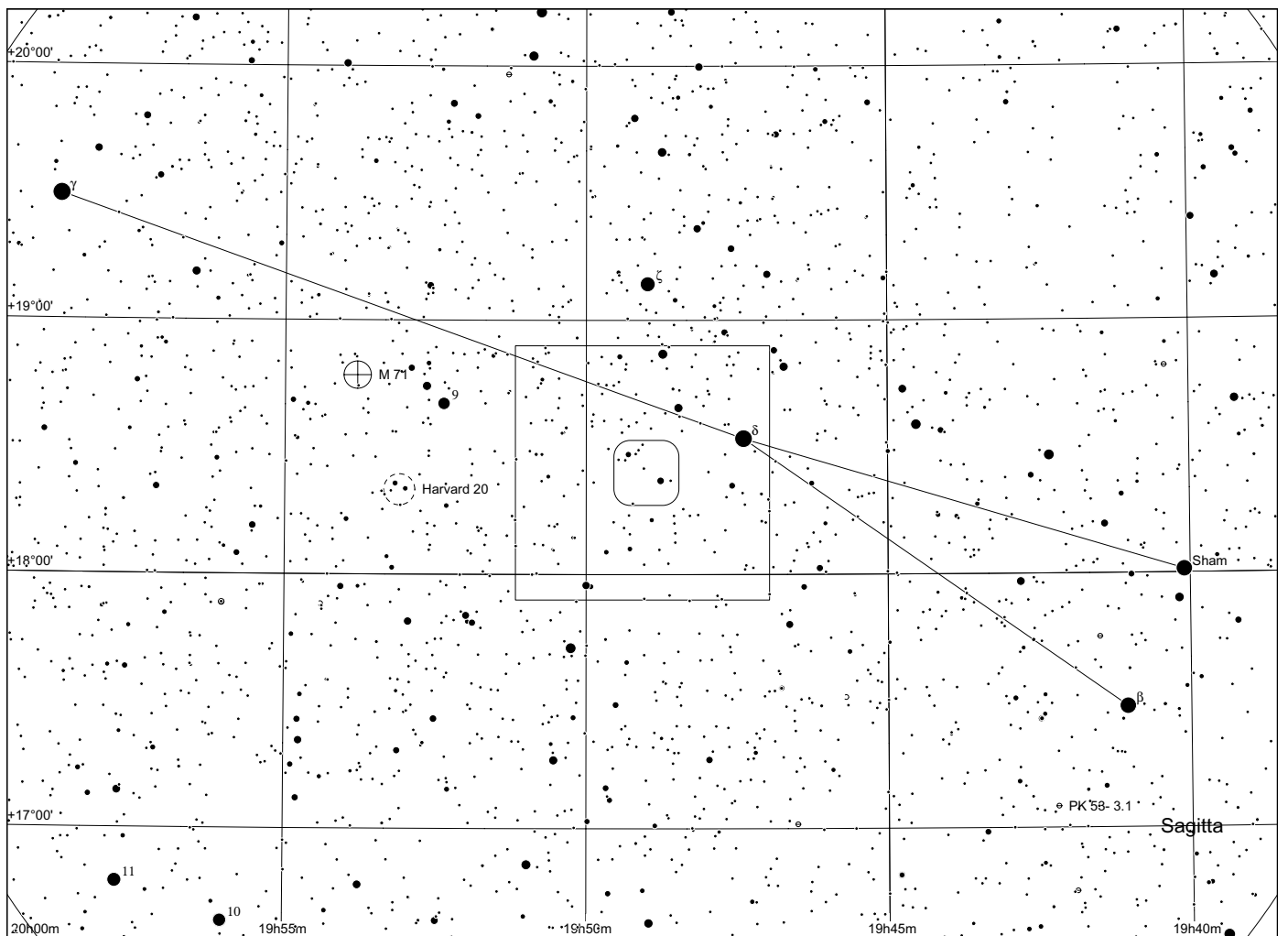
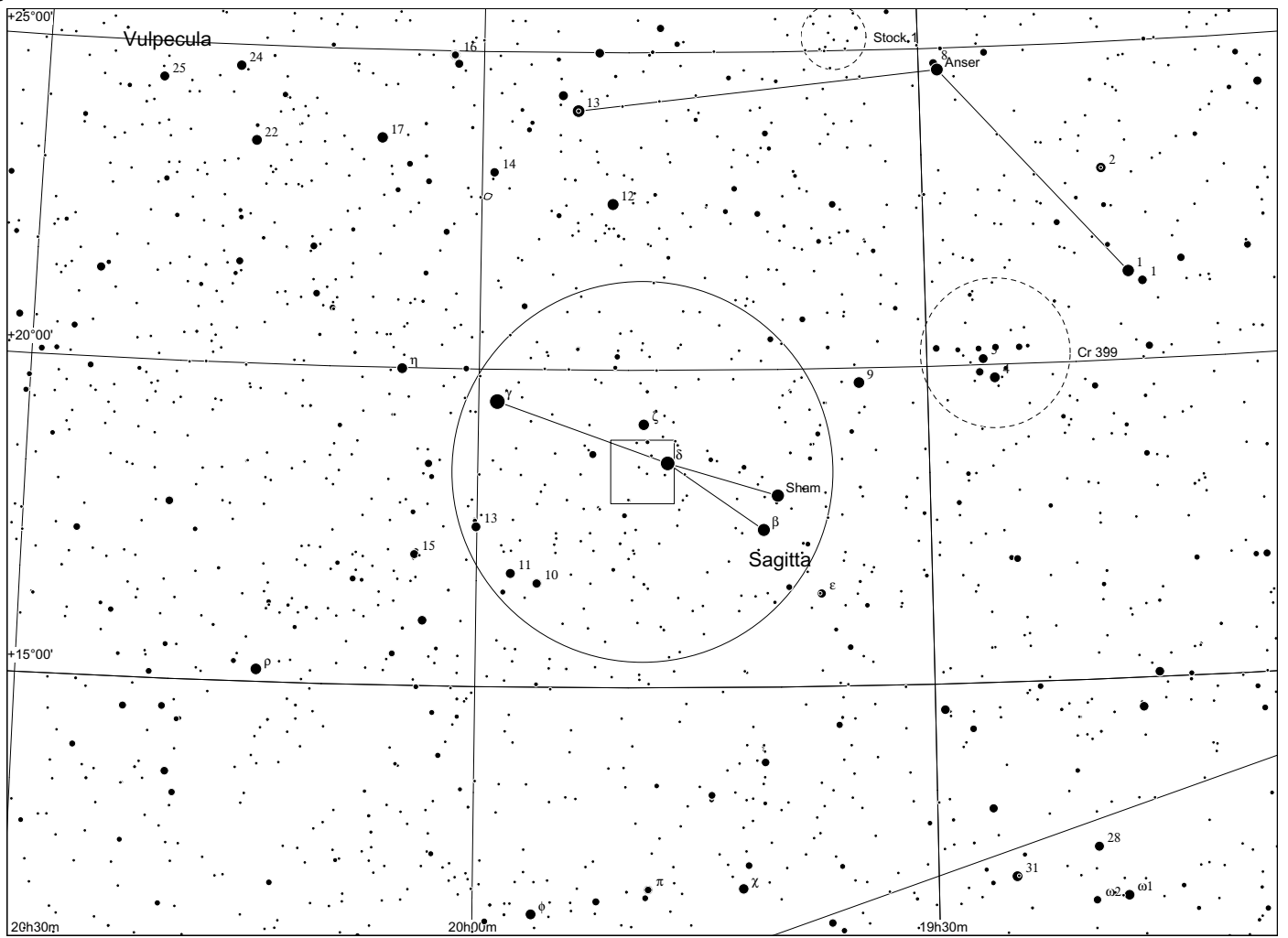
This nebula, also called LBN 131, is near in the sky to the Wolf-Rayet star WR 128, and Sharpless associated the two objects in his catalog. However, there is some controversy about whether Sh 2-84 is part of the ring nebula surrounding this star or lies at another distance.

Observing notes:

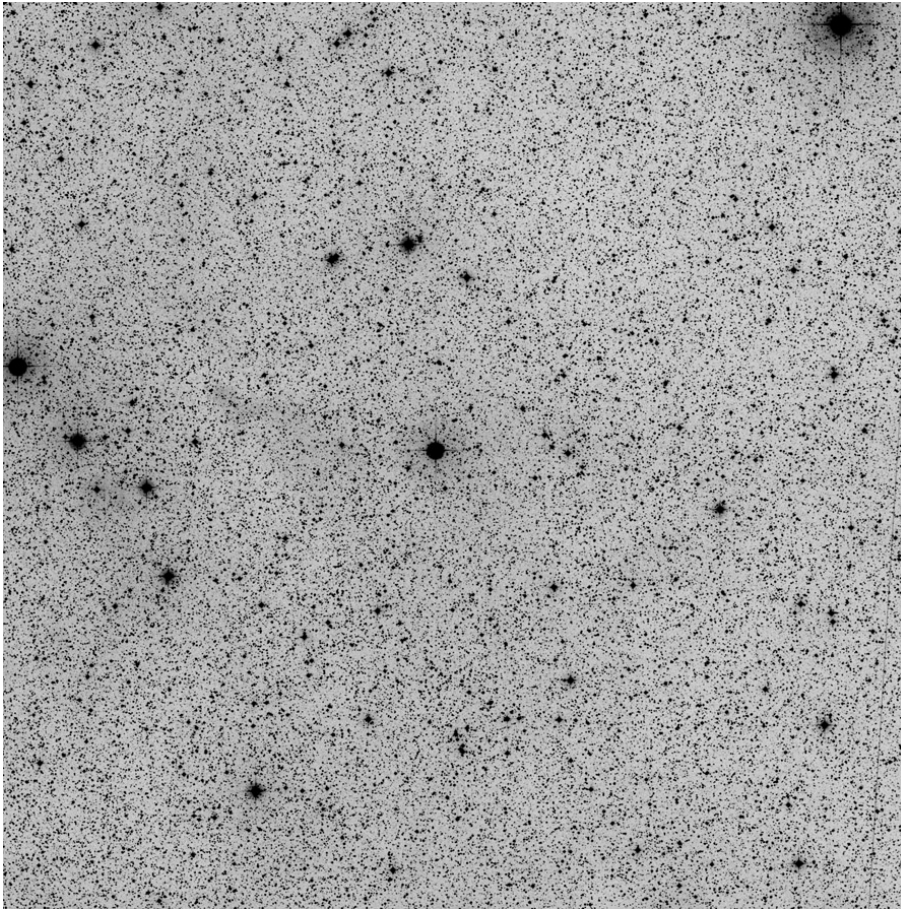
22" f/4.5

08/2008 and 6/2010: With OIII filter, an extremely faint arc could be observed.

08/2012: at 100x and with OIII visible as an extremely faint patch



Sh 2 - 85 in Lyra



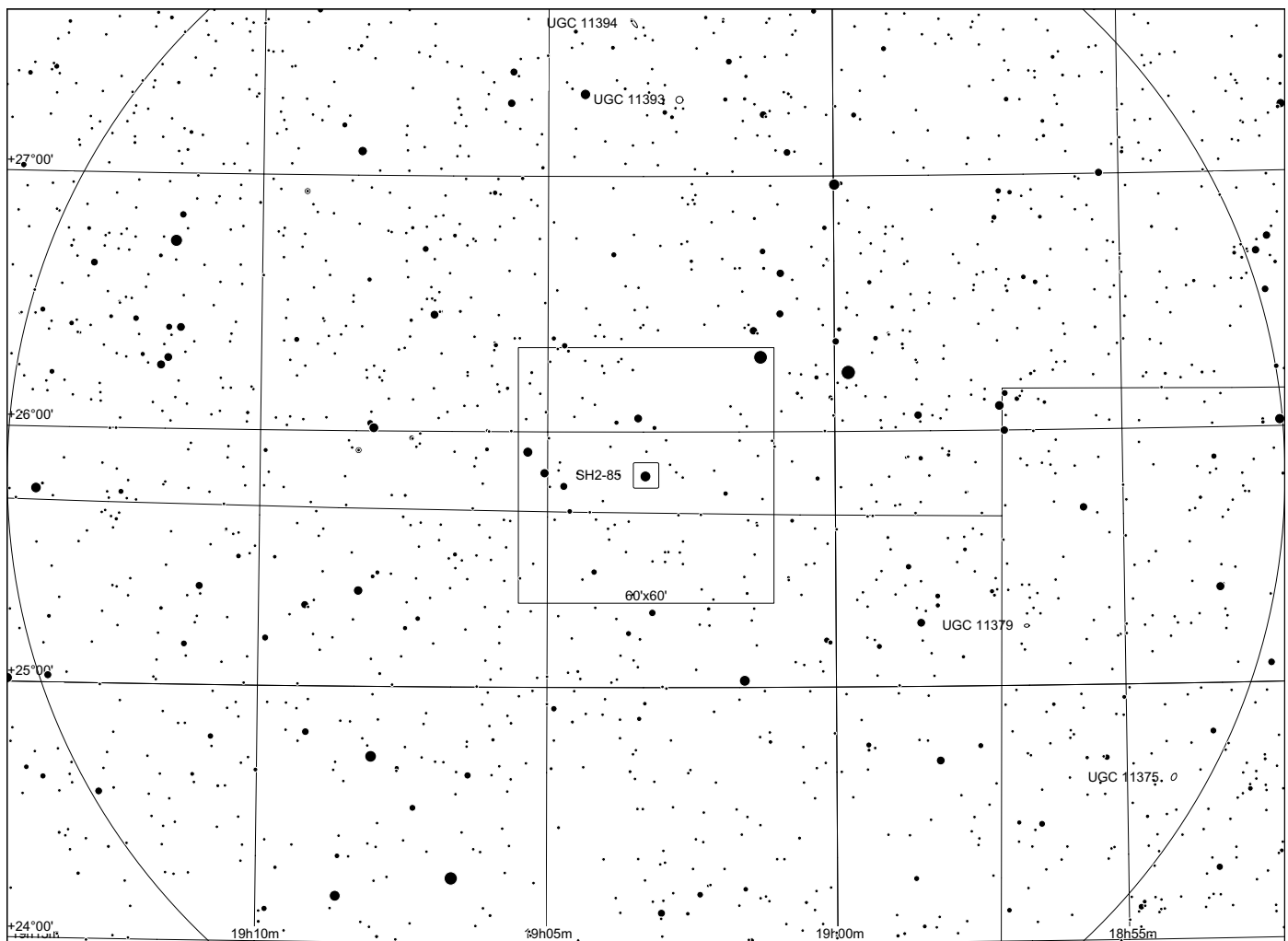
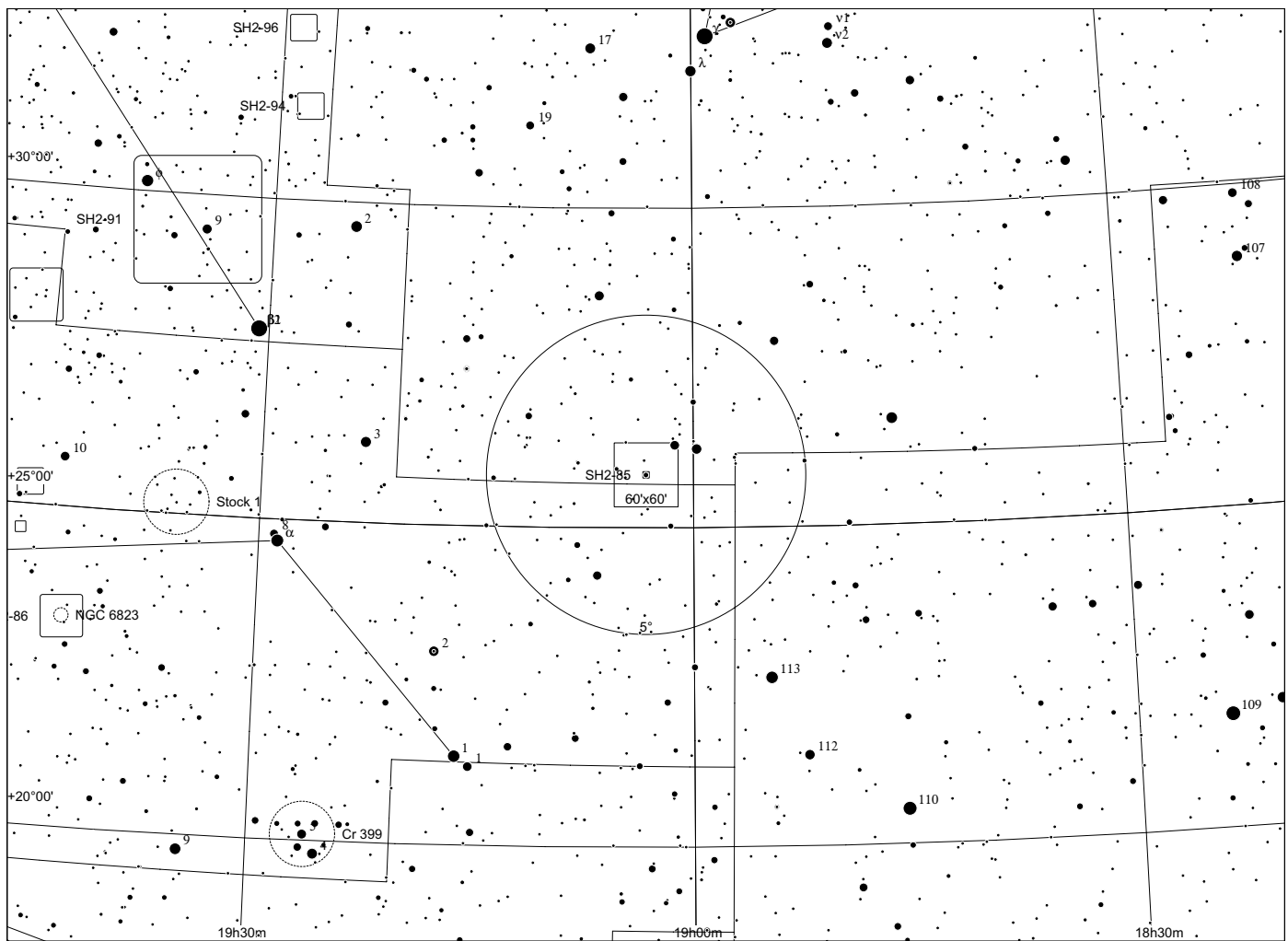
60x60, red

	other name	RA	dec	dia. '	F	S	B
Sh 2-085		19 03 16.6	+25 49 49	6	3	2	2

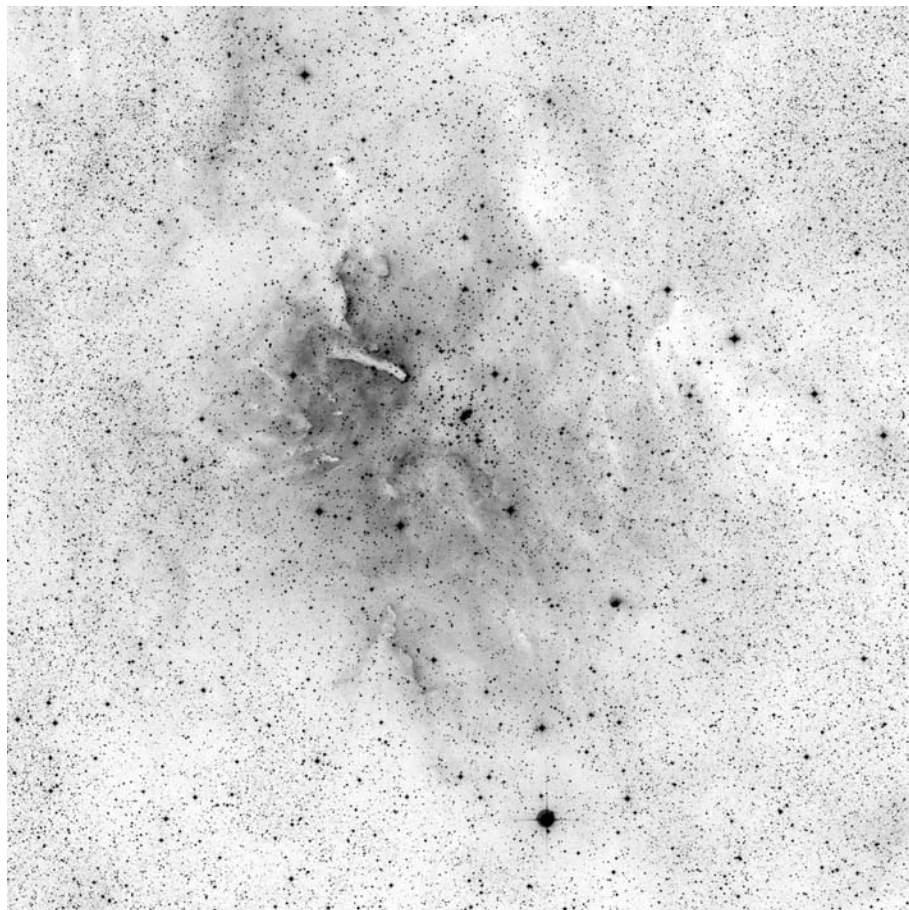
Distance: 400 pc, Size: 0.7 pc Source: 1989A&AS...77..439F

This very faint nebula is ionised by the B3 V star HD 177347.

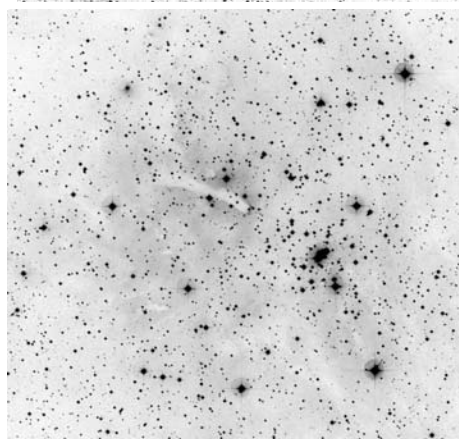
Observing notes:



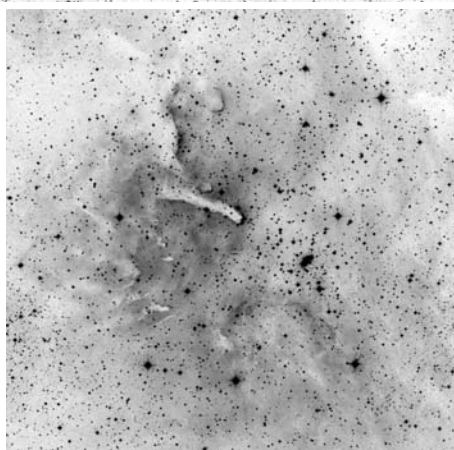
Sh 2 - 86 in Vulpecula



60x60, red



POSS blue



POSS red



narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-086	NGC6820	19 43 08.8	+23 17 15	40	1	2	2

Distance: 1900 pc, Size: 22.1 pc Source: 1982ApJS...49..183B

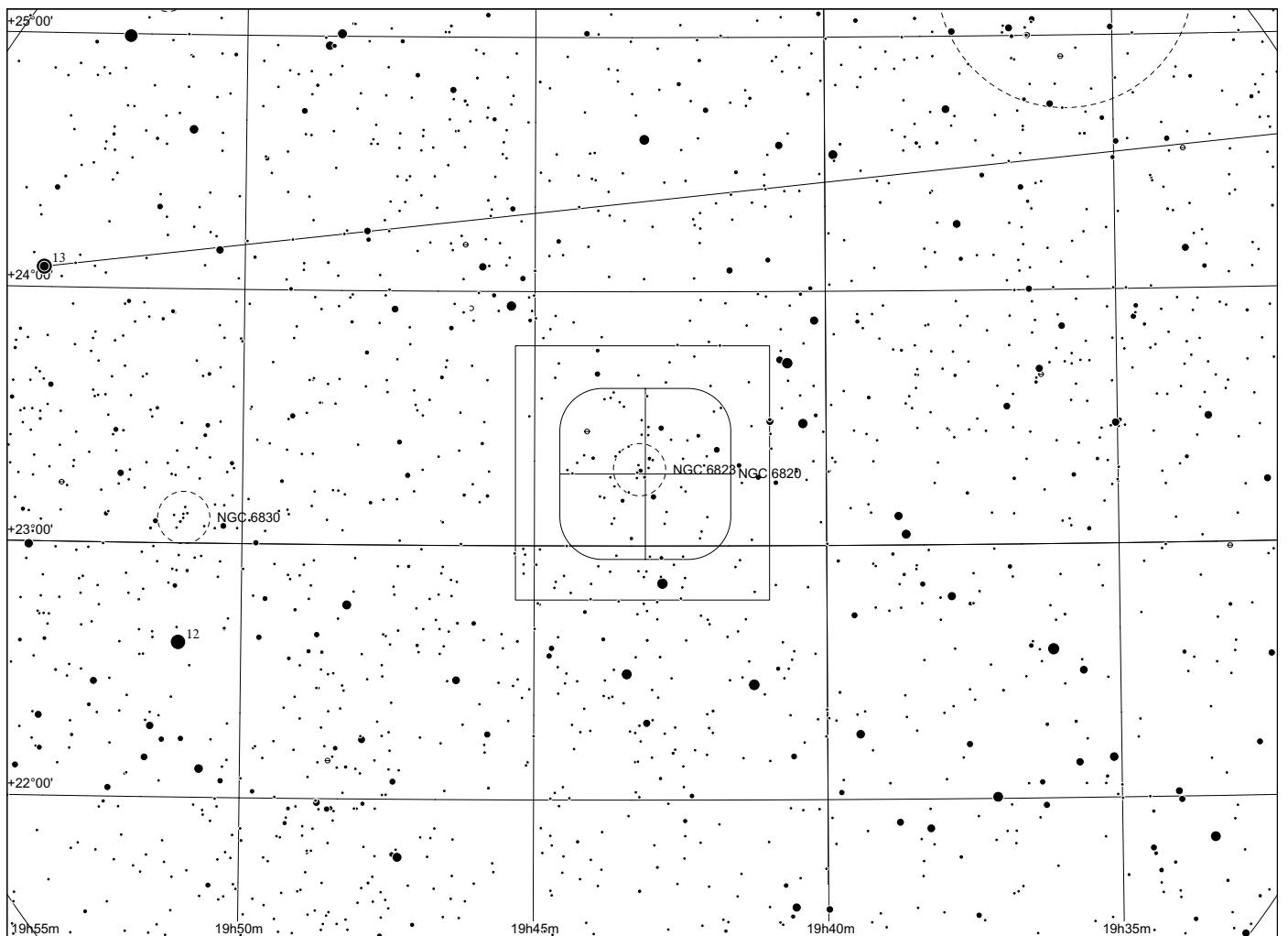
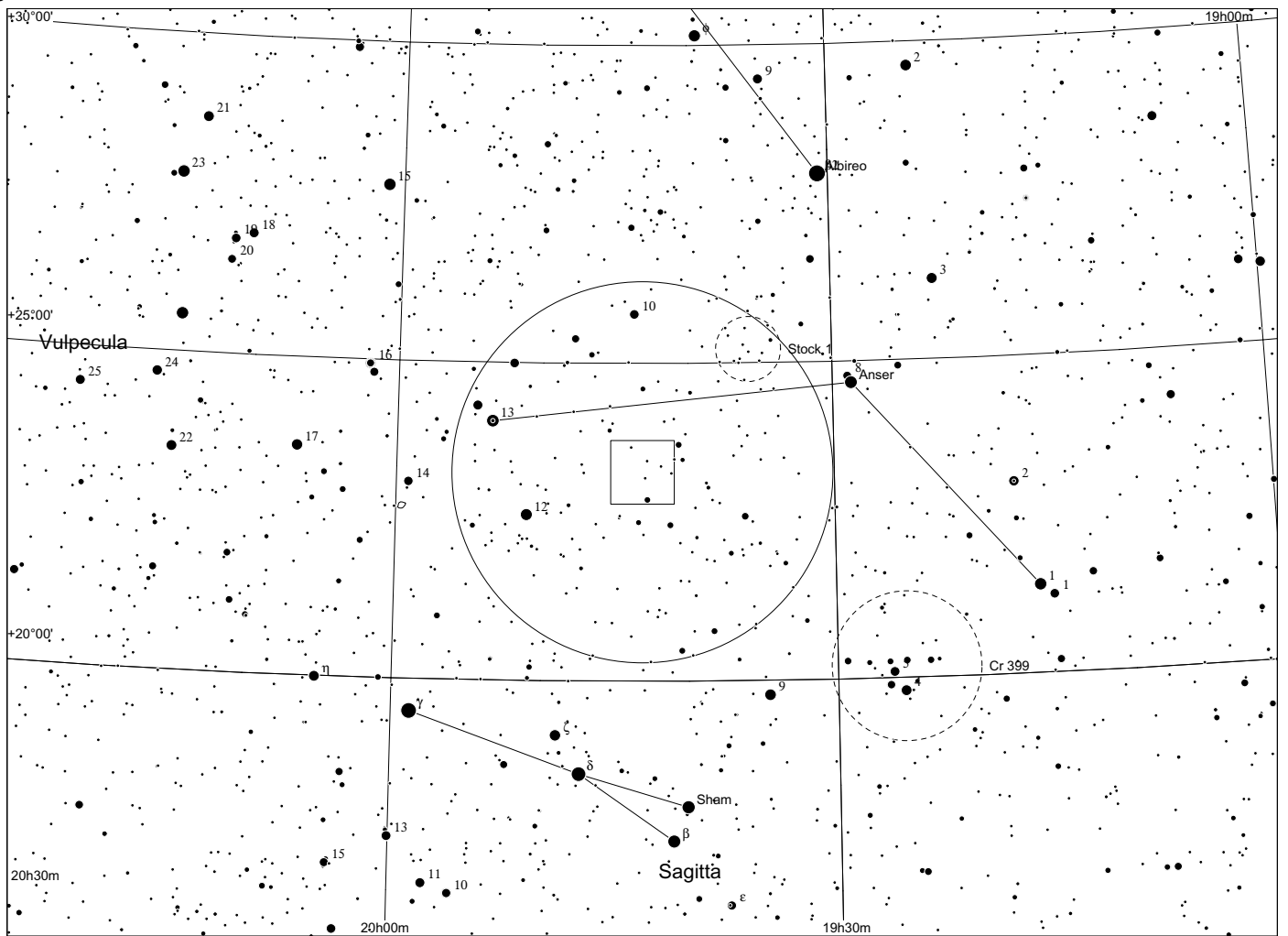
NGC 6820 is the radio source W55 and is associated with the star cluster NGC 6823 and Vul OB1.

Observing notes:

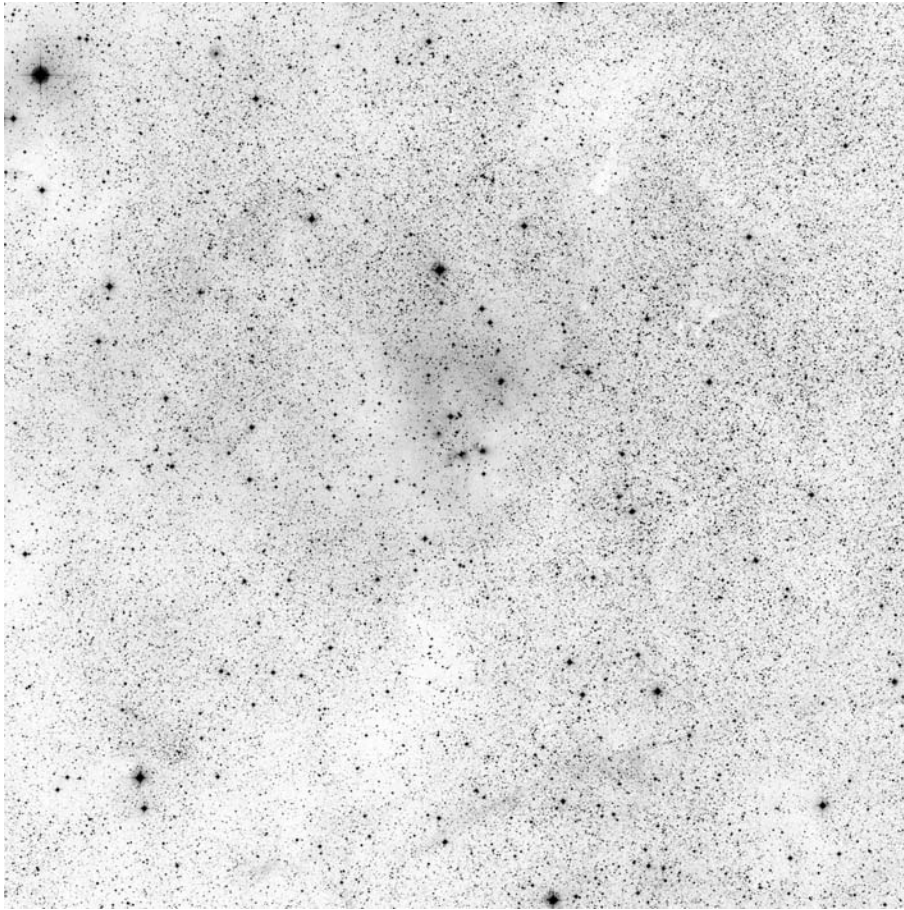
14" f/5

10/2005: With OIII a faint glow was observed around OC, a further large and faint curved extension was observed toward SW.

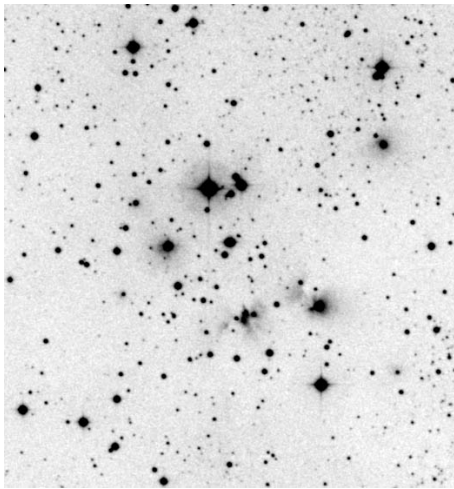
08/2012: visible with OIII, H beta and UHC, large and very structured nebula around small cluster, prominent dark lane on image only suspected



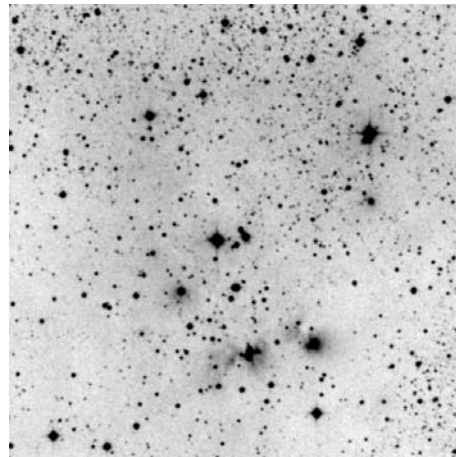
Sh 2 - 87 in Vulpecula



60x60, red



POSS blue



POSS red



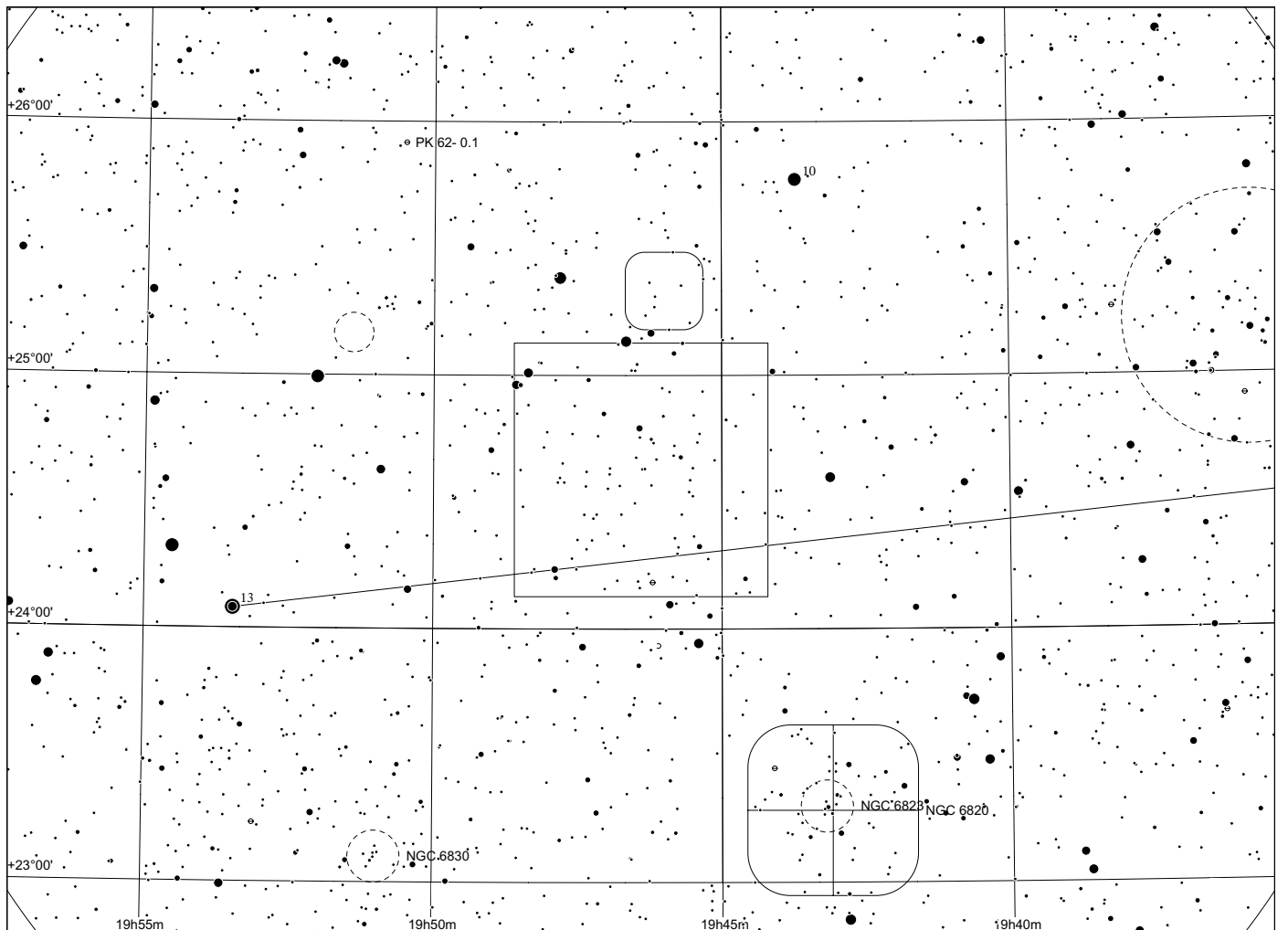
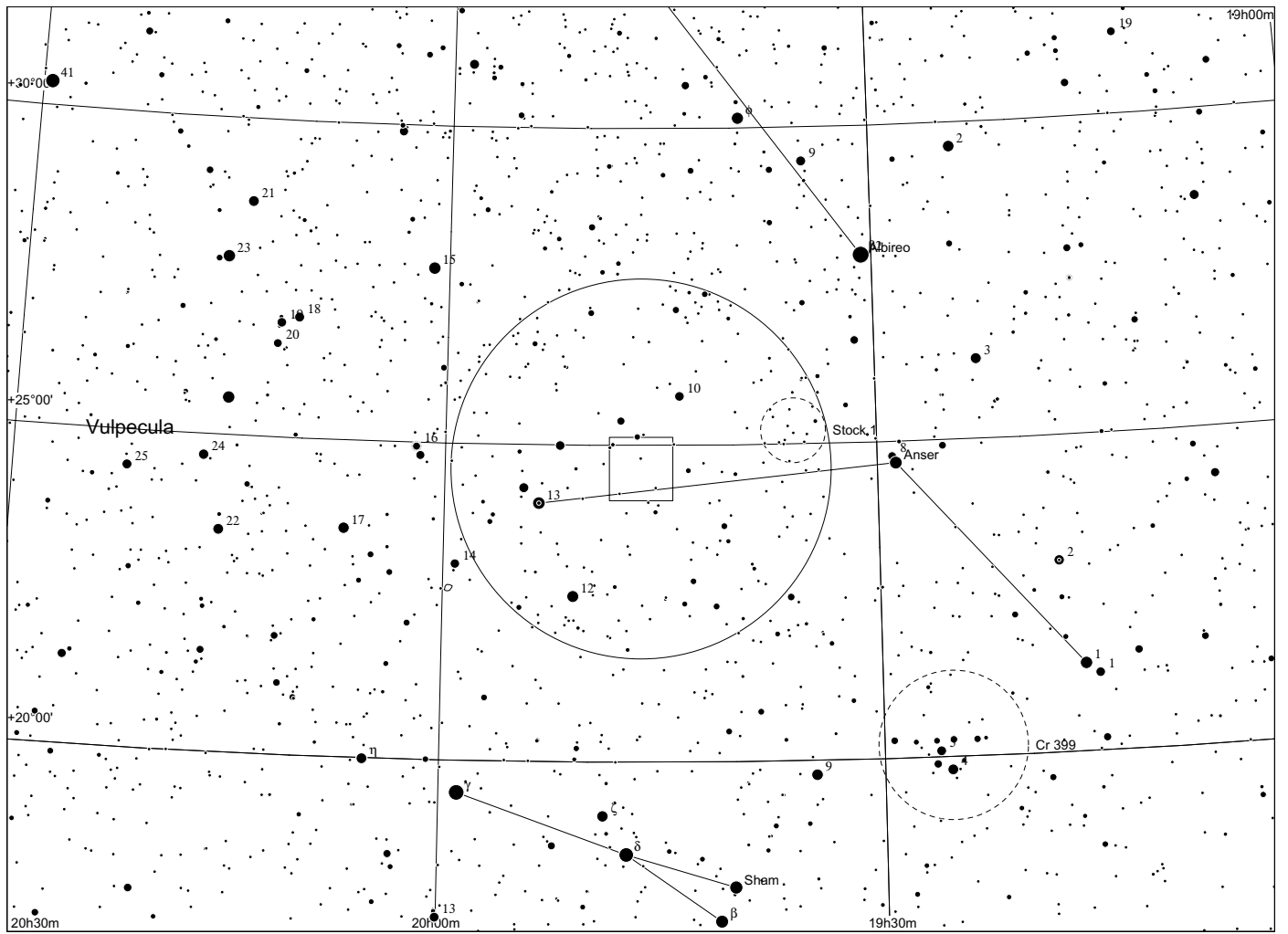
RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-087		19 46 24.4	+24 37 41	10	3	1	1

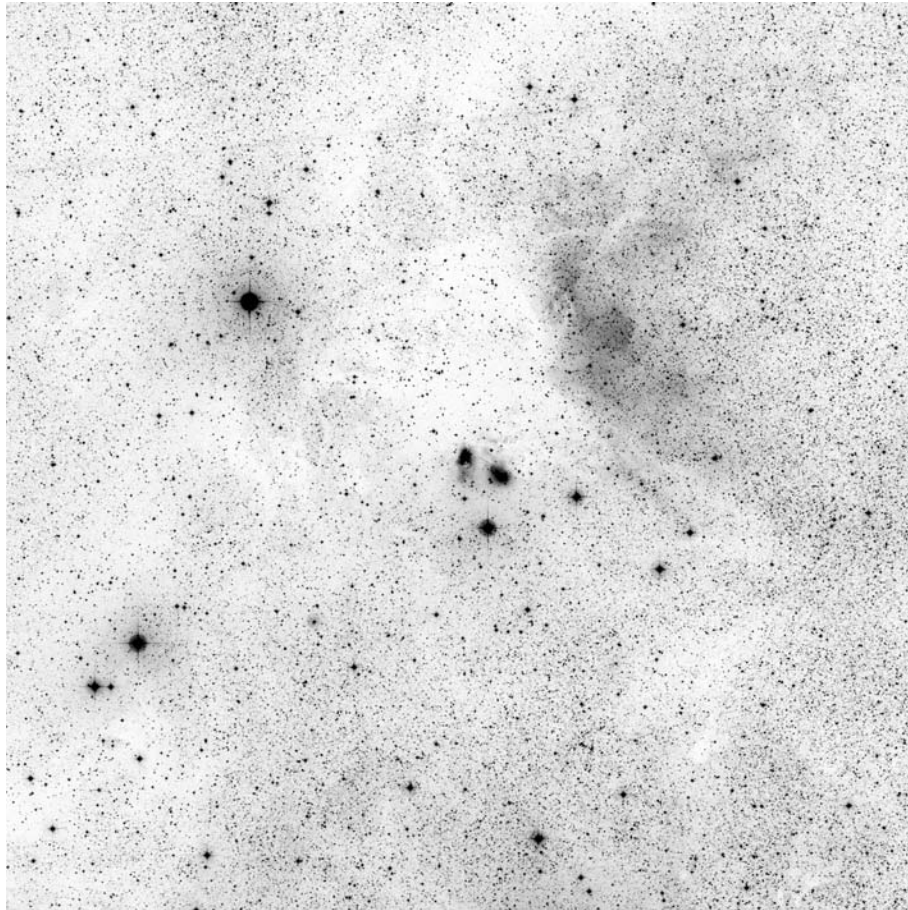
Distance: 2144 pc, Size: 2.4 pc, Source: 2003A&A...397..213P

This is a massive star formation region associated with a 7000 solar mass molecular cloud and many sources in the far infrared.

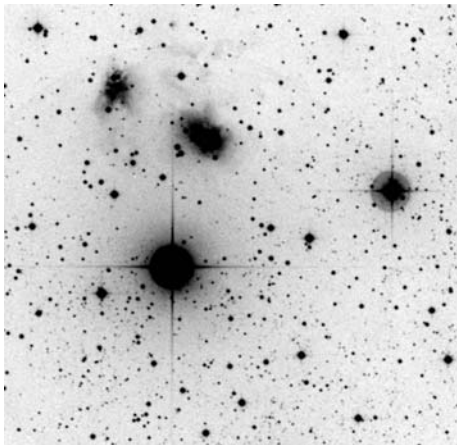
Observing notes:



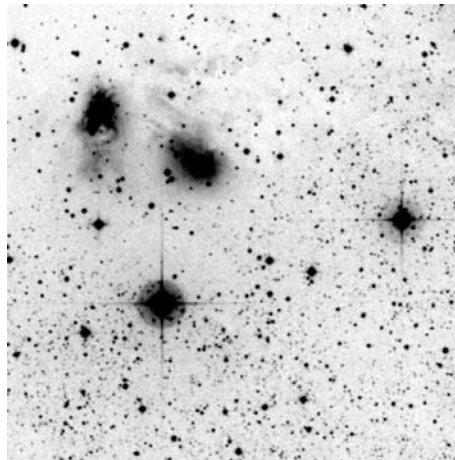
Sh 2 - 88 in Vulpecula



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-088		19 45 58.4	+25 20 38	25	3	2	2

Distance: 2000 pc, Size: 14.5 pc, Source: 1982ApJS...49..183B

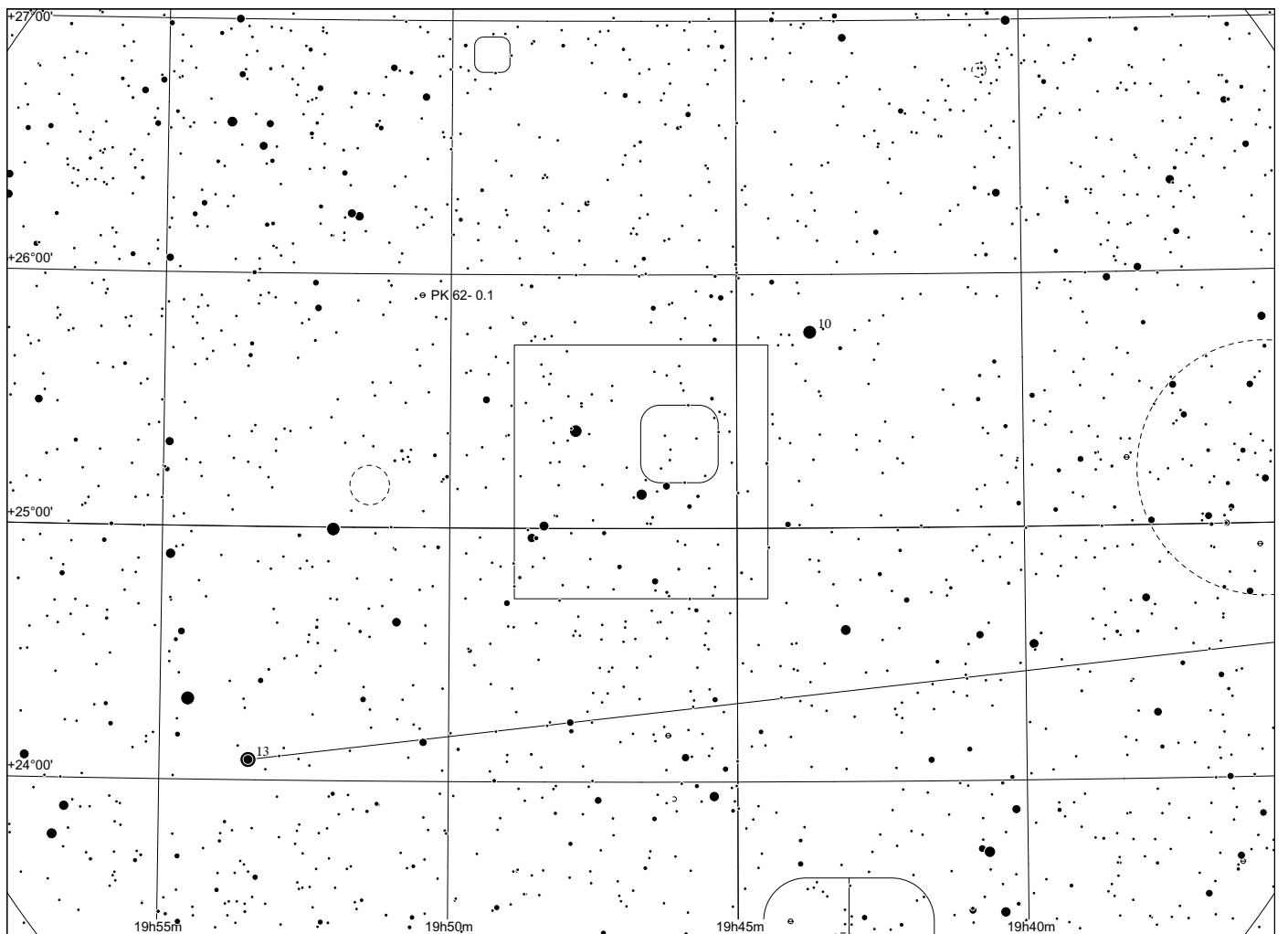
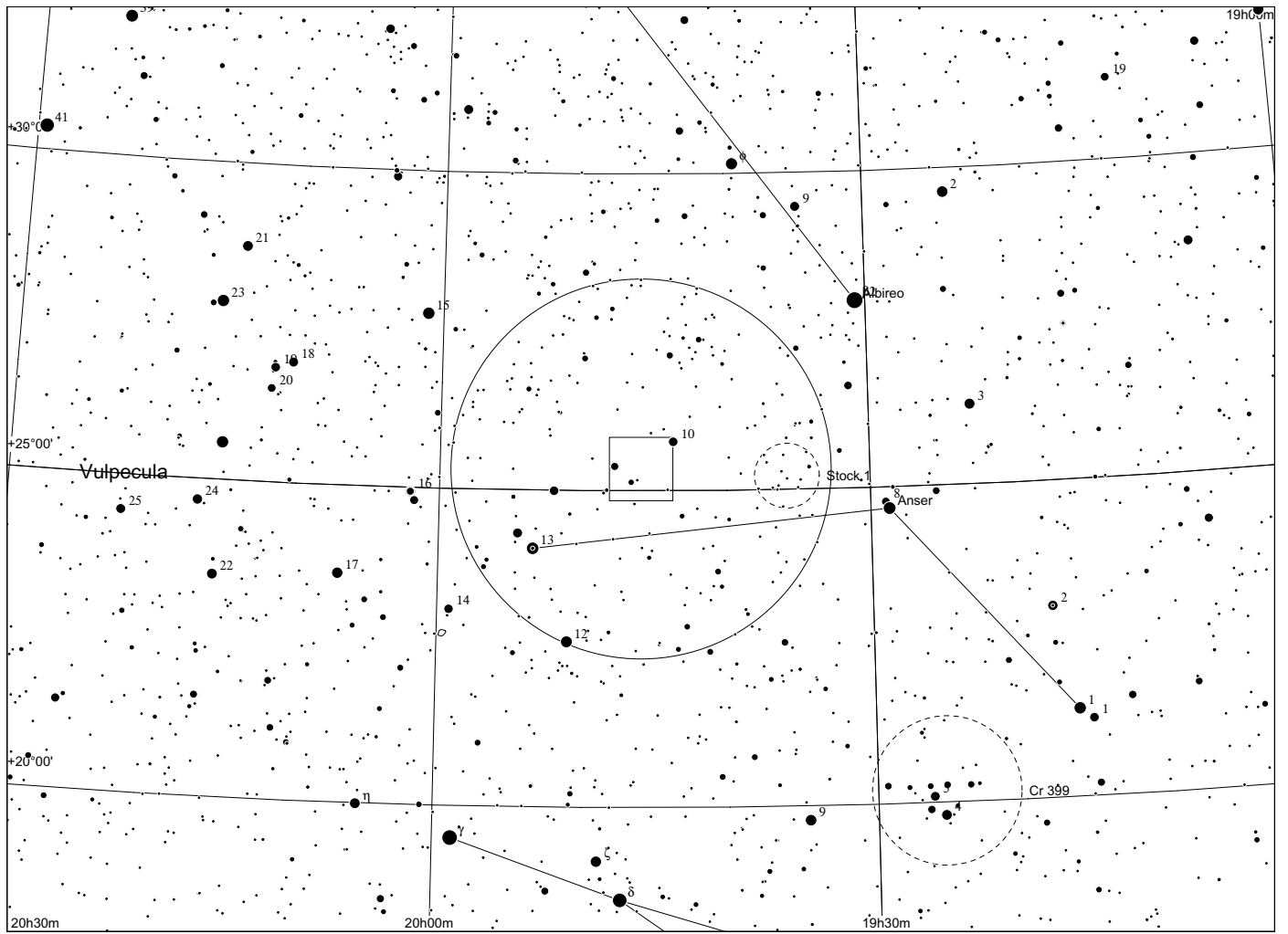
This nebula associated with Vul OB1 consists of three regions - star formation began in a diffuse large nebula Sh 2-88A, then spread to the compact HII region Sh 2-88B1, ionised by an O8.5-9.5 V star, and then finally spread to the ultracompact Sh 2-88B2, ionised by a star dimmer than B0.5 V.

Observing notes:

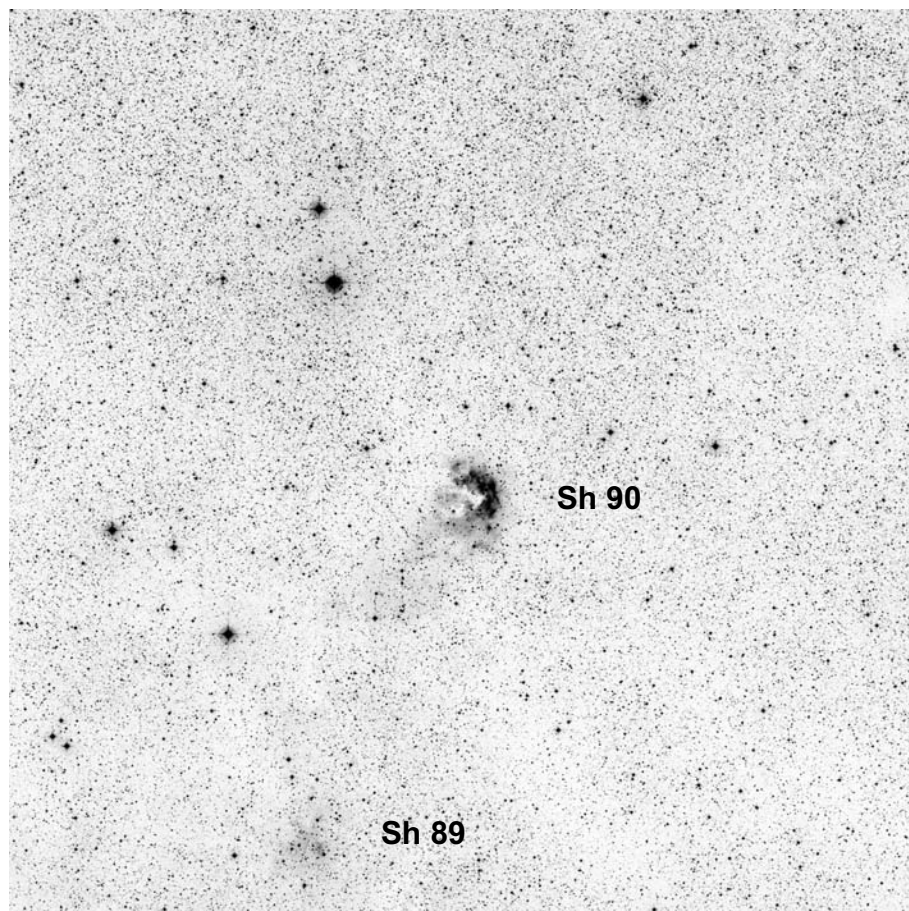
Observed several times with 14 and 22"

The main HII region is a very large and very faint crescent-shaped patch best visible with H beta (western part)

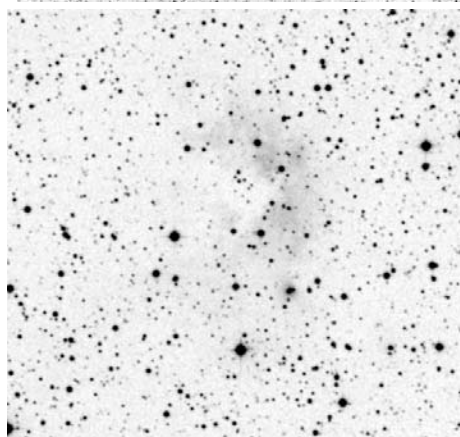
The SE part consists of two very faint glows around stars, which are best visible w/o filter



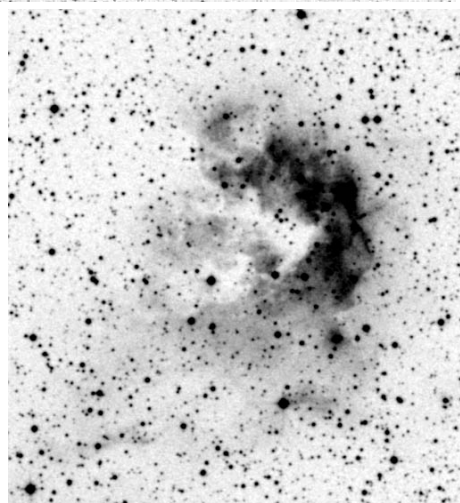
Sh 2 - 89/90 in Vulpecula



60x60, red



Sh 90 POSS blue



POSS red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-089		19 50 02.2	+26 29 10	5	1	2	1
Sh 2-090		19 49 12.7	+26 52 04	6	3	2	2

Distance: 2400 pc, Size: 2.1 pc, Source: 1983A&A...124....1L

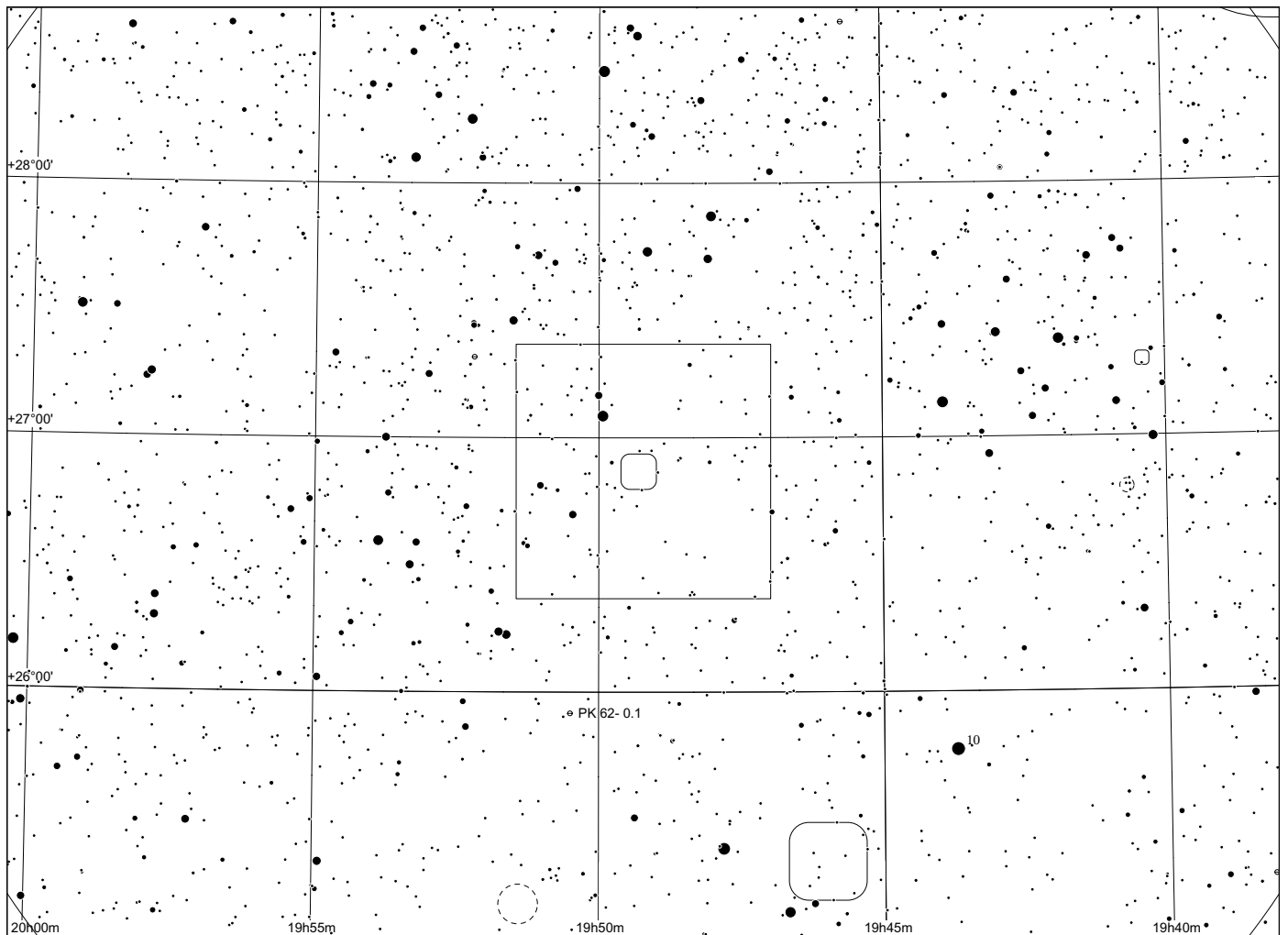
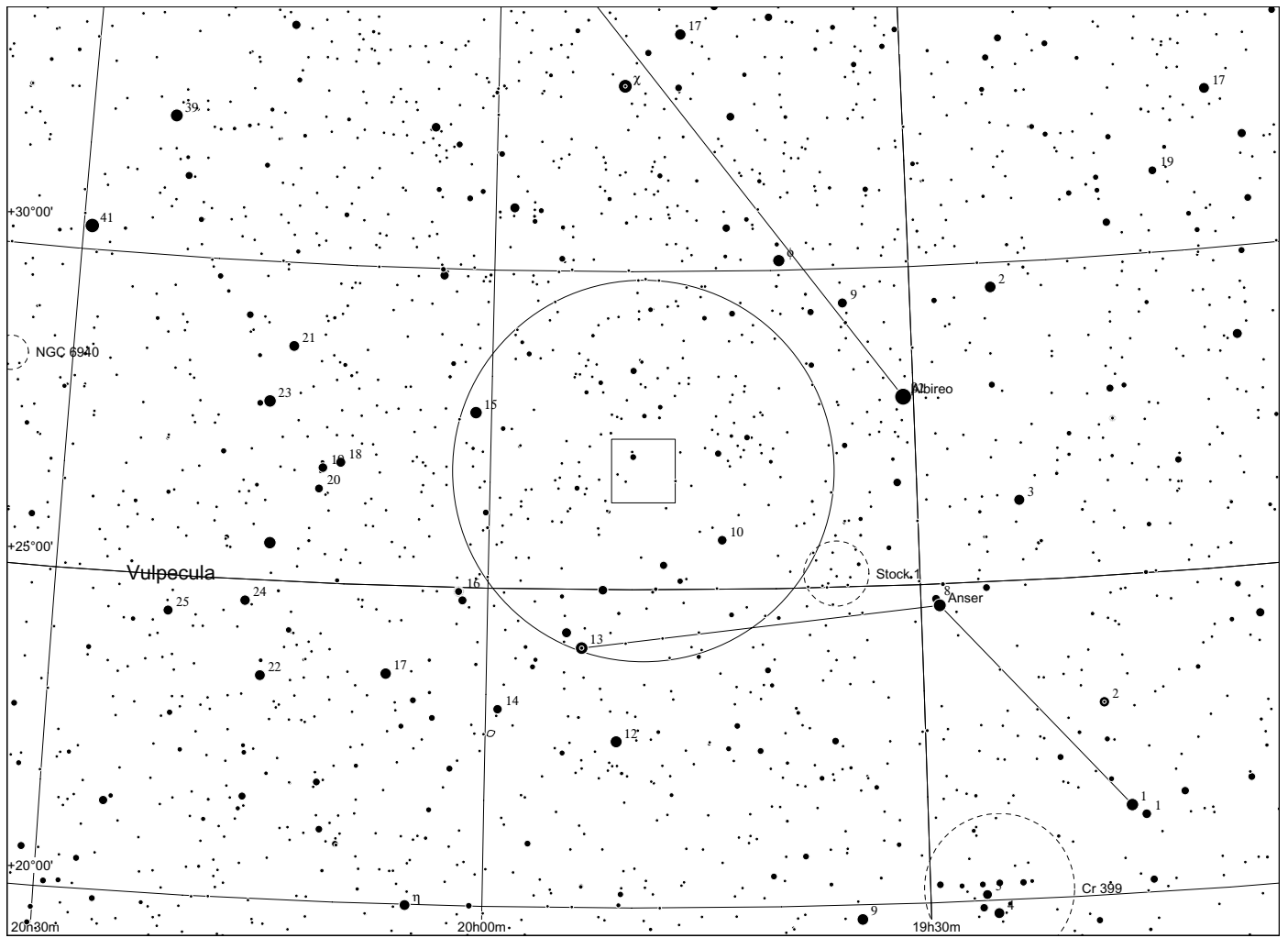
Sh 2-90 is a blister on a 60 thousand solar mass molecular cloud and appears to be affected by gas streaming from the Vulpecula OB1 association. It contains a cometary elephant trunk structure on its eastern edge which appears to have originated from a past disturbance from the southwest.

Sh 2-86, Sh 2-87, Sh 2-88 and Sh 2-89 are part of the HI supershell GS061+00+51. Sh 2-89 and Sh 2-90 lie at the north-east boundary of the dark nebula Lynds 798.

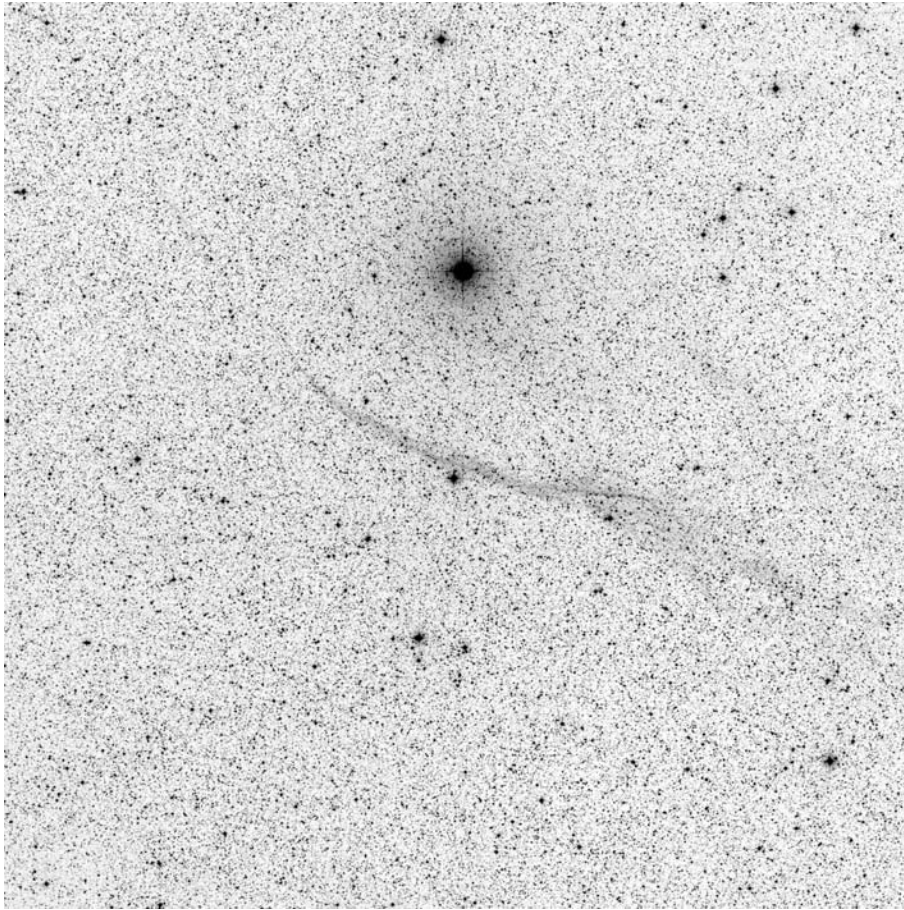
Observing notes:

22" f/4.5

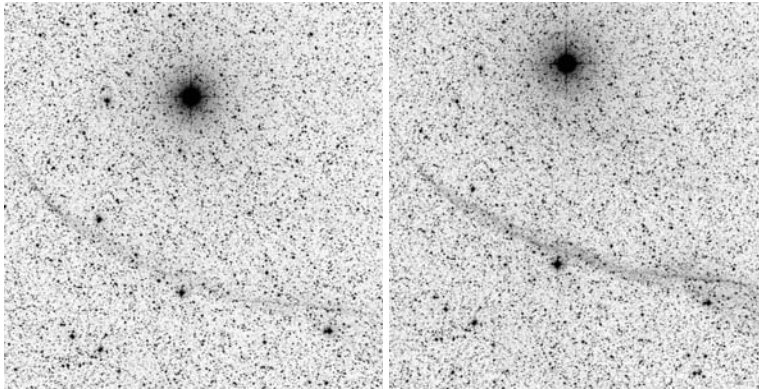
06/2010: Sh 90 faint and large glow, best at 200x with UHC. No distinct shape could be discerned. Sh 89 not seen.



Sh 2 - 91 in Cygnus

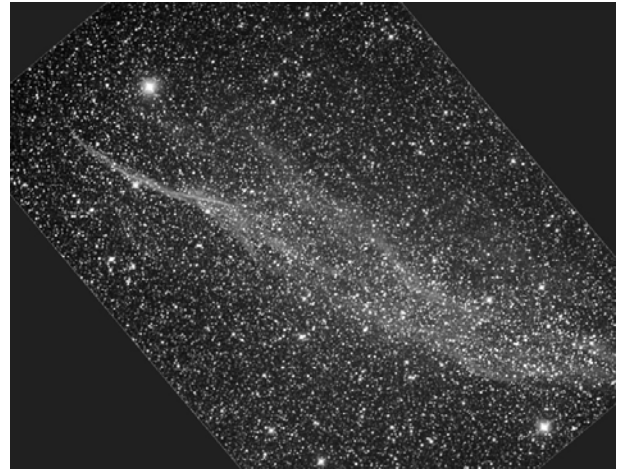


60x60, red



POSS blue

POSS red



H alpha Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-091	part of SNR	19 35 34.0	+29 36 16	120	3	3	2

Distance: 900 pc, Size: 31.4 pc, Source: 1989A&AS...77..439F

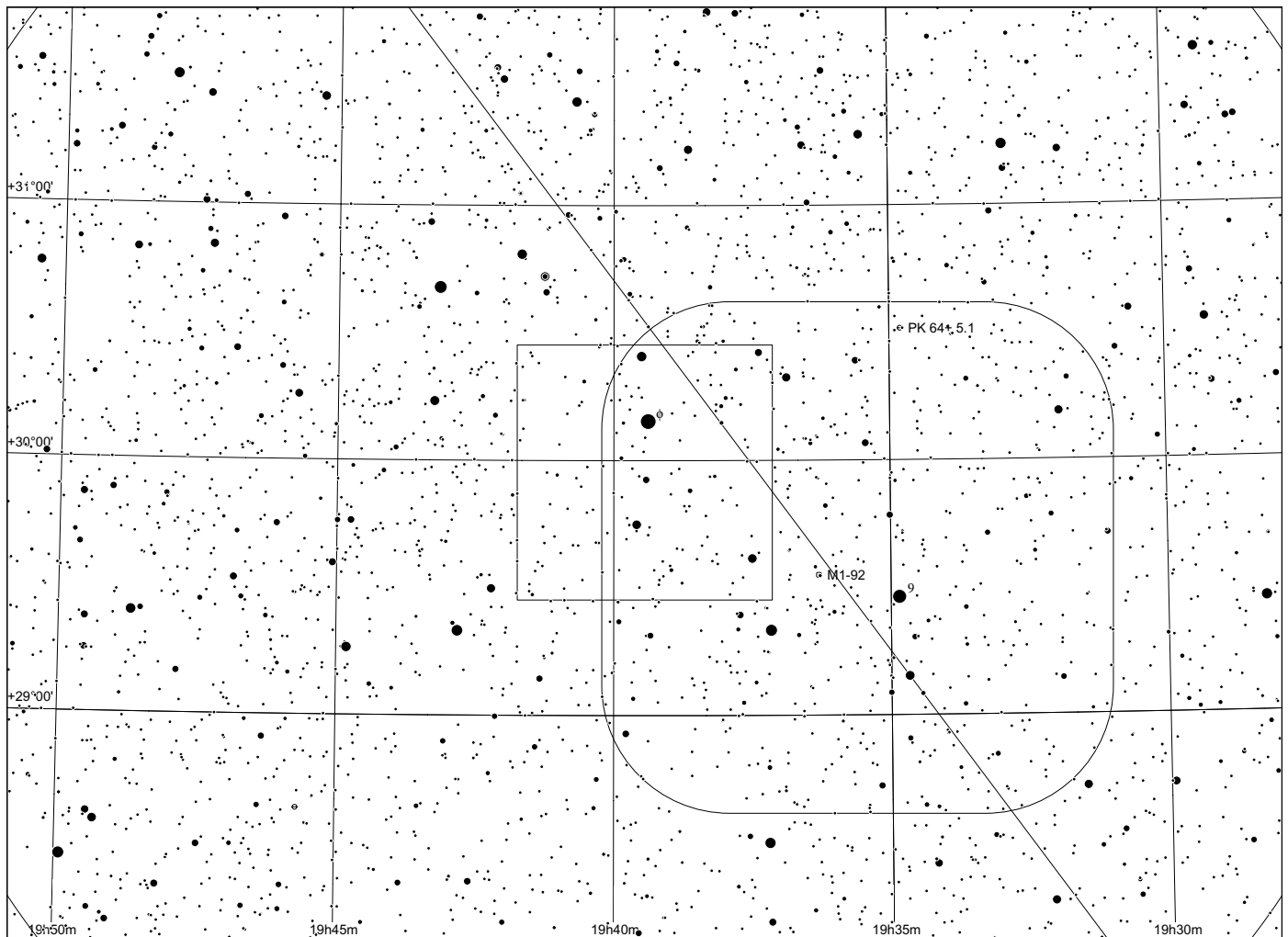
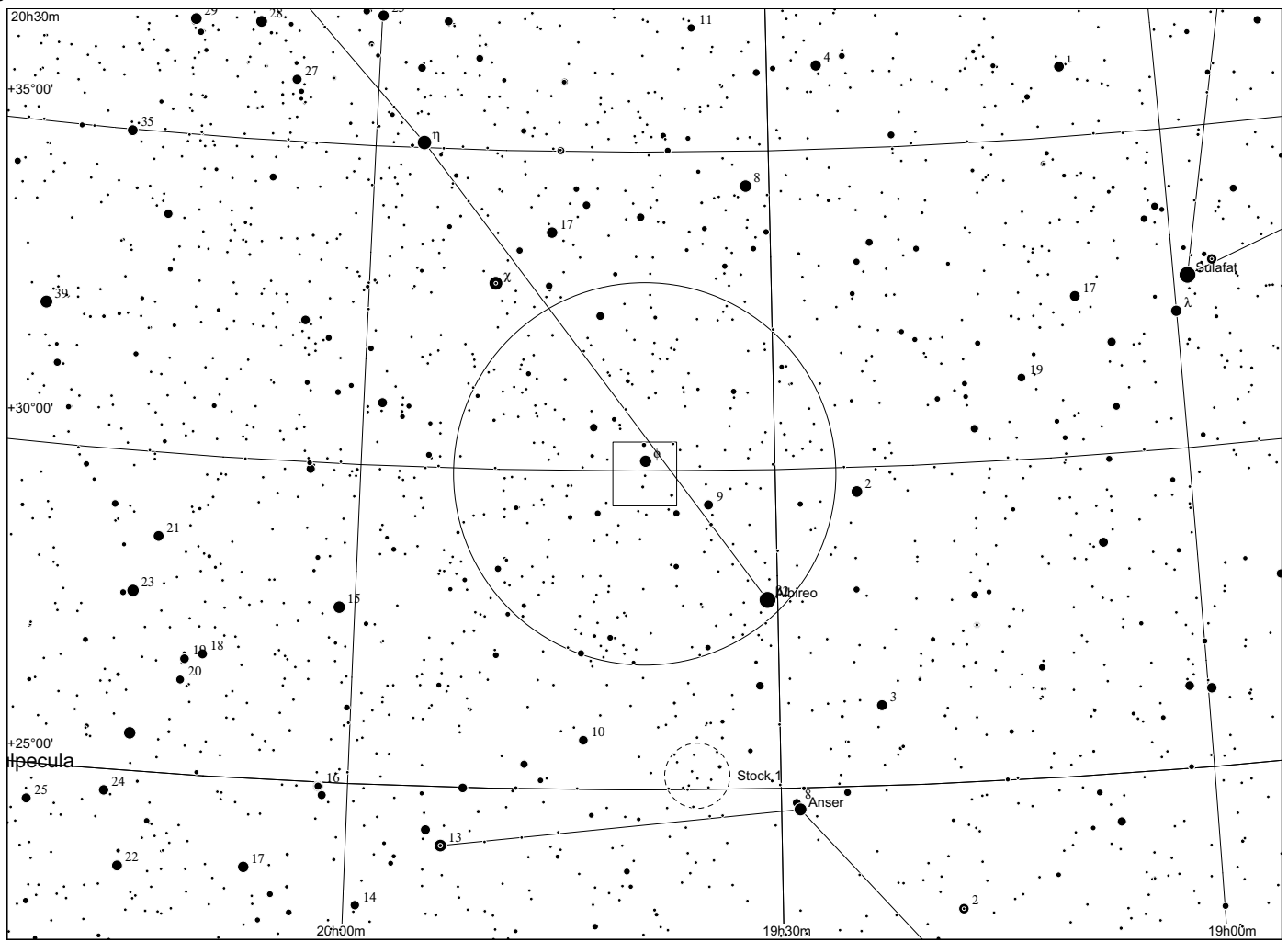
This is a filament of the supernova remnant SNR 065.2+05.7, which has a diameter of about 70 parsecs and an age of about 20 thousand years..

Observing notes:

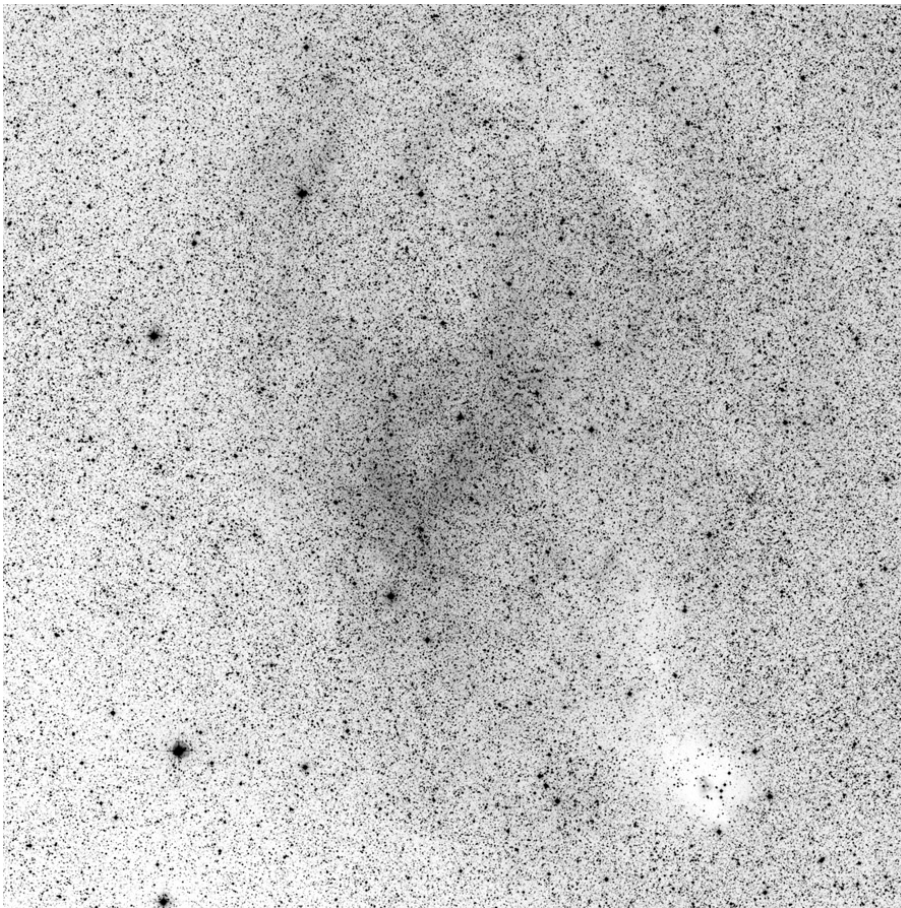
observed several times with 14 and 22" and OIII filtering:

long and well defined filament SE of Phi Cyg, becomes broader and more diffuse toward 9 Cyg. Can be traced further passing N of 9 Cyg, and extending W of it, becomes split.

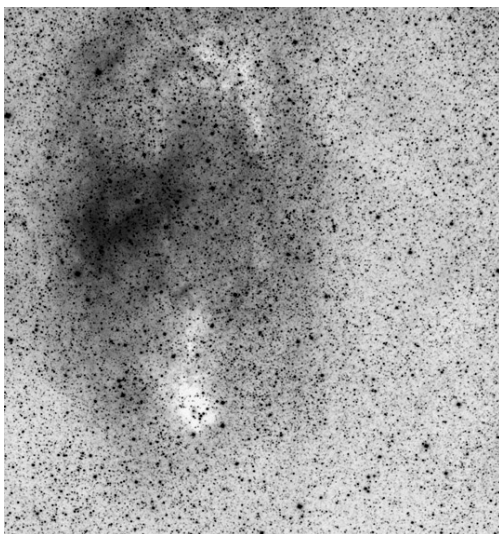
Another extremely faint and narrow filament starts W of Phi Cygni and trails towards SW.



Sh 2 - 92 in Cygnus



60x60, red



POSS blue



Dean Salman H alpha

	other name	RA	dec	dia.	F	S	B
Sh 2-092		19 46 38.7	+28 14 44	50	1	1	1

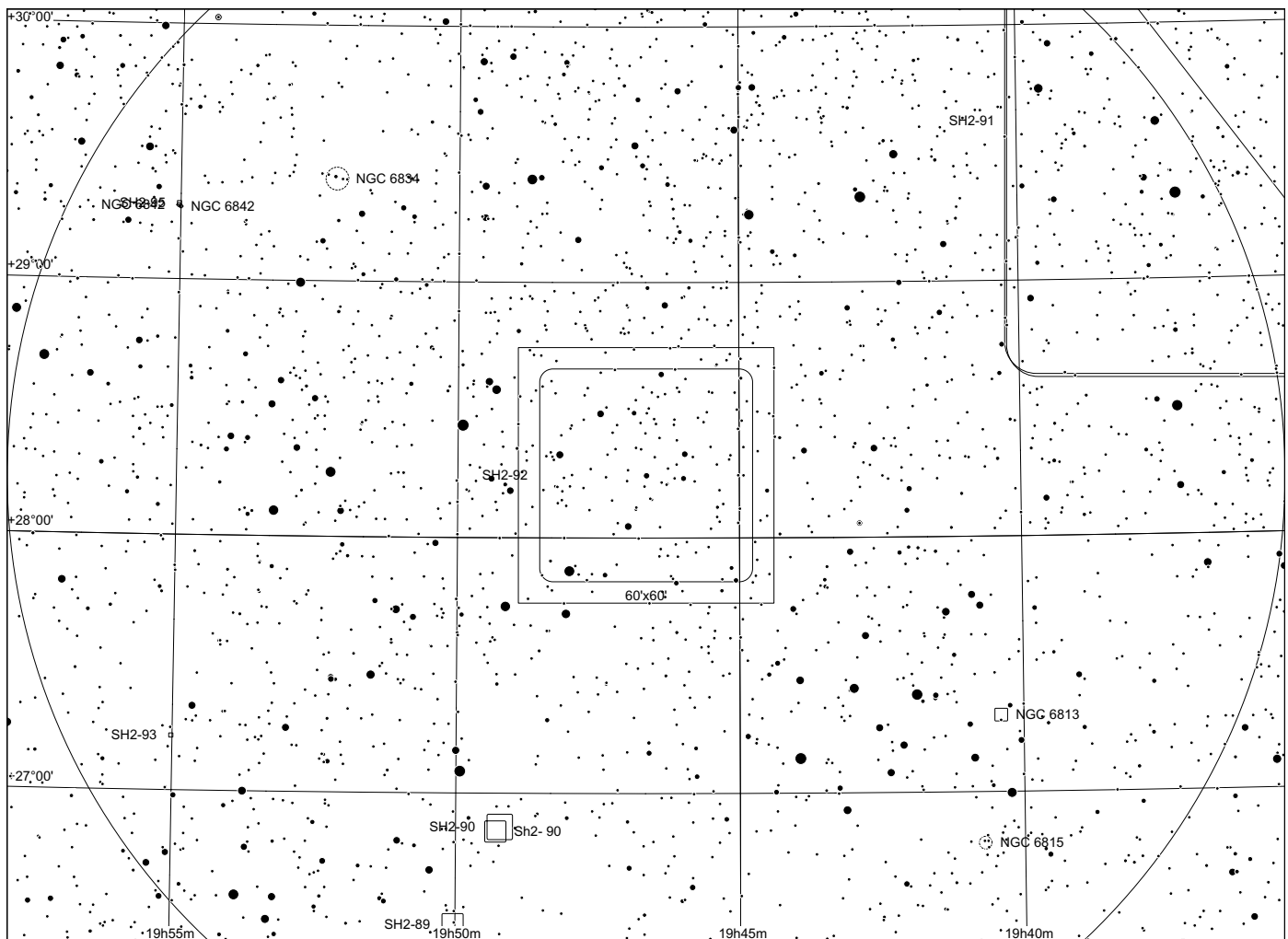
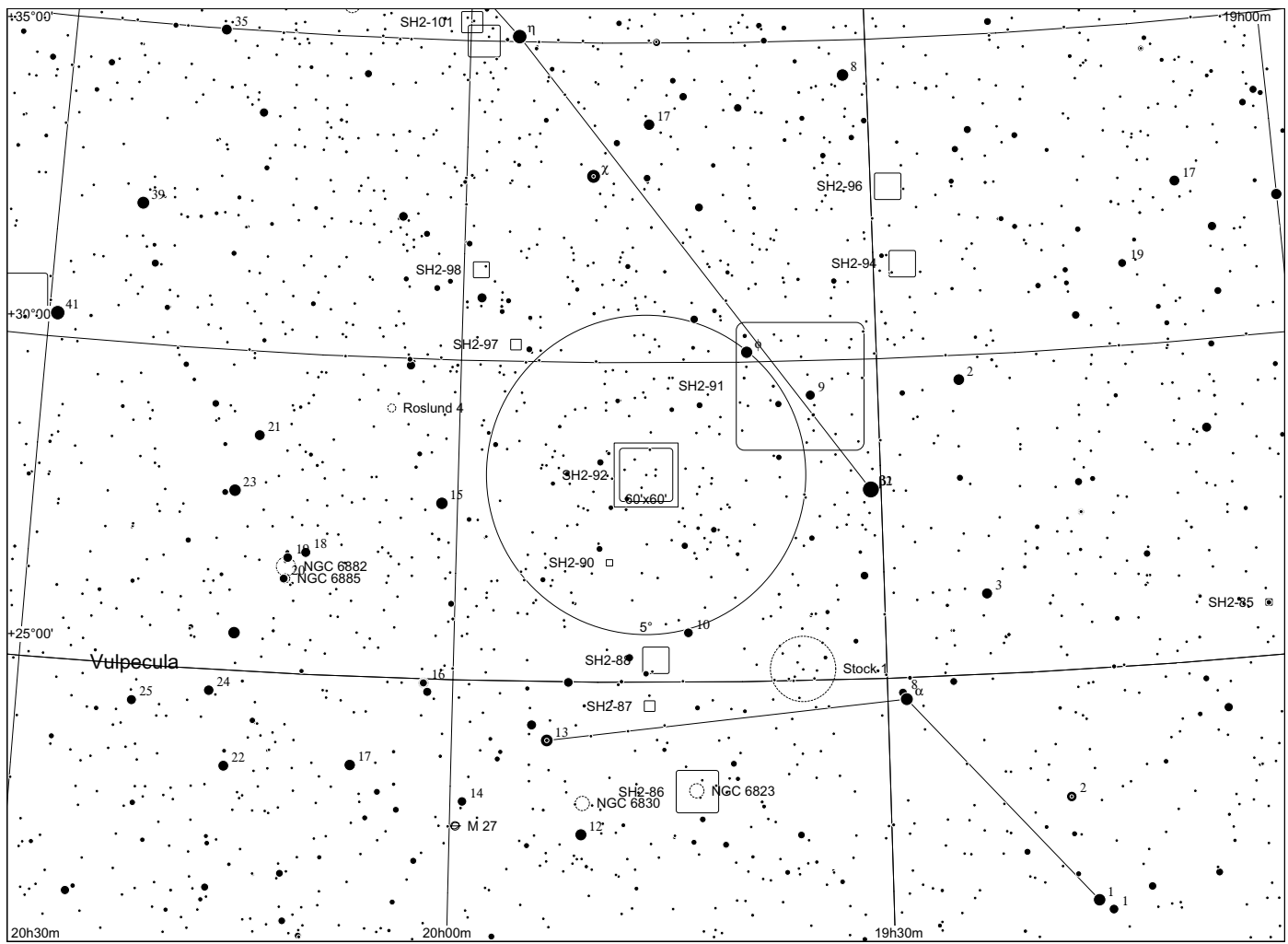
Distance: 4400 pc, Size: 64.0 pc Source: 1982ApJS...49..183B

Sh 2-92 is ionised by the Wolf-Rayet star WR 127, a binary star with an O9V companion, at a distance of 3700 parsecs according to one source. Avedisova adds a second ionising star, the O7 Ib supergiant HD 332755 and gives a larger distance estimate of 4740 +/- 100 parsecs.

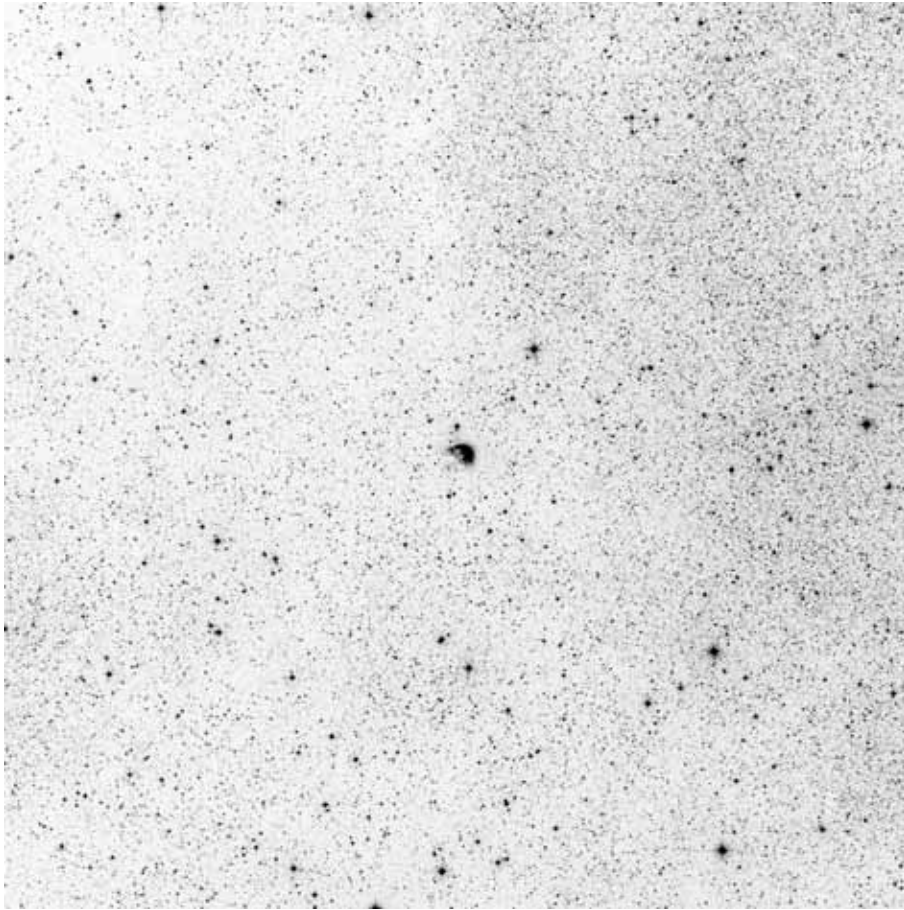
Observing notes:

22" f/4.5

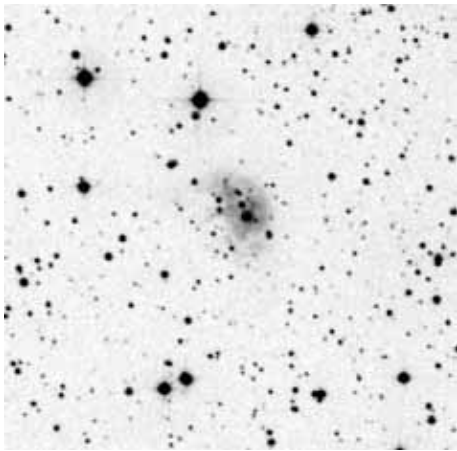
08/2012: Observed with 32mm, UHC better than H beta. Extremely faint glow, dark side towards SW. Difficult to distinguish from the star field with filter.



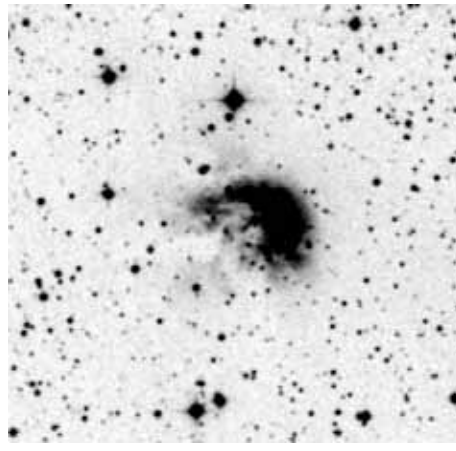
Sh 2 - 93 in Vulpecula



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-093		19 55 00.6	+27 12 48	1	3	2	3

Distance: 3713 pc, Size: 4.4 pc, Source: 2003A&A...397..213P

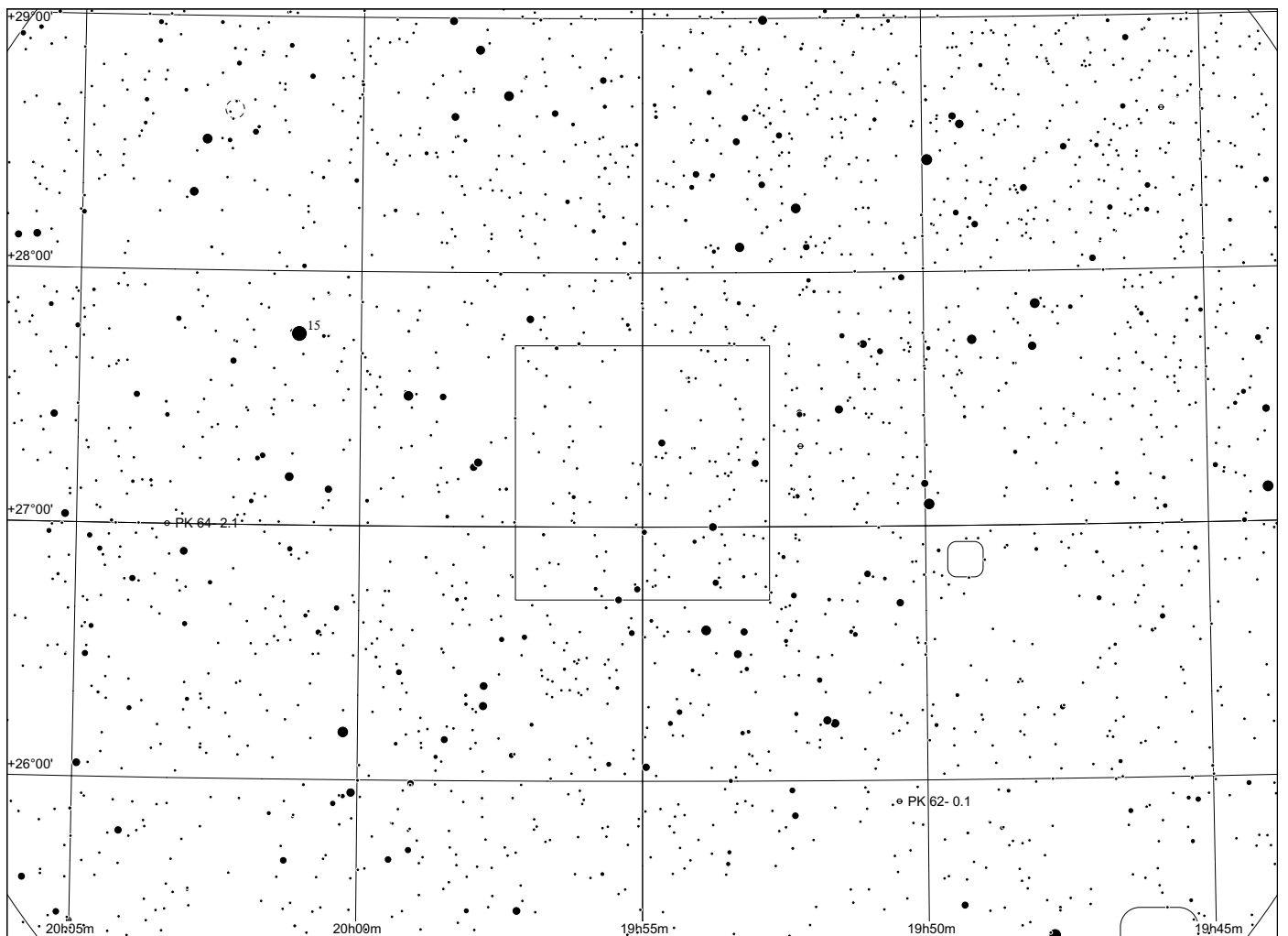
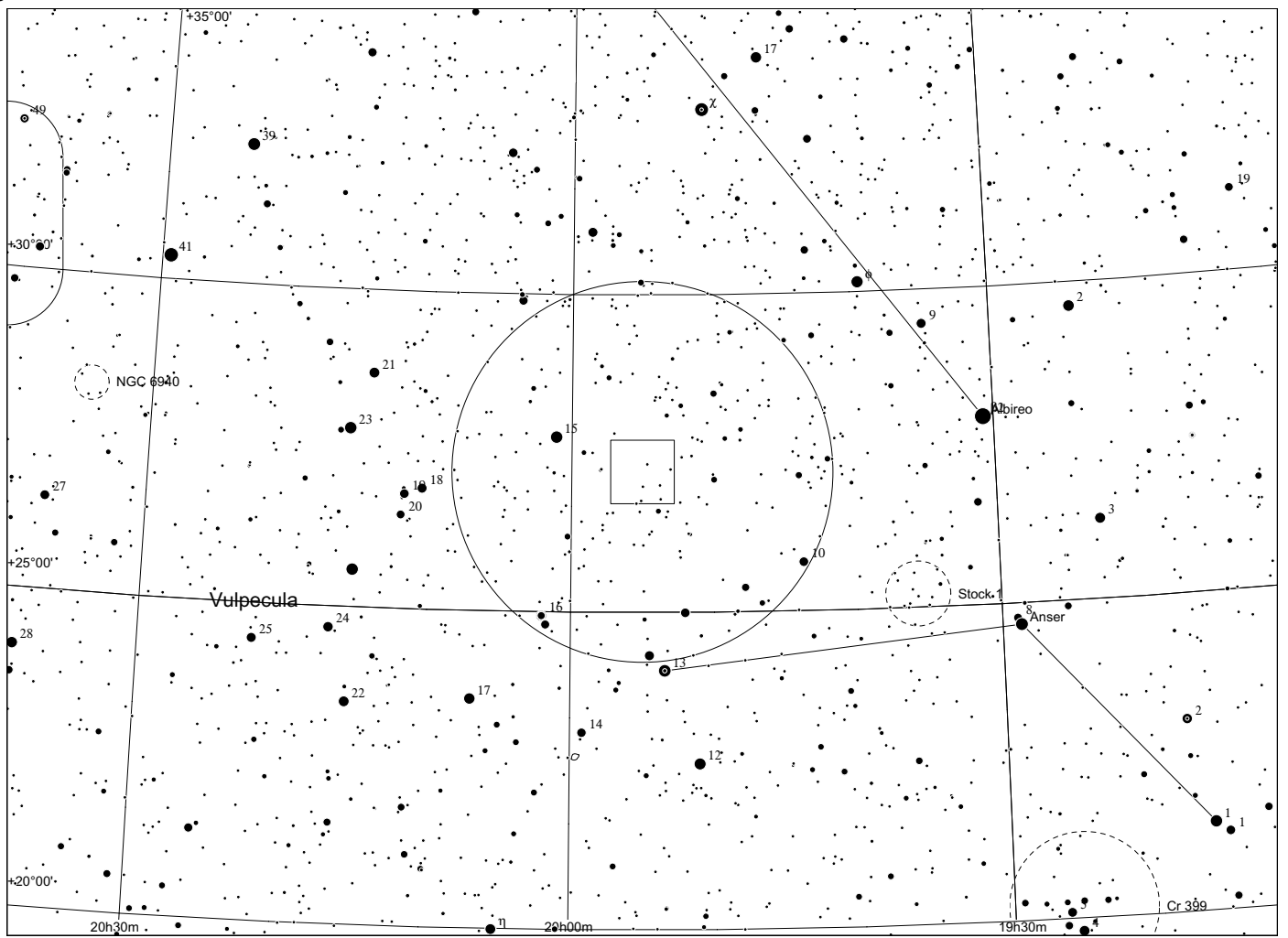
Ionised by the O9V star [F89b] S93 1 and appears to contain the infrared star cluster [BDS2003] 16.

There is a second distance estimate of 2600 pc - probably best to move this on the map.

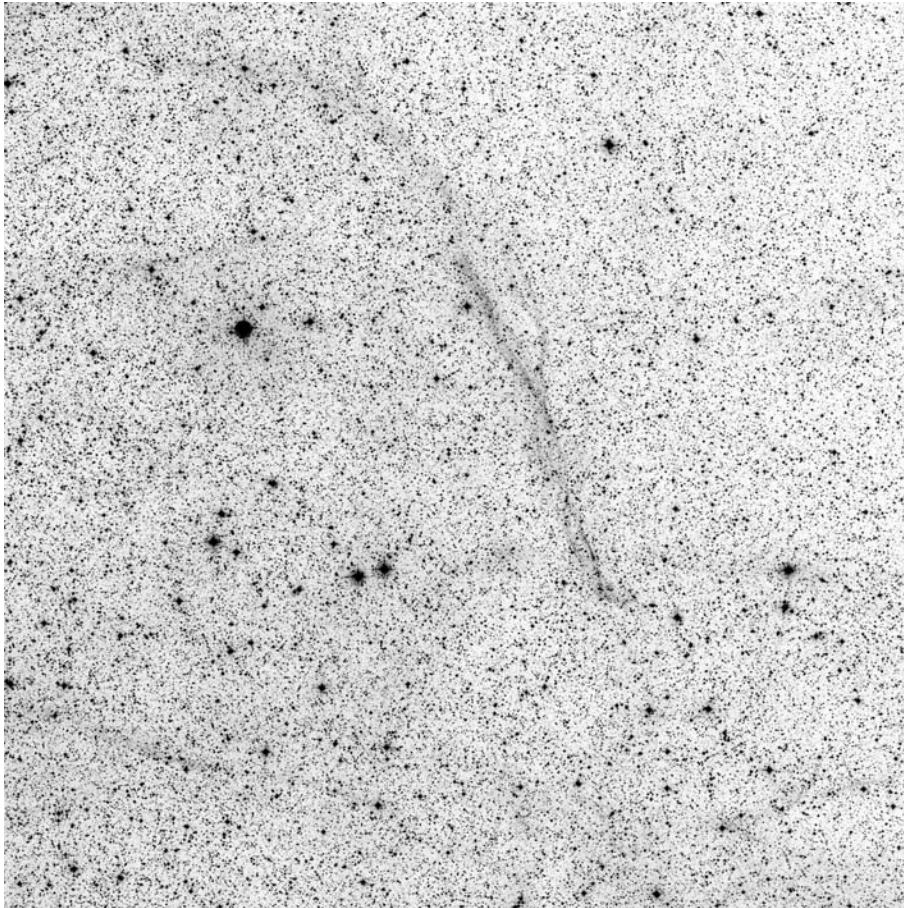
Observing notes:

22" f/4.5

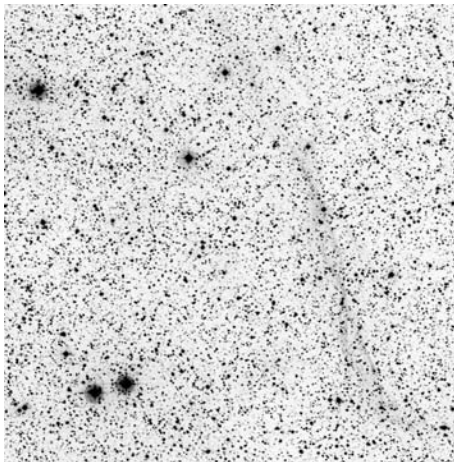
08/2009: With UHC, a faint star with very faint, larger glow around it. Appears weaker with OIII.



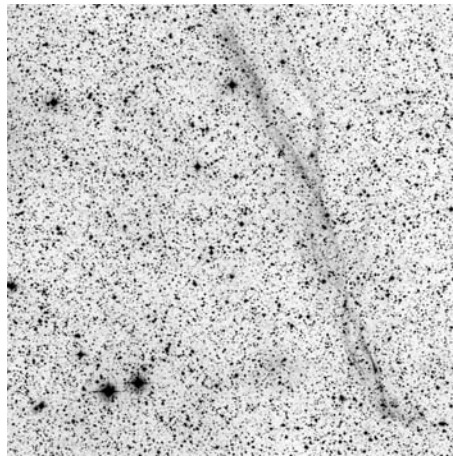
Sh 2 - 94 in Cygnus



60x60, red, enhanced



POSS blue



POSS red



narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-094	part of SNR	19 27 50.8	+31 28 14	25	3	3	1

Distance: 3900 pc, Size: 28.4 pc, Source: 2003A&A...397..133R

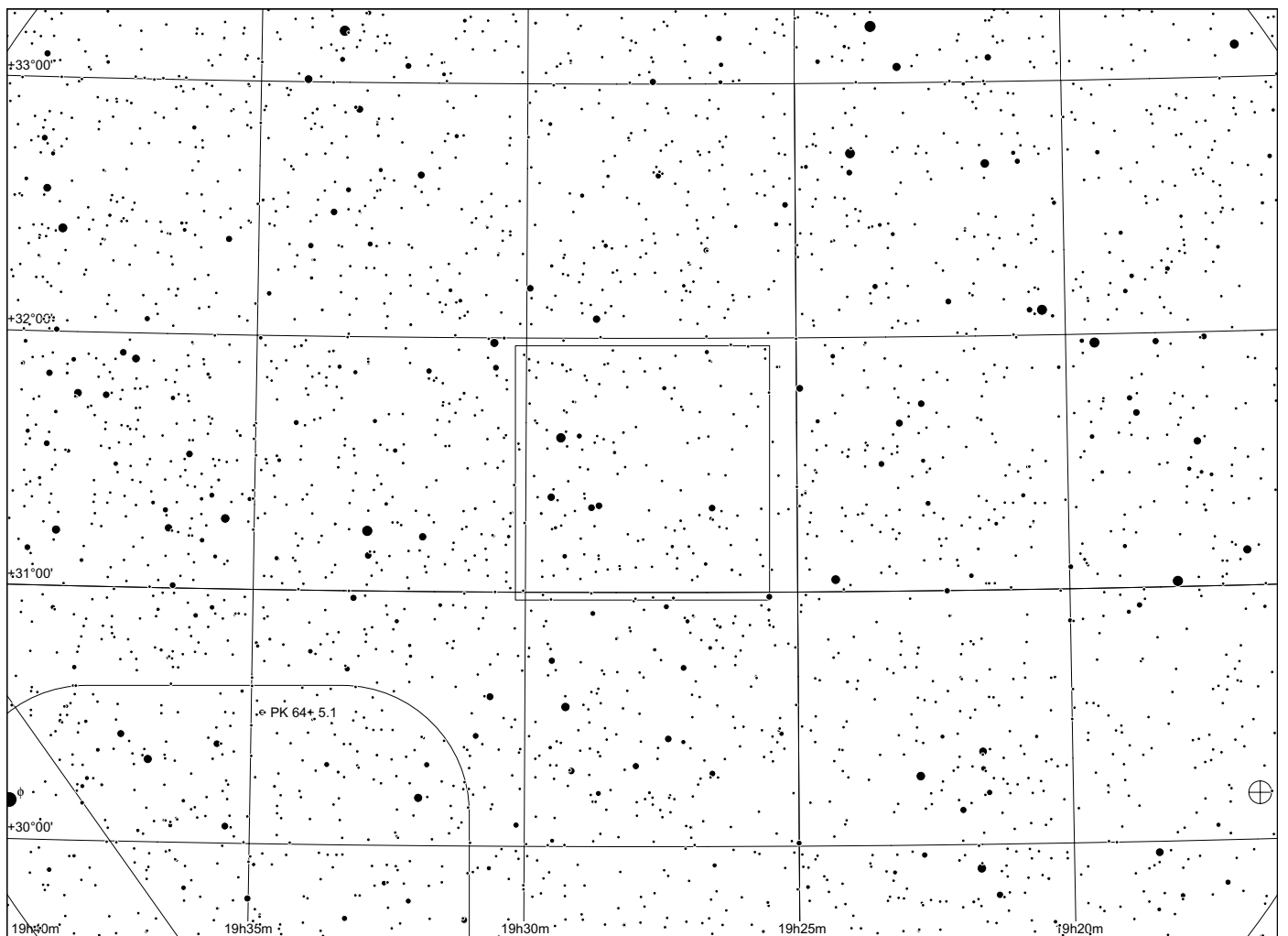
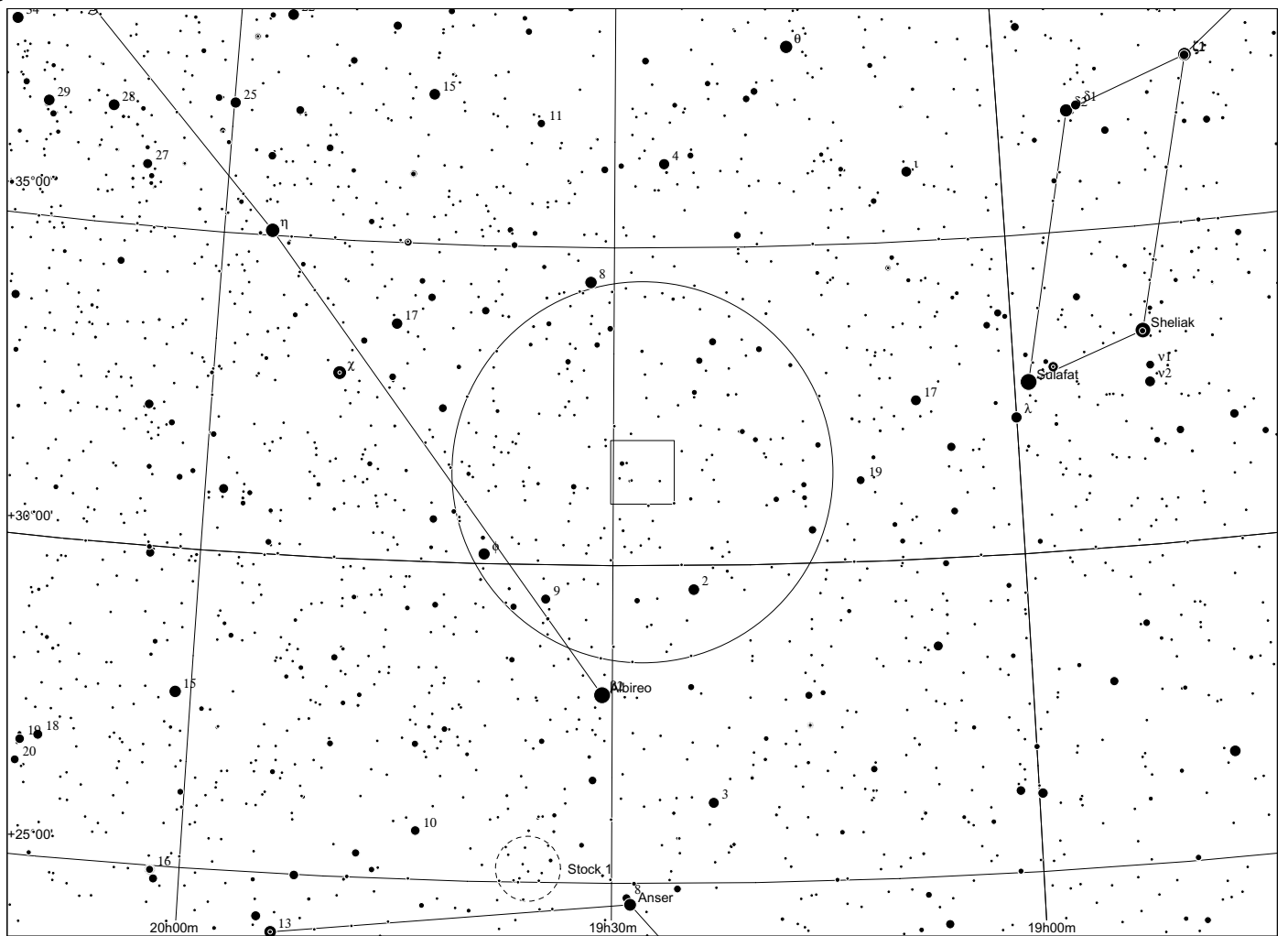
This is a filament of the supernova remnant SNR 65.2+5.7 which is actually at 900 pc.

Observing notes:

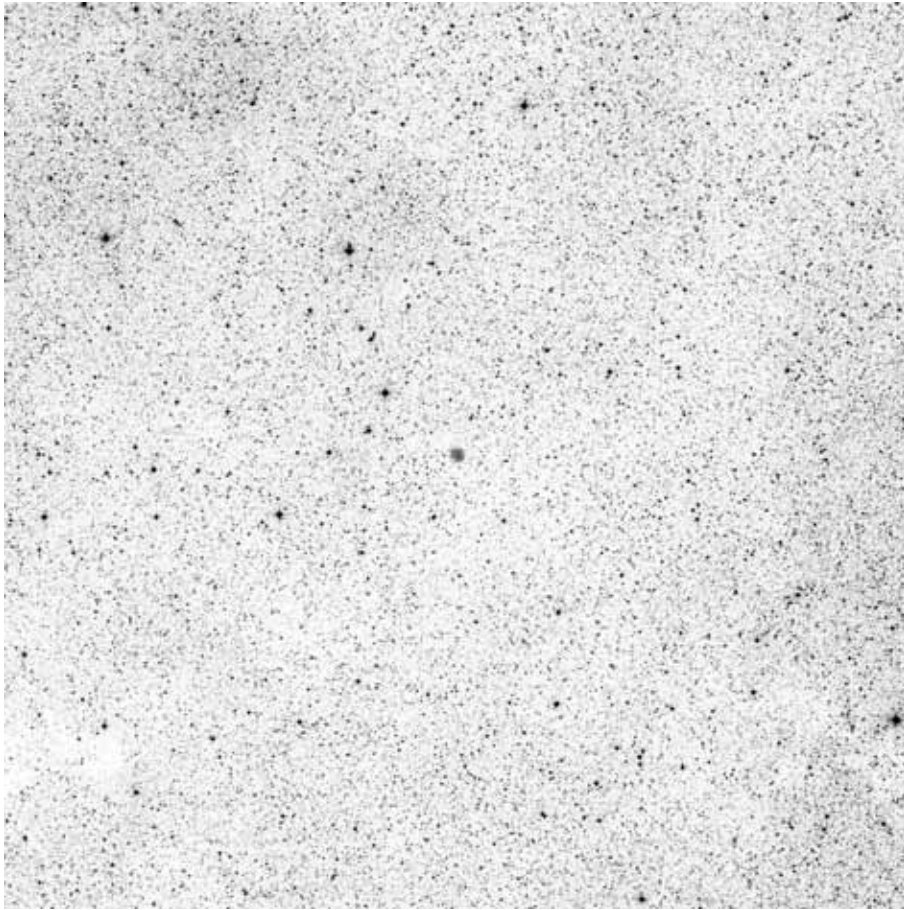
22" f/4.5

With OIII filter, several unsuccessful observations over the years.

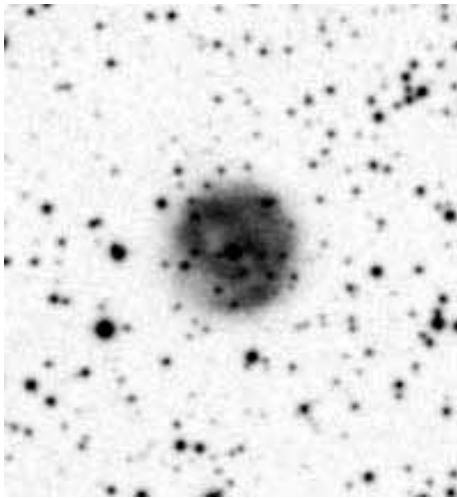
08/2012: The southern tip of the filament was observed with OIII filter, W of the distinct star pattern. Becomes less distinct towards N.



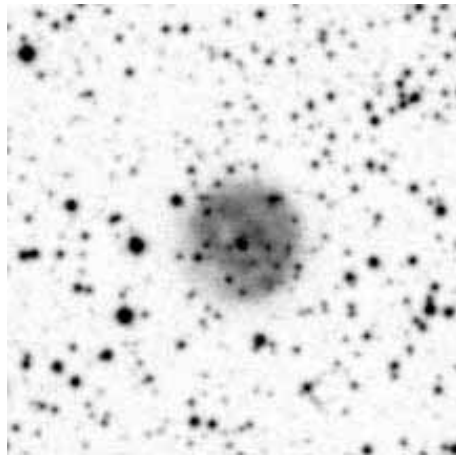
Sh 2 - 95 in Vulpecula



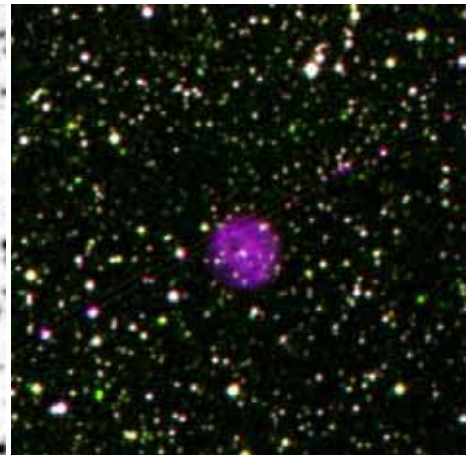
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-095	NGC6842, PN	19 55 00.9	+29 17 49	1	1	2	2

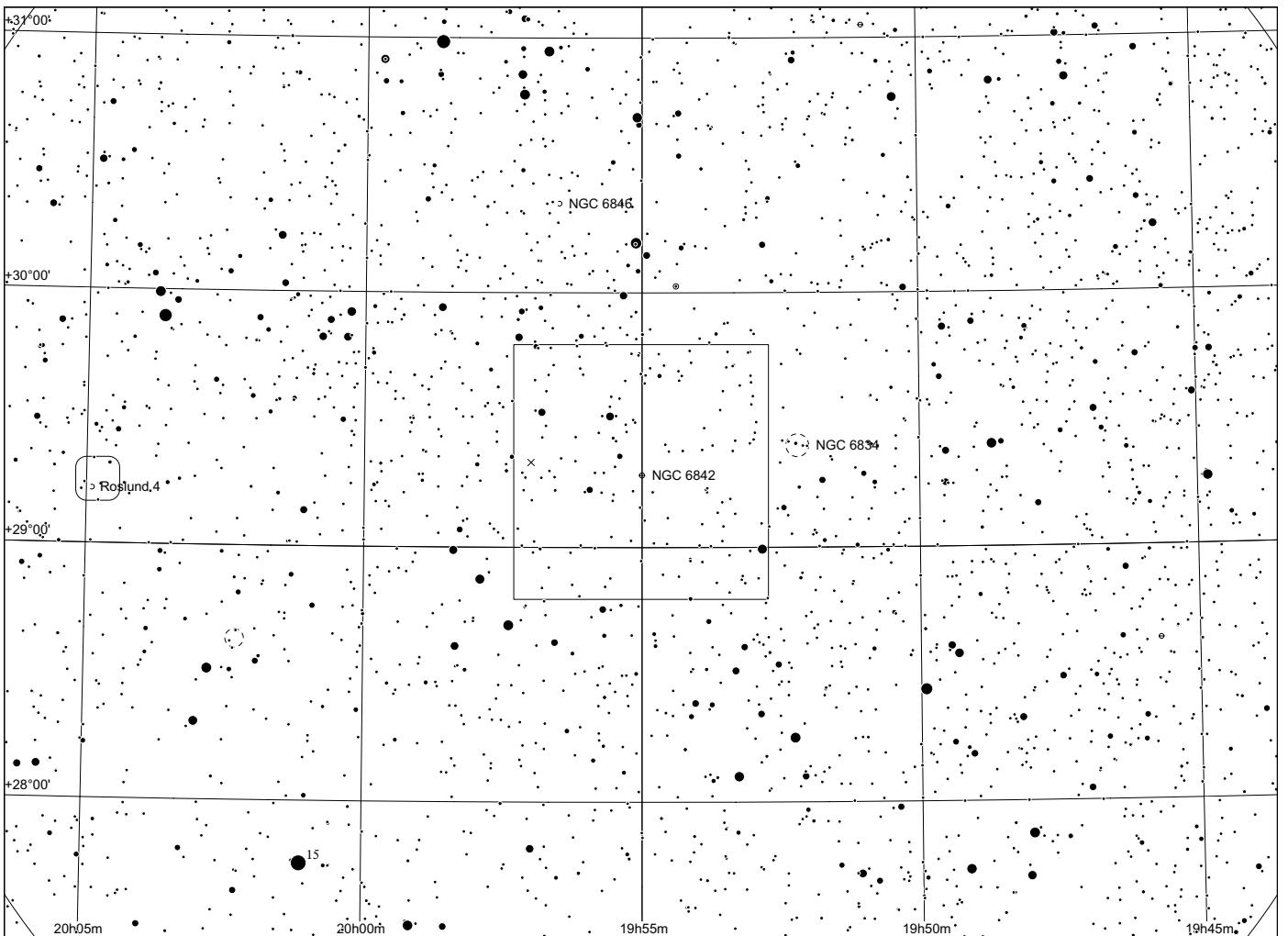
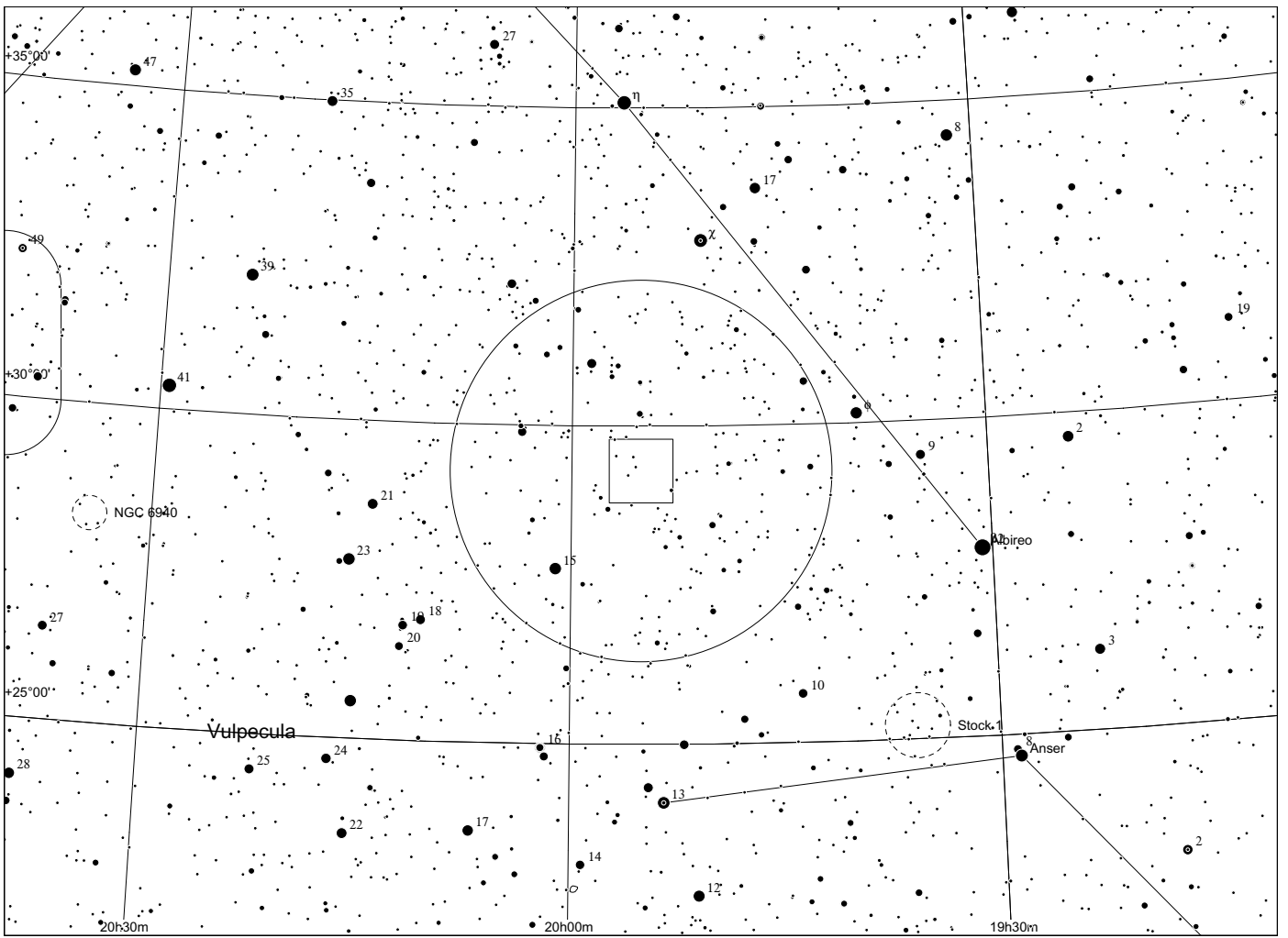
Distance: Unknown

This is the planetary nebula NGC 6842. Distance: 1250 pc.

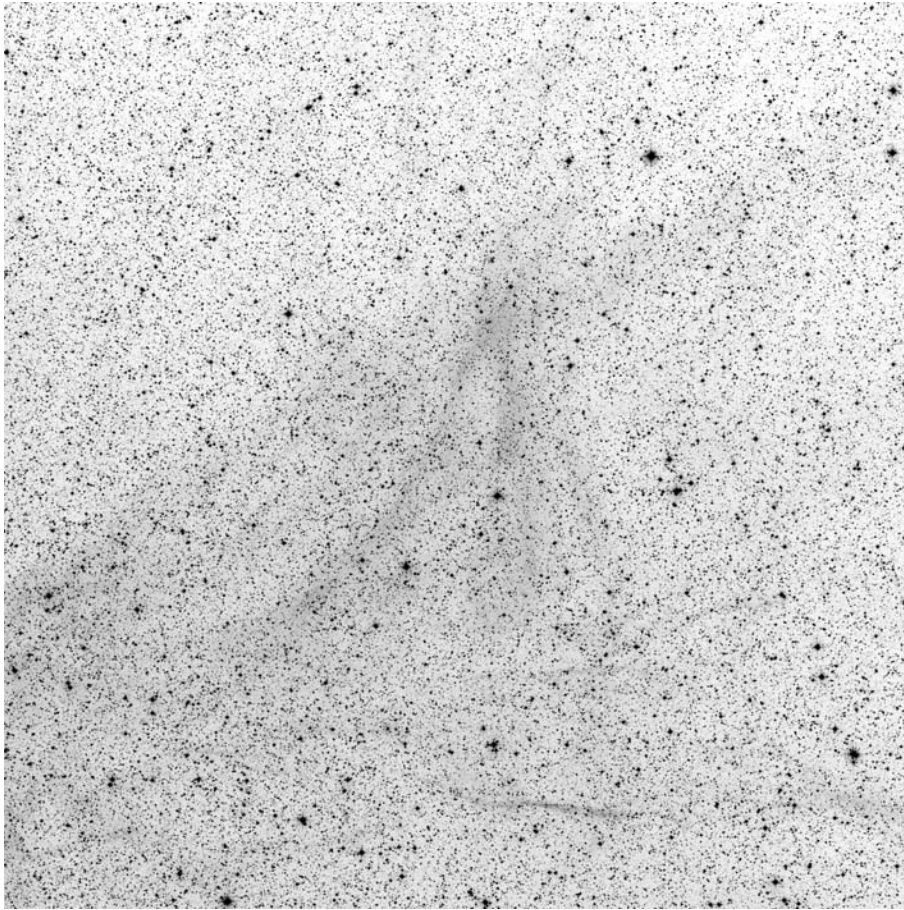
Observing notes:

14" f/5

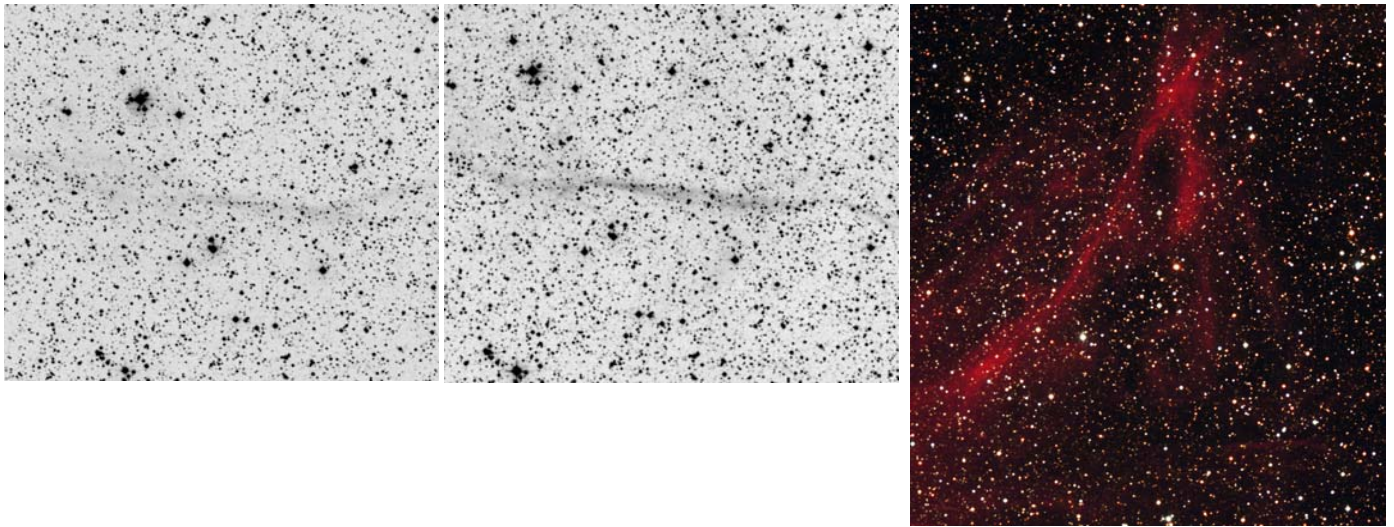
10/2005: very small and relatively bright patch. No central star. Square shape. UHC better than OIII, H beta not useful. Is already faintly visible w/o filter.



Sh 2 - 96 in Cygnus



60x60, red, enhanced



POSS blue, brightest filamen

POSS red

RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-096	part of SNR	19 28 42.0	+32 41 21	25	3	2	1

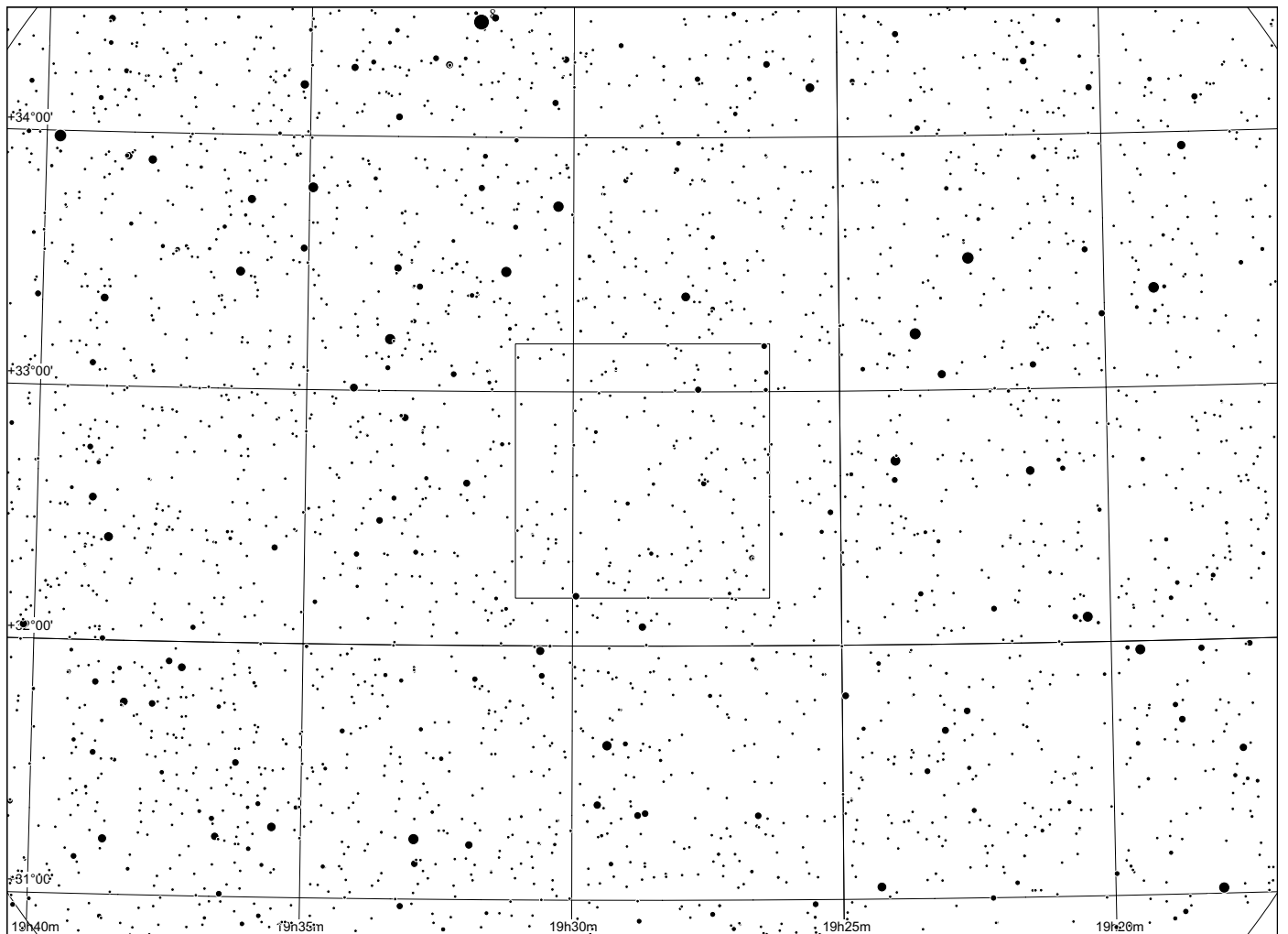
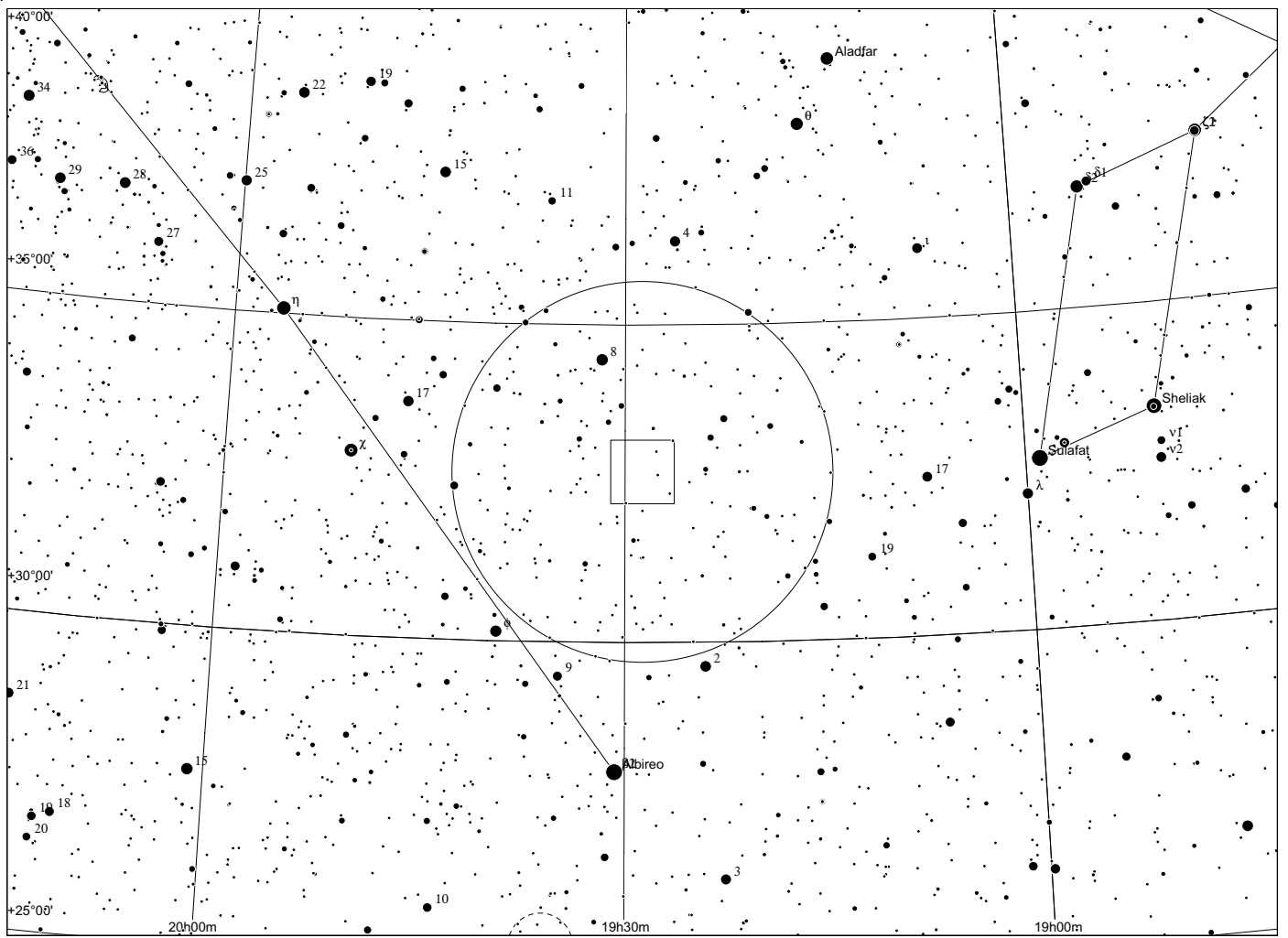
Distance: 900 pc, Size: 6.5 pc, Source: 1989A&AS...77..439F

Sh 2-96 is part of the same supernova remnant as Sh 2-91 and Sh 2-94: SNR 065.2+05.7.

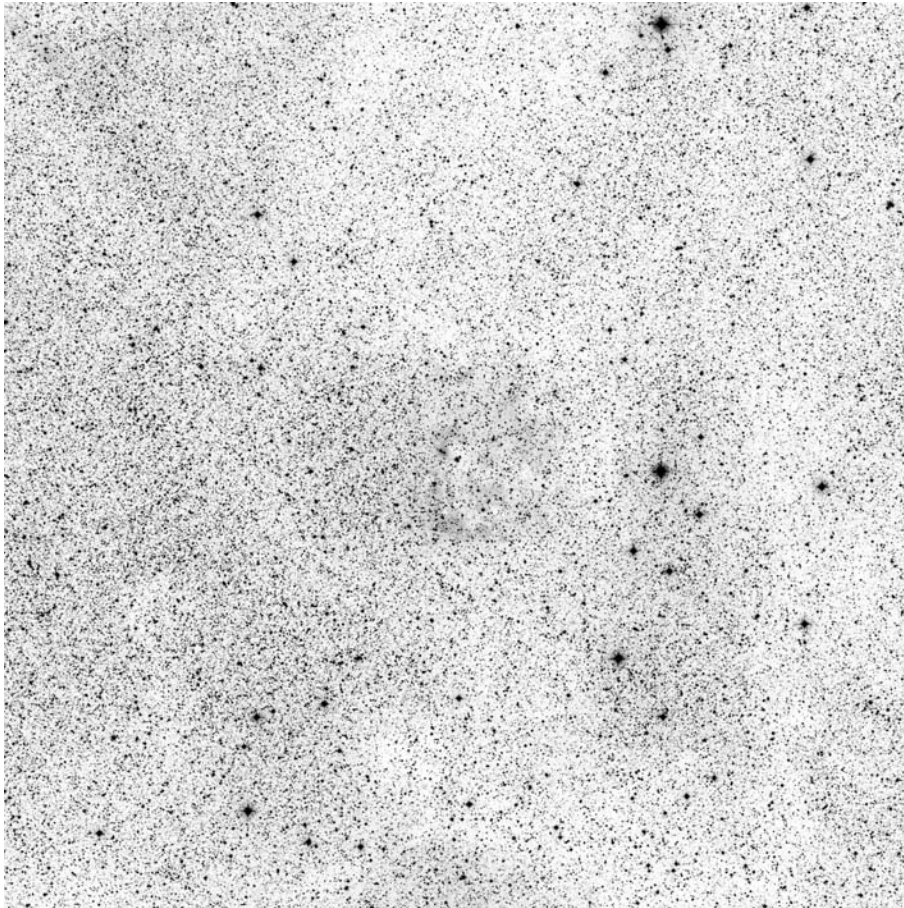
Observing notes:

22" f/4.5

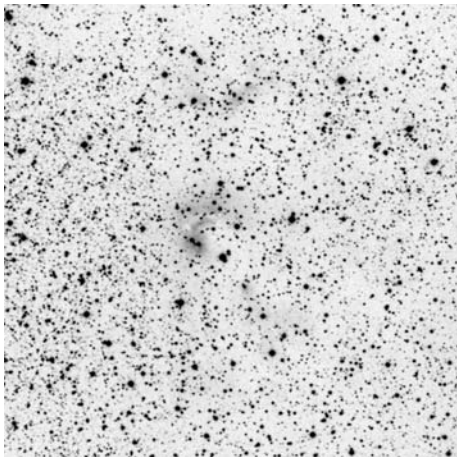
08/2012: The EW filament, which is part of the SNR, was suspected as an extremely faint and narrow filament.



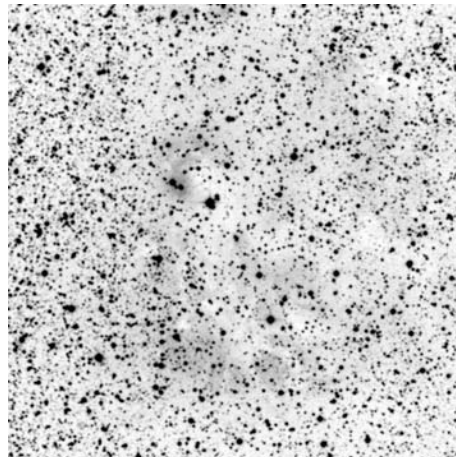
Sh 2 - 97 in Cygnus



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-097		19 56 04.6	+30 15 57	10	1	2	1

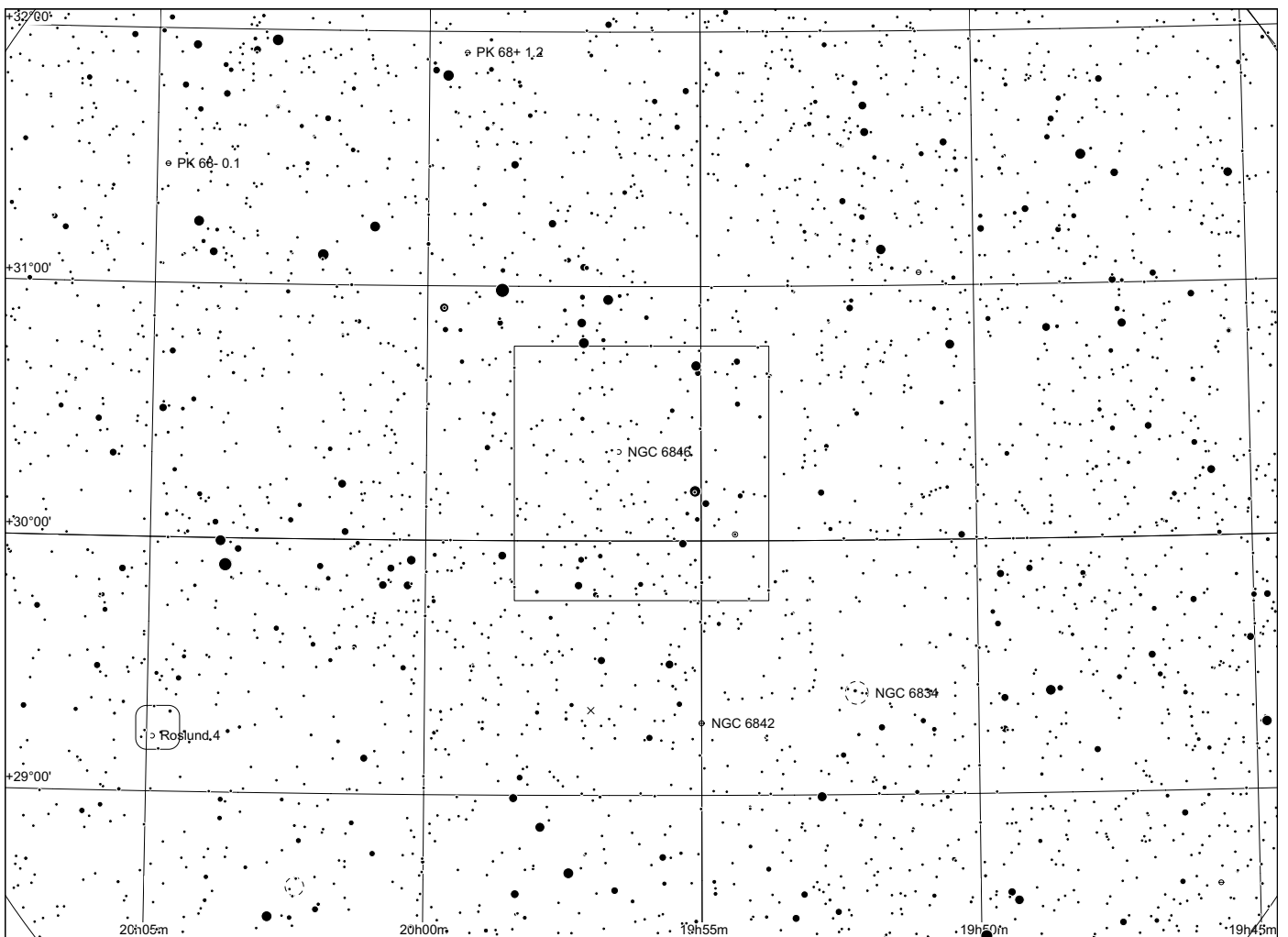
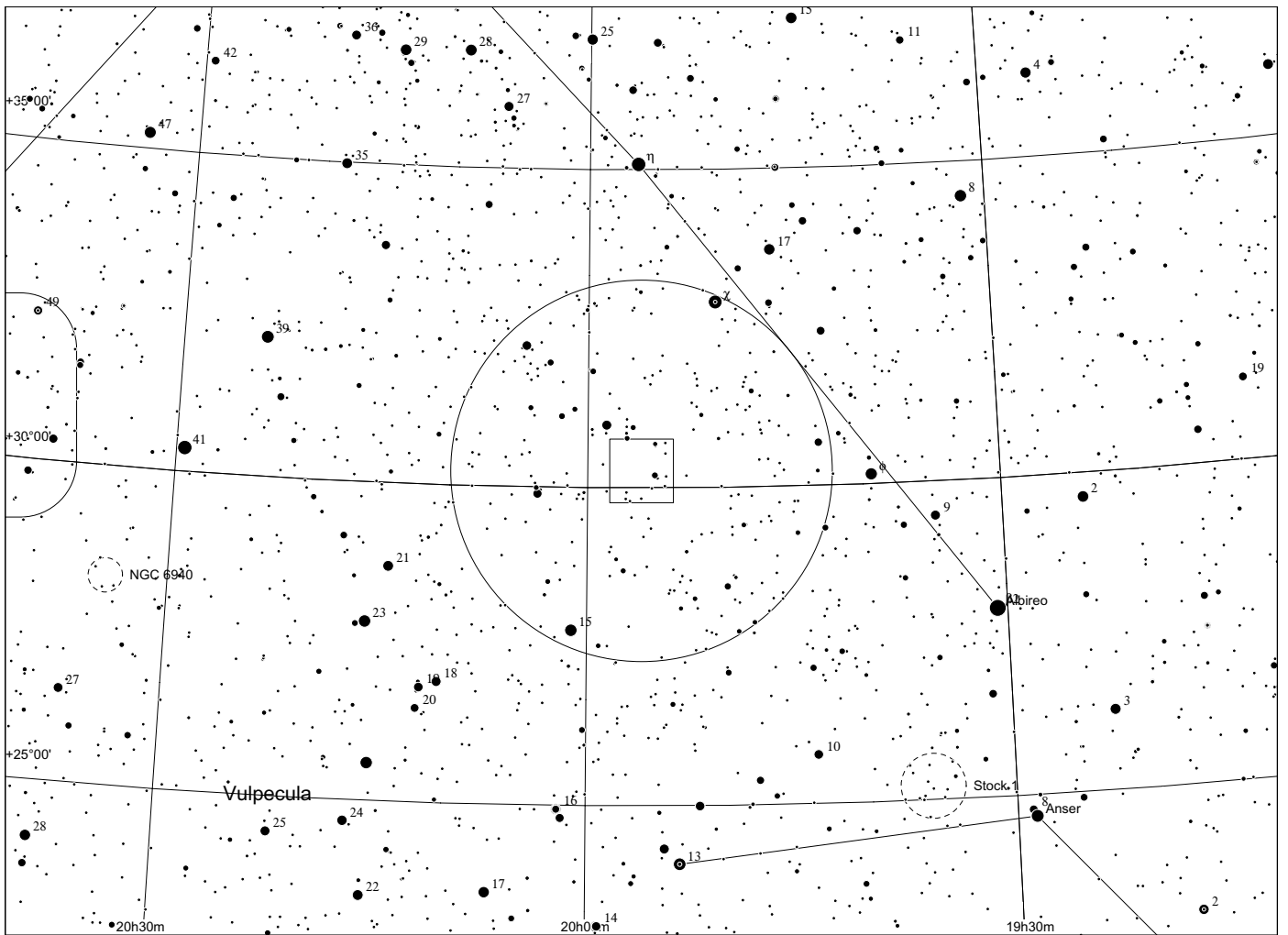
Distance: 3900 pc, Size: 11.3 pc, Source: 2003A&A...397..133R

Sh 2-97 is ionised by at least four stars - two B1V, one B0.5V and one with a spectral type between O9V and B0V.

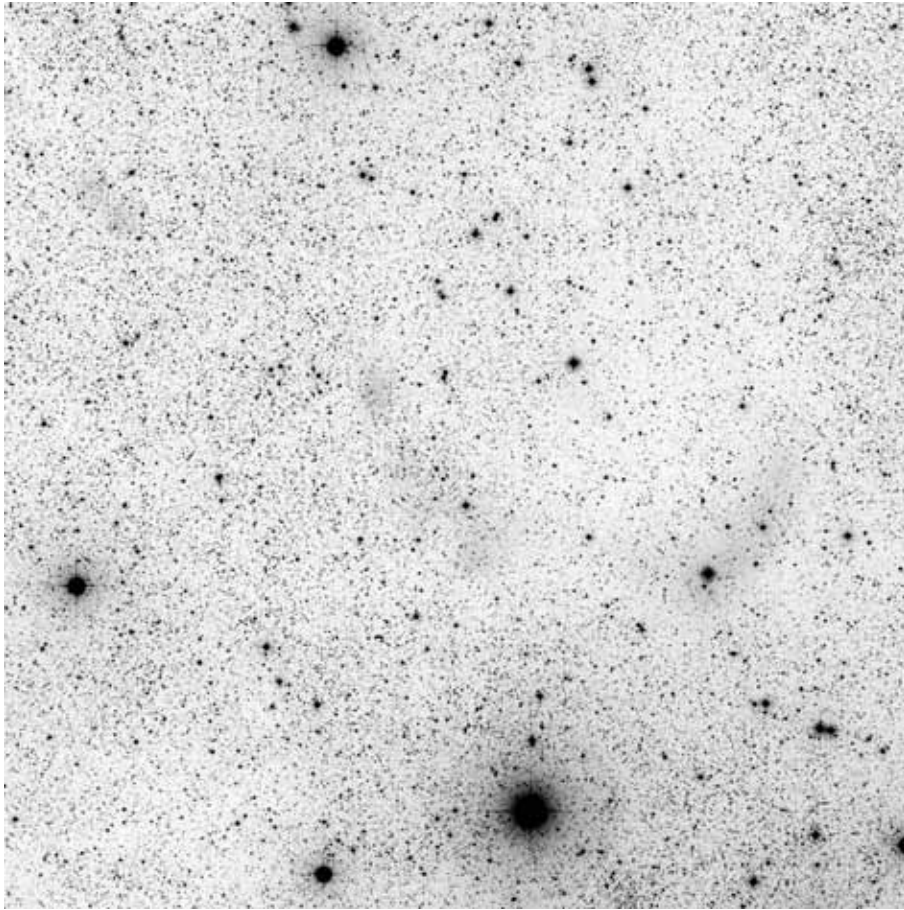
Observing notes:

22" f/4.5

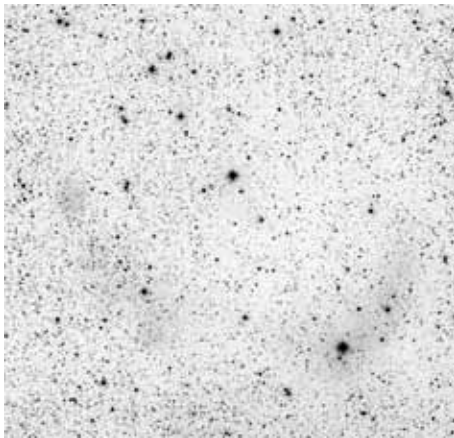
08/2012: With 32mm and H beta, very faint, almost round.



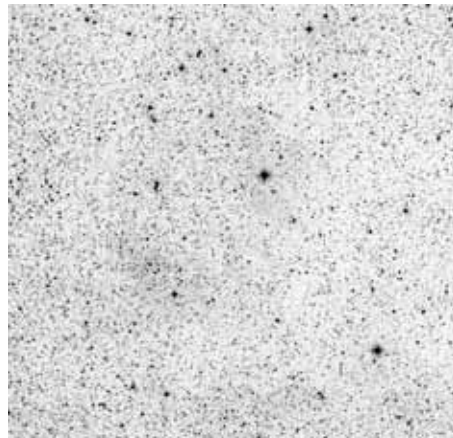
Sh 2 - 98 in Cygnus



60x60, blue enhanced



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-098		19 58 44.3	+31 25 18	15	1	1	1

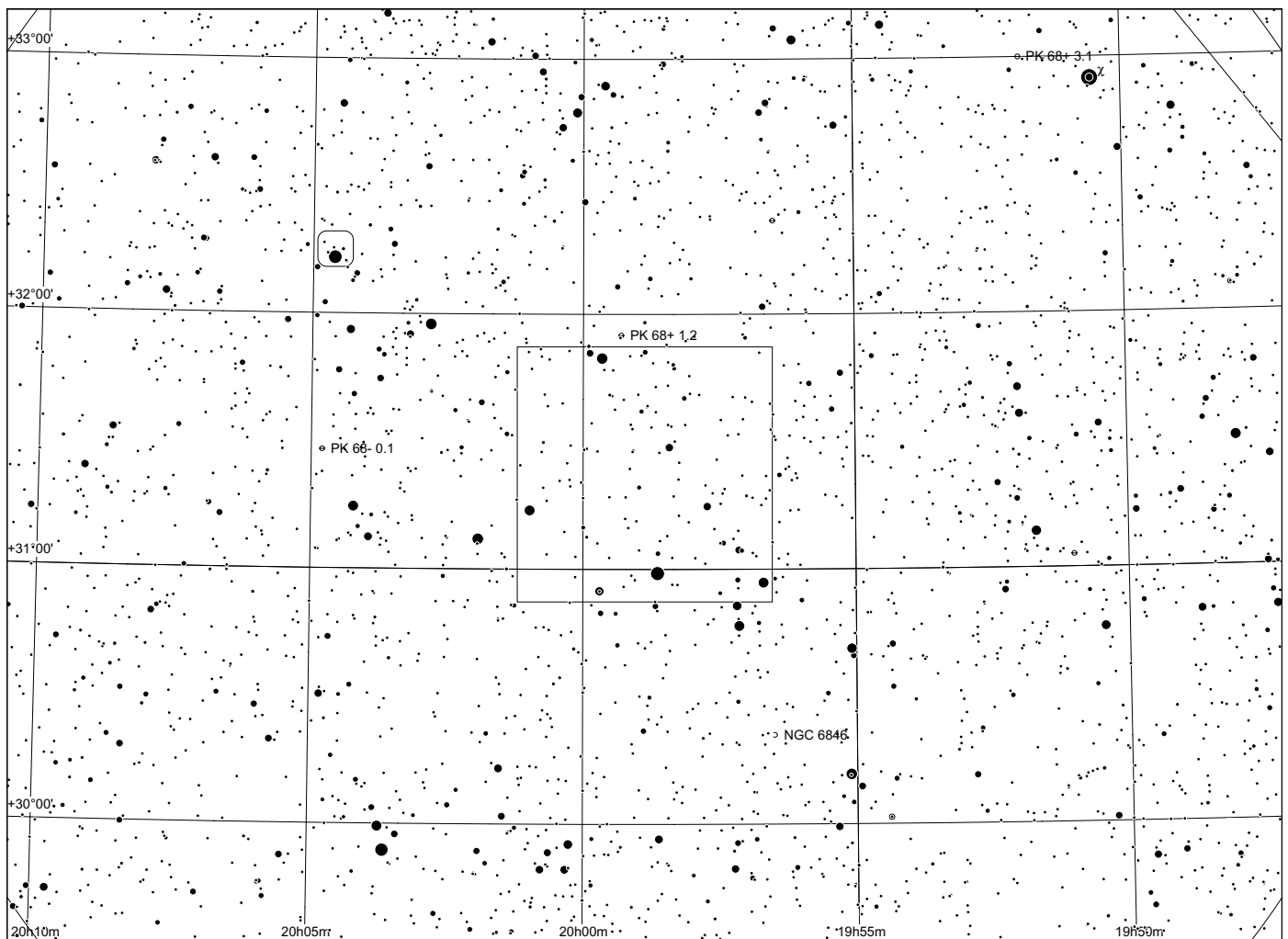
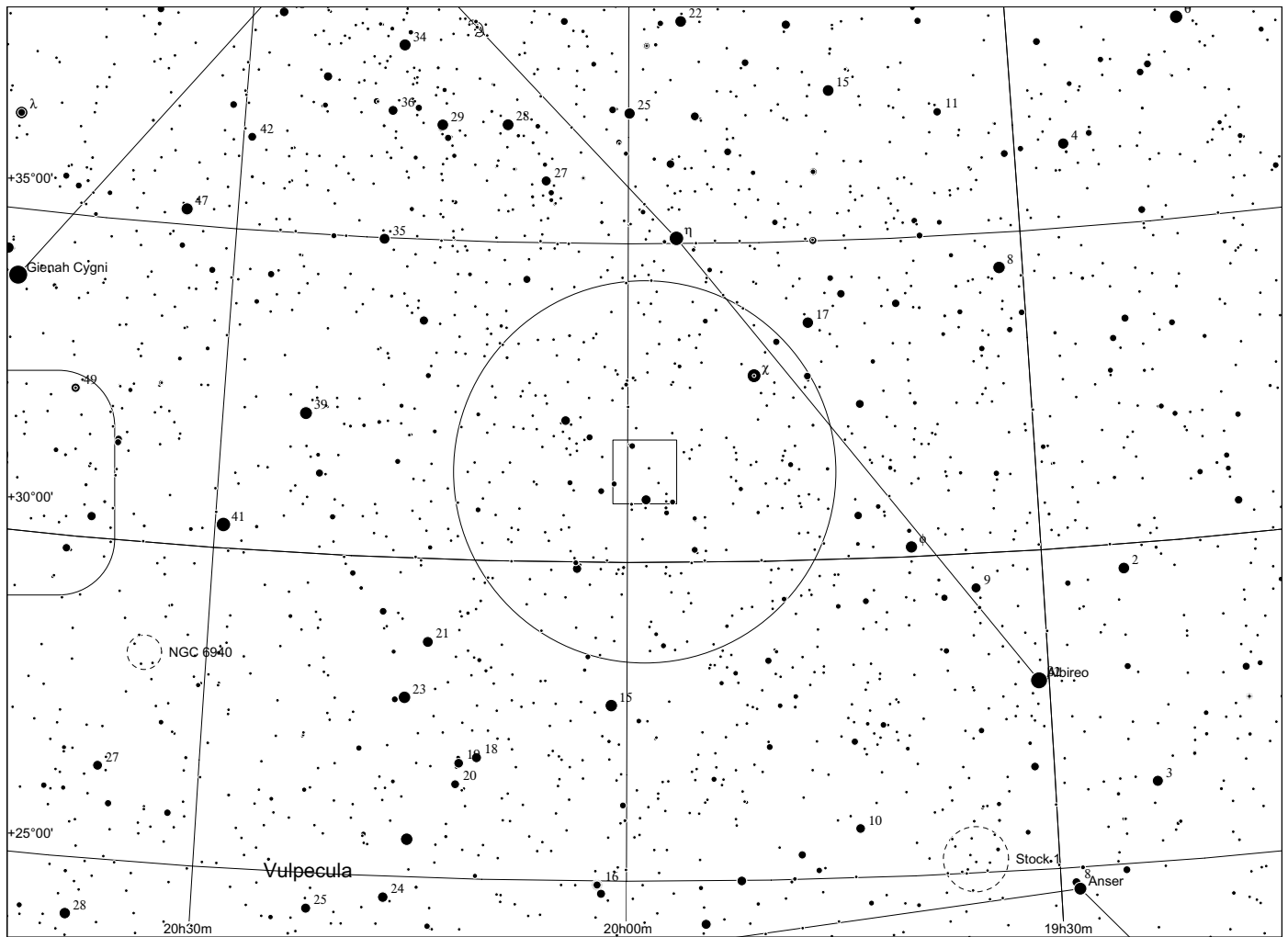
Distance: 3600 pc, Size: 15.7 pc, Source: 2003A&A...397..133R

This is a ring nebula associated with a 3000 solar mass molecular cloud and the Wolf-Rayet star WR 130.

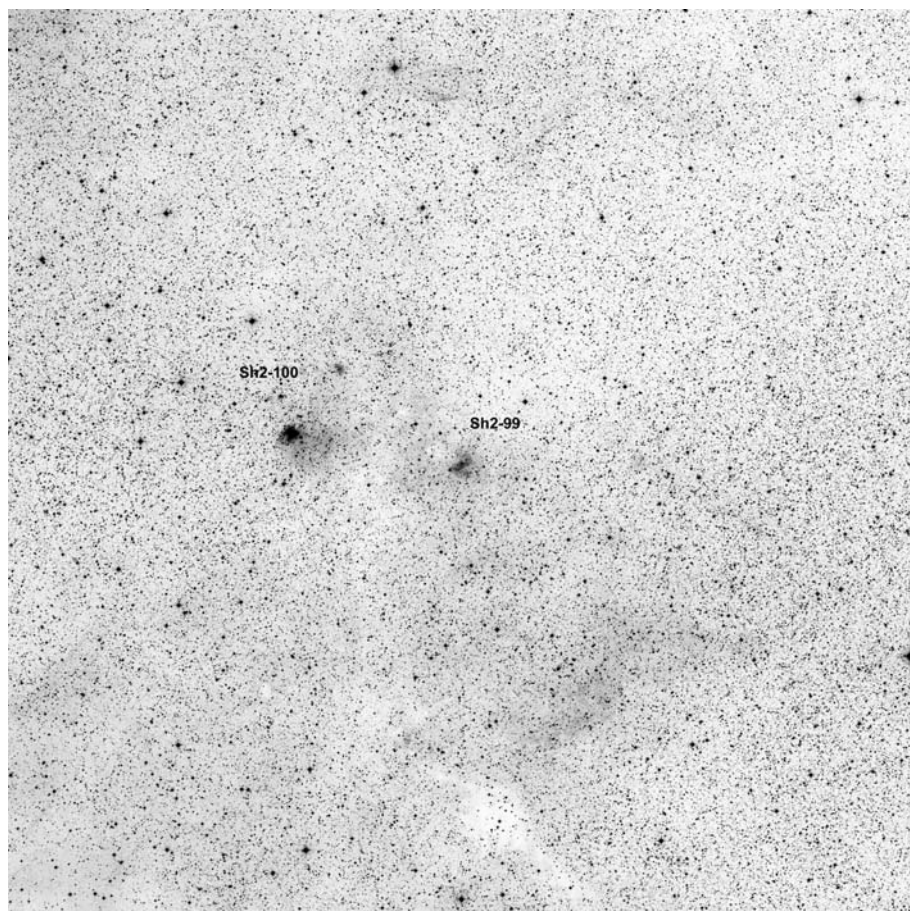
Observing notes:

22" f/4.5

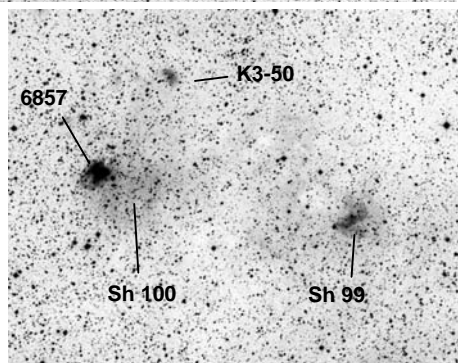
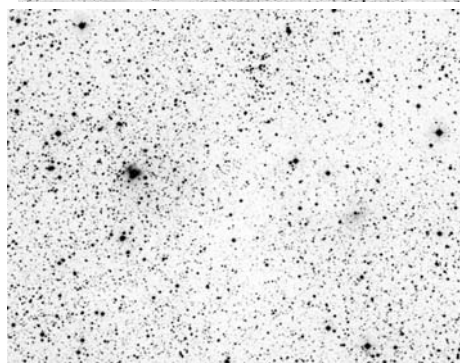
09/2008: Unsuccessful.



Sh 2 - 99/100 in Cygnus



60x60, red



POSS blue

POSS red

RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-099		20 00 50.5	+33 29 34	5	3	2	3
Sh 2-100	NGC6857	20 01 50.6	+33 30 41	4	3	2	3

Distance: 8000 pc, Size: 11.6 pc, Source: 1982ApJS...49..183B, This HII region is part of the W58 radio complex.

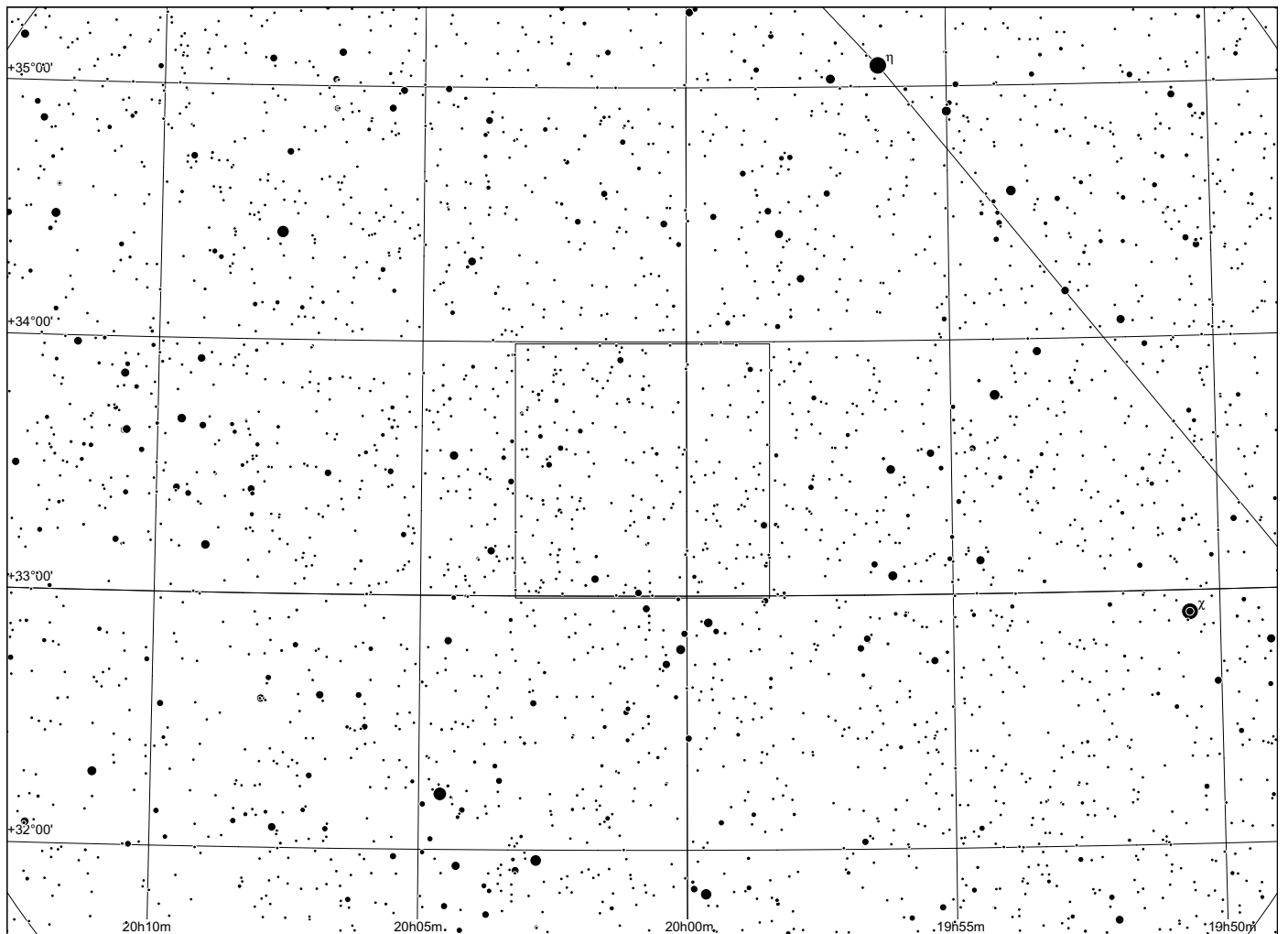
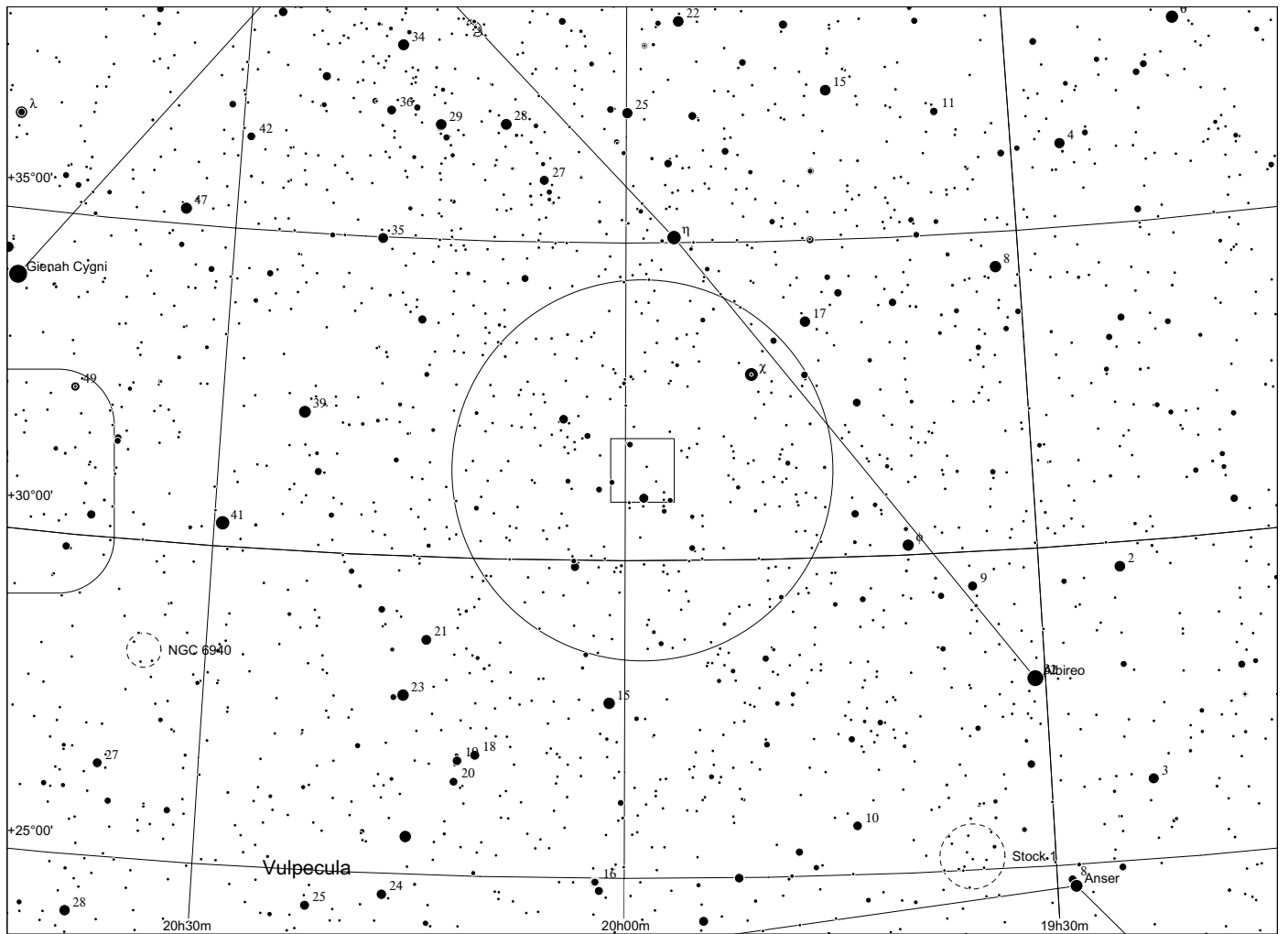
Distance: 7784 pc, Size: 6.1 pc, Source: 2003A&A...397..213P, Sh 2-100 is part of the star formation region W58.

Sh 2-100 itself consists of two distinct nebulae - K3-50 (W58A) and NGC 6857.

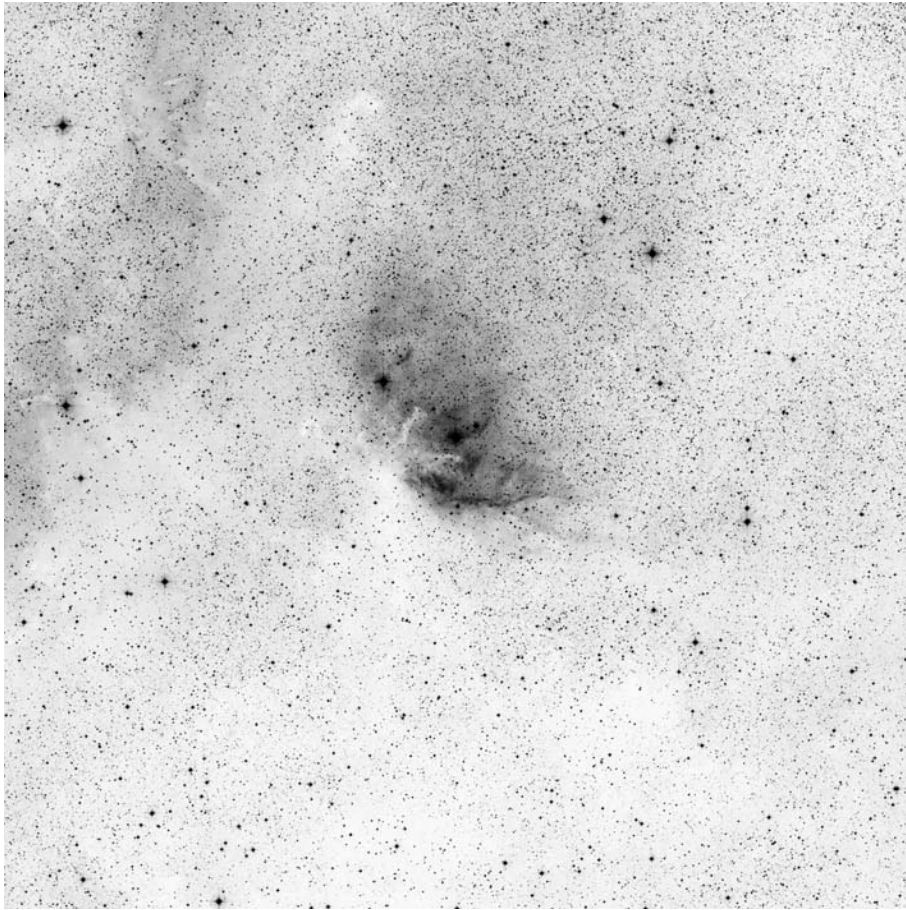
Observing notes:

14" f/5 and 22" f/4.5

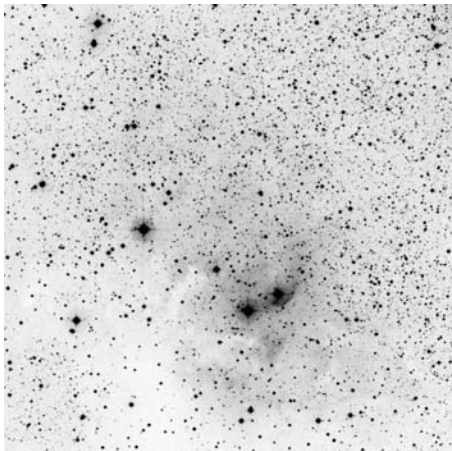
NGC 6857 at the core of Sh 100 is very small and bright. UHC > OIII. Extremely faint extension toward SW suspected. K3-50 could not be seen. Sh 99 very small and extremely faint patch.



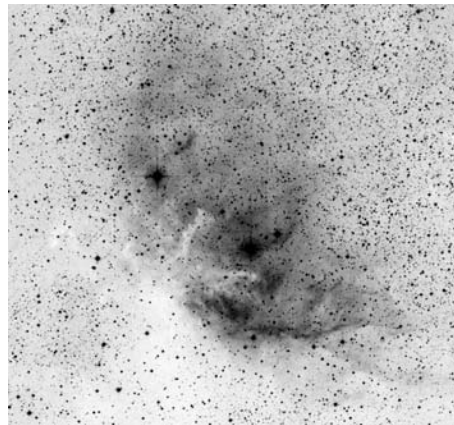
Sh 2 - 101 in Cygnus



60x60, red



POSS blue



POSS red



nb Ha/OIII/Hell Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-101		19 59 56.8	+35 17 27	20	3	2	2

Distance: 2683 pc, Size: 2.7 pc, Source: 2003A&A...397..213P

The exciting star for the Tulip nebula is believed to be the O6.5III star HD 227018, which Humphreys places in the Cygnus OB3 association.

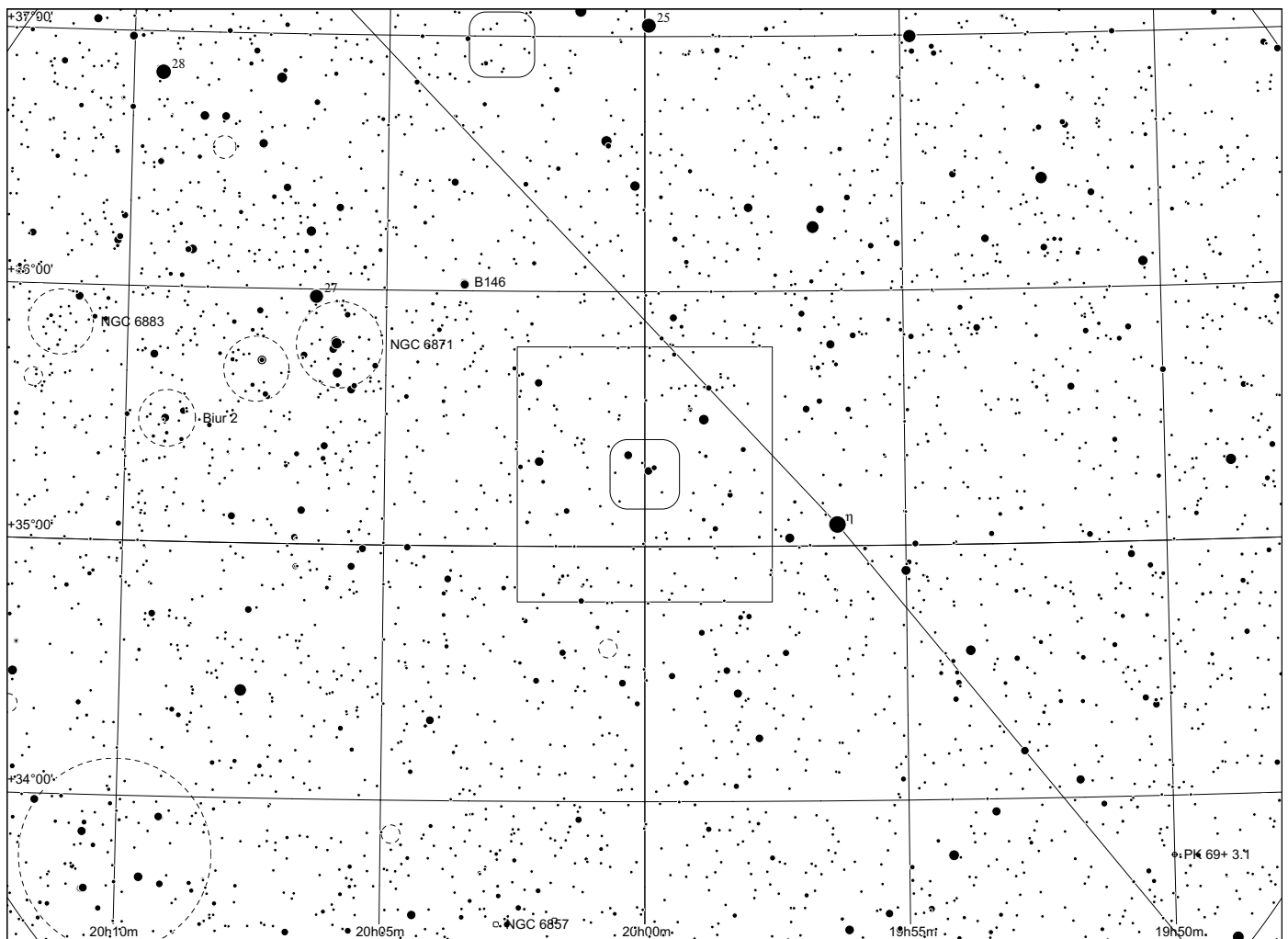
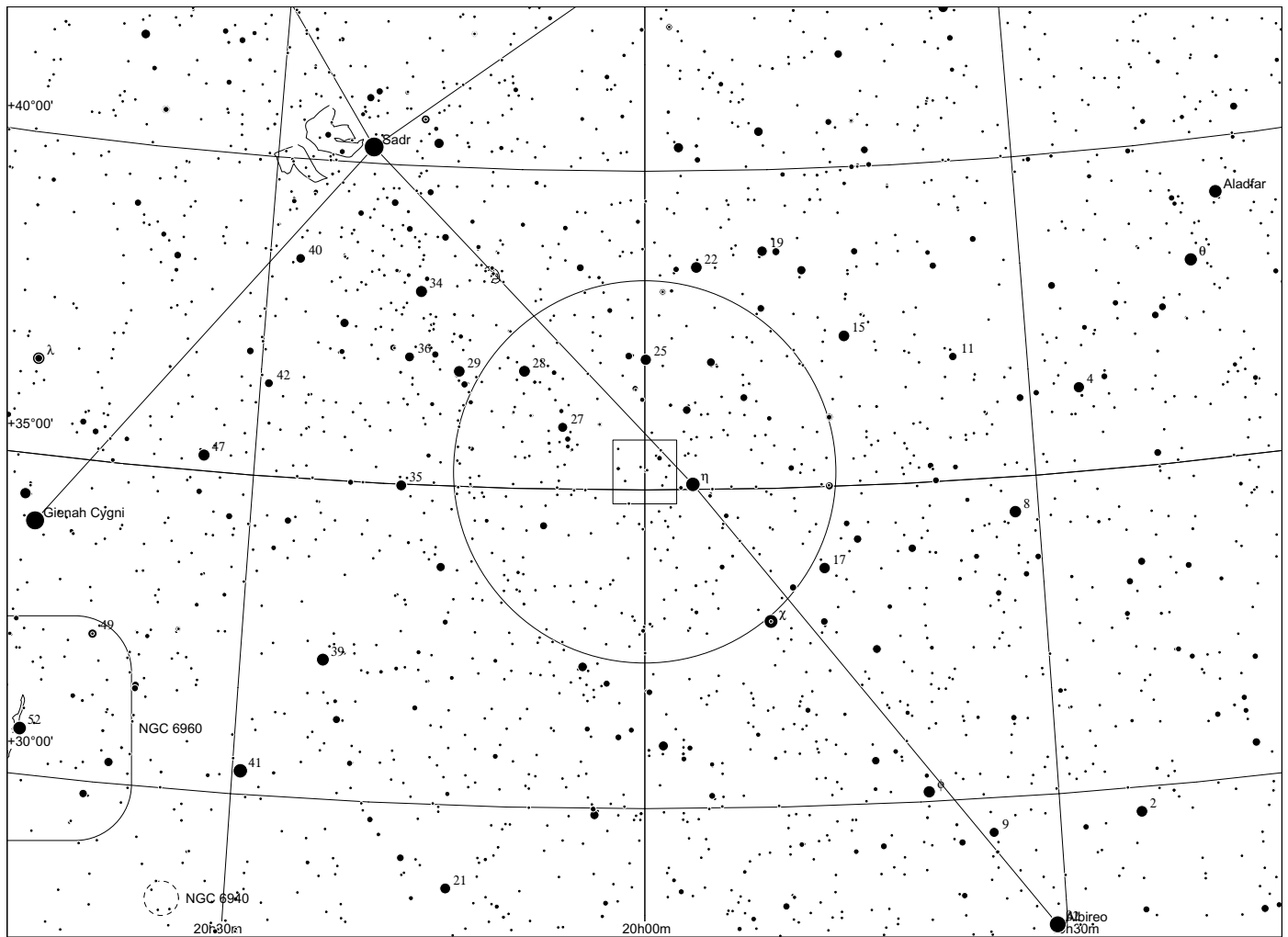
Observing notes:

14" f/5

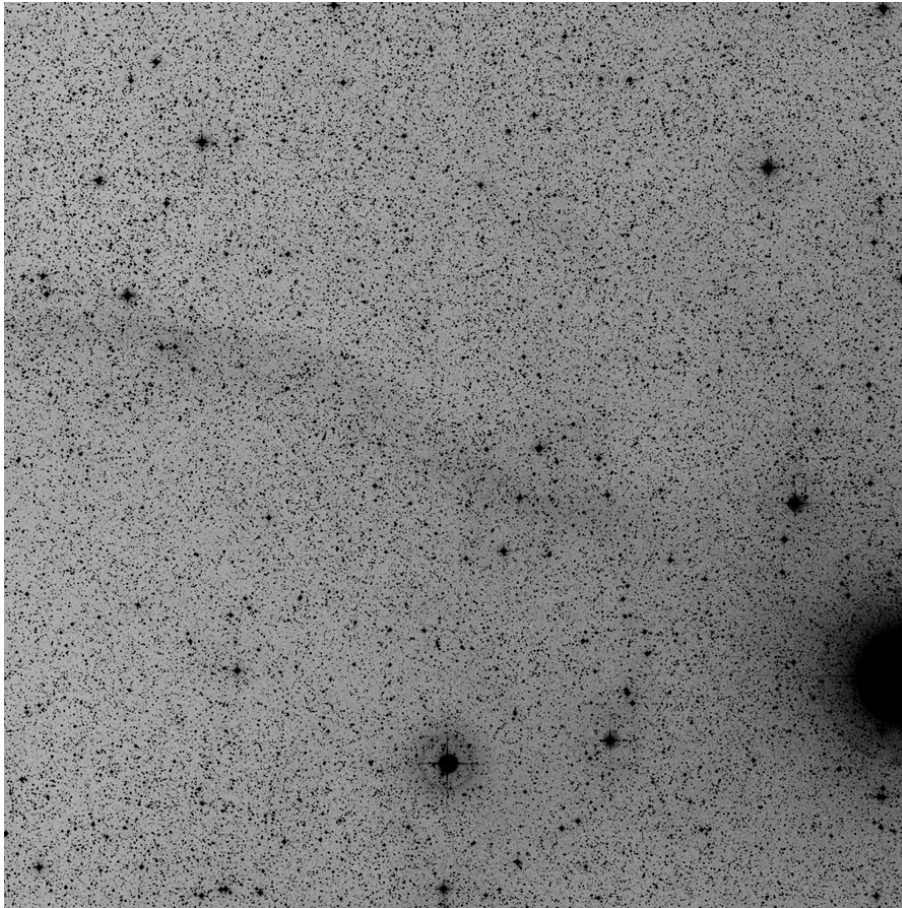
10/2005 and later on: relatively large faint glow around to bright stars, response to UHC is better than to OIII. Considerably less spectacular than on photographs.

22" f/4.5

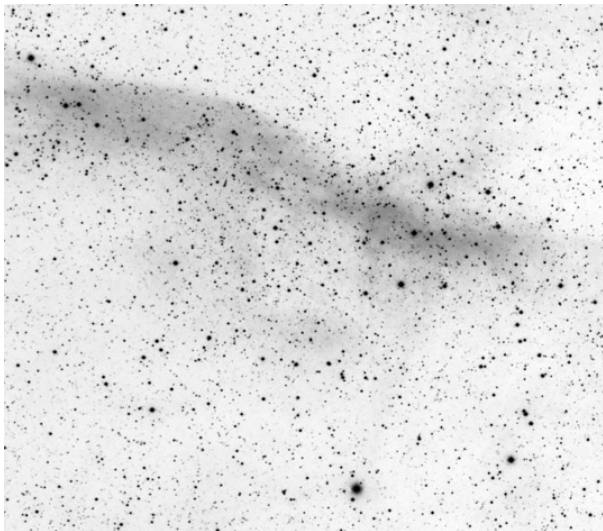
08/2012: With H beta, a structured nebula extends from the two closer and the single star towards NW as a fairly distinct glow. Dark notch from SE.



Sh 2 - 102 in Cygnus



60x60, red



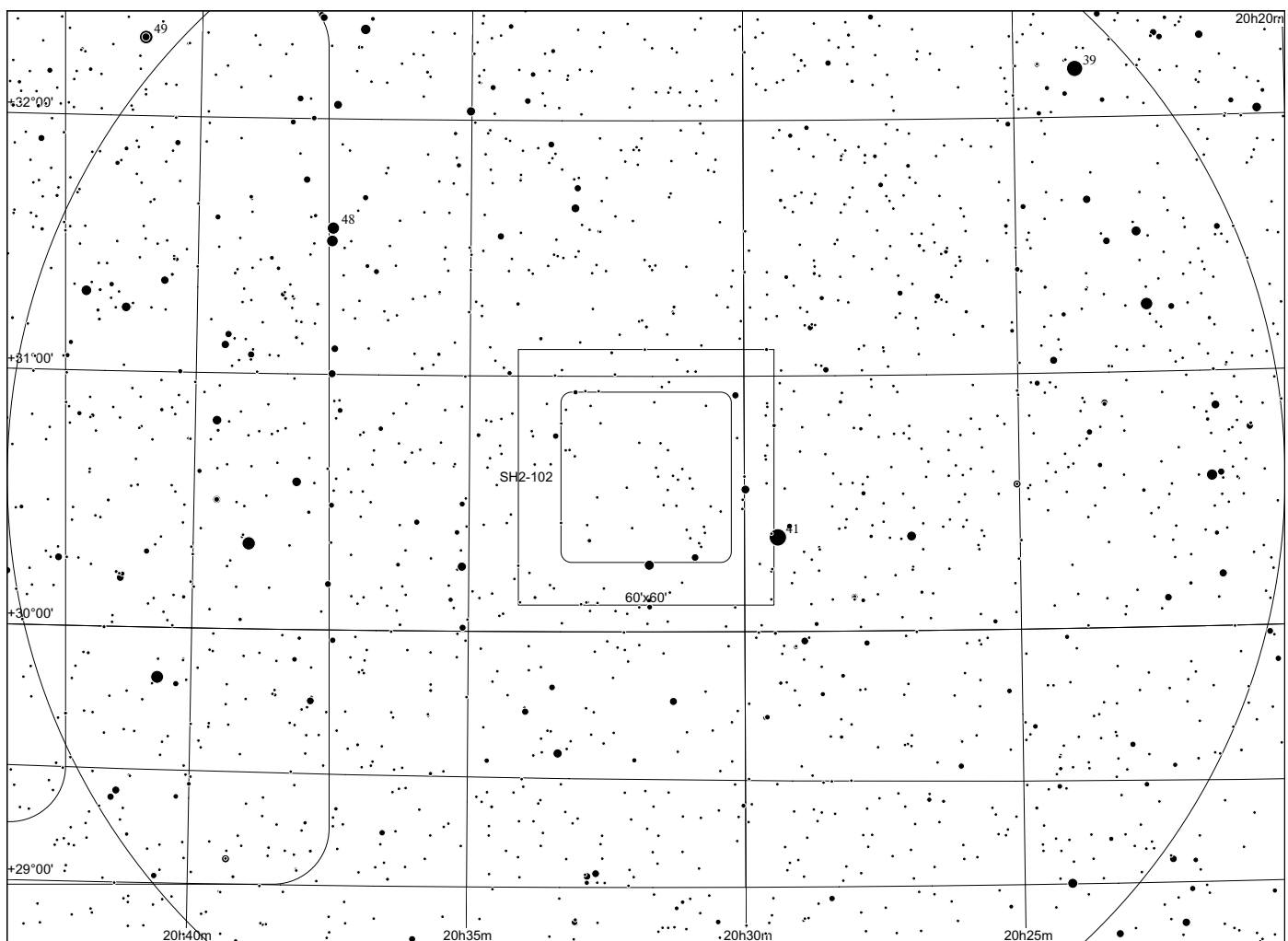
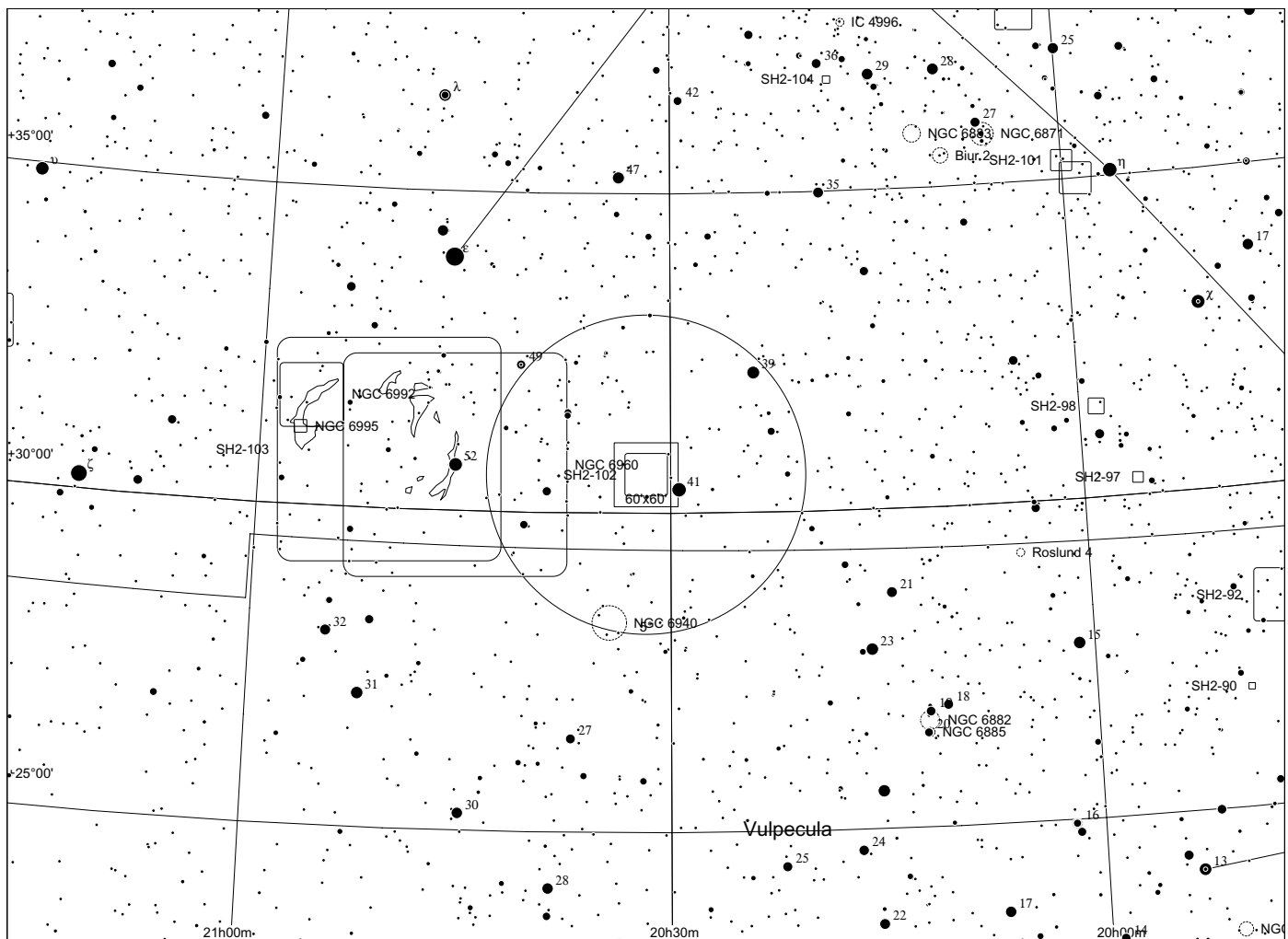
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-102		20 31 46.6	+30 36 19	40	3	1	1

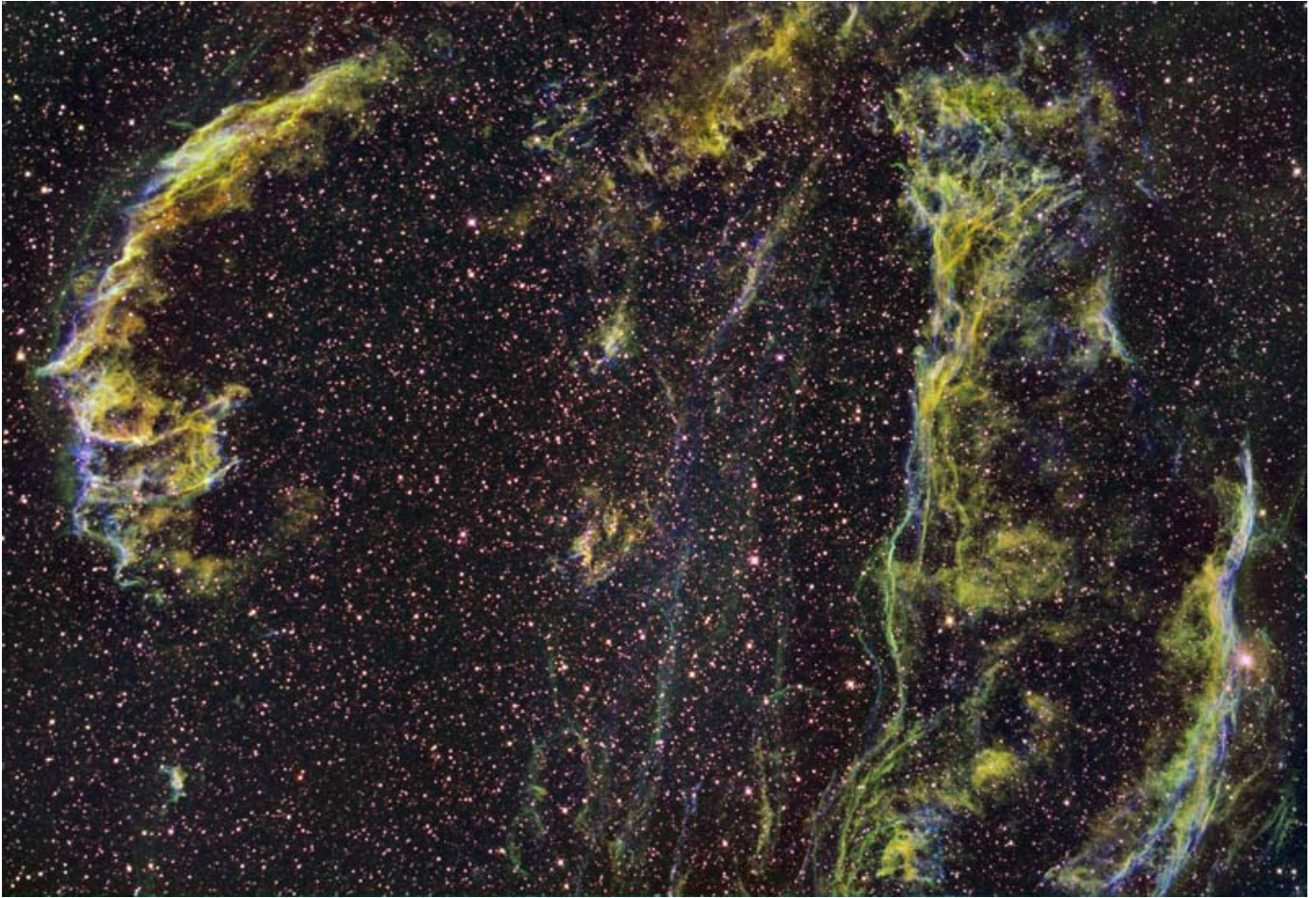
Observing notes:

22" f/4.5

08/2012: Appears with H beta as a faint long brightening. Observed with 24 mm and 32 mm (better).



Sh 2 - 103 in Cygnus



narrow band Dean Salman

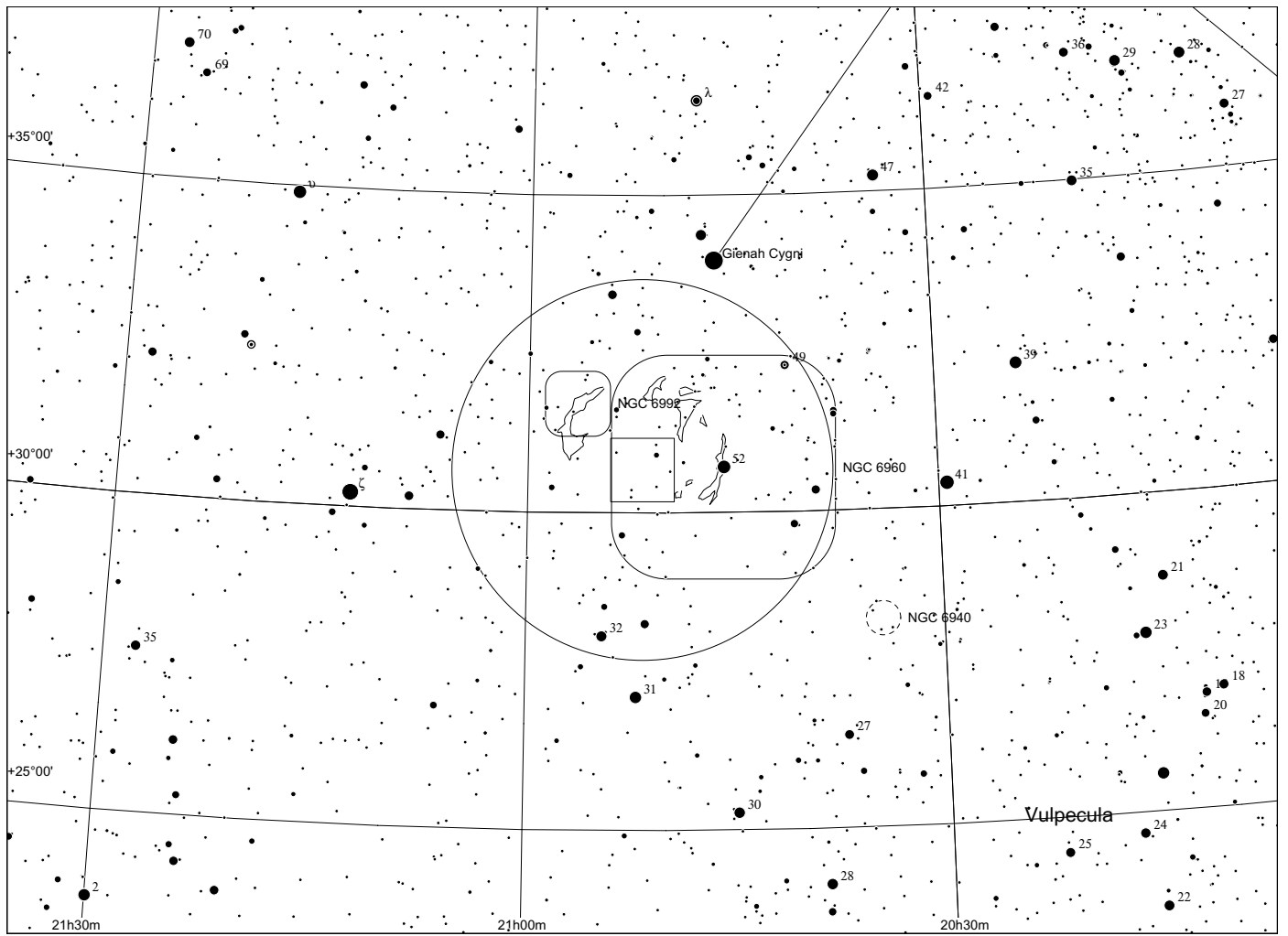
	other name	RA	dec	dia. '	F	S	B
Sh 2-103	Veil nebula	20 50 32.3	+30 55 25	210	3	3	3

Distance: 440 pc, Size: 26.9 pc, Source: 2004MNRAS.351..385L

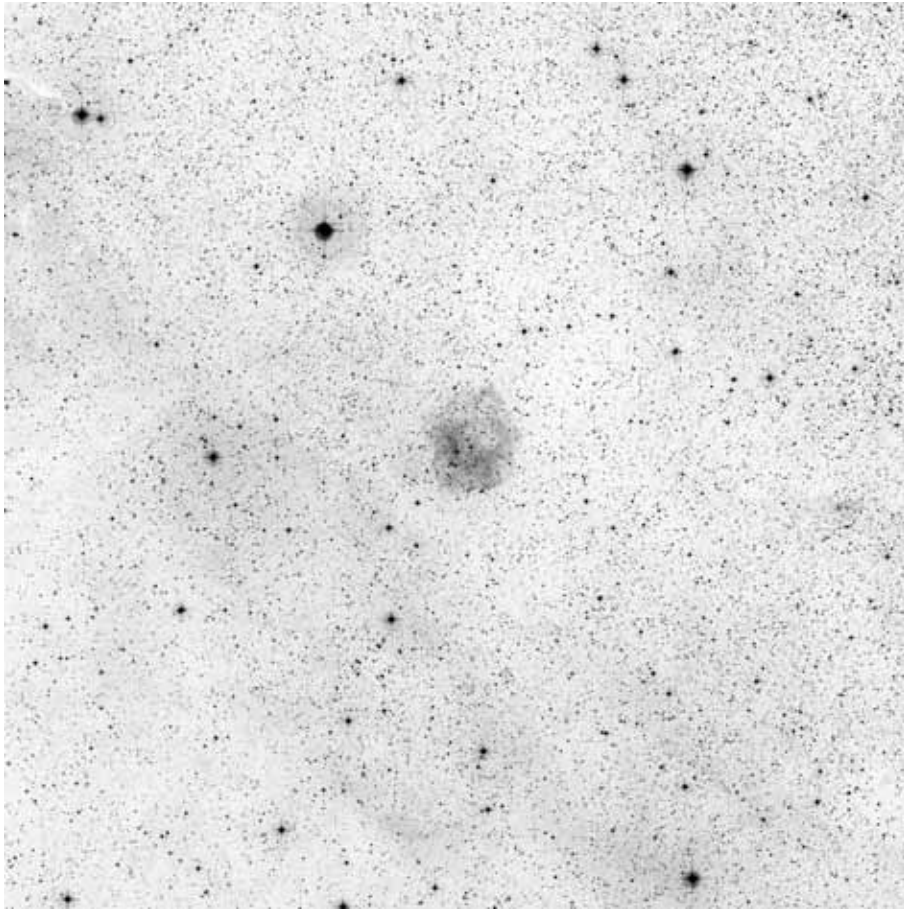
This is the Cygnus Loop supernova remnant.

Observing notes:

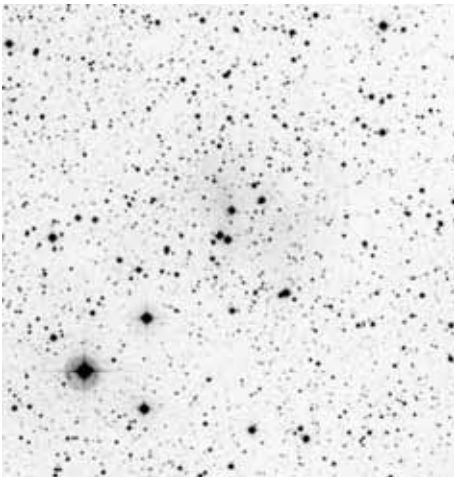
Can be observed already in 10x50 binoculars w/o filters. Becomes more prominent with UHC or OIII. Responds extremely well to OIII filter. One of the most spectacular objects in the summer sky. Don't miss the Southern loop extending SE of the witch's broom.



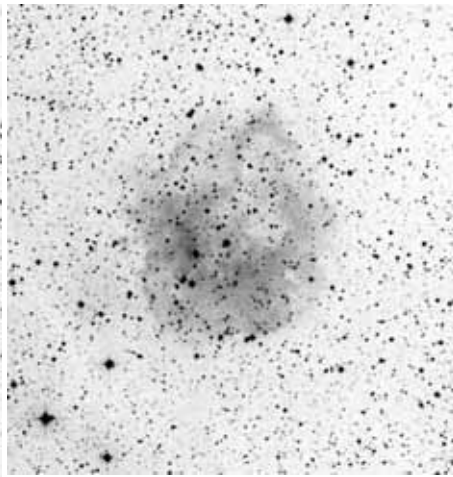
Sh 2 - 104 in Cygnus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-104		20 17 44.6	+36 44 40	7	1	2	2

Distance: 4400 pc, Size: 9.0 pc, Source: 1982ApJS...49..183B

About 450 solar masses of gas form a shell around the ionising O6V star in this HII region located in the outer galaxy.

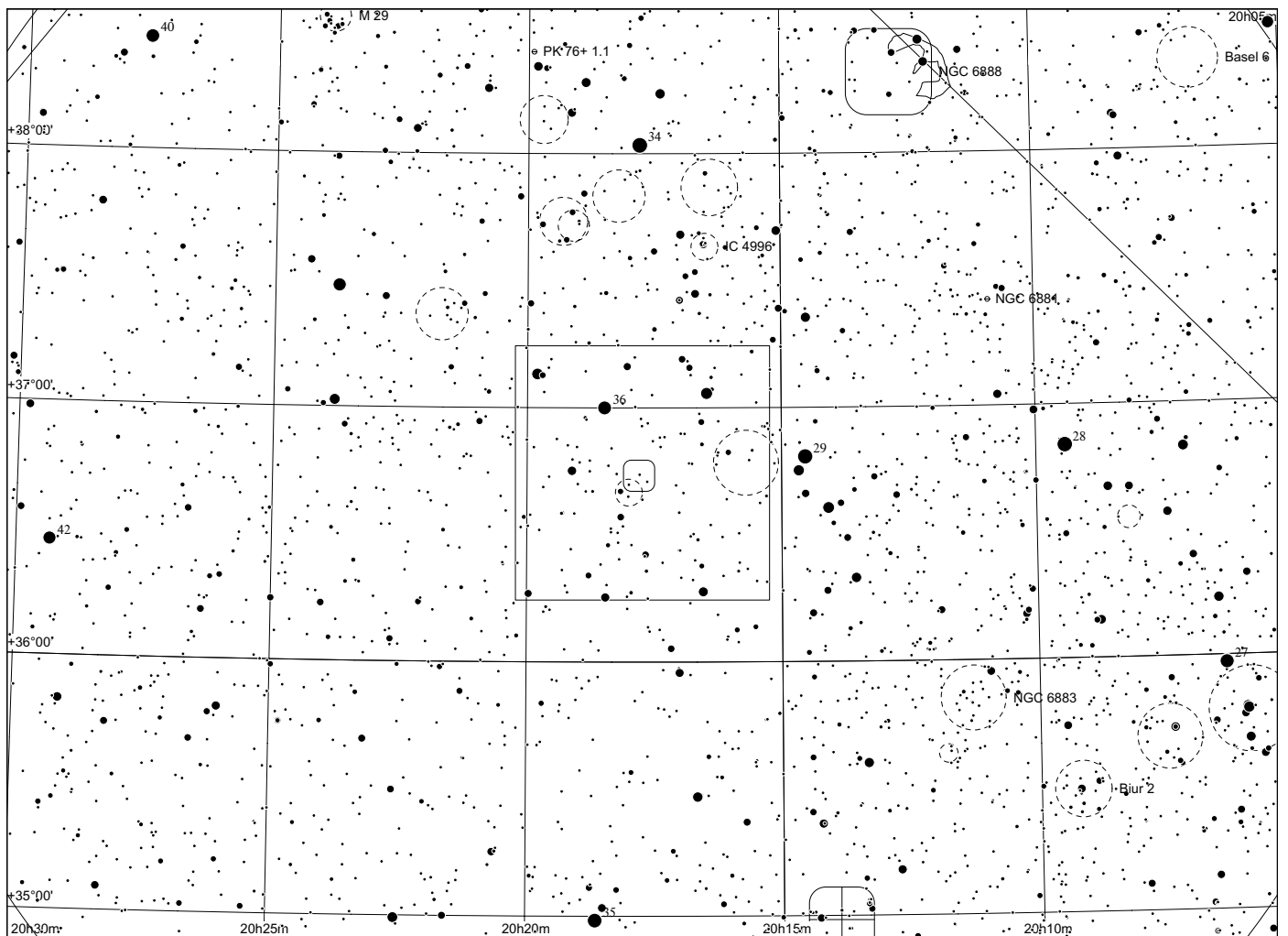
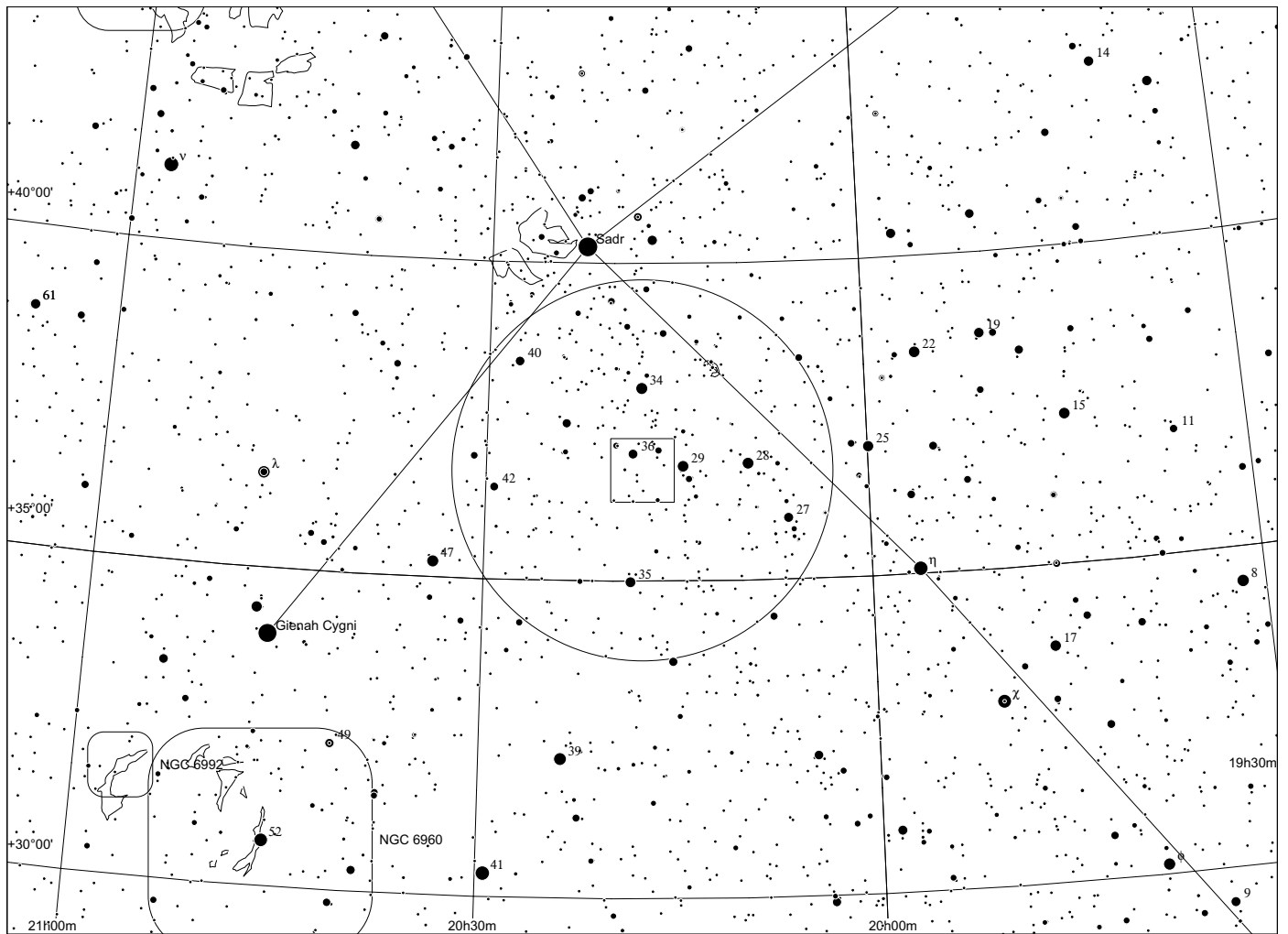
Observing notes:

14" f/5

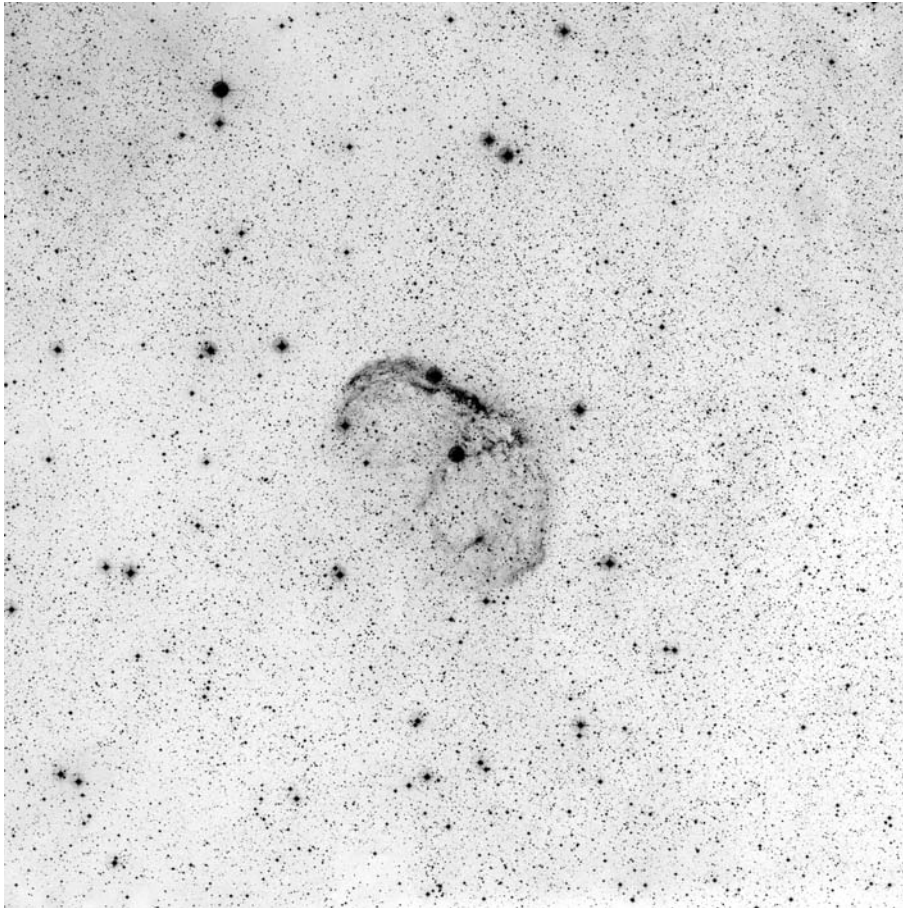
10/2005: small and faint nebula, UHC > OIII

22" f/4.5

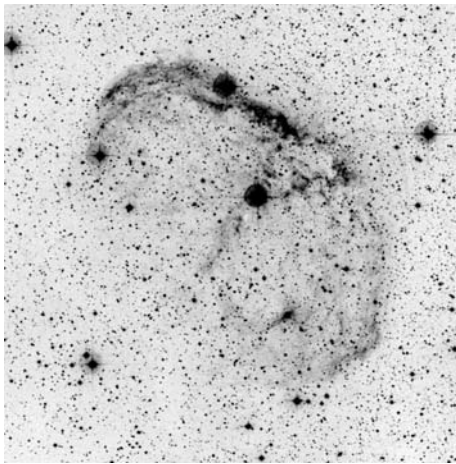
09/2011: 24mm, best with H beta, appears as a round, milky glow around three stars



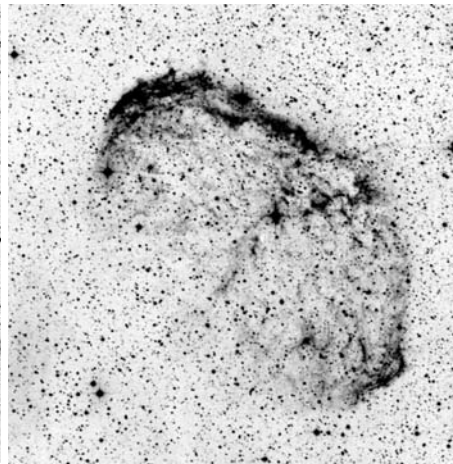
Sh 2 - 105 in Cygnus



60x60, blue



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-105	NGC<6888 = Crescent Nebula	20 12 02.4	+38 20 59	18	2	3	3

Distance: 1200 pc, Size: 6.3 pc, Source: 1982ApJS...49..183B

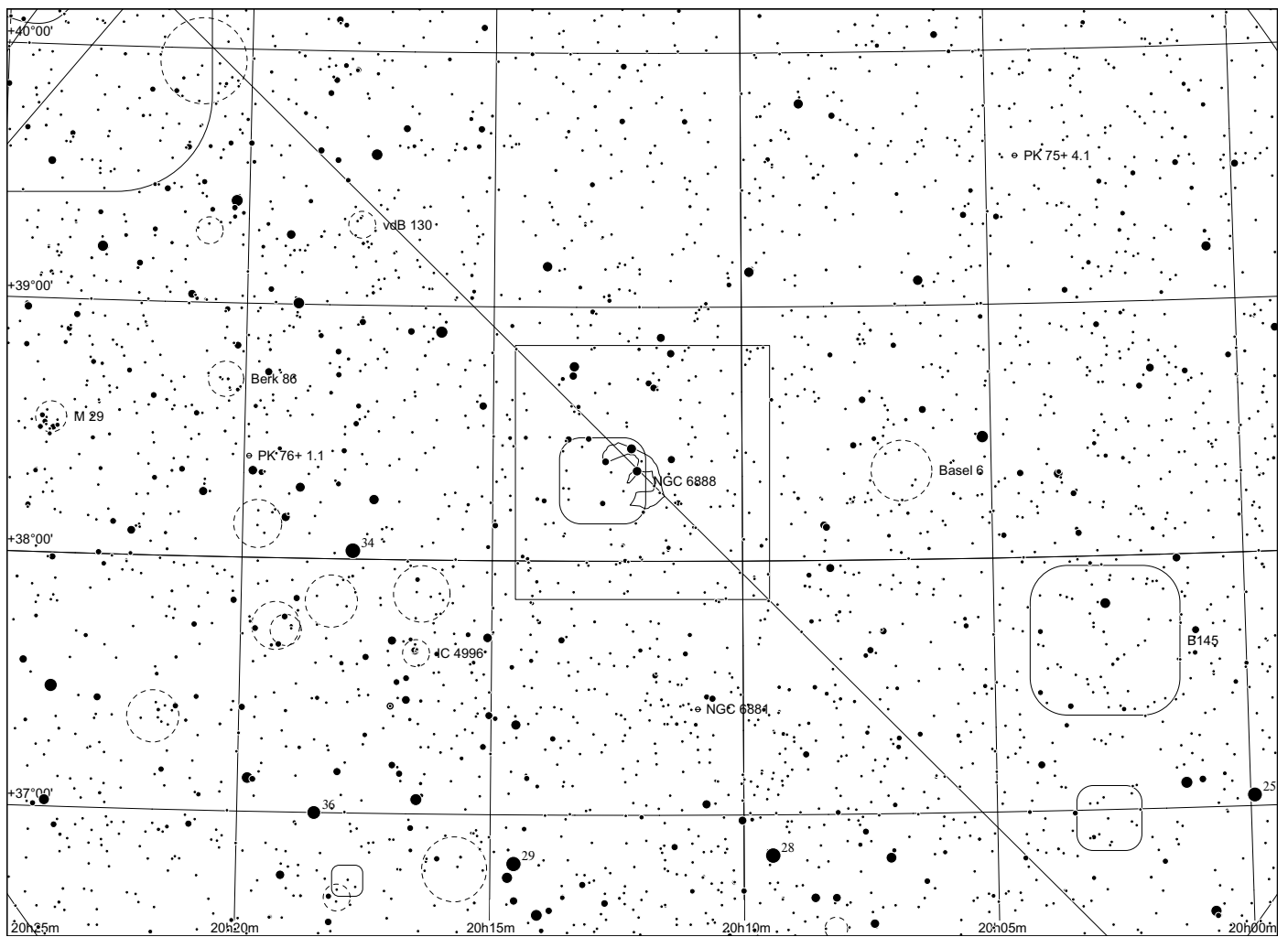
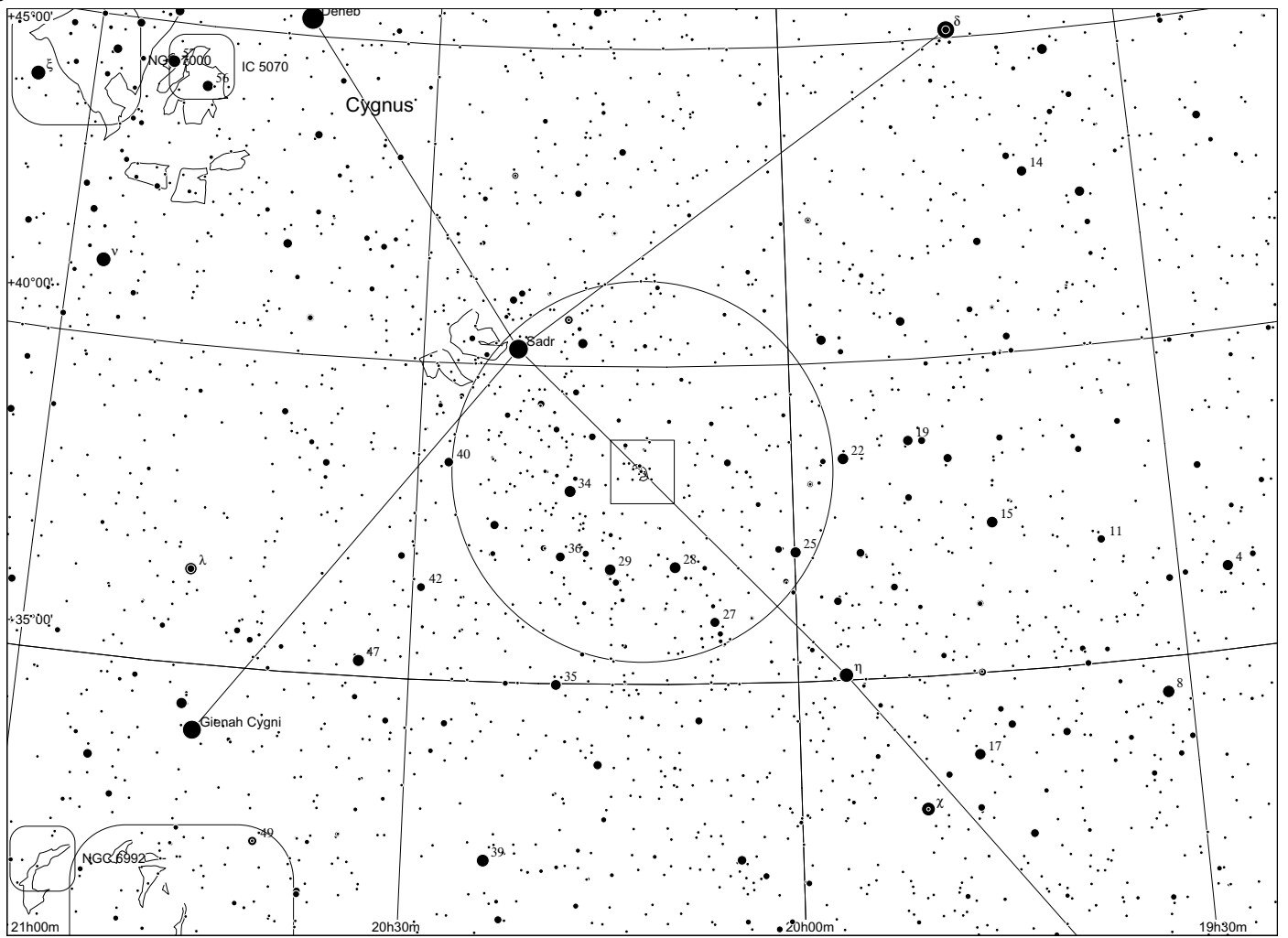
NGC 6888, the Crescent nebula, is a ring nebula surrounding the Wolf Rayet star WR 136.

Observing notes:

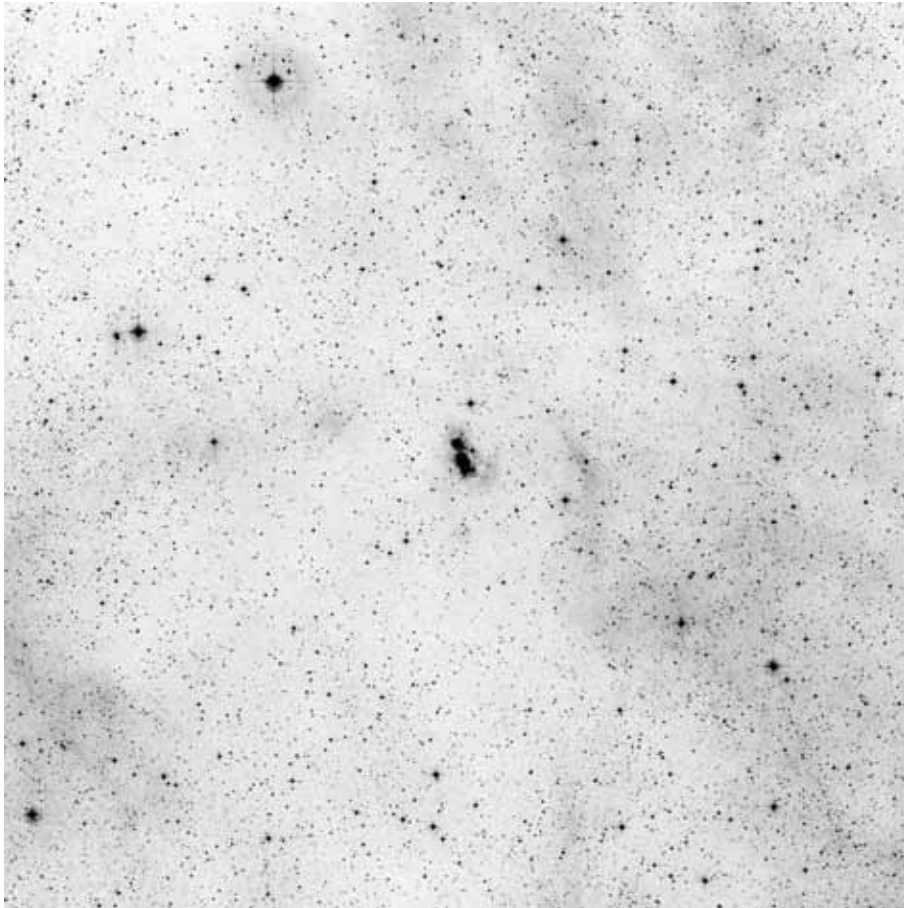
22" f/4.5

best response to OIII, but also visible w/o filter. Spectacular WR shell with internal filaments.

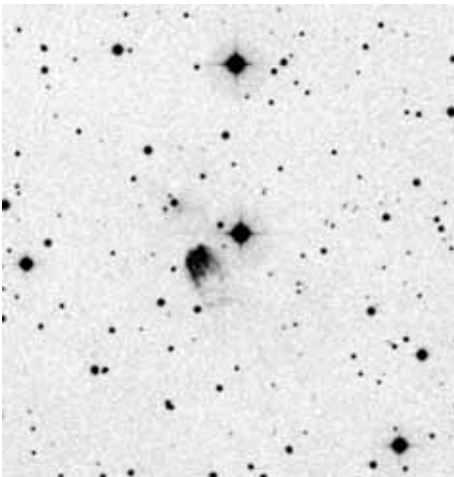
08/2012: central bar extends over central star. two patches in SW part, several knots along NW rim. Shell is closed, there is an extrusion on NW side towards star.



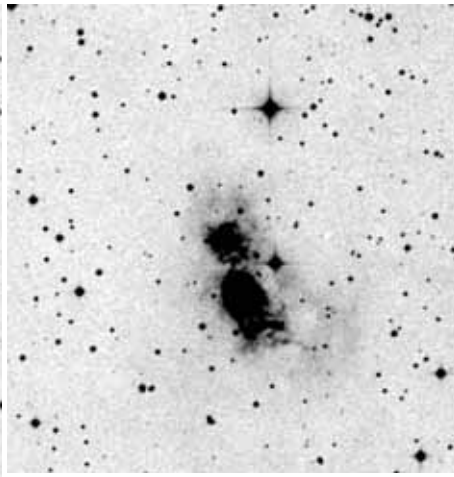
Sh 2 - 106 in Cygnus



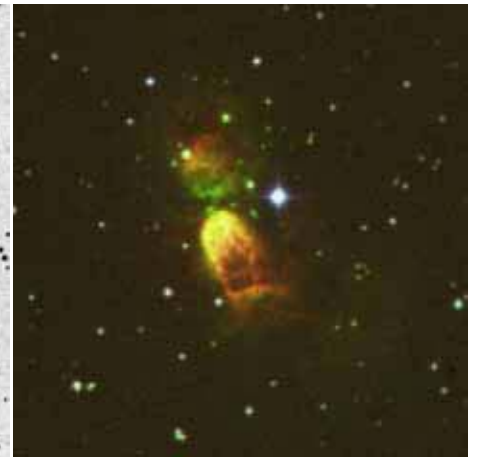
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-106		20 27 26.9	+37 23 49	3	3	2	3

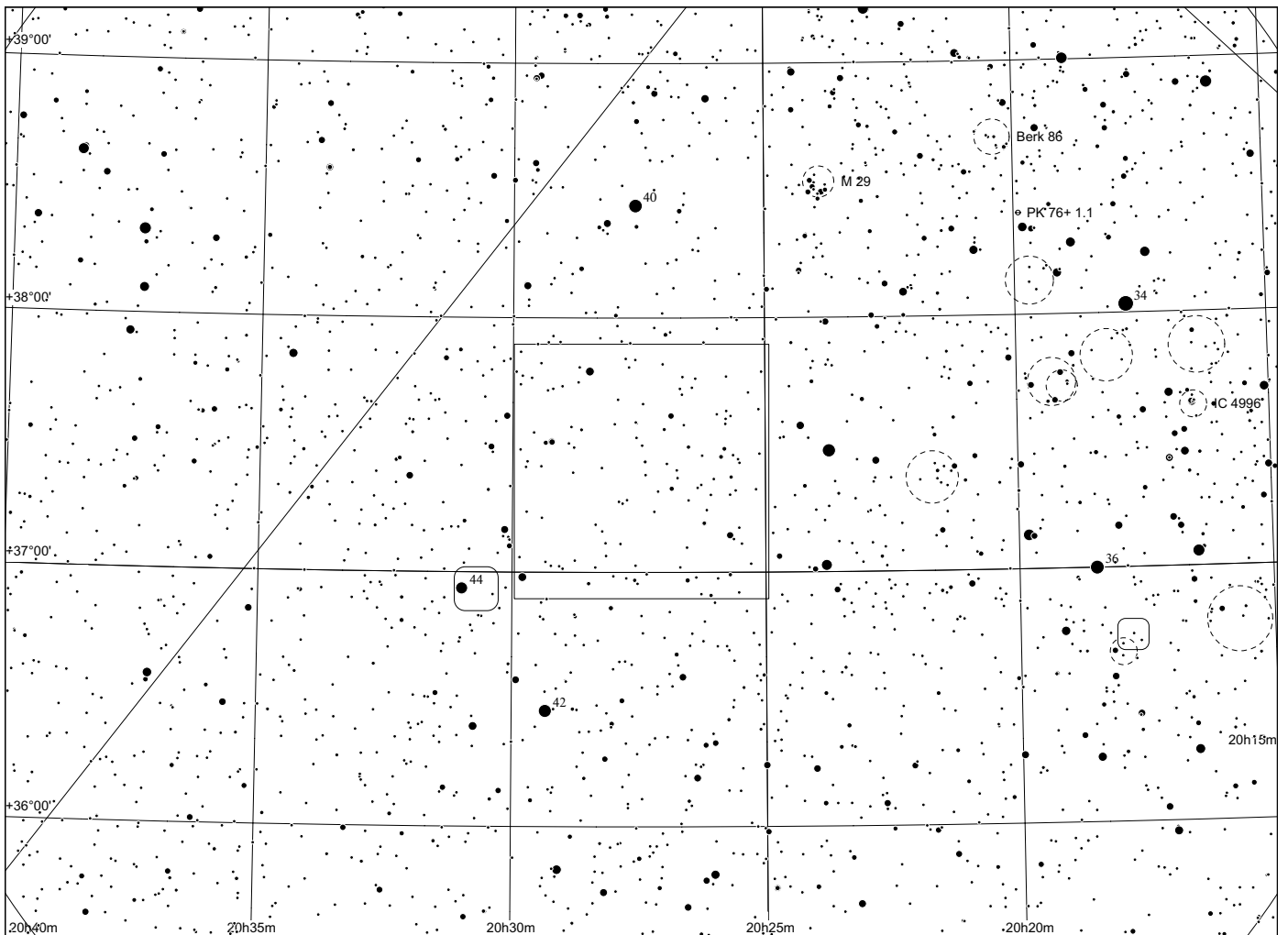
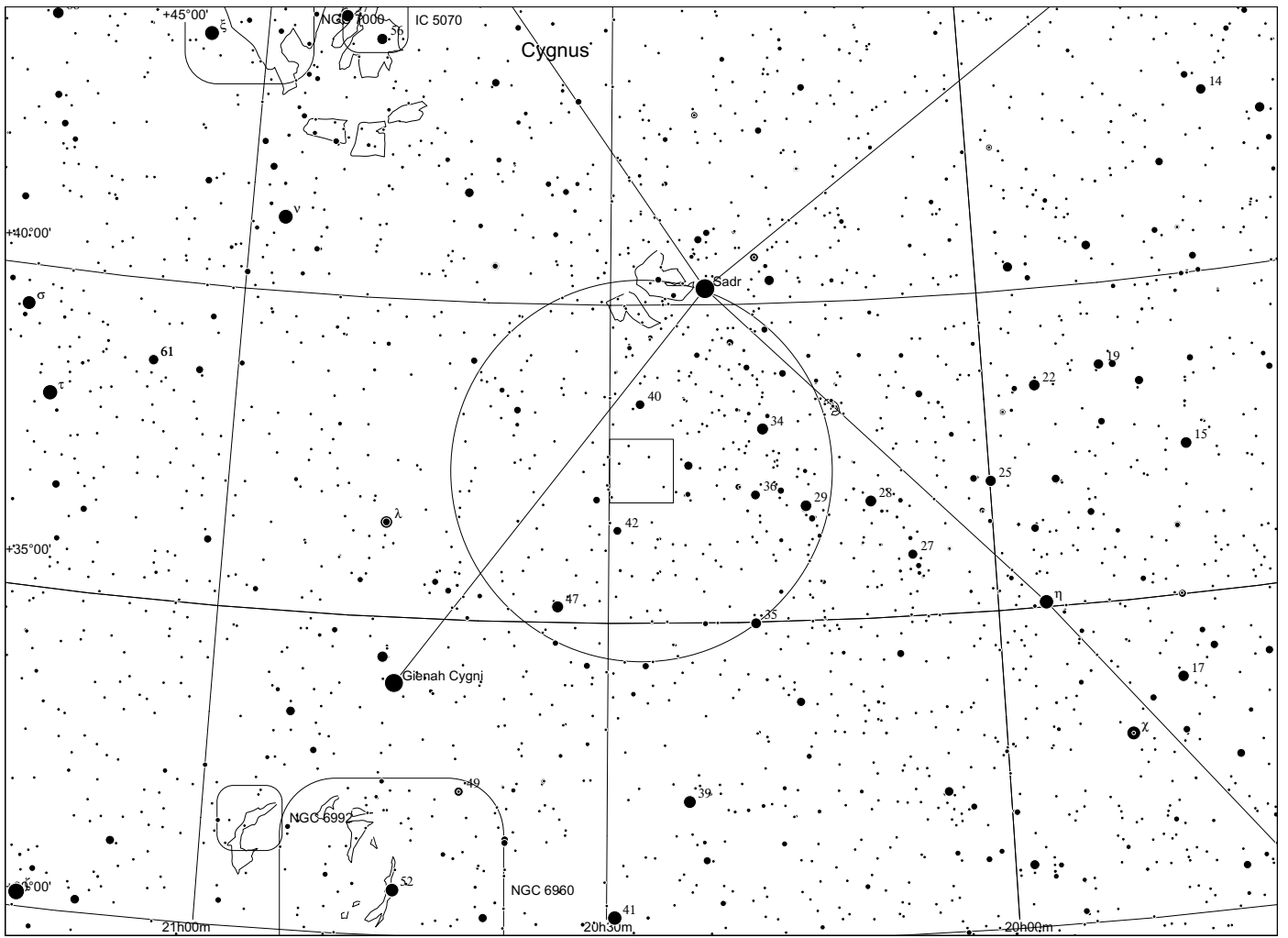
Distance: 600 pc, Size: 0.5 pc, Source: 2004A&A...424..965G

Despite its appearance, this is not a planetary nebula, but a giant molecular cloud and star formation region ionised by an O8 star, S106IR.

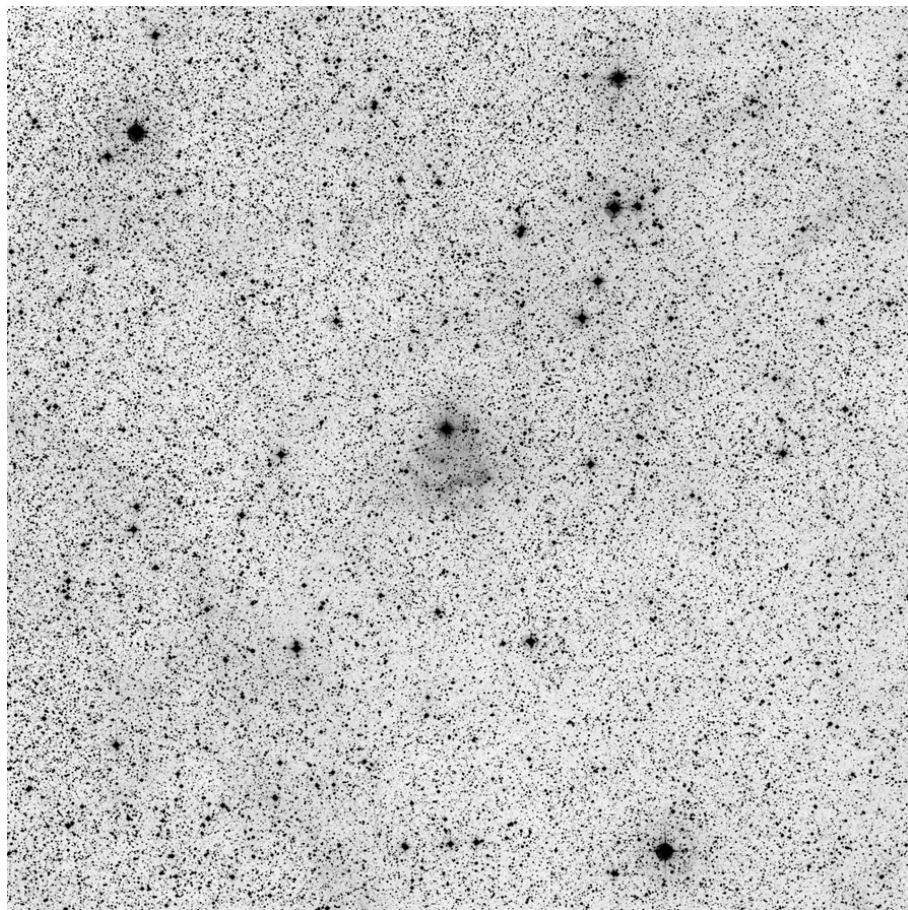
Observing notes:

22" f/4.5

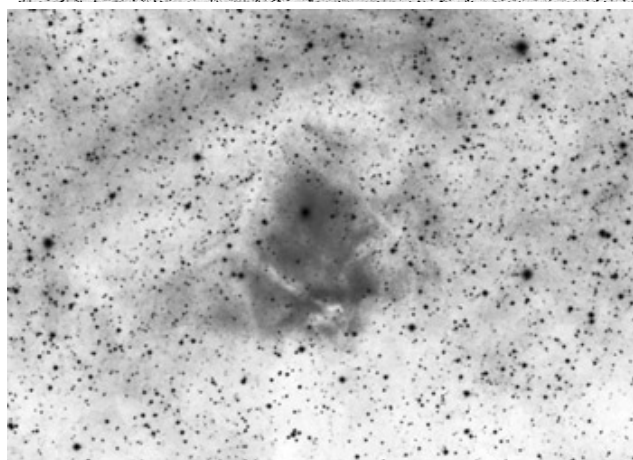
08/2010: At 350 w/o filter, can be held steadily with indirect vision as an extended faint glow, corresponding to the Southern extension. Does not respond to UHC, OIII or H beta, hence mostly a RN.



Sh 2 - 107 in Cygnus



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-107		20 42 46.4	+36 20 34	5	2	2	2

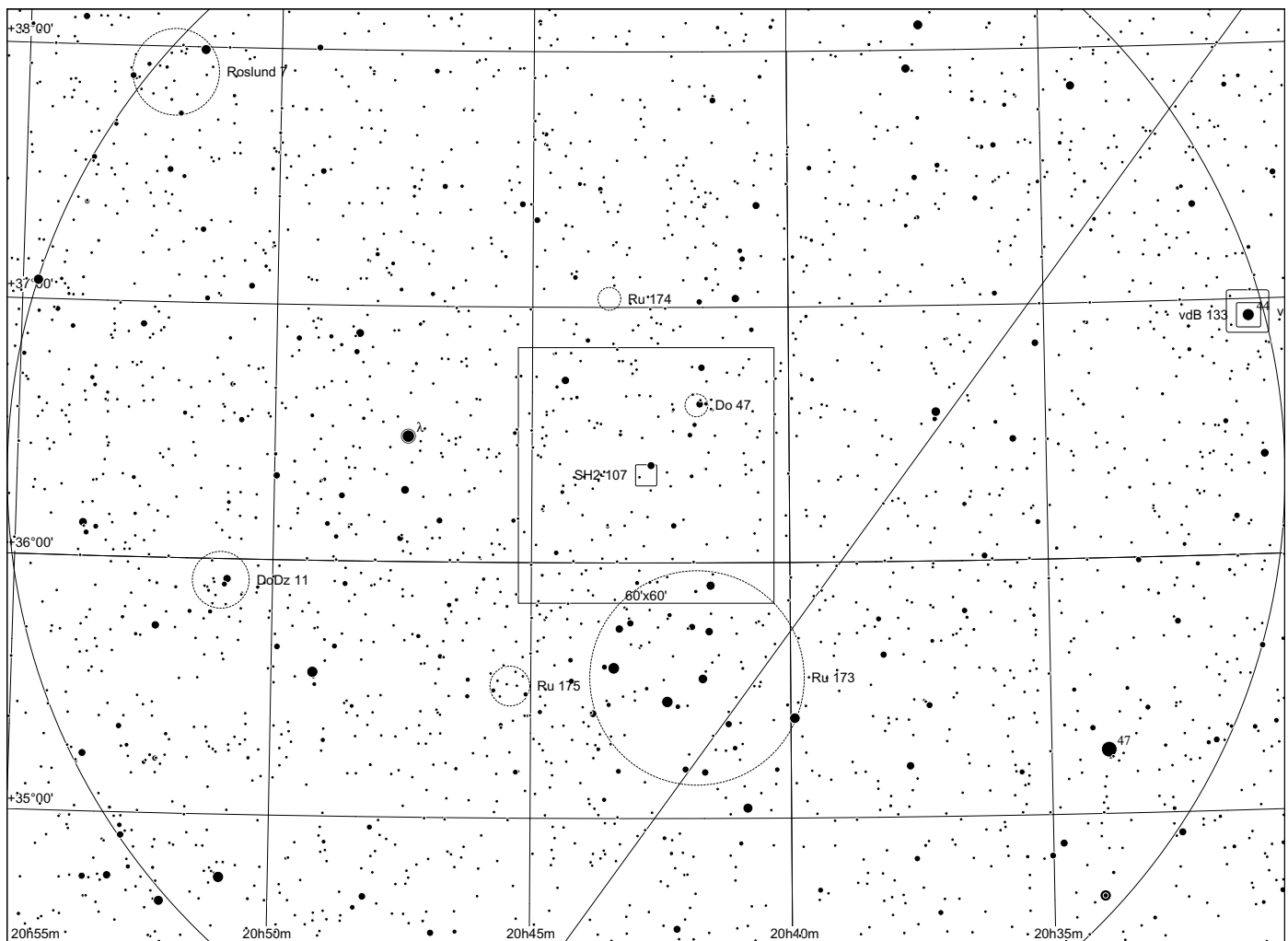
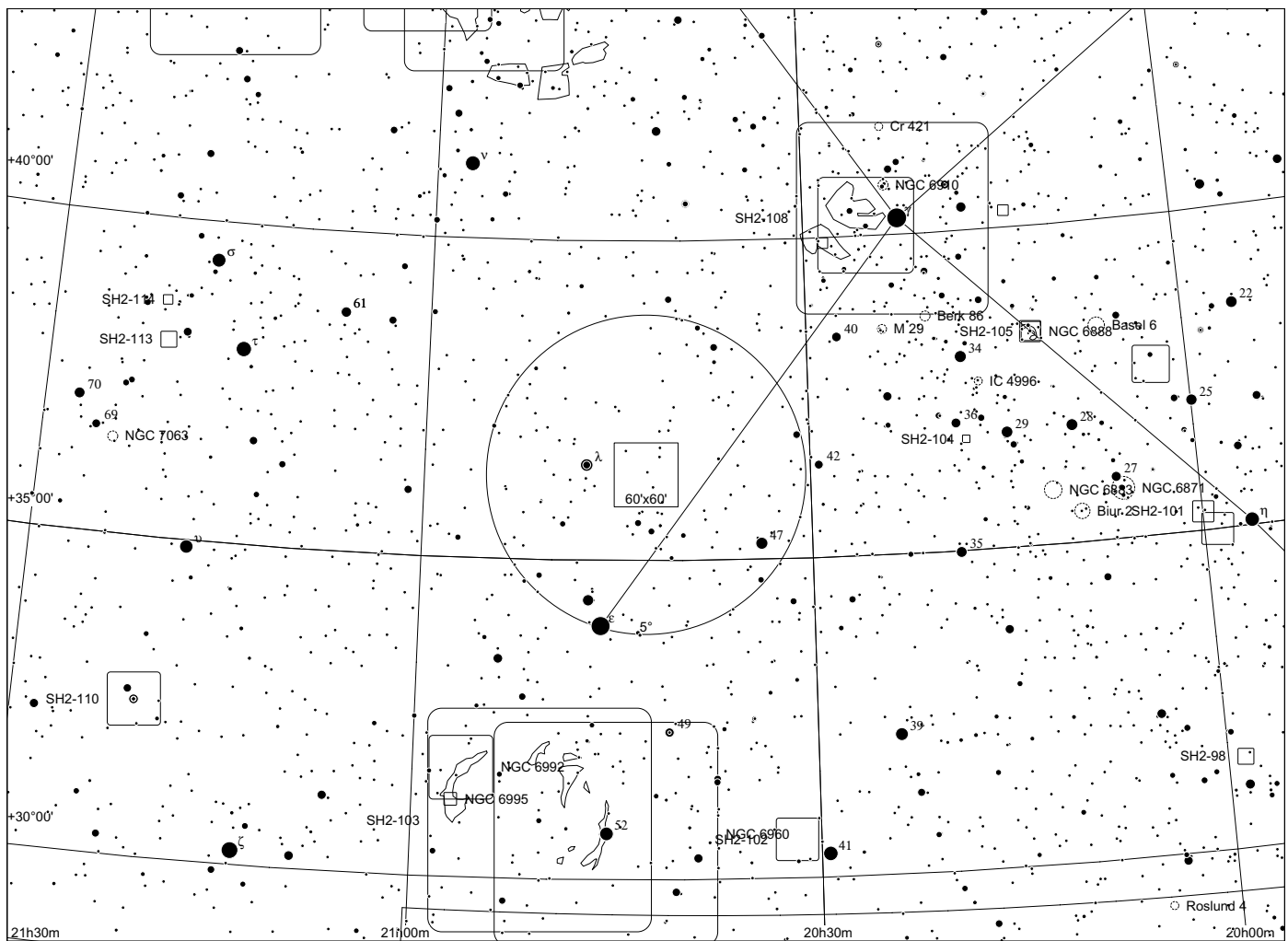
Distance: 2800 pc, Size: 4.1 pc Source: 1982ApJS...49..183B

The bright star in the foreground of this very faint nebula is the B0.5Ib class star HD 197460.

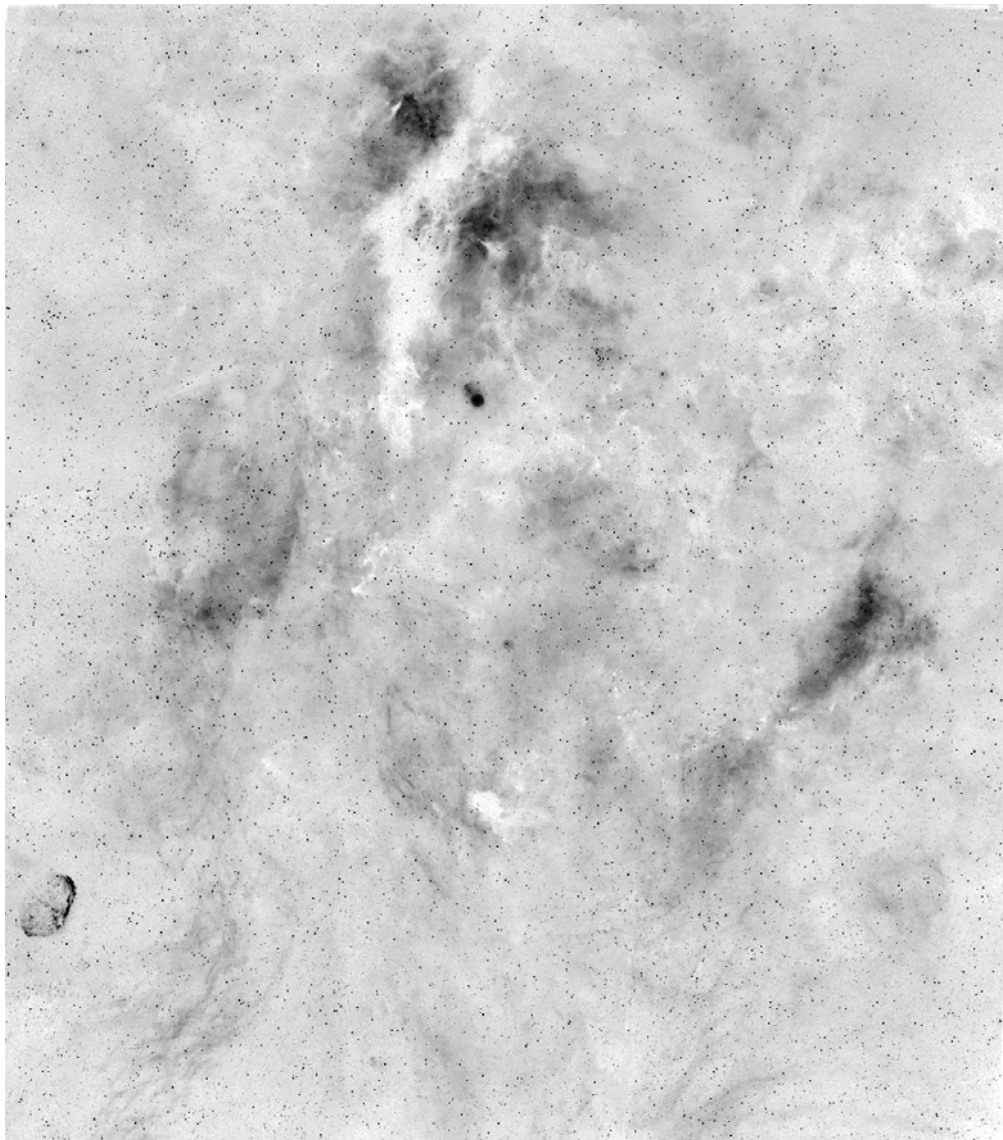
Observing notes:

22" f/4.5

08/2012: With 13mm and H beta, relatively distinct brightening around star and S of it, less distinct with 24 mm.



Sh 2 - 108 in Cygnus



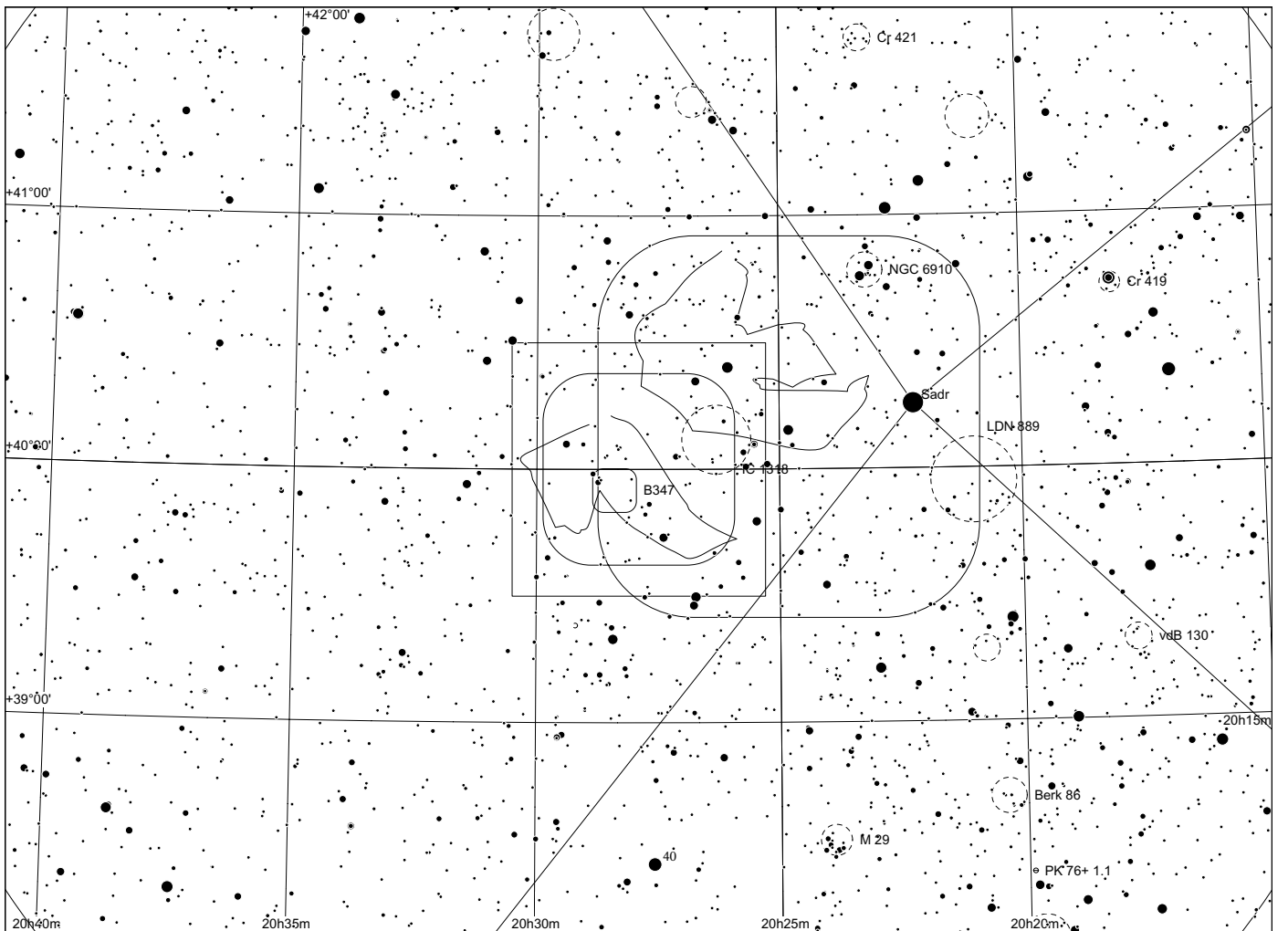
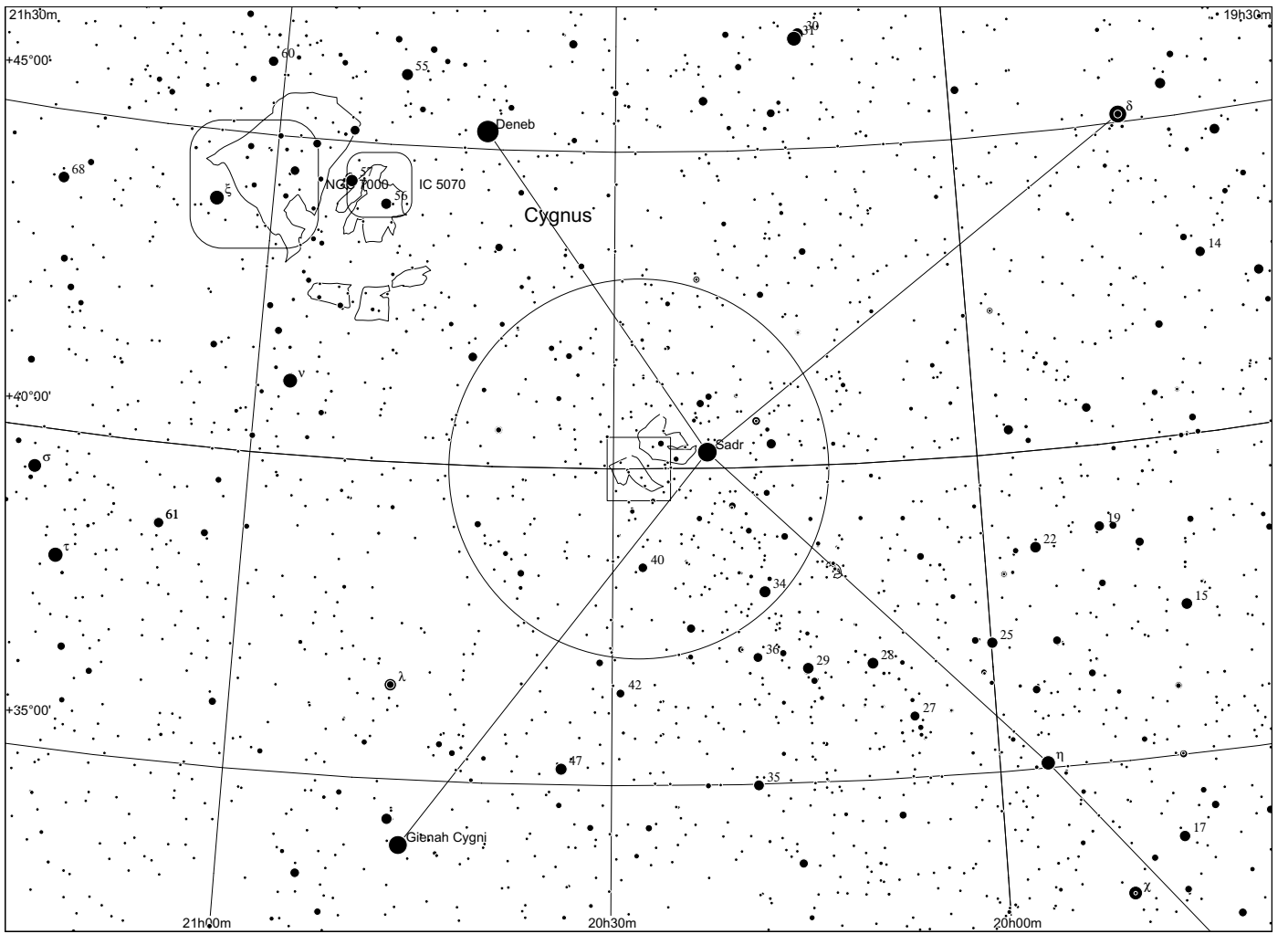
	other name	RA	dec	dia. '	F	S	B
Sh 2-108	IC 1318	20 22 34.8	+40 15 15	180	3	3	3

Distance: 1500 pc, Size: 78.6 pc, Source: 1982ApJS...49..183B

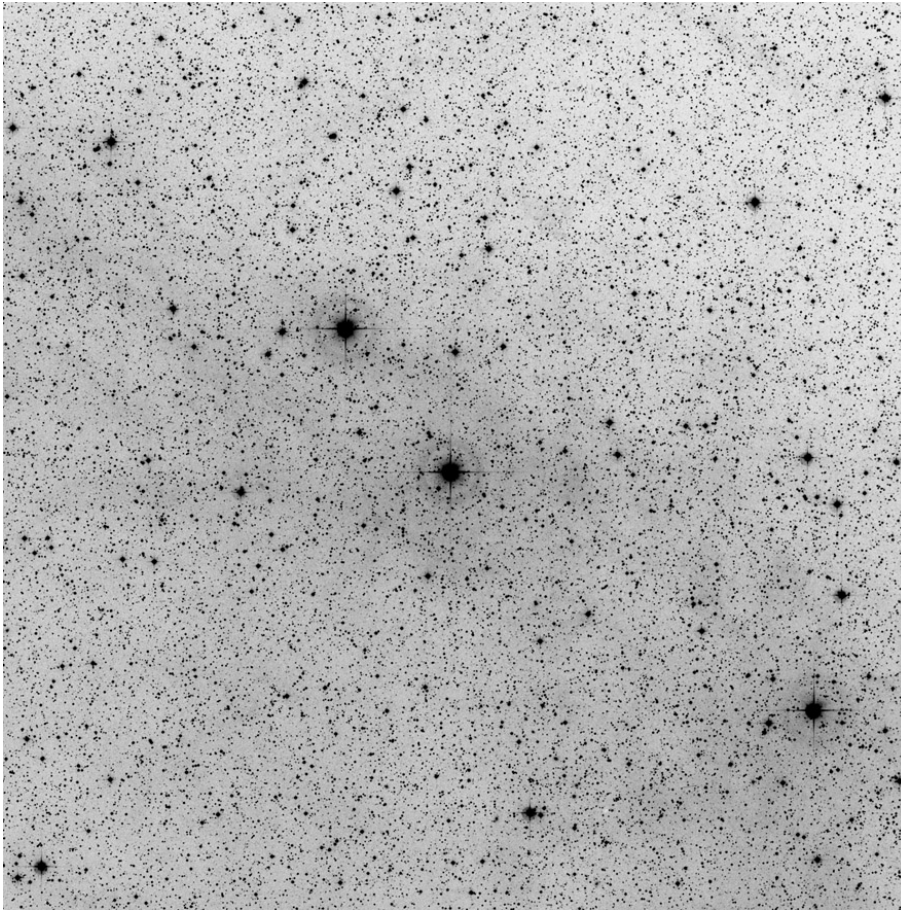
Sometimes called the Gamma Cygni nebula because of the foreground appearance of the F8Iab supergiant, in fact this nebula lies far beyond the star in the depths of the Cygnus complex.

Observing notes:

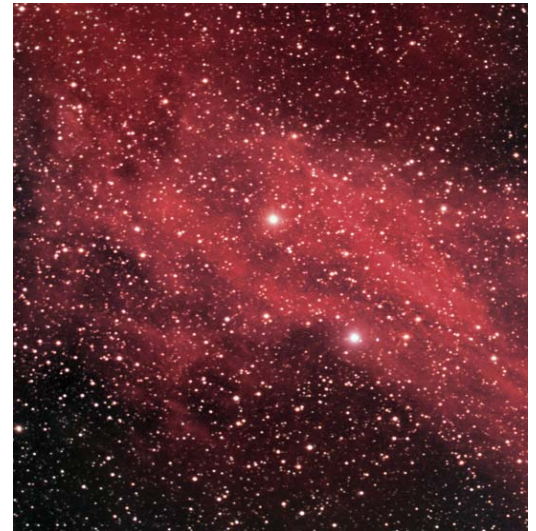
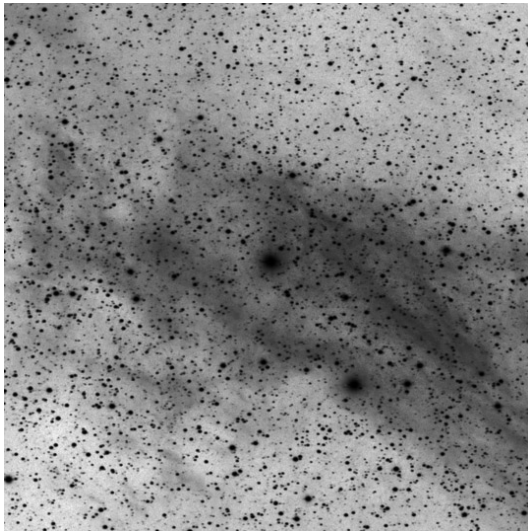
Large HII region around gamma Cyg with several individual nebula. Brightest parts include the butterfly nebula with its brightest part in the NE, H beta, also visible with OIII. Another even brighter part is NW of gamma Cyg. Many other patches responding to H beta, UHC or OIII (mainly S of gamma Cyg).



Sh 2 - 110 in Cygnus



60x60, red

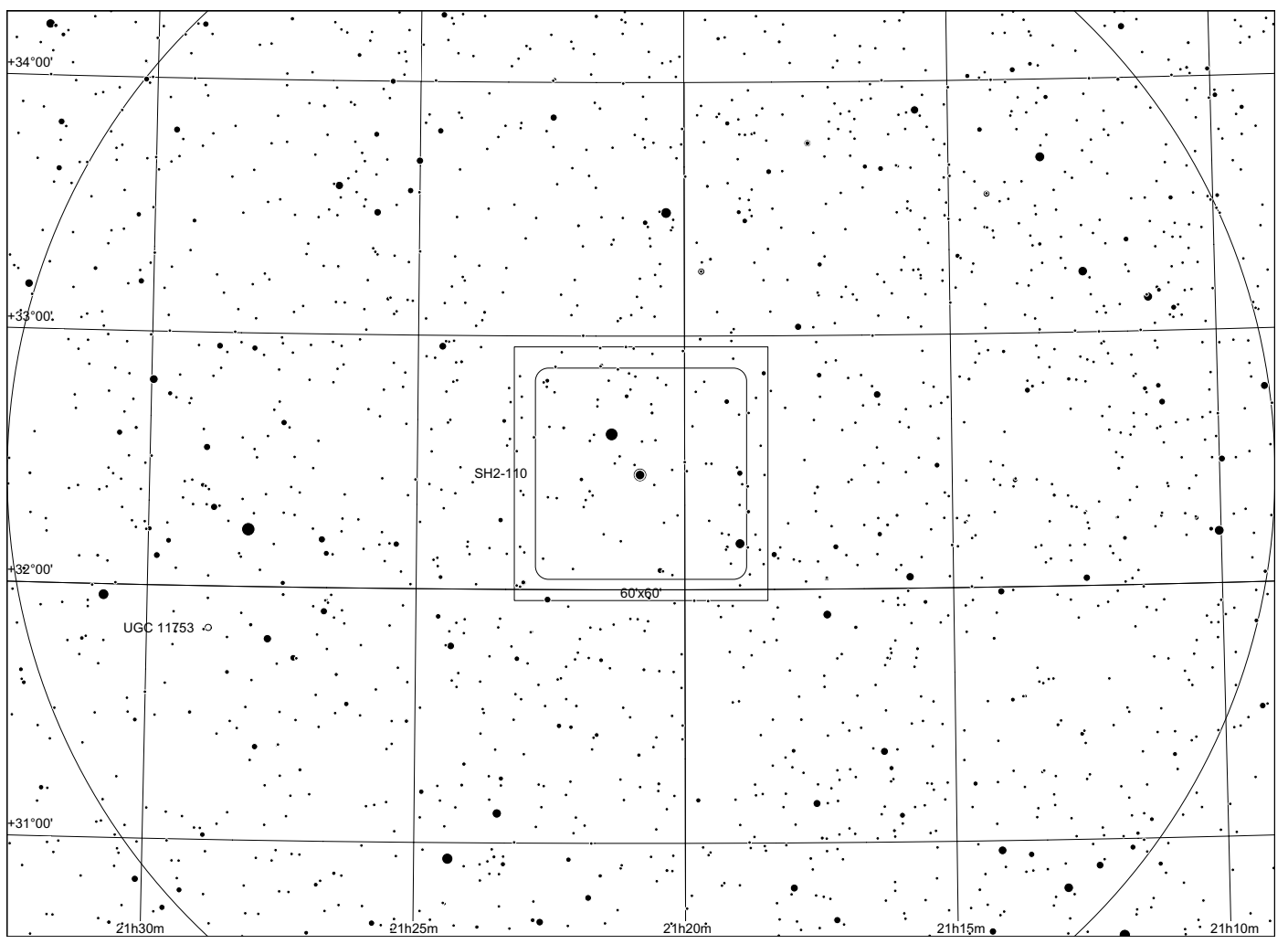
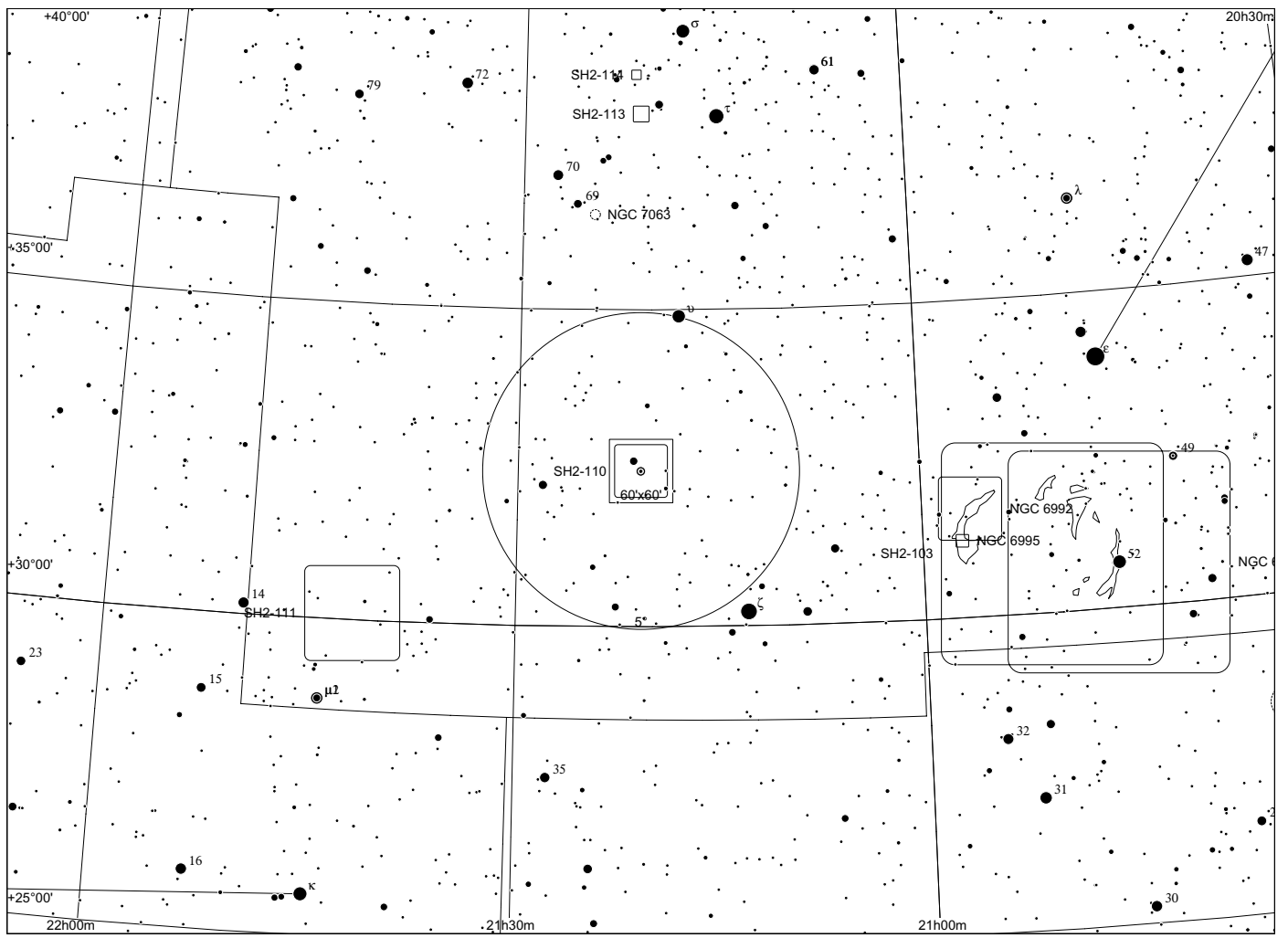


Dean Salman H alpha

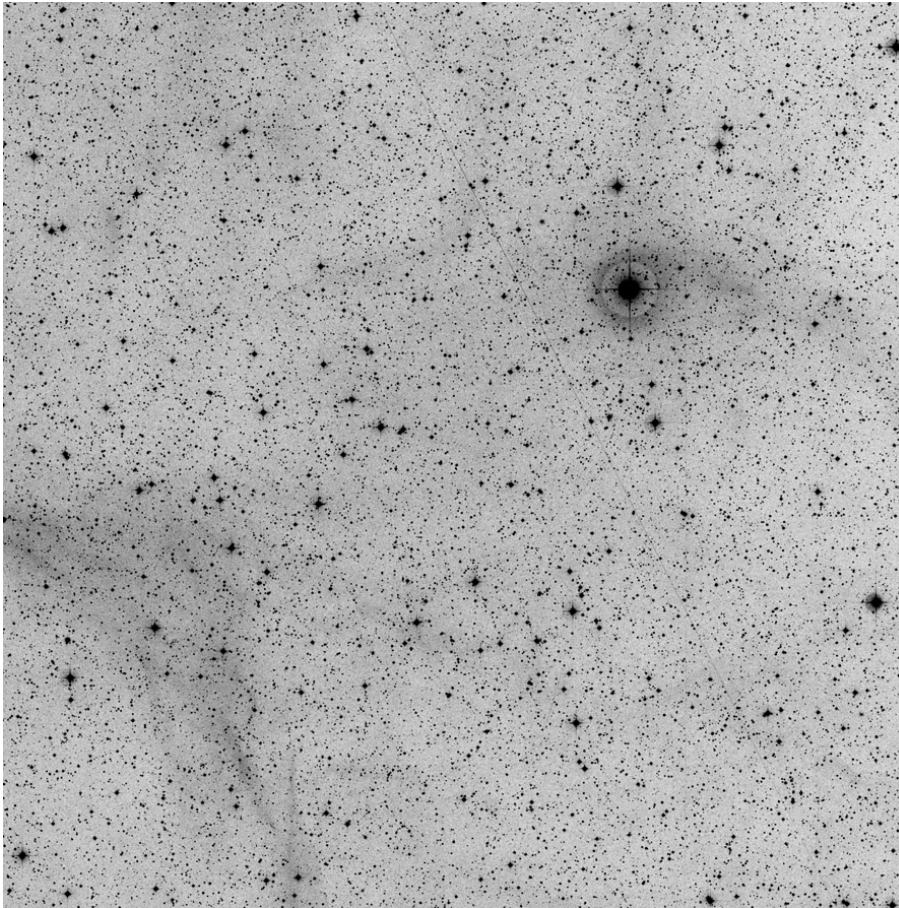
	other name	RA	dec	dia. '	F	S	B
Sh 2-110		21 20 48.5	+32 27 28	50	3	2	1

This is in the same direction as the high latitude HI shell Hu 8, which consists of about 1300 solar masses of gas, is about 900 thousand years old and lies at a distance of between 350-440 pc.

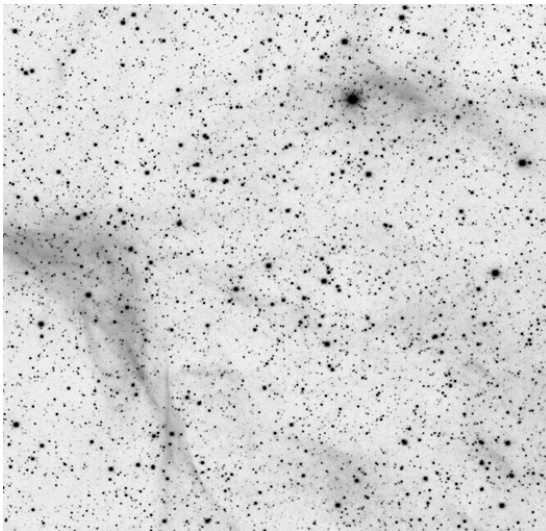
Observing notes:



Sh 2 - 111 in Cygnus



60x60, red



Dean Salman H alpha

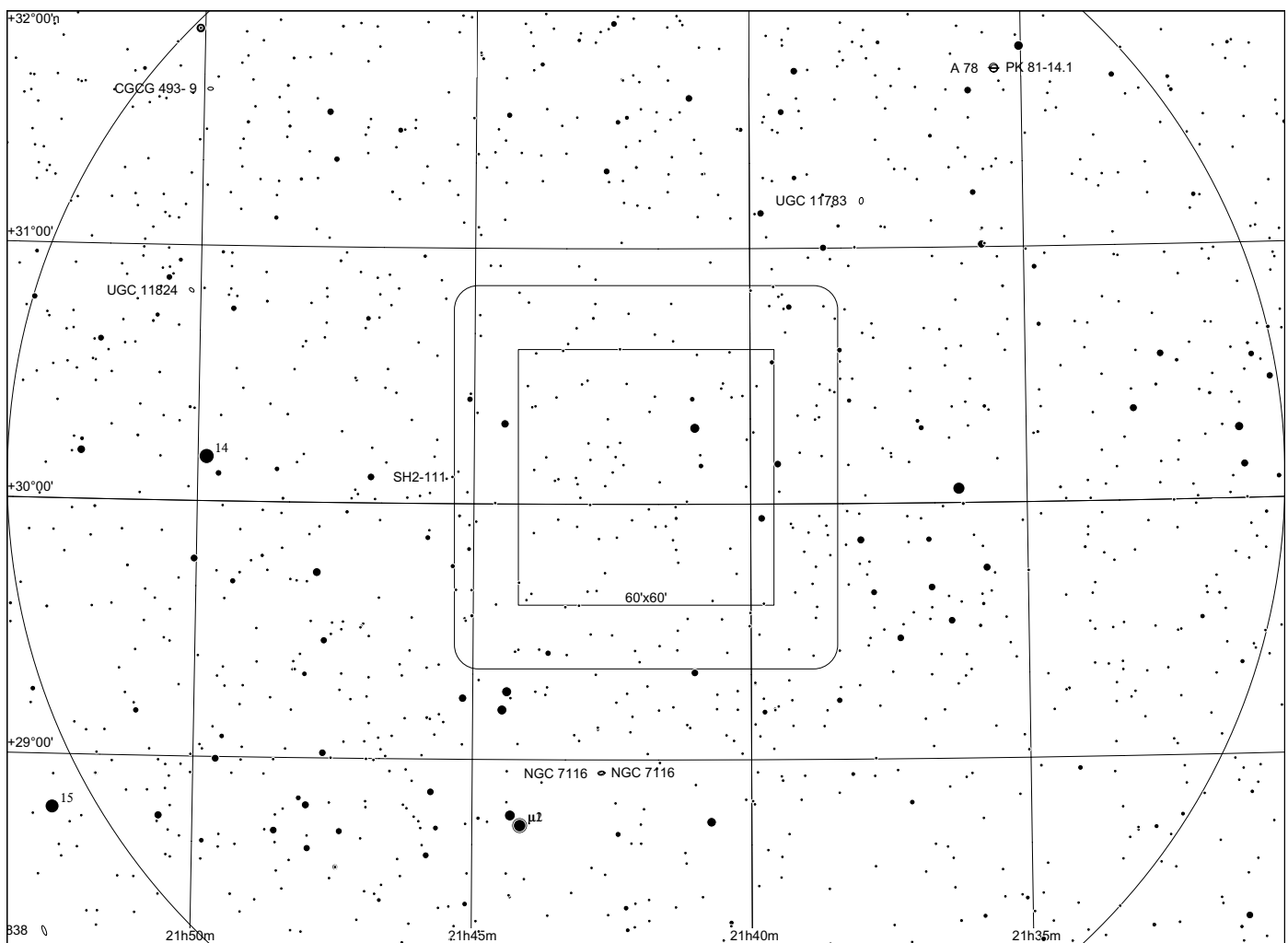
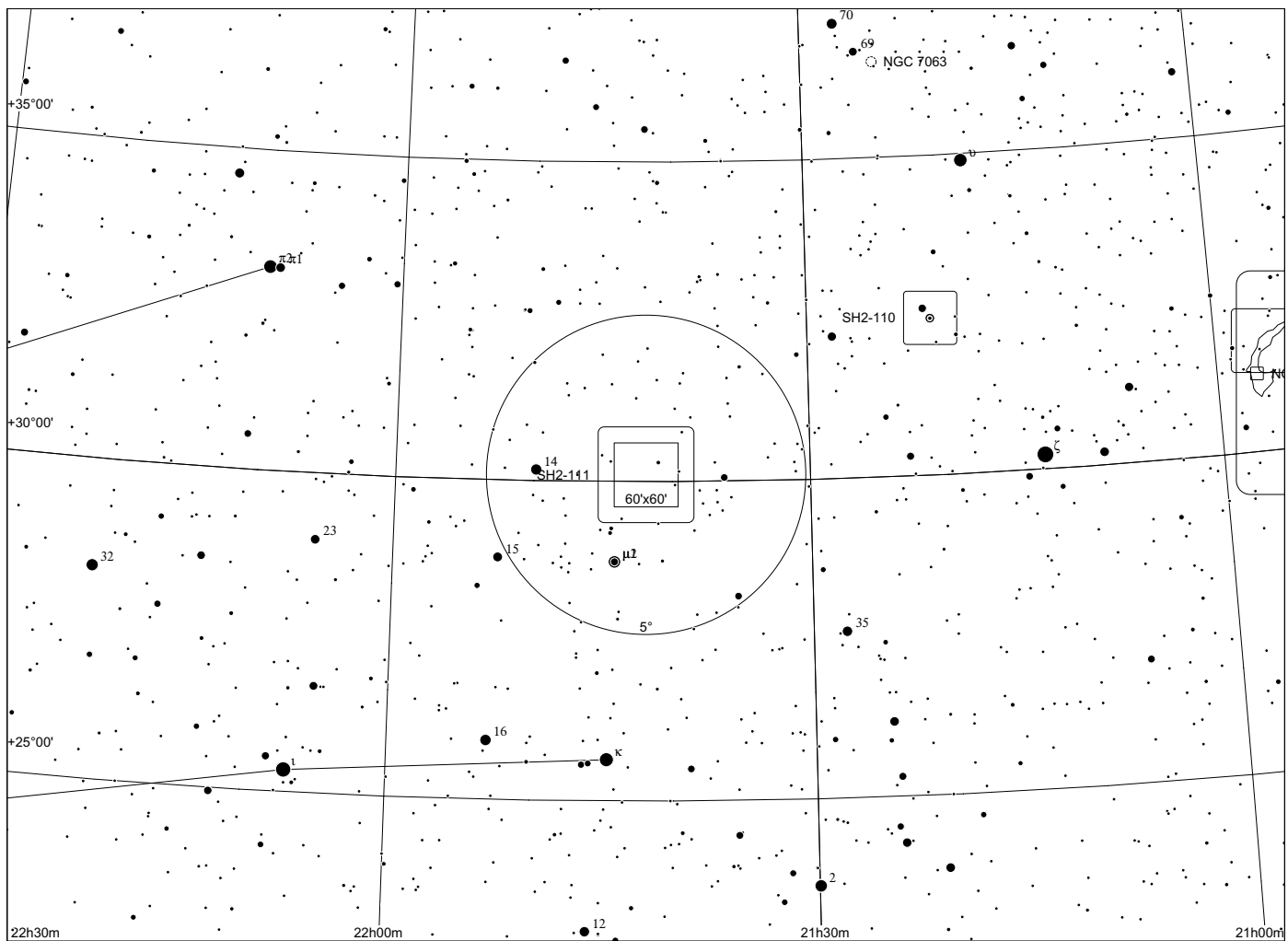
	other name	RA	dec	dia. '	F	S	B
Sh 2-111		21 41 52.7	+30 06 20	90	3	1	1

The appearance and direction of this object suggests a nearby dust cloud but there seems to be no significant references to Sh 2-111 in the scientific literature.

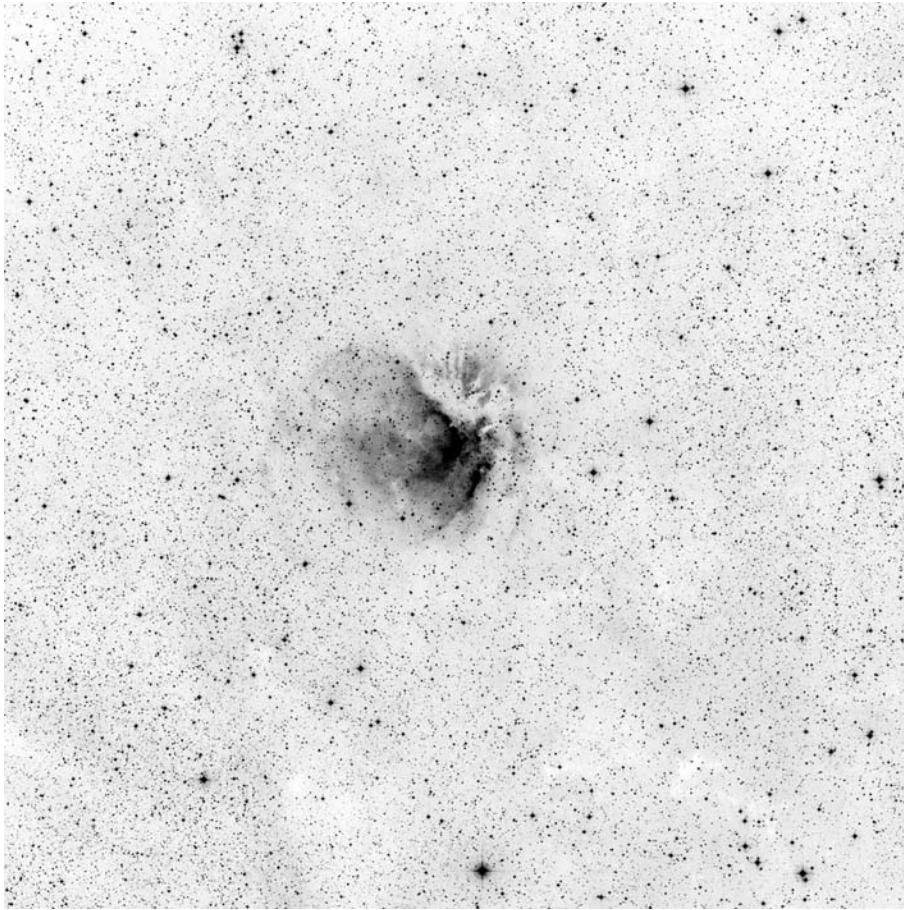
Observing notes:

22" f/4.5

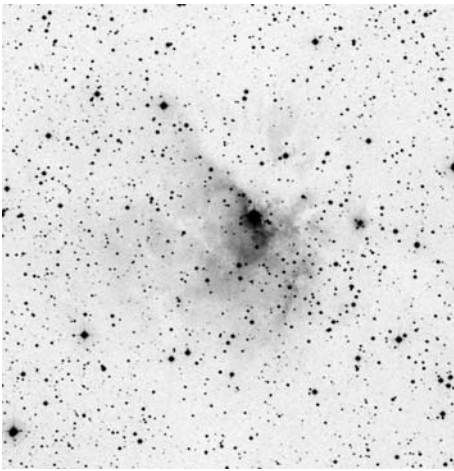
09/2012: No firm observation with H beta or OIII



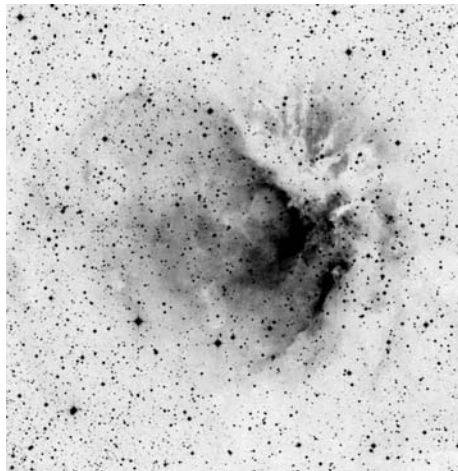
Sh 2 - 112 in Cygnus



60x60, red



POSS blue



POSS red



Narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-112		20 33 50.2	+45 39 35	15	1	2	2

Distance: 1740 pc, Size: 7.6 pc, Source: 1985A&AS...61..537L

The exciting star for this nebula is the O8V class star BD+45 3216 (SAO 49801). The average distance of the stars associated with this nebula is 1740 pc.

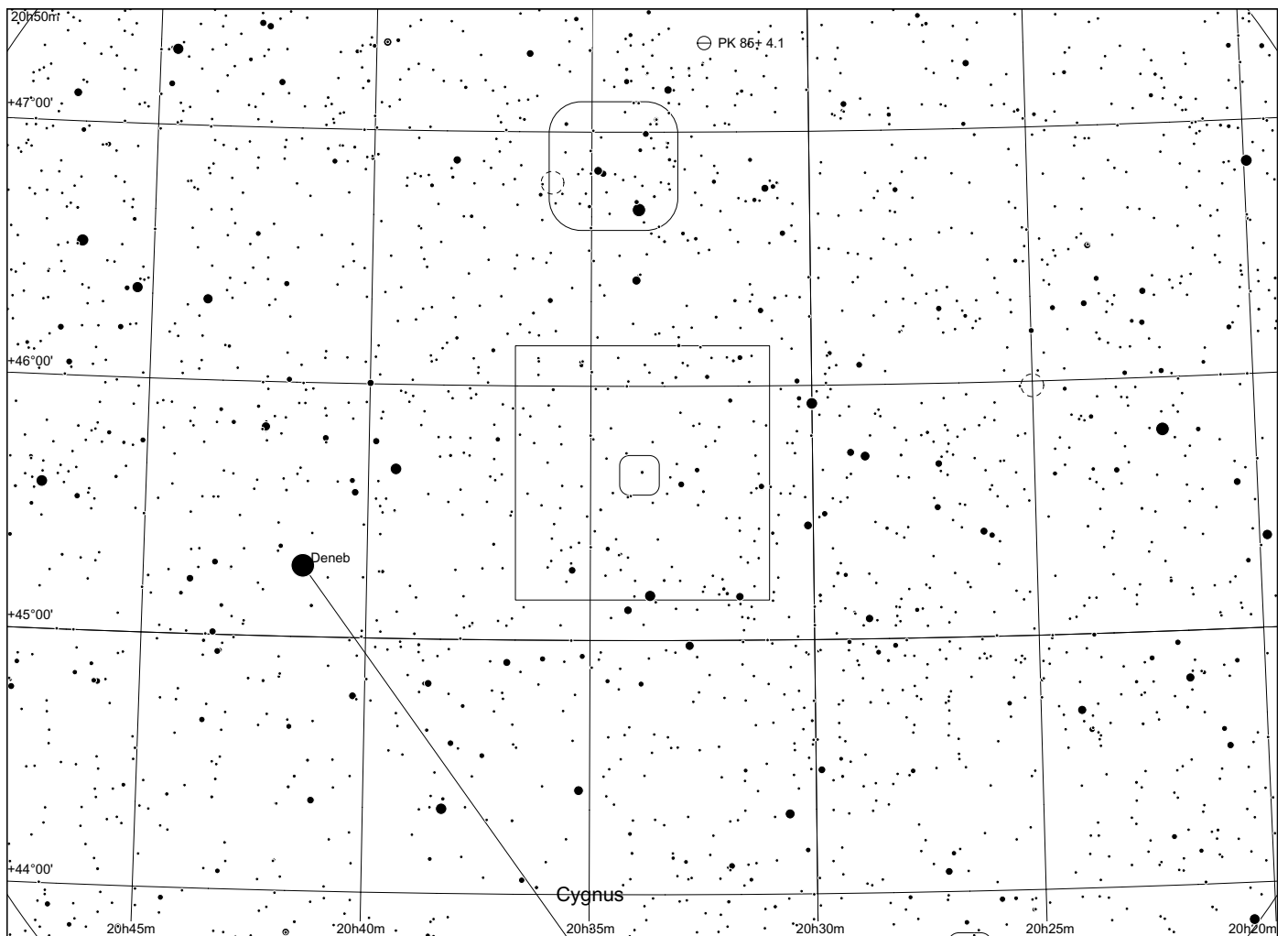
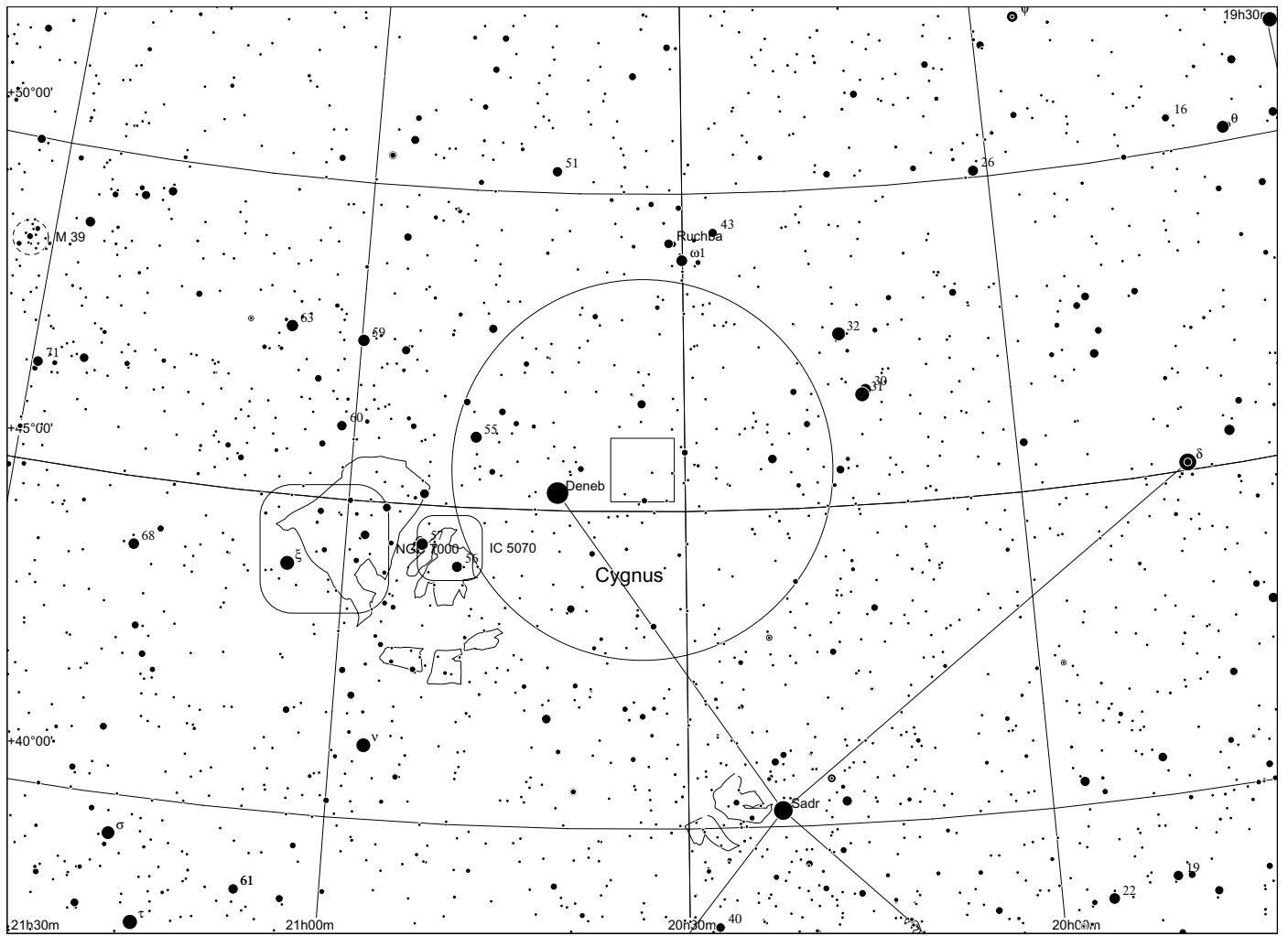
Observing notes:

14" f/5

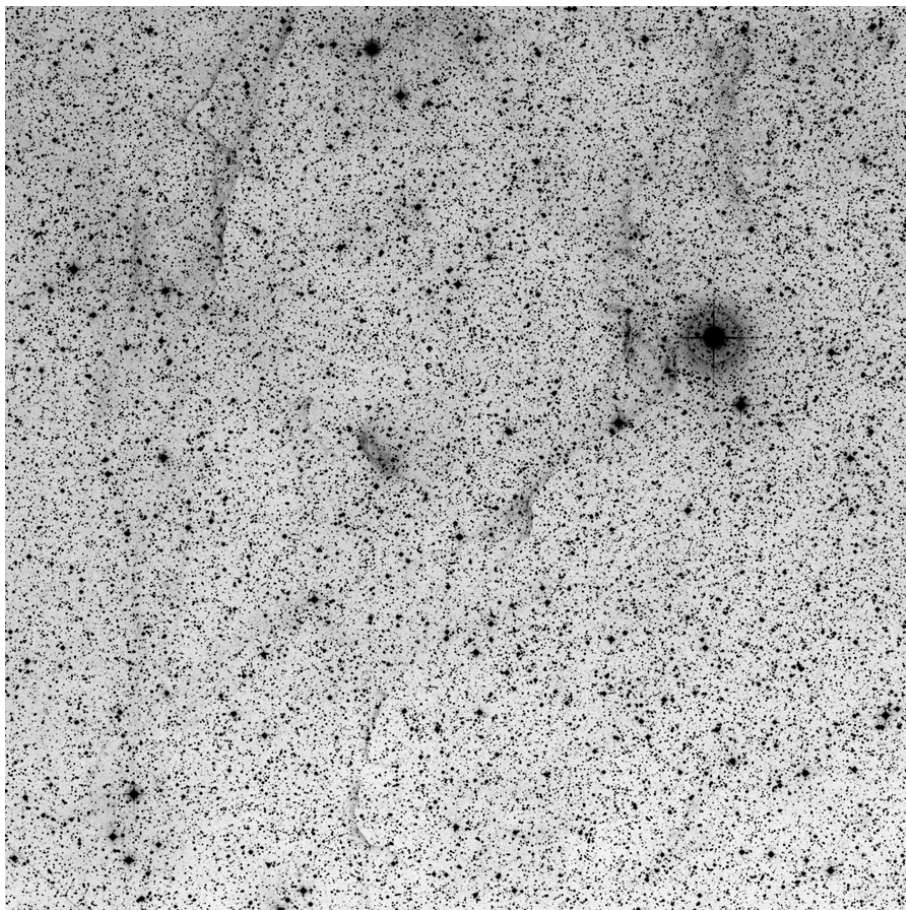
2004: distinct nebula with OIII.

22" f/4.5

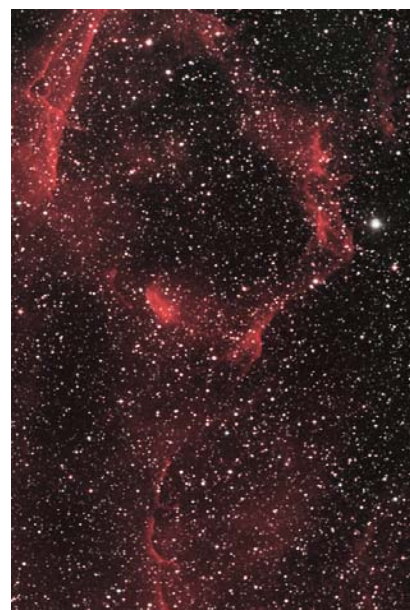
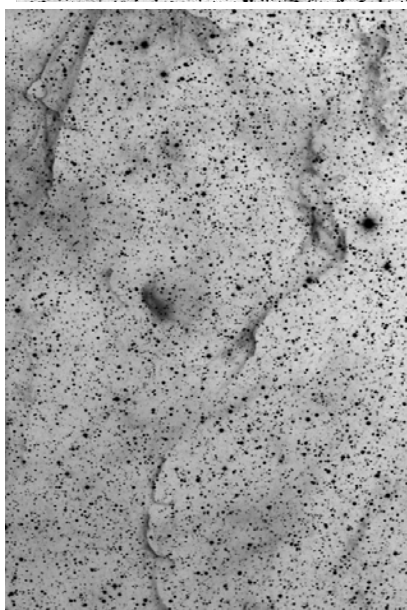
09/2011: distinct nebula already w/o filter, better with UHC, dark border to NW and SW



Sh 2 - 113 in Cygnus



60x60, red



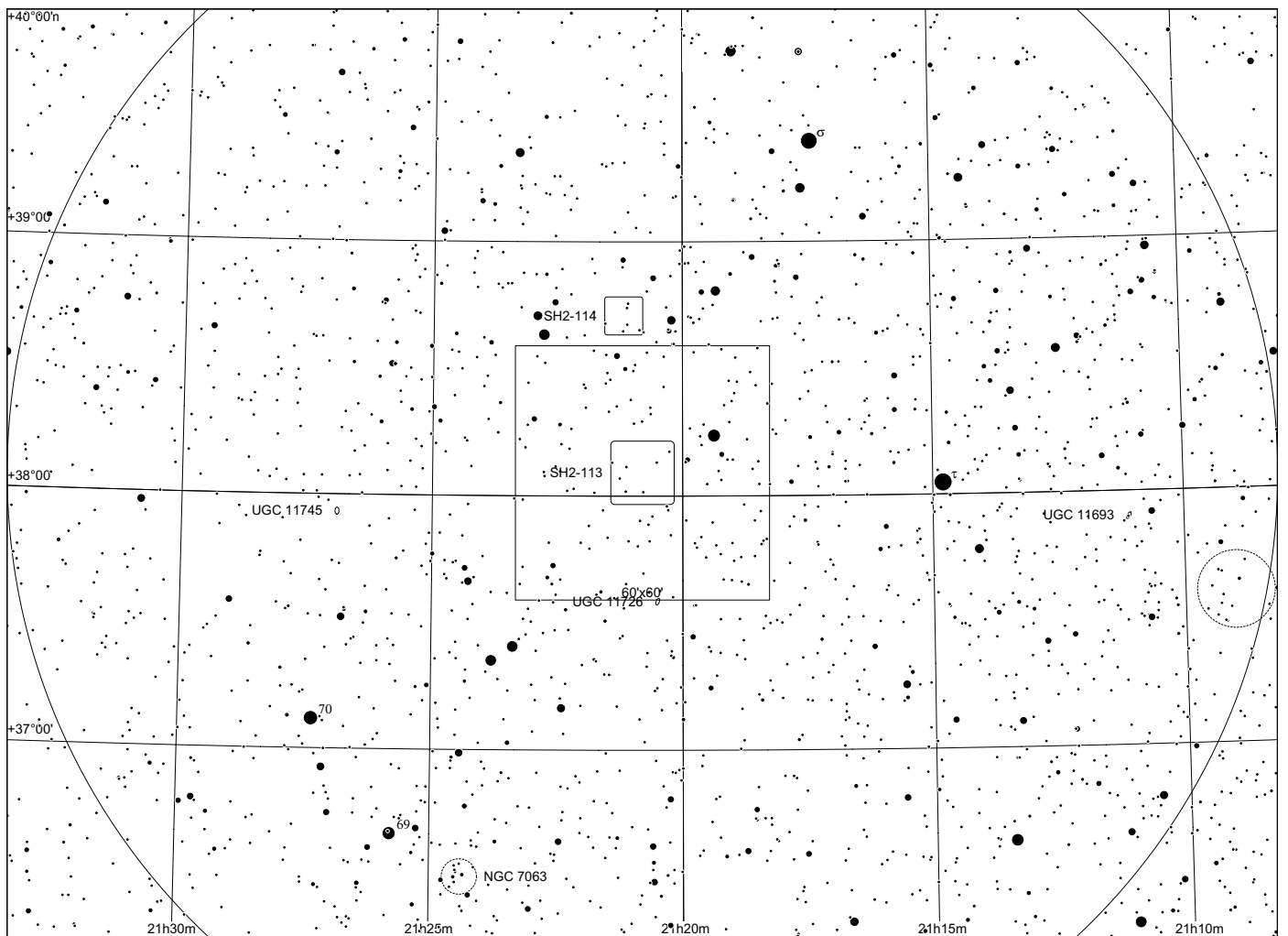
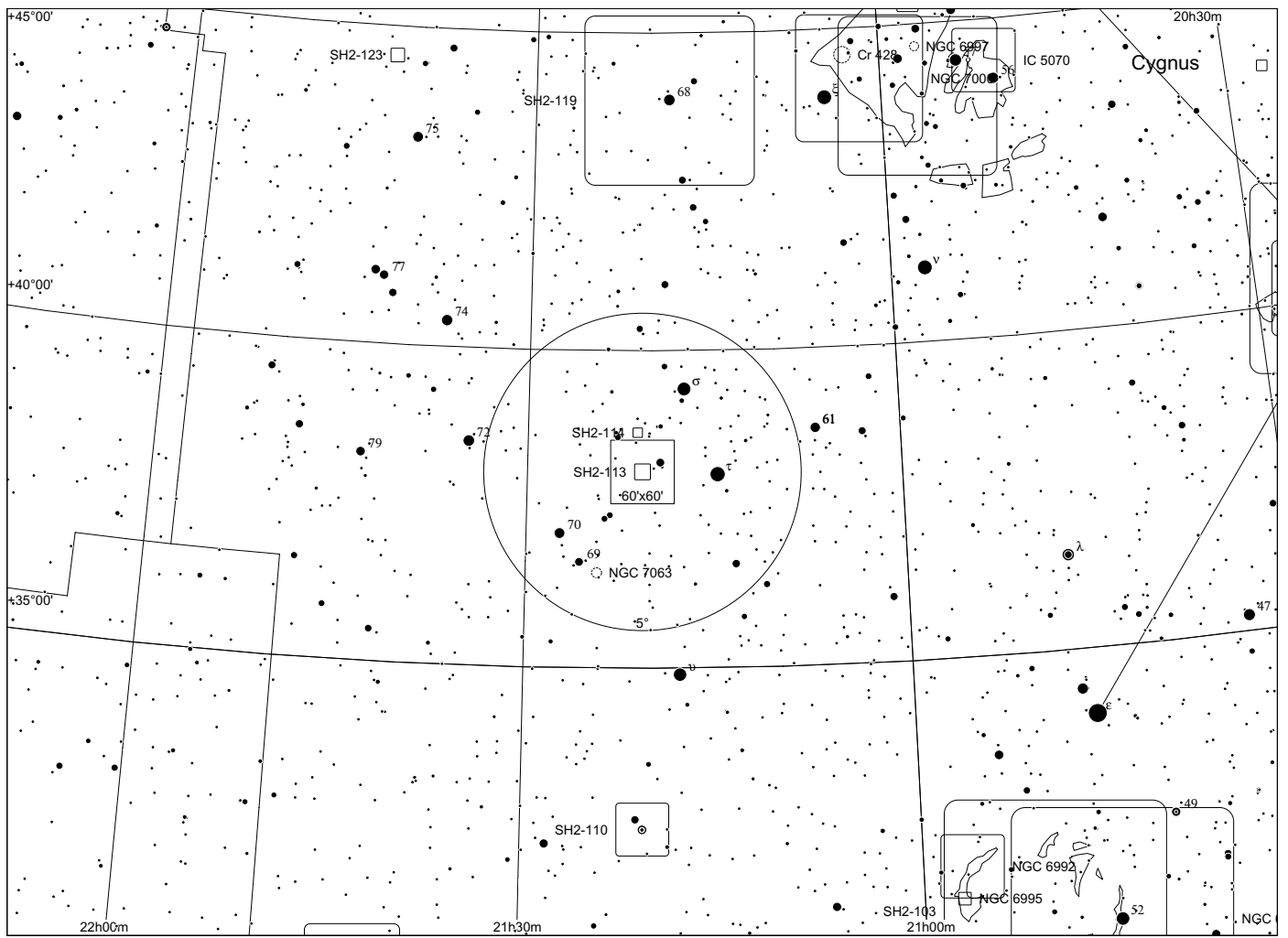
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-113		21 20 48.2	+38 05 29	15	3	1	1

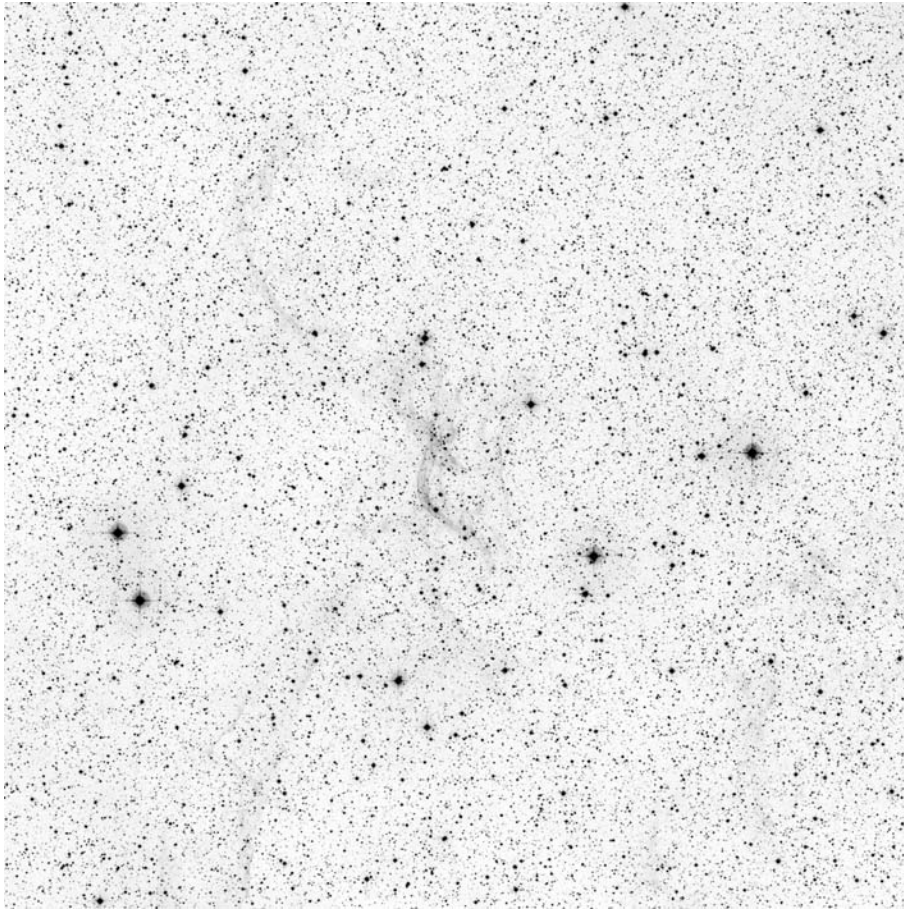
Distance: 3800 pc, Size: 16.6 pc Source: 2003A&A...397..133R

Sh 2-113 and Sh 2-114 form, respectively, the southern and northern portions of a filamentary circle that resembles a supernova remnant. However, no supernova remnant appears to be recorded for this location.

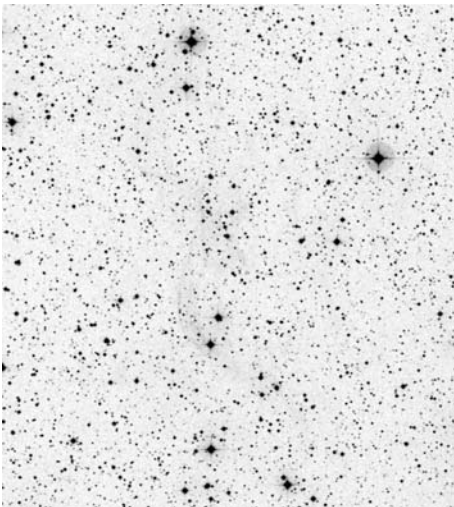
Observing notes:



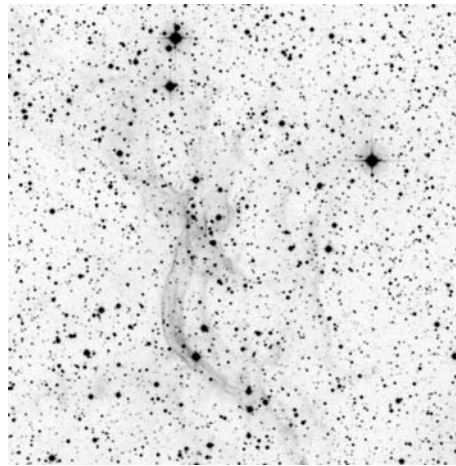
Sh 2 - 114 in Cygnus



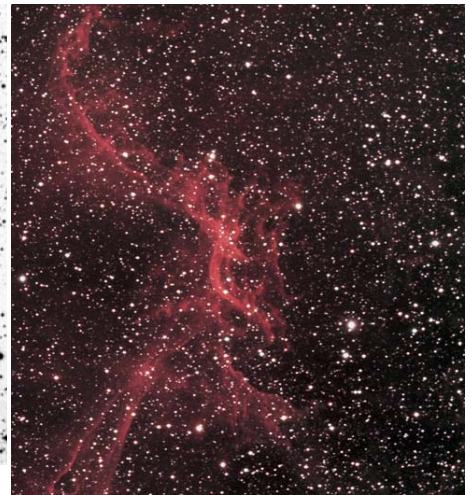
60x60, red



POSS blue



POSS red



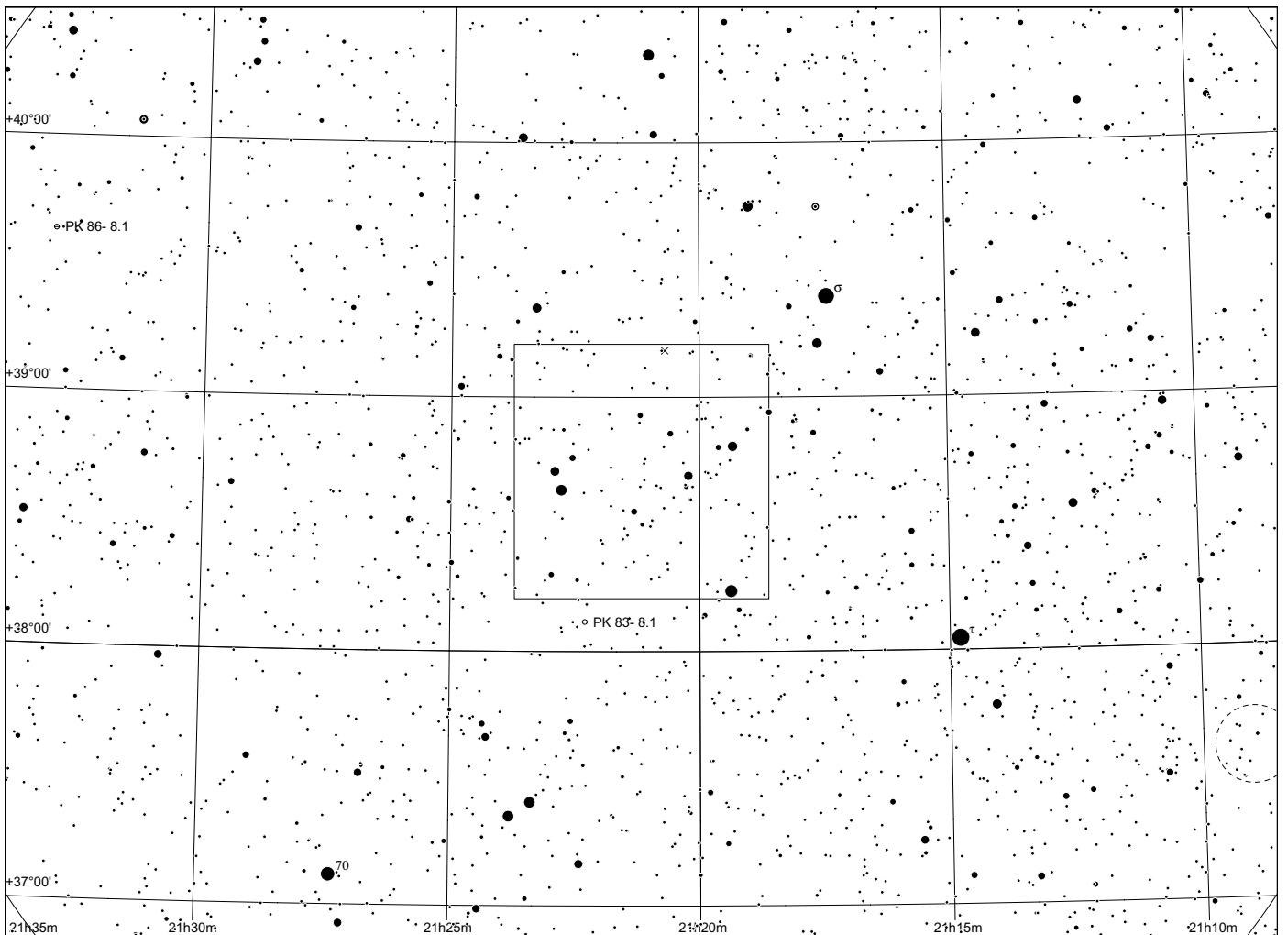
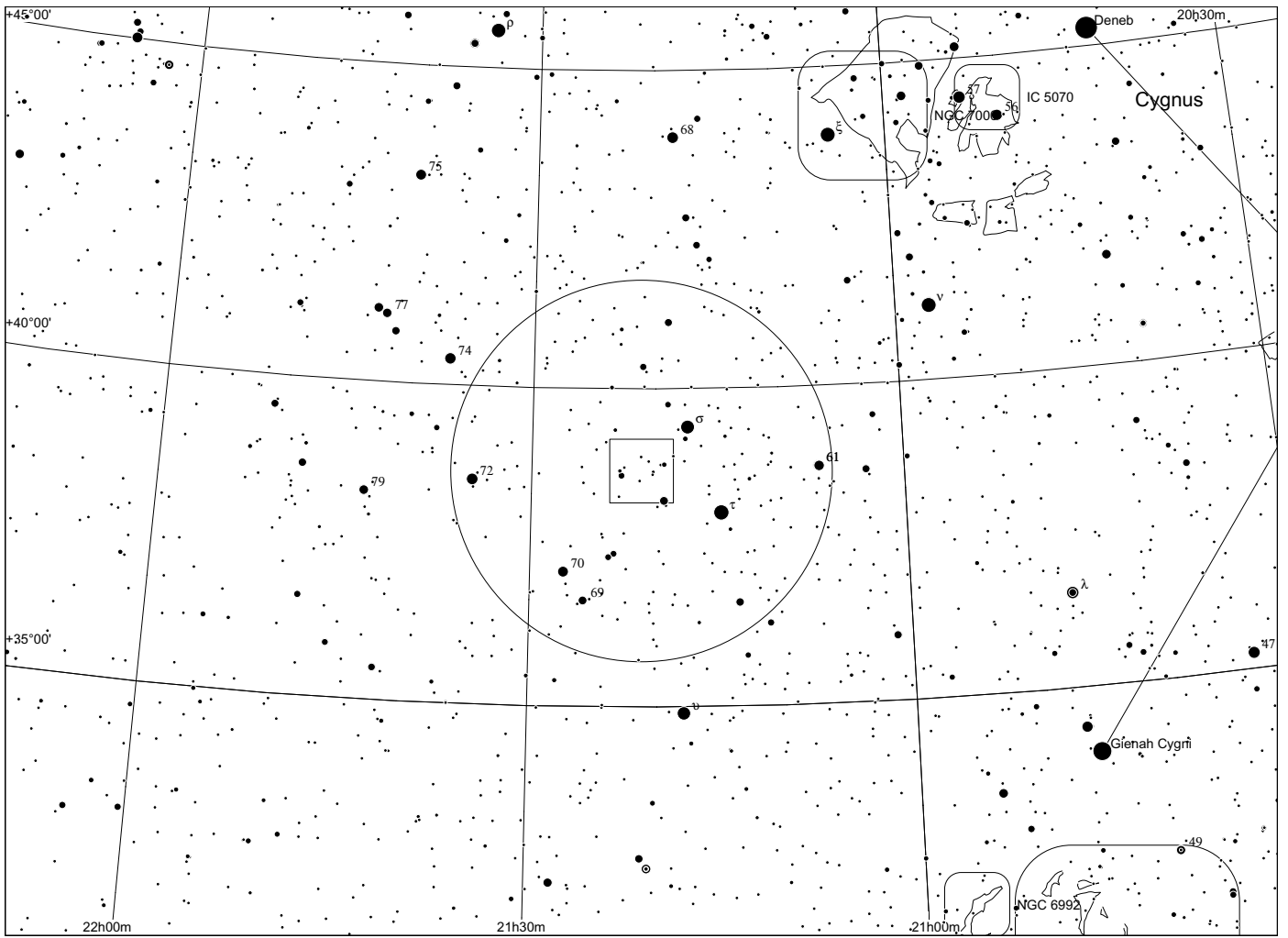
RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-114		21 21 10.5	+38 42 31	9	3	3	2

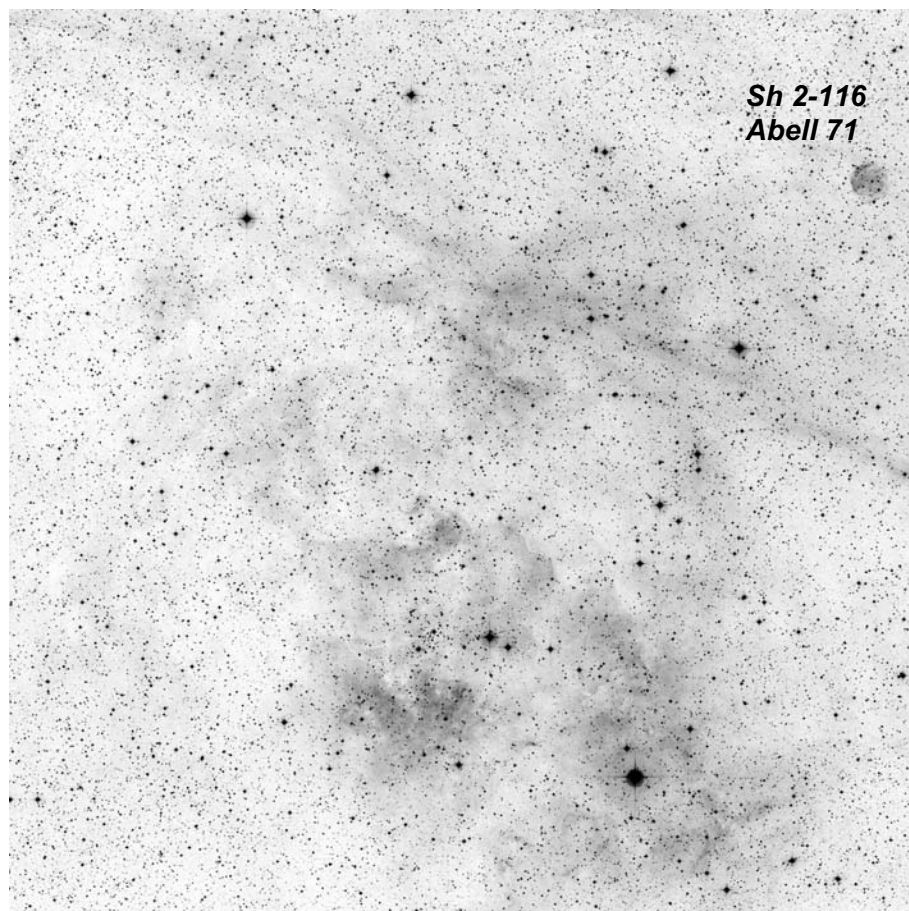
Distance: 4500 pc, Size: 26.2 pc, Source: 2004BASI...32..335G

Sh 2-113 and Sh 2-114 form, respectively, the southern and northern portions of a filamentary circle that resembles a supernova remnant. However, no supernova remnant appears to be recorded for this location. The distance reference for Sh 2-114 is incorrect and a correct one should be assigned.

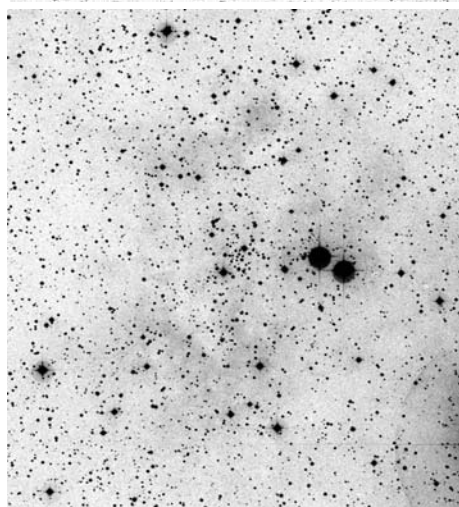
Observing notes:



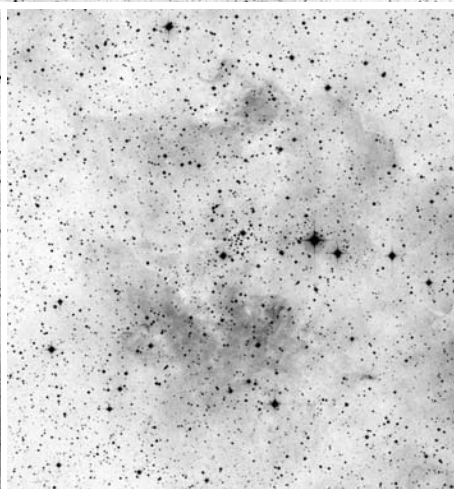
Sh 2 - 115 in Cygnus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-115		20 34 33.0	+46 52 40	50	3	2	2

Distance: 2300 pc, Size: 33.5 pc, Source: 1981A&A...100...28F

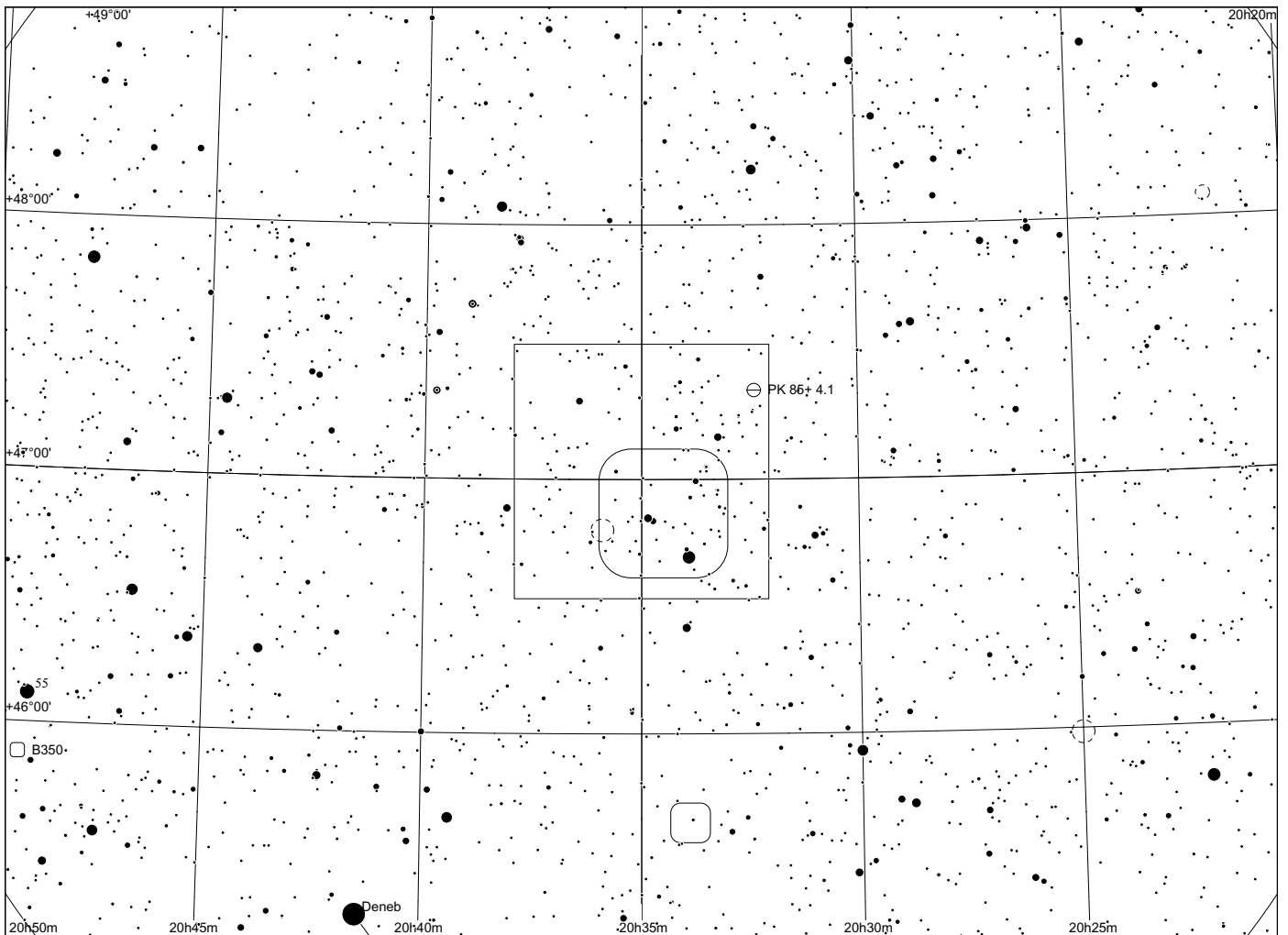
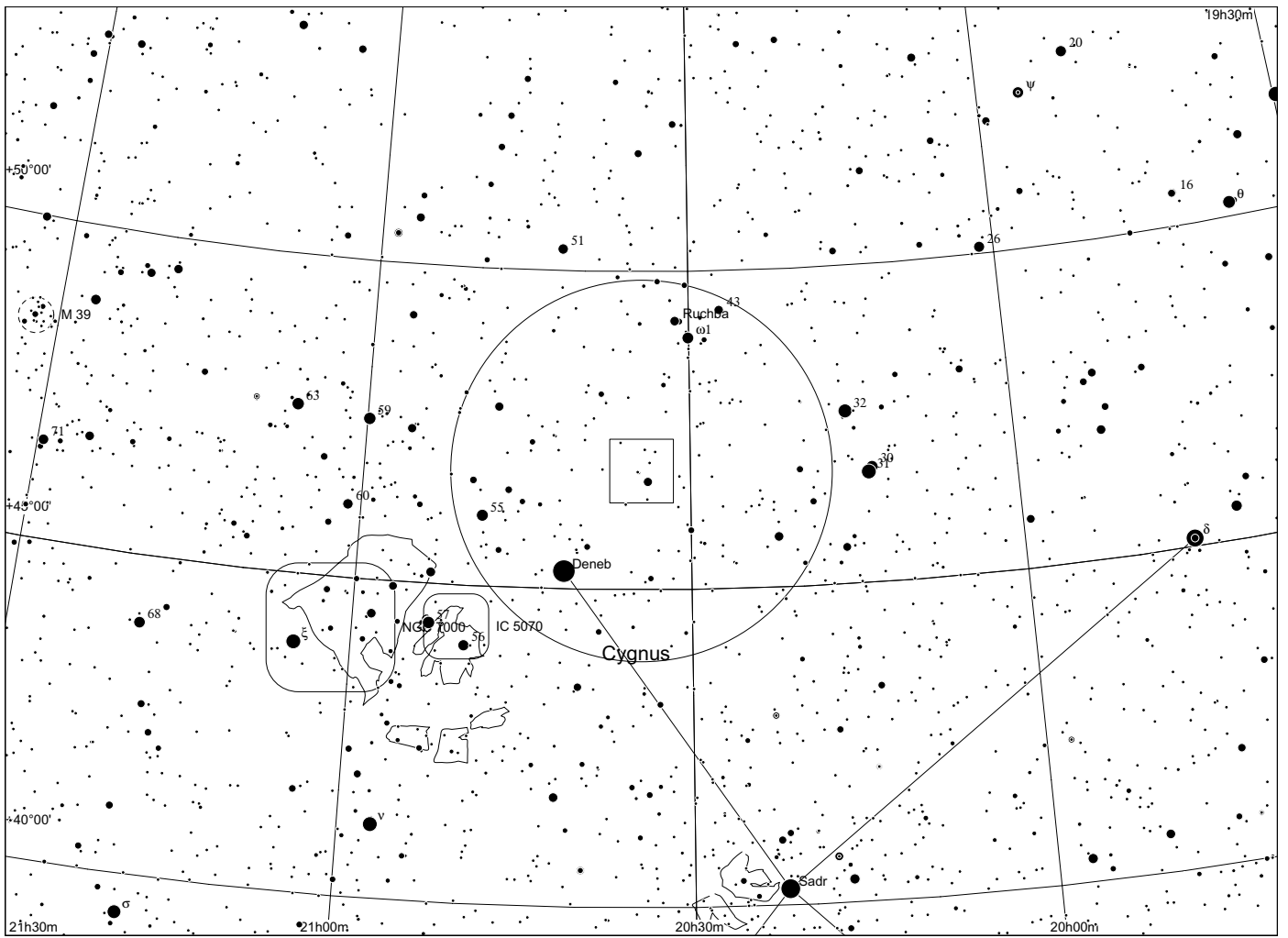
In the same direction as the radio source W71, this nebula is ionised by the O6 star LS III +46 12 which is part of the star cluster Berkeley 90 embedded in the nebula. The cloud surrounding Berkeley 90 (part of which is visible as Sh 2-115) contains 4400 solar masses of gas and dust and is about 30 pc long.

Observing notes:

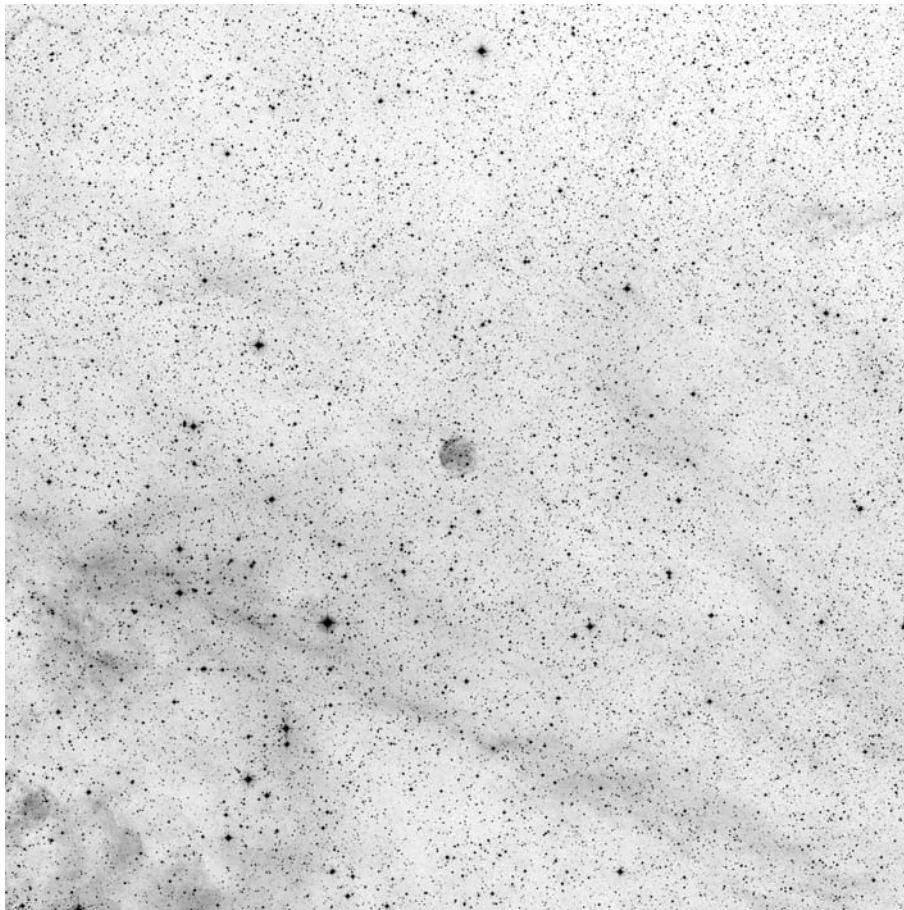
14" f/4.5: 2004: My notes tell me that I observed a distinct nebulous patch around unequal pair of stars with fainter larger extensions with indirect vision. I am unsure about my notes, should be re-observed.

22" f/4.5: 09/2011: with UHC, glow around two stars (unequal), unsure about fainter extensions

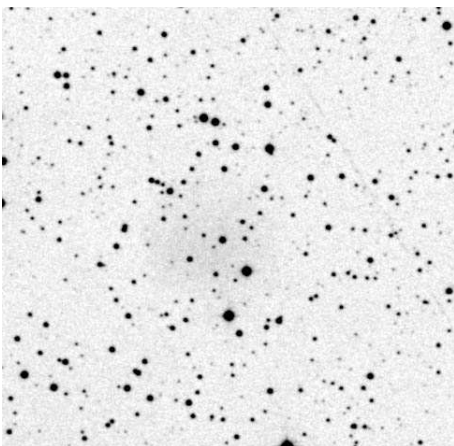
08/2012: With OIII, there appeared some nebulosity around the two close stars and in particular around the brighter star in the SW. With H beta, an additional extremely faint and structured patch appeared SE of the two stars.



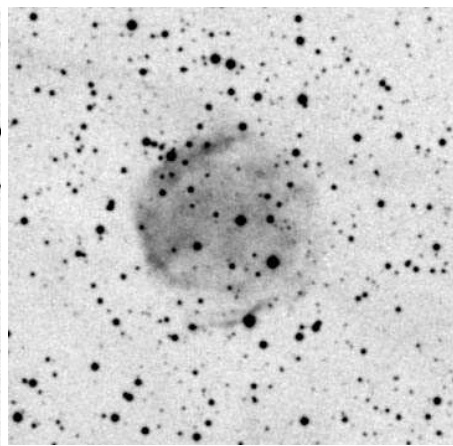
Sh 2 - 116 in Cygnus



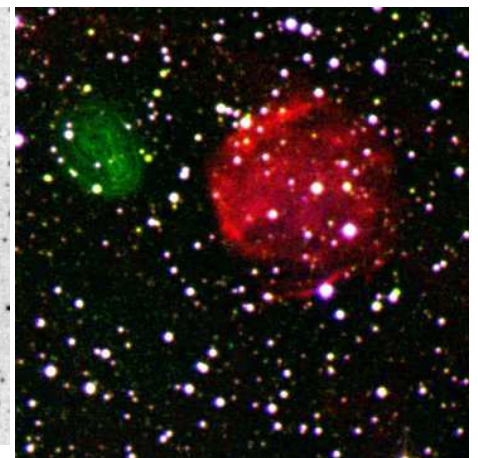
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-116	Abell 71	20 32 18.6	+47 21 25	2	1	2	2

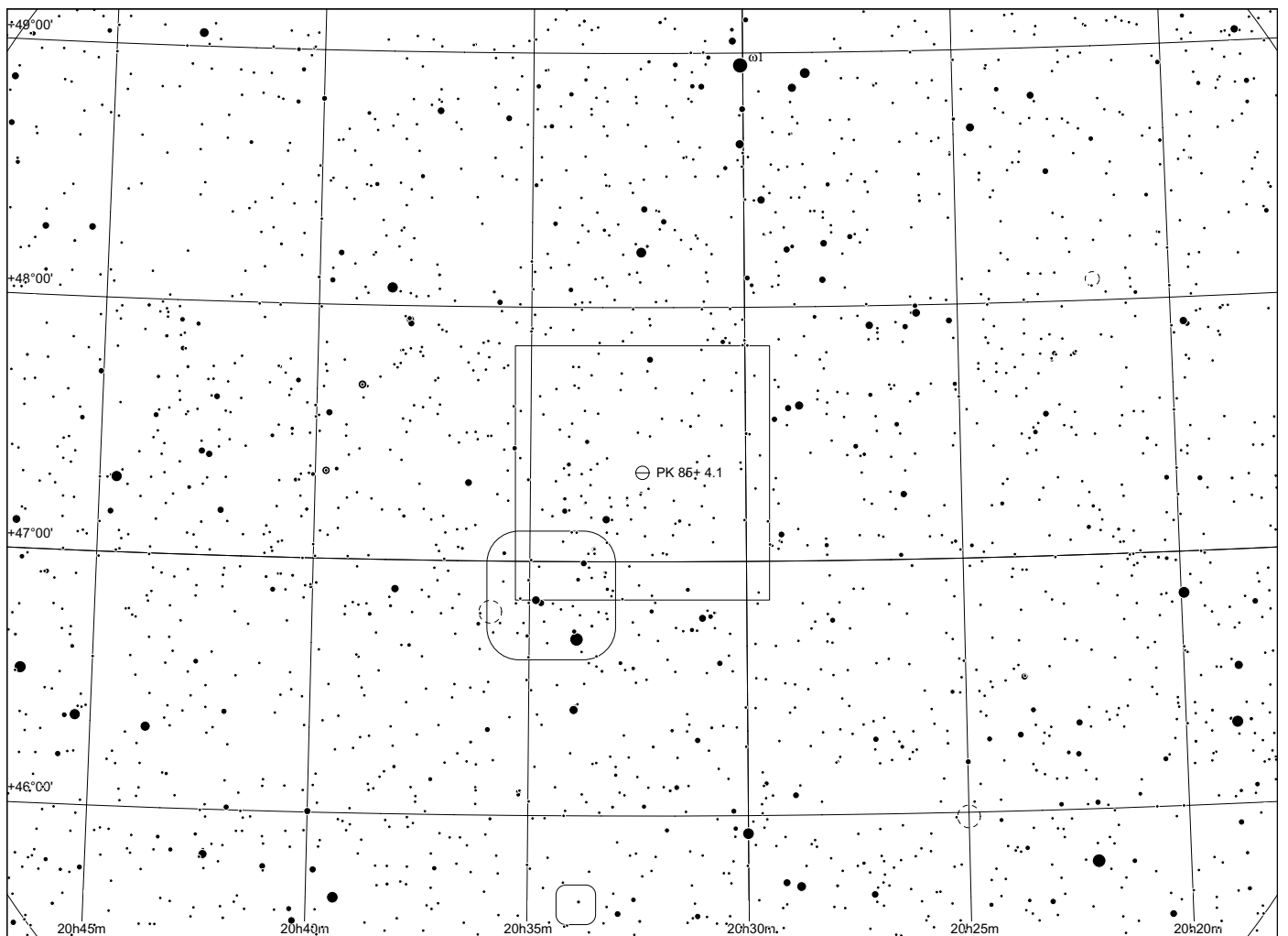
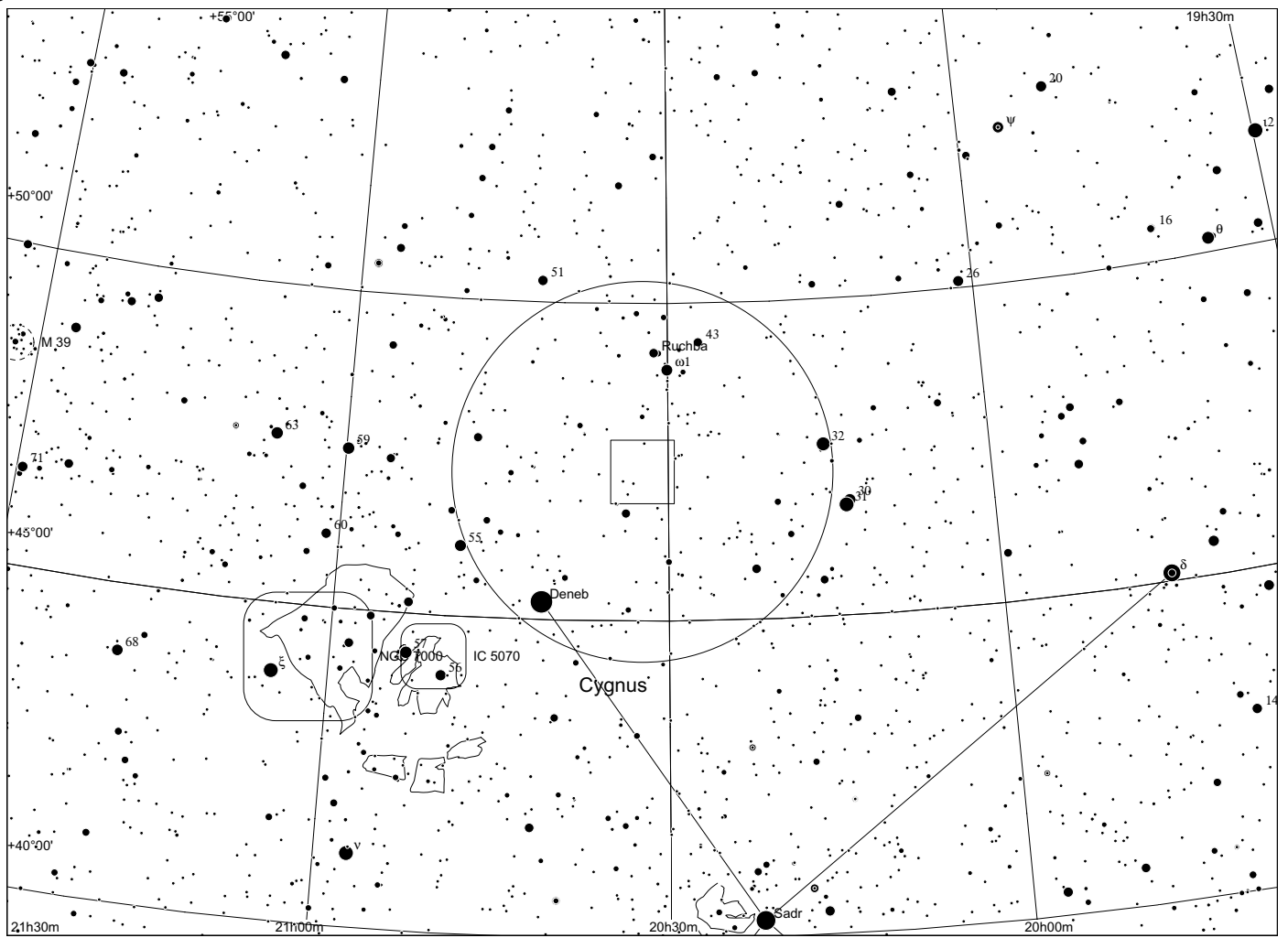
Often described as the planetary nebula Abell 71, but a 1991 study concluded that this object is actually an HII region. The green glow next to it is probably a fault in the infrared photographic plate.

Observing notes:

22" f/4.5

08/2009: extremely faint glow around two stars suspected, doubtful.

09/2011: unsuccessful



Sh 2 - 117 in Cygnus



narrowband

Dean Salman

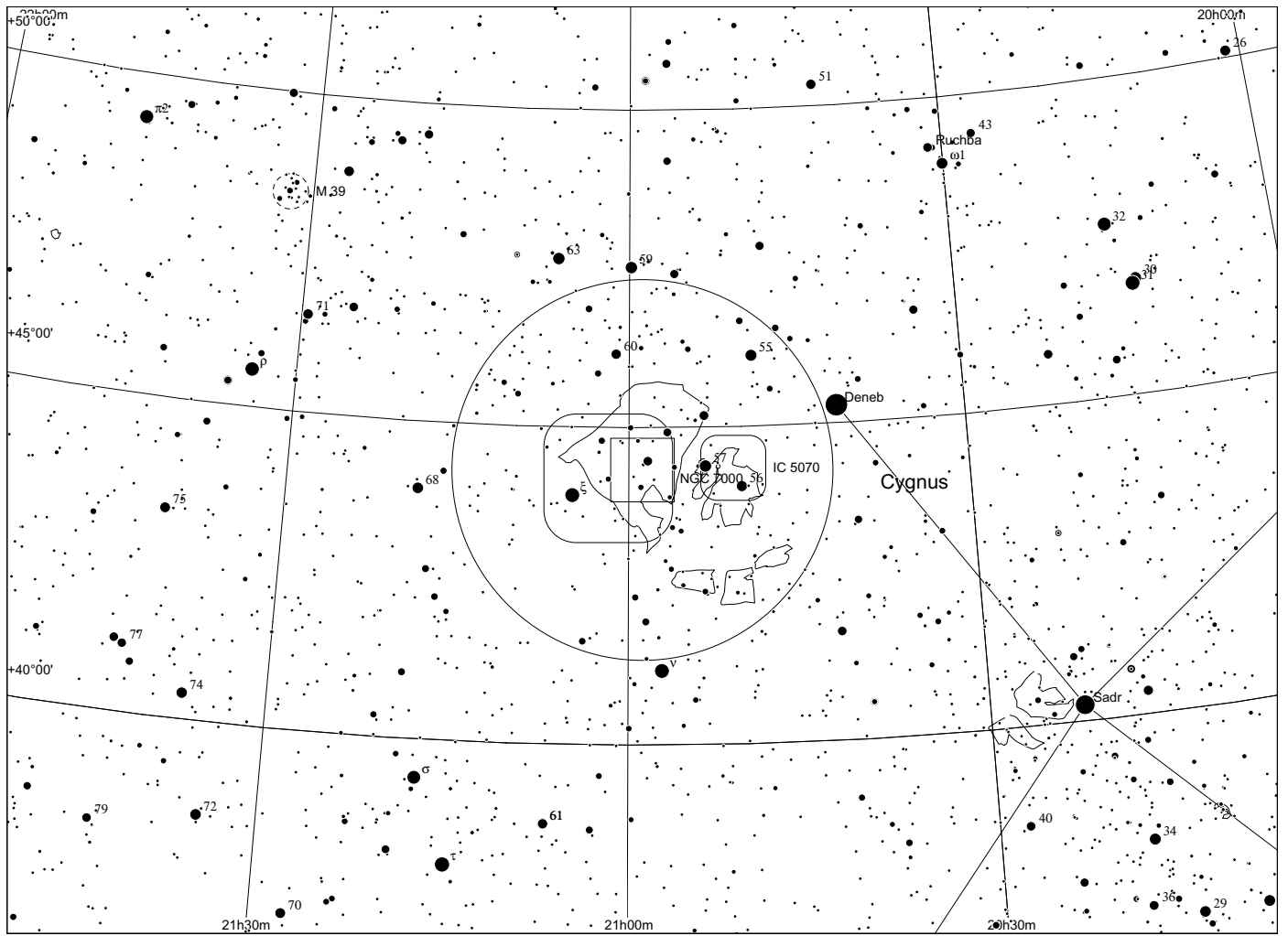
	other name	RA	dec	dia. '	F	S	B
Sh 2-117	NGC7000 North American N.	20 58 46.3	+44 19 19	240	3	3	2

Distance: 800 pc, Size: 55.9 pc, Source: 1982ApJS...49..183B

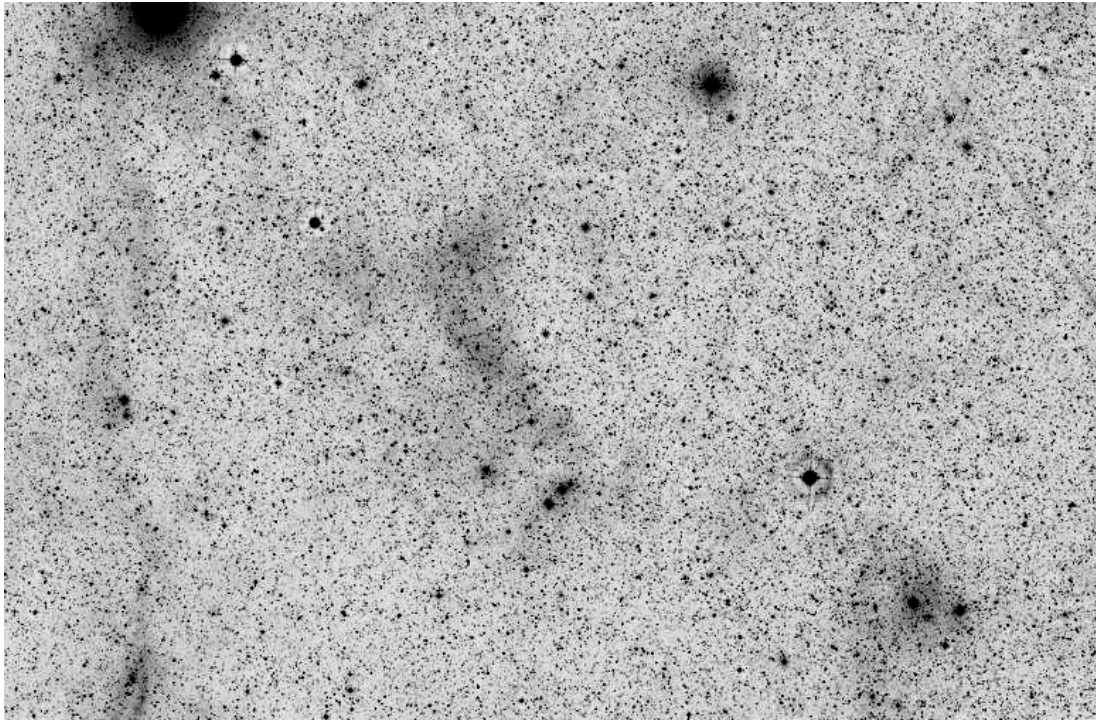
This is the North American and Pelican nebula, which is visible through a gap in the Rift system of dusty giant molecular clouds that separates the Gould Belt from the Cygnus complex. Sh 2-117 appears to be ionised by the heavily obscured O5V star 2MASS J205551.25+435224.6.

Observing notes:

Can already be seen naked eye with OIII or UHC filter. Spectacular HII landscape with the telescope at low mag. Responds well to OIII and UHC. Don't miss the nearby Pelican and the other patches SW.



Sh 2 - 118 in Cygnus



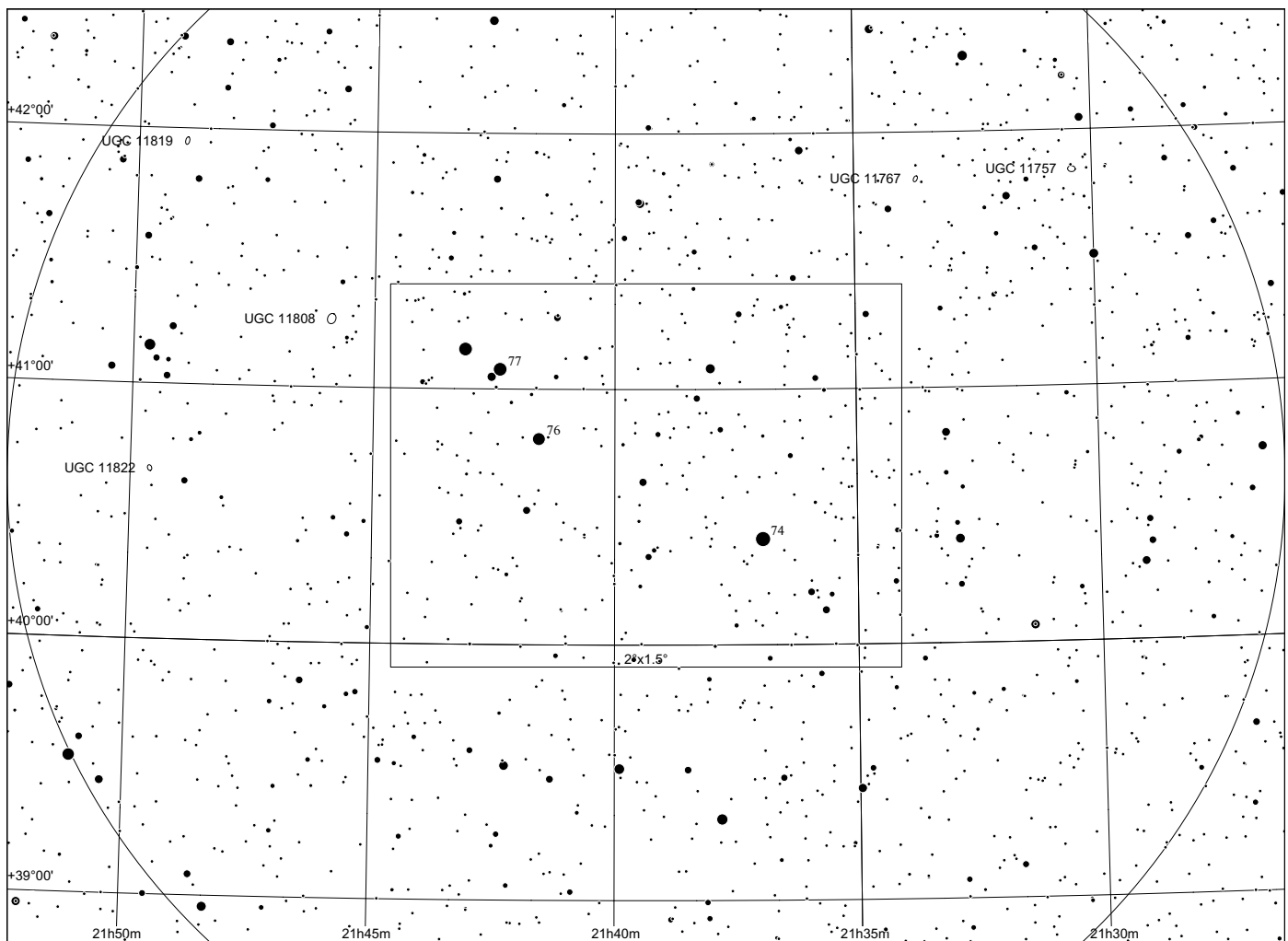
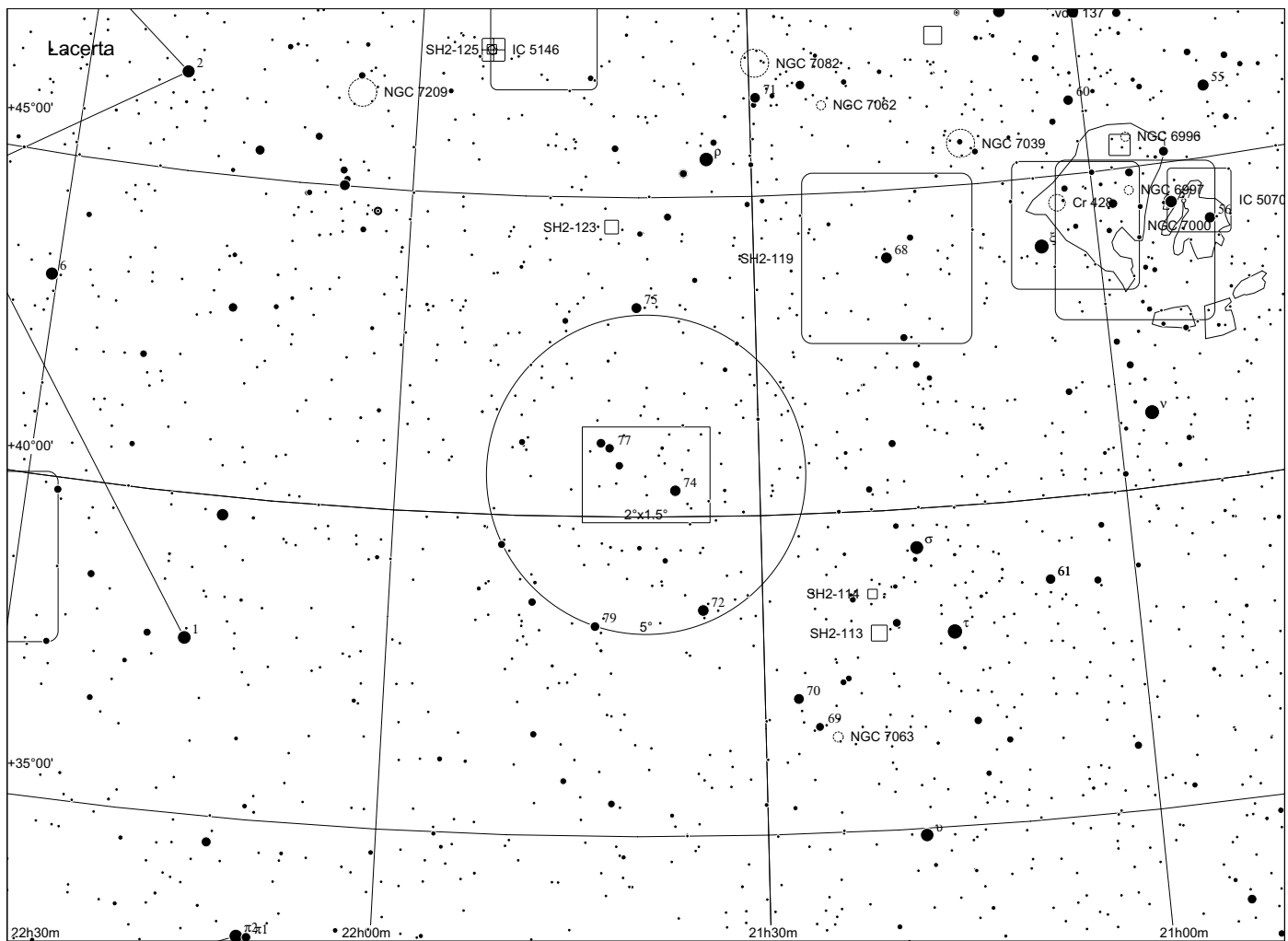
120x90, red



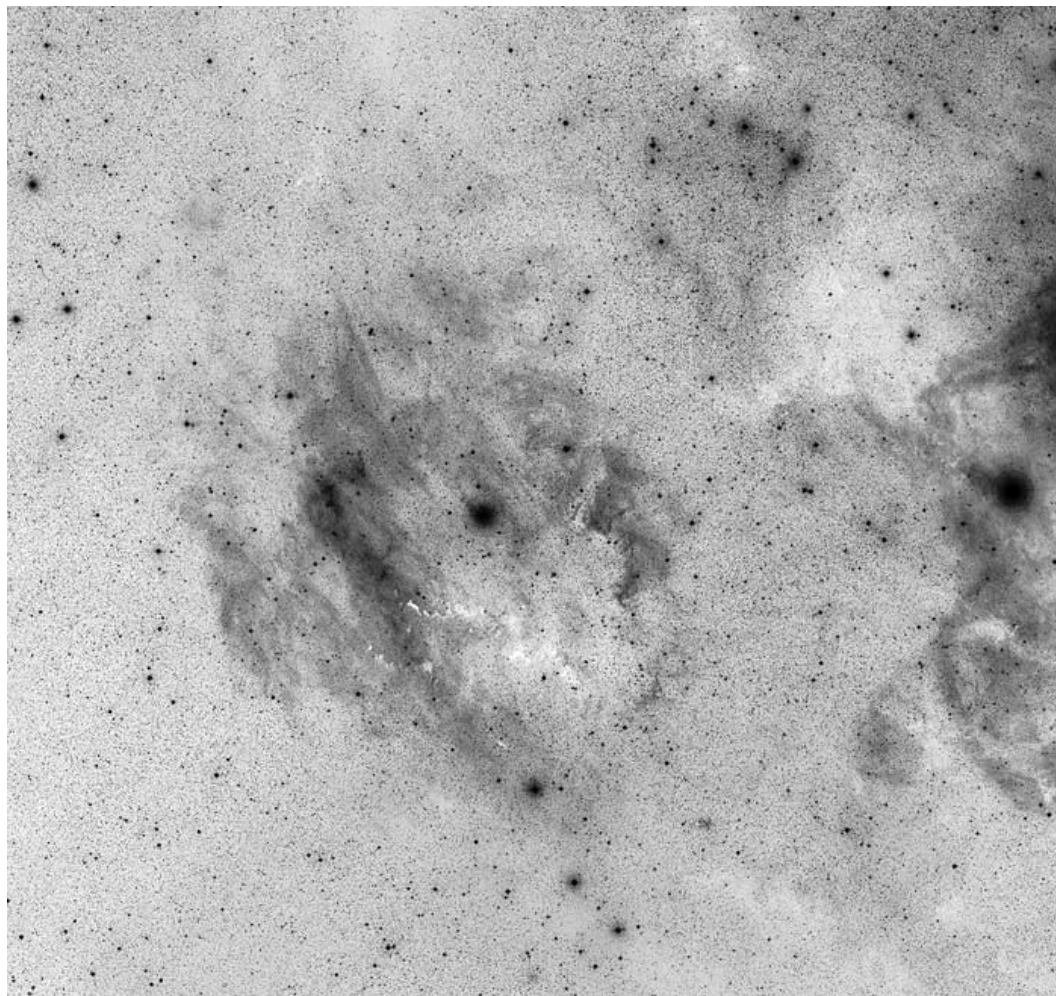
	other name	RA	dec	dia. '	F	S	B
Sh 2-118		21 37 00.7	+40 12 57	480	3	2	1

Sh 2-118 is one of the largest nebulae in apparent size in the Sharpless catalog, but essentially nothing about it has been published in the scientific literature. Sh 2-113, Sh 2-114, Sh 2-118 and Sh 2-123 appear to be the brightest parts of a large hydrogen-alpha ridge that runs below the Cygnus complex.

Observing notes:



Sh 2 - 119 in Cygnus



5x5°

	other name	RA	dec	dia. '	F	S	B
Sh 2-119		21 18 25.0	+43 56 16	160	2	2	3

Distance: 700 pc, Size: 32.6 pc, Source: 1982ApJS...49..183B

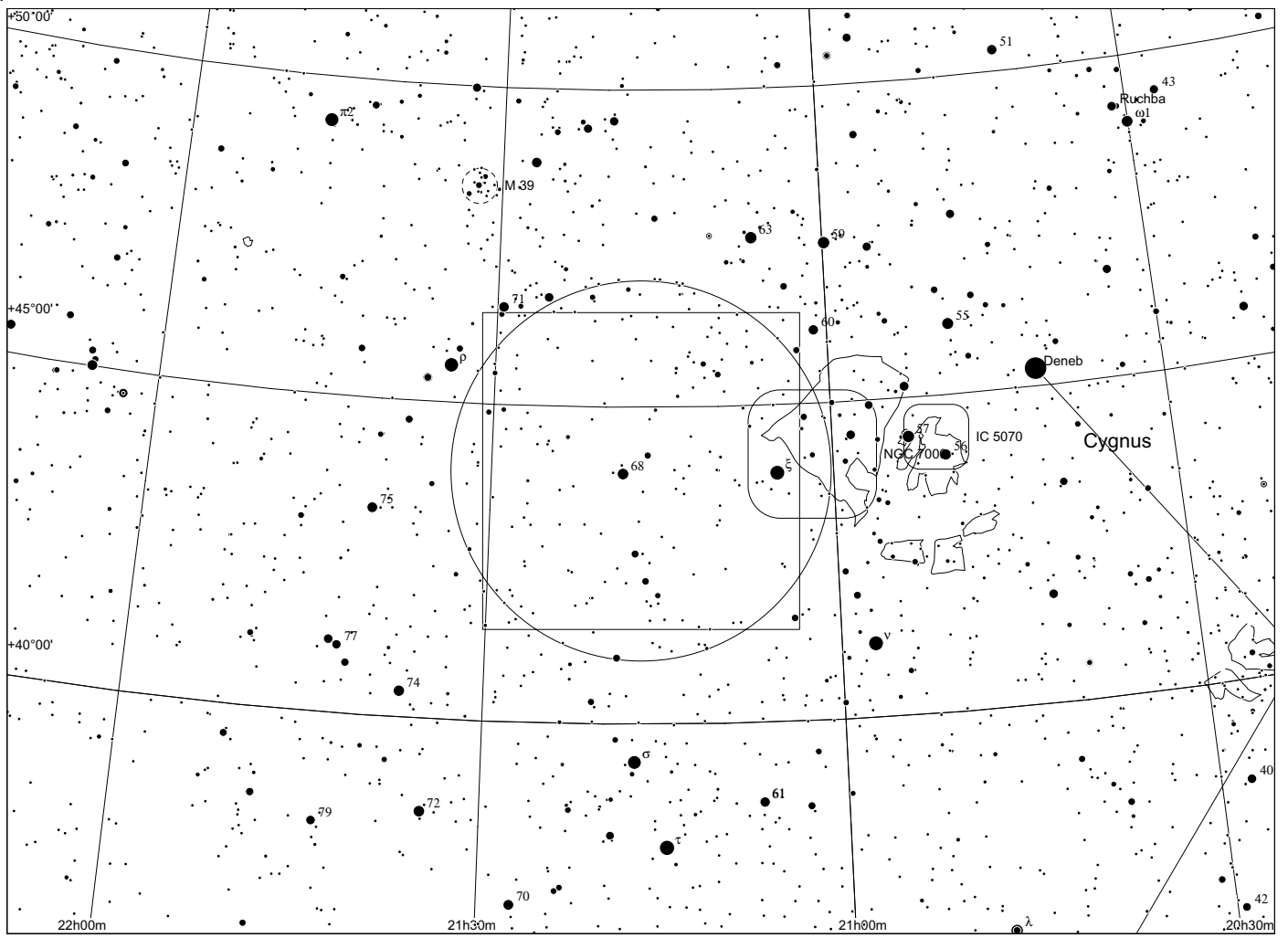
This nebula is near the North American nebula (Sh 2-117, NGC 7000) and appears to be ionised by the O 7.5 III runaway star 68 Cygni (HD 203064), which was likely blasted out of the Cepheus OB2 association about 5.2 million years ago.

Observing notes:

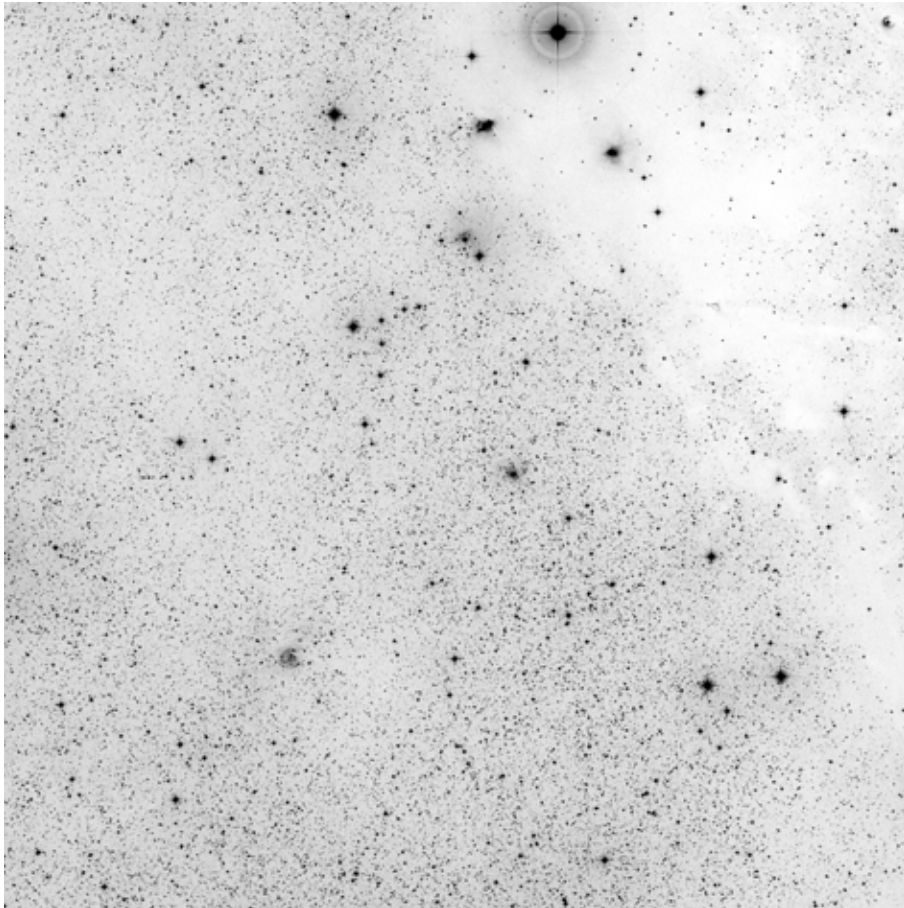
22" f/4.5

07/2006: With H beta and 100x, the eastern part is visible as a long, extremely faint and diffuse patch. Western part suspected, but doubtful.

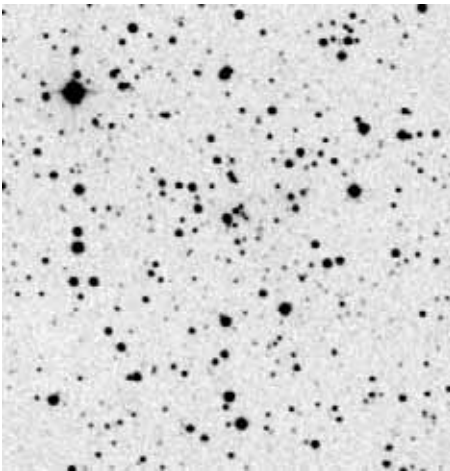
08/2012: all with H beta and 80x, under excellent conditions, this HII region is very distinct. Patchy nebula W of 68 Cygni, curves around N of star and forms long streak along E side towards S. E part appears smoother than W and N part, which are more patchy.



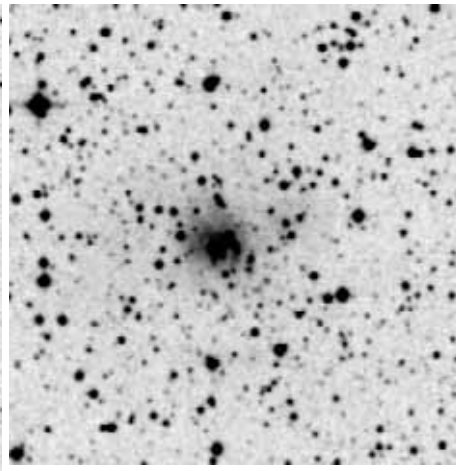
Sh 2 - 120 in Cygnus



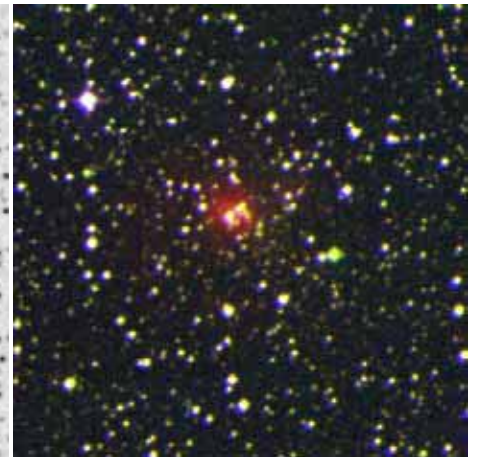
60x60, red



POSS blue



POSS red



composite

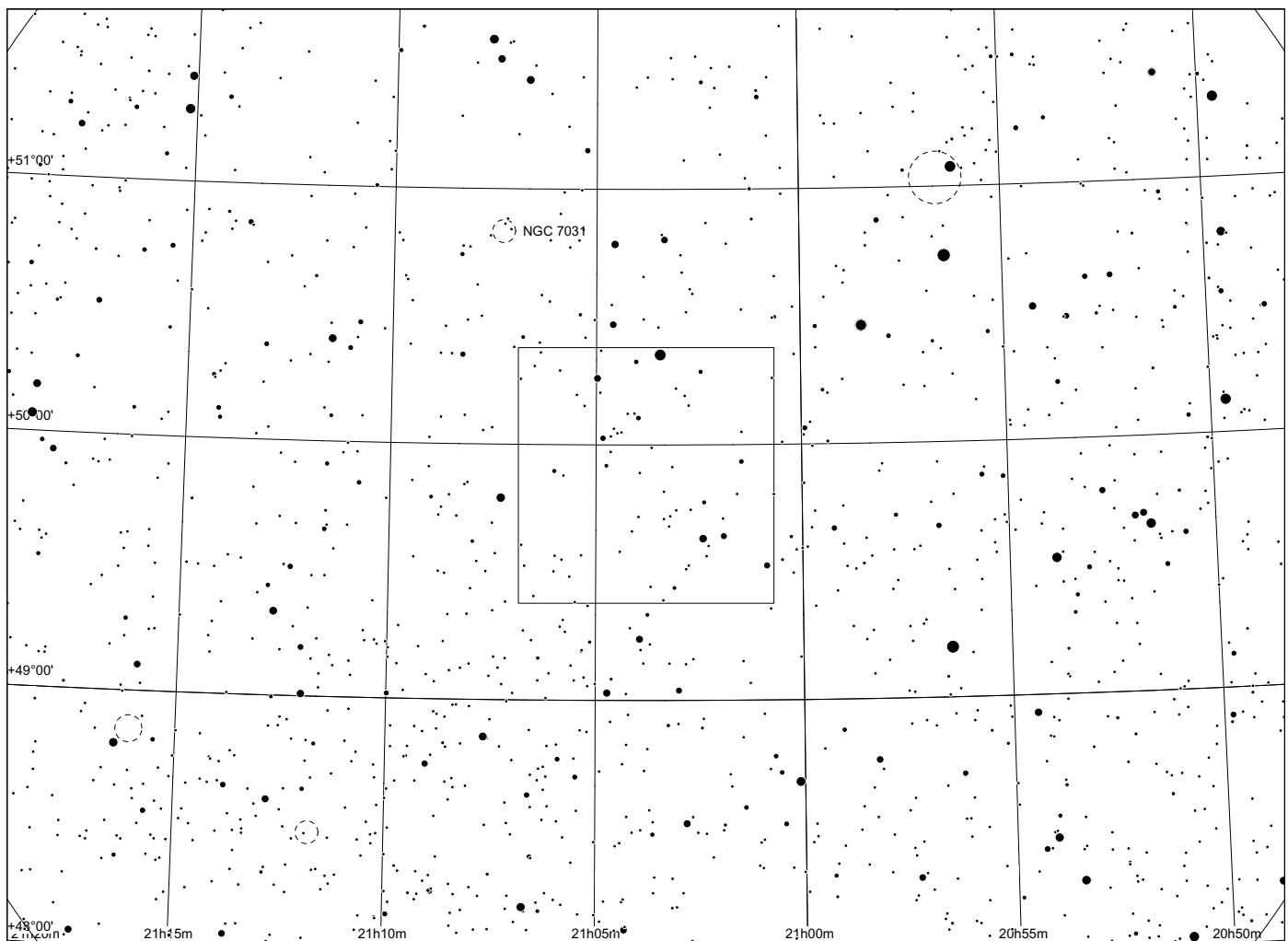
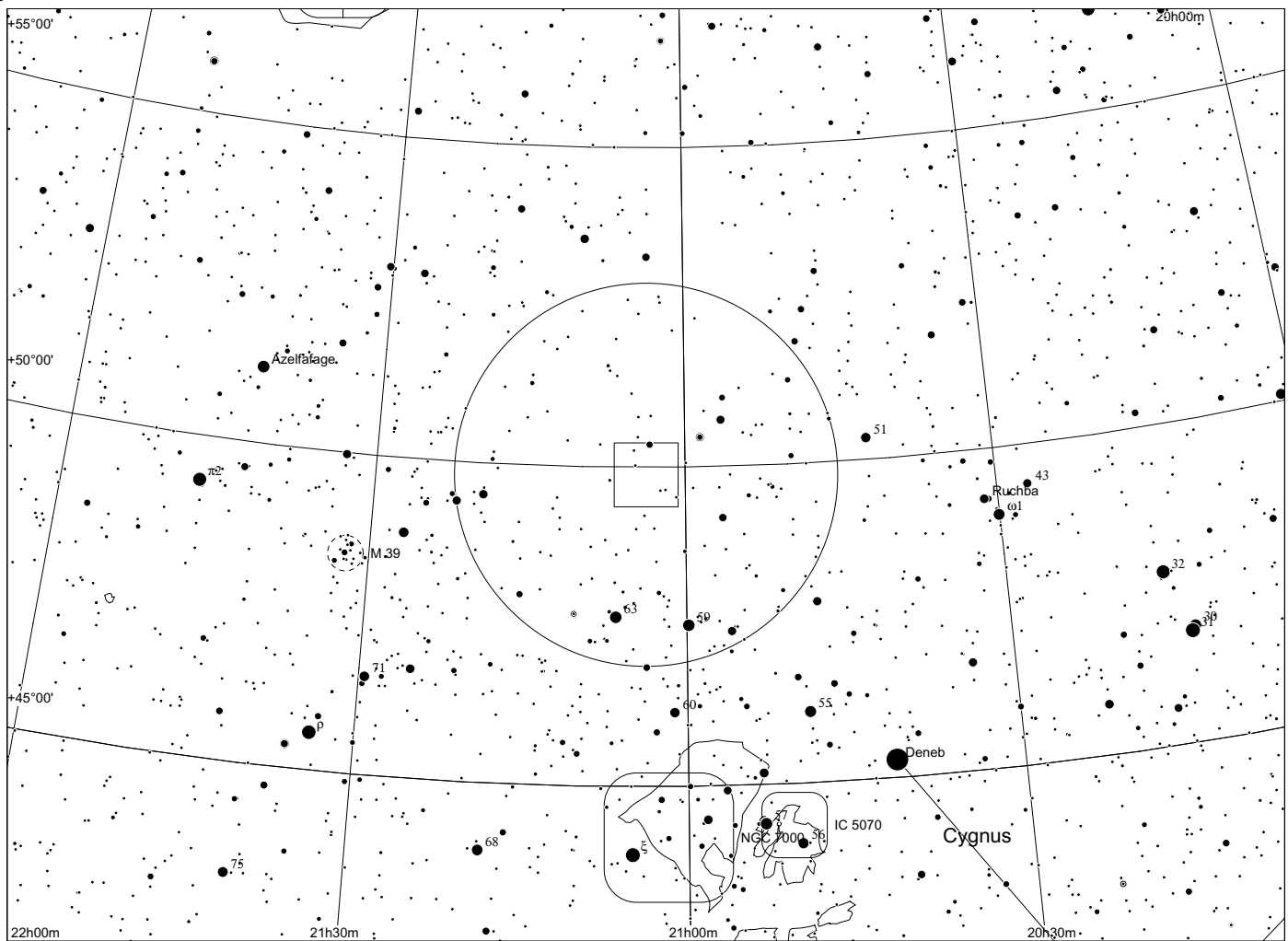
	other name	RA	dec	dia. '	F	S	B
Sh 2-120		21 03 46.6	+49 52 51	1	1	1	1

Distance: 6300 pc, Size: 1.8 pc, Source: 2003A&A...397..133R

Observing notes:

22" f/4.5

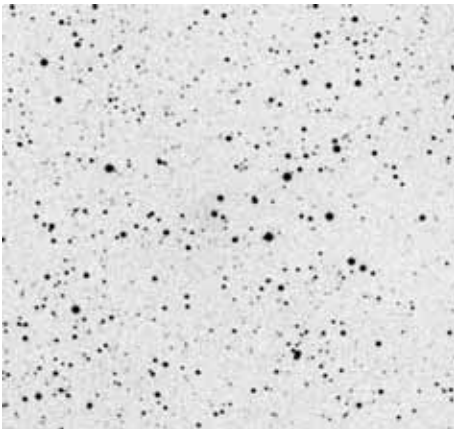
10/2011: unsuccessful



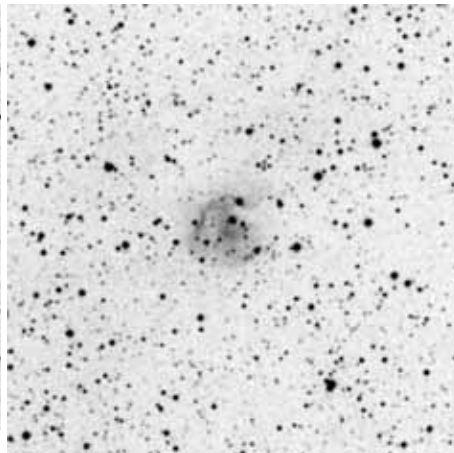
Sh 2 - 121 in Cygnus



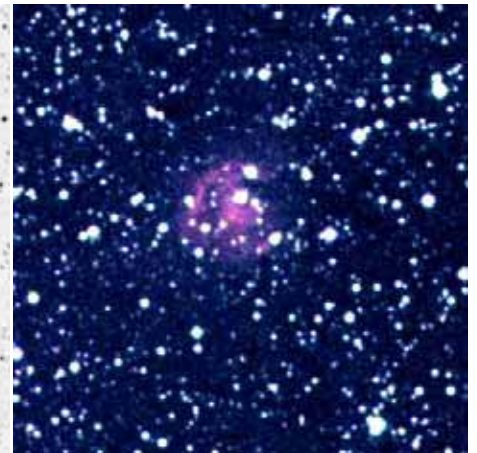
60x60, red



POSS blue



POSS red



composite

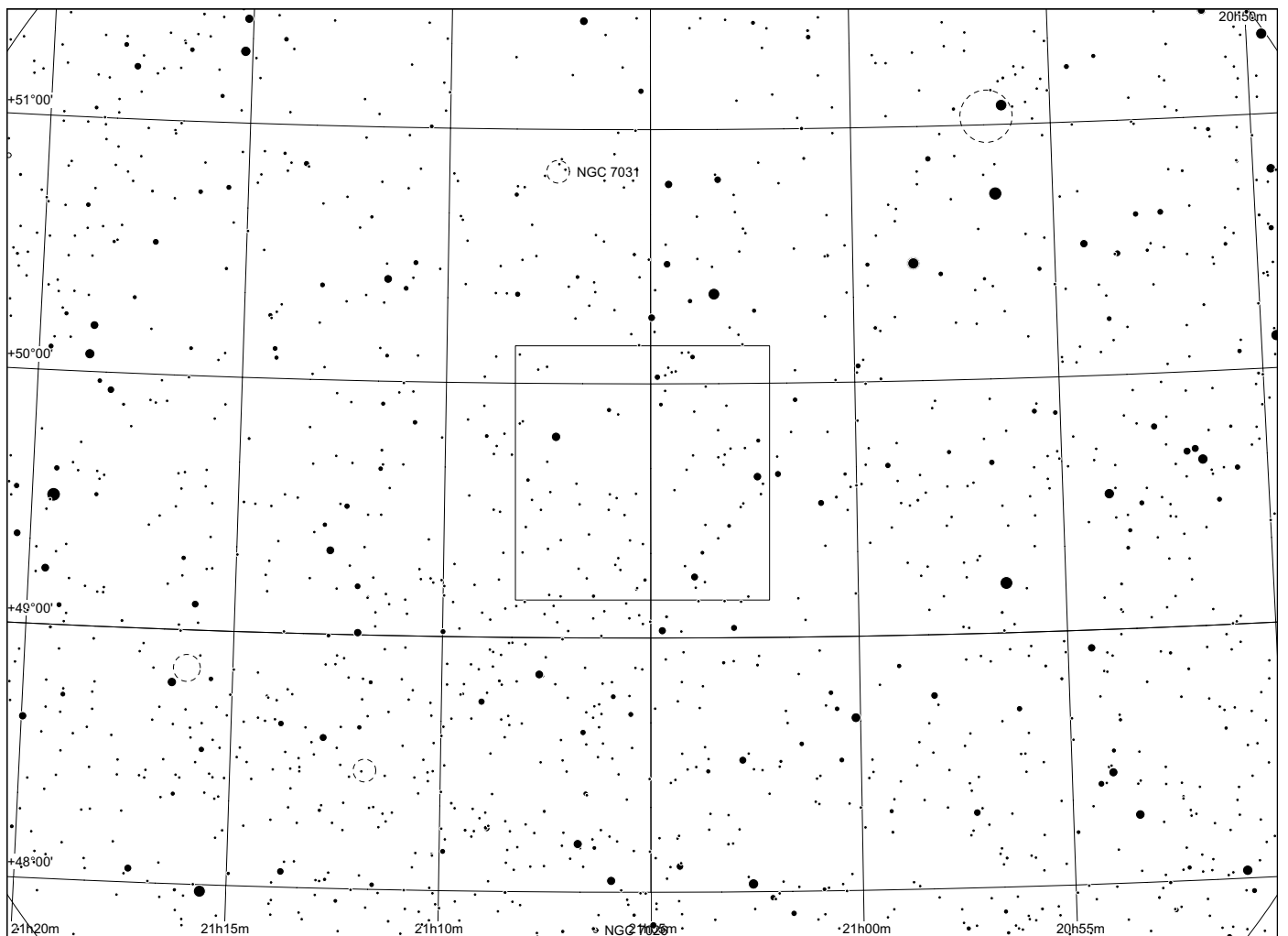
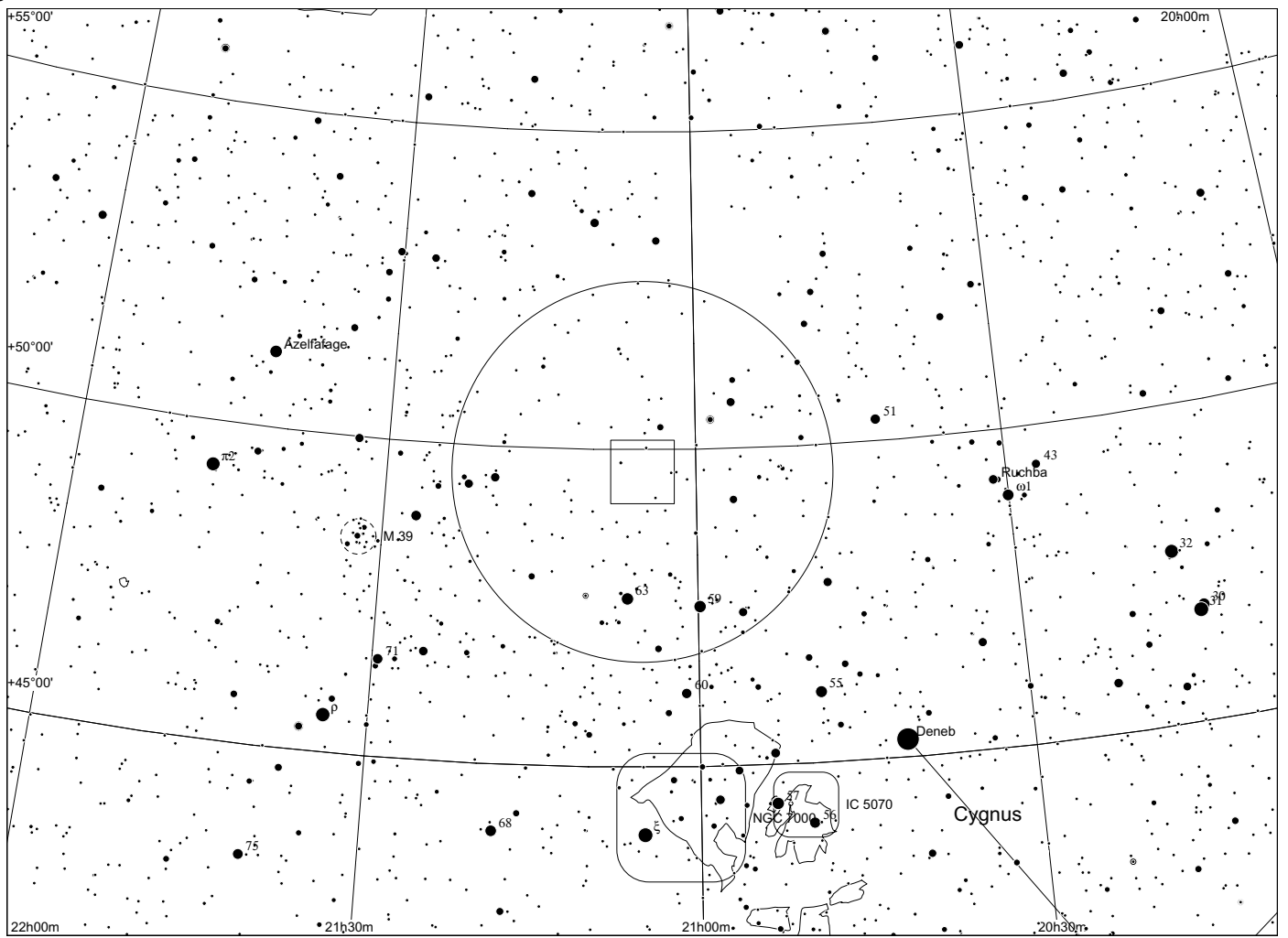
	other name	RA	dec	dia. '	F	S	B
Sh 2-121		21 05 12.4	+49 38 59	1	3	2	1

Distance: 6300 pc, Size: 1.8 pc, Source: 2003A&A...397..133R

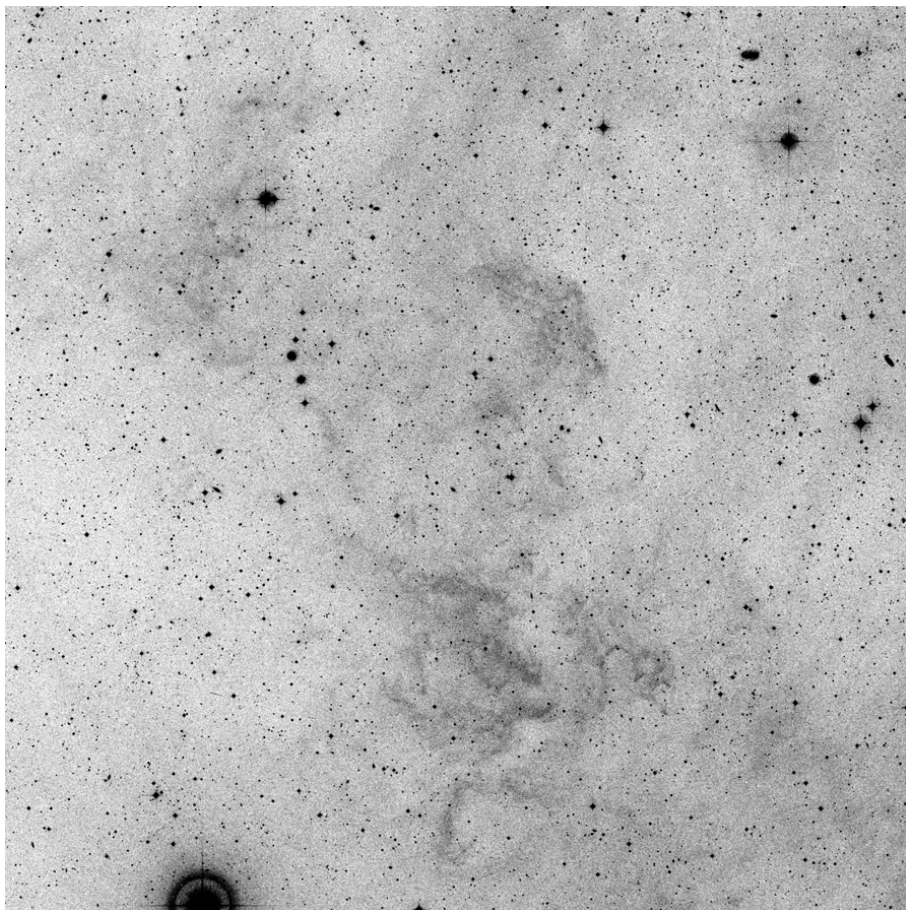
Observing notes:

22" f/4.5

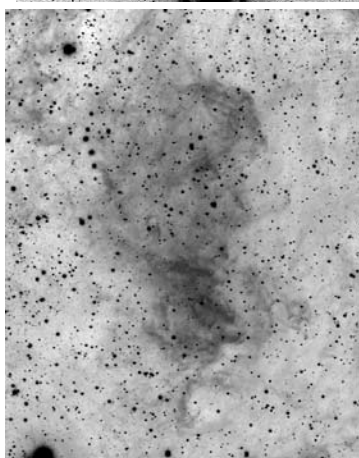
10/2011: unsuccessful



Sh 2 - 122 in Pegasus



60x60, red



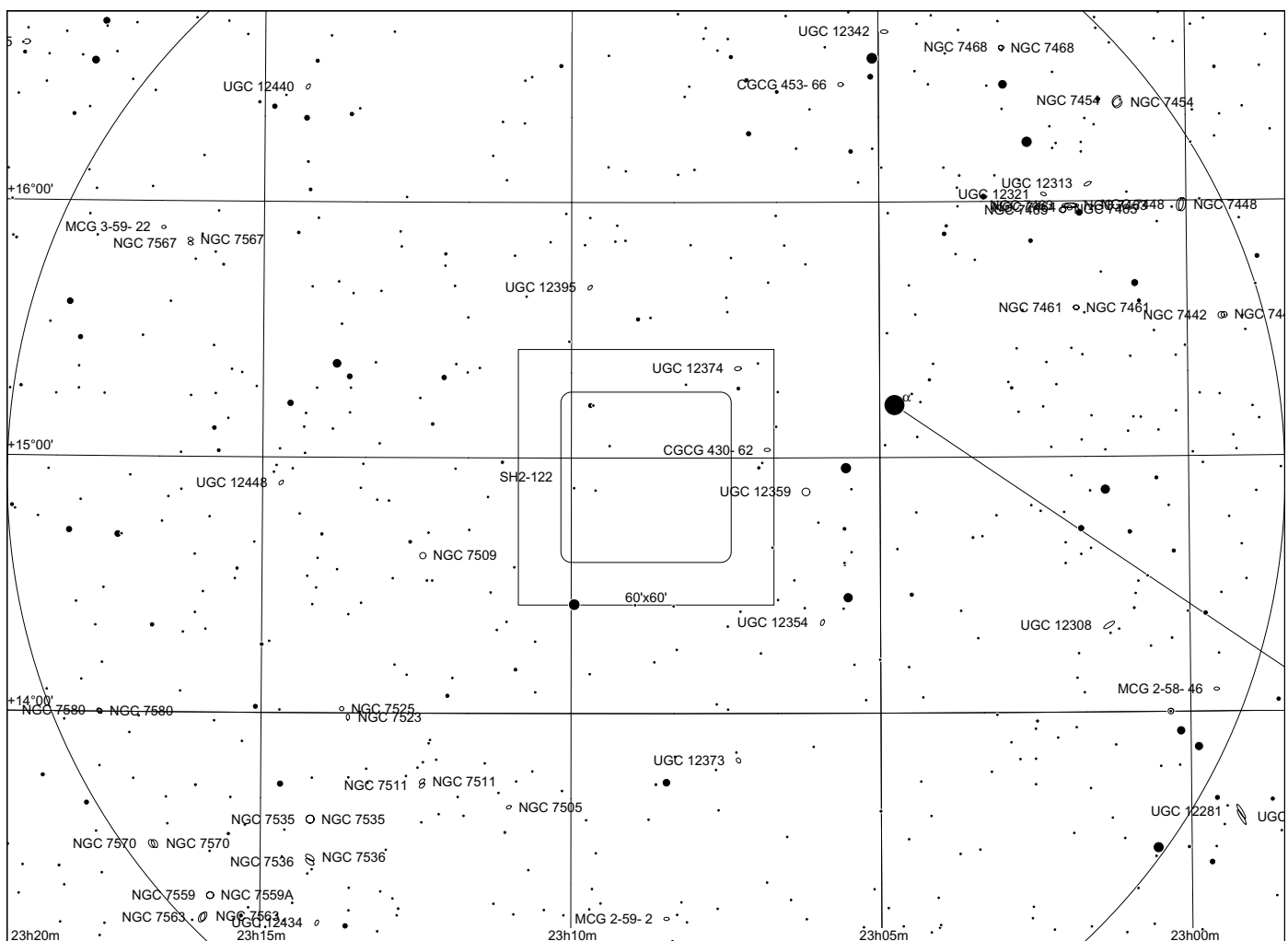
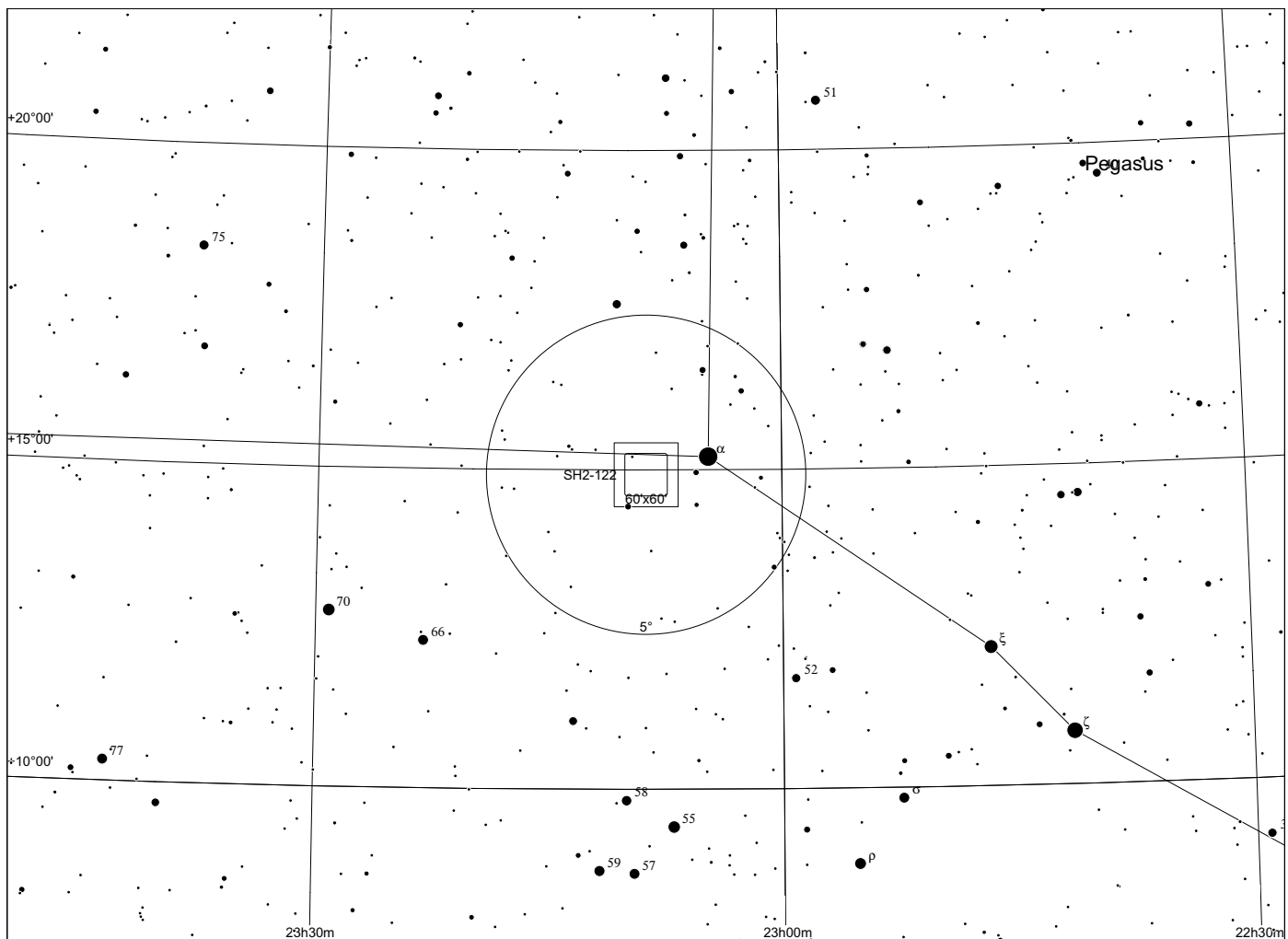
Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-122		23 08 46.7	+14 55 30	40	3	2	1

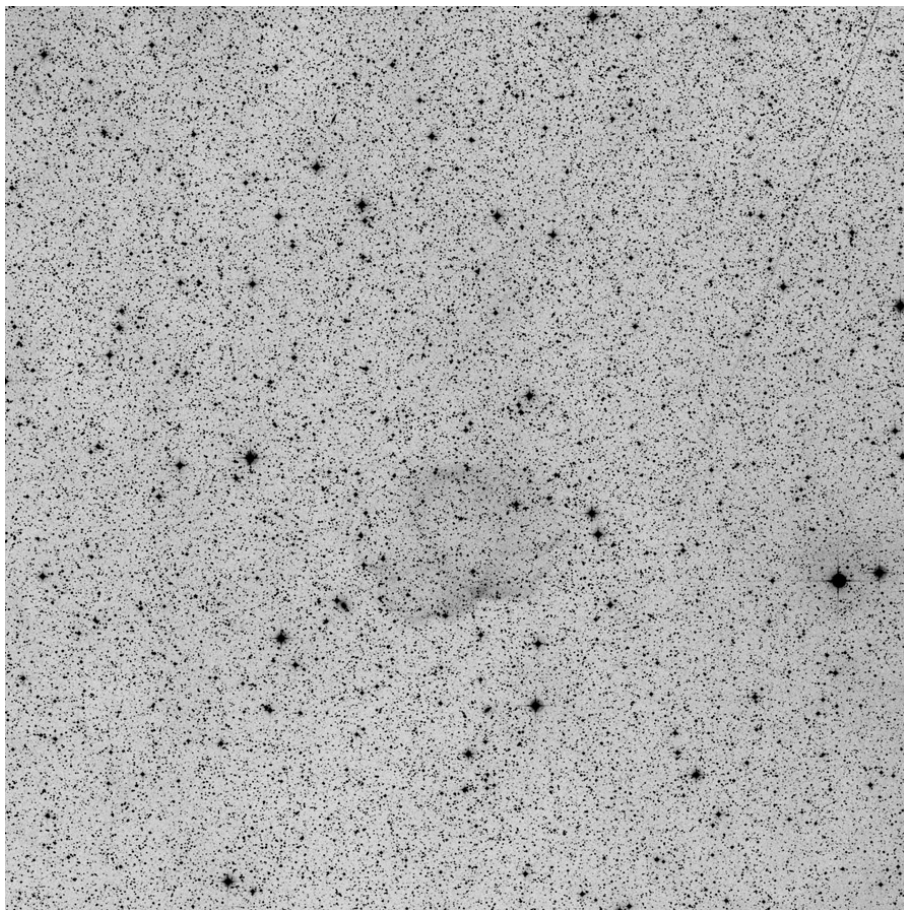
Distance: 3300 pc, Size: 38.4 pc Source: 2003A&A...397..133R

Sh 2-122 is likely a reflection nebula illuminated by an embedded but unseen star and associated with the molecular cloud MBM 55, at a distance of 150 pc.

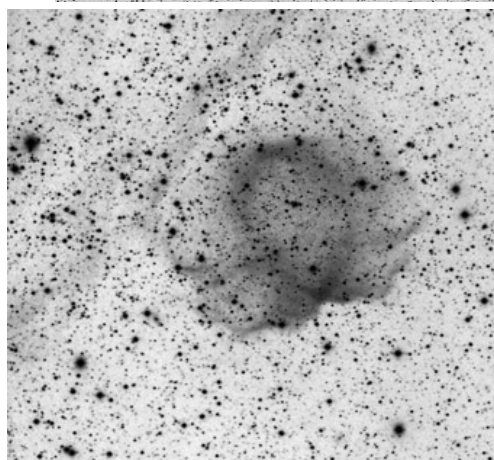
Observing notes:



Sh 2 - 123 in Cygnus



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-123		21 42 22.5	+44 32 25	13	2	2	2

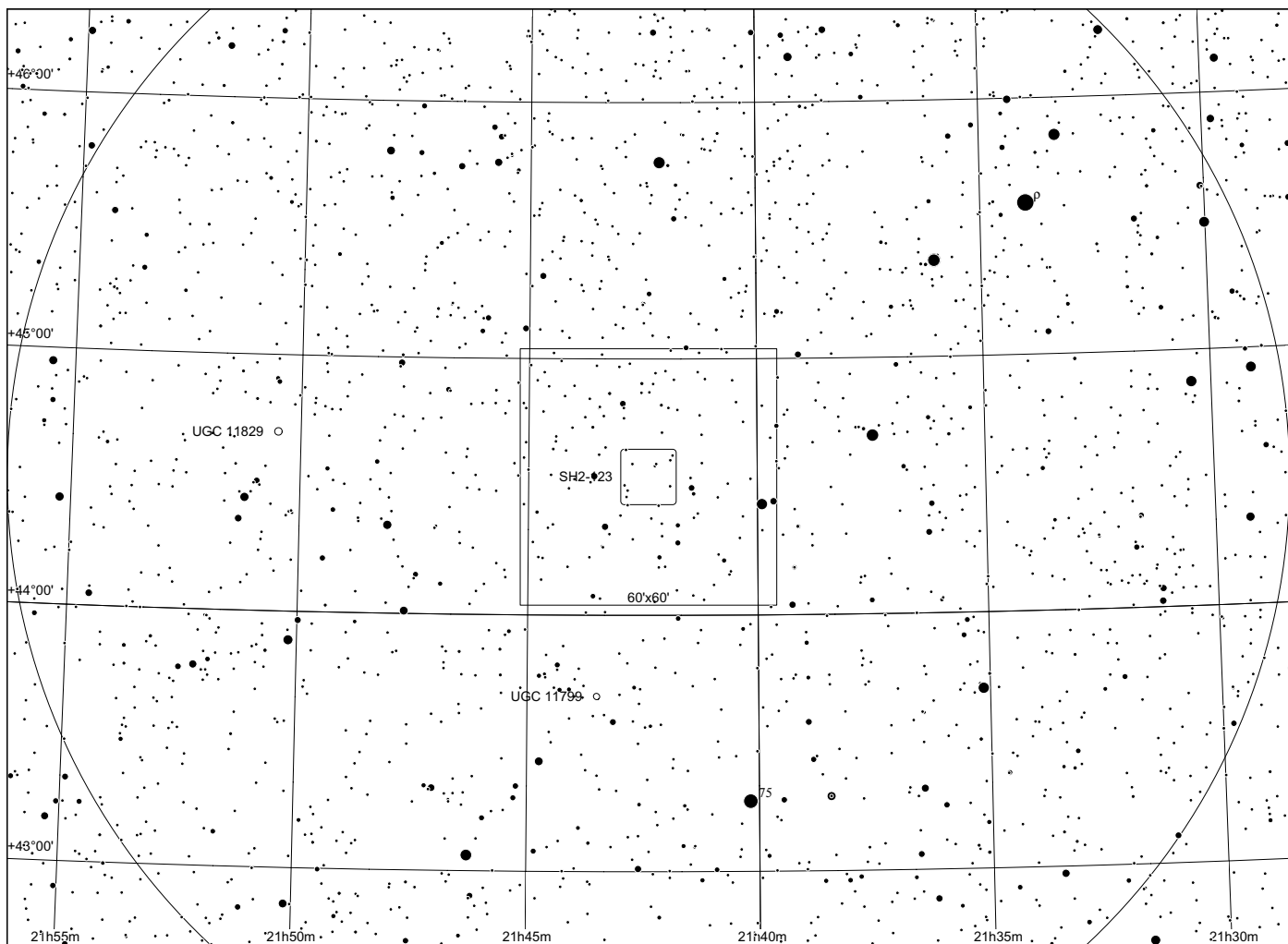
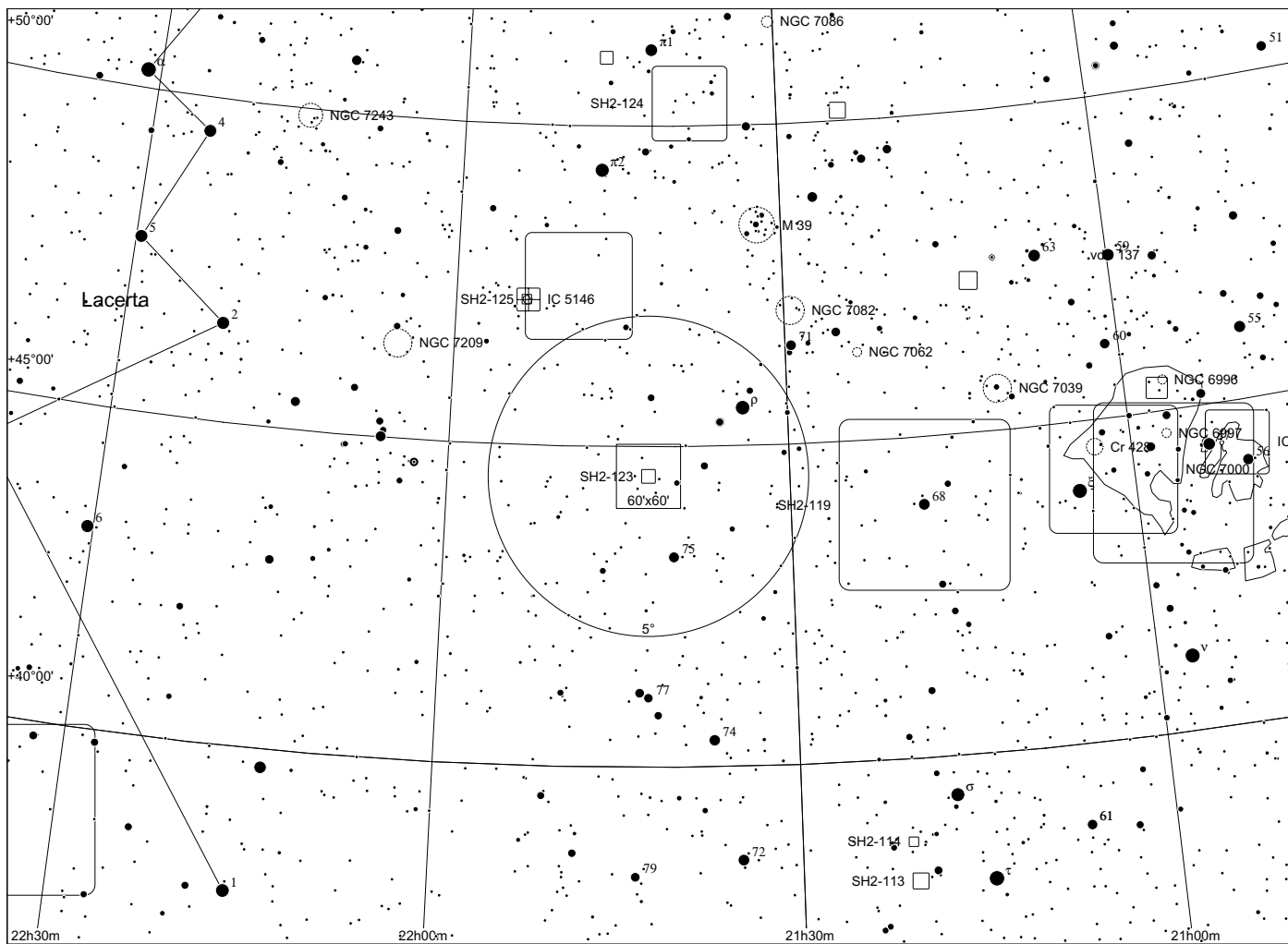
Distance: 3800 pc, Size: 14.4 pc Source: 2003A&A...397..133R

Sh 2-113, Sh 2-114, Sh 2-118 and Sh 2-123 appear to be the brightest parts of a large hydrogen-alpha ridge that runs below the Cygnus complex.

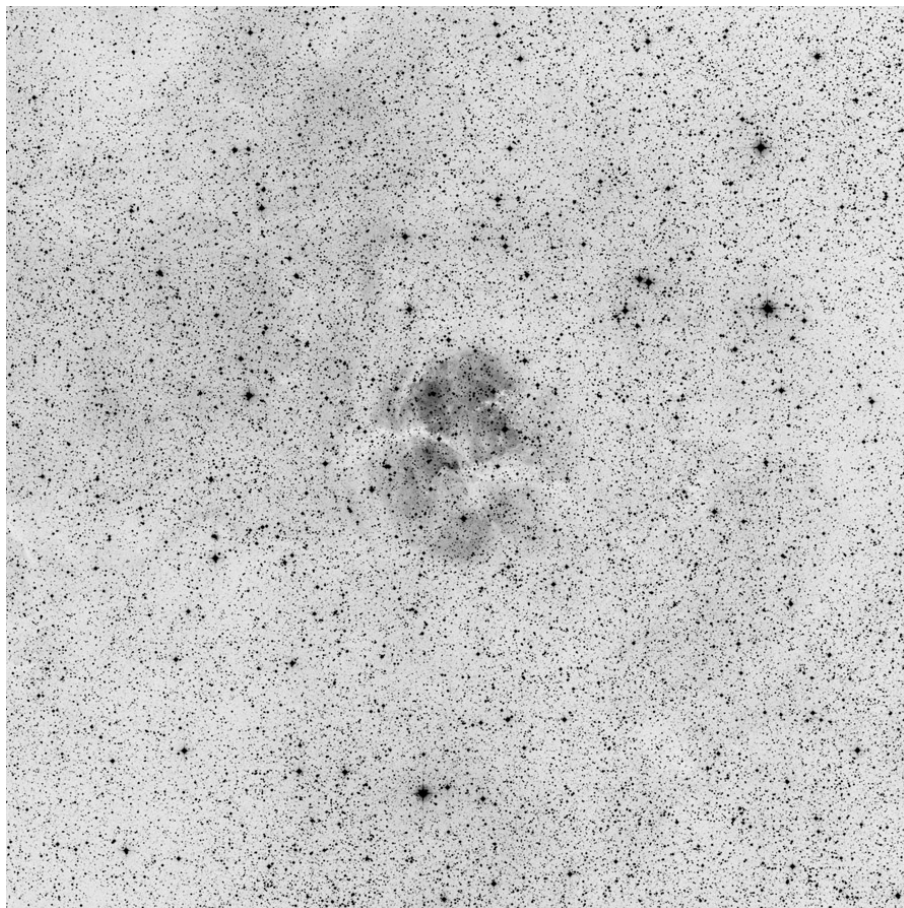
Observing notes:

22" f/4.5

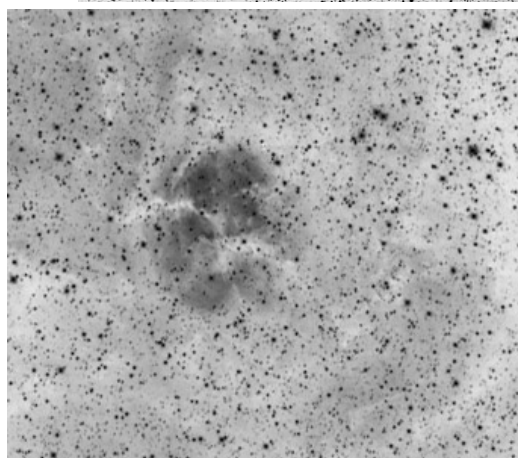
07/2012: unsuccessful



Sh 2 - 124 in Cygnus



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-124		21 38 20.9	+50 21 05	70	1	2	2

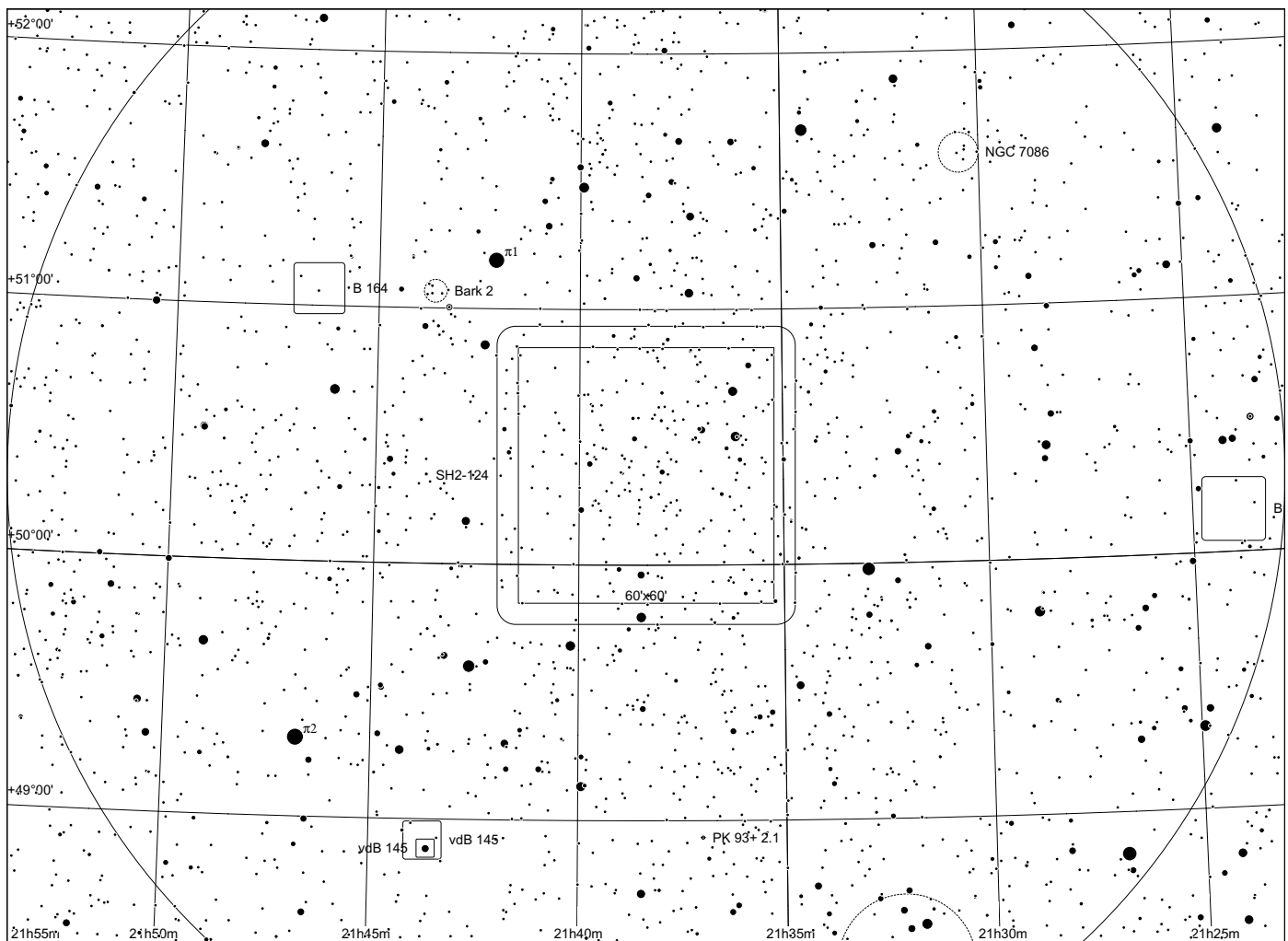
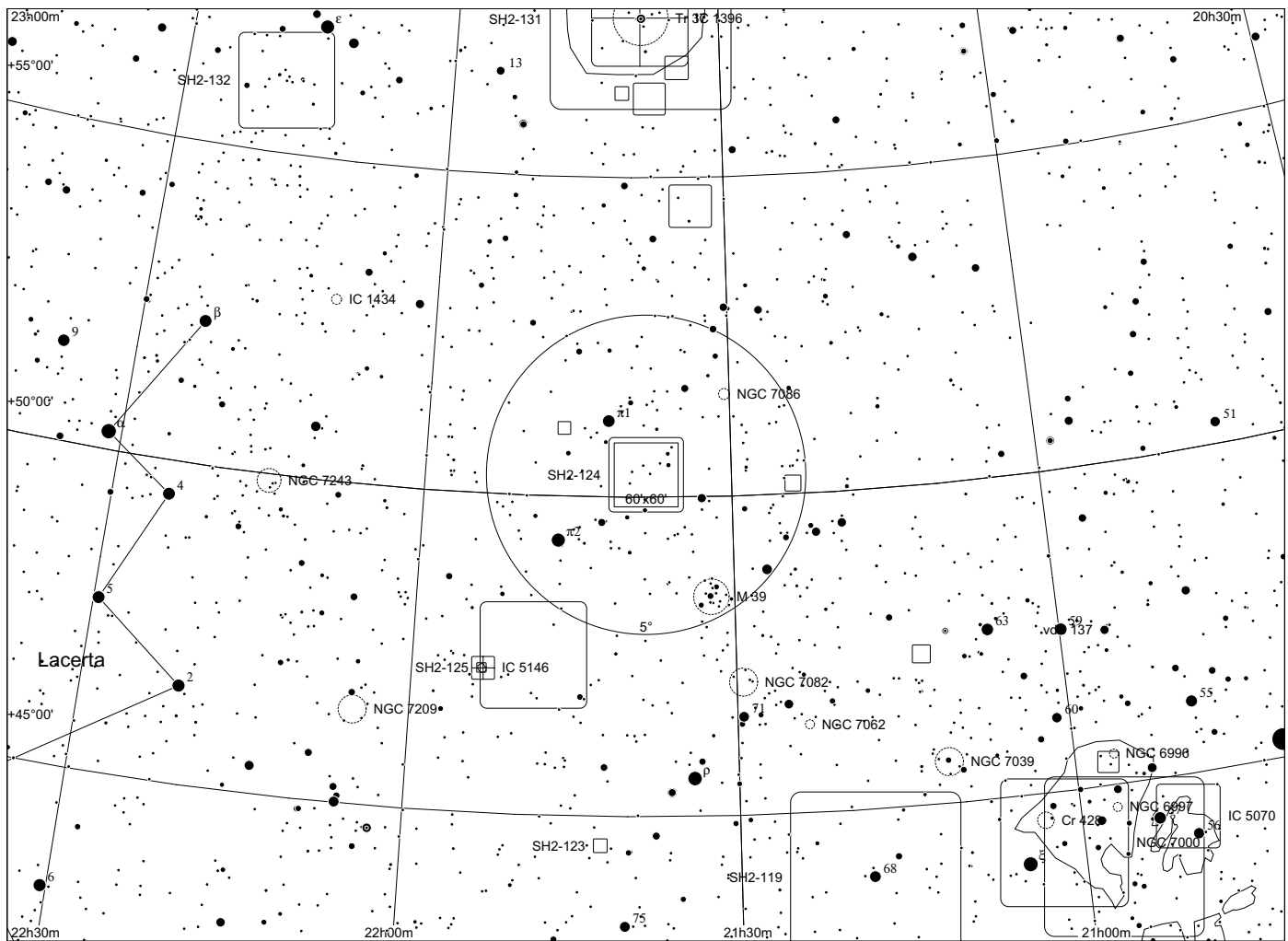
Distance: 2600 pc, Size: 52.9 pc Source: 1982ApJS...49..183B

Although very little appears in the scientific literature on the mysterious HII region Sh 2-124, located some distance to the west of the Cep OB1 association, recent detailed hydrogen-alpha imaging done for the IPHAS project reveals the structure of this violin-shaped nebula in spectacular detail. Chini and Wink identify two uncatalogued ionising stars, with classes O7V and B2V, and give a distance estimate of 3600 parsecs. Crampton, Georgelin and Georgelin give a kinematic distance (based on gas velocity) of 4400 parsecs. Felli and Harten give a list of 5 ionising stars, including the O7.5 class LS III +50 28, and support the BFS distance estimate of 2600 parsecs.

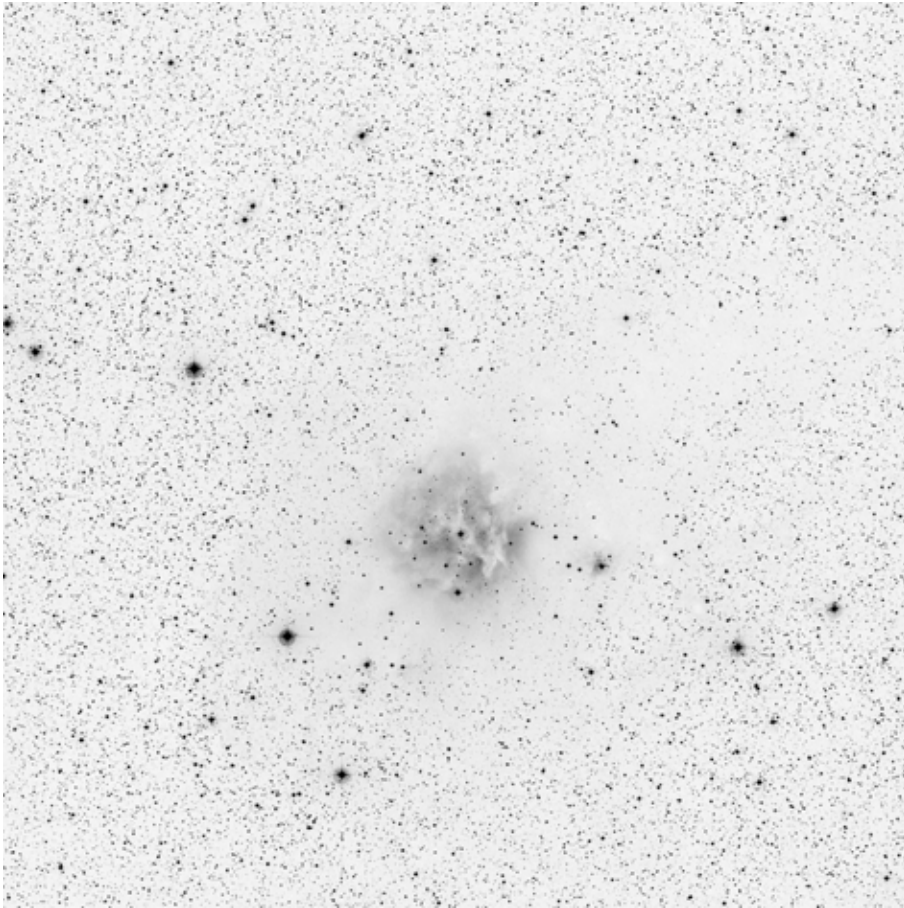
Observing notes:

22" f/4.5

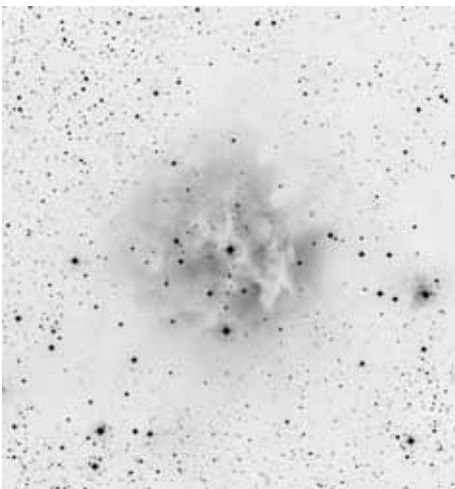
07/2012: unsuccessful



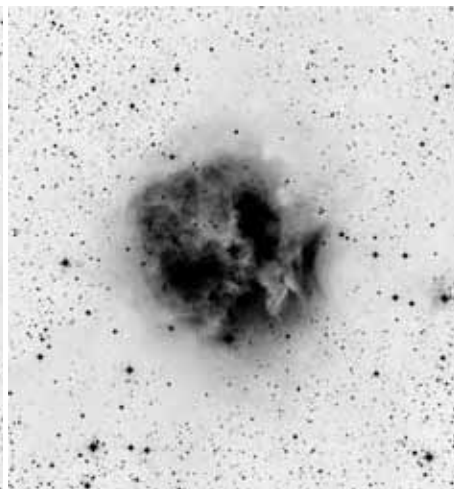
Sh 2 - 125 in Cygnus



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-125	IC 5146 = Cocoon Nebula	21 53 32.7	+47 16 18	9	2	2	3

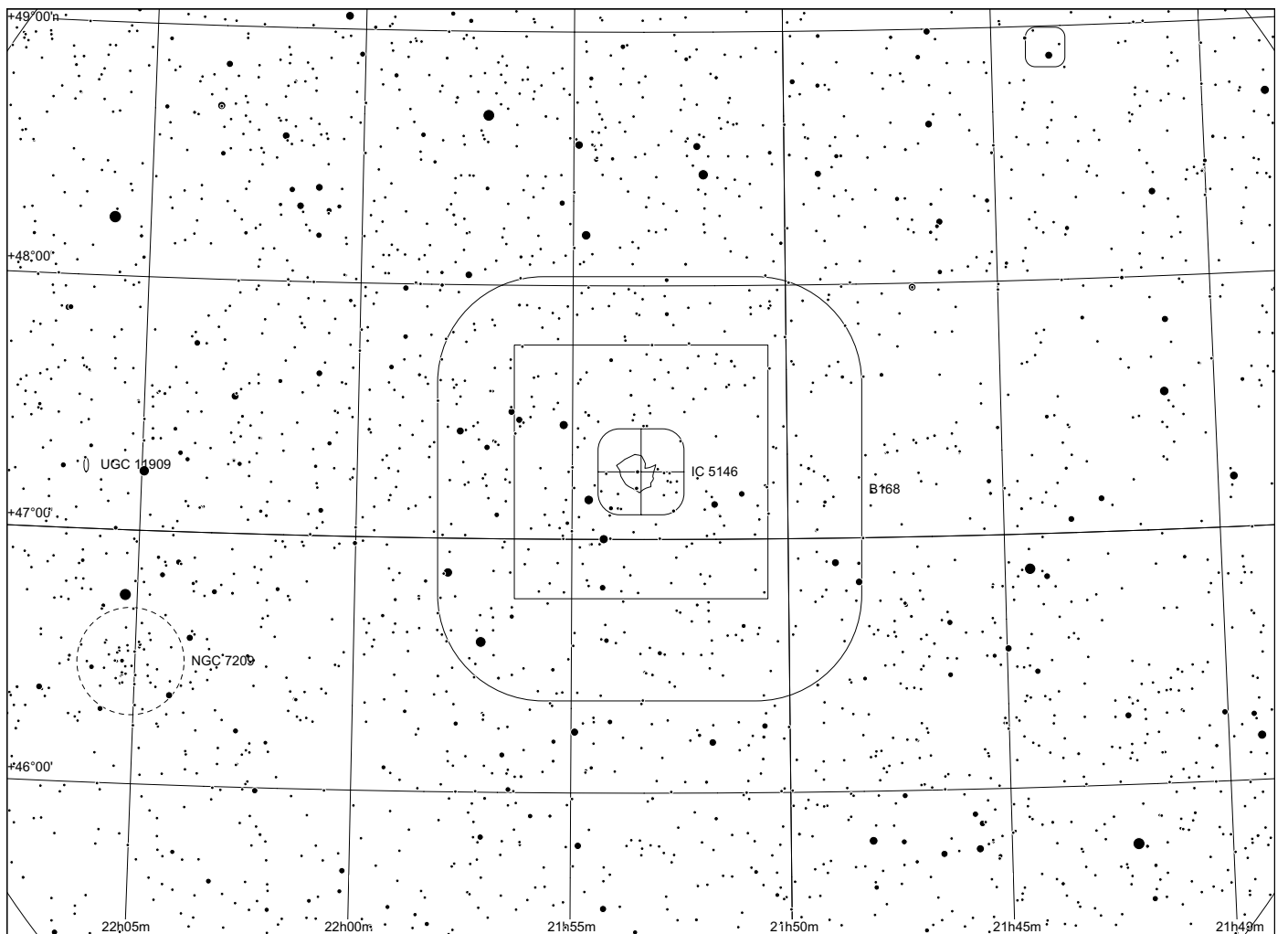
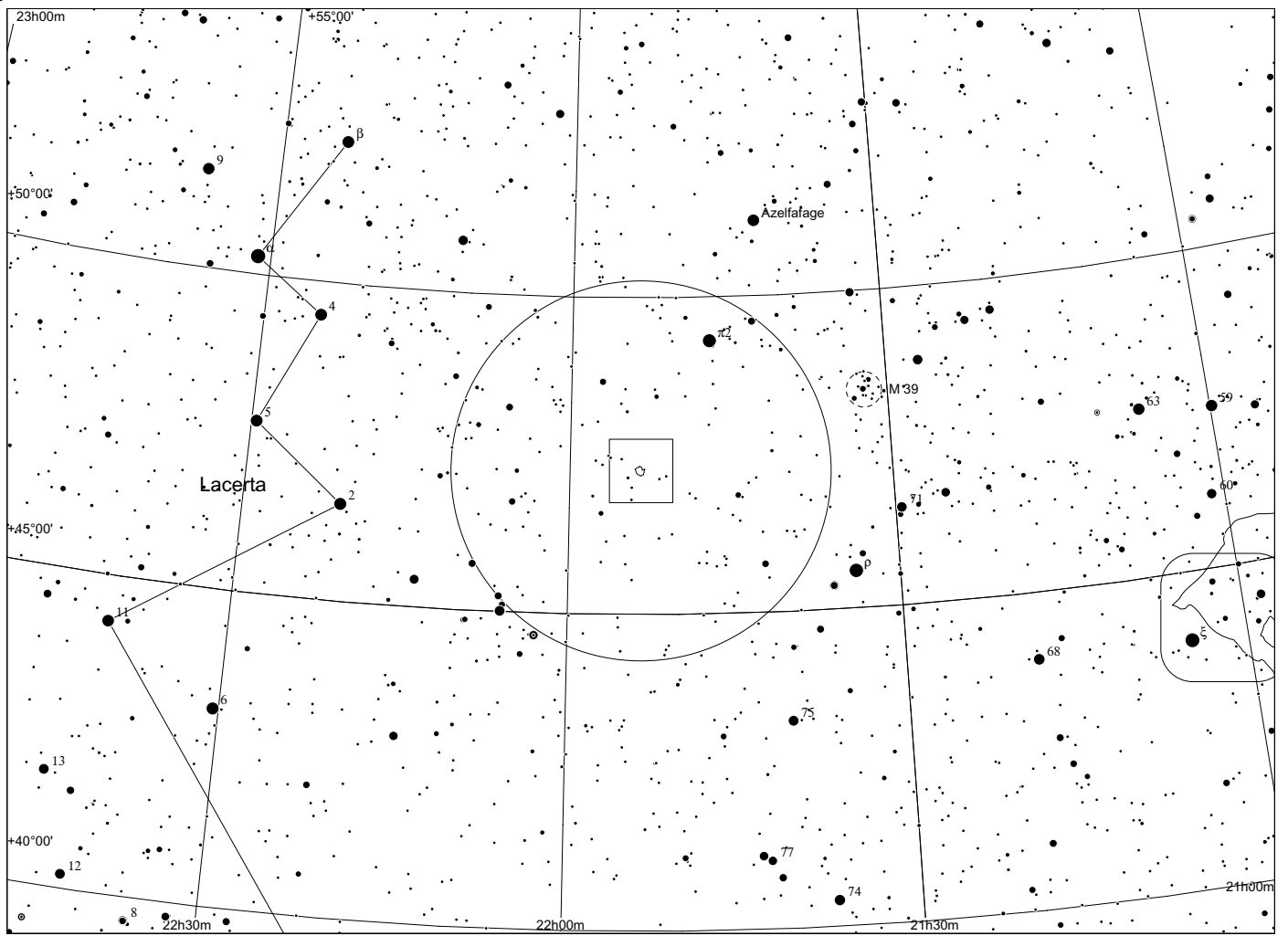
Distance: 1000 pc, Size: 2.6 pc, Source: 1982ApJS...49..183B

The Cocoon nebula is associated with the star cluster IC 5146.

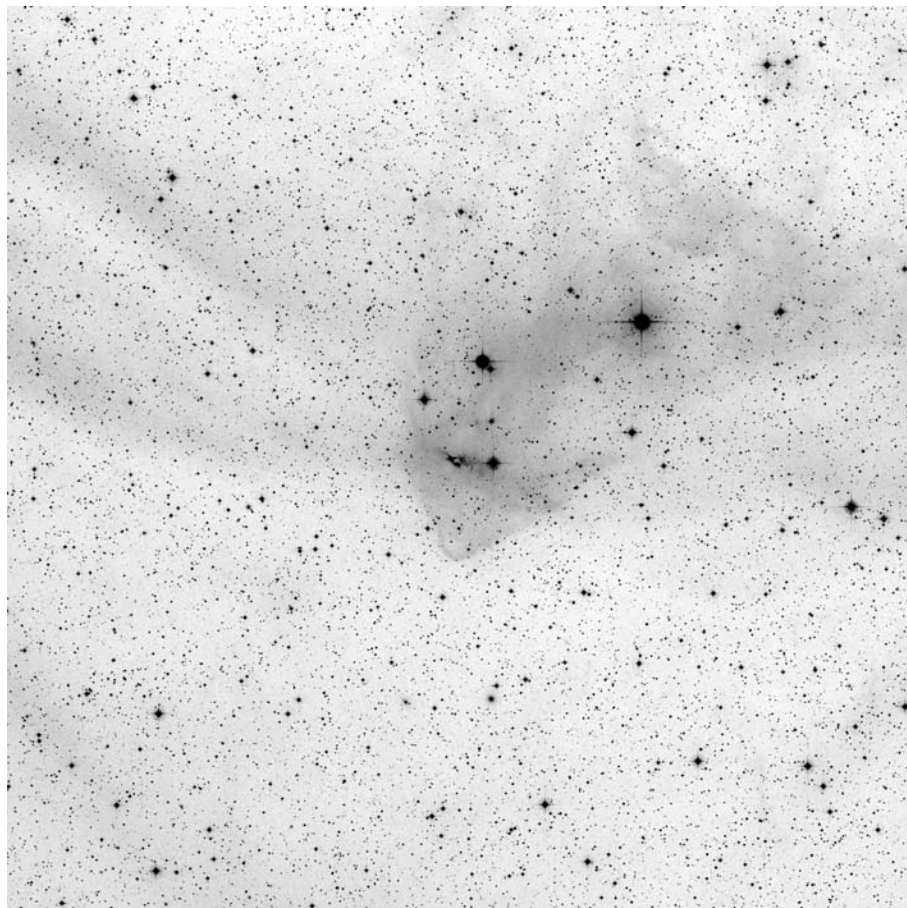
Observing notes:

22" f/4.5

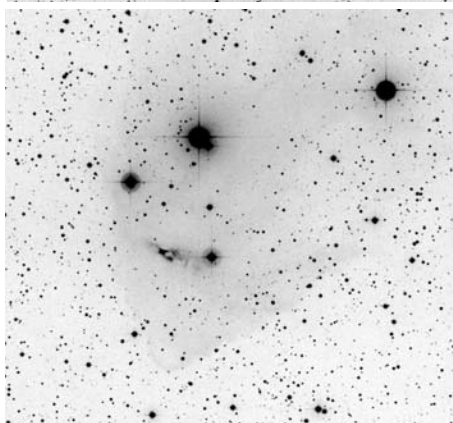
The Cocoon is visibly already w/o filter as a weak glow around a little group of stars. This is the RN part of the nebula. Emission nebula is most prominent with H beta. At very low magnification, the nebula can be observed as one end of a distinct dark filament.



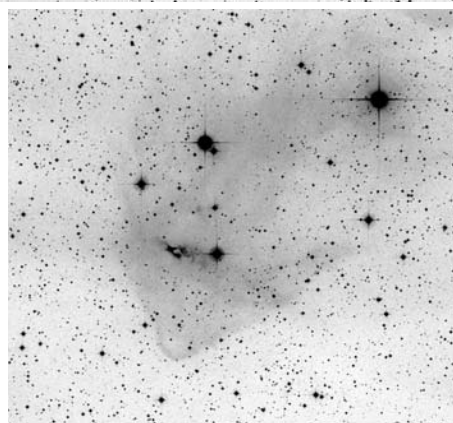
Sh 2 - 126 in Lacerta



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-126		22 34 38	+40 40 00	160	3	2	2

Distance: 600 pc, Size: 27.9 pc, Source: 1982ApJS...49..183B

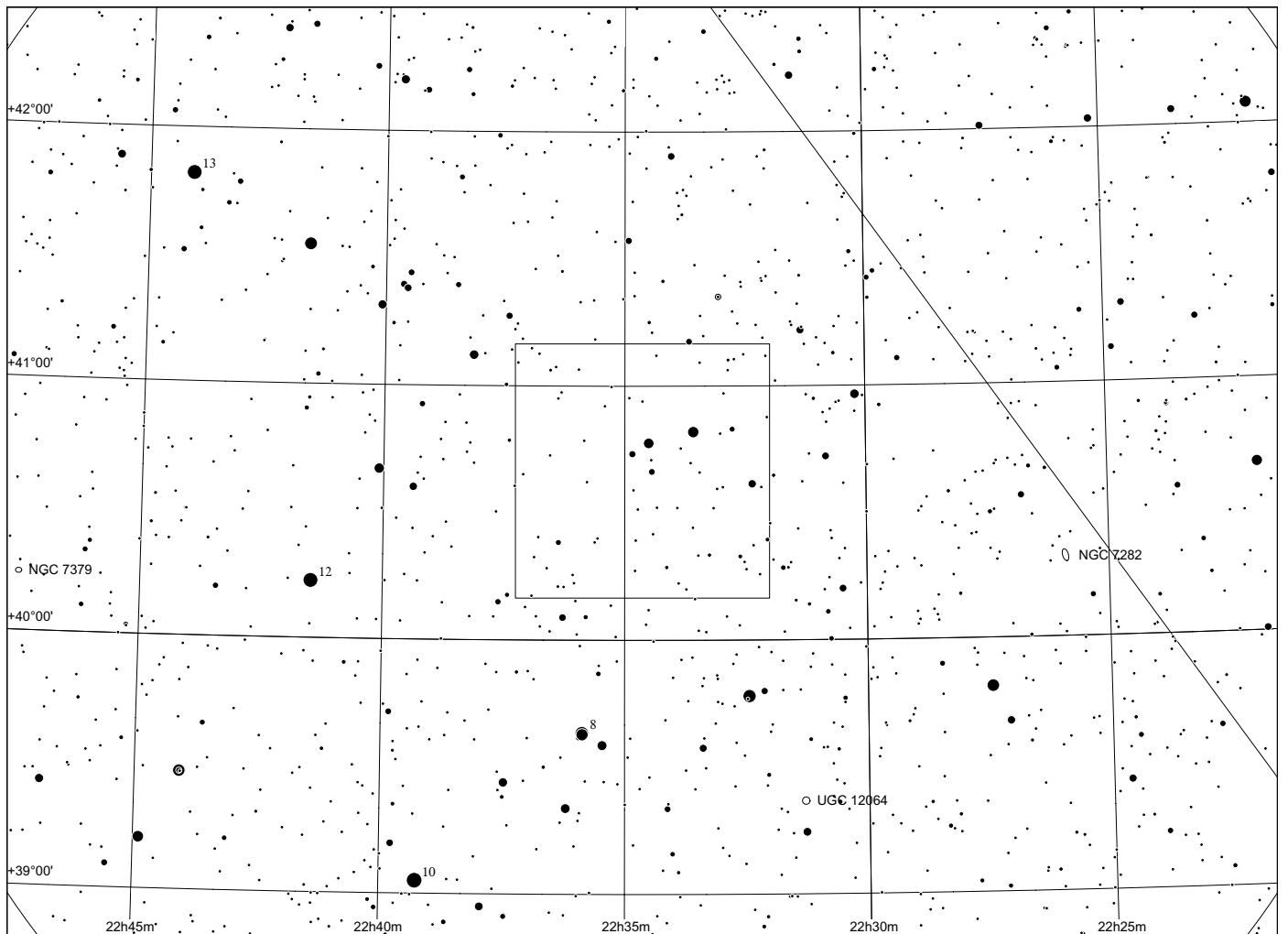
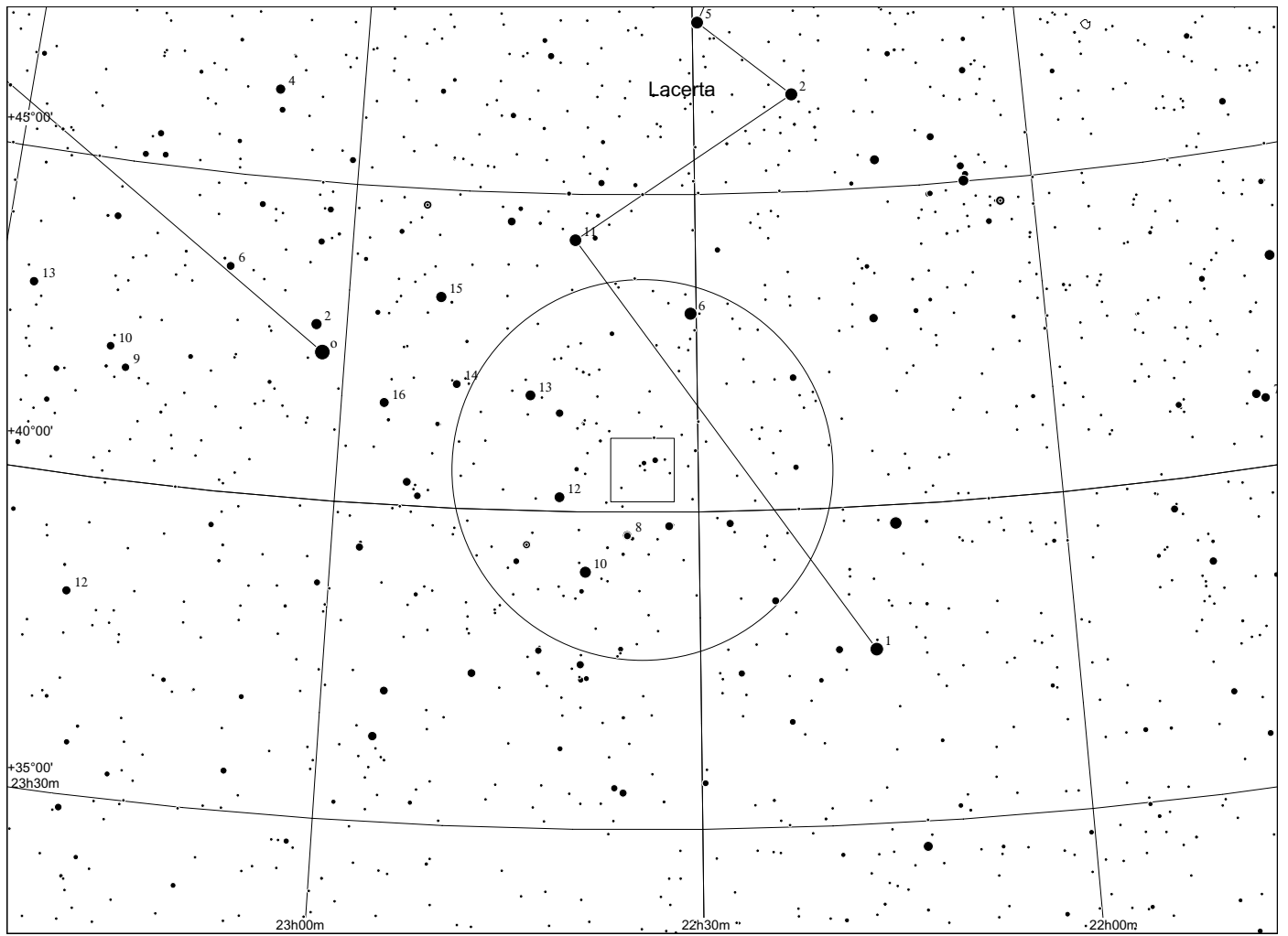
This HII region is also called the 10 Lacertae complex.

Observing notes:

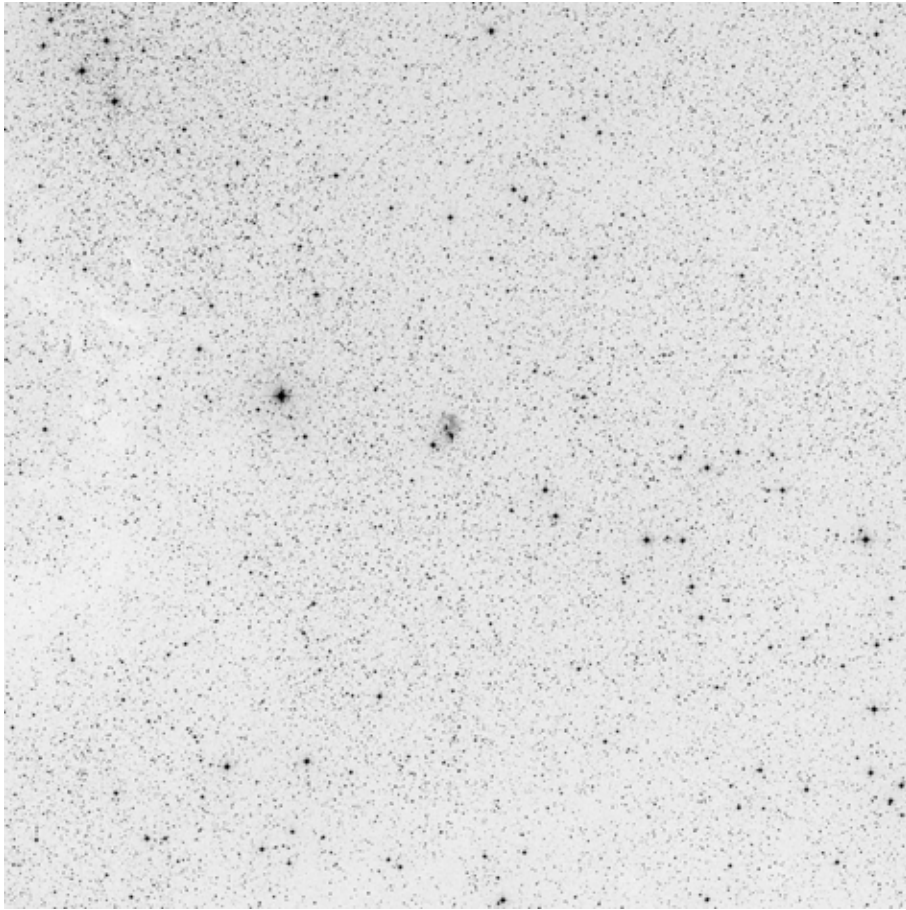
22" f/4.5

10/2010: extremely faint glow suspected w/o filter, doubtful.

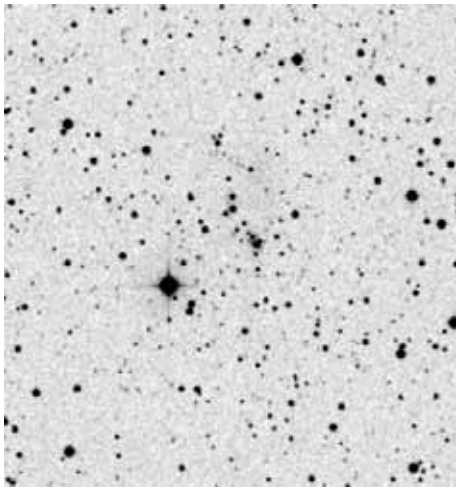
Contains V375 Lac as a YSO, appears at 350x as a faint star. extensions could not be observed.



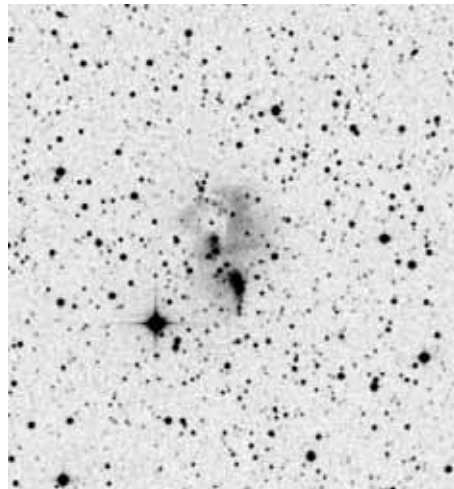
Sh 2 - 127 in Cygnus



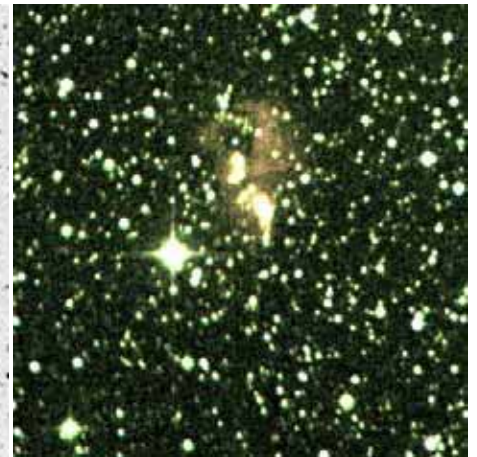
60x60, red



POSS blue



POSS red



composite

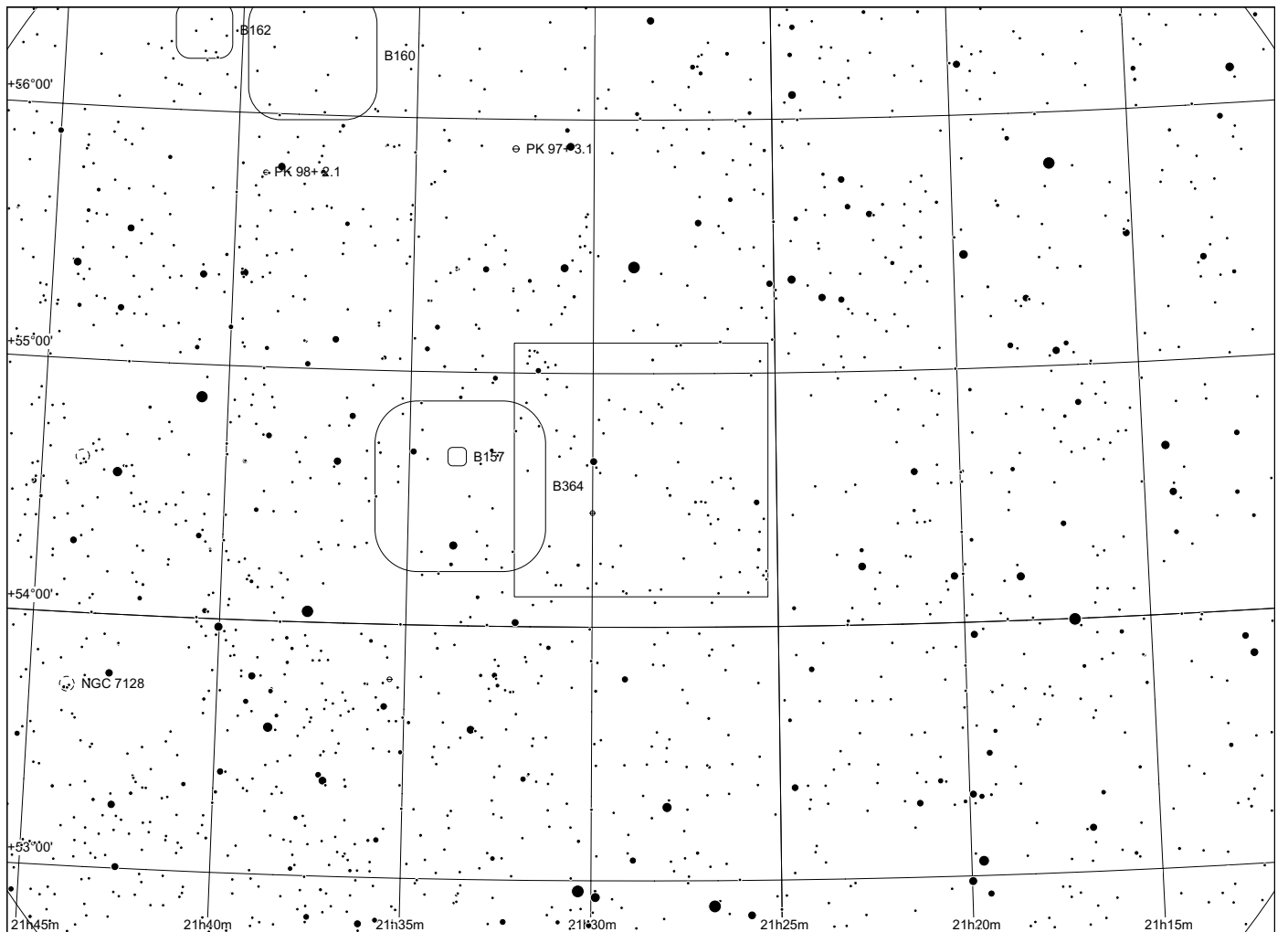
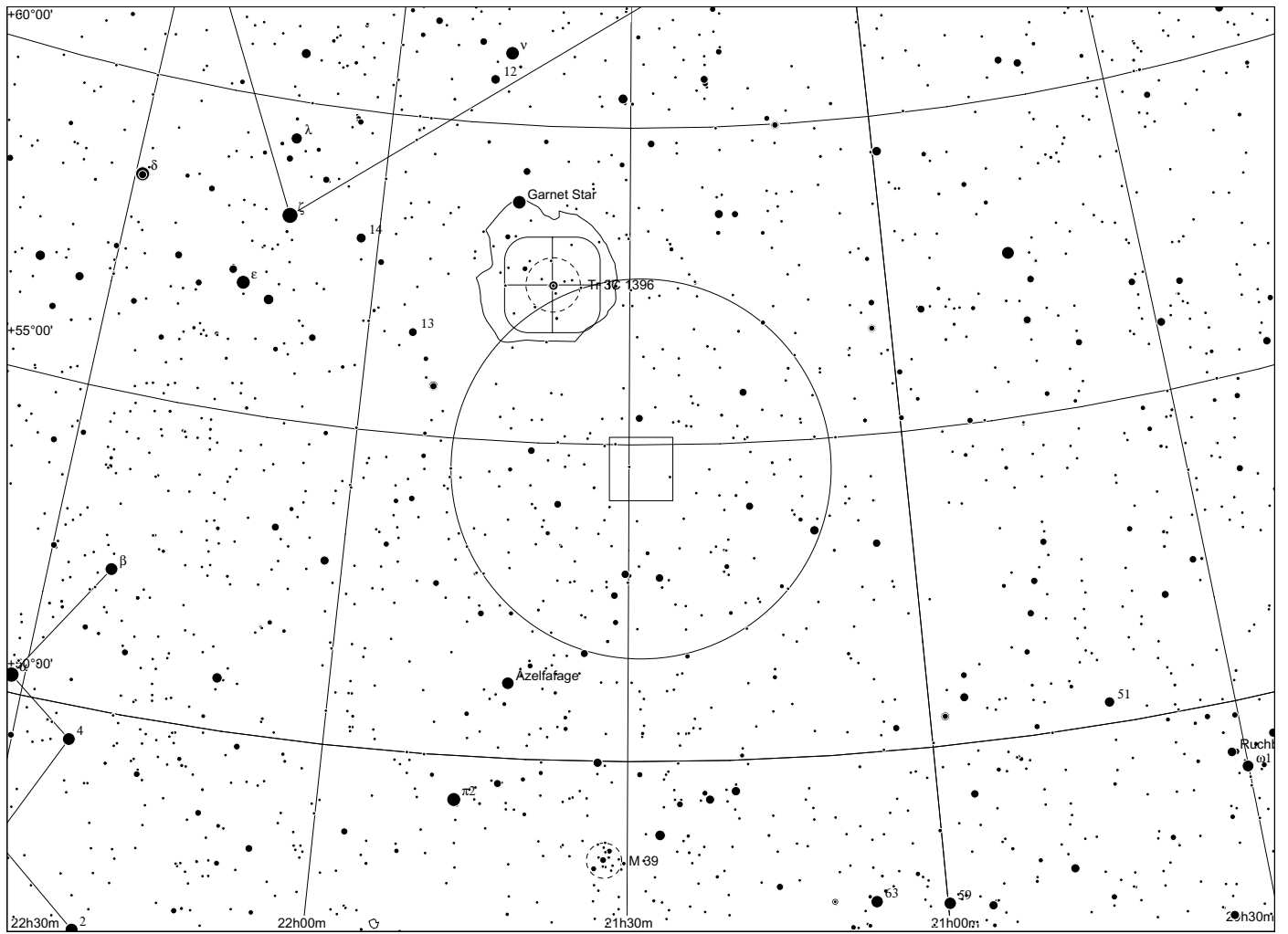
	other name	RA	dec	dia. '	F	S	B
Sh 2-127		21 28 41.0	+54 37 14	2	3	2	2

Distance: 9700 pc, Size: 5.6 pc, Source: 2003A&A...397..133R

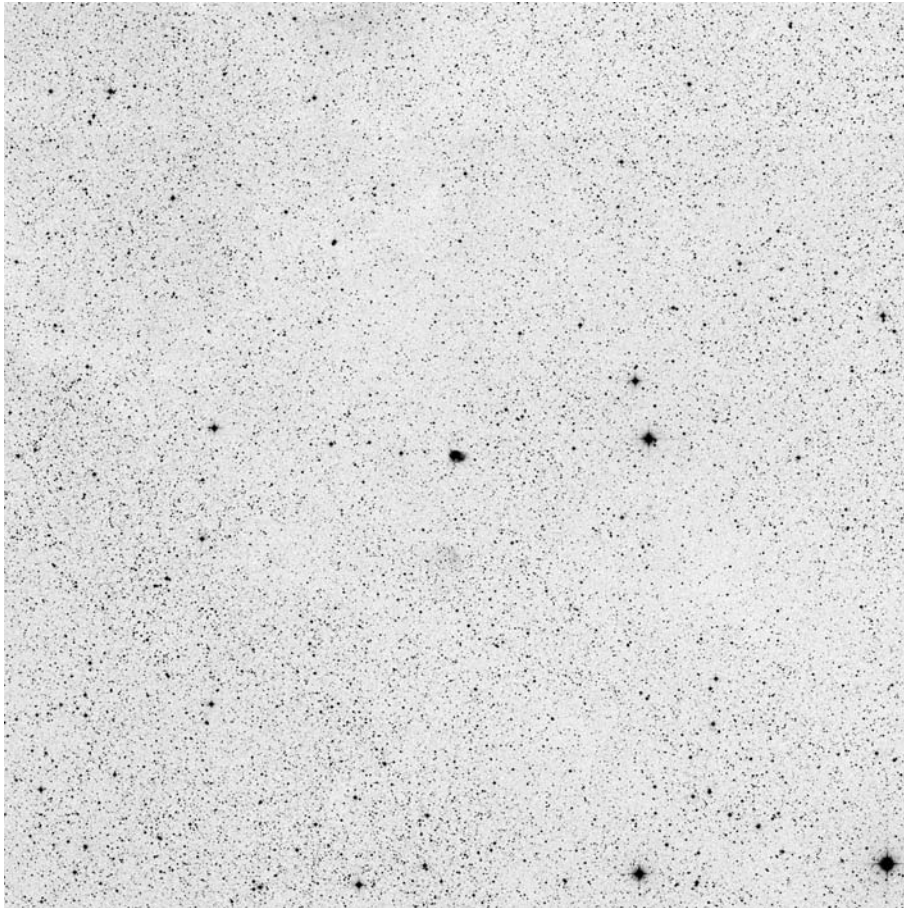
Observing notes:

22" f/4.5

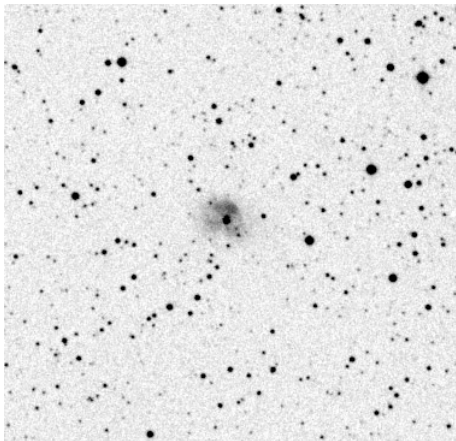
10/2011: unsuccessful



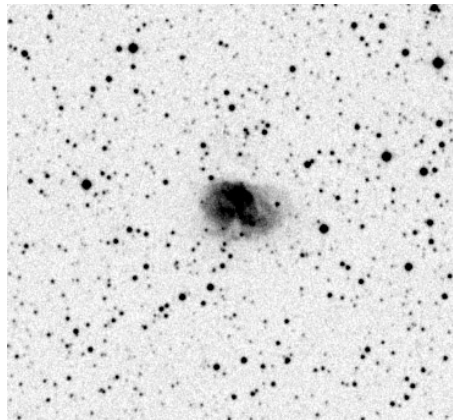
Sh 2 - 128 in Cepheus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-128	Abell 77	21 32 08.4	+55 51 34	1	3	2	3

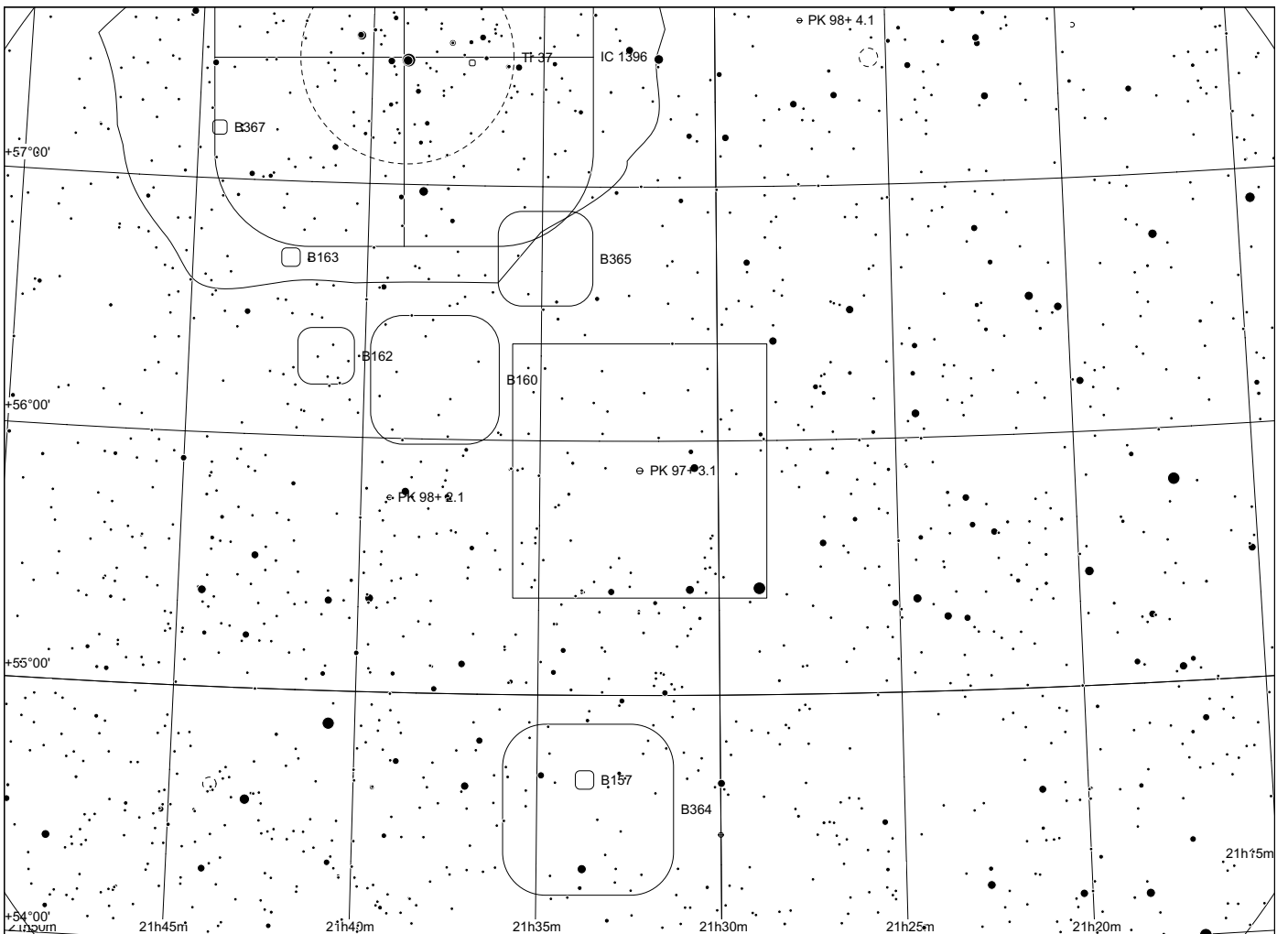
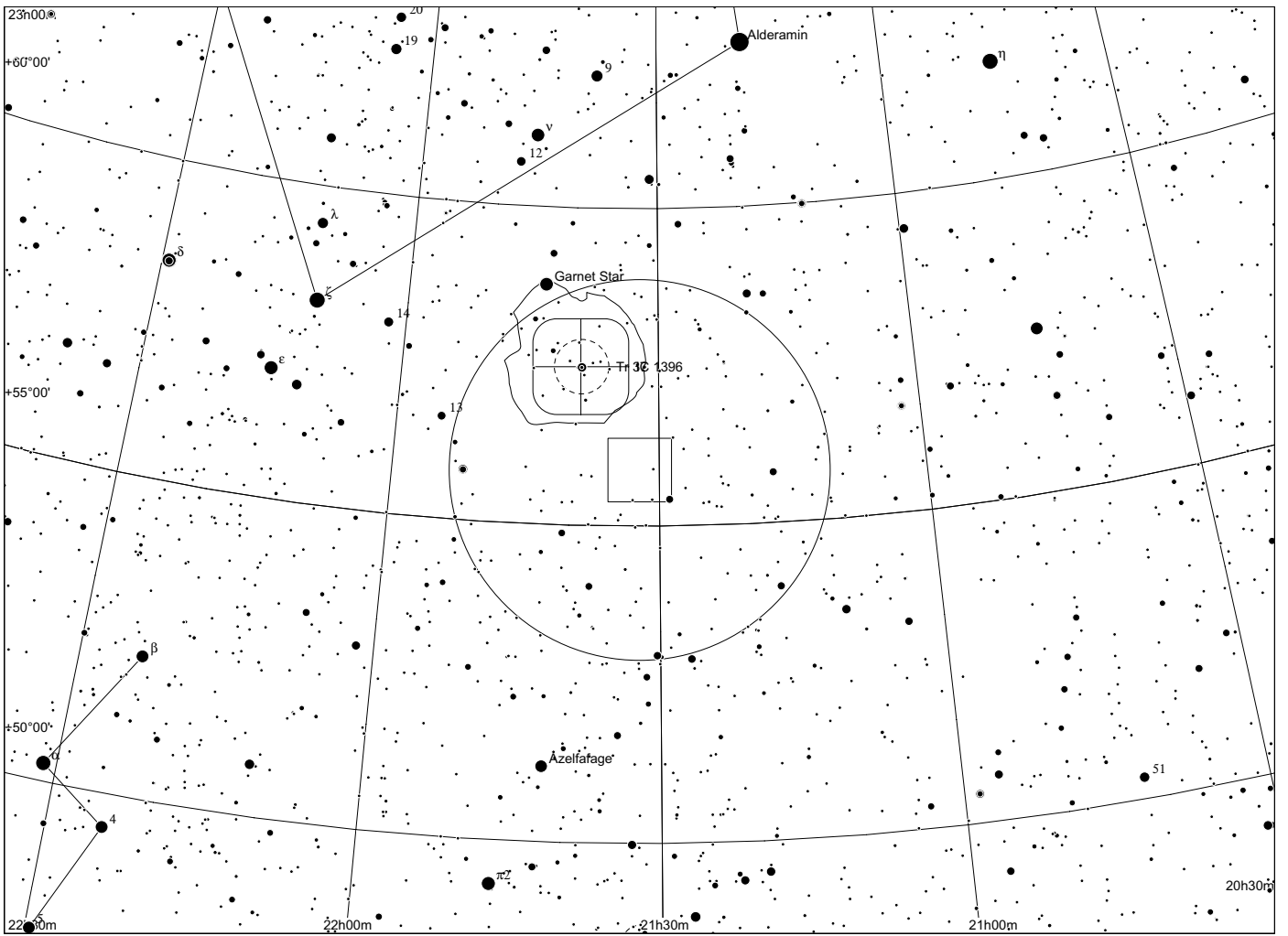
Distance: 9400 pc, Size: 2.7 pc, Source: 2003AJ....126.1861B

This region is actually located at a distance of 9.4 kpc, is about one million years old and is ionised by an O7 star.

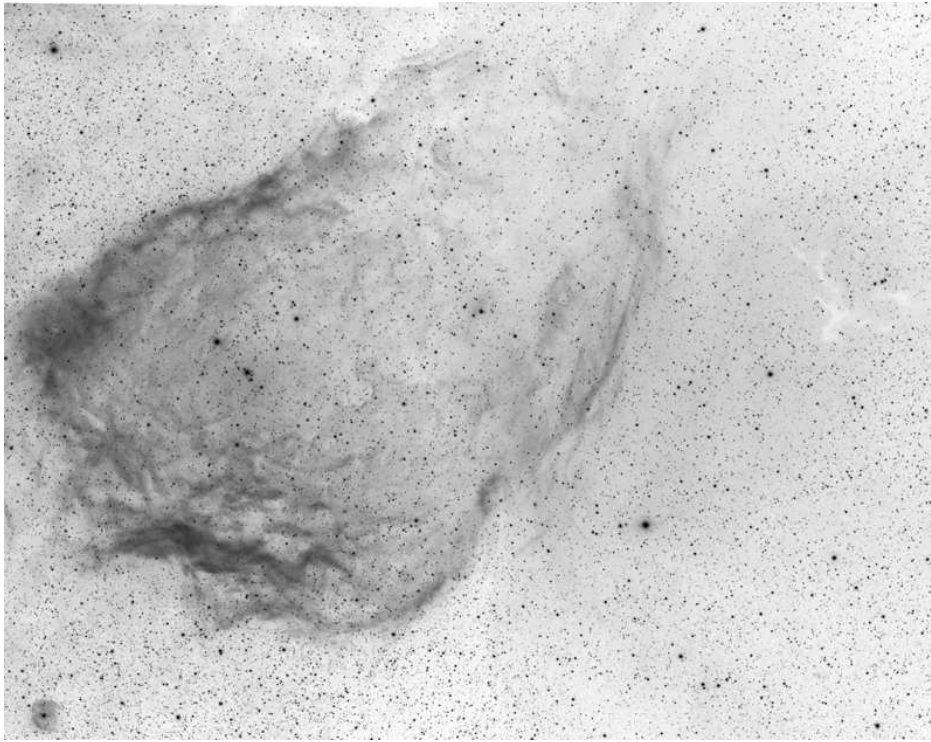
Observing notes:

22" f/4.5

At 200x with UHC, small nebulous patch, relatively obvious, slightly oval.



Sh 2 - 129 in Cepheus



H alpha Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-129		21 11 44.4	+59 57 40	140	3	2	2

Distance: 400 pc, Size: 16.3 pc, Source: 1982ApJS...49..183B

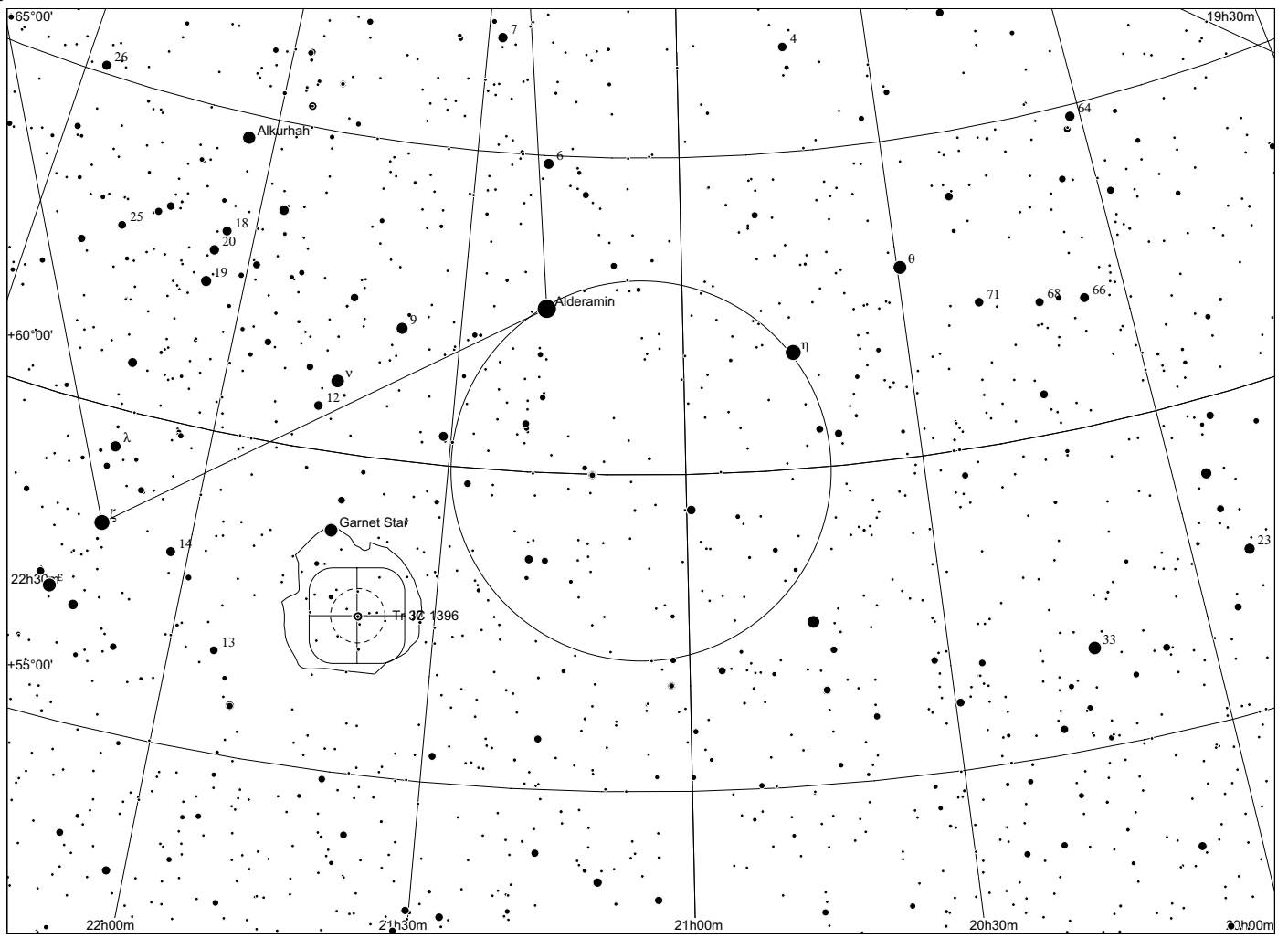
Sometimes called the Flying Bat nebula.

Observing notes:

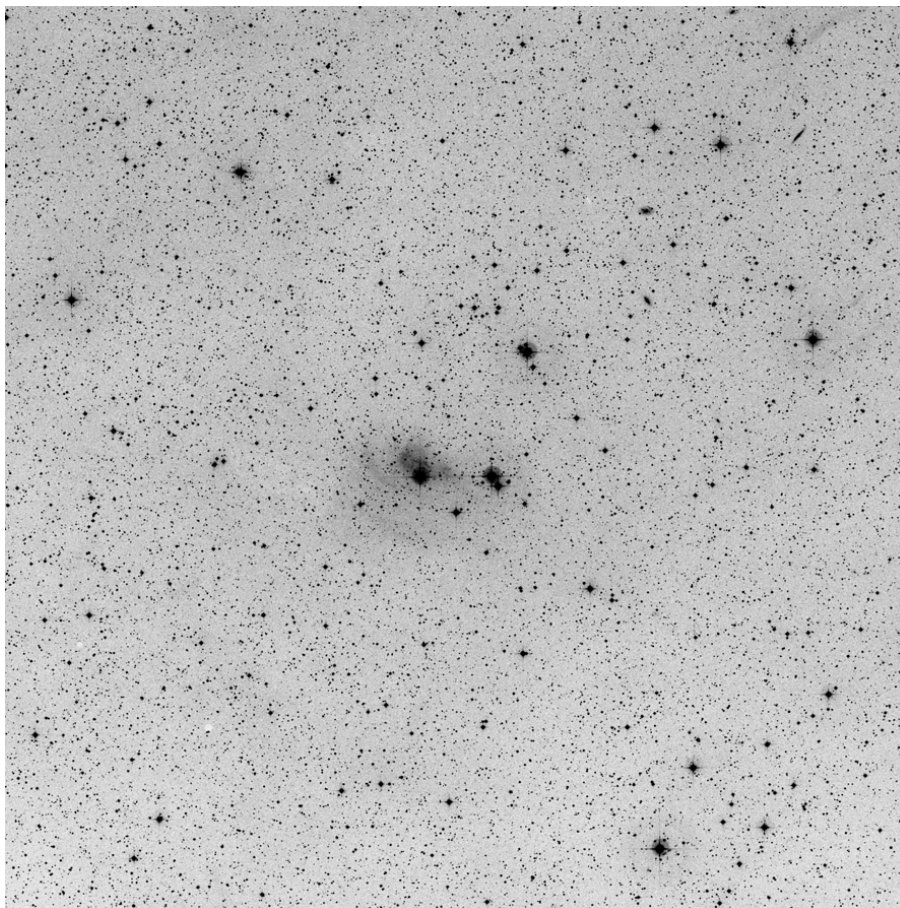
16" f/4.5

07/2009: NE part is relatively obvious with H beta as a large long filament. Southern part is more difficult and less well defined.

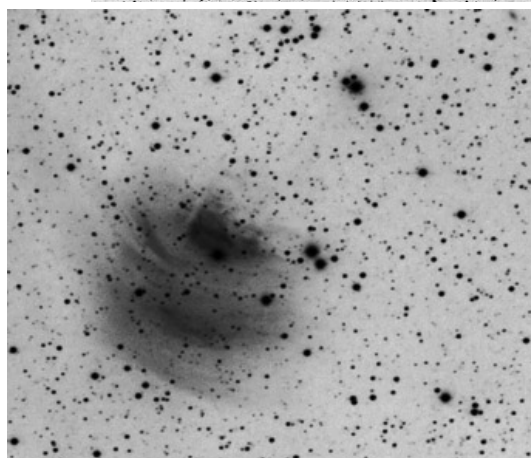
08/2012: under excellent conditions, this is a very distinct loop with H beta filter, bright part NE of central star group, long filaments from there towards NE, patchy area SE of central star group.



Sh 2 - 130 in Cepheus



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-130		20 42 59.6	+63 13 43	3	3	2	2

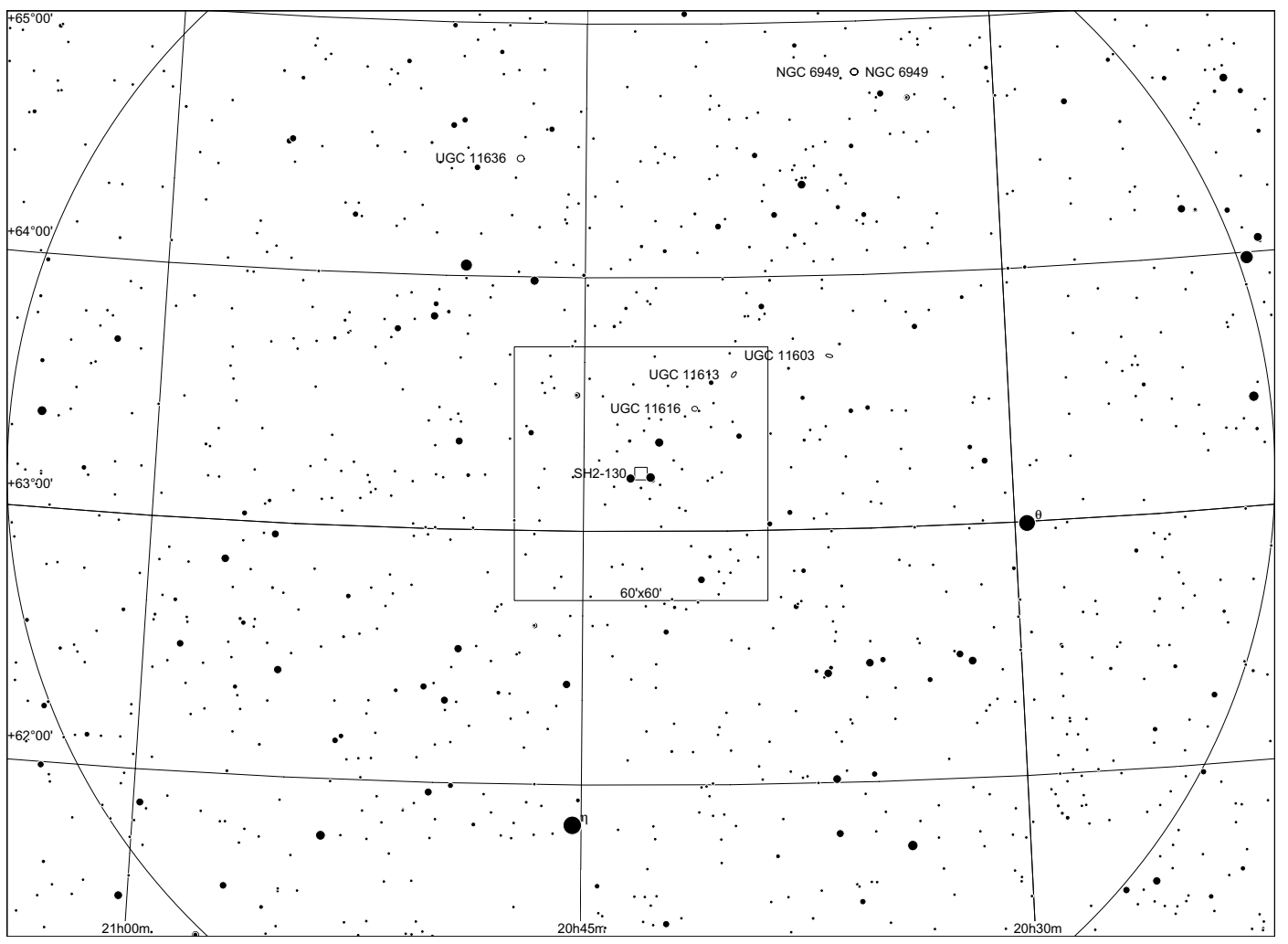
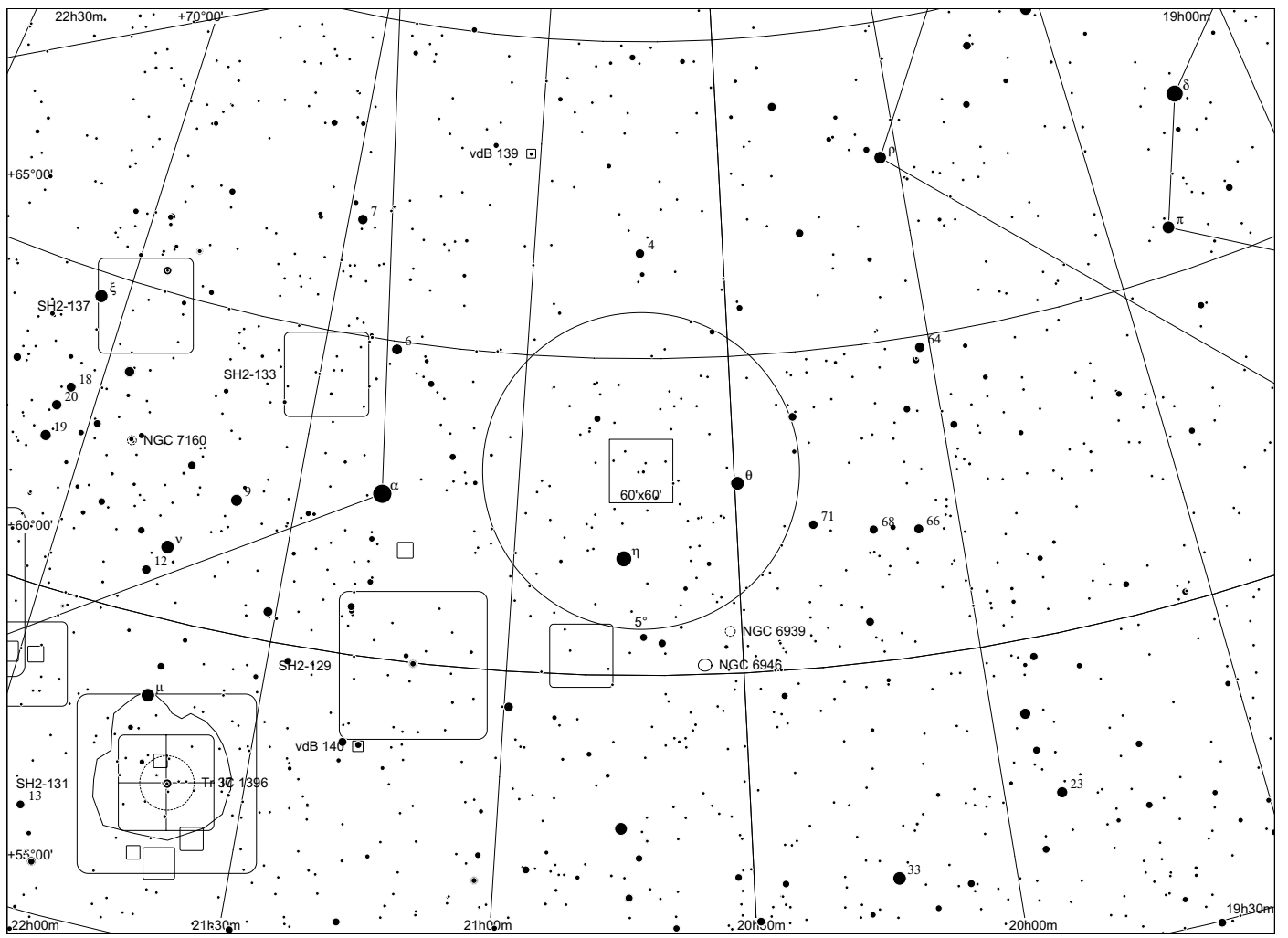
Distance: 600 pc, Size: 0.5 pc Source: 2003A&A...397..133R

Faint nebulosity surrounds the B5 star HD 197911, the A0 star HD 197809 and the G5 star SAO 18999. HD 197911 is a runaway star blasted from the heart of the Cep OB2 association by a supernova explosion 2-3 million years ago.

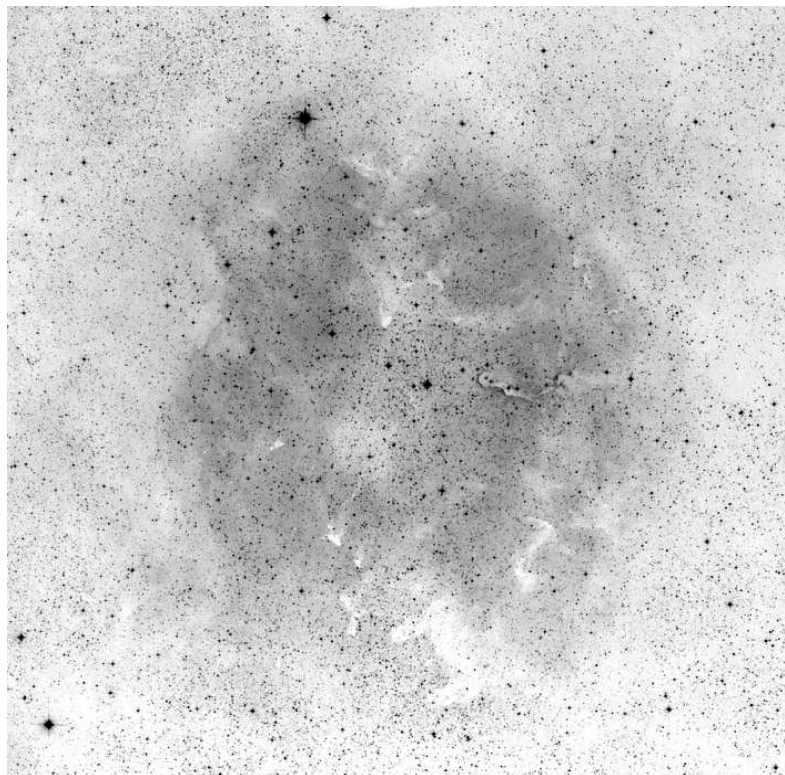
Observing notes:

22" f/4.5

07/2012: at 100x and with H beta filter suspected as an extremely faint glow around star, asymmetry of the glow relative to star not seen with certainty.



Sh 2 - 131 in Cepheus



60x60, red



narrow band Dean Salman



vdB 142

	other name	RA	dec	dia. '	F	S	B
Sh 2-131	IC 1396	21 39 00.2	+57 29 10	170	1	2	2

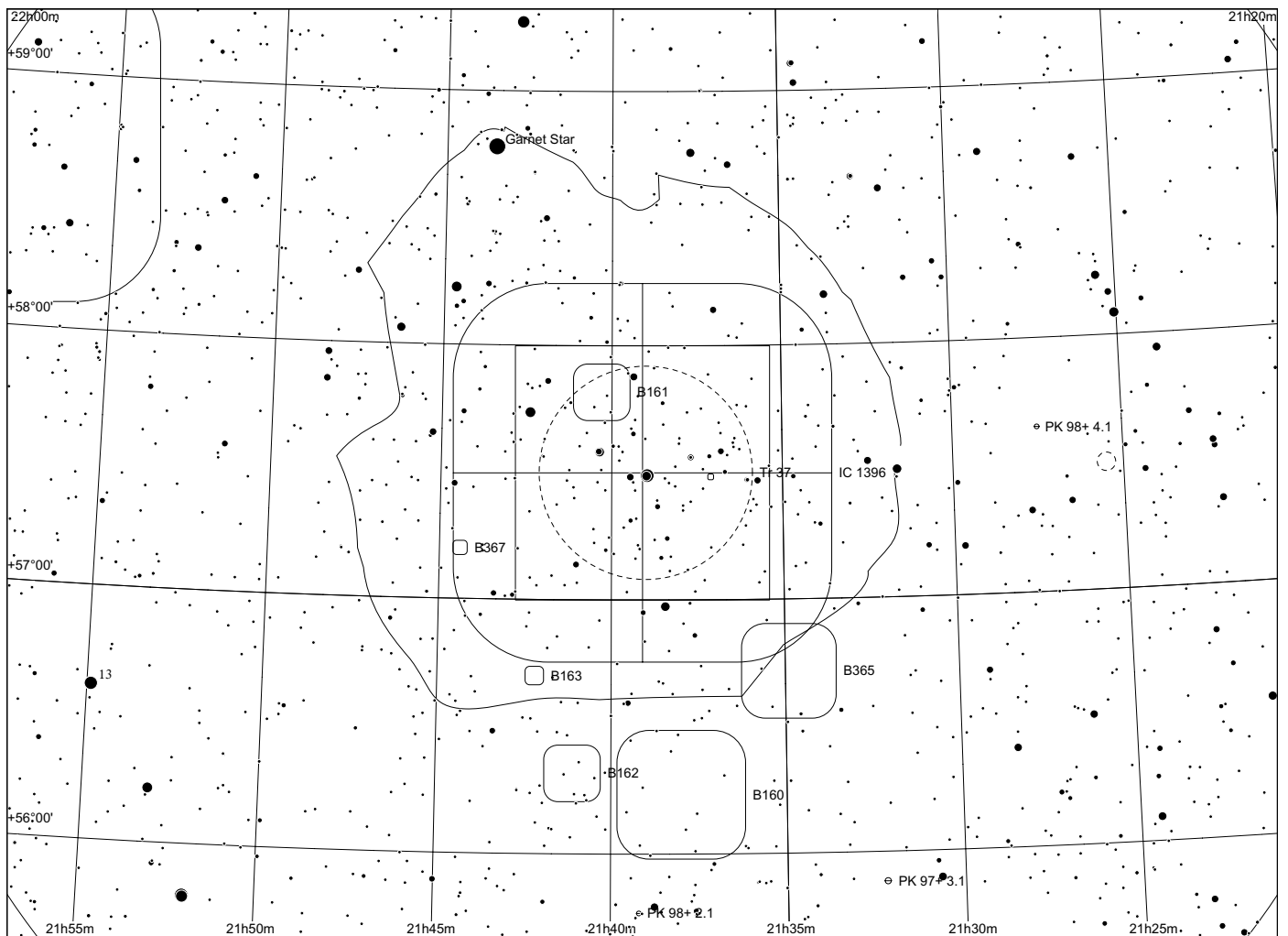
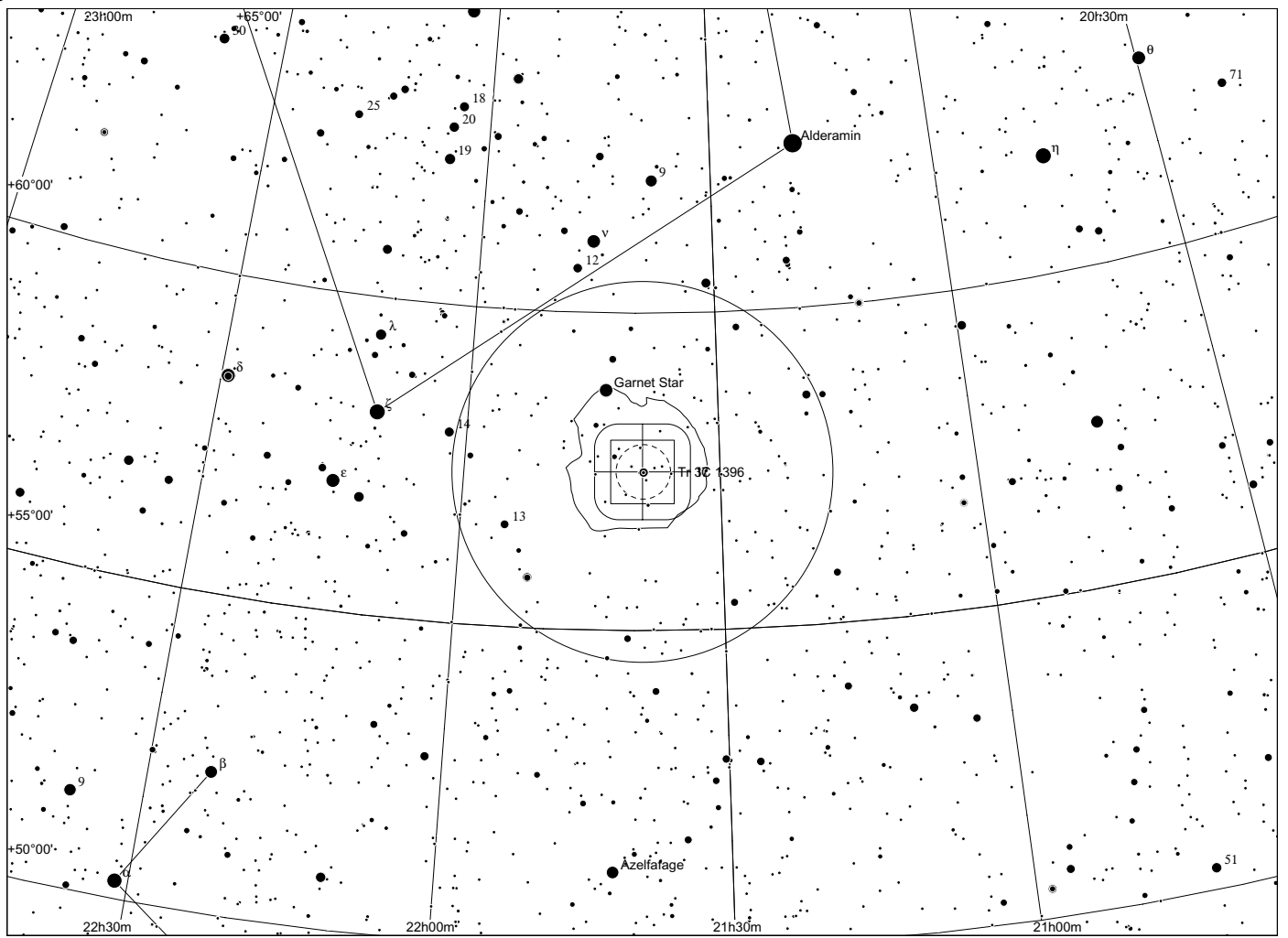
Distance: 860 pc, Size: 42.5 pc, Source: 1982ApJS...49..183B

Sh 2-131 surrounds the star cluster IC 1396 and lies at the heart of the Cepheus bubble, the giant expanding shell of gas and dust around the Cep OB2 association.

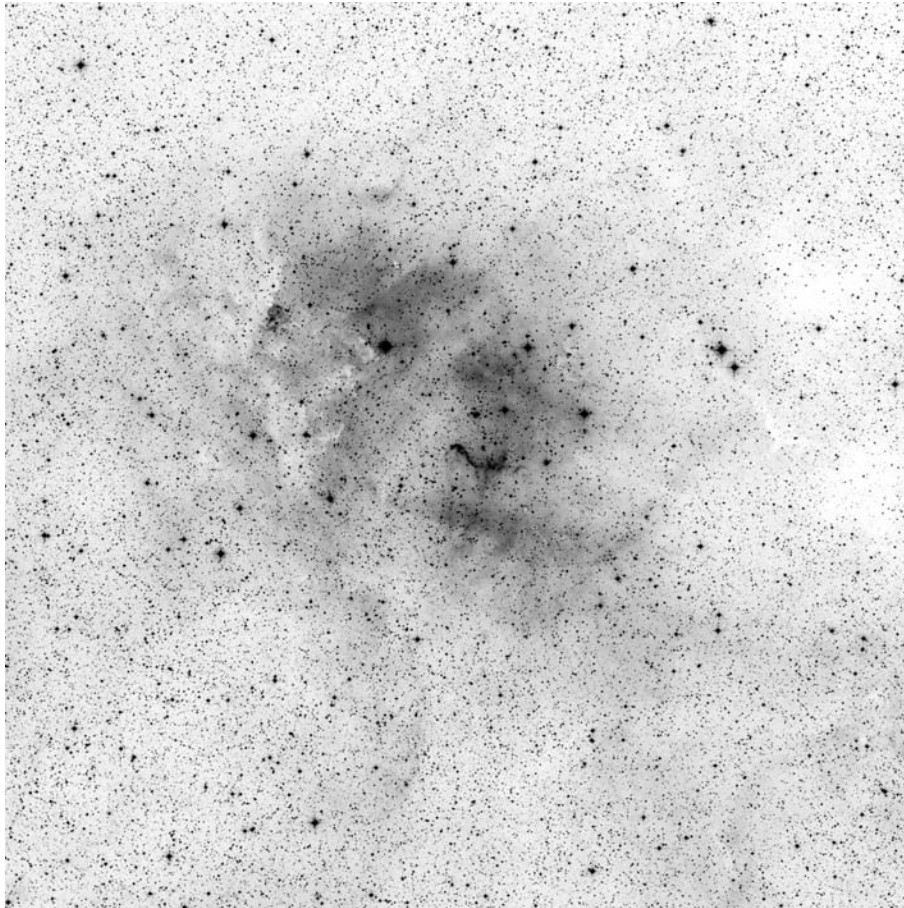
Observing notes:

14" f/5

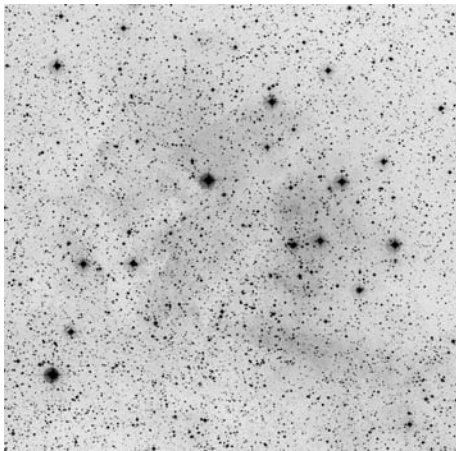
IC 1396 is a huge HII region with several distinct dark patches. VdB 142 is part of it and visually a very difficult object. An extremely faint bright rim could be detected at the S edge of the dark filament. E end of filament could not be seen.



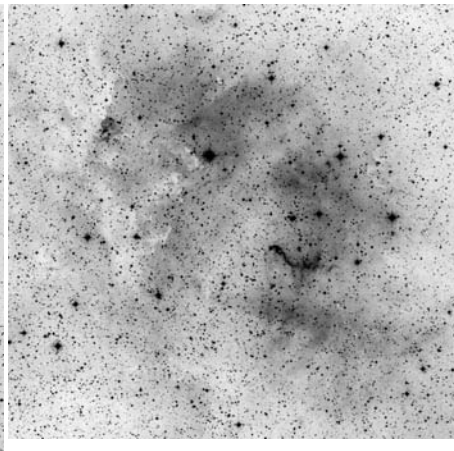
Sh 2 - 132 in Cepheus



60x60, red



POSS blue



POSS red



narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-132		22 18 47.0	+56 08 05	90	3	3	2

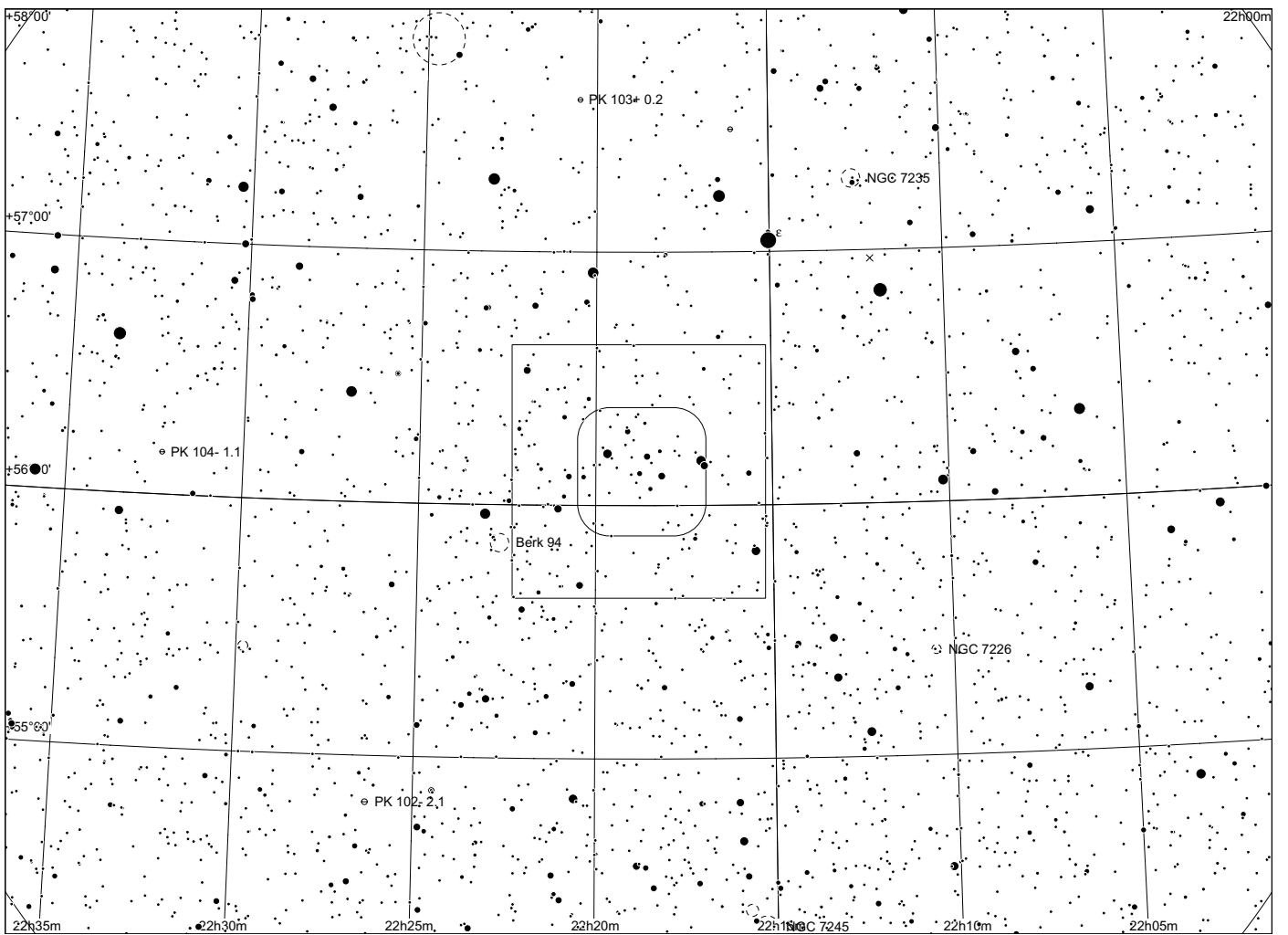
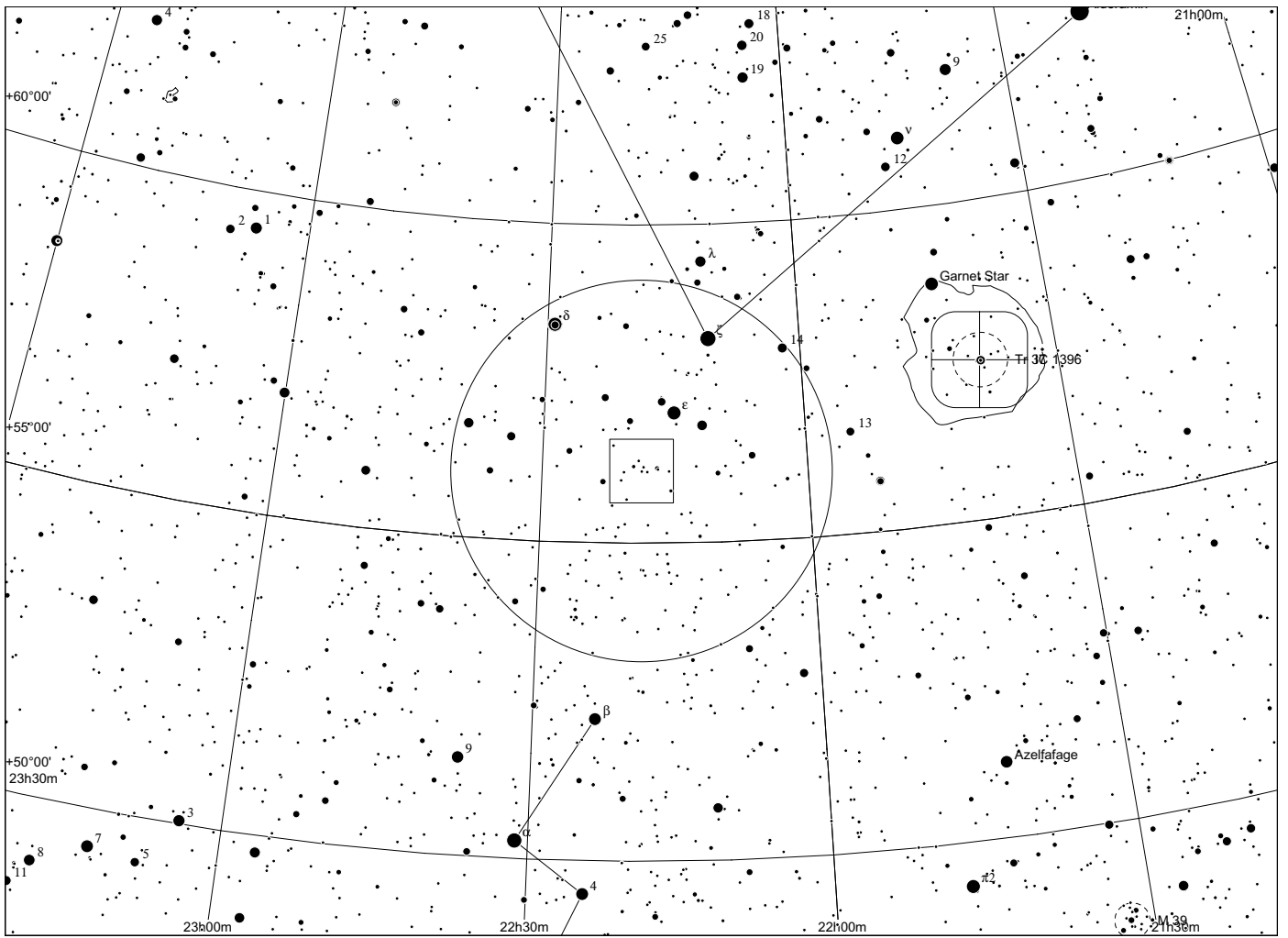
Distance: 3180 pc, Size: 83.3 pc, Source: 1978A&A....70..205H

This giant HII region in the Cepheus OB1 association is ionised by two WR stars and several OB stars. HD 211853 (WR 153) and an O 8.5 star lie near the middle of the radio shell associated with this nebula.

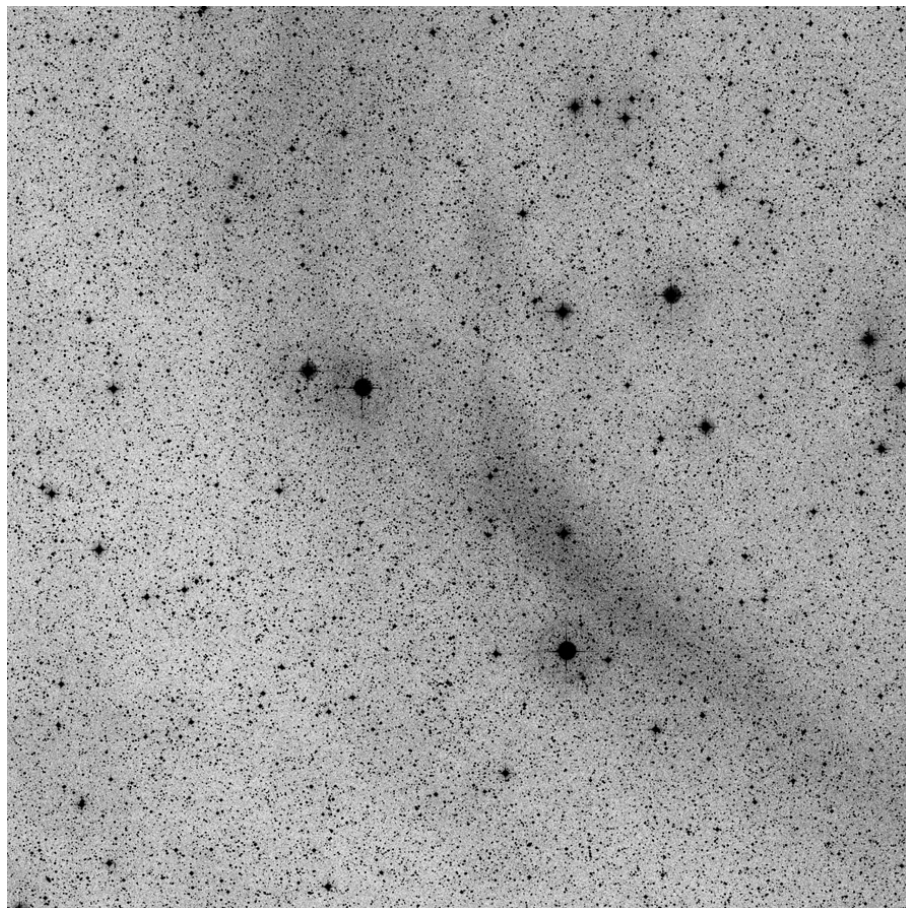
Observing notes:

14" f/5

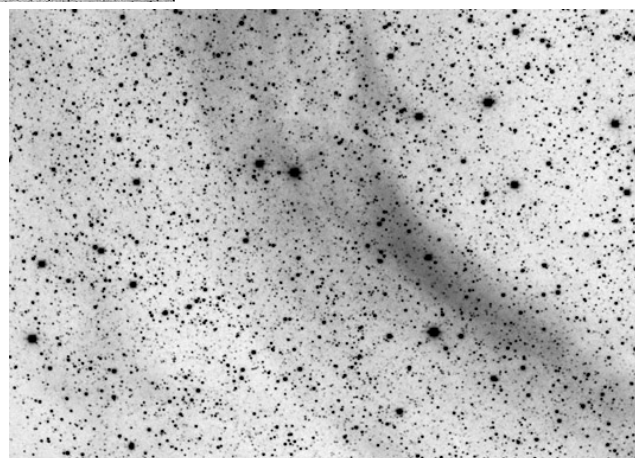
Observed several times with OIII filter, very large faint nebula, round dark structure to the E. There is a very large extension to the SW well beyond the DSS frame with distinct OIII emission which increases the size of the nebula to around 1.5°.



Sh 2 - 133 in Cepheus



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-133		21 28 59.8	+64 18 19	80	3	1	1

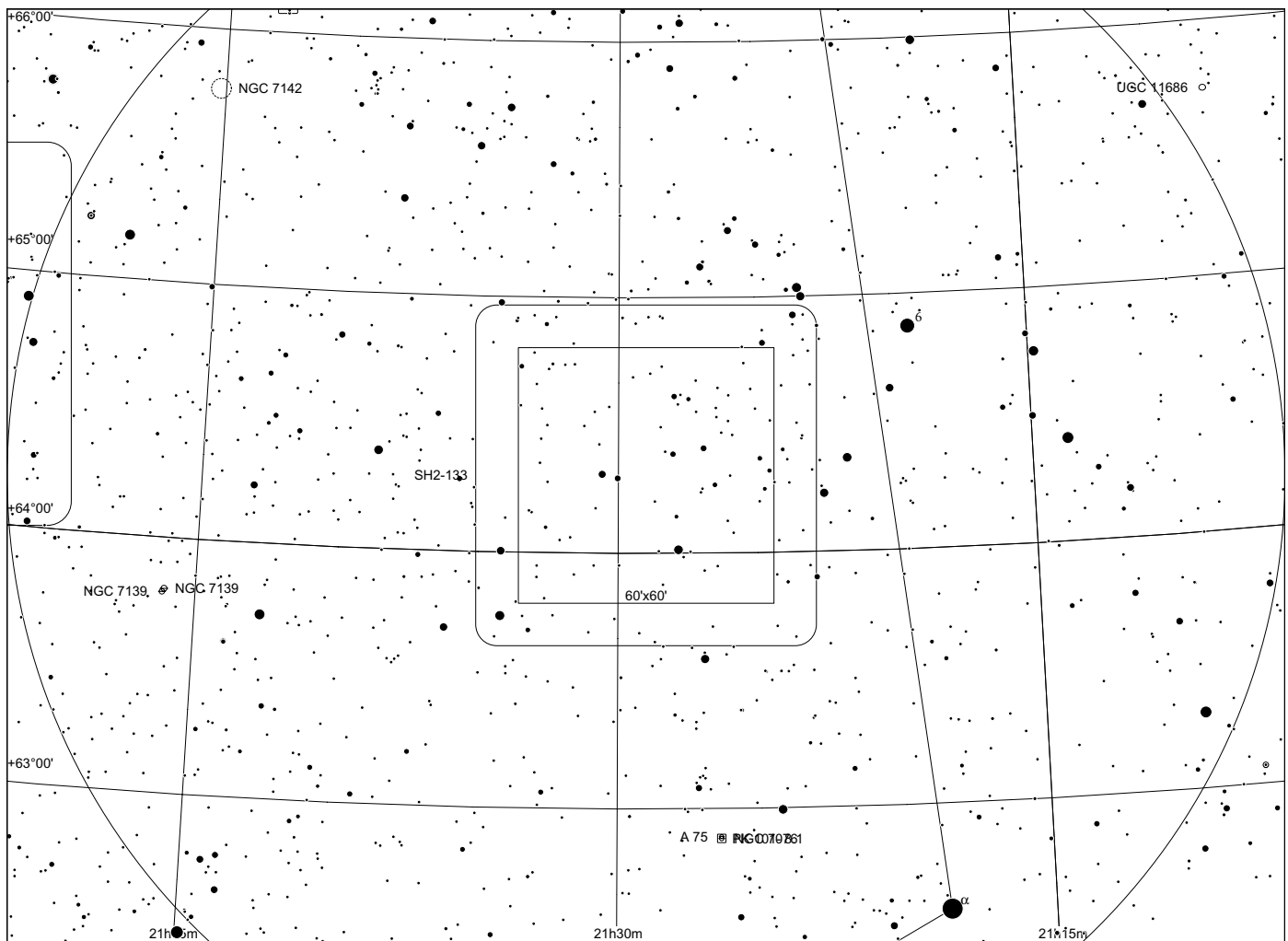
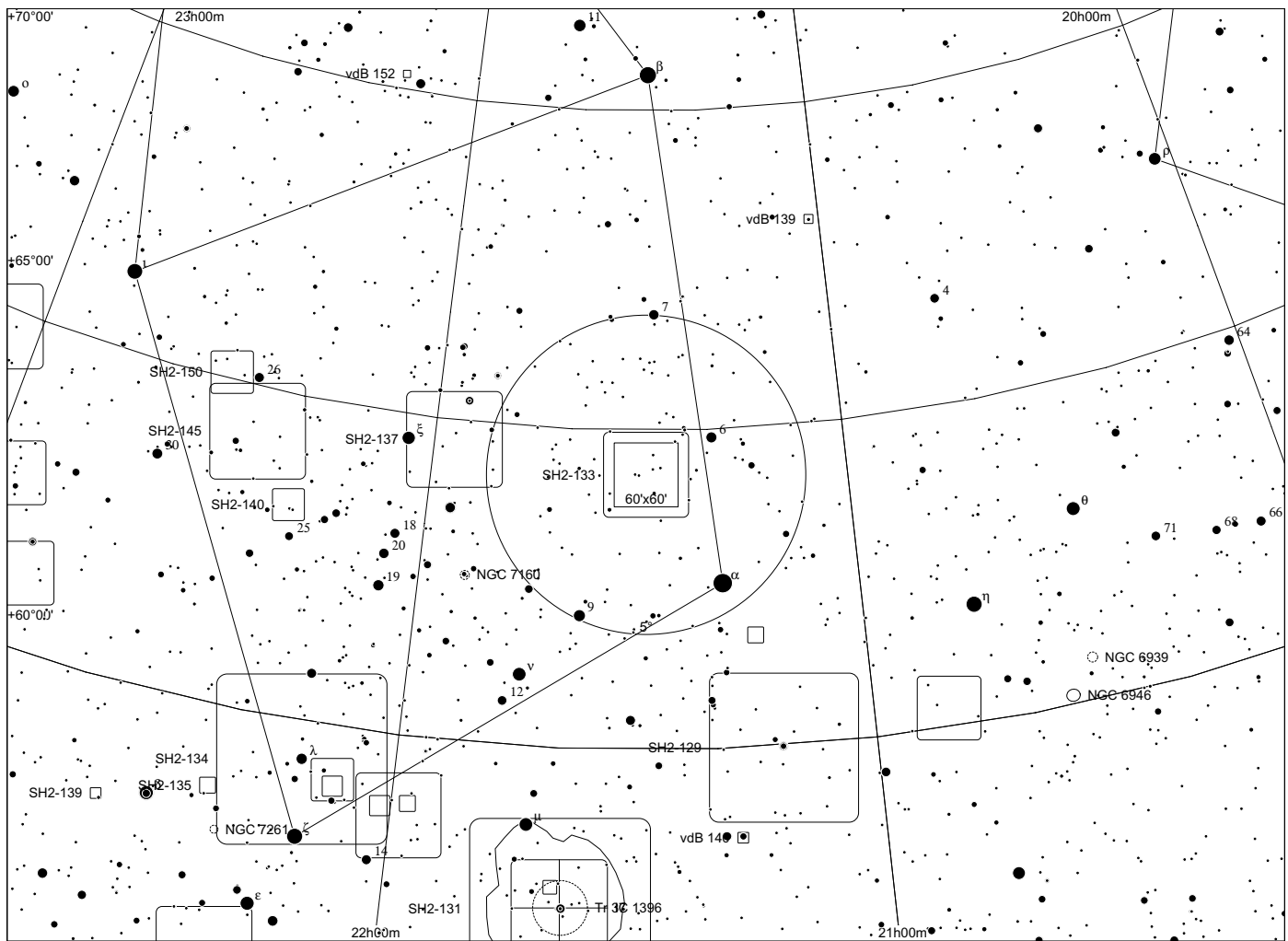
Distance: 800 pc, Size: 18.6 pc Source: 1993A&A...268..230A

Sh 2-133 is probably a part of a chain of ionized arcs surrounding the older group of the Cep OB2 association and is located at a distance of about 800 pc.

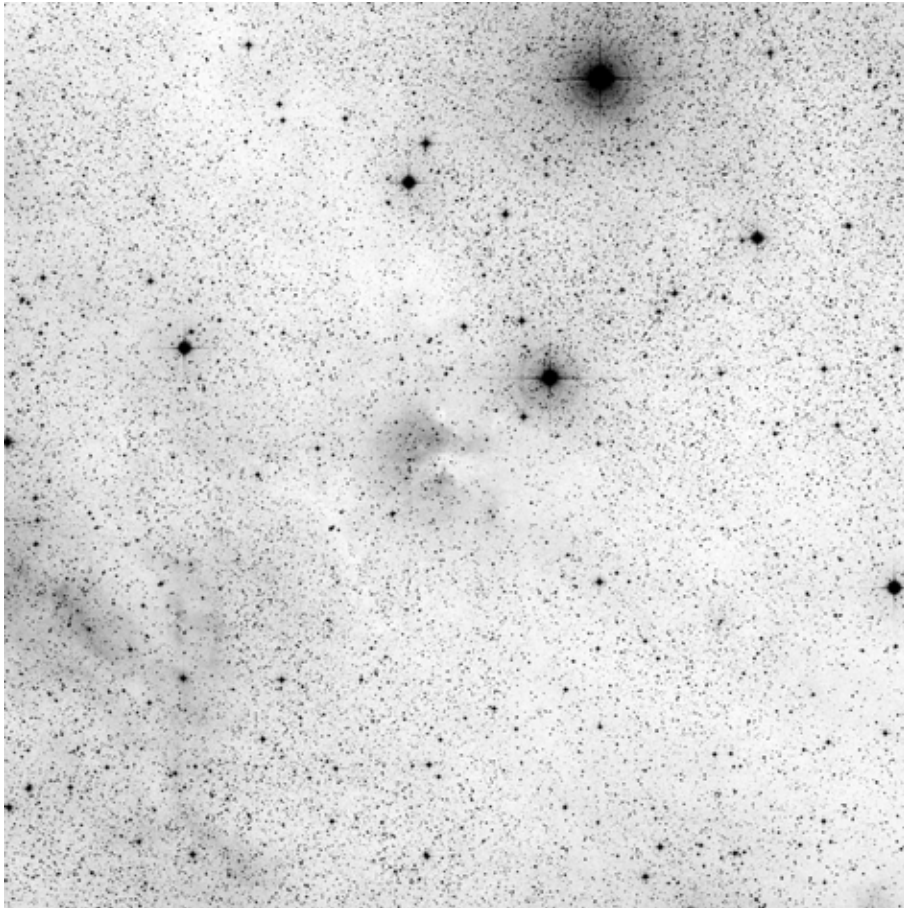
Observing notes:

22" f/4.5

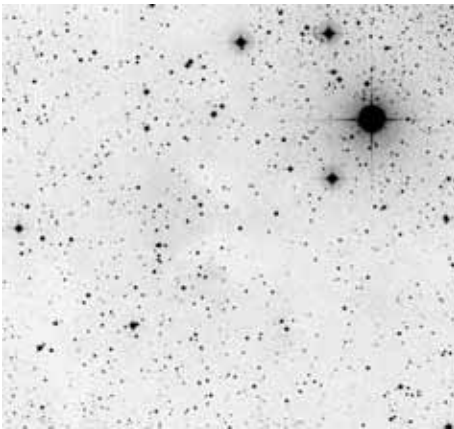
08/2012: uncertain, an extremely vague streak was suspected with H beta filter



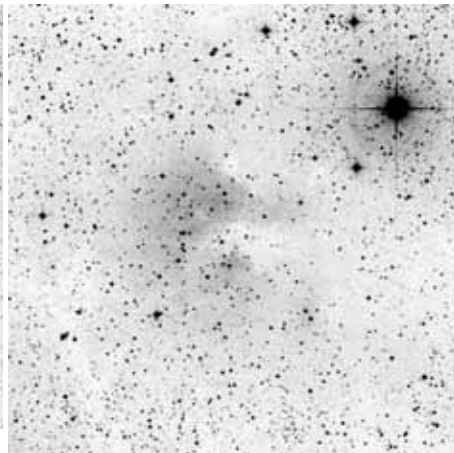
Sh 2 - 134 in Cepheus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-134		22 11 29.1	+59 24 37	160	3	2	2

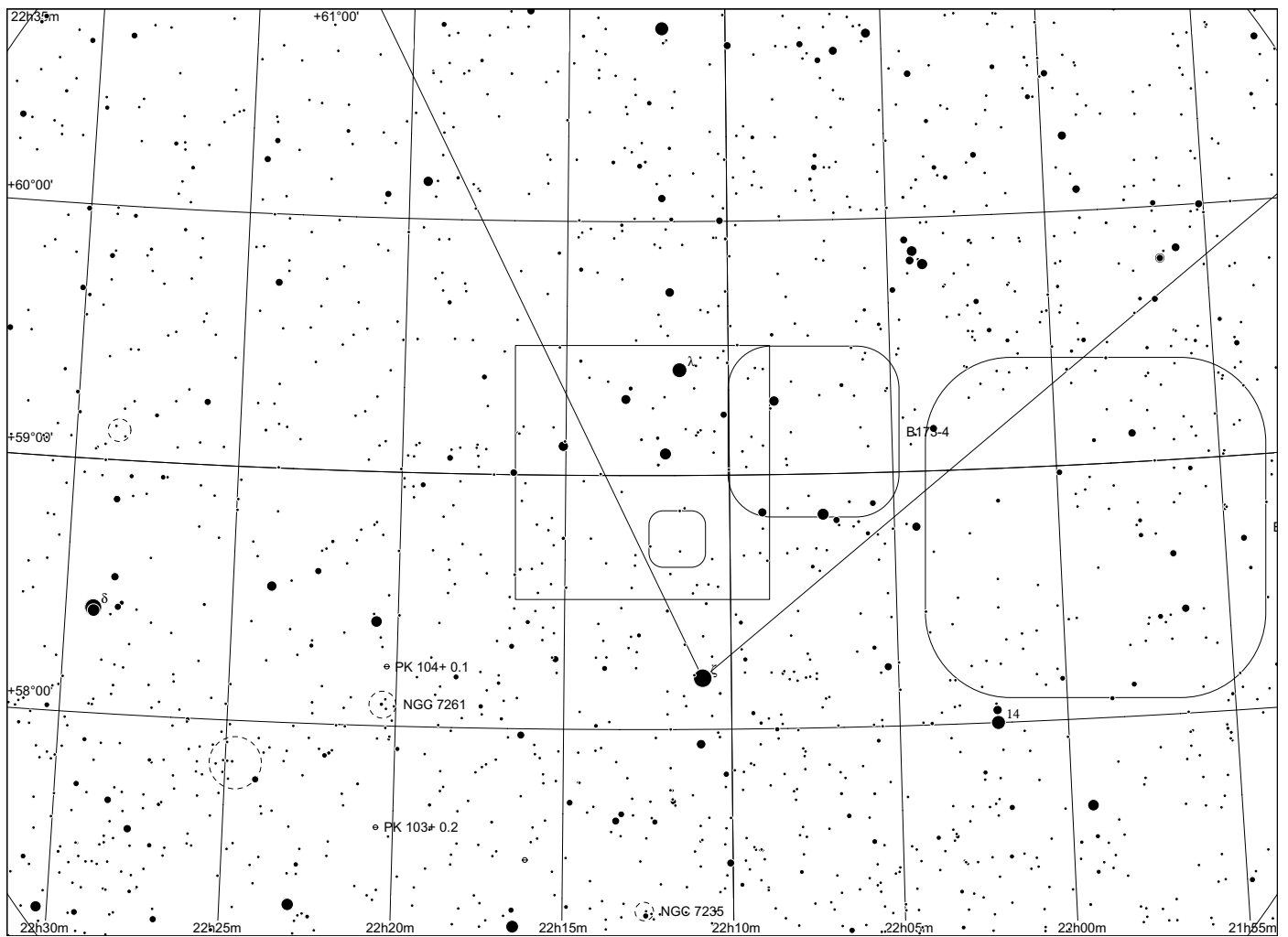
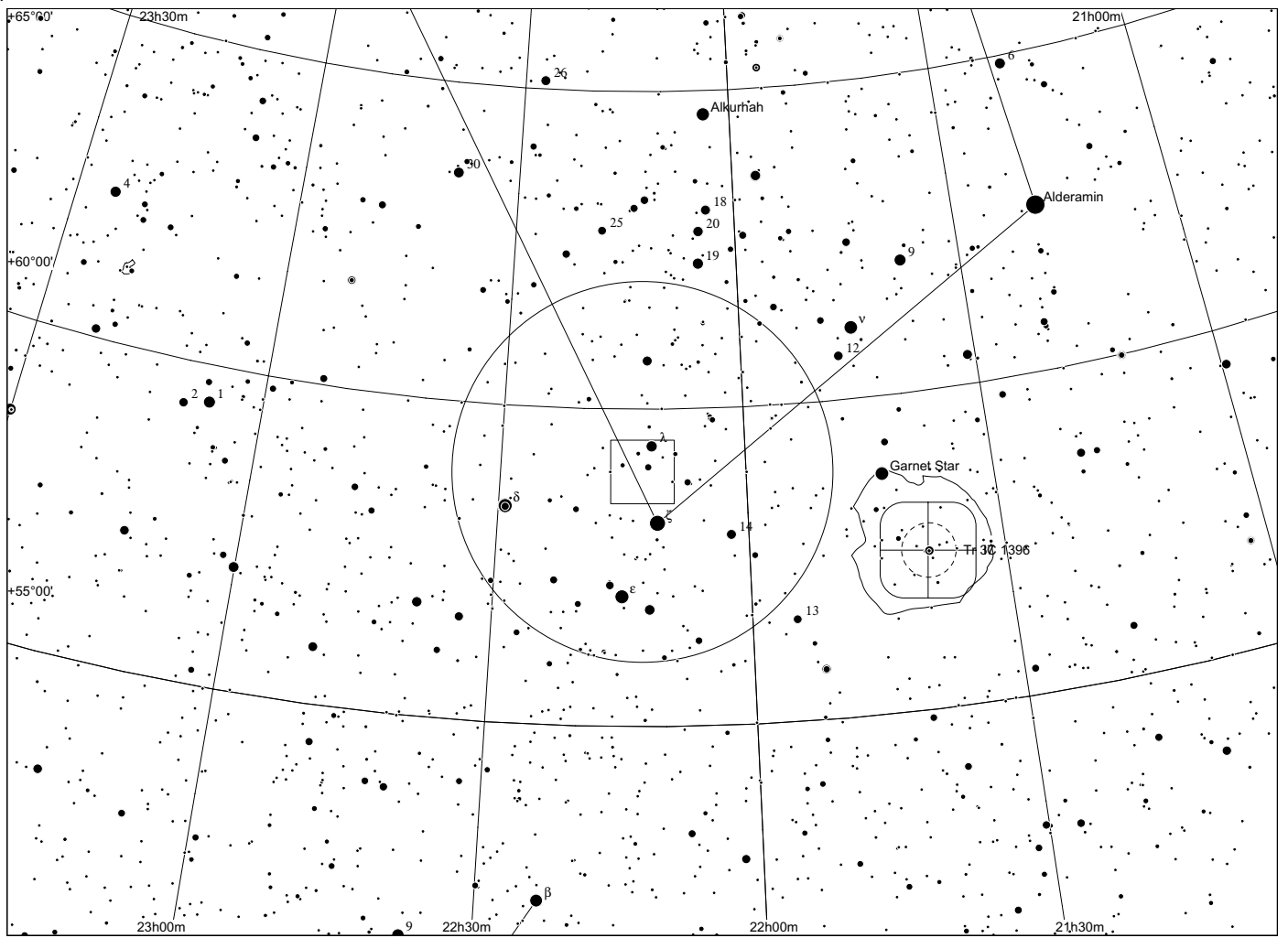
Distance: 900 pc, Size: 41.9 pc, Source: 1982ApJS...49..183B

This HII region is associated with an expanding bubble in Cep OB2. Also involved with this bubble are the HII regions IC 1396 (also called Sh 2-131), S129, S133, and S140. Lam Cep (HD 210839) is the exciting star for this HII region.

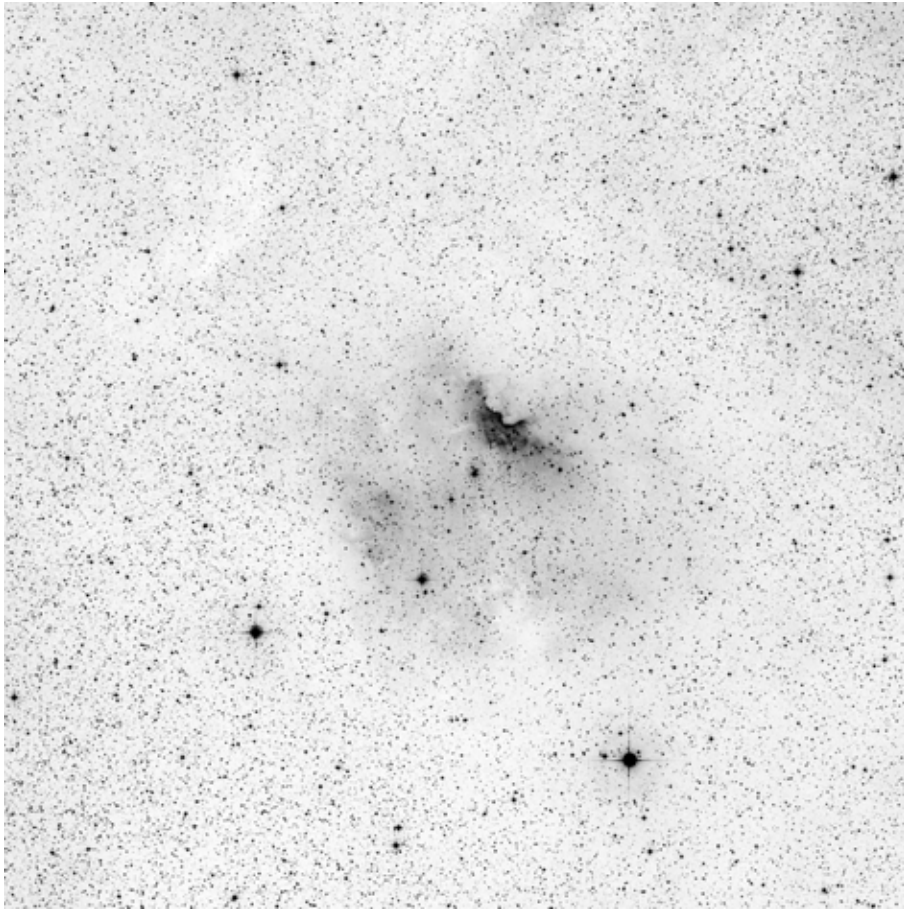
Observing notes:

22" f/4.5

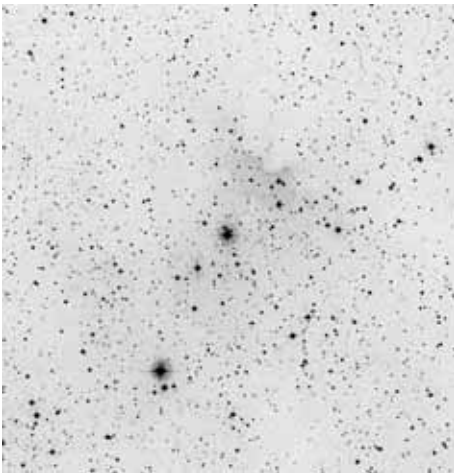
12/2011: unsuccessful observation



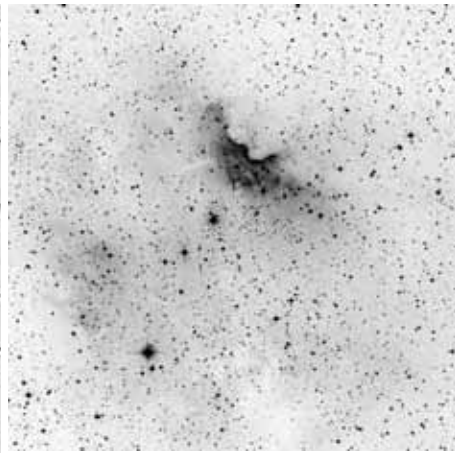
Sh 2 - 135 in Cepheus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-135		22 22 11.0	+58 44 18	15	3	2	2

Distance: 1400 pc, Size: 6.1 pc, Source: 1982ApJS...49..183B

This is probably a blister on a dark dust cloud in front of the bright nebula. The nebula is ionised by an O9.5V class star and located at a distance of 1900 parsecs.

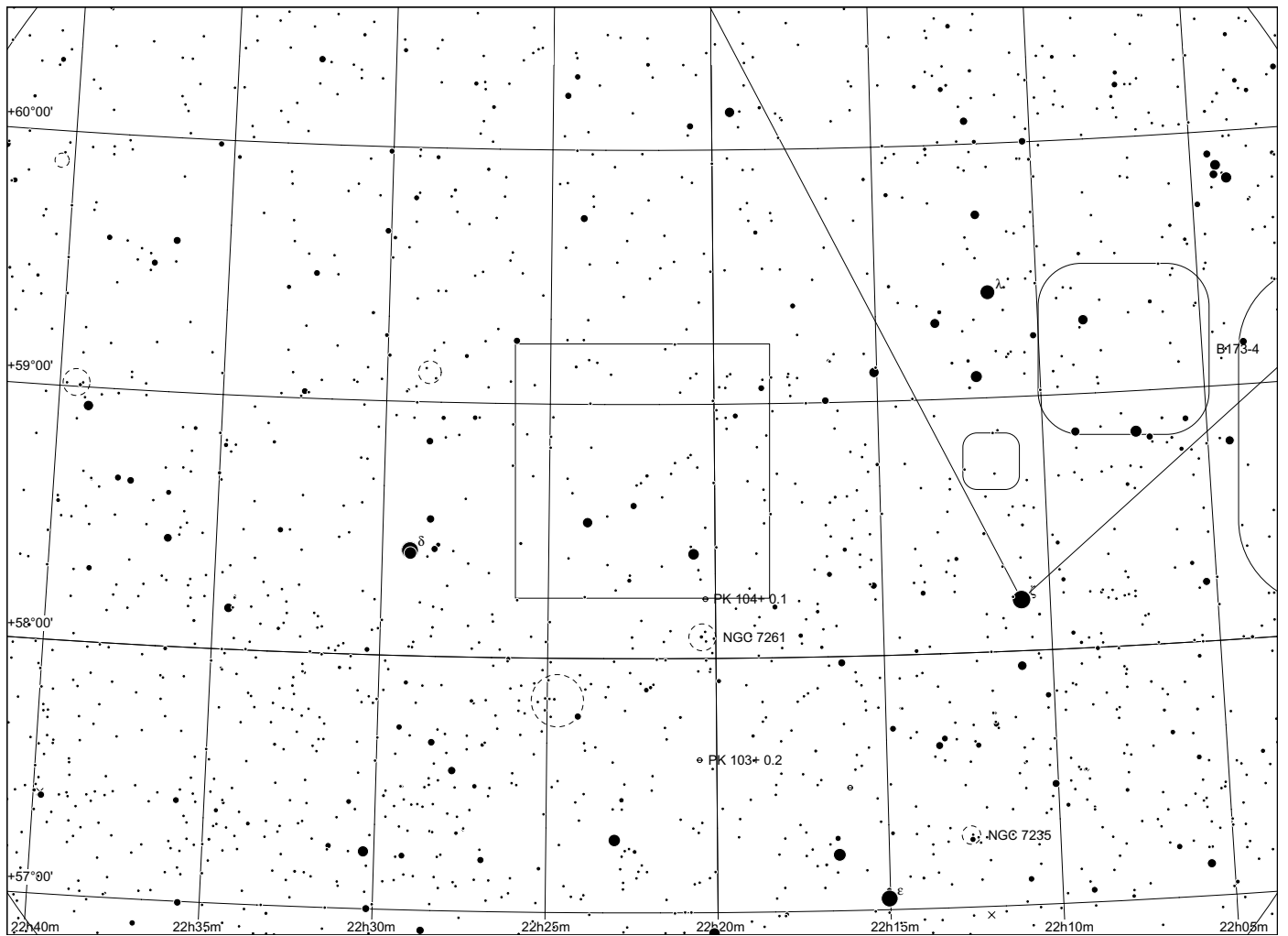
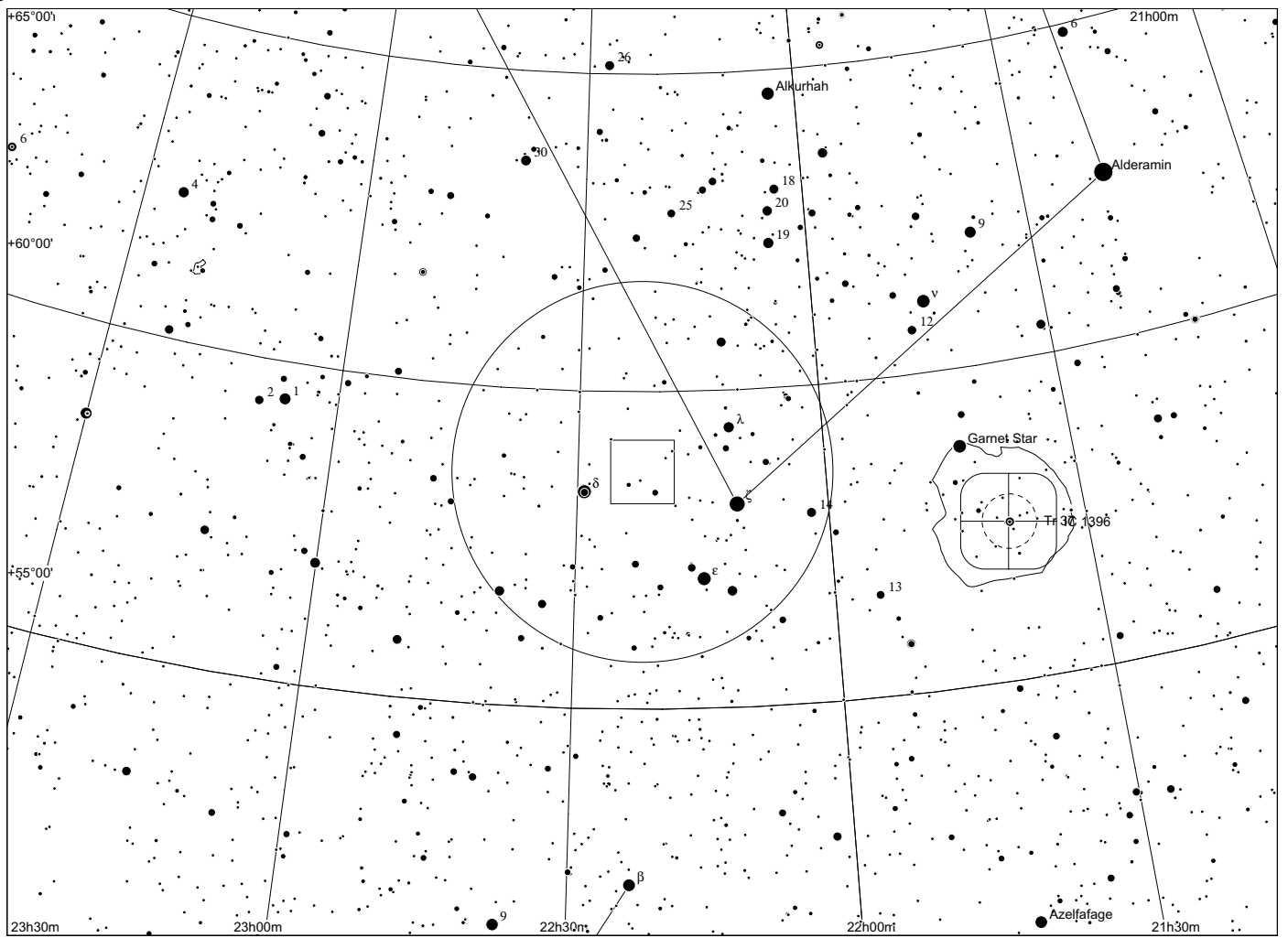
Observing notes:

16" f/4.5

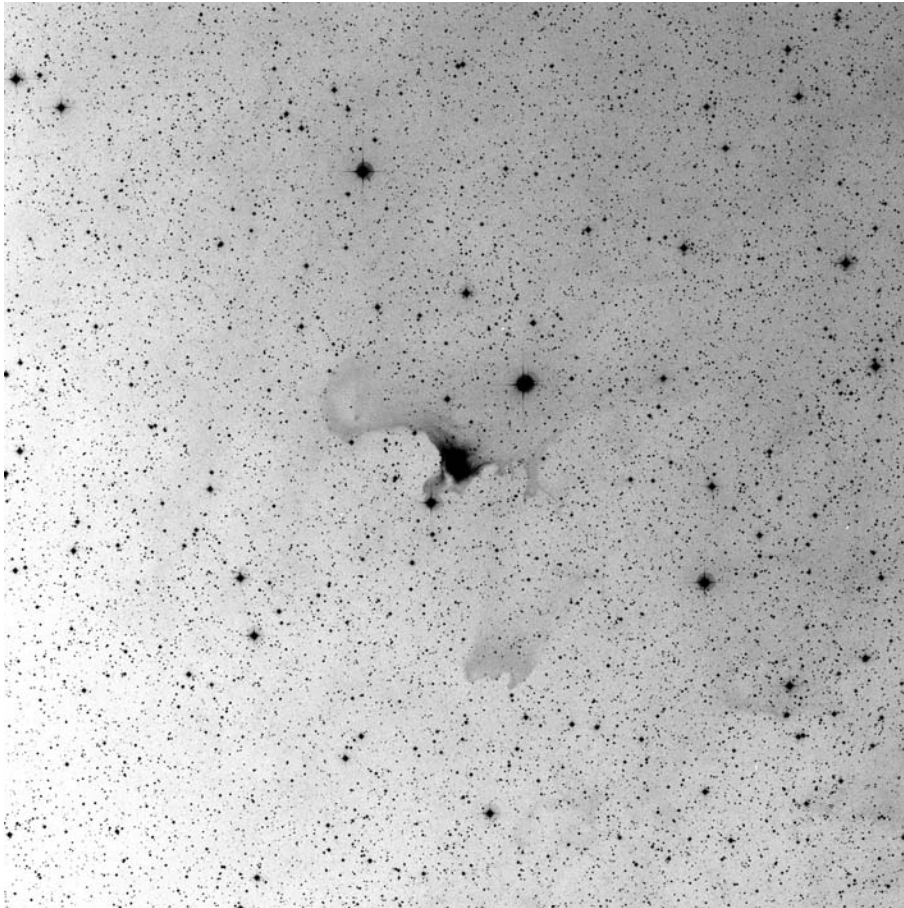
07/2009: extremely weak, crescent-shaped glow with H beta filter

22" f/4.5

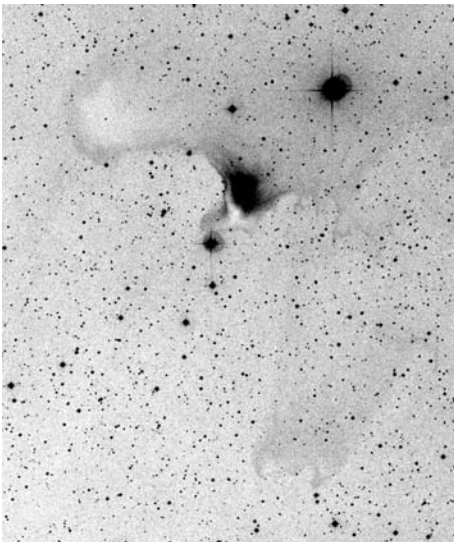
10/2011: With H beta and 32 mm, diffuse band in NE/SW direction



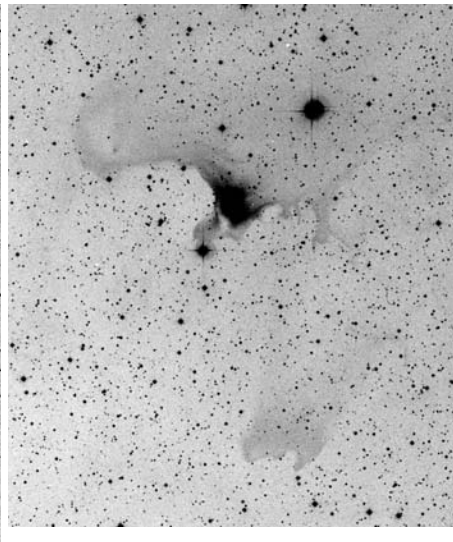
Sh 2 - 136 in Cepheus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-136	Gespensternebel	21 16 29.5	+68 15 12	5	3	2	3

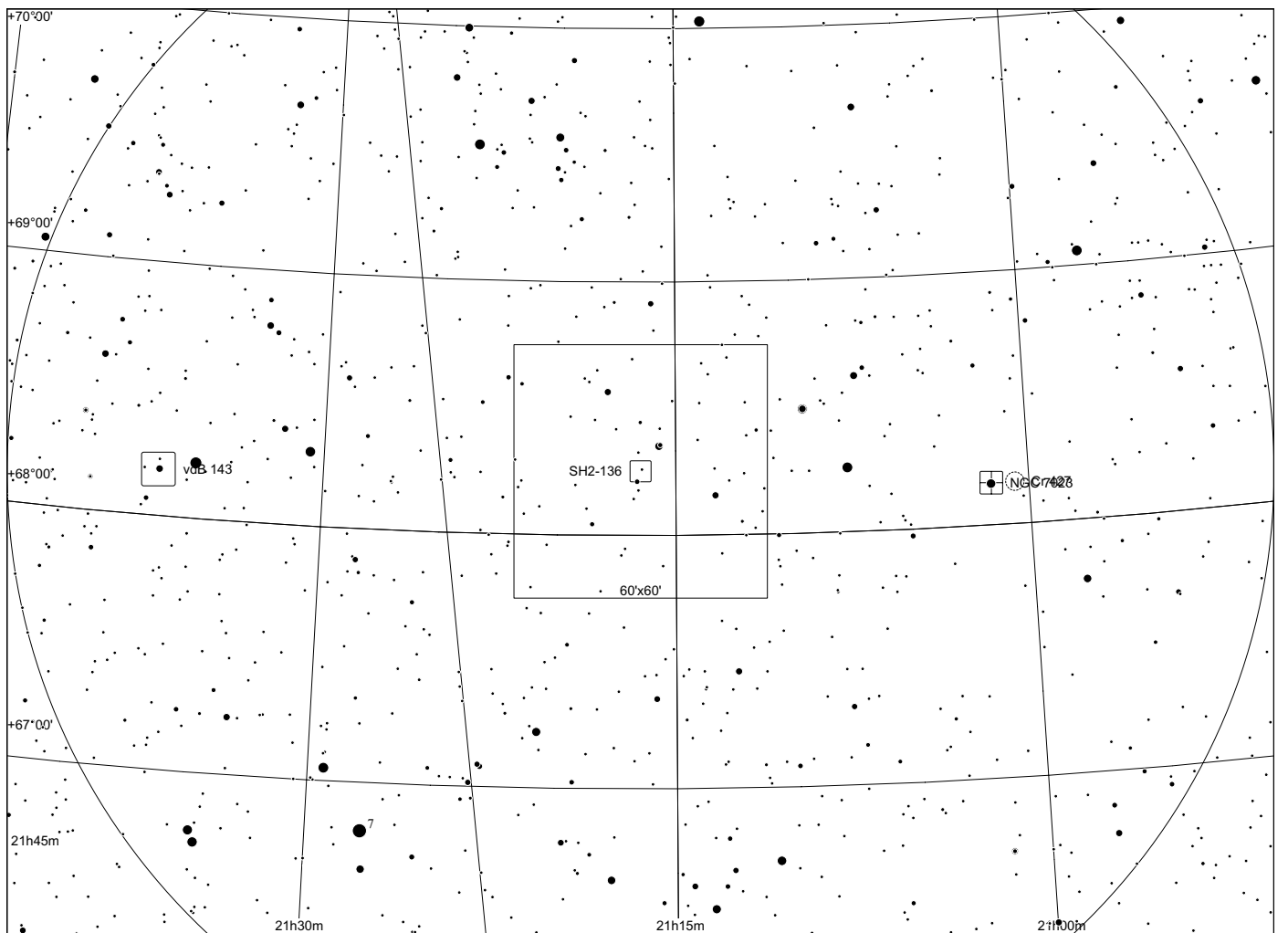
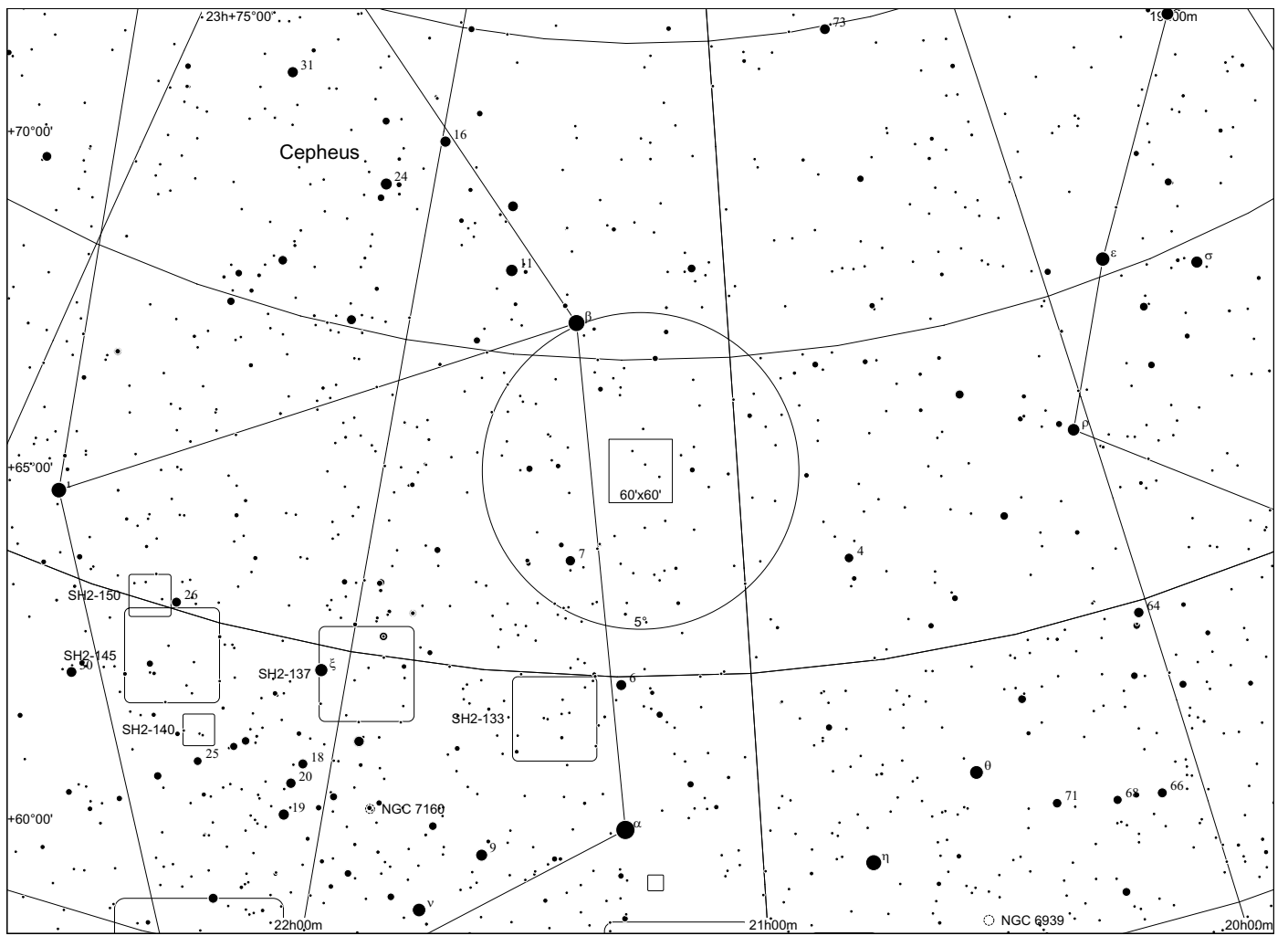
Distance: 450 pc, Size: 0.7 pc, Source: 2005MmSAI..76..400M

This is a Bok globule, not an HII region. Inside the glowing globule, CB 230, new stars are being born.

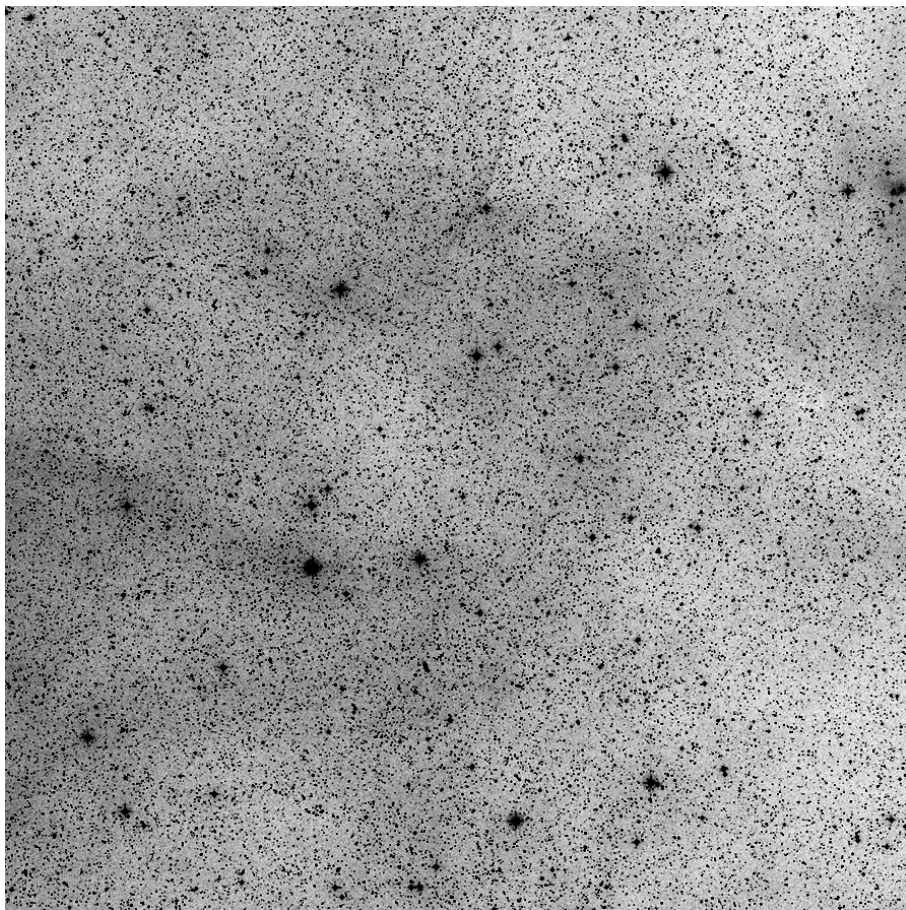
Observing notes:

22" f/4.5

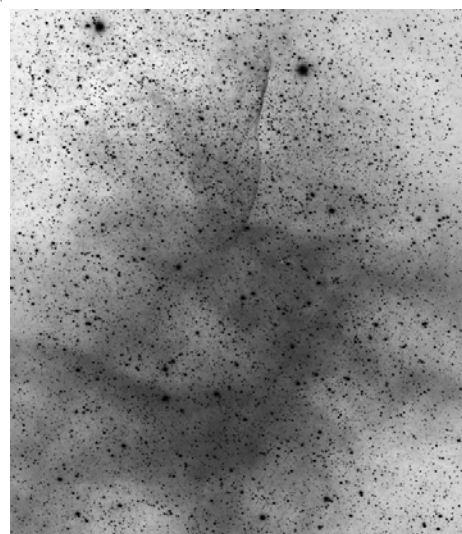
08/2009: W/o filter, faint RN around bright star. Only very central part, extensions not visible.



Sh 2 - 137 in Cepheus



60x60, red



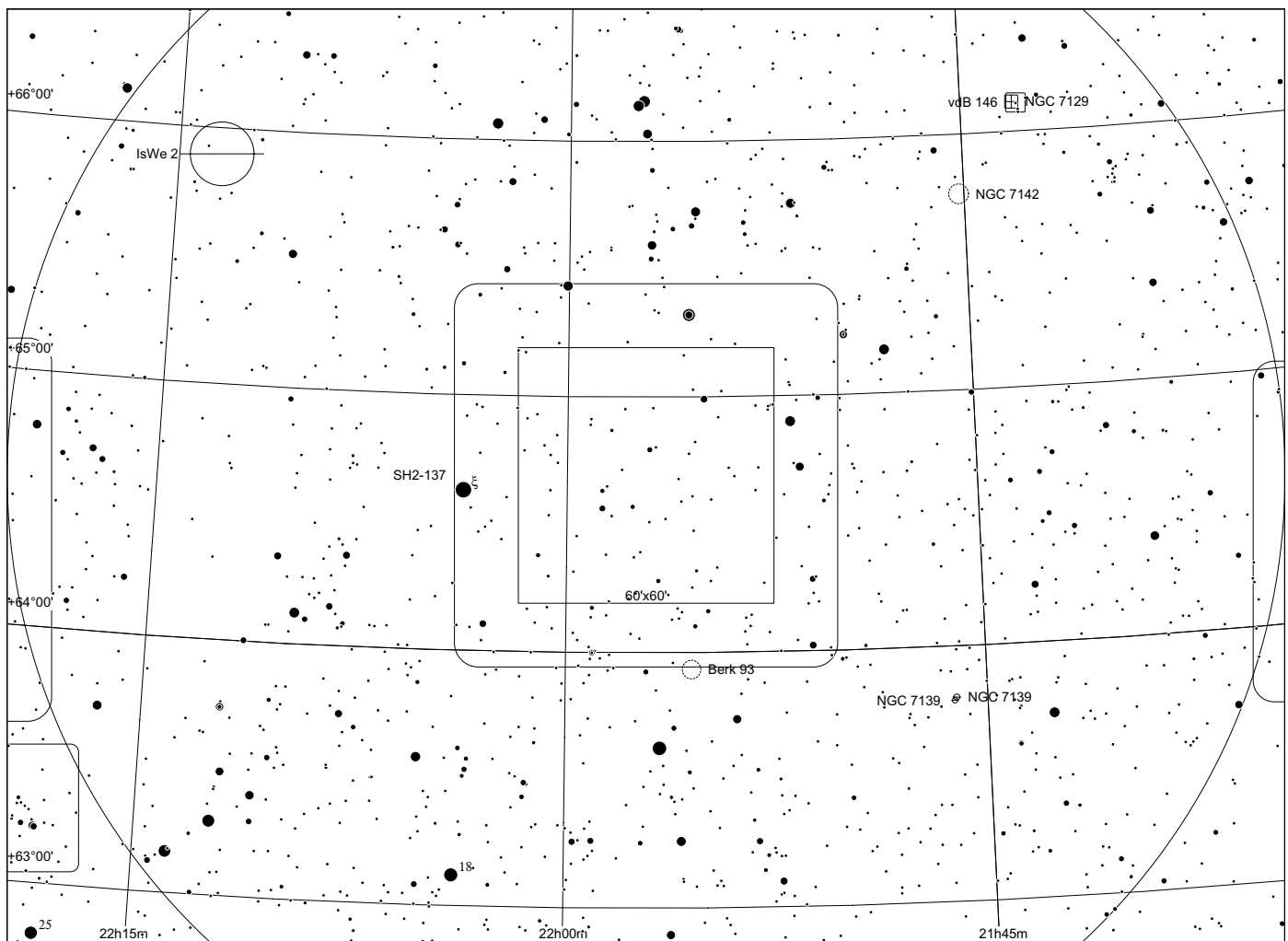
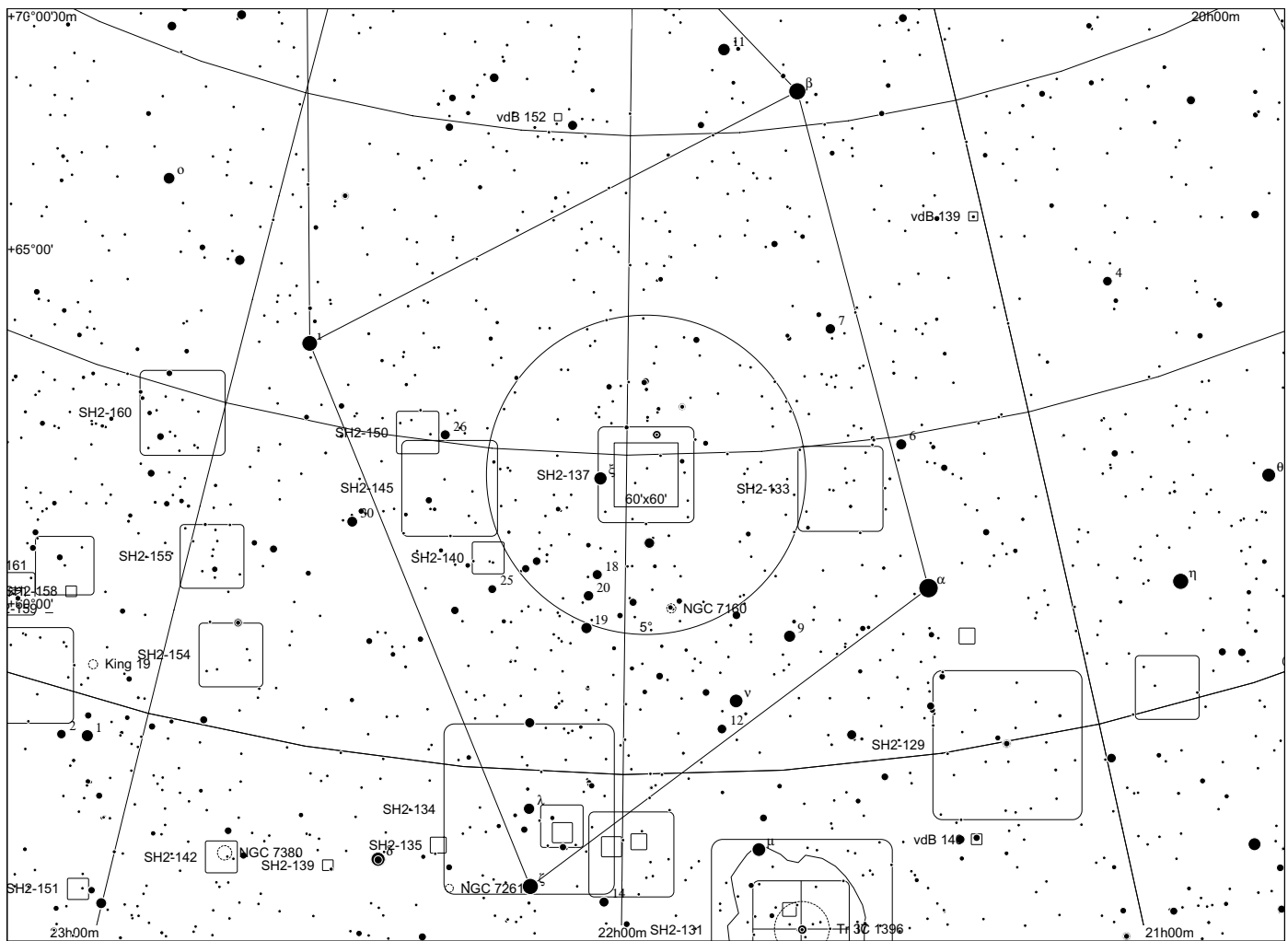
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-137		21 57 06.6	+64 41 37	90	3	2	1

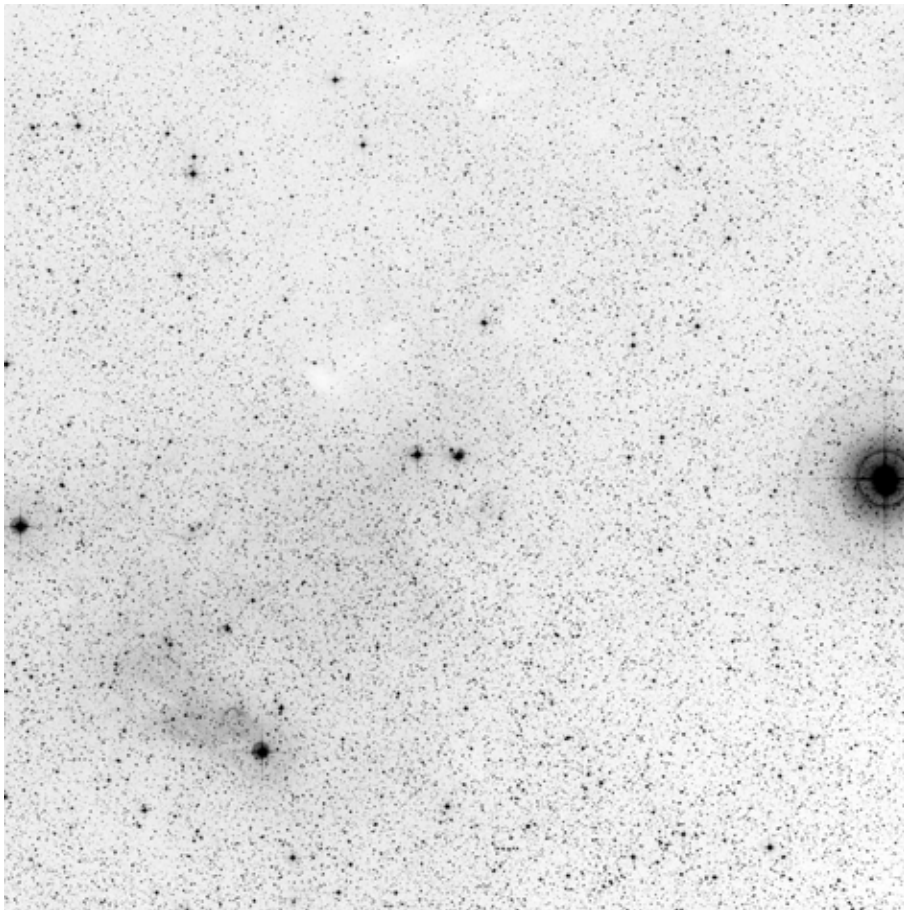
Distance: 600 pc, Size: 15.7 pc Source: 1982ApJS...49..183B

This HII region lies at a similar direction and distance as the Cepheus Bubble, a huge expanding shell of gas and dust surrounding the Cepheus OB2 association. Avedisova places Sh 2-137 at a distance of 700 +/- 300 parsecs and identifies 5 ionising stars. The hottest of these is the O9.5 II giant and double star HD 207198.

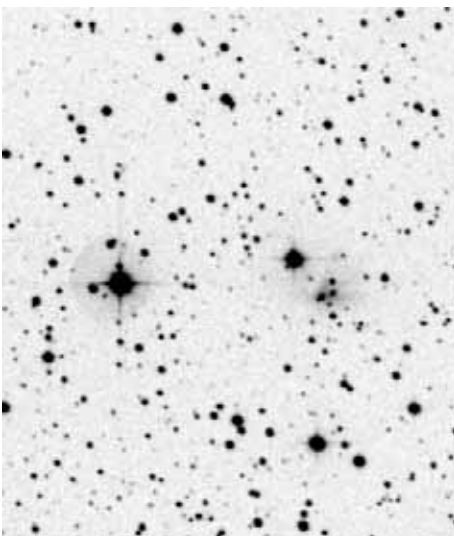
Observing notes:



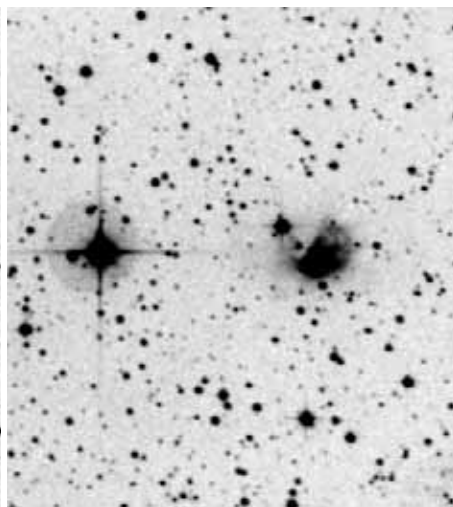
Sh 2 - 138 in Cepheus



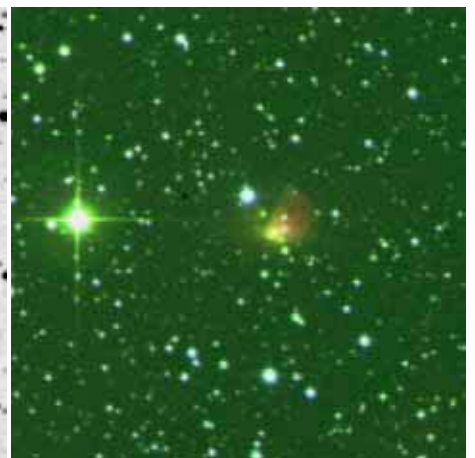
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-138		22 32 39.0	+58 28 55	1	3	2	2

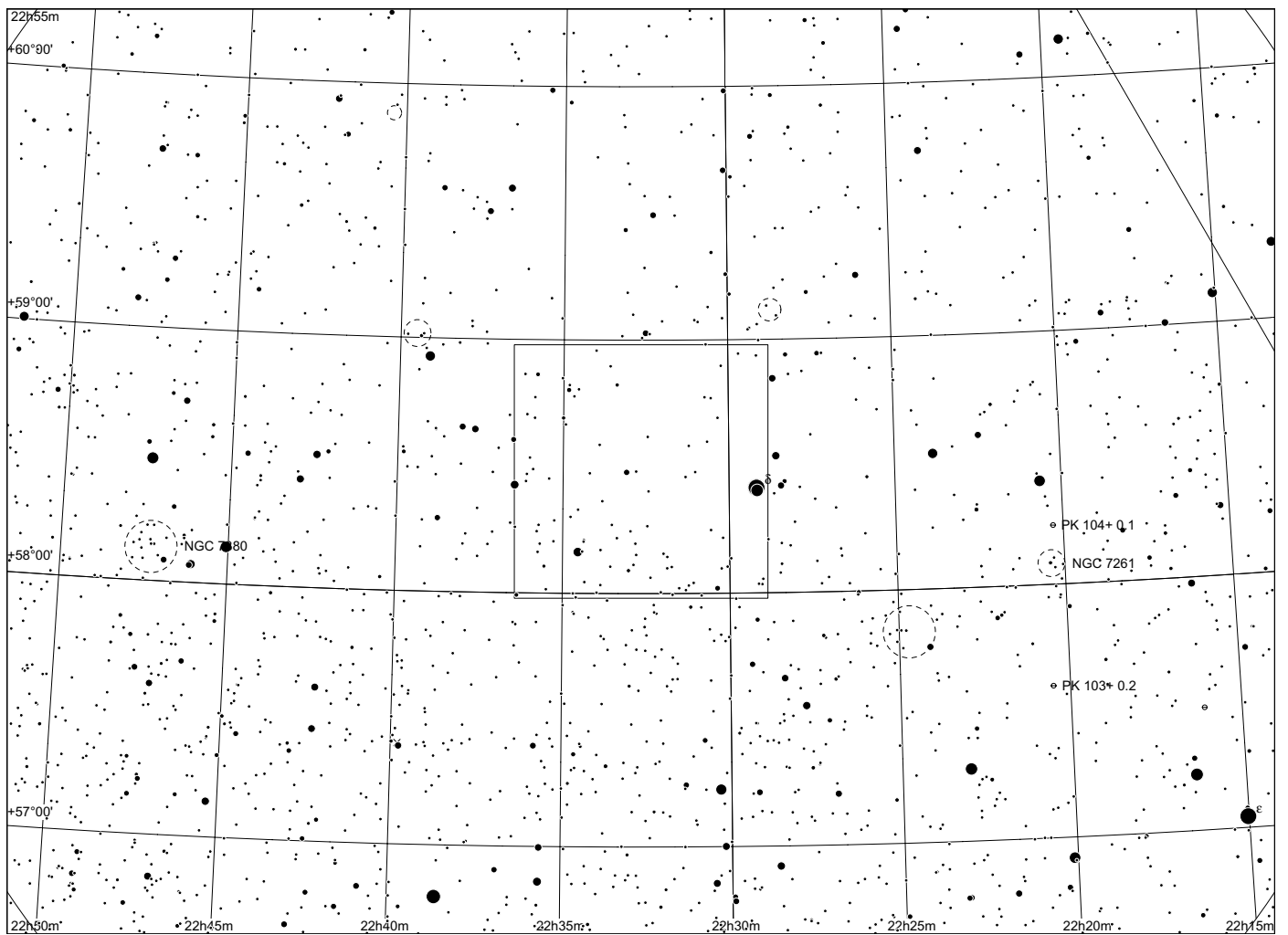
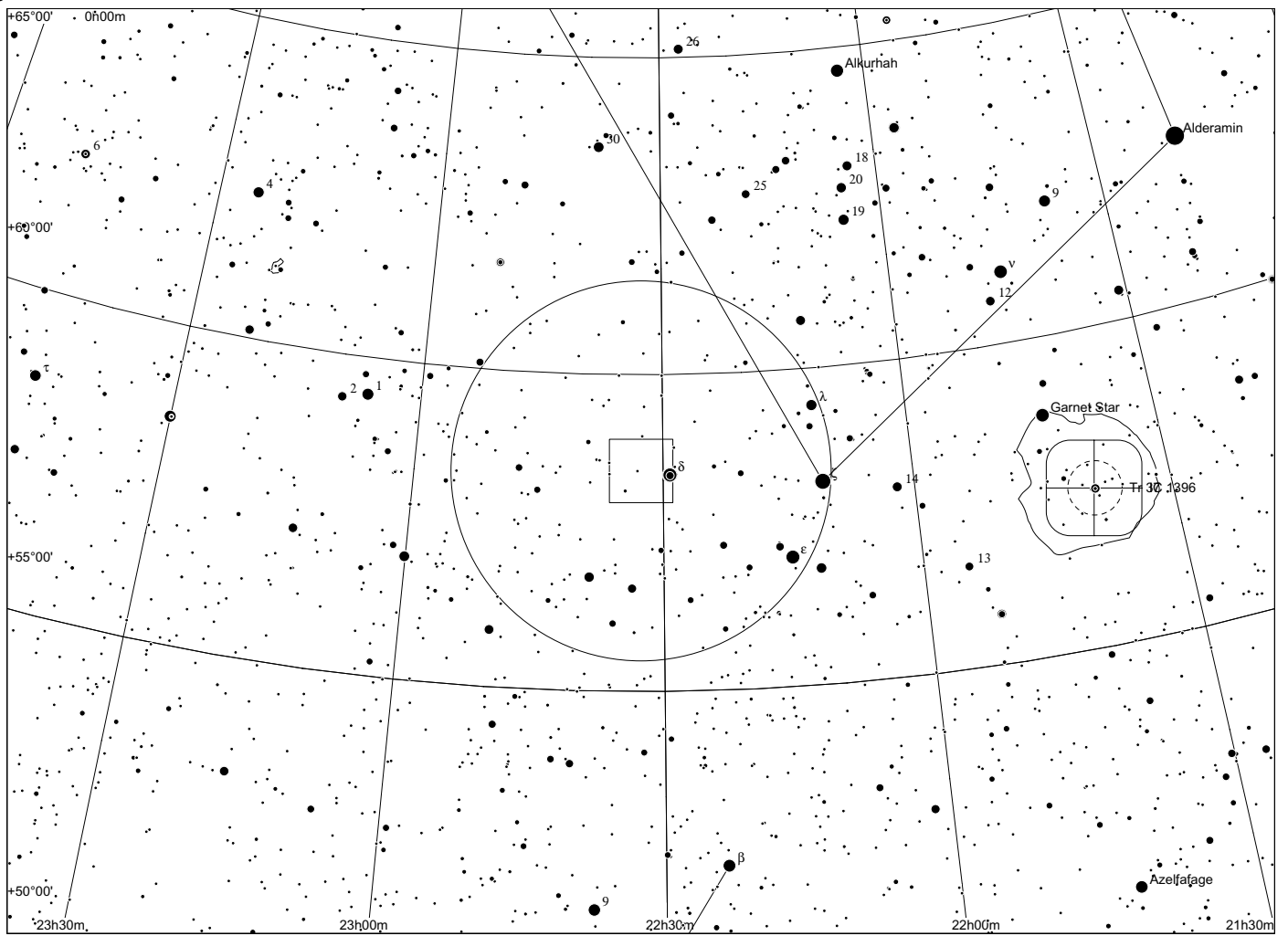
Distance: 4000 pc, Size: 1.2 pc, Source: 2003A&A...397..133R

Embedded in this compact HII region is a large star cluster resembling the Orion Trapezium cluster: it is centrally peaked around several massive stars, and is dense - more than 550 stars at its centre.

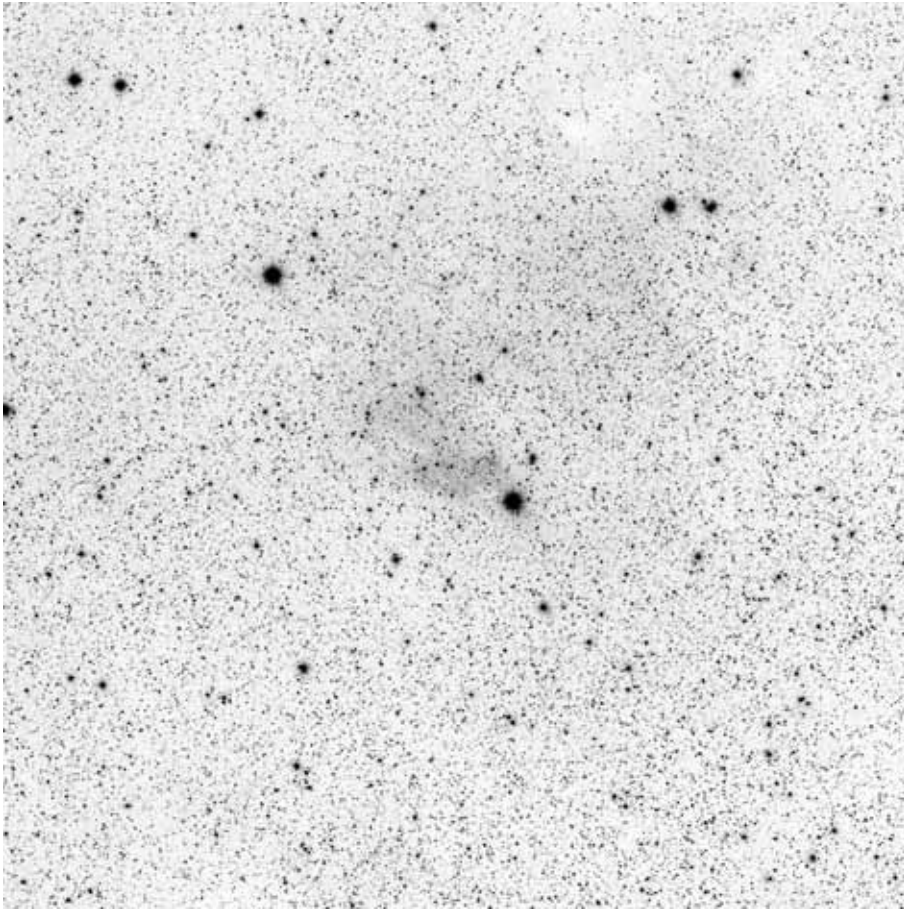
Observing notes:

22" f/4.5

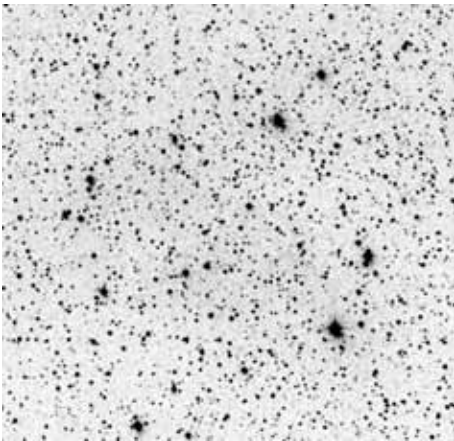
10/2011: unsuccessful



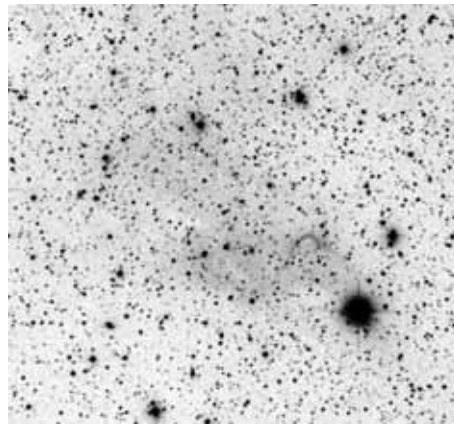
Sh 2 - 139 in Cepheus



60x60, red



POSS blue



POSS red



composite

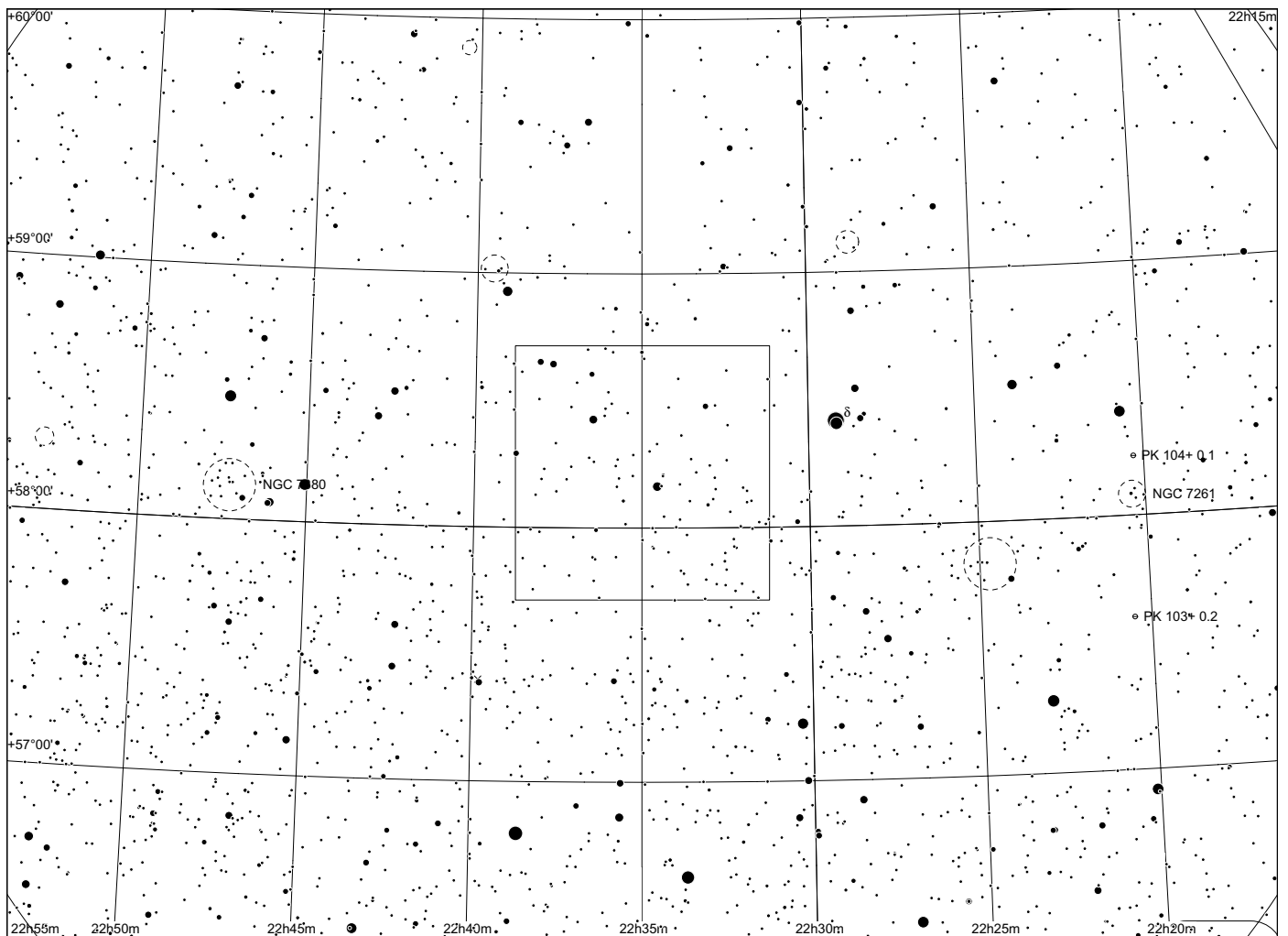
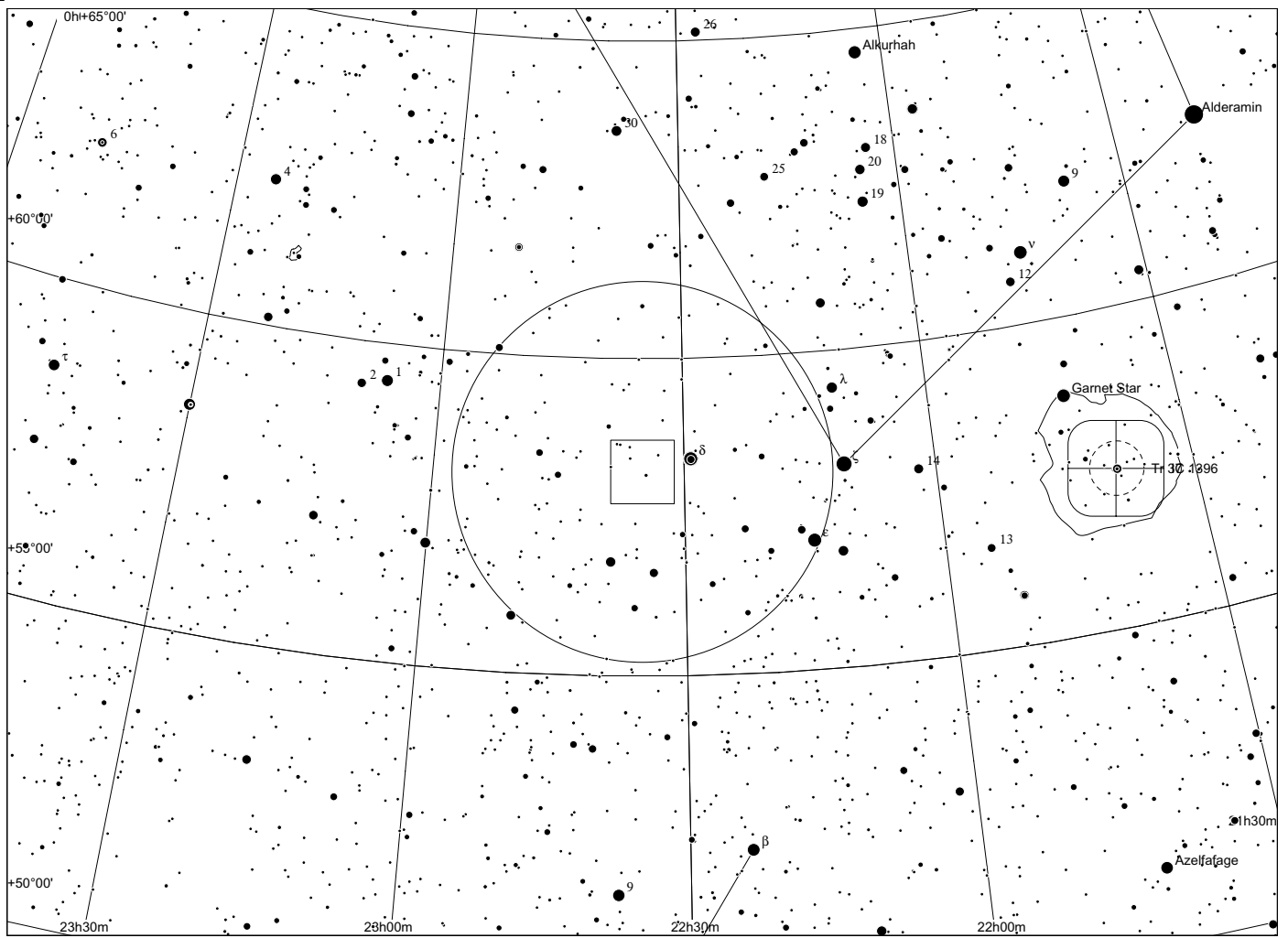
	other name	RA	dec	dia. '	F	S	B
Sh 2-139		22 34 59.4	+58 13 02	10	3	2	1

Distance: 3300 pc, Size: 24.0 pc, Source: 1982ApJS...49..183B

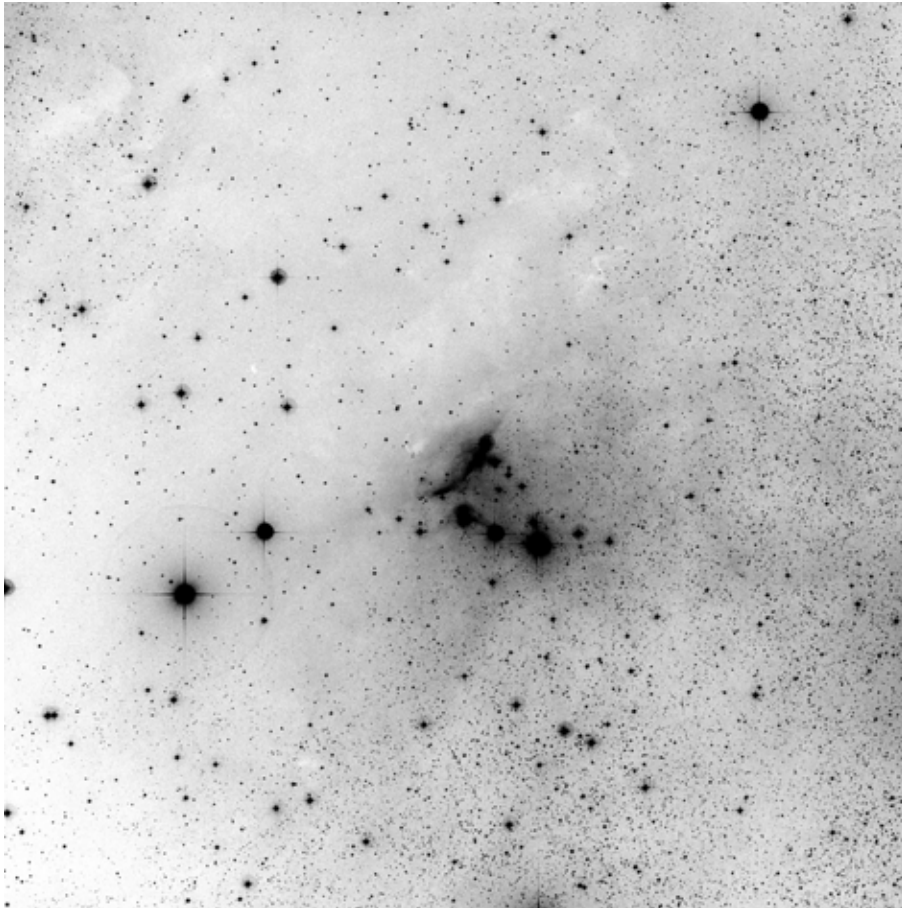
Observing notes:

22" f/4.5

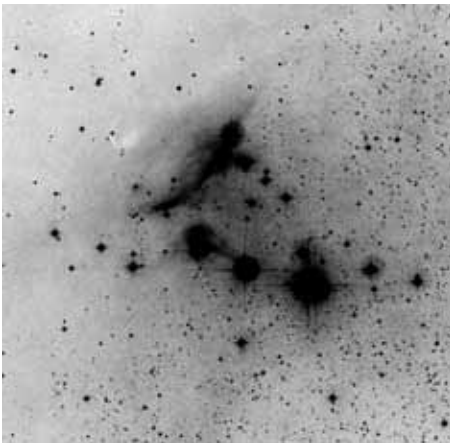
12/2011: unsuccessful observation



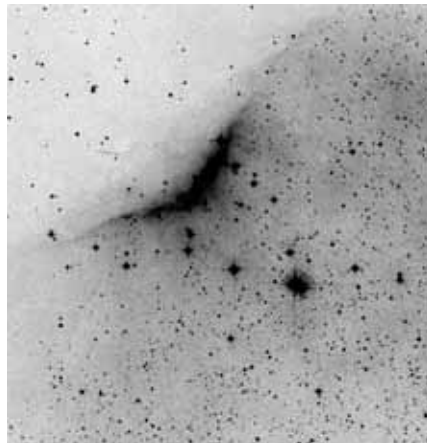
Sh 2 - 140 in Cepheus



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-140		22 19 07.0	+63 17 07	30	2	2	3

Distance: 900 pc, Size: 7.9 pc, Source: 1982ApJS...49..183B

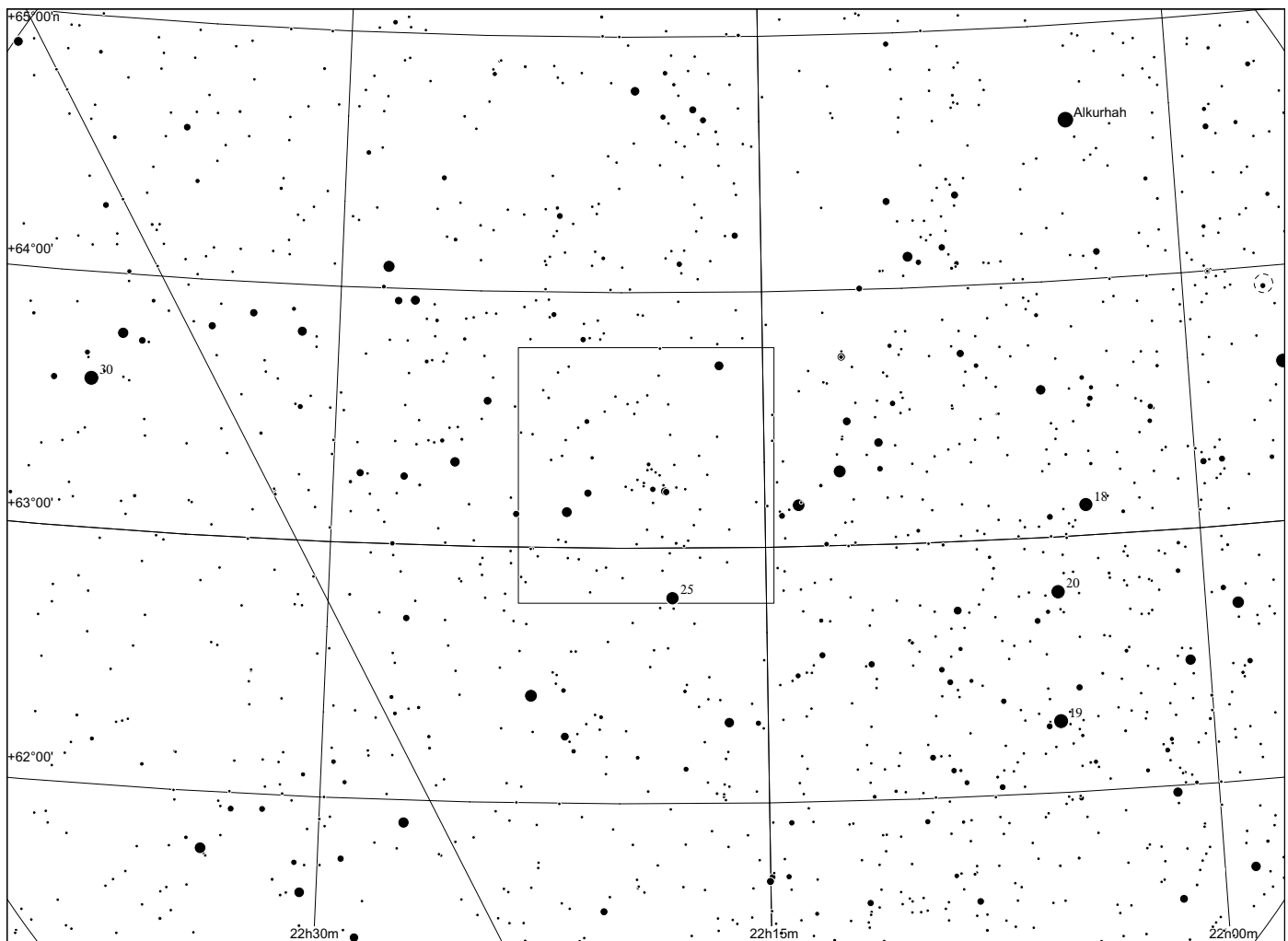
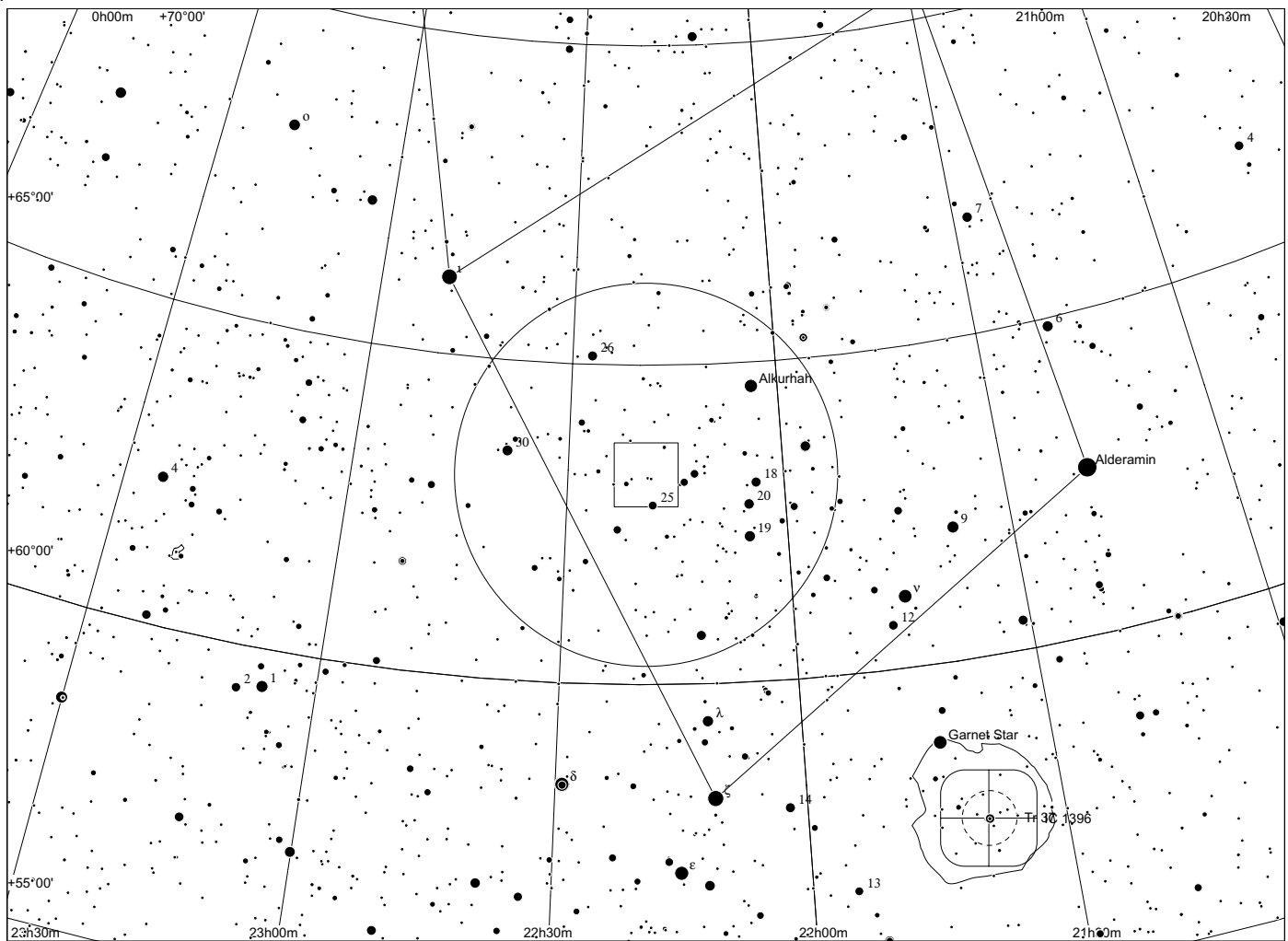
Sh 2-140 is created by the B0.5 V star HD 211880 exciting the southwest side of the L1204 molecular cloud.

Observing notes:

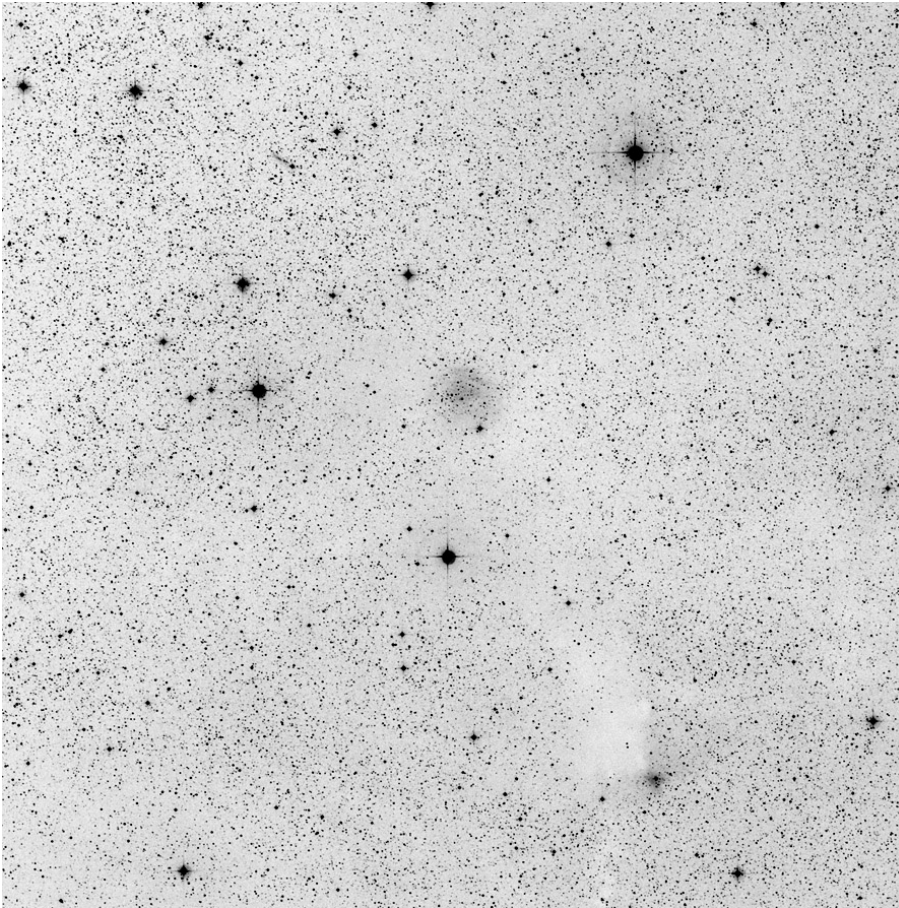
22" f/4.5

09/2010: Despite being bright on both the blue and red plates, no definite sighting could be made. Need to give this another try.

10/2011: doubtful observation



Sh 2 - 141 in Cepheus



60x60, red

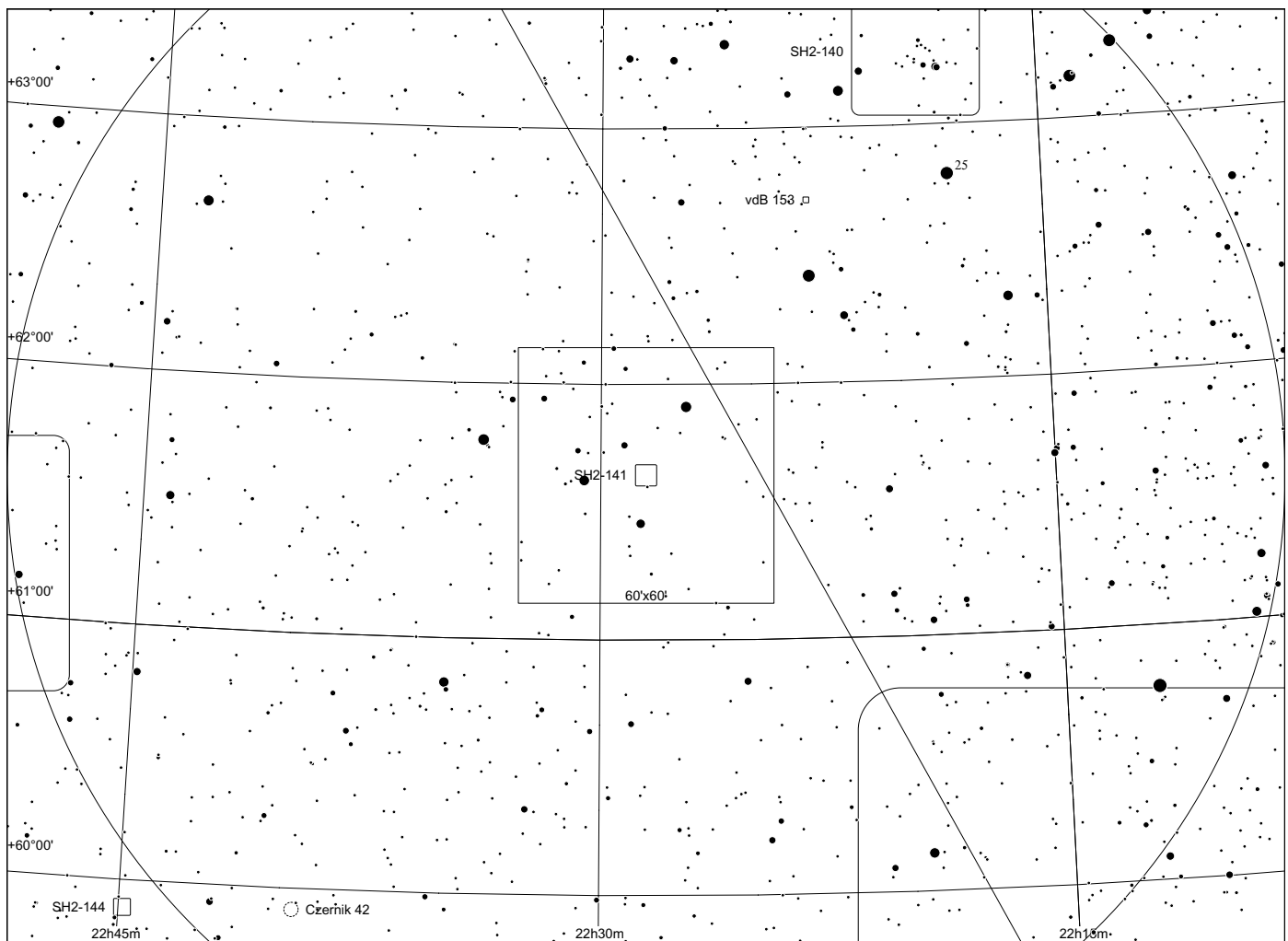
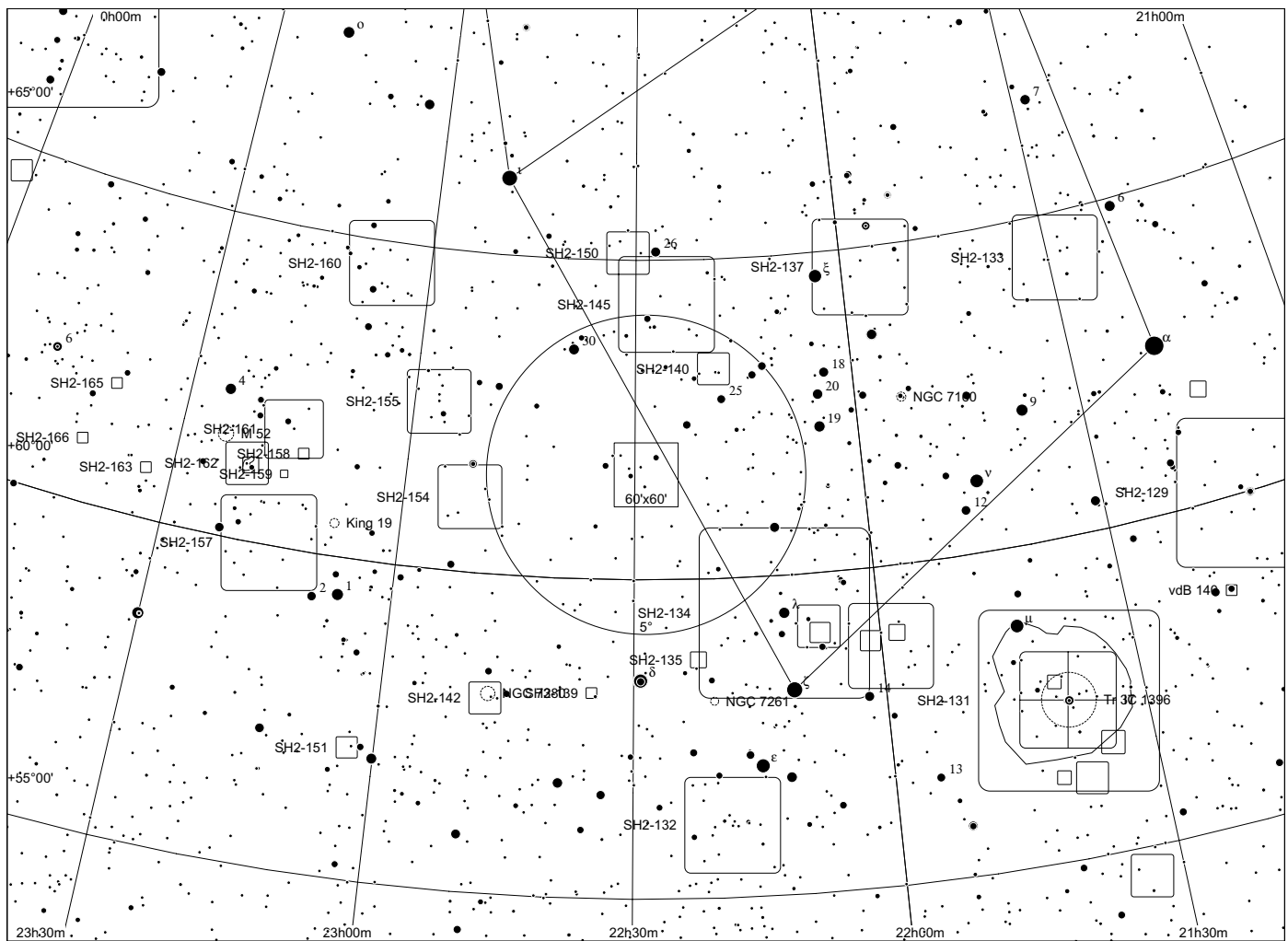
POSS blue

	other name	RA	dec	dia. '	F	S	B
Sh 2-141		22 28 30.4	+61 38 41	5	1	1	2

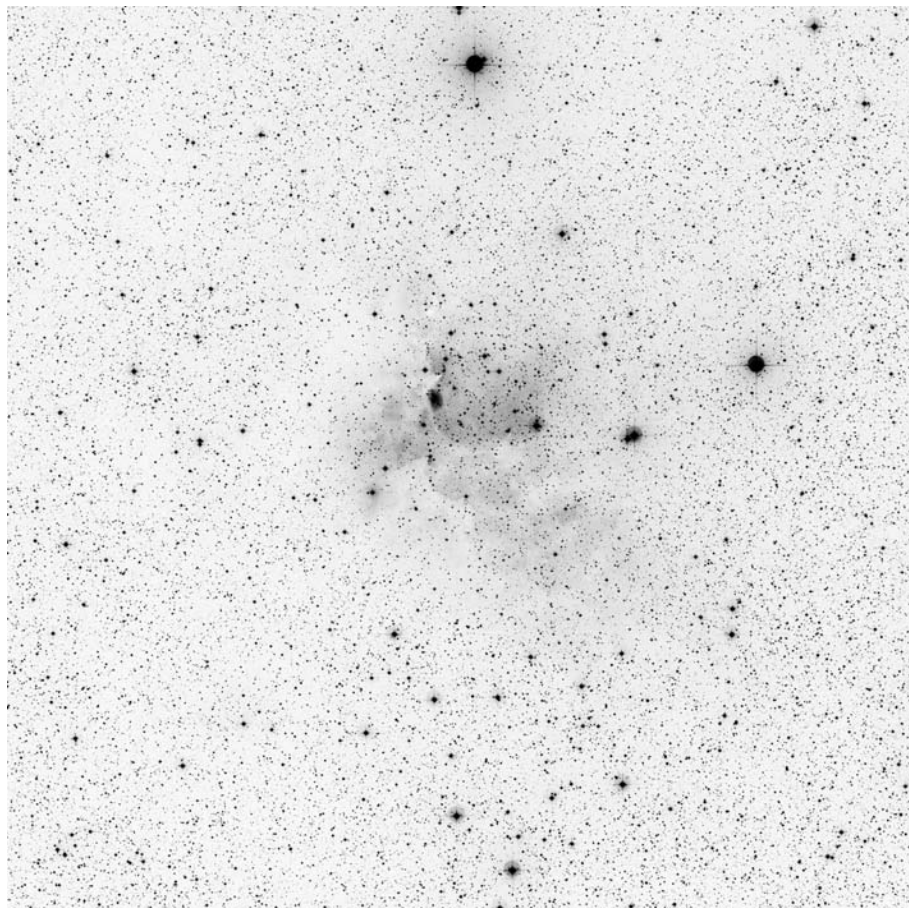
Distance: 6700 pc, Size: 9.7 pc Source: 2003A&A...397..133R

The faint circular HII region Sh 2-141 lies far away at a distance of 8340 ± 600 parsecs according to Russeil. Pineault and Joncas give a distance estimate of about 7000 parsecs and suggest that Sh 2-141 may be ionised by a single O8 class star.

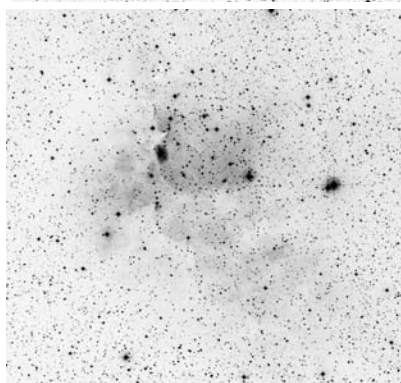
Observing notes:



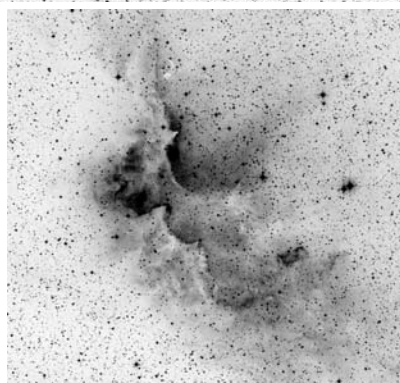
Sh 2 - 142 in Cepheus



60x60, blue



POSS blue



POSS red



narrow band Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-142	Contains NGC7380	22 47 35.1	+58 03 39	30	3	3	3

Distance: 3537 pc, Size: 7.2 pc, Source: 2003A&A...397..213P

This HII region, entwined with the star cluster NGC 7380, contains 4000 solar masses of gas and is ionised by the eclipsing binary star DH Cephei (O6+O6). It is associated with a molecular cloud containing an additional 6-15 thousand solar masses of gas, and the star cluster NGC 7382, which are all part of the Cepheus OB1 association.

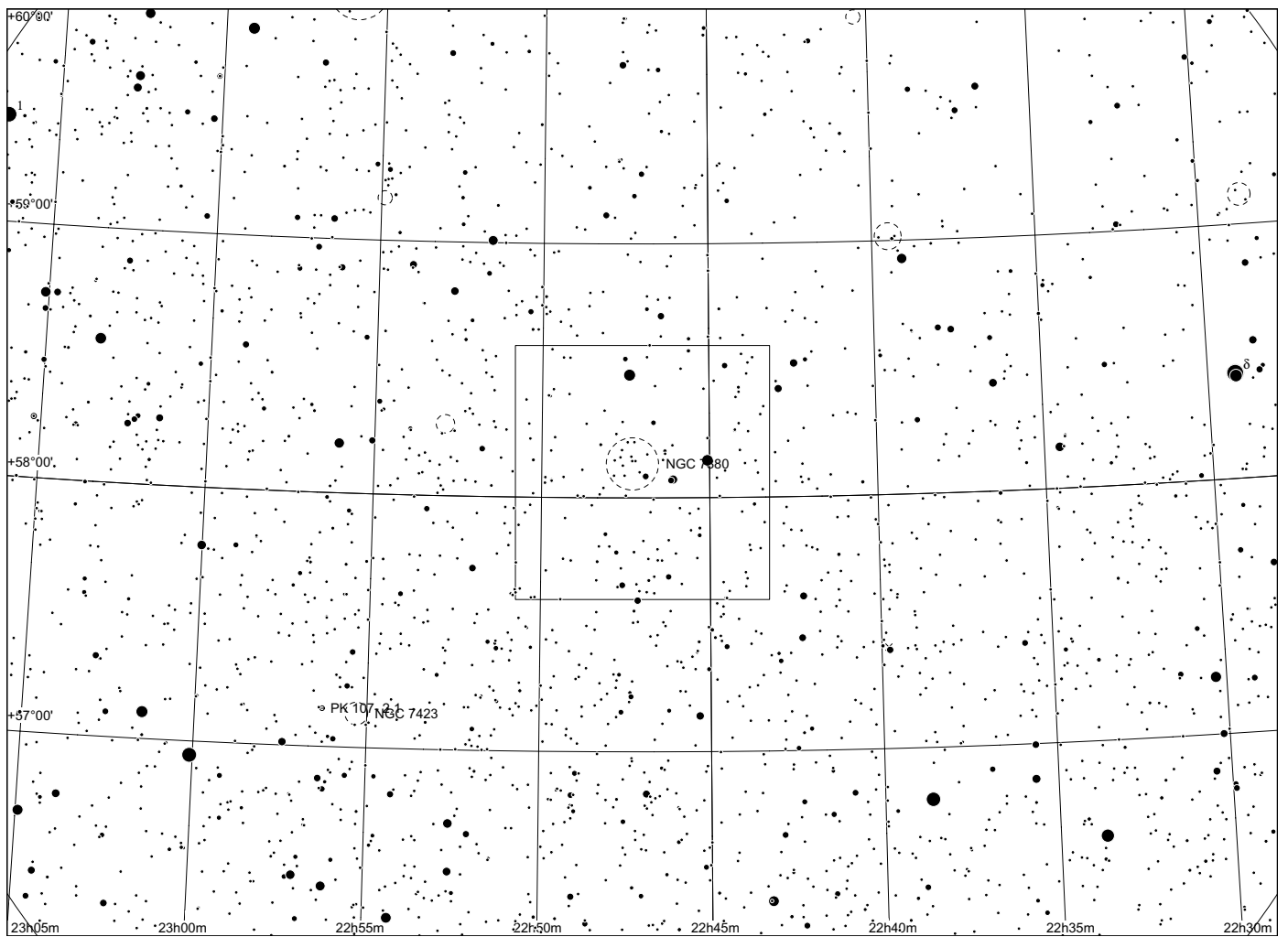
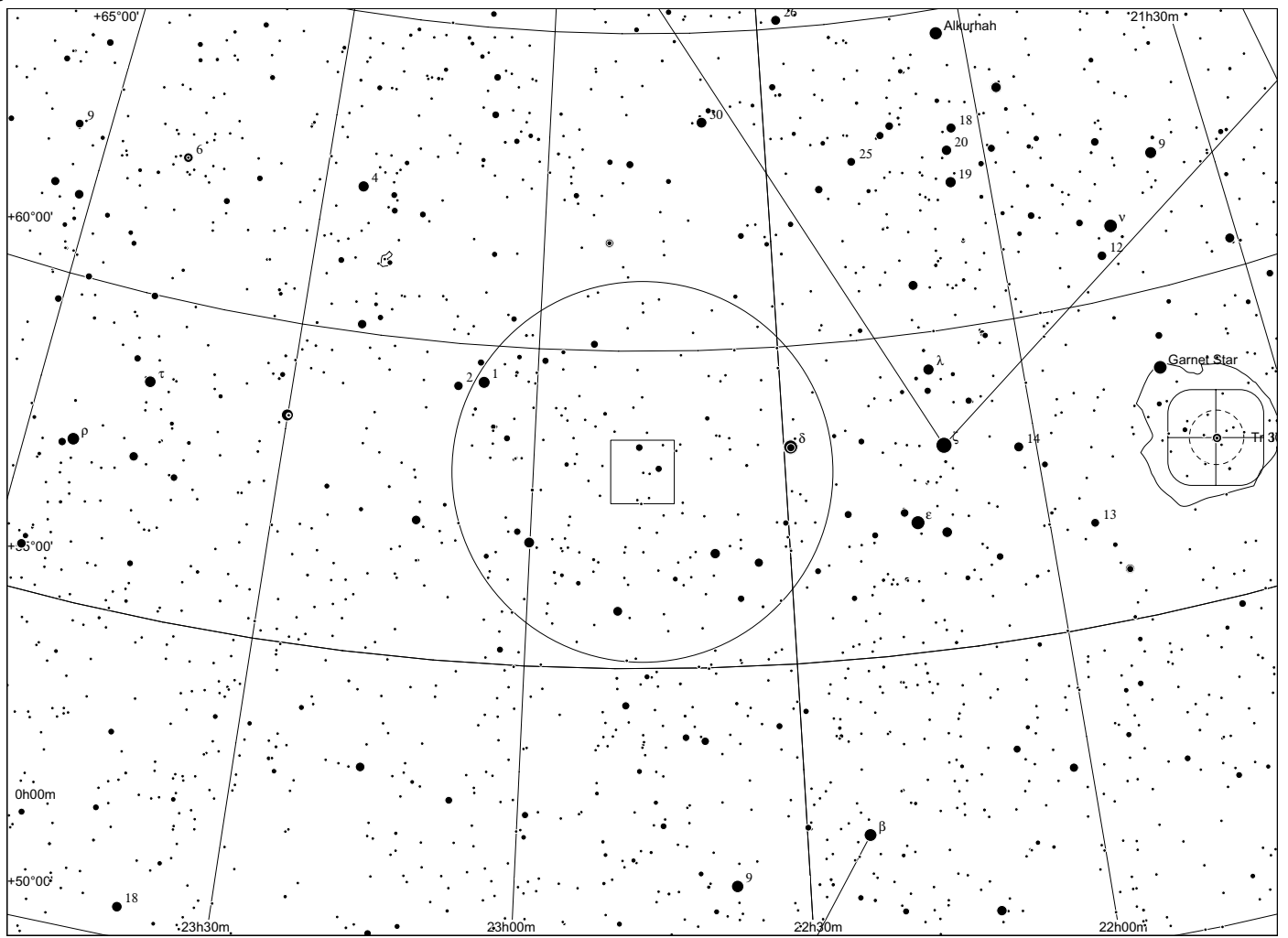
Observing notes:

14" f/5

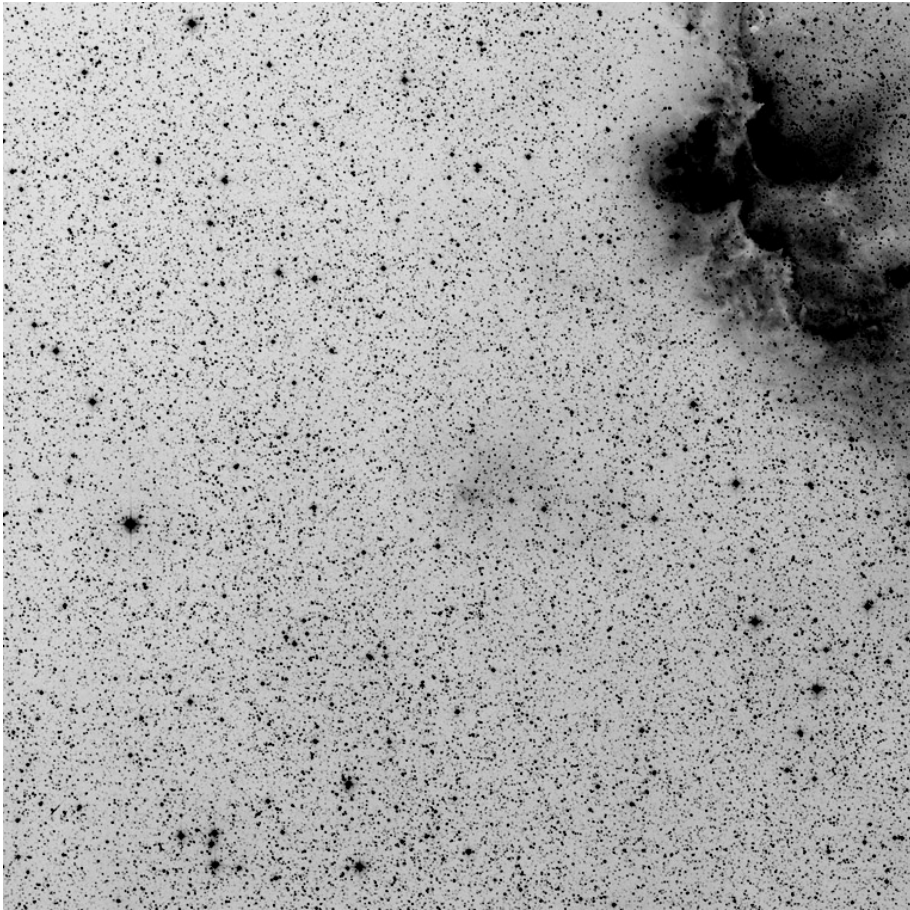
08/2005 and 10/2007: Relatively bright EN around OC, responds well to OIII filter.

22" f/4.5

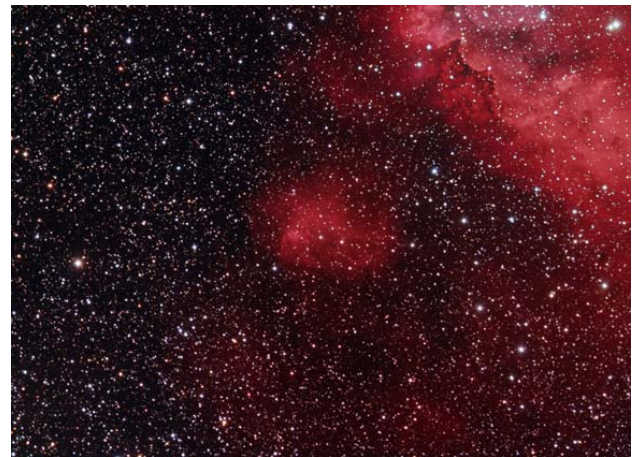
10/2011: nice cluster with surrounding emission nebula. There is a dark notch from W to E in the S part.



Sh 2 - 143 in Cepheus



60x60, red



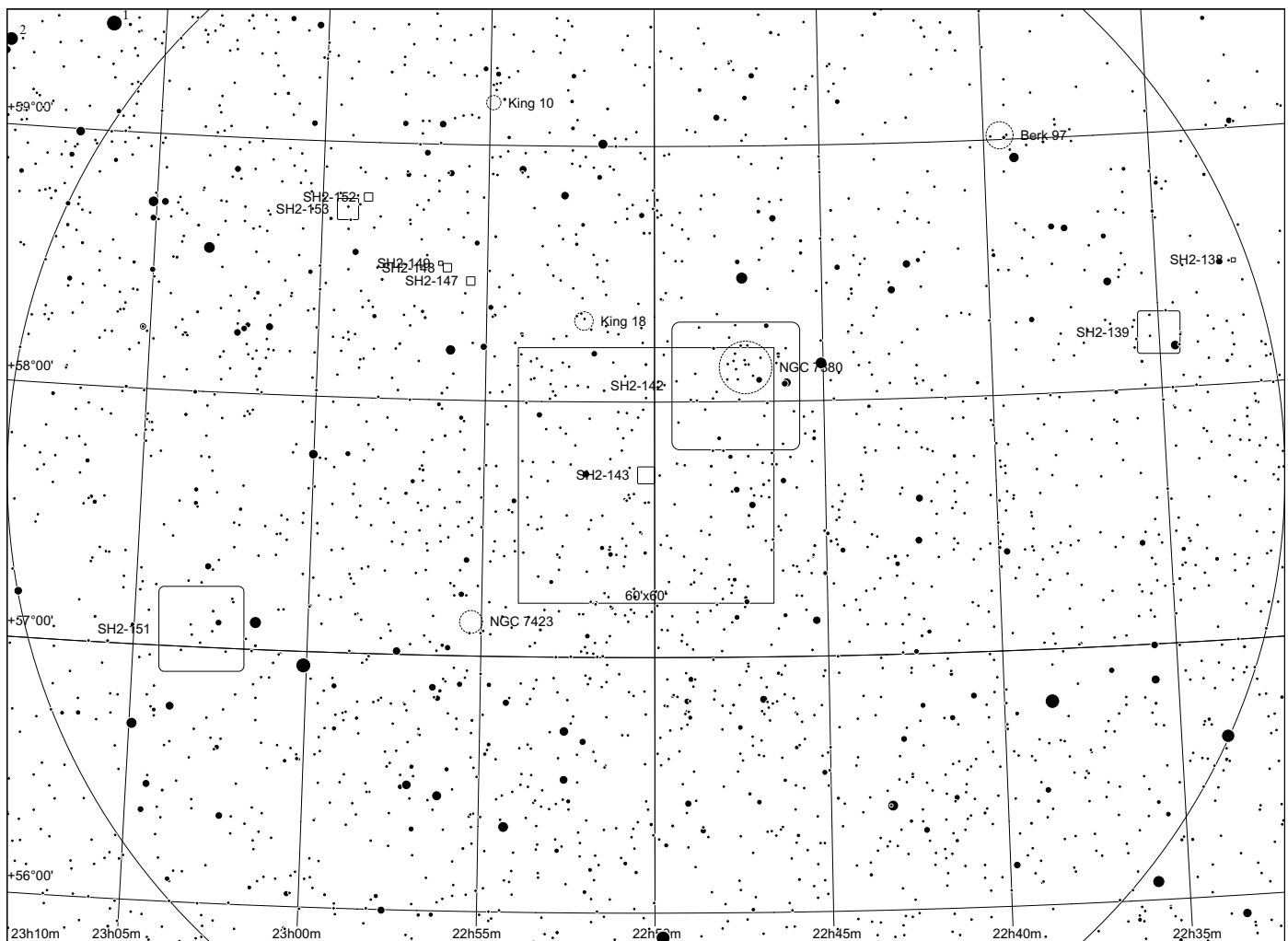
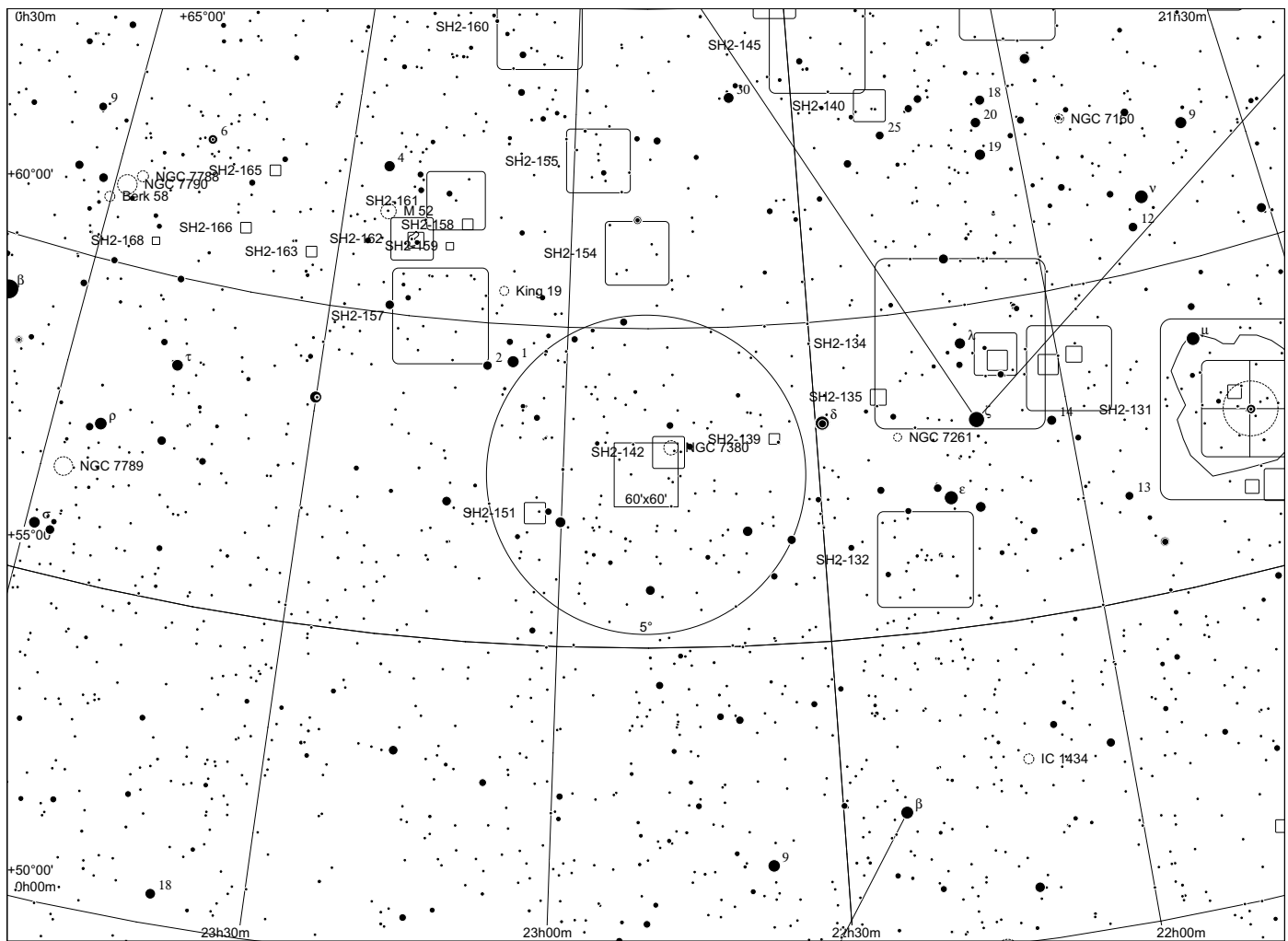
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-143		22 50 14.8	+57 42 47	4	3	1	1

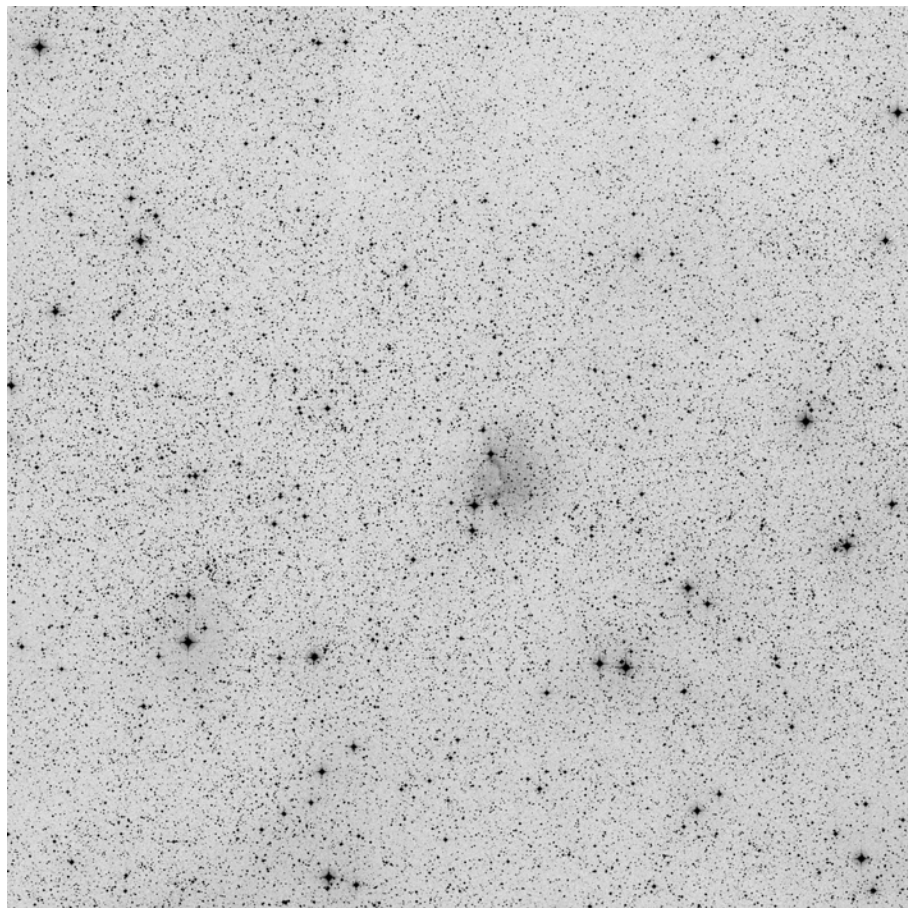
Distance: 3700 pc, Size: 4.3 pc Source: 1982ApJS...49..183B

According to Avedisova, Sh 2-143 is ionised by the O9.5V star LS III +57 93. Sh2-142 is NW of it.

Observing notes:



Sh 2 - 144 in Cepheus



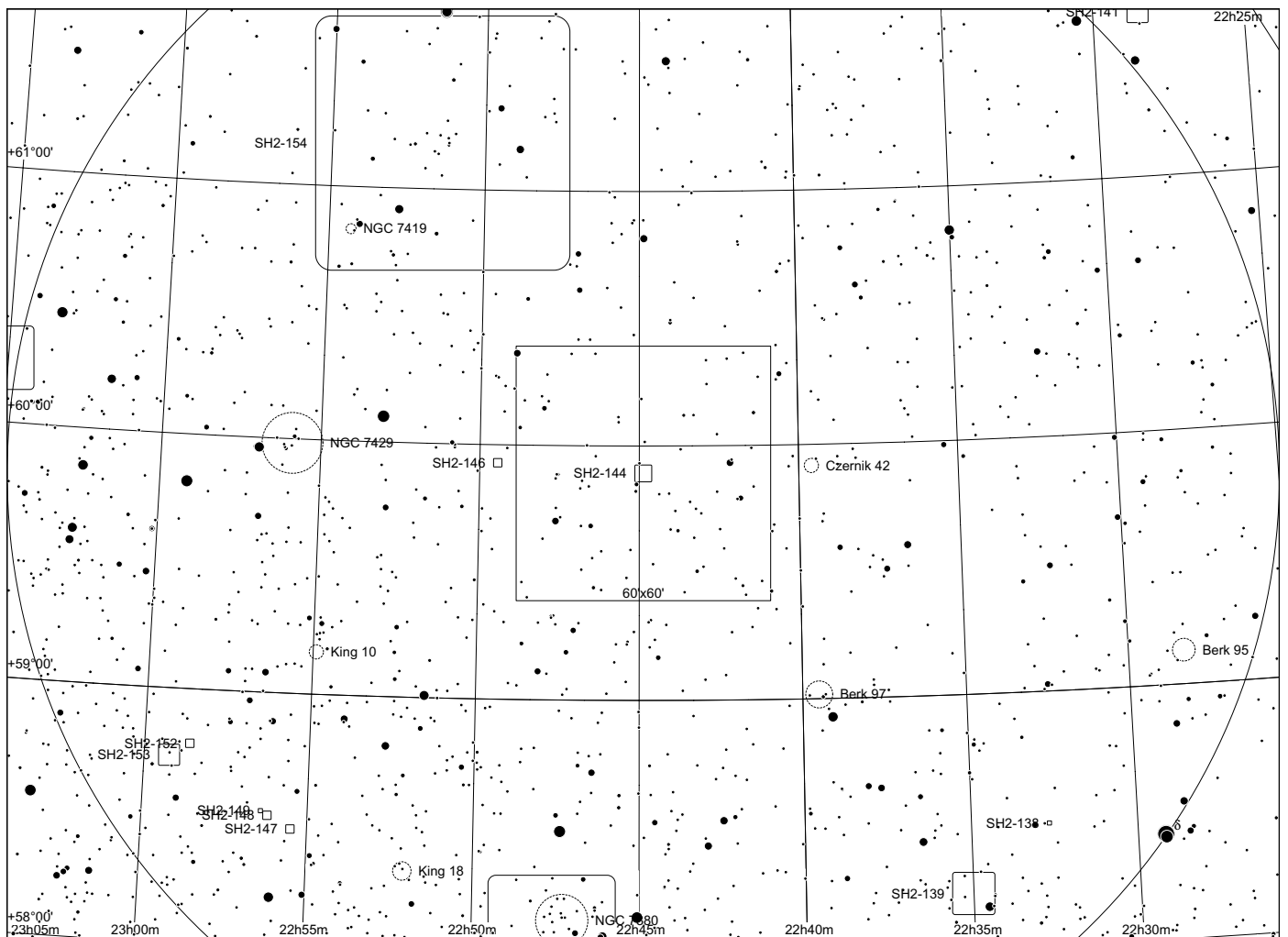
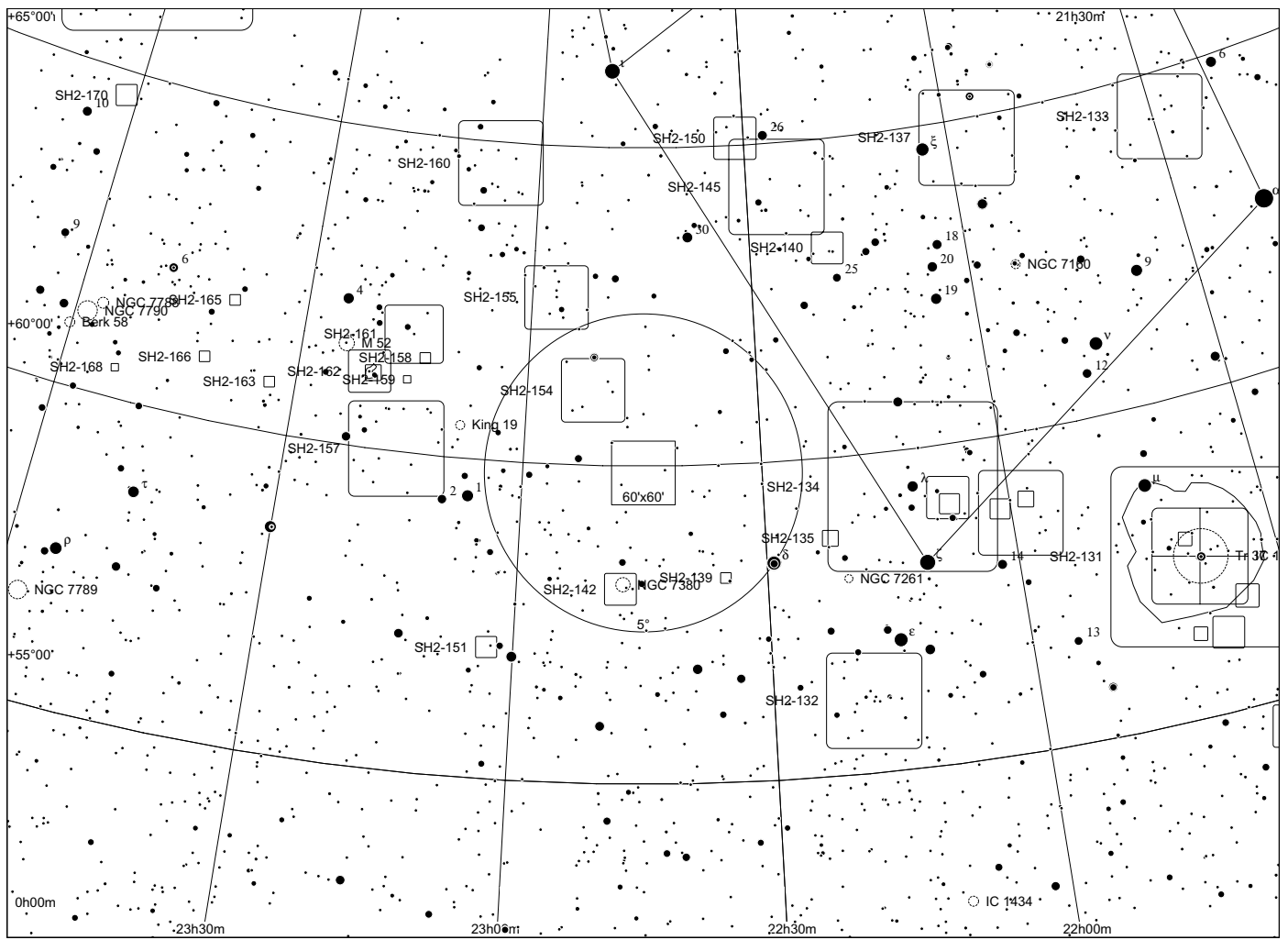
60x60, red

	other name	RA	dec	dia. '	F	S	B
Sh 2-144		22 44 51.4	+59 53 32	4	3	2	1

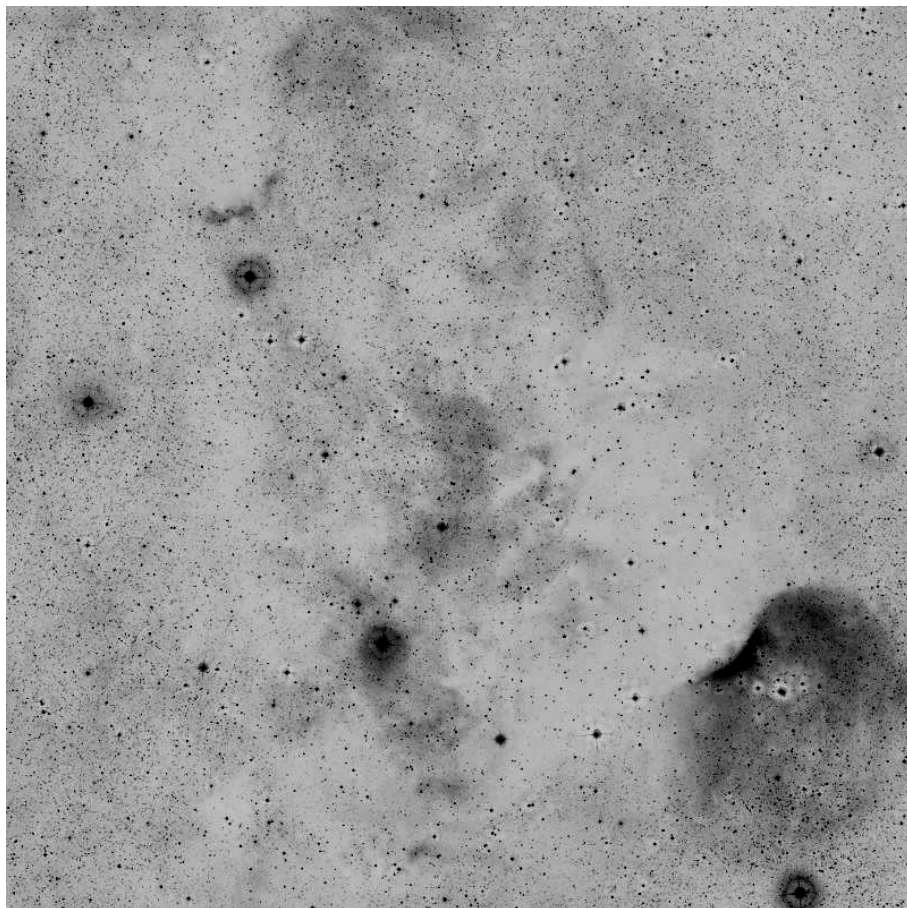
Distance: 800 pc, Size: 0.9 pc Source: 2003A&A...397..133R

Both Sh 2-144 and Sh 2-146 appear in the direction of the 377 thousand solar mass molecular cloud [UUT2000] Cloud B. Sh 2-144 appears to lie well in front of this cloud, however, and is associated with the local Cepheus clouds. No ionising star for Sh 2-144 has been identified in the scientific literature. Avedisova associates this nebula with the pulsating variable carbon star MV Cep.

Observing notes:



Sh 2 - 145 in Cepheus



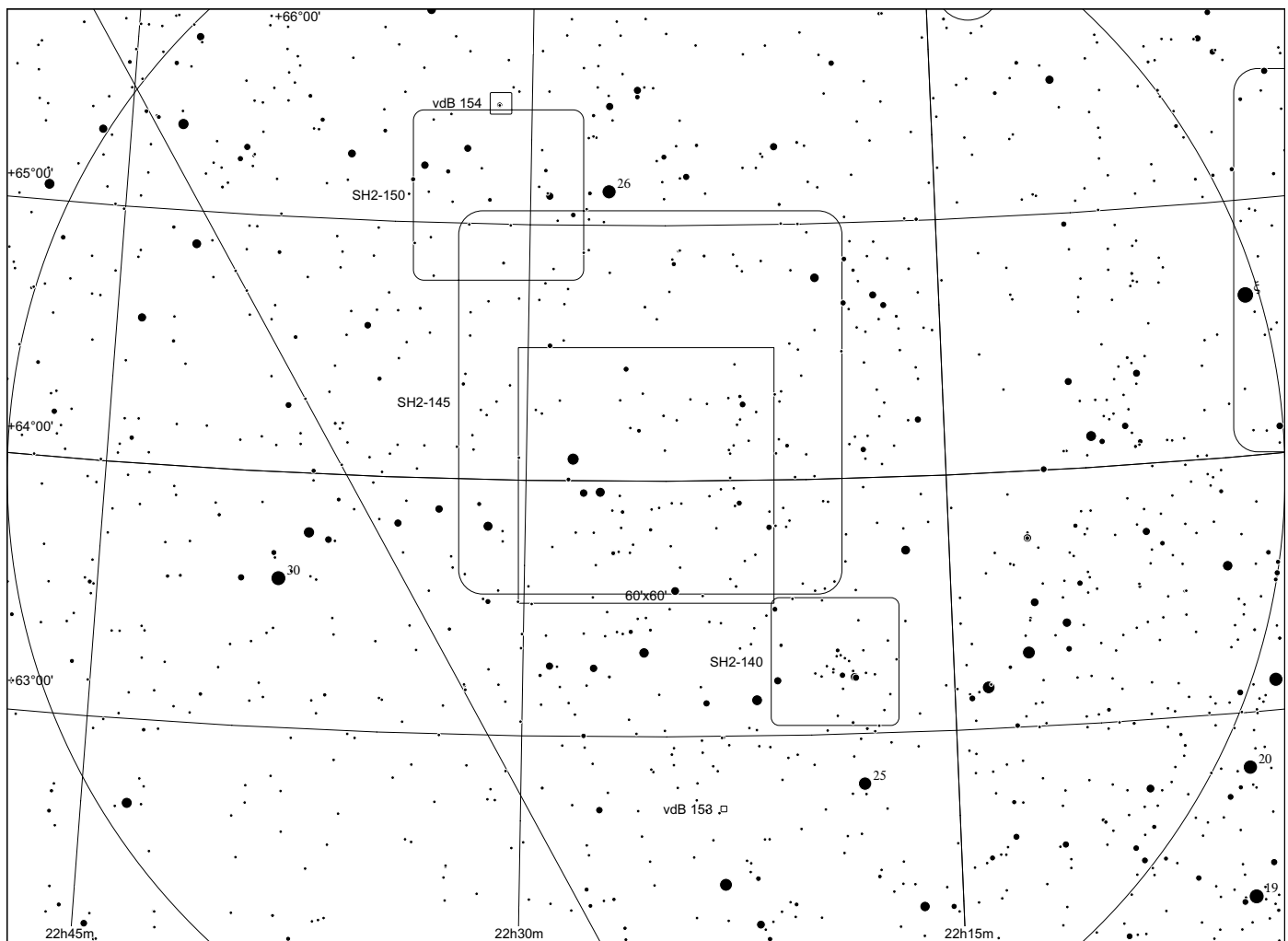
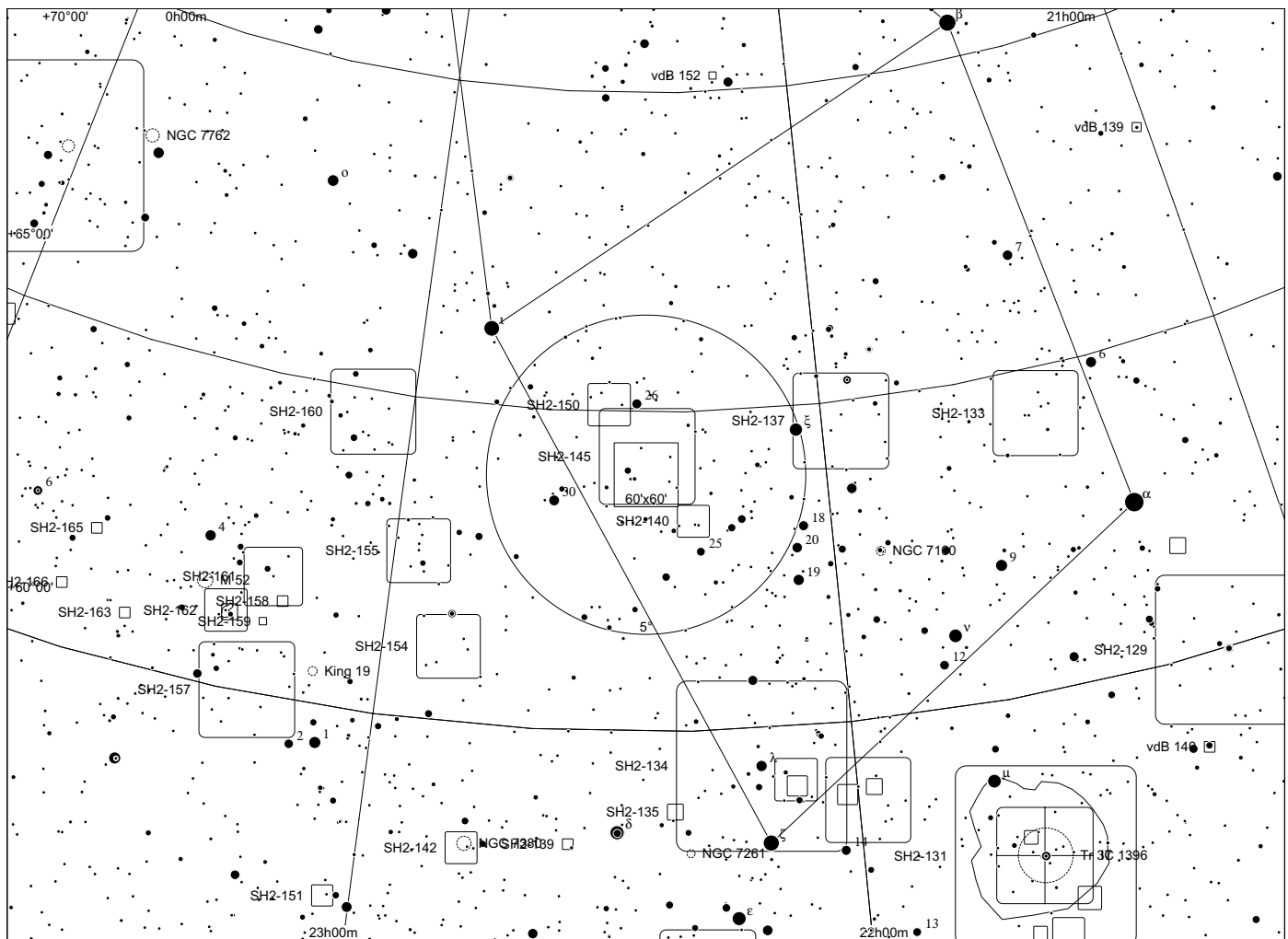
60x60, red

	other name	RA	dec	dia. '	F	S	B
Sh 2-145		22 25 33.0	+64 18 31	90	2	2	1

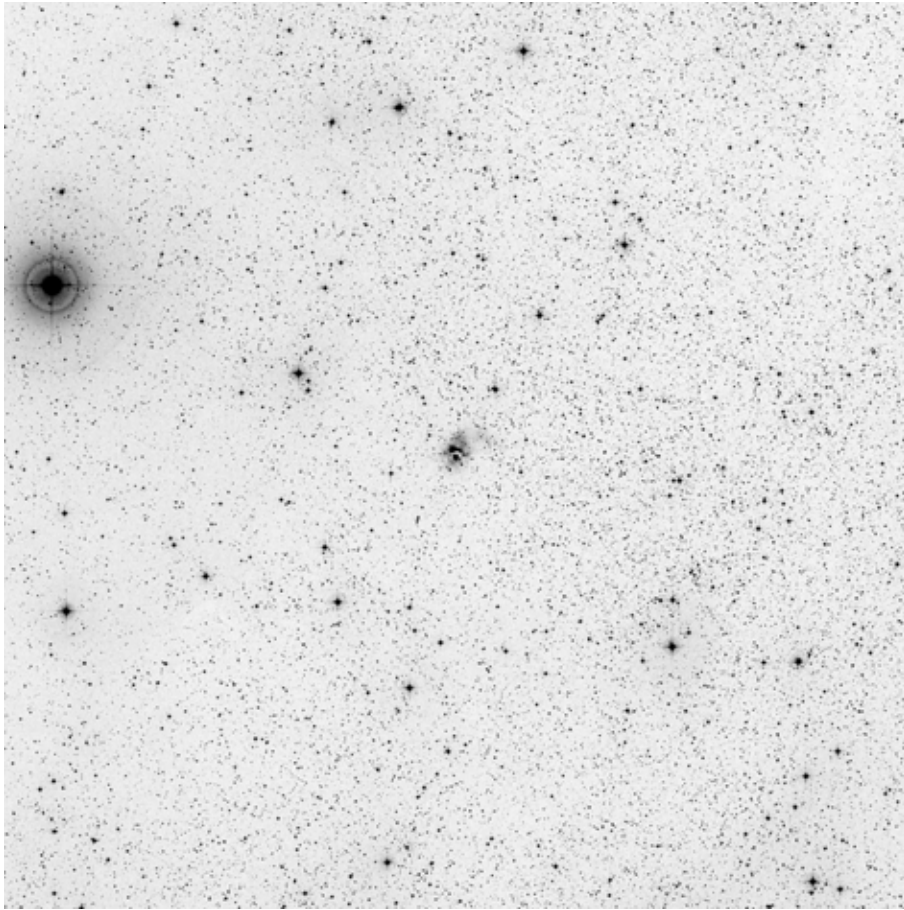
Distance: 900 pc, Size: 23.6 pc Source: 2003A&A...397..133R

Avedisova identifies 4 ionising stars for Sh 2-145, including two O-stars: the O7 V star BD +62 2078 and the O9 V multiple star HD 213023. Sh 2-145 appears to be part of the Cepheus bubble, the expanding ring of gas and dust surrounding the star cluster NGC 7160 and the Cep OB2 association. The much brighter nebula Sh 2-131 is part of the same structure.

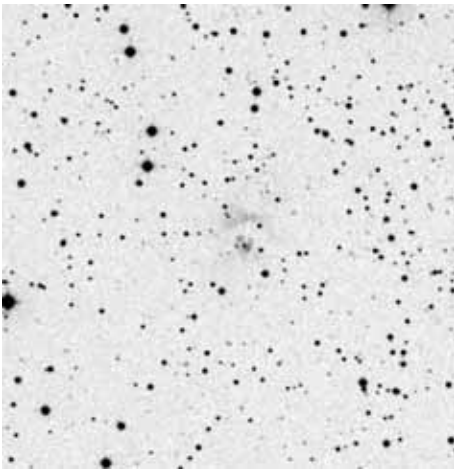
Observing notes:



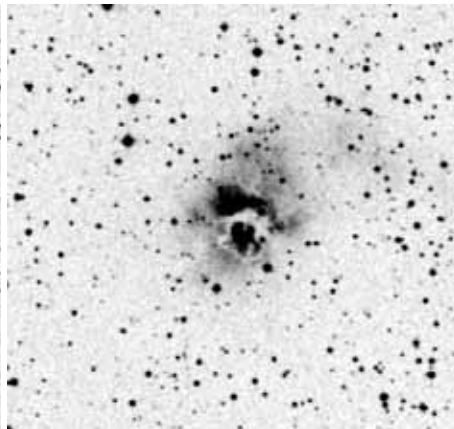
Sh 2 - 146 in Cepheus



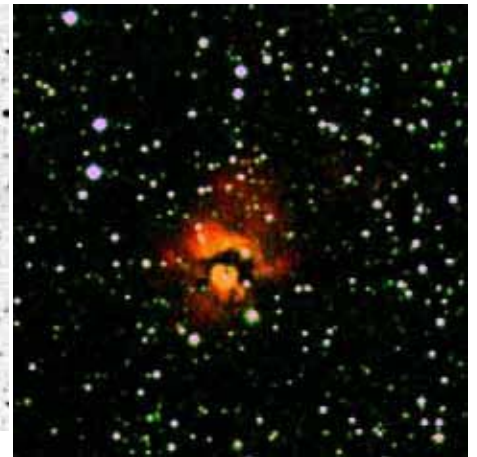
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-146		22 49 25.5	+59 55 45	2	3	2	2

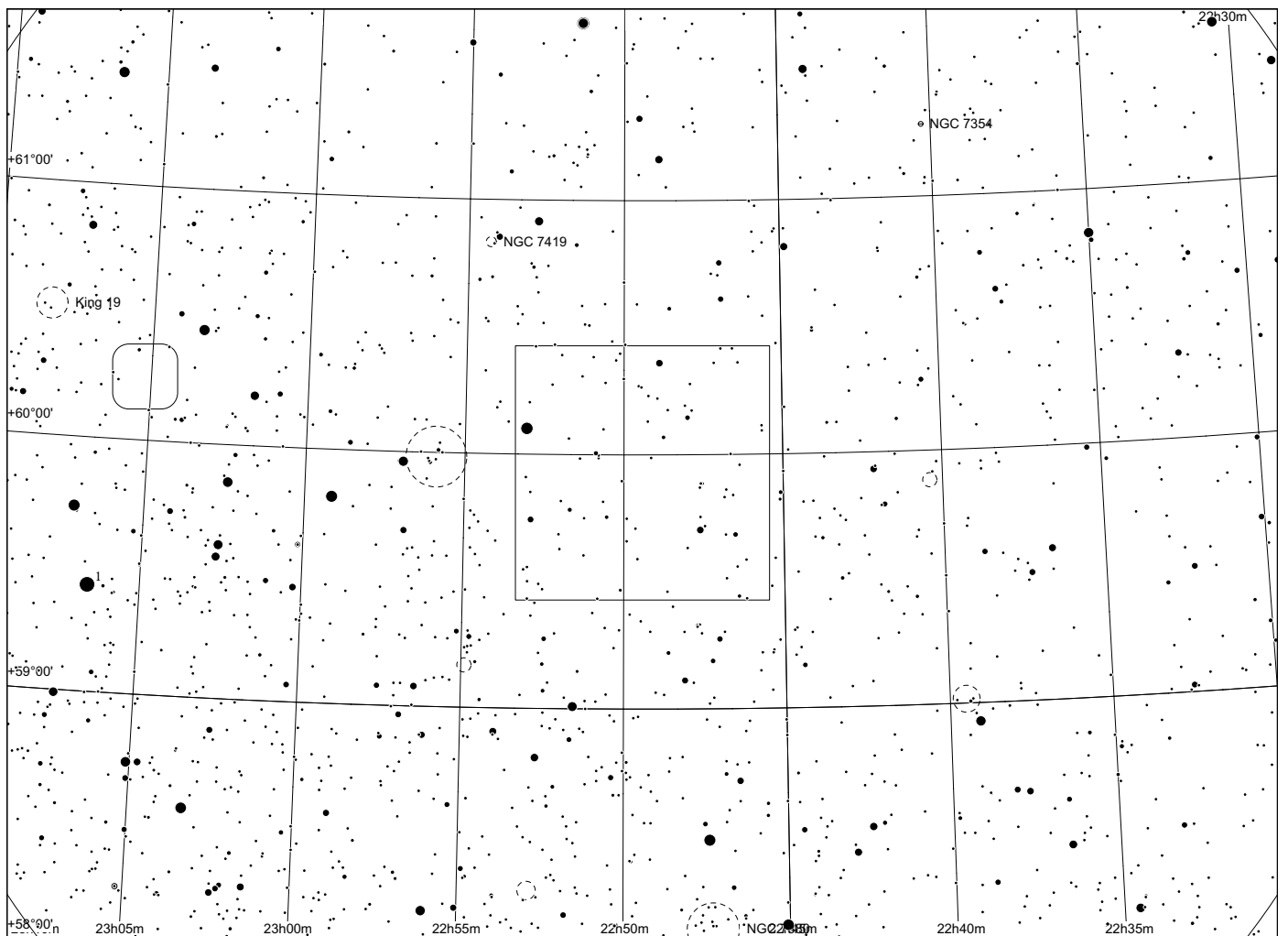
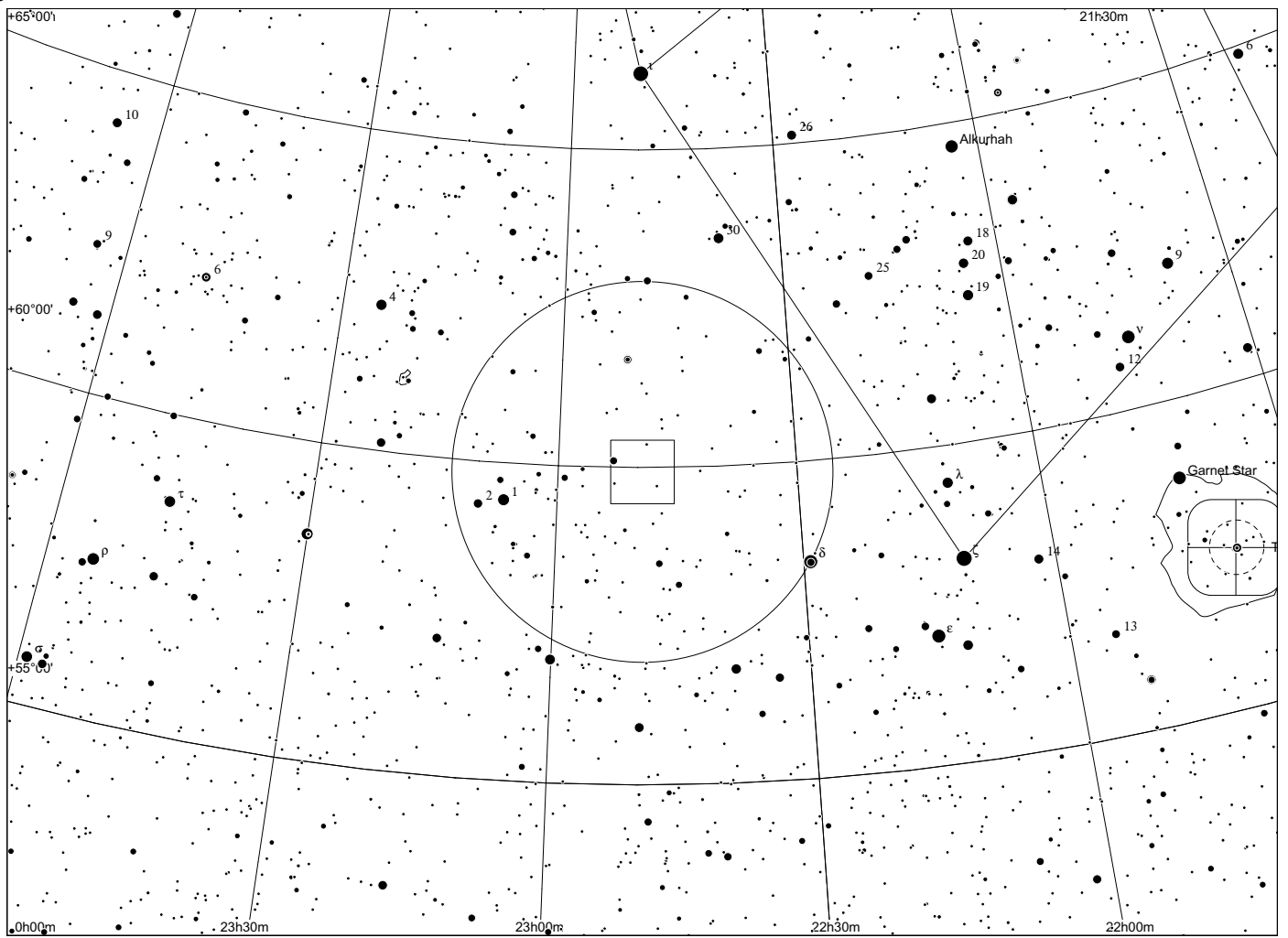
Distance: 5483 pc, Size: 5.9 pc, Source: 2003A&A...397..213P

This HII region is split in half by a dust cloud and is excited by a highly obscured O7 star.

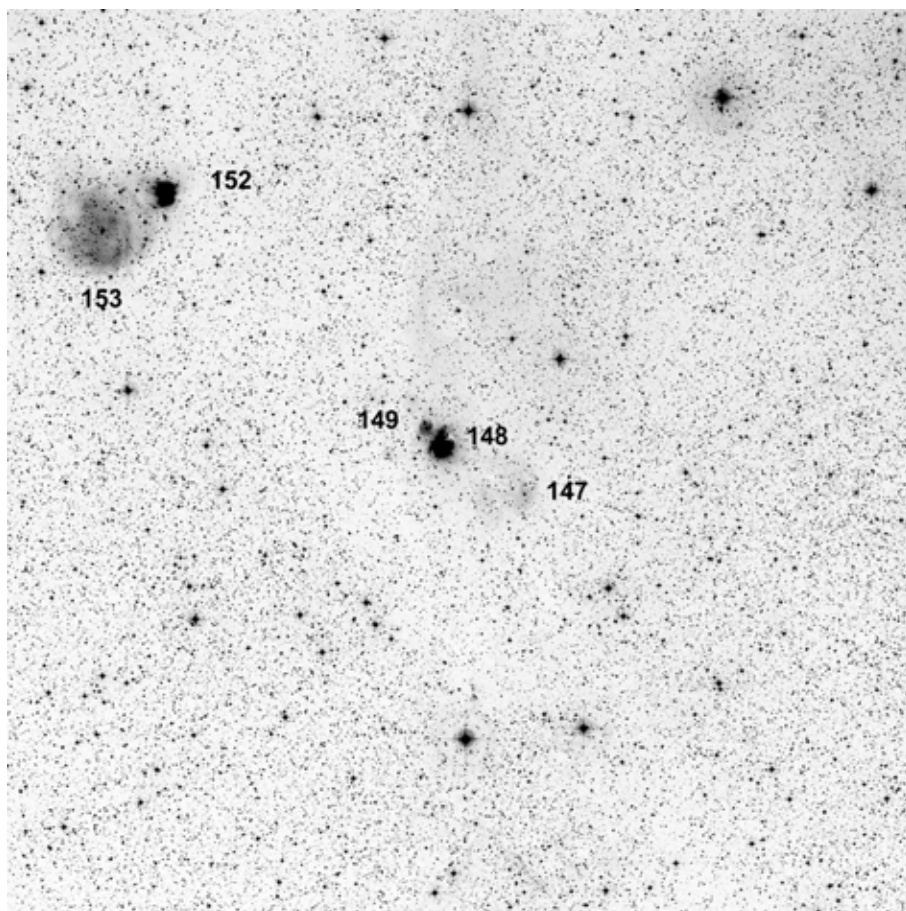
Observing notes:

22" f/4.5

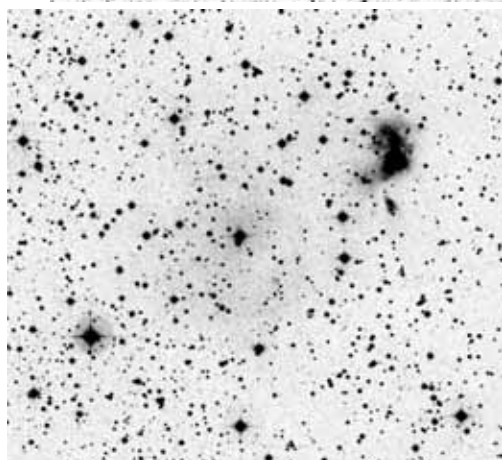
10/2011: unsuccessful



**Sh 2 - 147/148/149
/152/153
in Cepheus**

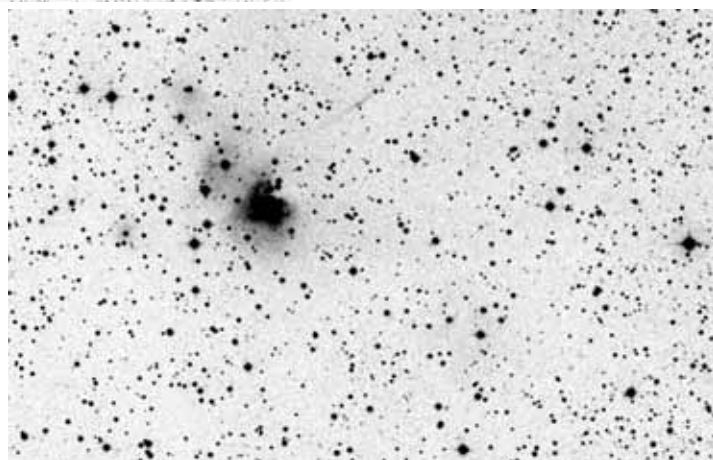


60x60, red



POSS blue

153/152



149/148

147

	other name	RA	dec	dia. '	F	S	B
Sh 2-147		22 55 29.2	+58 28 01	2	1	1	1
Sh 2-148		22 56 11.4	+58 31 02	2	3	2	3
Sh 2-149		22 56 23.5	+58 32 03	1	1	1	2
Sh 2-152		22 58 37.2	+58 47 08	2	3	2	3
Sh 2-153		22 59 13.6	+58 44 10	5	1	2	2

Distance: 5300 pc, Source: 2003A&A...397..133R

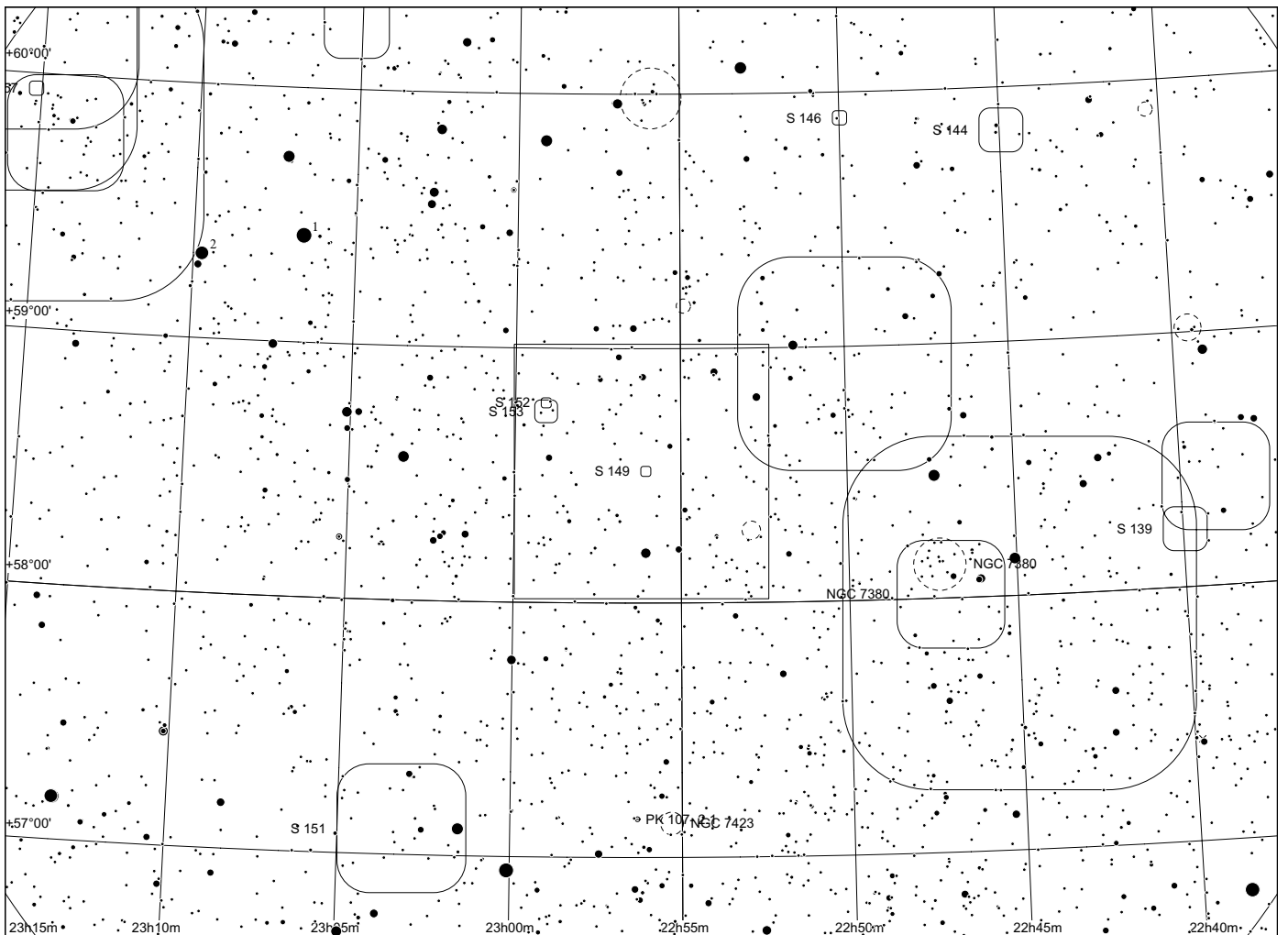
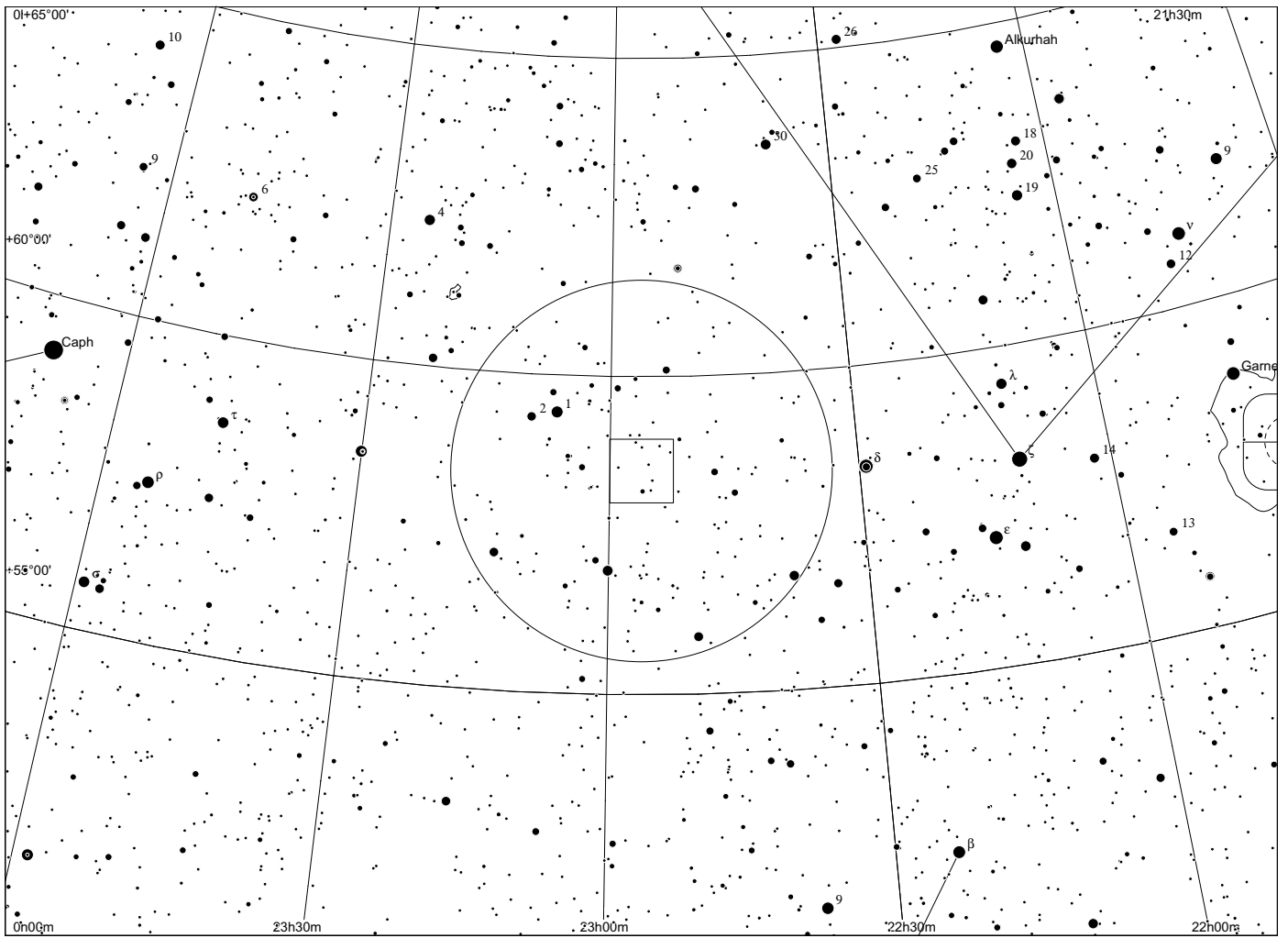
Sh 2-147, Sh 2-148, Sh 2-149, Sh 2-152 and Sh 2-153 are all parts of the same giant molecular cloud located at a distance of about 4500 pc.

Observing notes:

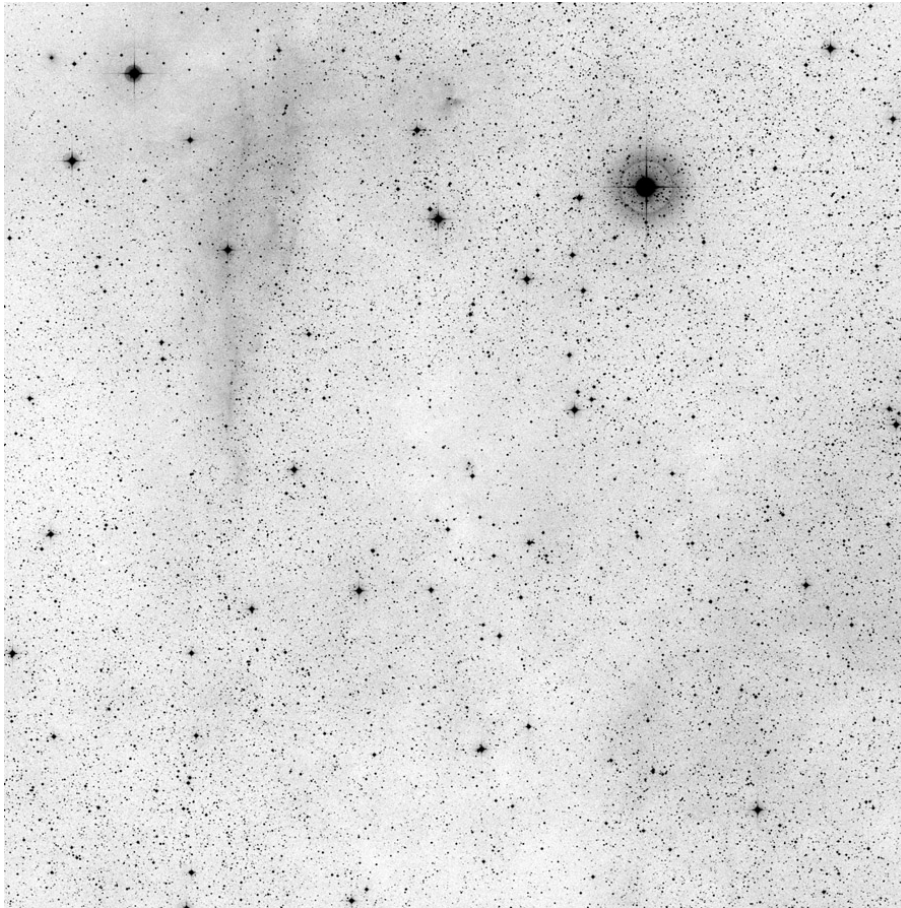
22" f/4.5

2007: only Sh 148 and Sh 152 could be observed.

10/2011: Sh 152 best w/o filter, Sh 148 with H beta, other Shs unsuccessful



Sh 2 - 150 in Cepheus



60x60, red



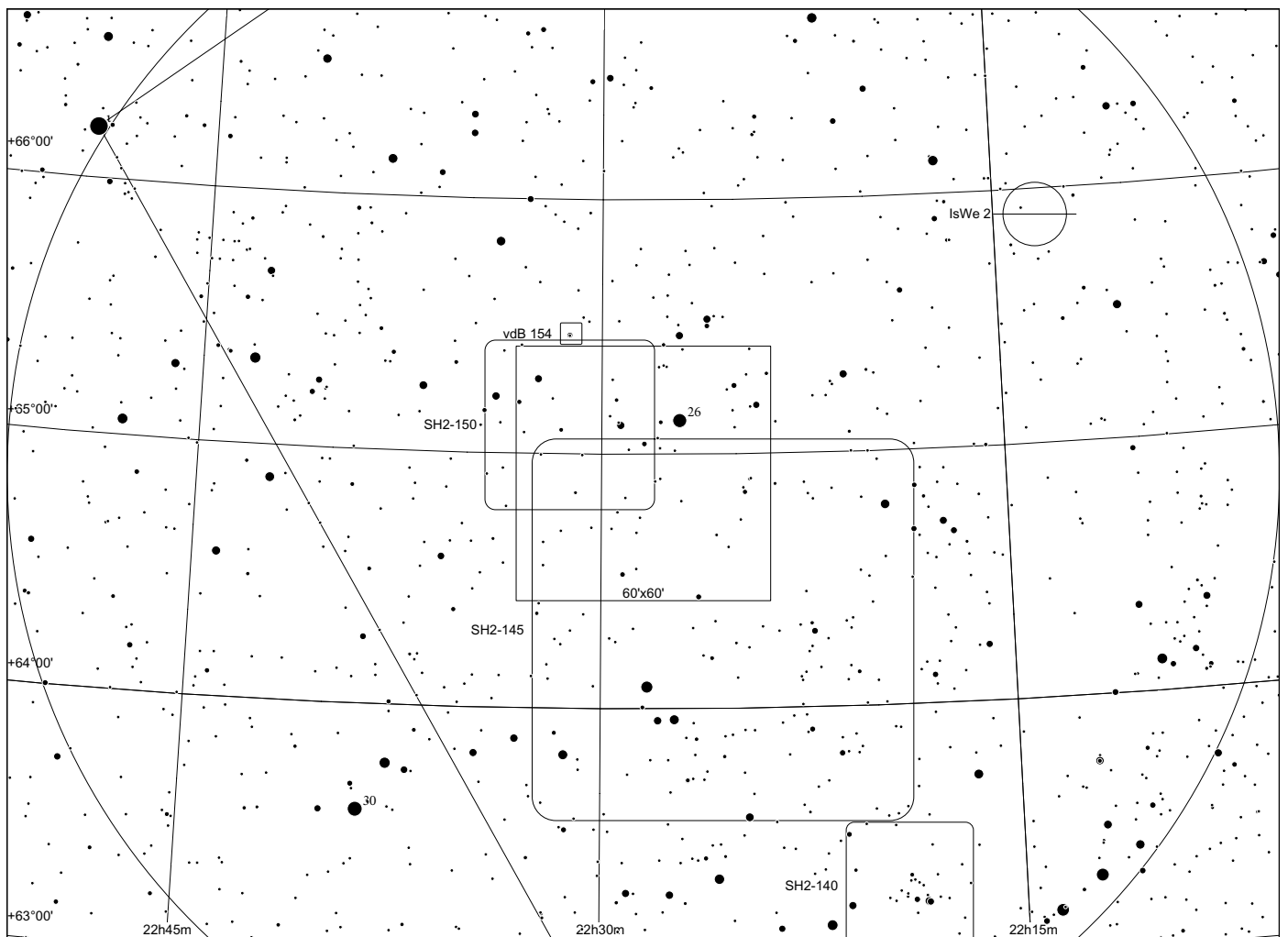
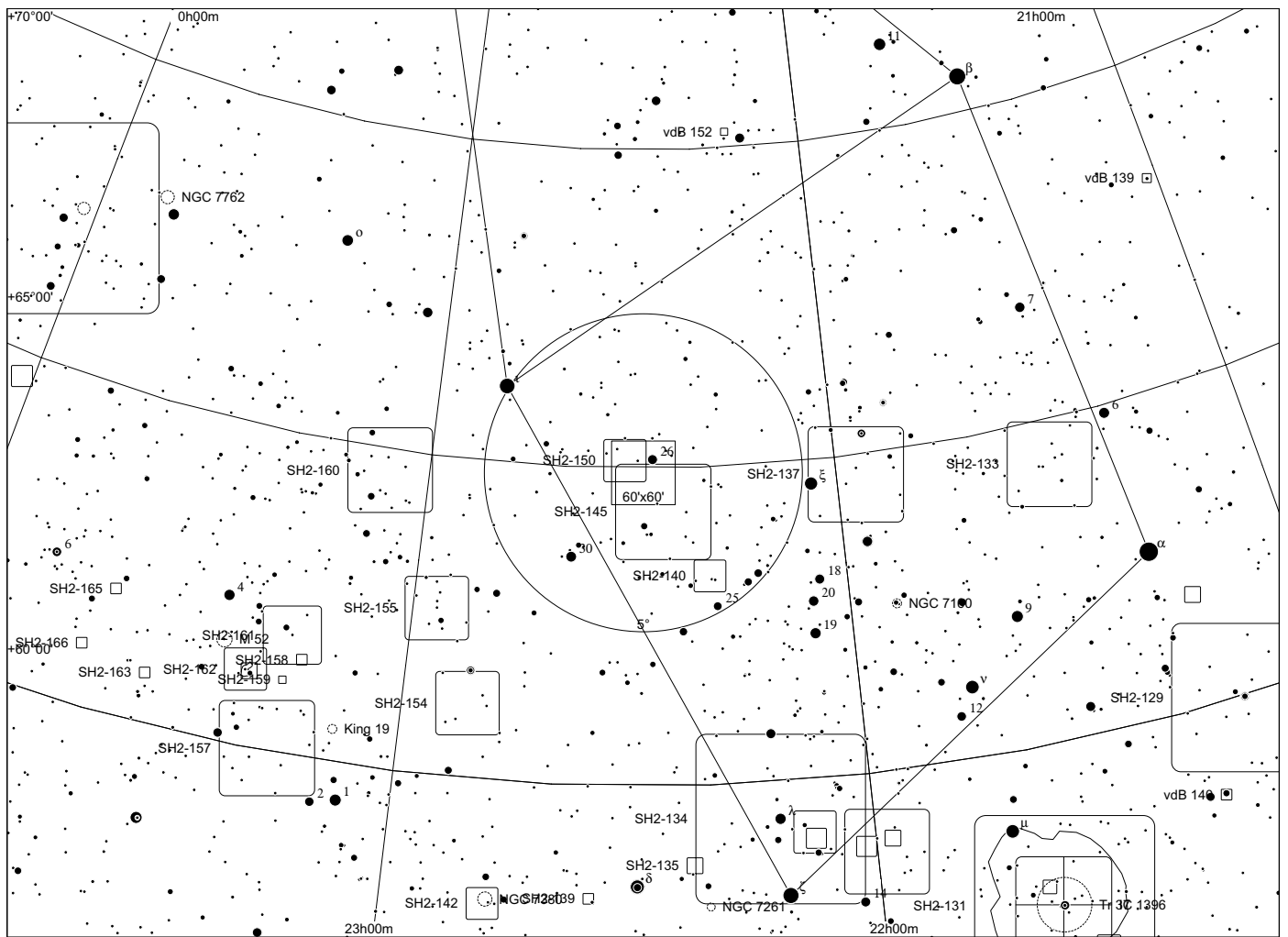
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-150		22 31 11.1	+65 06 51	40	3	2	2

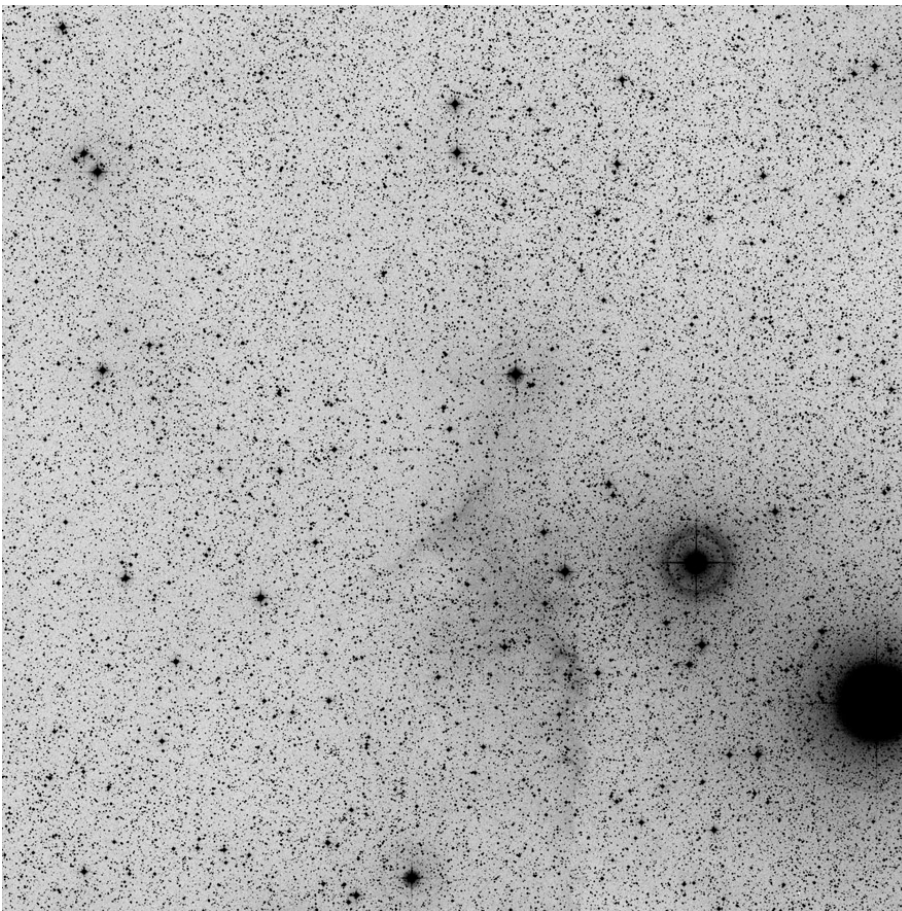
Distance: 900 pc, Size: 10.5 pc Source: 2003A&A...397..133R

Sh 2-150 appears to be part of the Cepheus bubble, the expanding ring of gas and dust surrounding the star cluster NGC 7160 and the Cep OB2 association. The much brighter nebula Sh 2-131 is part of the same structure. Avedisova identifies two B-class ionising stars, HD 213087 and HD 213405.

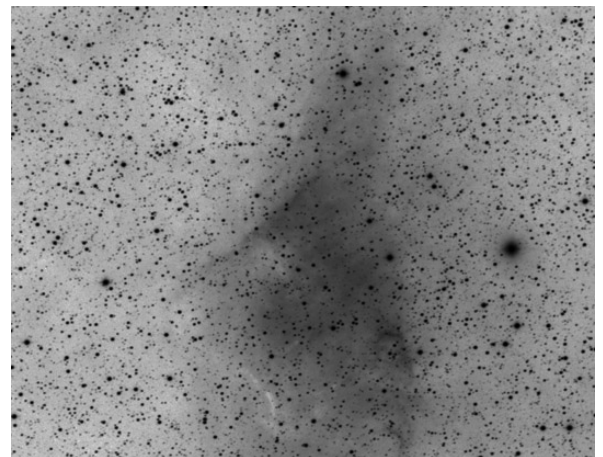
Observing notes:



Sh 2 - 151 in Cassiopeia



60x60, red



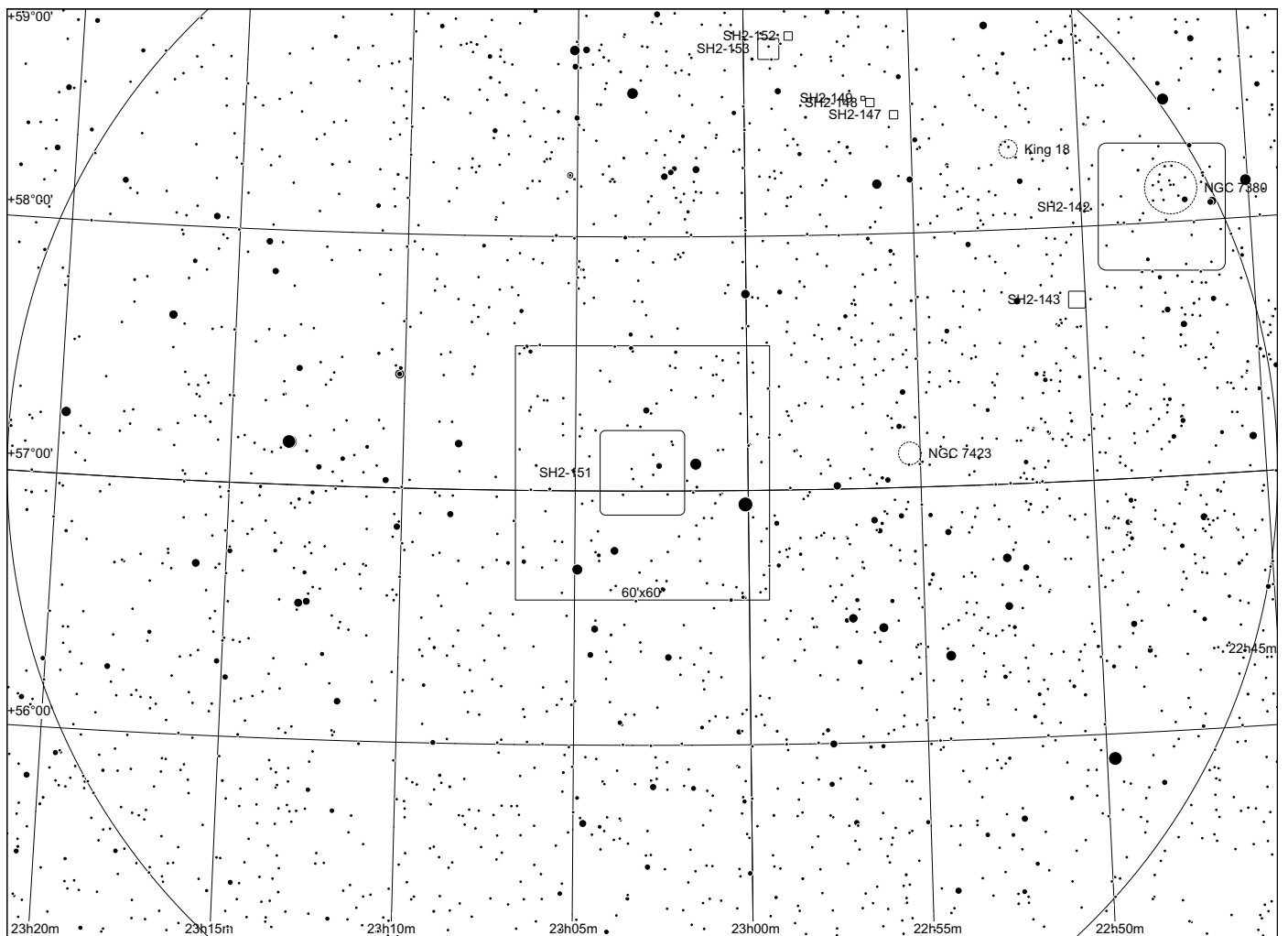
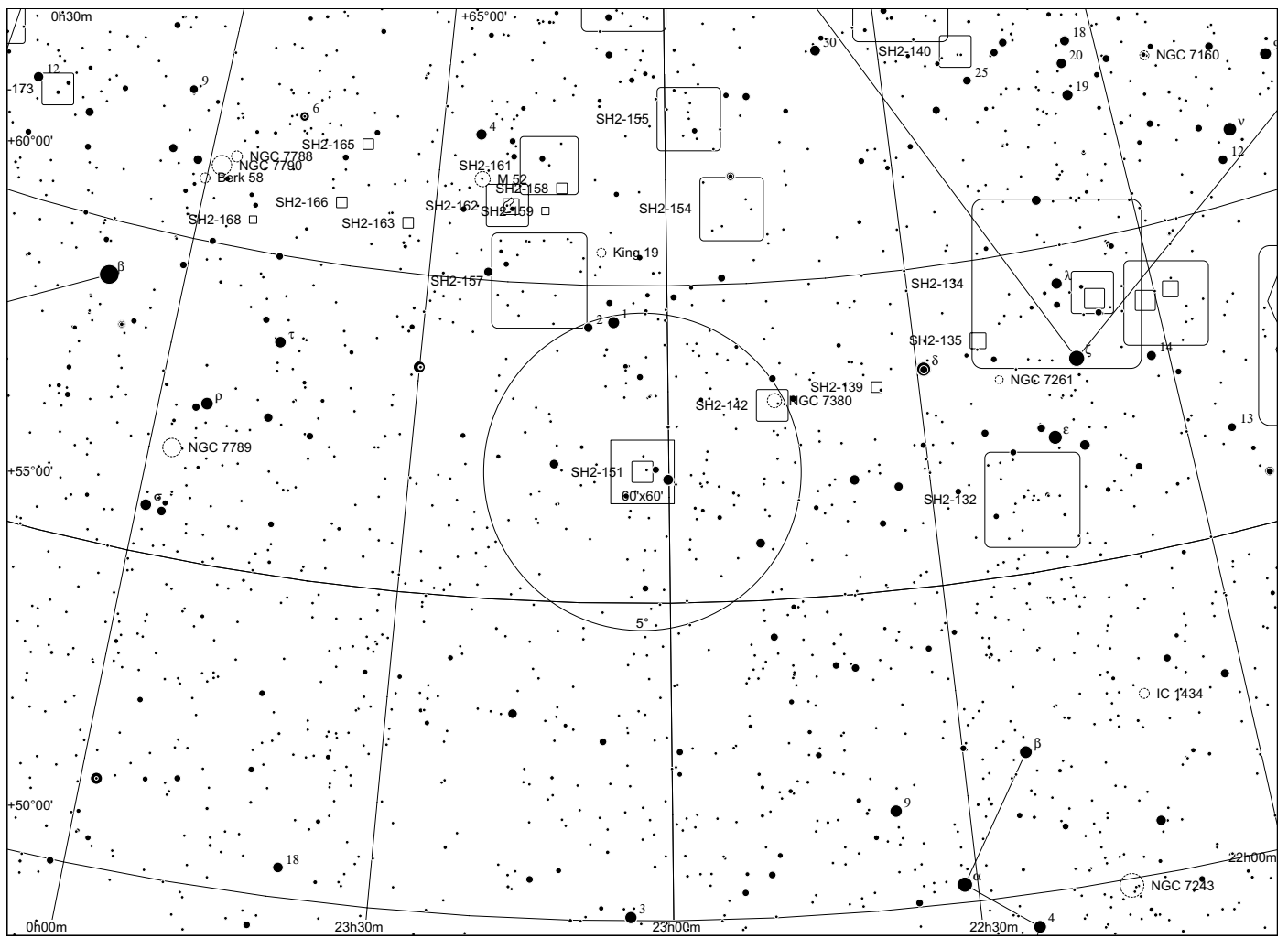
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-151		23 03 03.0	+57 04 18	20	3	1	1

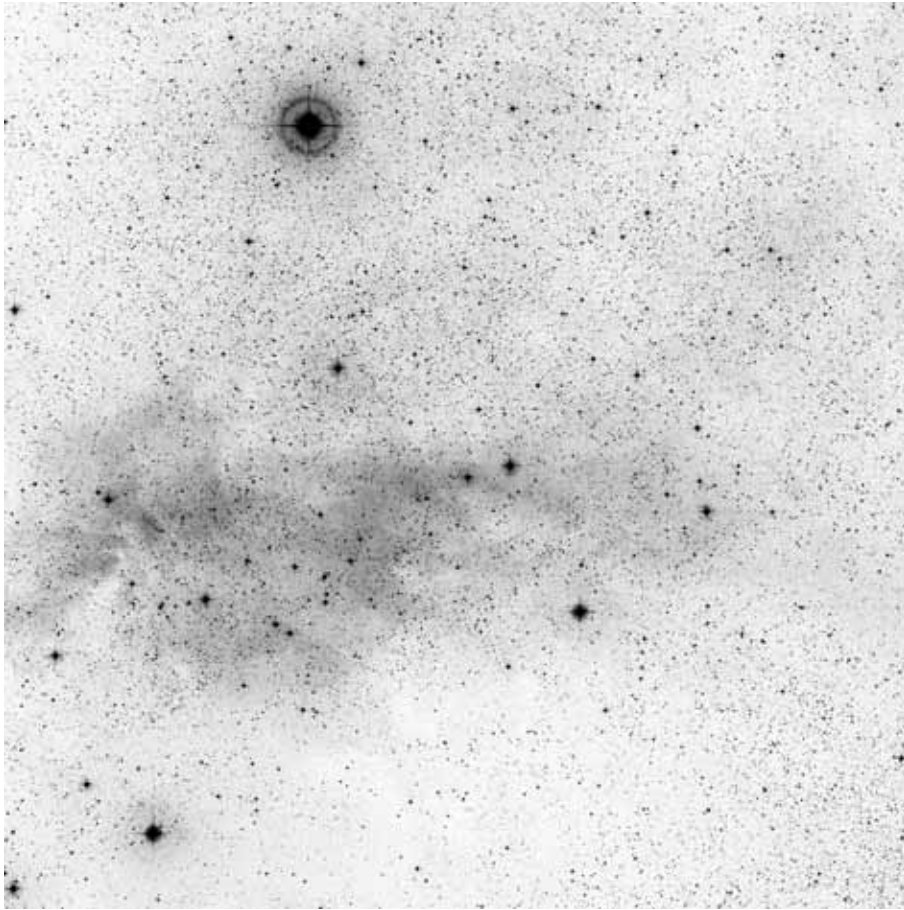
Distance: 2400 pc, Size: 14.0 pc Source: 1982ApJS...49..183B

The only thorough paper that analyses Sh 2-151 adopts a kinematic distance of 5800 pc. Five molecular clouds are part of the Sh 2-151 complex and have a total of 29 thousand solar masses. About 700 solar masses has been ionised by an unseen star that is likely obscured by dust in one of the molecular clouds.

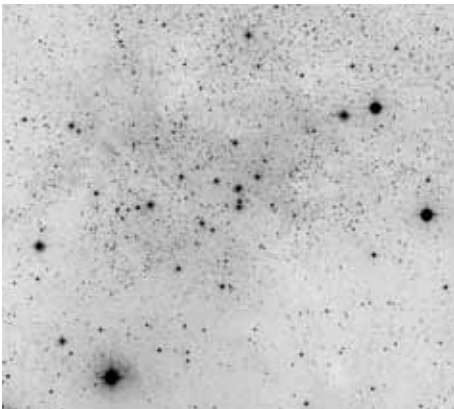
Observing notes:



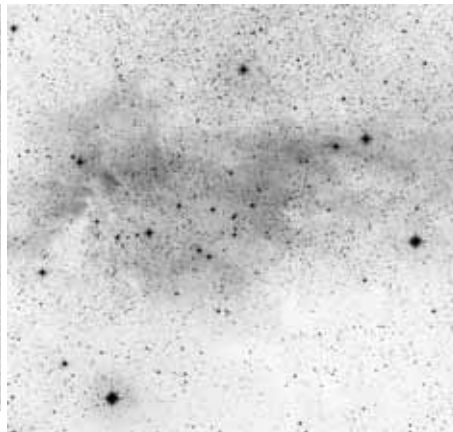
Sh 2 - 154 in Cepheus



60x60, red



POSS blue



POSS red



composite

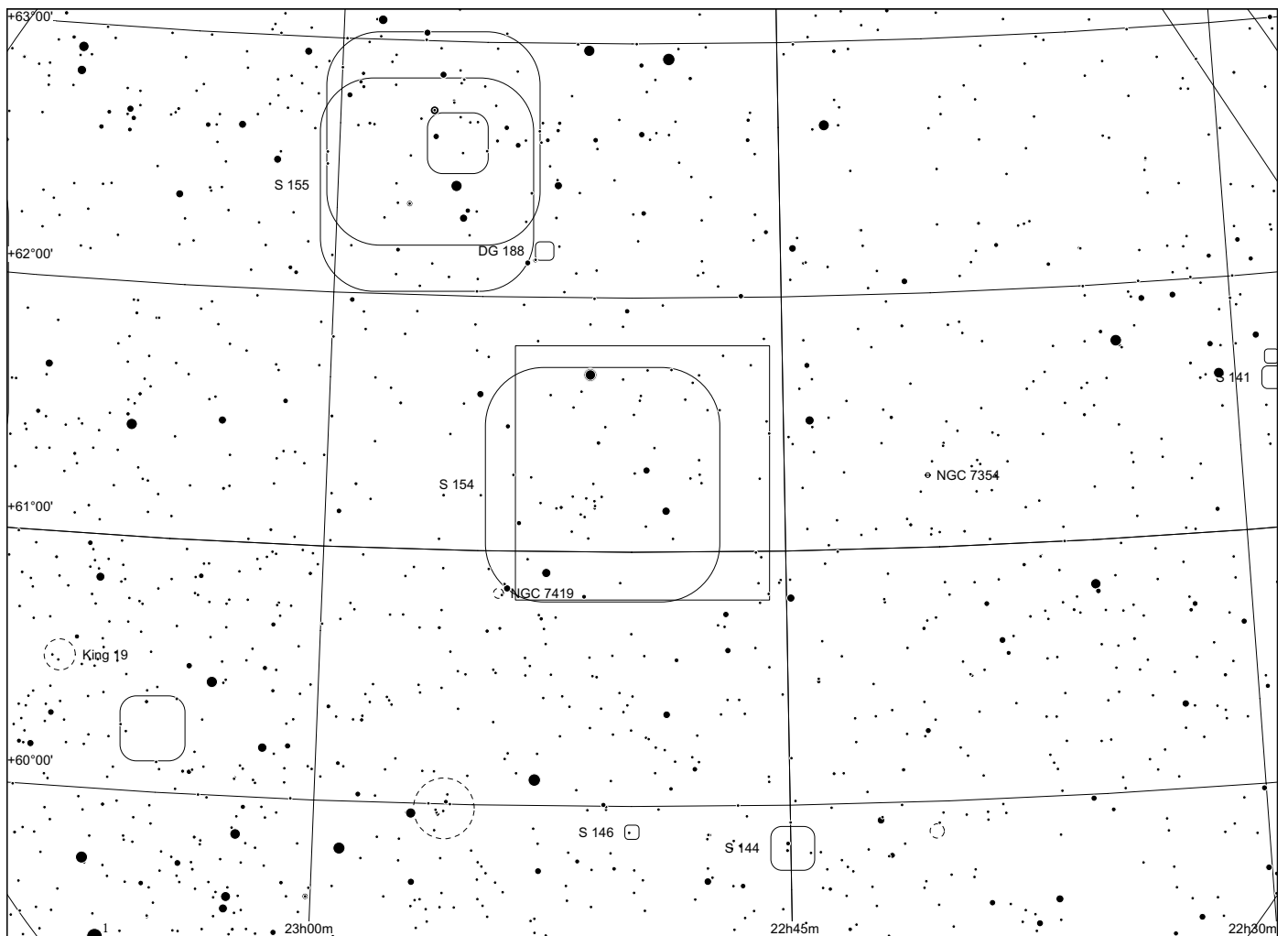
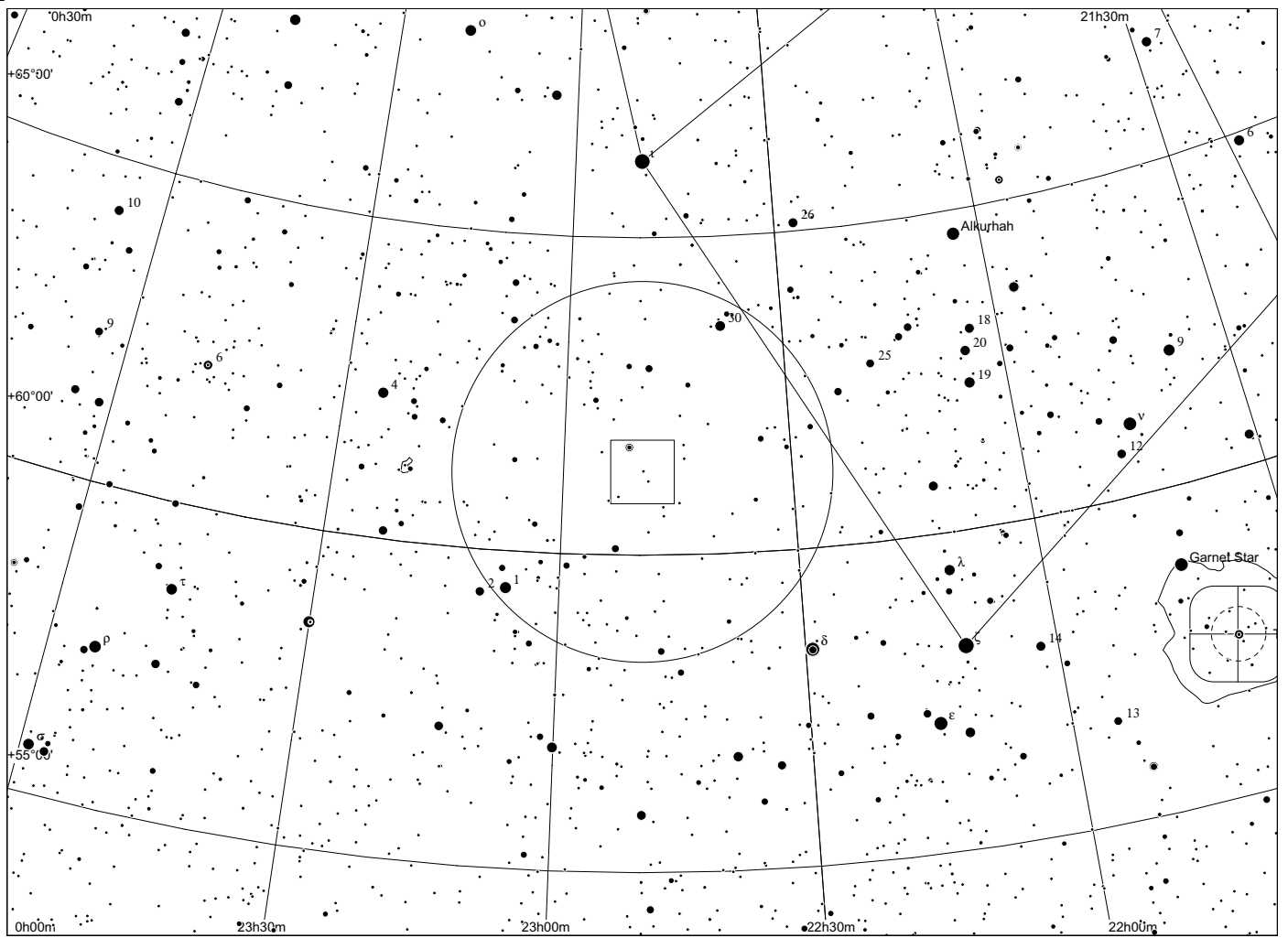
	other name	RA	dec	dia. '	F	S	B
Sh 2-154		22 51 24.6	+61 10 50	60	3	2	2

Distance: 1000 pc, Size: 17.5 pc, Source: 2000ApJ...537..221U

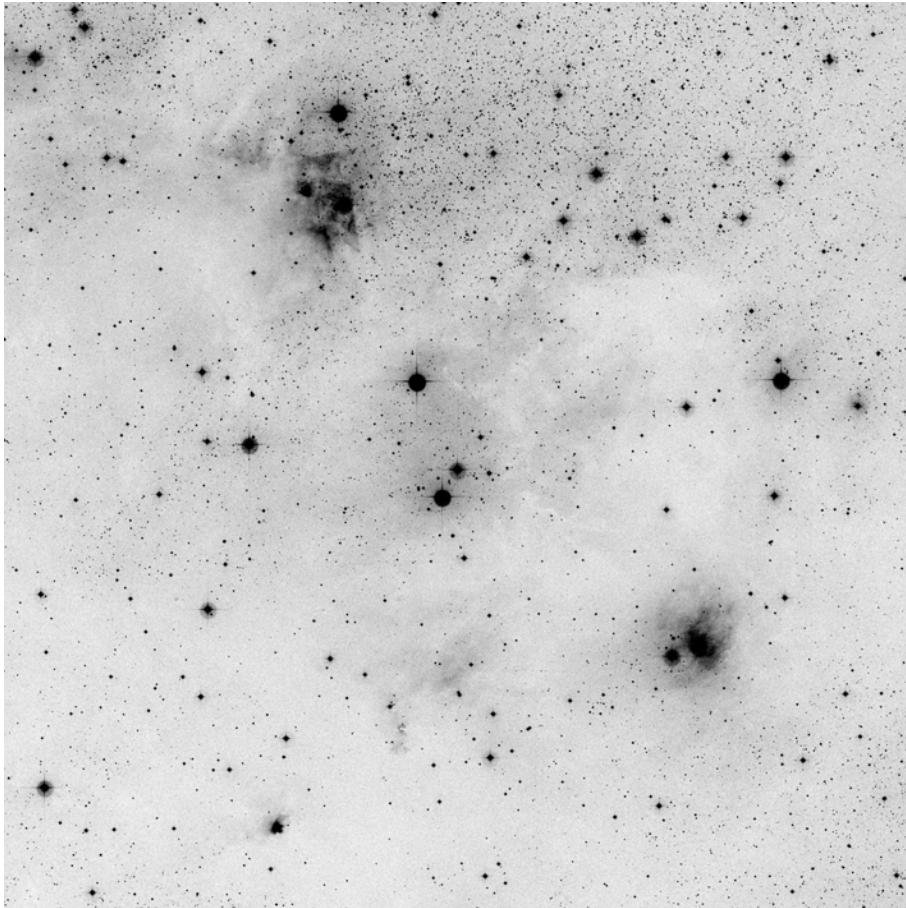
Observing notes:

22" f/4.5

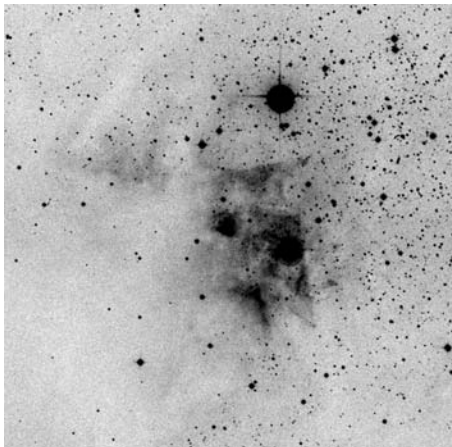
10/2011: unsuccessful



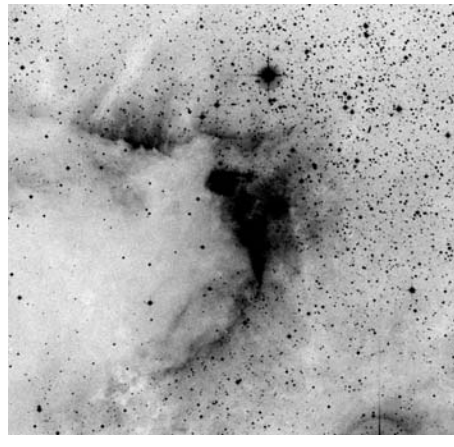
Sh 2 - 155 in Cepheus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-155	Cave Nebula	22 56 43.2	+62 37 04	60	3	2	2

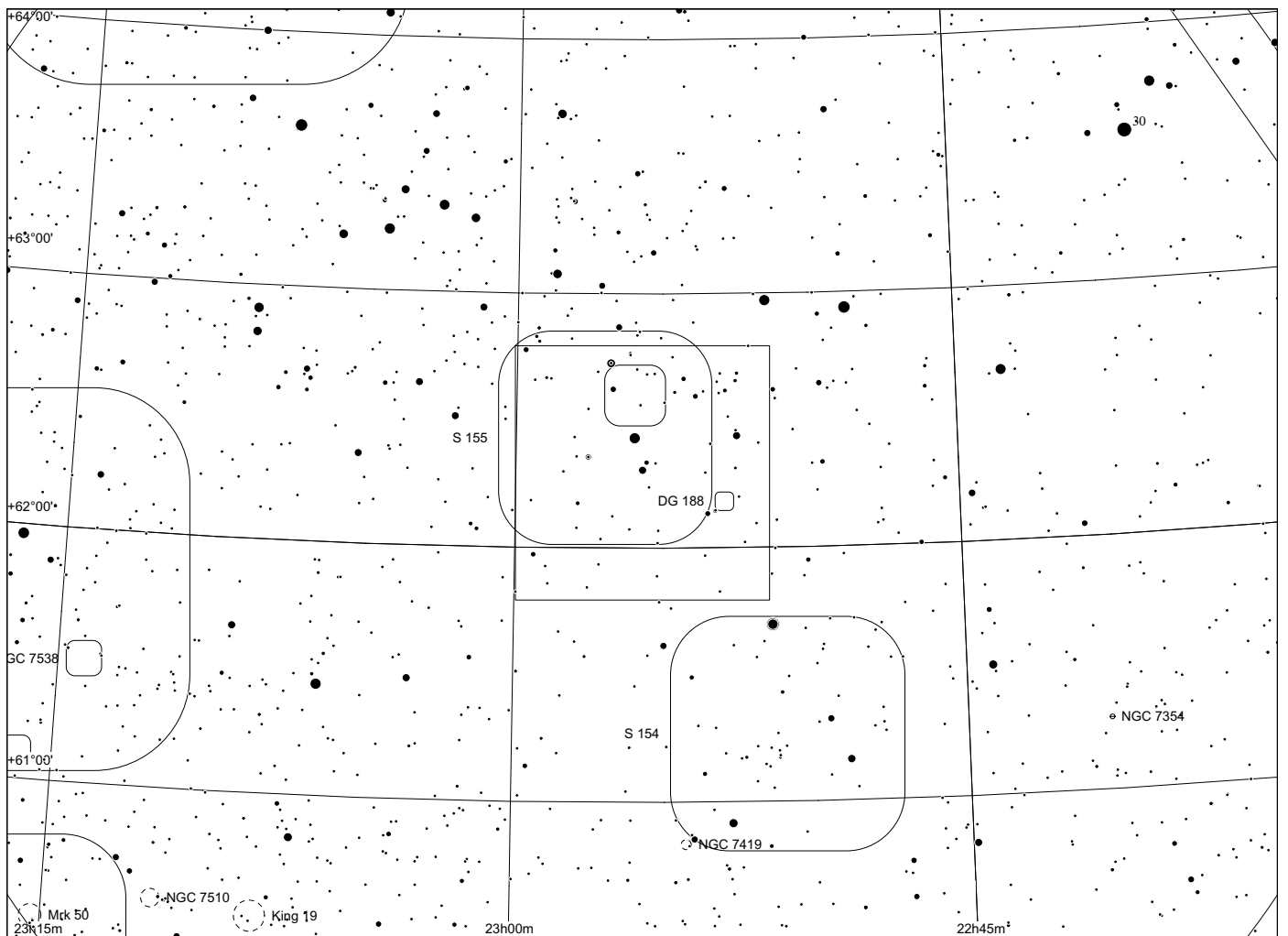
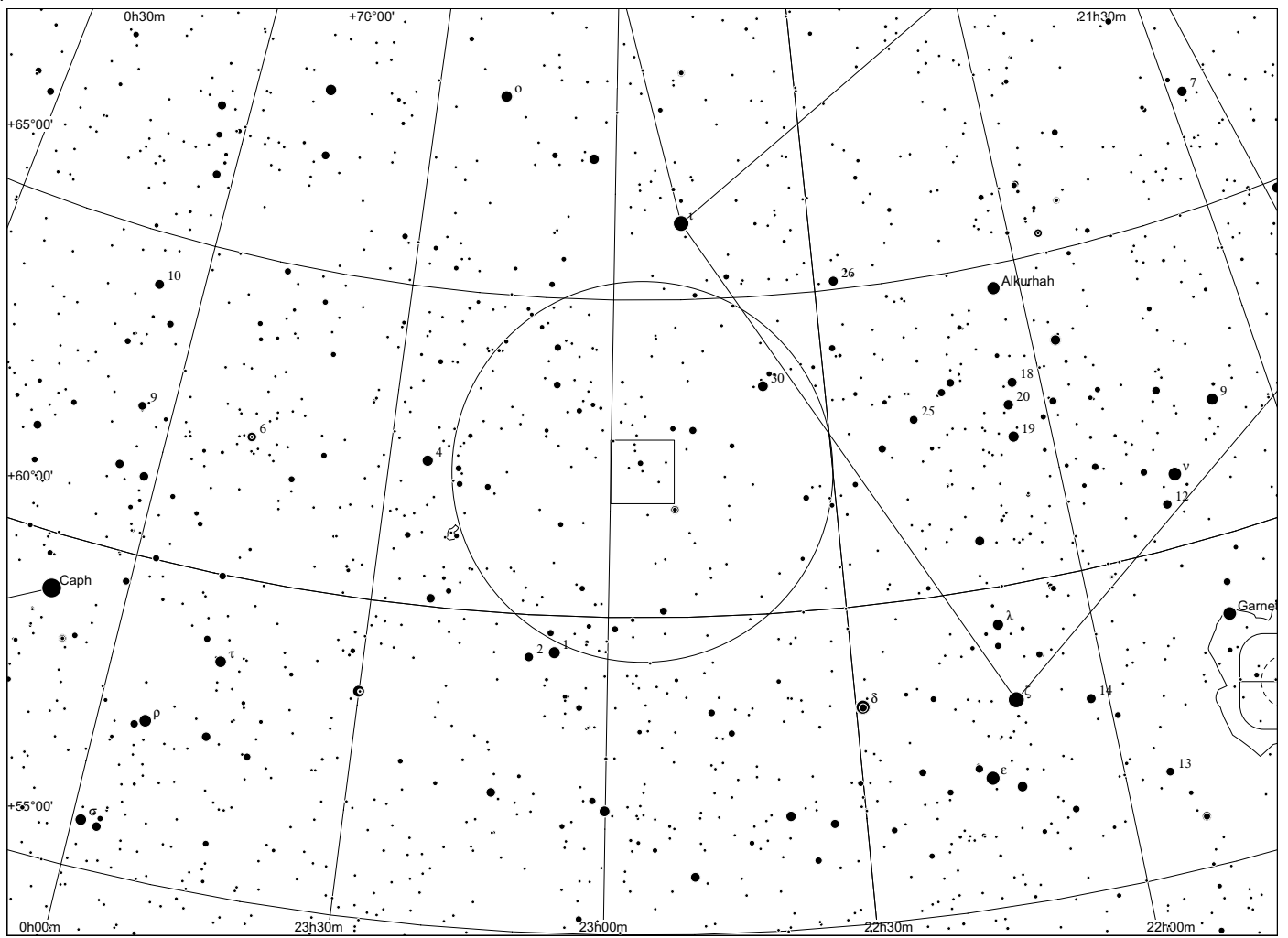
Distance: 730 pc, Size: 12.7 pc, Source: 1982ApJS...49..183B

The Cave Nebula interacts with the Cepheus B molecular cloud.

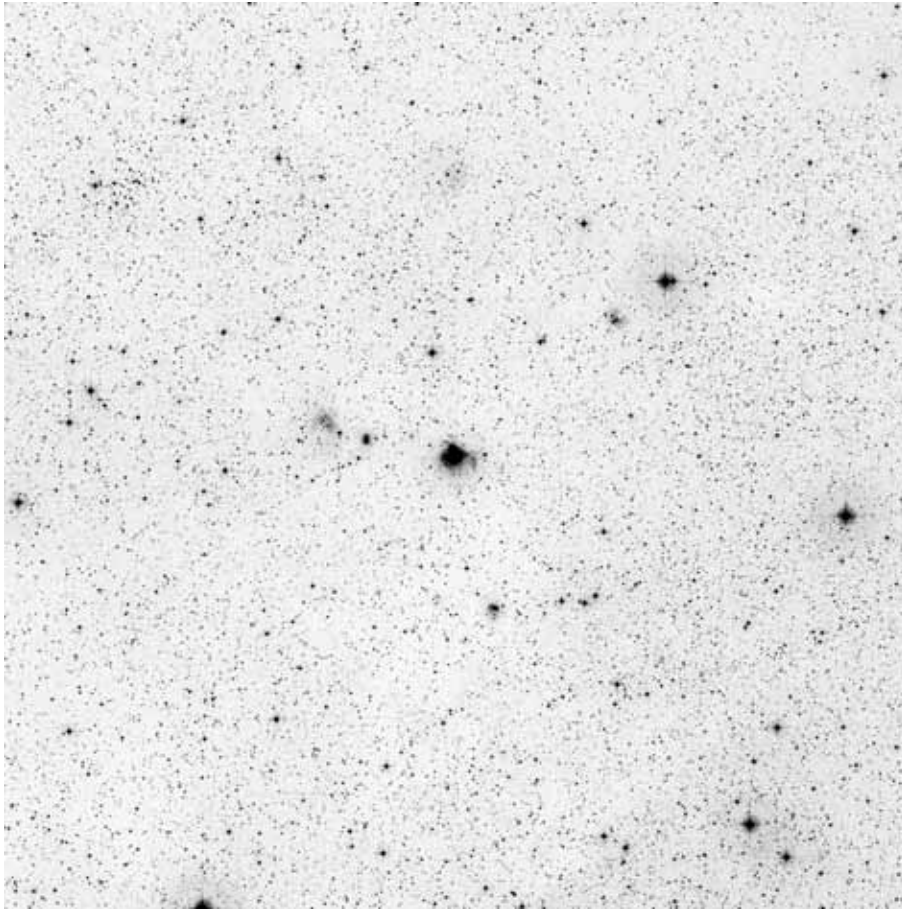
Observing notes:

14" and 22"

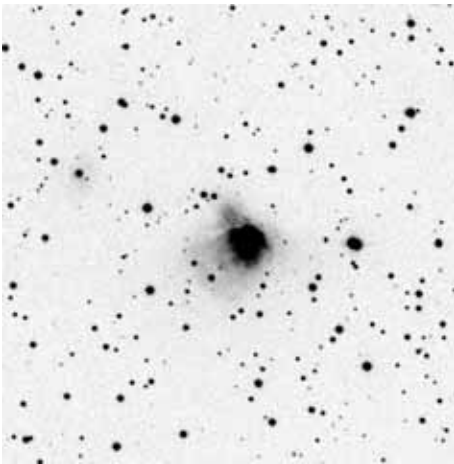
most obvious without filter, strong contribution of RN, appears as a weak N-S elongated glow along a chain of stars with dark cloud to E. There are further RNe in the area.



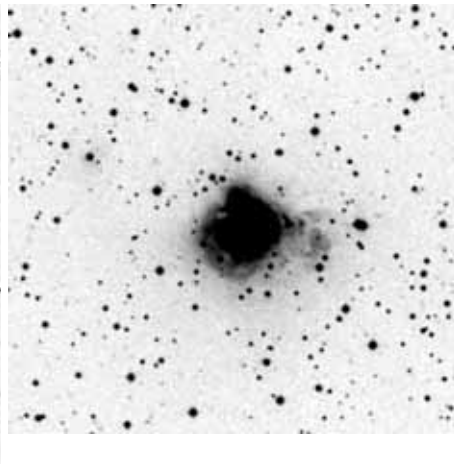
Sh 2 - 156 in Cepheus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-156	IC 1470	23 05 09.6	+60 15 23	2	1	2	3

Distance: 4891 pc, Size: 5.1 pc, Source: 2003A&A...397..213P

Also called IC 1470, this HII region is part of the star cluster NGC 7510. It appears to be ionised by a single O7 class star. The bright core is only one of five distinct and apparently independent emission sources within a giant molecular cloud. The distance is estimated to be about 3500 to 4000 parsecs.

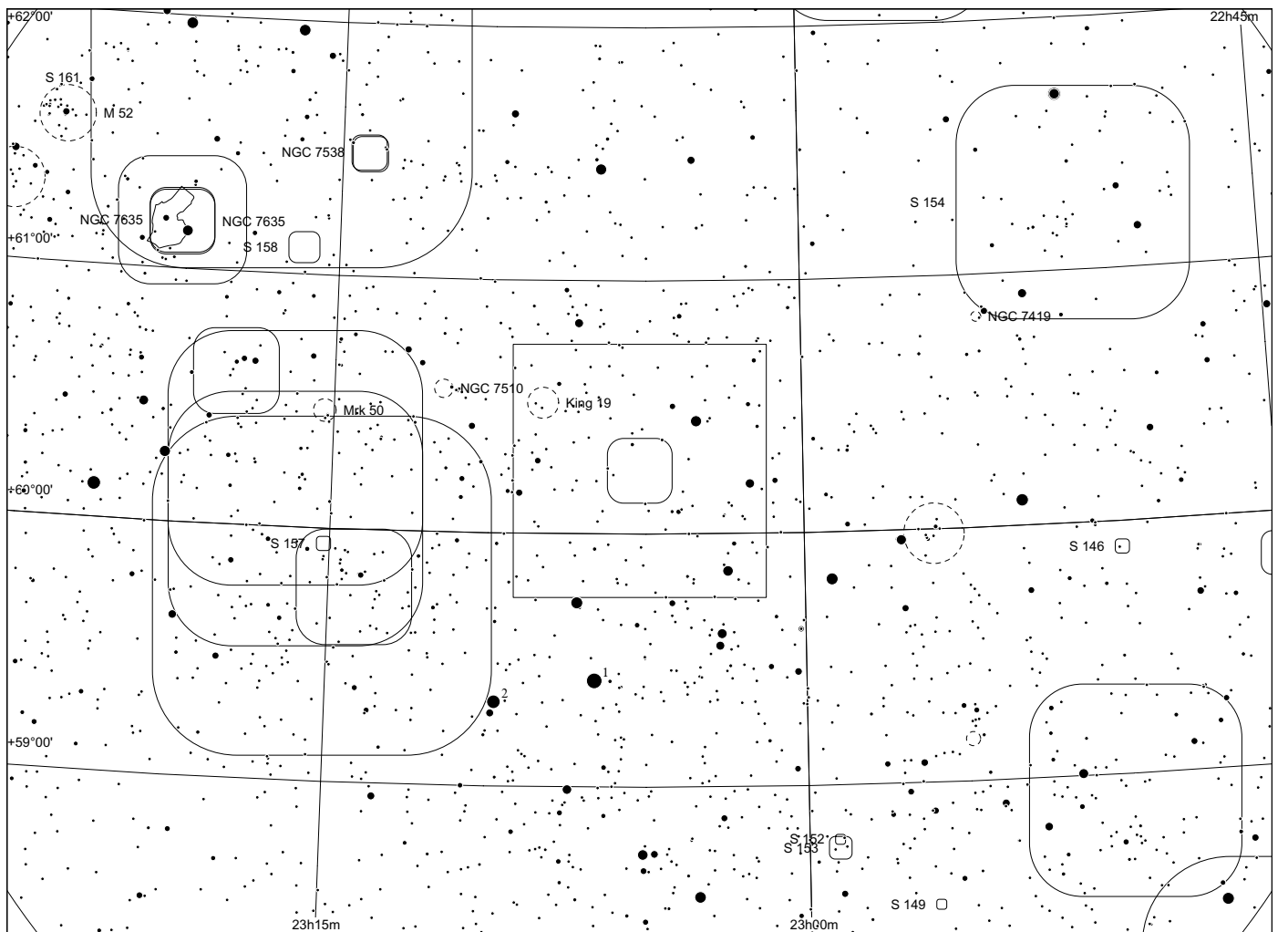
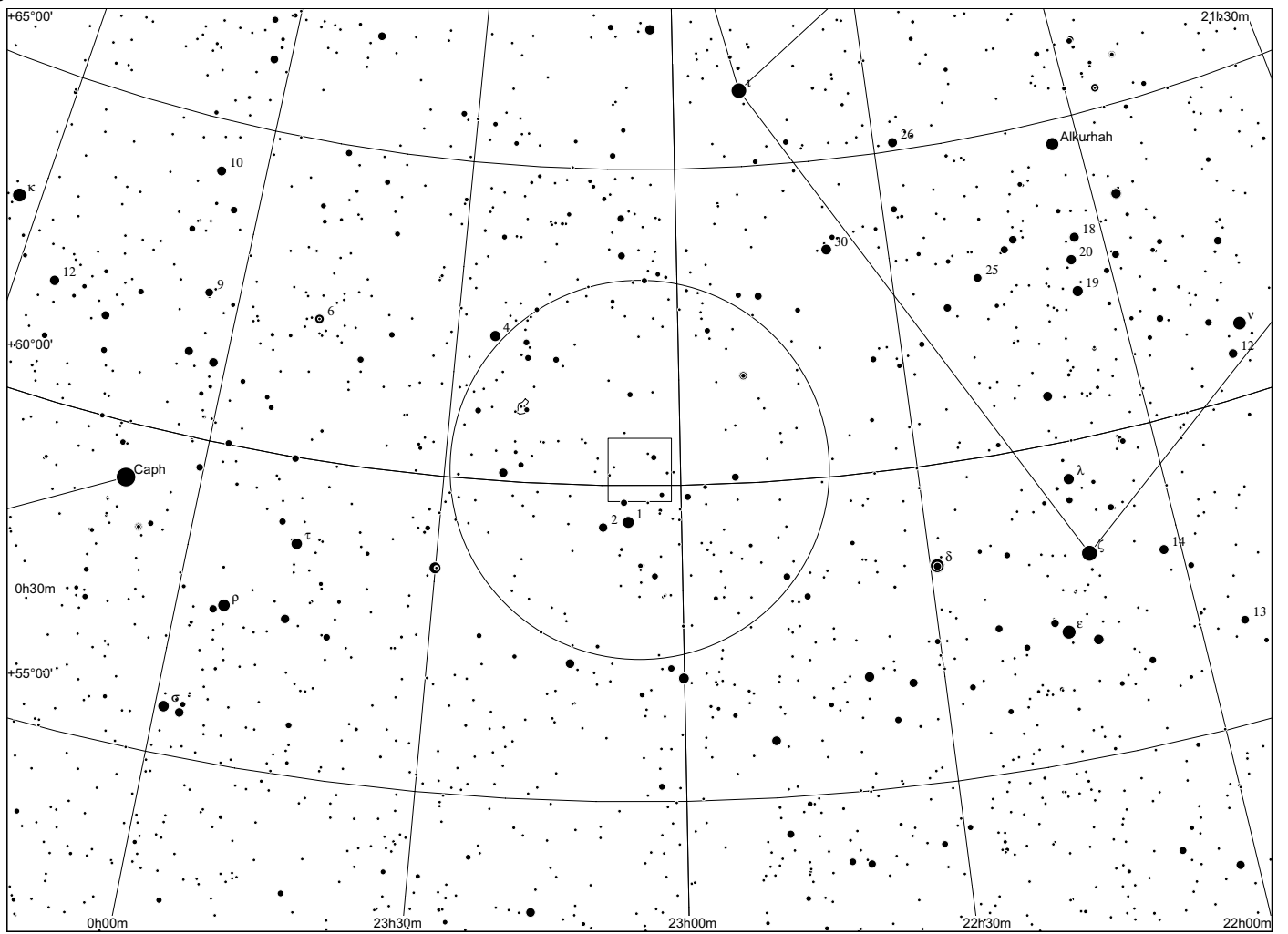
Observing notes:

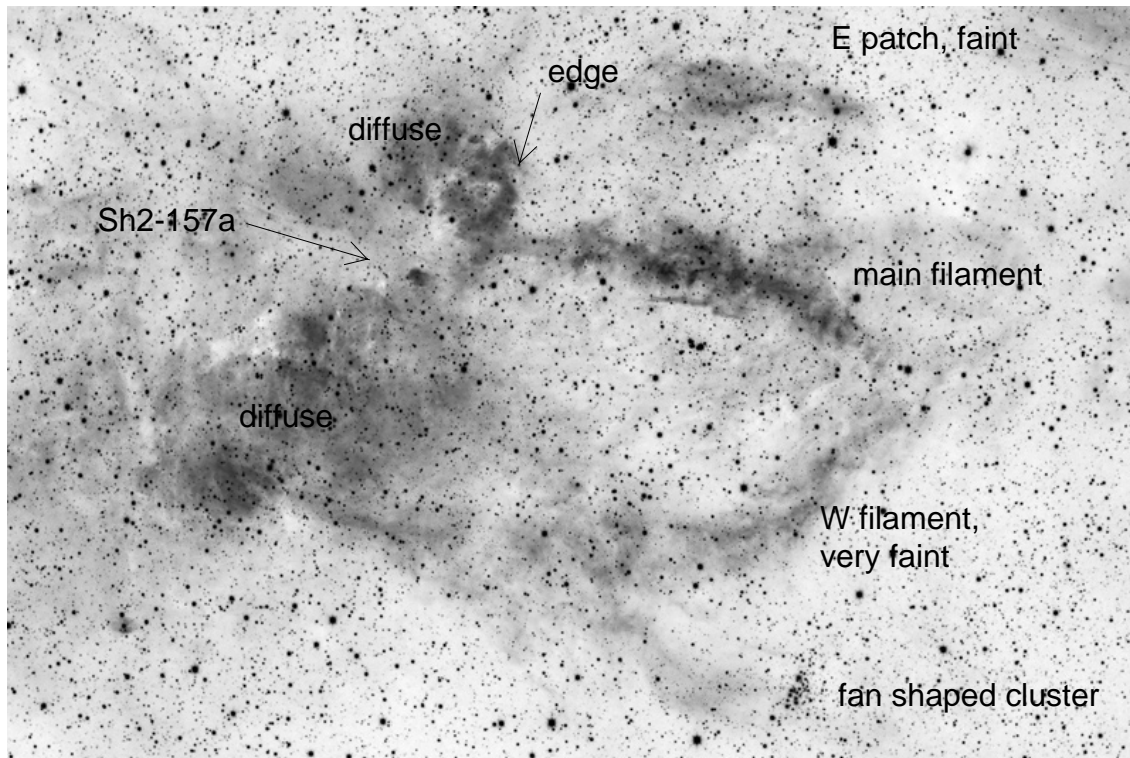
14" f/5

08/2005: faint round nebula.

22" f/4.5

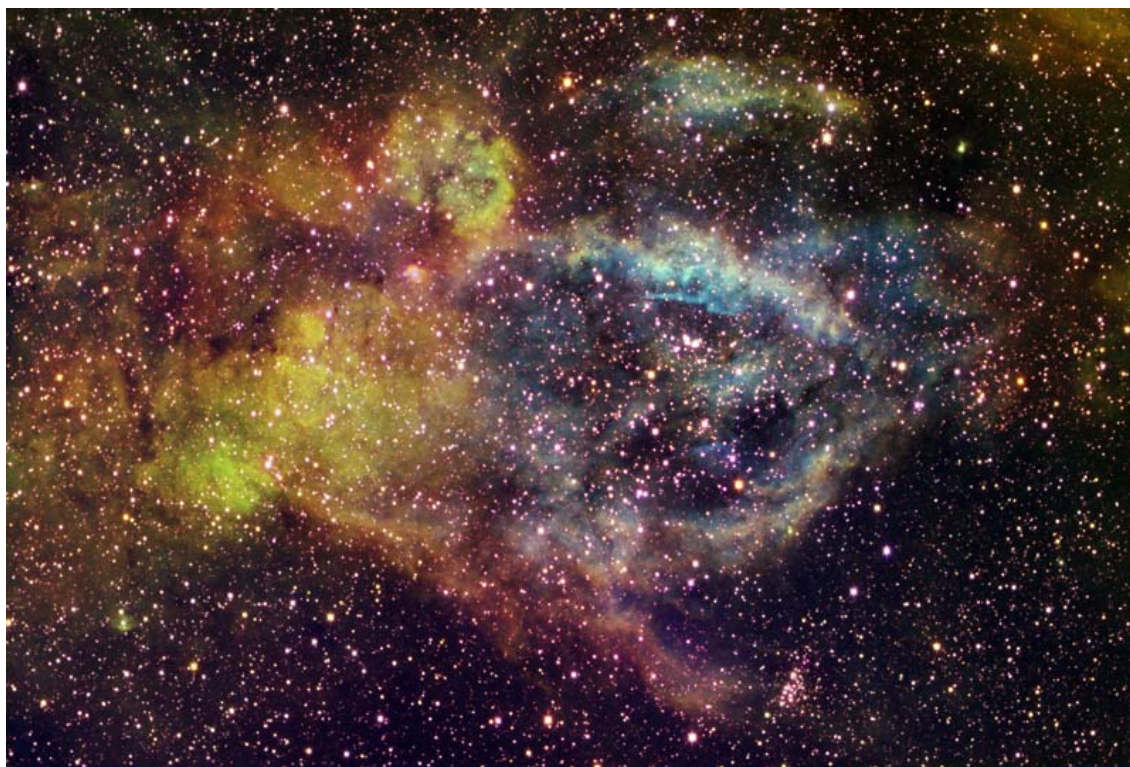
10/2011: with 13mm assymetric disc around star, visible already w/o filter, better with UHC





Sh 2 - 157 in Cep/Cas

both images are
rotated, north to
the right



narrowband

Dean Salman

	other name	RA	dec	dia.	F	S	B
Sh 2-157		23 16 03.2	+60 02 44	90	3	3	3

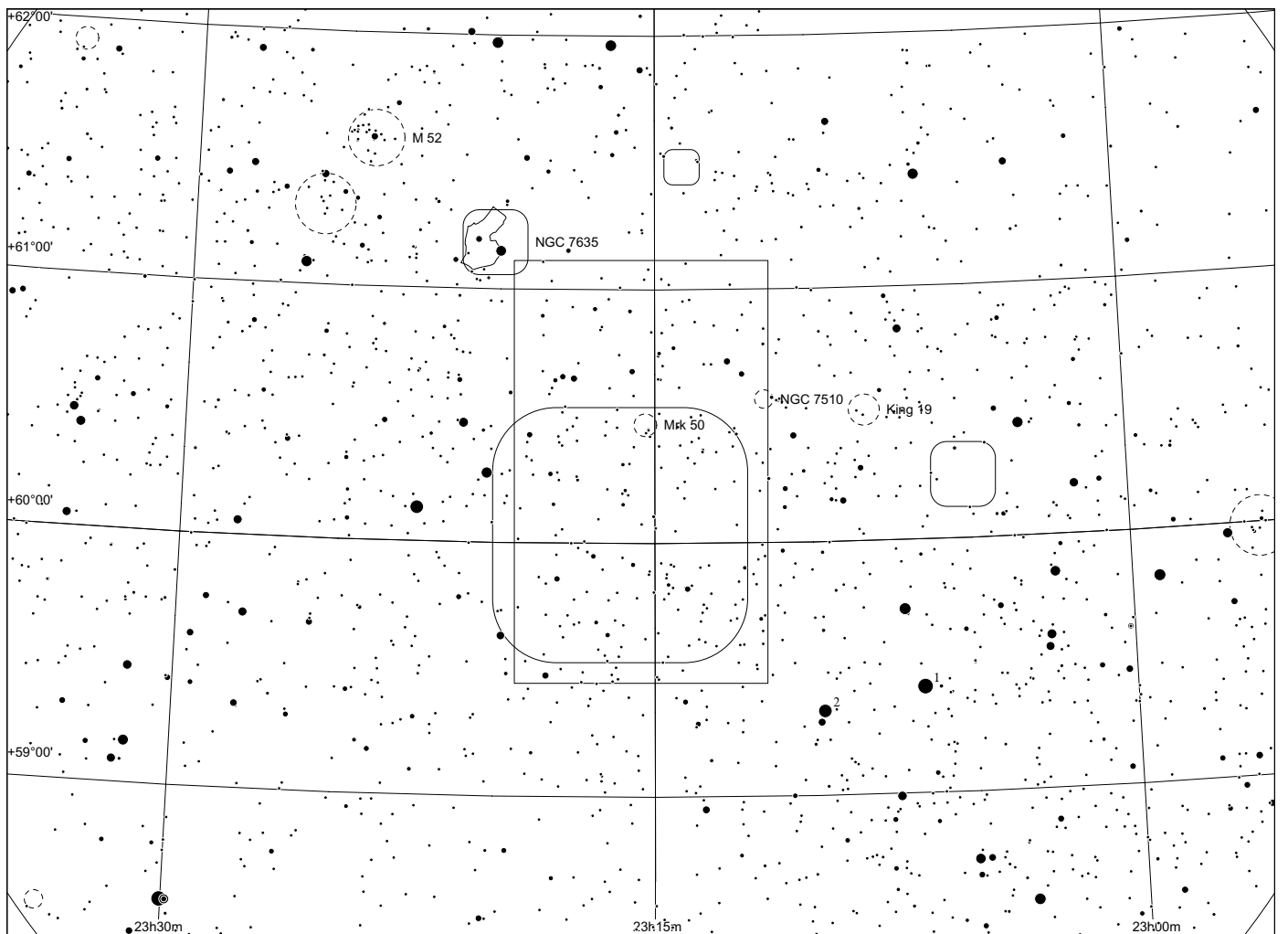
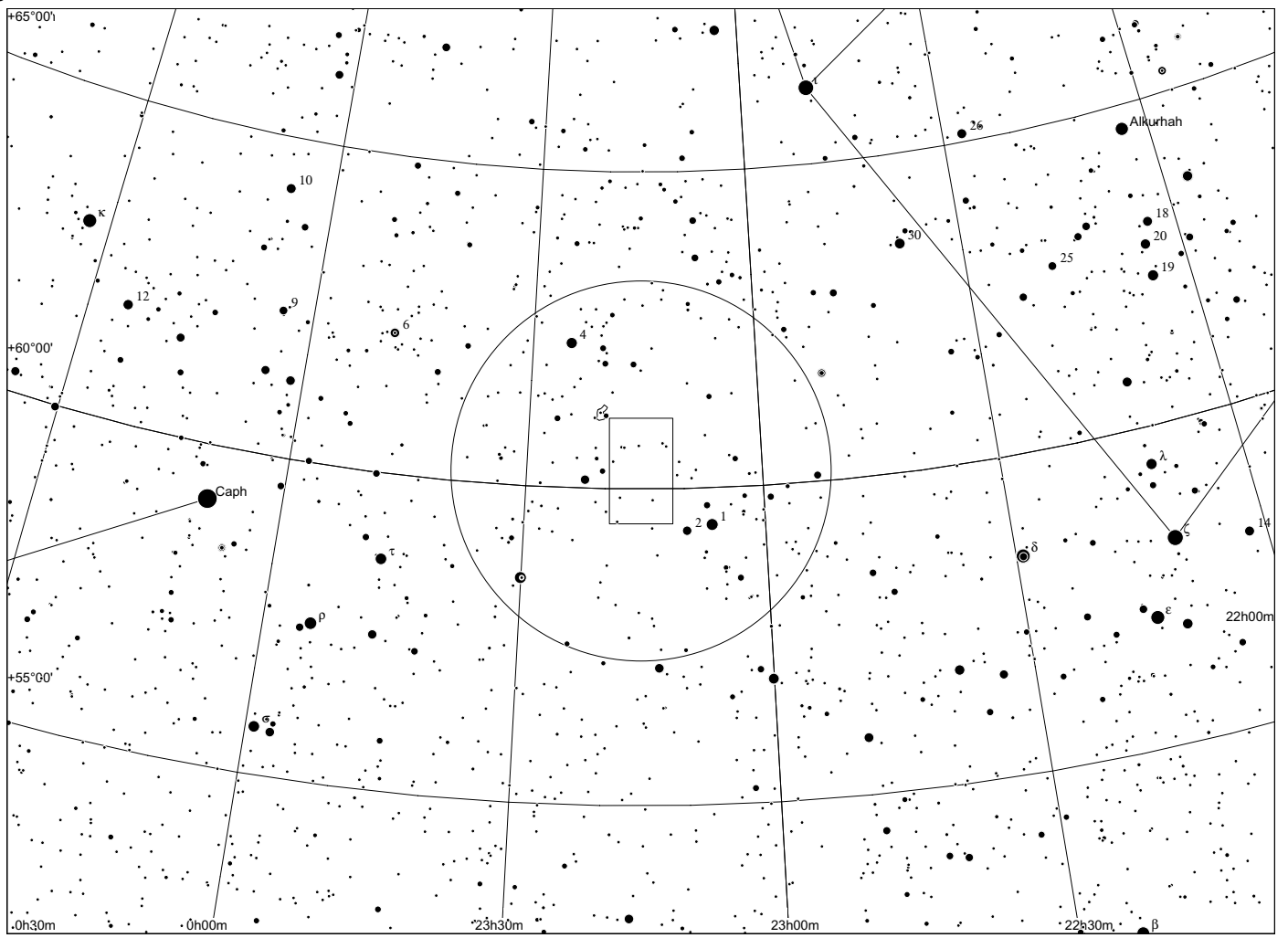
Distance: 2500 pc, Size: 65.5 pc, Source: 1982ApJS...49..183B

This is a ring nebula around WR 157, in the Basel 3 (Markarian 50) cluster that is in turn part of Cas OB2.

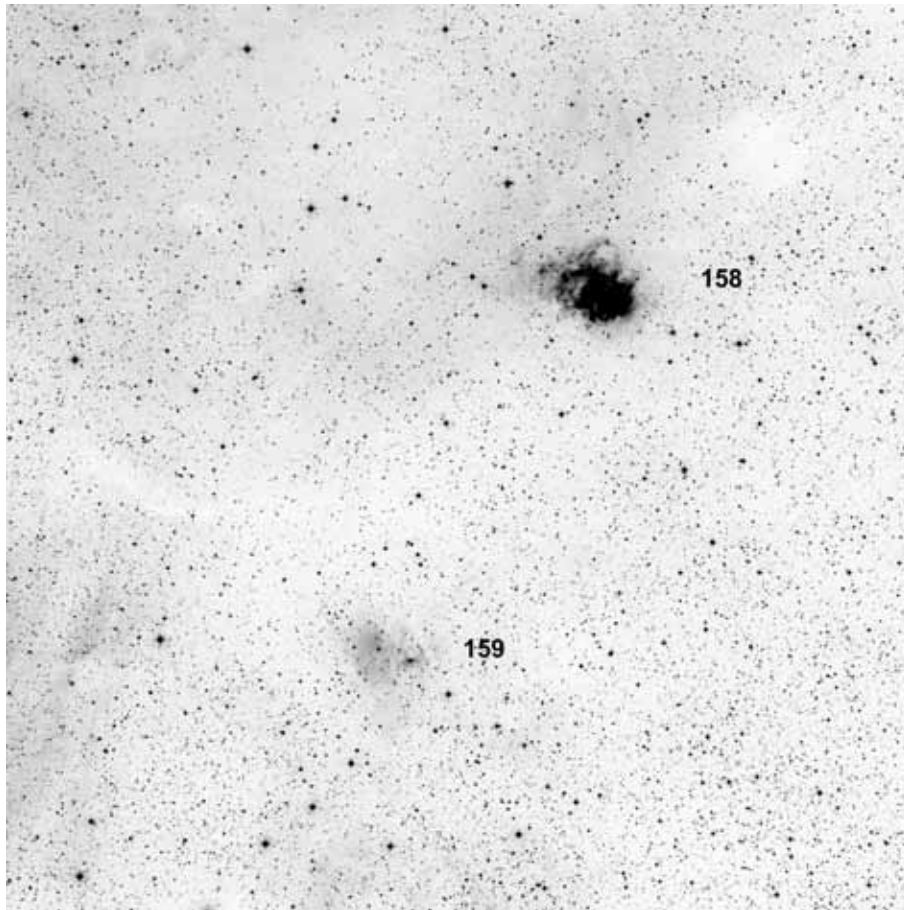
Observing notes:

08/2005: A very long and relatively bright filament oriented NS is easily visible that responds extremely well to OIII filtering. S157a (bright knot in northern central part) best with H beta
22" f/4.5

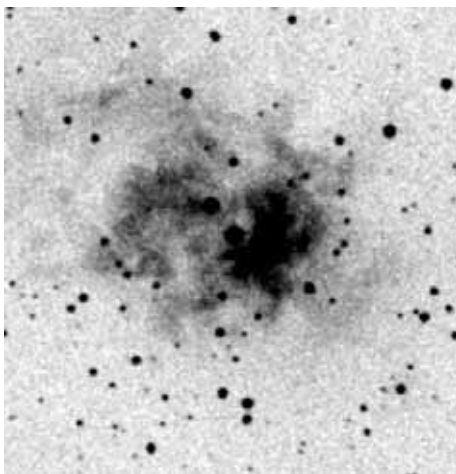
11/2011: Main filament N/S oriented is most distinct. Faint patch E of it. Another shorter and weaker filament W of main filament. S part diffuse, consisting of two patches of which the E patch contains 157a.



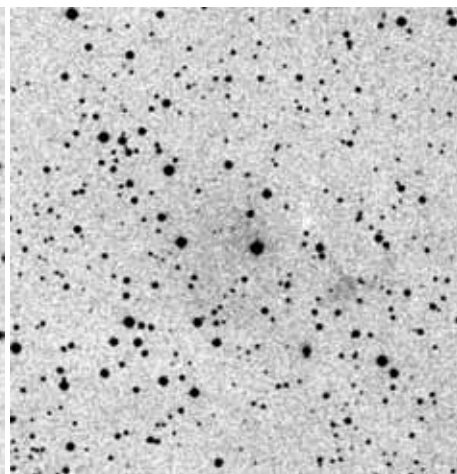
Sh 2 - 158/159 in Cep/Cas



60x60, red



POSS blue 158



159



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-158	NGC7538	23 13 39.6	+61 30 40	10	2	3	3
Sh 2-159		23 15 43.0	+61 08 44	7	3	2	2

Distance: 2800 pc, Size: 1.3 pc, Source: 2004ApJ...616.1042O

This is NGC 7538, a major star formation region in Cas OB2. It is surrounded by the much larger diffuse nebula Sh 2-161B.

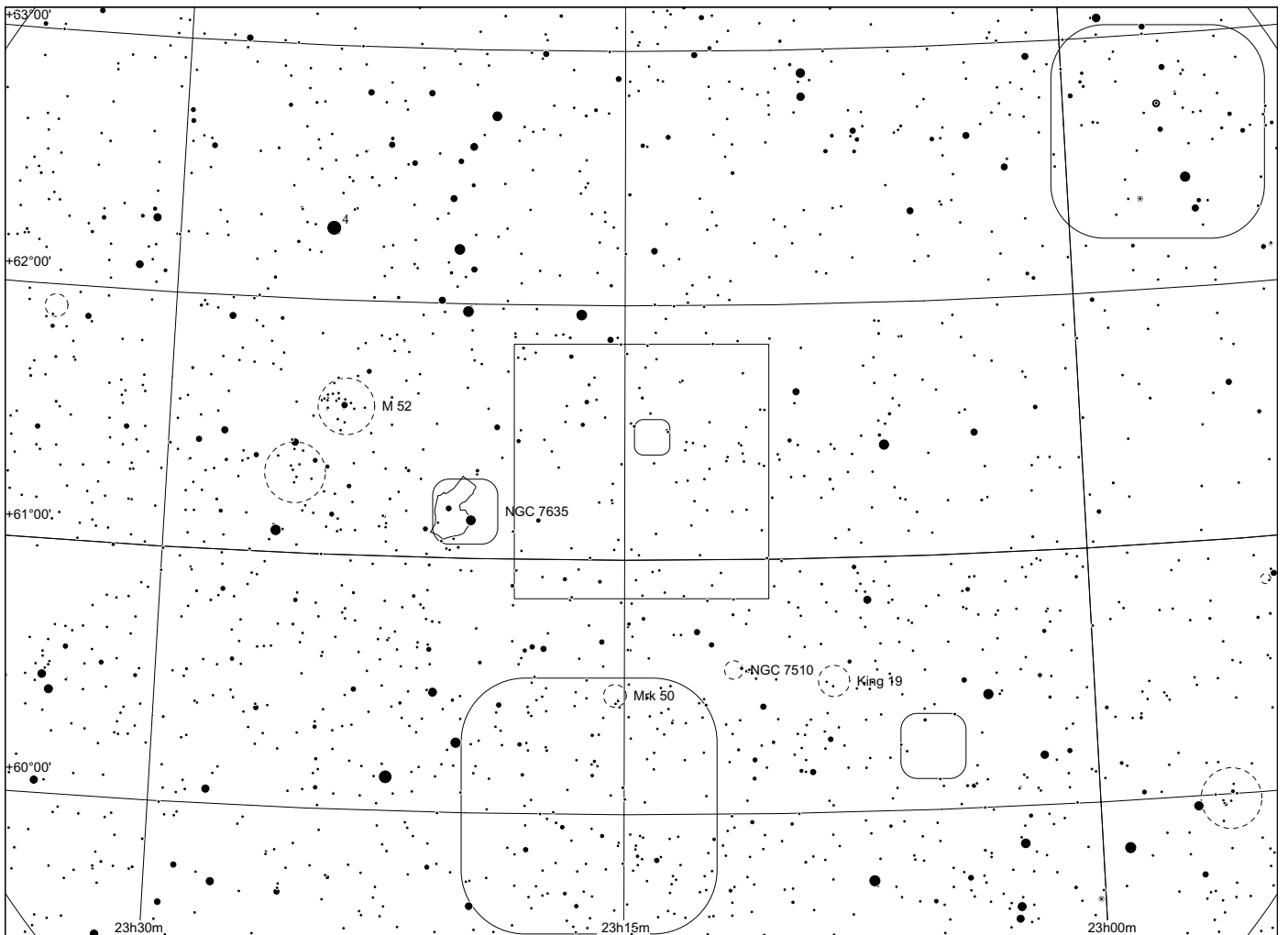
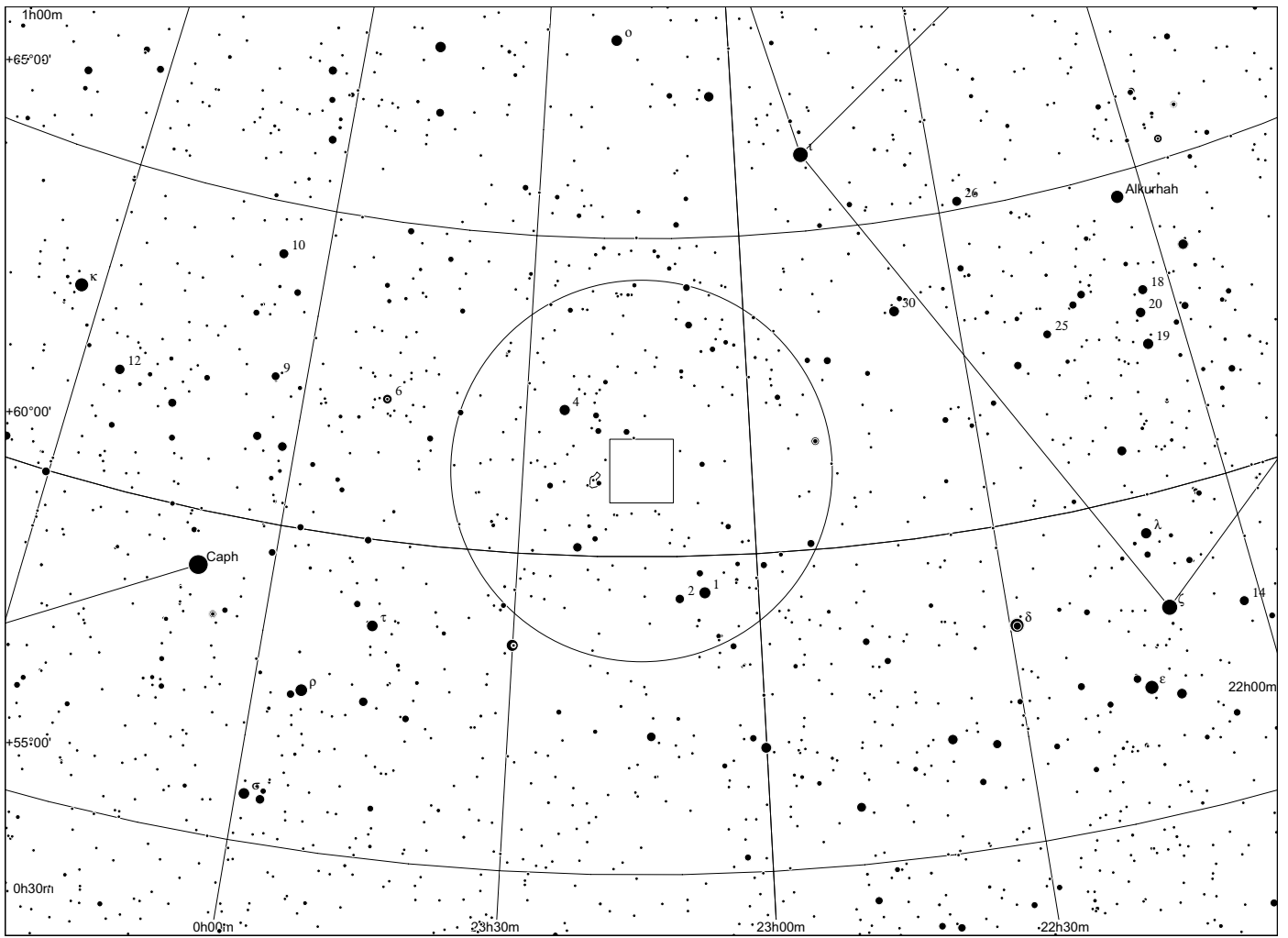
Observing notes:

14" f/5

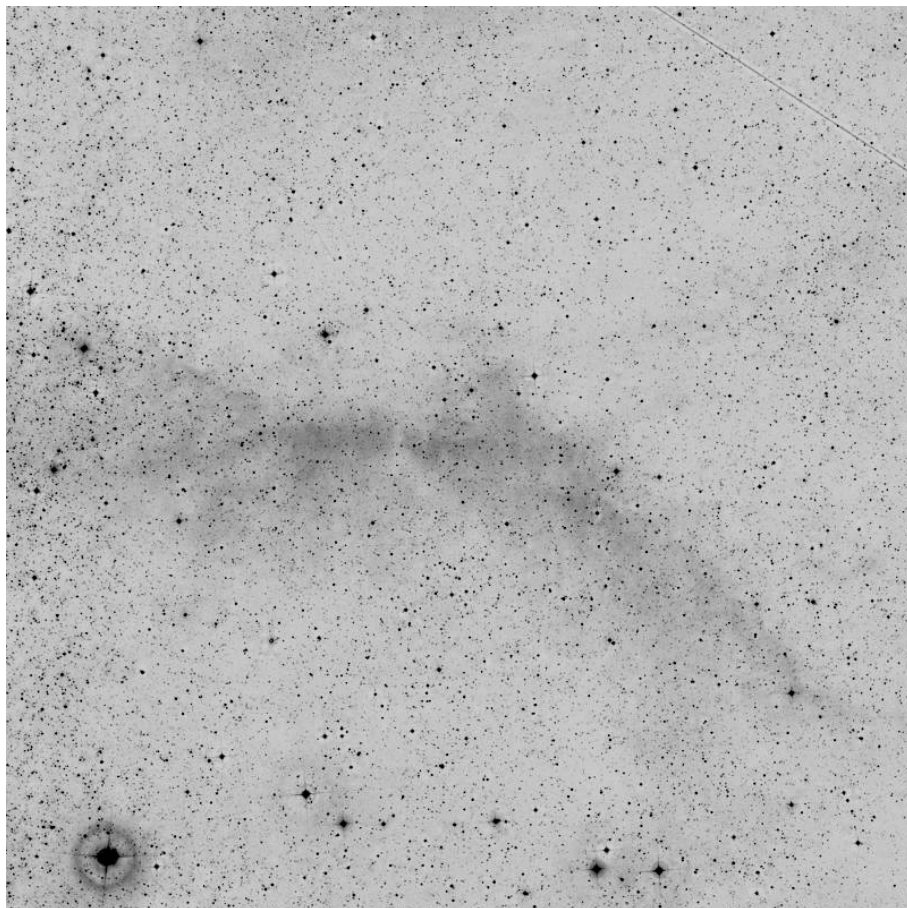
12/2004: Sh 158 A bright knot of nebulosity, well visible w/o filter, responds well to OIII.

Sh 159 unsuccessful

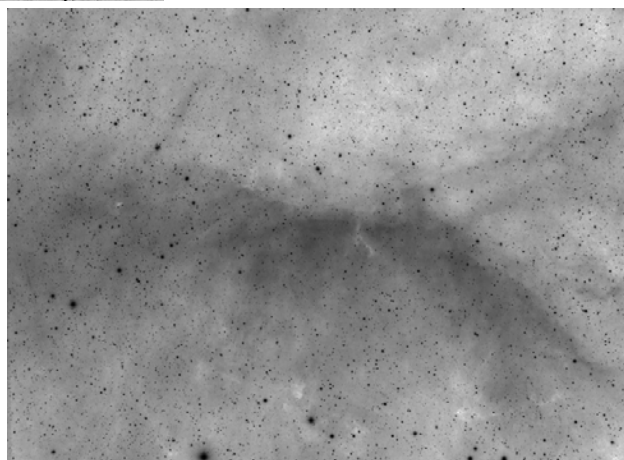
22"/f/4.5: Sh 159 unsuccessful



Sh 2 - 160 in Cepheus



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-160		23 05 47.2	+64 40 24	80	3	2	1

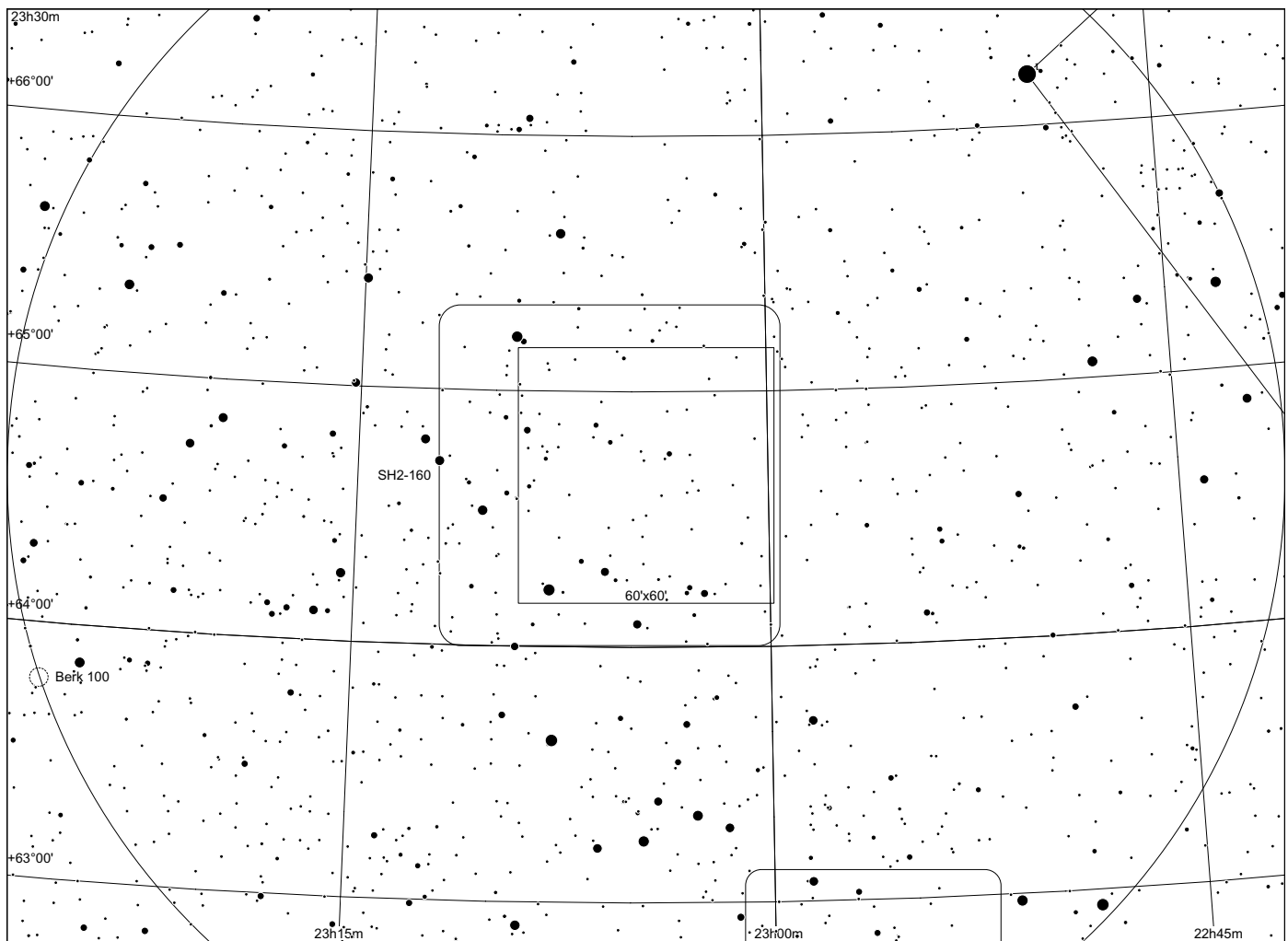
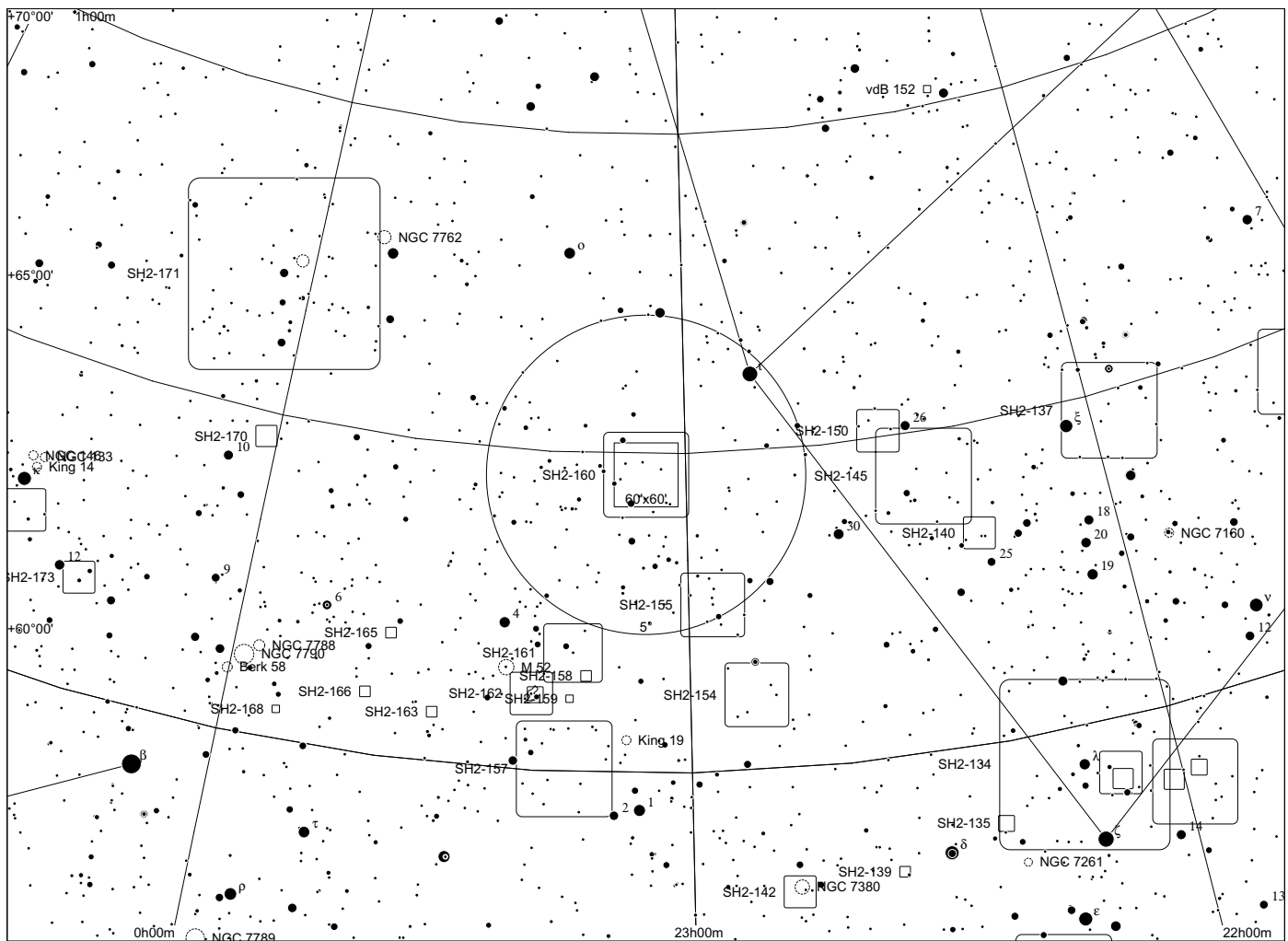
Distance: 900 pc, Size: 20.9 pc Source: 1982ApJS...49..183B

The HII region Sh 2-160 is located near or within the Cep OB3 association, which is part of the relatively nearby Cepheus molecular clouds, as can be seen on this face-on map. Sharpless lists three possible ionising stars including the B0 III giant HD 218323, which Humphreys assigns to Cep OB3.

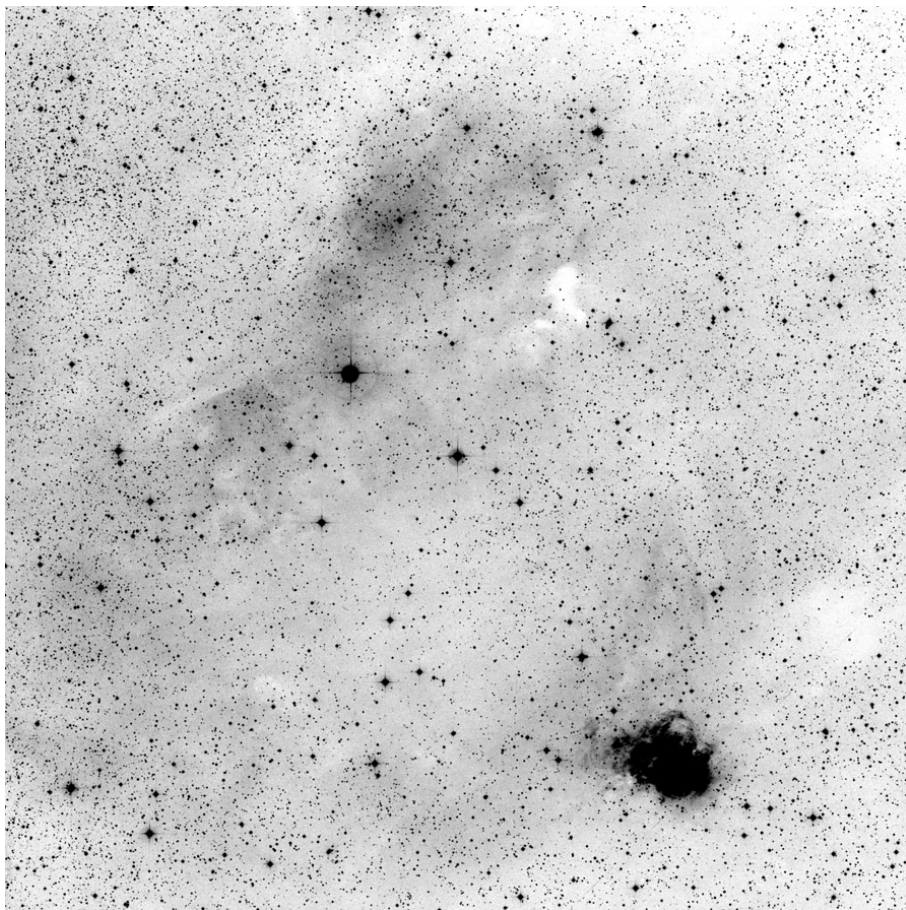
Observing notes:

22" f/4.5

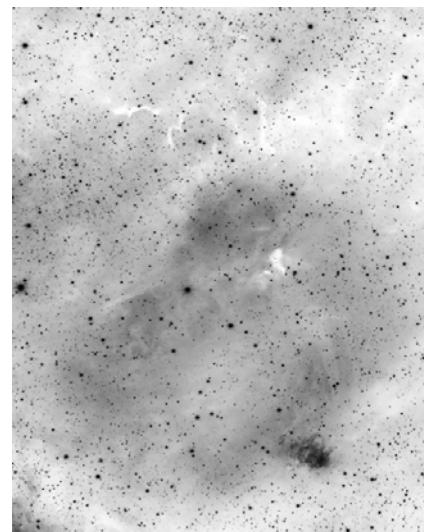
11/2012: unsuccessful observation



**Sh 2 - 161
in Cas/Cep**



60x60, red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-161		23 15 29.2	+61 51 43	55	2	2	2

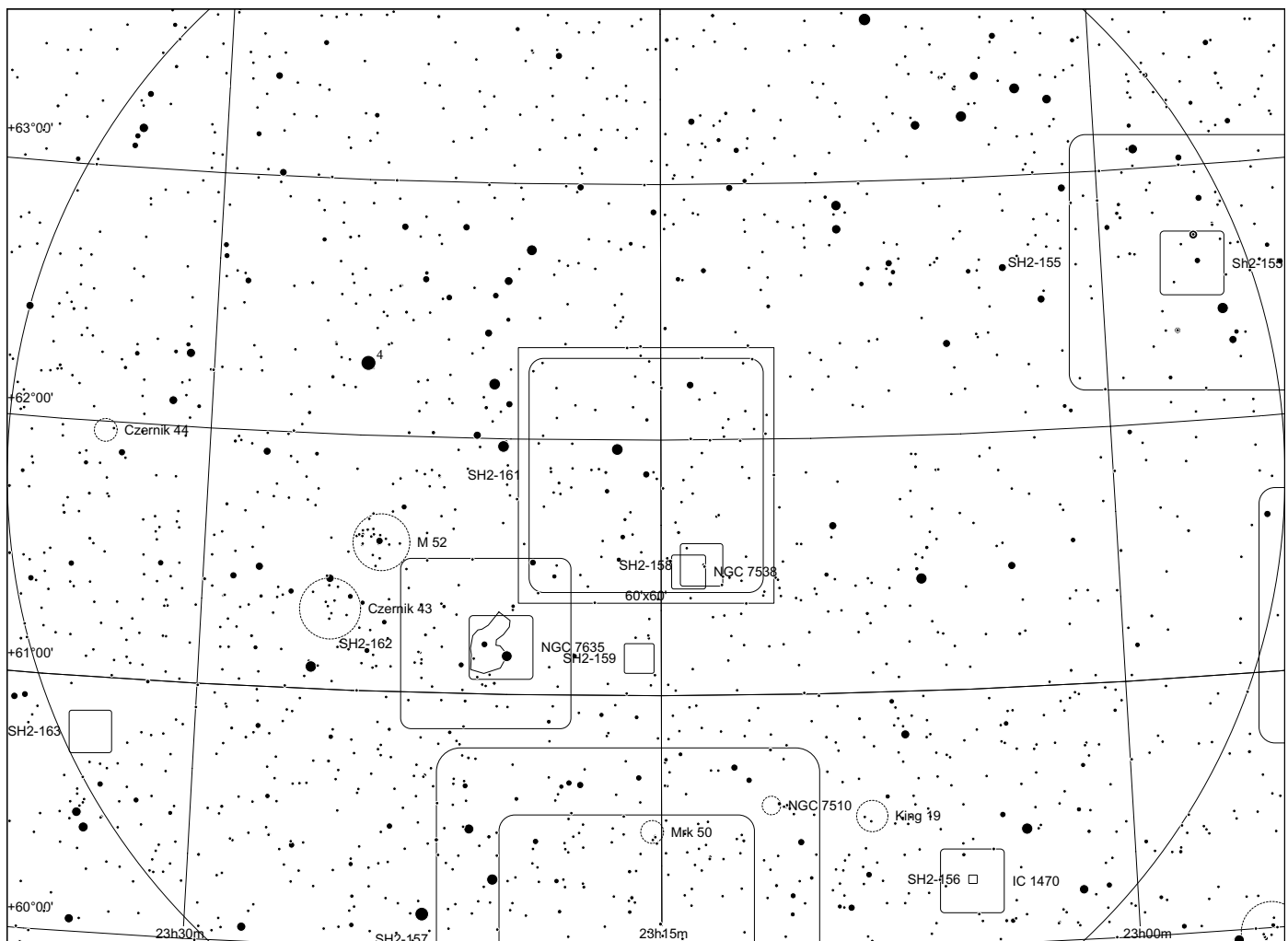
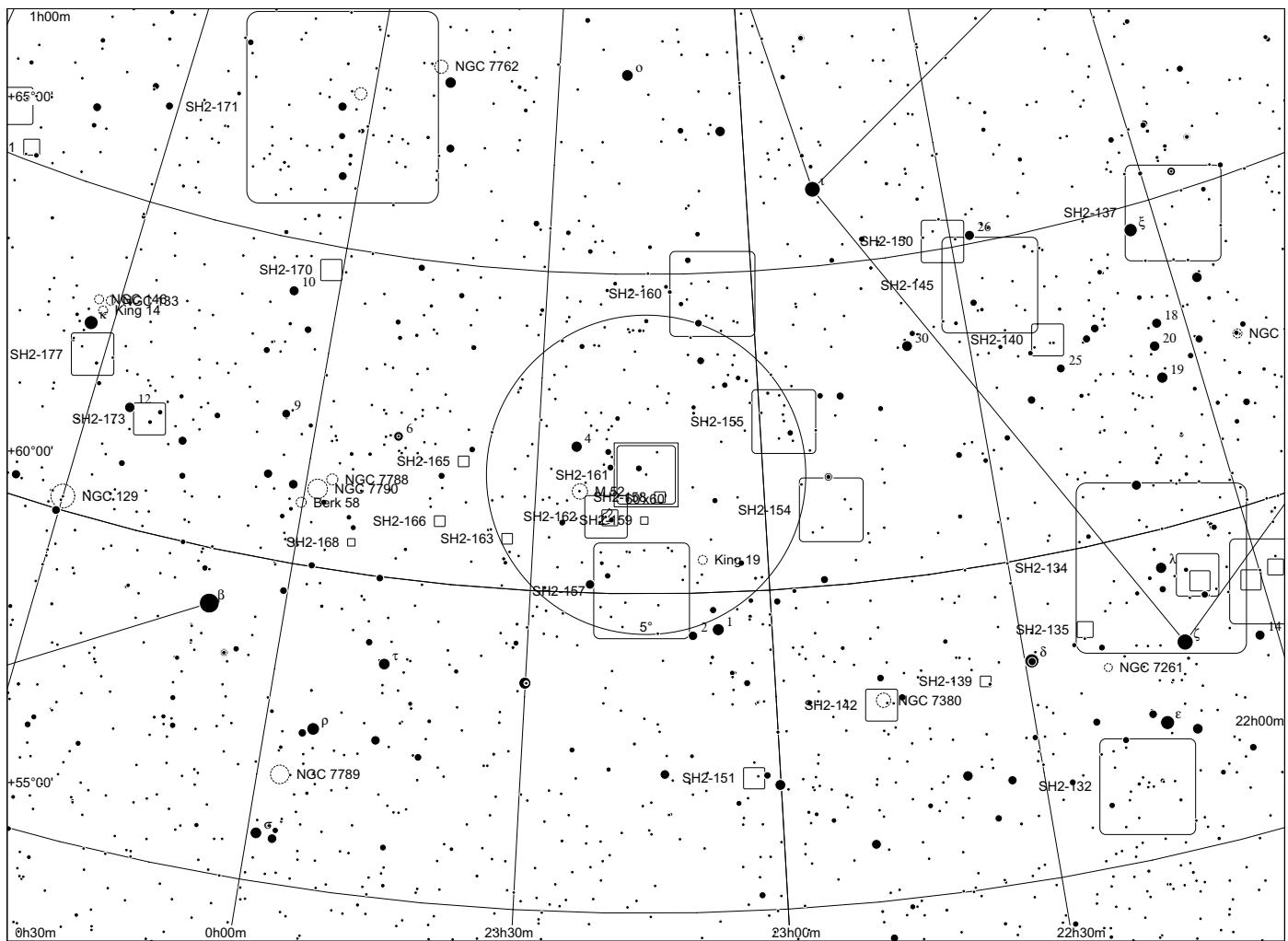
Distance: 2800 pc, Size: 44.8 pc Source: 1982ApJS...49..183B

Sh 2-161B is a large diffuse nebula surrounding the much smaller (and better studied) Sh 2-158, which is visible in the bottom right of this image.

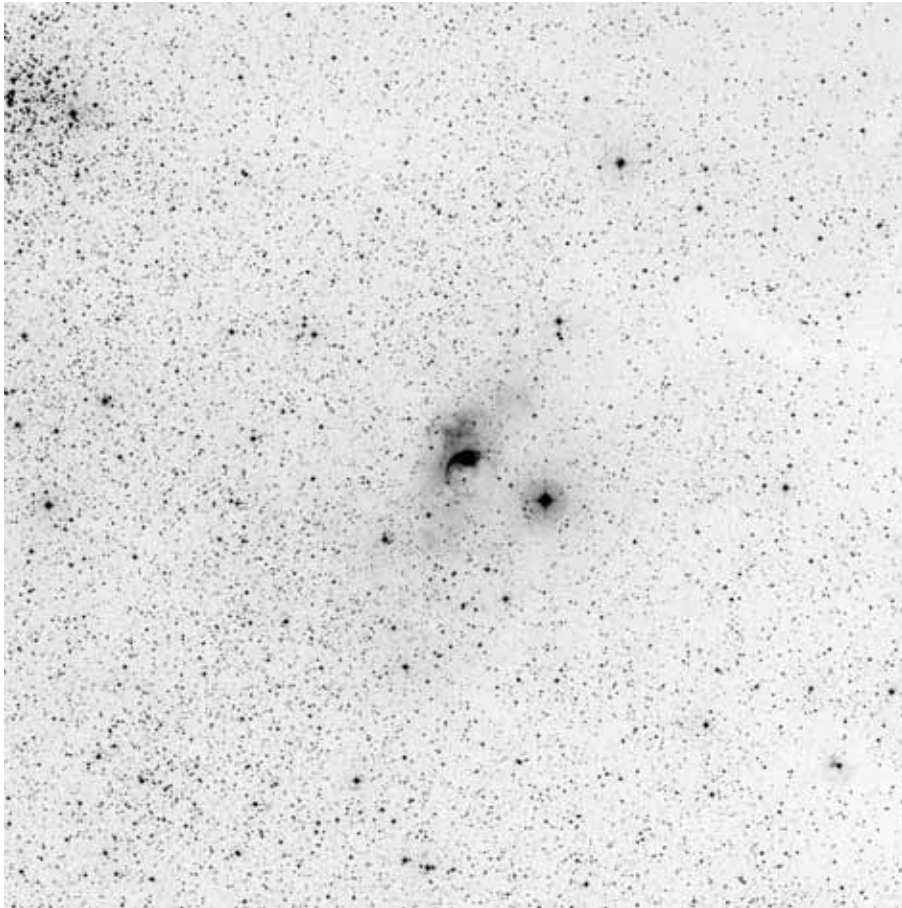
Observing notes:

22" f/4.5

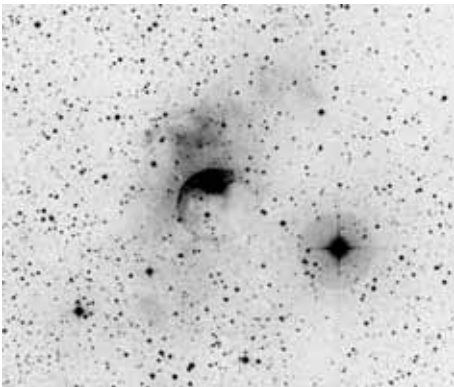
11/2012: uncertain, could be faint background stars



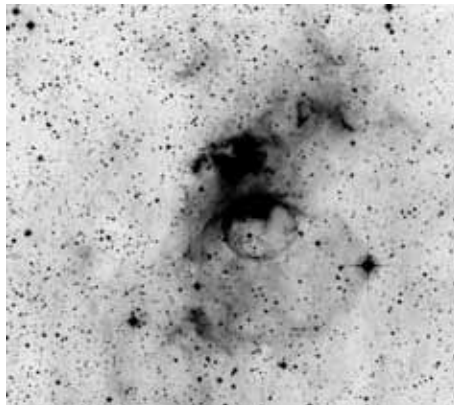
Sh 2 - 162 in Cassiopeia



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-162	NGC7635 = Bubble Nebula	23 20 41.5	+61 11 52	40	3	3	3

Distance: 3813 pc, Size: 5.8 pc, Source: 2003A&A...397..213P

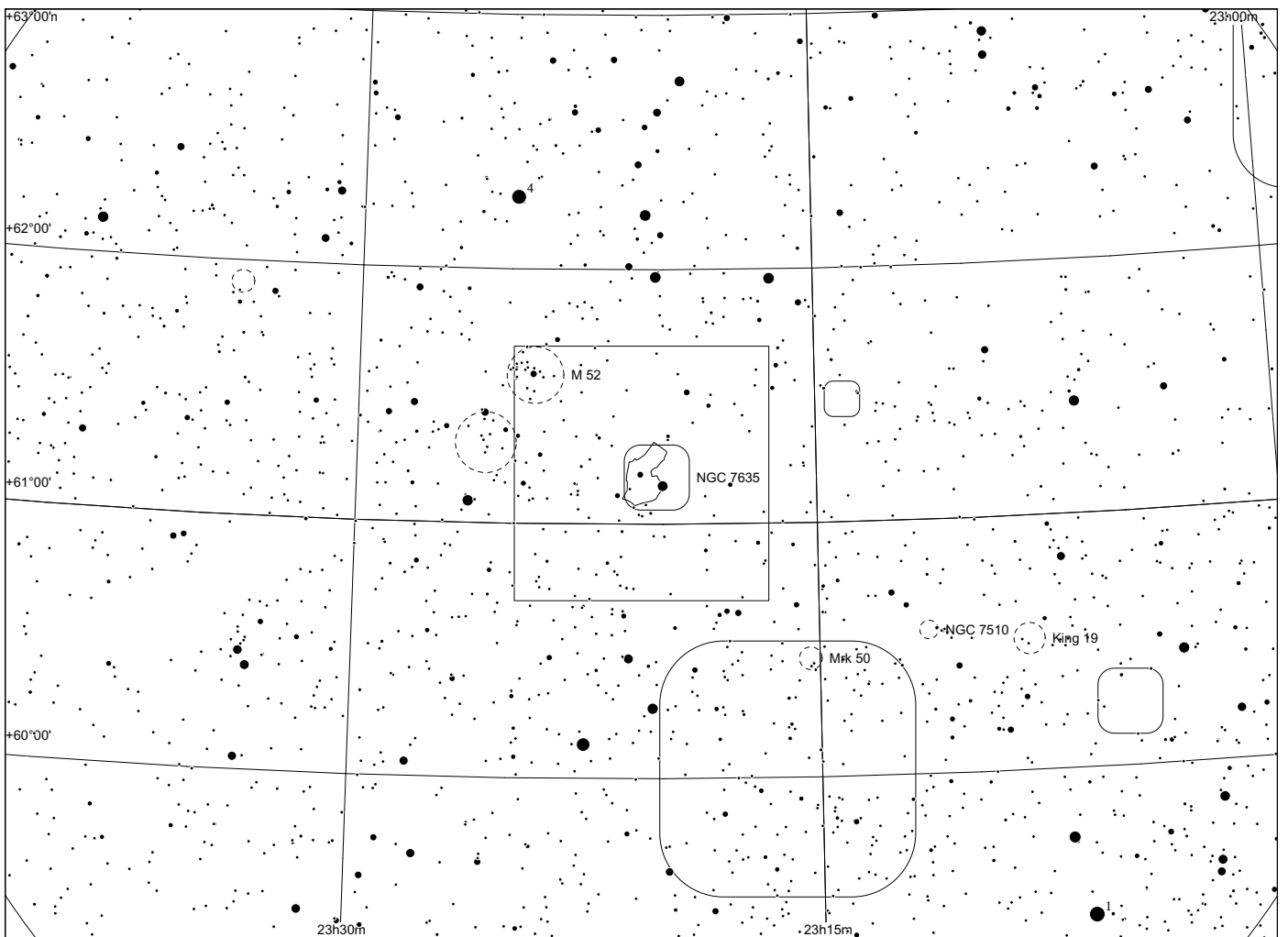
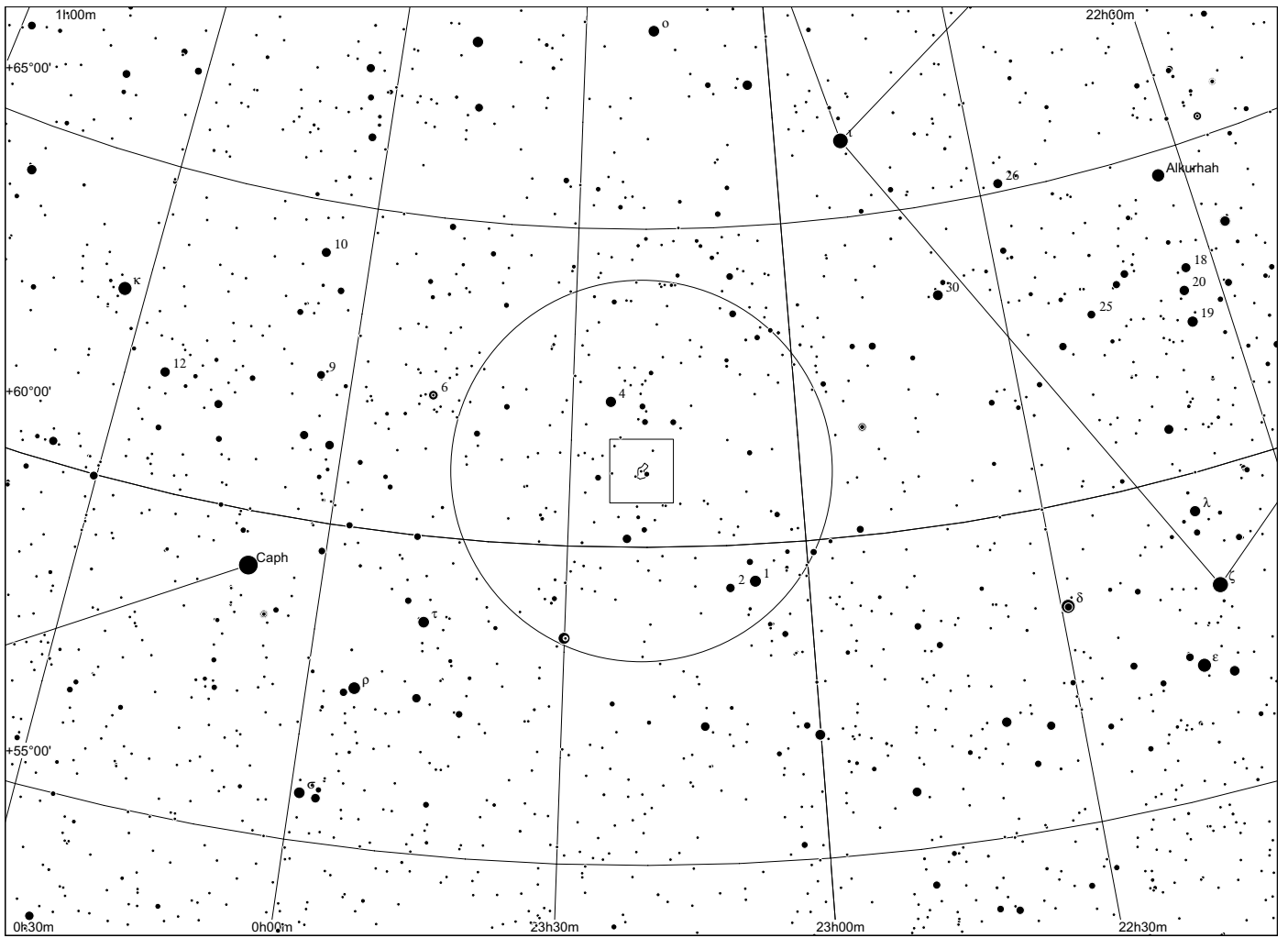
This is the Bubble nebula, NGC 7635, a circular shell around the O6.5 IIIf star BD +60°2522.

A recent study finds the distance to Sh 2-162 to be 2500 parsecs, more in line with its assumed position in the Cas OB2 association.

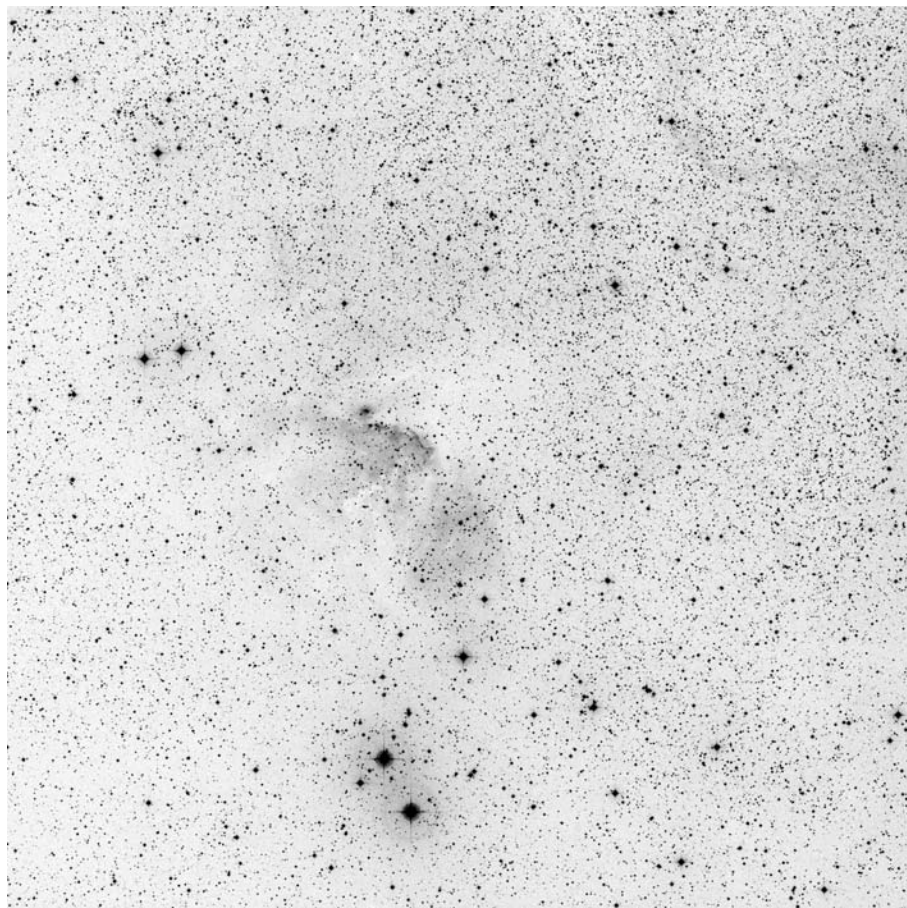
Observing notes:

22" f/4.5

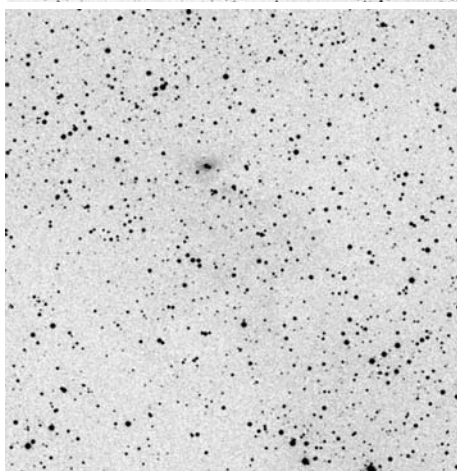
10/2007: With OIII filter, the central part of the EN around the star is relatively easy. A fainter, diffuse halo extends to the N. The bubble itself could be traced at least for a 90° arc E of the star.



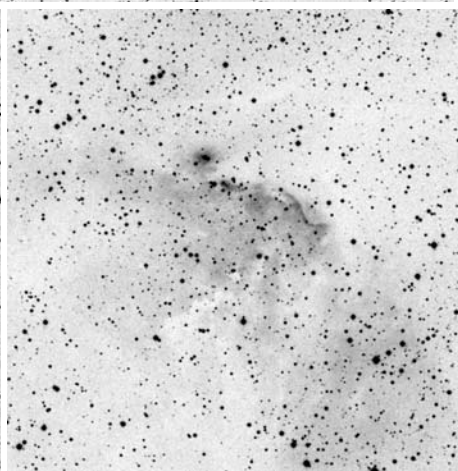
Sh 2 - 163 in Cassiopeia



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-163		23 33 19.3	+60 47 09	10	3	2	2

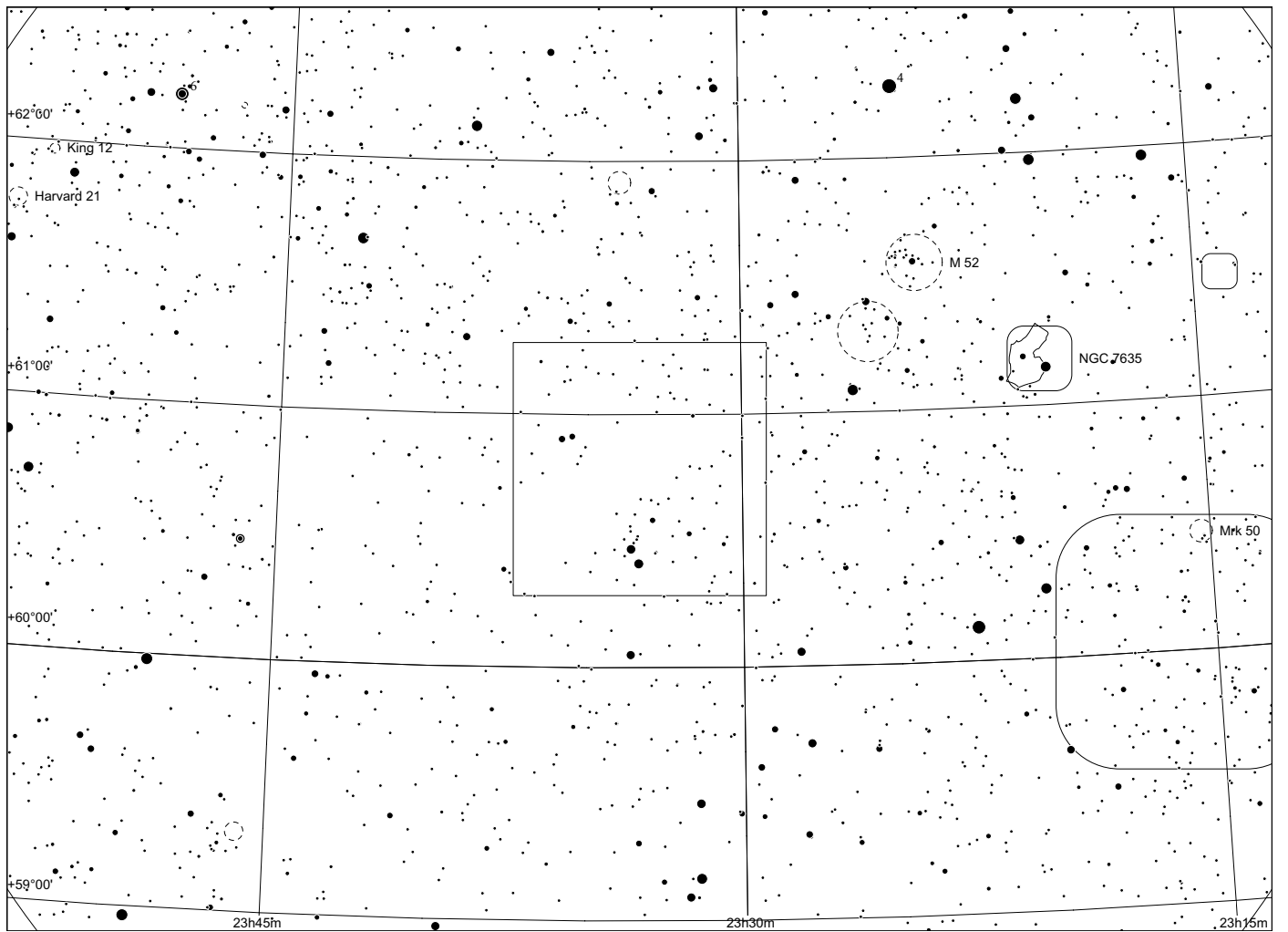
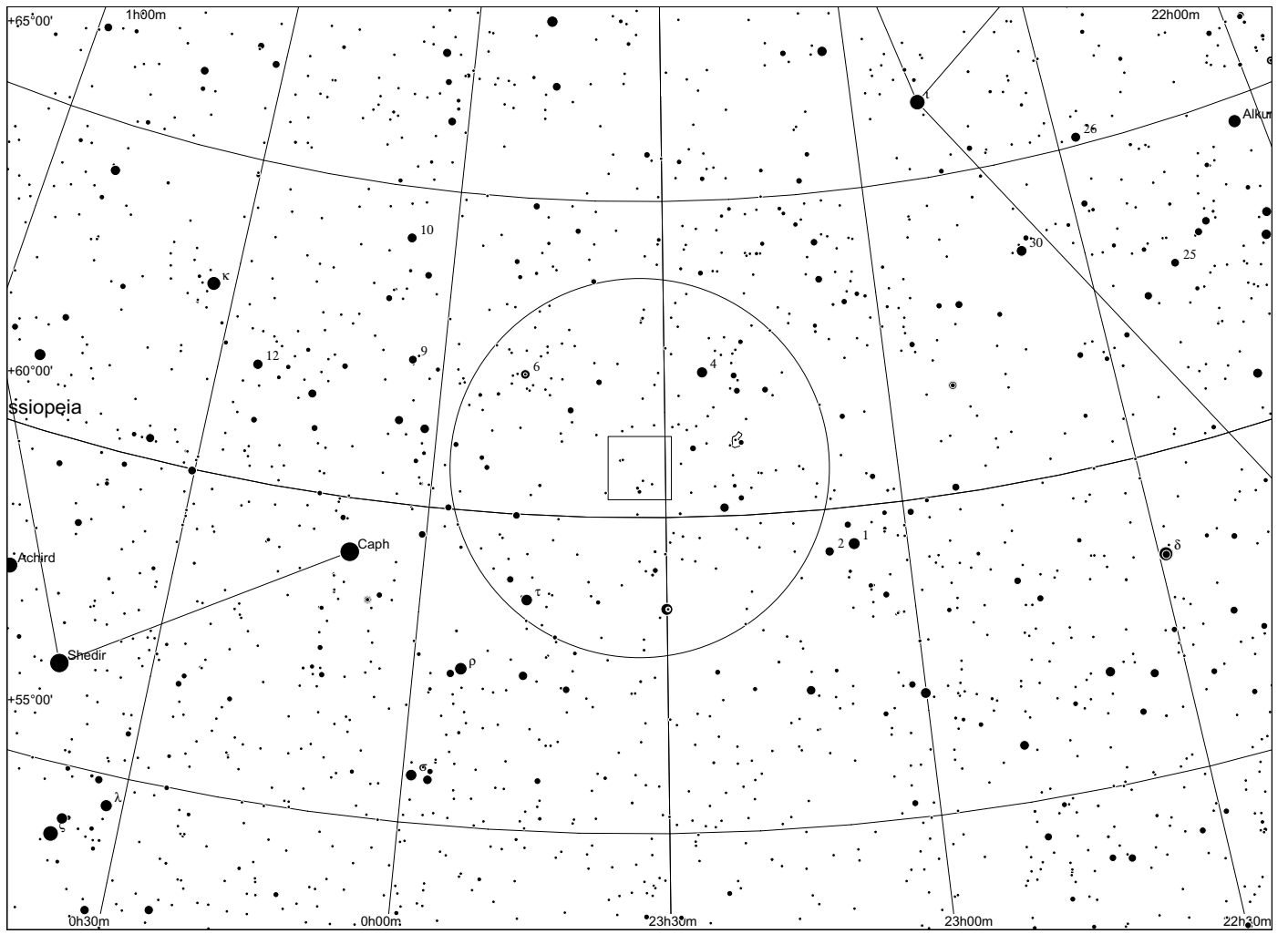
Distance: 3839 pc, Size: 12.4 pc, Source: 2003A&A...397..213P

Ionised by the O 9.5 V class star LSI +60 8 at 2800 parsecs and contains the infrared cluster [BDS2003] 45. A second distance estimate of 2500 parsecs.

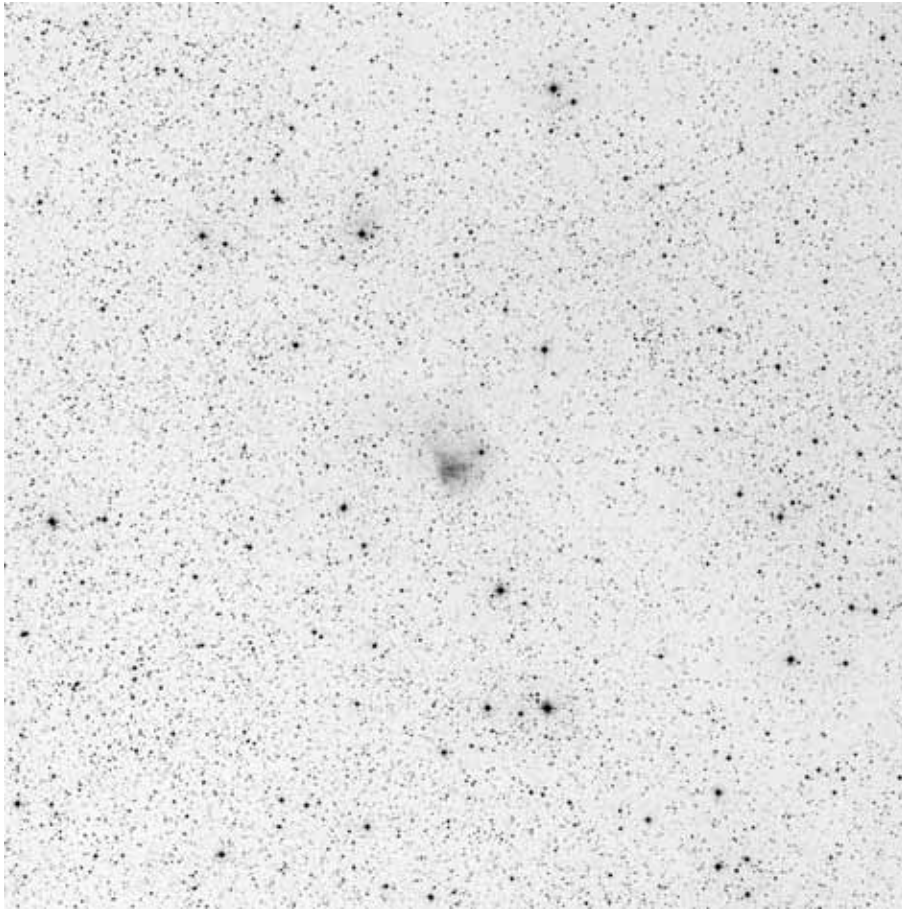
Observing notes:

22" f/4.5

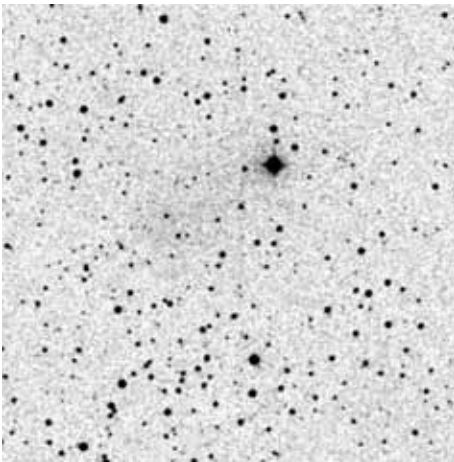
12/2011: unsuccessful observation



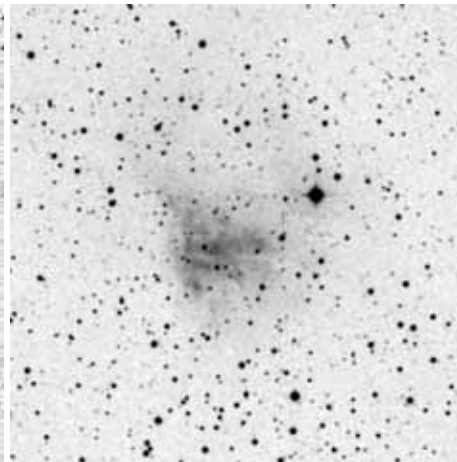
Sh 2 - 164 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-164		23 38 25.3	+59 58 13	3	3	2	2

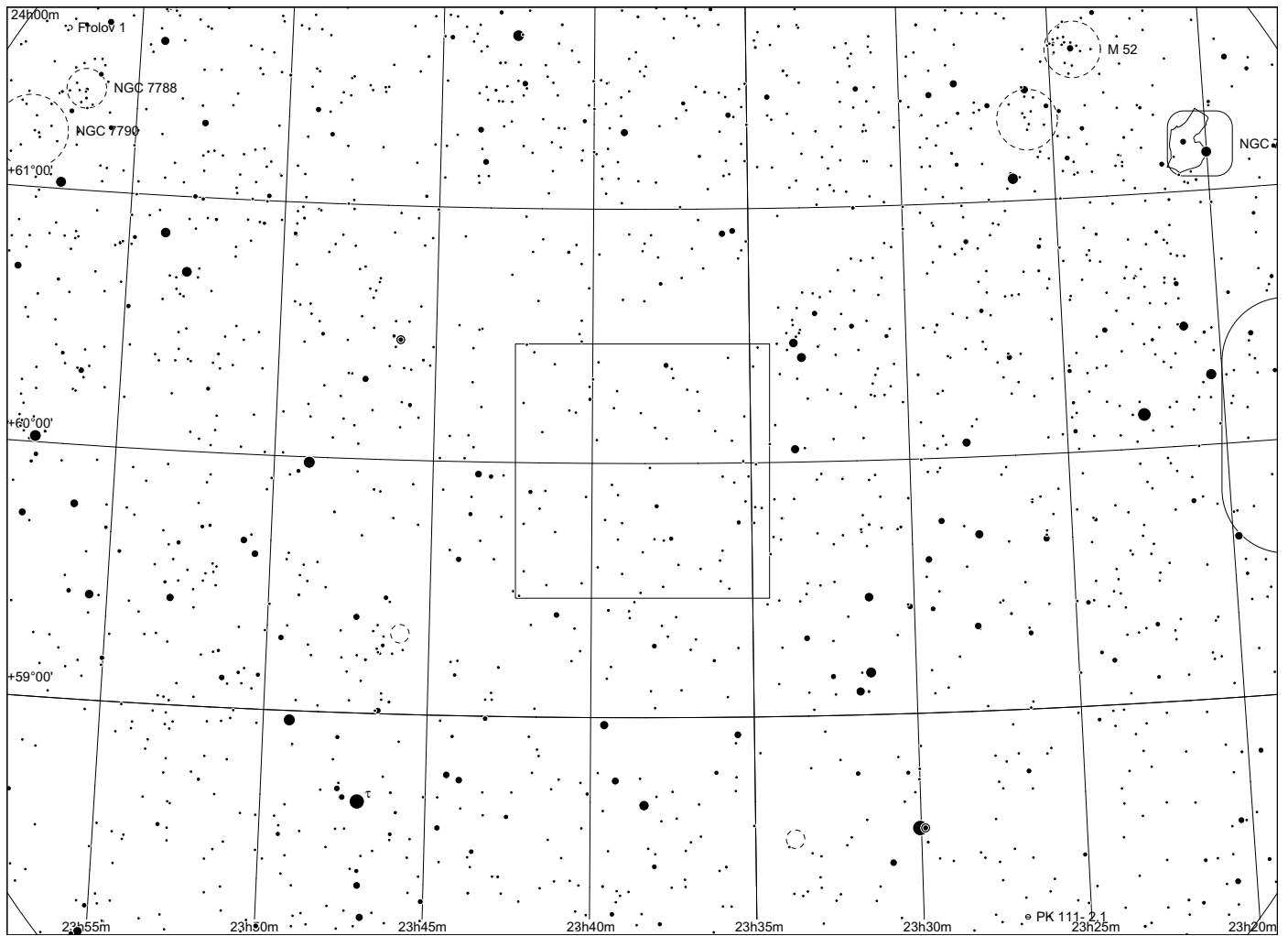
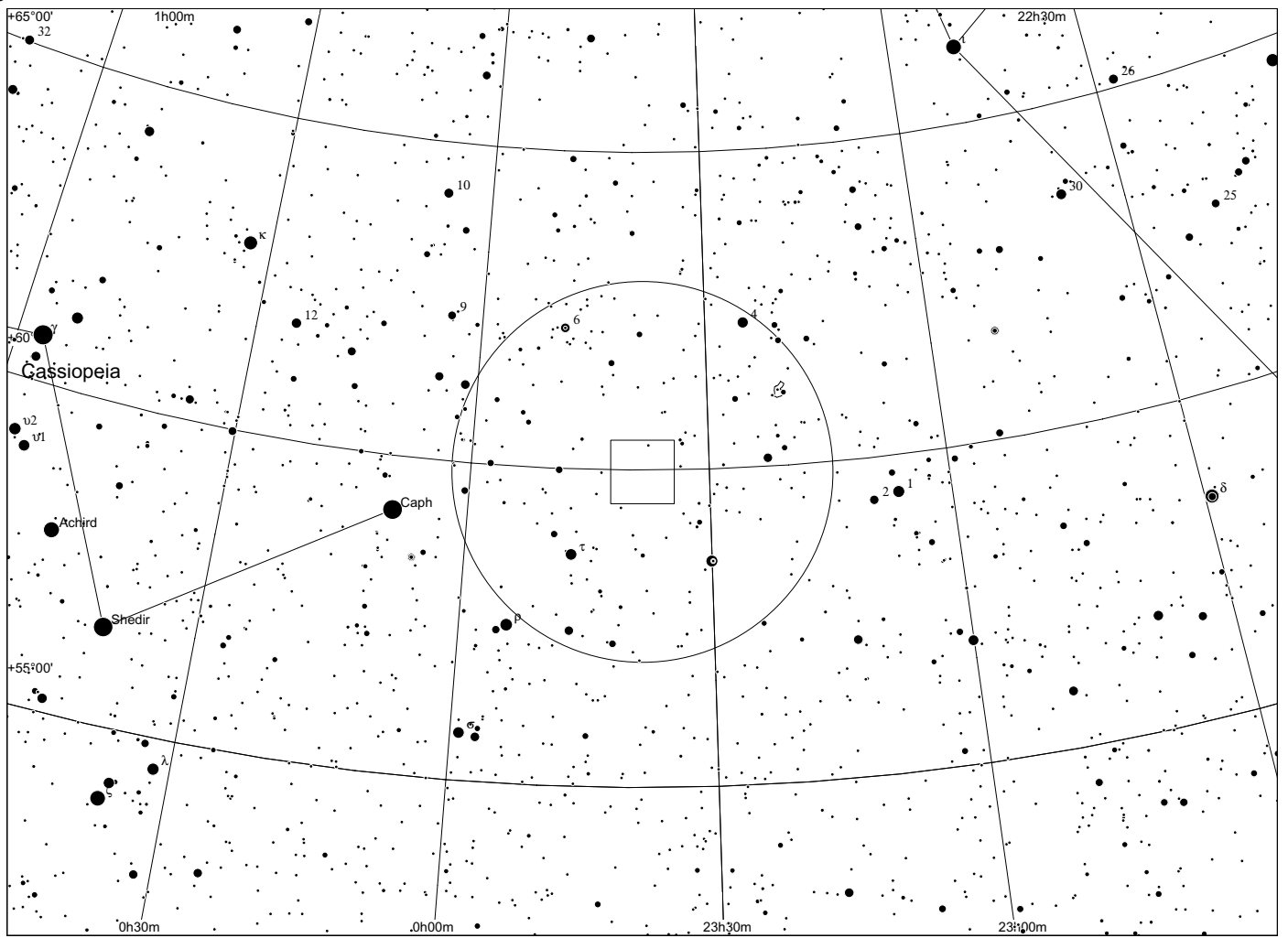
Distance: 5000 pc, Size: 4.4 pc, Source: 1982ApJS...49..183B

Ionised by the B1 Ib supergiant LS I +59 10 with two distance estimates of 3500 +/- 1500 parsecs and 2820 parsecs.

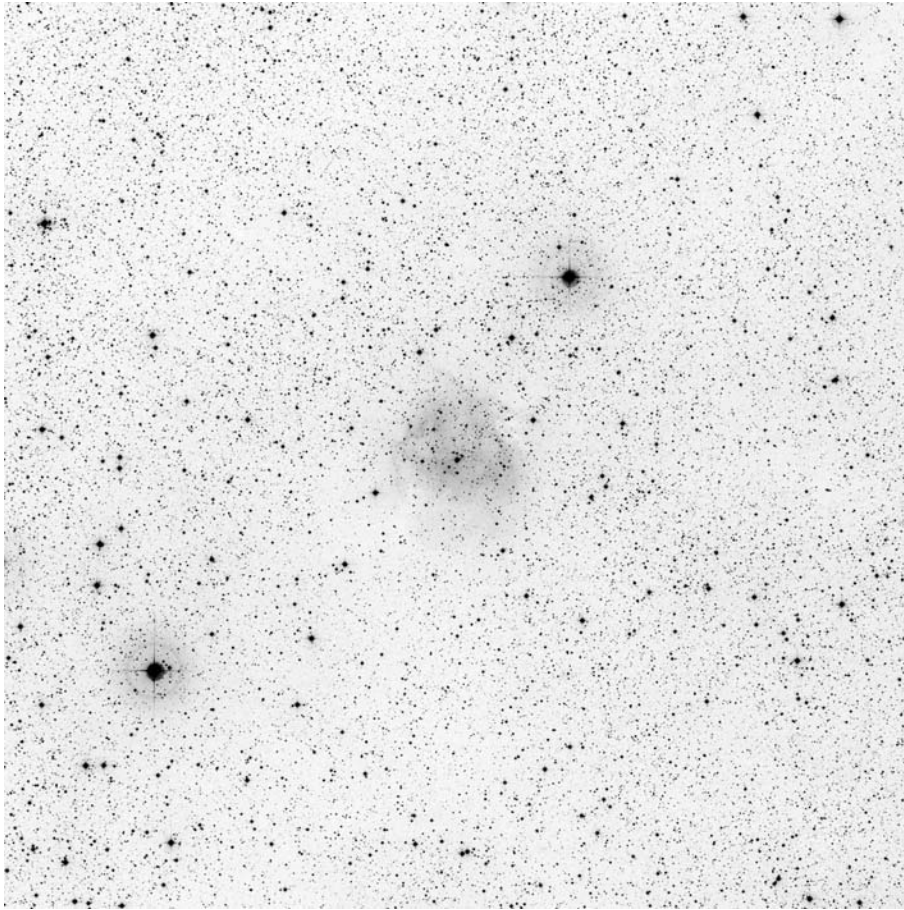
Observing notes:

22" f/4.5

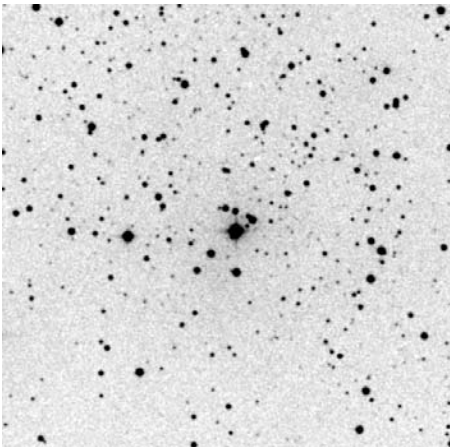
10/2011: unsuccessful, even with H beta



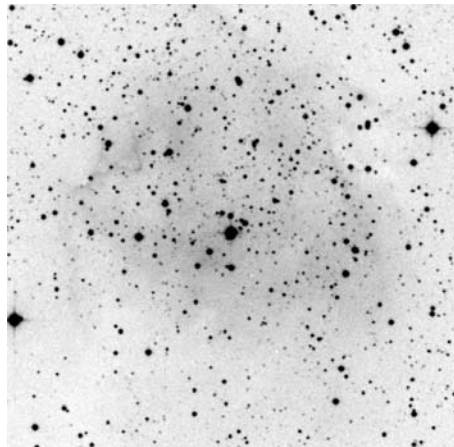
Sh 2 - 165 in Cassiopeia



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-165		23 39 48.1	+61 56 15	10	2	2	2

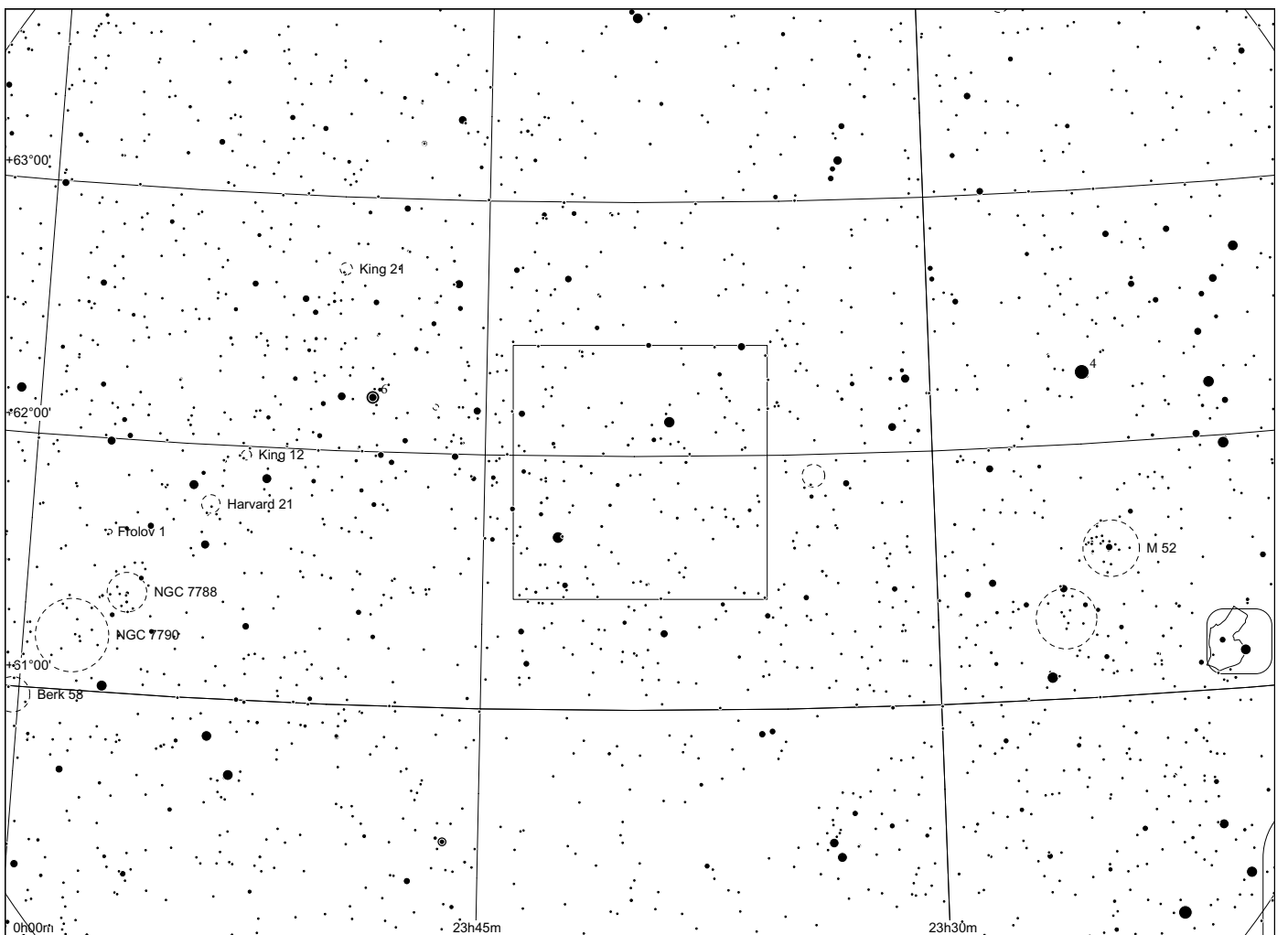
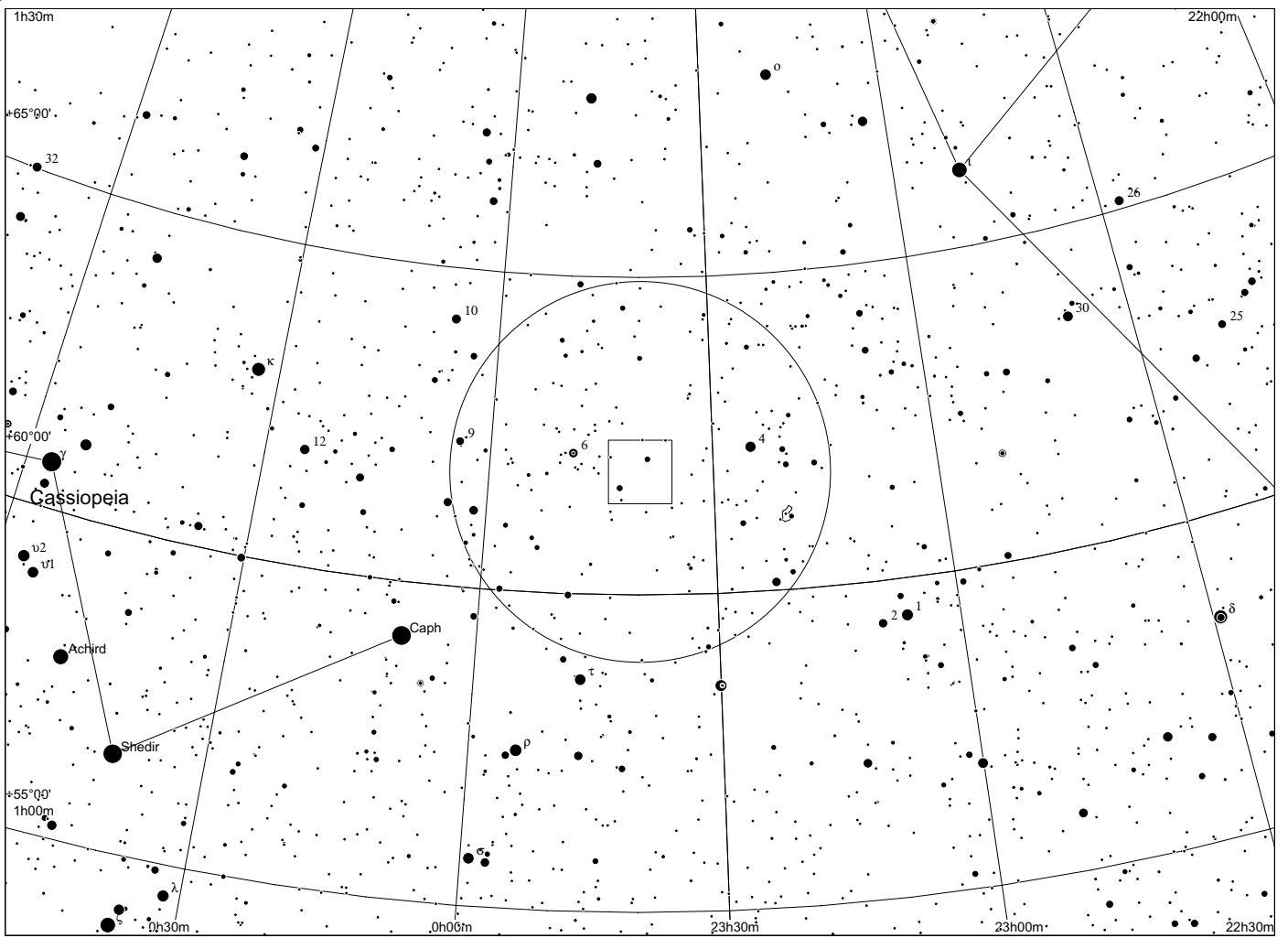
Distance: 1600 pc, Size: 4.7 pc, Source: 1982ApJS...49..183B

Excited by B0 V star BD 61 +2494, distance estimates of 2020 and 2400 parsecs. Contains the infrared cluster [BDS2003] 46.

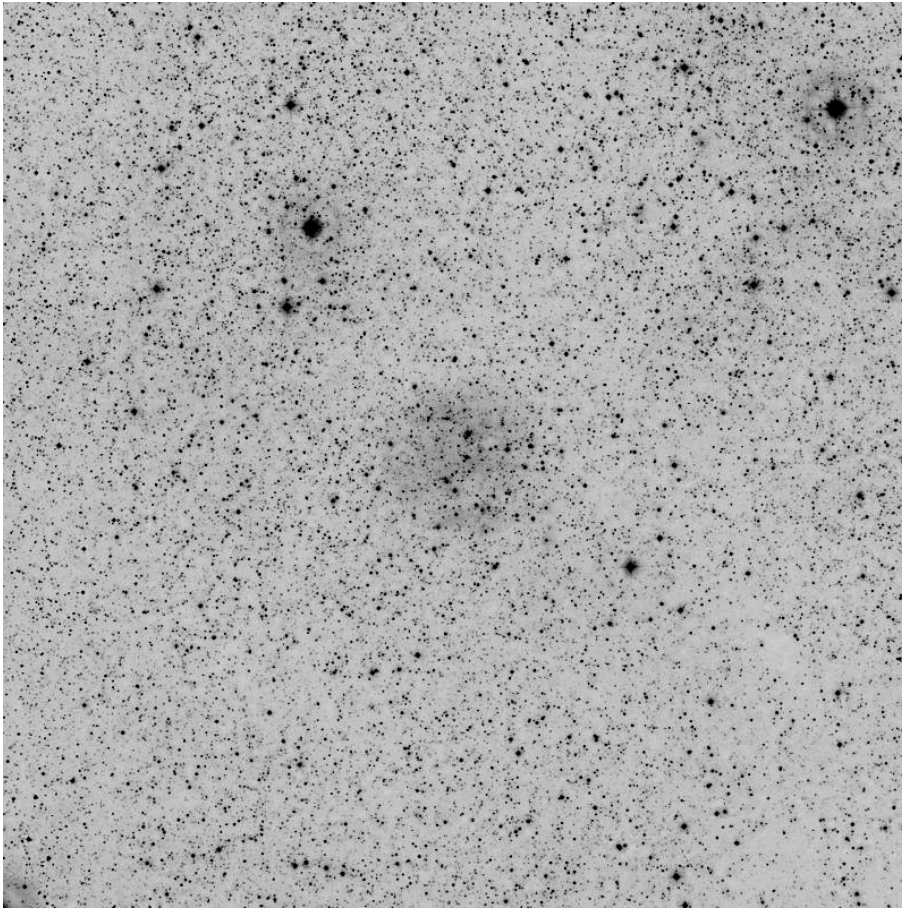
Observing notes:

22" f/4.5

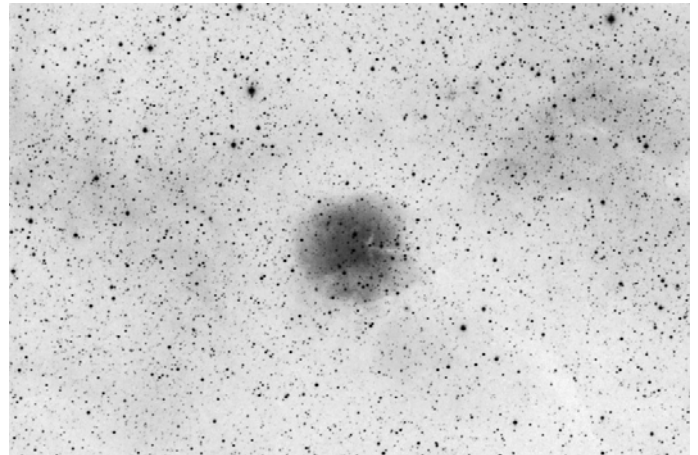
10/2011: unsuccessful, even with H beta



Sh 2 - 166 in Cassiopeia



60x60, red



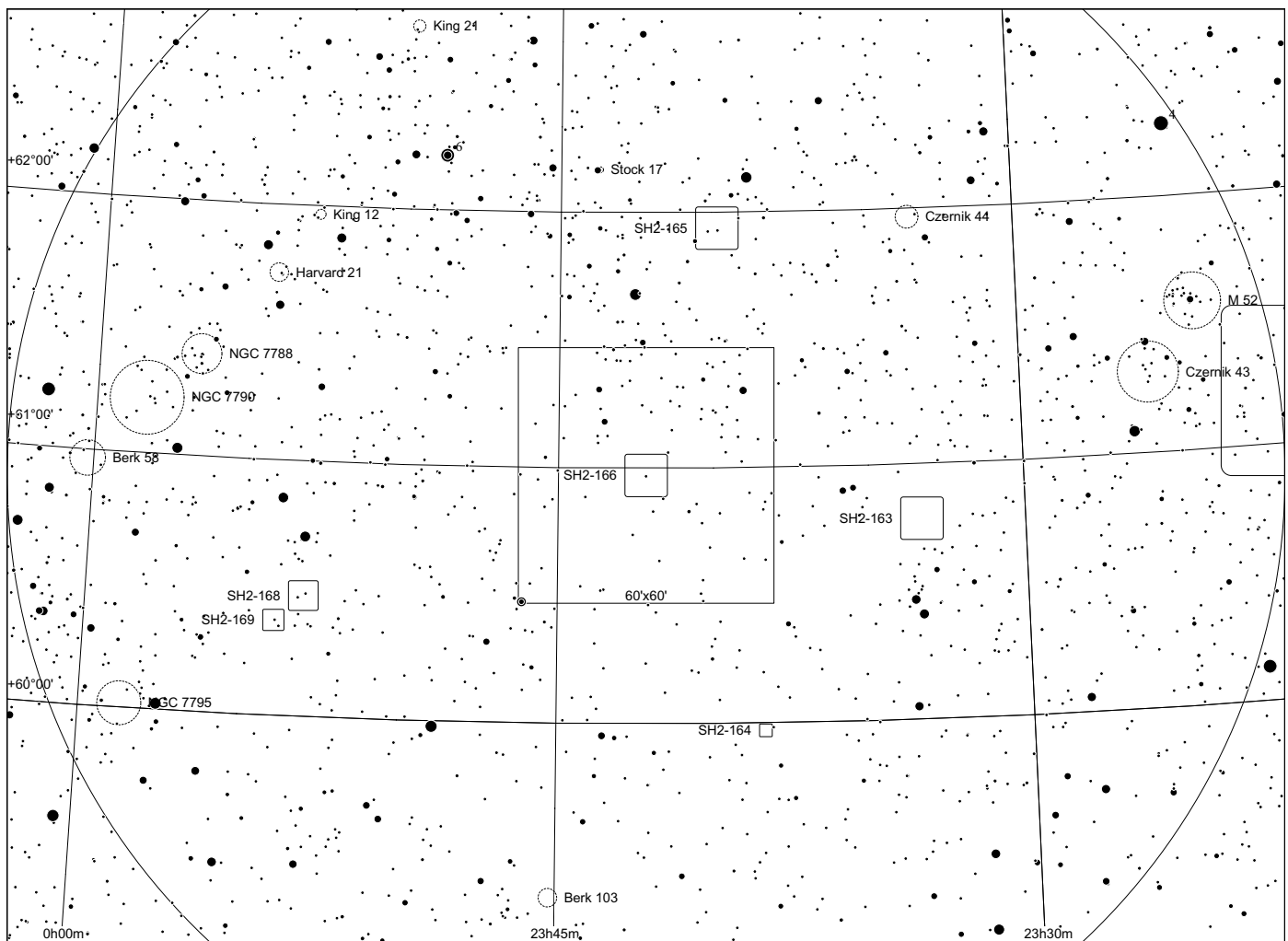
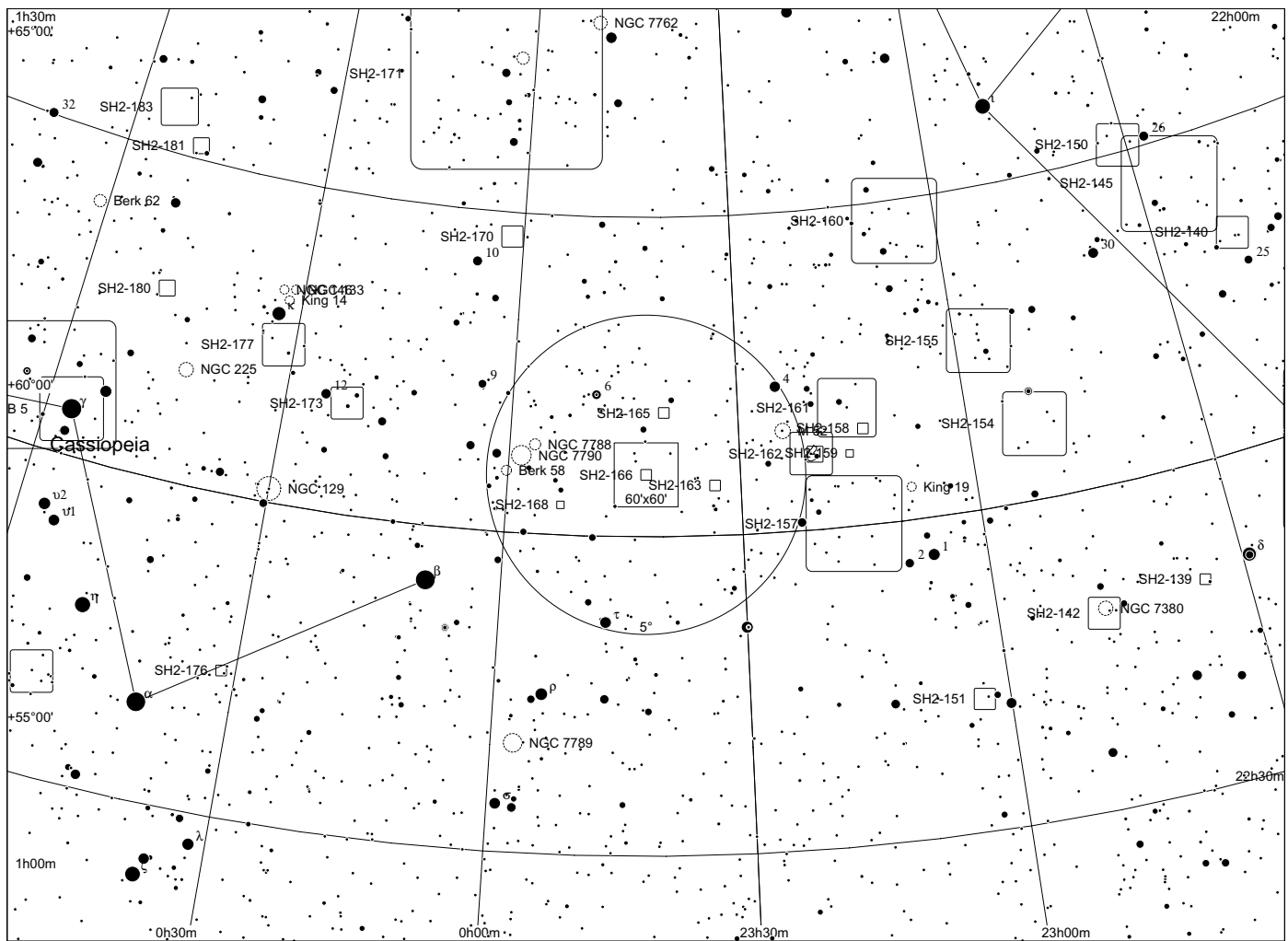
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-166		23 42 09.8	+60 58 17	10	1	1	1

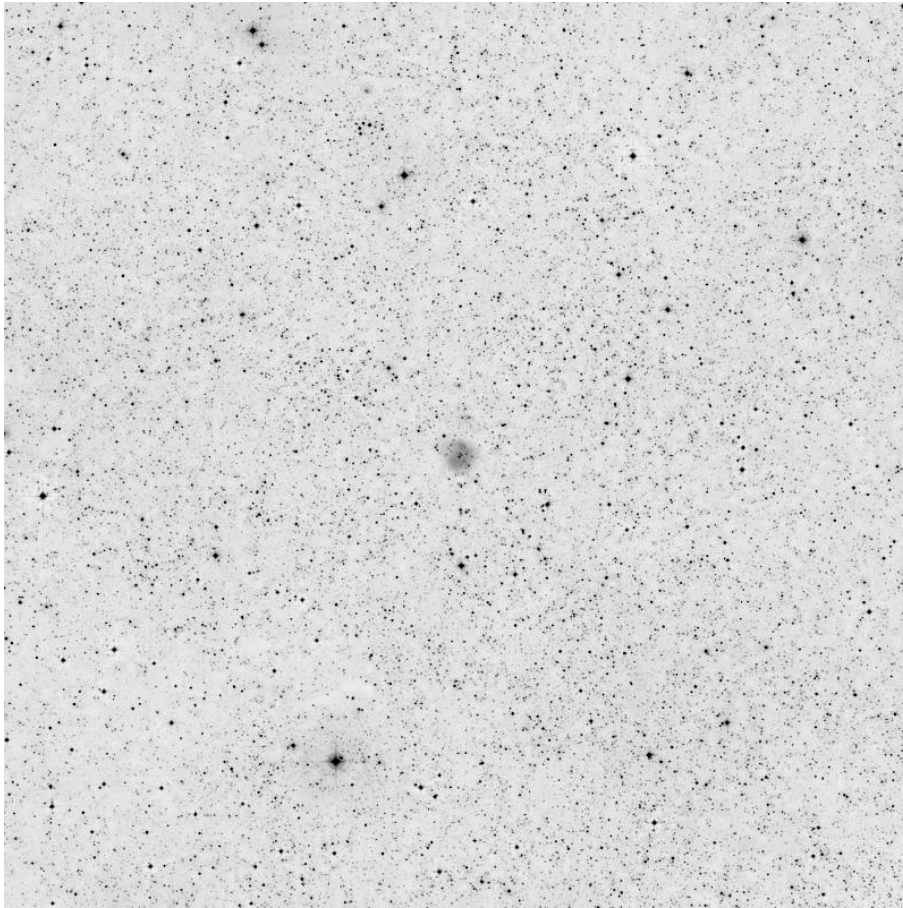
Distance: 2400 pc, Size: 7.0 pc Source: 2003A&A...397..133R

This faint nebula forms part of the Cas Ob5 supershell.

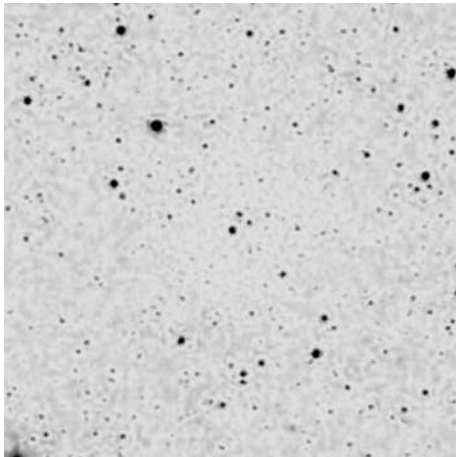
Observing notes:



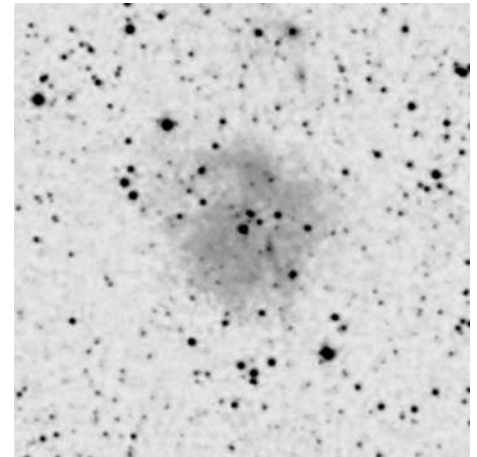
Sh 2 - 167 in Cepheus



60x60, red



POSS blue



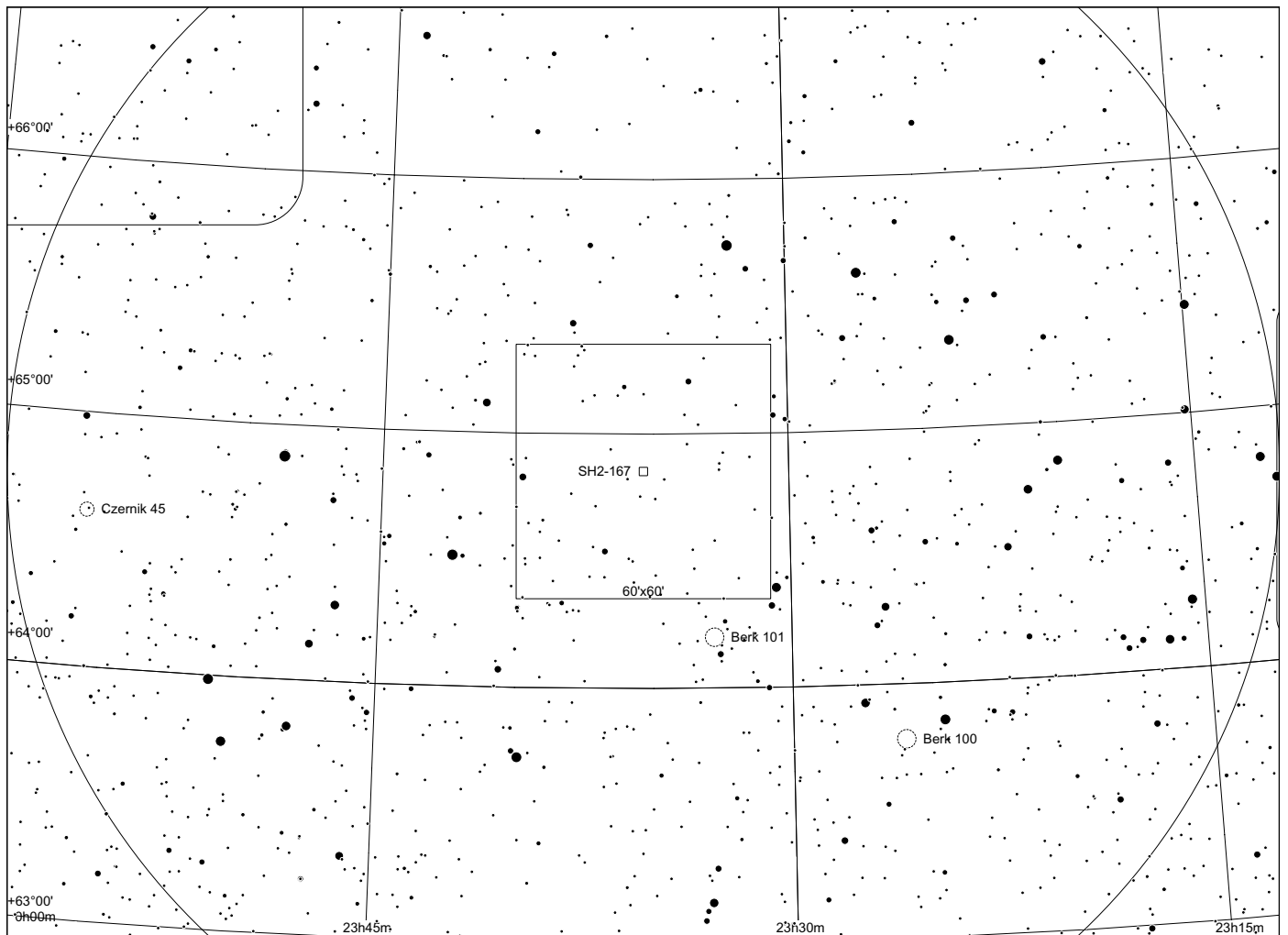
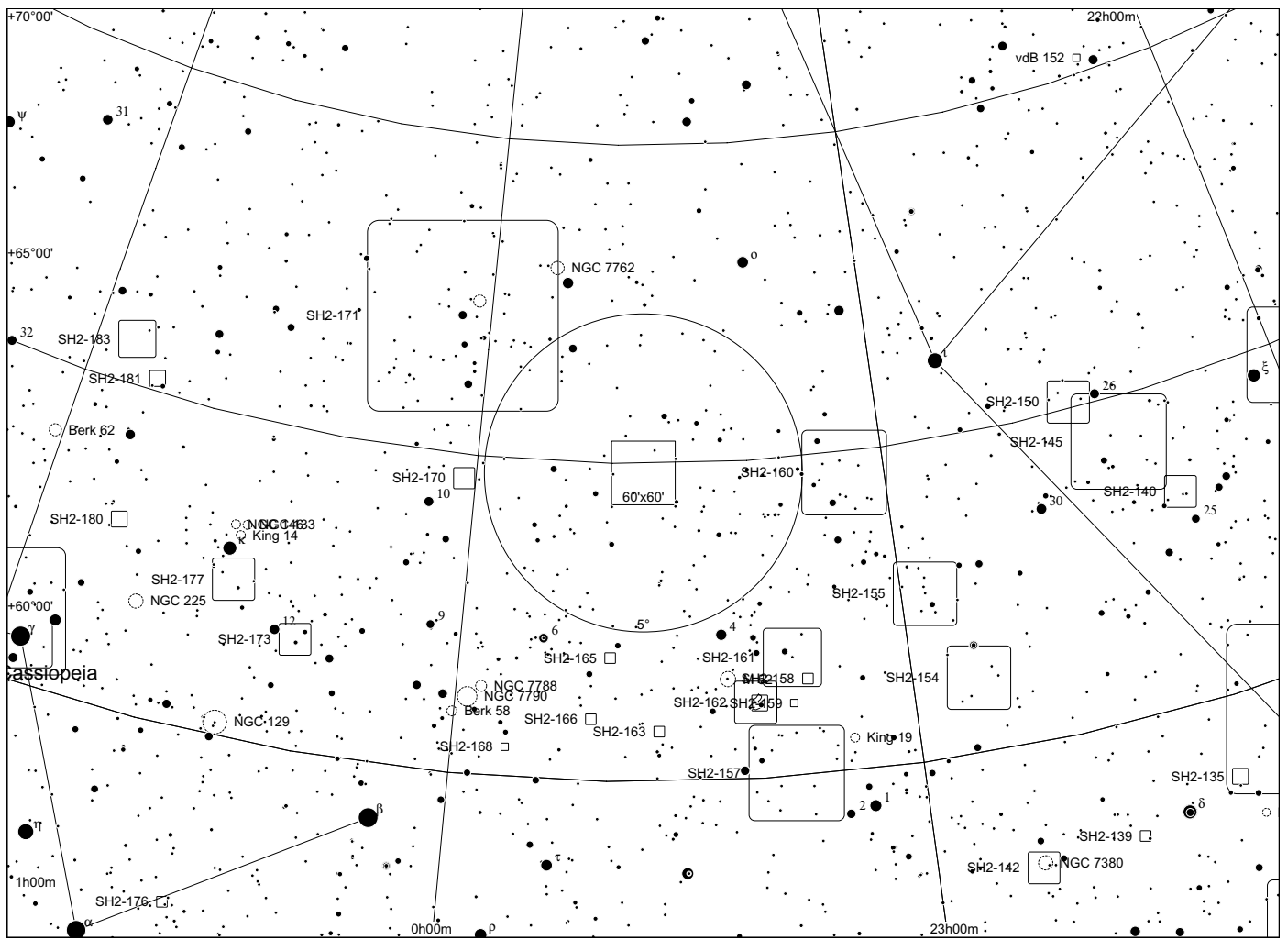
red

	other name	RA	dec	dia. '	F	S	B
Sh 2-167		23 35 21.8	+64 51 11	2	1	1	1

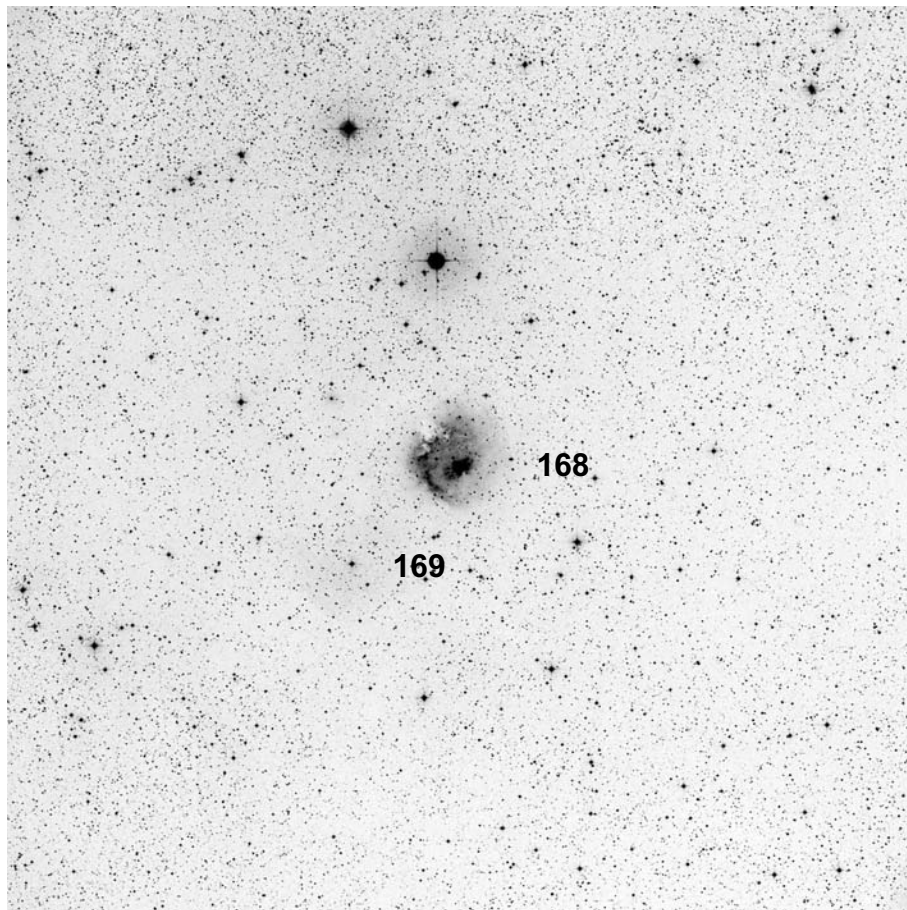
Distance: 6400 pc, Size: 3.7 pc Source: 2003A&A...397..133R

This may be part of a large expanding shell around Cas OB5.

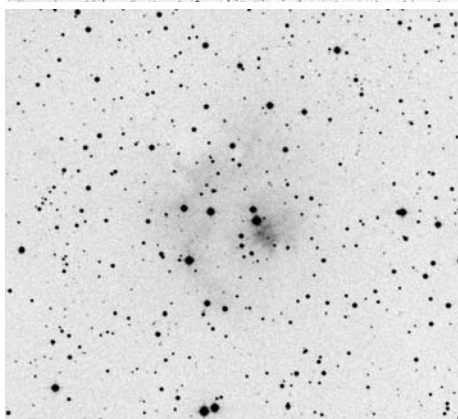
Observing notes:



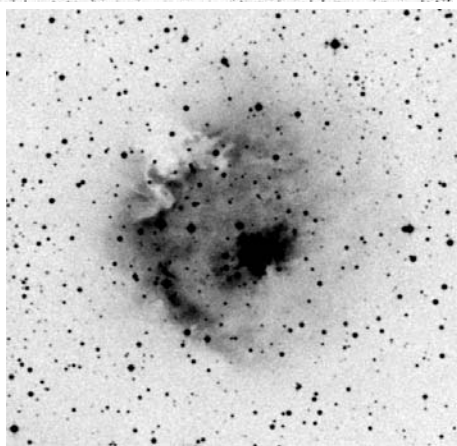
Sh 2 - 168/169 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-168		23 53 03.5	+60 28 23	7	2	2	2
Sh 2-169		23 53 58.0	+60 22 23	5	1	1	1

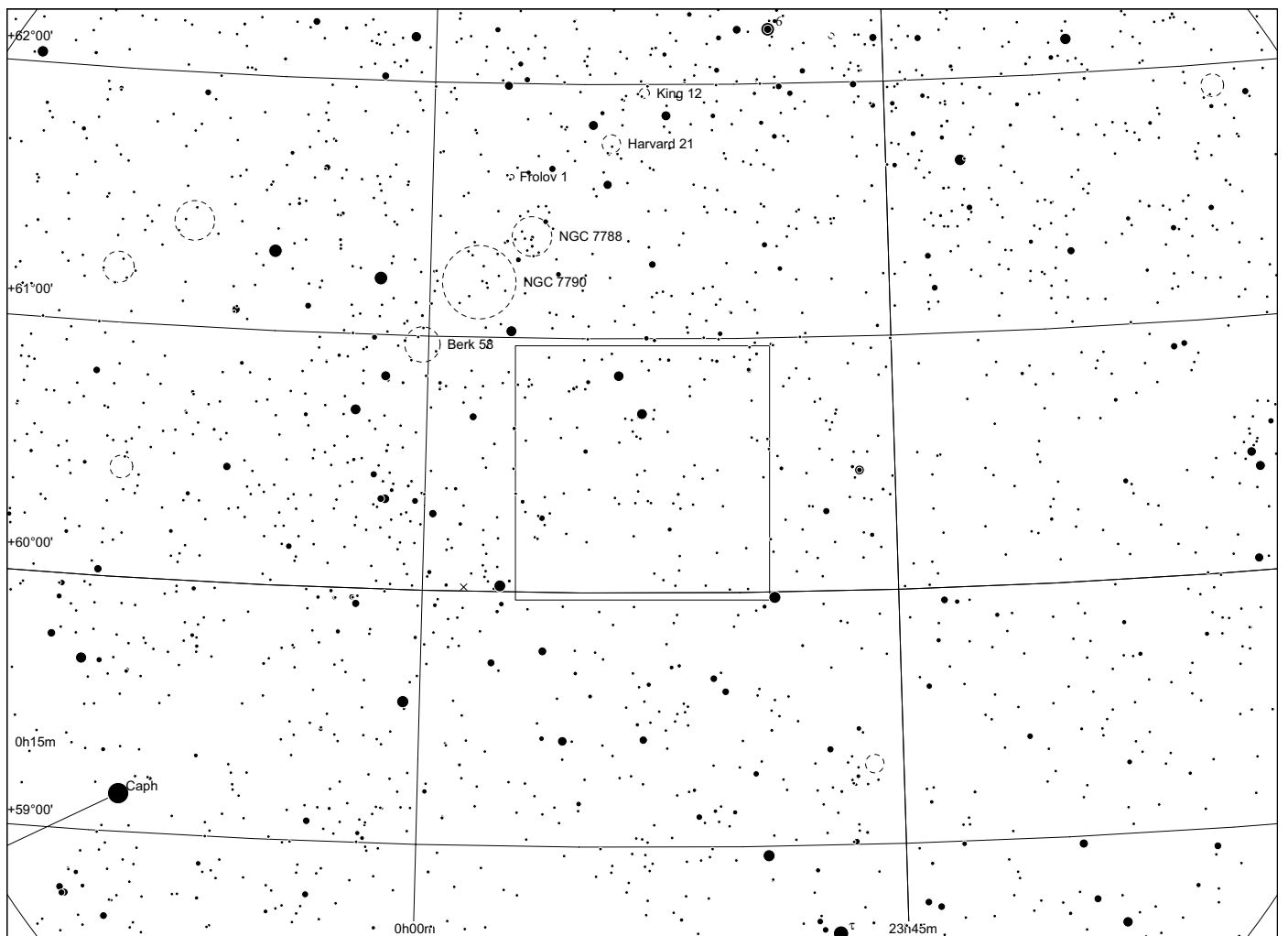
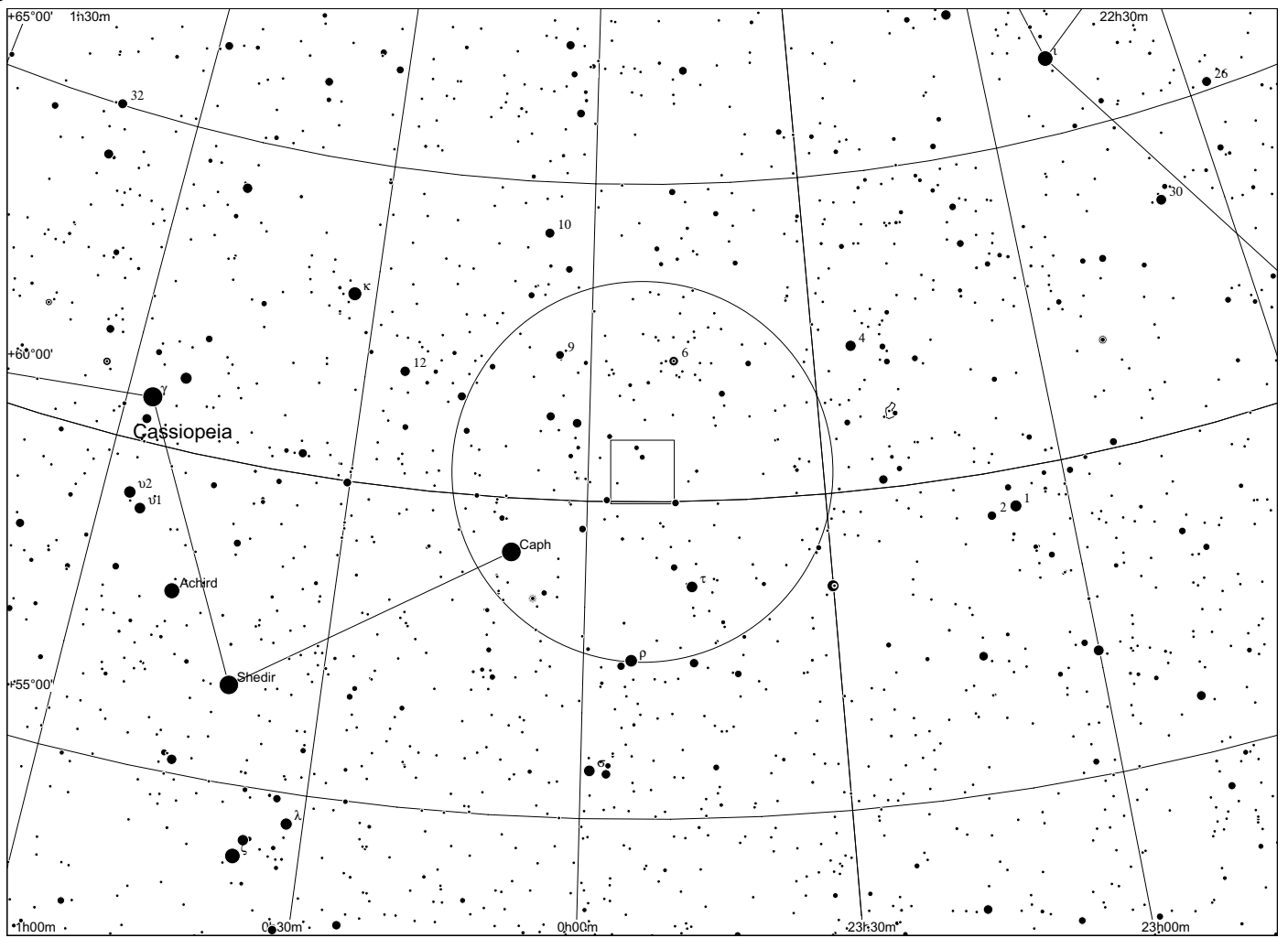
Distance: 3575 pc, Size: 2.9 pc, Source: 2003A&A...397..213P

This is in the direction of Cas OB5.

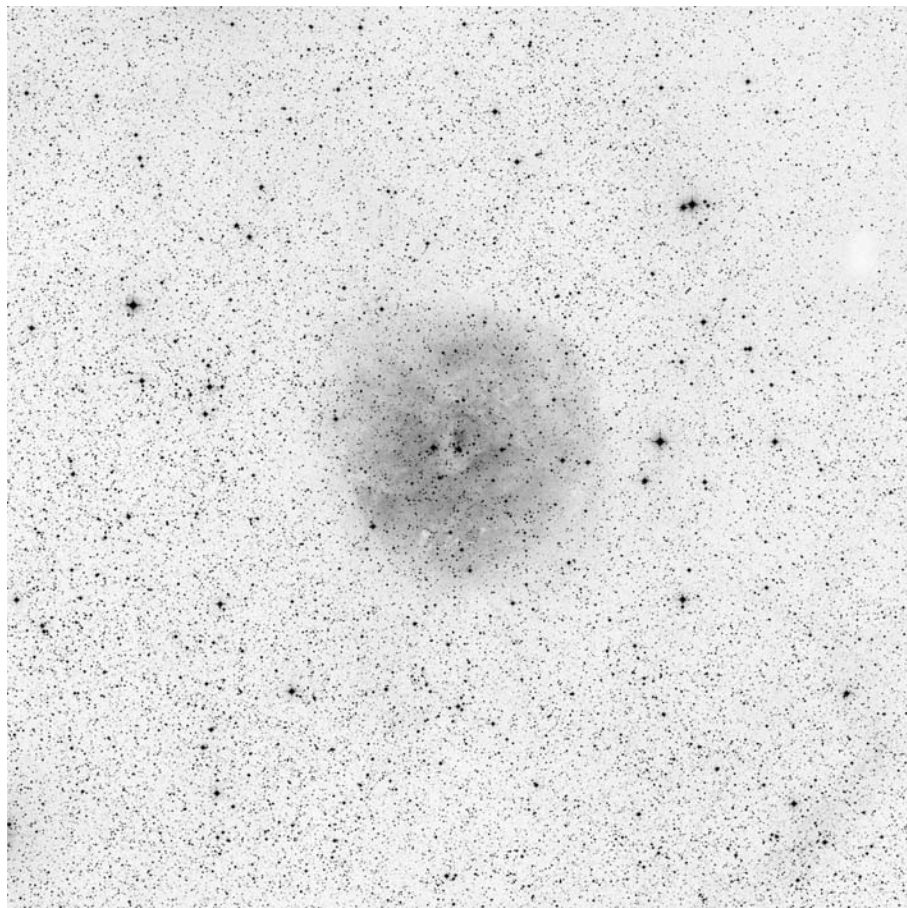
Observing notes:

22" f/4.5

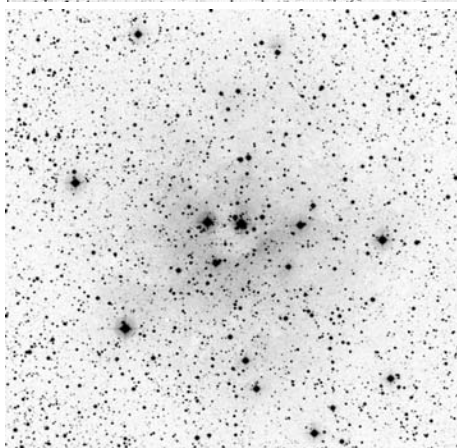
10/2011: with 13 mm and H beta, round knot next to pair of stars, 169 not seen



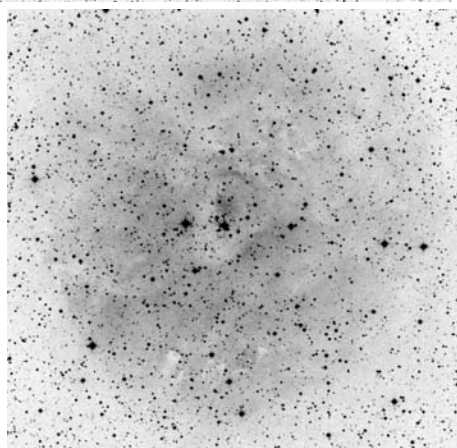
Sh 2 - 170 in Cassiopeia



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-170		00 01 42.0	+64 37 24	20	1	2	2

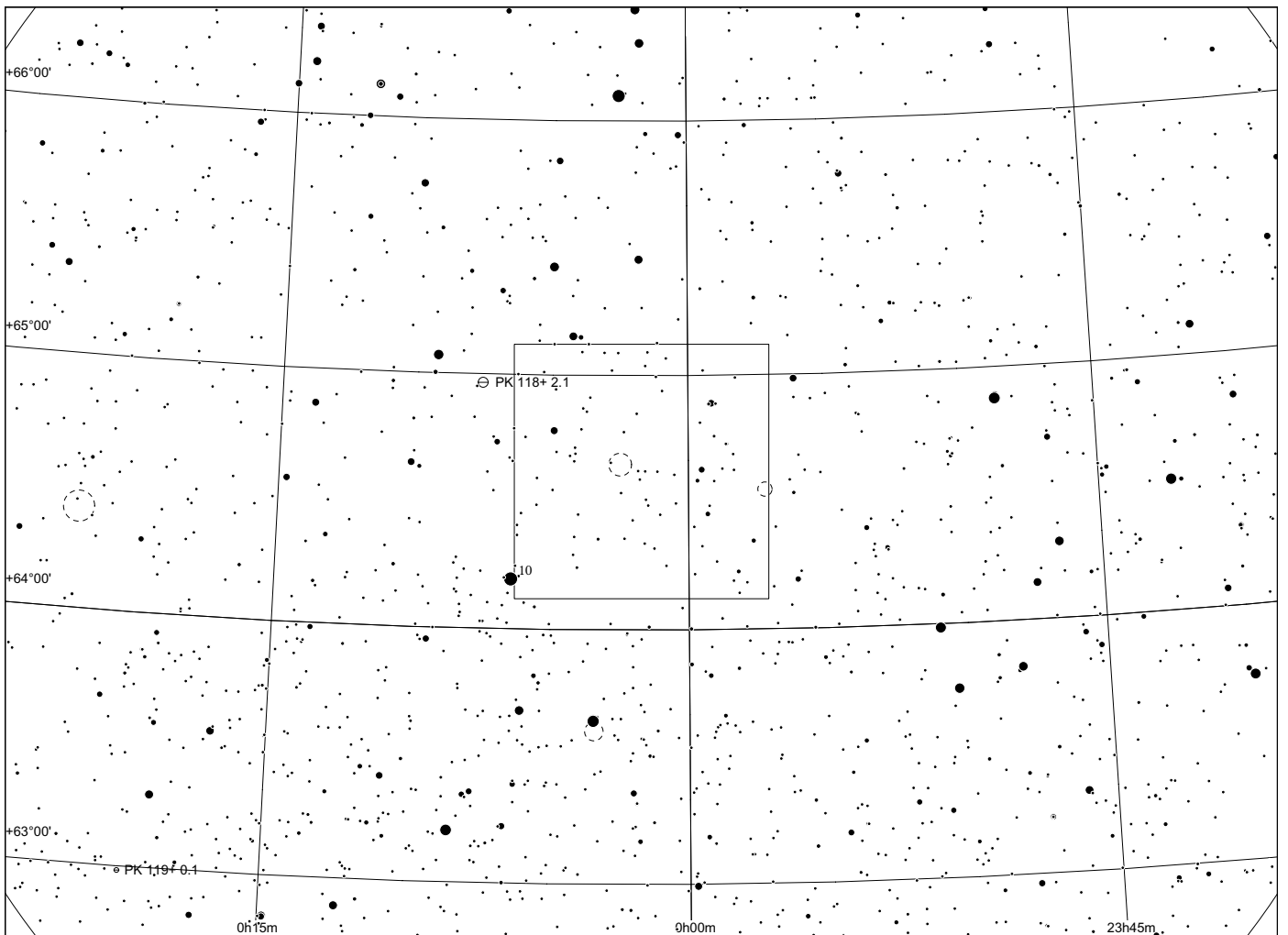
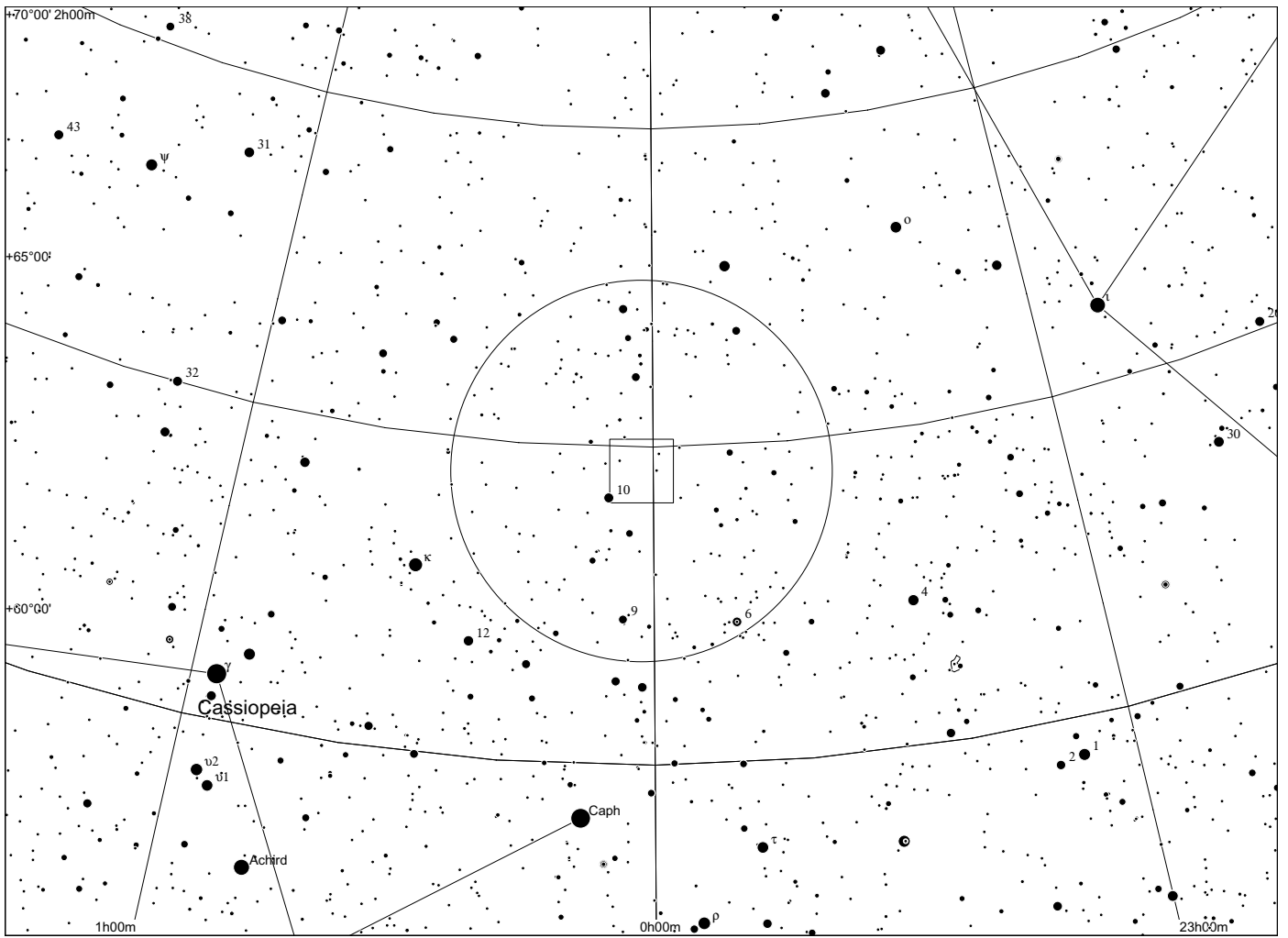
Distance: 2300 pc, Size: 13.4 pc, Source: 1982ApJS...49..183B

Sh 2-170 is in the vicinity of the Cassiopeia OB5 supershell. The sole exciting star of Sh 2-170 is DM+63 2093, an O8 V star of 31 solar masses.

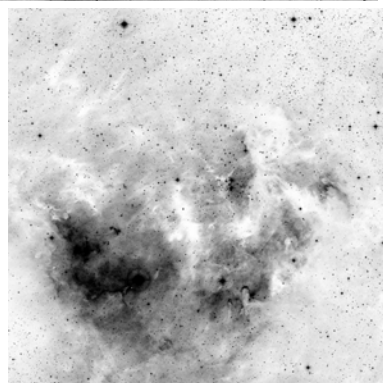
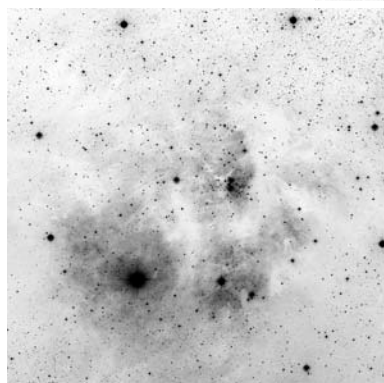
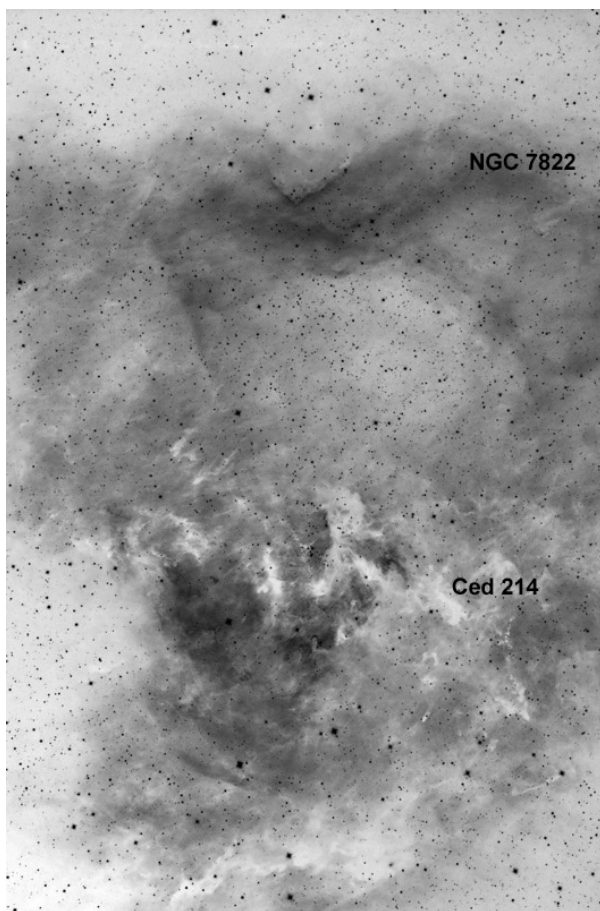
Observing notes:

22" f/4.5

12/2011: 7mm exit pupil and H beta: The field shows a V-shaped asterism with E/W and NNE/SSW oriented rows of stars. S of the E/W row and extending beyond the NNE/SSW row there is a large, diffuse round glow. Extremely faint.



Sh 2 - 171 in Cepheus



POSS blue

POSS red

Halpna RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-171	NGC7822 + Ced214	00 04 40.0	+67 09 24	180	3	2	3

Distance: 840 pc, Size: 44.0 pc, Source: 1982ApJS...49..183B

This expanding shell of gas and dust was created by the original star cluster at the heart of the Cep OB4 association, which has now dispersed. It is now lit and ionized by the young star cluster Berkeley 59, at its south end (Cederblad 214) and it is expanding into the dark nebula NGC 7822 at its north end. Berkeley 59 is surrounded by another dark region of disturbed gas and dust containing the radio source W1.

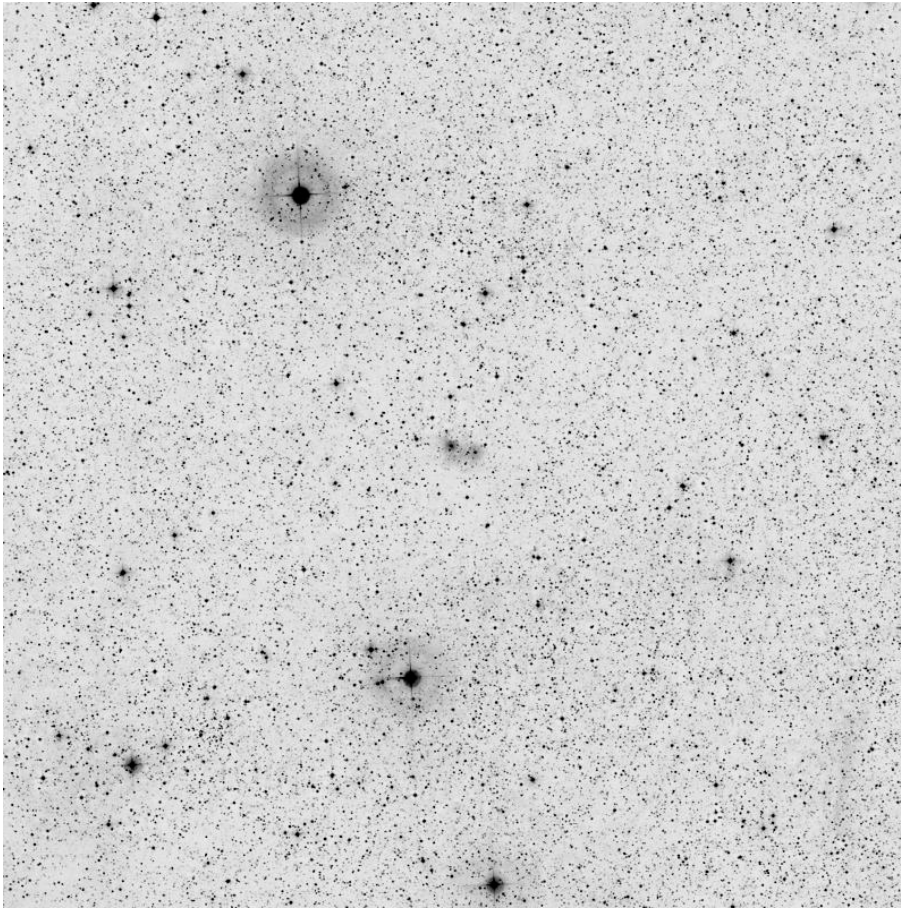
Observing notes:

14" f/5

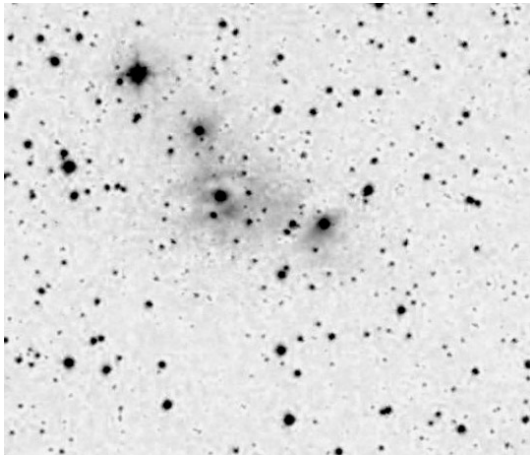
10/2007: 7822 is visible as a very faint large glow of roughly rectangular shape using the H beta filter.

Ced 214 is considerably brighter and visible as a distinct EN around an OC, responds well to OIII filter.

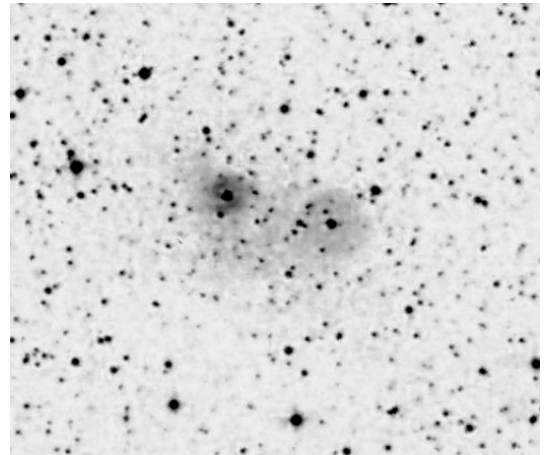
Sh 2 - 172 in Cassiopeia



60x60, red



POSS blue



red

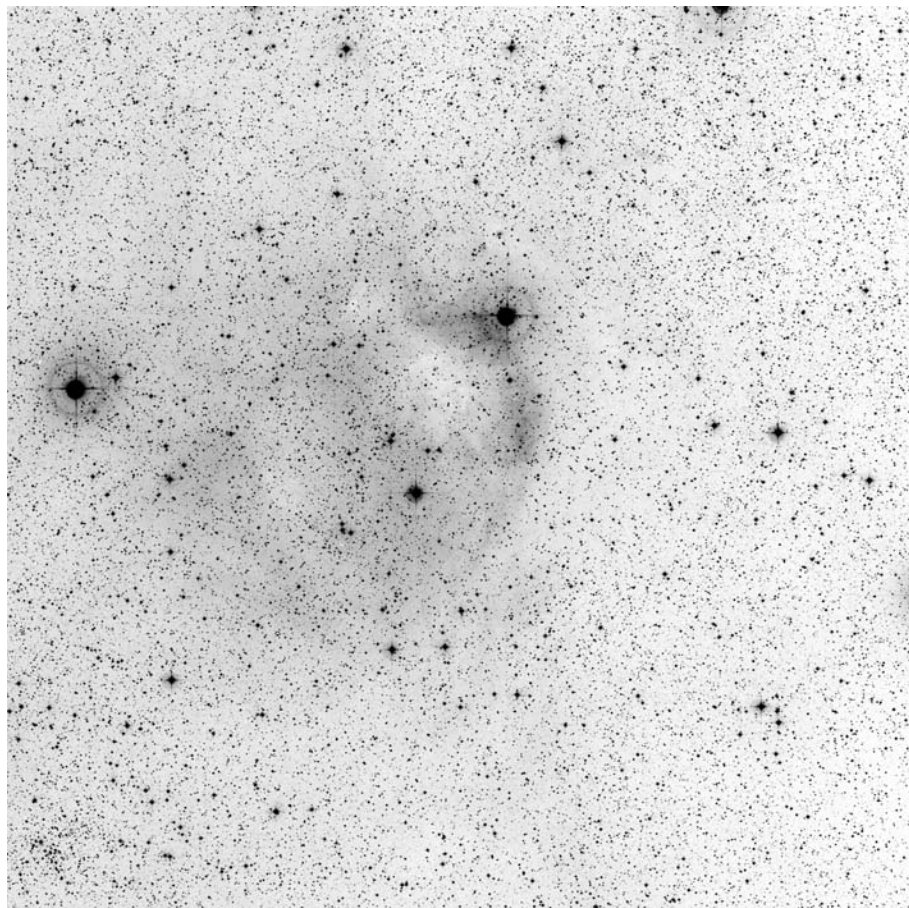
	other name	RA	dec	dia. '	F	S	B
Sh 2-172		00 15 32.2	+61 15 21	1	2	1	1

Distance: 2400 pc, Size: 0.7 pc Source: 2003A&A...397..133R

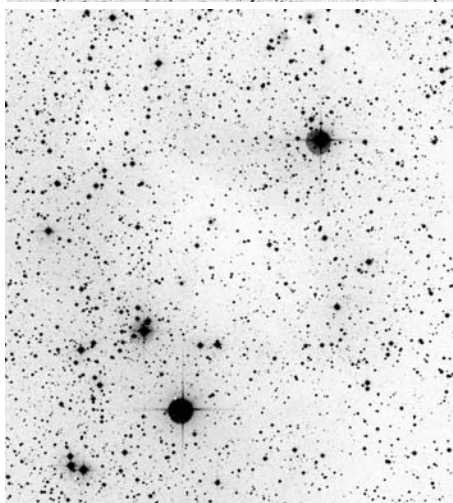
Hosts the loose infrared cluster [BDS2003]48.

Observing notes:

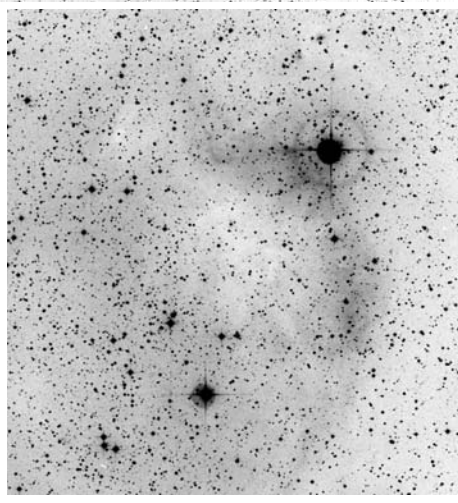
Sh 2 - 173 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-173		00 21 51.8	+61 44 17	30	1	2	2

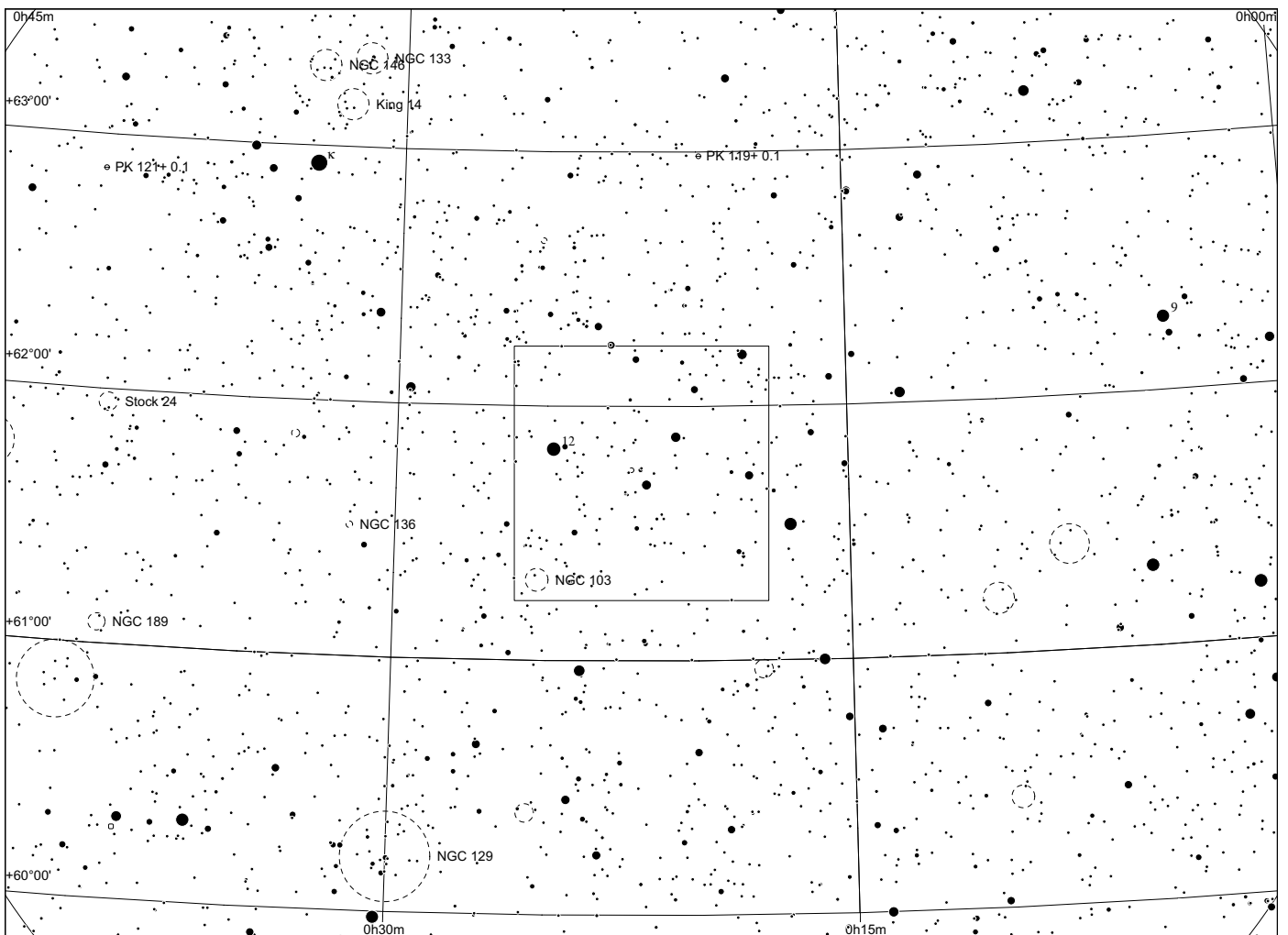
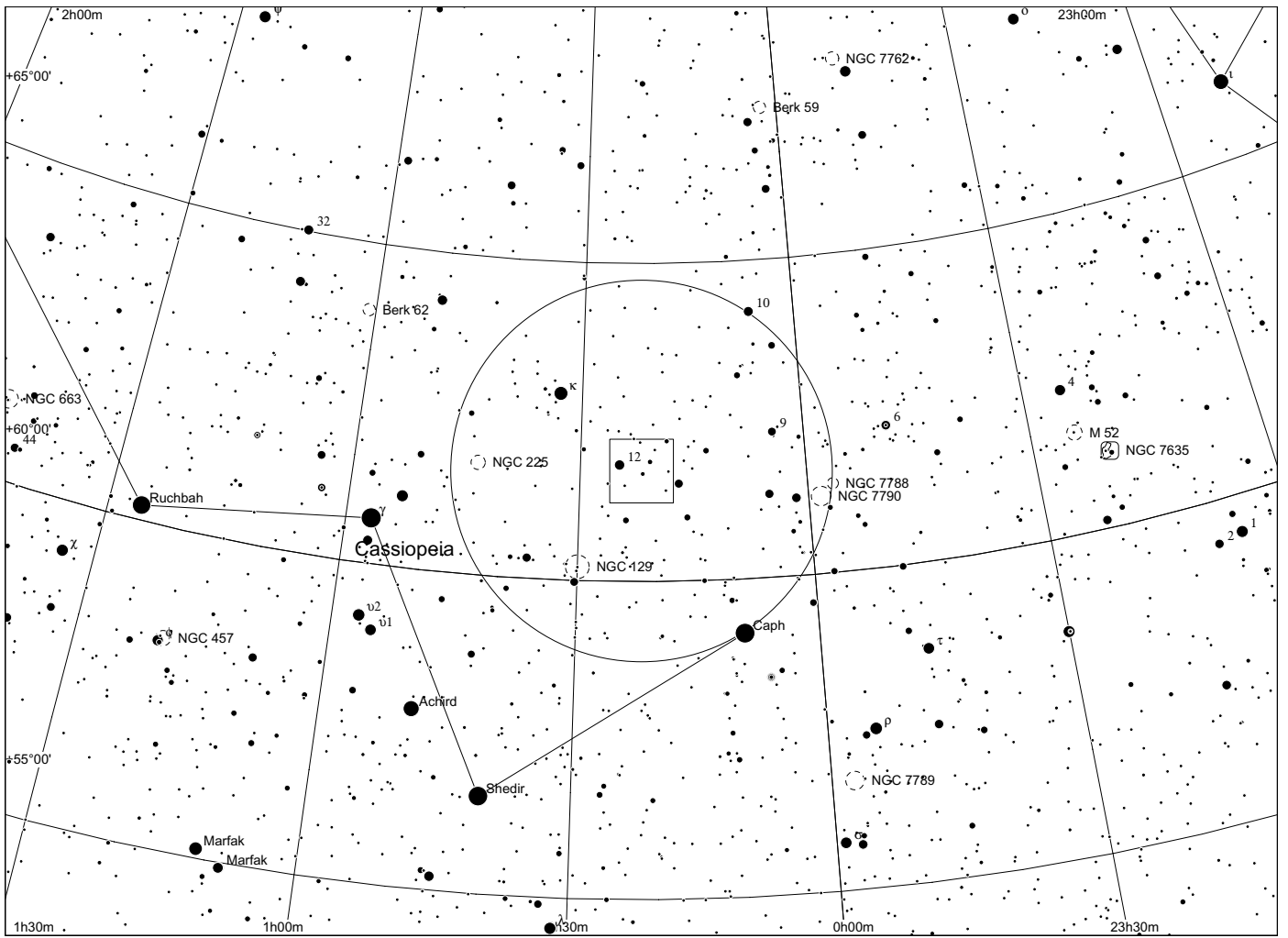
Distance: 2700 pc, Size: 23.6 pc, Source: 1982ApJS...49..183B

Sh 2-173 is part of the Cas OB5 super shell.

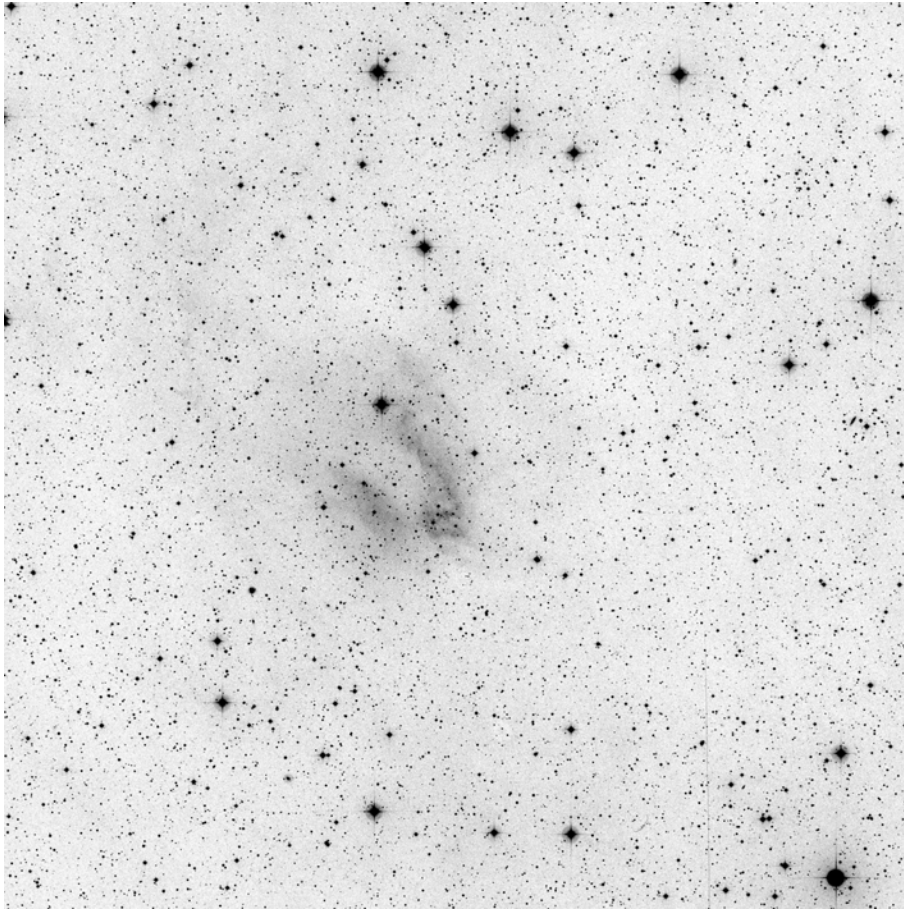
Observing notes:

22" f/4.5

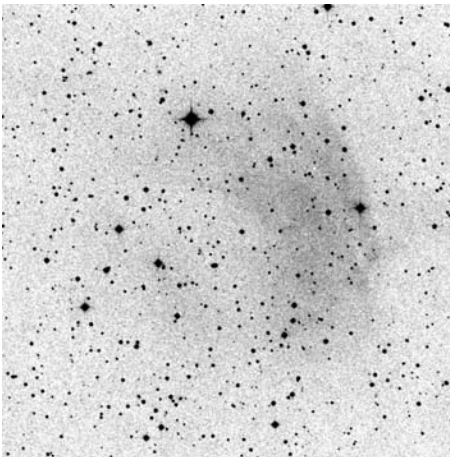
12/2011: At 7 mm exit pupil and with H beta: Extremely faint, ring shaped glow, not complete ring, with darker hole between two main stars in the close up pictures. This darker hole is actually the most distinct feature.



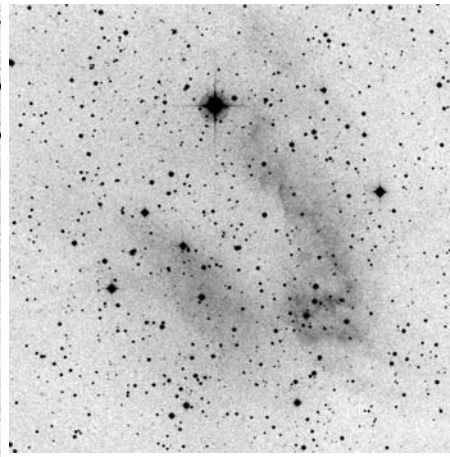
Sh 2 - 174 in Cepheus



60x60, red



POSS blue



POSS red



RGB Dean Salman

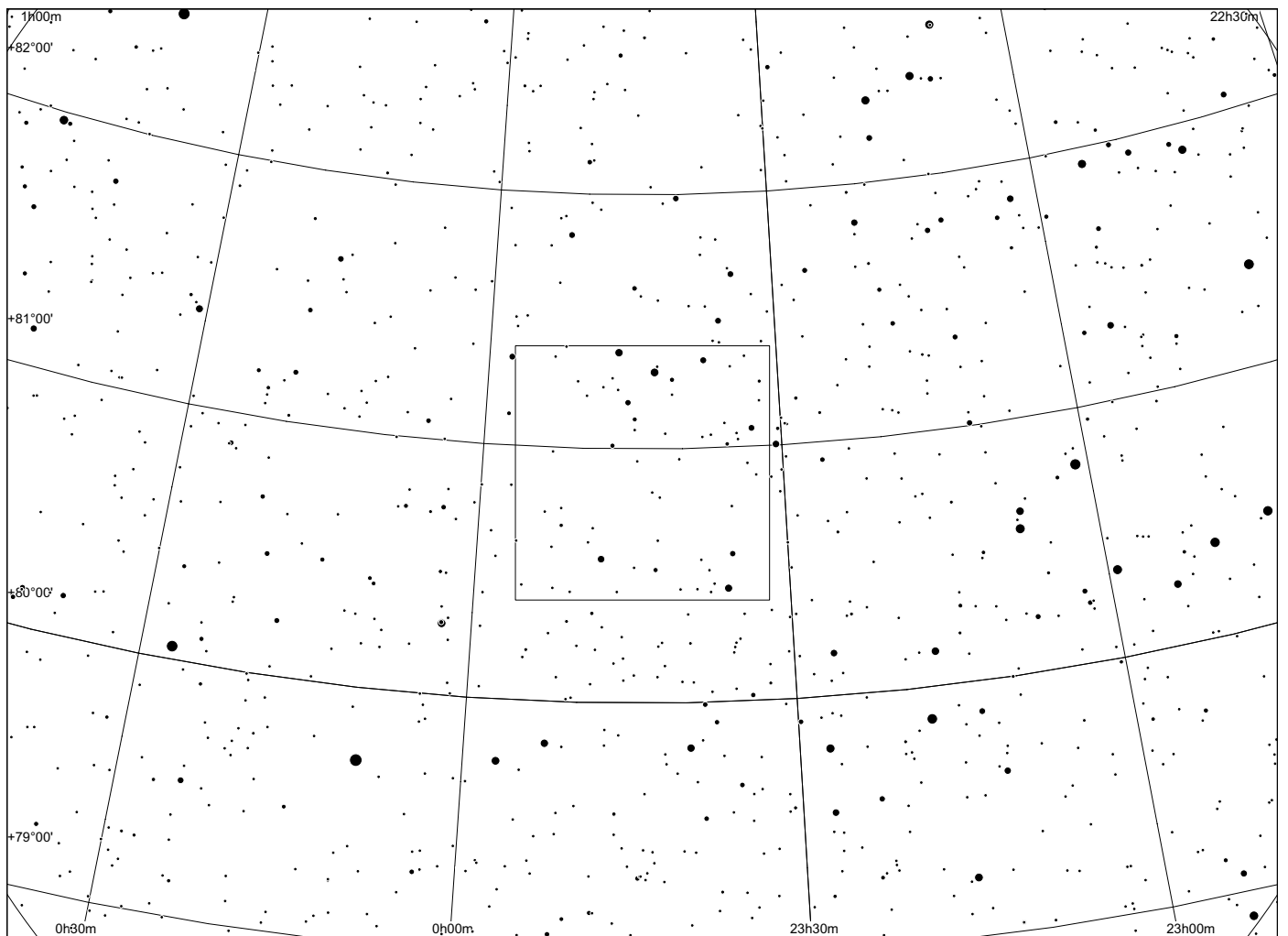
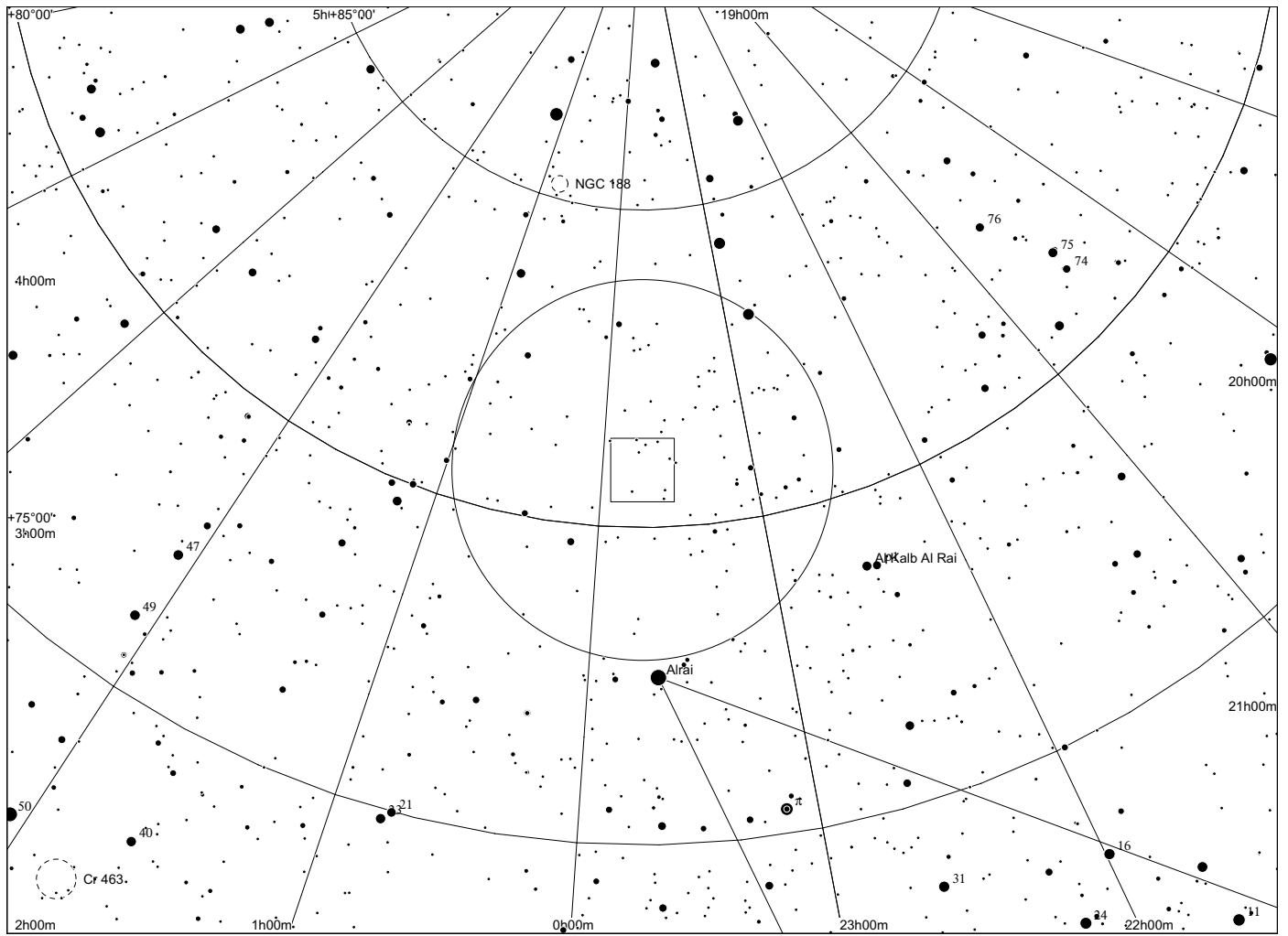
	other name	RA	dec	dia. '	F	S	B
Sh 2-174		23 46 49.1	+80 56 20	10	3	2	1

The former central star of this old planetary nebula, the white dwarf GD 561, has drifted to the outside of the nebula. Both are located about 300 pc away.

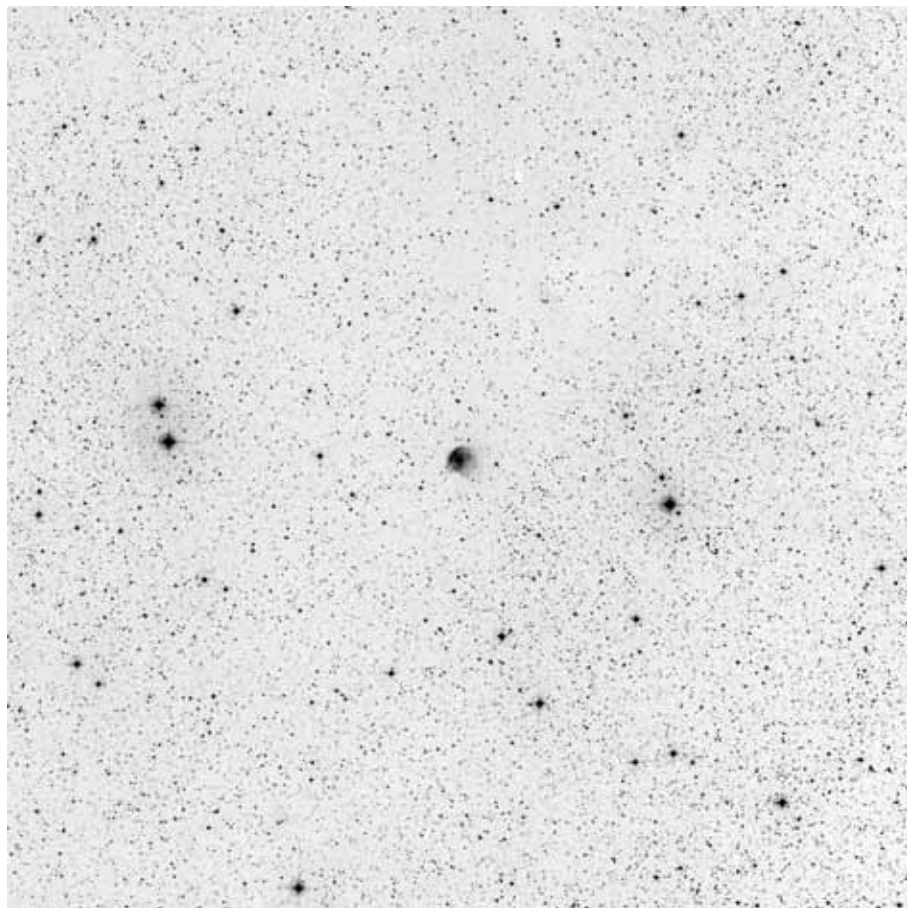
Observing notes:

22" f/4.5

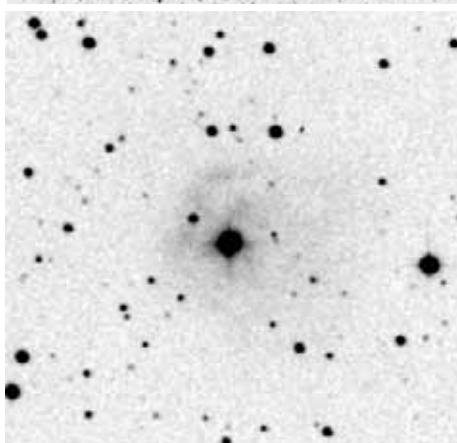
09/2010: At 100x, this nebula responds interestingly to OIII and H beta. With OIII, the main emission is smaller and NW of the main emission in H beta, corresponding to the narrow band image. Is distinct with UHC and appears roughly round and diffuse with no clear boundaries.



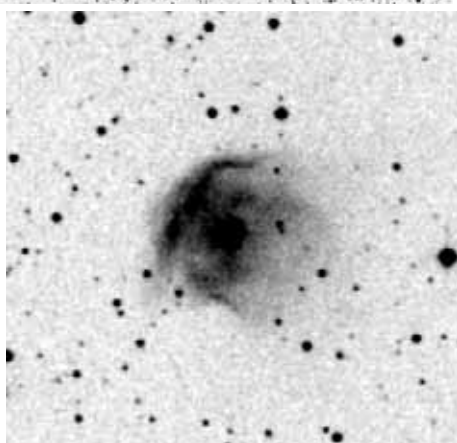
Sh 2 - 175 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-175		00 27 18.6	+64 42 13	2	1	2	2

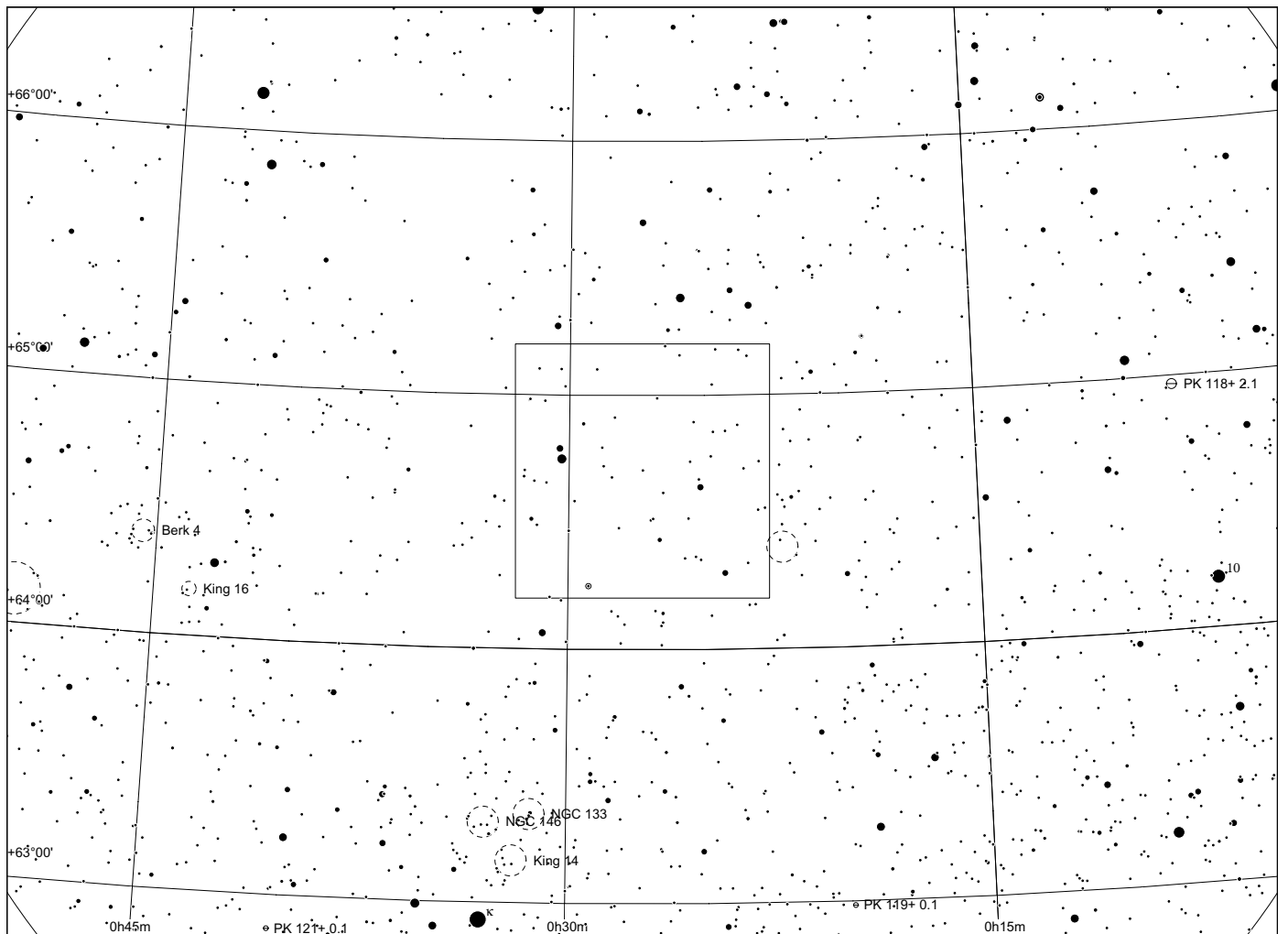
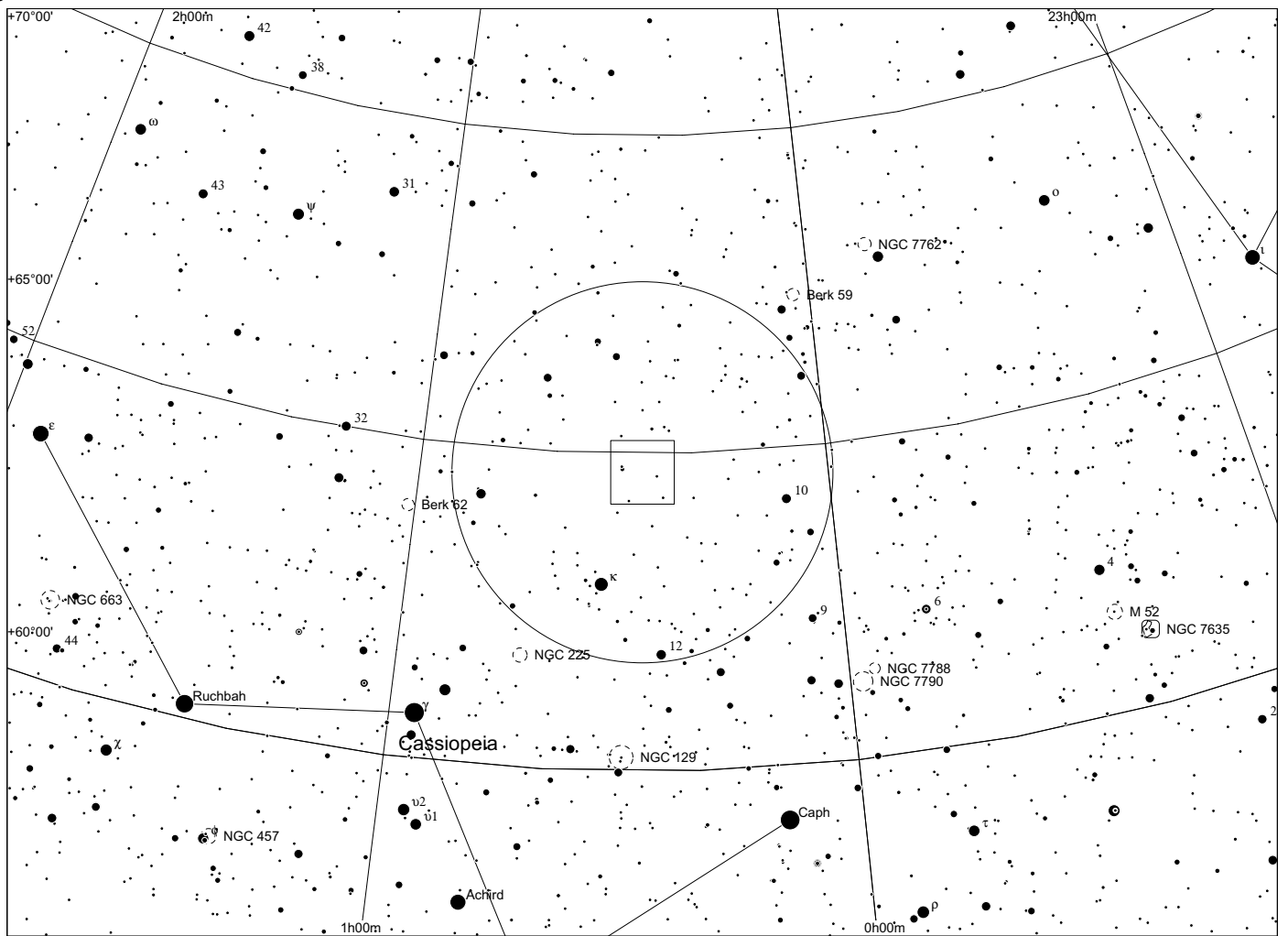
Distance: 1700 pc, Size: 1.0 pc, Source: 1982ApJS...49..183B

This is in Cas OB5.

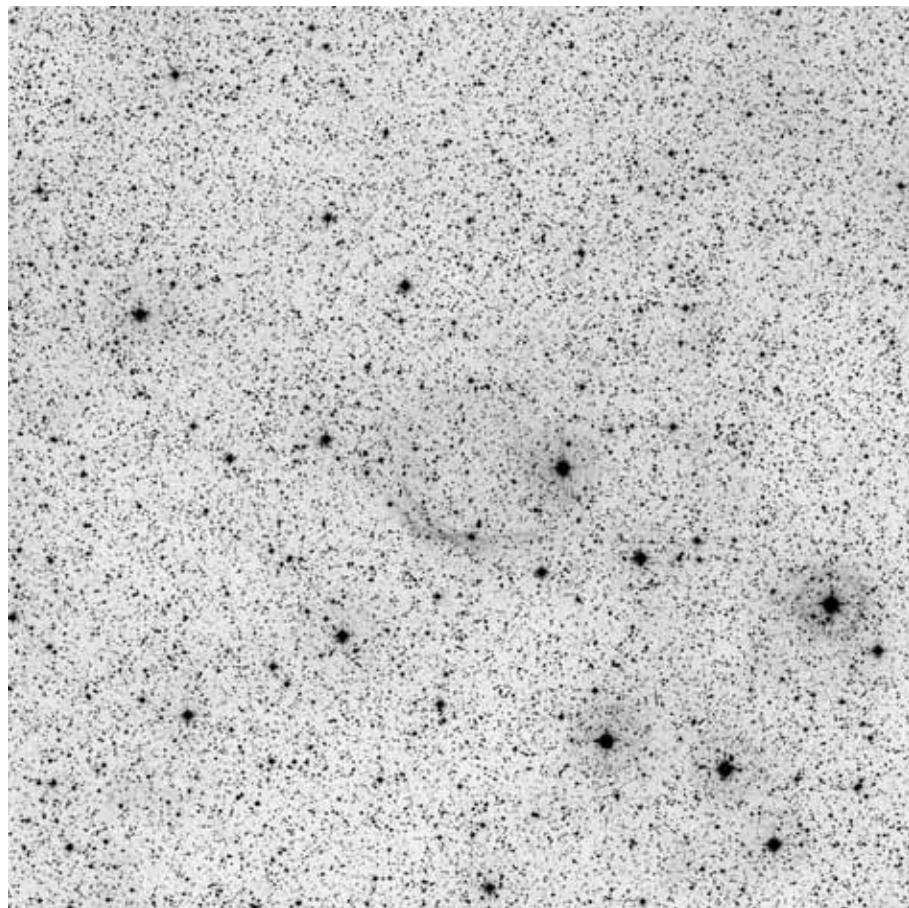
Observing notes:

22" f/4.5

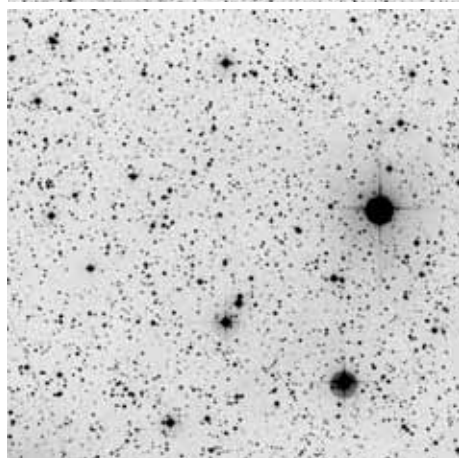
10/2010: At 100x and 200x, appears as a diffuse glow around star, extending to NE. Visible with UHC and H beta filter, but not with OIII.



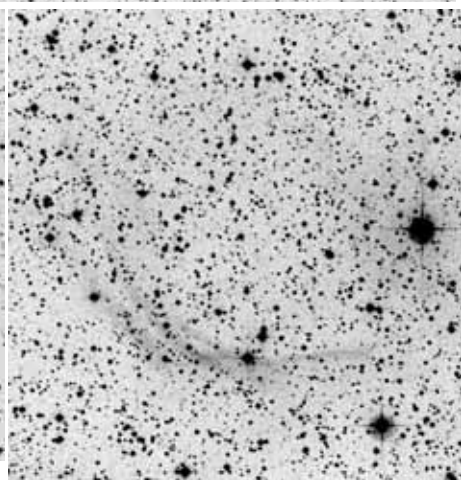
Sh 2 - 176 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

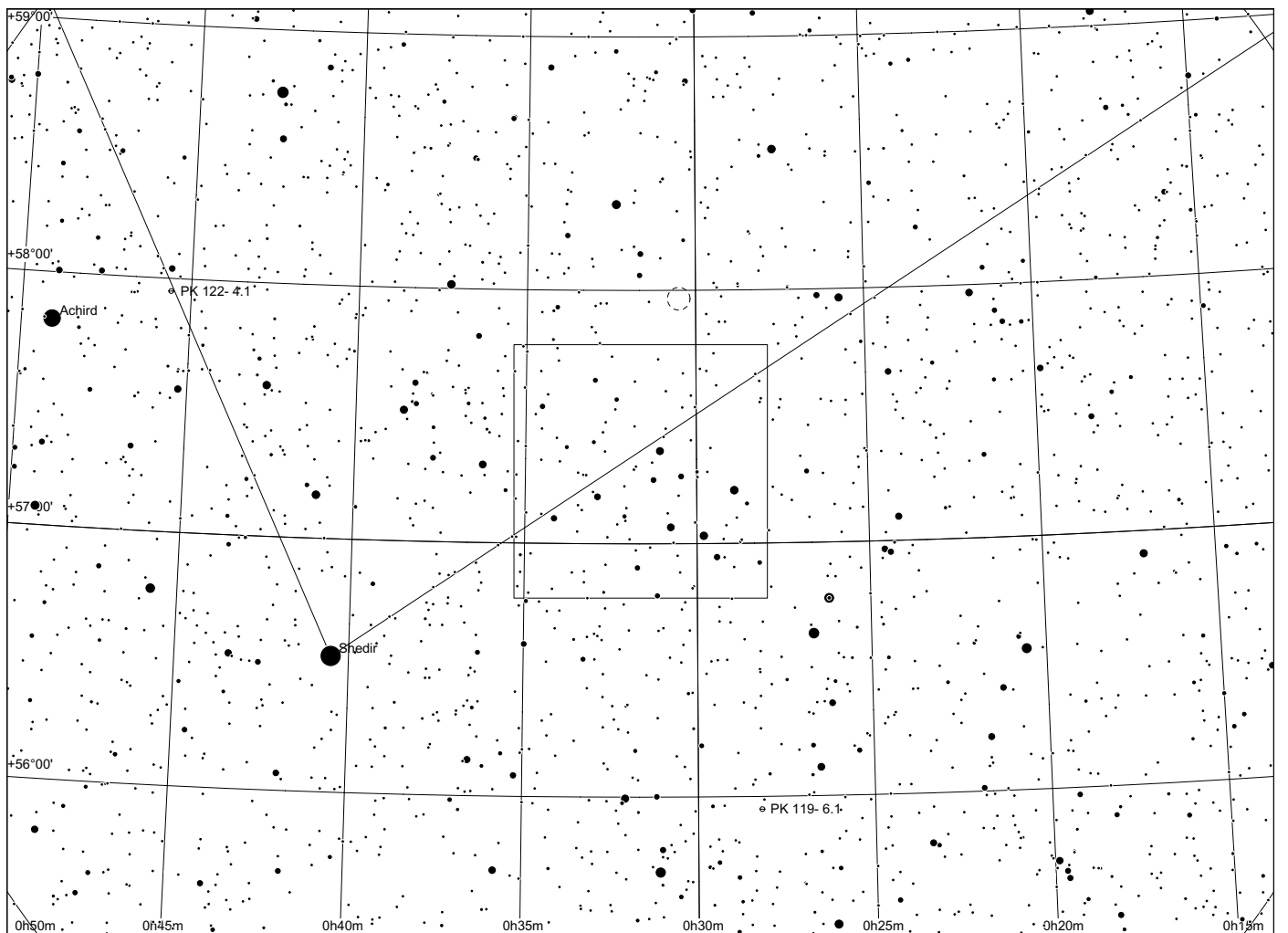
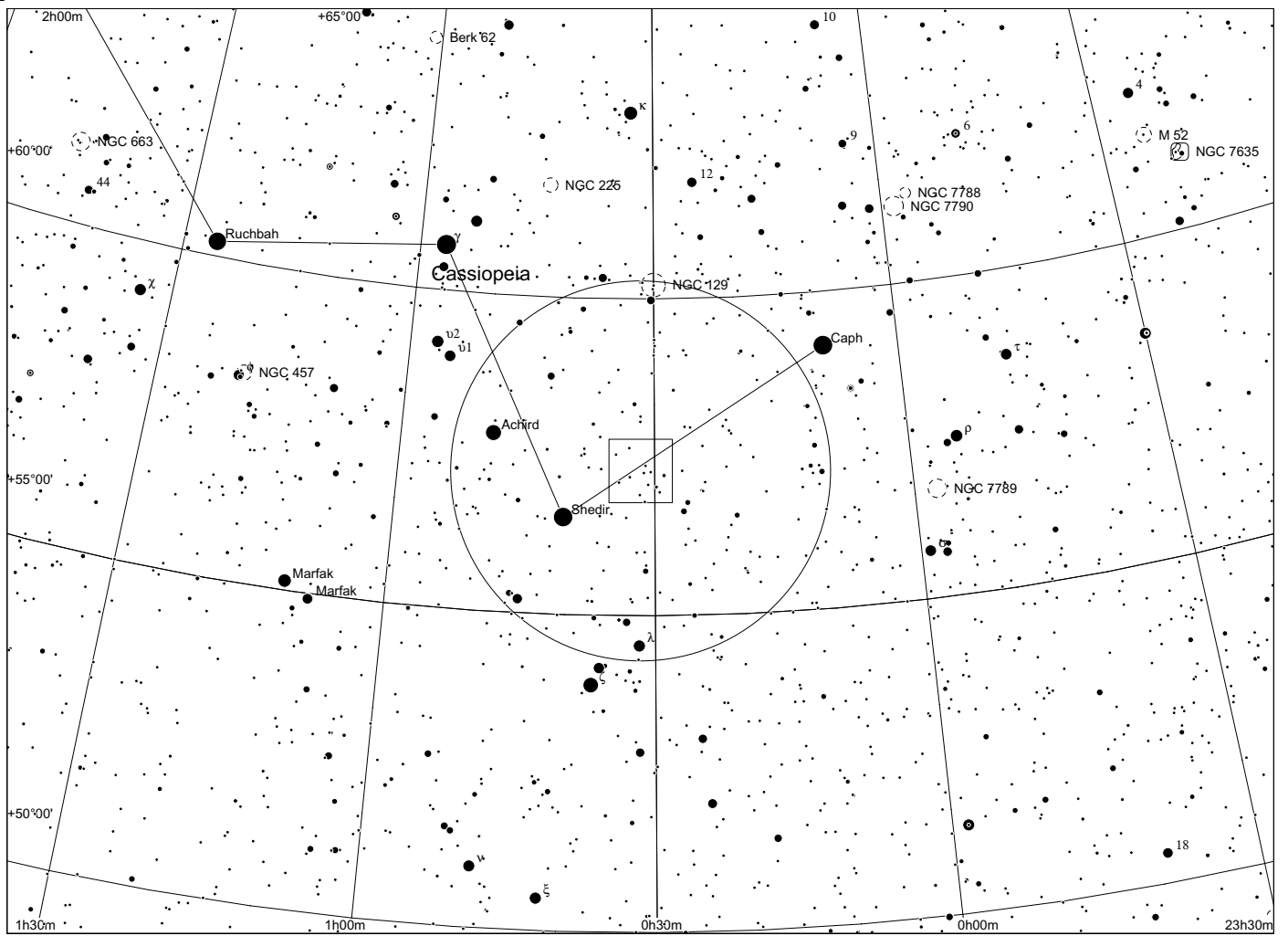
	other name	RA	dec	dia. '	F	S	B
Sh 2-176		00 31 38.3	+57 17 09	10	3	2	1

This is a planetary nebula at a distance of about 140 pc. The central star is a blue subdwarf.

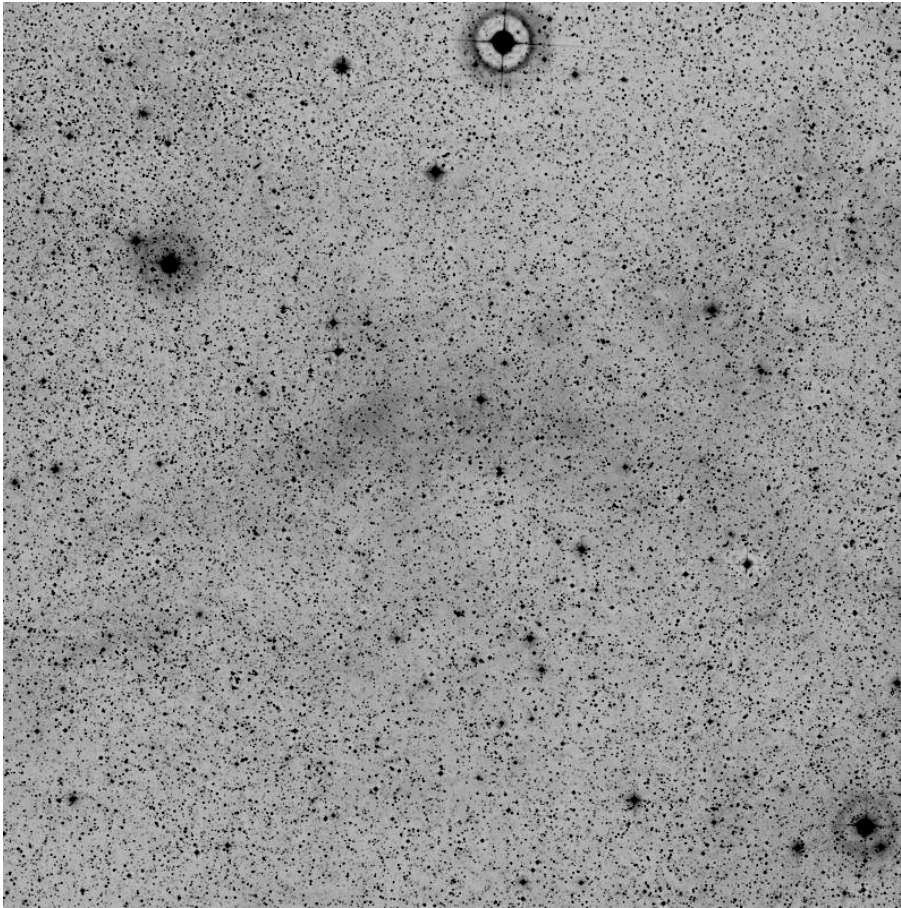
Observing notes:

22" f/4.5

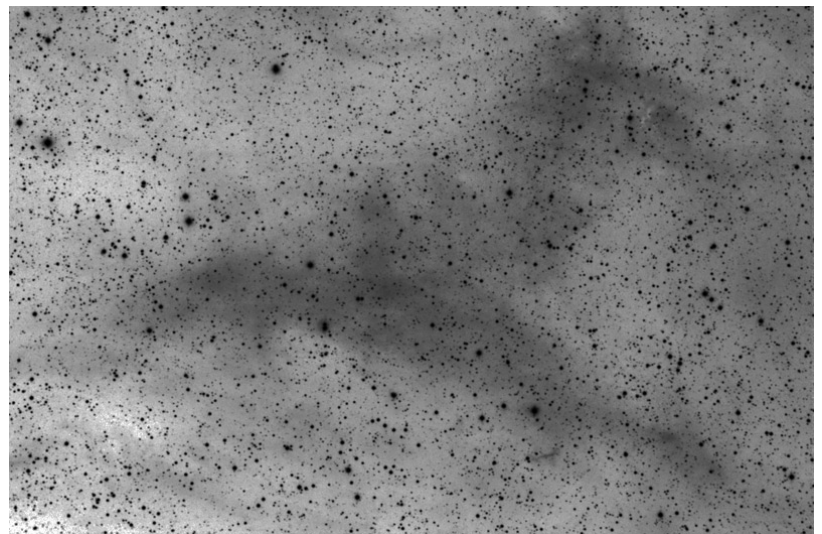
10/2010: unsuccessful observation, with OIII, UHC, and H beta.



**Sh 2 - 177
in Cassiopeia**



60'x60', red



Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-177		00 31 32.4	+62 28 09	40	3	1	1

Distance: 2500 pc, Size: 1.5 pc Source: 1982ApJS...49..183B

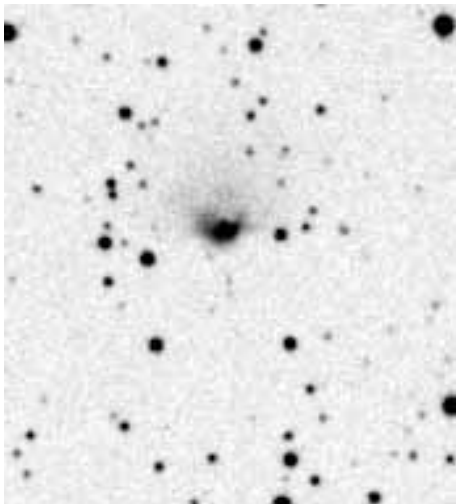
This region of faint nebulosity may be part of the shell surrounding Cas OB5.

Observing notes:

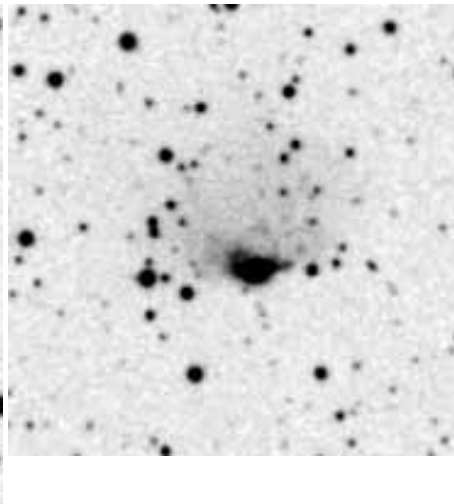
Sh 2 - 179 in Cassiopeia



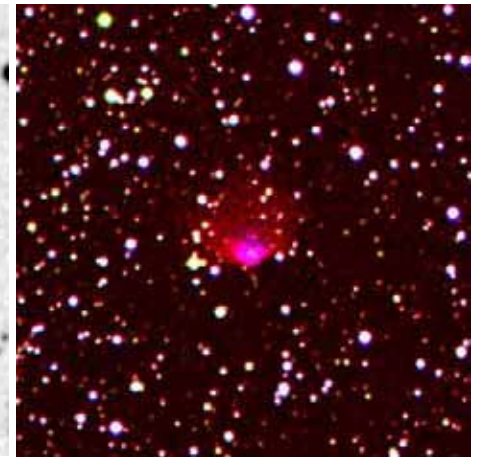
60x60, red



POSS blue



POSS red



composite

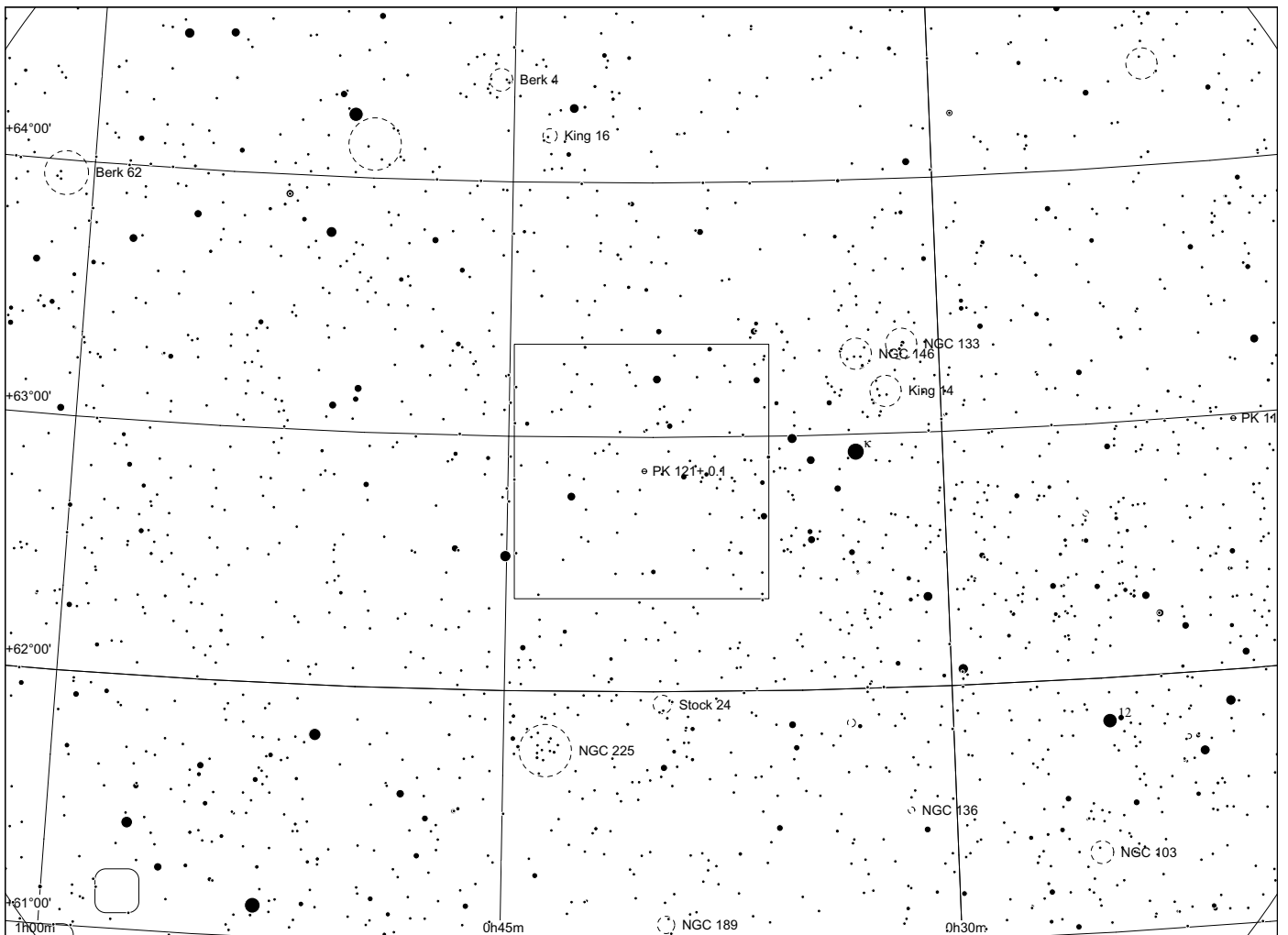
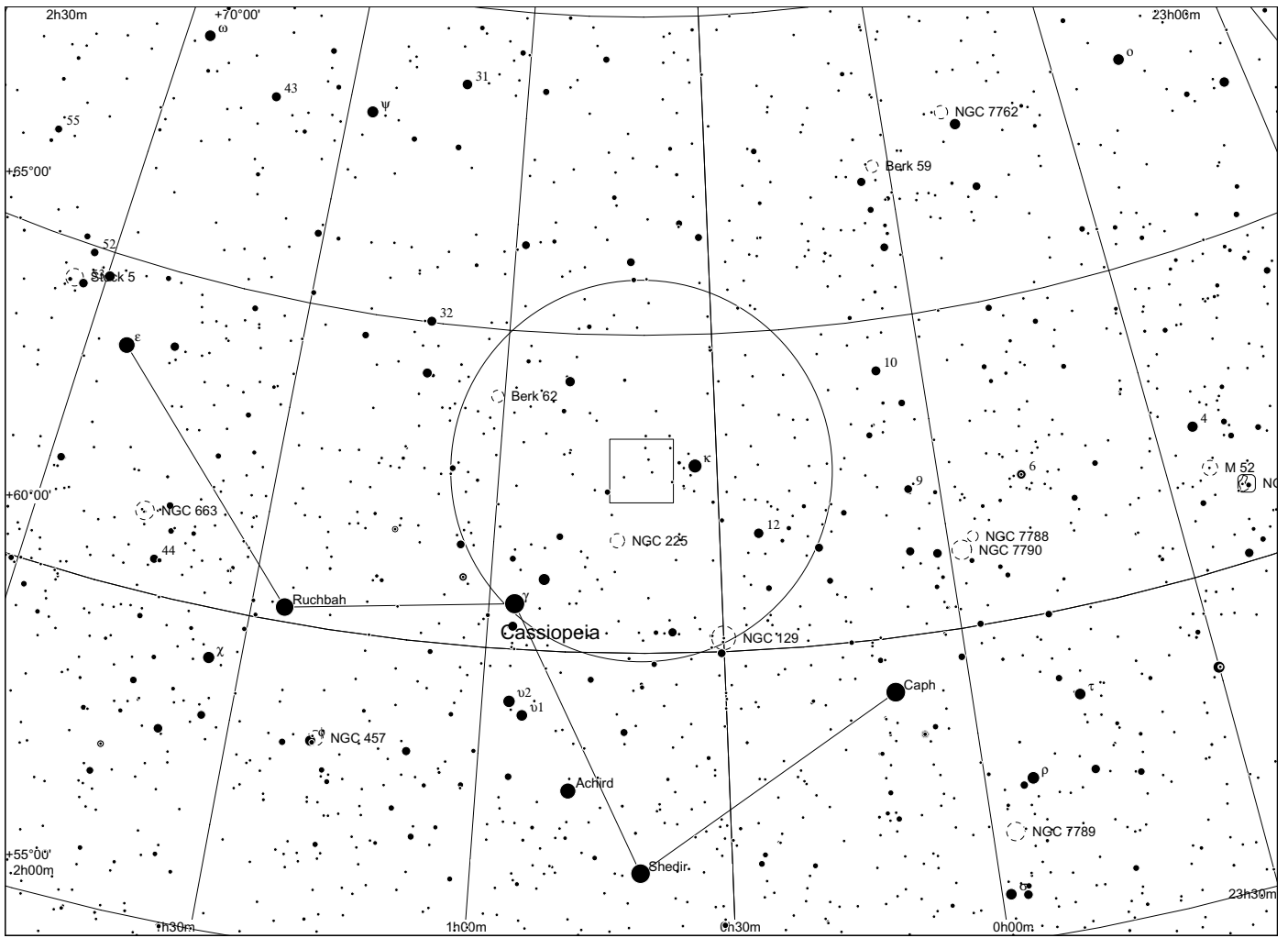
	other name	RA	dec	dia. '	F	S	B
Sh 2-179	BV 5-2	00 40 24.6	+62 51 58	1	1	1	1

This is the planetary nebula PN BV-2, at an unknown distance.

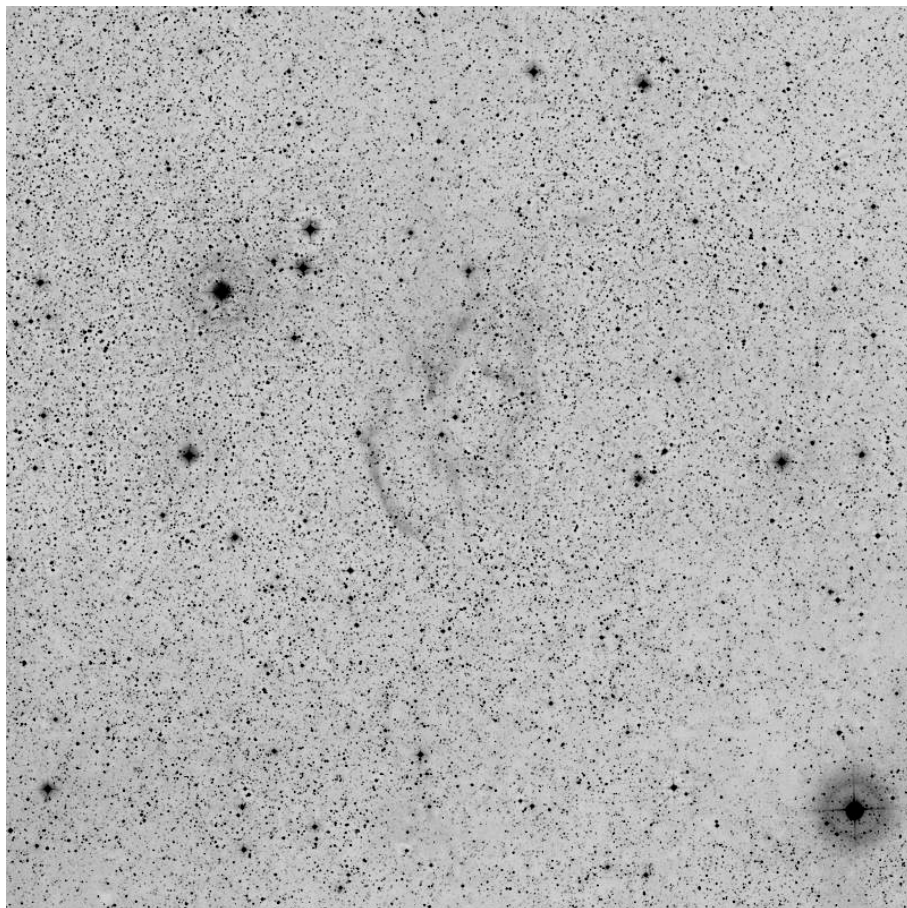
Observing notes:

22" f/4.5

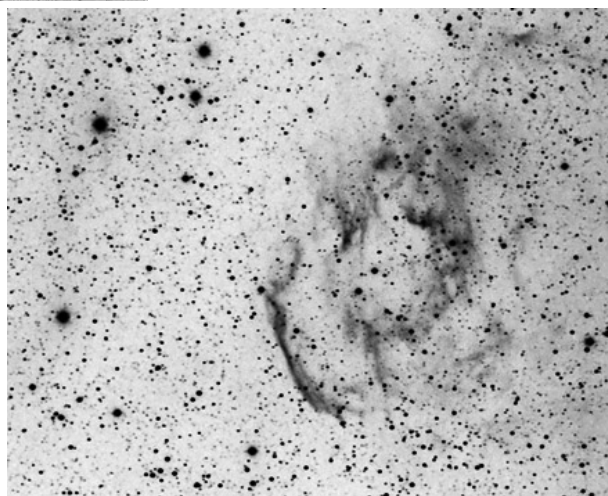
10/2010: responds well to OIII filter, pops out at 200x with indirect vision.



Sh 2 - 180 in Cassiopeia



60x60, red



Dean Salman H alpha

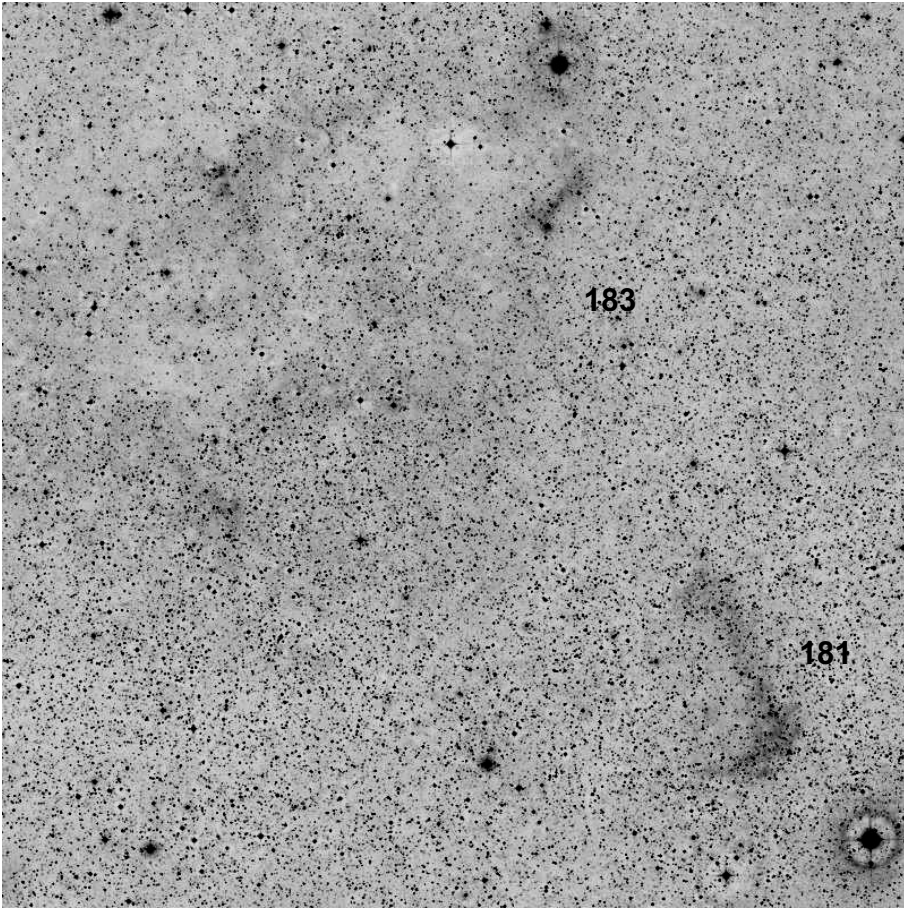
	other name	RA	dec	dia. '	F	S	B
Sh 2-180		00 48 46.3	+62 55 45	15	3	1	1

Distance: 6100 pc, Size: 26.6 pc Source: 1982ApJS...49..183B

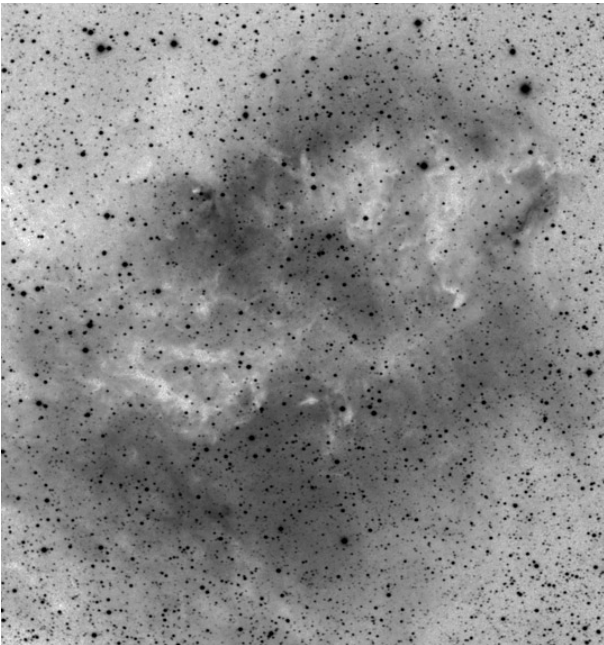
Sh 2-180 is visible in the direction of the Perseus arm Cas OB7 association, but a distance estimate based on CO velocity places it much further away in the Outer arm. Avedisova also locates it at a large distance and concludes that it is ionised by the O7.5V star LS I +62 139 at a distance of 5150 +/- 1300 parsecs. The filaments visible in this image, more characteristic of a close supernova remnant than a distant HII region, suggests that this region may deserve deeper investigation.

Observing notes:

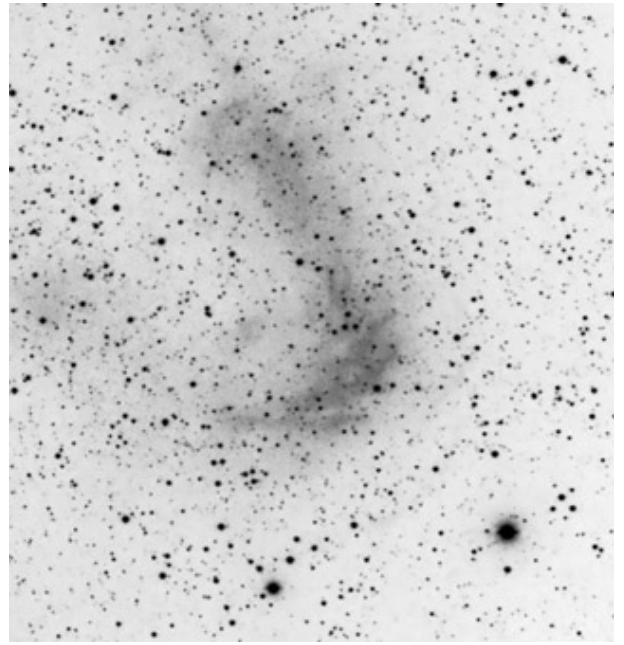
**Sh 2 - 181/183
in Cassiopeia**



60x60, red



Sh 183



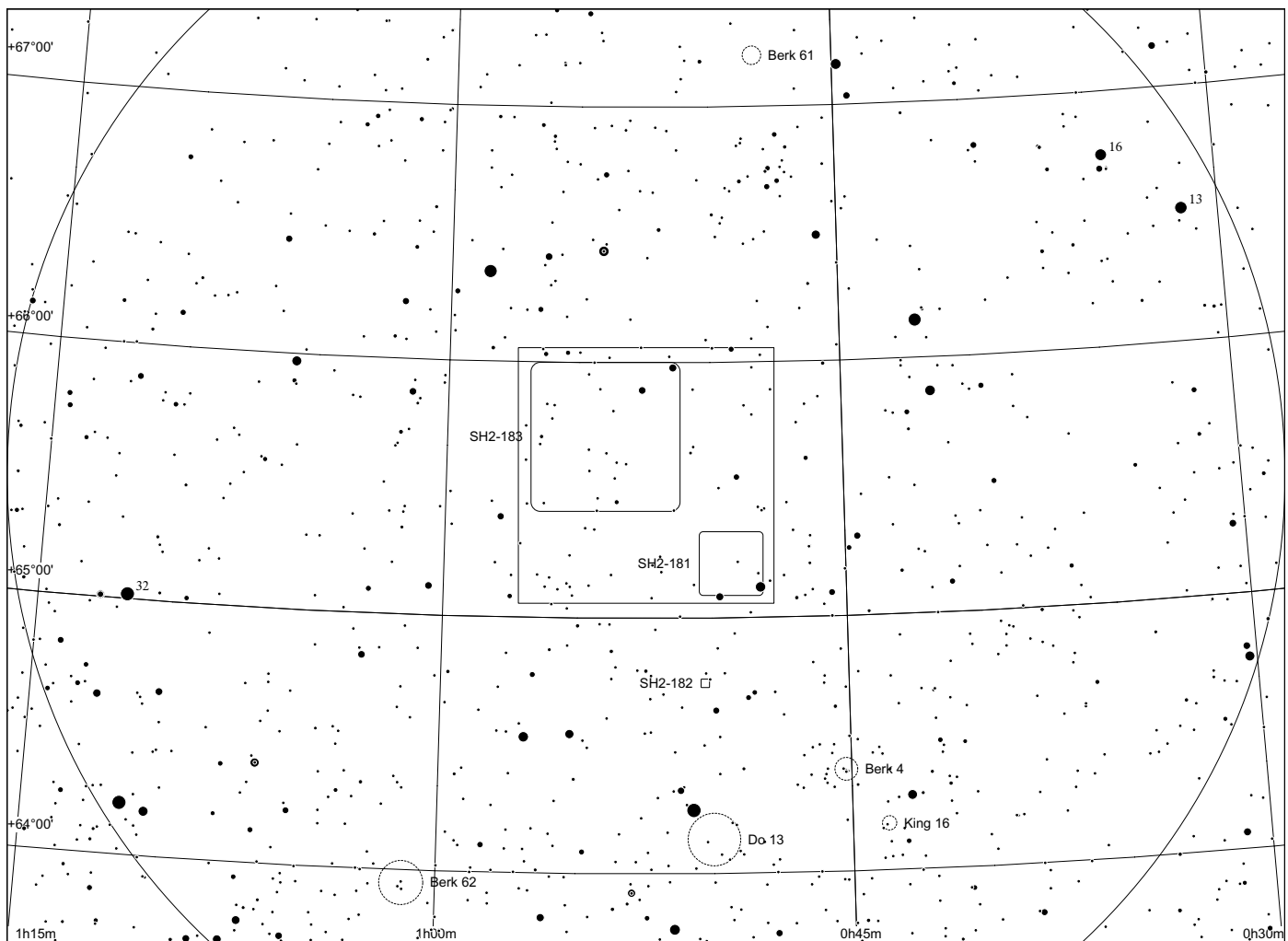
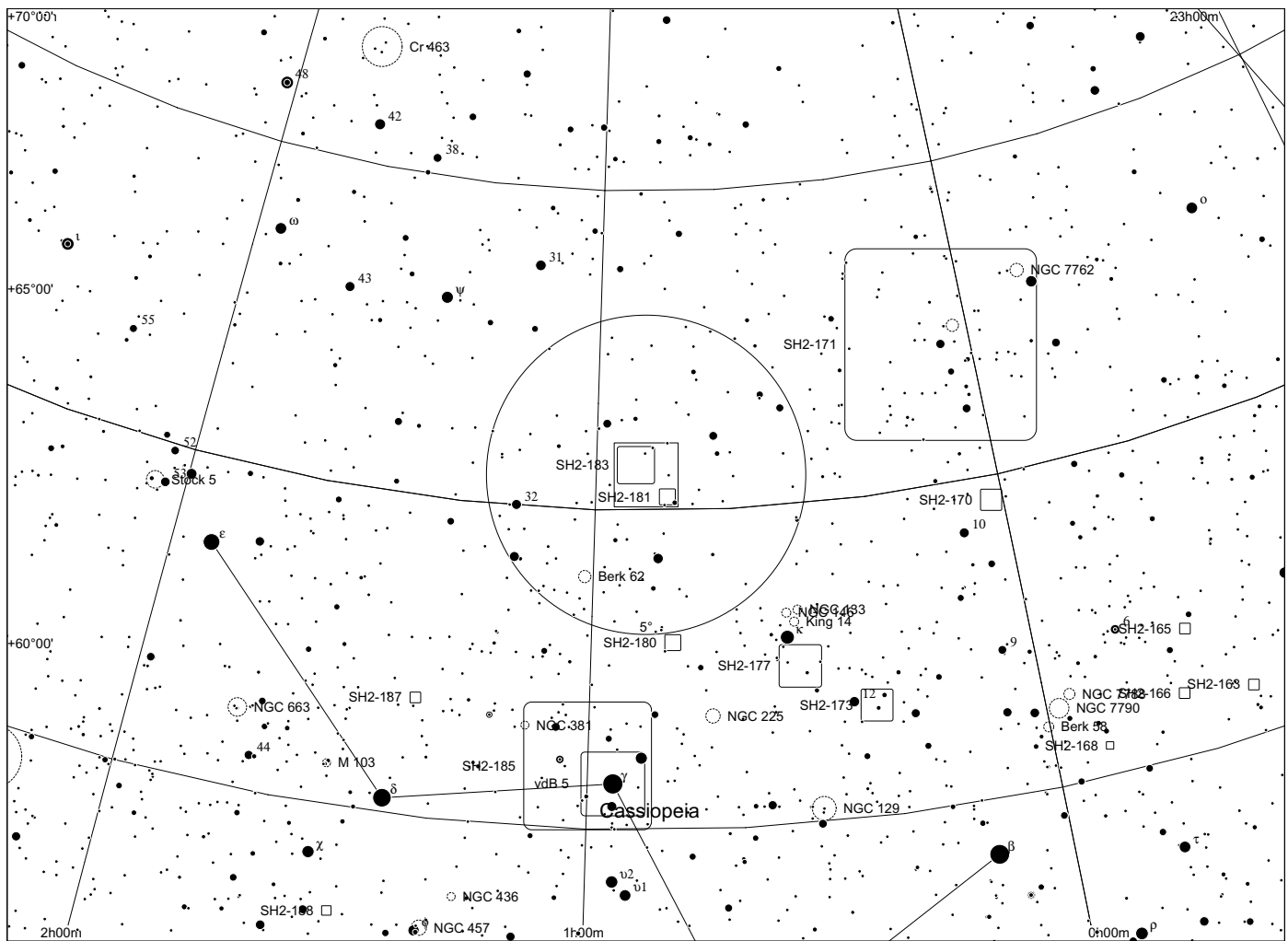
Sh 181 Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-181		00 49 16.5	+65 12 44	15	3	1	1
Sh 2-183		00 53 59.1	+65 42 35	35	3	2	1

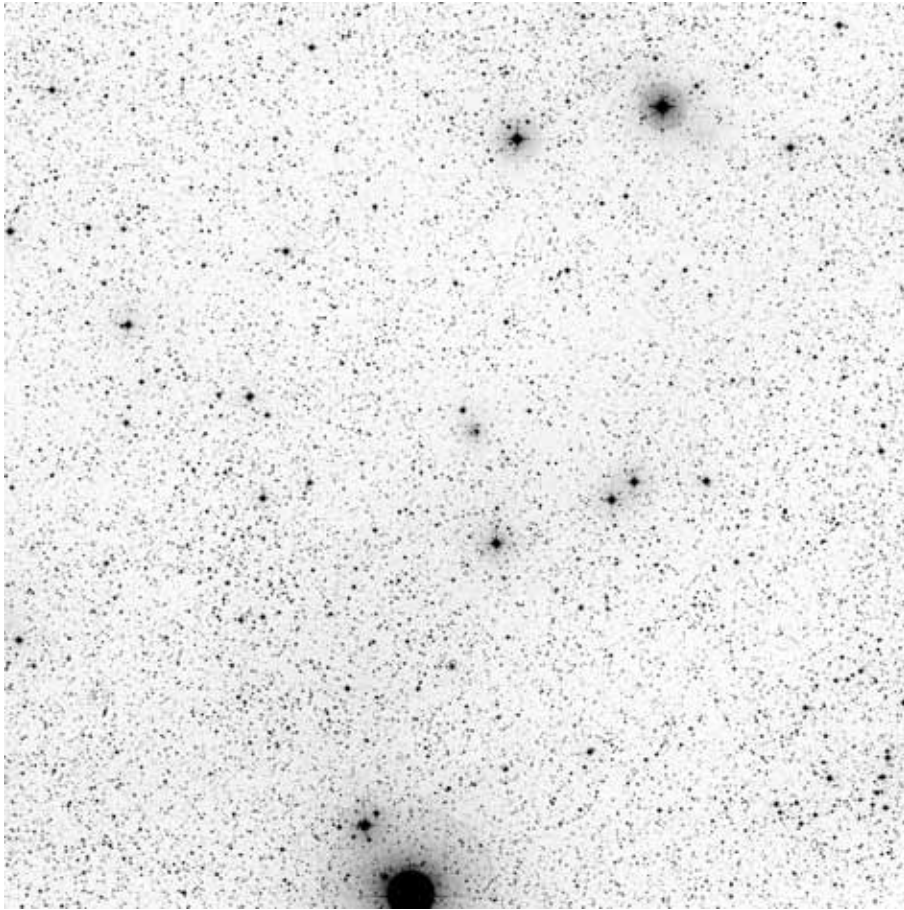
Observing notes:

22" f/4.5

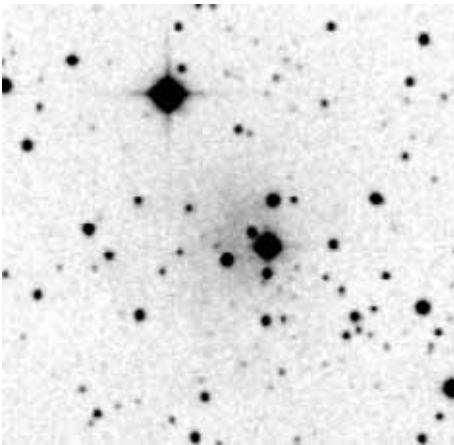
11/2012: unsuccessful observation for both



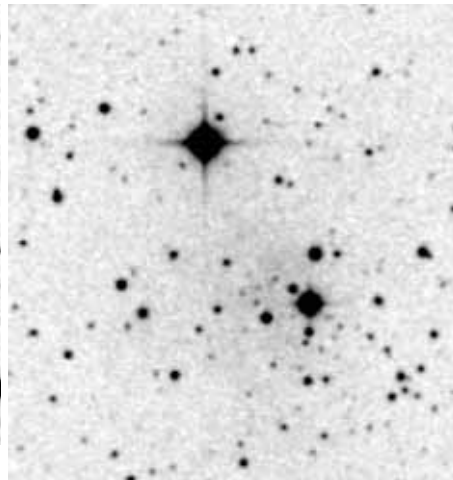
Sh 2 - 182 in Cassiopeia



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-182		00 50 16.4	+64 44 42	2	3	1	1

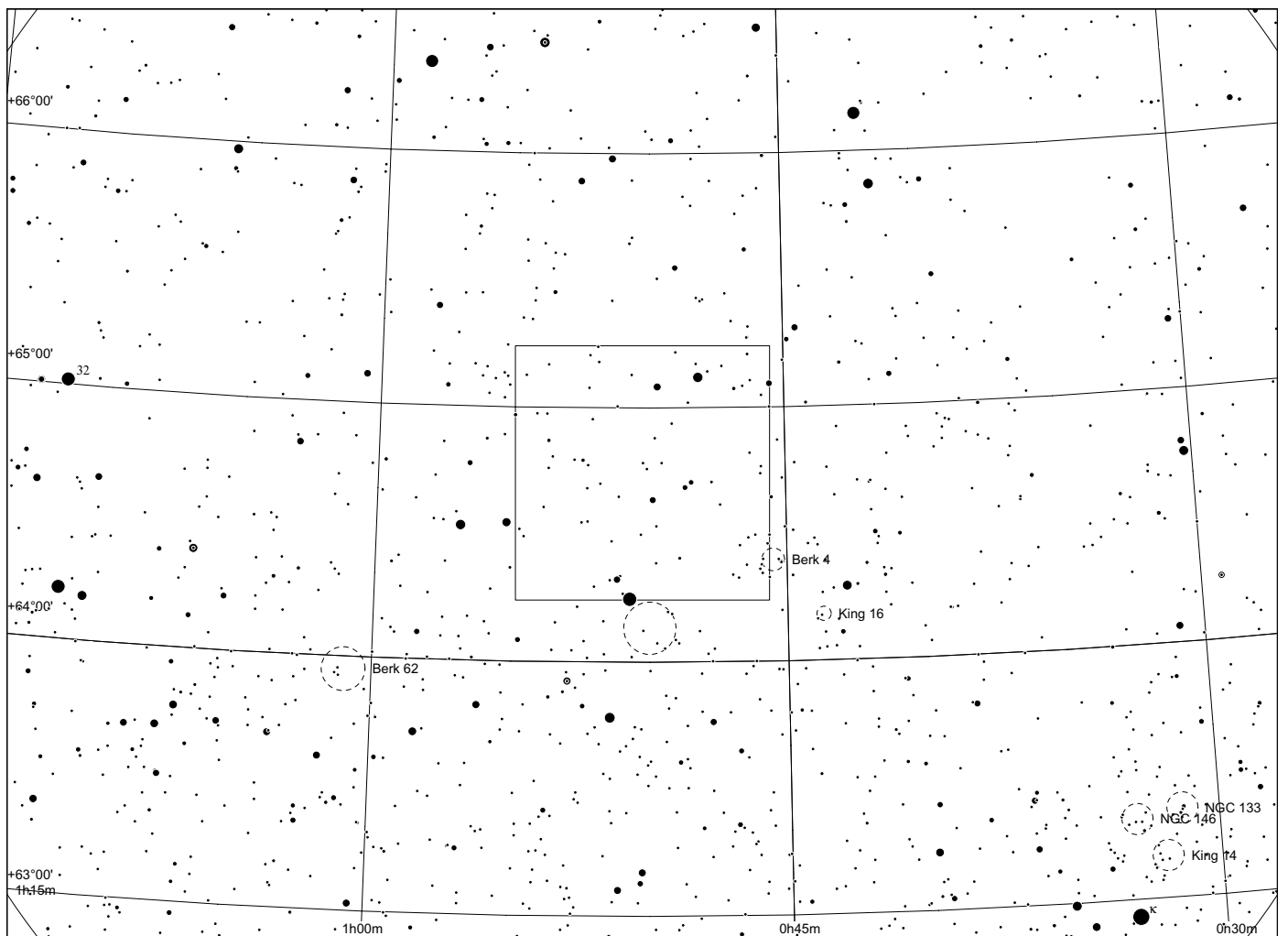
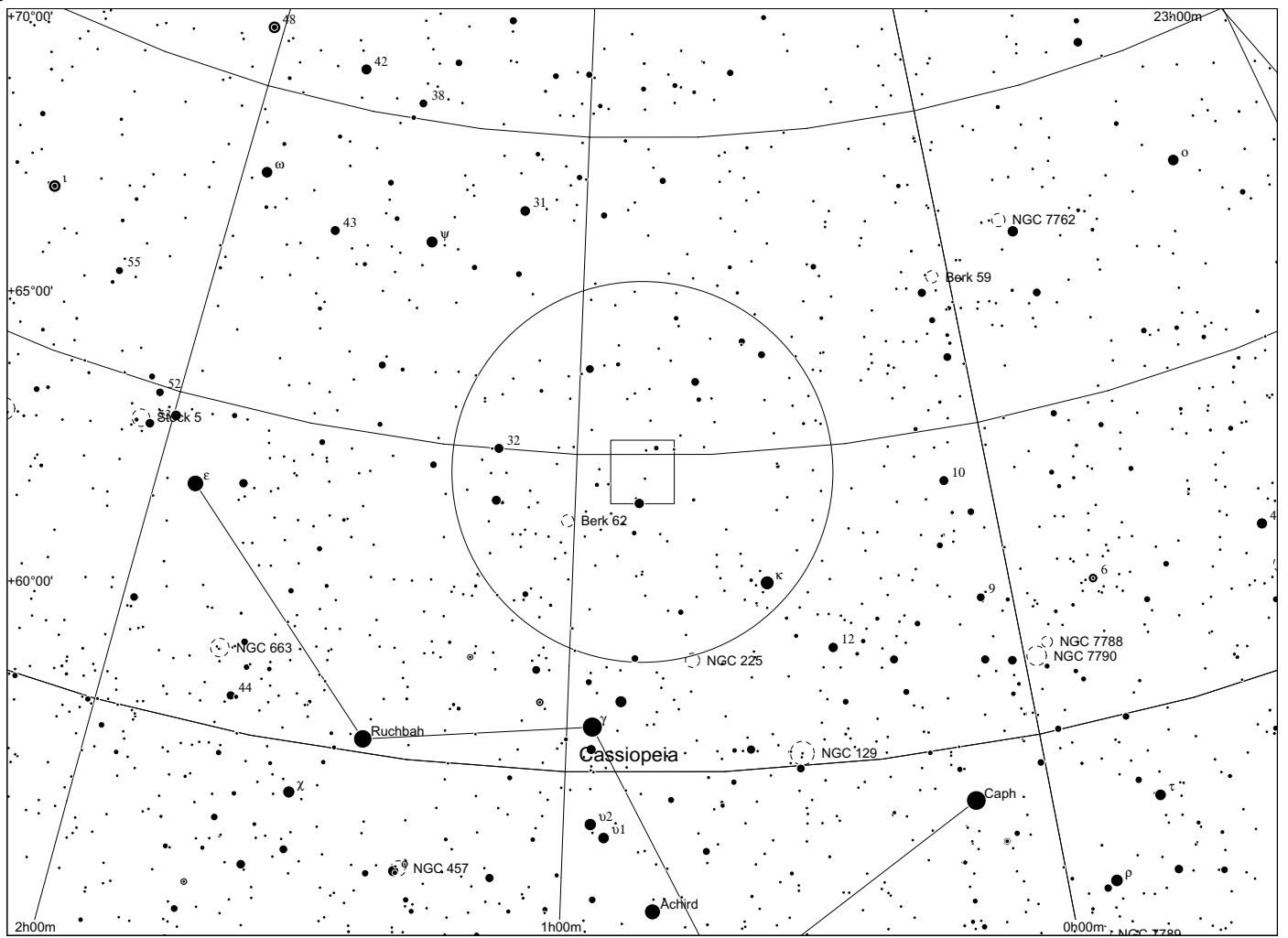
Distance: 1400 pc, Size: 0.8 pc, Source: 2003A&A...397..133R

This appears to be a reflection nebula of unknown distance.

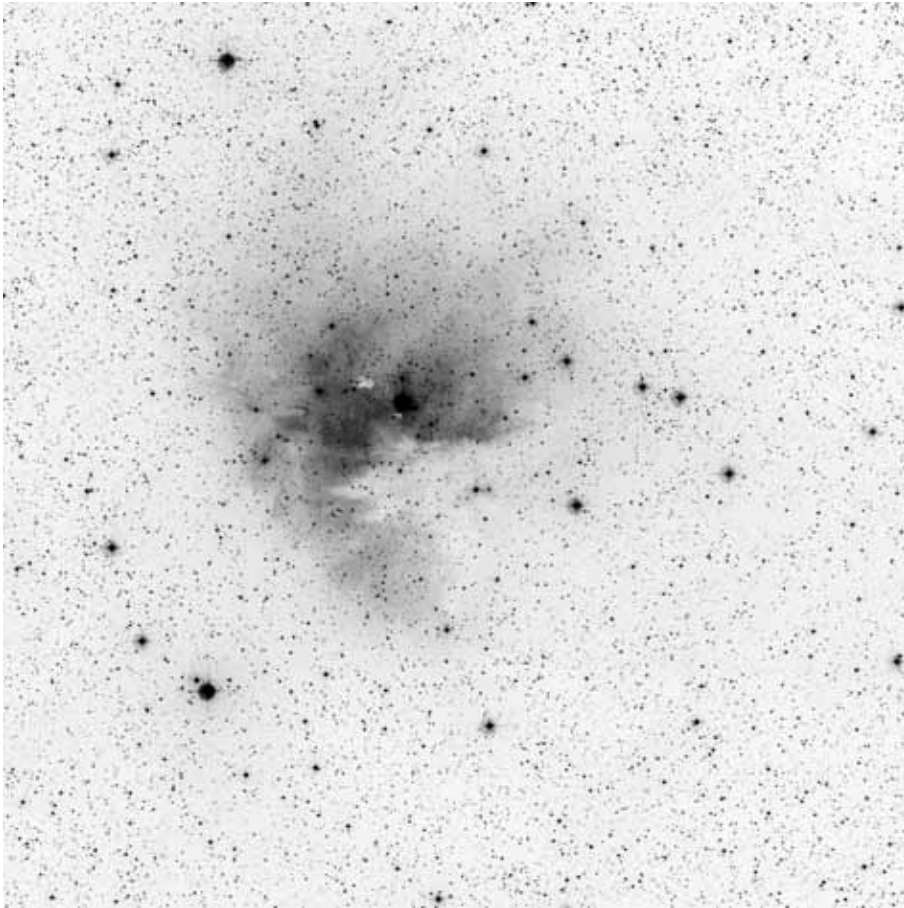
Observing notes:

22" f/4.5

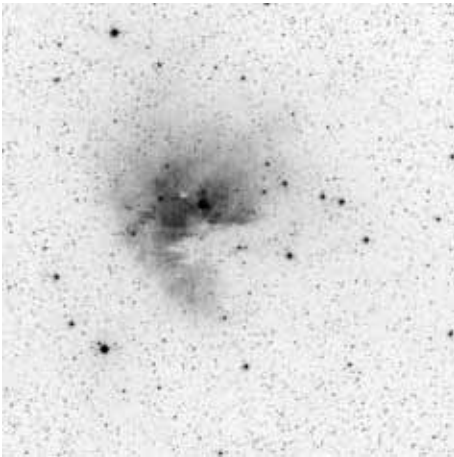
12/2011: unsuccessful observation



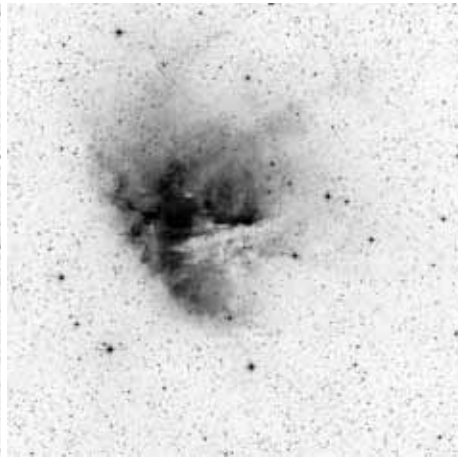
Sh 2 - 184 in Cassiopeia



60x60, blue



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-184	NGC281	00 52 50.1	+56 36 37	40	3	2	3

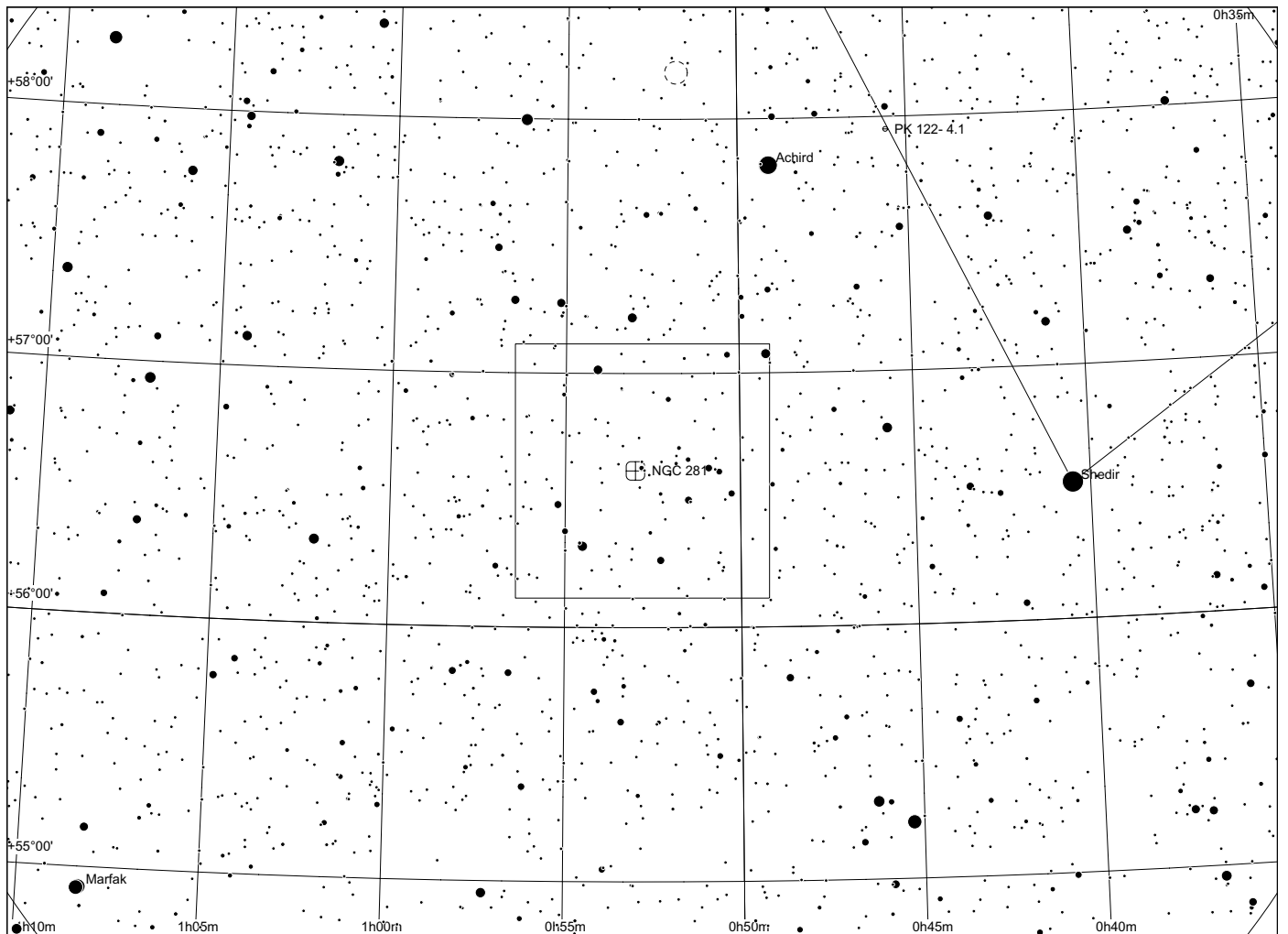
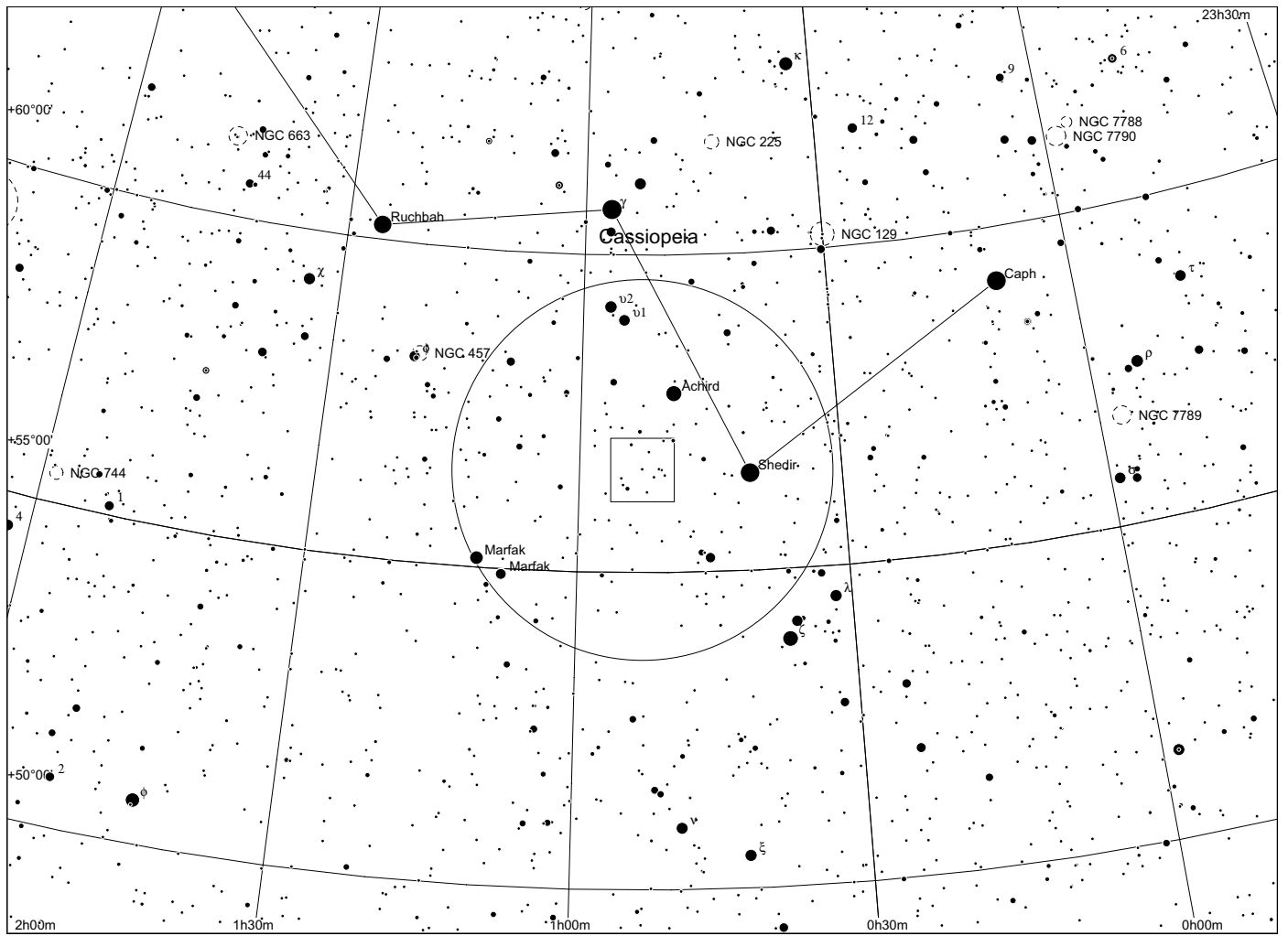
Distance: 2386 pc, Size: 4.9 pc, Source: 2003A&A...397..213P

Often called NGC 281, this bright nebula located far below the galactic plane is also nicknamed the Pac Man nebula by amateur astronomers. IC 1590, the star cluster at the heart of the nebula, is about 3.5 million years old. The core of the star cluster IC 1590 is the O6 class trapezium system HD 5005, which ionises Sh 2-184.

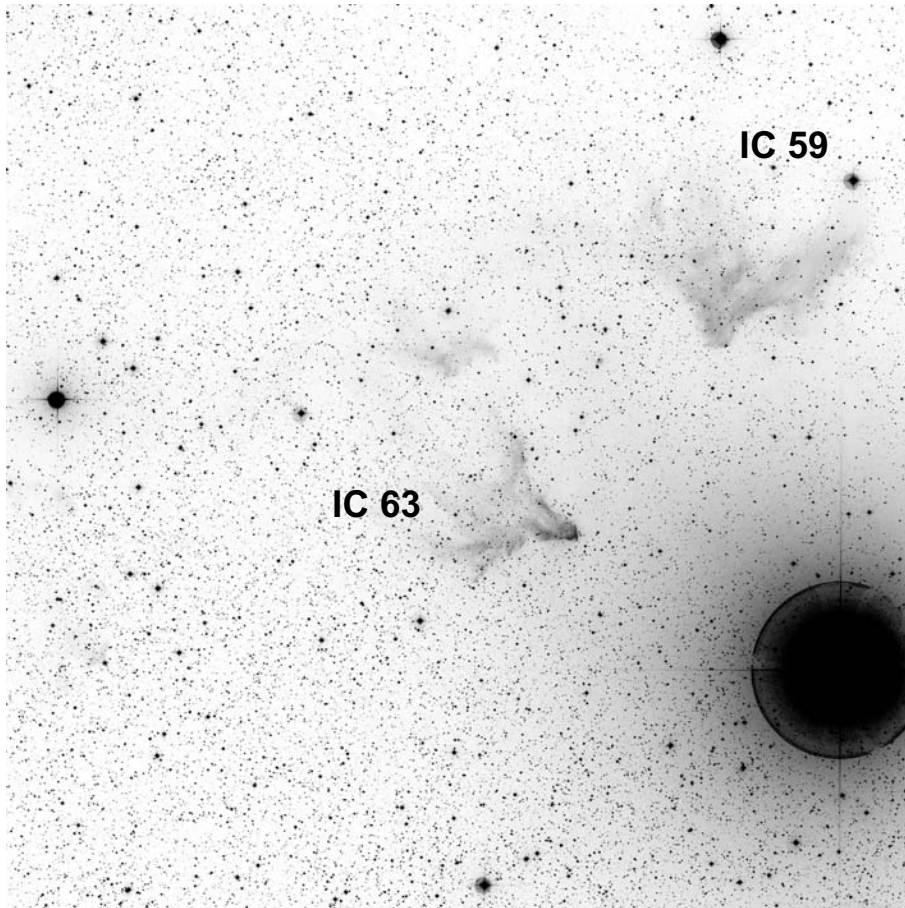
Observing notes:

22" f/4.5

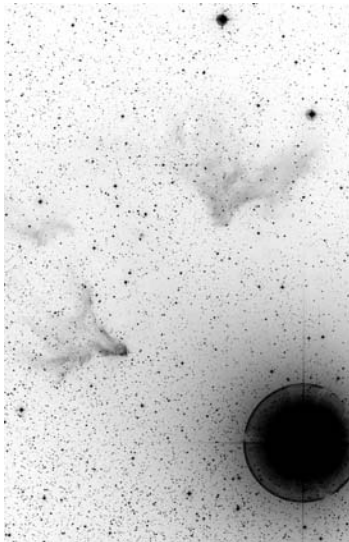
bright emission nebula with interesting dark structure. Responds well to OIII filter. Southern dark band extending from the W into the nebula with two extensions toward N and E. Another dark structure on N side, curving toward SE into nebula.



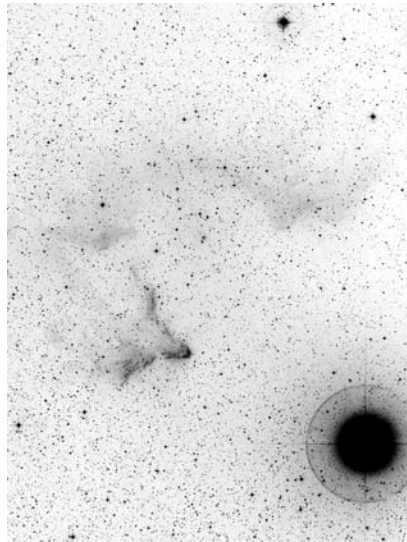
Sh 2 - 185 in Cassiopeia



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-185	IC 59/63	00 60 00.0	+60 59 23	120	3	2	2

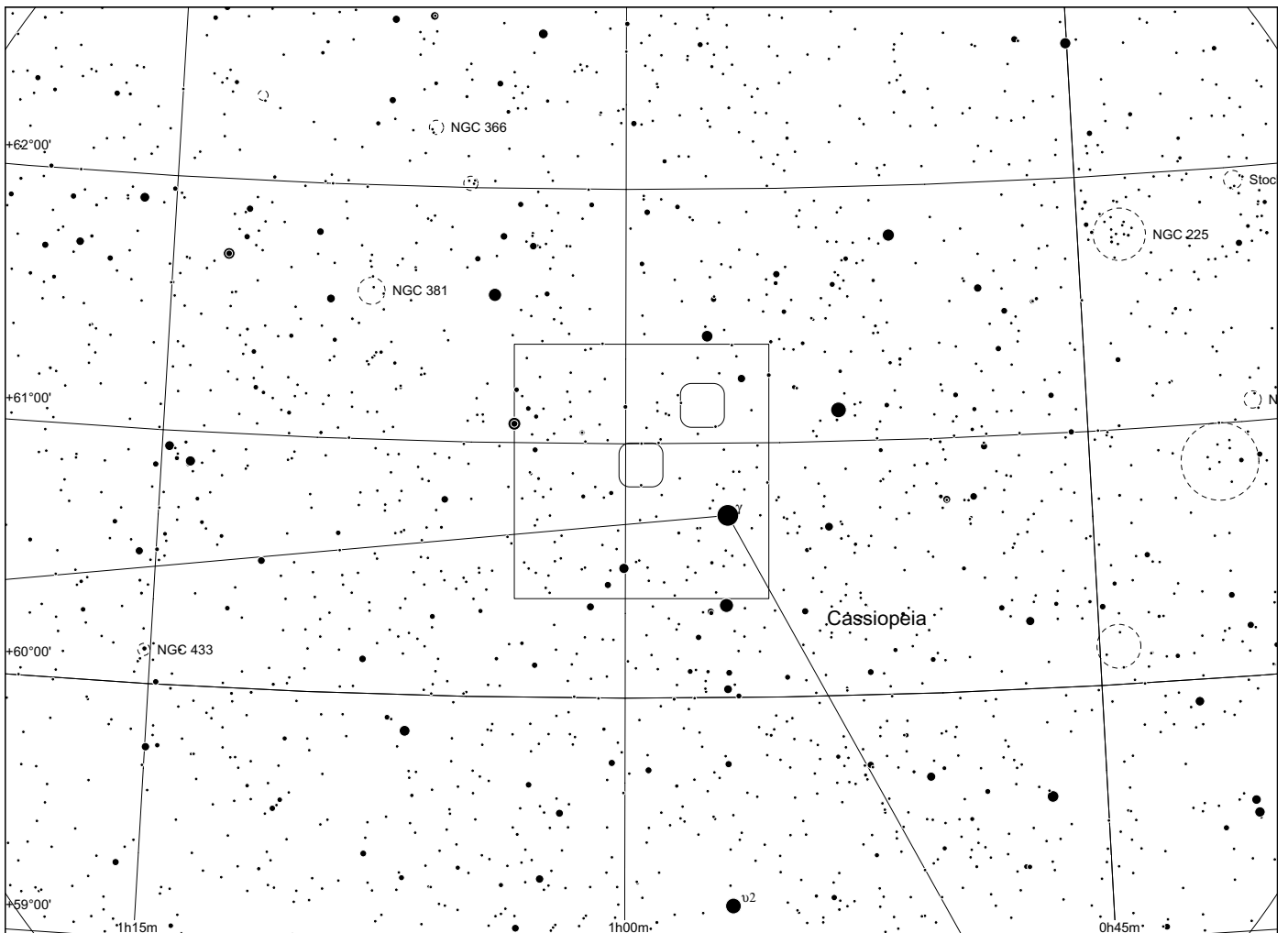
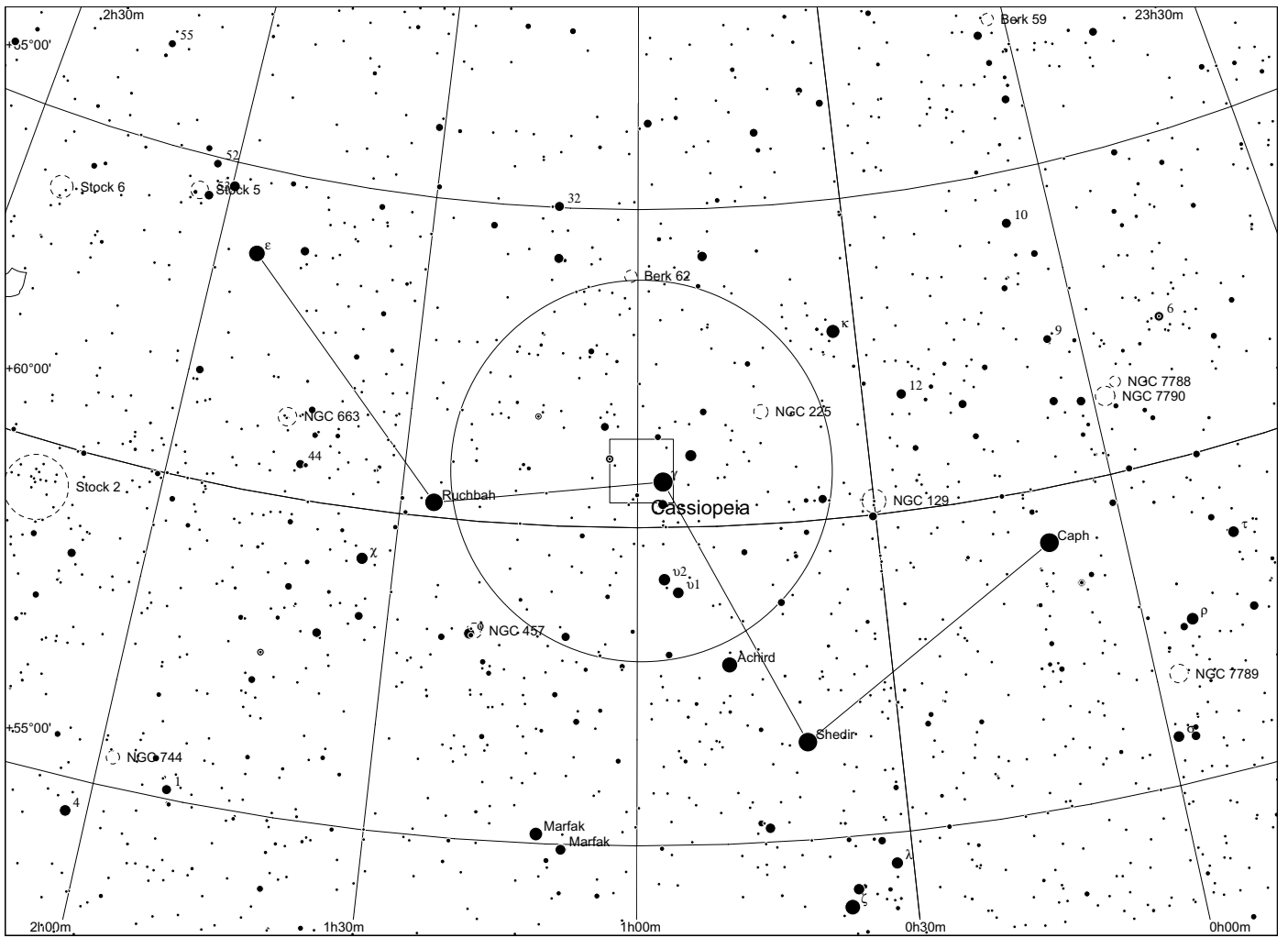
Distance: 210 pc, Size: 7.3 pc, Source: 1982ApJS...49..183B

This region consists of IC 59, IC 61, IC 63 and gamma Cassiopeiae. It is a combination of a reflection nebula and HII region.

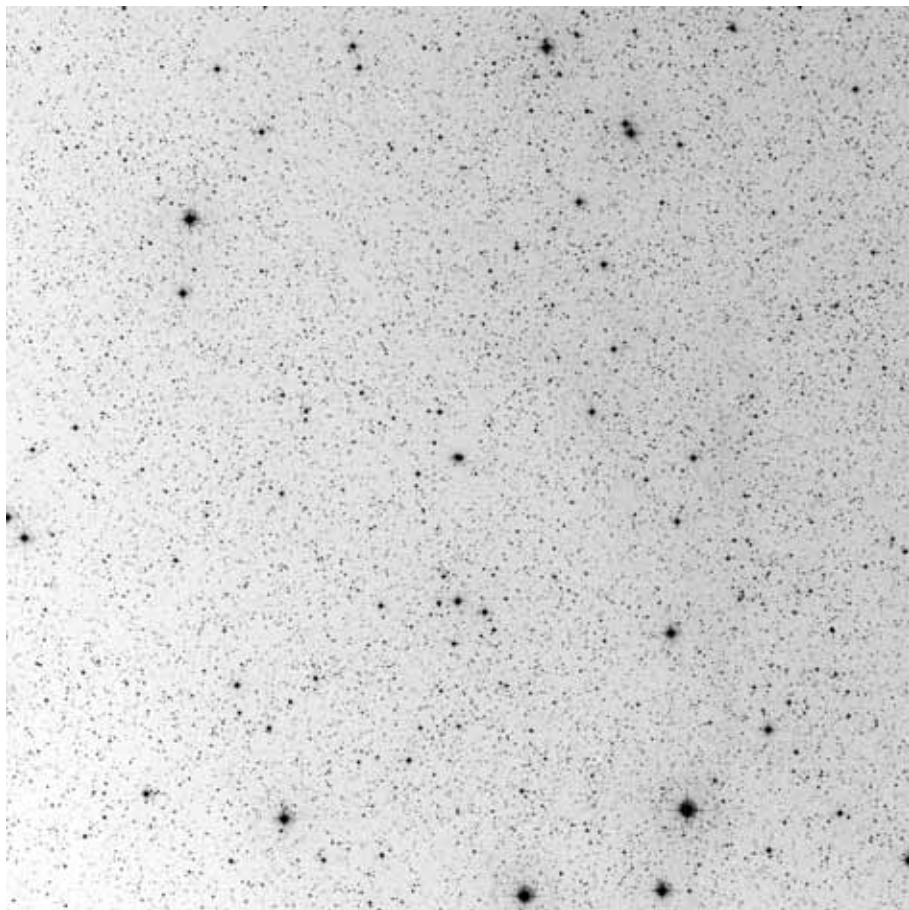
Observing notes:

22" f/4.5

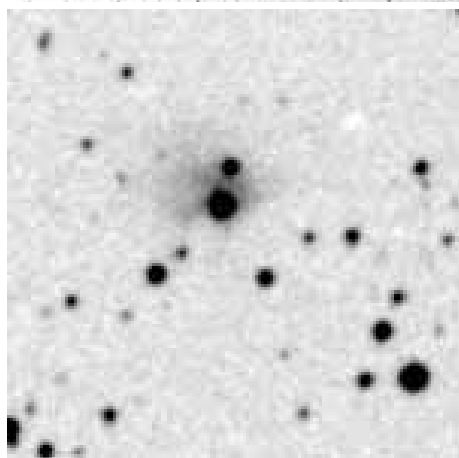
Both nebulae are very faint. They are partly RN and visible w/o filter, but respond also to the UHC filter.



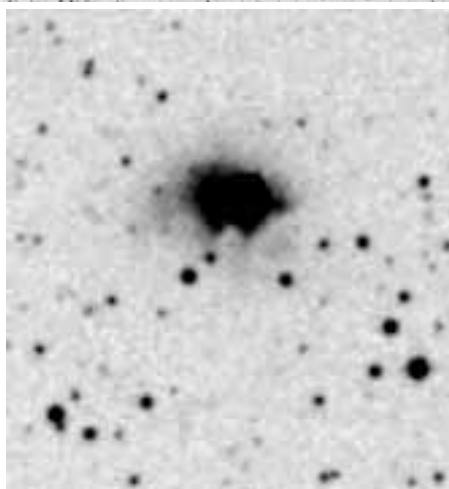
Sh 2 - 186 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-186		01 08 50.7	+63 08 02	1	3	2	2

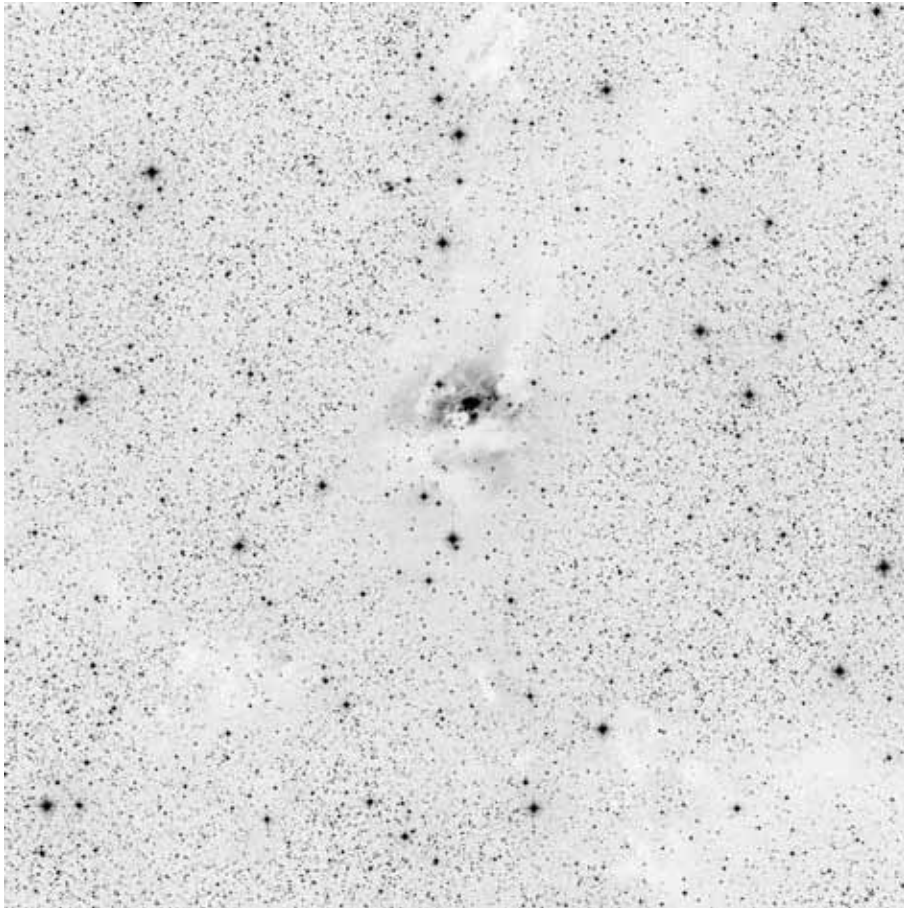
Distance: 2600 pc, Size: 0.8 pc, Source: 2003A&A...397..133R, Contains infrared cluster [BDS2003] 51.

Observing notes:

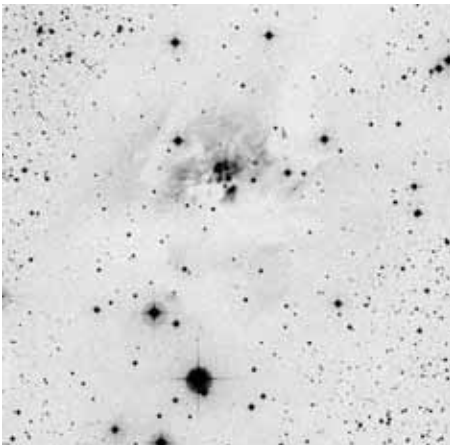
22" f/4.5

10/2011: with 13 and 7 mm, unsuccessful, only stars

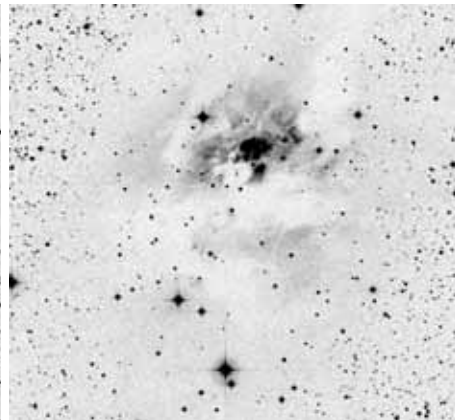
Sh 2 - 187 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-187		01 23 07.0	+61 51 24	10	3	3	2

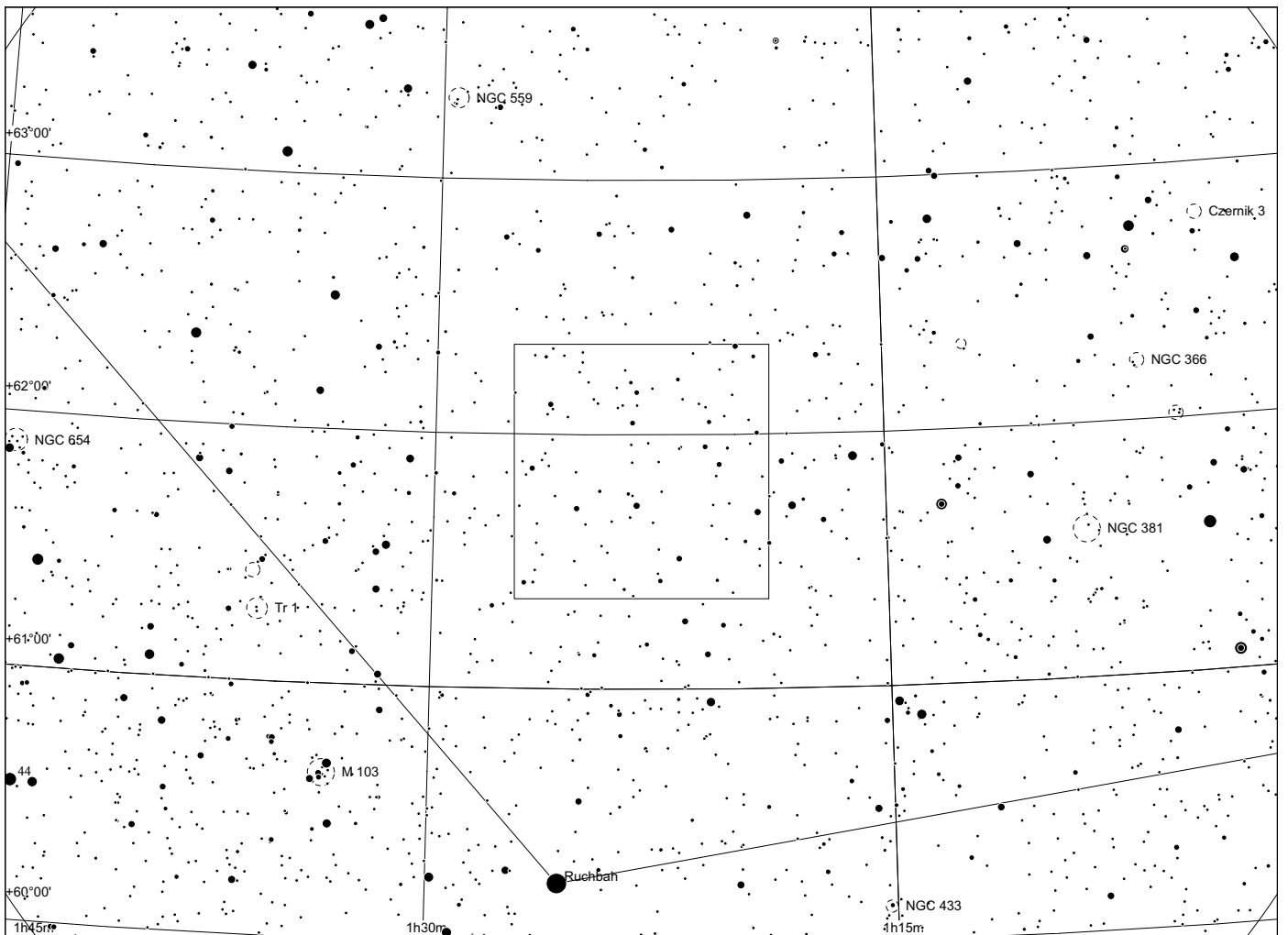
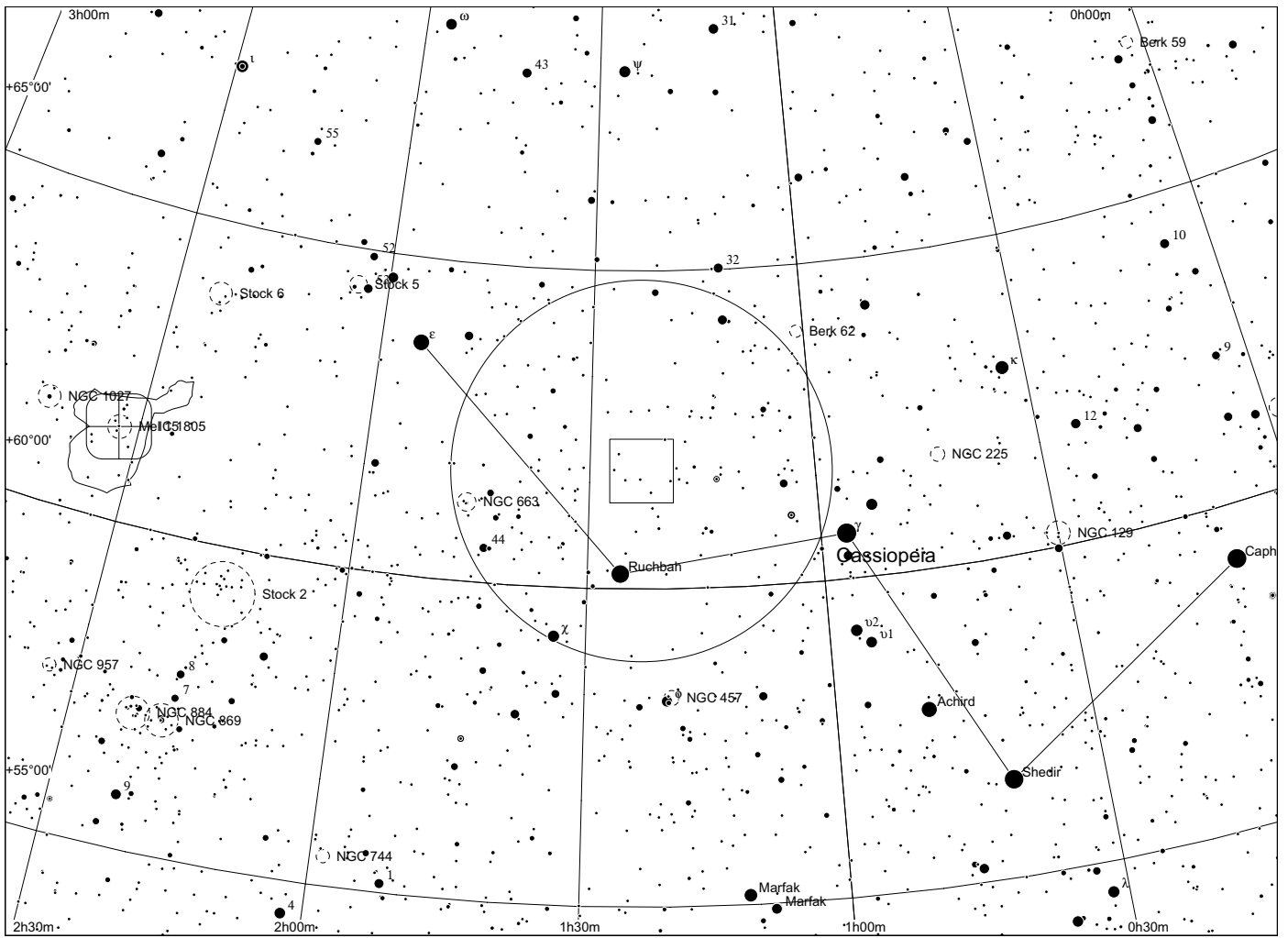
Distance: 1000 pc, Size: 2.9 pc, Source: 2001AJ....122..313J

This young (100-200 thousand years) star formation region is most likely ionised by a B0 star and is surrounded by a 4600 solar mass molecular cloud.

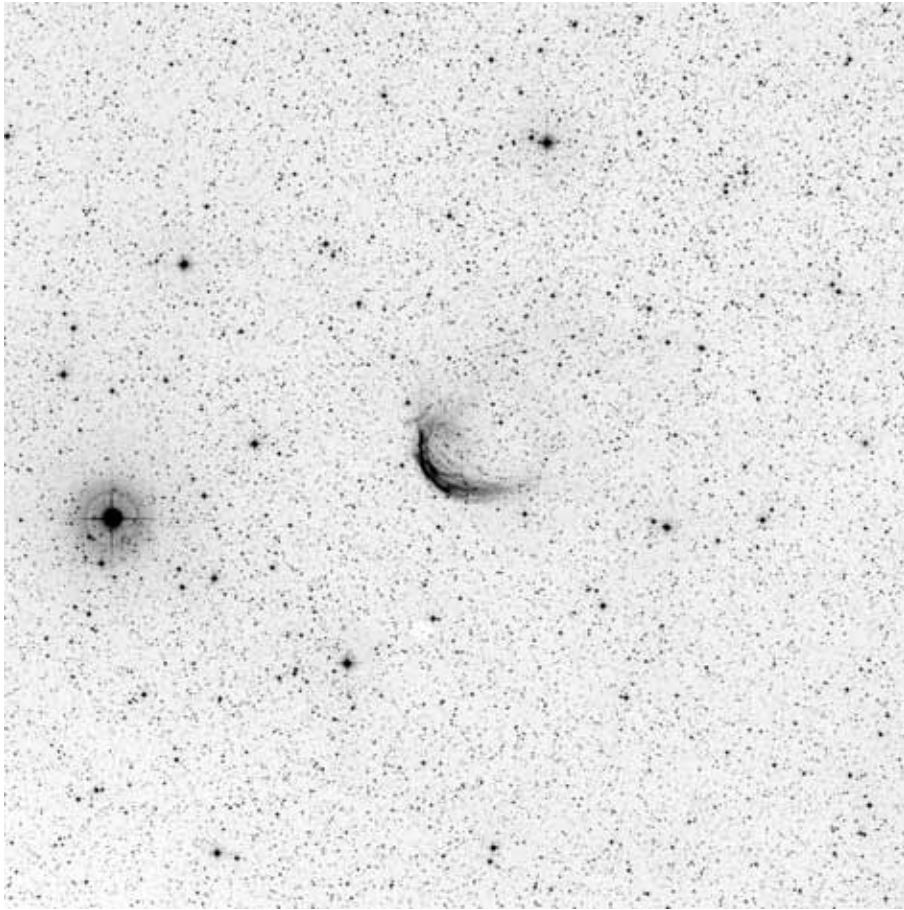
Observing notes:

22" f/4.5

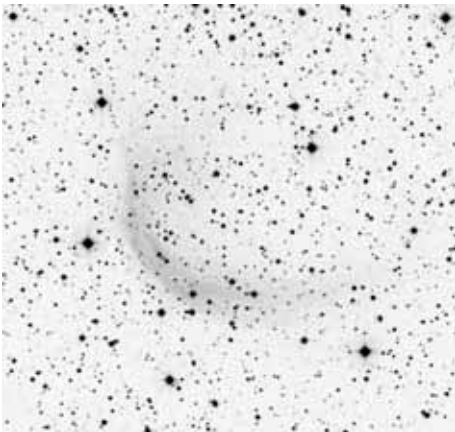
10/2011: w/o filter, a diffuse glow was suspected around group of stars, doubtful



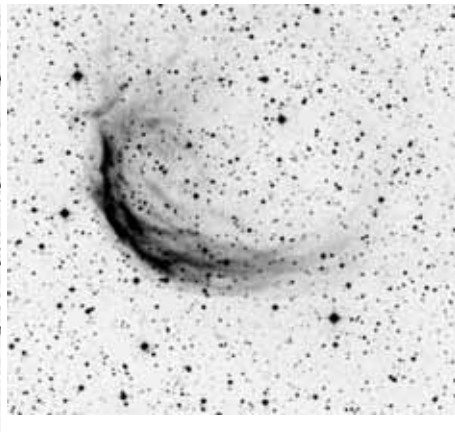
Sh 2 - 188 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

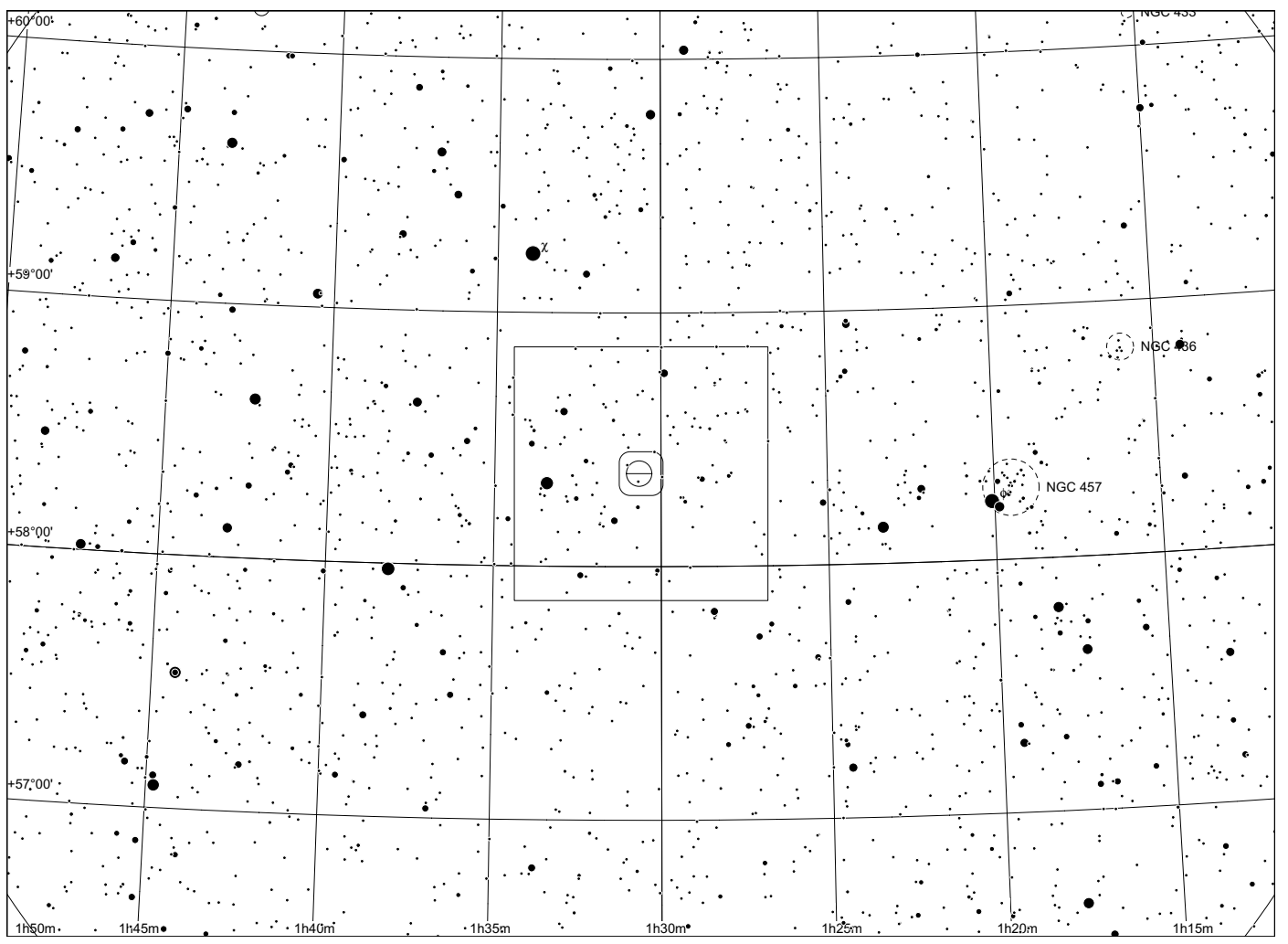
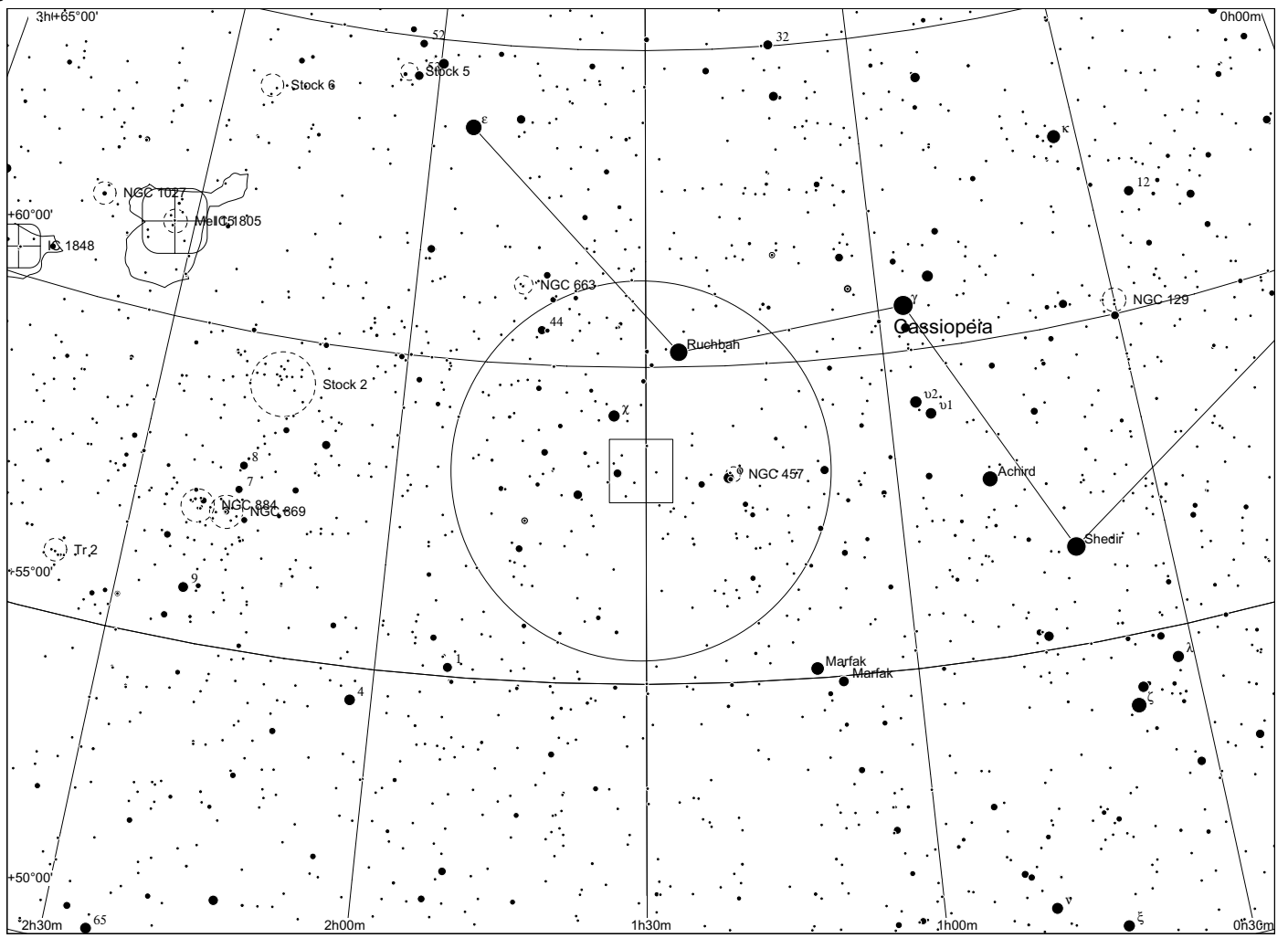
	other name	RA	dec	dia. '	F	S	B
Sh 2-188	Simeis 22	01 30 38.6	+58 22 01	9	3	3	2

This is planetary nebula Simeis 22 with a distance of 218 pc and an expansion age of 7500 years.

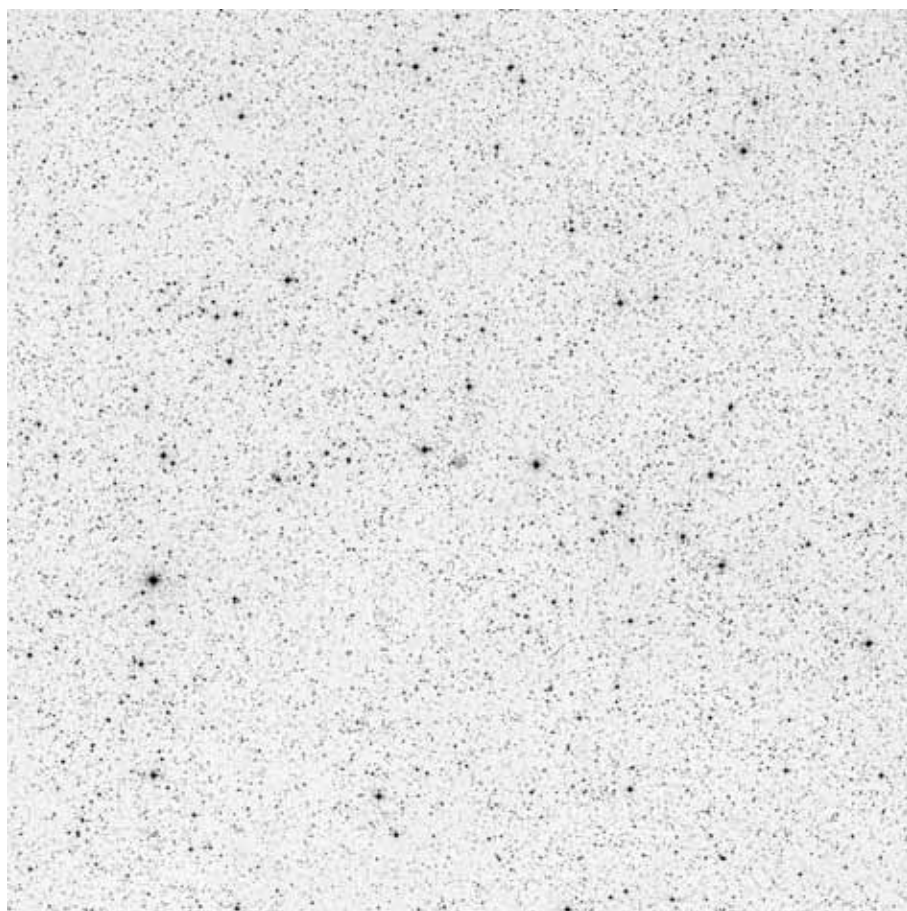
Observing notes:

22" f/4.5

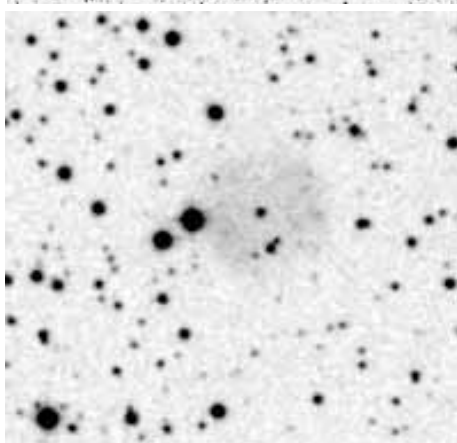
With OIII filter, Simeis 22 is a faint PN with crescent shape, some filamentary structure suspected. Similar to, but fainter than Abell 21



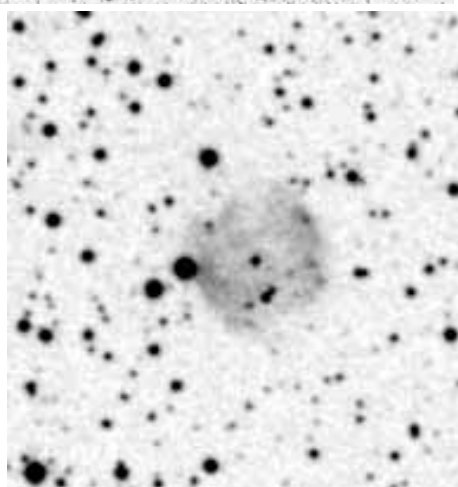
Sh 2 - 189 in Cassiopeia



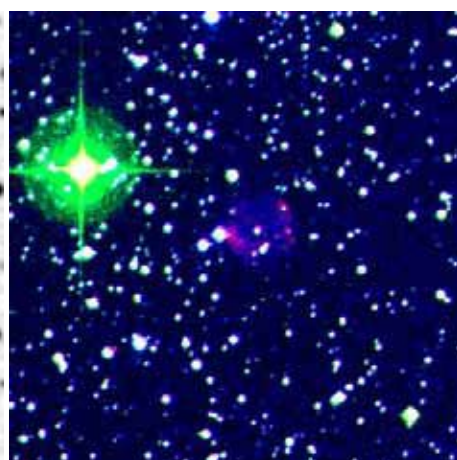
60x60, red



POSS blue



POSS red



composite

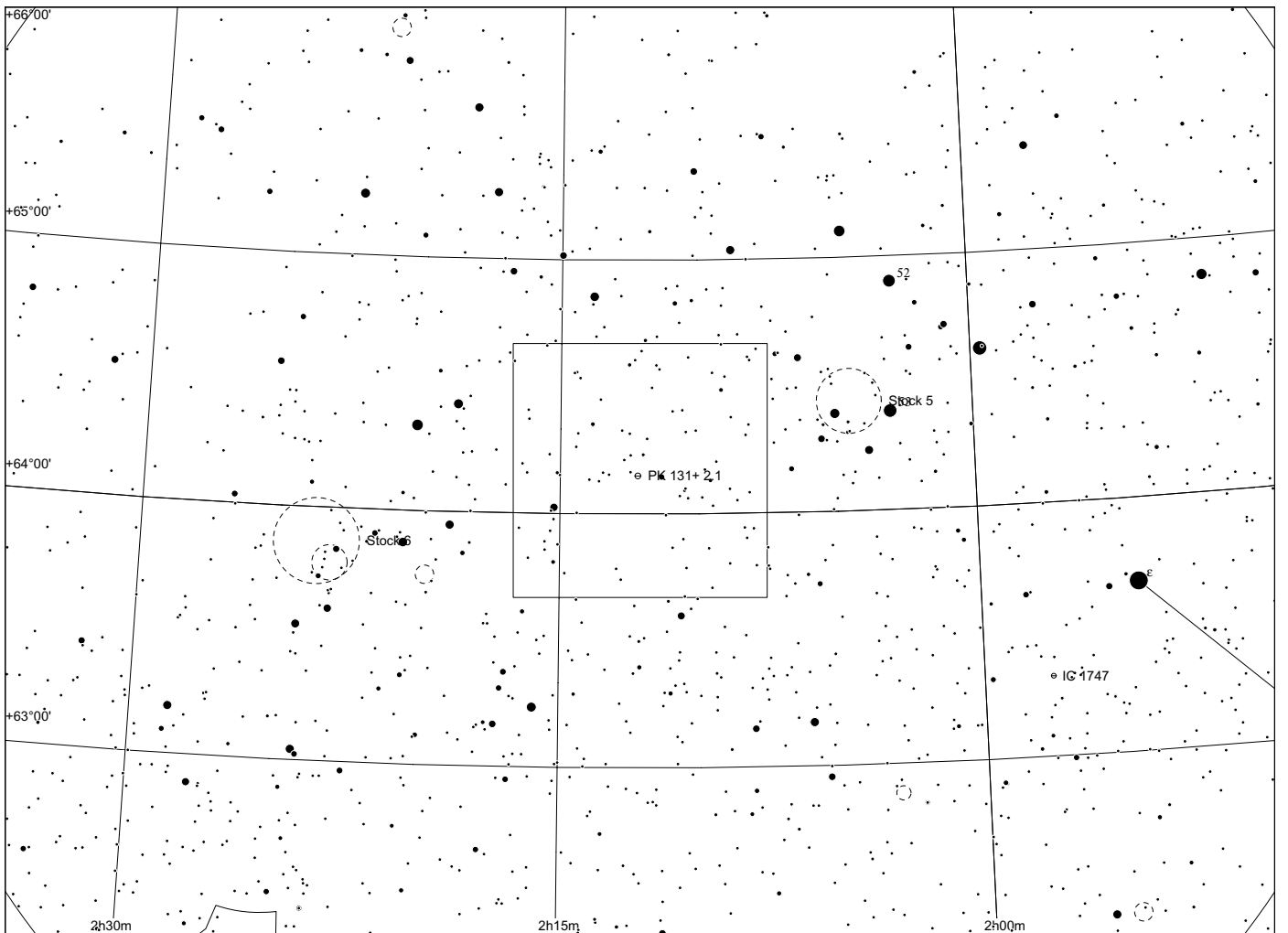
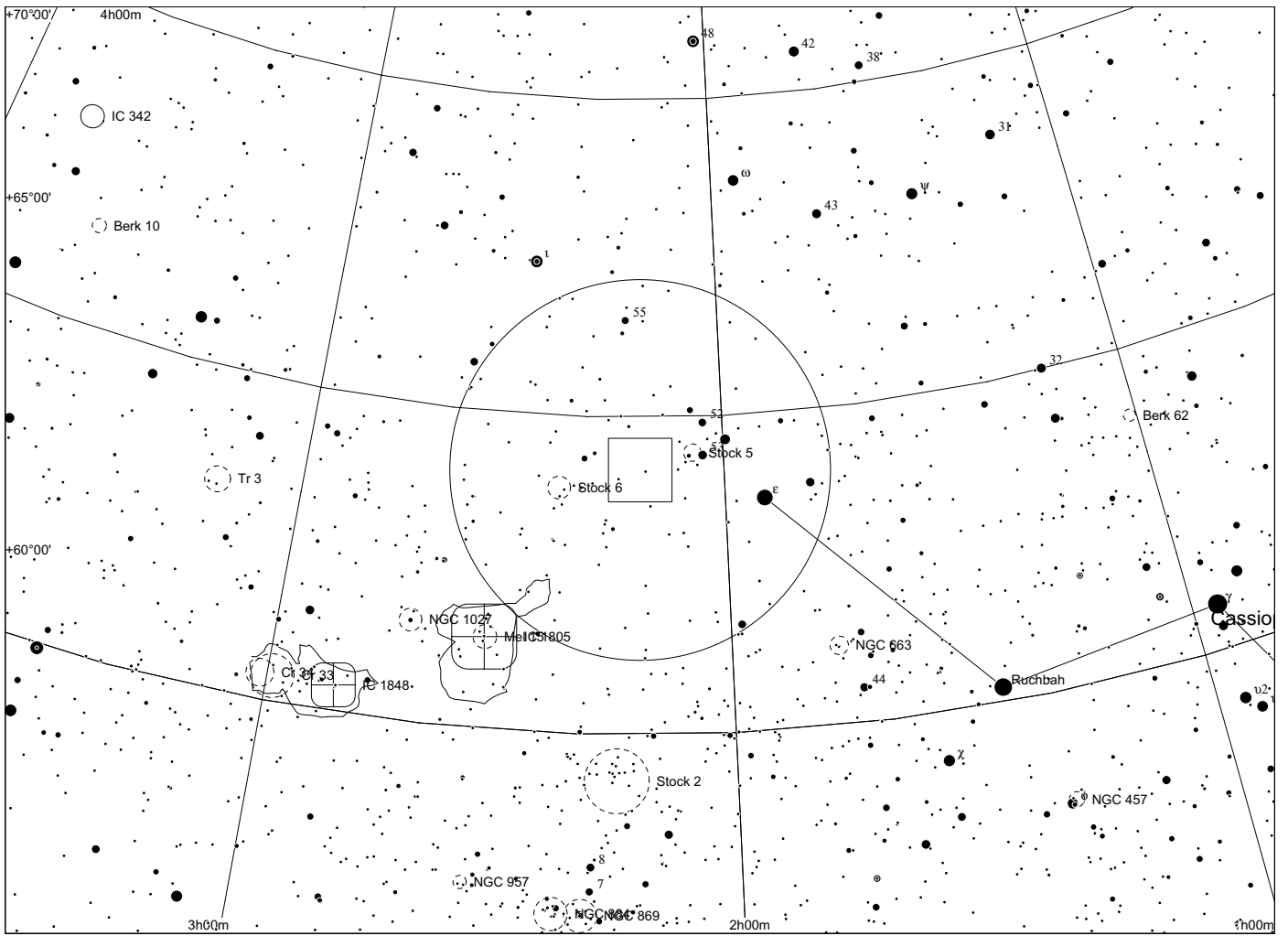
	other name	RA	dec	dia. '	F	S	B
Sh 2-189	Abell 3	02 12 07.6	+64 10 18	2	1	1	1

This faint and distant purple ball is a planetary nebula also called Abell 3 that is located at a distance of 2000 pc.

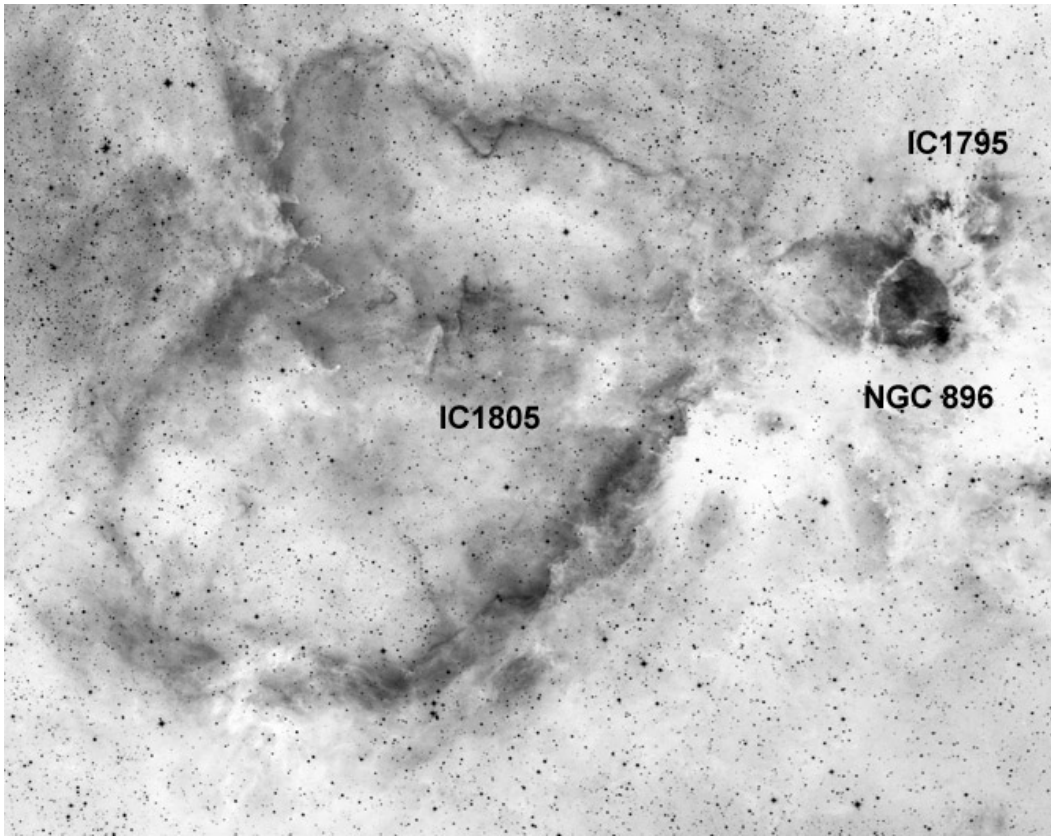
Observing notes:

22" f/4.5

12/2011: unsuccessful observation



Sh 2 - 190 in Cas



narrowband Dean Salman

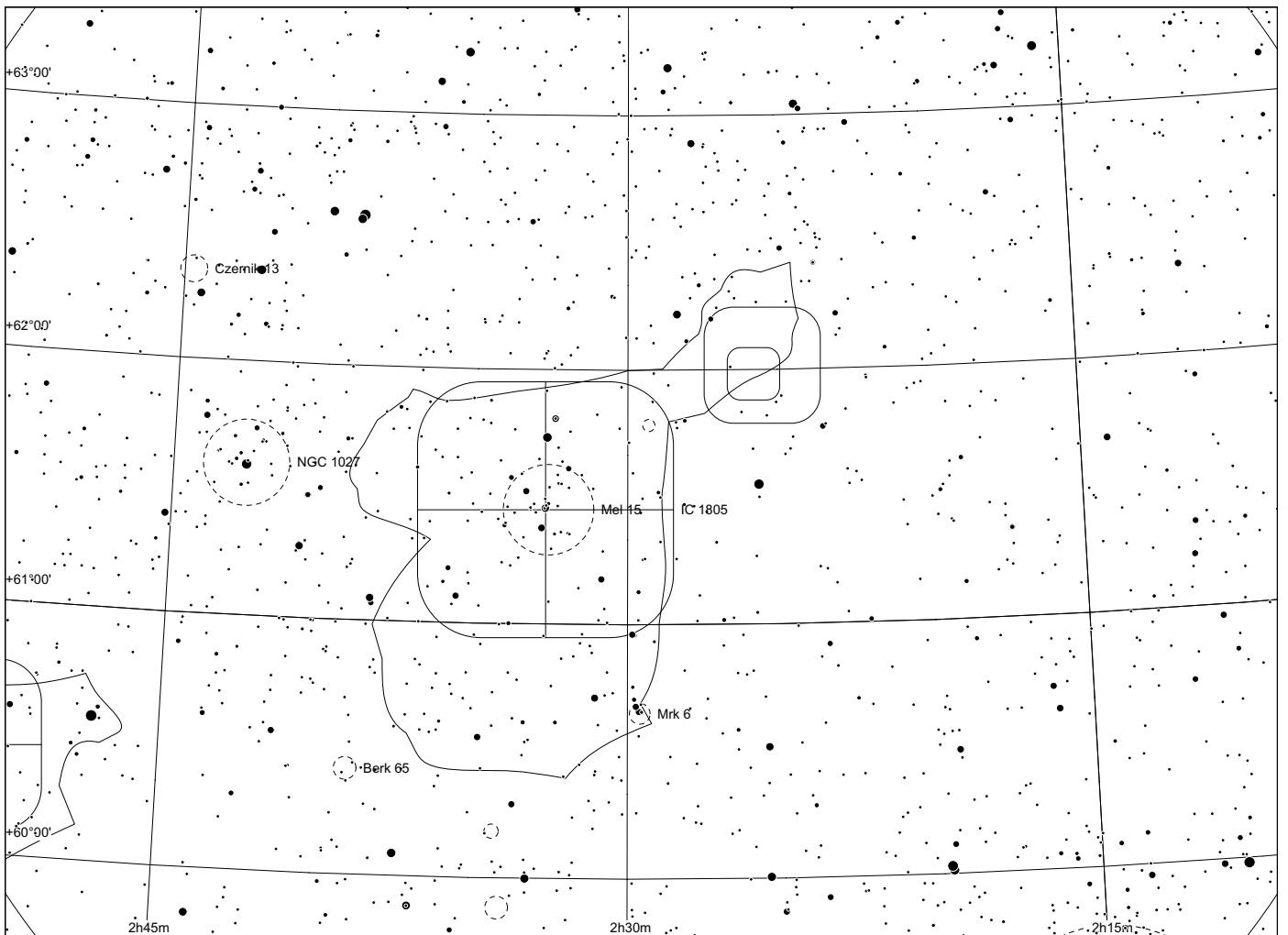
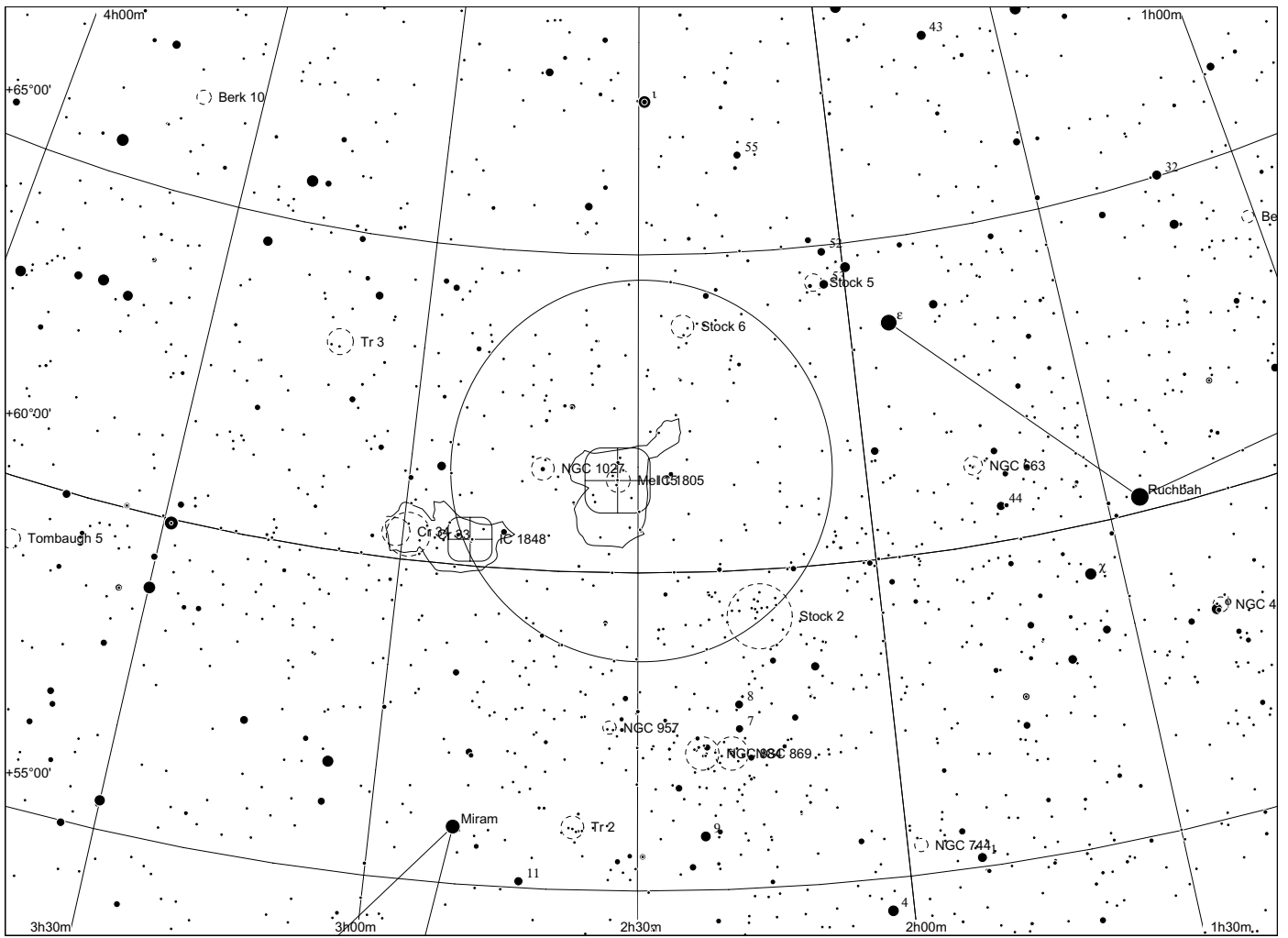
	other name	RA	dec	dia. '	F	S	B
Sh 2-190	IC 1805	02 33 22.7	+61 26 32	150	3	3	3

Distance: 2100 pc, Size: 91.6 pc, Source: 1982ApJS...49..183B

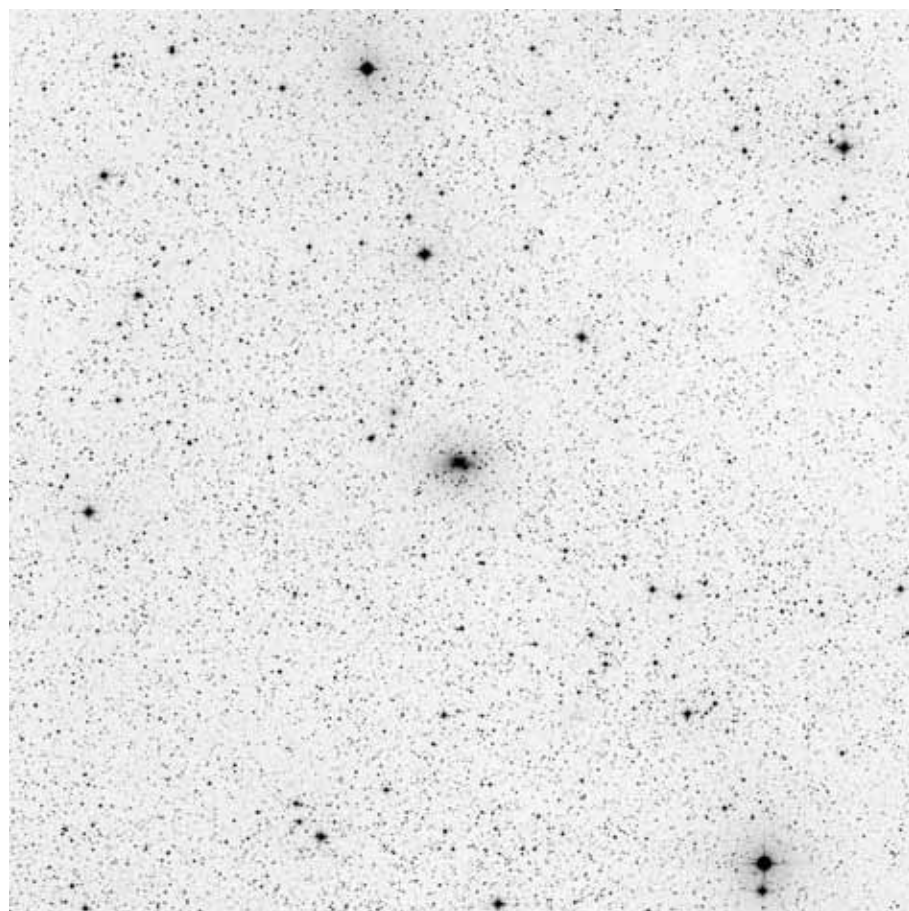
The Heart nebula is associated with the IC 1805 star cluster and the W3/W4 radio source / star formation region.

Observing notes:

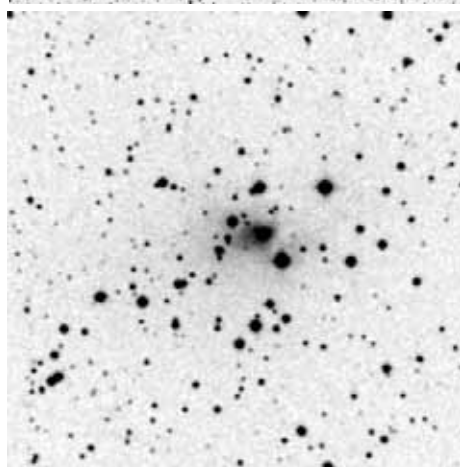
22": Absolutely fascinating area! Responds to OIII filter somewhat better than UHC and H beta, though this may vary in different areas. NGC 896 and IC 1795 form a small and bright and a larger fainter patch with dark structure, toward E: Melotte 15, surrounded with very distinct nebulosity (IC 1805), extends to E, forms from there three extensions: 1) faint, but distinct finger to NNE, 2) northern arc. 3) southern arc, becomes fainter at southernmost part before turning back NW.



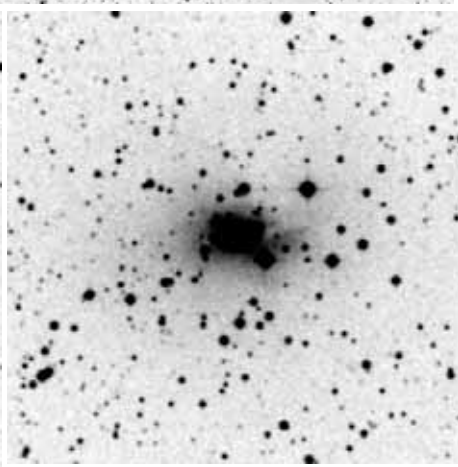
Sh 2 - 191 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

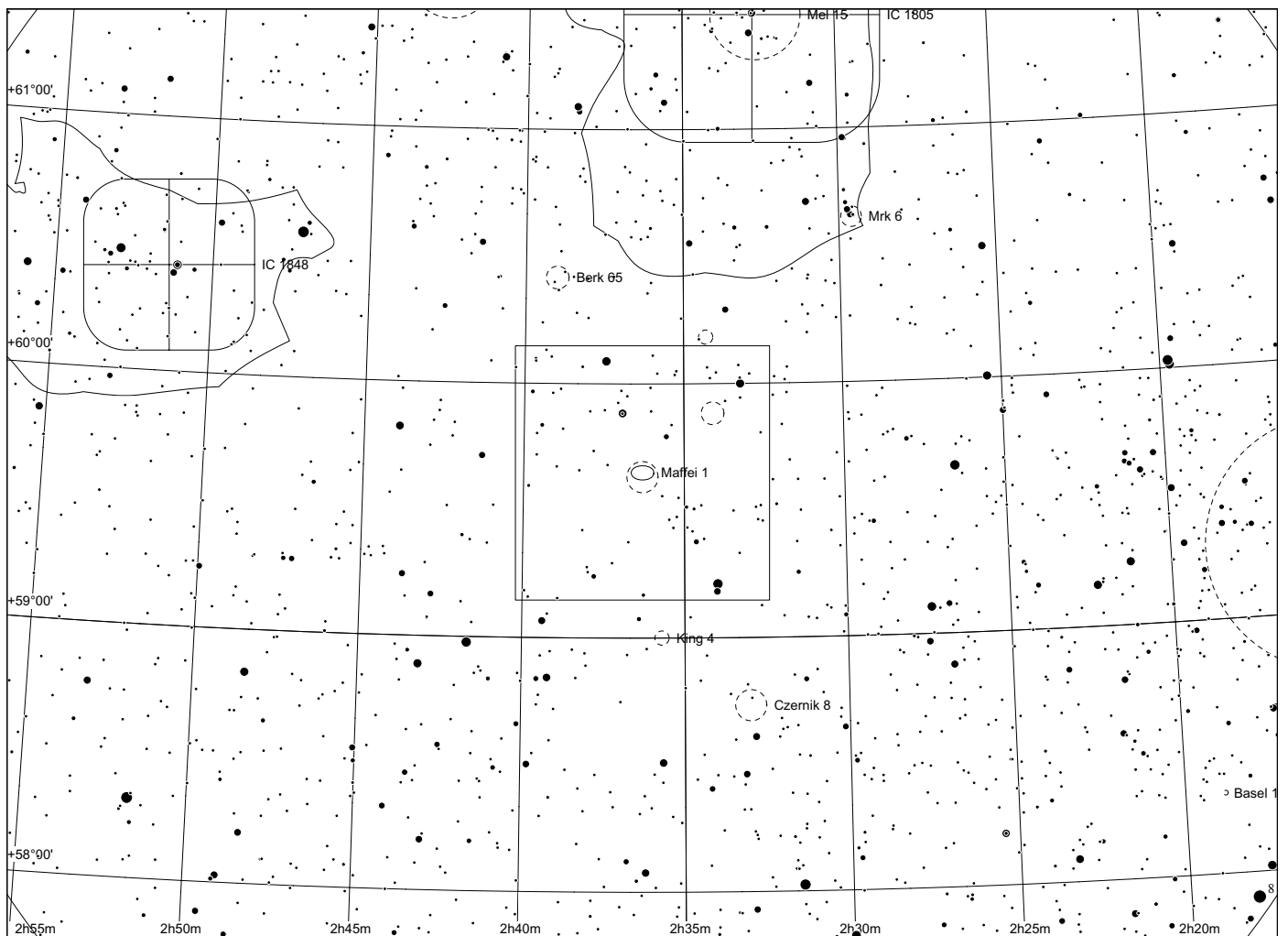
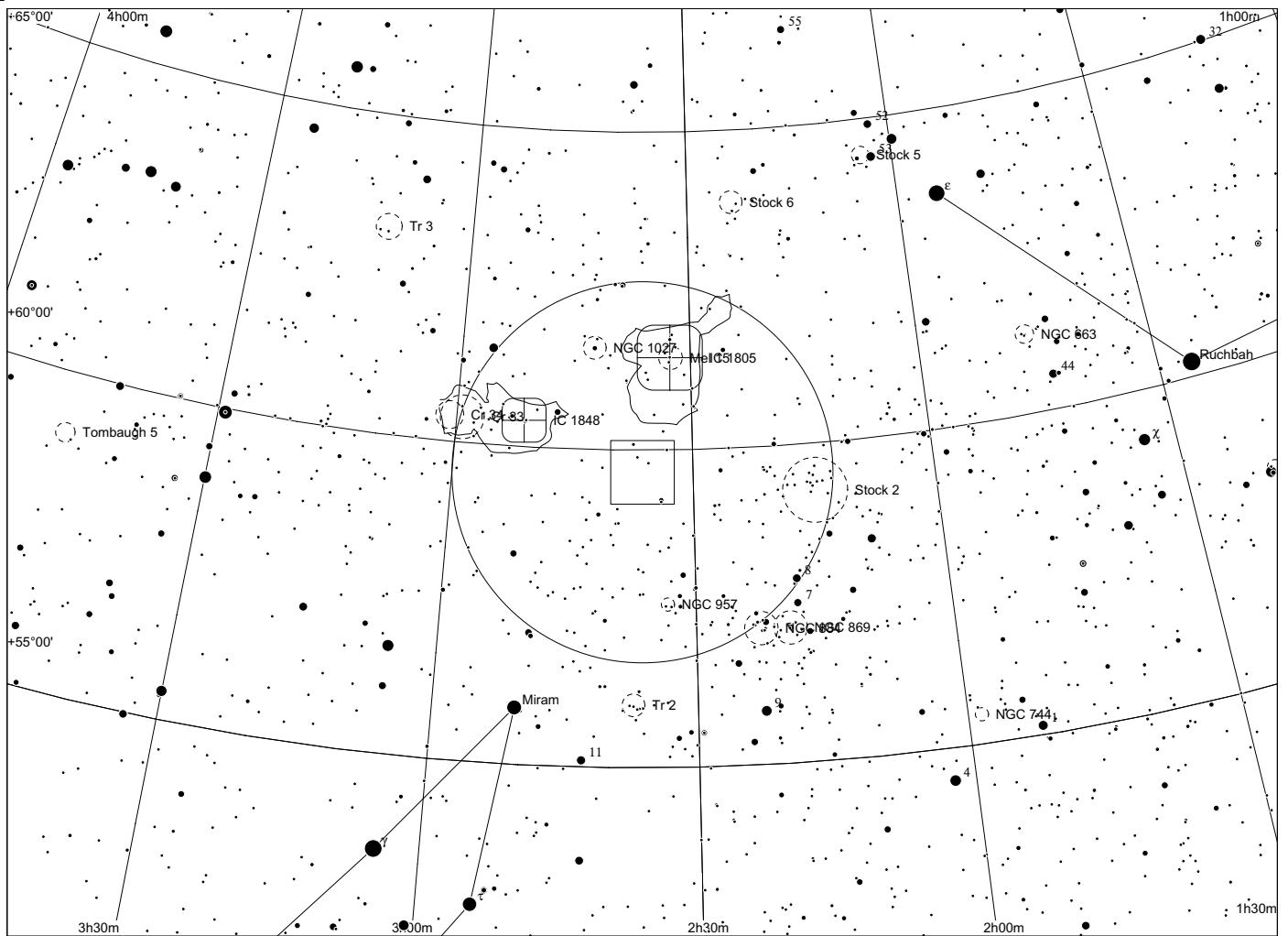
	other name	RA	dec	dia. '	F	S	B
Sh 2-191	Maffei I	02 36 38.7	+59 38 14	2	3	1	3

This is the galaxy Maffei 1.

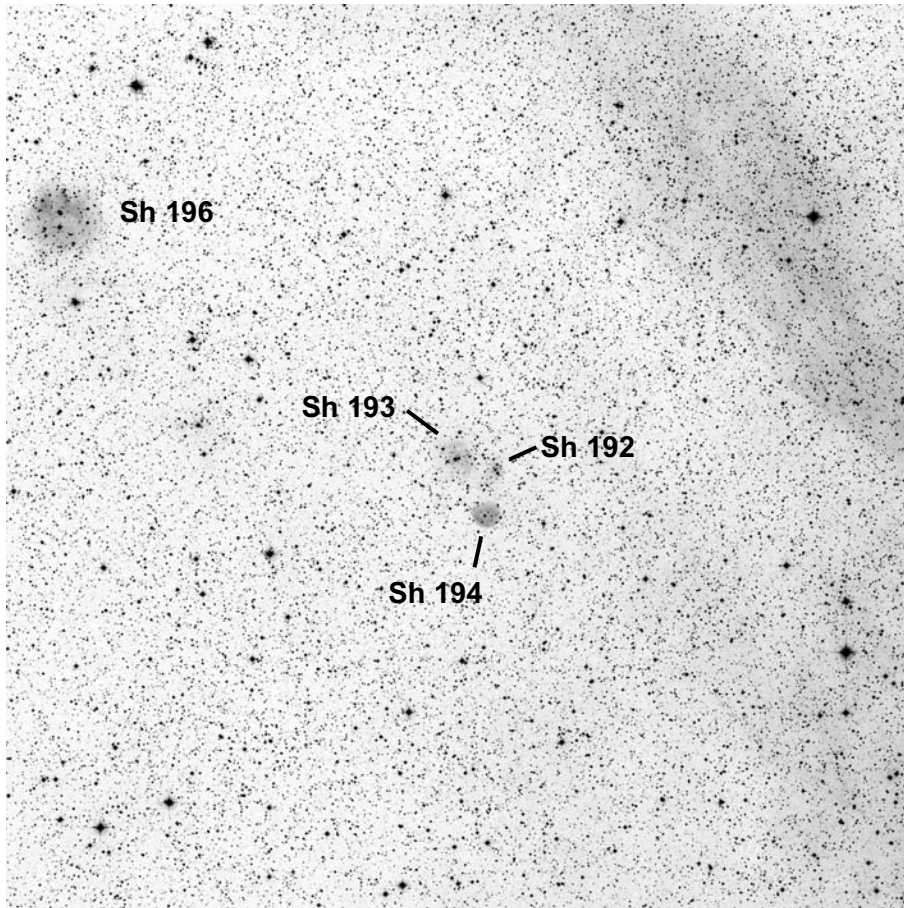
Observing notes:

22" f/4.5

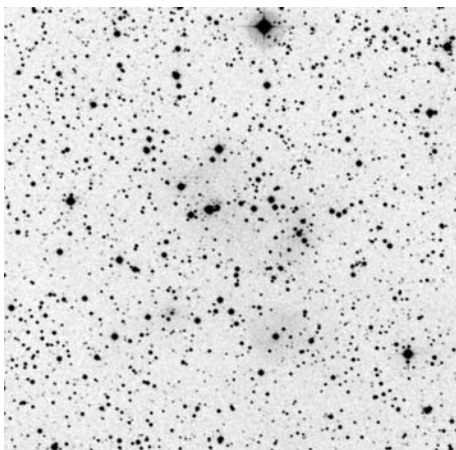
12/2006: Maffei 1 is easily visible as a distinct diffuse and elongated glow behind a loose OC.



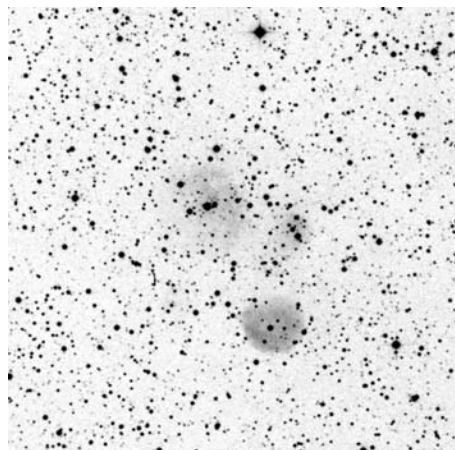
Sh 2 - 192/193/194 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-192		02 47 13.3	+61 59 17	1	2	1	1
Sh 2-193		02 47 32.5	+62 00 15	2	2	1	1
Sh 2-194		02 47 19.1	+61 56 17	2	2	1	2

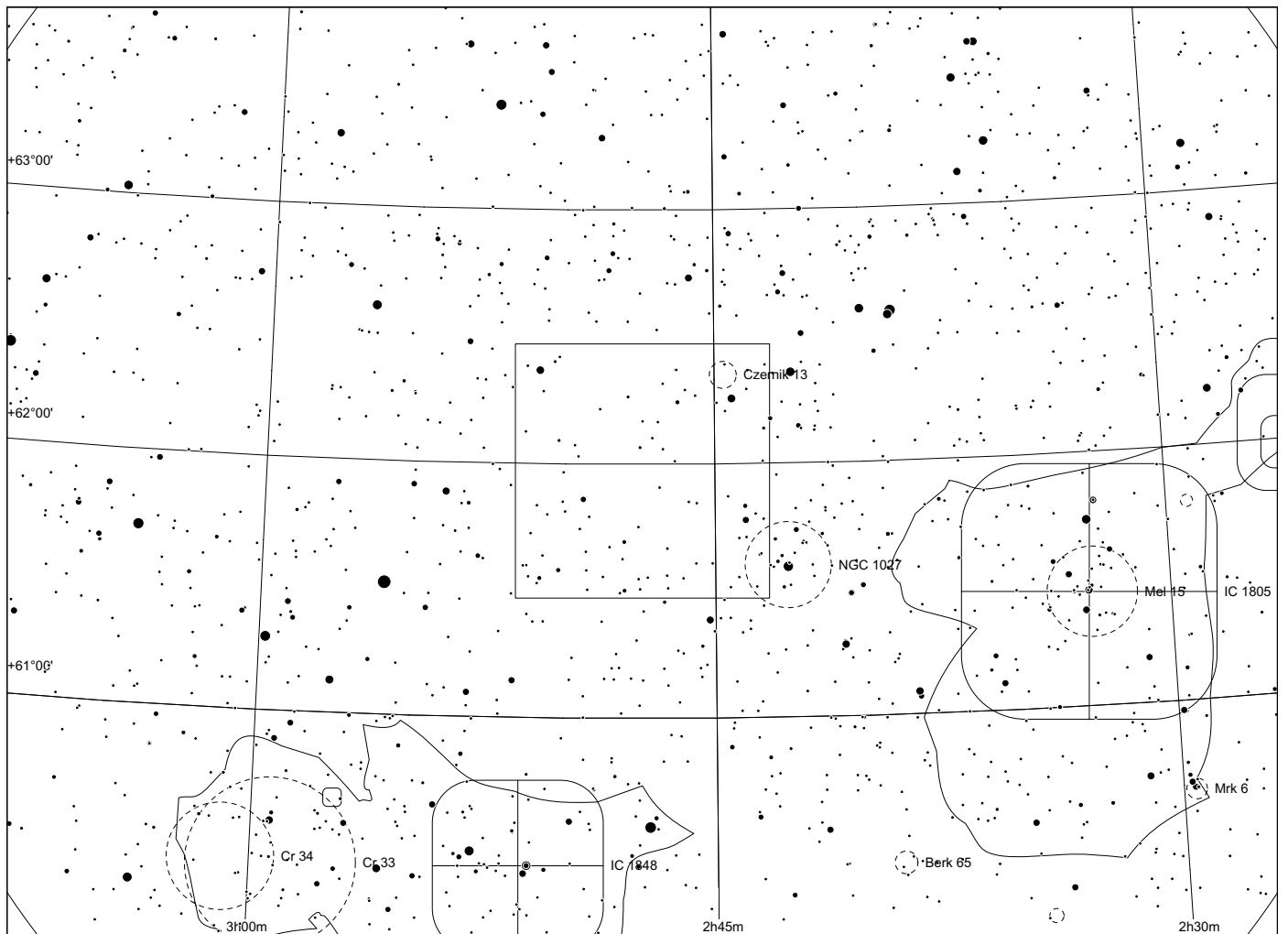
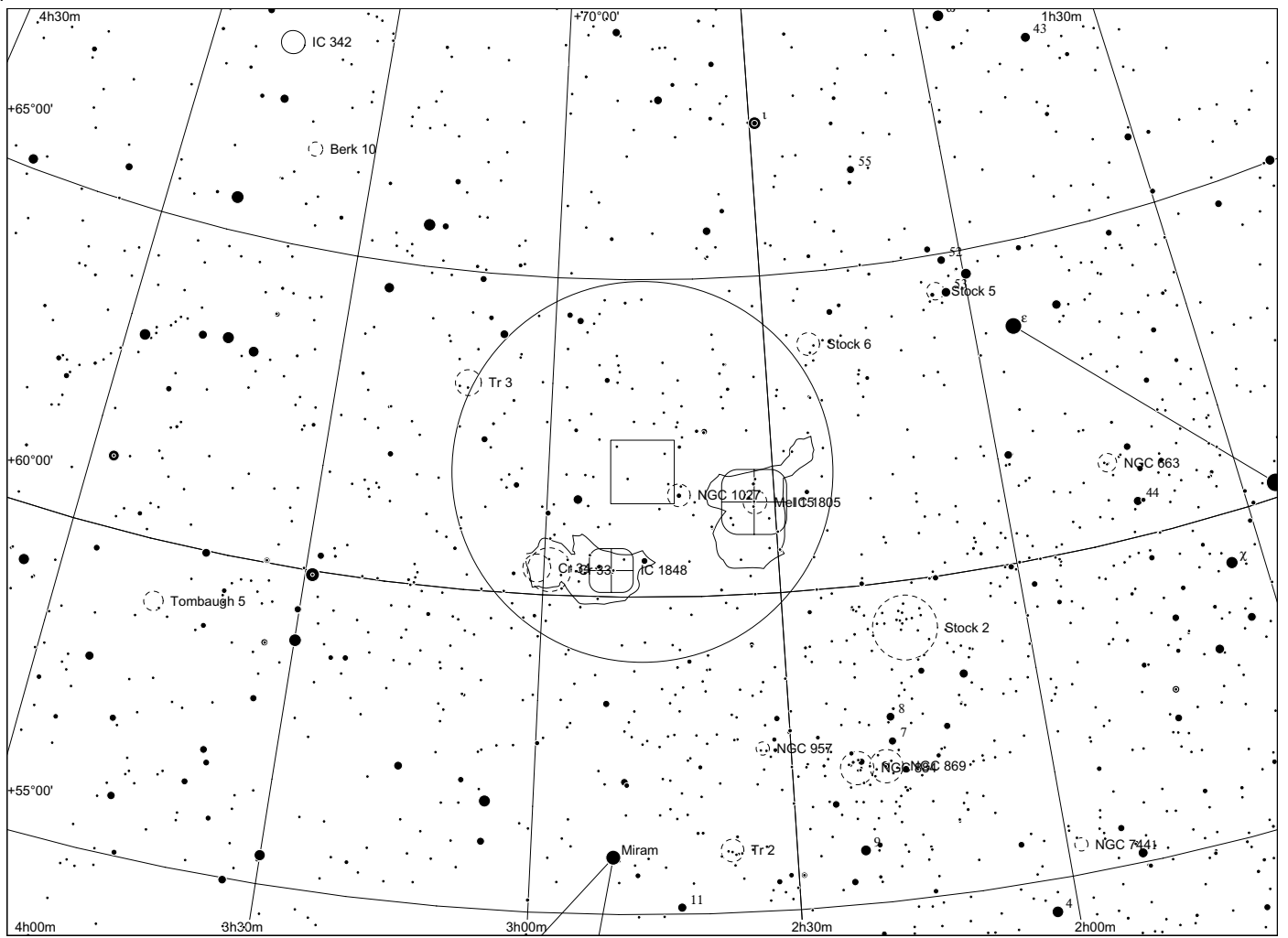
Distance: 3200 pc, Source: 2003A&A...397..133R

Sh 2-192, Sh 2-193 and Sh 2-194 are all near the W4 and W5 complexes.

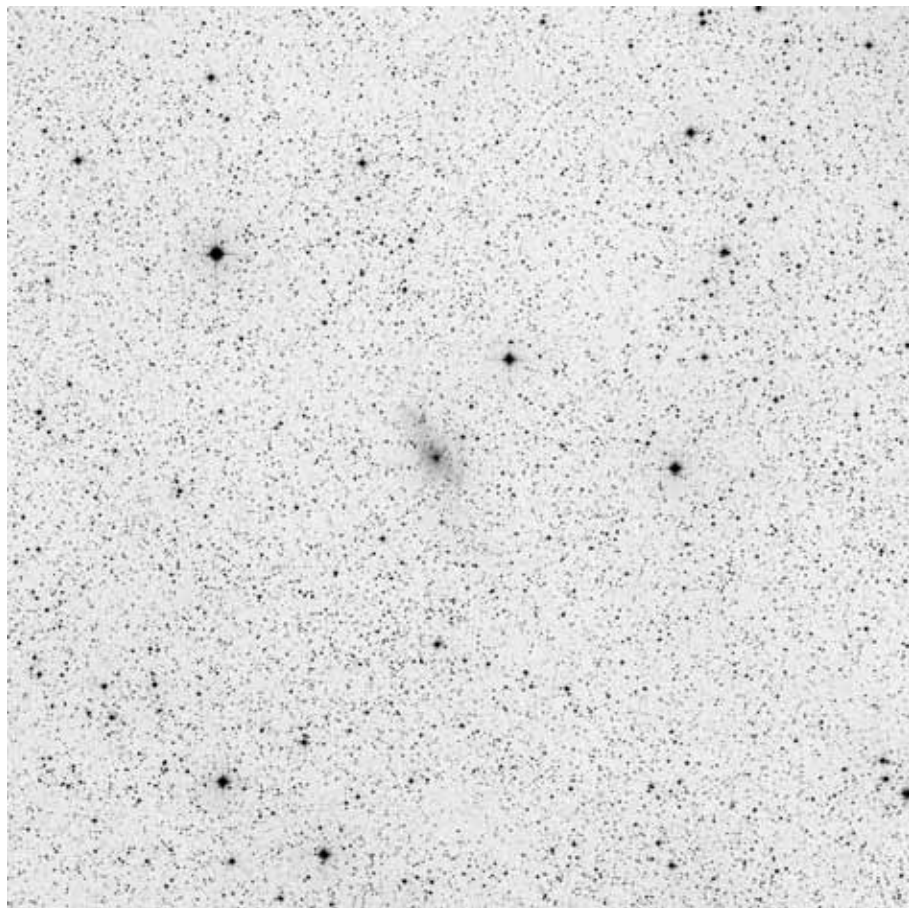
Observing notes:

22" f/4.5

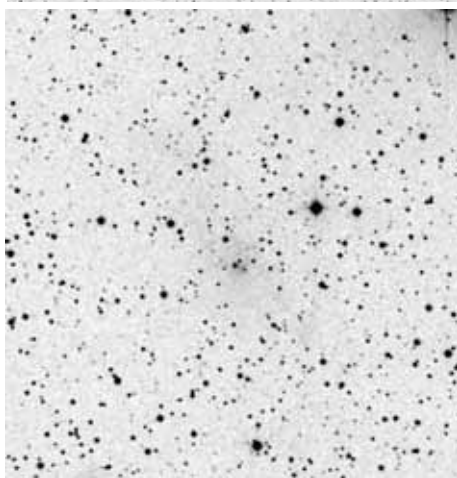
12/2011: unsuccessful observation for Sh 192 and Sh 193. Sh 194 was suspected with H beta filter at 200x.



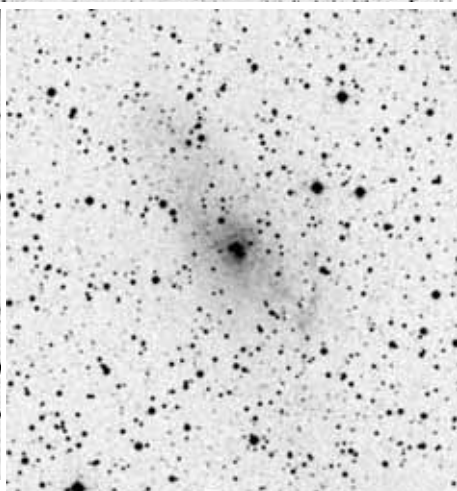
Sh 2 - 195/197 in Cassiopeia



60x60, red



POSS blue



POSS red



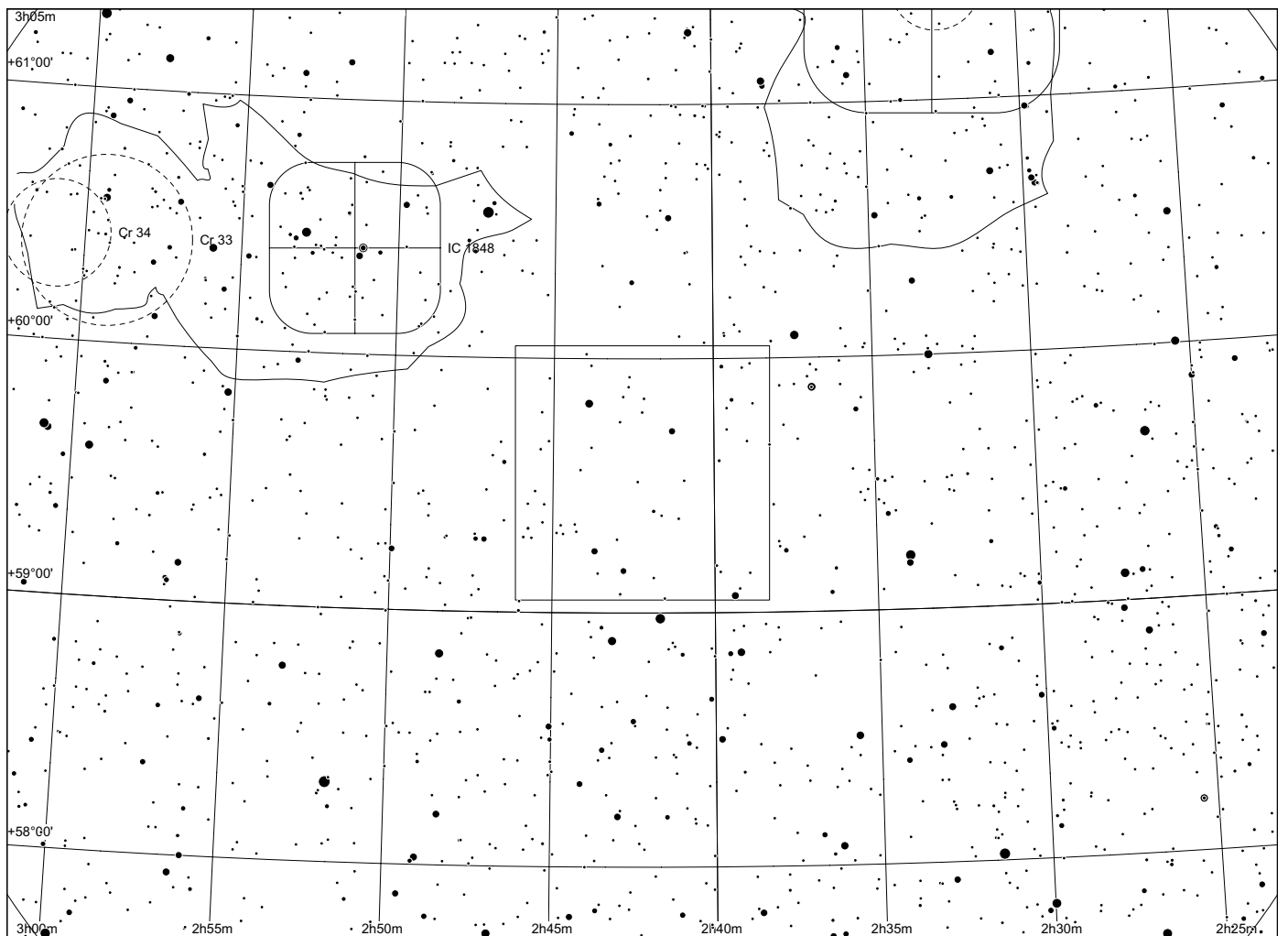
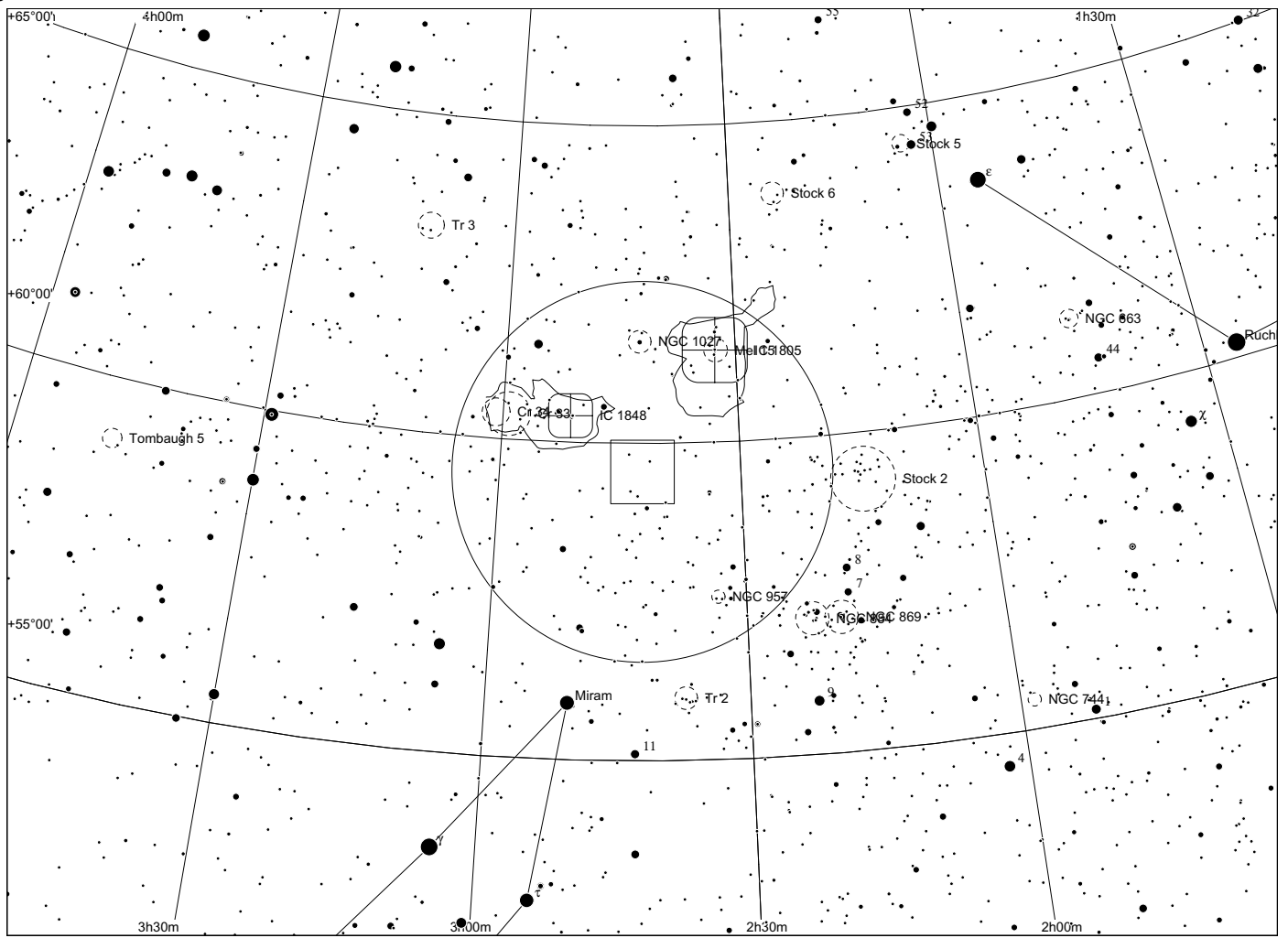
	other name	RA	dec	dia. '	F	S	B
Sh 2-195	?	02 40 05.1	+59 38 56	3	3	1	1
Sh 2-197	Maffei II	02 41 54.8	+59 38 46	5	3	2	1

This is Maffei II

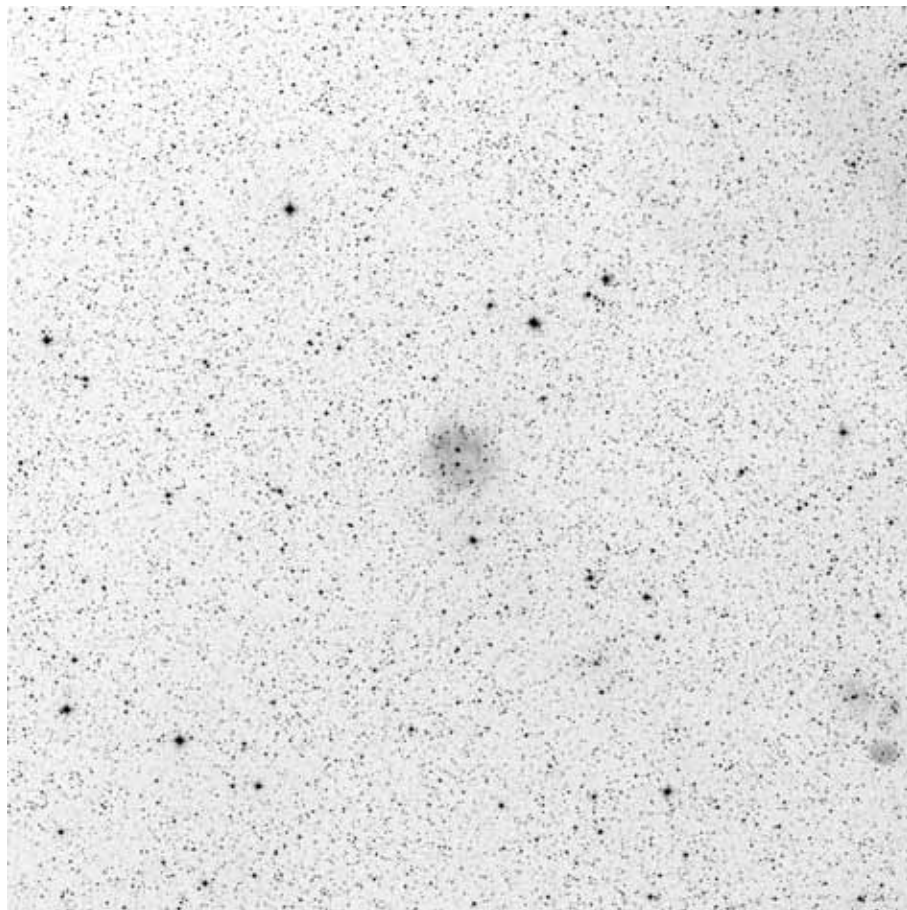
Observing notes:

22" f/4.5

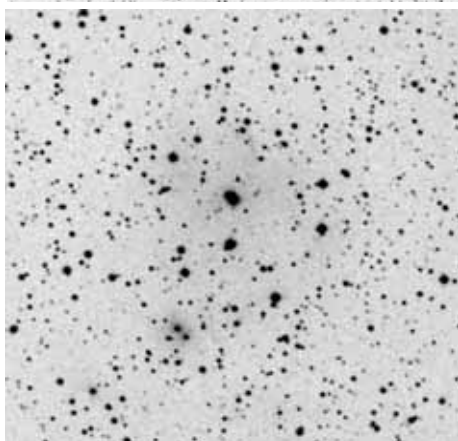
unsuccessful observation



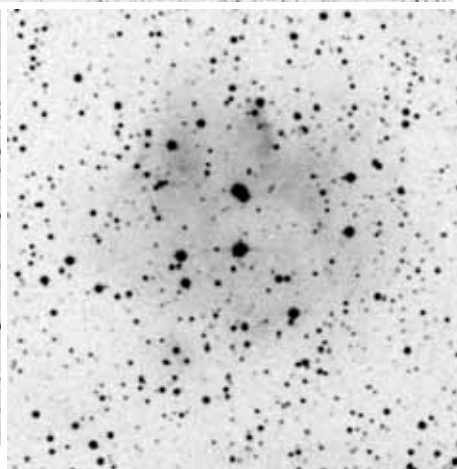
Sh 2 - 196 in Cassiopeia



60x60, red



POSS blue



POSS red

composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-196		02 51 18.8	+62 13 53	4	1	1	2

Distance: 3200 pc, Size: 3.7 pc, Source: 2003A&A...397..133R

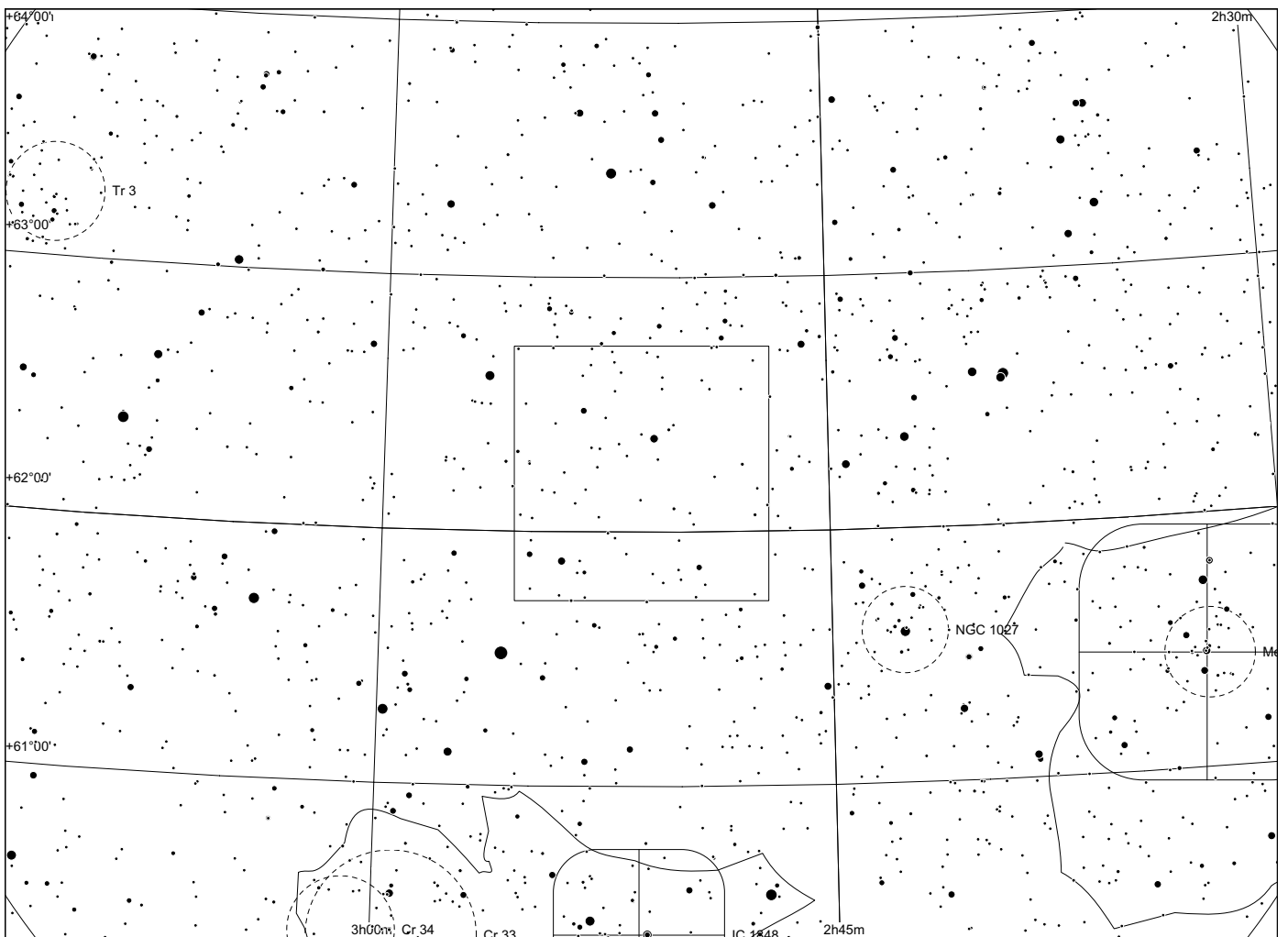
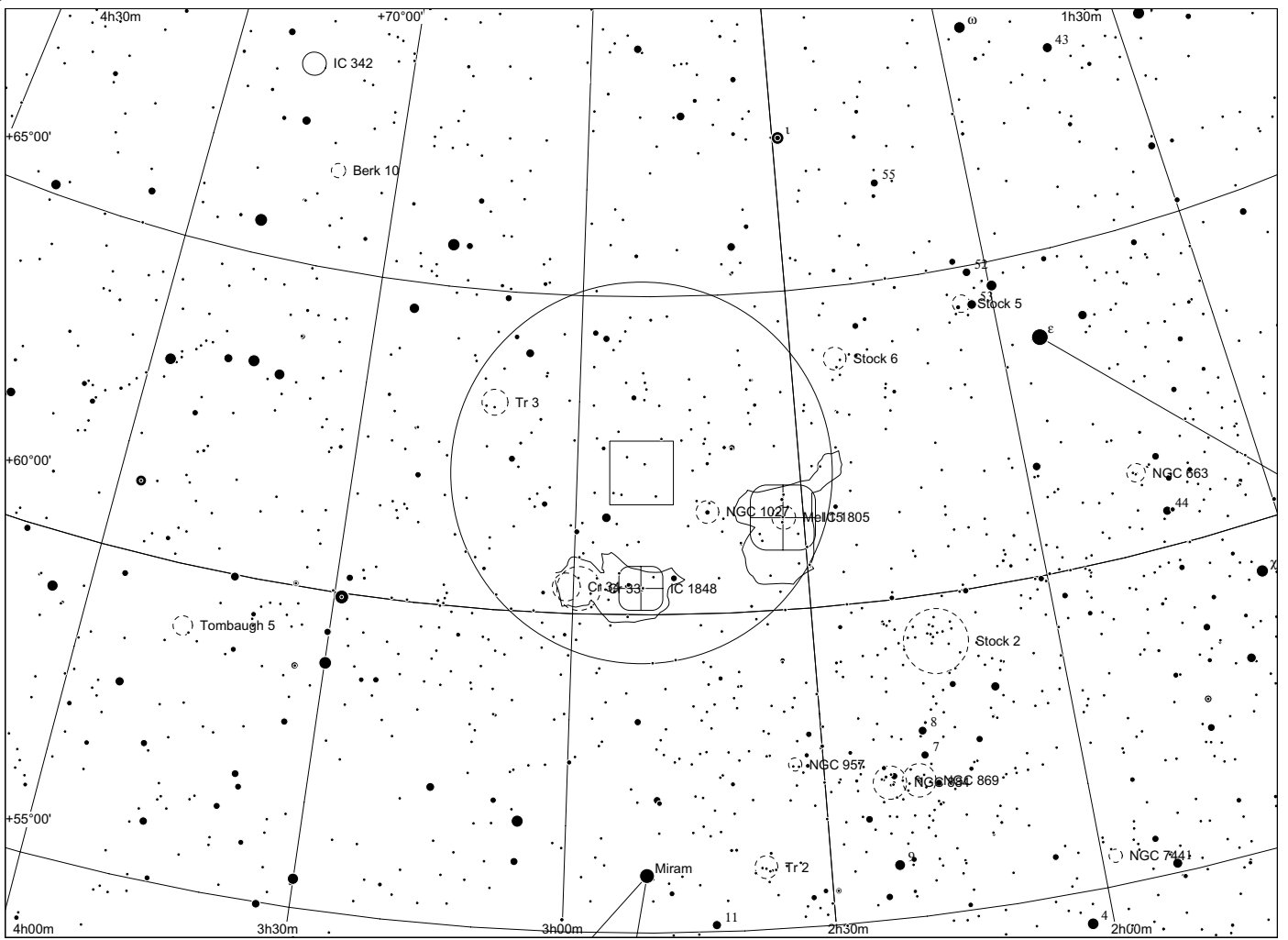
This HII region lies between W4 and W5.

Observing notes:

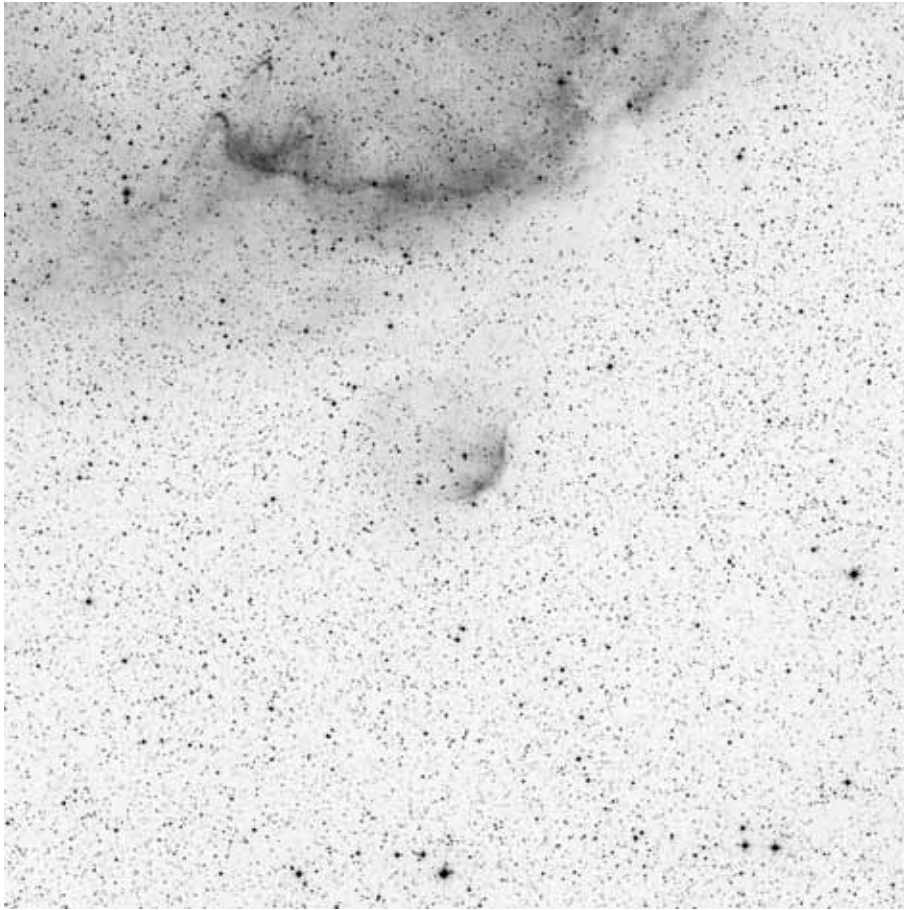
22" f/4.5

12/2011: w/o filter, there is a faint group of stars. With H beta filter at 100x, a diffuse glow is suspected.

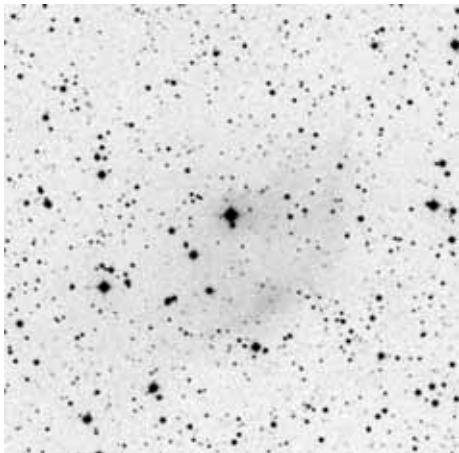
Uncertain whether from stars or from the nebula.



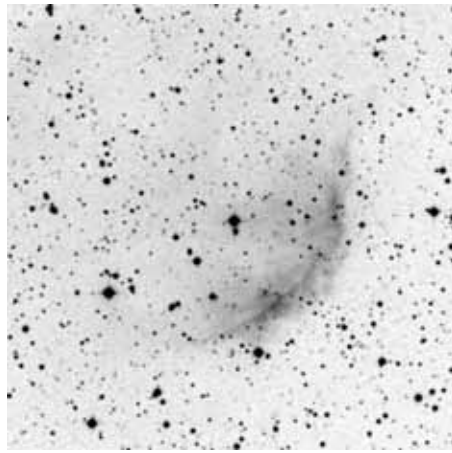
Sh 2 - 198 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-198		02 50 01.0	+59 42 01	9	2	2	2

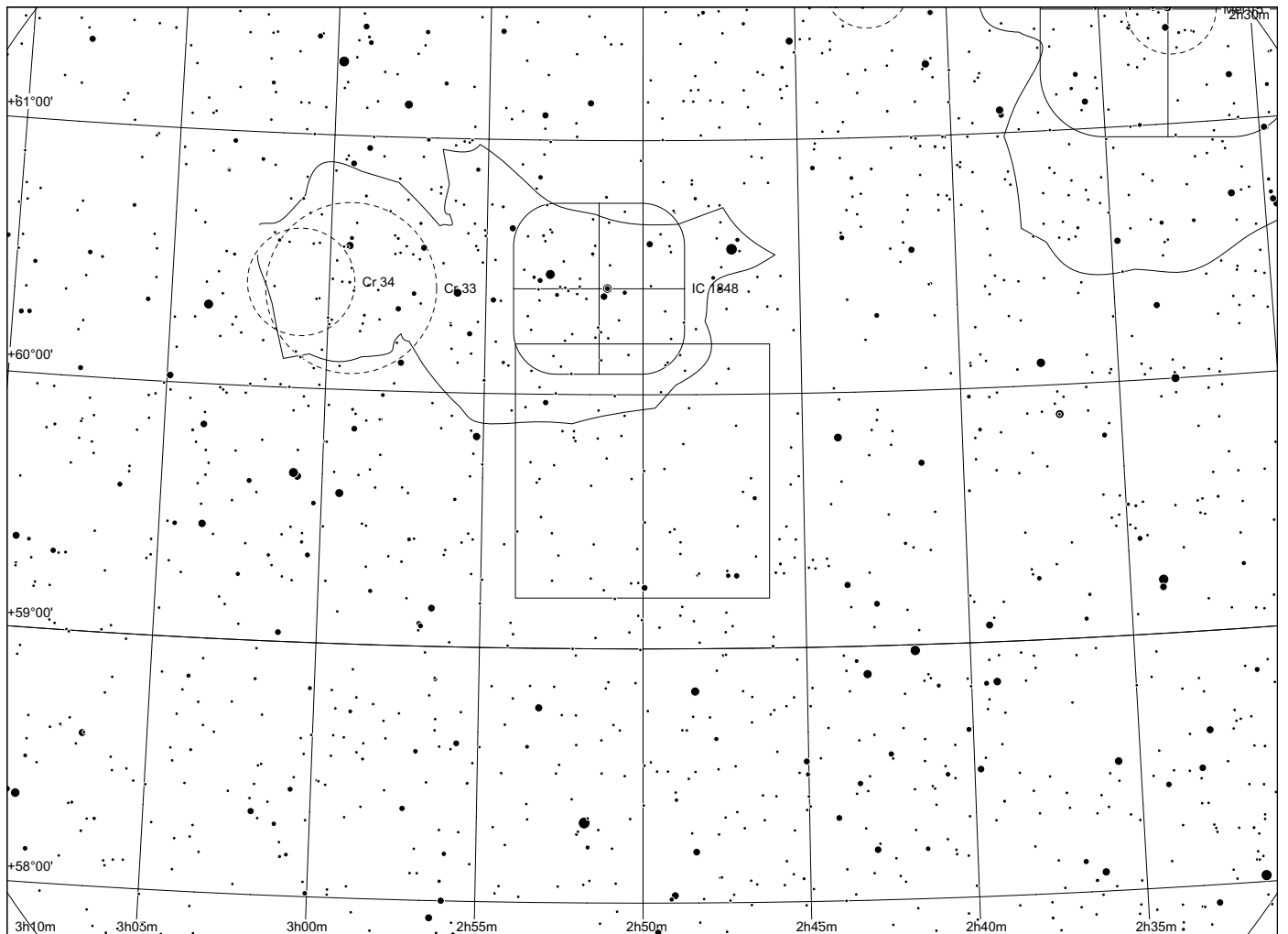
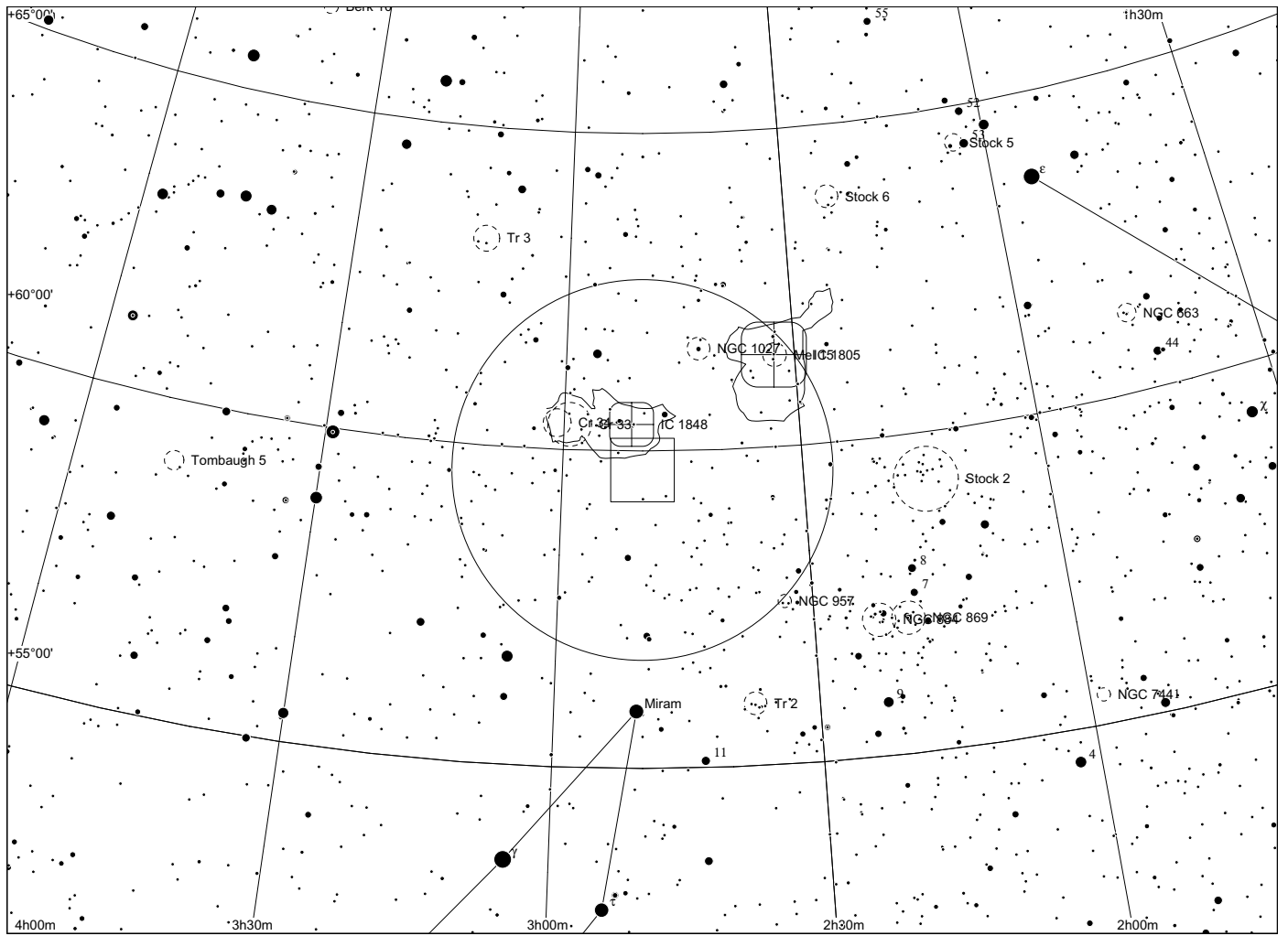
Distance: 2900 pc, Size: 7.6 pc, Source: 1982ApJS...49..183B

This region is located towards the south of the W5 star formation area / radio source.

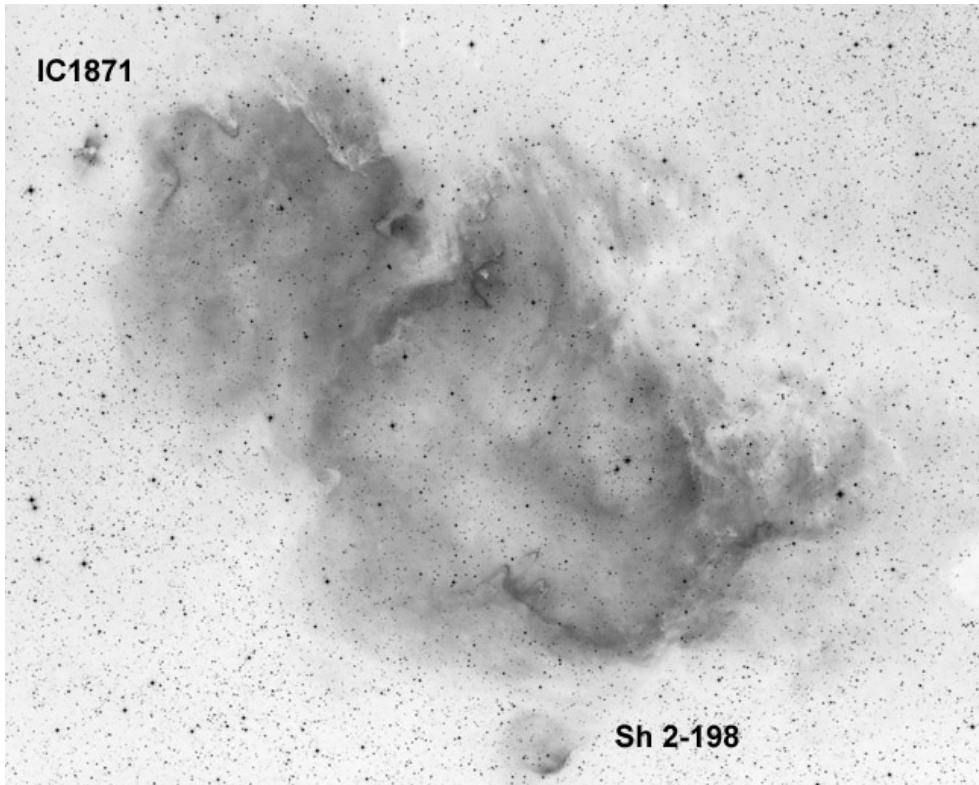
Observing notes:

22" f/4.5

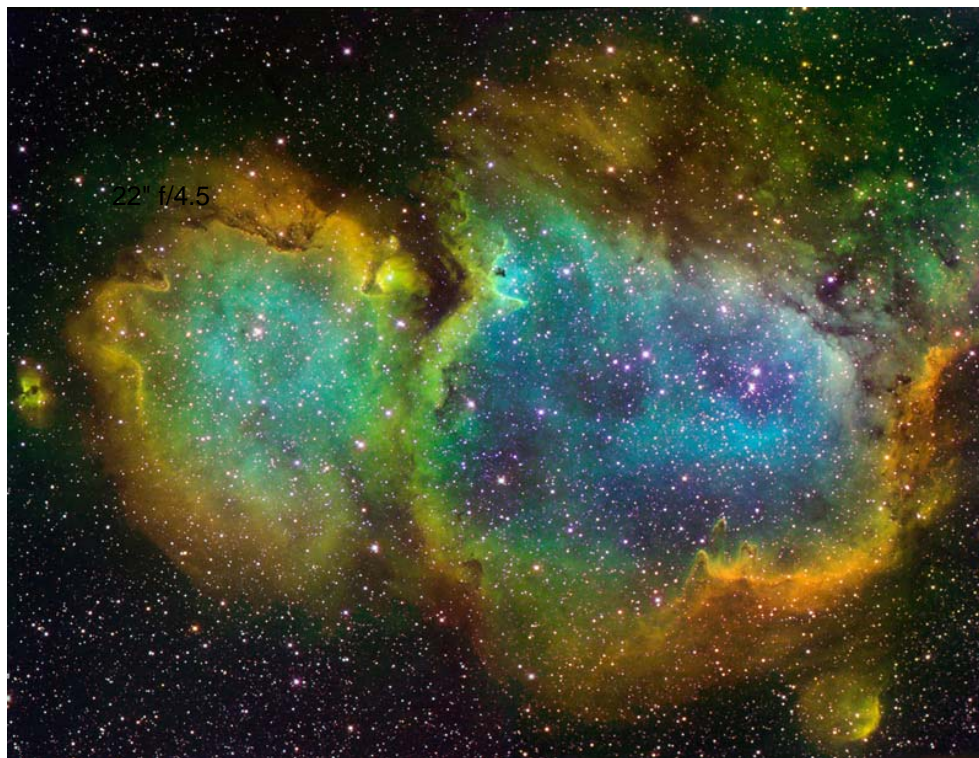
12/2011: unsuccessful observation



Sh 2 - 199
in
Cassiopeia



60x60, H alpha



narrowband
Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-199	IC 1848	02 54 32.9	+60 24 34	120	3	2	3

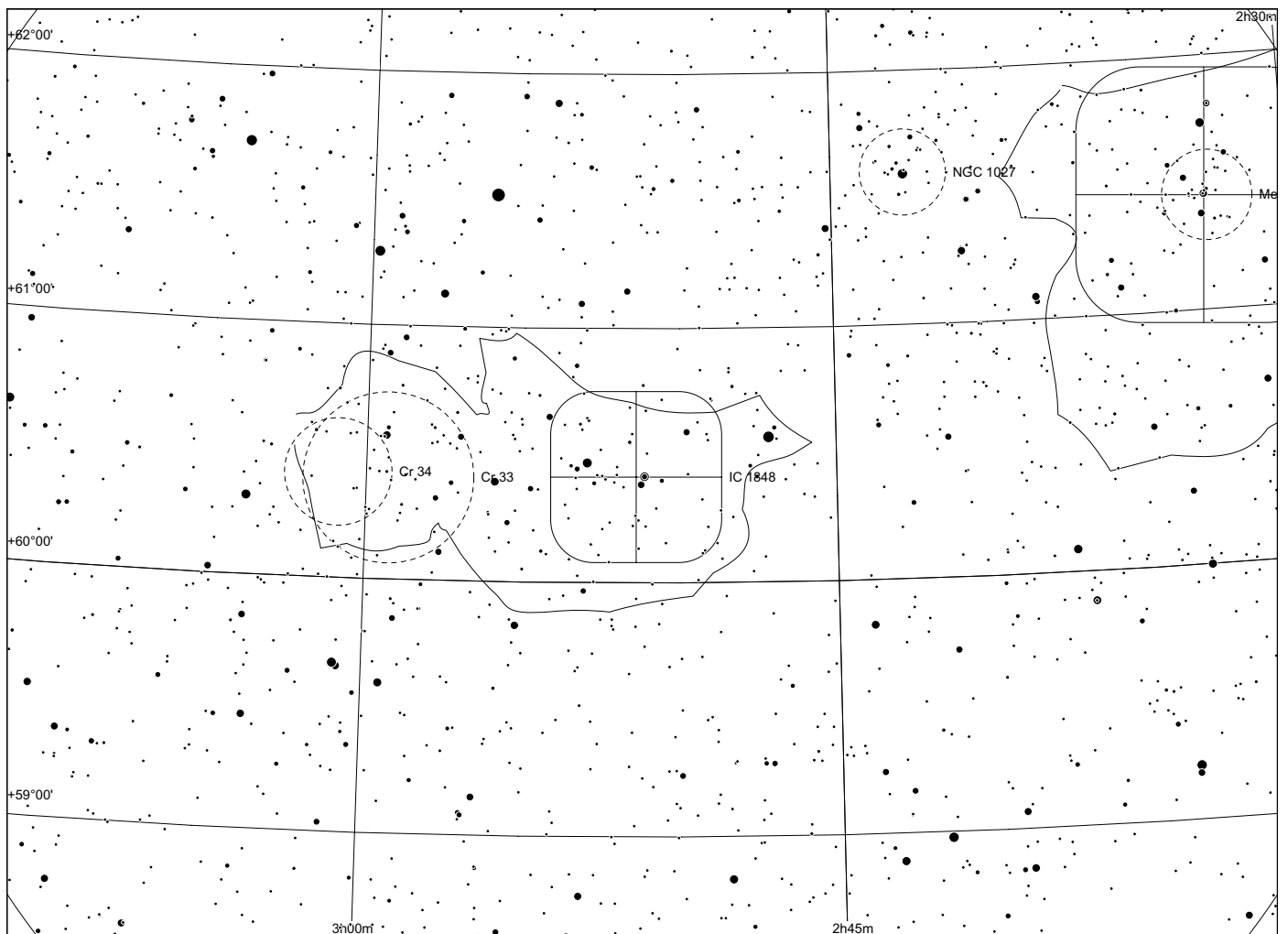
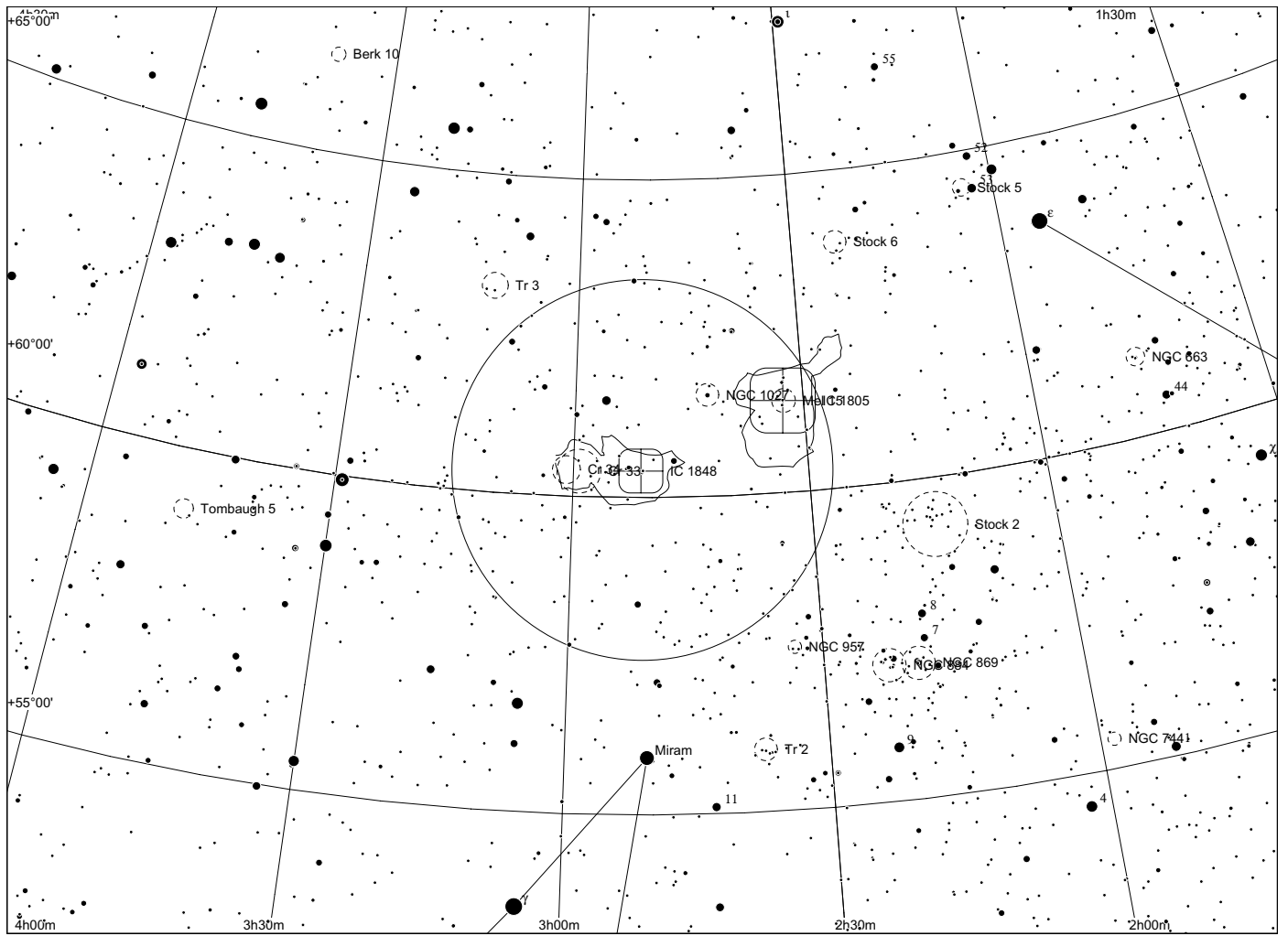
Distance: 2100 pc, Size: 73.3 pc, Source: 1982ApJS...49..183B

This is also called IC 1848, W5 and the Soul nebula and is a major star formation region.

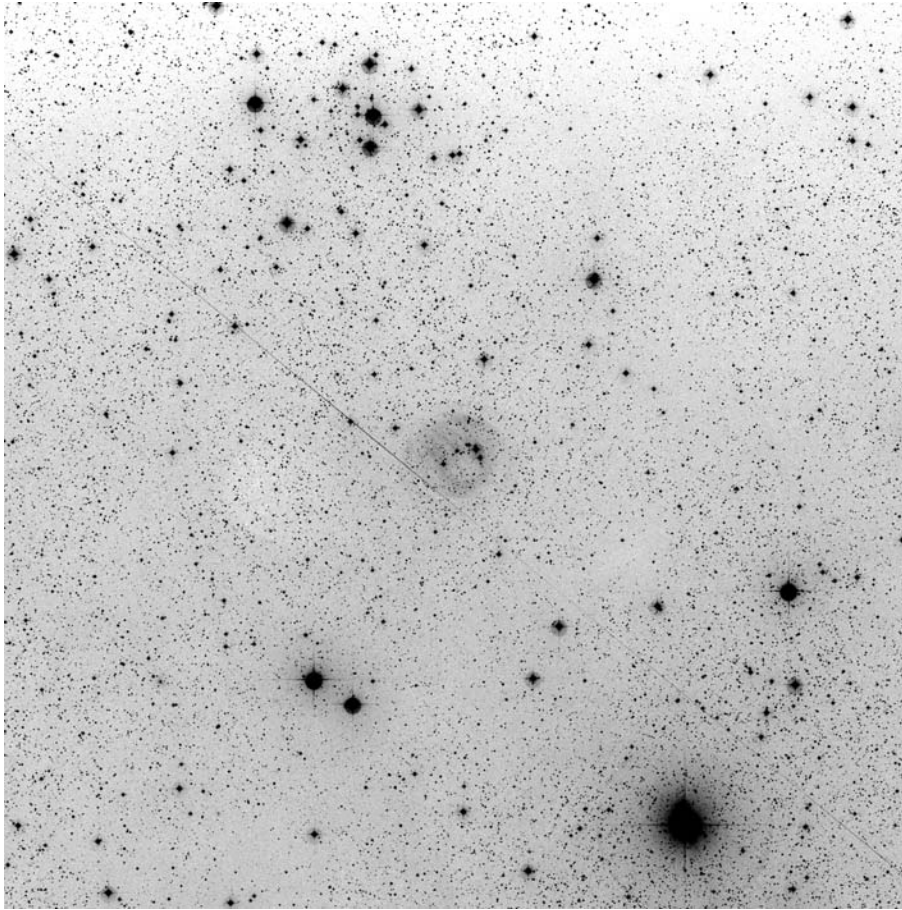
Observing notes:

22" f/4.5

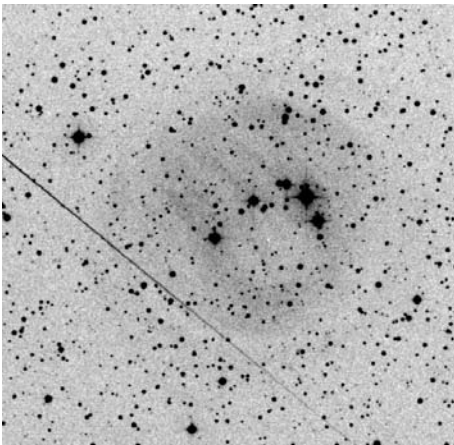
best with OIII, divided into two parts, SW part is larger and was suspected to be brighter at the borders, NE part is smaller, round and filled with neb.



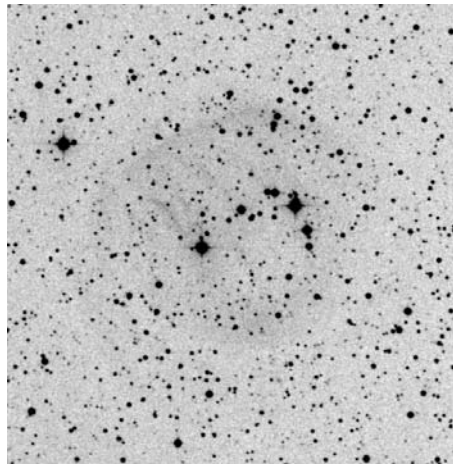
Sh 2 - 200 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-200	PN HDW 2	03 10 44.7	+62 48 55	6	2	2	1

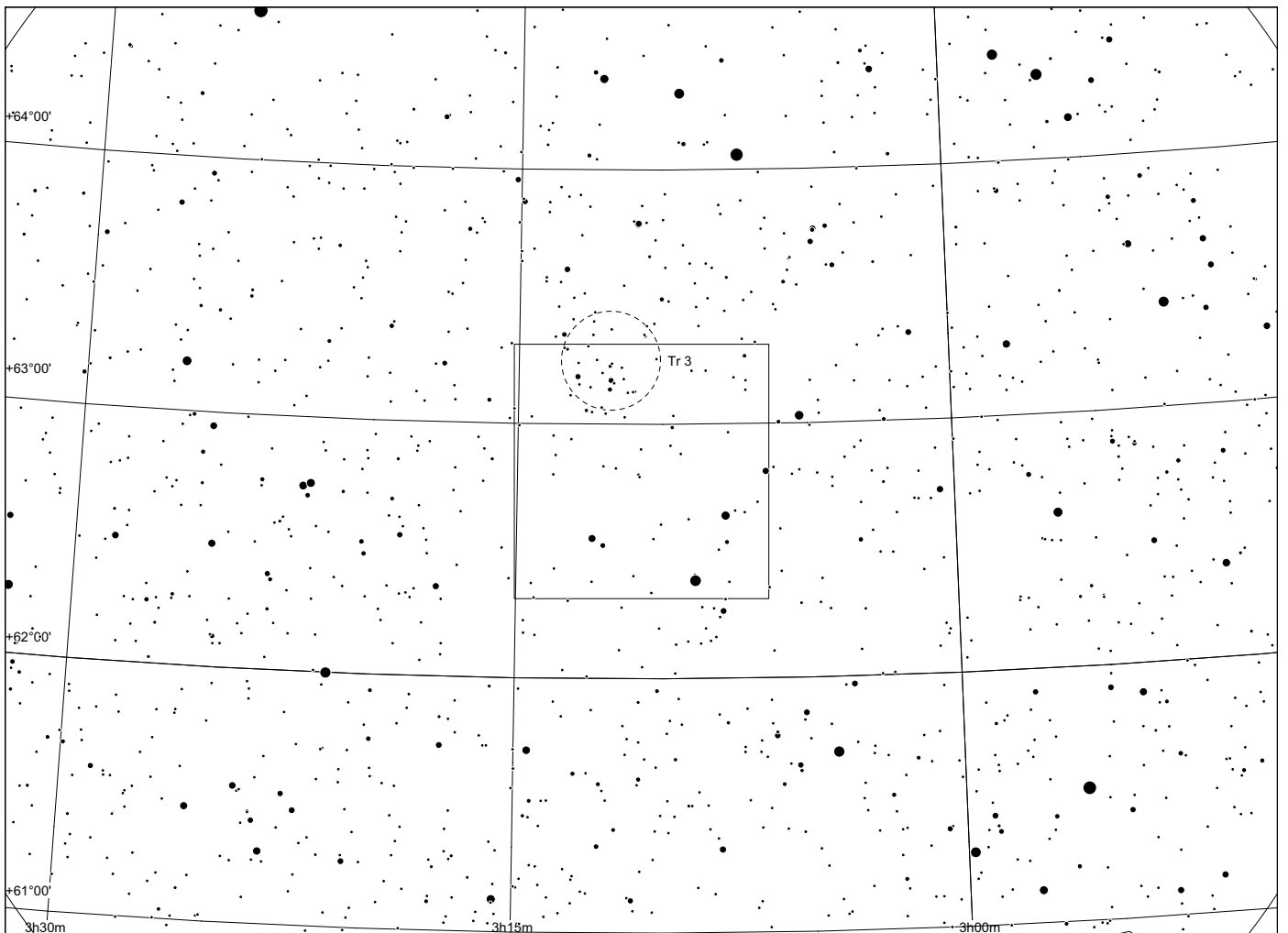
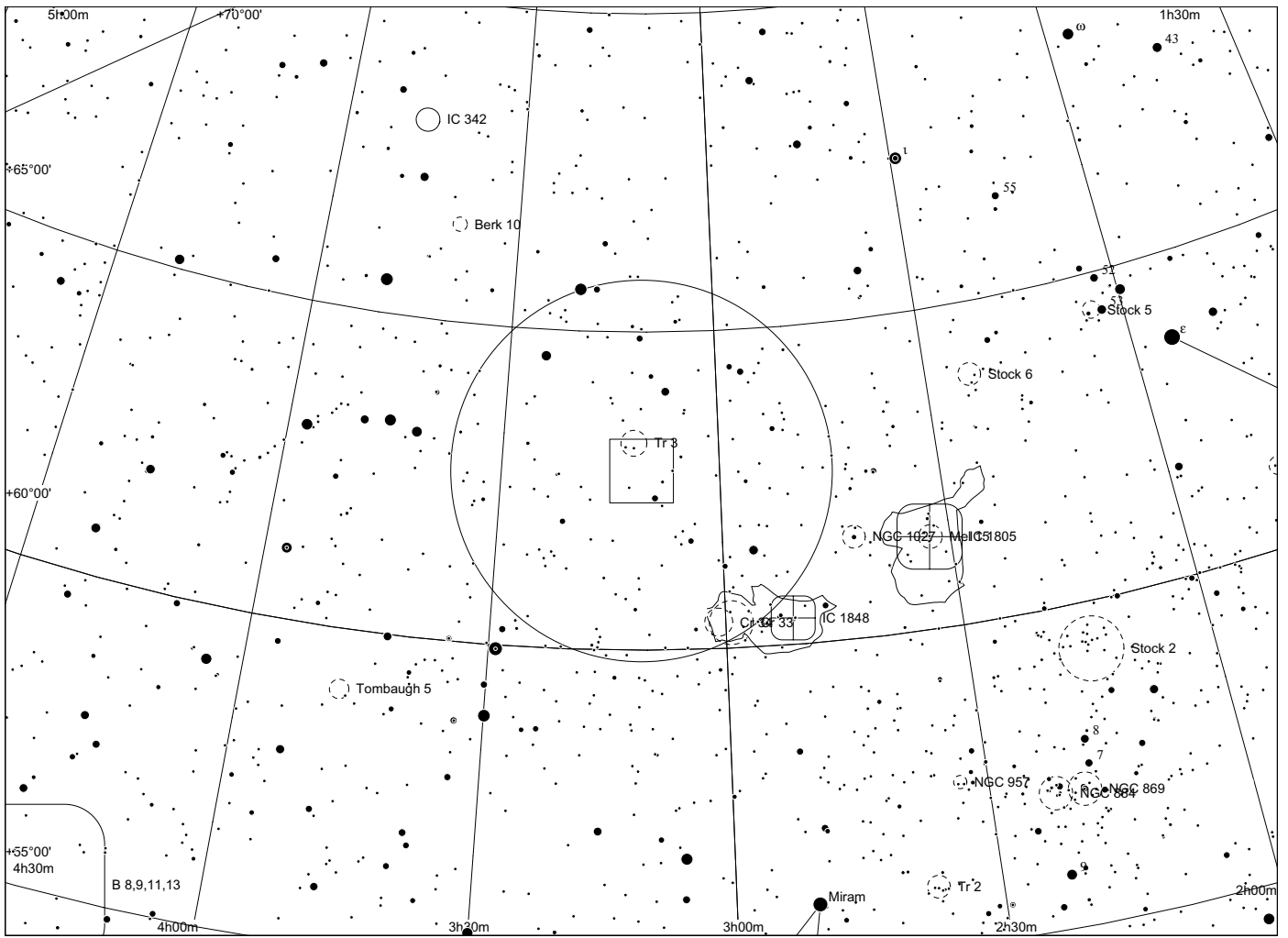
Distance: 1100 pc, Size: 1.9 pc, Source: 2003A&A...397..133R

This is the planetary nebula HDW 2.

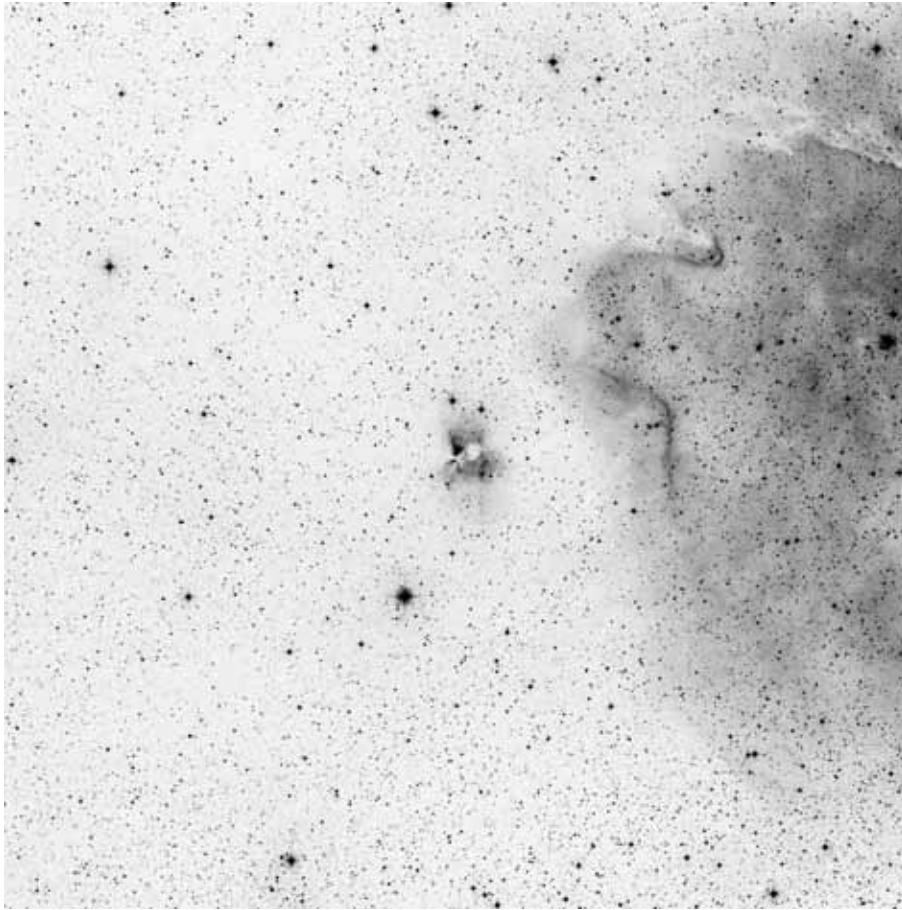
Observing notes:

22" f/4.5

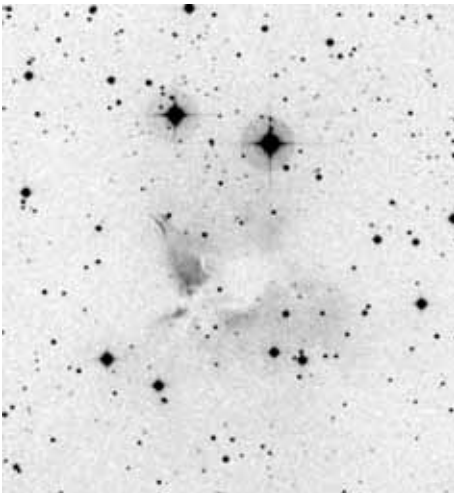
09/2010: At 100x with OIII filter, HDW2 is a very faint round patch, somewhat larger than the arc of stars in the center. Offset towards NE from the star chain.



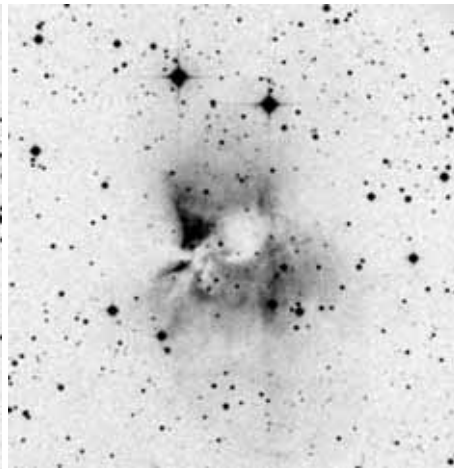
Sh 2 - 201 in Cassiopeia



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-201		03 03 10.3	+60 28 42	5	3	2	3

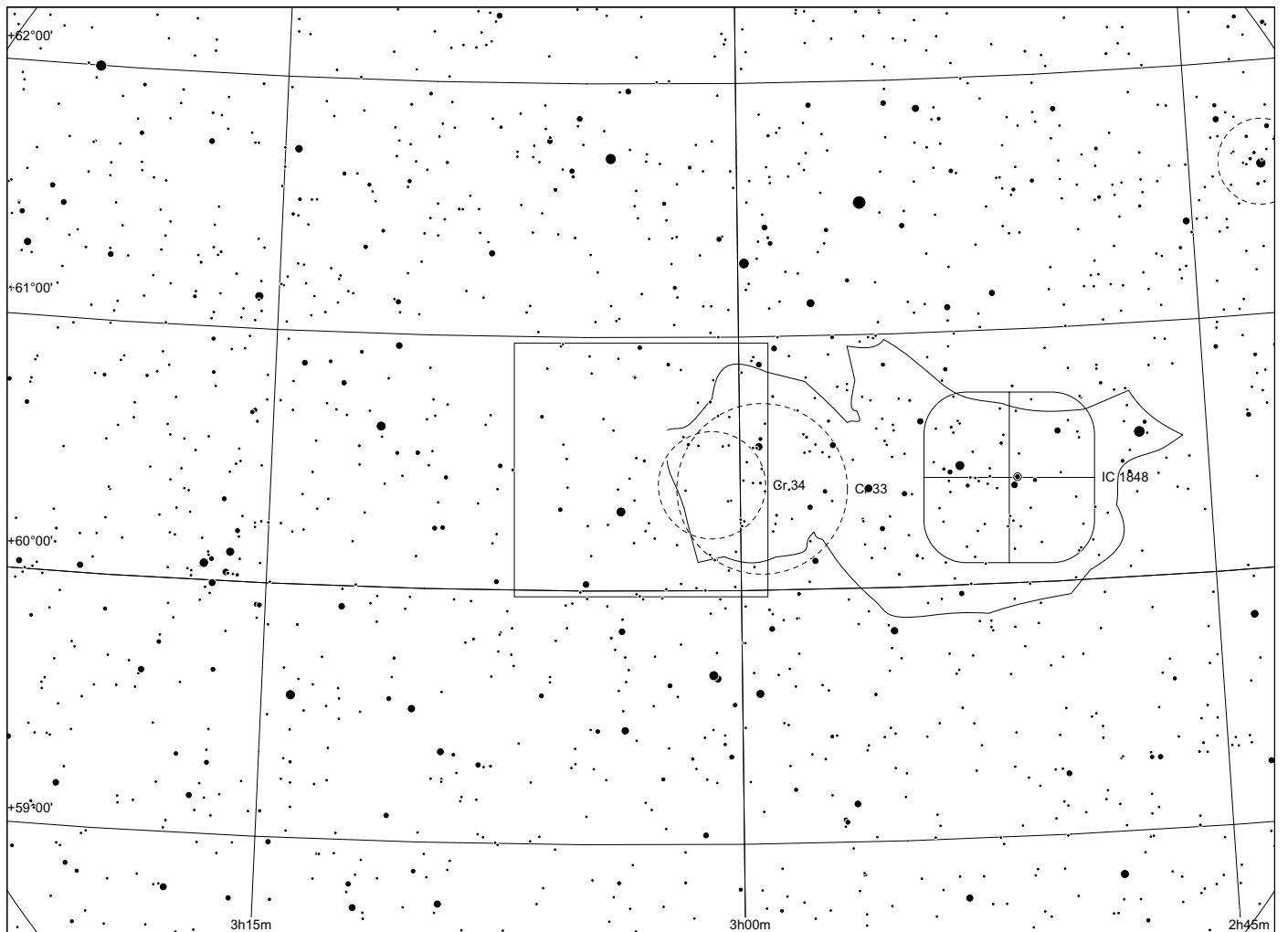
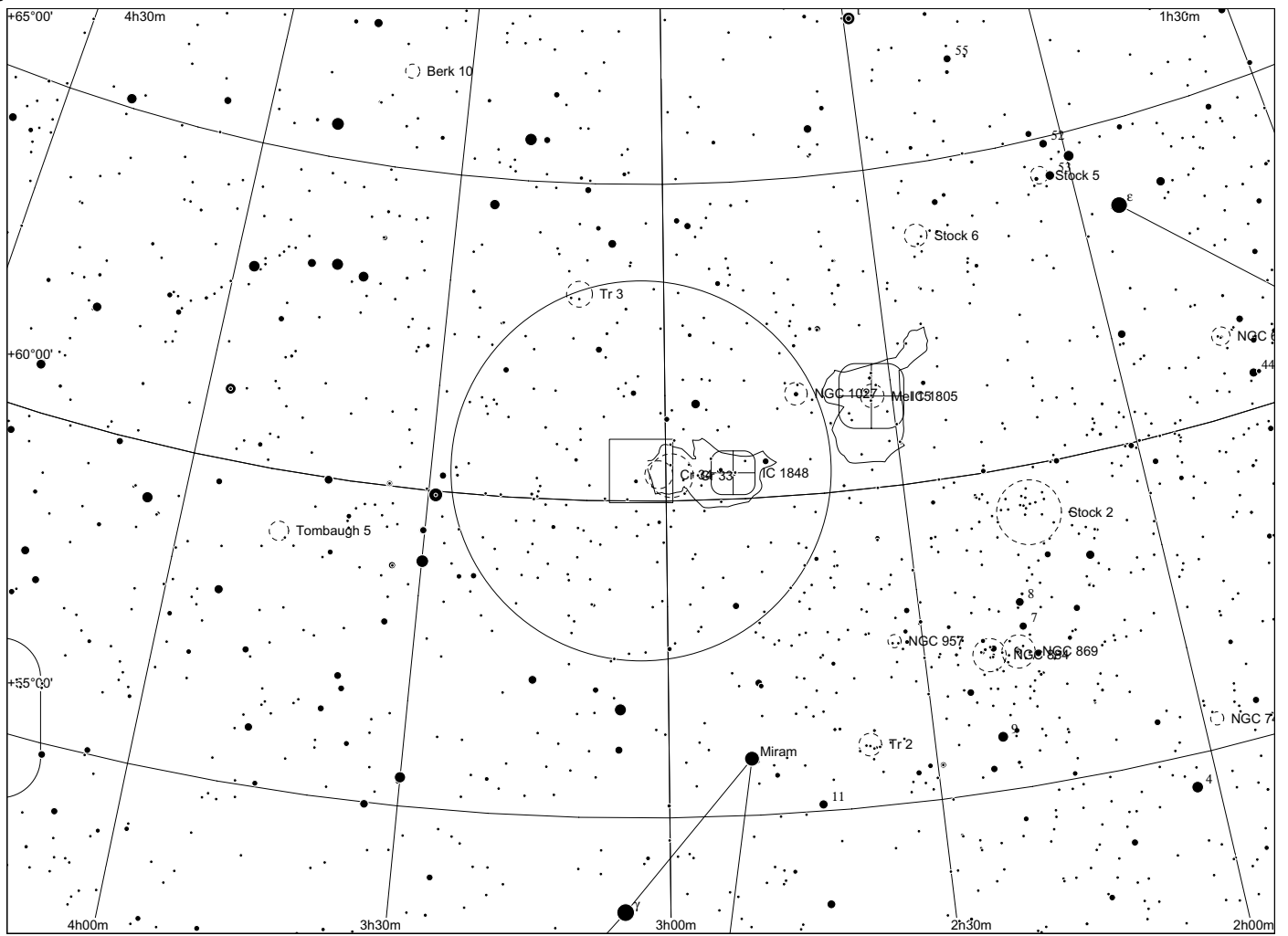
Distance: 3059 pc, Size: 3.6 pc, Source: 2003A&A...397..213P

A small HII region adjacent to the Soul nebula, Sh 2-199. The distance to this object is about 2300 pc, which puts it fairly close to Sh 2-199.

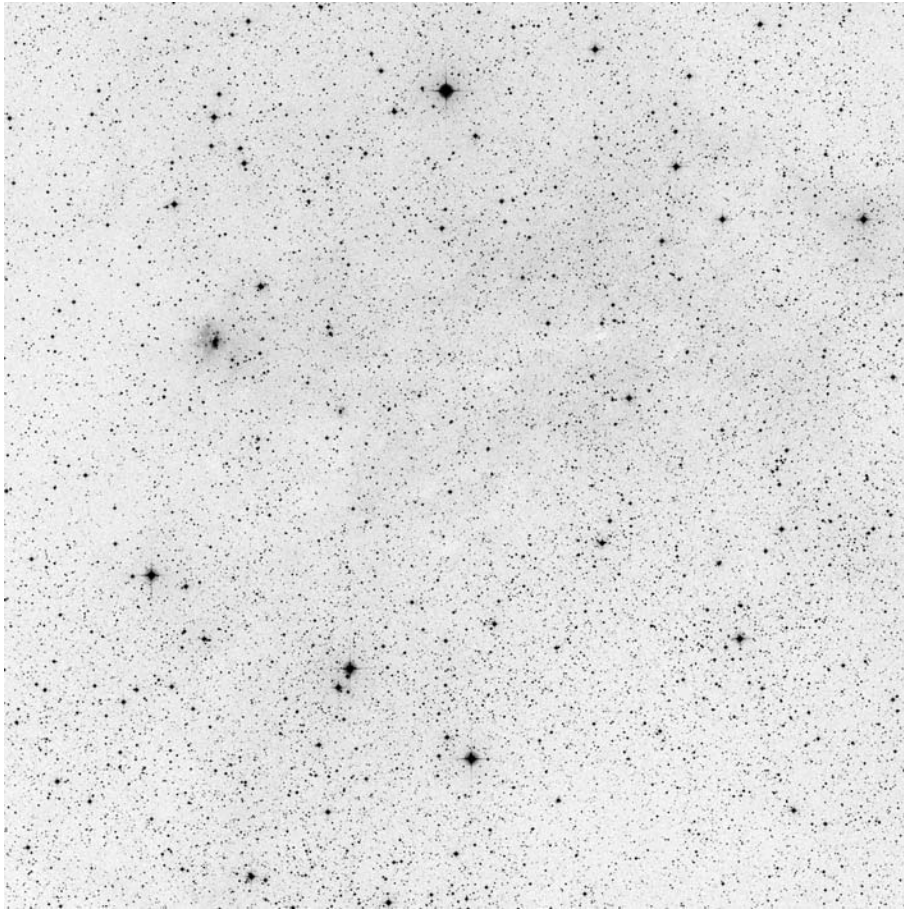
Observing notes:

22" f/4.5

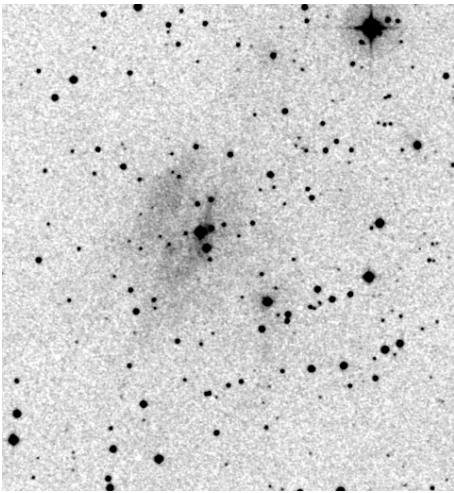
12/2011: unsuccessful observation



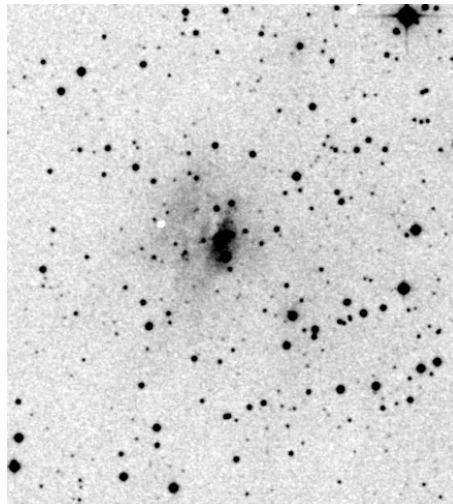
Sh 2 - 203 in Camelopardalis



60x60, red



POSS blue



POSS red



composite

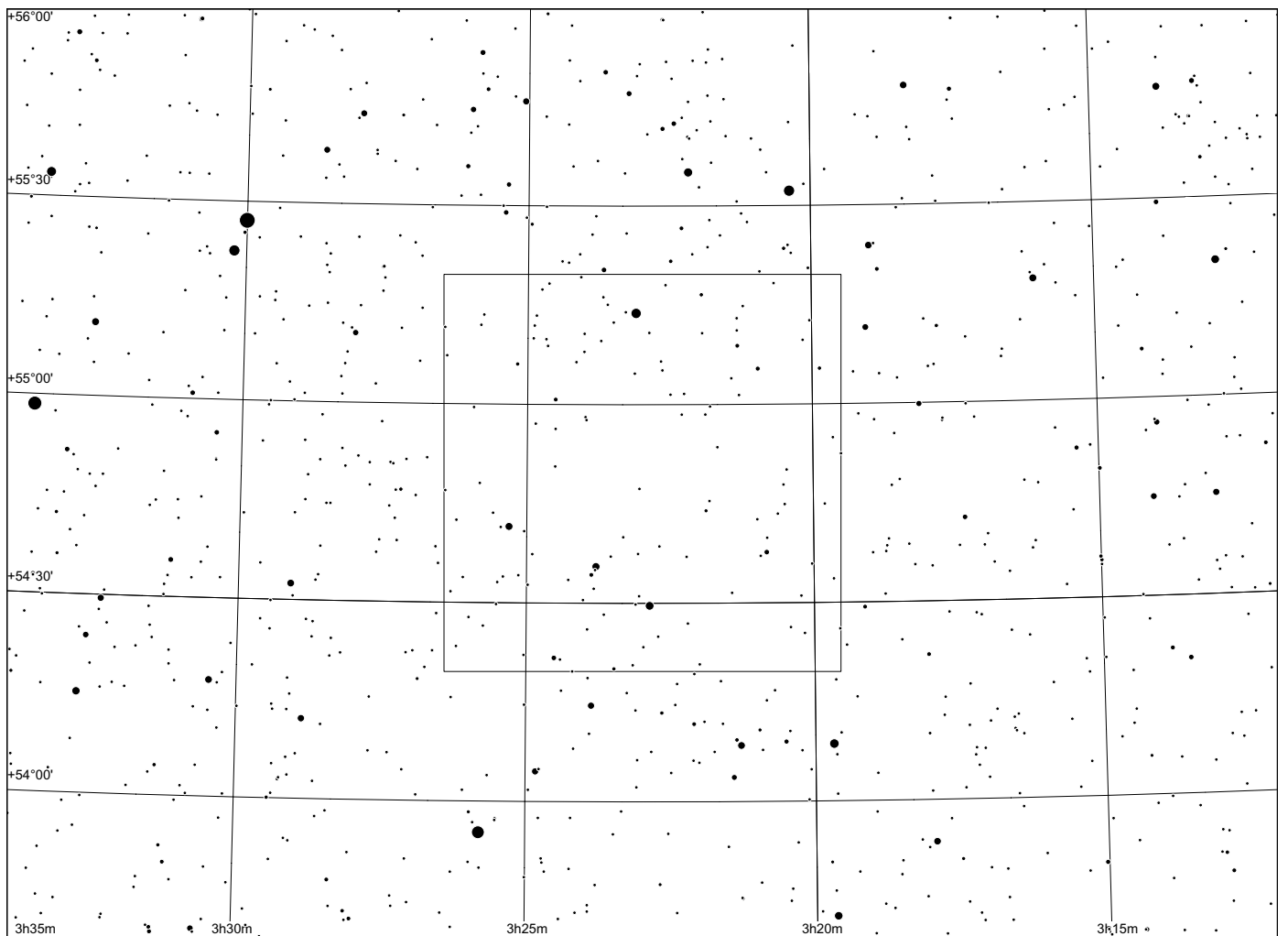
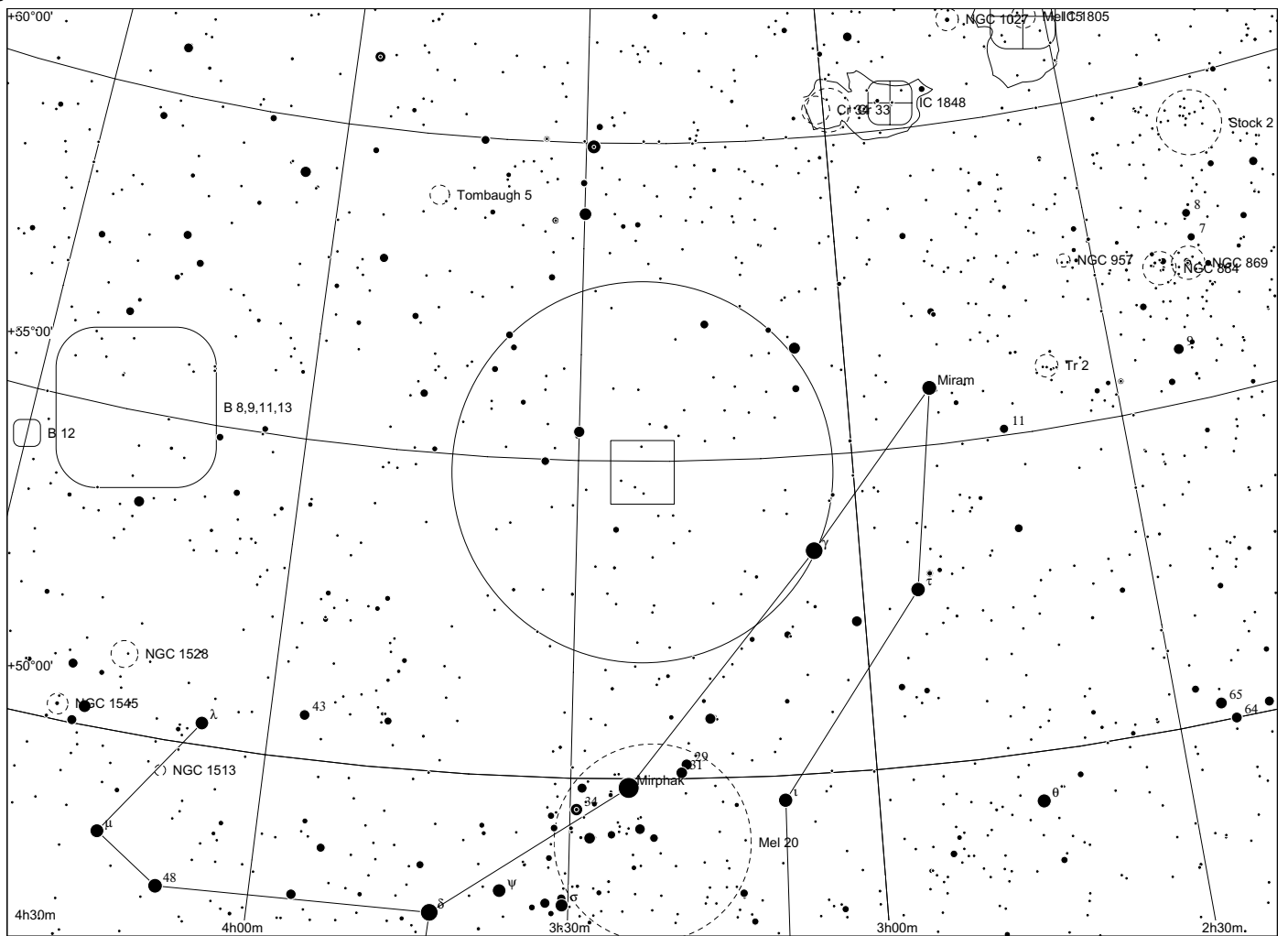
	other name	RA	dec	dia. '	F	S	B
Sh 2-203		03 22 00.3	+54 52 40	45	1	2	1

Distance: 3500 pc, Size: 45.8 pc, Source: 2003A&A...397..133R

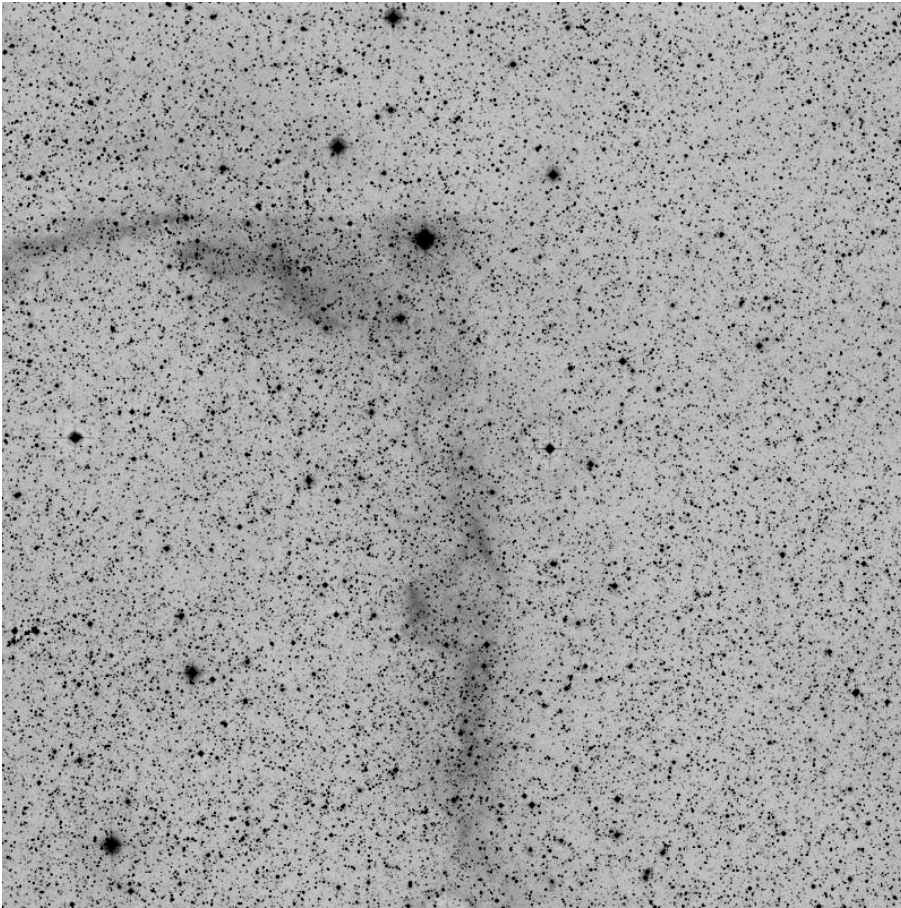
Observing notes:

22" f/4.5

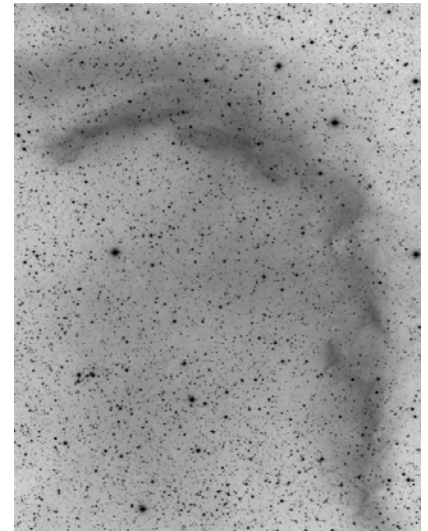
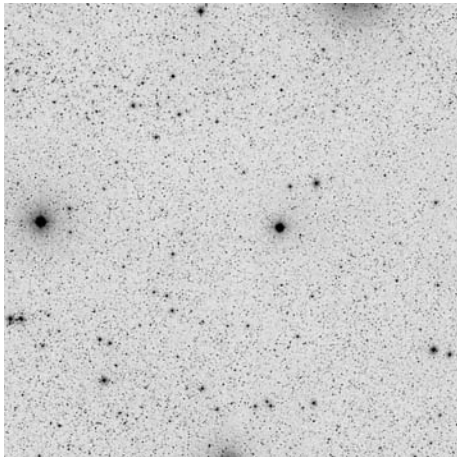
12/2011: unsuccessful observation



Sh 2 - 204 in Camelopardalis



60x60, red



POSS blue

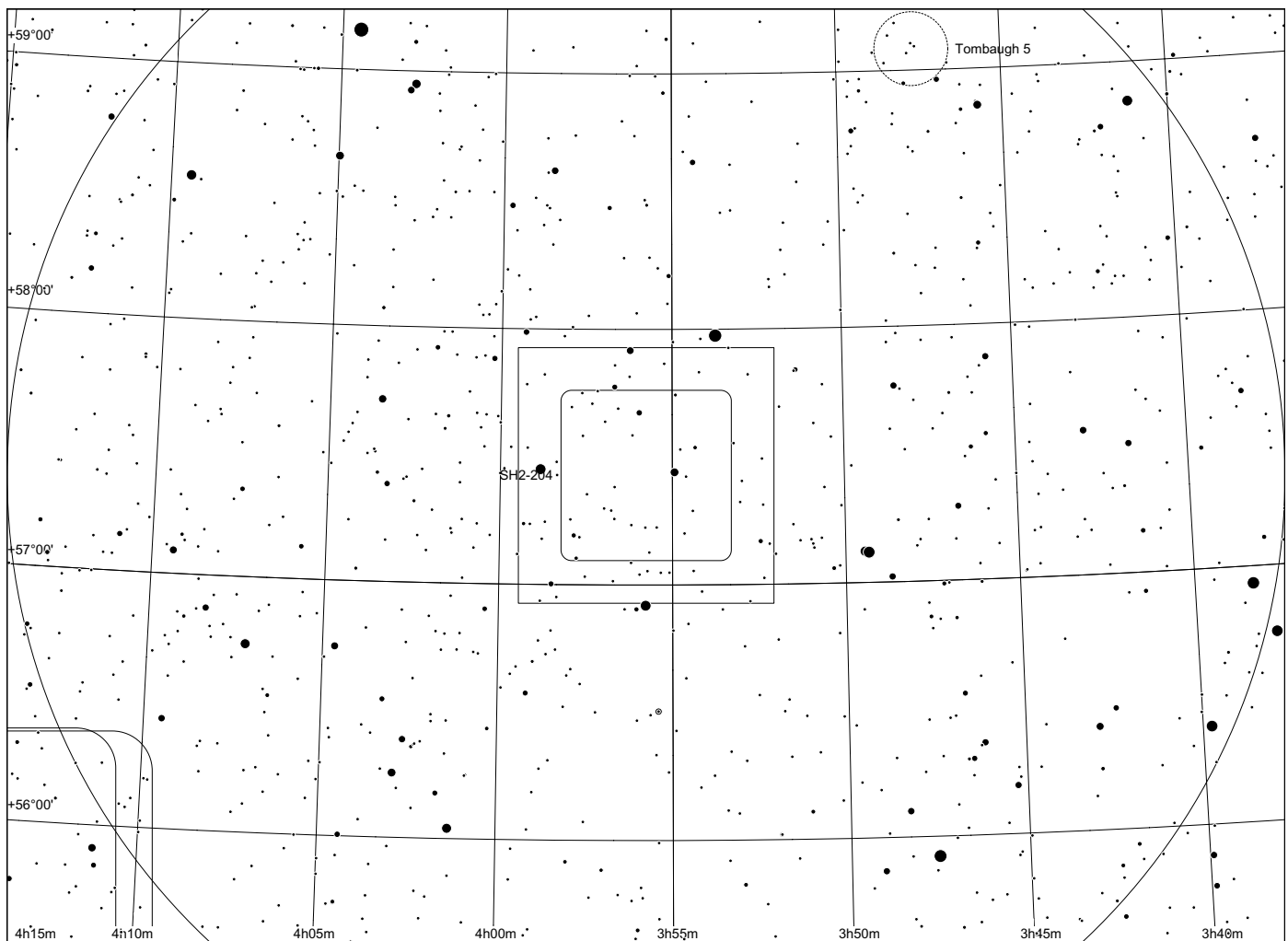
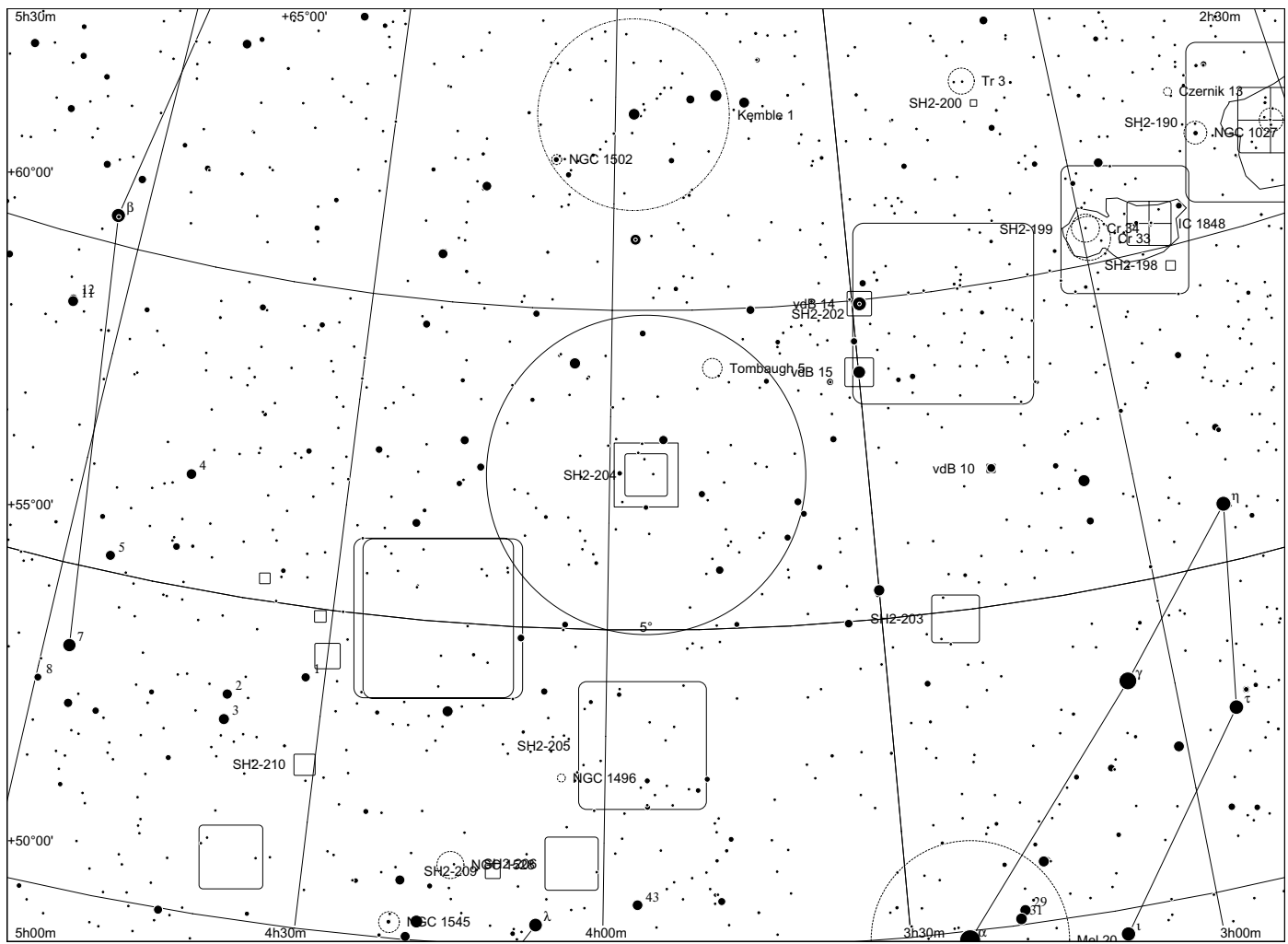
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-204		03 55 45.6	+57 25 45	40	3	2	2

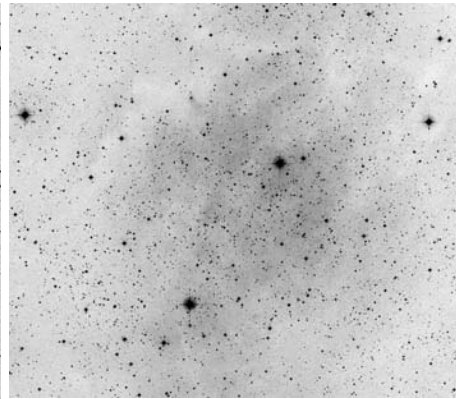
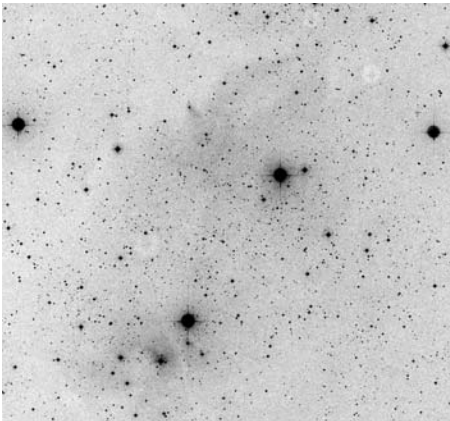
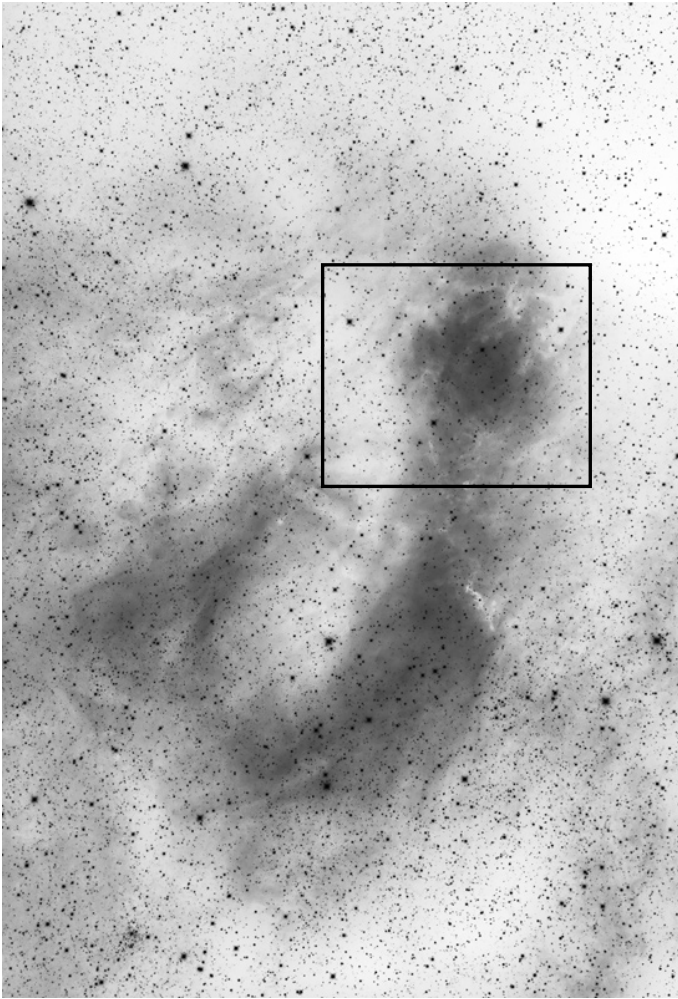
Distance: 4000 pc, Size: 46.5 pc Source: 2003A&A...397..133R

Avedisova says that Sh 2-204 is likely ionised by four O-class stars that are part of the Cam OB3 association at 3600 +/- 500 parsecs and Russeil more recently derived a similar estimate of 3830 +/- 260 parsecs. Both these estimates place this nebula beyond the Perseus arm and possibly associate it with the Outer arm. However, a 2005 study connects Sh 2-204 to the much closer Cam OB1 association.

Observing notes:



Sh 2 - 205 in Camelopardalis



POSS blue

POSS red

composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-205		03 56 07.7	+53 11 40	120	3	2	2

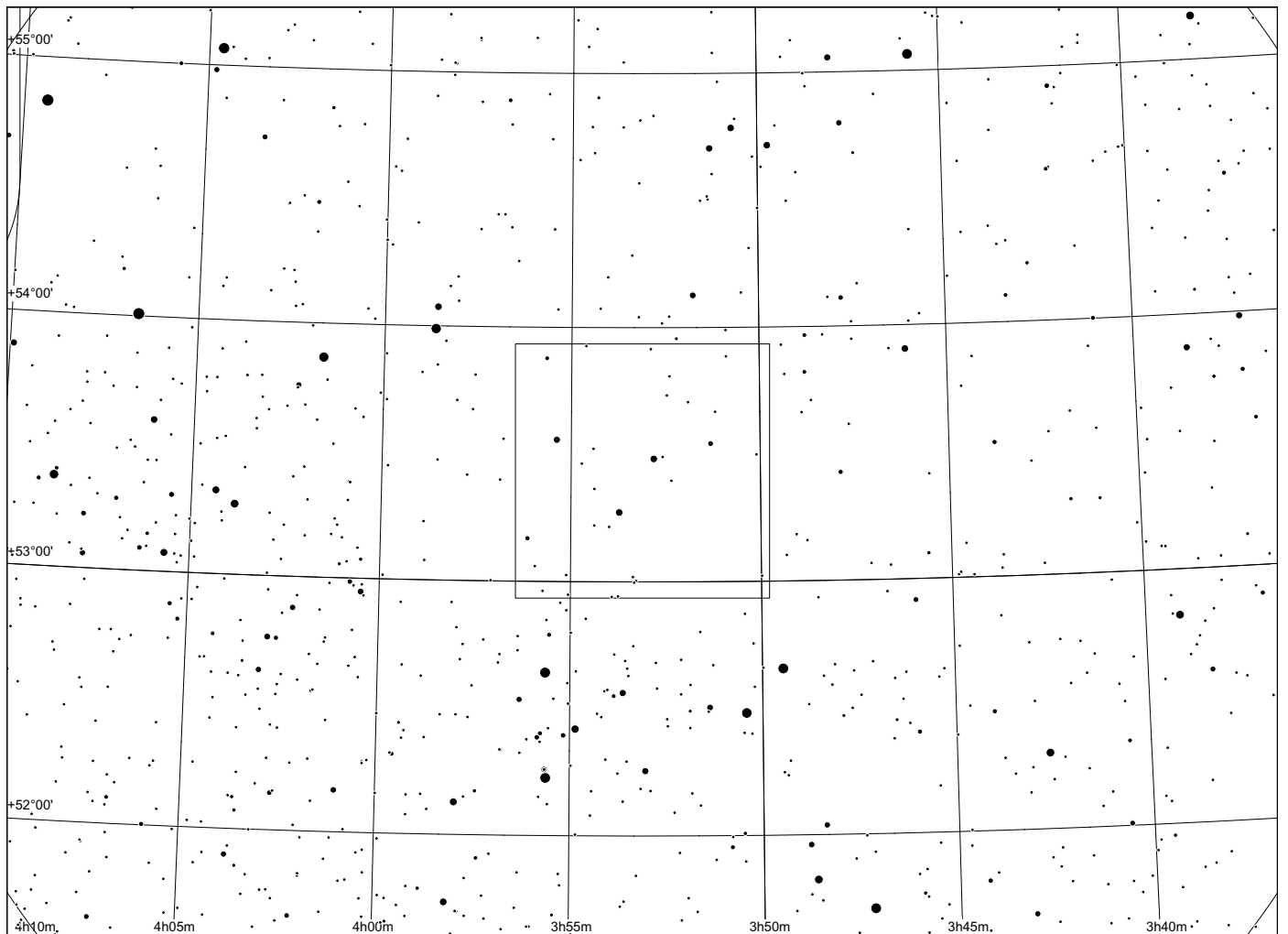
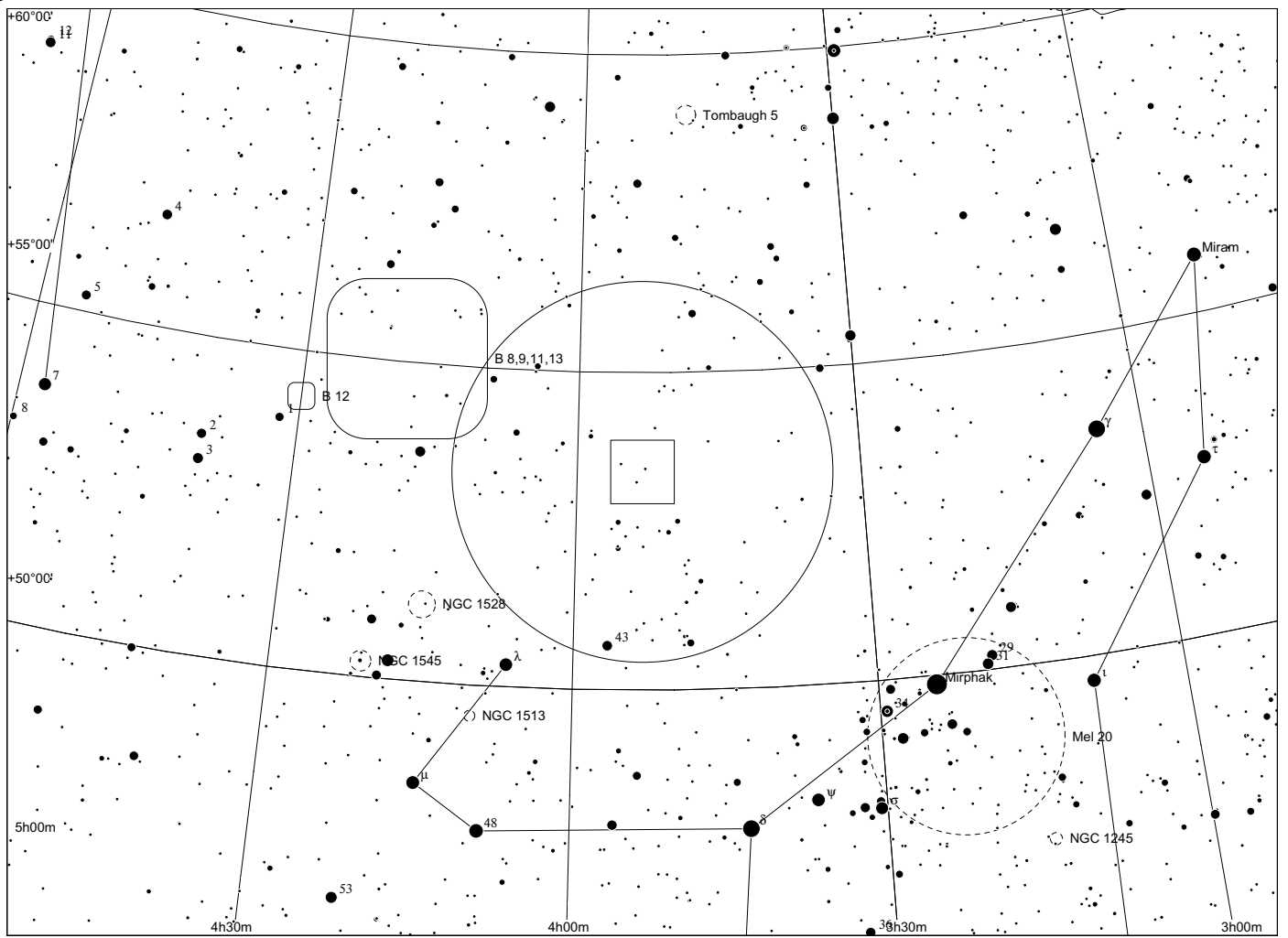
Distance: 900 pc, Size: 31.4 pc, Source: 1982ApJS...49..183B

The exciting star for this region is believed to be the O8 star HD 24451. Like Sh 2-202, this nebula lies at the edge of the Camelopardalis OB1 association.

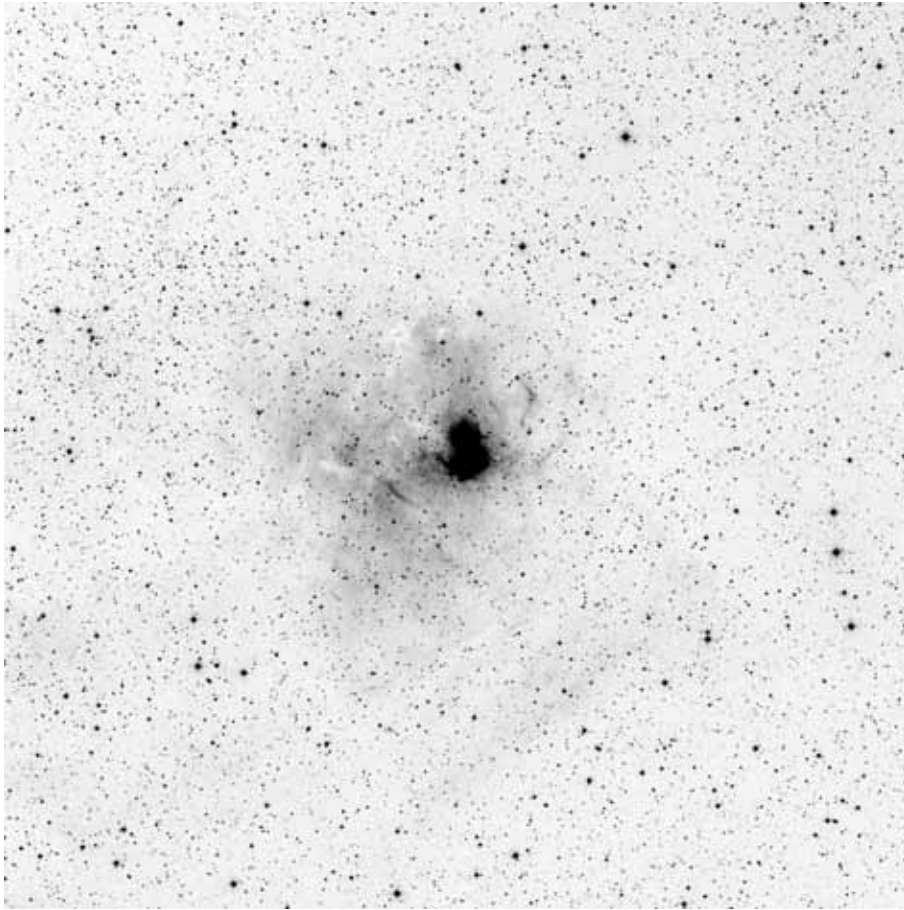
Observing notes:

14" f/5

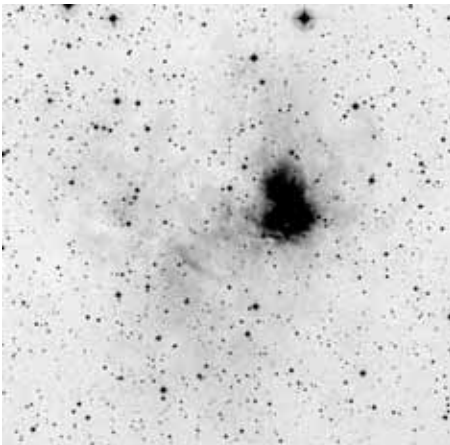
08/2005: With OIII filter, very faint and diffuse, very large. Brightest part at the northern end.



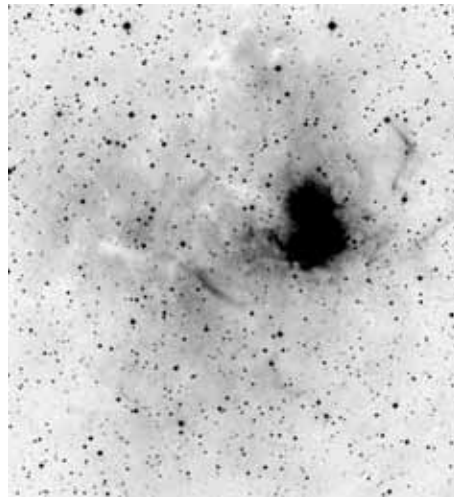
Sh 2 - 206 in Perseus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-206	NGC1491	04 03 13.1	+51 19 46	50	3	2	3

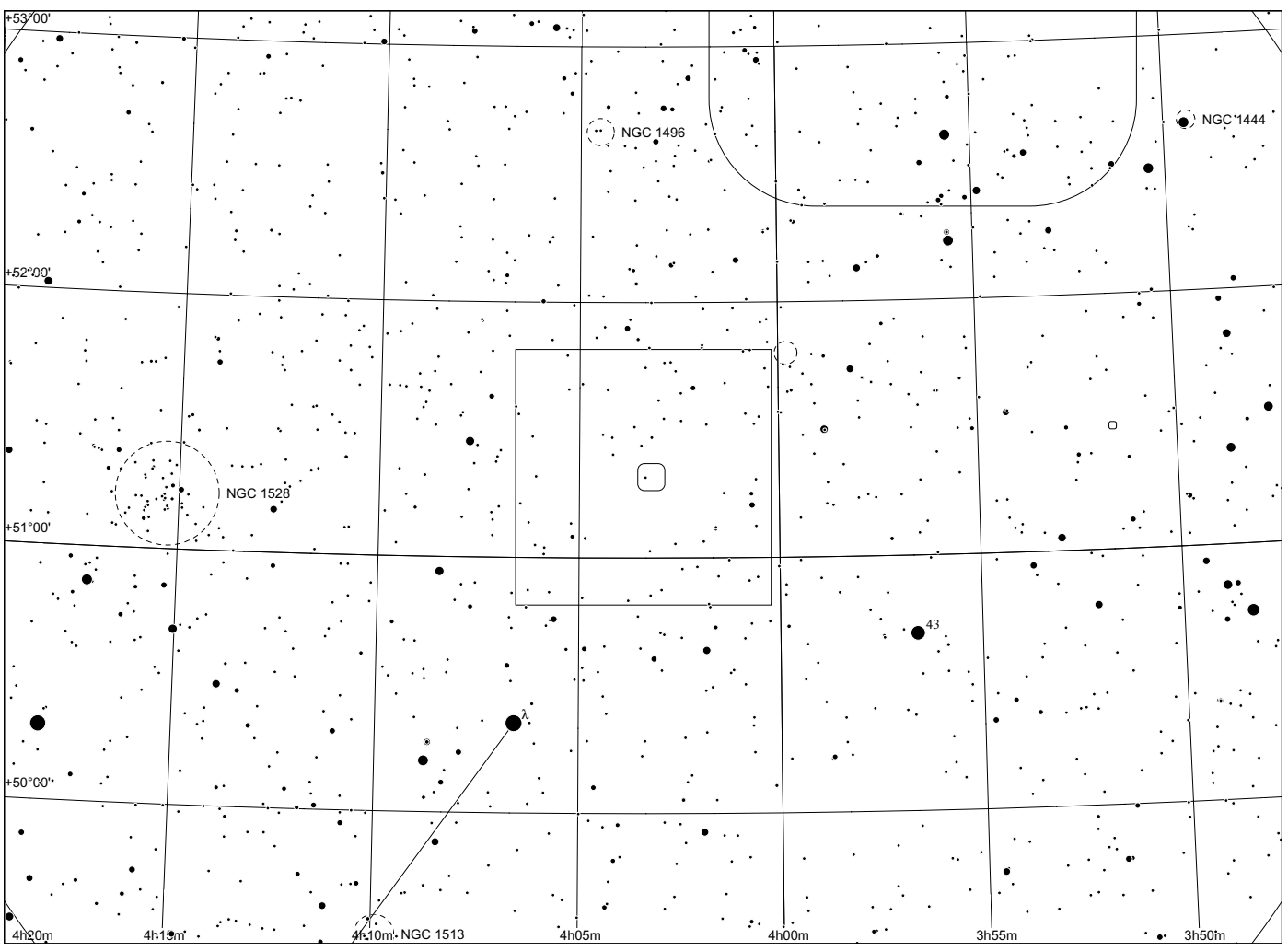
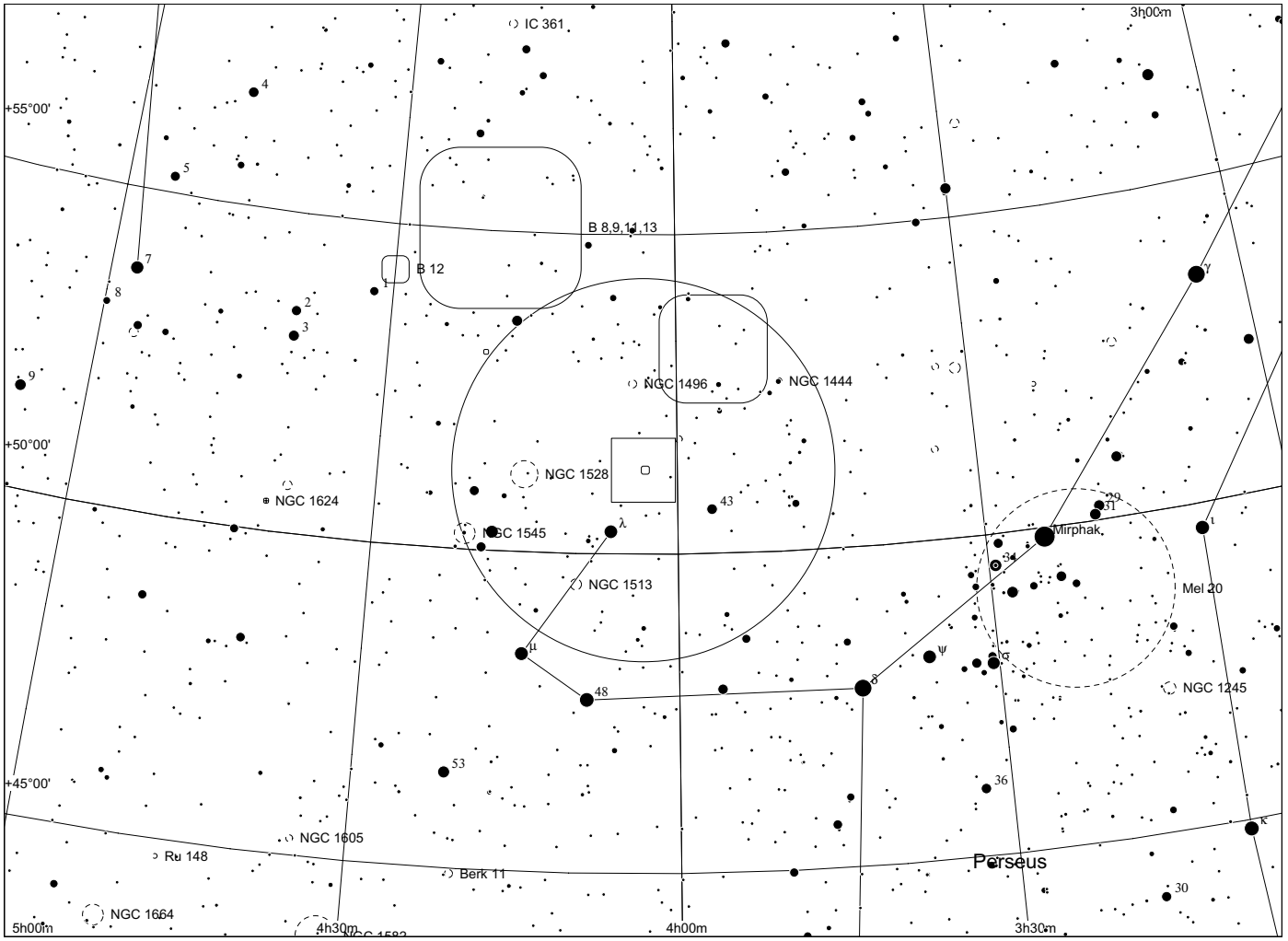
Distance: 3700 pc, Size: 4.4 pc, Source: 1976A&A....48...63D

NGC 1491 is an older, evolved HII region ionised by the O5 star BD +50 886.

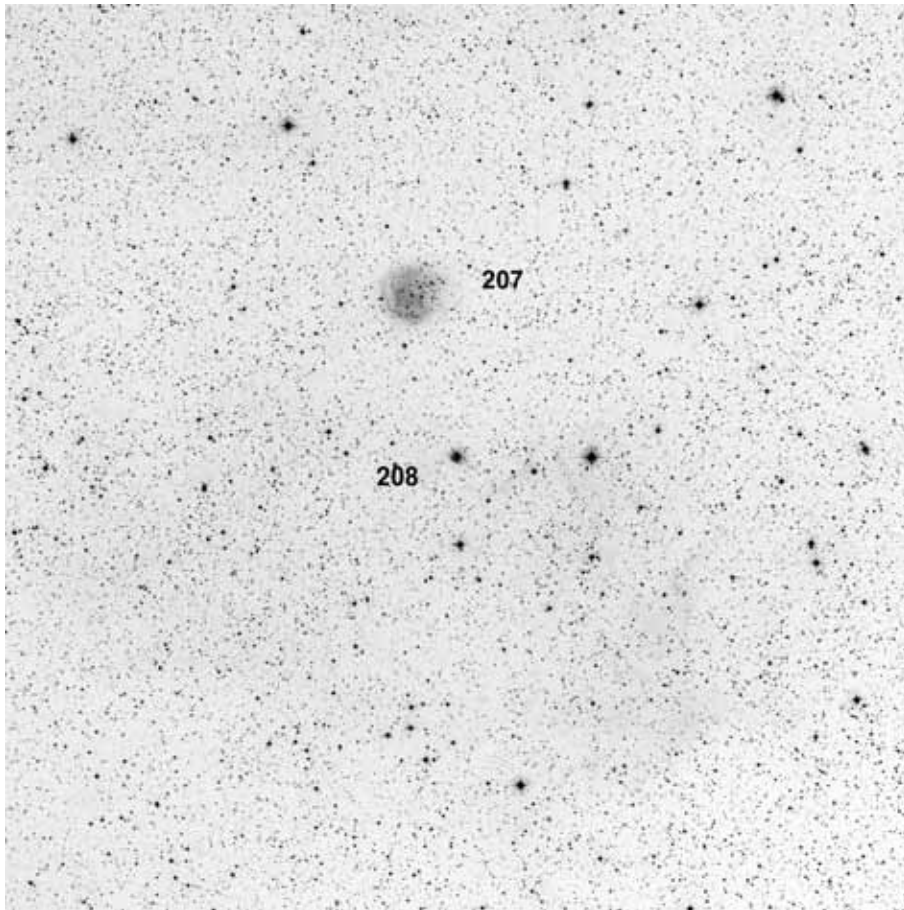
Observing notes:

22" f/4.5

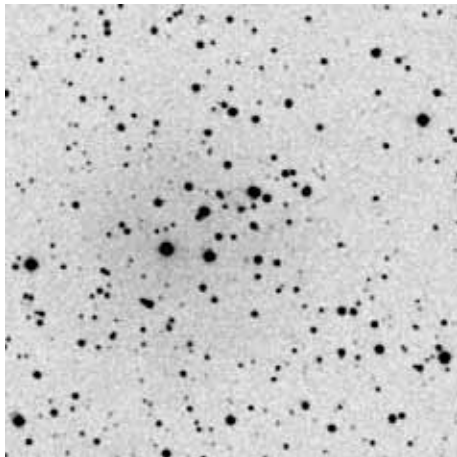
10/2006: relatively bright nebula next to star.



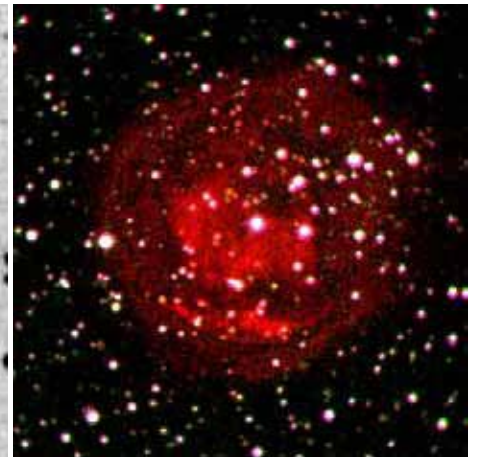
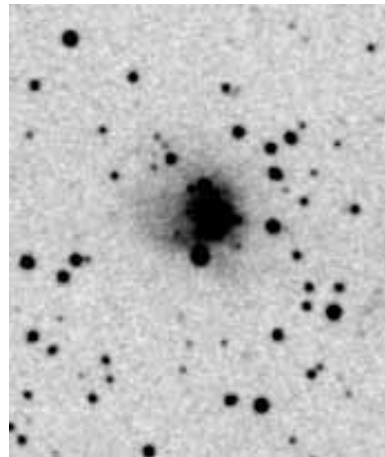
Sh 2 - 207/208 in Camelopardalis



60x60, red



POSS blue



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-207		04 20 04.0	+53 08 37	4	1	2	2
Sh 2-208	PK 151+02.1	04 19 45.5	+52 58 39	1	1	2	3

207: Distance: 3400 pc, Size: 4.0 pc, Source: 1991PASP..103..843P, Despite its appearance, this is an HII region ionised by an O9.5 IV star and not a planetary nebula.

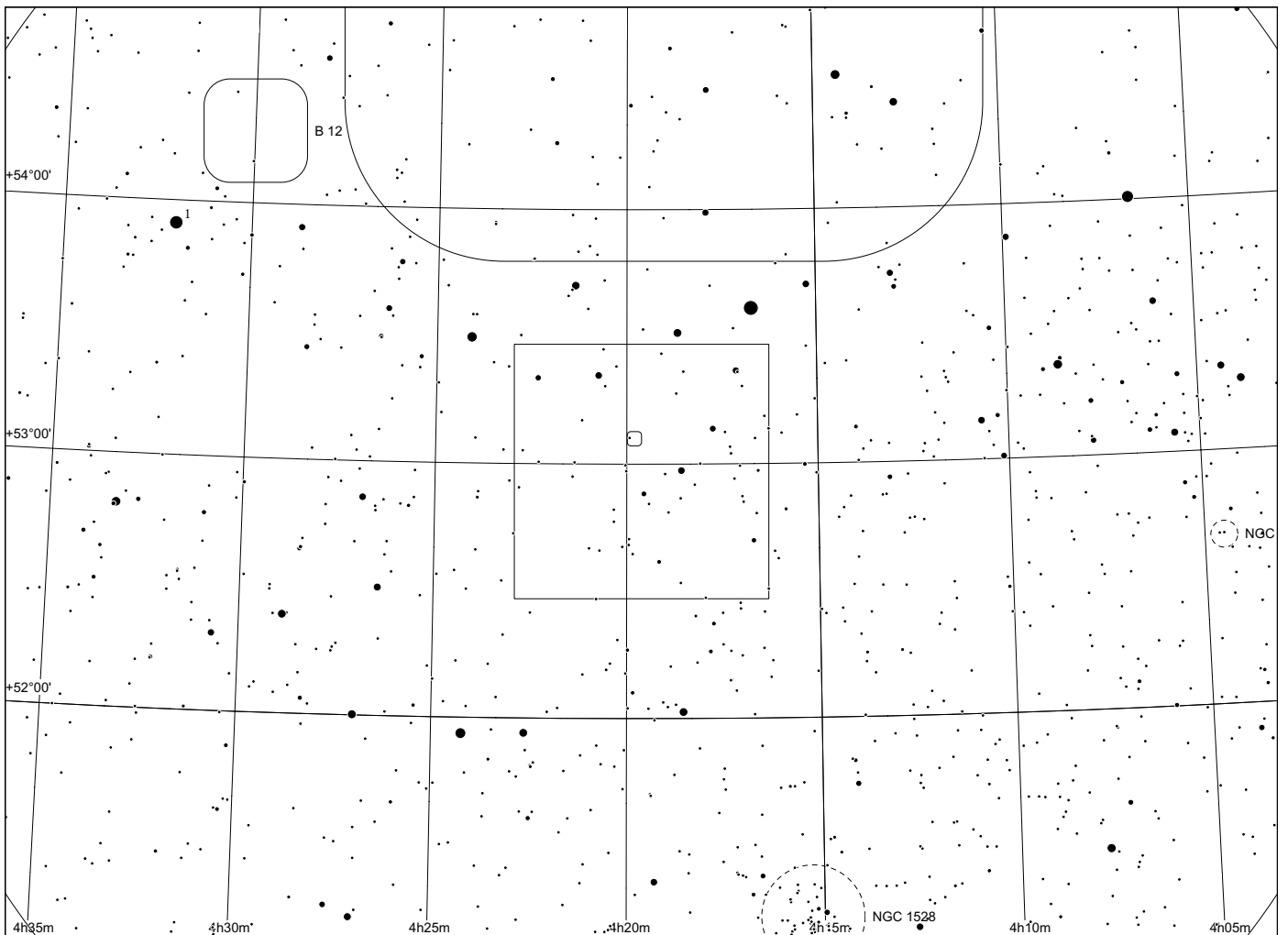
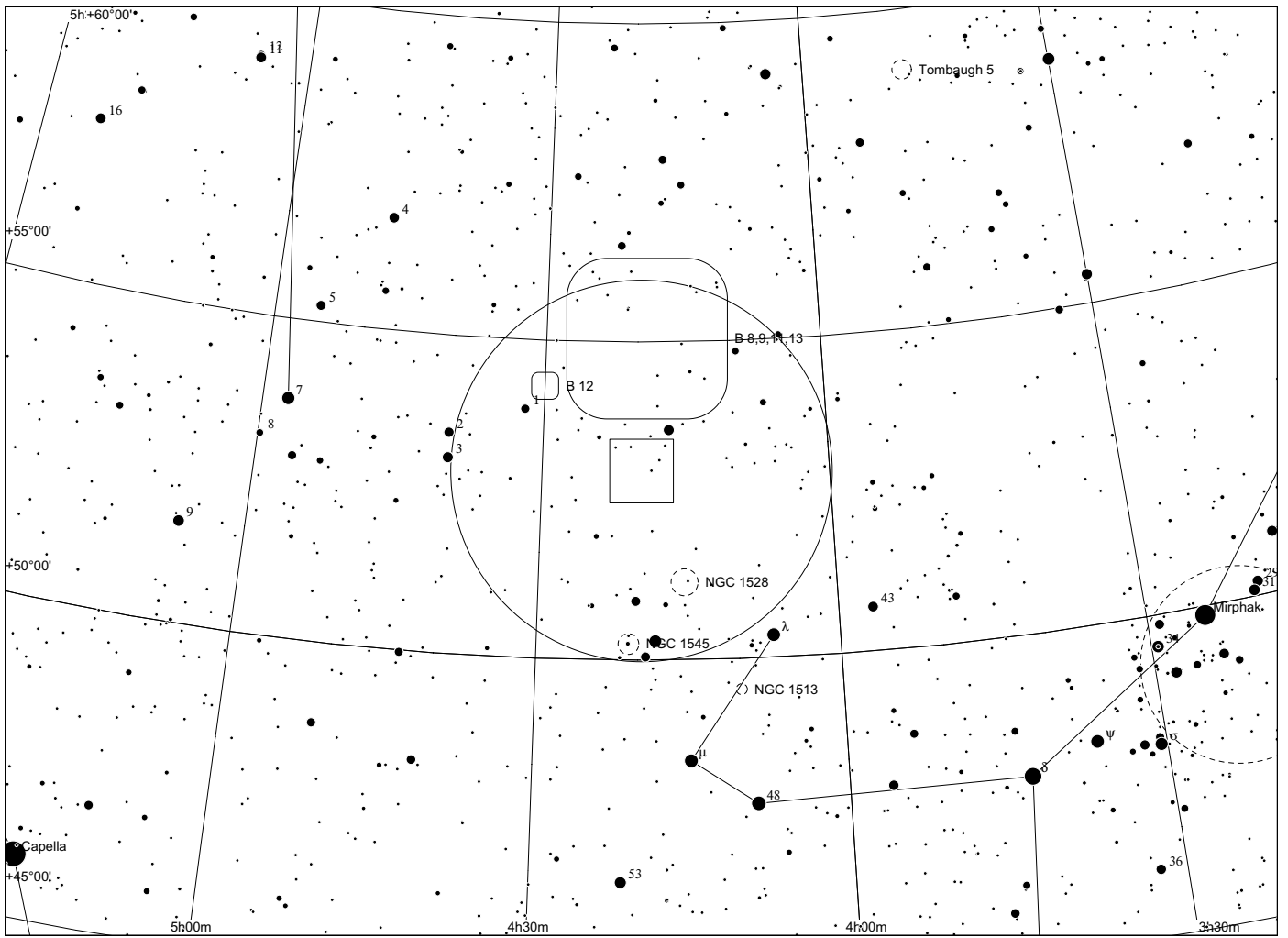
208: Distance: 7600 pc, Size: 2.2 pc, Source: 1982ApJS...49..183B, Contains the optical cluster Waterloo 1 and the infrared cluster [BDS2003] 64.

Observing notes:

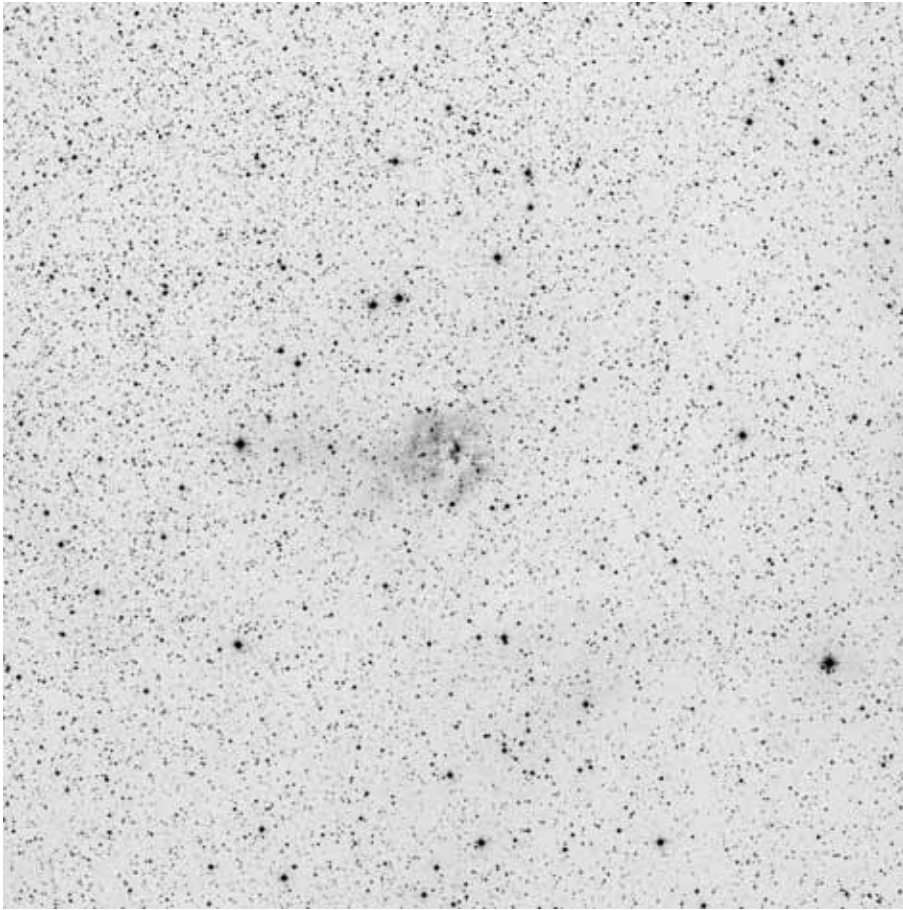
22" f/4.5

01/2011: Sh 207, at 200x w/o filter, a small OC is visible. With UHC filter, a small nebula surrounds these stars.

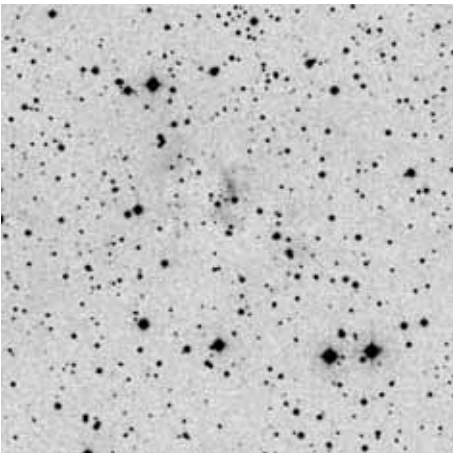
Sh 208, at 200 and 350x w/o filter, a small compact glow is visible around two stars. RN, w/o filter > UHC > OIII



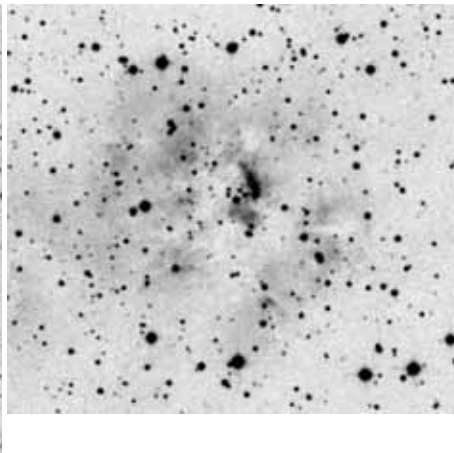
Sh 2 - 209 in Perseus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-209		04 11 03.0	+51 09 47	14	3	2	2

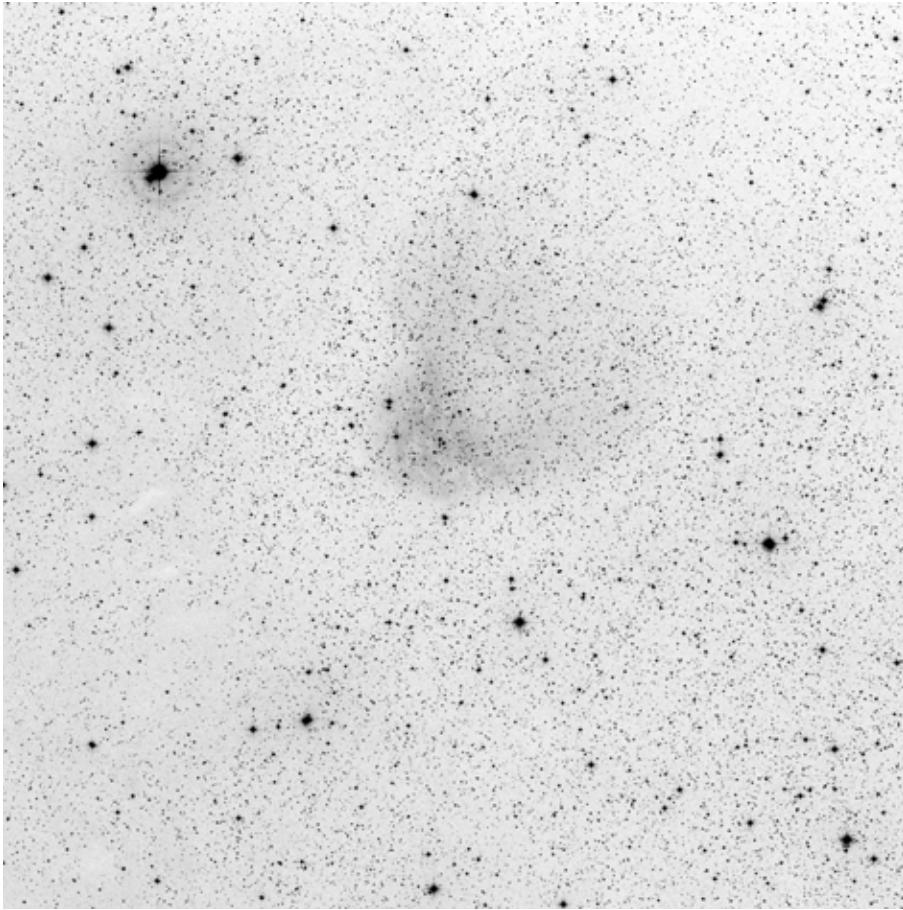
Distance: 7816 pc, Size: 7.0 pc, Source: 2003A&A...397..213P

Observing notes:

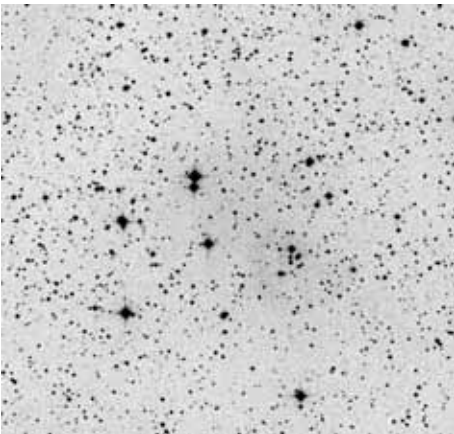
22" f/4.5

At 100x, with UHC filter, an extremely faint glow was suspected, doubtful observation.

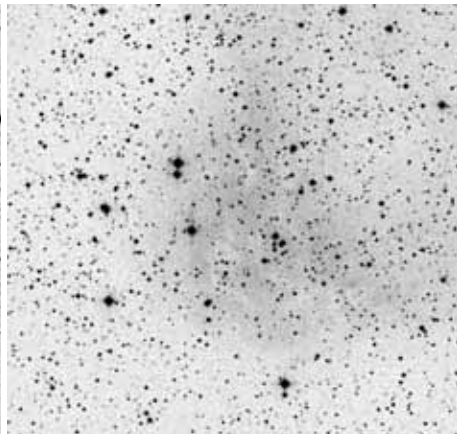
Sh 2 - 210 in Perseus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-210		04 30 59.0	+52 33 10	20	3	1	2

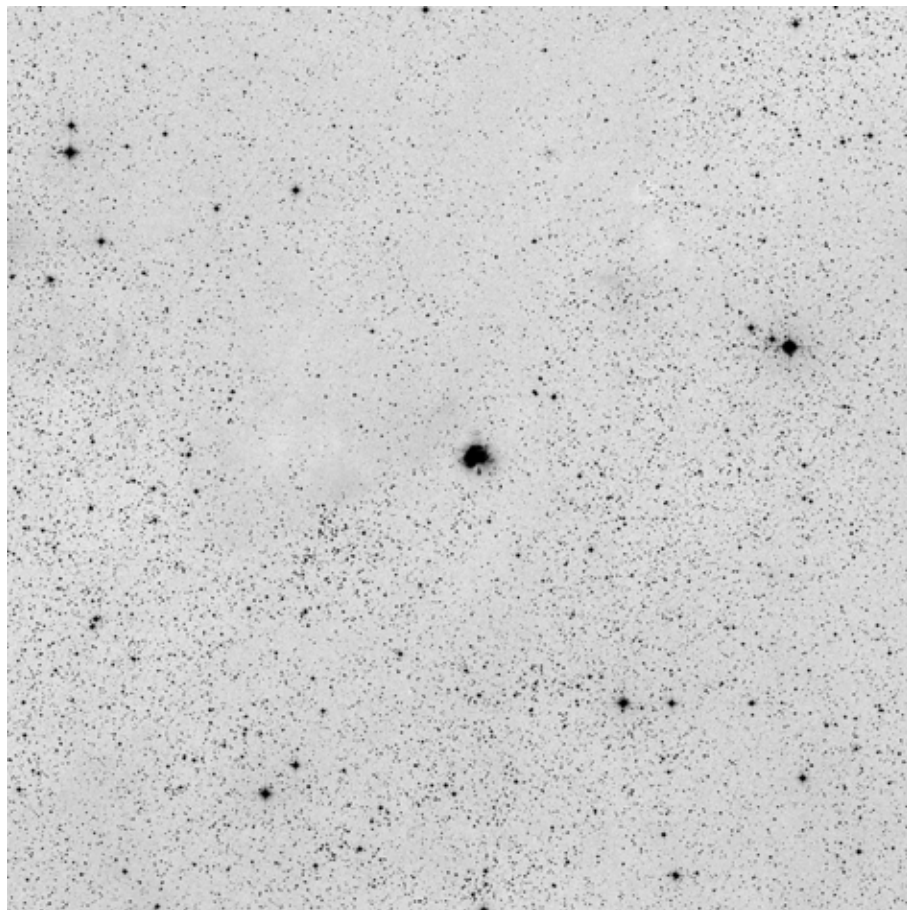
Distance: 2200 pc, Size: 12.8 pc, Source: 2003A&A...397..133R

Observing notes:

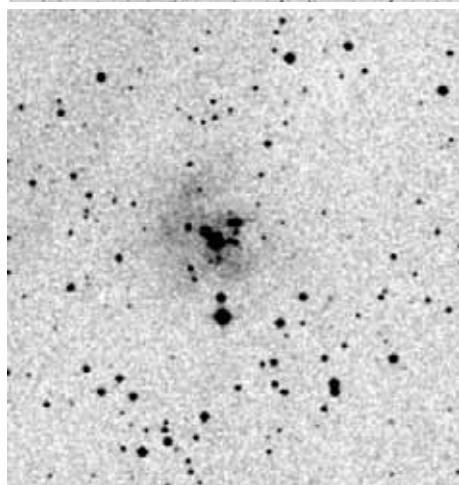
22" f/4.5

01/2011: At 200x with H beta filter, an extremely faint glow around two weak stars were suspected at the SW side of a small asterism.

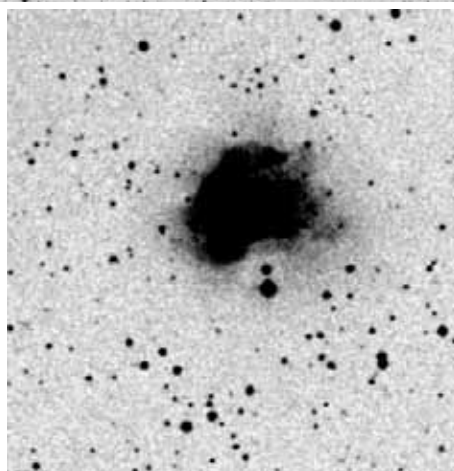
Sh 2 - 211 in Perseus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-211		04 36 57.3	+50 56 22	2	3	2	3

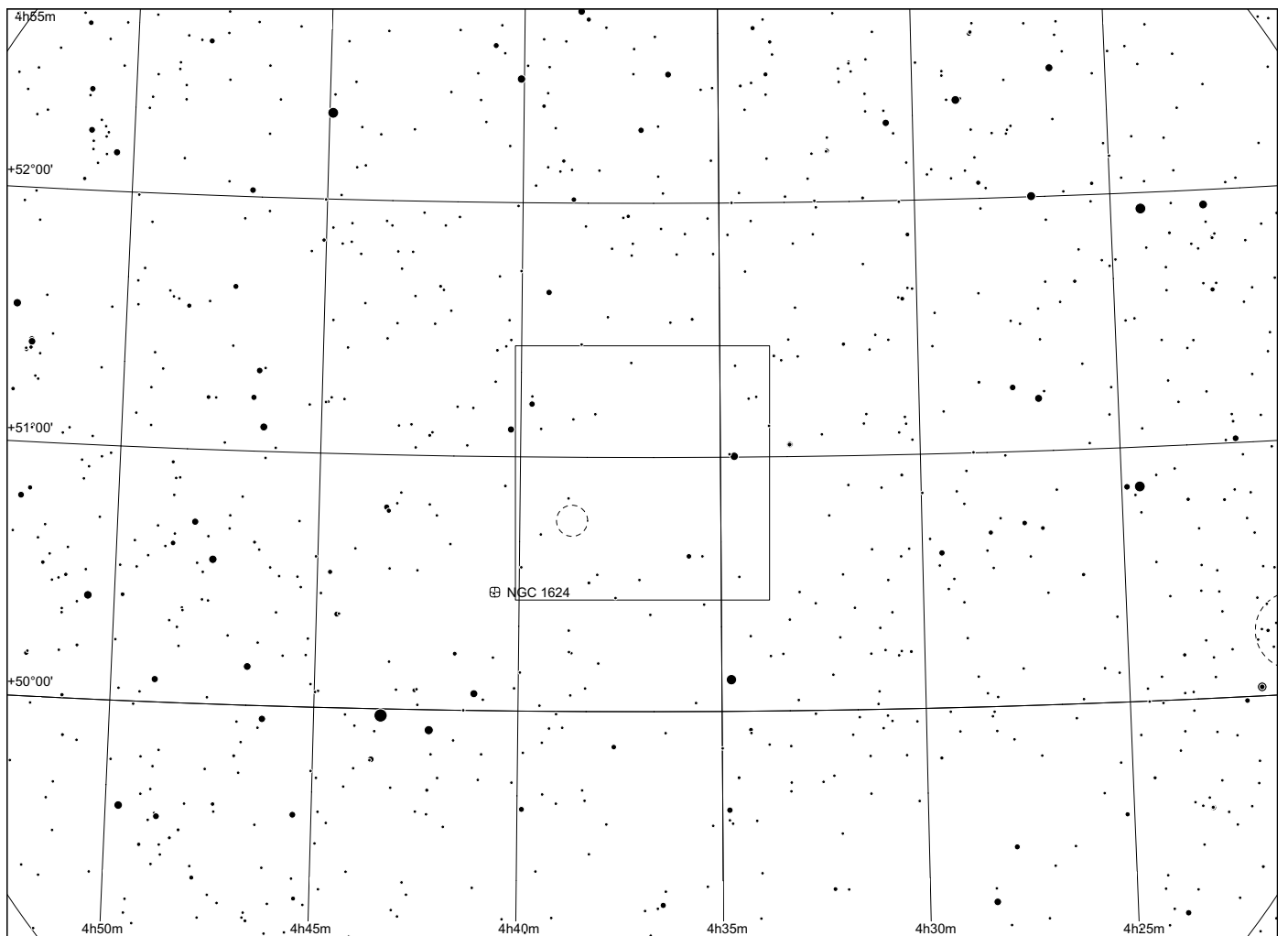
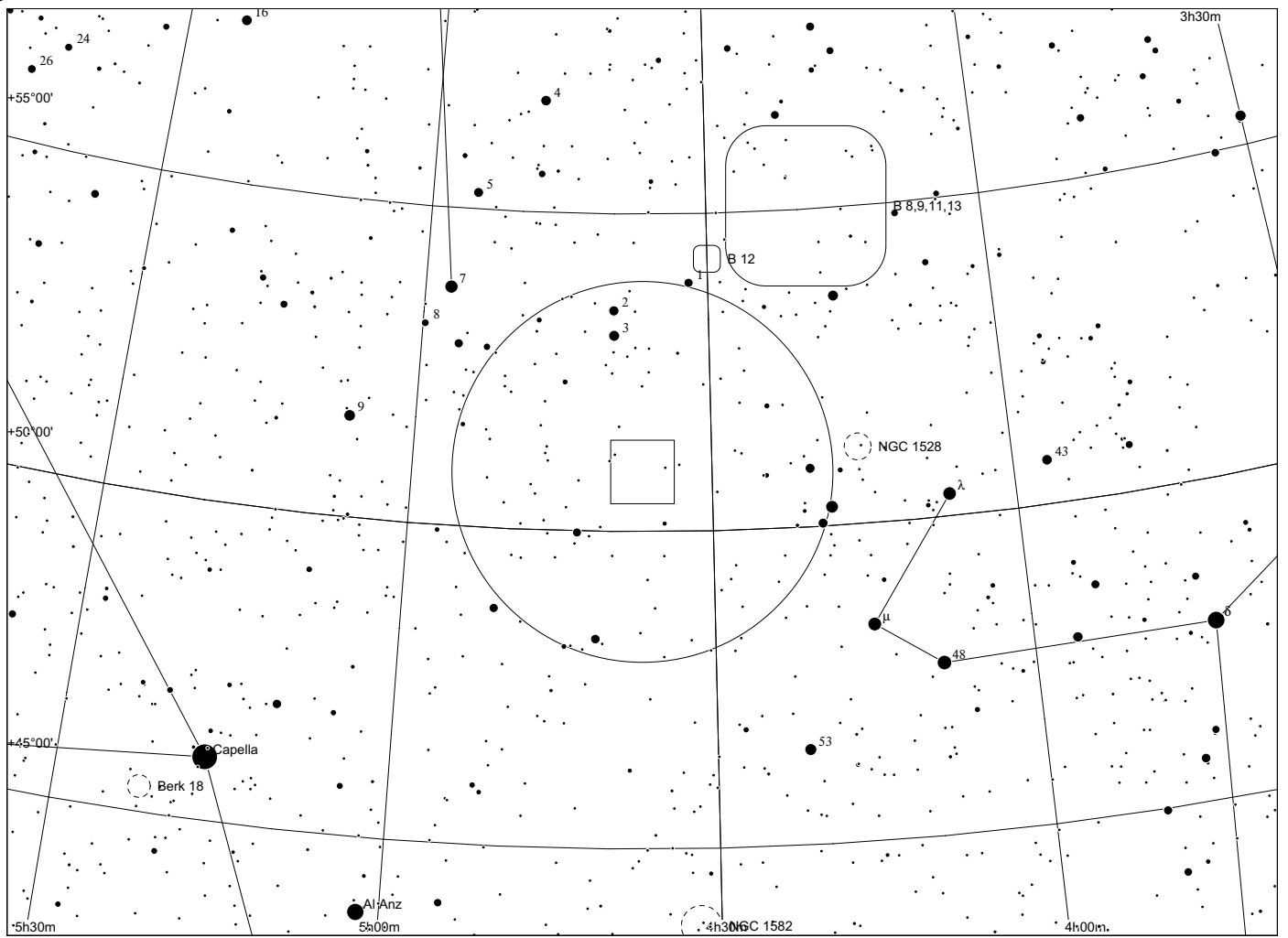
Distance: 5154 pc, Size: 5.7 pc, Source: 2003A&A...397..213P

Contains infrared cluster [BDS2003] 66 and may be embedded in the same CO cloud as Sh 2-212.

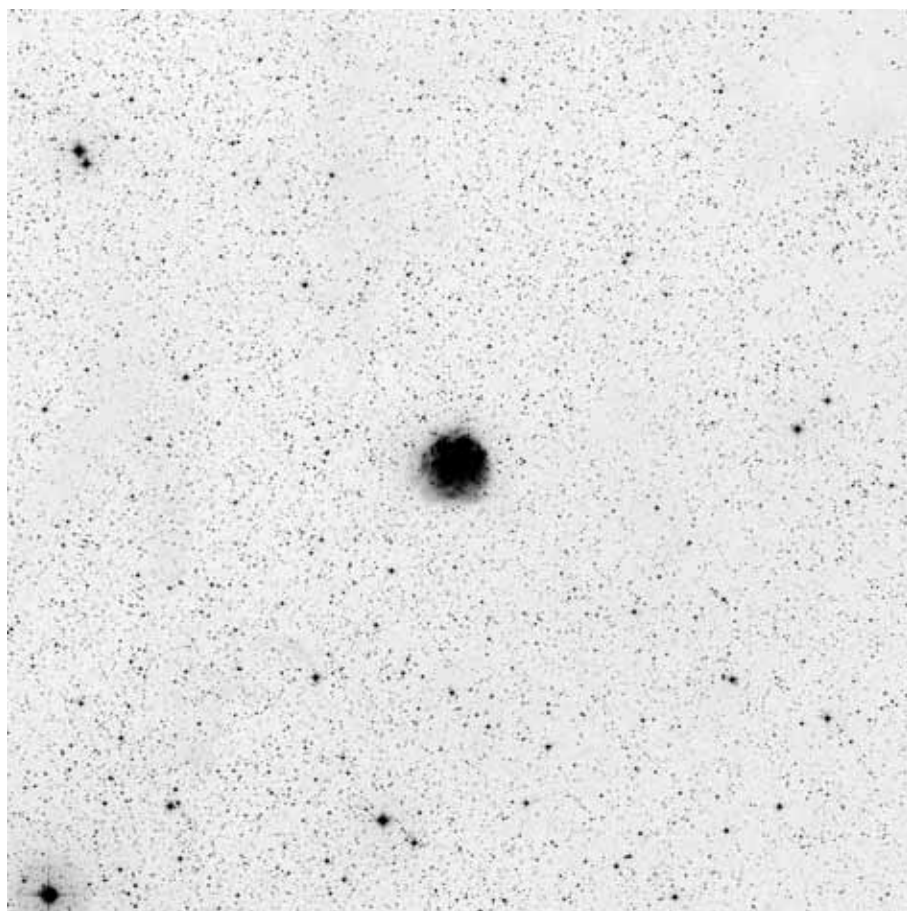
Observing notes:

22" f/4.5

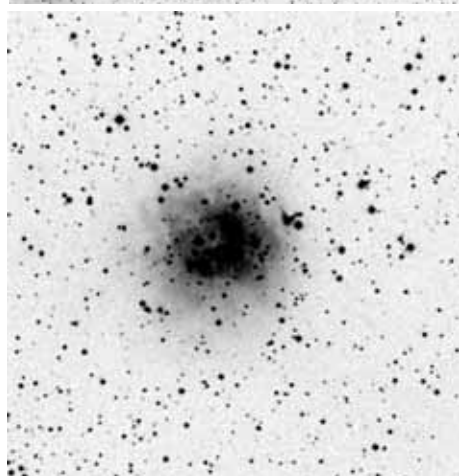
01/2011: At 200x with UHC filter, a faint glow is visible around a small group of stars.



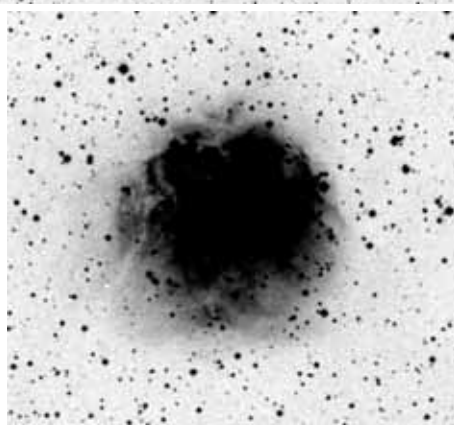
Sh 2 - 212 in Perseus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-212	NGC1624	04 40 37.3	+50 22 52	5	1	2	3

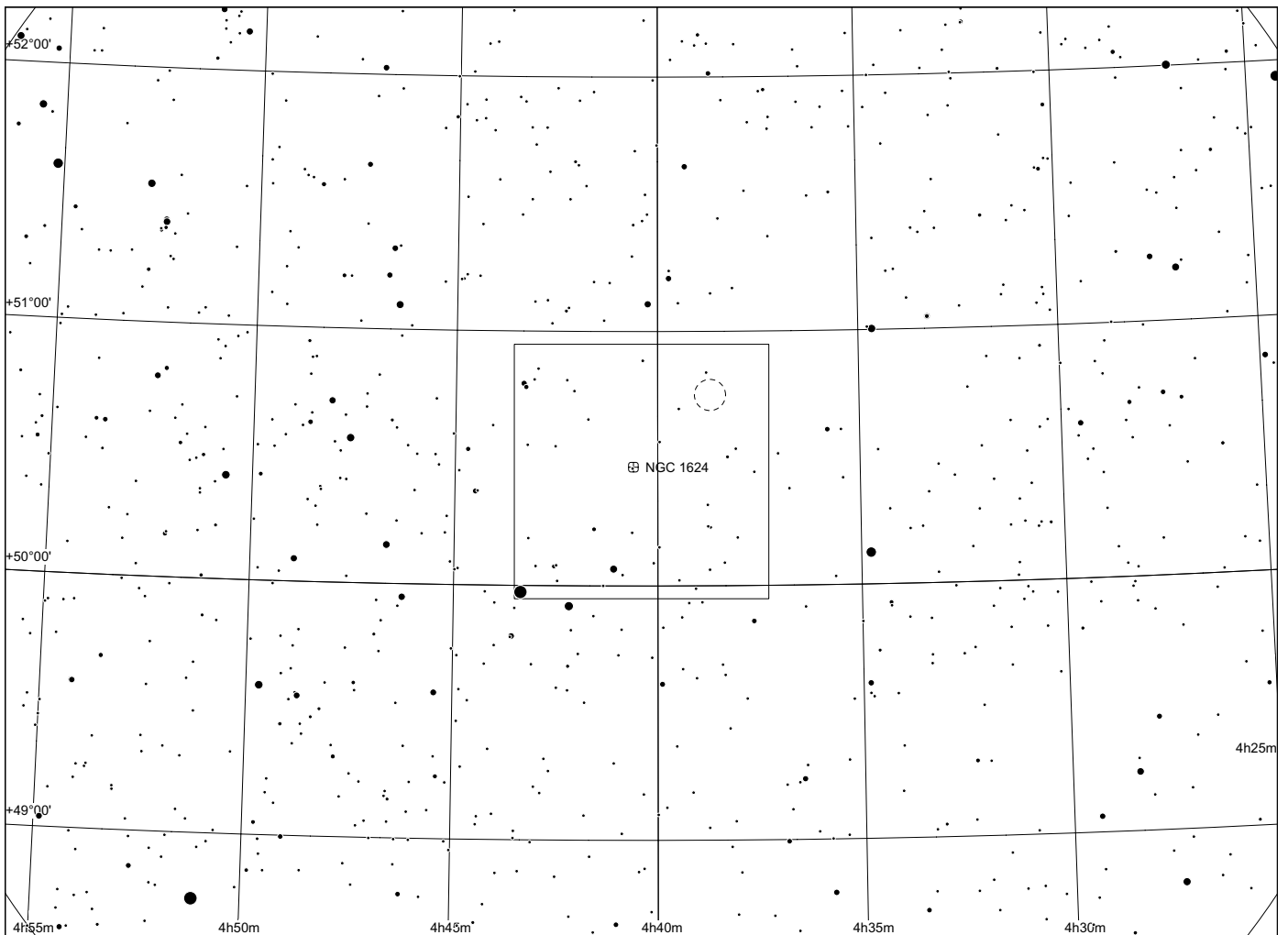
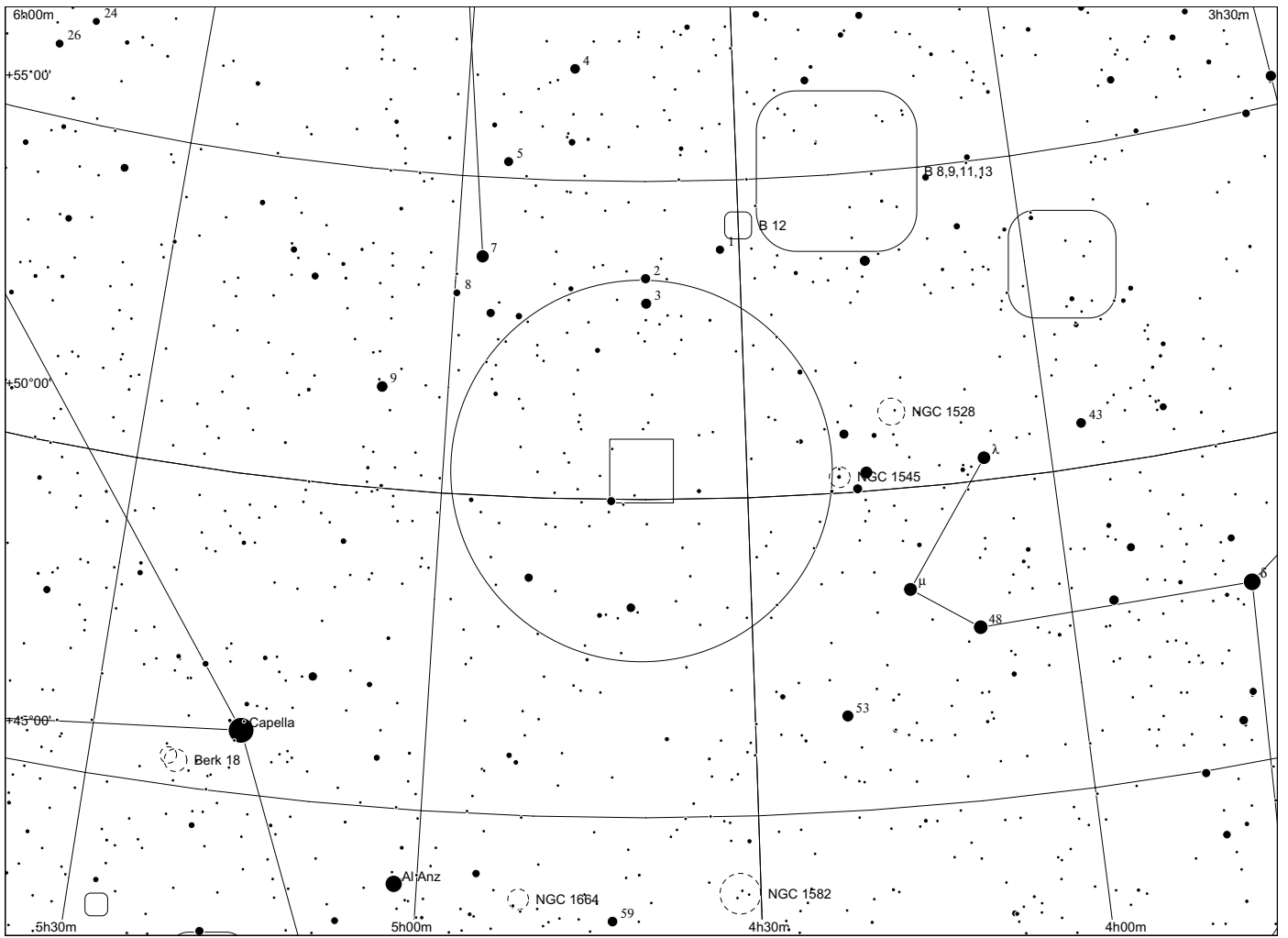
Distance: 6593 pc, Size: 18.2 pc, Source: 2003A&A...397..213P

Contains the star cluster NGC 1624 and may be embedded in the same CO cloud as Sh 2-211.

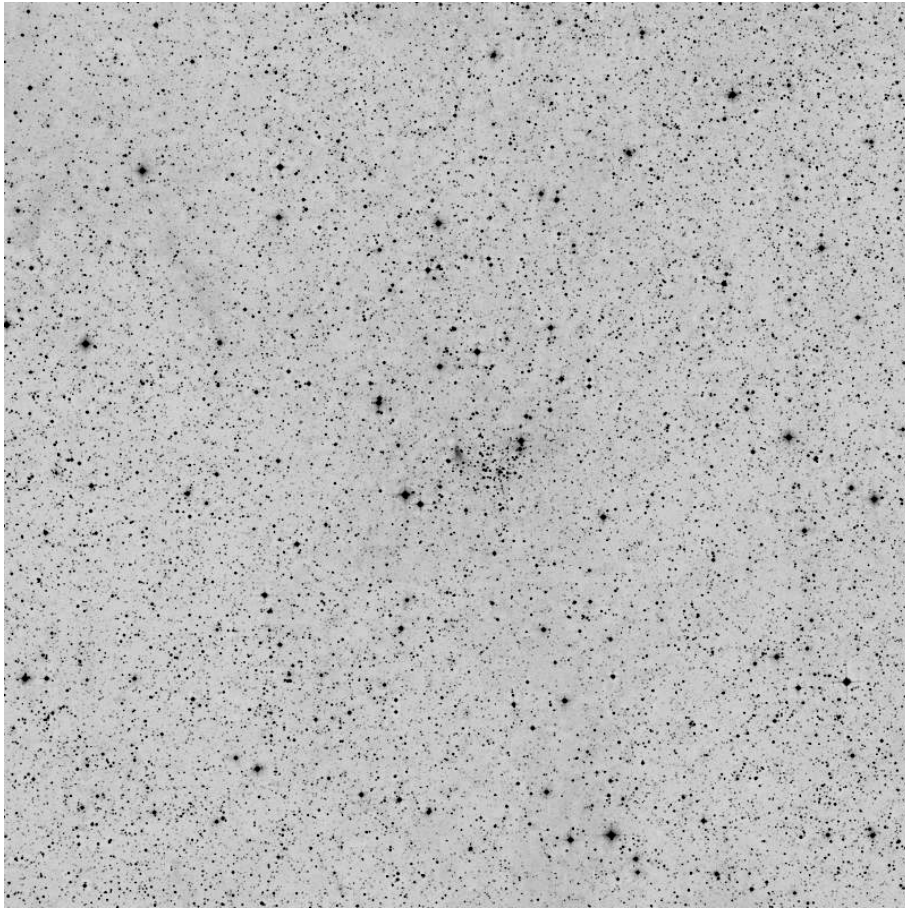
Observing notes:

22" f/4.5

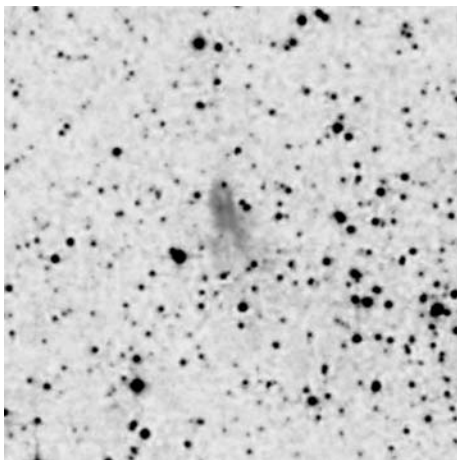
01/2011: At 200x with OIII, a distinct round brightening around stars, relatively well defined boundaries.



Sh 2 - 213 in Perseus



60x60, red



POSS red



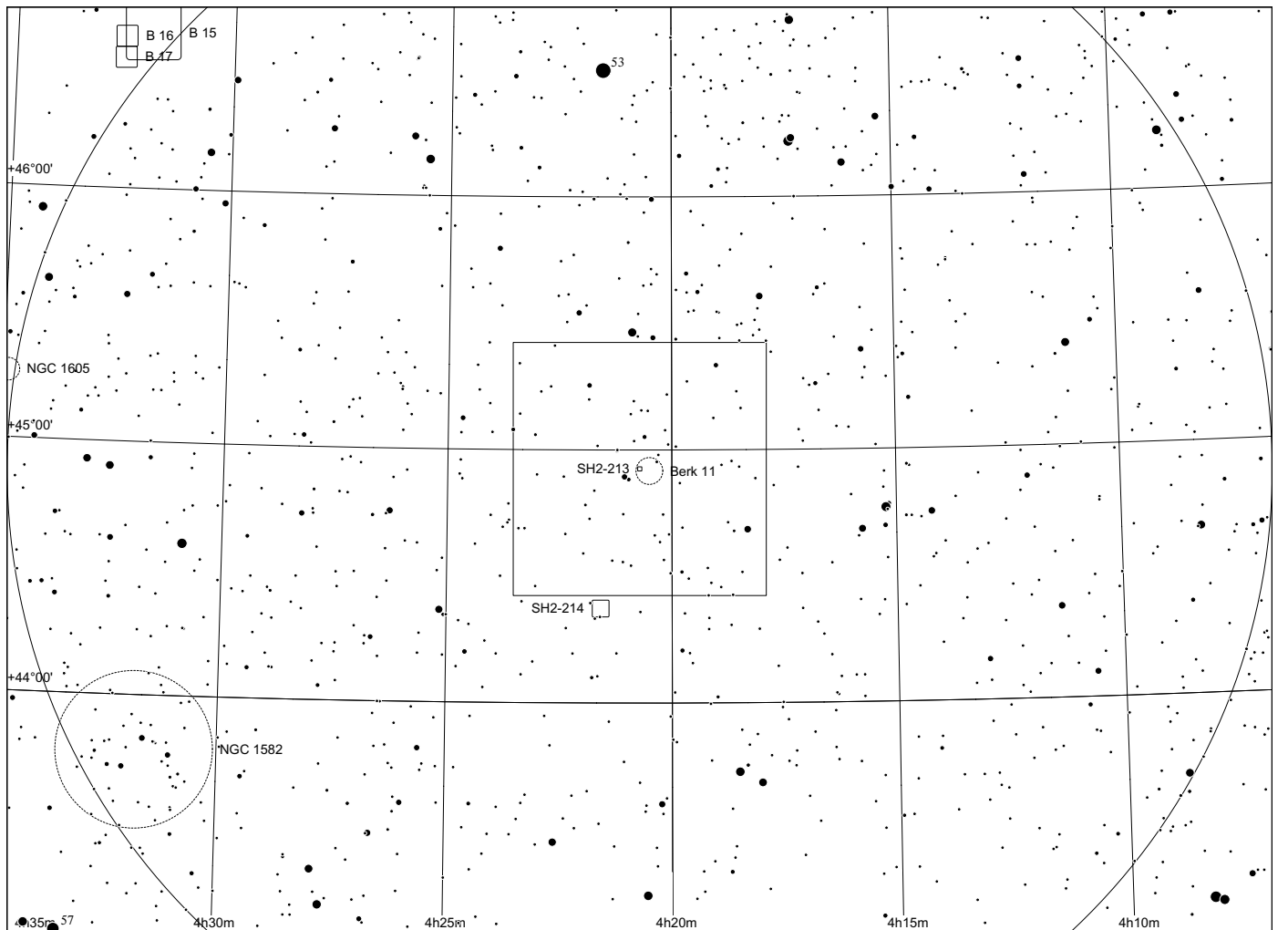
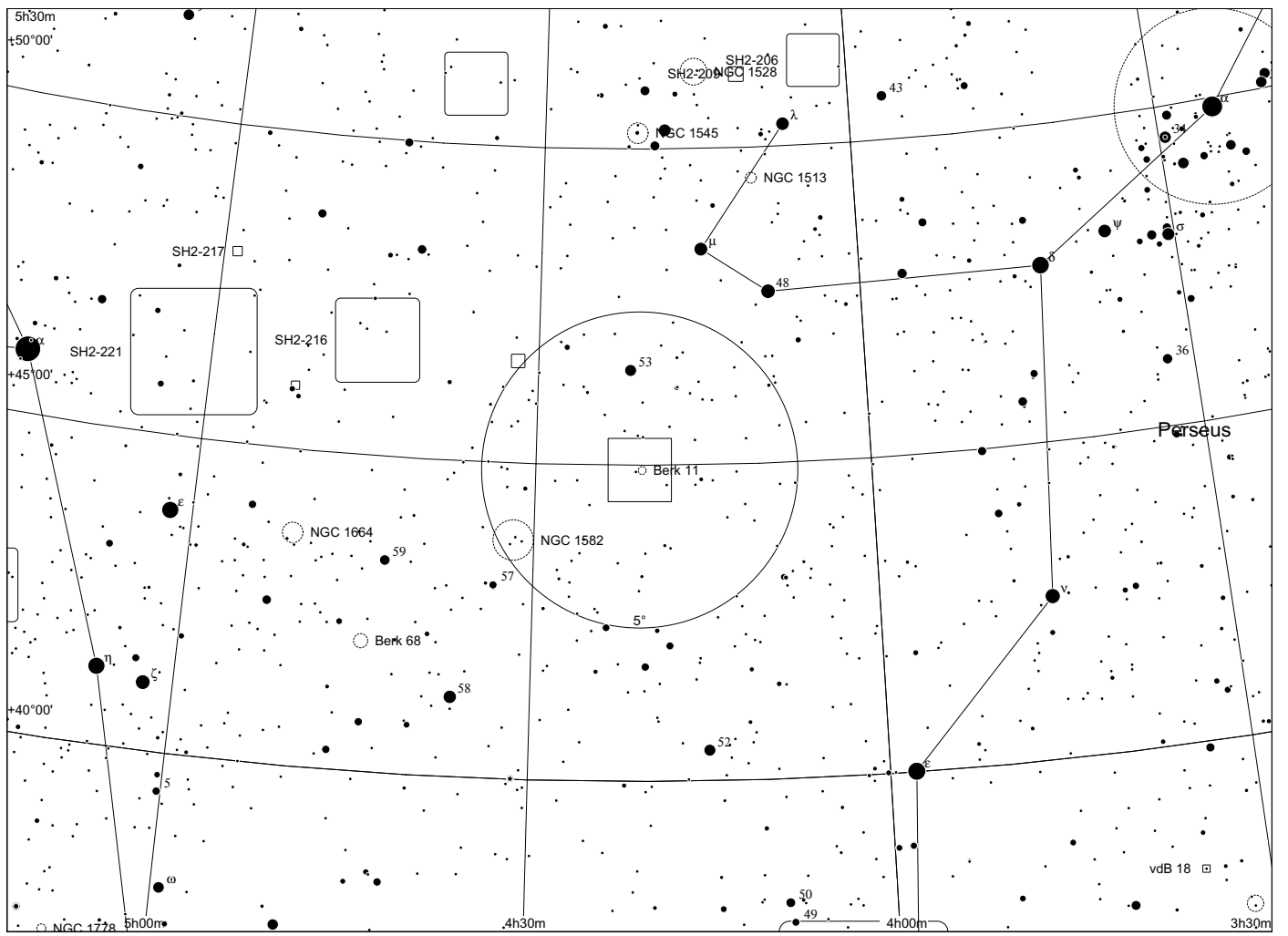
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-213		04 20 42.9	+44 55 30	1	3	2	1

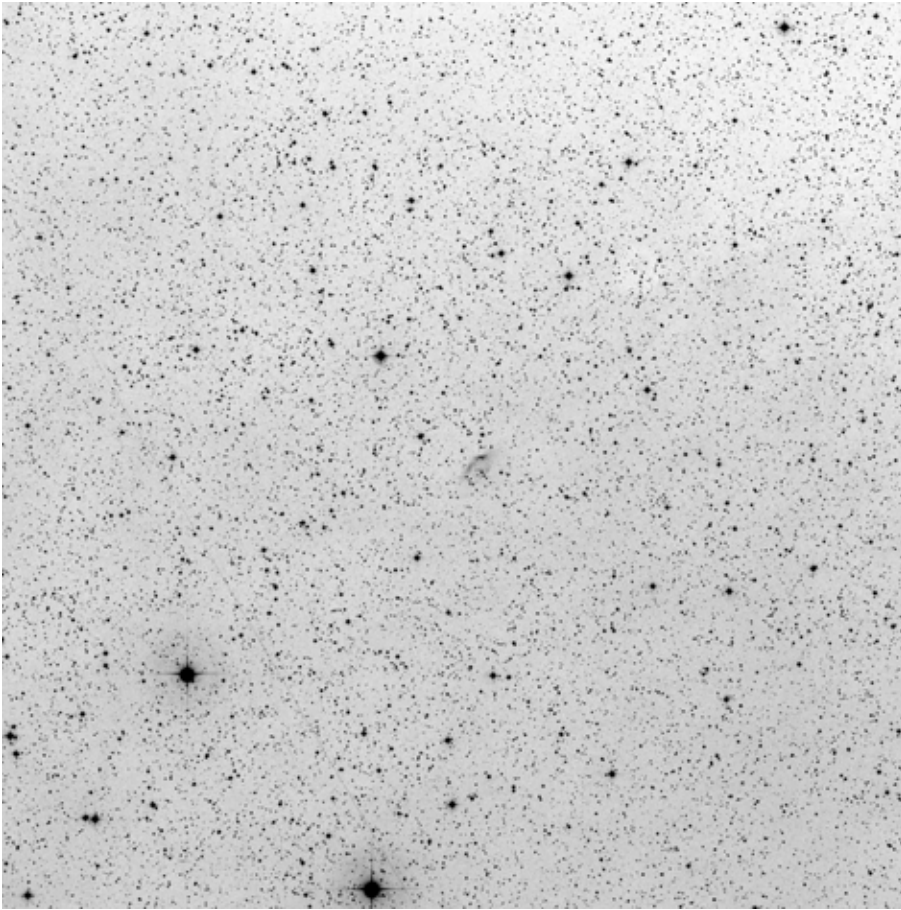
Distance: 5300 pc, Size: 1.5 pc Source: 2003A&A...397..133R

Sh 2-213 may be a very faint Stromgren sphere around a B4 class star in the cluster Berkeley 11. If so, it likely lies at a distance of 2100 parsec

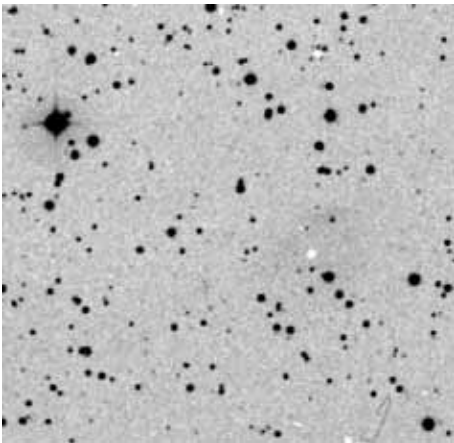
Observing notes:



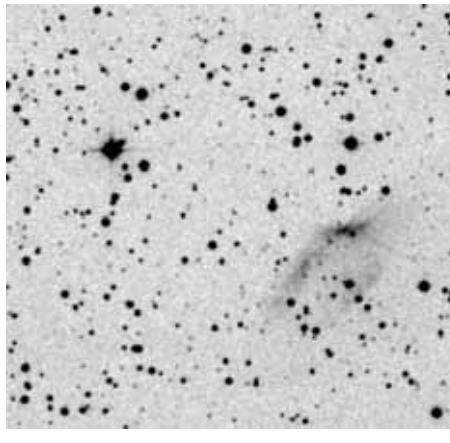
Sh 2 - 215 in Perseus



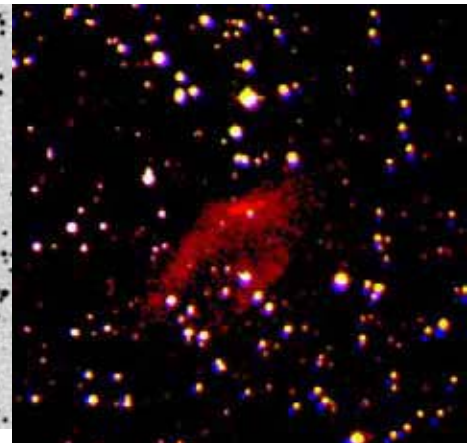
60x60, red



POSS blue



POSS red

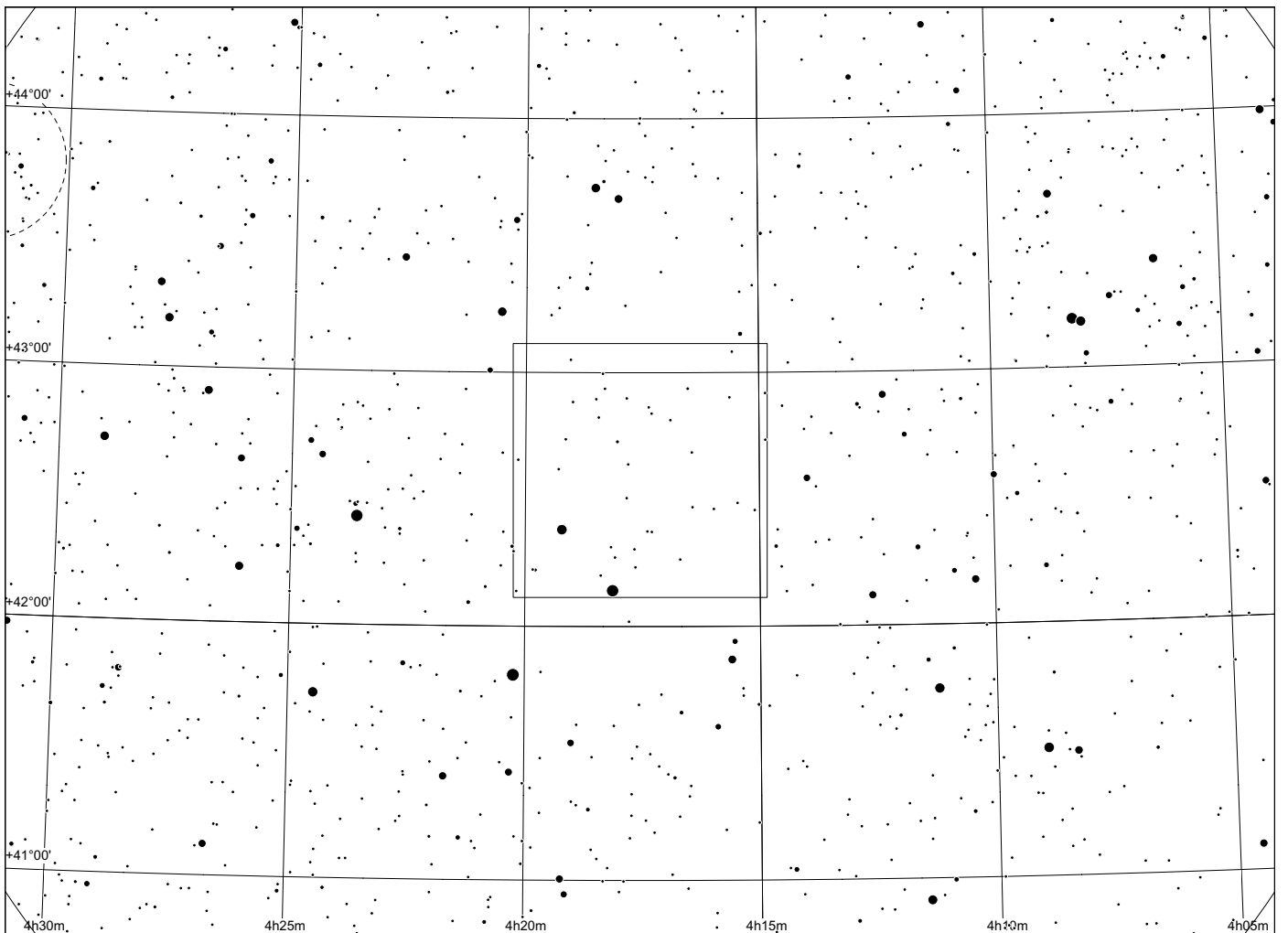
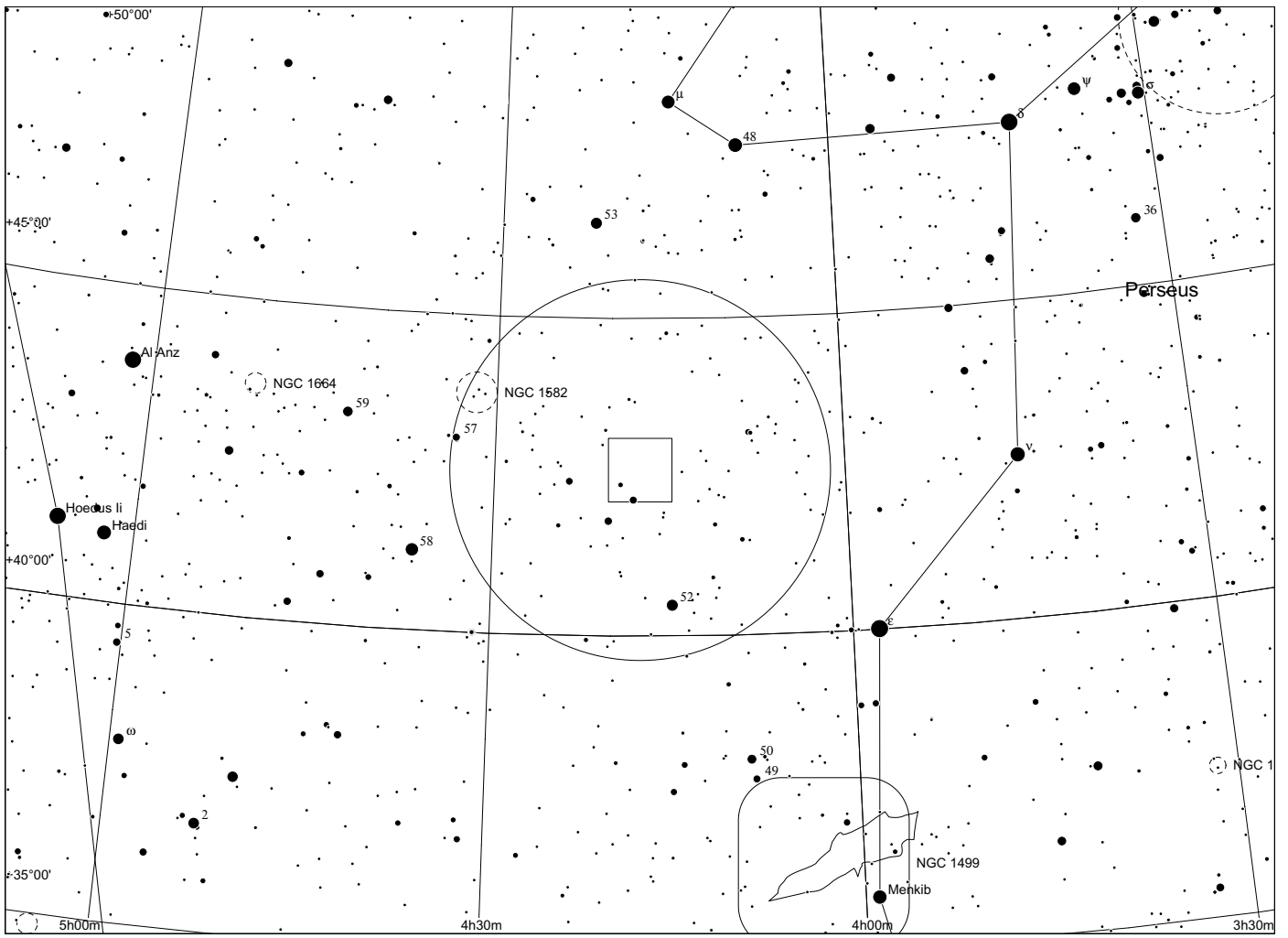


composite

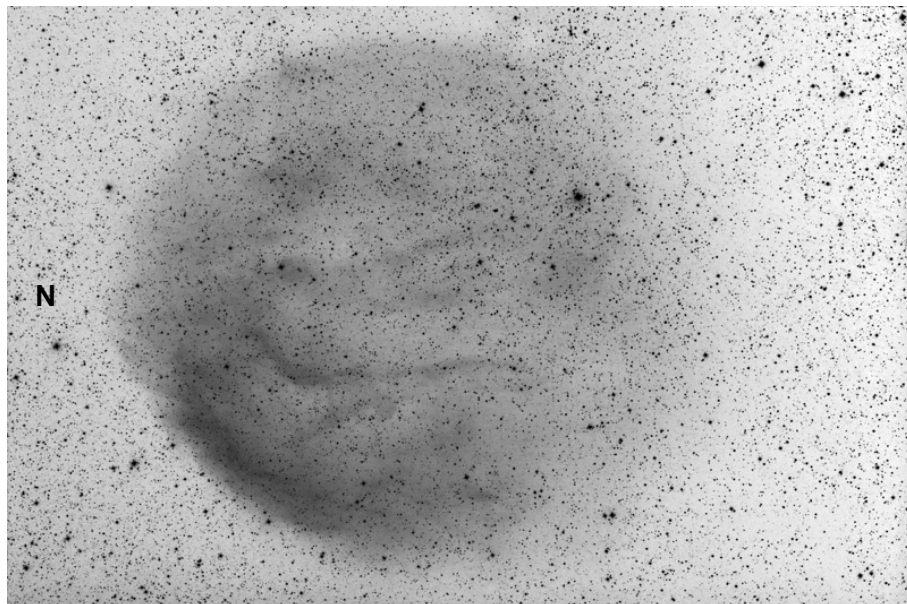
	other name	RA	dec	dia. '	F	S	B
Sh 2-215		04 17 32.8	+42 36 54	2	3	2	2

Distance: 200 pc, Size: 0.1 pc, Source: 2003A&A...397..133R

Observing notes:



Sh 2 - 216 in Perseus



80'x120' north to the right
H alpha and narrowband
by Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-216	Simeiz 288	04 44 56.9	+46 49 15	80	3	2	2

Distance: 120 pc, Size: 2.8 pc, Source: 1995ApJ...447..257T

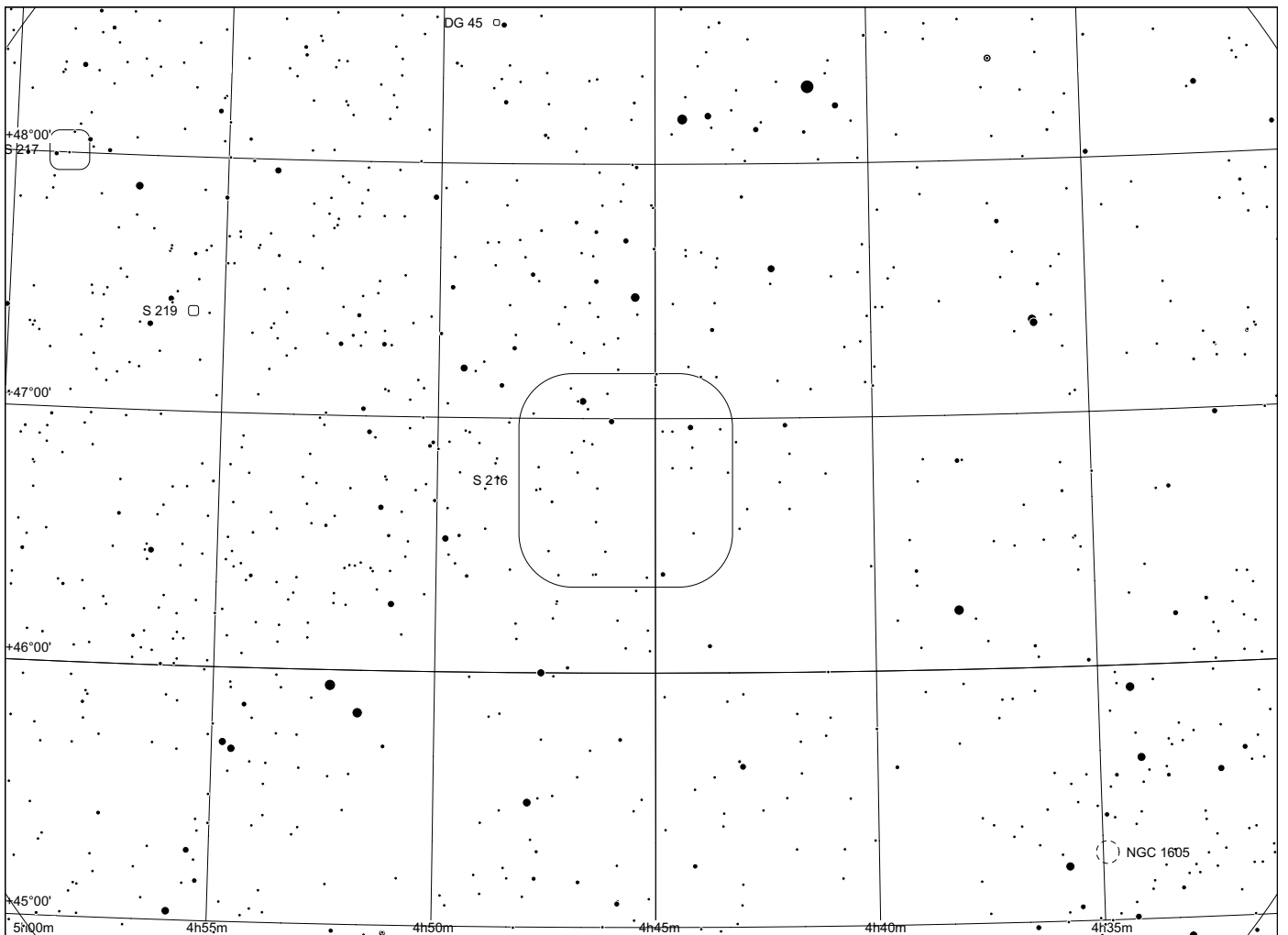
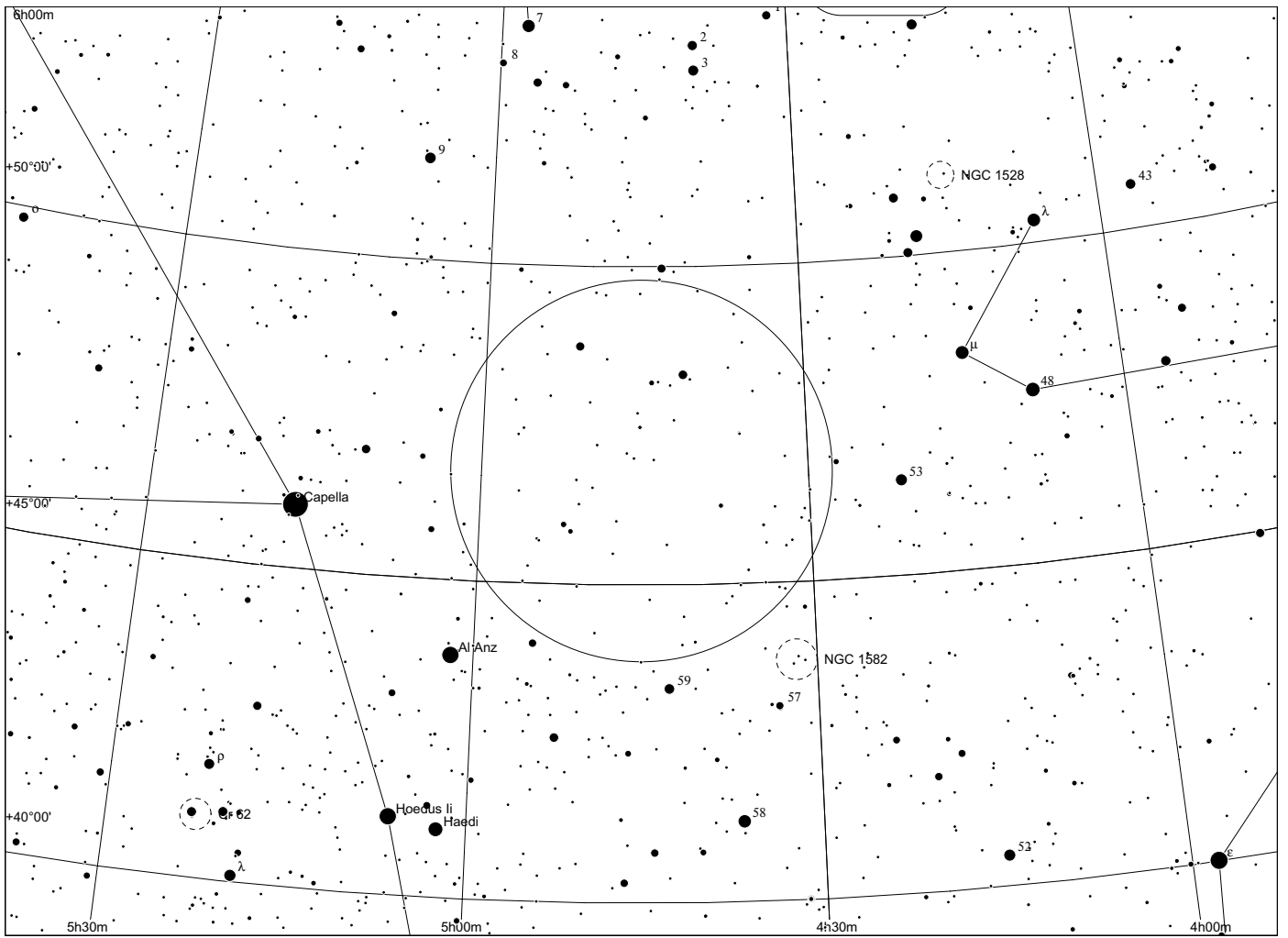
This is the closest known planetary nebula and one of the oldest.

Observing notes:

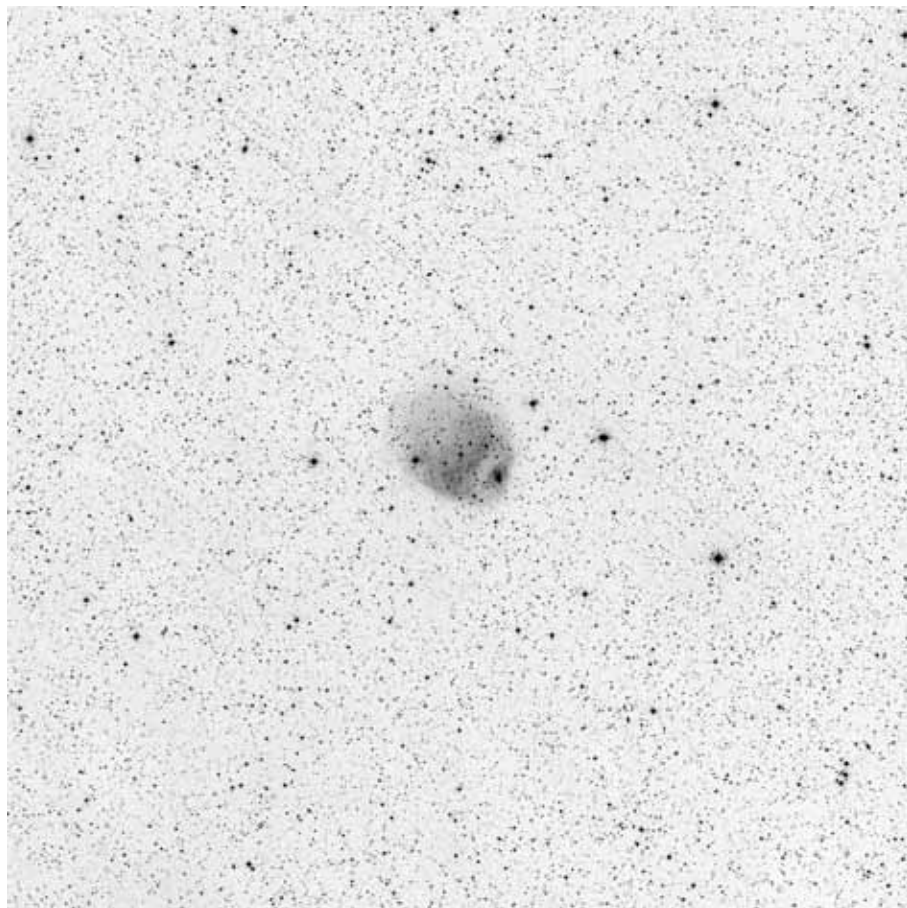
14" f/5

At 50x with OIII filter, the NE edge could be observed and showed the highest contrast to the background

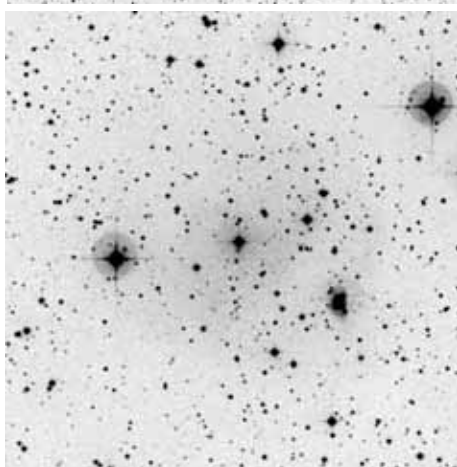
The NE edge is also distinct in my 80mm finder equipped with UHC filter, but very difficult in my 22" Dob due to the restricted field.



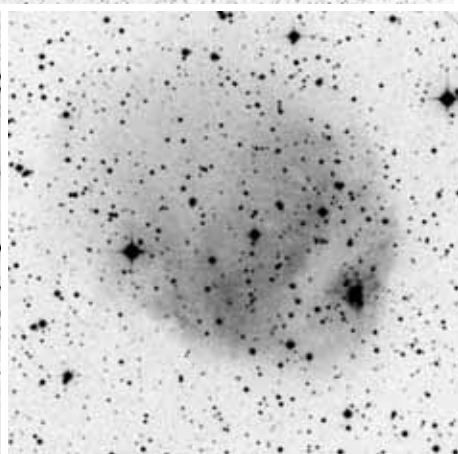
Sh 2 - 217 in Auriga



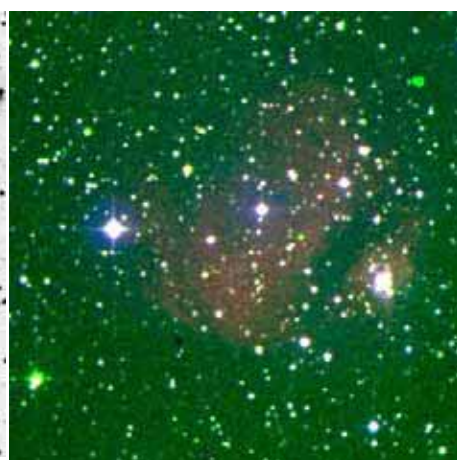
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-217		04 58 47.1	+48 00 20	9	2	2	2

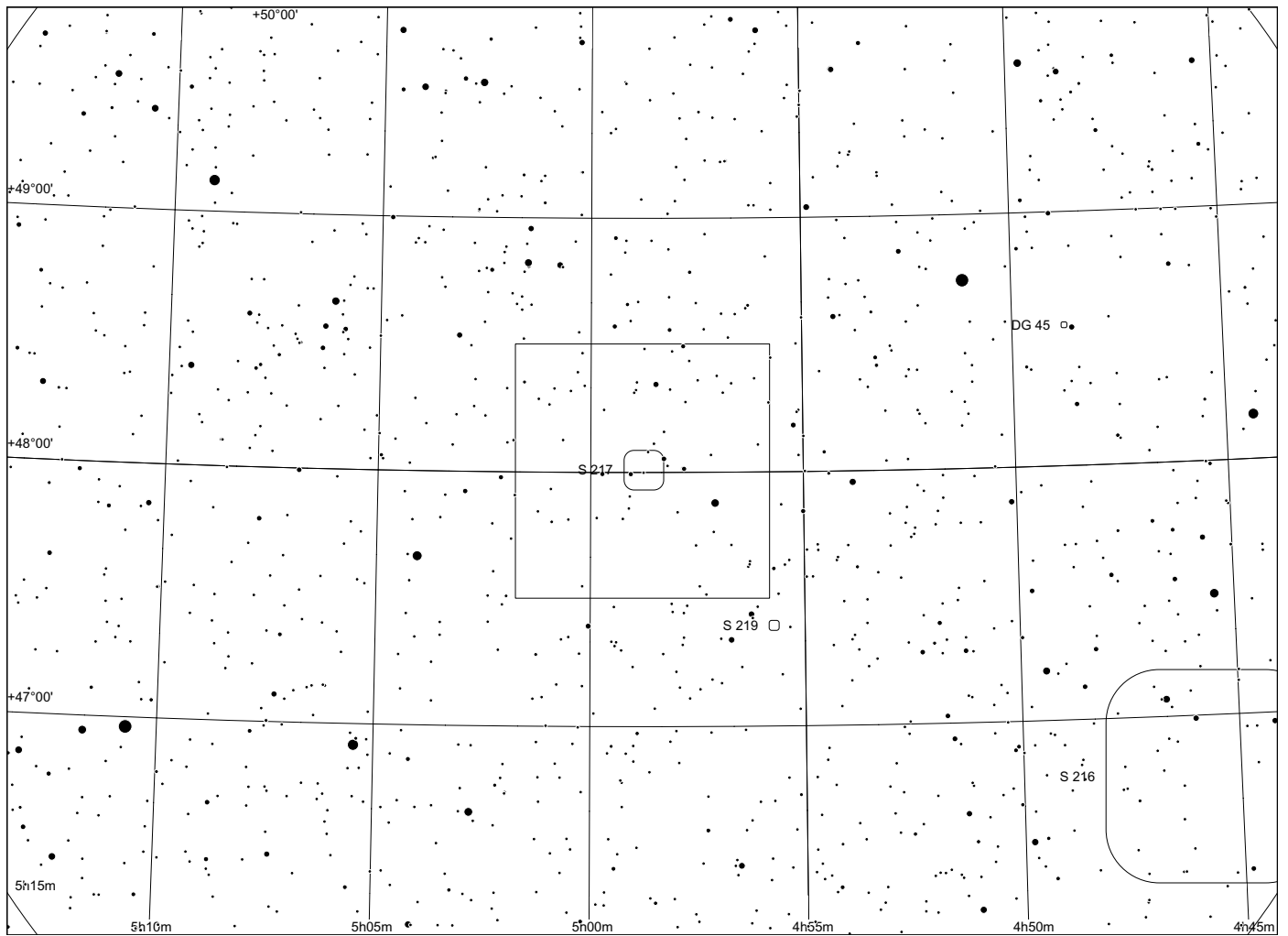
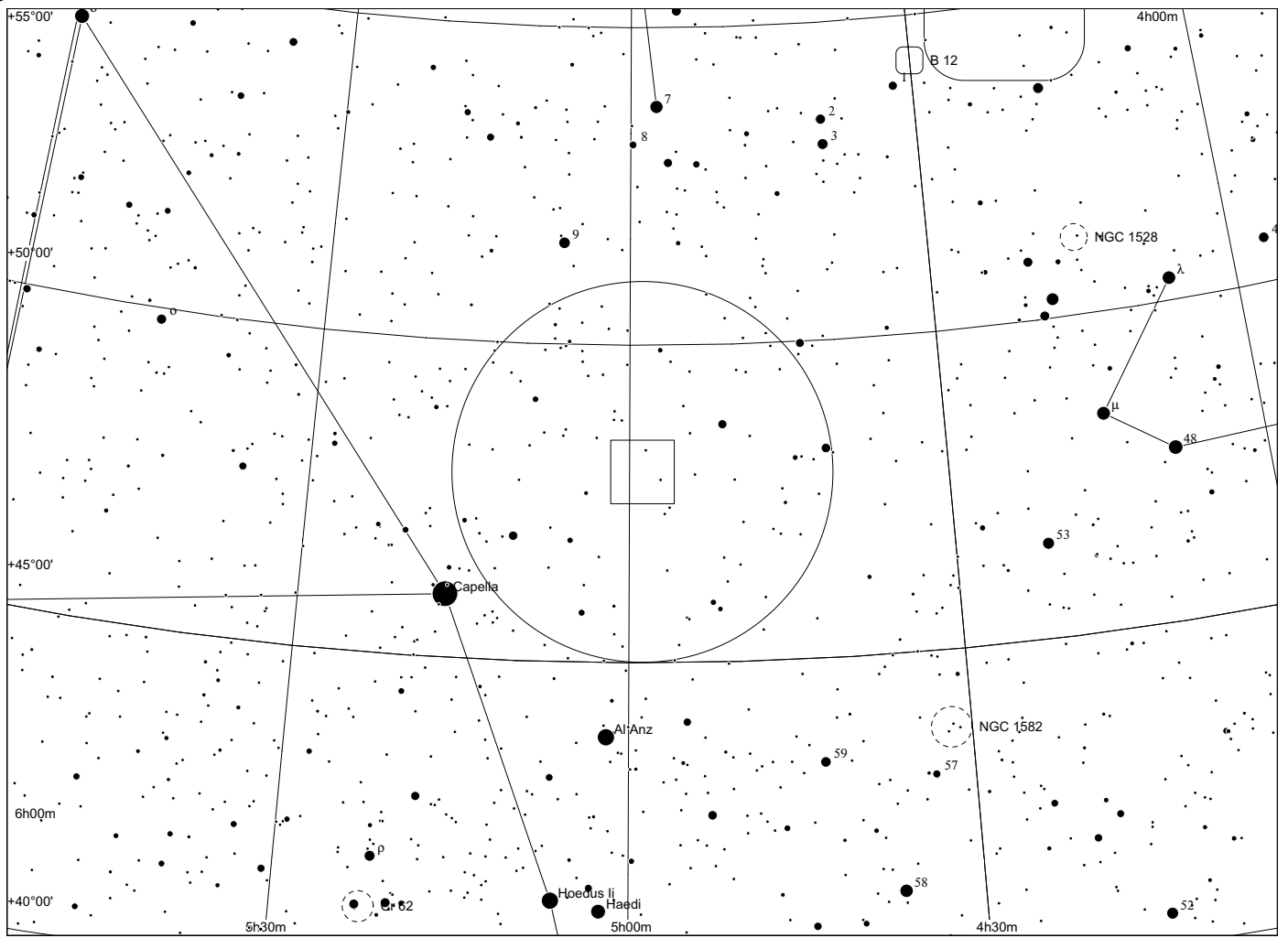
Distance: 5200 pc, Size: 13.6 pc, Source: 1982ApJS...49..183B

Sh 2-217 contains 4100 solar masses of material.

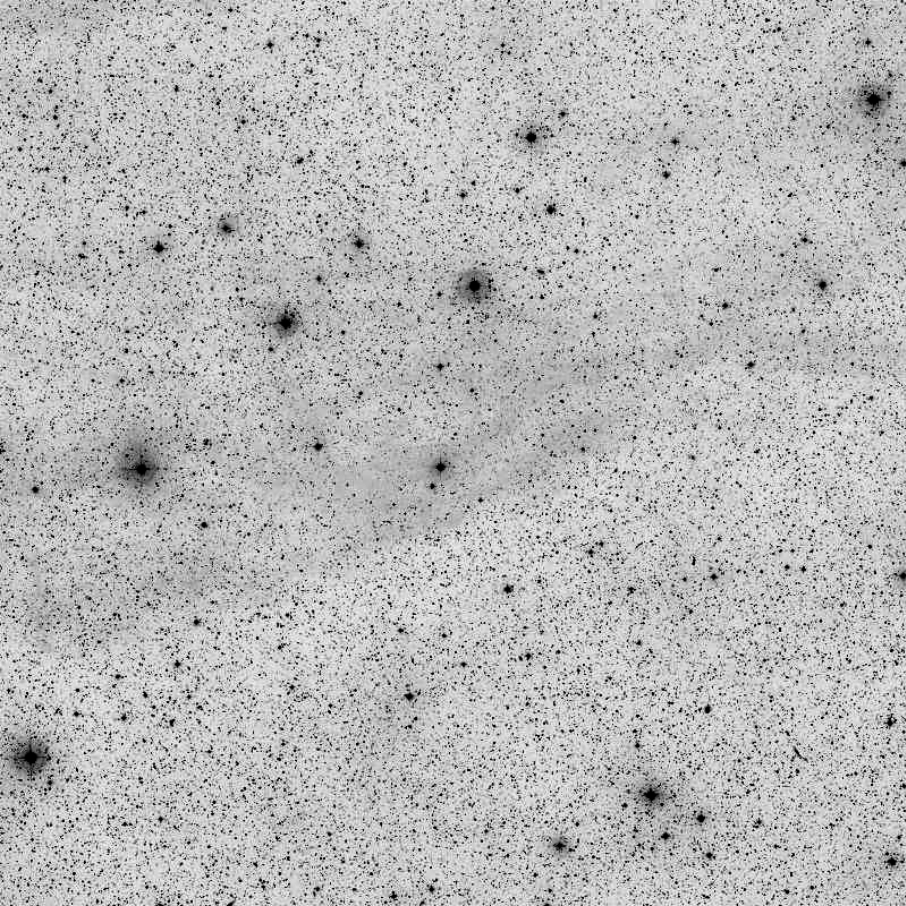
Observing notes:

22" f/4.5

01/2011: At 100x with H beta filter, a faint glow, elongated in SE-NW direction, is visible along a small chain of stars (between the two brighter stars)



Sh 2 - 218
in Auriga



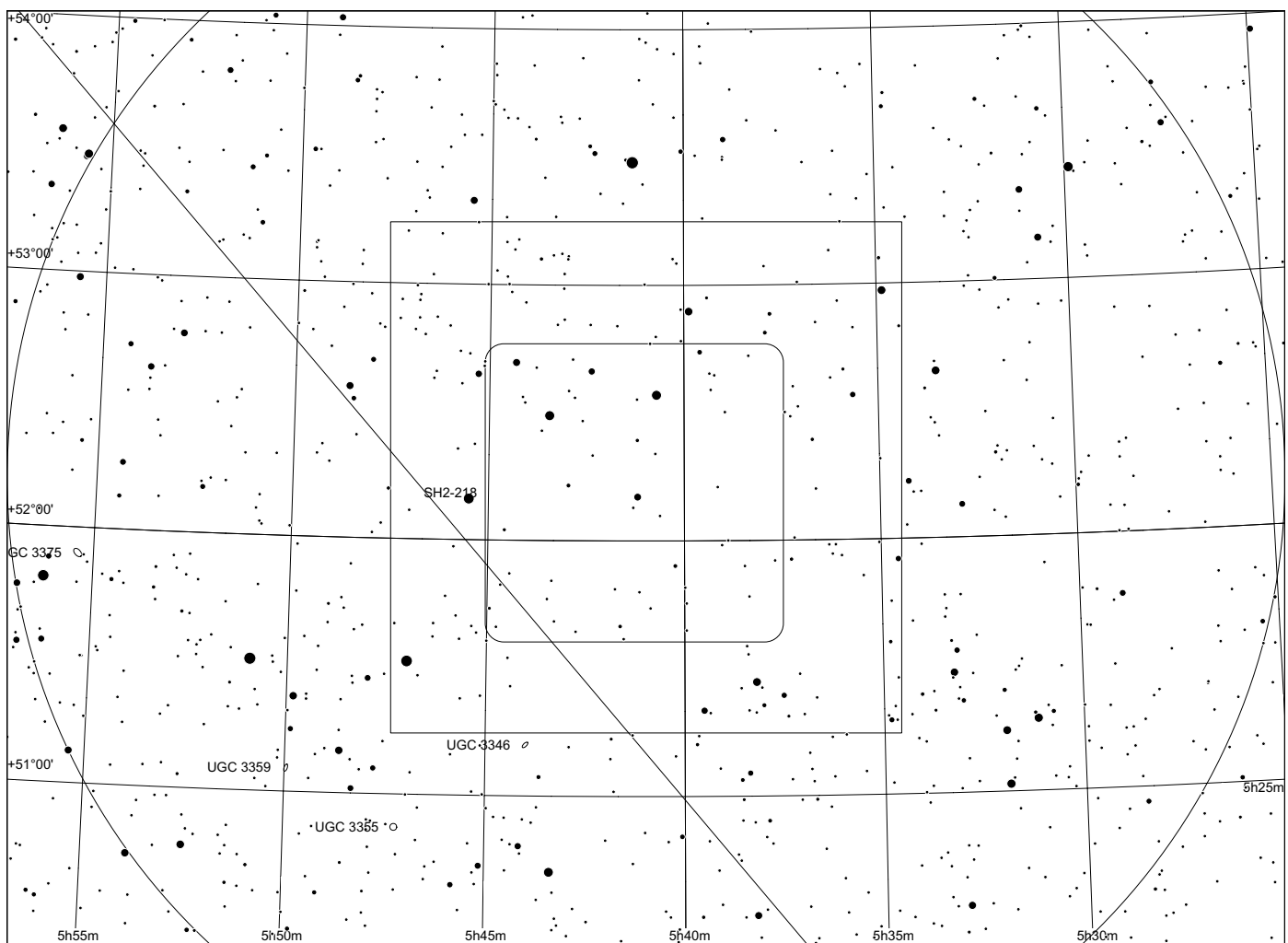
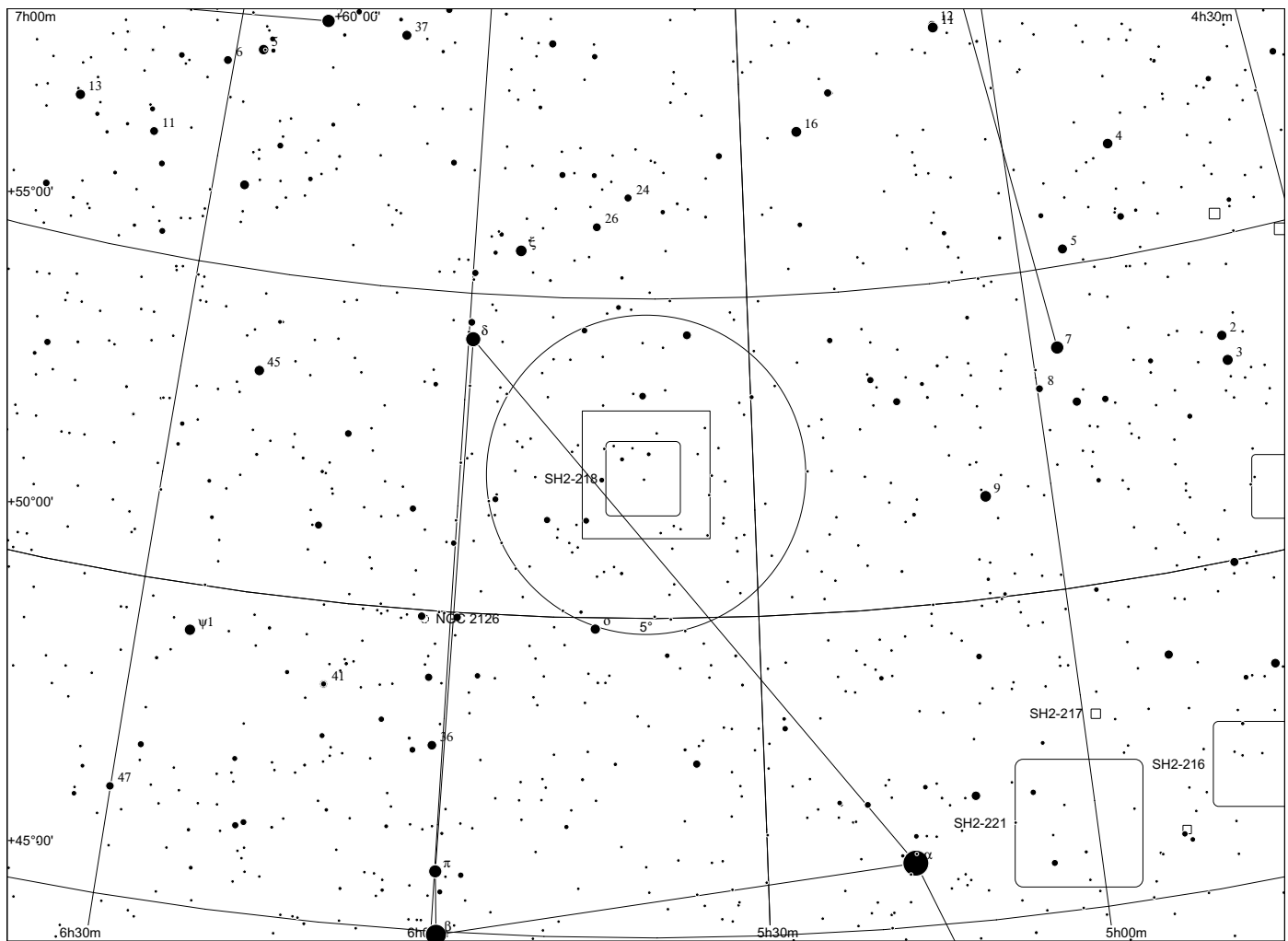
2°x2°



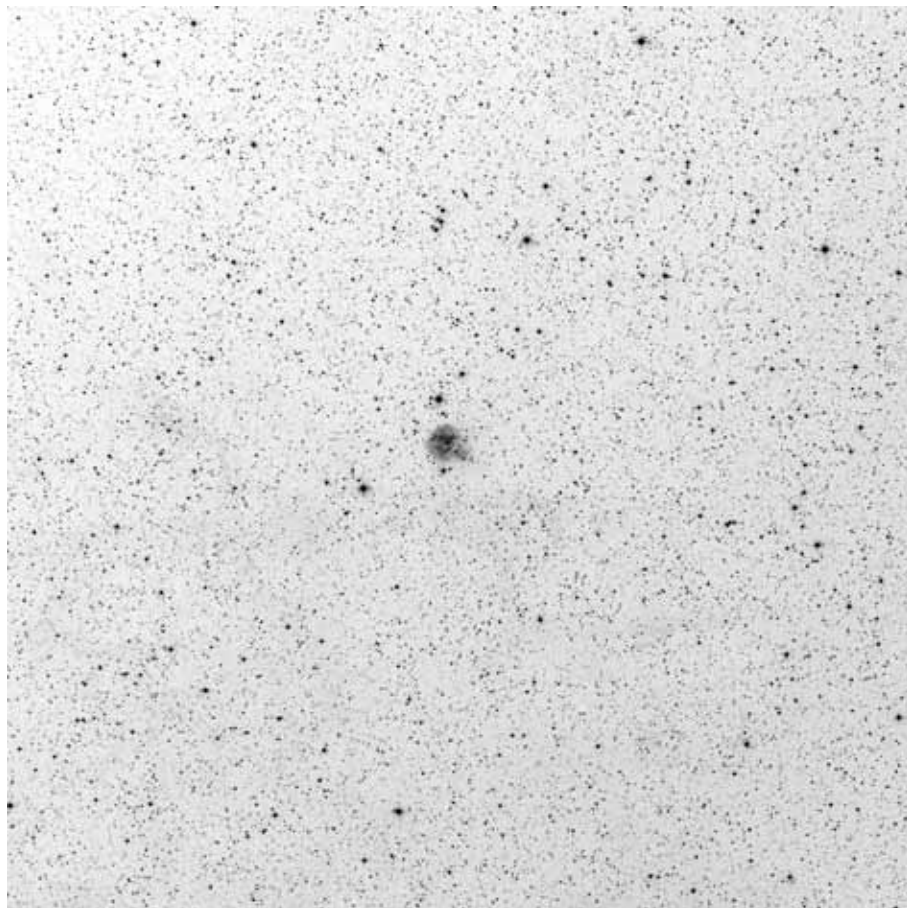
Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-218		05 41 16.4	+52 11 18	70	2	1	1

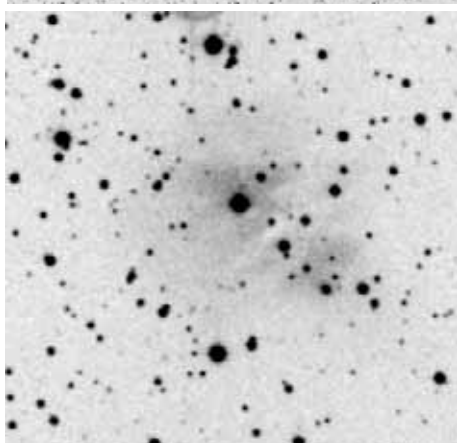
Observing notes:



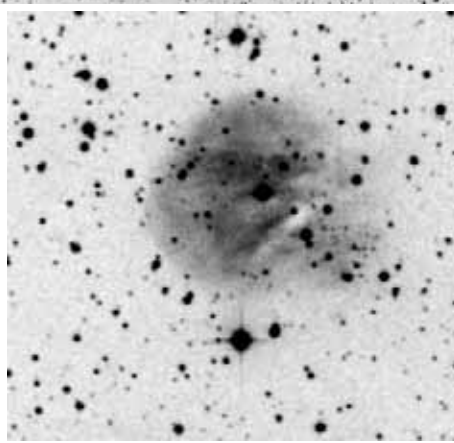
Sh 2 - 219 in Auriga



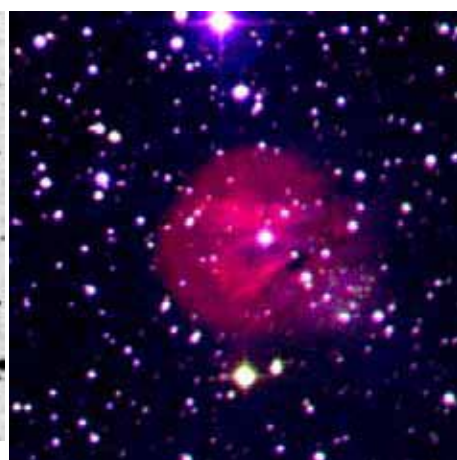
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-219		04 56 07.3	+47 23 43	3	2	2	3

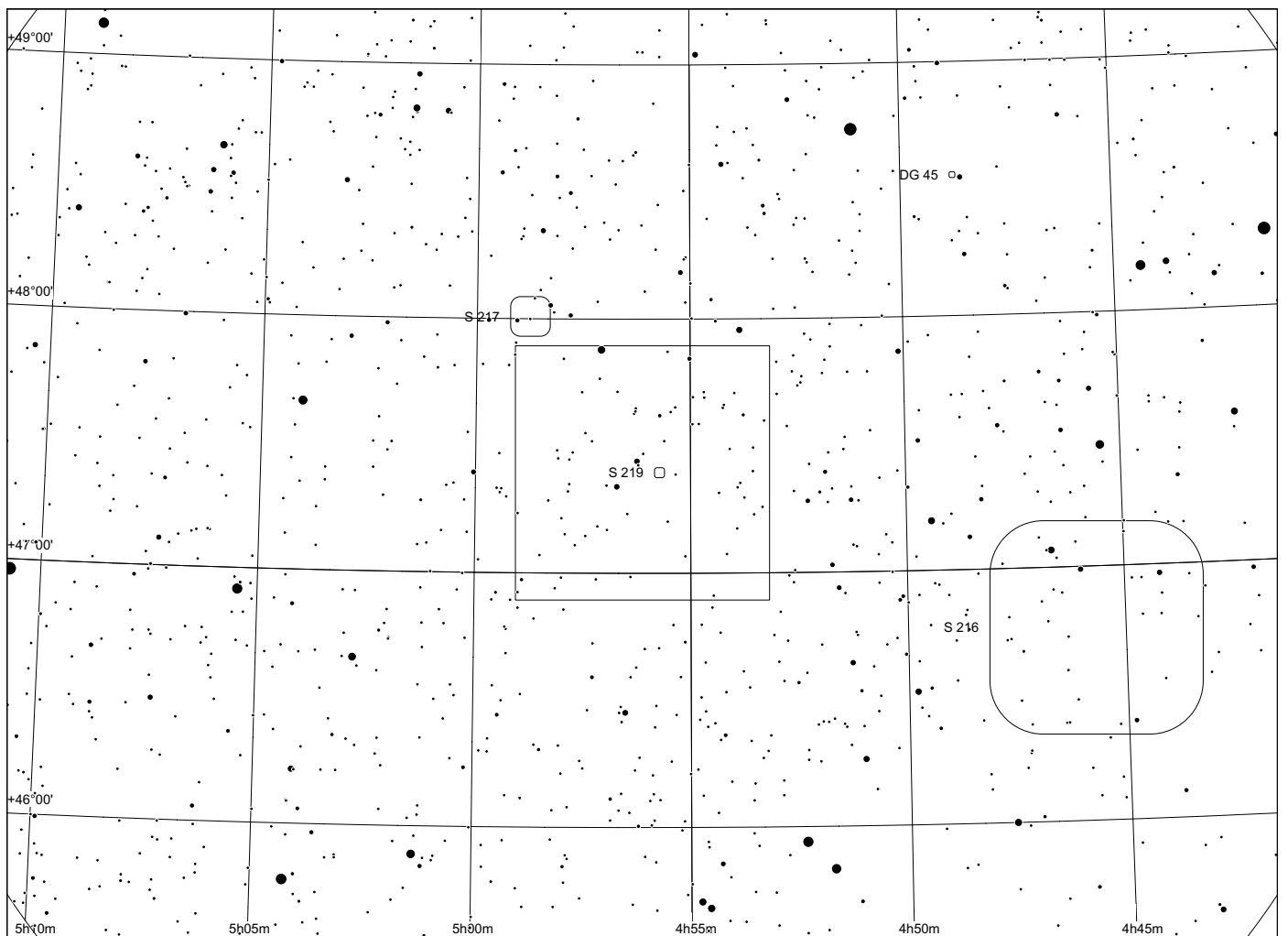
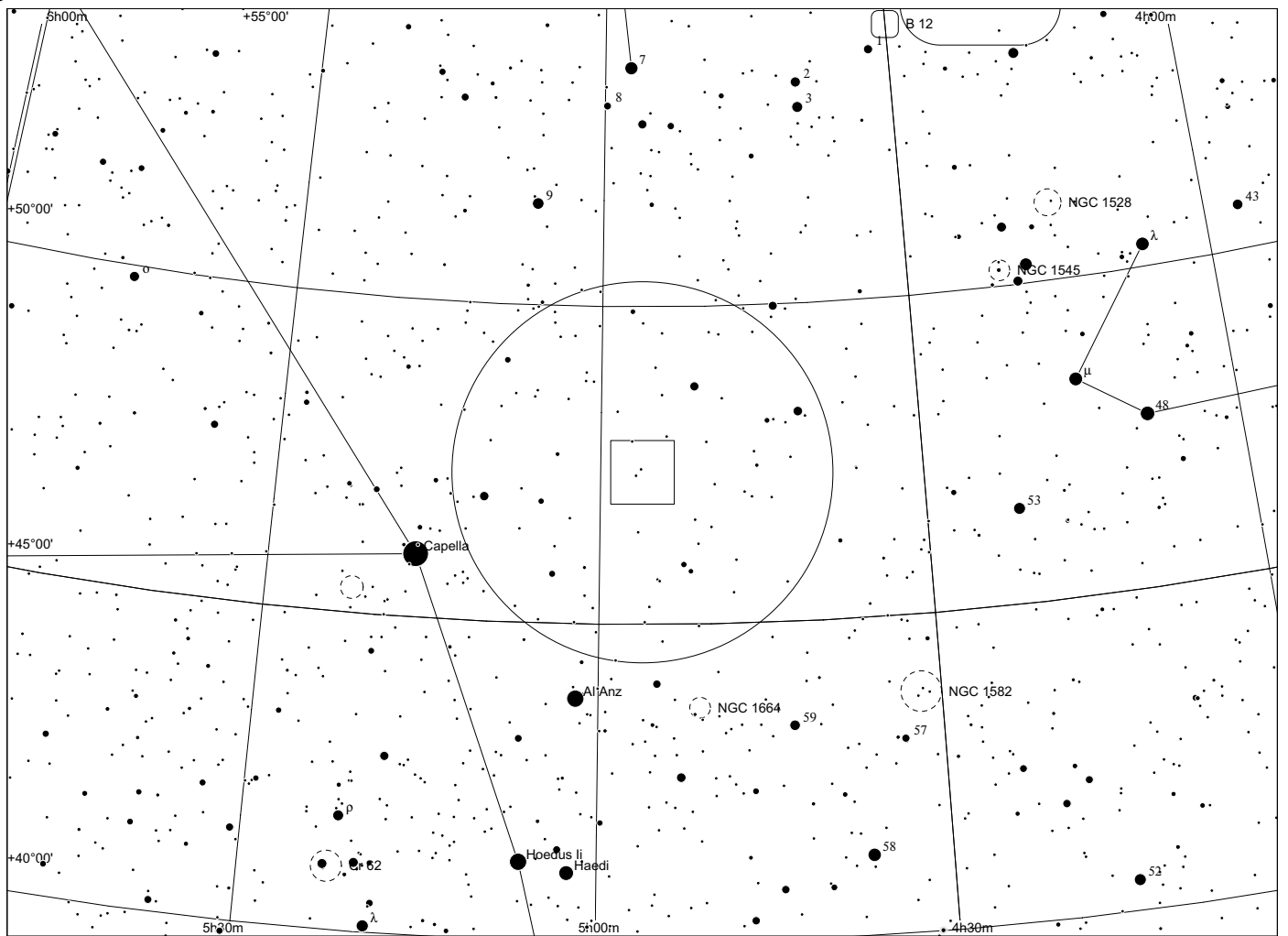
Distance: 4200 pc, Size: 3.7 pc, Source: 1982ApJS...49..183B

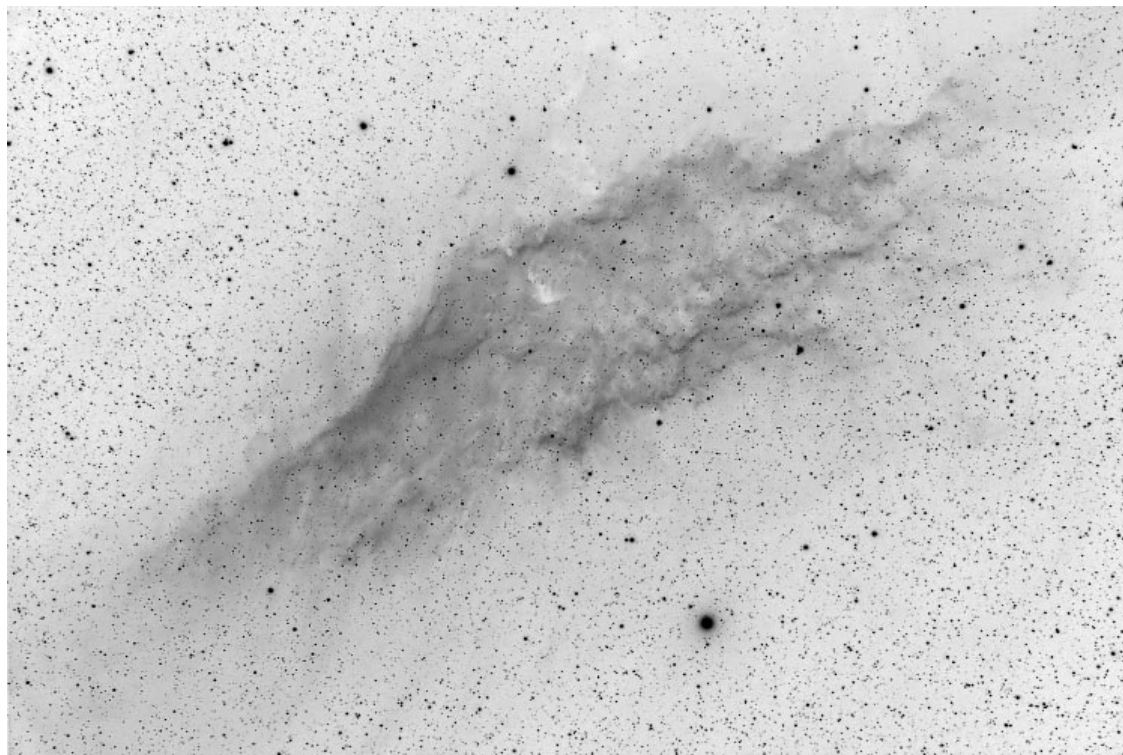
Sh 2-219 is ionised by a B0 V star, Sh 2-219 no. 194, in an embedded star cluster.

Observing notes:

22" f/4.5

01/2011: At 350x, a very faint glow could be suspected around a triangular star pattern both w/o filter and with UCH filter. Doubtful observation.





Sh 2 - 220
in
Perseus

H alpha

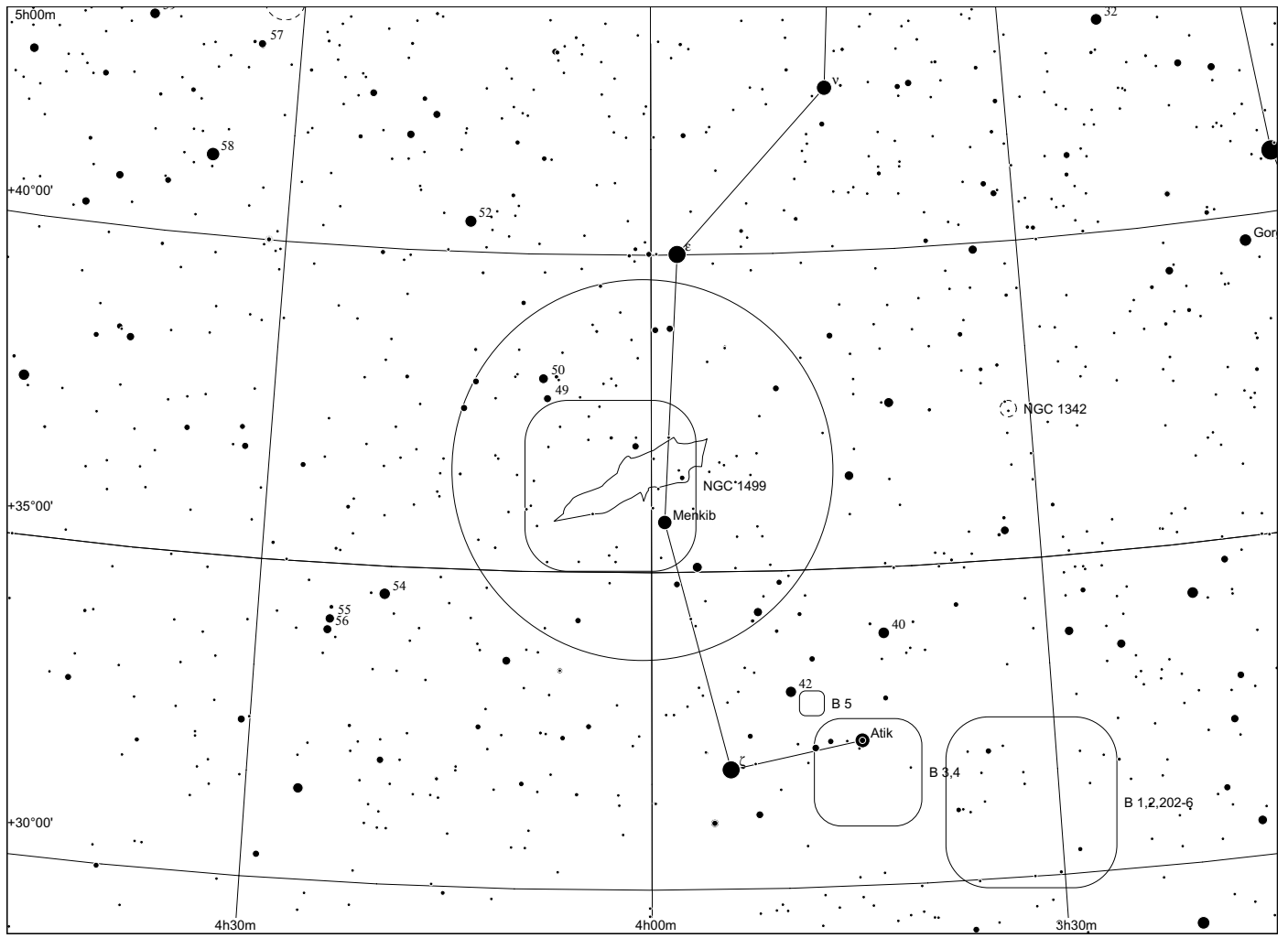
	other name	RA	dec	dia.	F	S	B
Sh 2-220	NGC1499	04 00 37.5	+36 37 02	320	3	2	3

Distance: 400 pc, Size: 37.3 pc, Source: 1982ApJS...49..183B

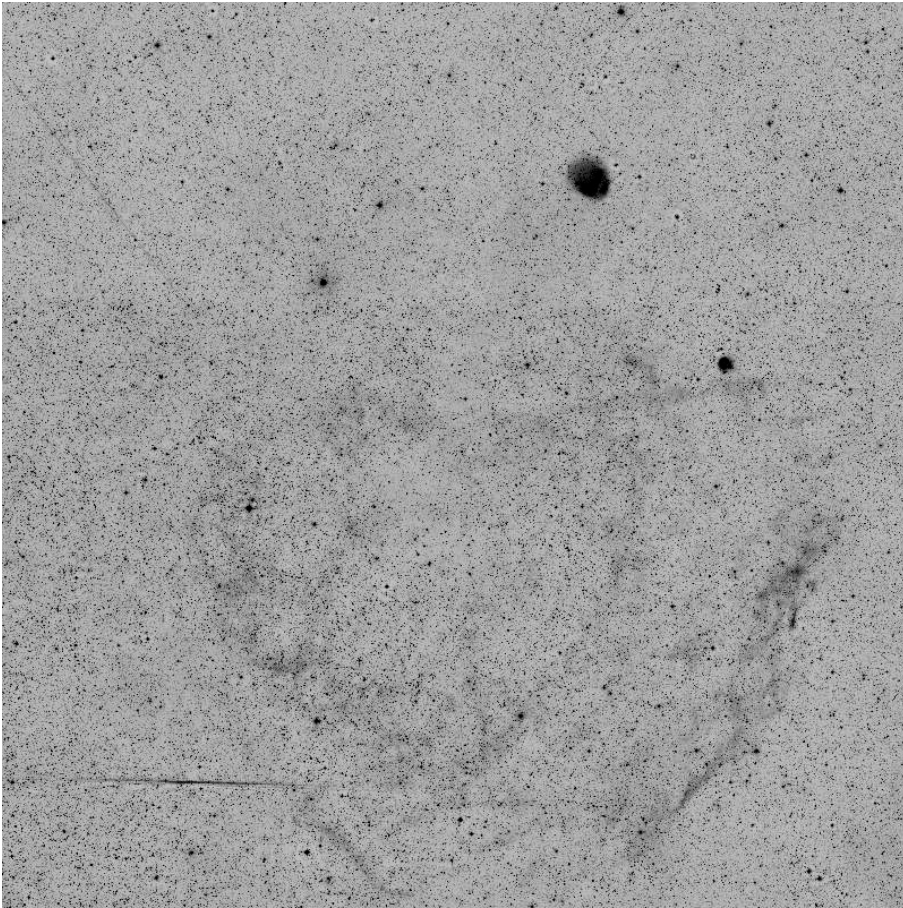
This is the California nebula (NGC 1499), which glows from radiation released from the O 7.5 III star Xi Persei in the Perseus OB2 association, which is part of the Gould Belt, our local region of the Milky Way.

Observing notes:

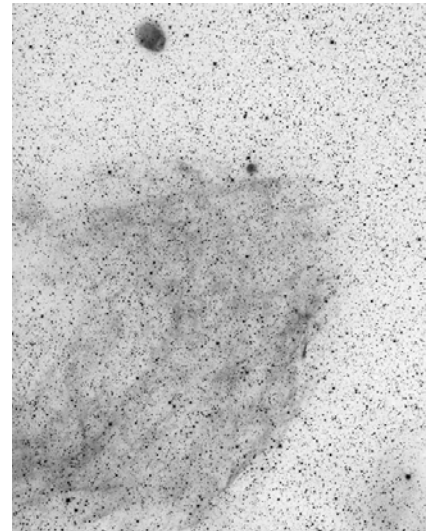
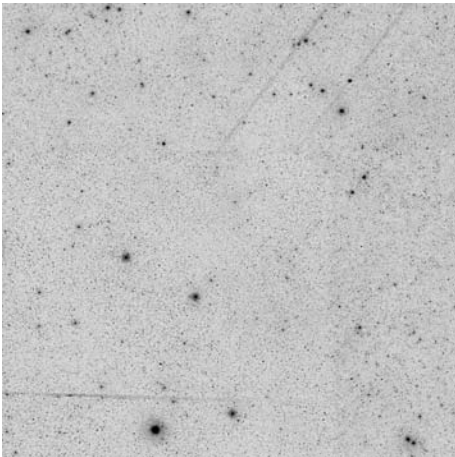
Extremely large EN, responds best to H beta. Well visible with my 80 mm finder and UHC filter.



Sh 2 - 221
in Auriga



3°x3°, red



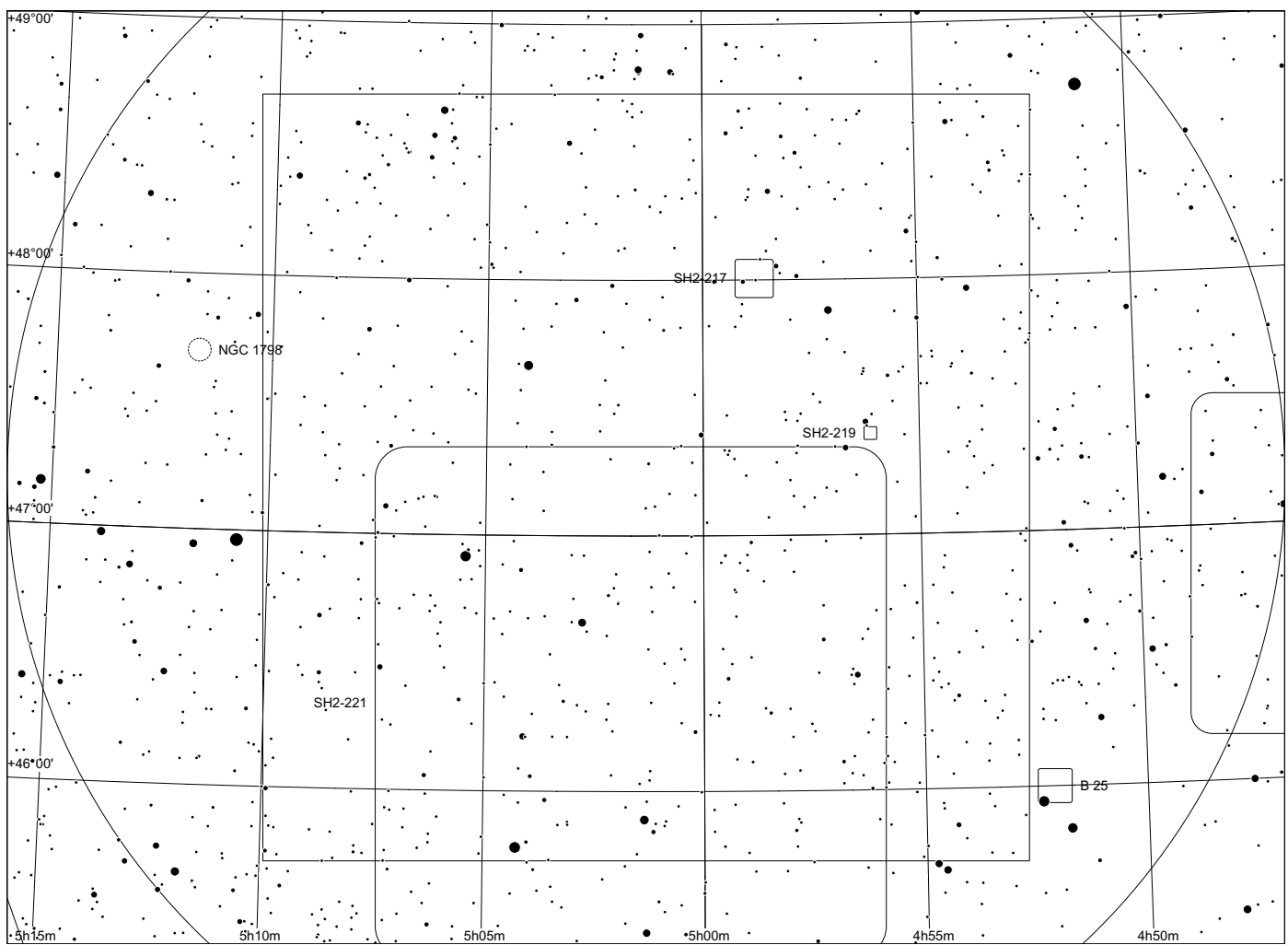
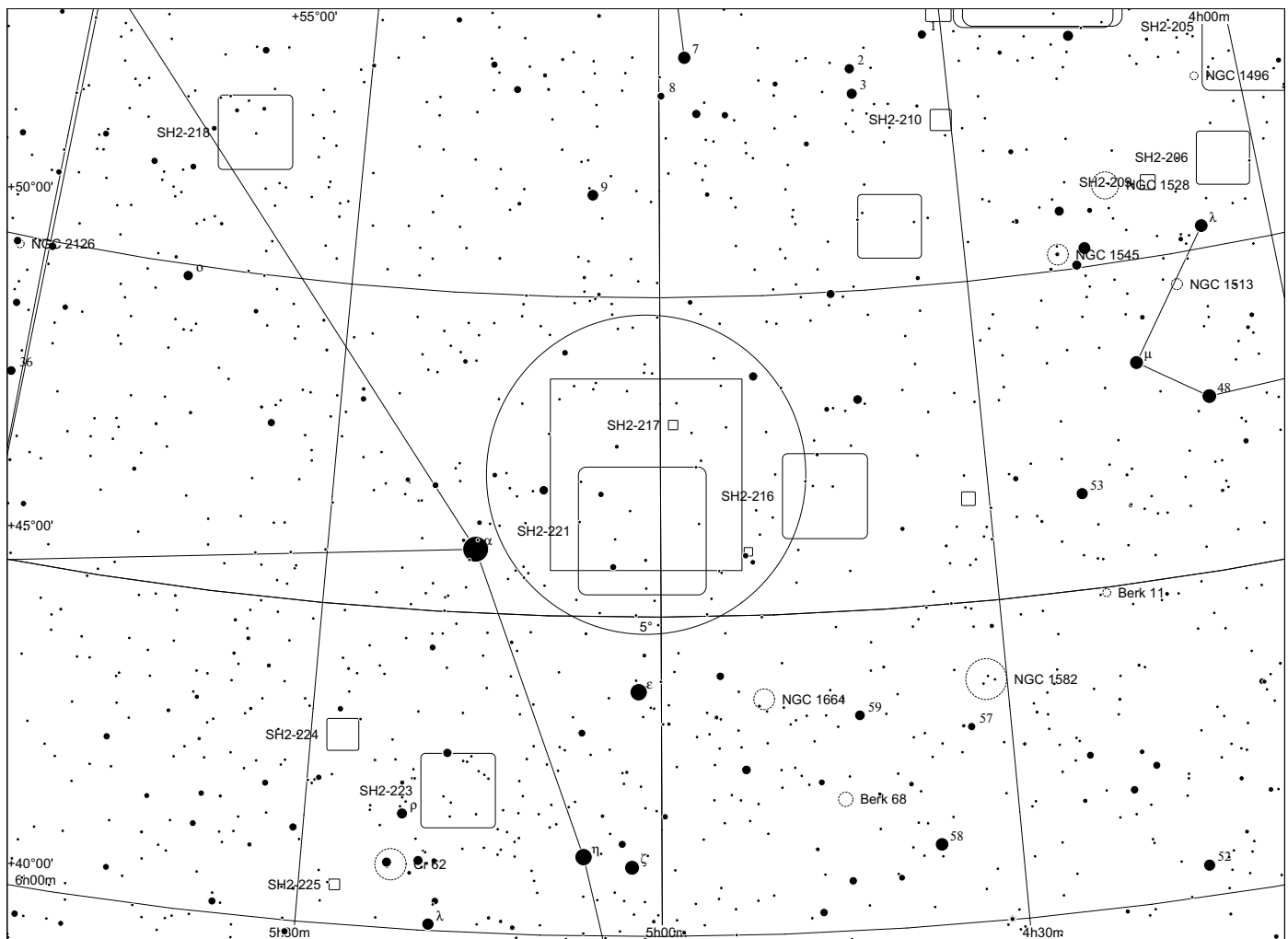
Dean Salman H alpha

POSS blue

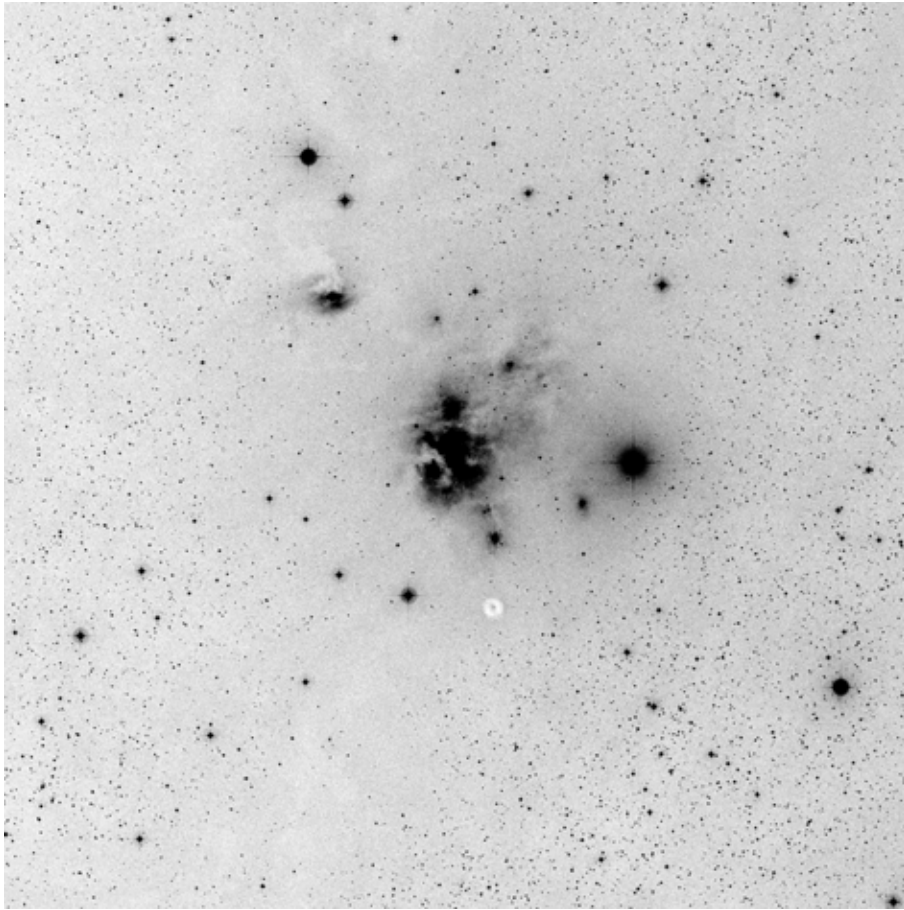
	other name	RA	dec	dia. '	F	S	B
Sh 2-221		05 01 39.3	+46 20 56	120	3	2	1

This is a supernova remnant, most likely SNR 160.4+02.8.

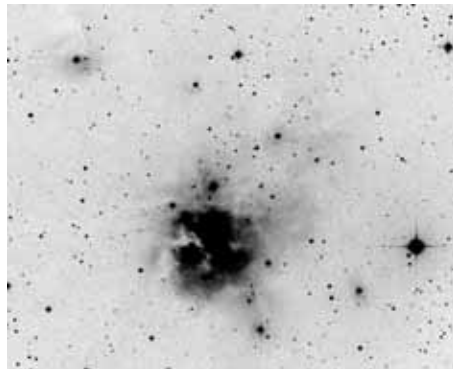
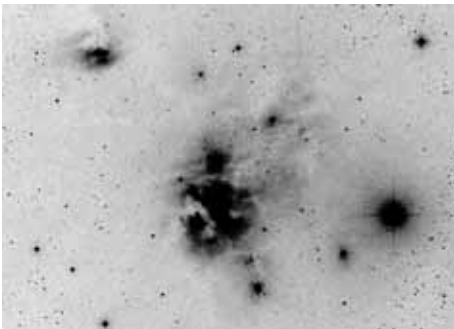
Observing notes:



Sh 2 - 222 in Perseus



60x60, blue



POSS blue

POSS red

composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-222	NGC1579	04 30 09.2	+35 16 13	6	3	2	3

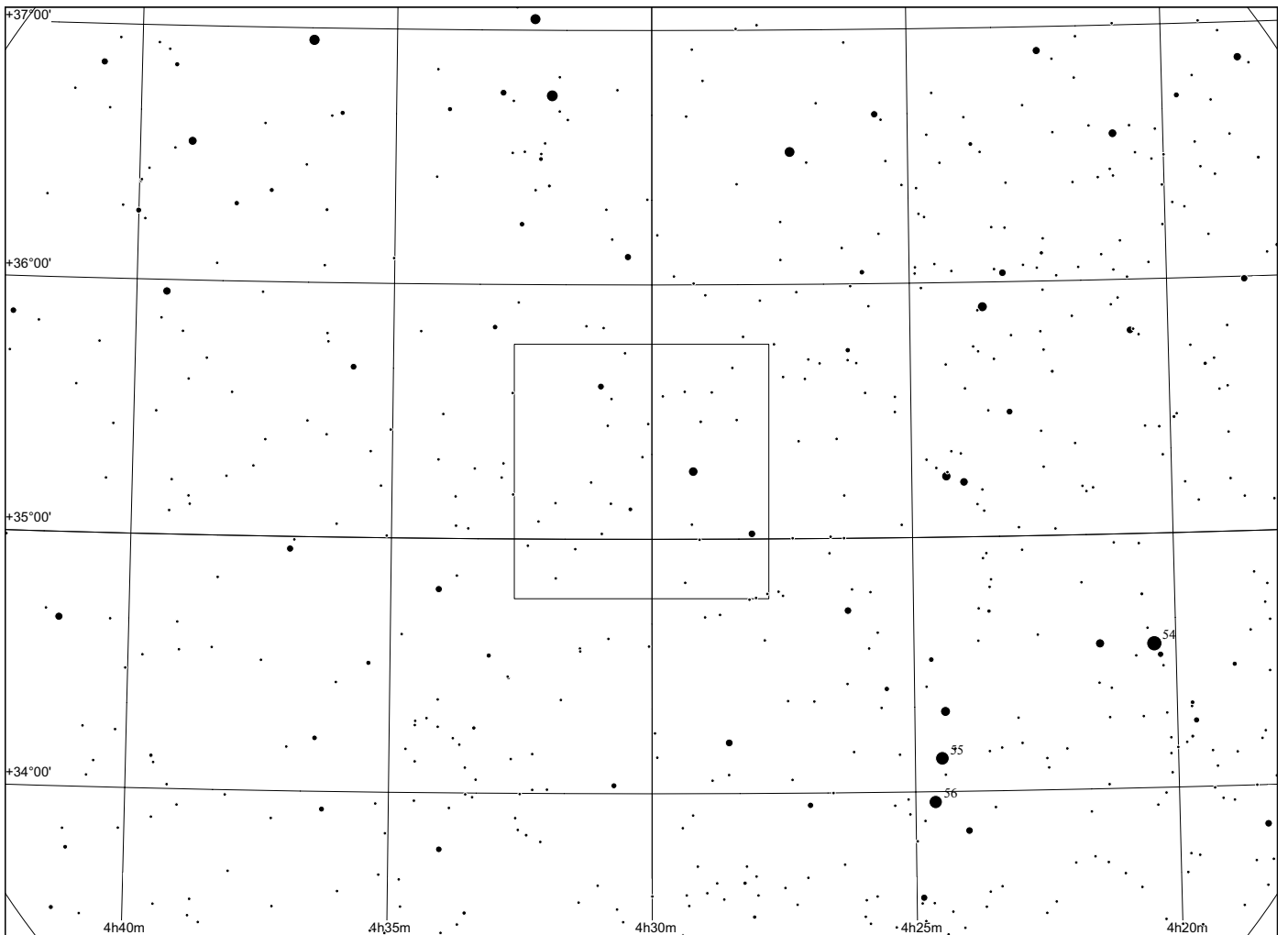
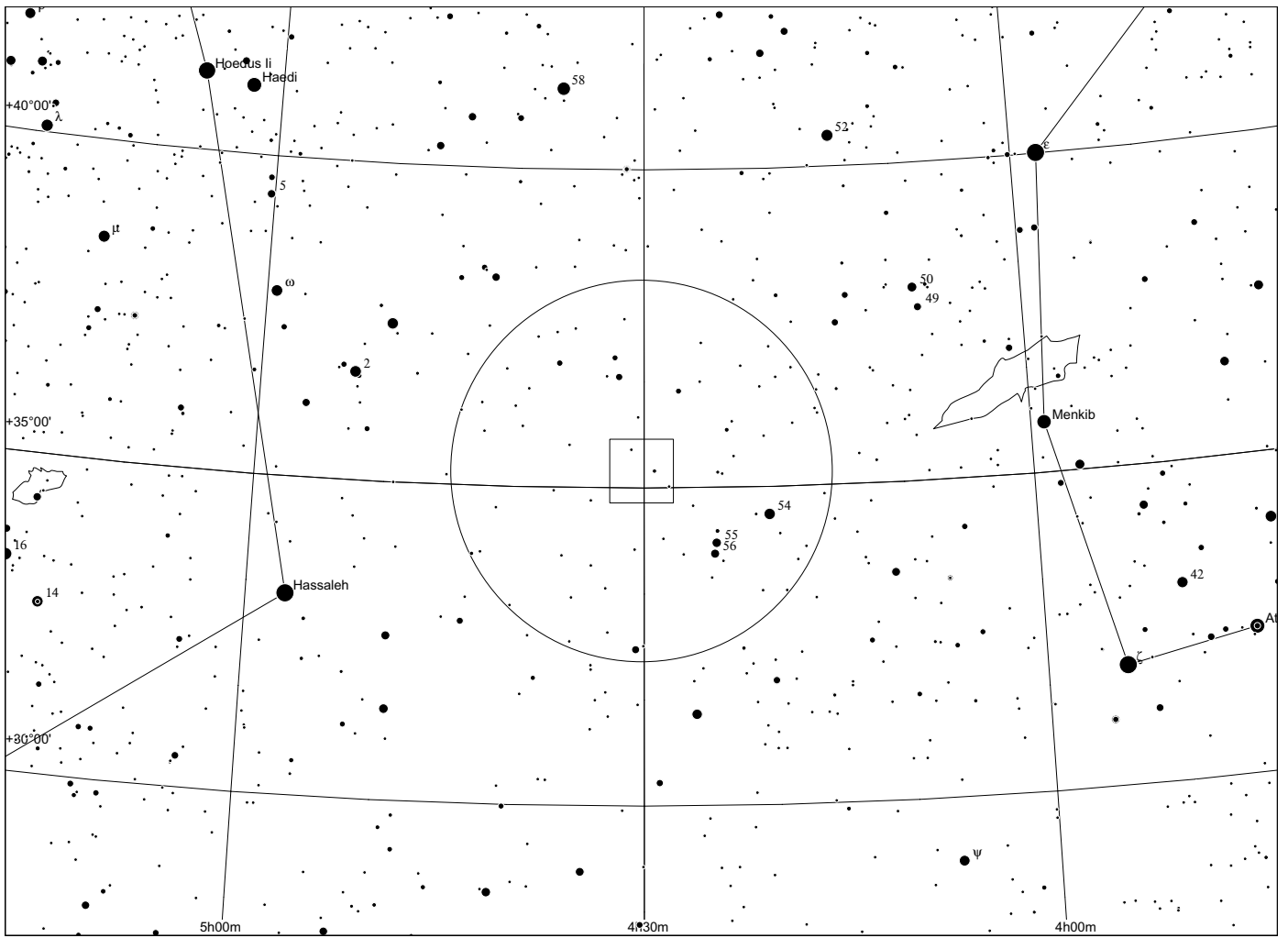
Distance: 800 pc, Size: 1.4 pc, Source: 1982ApJS...49..183B

Also called NGC 1579, this dusty reflection nebula contains a cluster of about 5 bright B class stars and 35 other stars. The cluster is dominated by the massive young star LkH α 101.

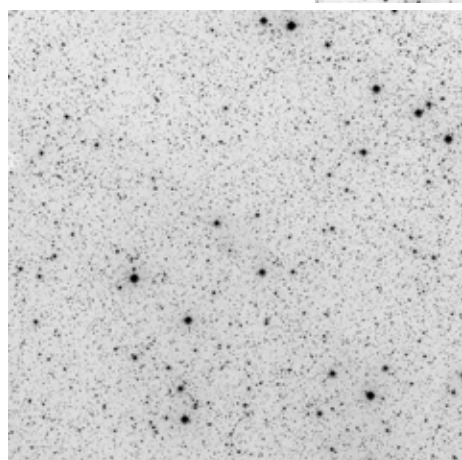
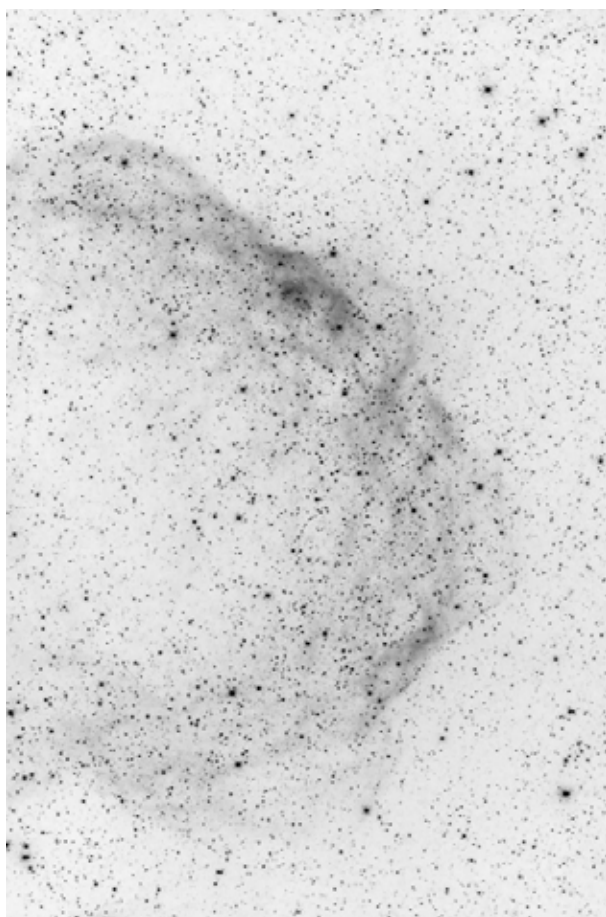
Observing notes:

22" f/4.5

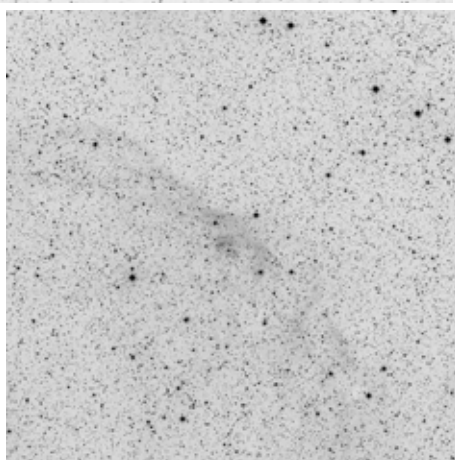
11/2008: Mostly RN, best w/o filter, structured glow, after some time a dark band could be discerned as well as another nebulous patch to the NE



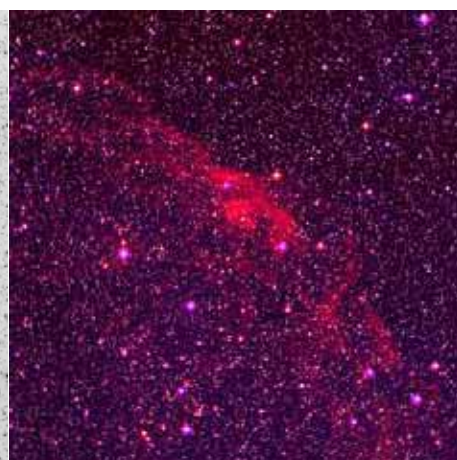
Sh 2 - 223 in Auriga



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-223		05 17 11.1	+42 12 43	70	3	2	2

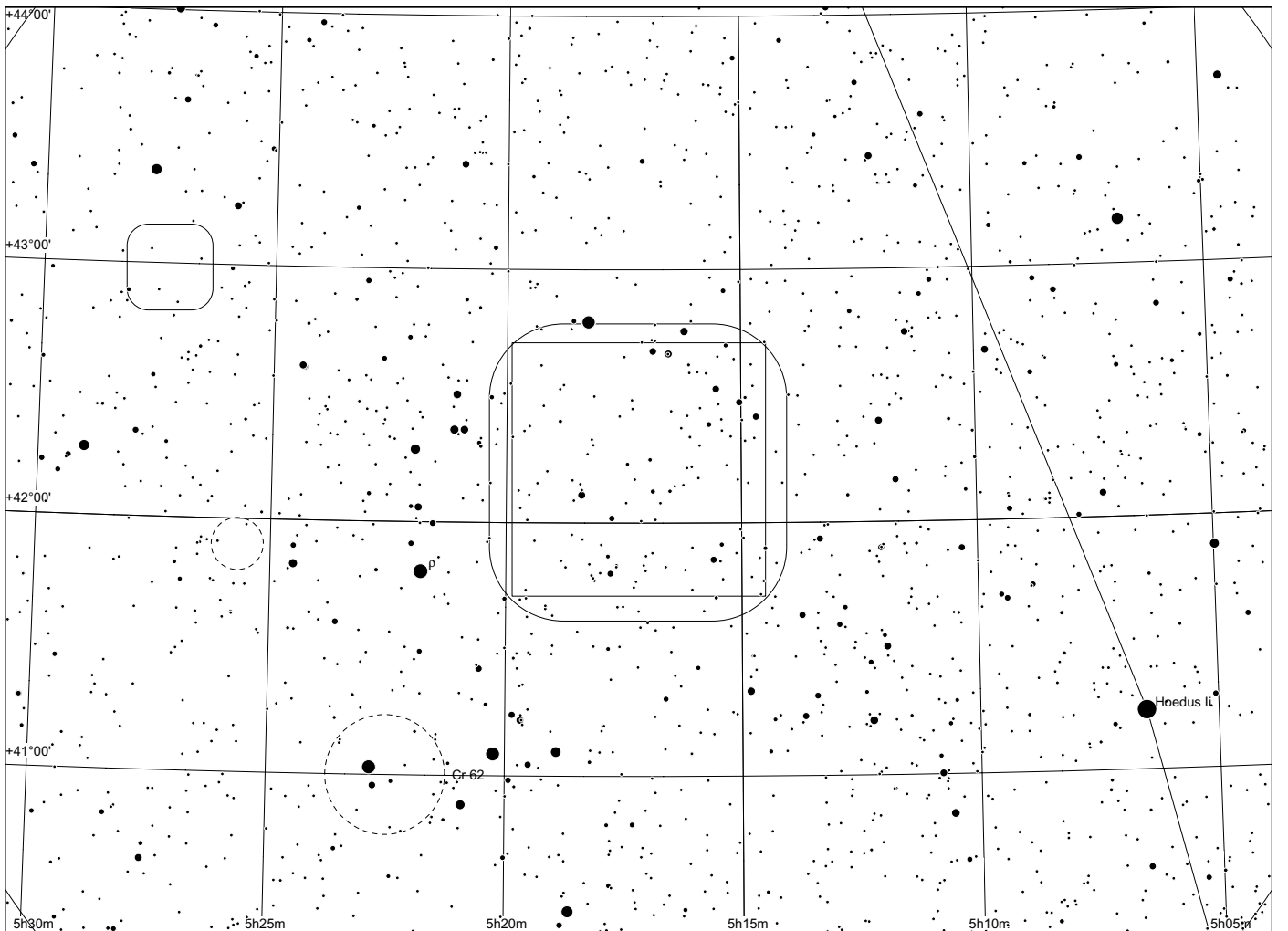
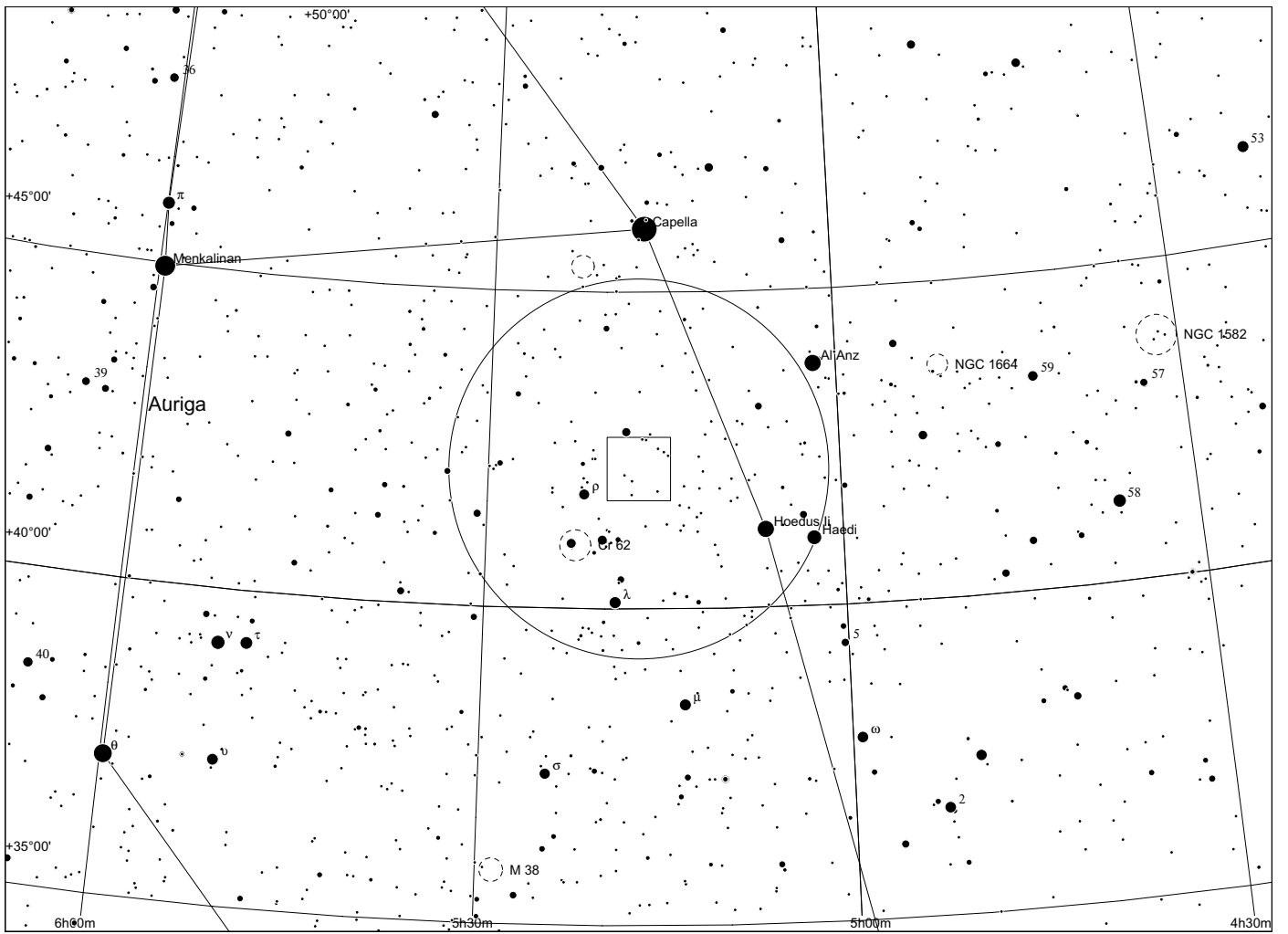
Distance: 8000 pc, Size: 162.9 pc, Source: 1986MNRAS.221..809R

This is the supernova remnant SNR 166.2+02.5

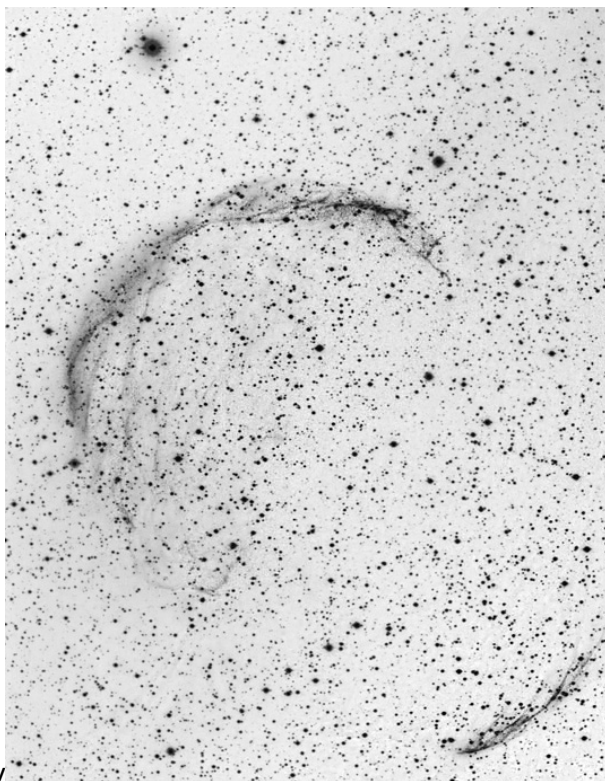
Observing notes:

22" f/4.5

Unsuccessful observation with OIII and H beta



Sh 2 - 224 in Auriga



OIII only

narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-224		05 27 15.2	+42 58 16	30	3	3	2

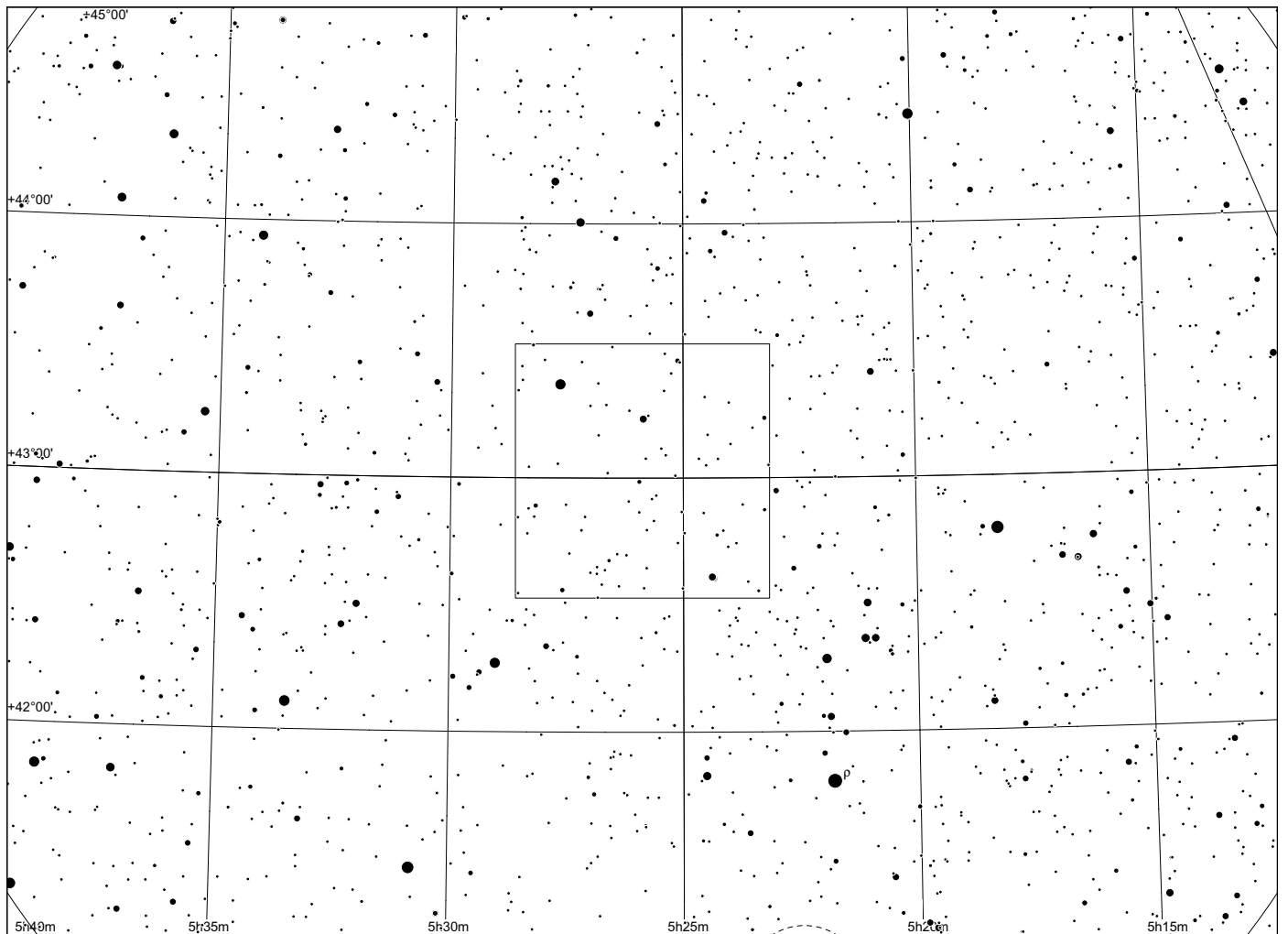
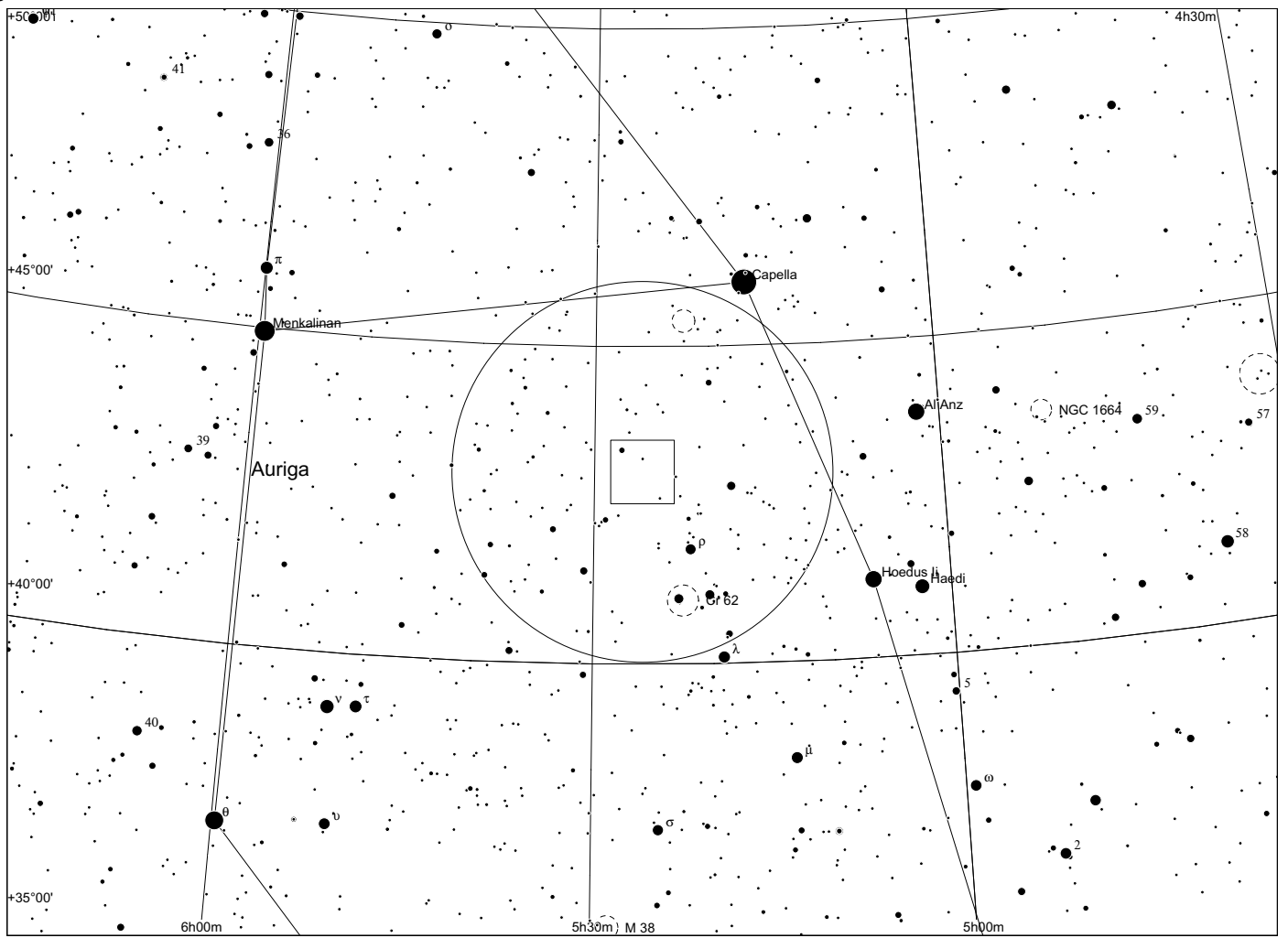
Distance: 4500 pc, Size: 72.0 pc, Source: 2004BASI...32..335G

This is the supernova remnant SNR G166.1 +4.4

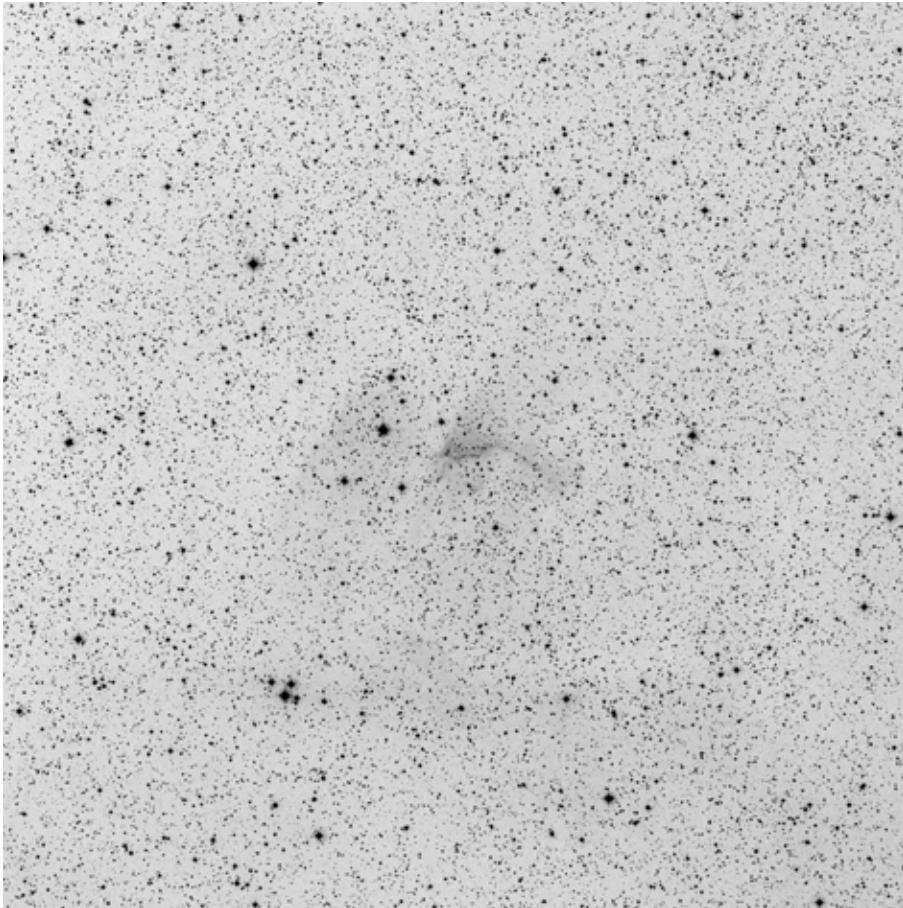
Observing notes:

22" f/4.5

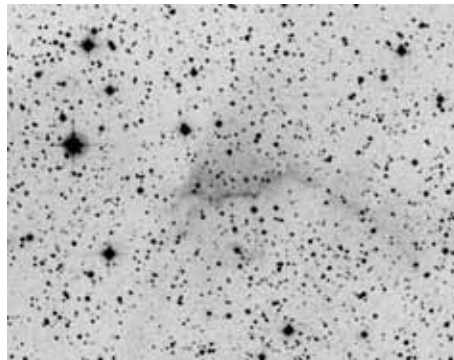
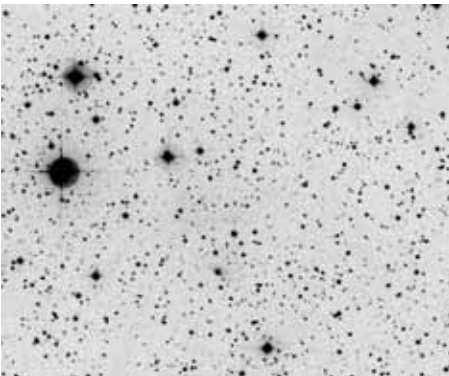
01/2010: With OIII filter a faint filament was suspected at the N edge of the SNR. Doubtful observation.



Sh 2 - 225 in Auriga



60x60, red



composite

POSS blue

POSS red

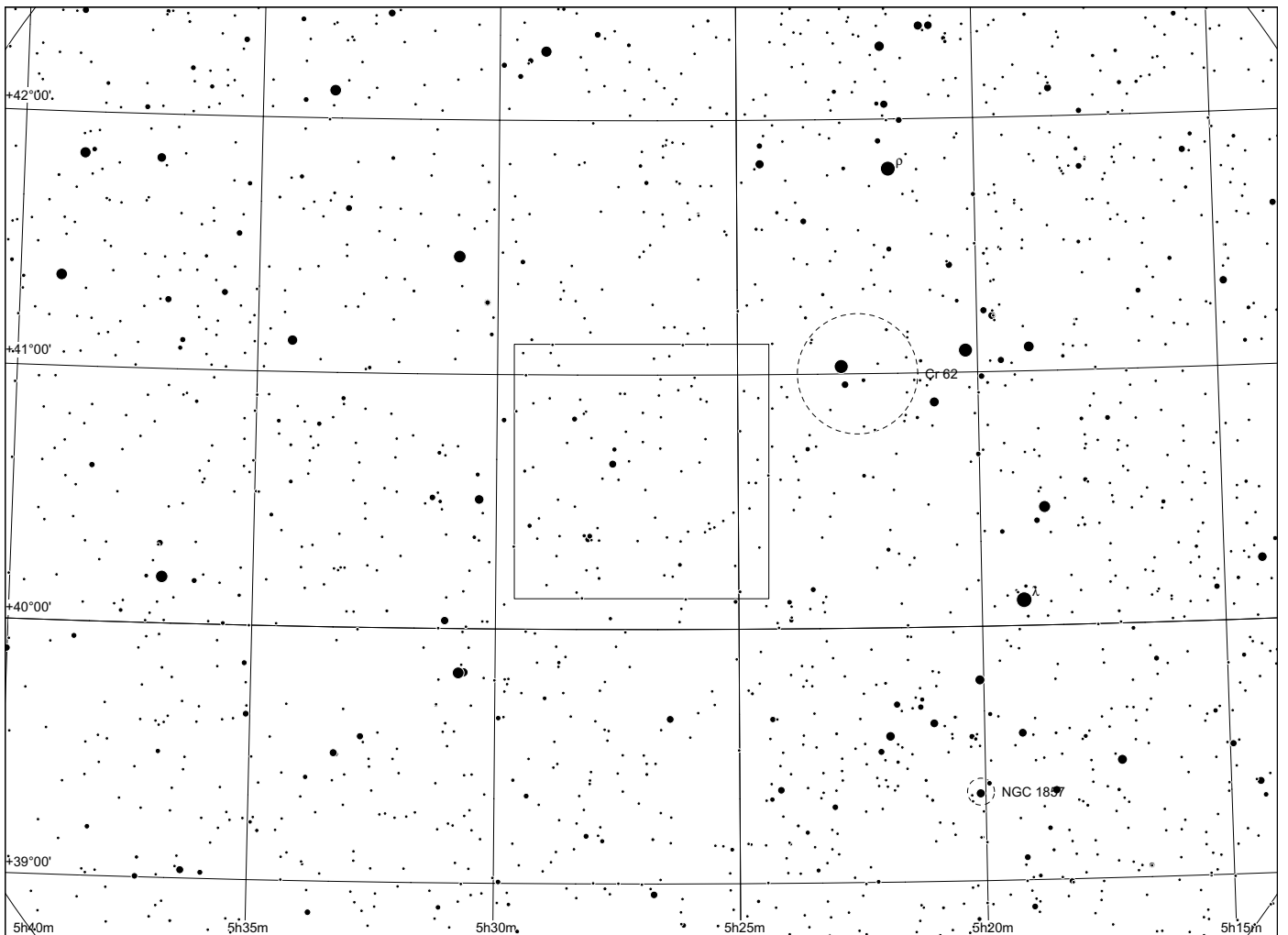
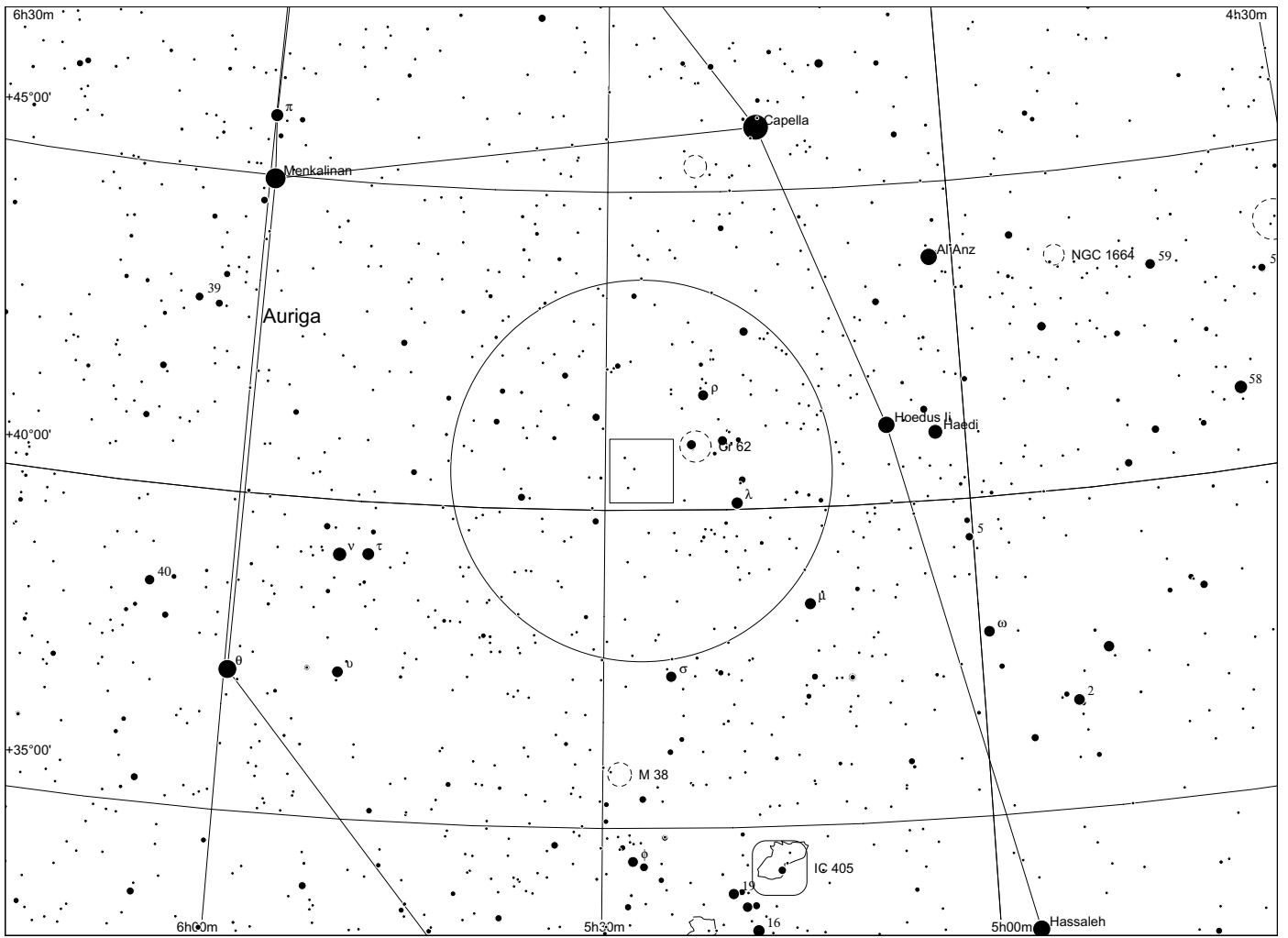
	other name	RA	dec	dia. '	F	S	B
Sh 2-225		05 27 00.3	+40 37 17	10	3	2	2

Distance: 3700 pc, Size: 10.8 pc, Source: 1982ApJS...49..183B

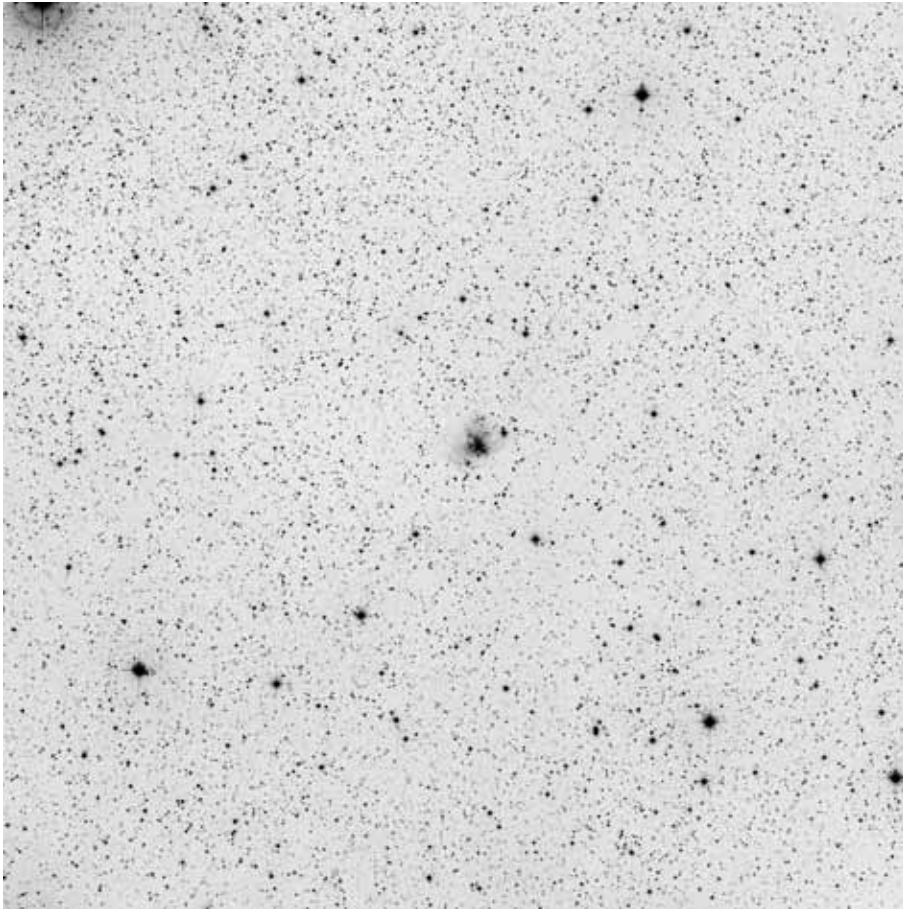
Observing notes:

22" f/4.5

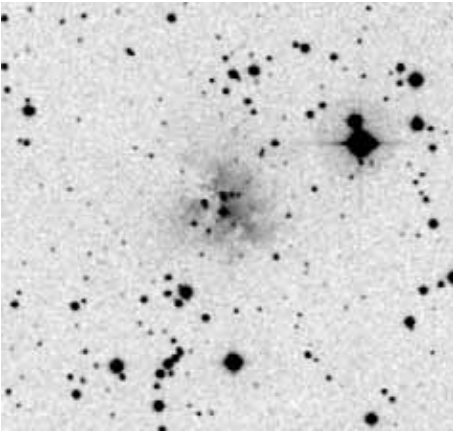
12/2011: unsuccessful observation



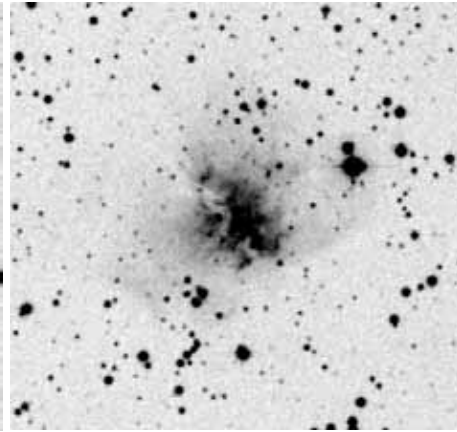
Sh 2 - 226 in Auriga



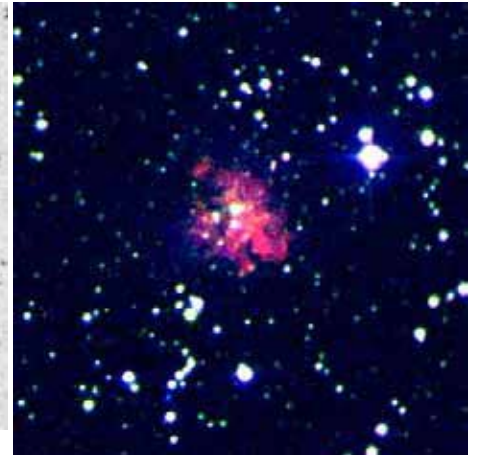
60x60, red



POSS blue



POSS red



composite

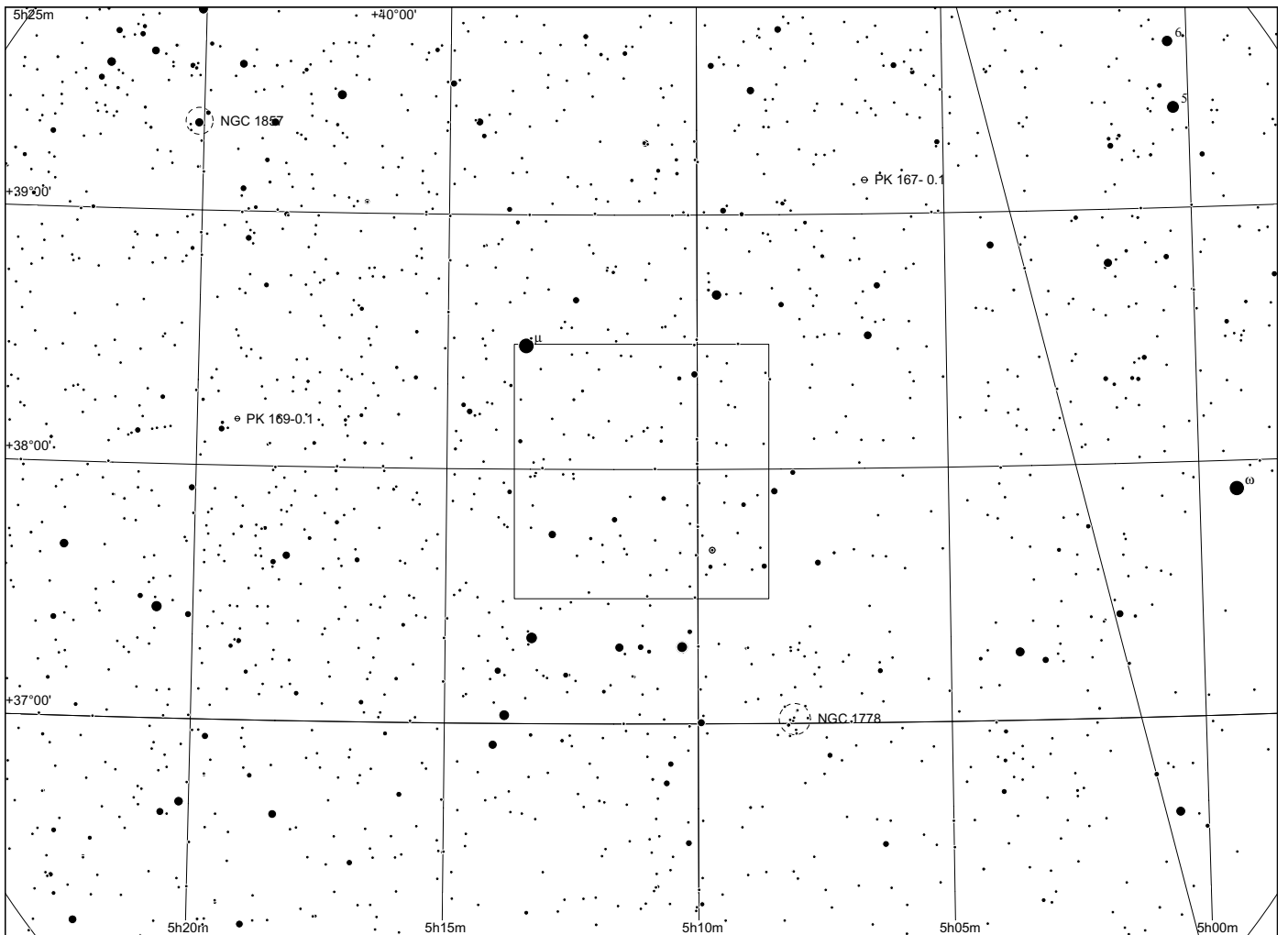
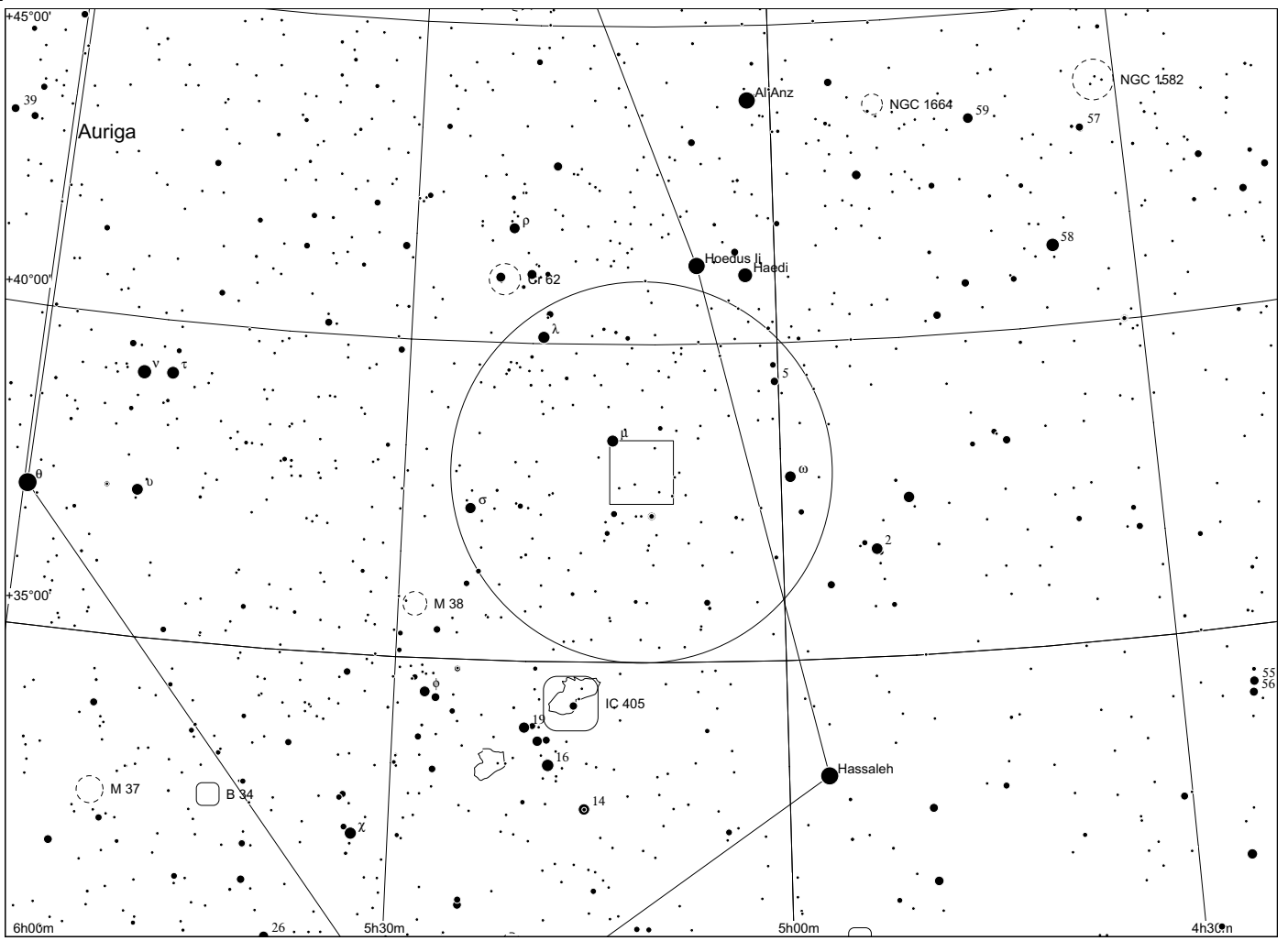
	other name	RA	dec	dia. '	F	S	B
Sh 2-226		05 11 06.6	+37 59 33	3	3	2	3

Distance: 4200 pc, Size: 3.7 pc, Source: 2003A&A...397..133R

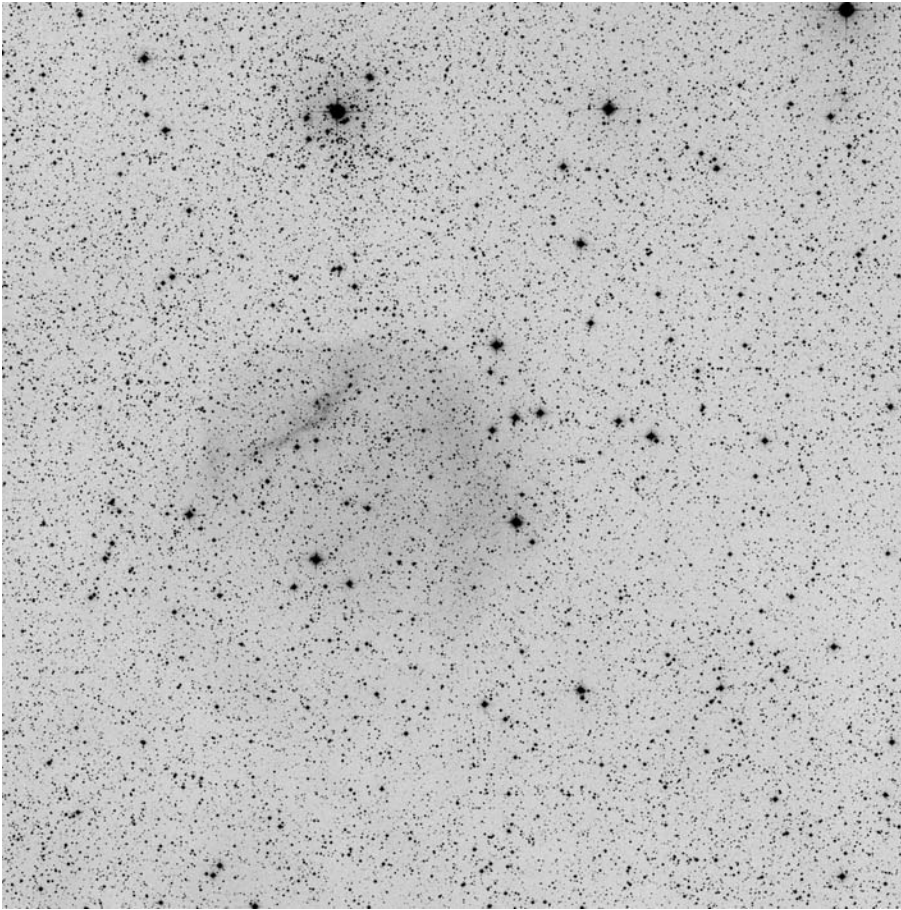
Observing notes:

22" f/4.5

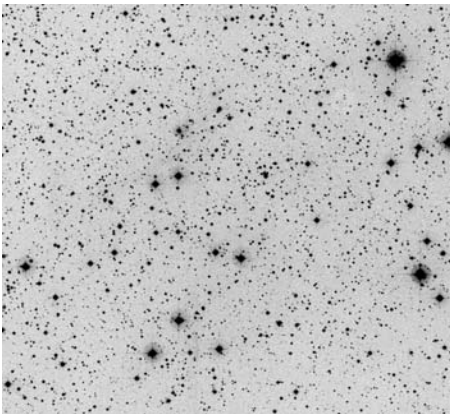
01/2010: At 350x w/o filter, a weak glow could be held steadily.



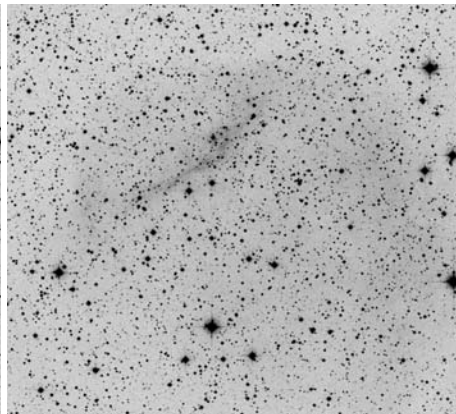
Sh 2 - 227 in Auriga



60x60, red



POSS blue



POSS red



RGB Dean Salman

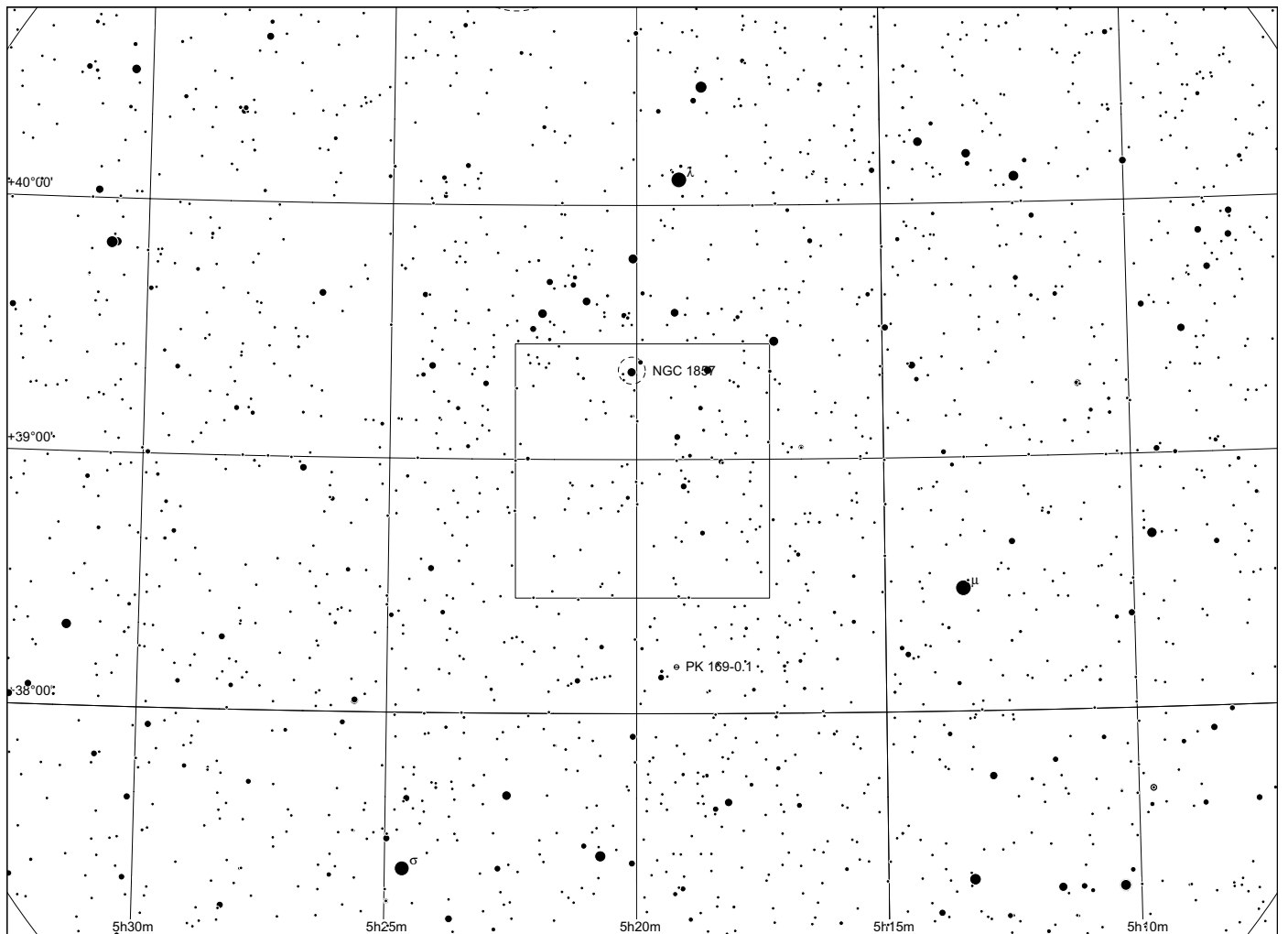
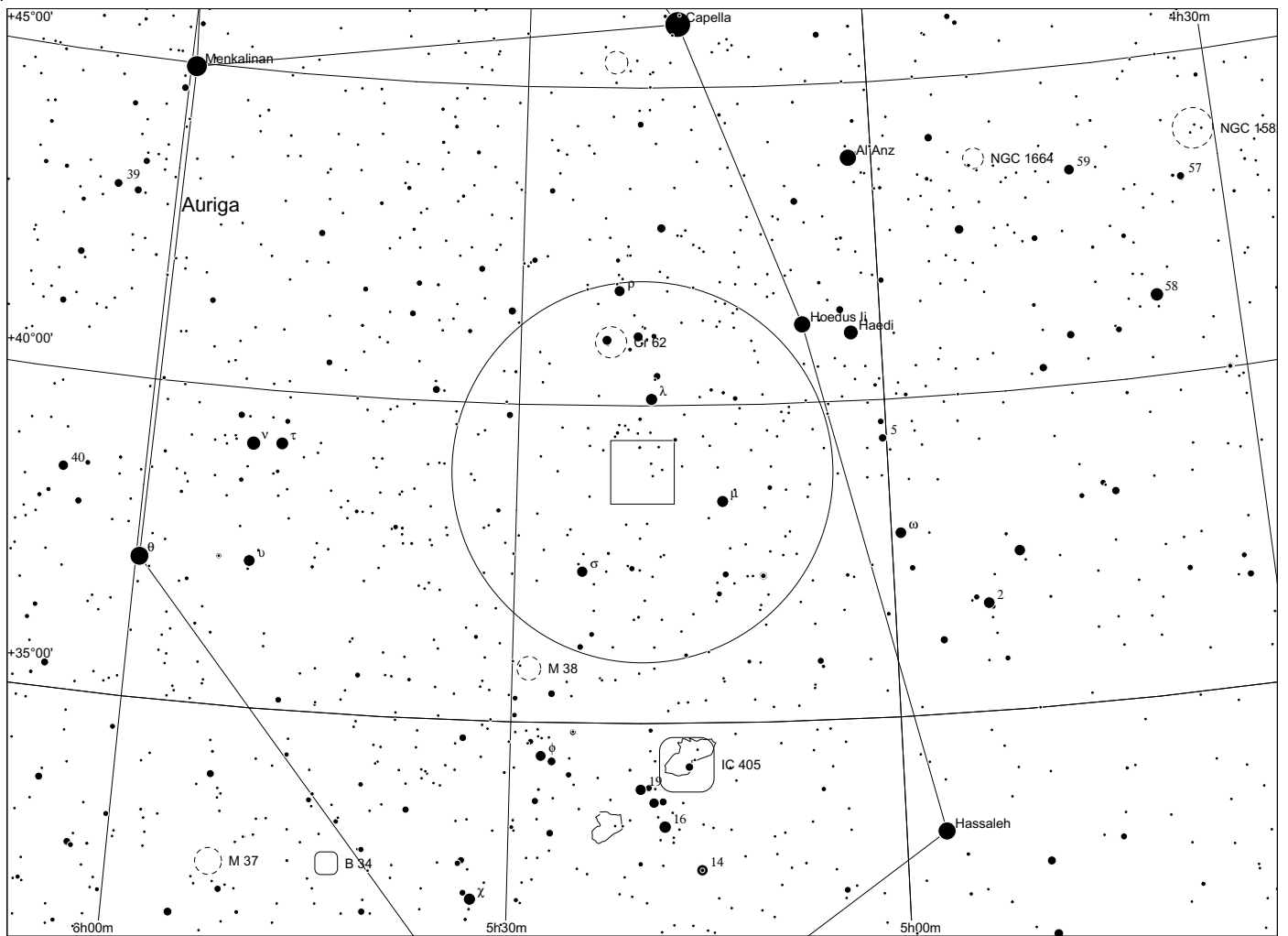
	other name	RA	dec	dia. '	F	S	B
Sh 2-227		05 19 52.8	+38 57 19	20	3	2	2

Distance: 4300 pc, Size: 25.0 pc, Source: 1982ApJS...49..183B

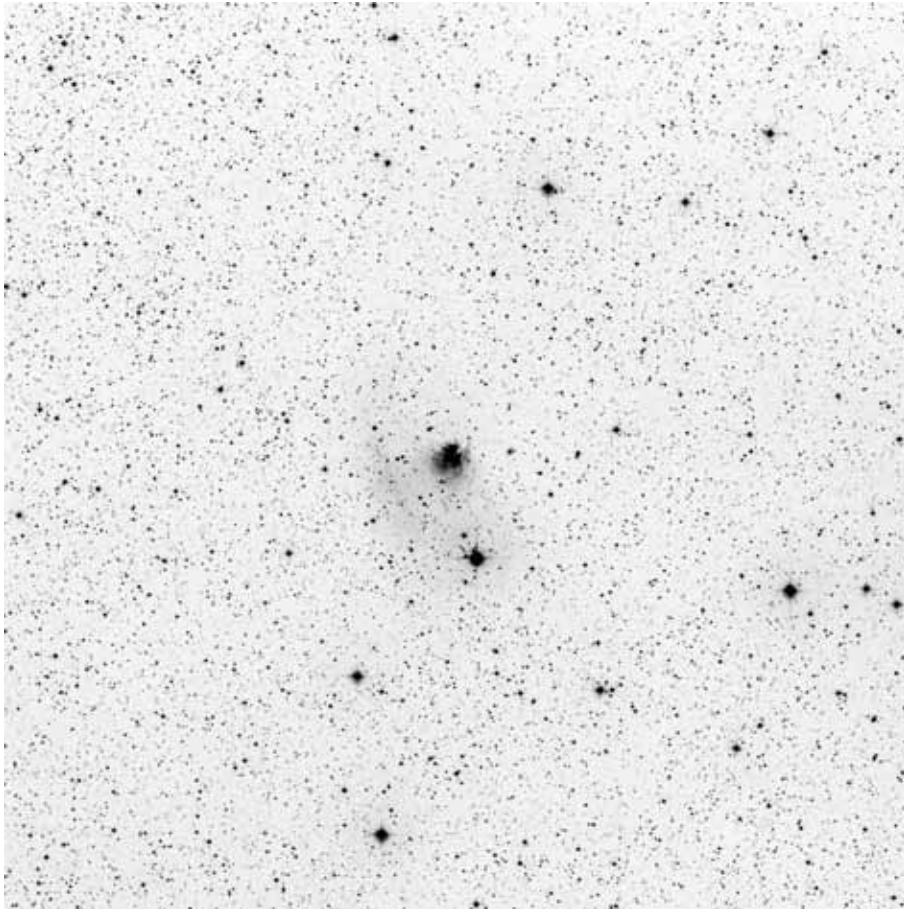
Observing notes:

22" f/4.5

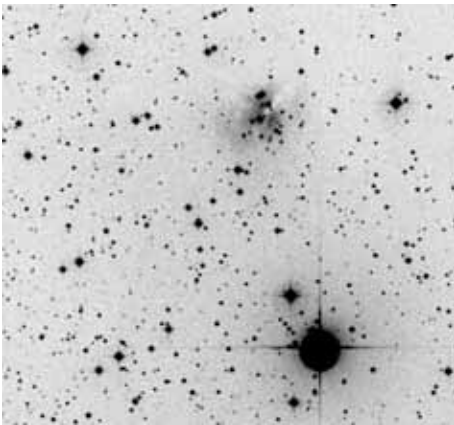
01/2011: At 100x with H beta filter, an extremely faint glow was suspected along a small chain of stars at the NE border. Doubtful observation.



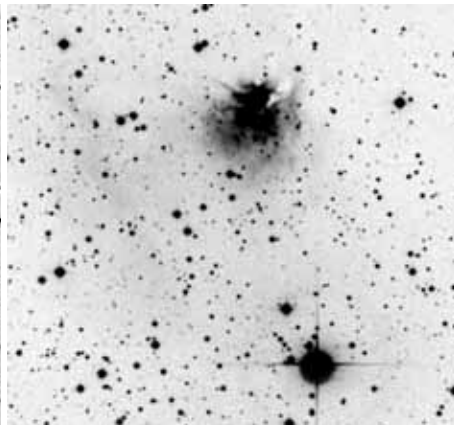
Sh 2 - 228 in Auriga



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-228		05 13 34.7	+37 27 12	8	3	2	3

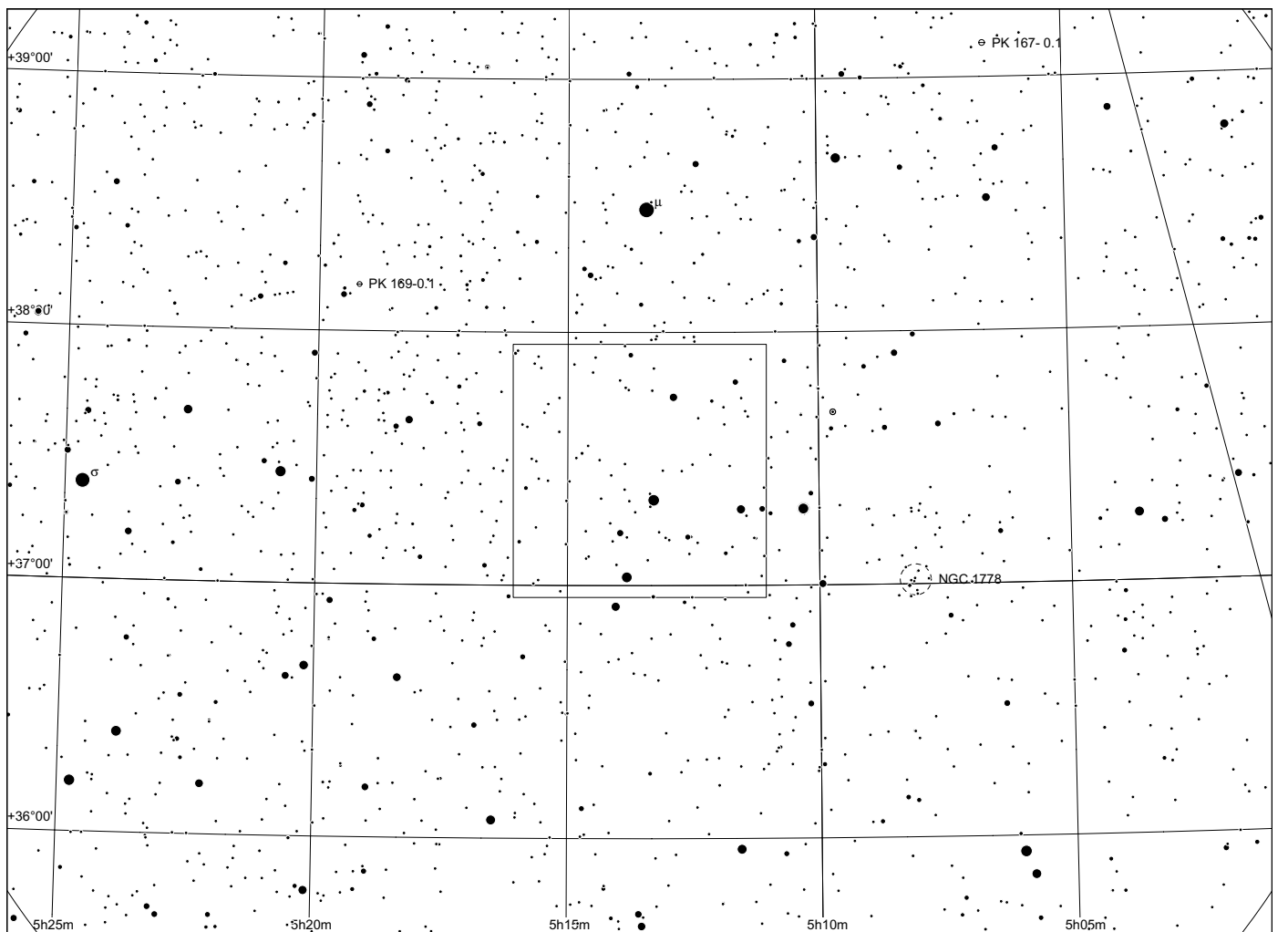
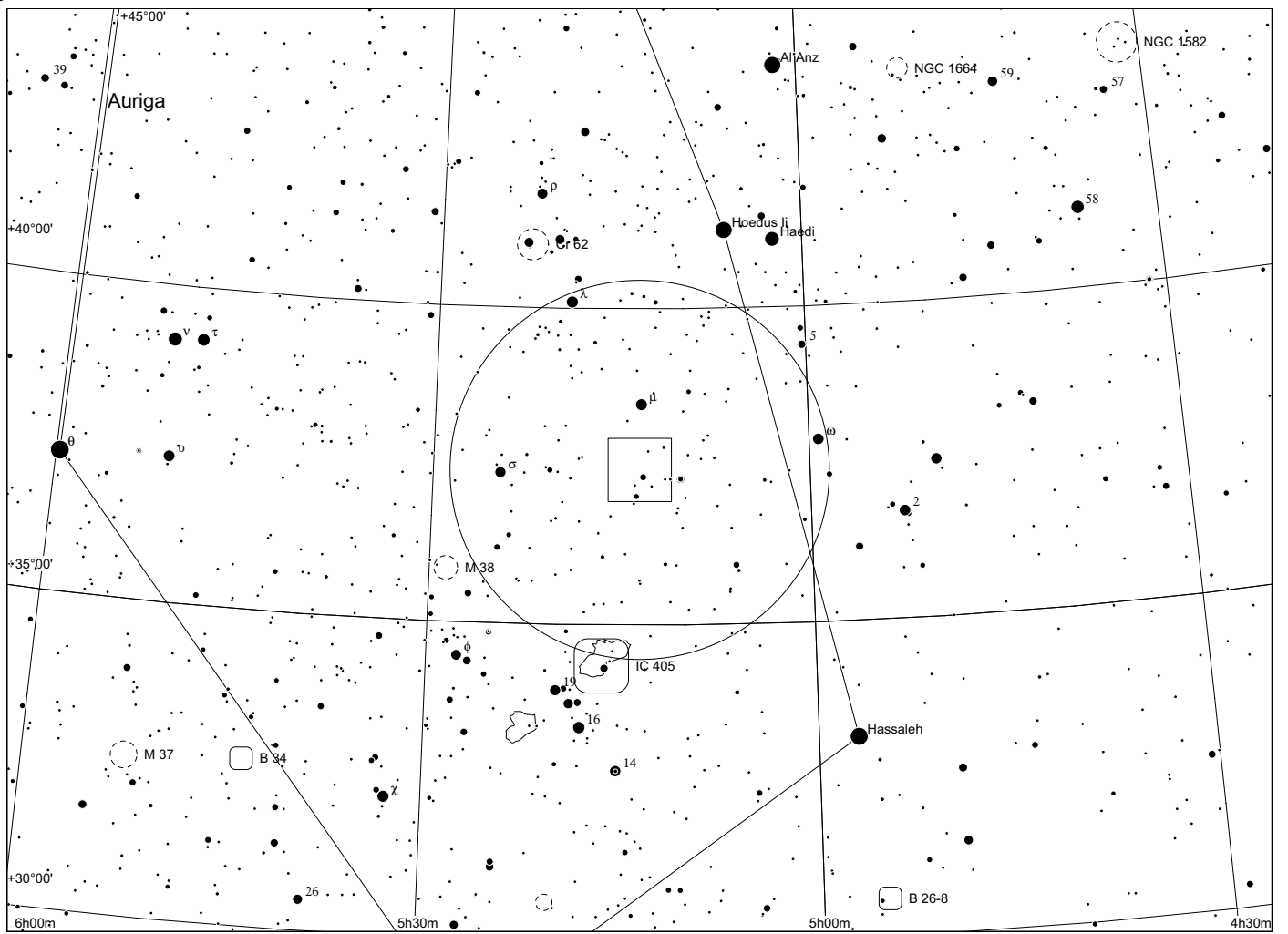
Distance: 7926 pc, Size: 9.2 pc, Source: 2003A&A...397..213P

Sh 2-228 contains the massive infrared star cluster [IBP2002] CC01. (This is misidentified in SIMBAD as a possible globular cluster.) The 1800 solar mass cluster is 1 to 2 million years old, and the surrounding field stars about 5-6 million years old.

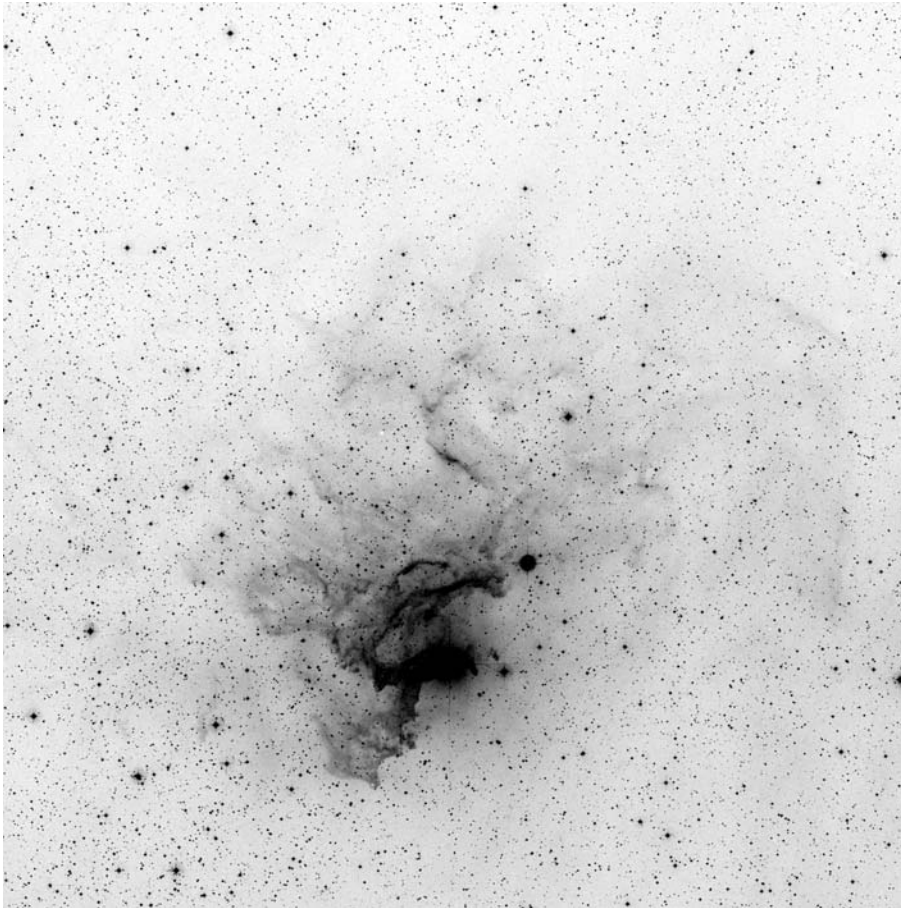
Observing notes:

22" f/4.5

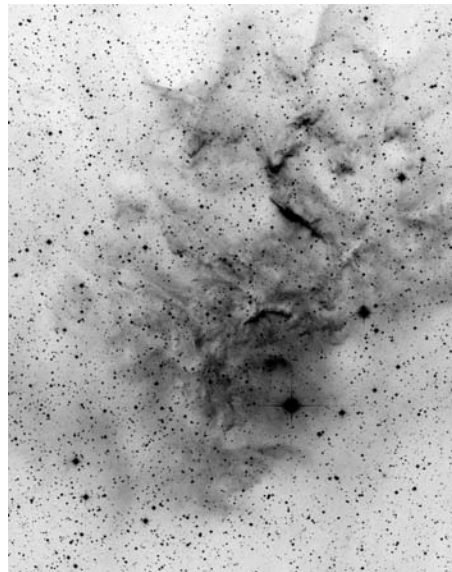
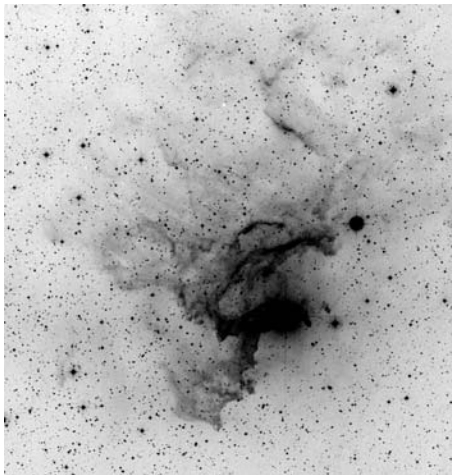
01/2010: at 350x w/o filter, a faint diffuse glow could be seen around star pattern. Slightly displaced relative to the star pattern.



Sh 2 - 229 in Auriga



60x60, blue



POSS blue

POSS red

RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-229	IC 405, Flaming Star N., LBN 795	05 16 18.6	+34 27 48	65	3	2	3

Distance: 510 pc, Size: 9.6 pc, Source: 1982ApJS...49..183B

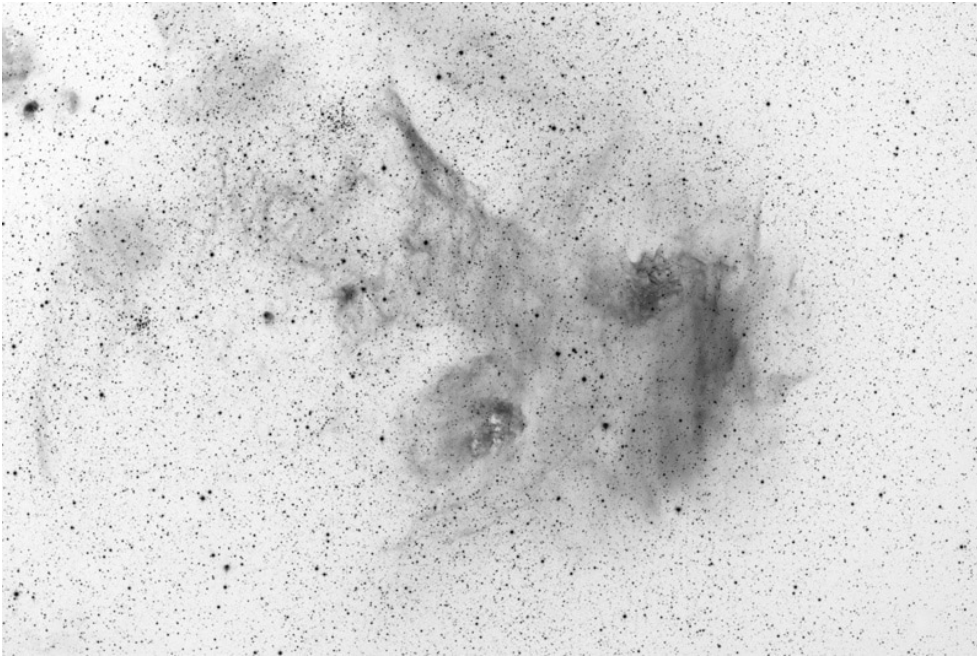
The Flaming Star nebula, IC 405, is excited by the runaway O9.5Ve star AE Aurigae, which is believed to have been knocked out of Orion's Trapezium cluster by an interstellar collision about 2.5 million years ago..

Observing notes:

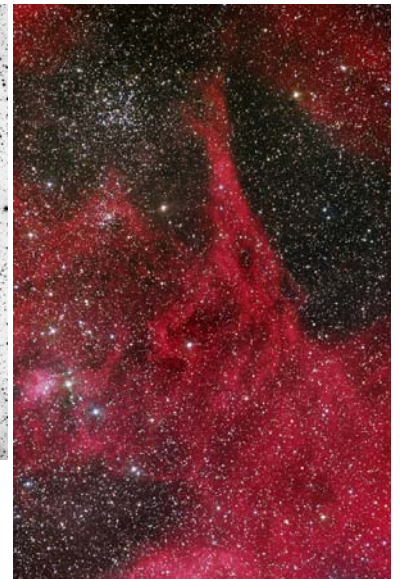
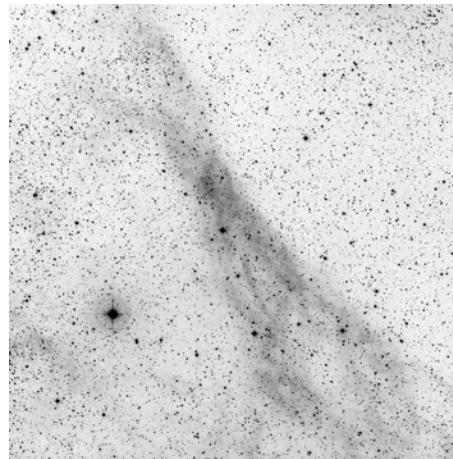
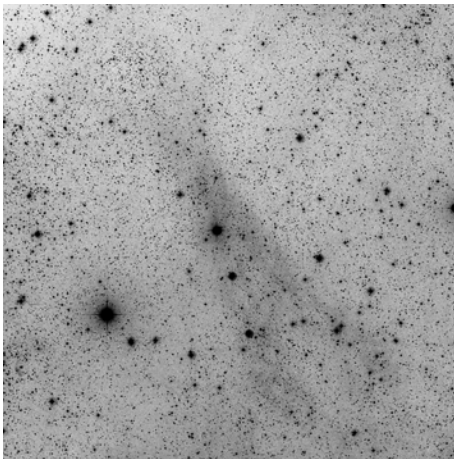
22" f/4.5

01/2010: at 100x with H beta, a distinct milky glow was observed NW of AE Aur. The long extension toward S west of AE was suspected.

Sh 2 - 230 in Auriga



H alpha by Dean Salman
www.sharplesscatalog.com



POSS blue

POSS red

RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-230		05 22 30.3	+34 07 55	300	3	2	2

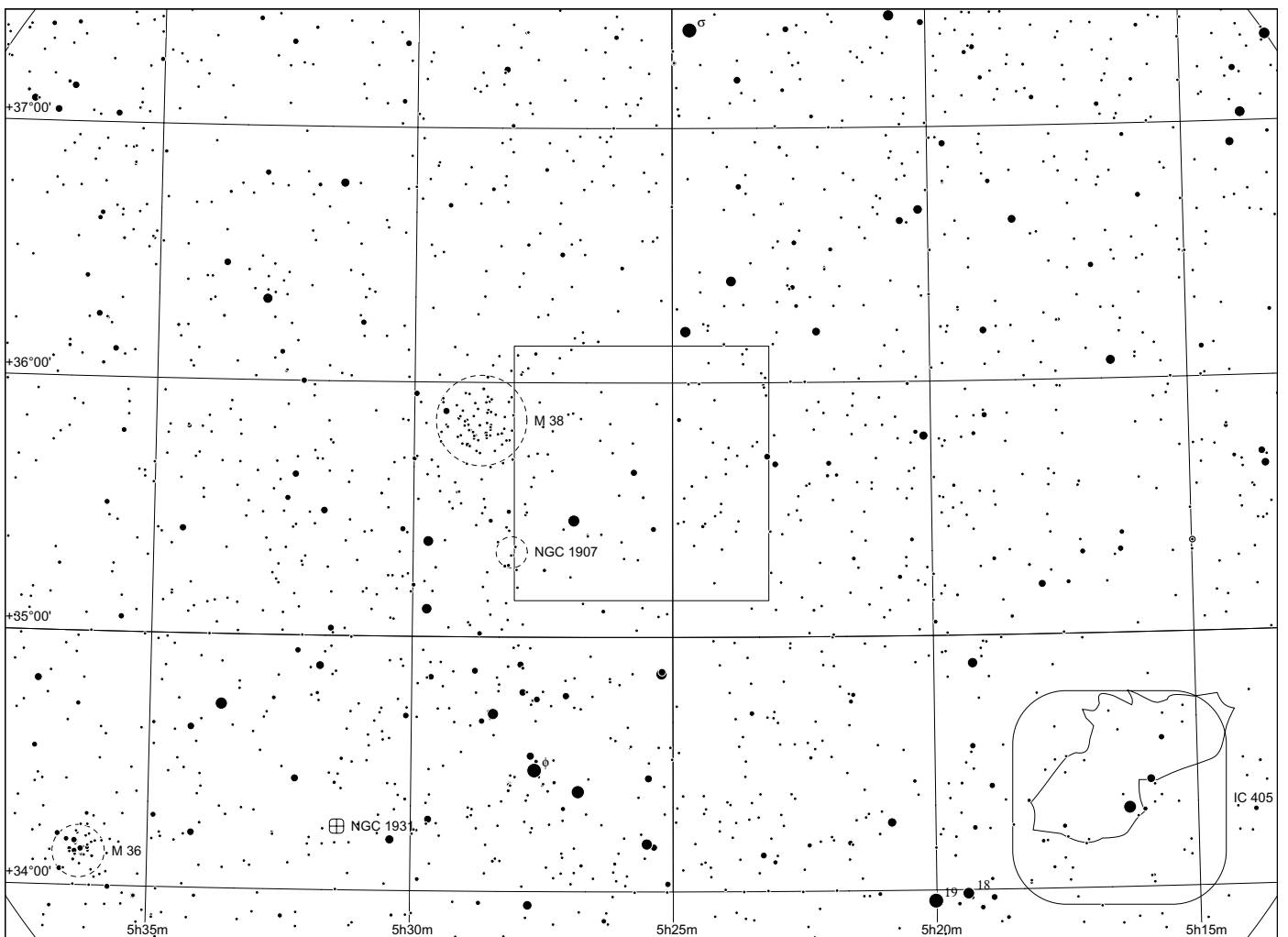
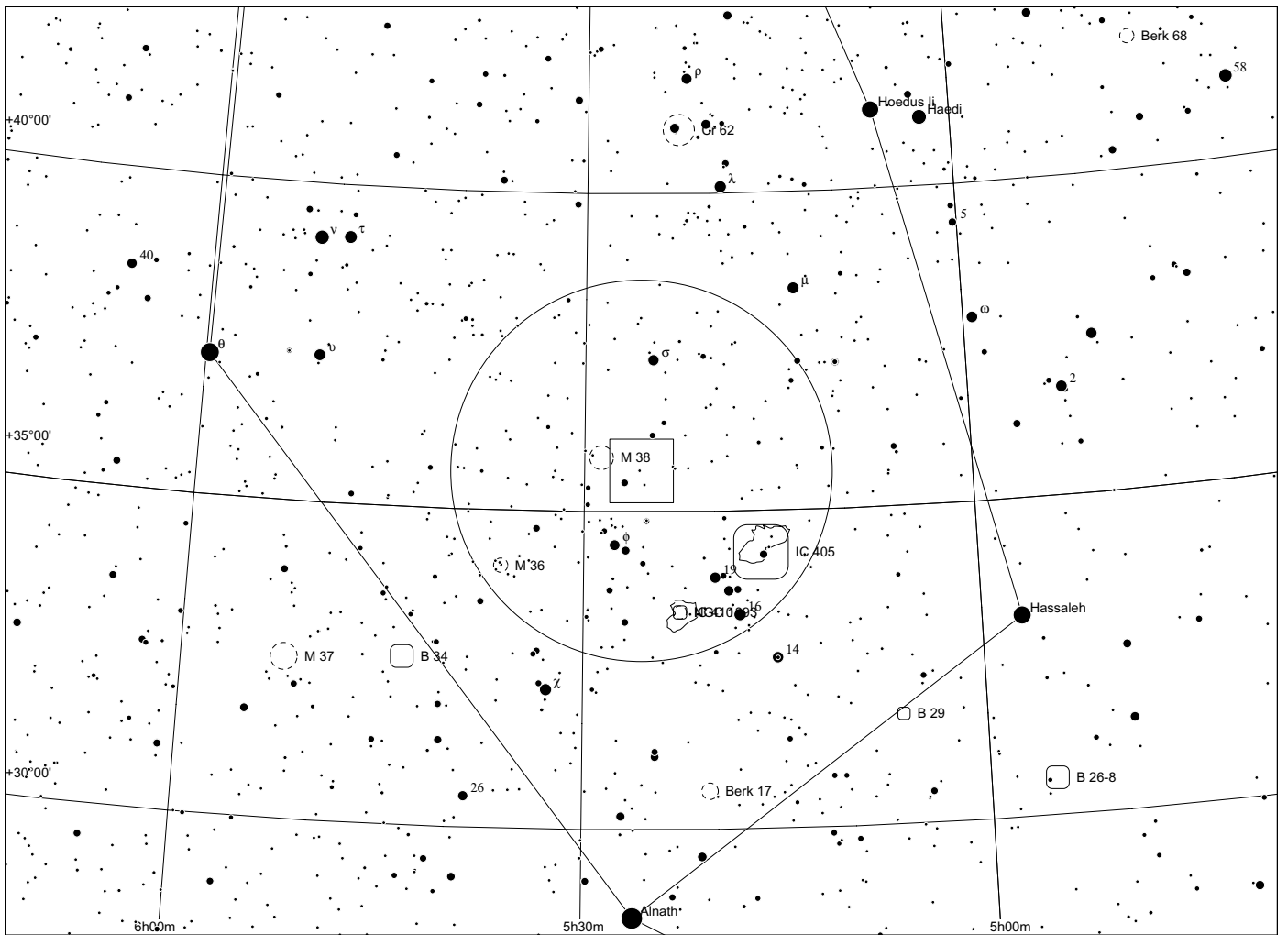
Distance: 3200 pc, Size: 279.4 pc, Source: 1999A&A...348..600P

This enormous nebula appears to surround the Auriga OB2 association in the outer galaxy.

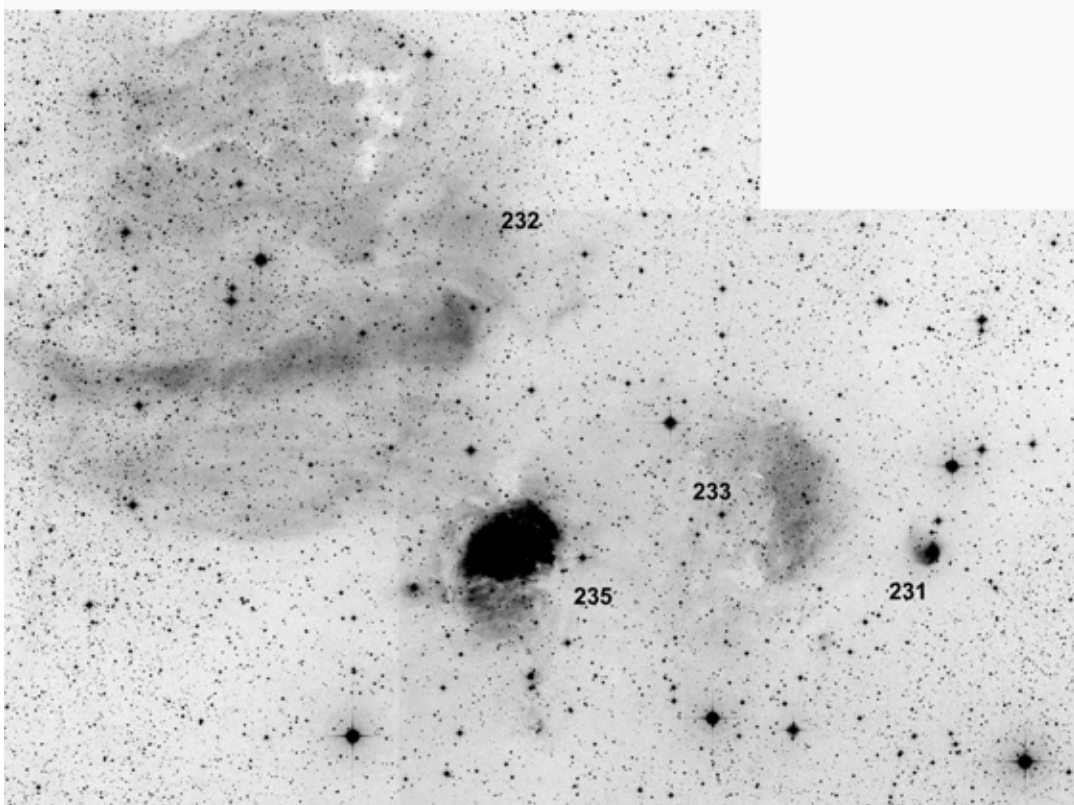
Observing notes:

22" f/4.5

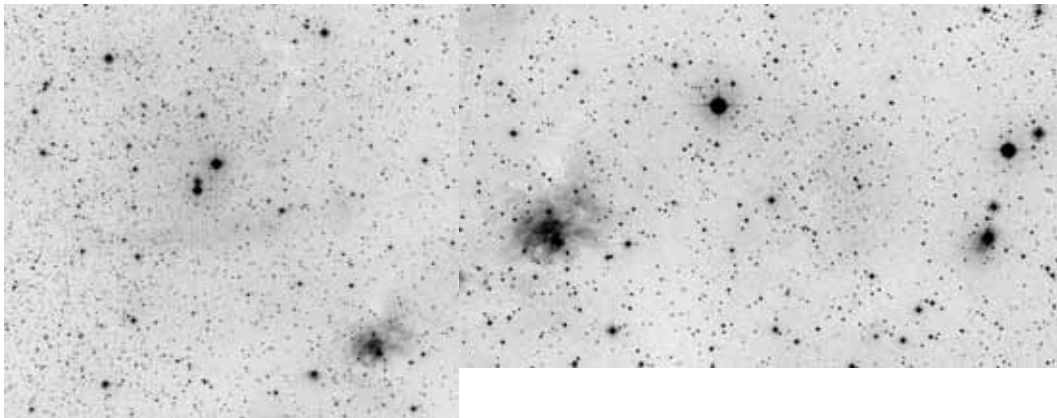
01/2010: At 100x with H beta, Sh 230 could be detected as an extremely faint milky streak oriented NE-SW



Sh 2 - 231
/232/233/235
in Auriga



100x60, red



POSS blue 232/235

235/233/231

	other name	RA	dec	dia. '	F	S	B
Sh 2-231		05 39 18.9	+35 55 30	12	3	1	2
Sh 2-232		05 42 26.4	+36 12 03	40	2	2	2
Sh 2-233		05 38 42.6	+35 47 35	2	3	2	2
Sh 2-235		05 41 00.8	+35 51 15	10	3	2	3

Distance: 1800 pc, Source: 1996ApJ...463..630H

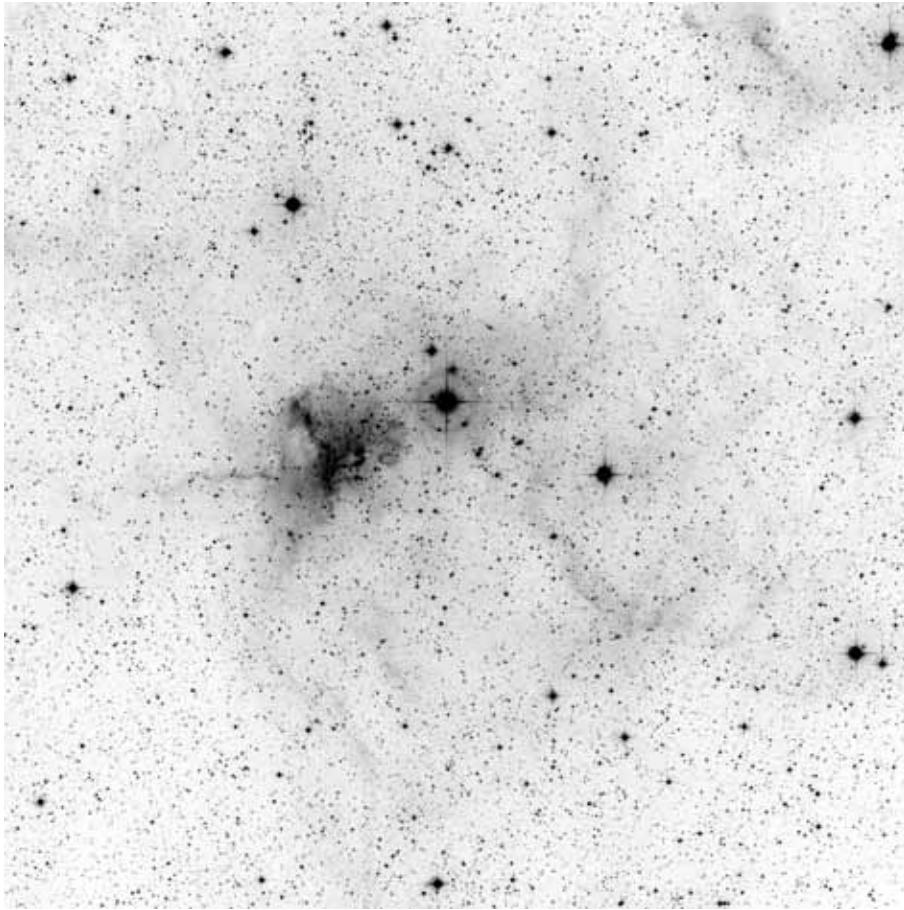
There is a giant molecular cloud containing Sh 2-231, Sh 2-232, Sh 2-233, and Sh 2-235 that is at a distance of about 1800 pc.

Observing notes:

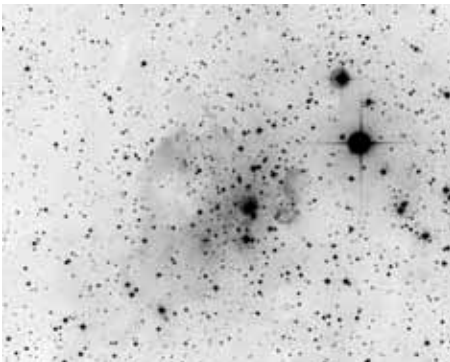
22" f/4.5

Observed several times. Sh235 is distinct with or without filter around star. Sh231, 232 and 233 could not be observed.

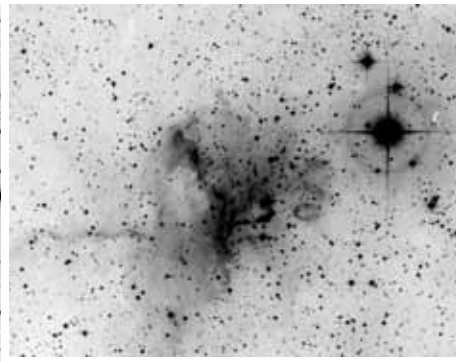
Sh 2 - 234 in Auriga



60x60, red



POSS blue



POSS red



	other name	RA	dec	dia. '	F	S	B
Sh 2-234	IC 417	05 28 07.0	+34 26 06	12	3	2	3

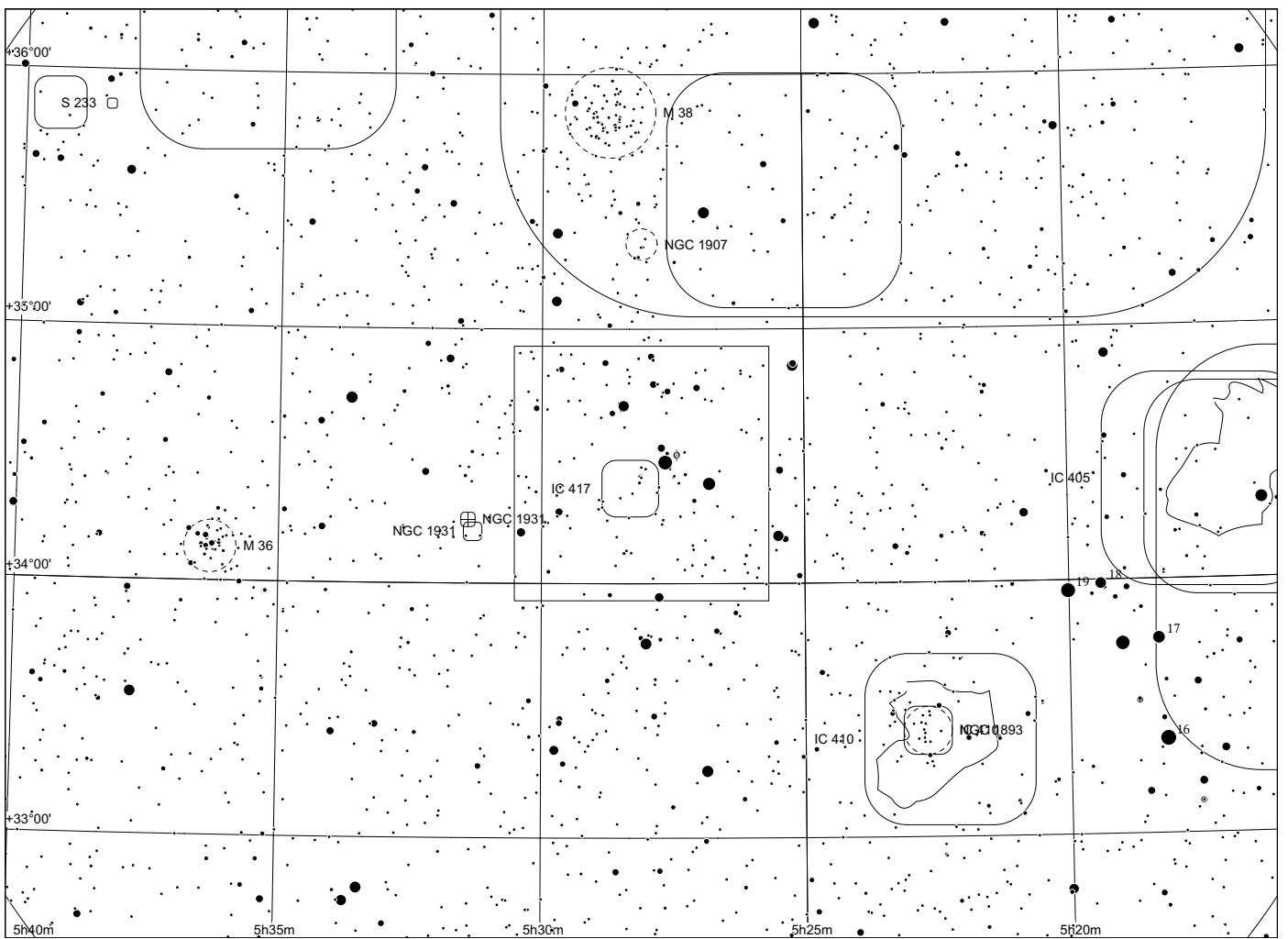
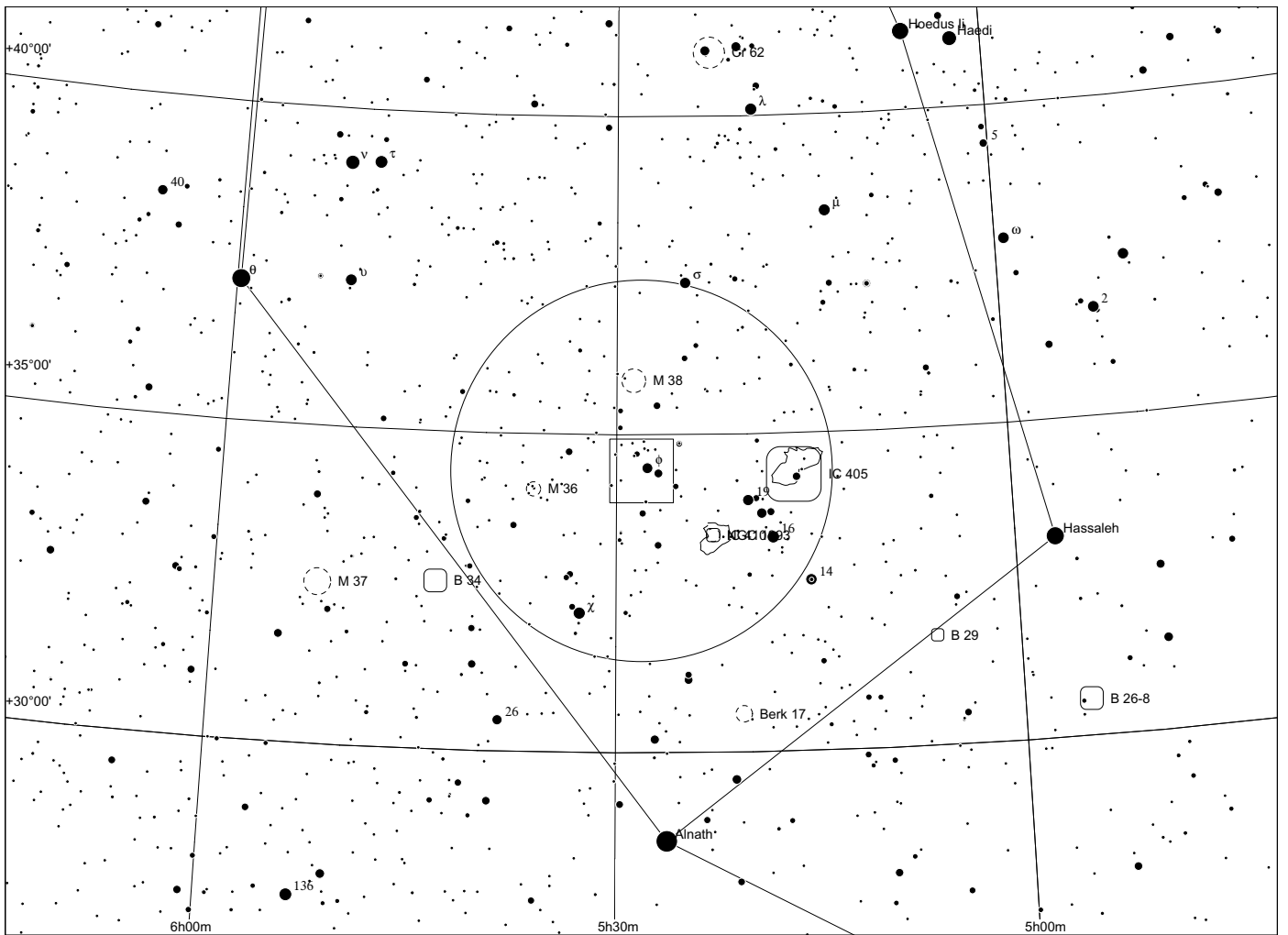
Distance: 2300 pc, Size: 8.0 pc, Source: 1982ApJS...49..183B

This is IC 417, sometimes called the Spider nebula. Sharpless 2-234 and 2-237 are together sometimes called the Spider and the Fly.

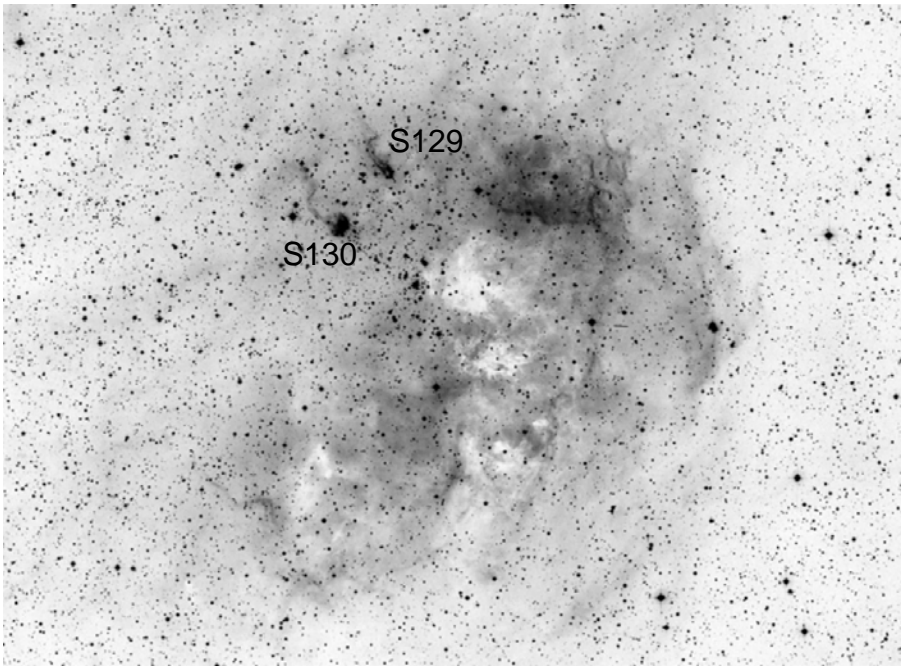
Observing notes:

22" f/4.5

With OIII filter, IC 417 appears as a weak and diffuse, but distinct glow around small OC Stock 8



Sh 2 - 236 in Auriga



40x60, red

and narrowband
Dean Salman
www.sharplesscatalog.com

	other name	RA	dec	dia. '	F	S	B
Sh 2-236	IC 410	05 22 33.0	+33 21 54	55	3	2	3

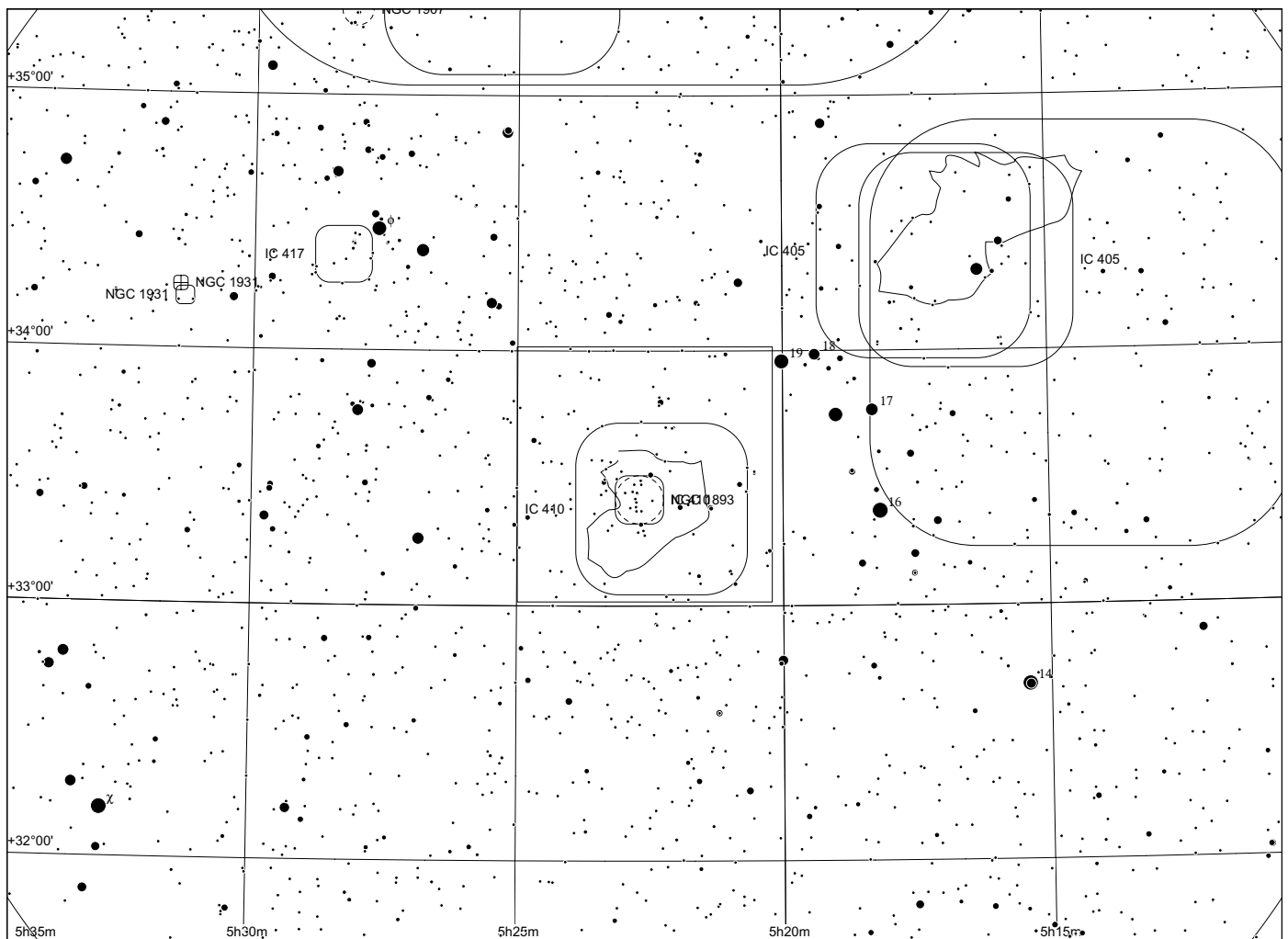
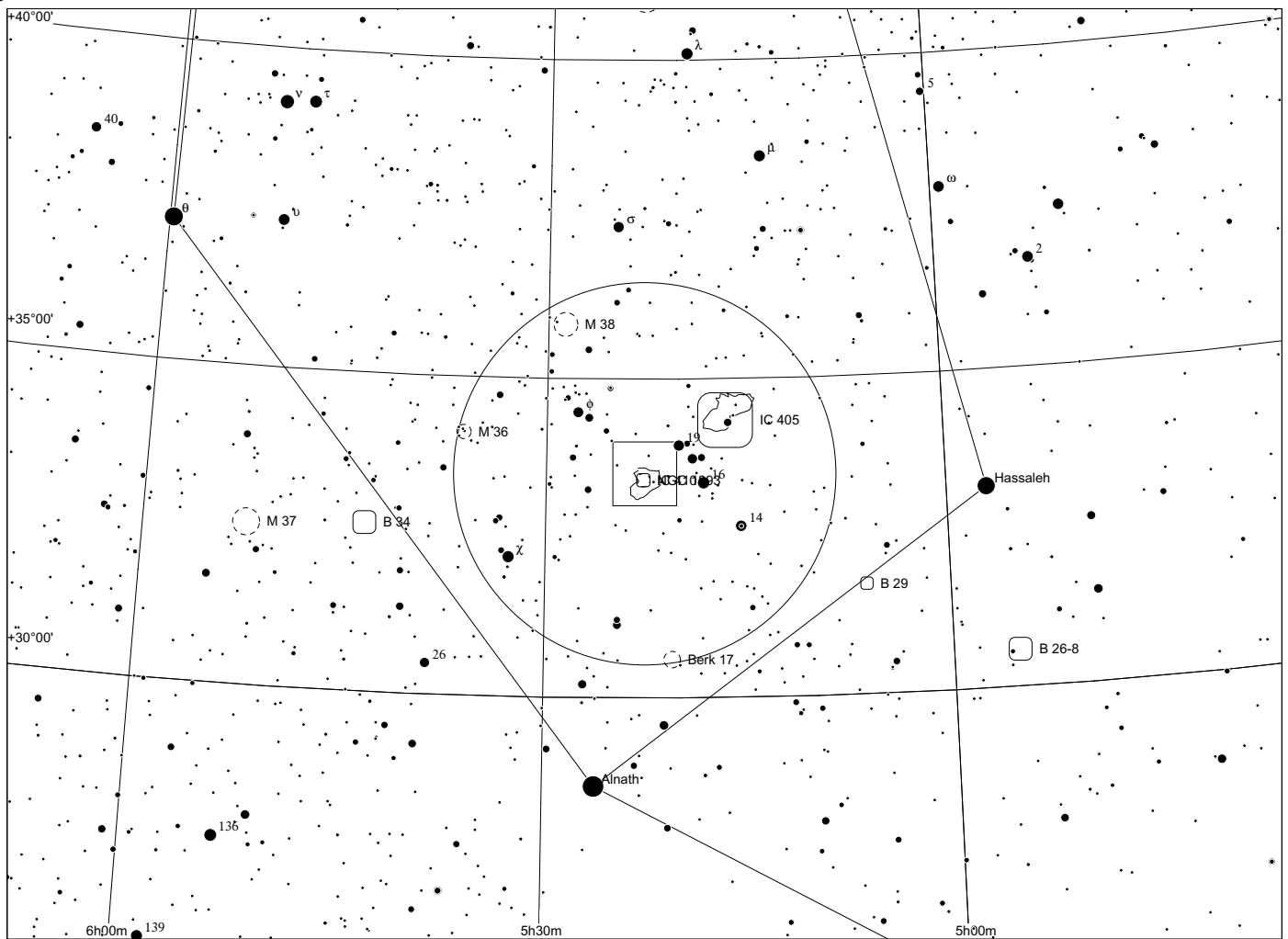
Distance: 3200 pc, Size: 51.2 pc, Source: 1982ApJS...49..183B

Lying at the core of the Aur OB2 association, IC 410 (associated with the radio source W8) surrounds the star cluster NGC 1893 and is sometimes called the Tadpole nebula because of tadpole like structures visible in detailed images of the nebula. Since estimates put the distance of NGC 1893 at 4300, 4800, 6000 and 6025 pc, the current distance estimate for this nebula probably needs to be fixed. The Diaz et. al. star cluster catalog has 6000 pc for NGC 1893, so probably best to use that.

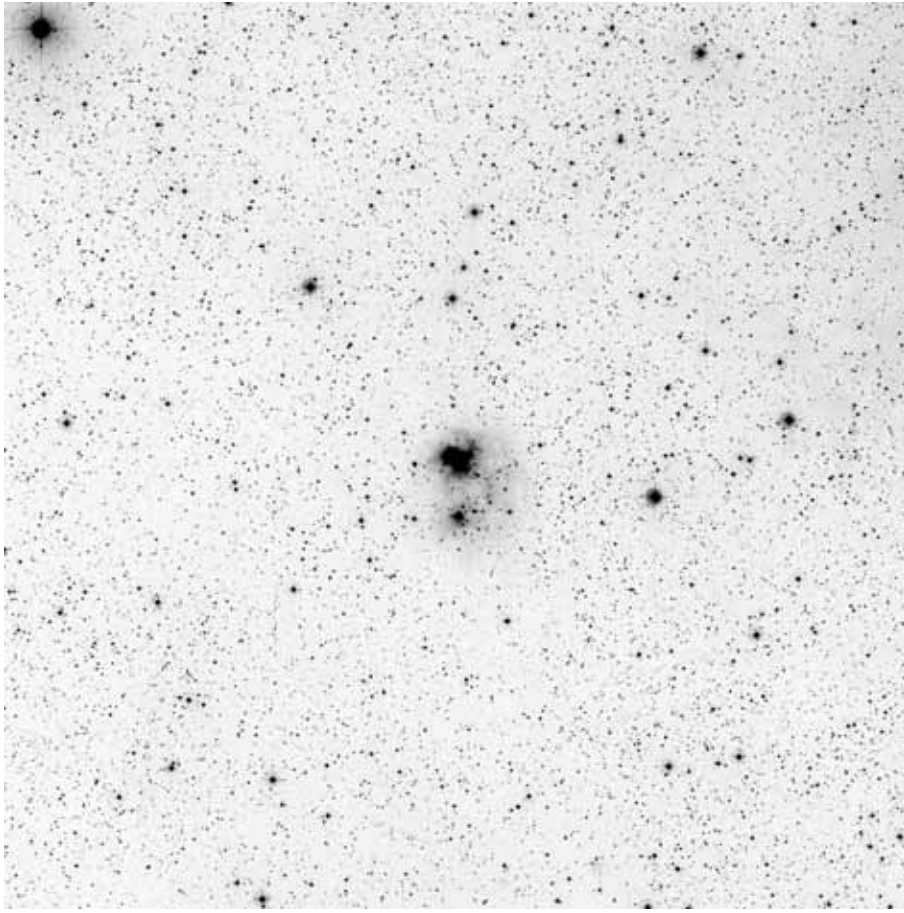
Observing notes:

22" f/4.5

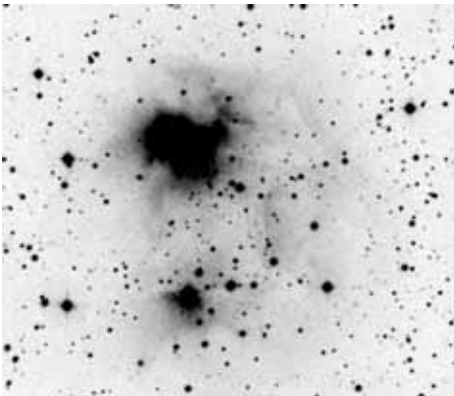
bright horseshoe shaped nebula with extension to E that responds well to OIII and UHC. Contains two tadpole shaped globules. The larger one (Simeis 130) has a relatively bright round shock front around tight group of three stars, well visible at 350x with UHC (less obvious with H beta and OIII). The smaller one (Simeis 129) is much weaker and is close to a disturbing star.



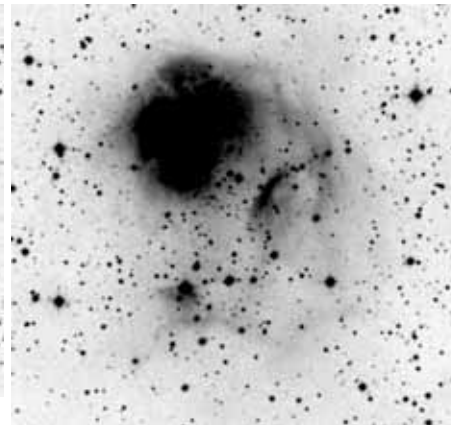
Sh 2 - 237 in Auriga



60x60, blue



POSS blue



POSS red



	other name	RA	dec	dia. '	F	S	B
Sh 2-237	NGC1931	05 31 24.8	+34 16 38	7	3	2	3

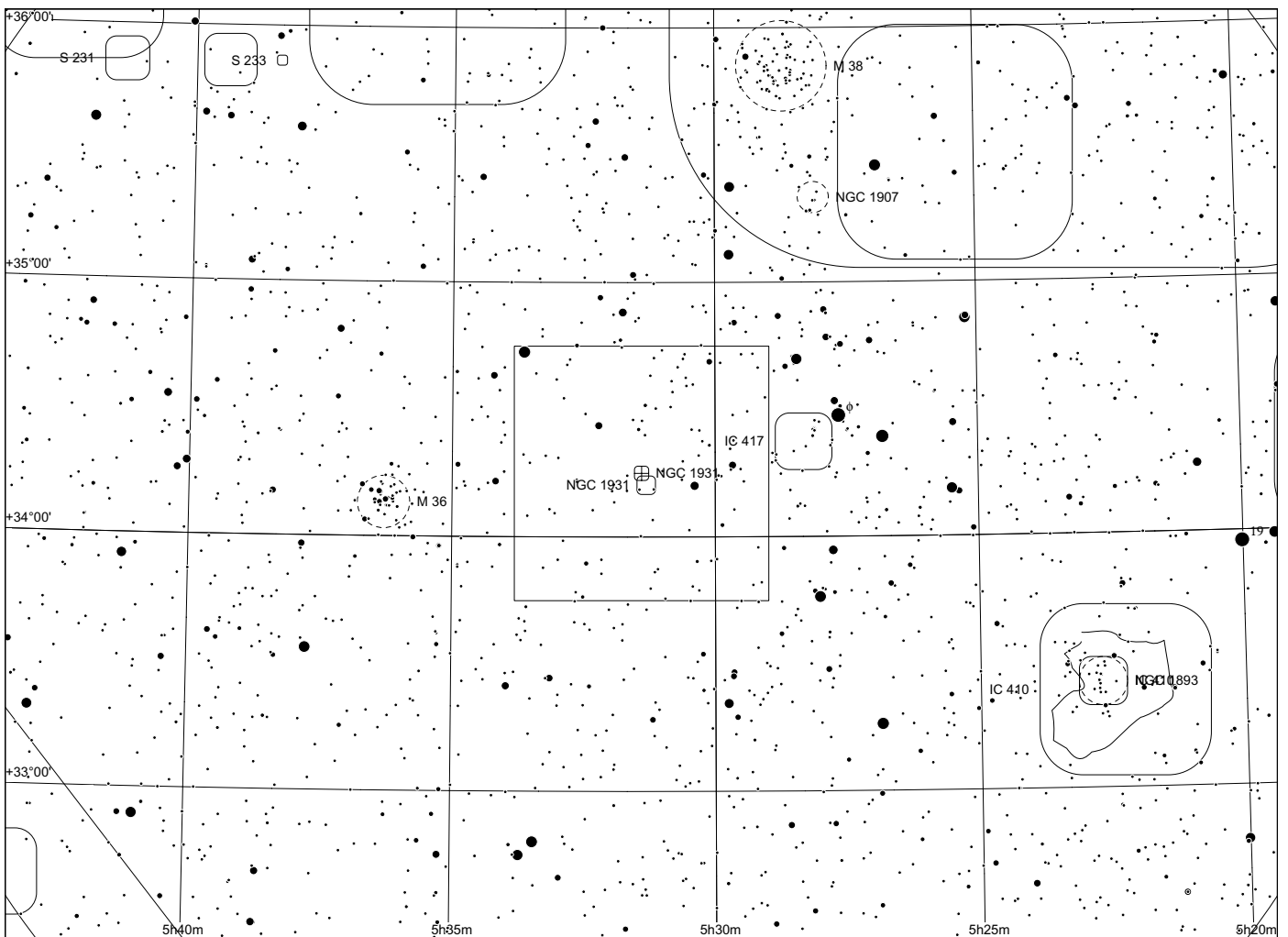
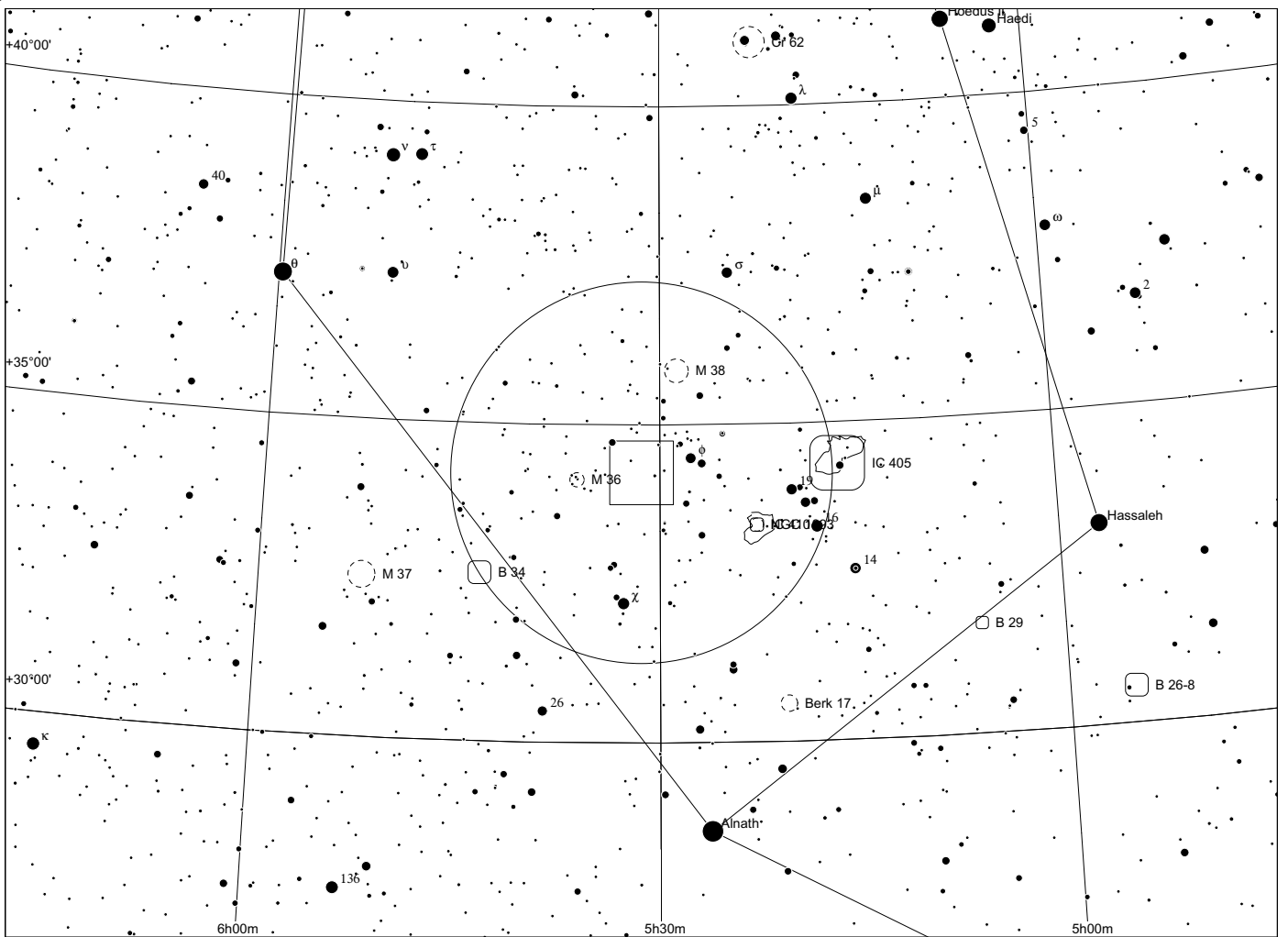
Distance: 1800 pc, Size: 3.7 pc, Source: 1982ApJS...49..183B

Sometimes called the Fly nebula, this surrounds open cluster NGC 1931. Sharpless 2-234 and 2-237 are together sometimes called the Spider and the Fly.

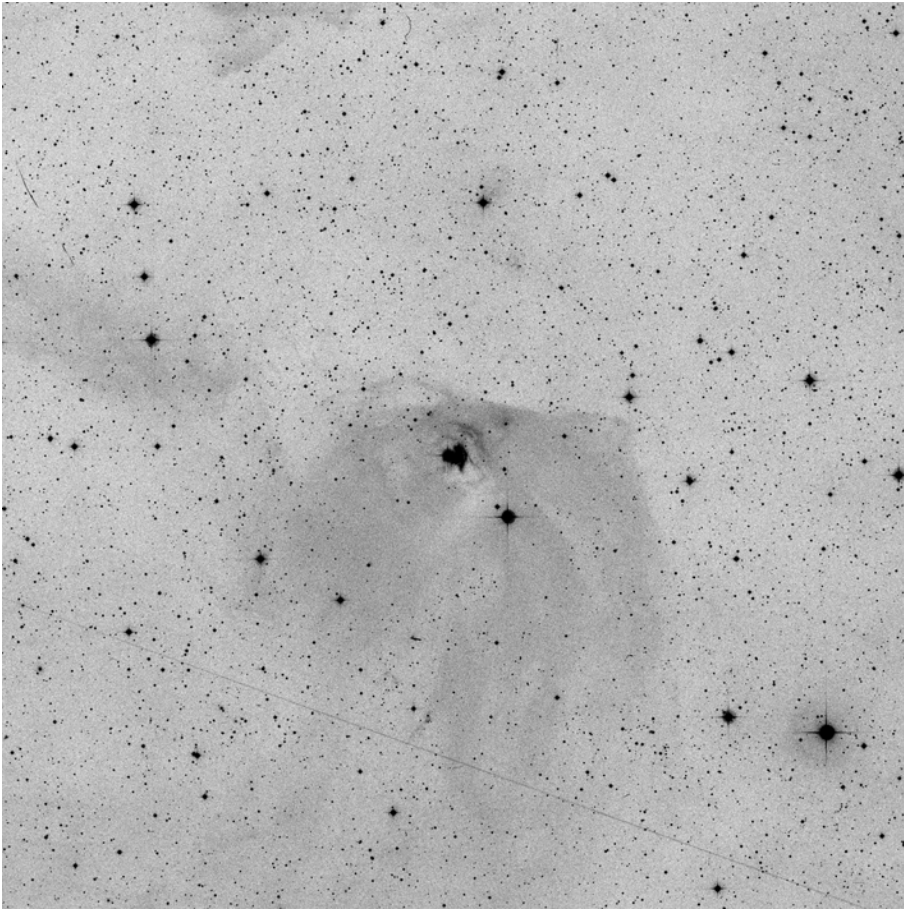
Observing notes:

22" f/4.5

very small and diffuse bright nebula, well visible w/o filter



Sh 2 - 238 in Taurus



60x60, red



composite
Johannes Schedler
panther-observatory.com

	other name	RA	dec	dia. '	F	S	B
Sh 2-238	NGC1554/1555	04 21 49.2	+19 32 16	1	3	2	3

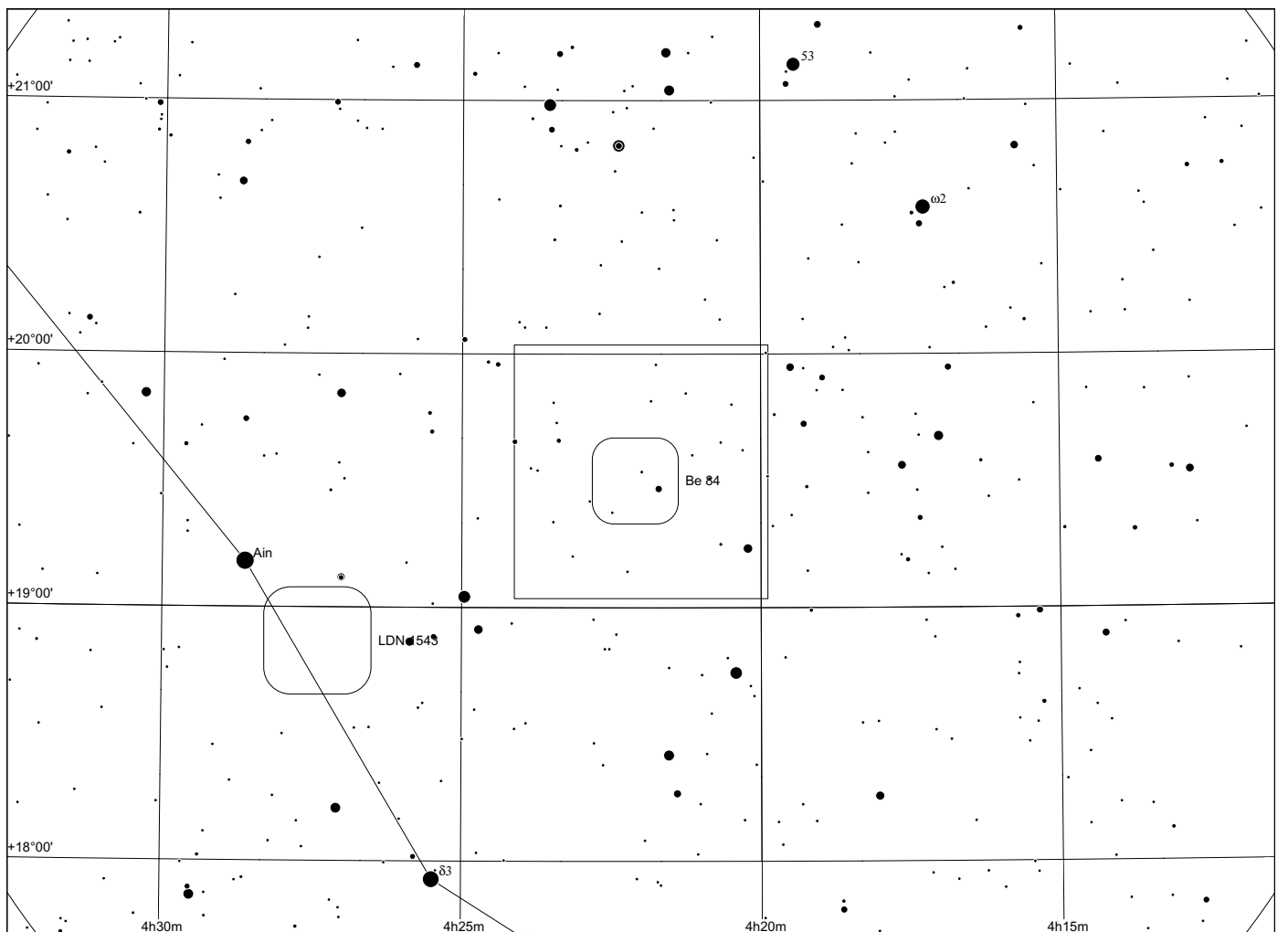
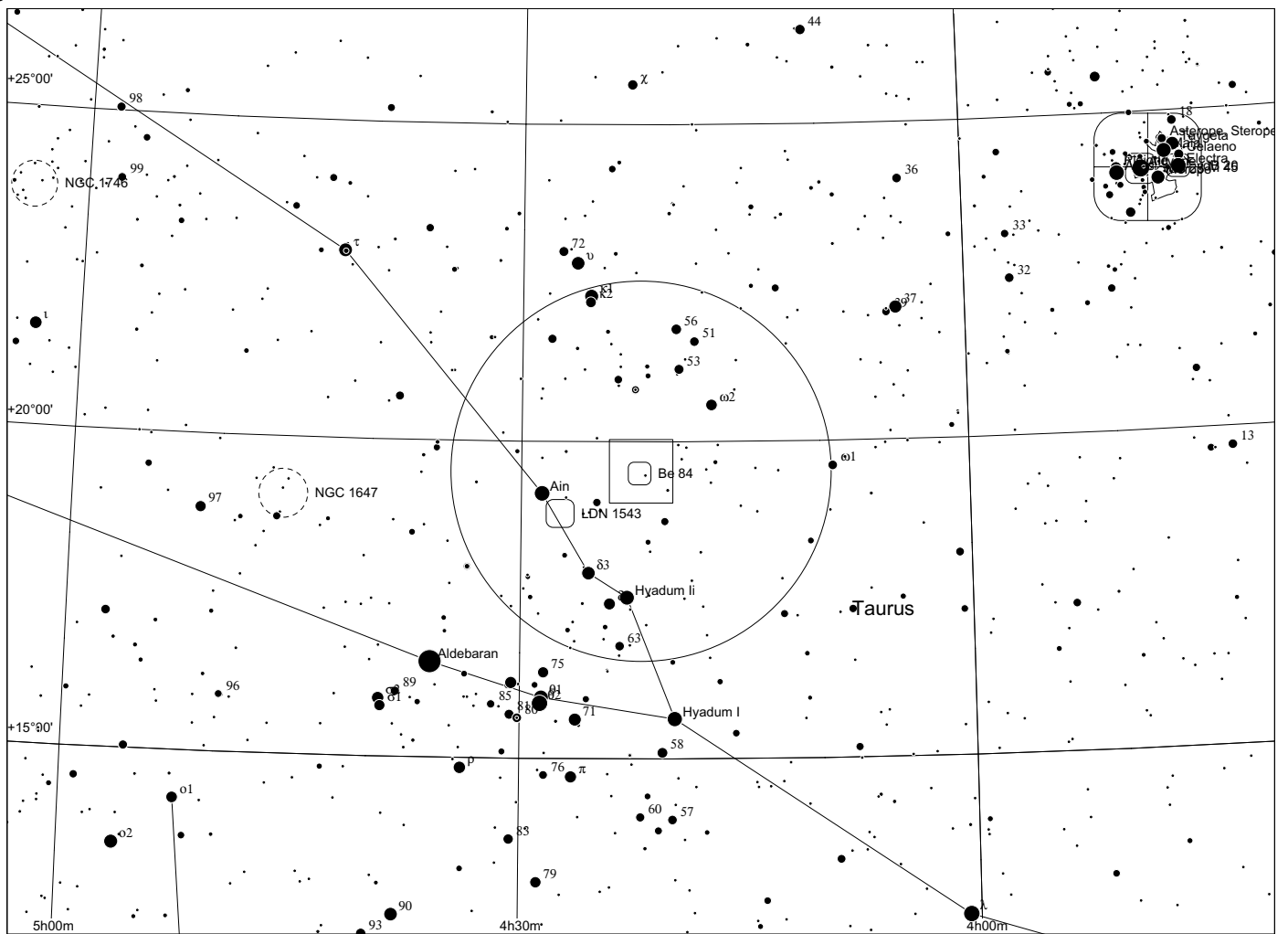
Distance: 140 pc, Size: 0.0 pc, Source: 2003PASP..115..334M

Hind's nebula (NGC 1555) is a Herbig-Haro object associated with the T Tauri young star nebula.

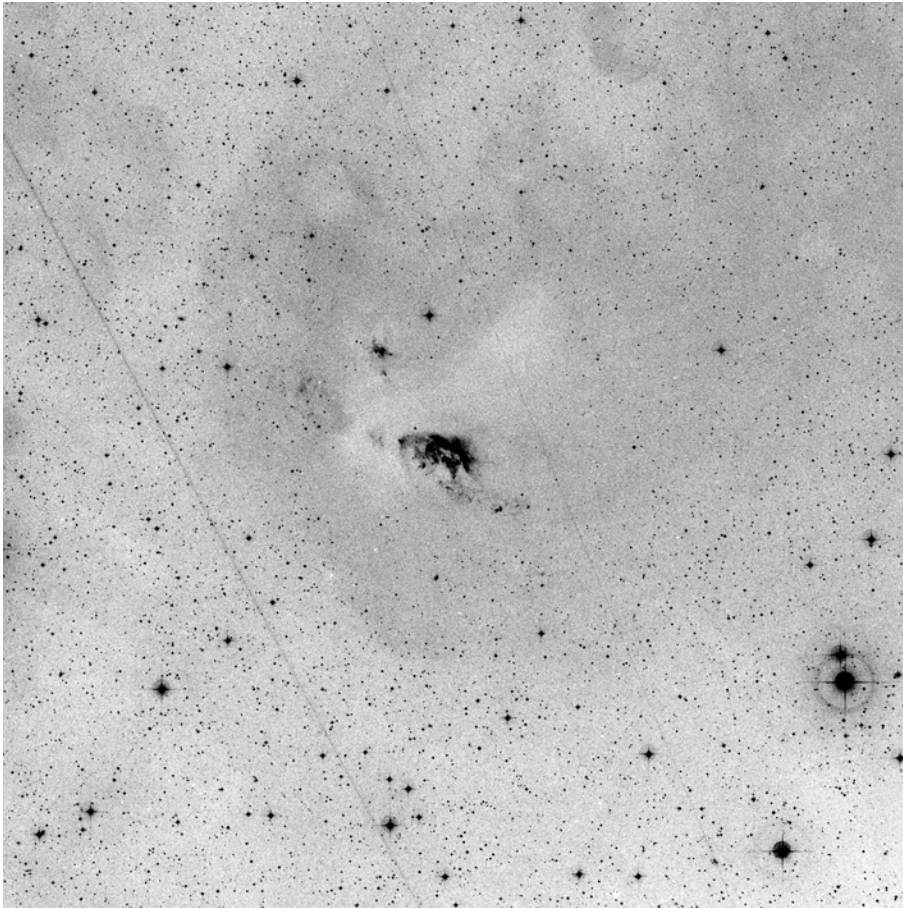
Observing notes:

22" f/4.5

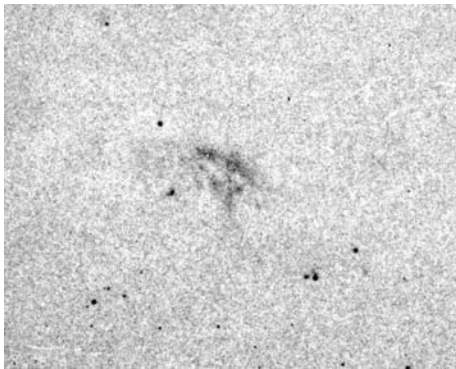
10/2008: very faint arc winding W around T Tauri. Southern end is split. The neighboring pair of stars gives a good estimate for the distance between the nebula and T Tauri.



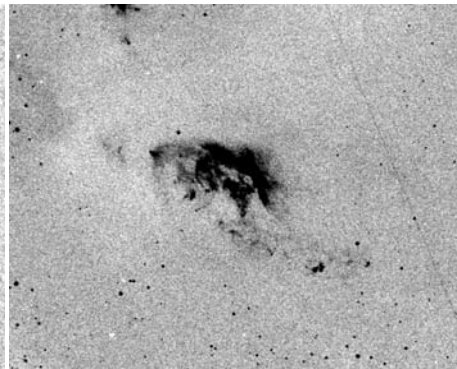
Sh 2 - 239 in Taurus



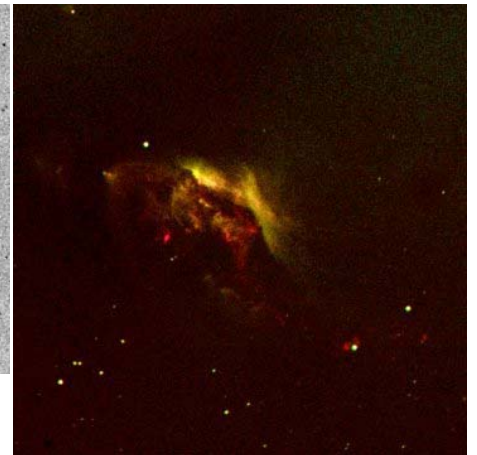
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-239		04 31 16.9	+18 07 00	5	3	2	2

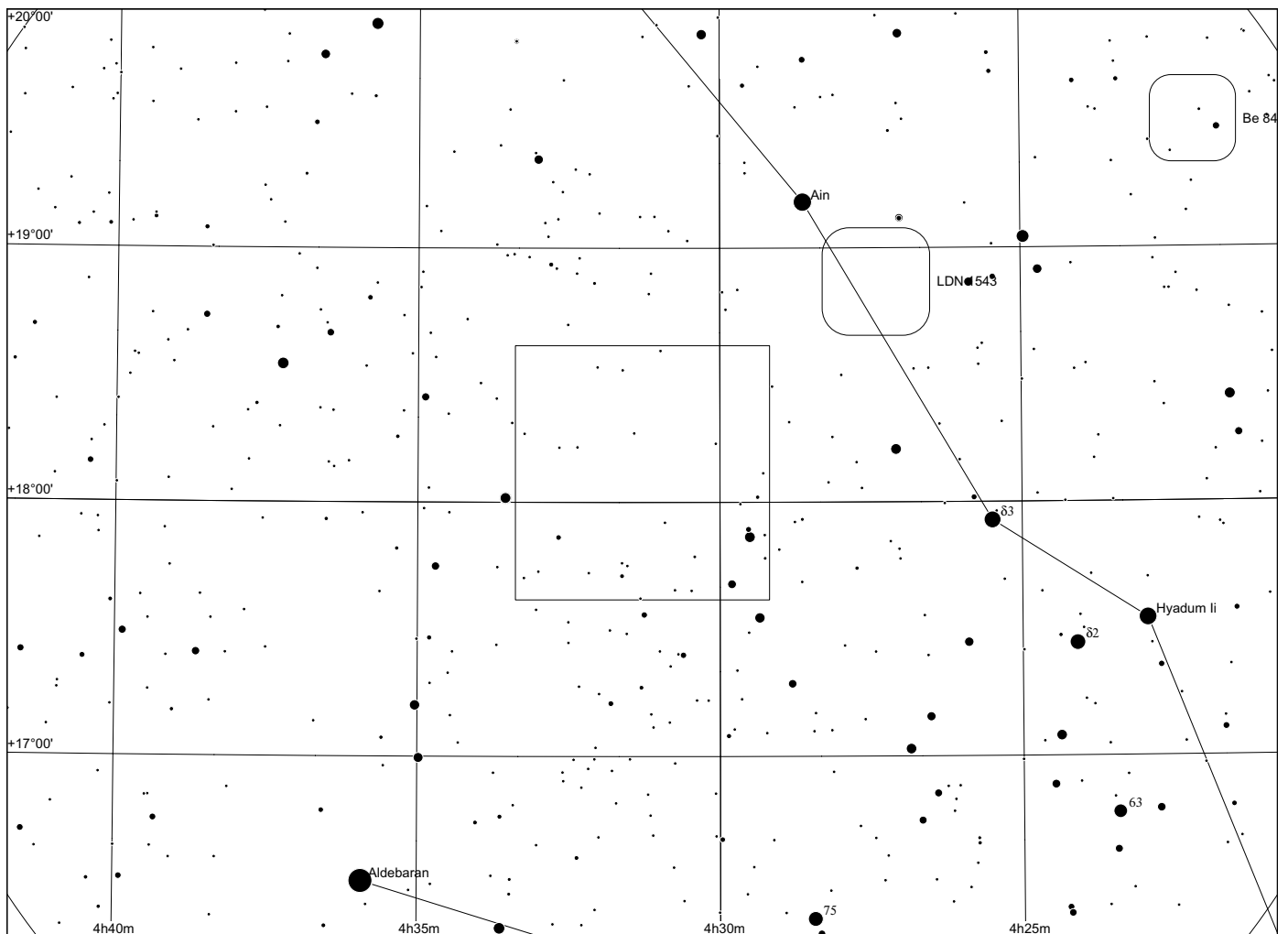
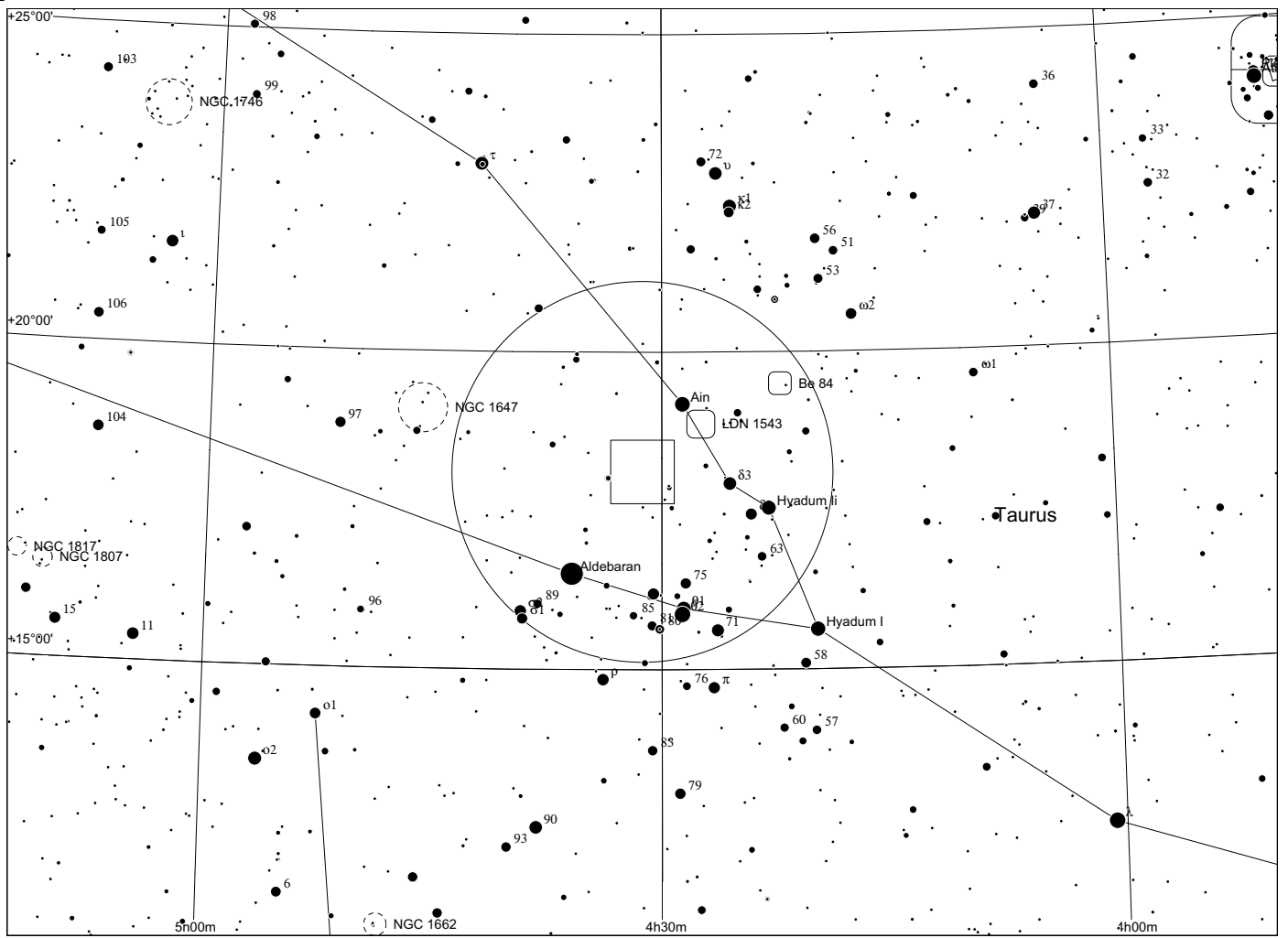
Distance: 140 pc, Size: 0.2 pc, Source: 1976ApJ...206..443K

Sh 2-239 is a reflection nebula or a Herbig-Haro object embedded in a dust cloud. It is located near the star T Tauri

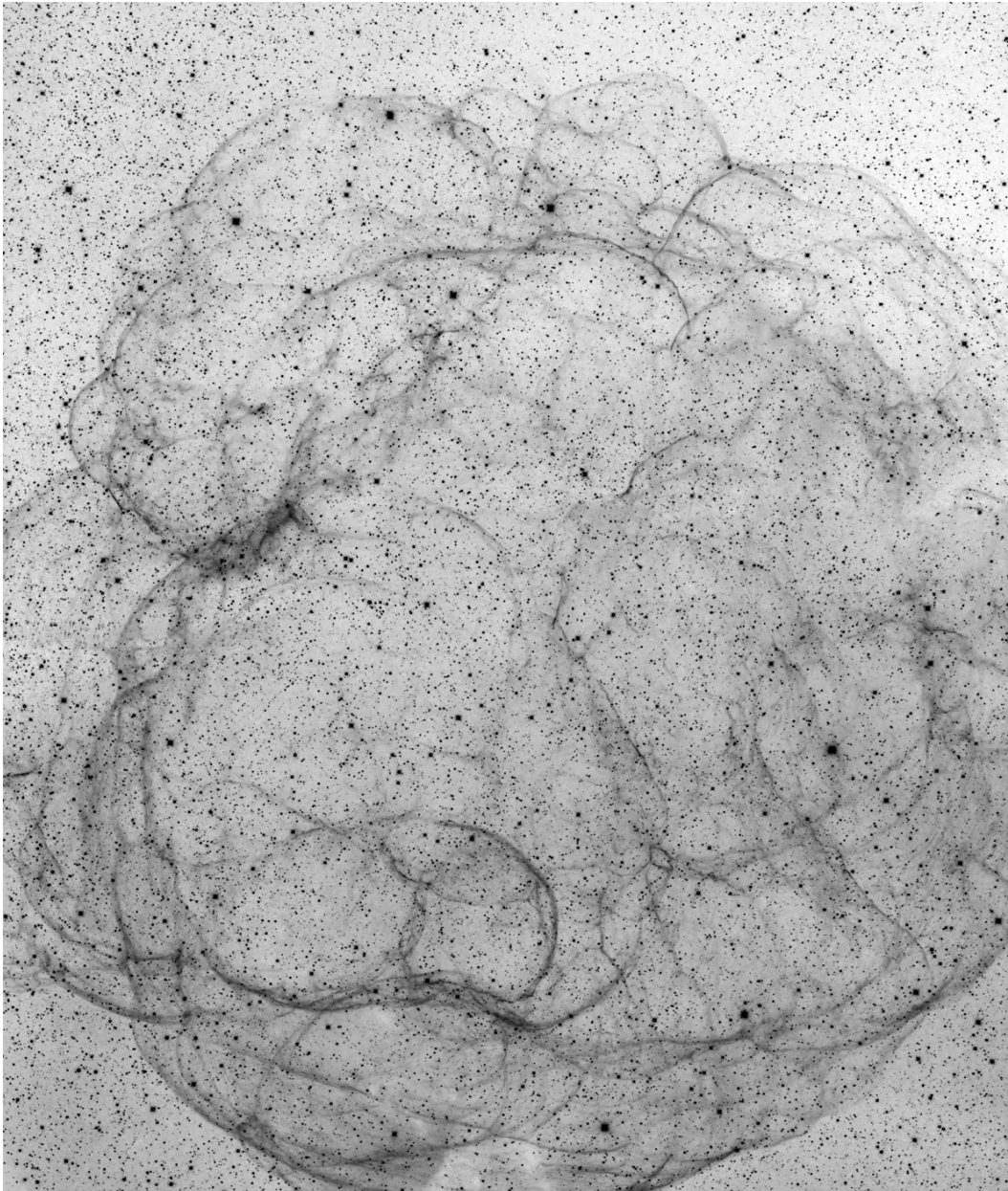
Observing notes:

22" f/4.5

01/2011: Under excellent conditions well visible at 200x w/o filter as a round faint diffuse glow.



Sh 2 - 240
in
Taurus/Auriga



H alpha
Dean Salman
sharplesscatalog.com

	other name	RA	dec	dia. '	F	S	B
Sh 2-240	Simeiz 147 SNR	05 41 00.2	+28 06 14	180	1	3	2

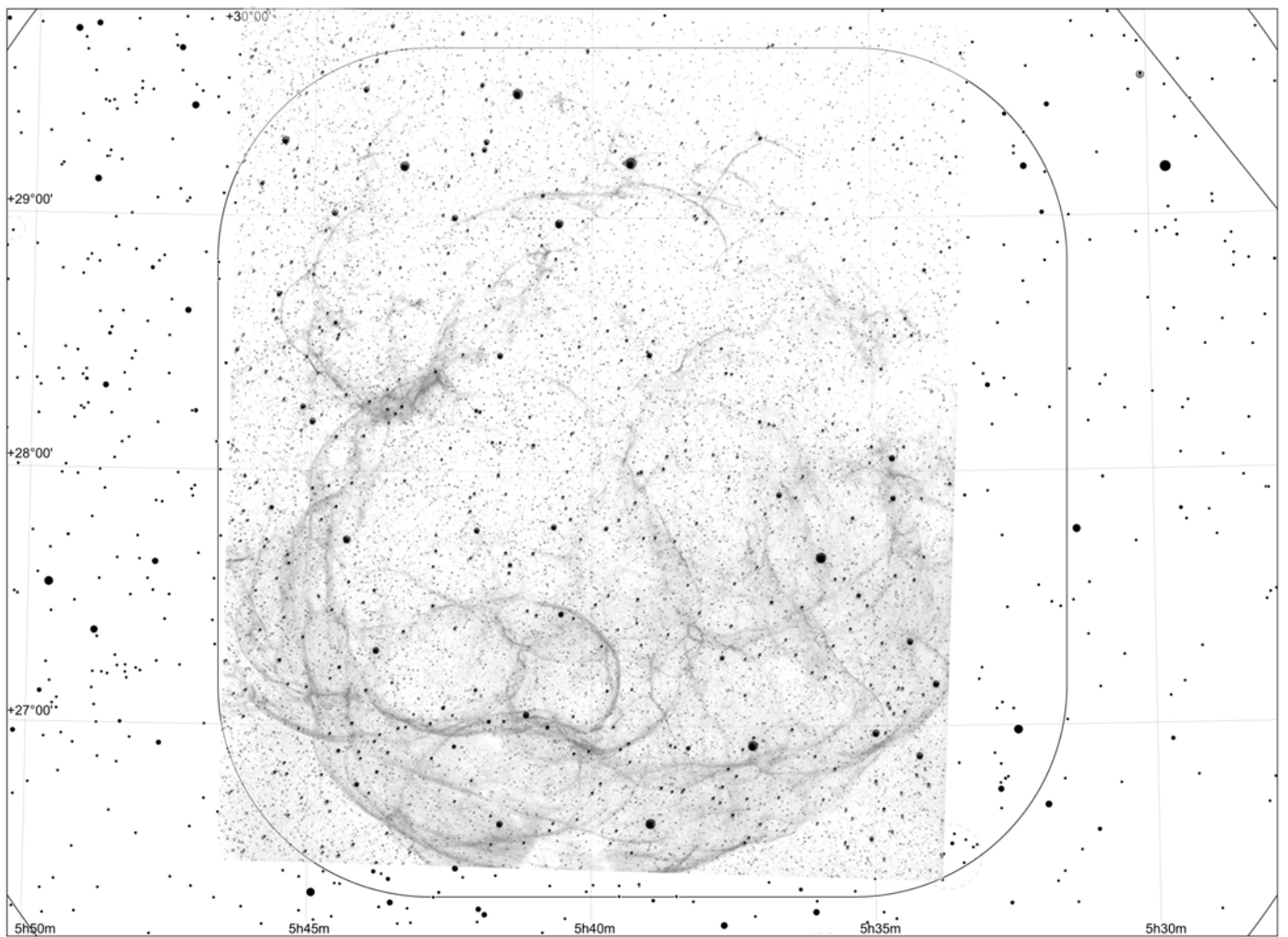
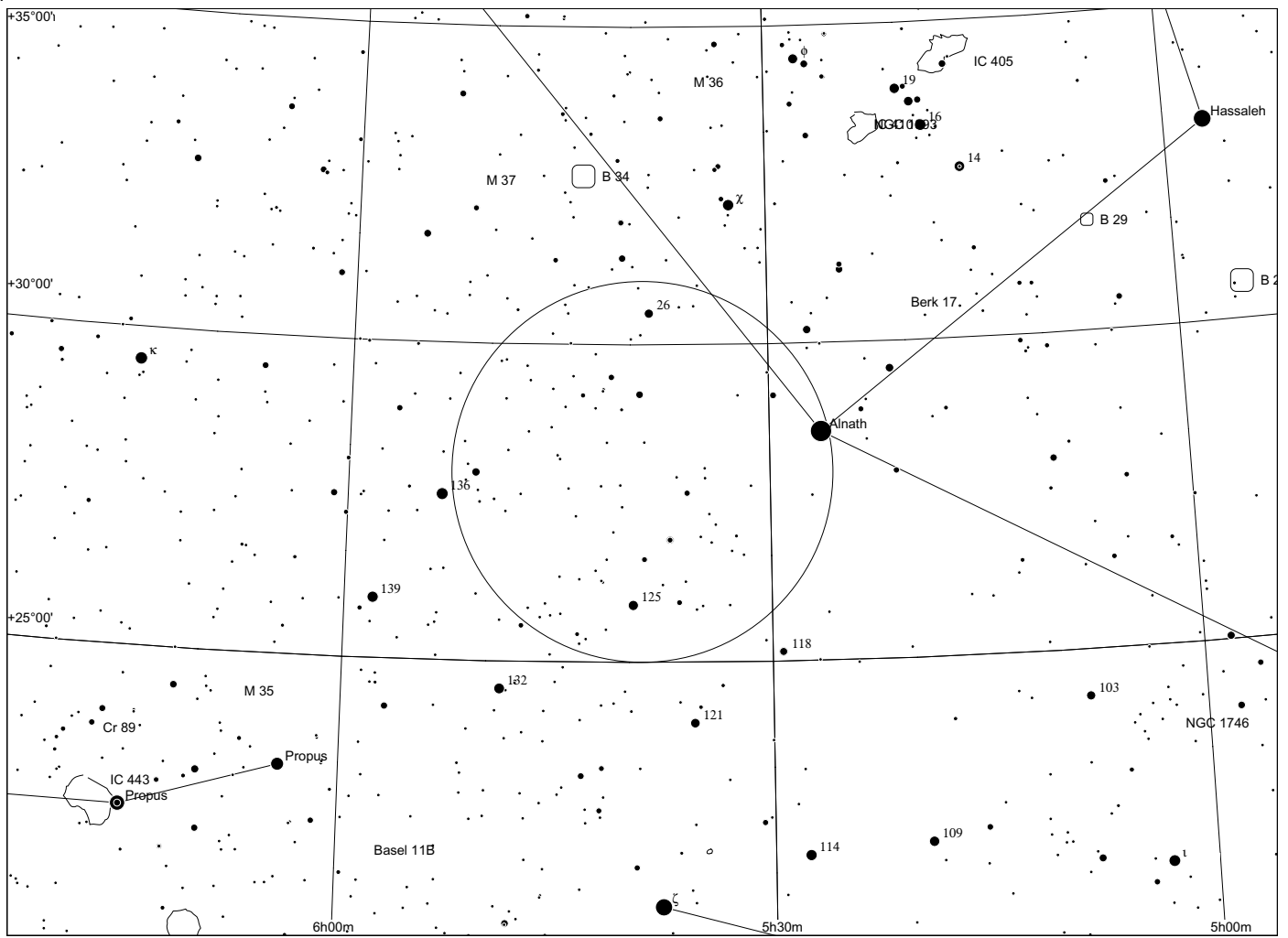
Distance: 800 pc, Size: 41.9 pc, Source: 1982ApJS...49..183B

This is the supernova remnant Simeis 147 = SNR 180.0-01.7.

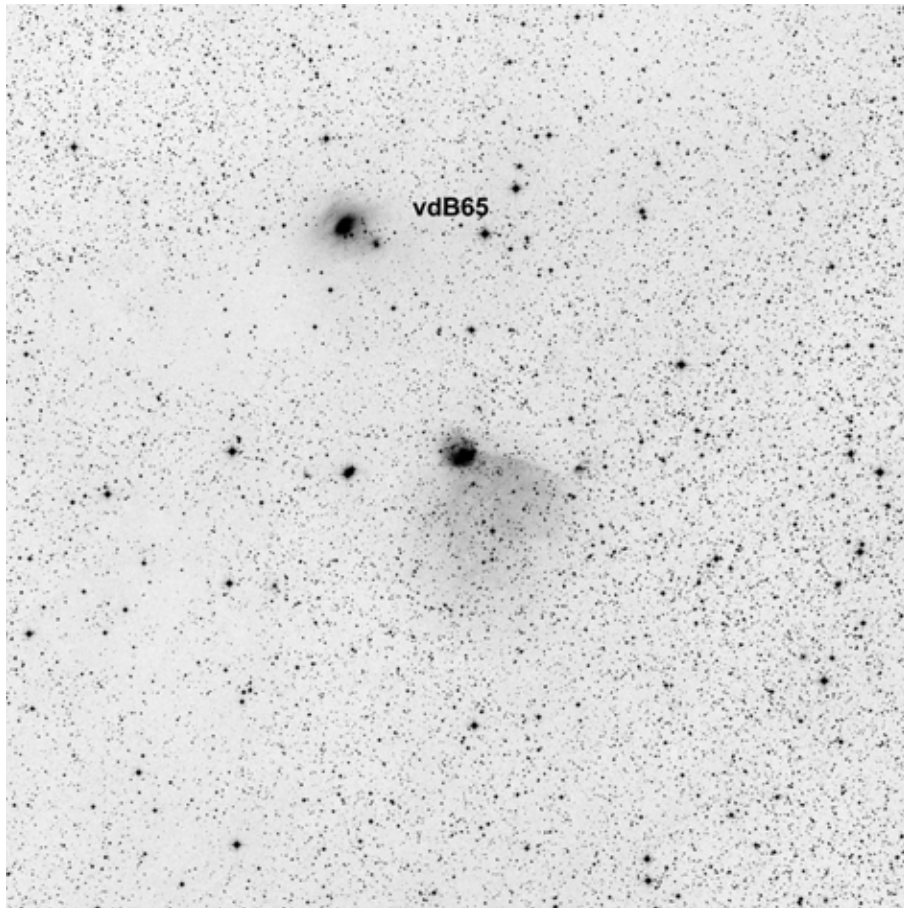
Observing notes:

22" f/4.5

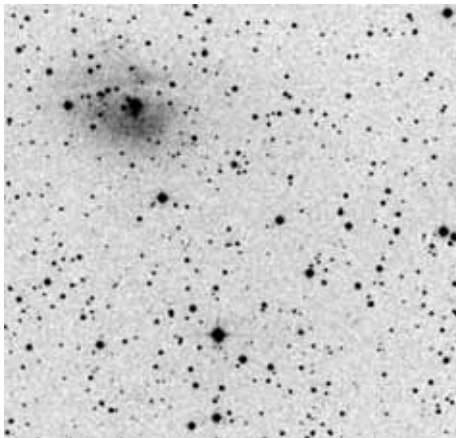
no firm observation up to now.



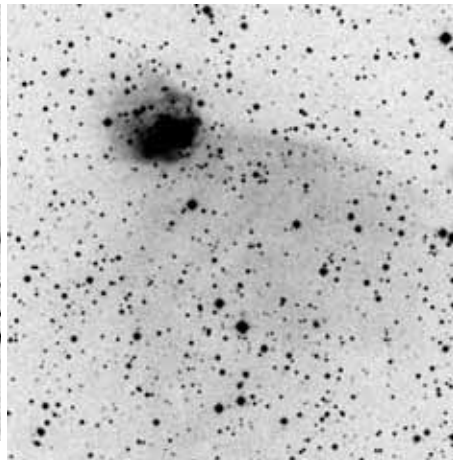
Sh 2 - 241 in Auriga



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-241		06 04 06.7	+30 14 52	10	3	2	3

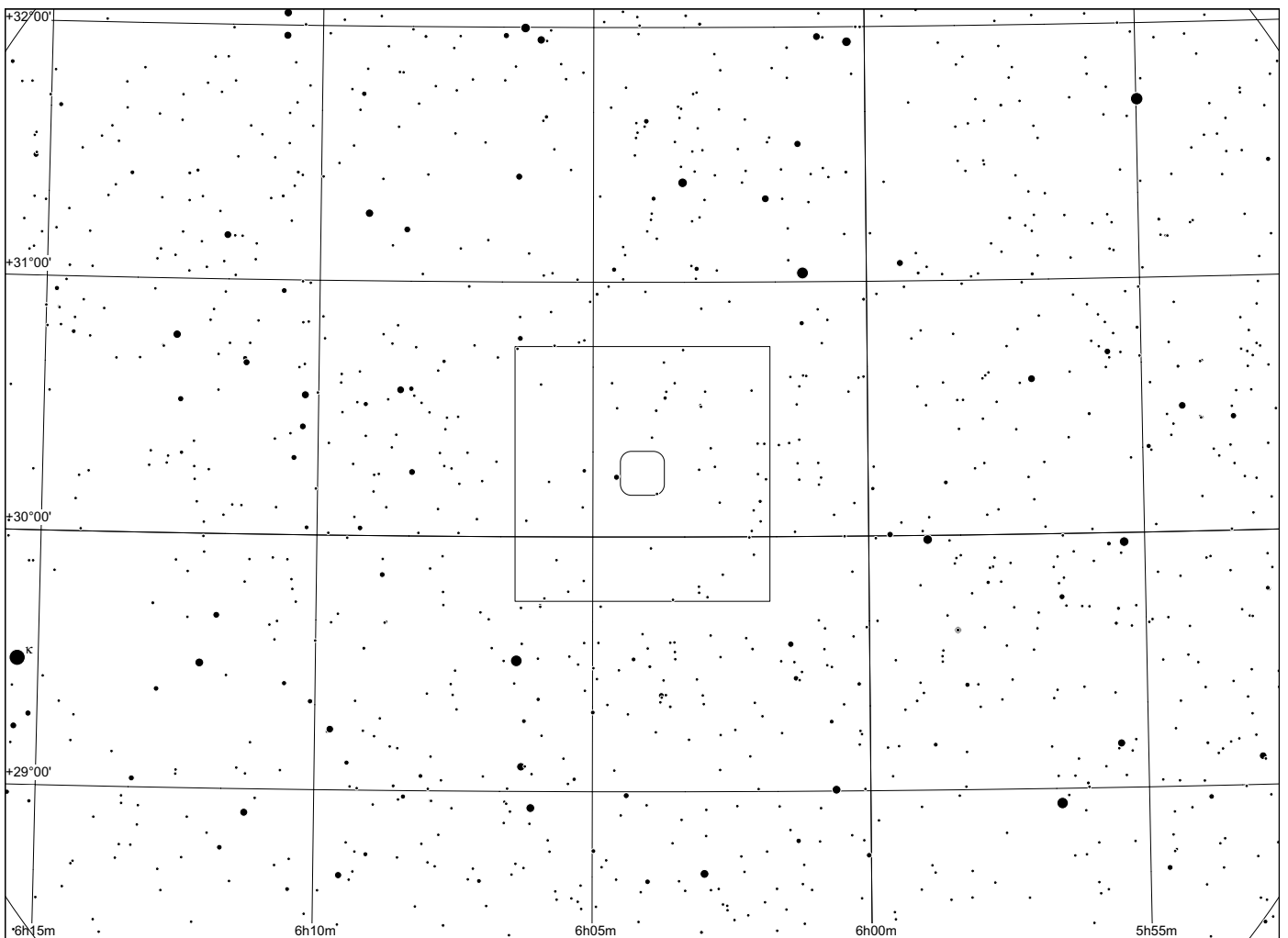
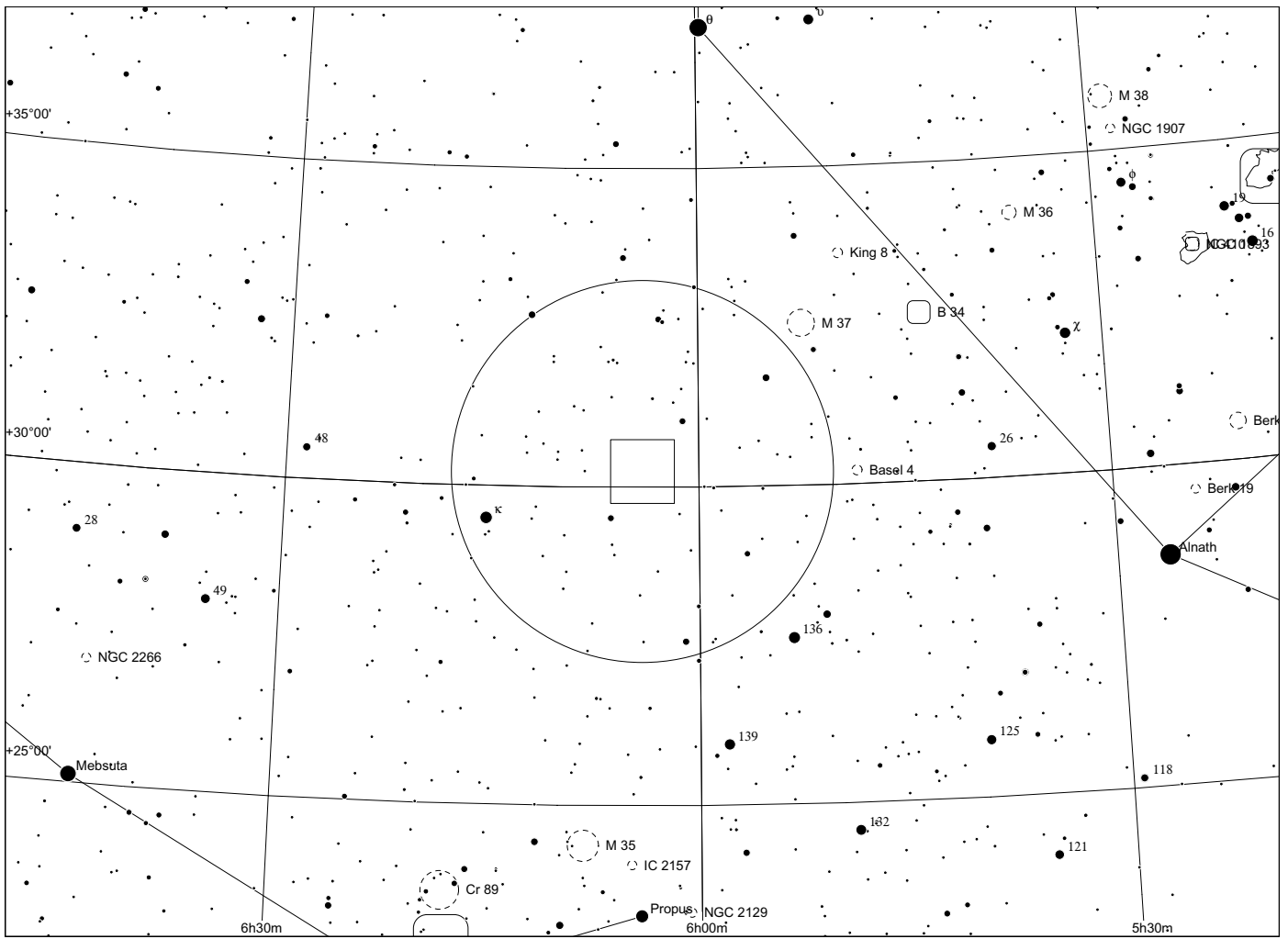
Distance: 4700 pc, Size: 13.7 pc, Source: 1982ApJS...49..183B

The exciting star for this nebula is the O9V star LS V +30 31. The nebula is a blister on the side of a molecular cloud at 5300 +/- 1100 parsecs. This field also contains the reflection nebula vdB 65 at 1100 parsecs, which is a completely unrelated object.

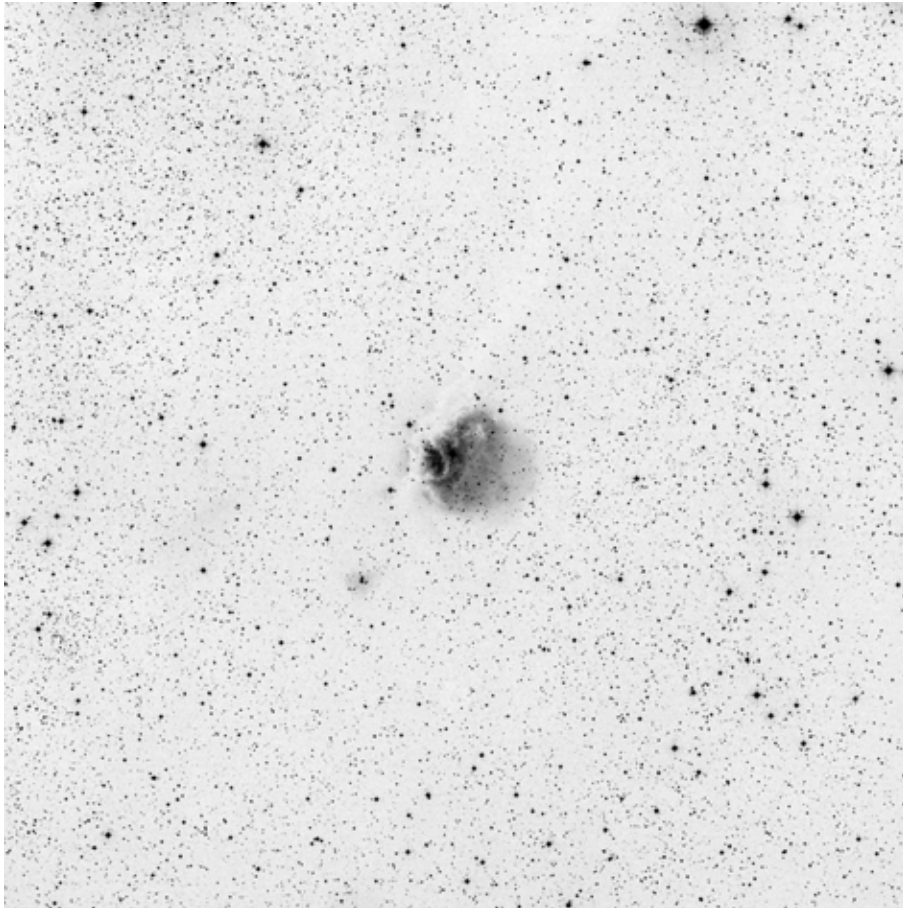
Observing notes:

22" f/4.5

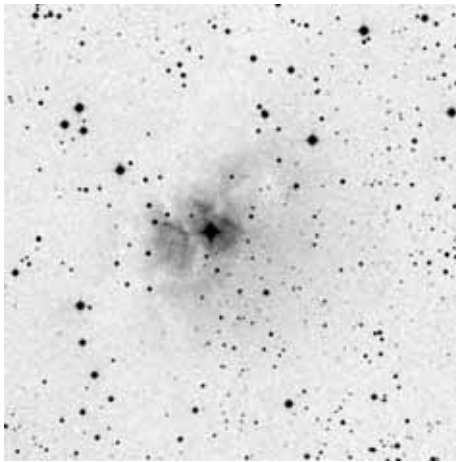
01/2011: At 200x, with UHC or H beta, a faint round glow around small group of stars, H beta > UHC. Nearby VdB 65 is easily visible w/o filter.



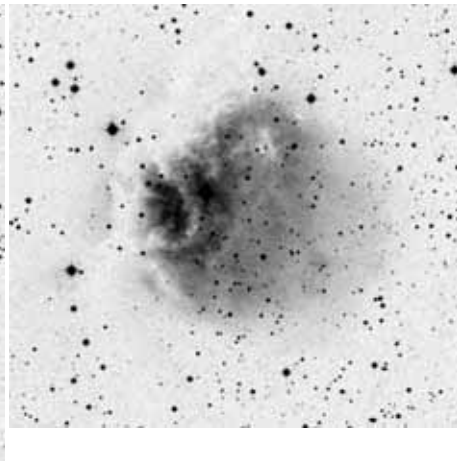
Sh 2 - 242 in Taurus



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-242		05 51 50.7	+27 00 38	7	1	2	2

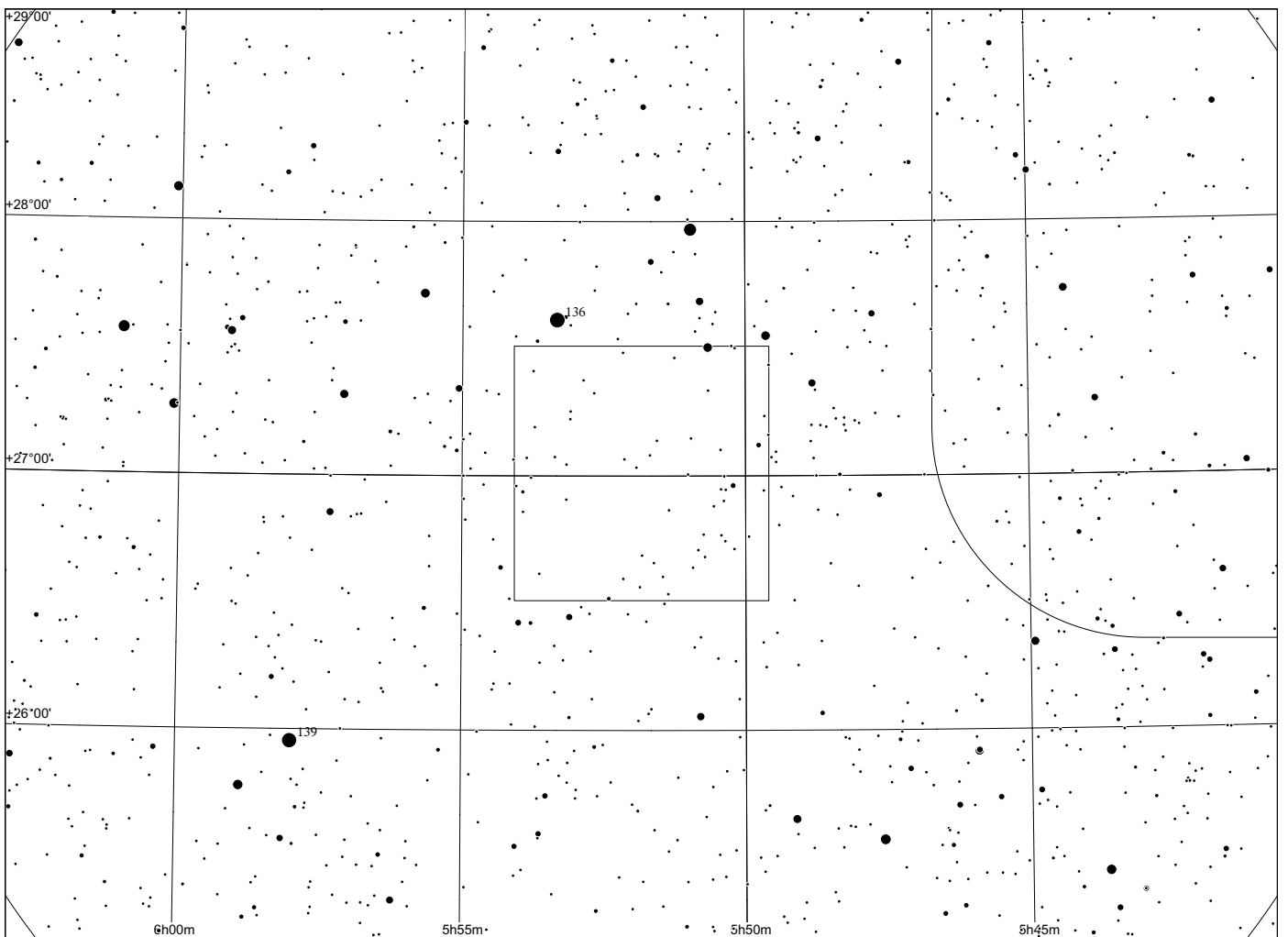
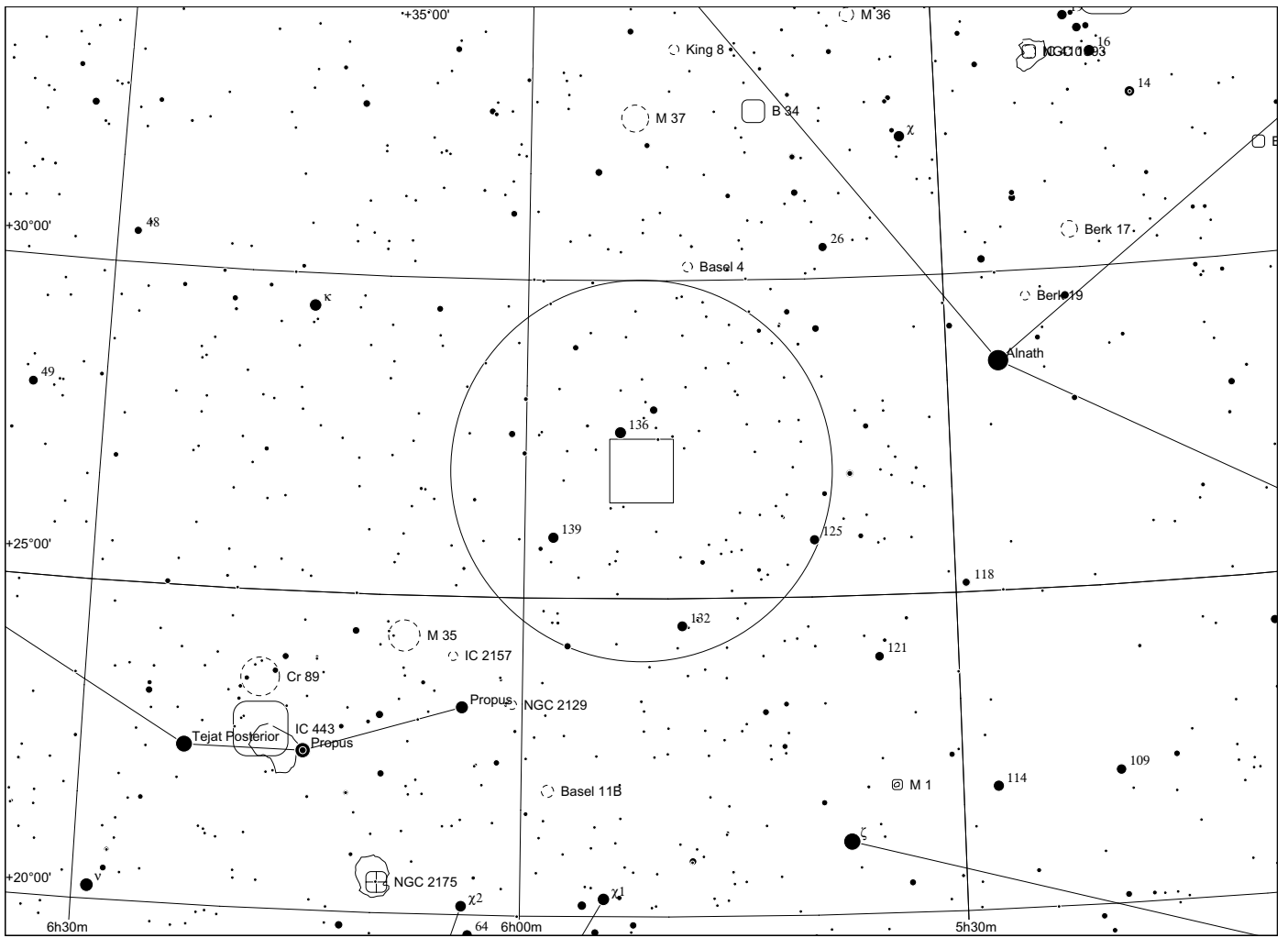
Distance: 2100 pc, Size: 4.3 pc, Source: 1982ApJS...49..183B

This HII region is excited by a B0V star and appears to lie at a distance of 2700 parsecs.

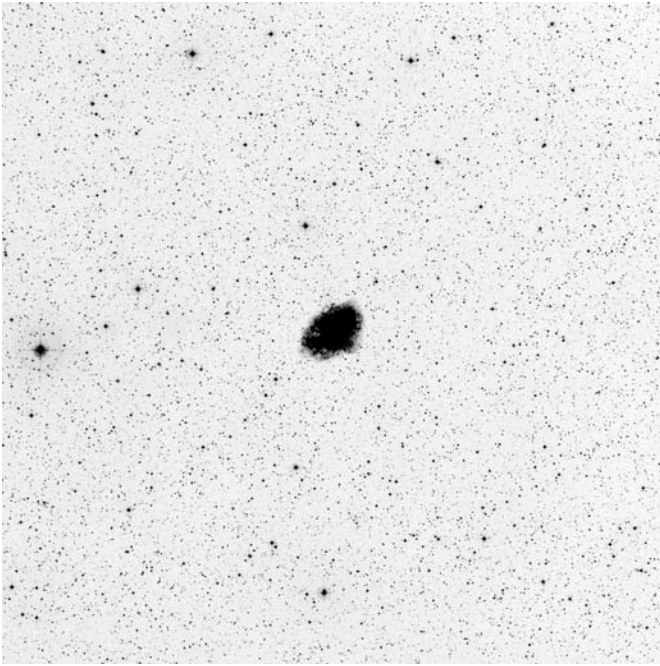
Observing notes:

22" f/4.5

01/2010: At 100x with either UHC or H beta, an extremely faint glow was suspected. With UHC, glow was suspected mainly E of star, with H beta displaced to SW relative to star. Doubtful observation.



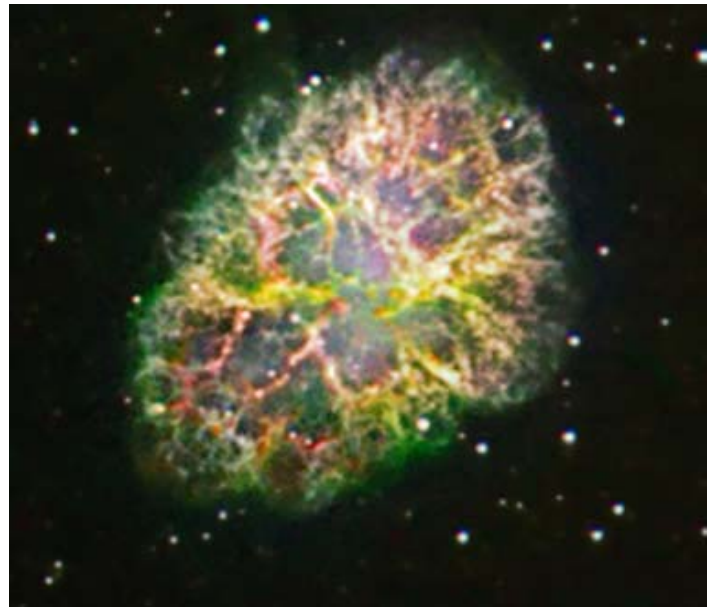
Sh 2 - 244 in Taurus



60x60, red



composite



narrowband, Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-244	M1 = NGC1952 = Crab Nebula	05 34 30.4	+21 57 09	5	2	3	3

Distance: 1930 pc, Size: 2.8 pc, Source: 1973PASP...85..579T

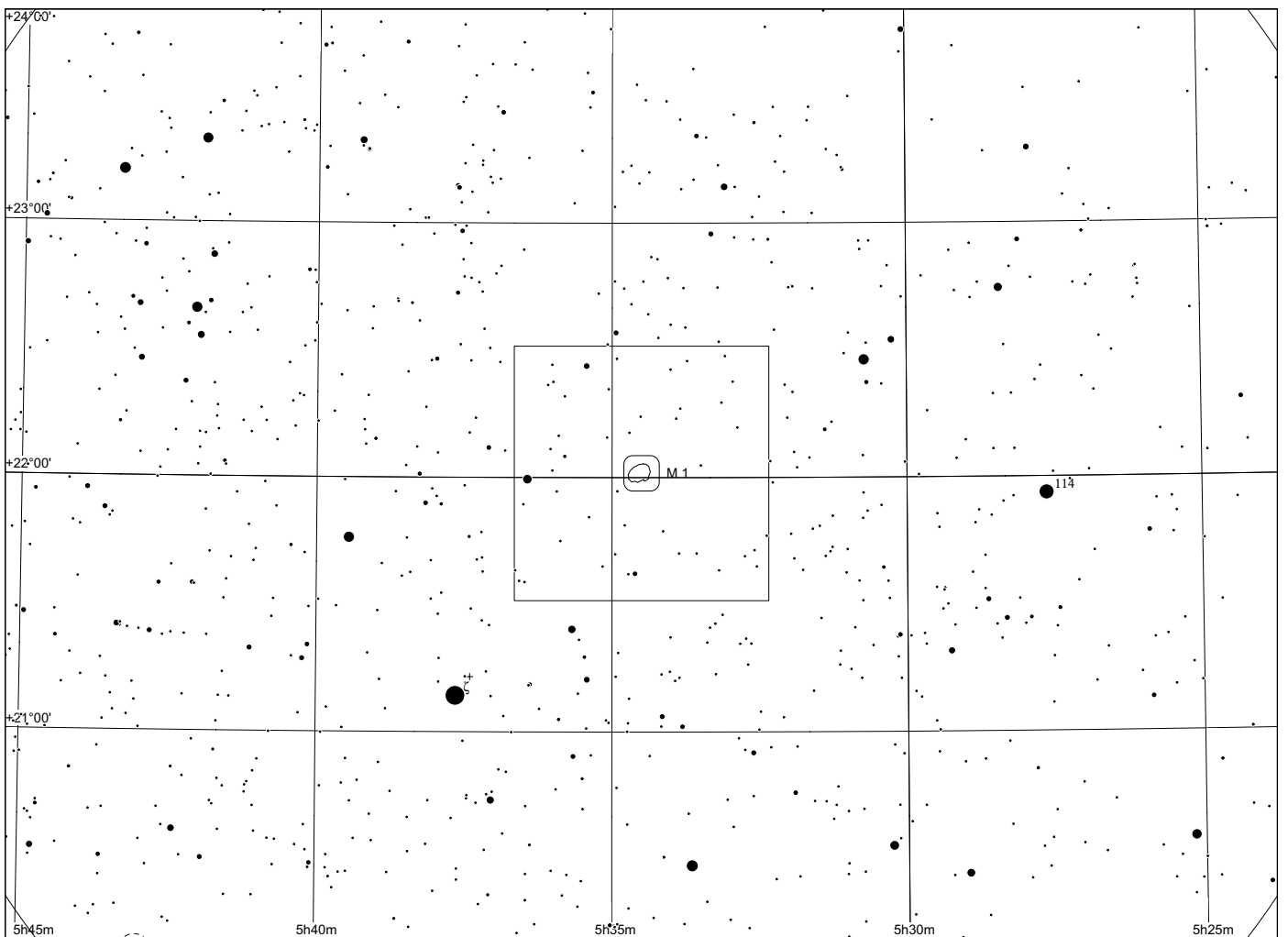
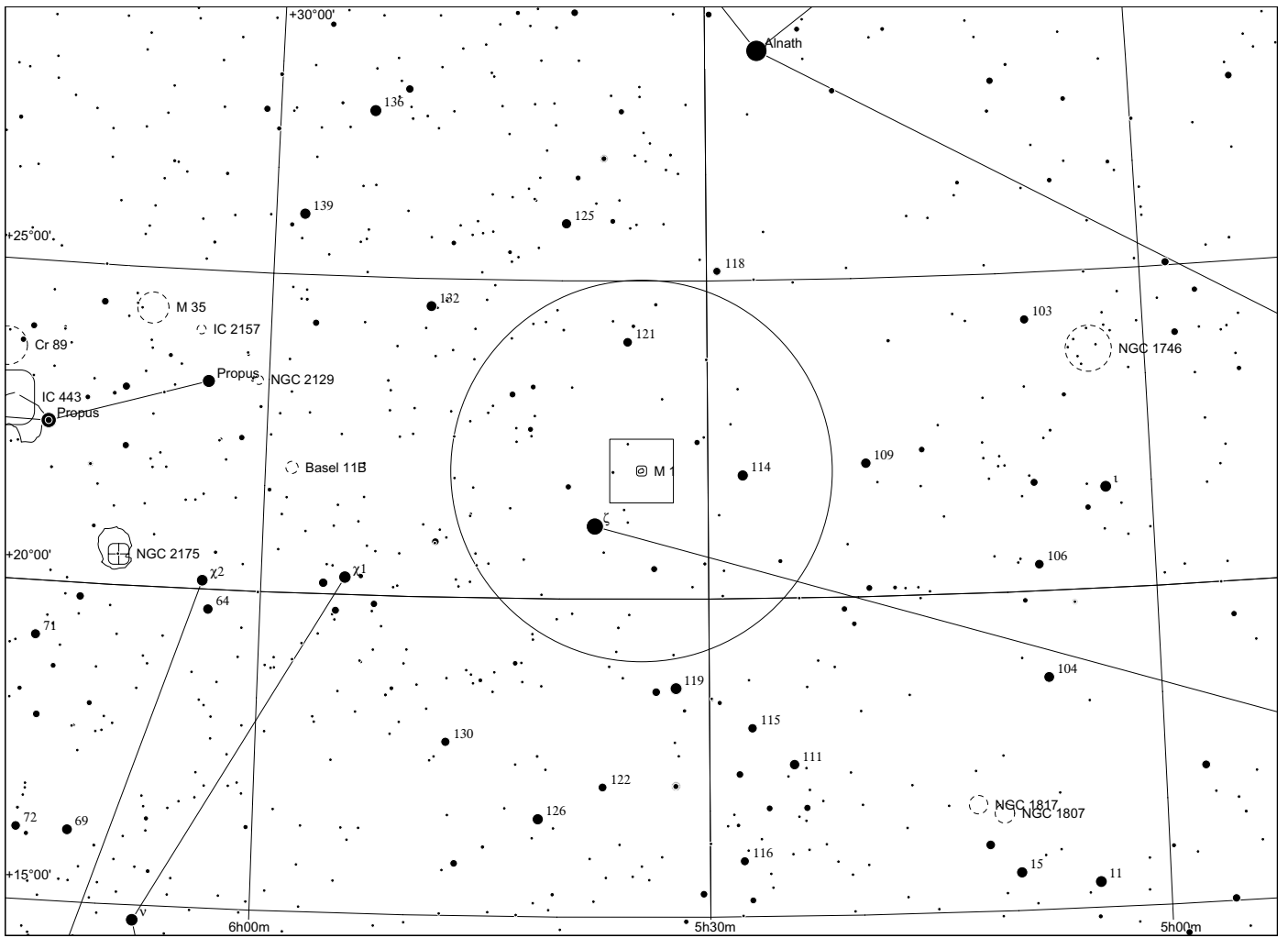
This is the Crab nebula supernova remnant.

Observing notes:

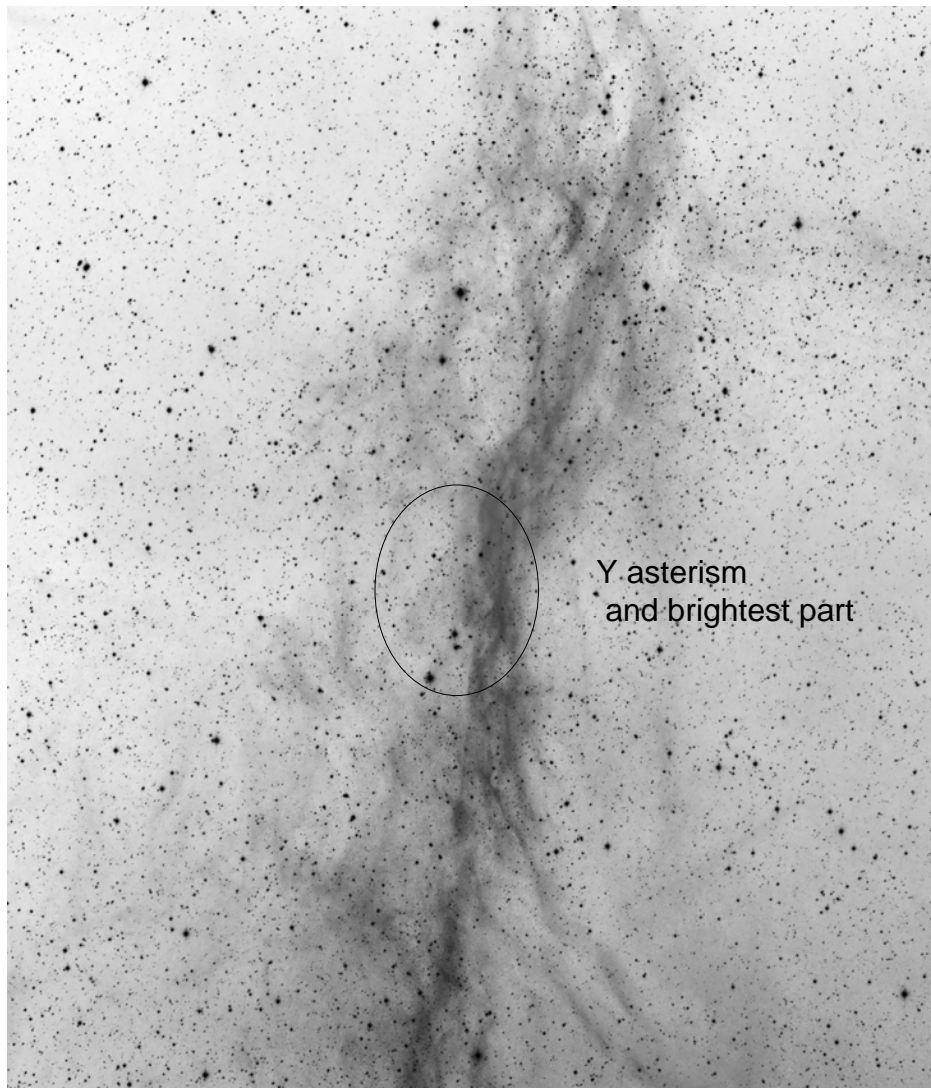
22" f/4.5

With 7mm and UHC filter, the filaments are faintly visible, superimposed on the z-shaped synchrotron nebula, which is due to its broadband nature not responding to line filters.

With a polarization filter, the polarization of the synchrotron radiation is susceptible. The shape of the synchrotron nebula changes slightly depending on filter orientation. This is most evident at the SE and NW extensions of the Z.



Sh 2 - 245 in Taurus



H alpha 8x10°

Dean Salman,
sharplesscatalog.com

	other name	RA	dec	dia. '	F	S	B
Sh 2-245		04 02 32.8	+04 07 42	720	3	2	2

Distance: 210 pc, Size: 44.1 pc, Source: 1982ApJS...49..183B

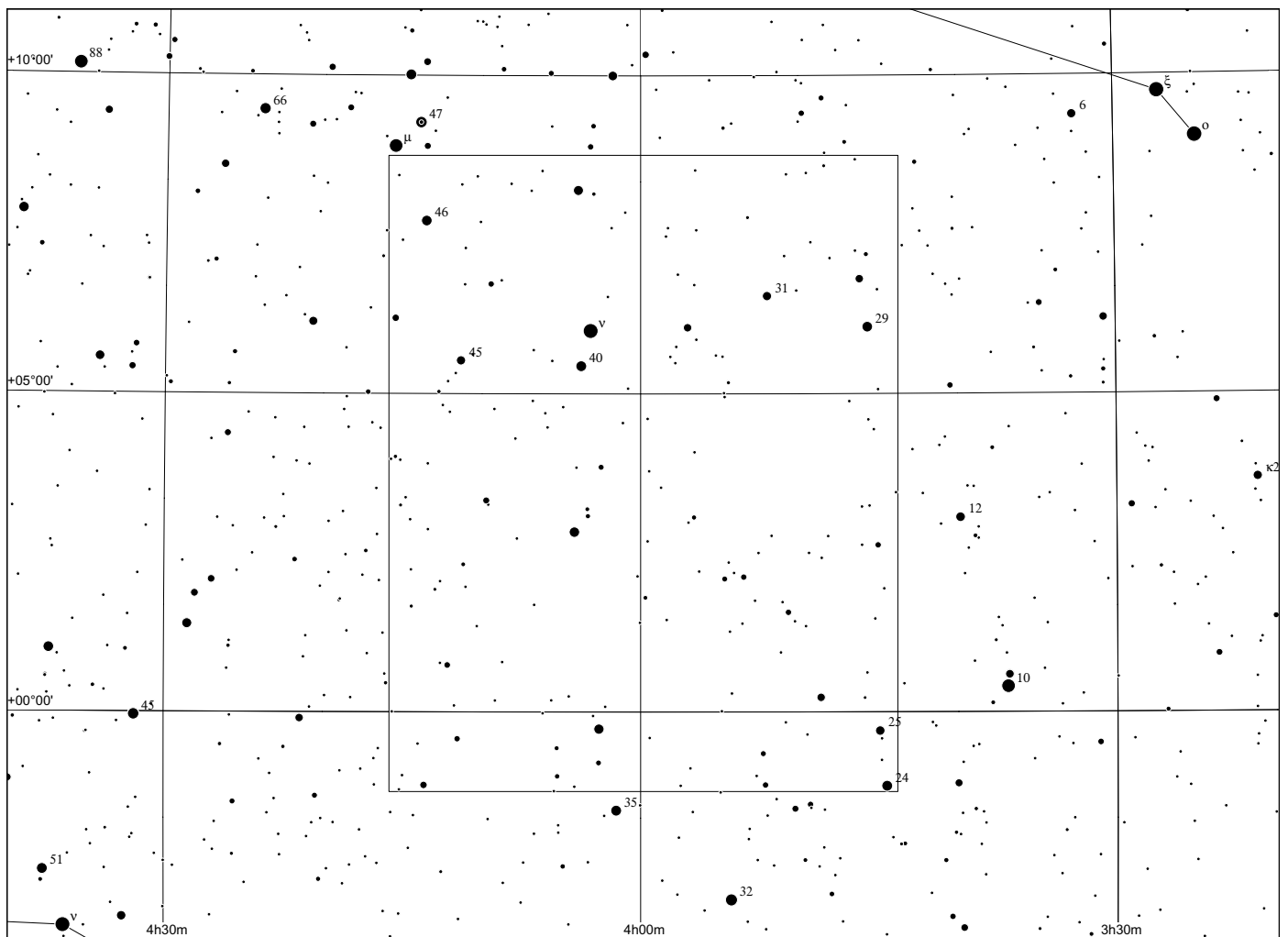
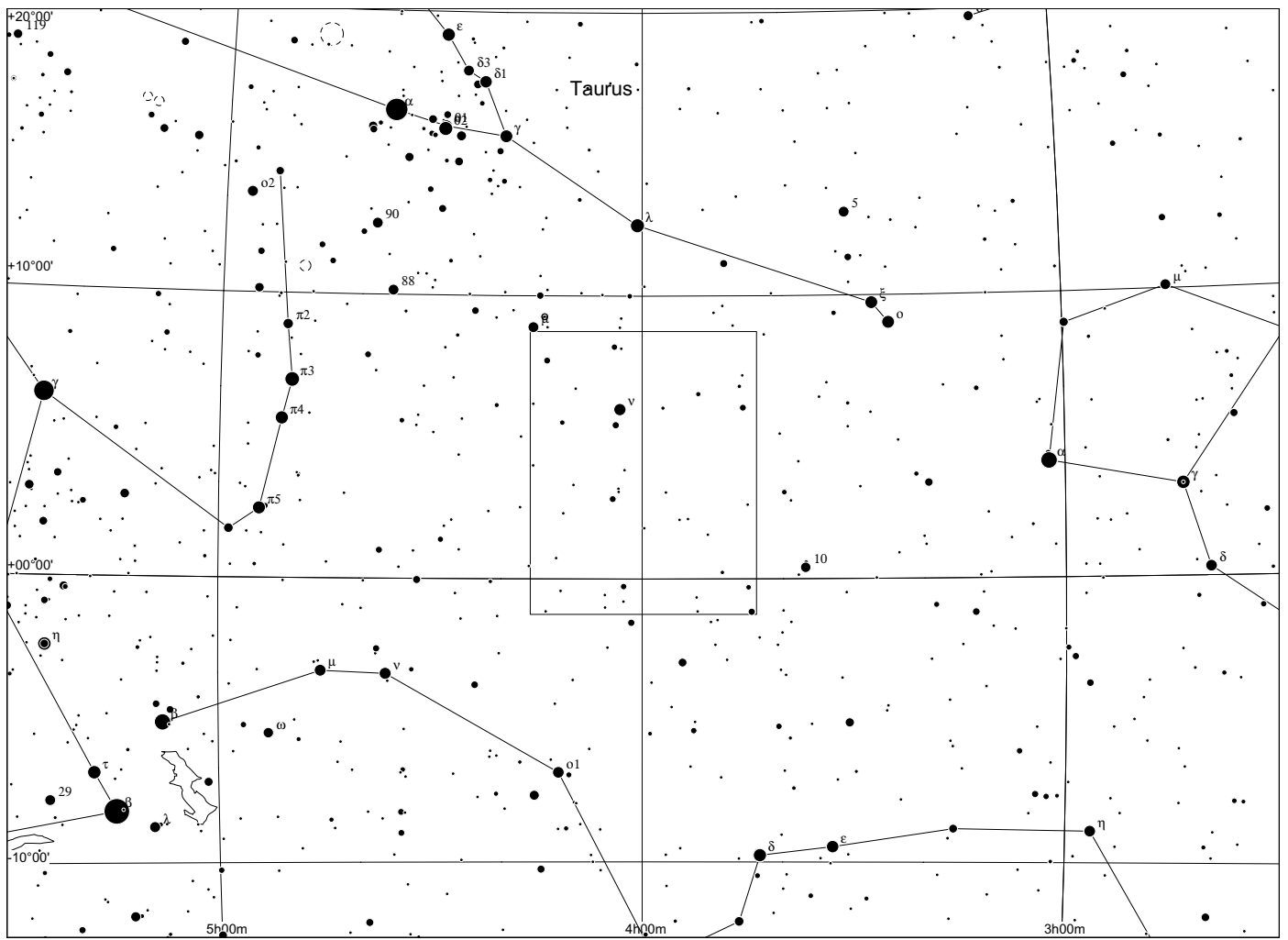
May be connected to the Barnard Loop, Sh 2-276. Part of the Eridanus loop.

Observing notes:

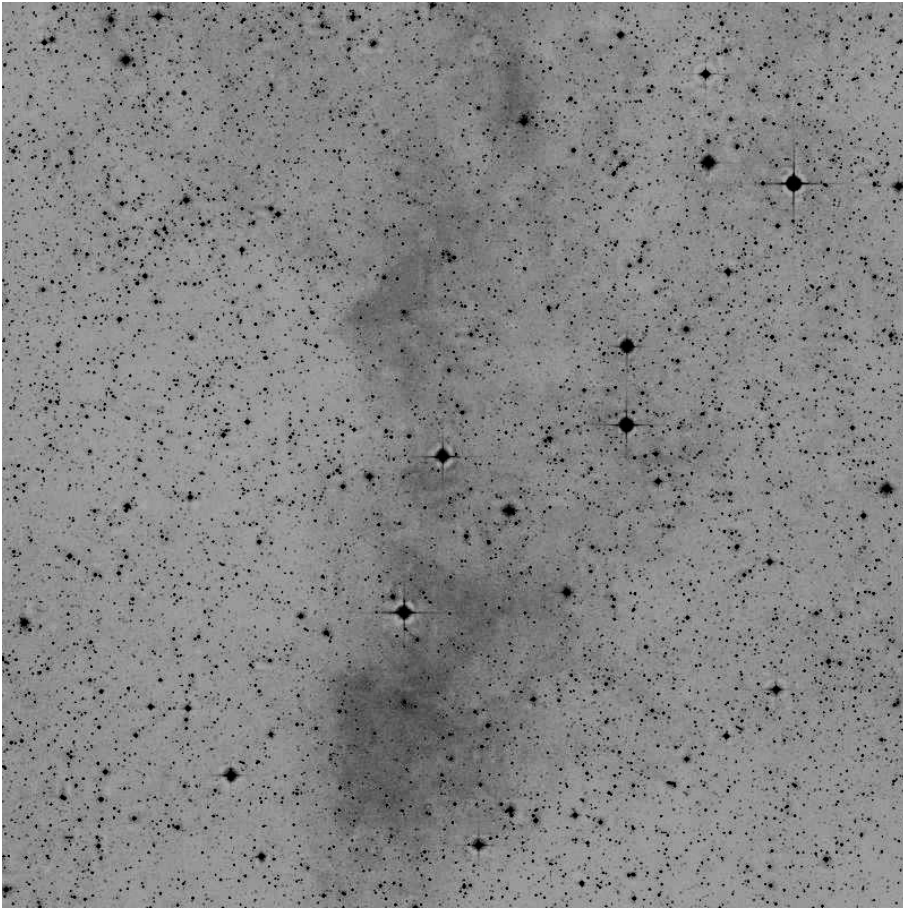
22" f/4.5

12/2011: Even under sub-optimal conditions, this long filament was visible with H beta filter at 7mm exit pupil, when sweeping over it. Largest contrast immediately west of a Y shaped asterism in the middle of above picture.

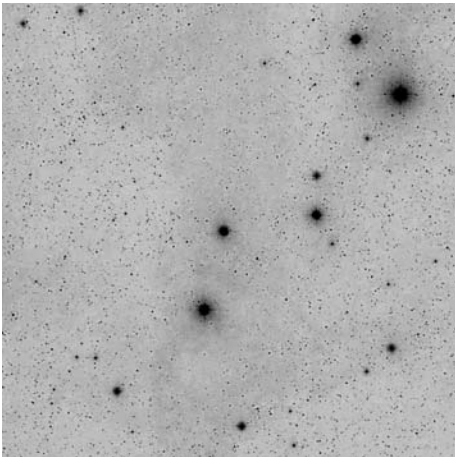
Also extremely faint in 4" binoculars equipped with H beta filters. This part of the Eridanus bubble is fainter than the brightest part of Barnards loop, NE of M78.



Sh 2 - 246 in Orion



60x60, red



POSS blue



composite

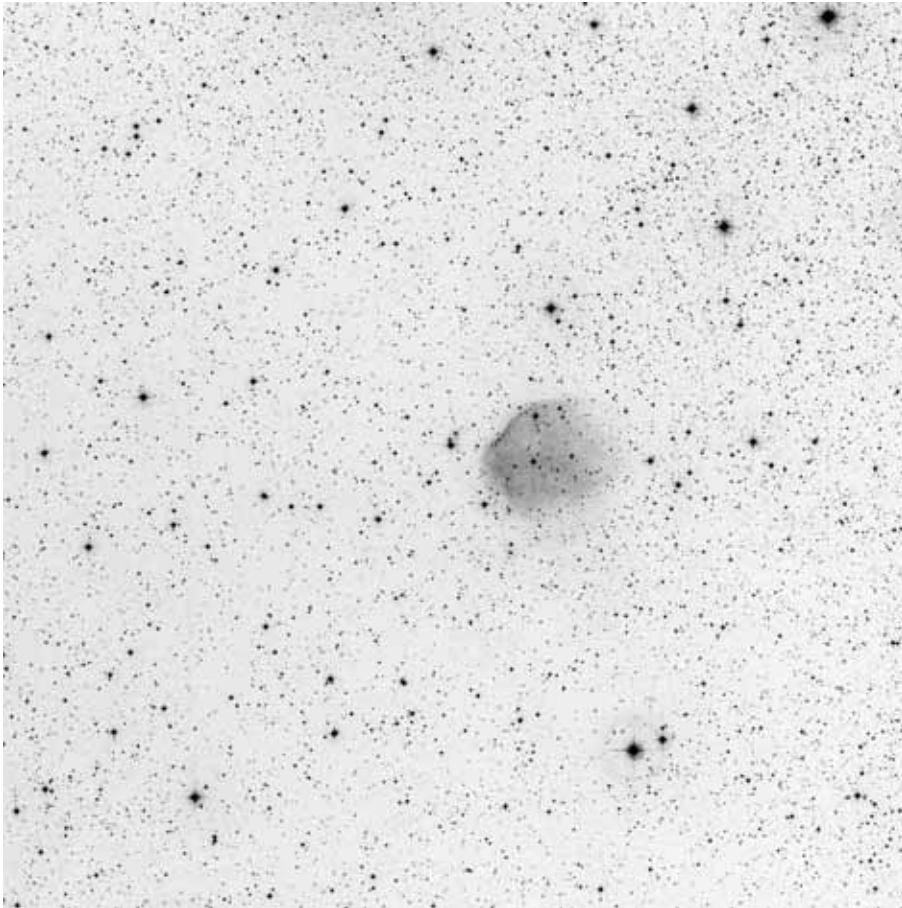
	other name	RA	dec	dia. '	F	S	B
Sh 2-246		05 02 08.9	+14 05 44	65	3	1	1

Distance: 3700 pc, Size: 70.0 pc Source: 2003A&A...397..133R

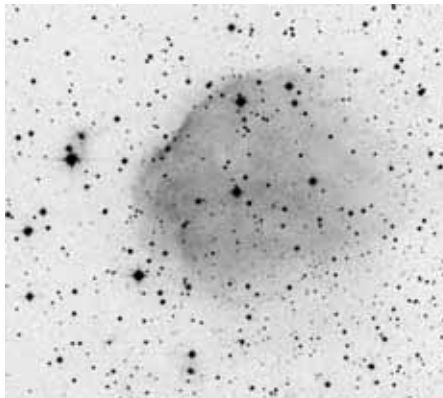
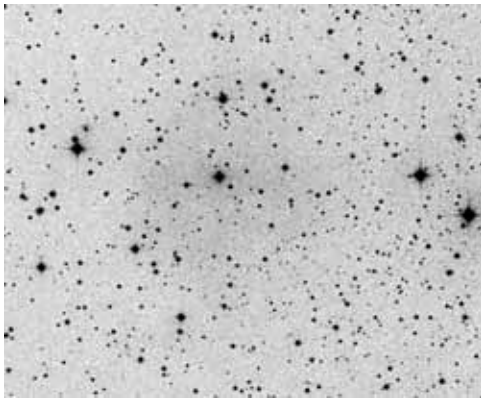
Sh 2-246 is visible in the direction of Lynds dark cloud LDN 1562, which together with Lynds dark cloud LDN 1563 forms a local dust ridge located well below the galactic plane at a distance of 180 pc, and is part of the Taurus dust cloud complex within the Gould belt, our local stellar neighbourhood. Avedisova concludes that Sh 2-246 and LDN 1562 are part of the same star formation region, SFR 186.96-16.58. If Sh 2-246 is actually embedded in this dust ridge, it must be much closer than the distance estimate given here.

Observing notes:

Sh 2 - 247 in Gemini



60x60, red



POSS blue

POSS red

composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-247		06 08 30.2	+21 37 12	9	1	1	2

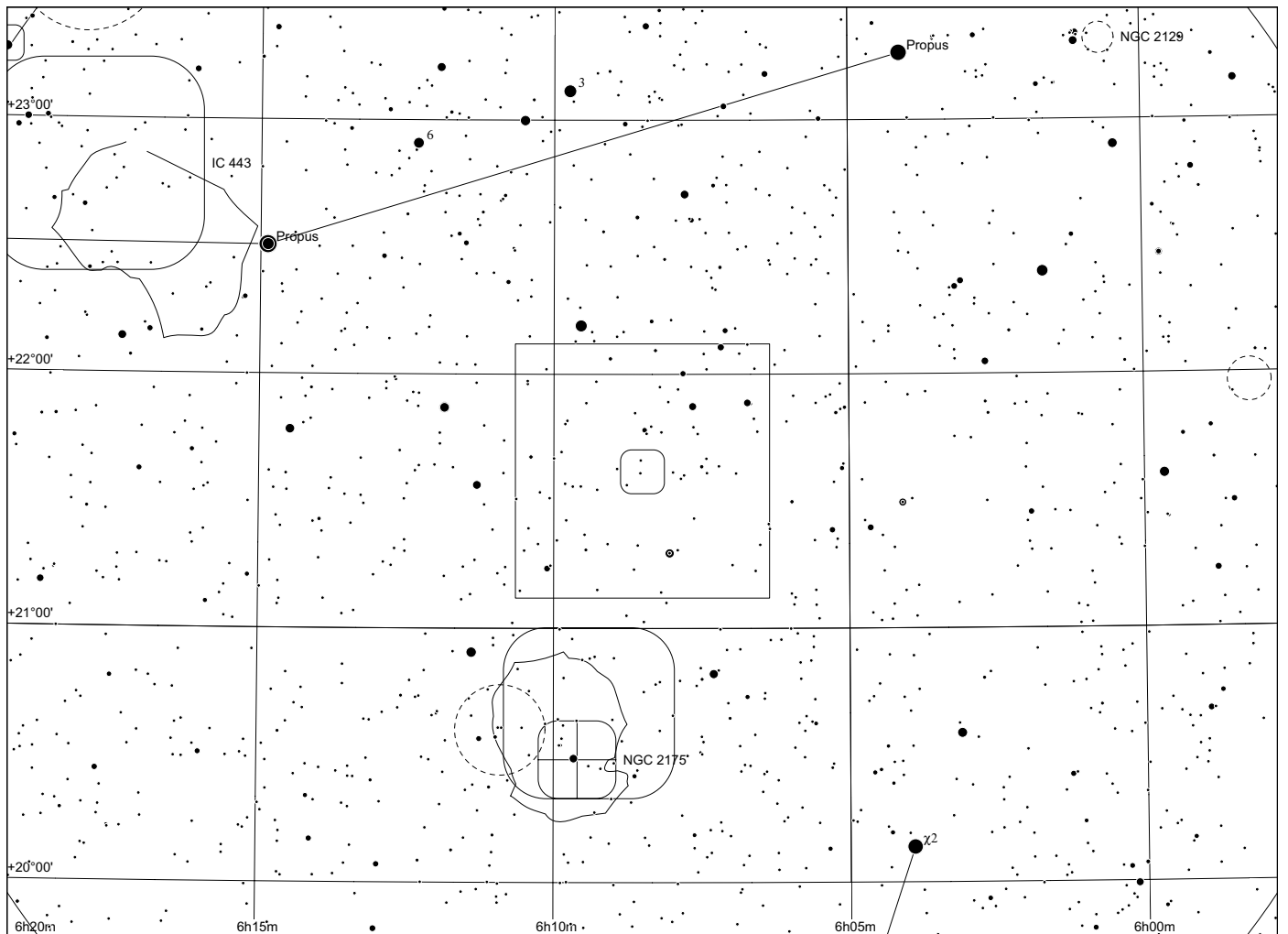
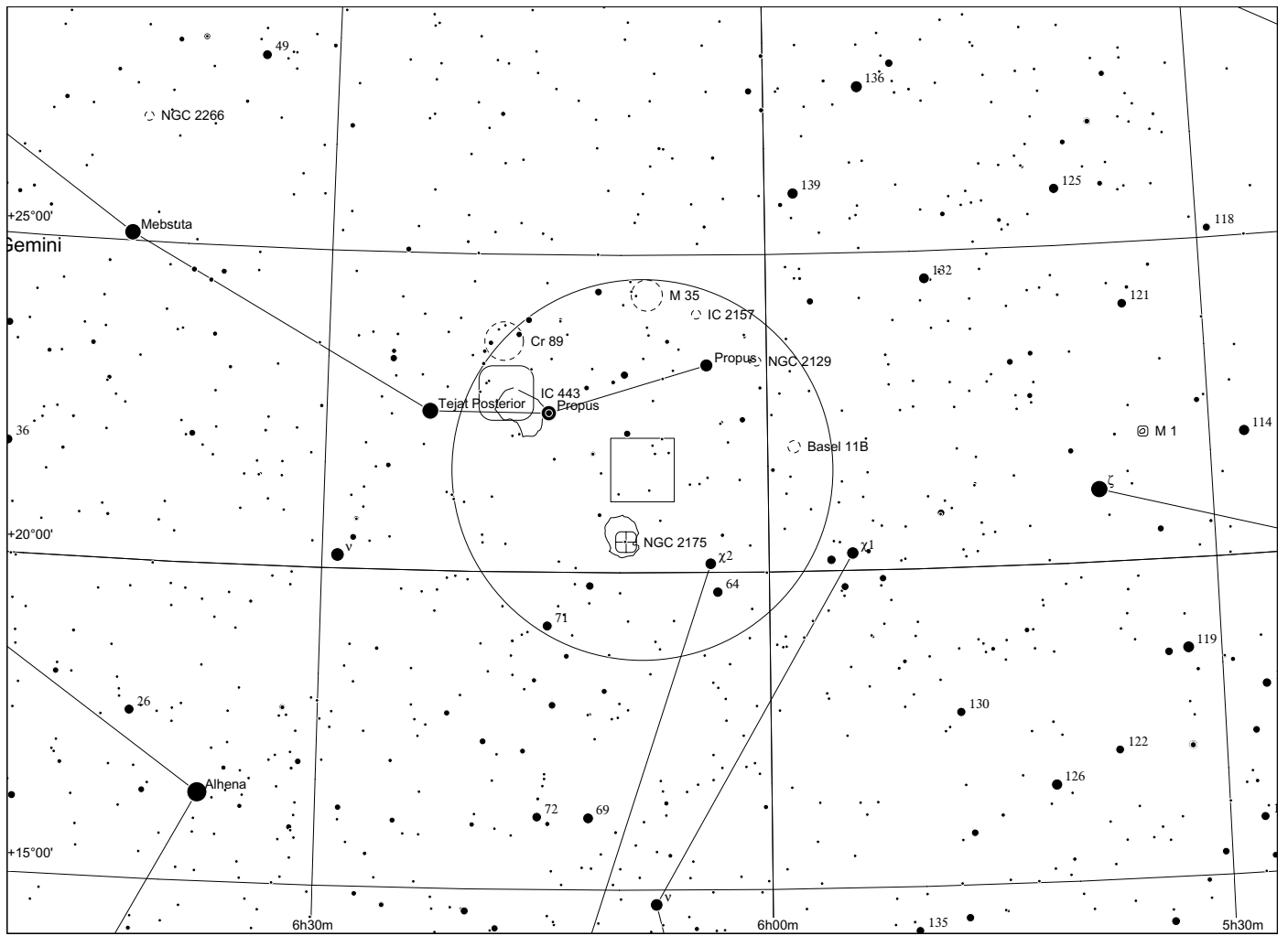
Distance: 2000 pc, Size: 5.2 pc, Source: 1995ApJ...445..246C

The Sh 2-247 molecular cloud is part of the Gem OB1 complex, contains 37 thousand solar masses at a distance of 2200 pc and appears to be physically connected through CO filaments with Sh 2-252. The exciting star is LS V 21 27 (B0 III star).

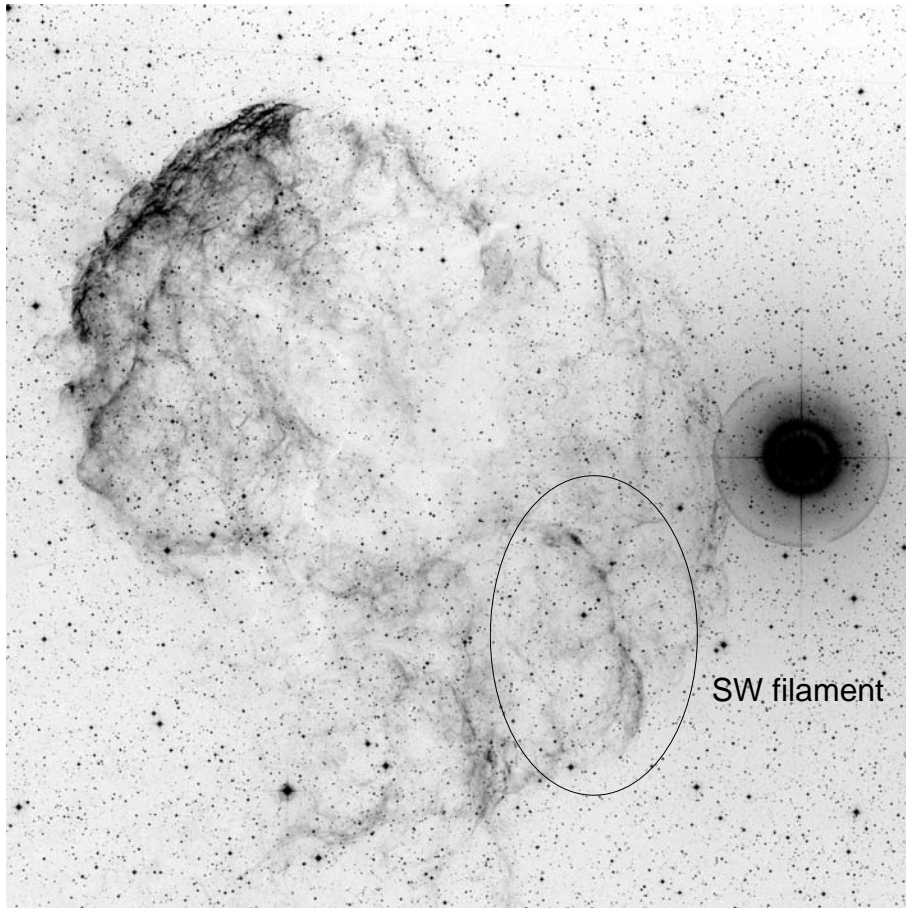
Observing notes:

22" f/4.5

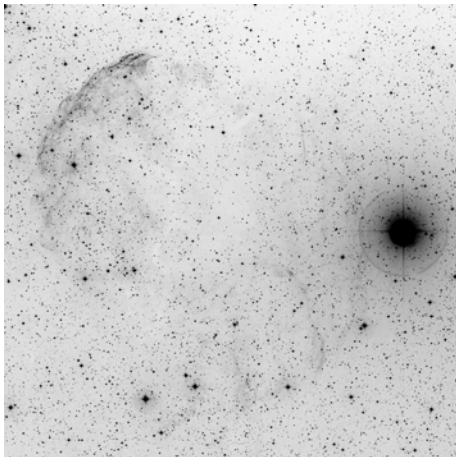
no certain observation



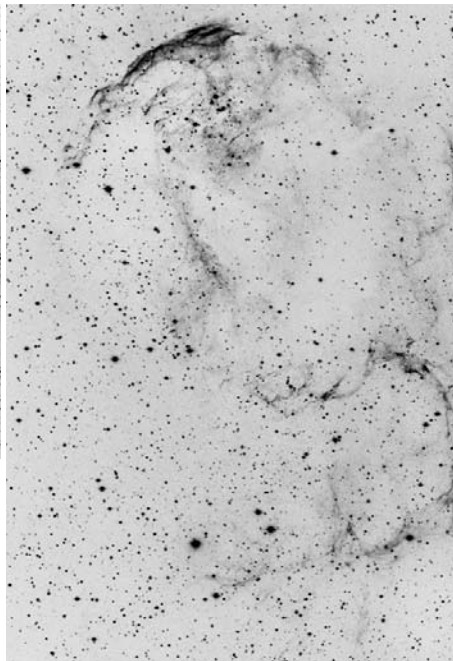
Sh 2 - 248 in Gemini



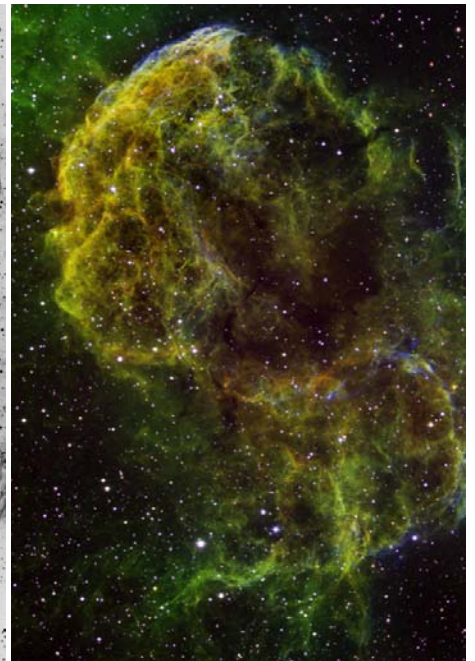
60x60, red



POSS blue



OIII



narrowband, Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-248	IC 443:	06 16 38.4	+22 30 01	50	2	3	3

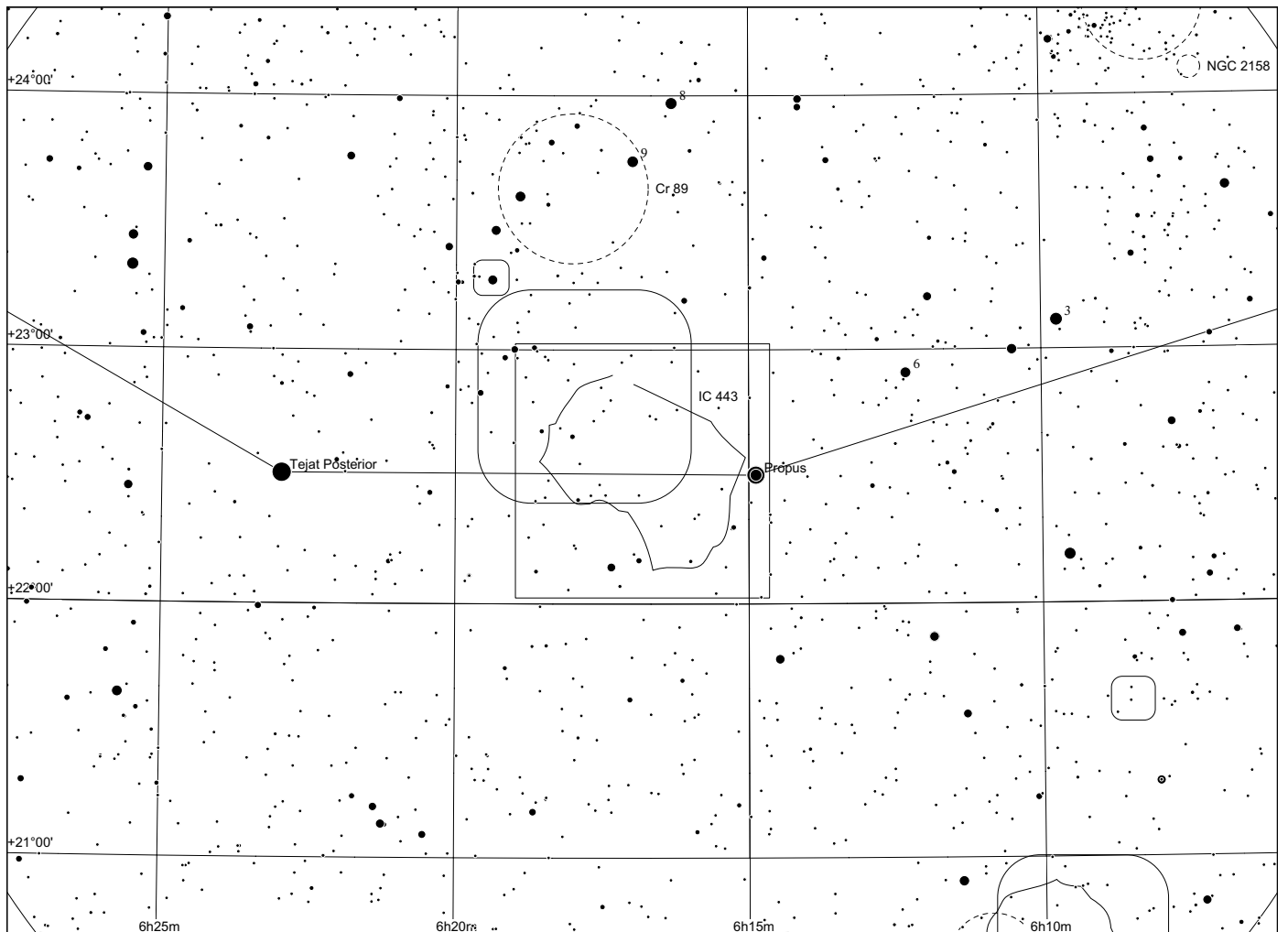
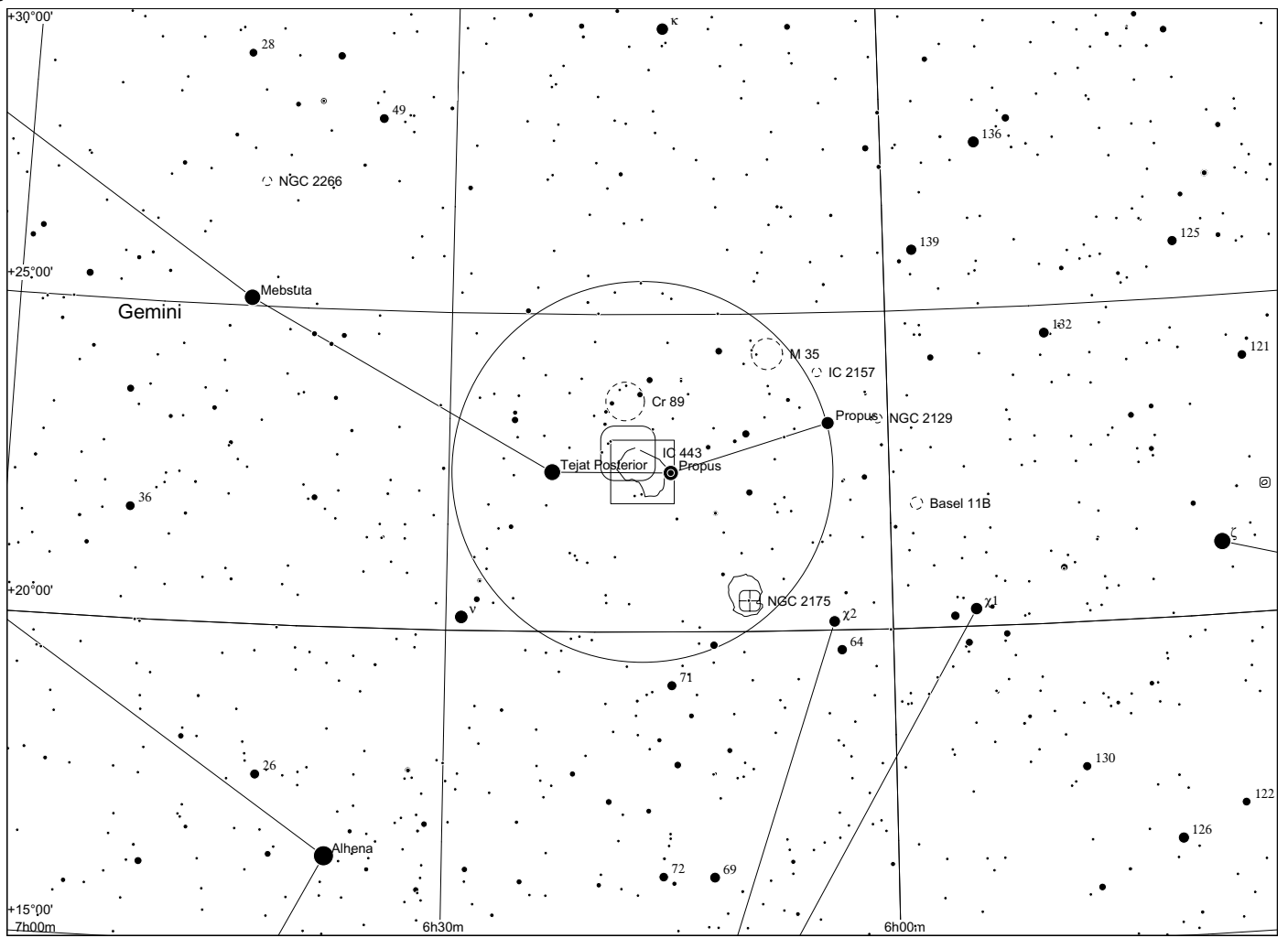
Distance: 1500 pc, Size: 21.8 pc, Source: 2005ApJ...624L..41B

This is the Jellyfish nebula, the 3000-year-old Gem A supernova remnant (SNR 189.1+03.0), also called IC 443.

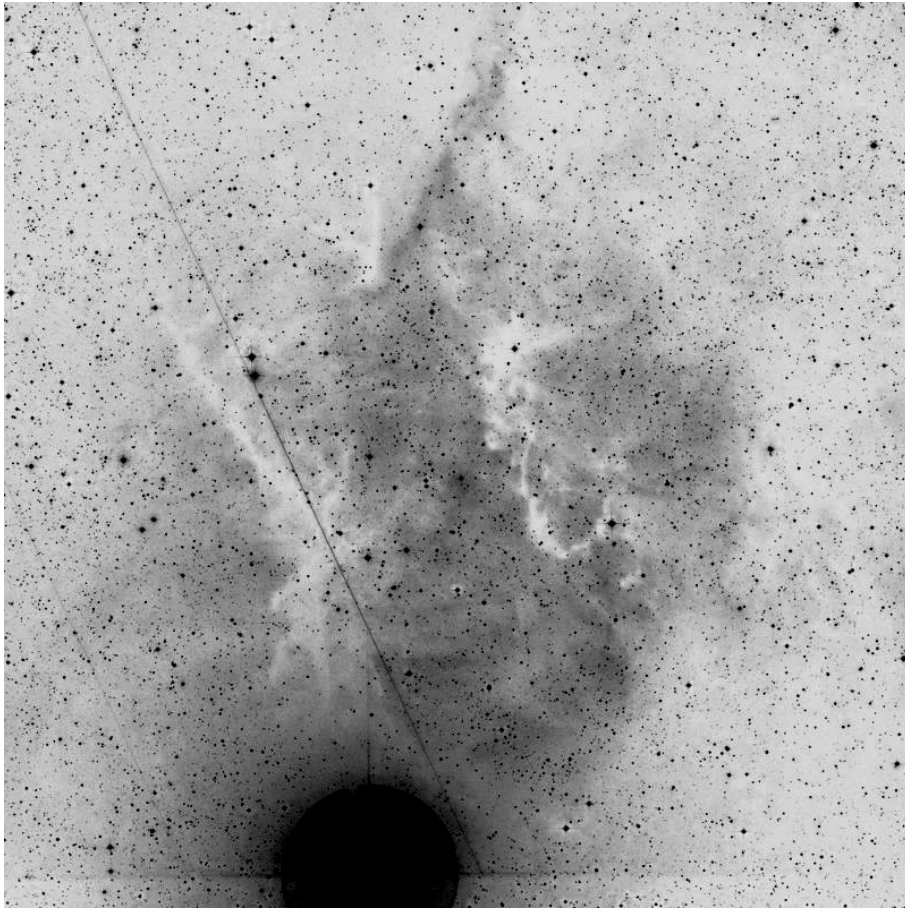
Observing notes:

22" f/4.5

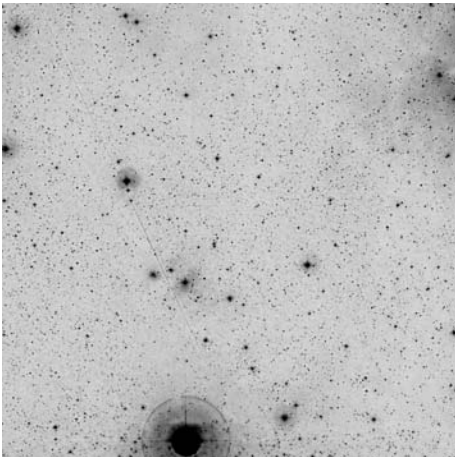
01/2011: 100x with OIII. The NE front appears as a long structured filament, which is sharply outlined toward NE, but appears "filled" on the other side. SW filament is extremely faint, visible only with UHC filter, crossing an obvious rectangle of stars SE of Eta Gem.



Sh 2 - 249 in Gemini



60x60, red



POSS blue



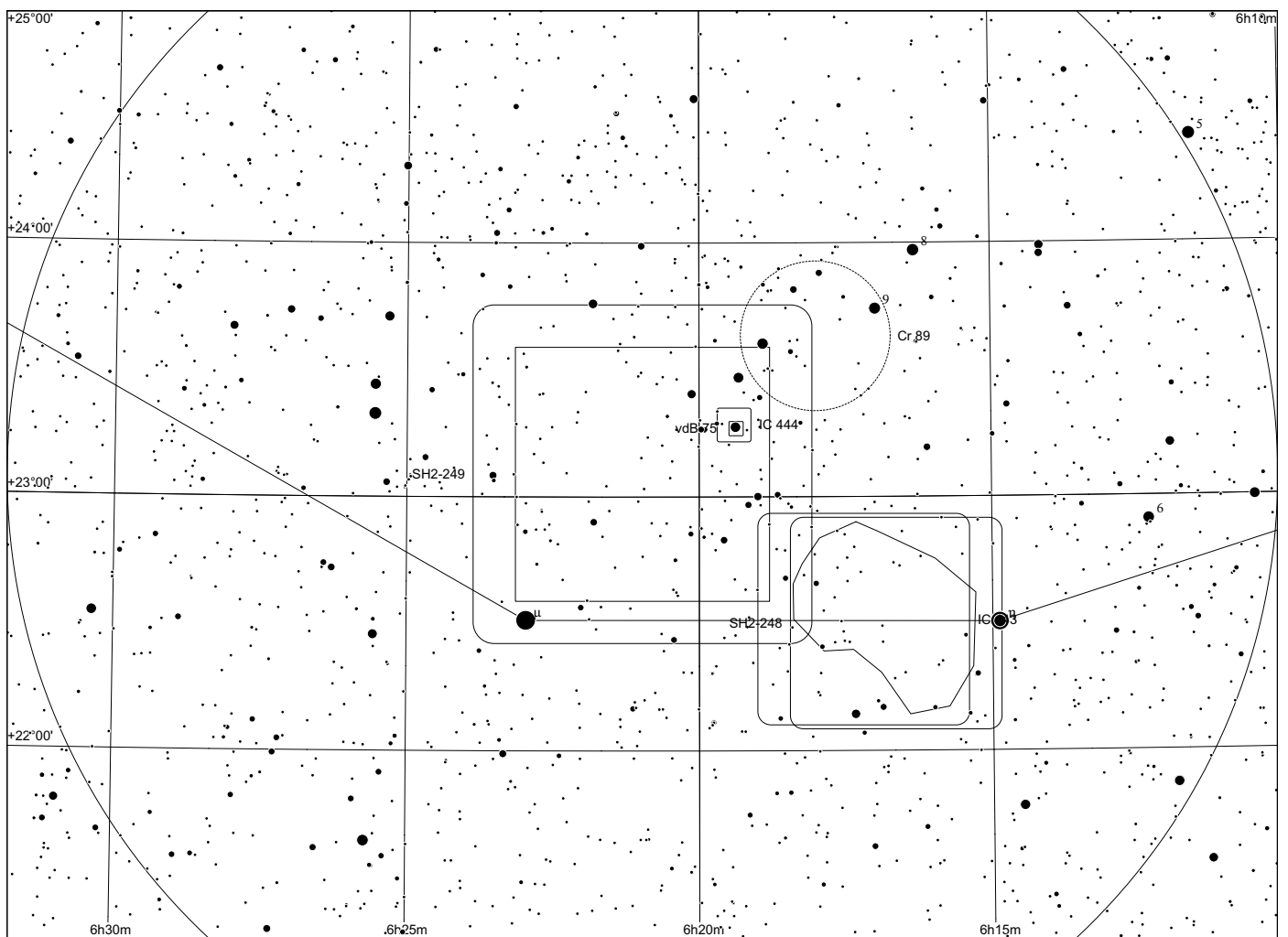
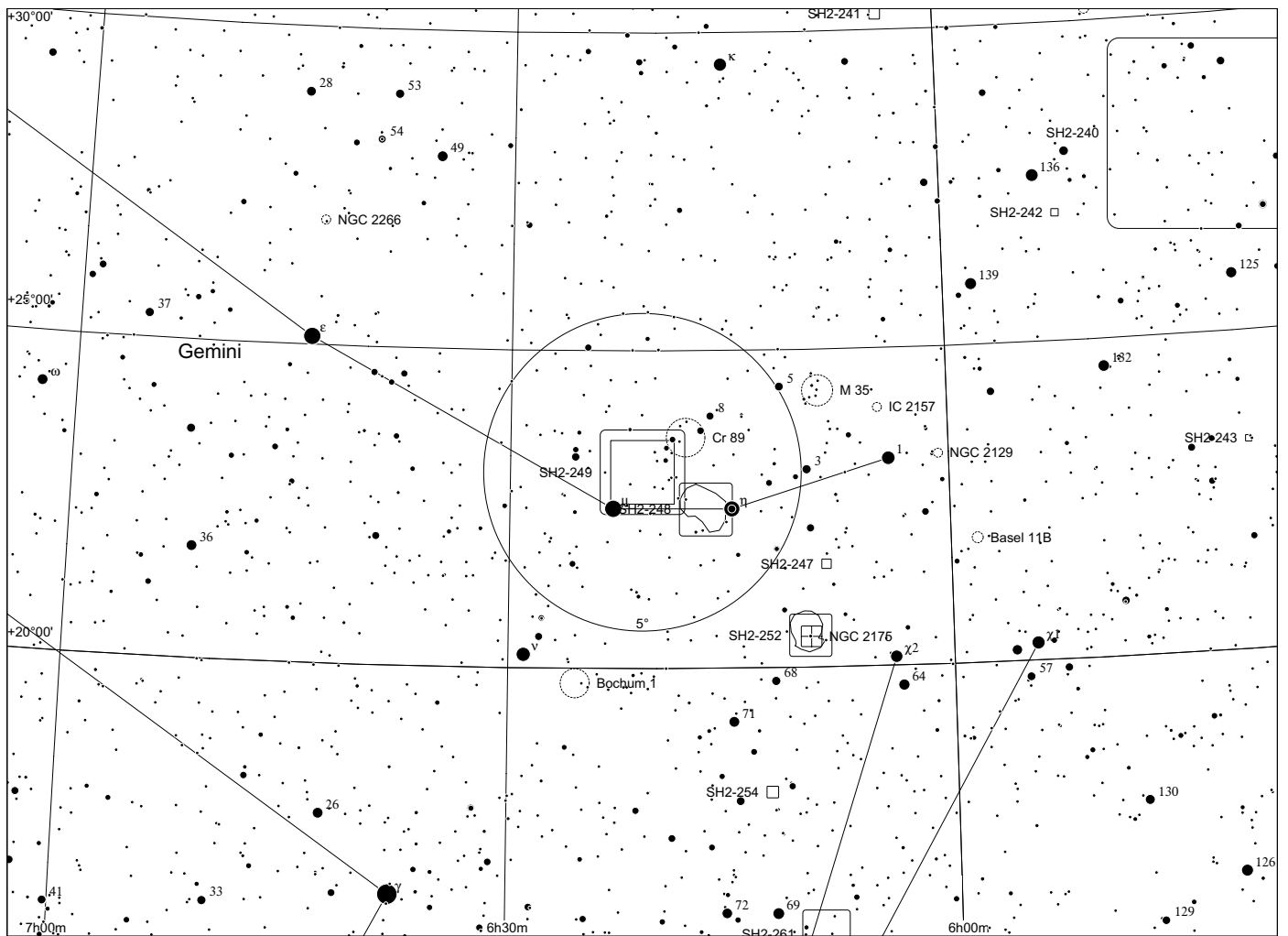
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-249		06 20 58.1	+23 05 23	80	3	2	2

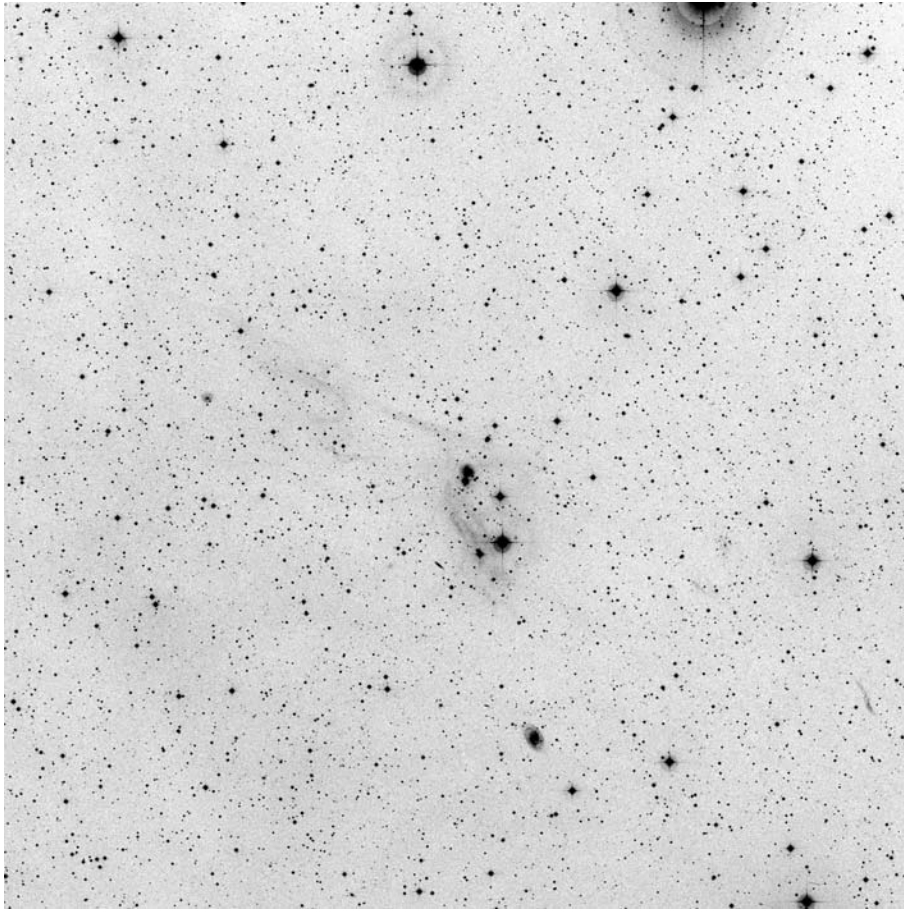
Distance: 1600 pc, Size: 37.2 pc Source: 1982ApJS...49..183B

This HII region is excited by members of the Gem OB1 association.

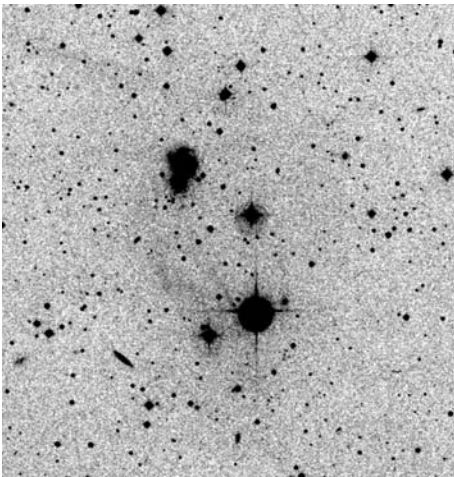
Observing notes:



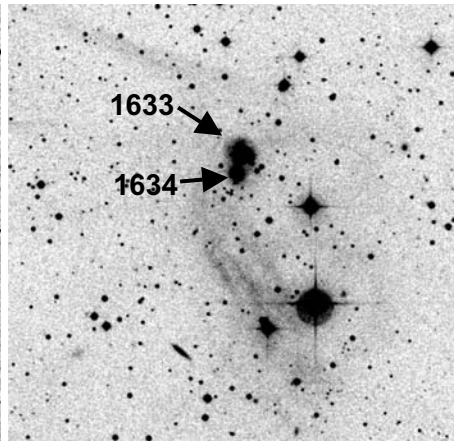
Sh 2 - 250 in Taurus



60x60, red



POSS blue

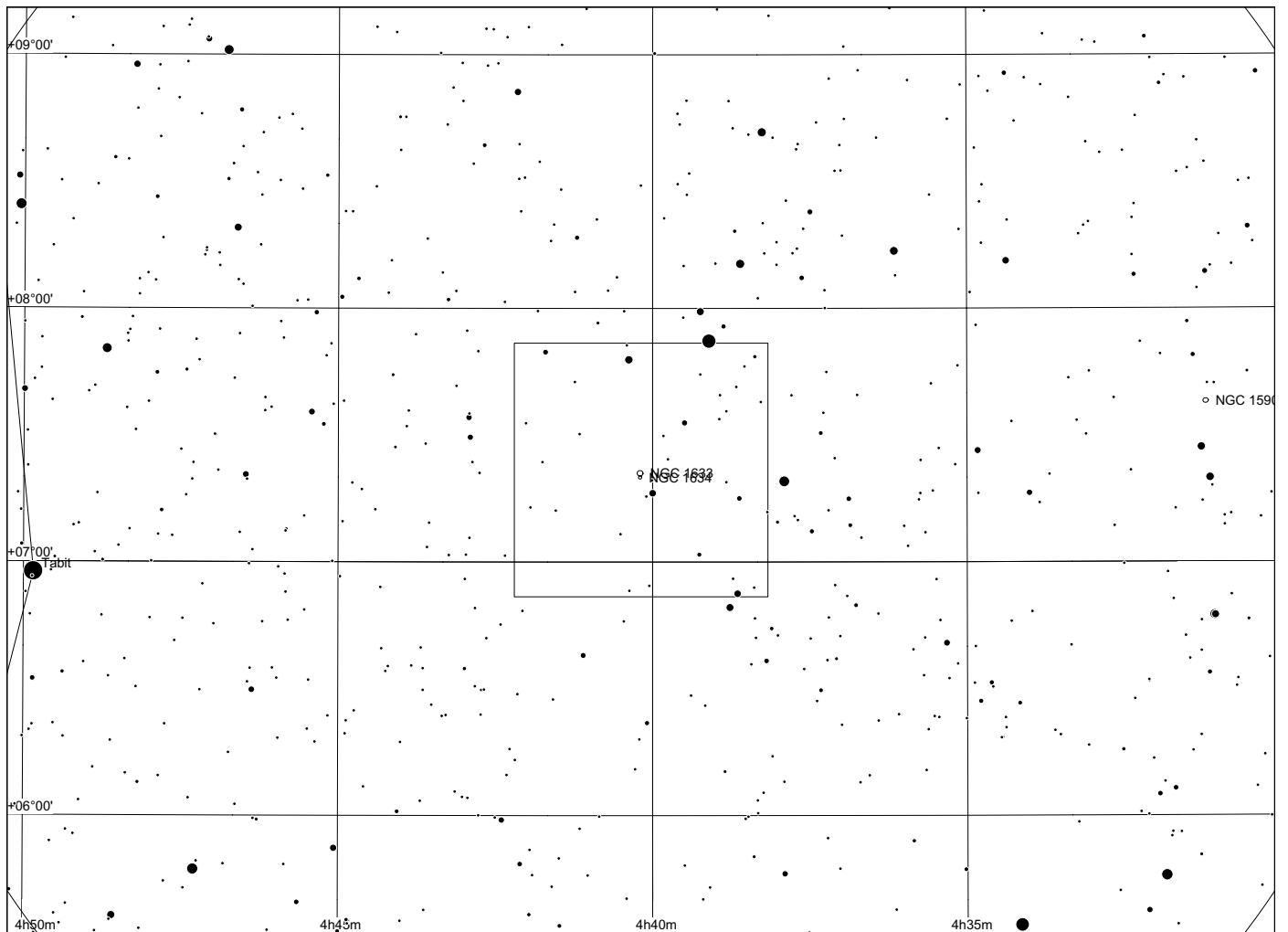
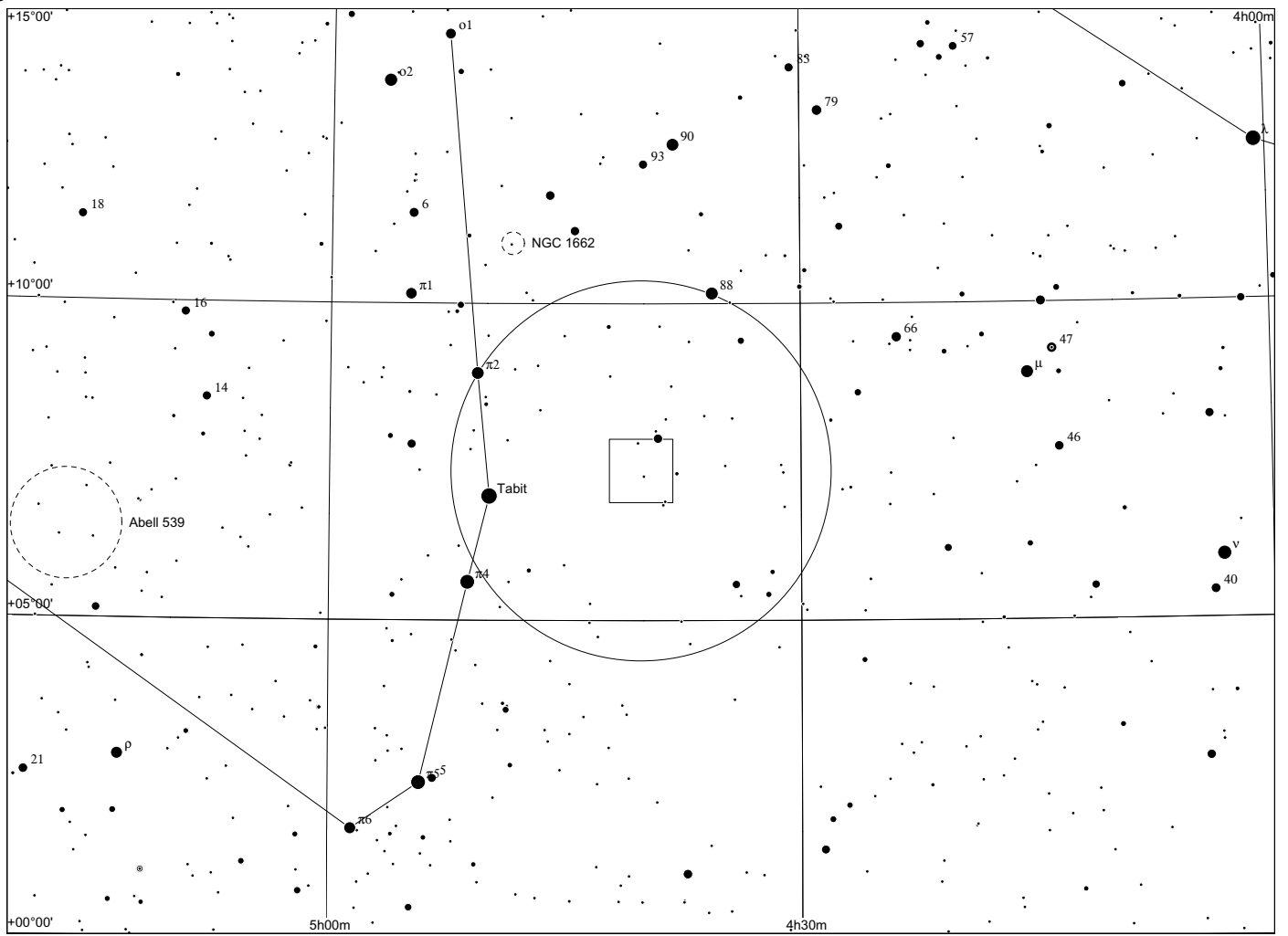


POSS red

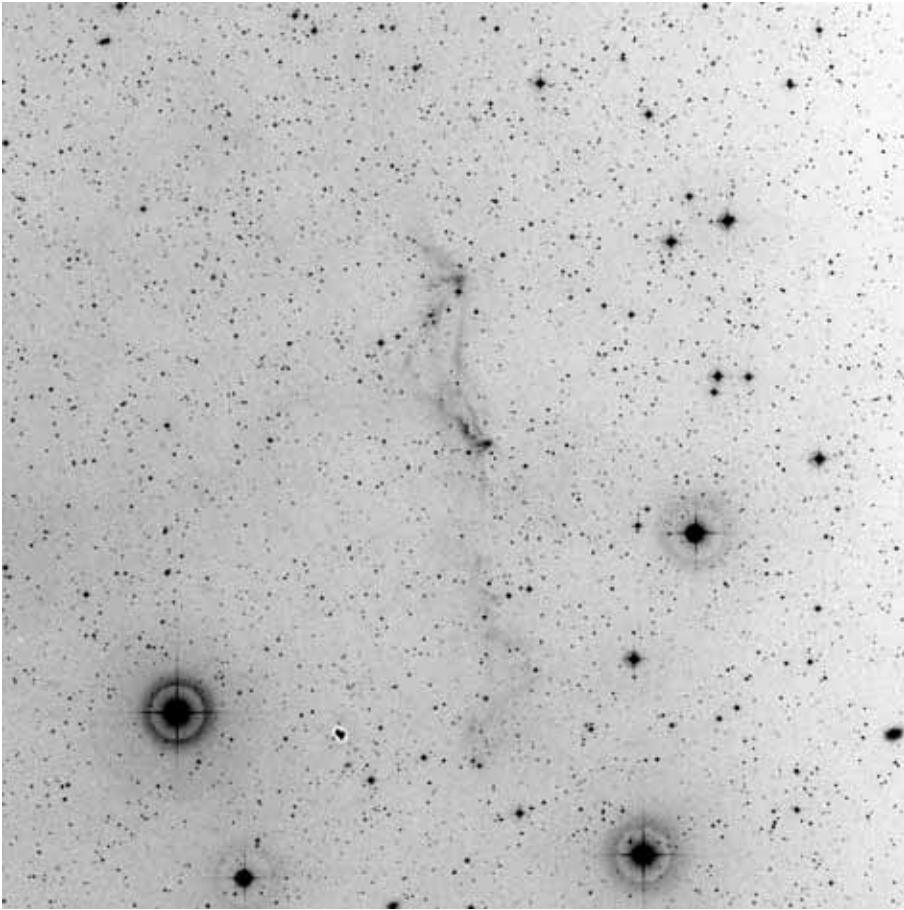
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-250	near NGC1633/1634 (galaxies)	04 40 10.8	+07 21 47	10	3	2	1

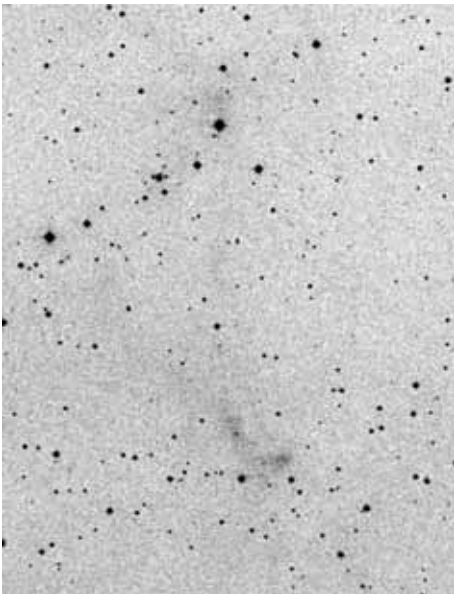
Observing notes:



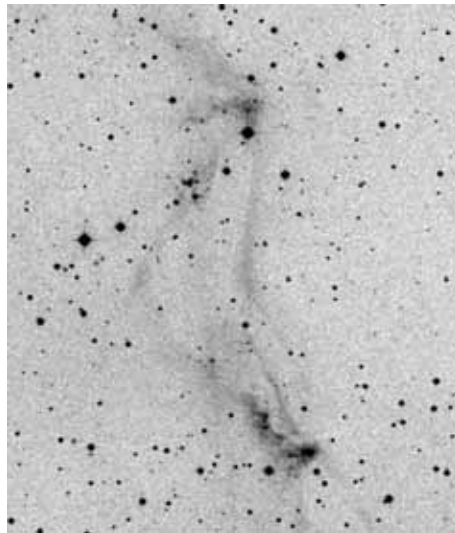
Sh 2 - 251 in Taurus



60x60, red



POSS blue



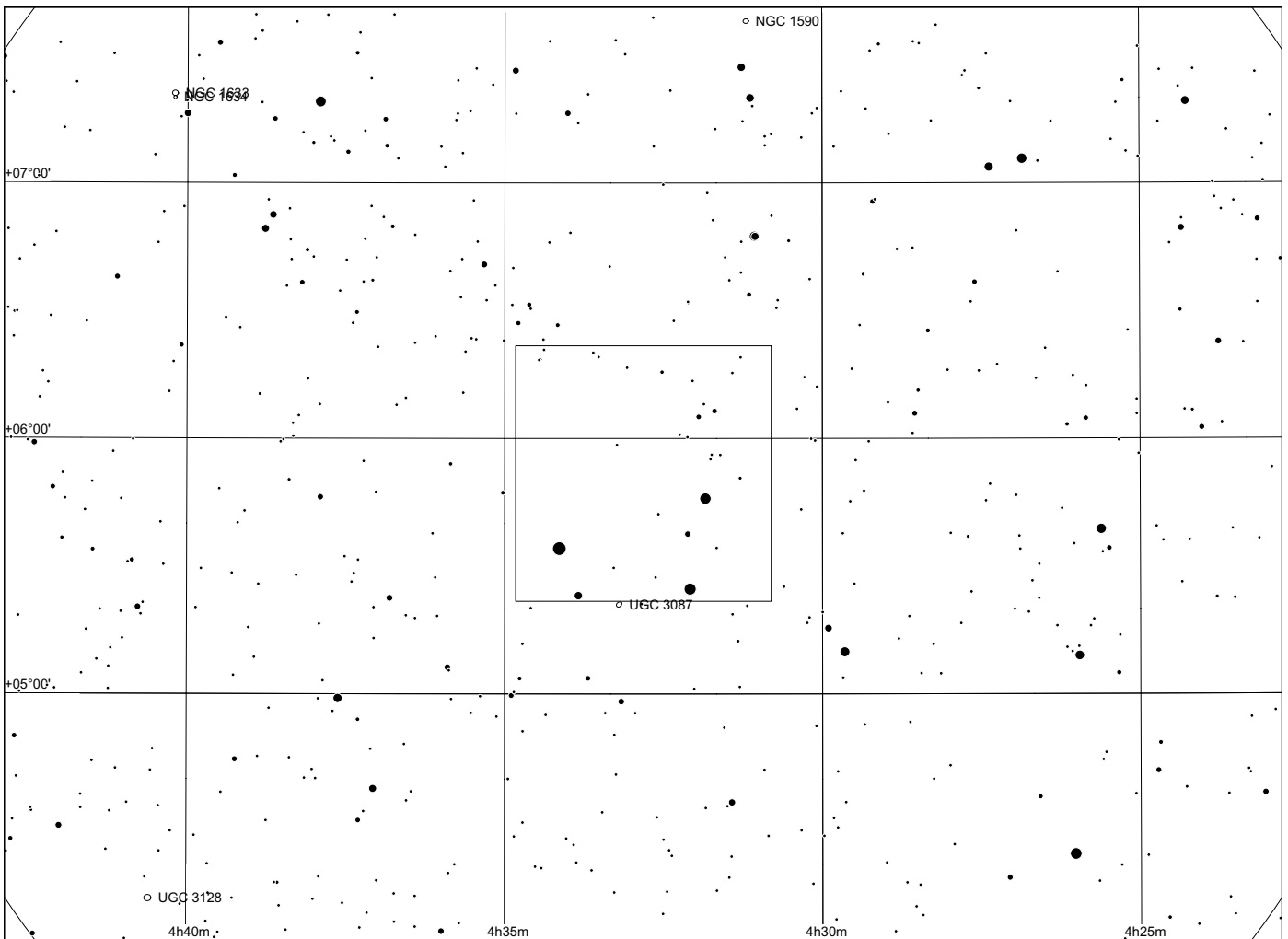
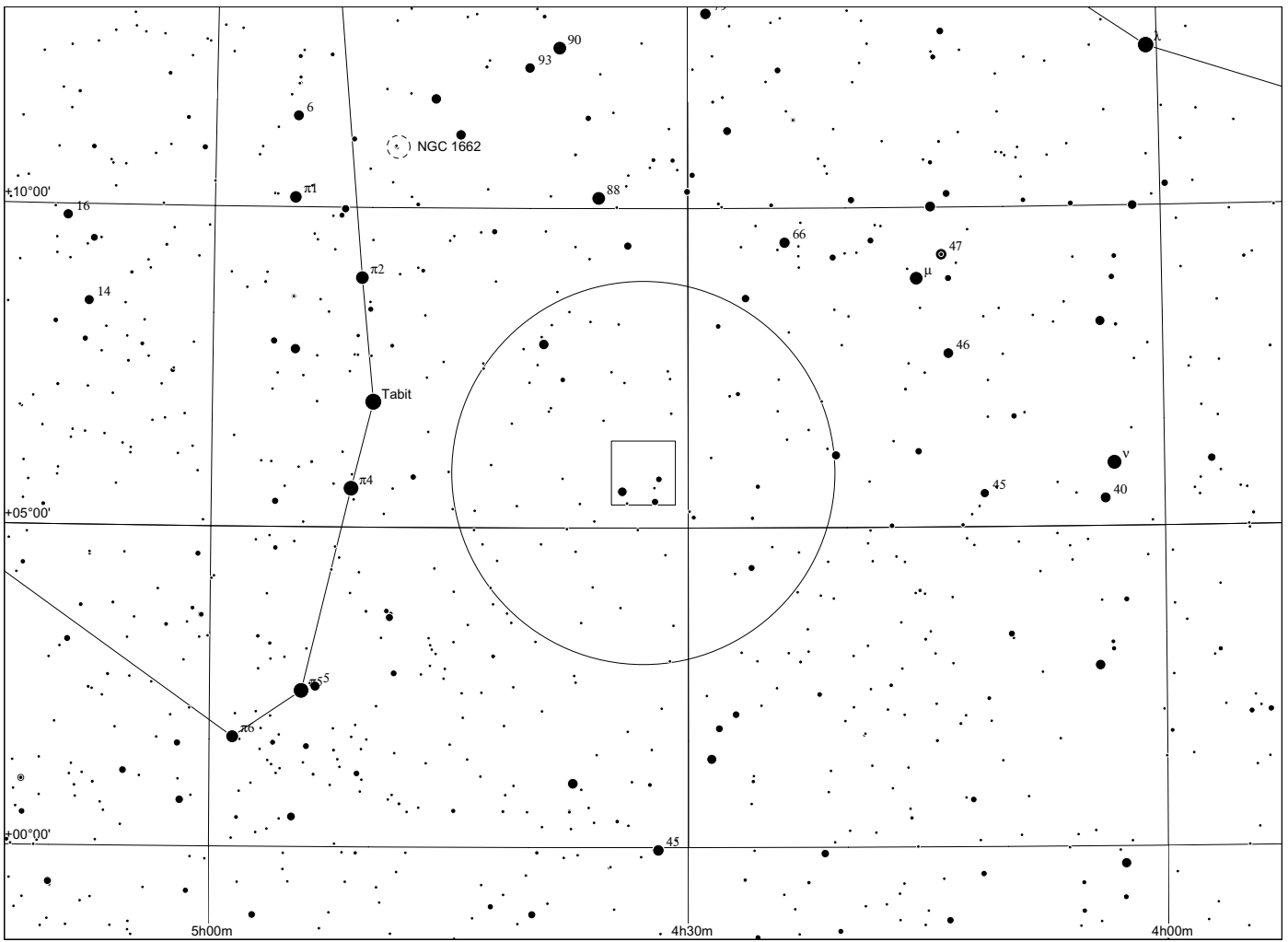
POSS red



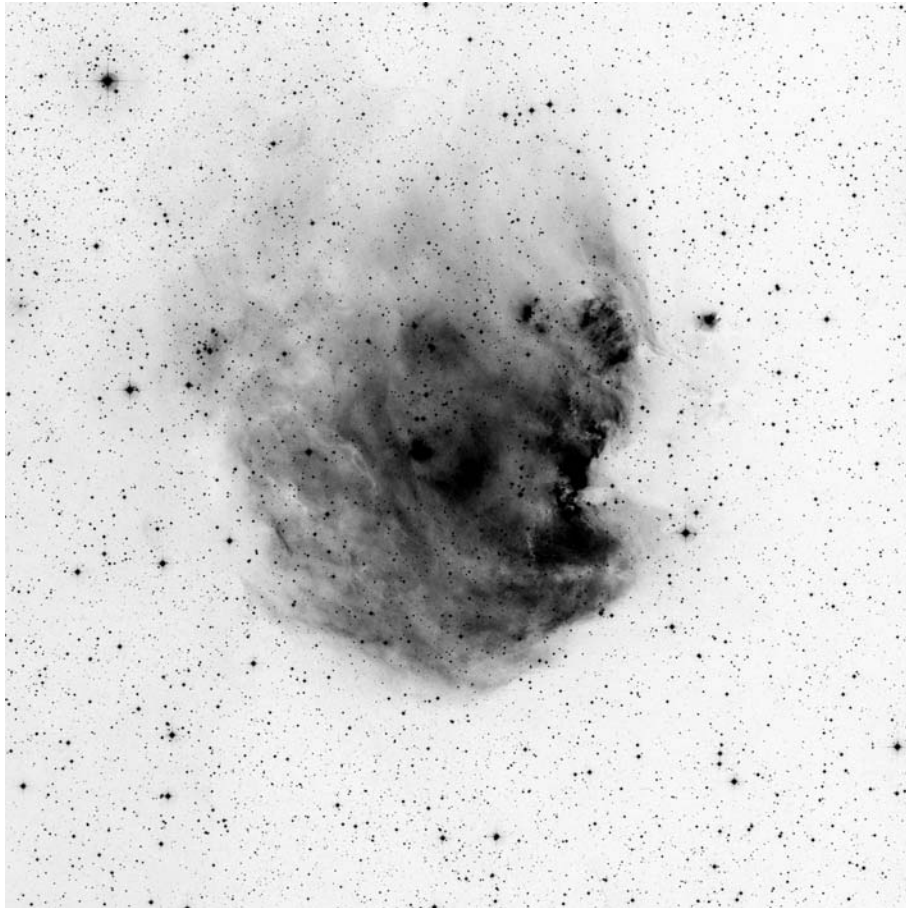
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-251		04 32 49.0	+05 51 46	35	3	3	1

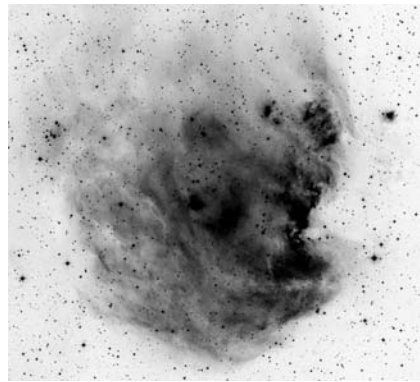
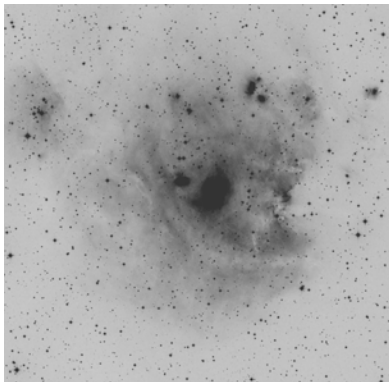
Observing notes:



Sh 2 - 252 in Orion



60x60, red



narrowband, Dean Salman, sharplesscatalog.com

POSS blue

POSS red

	other name	RA	dec	dia. '	F	S	B
Sh 2-252	NGC2174/2175/IC 2159	06 09 38.7	+20 30 01	40	3	2	3

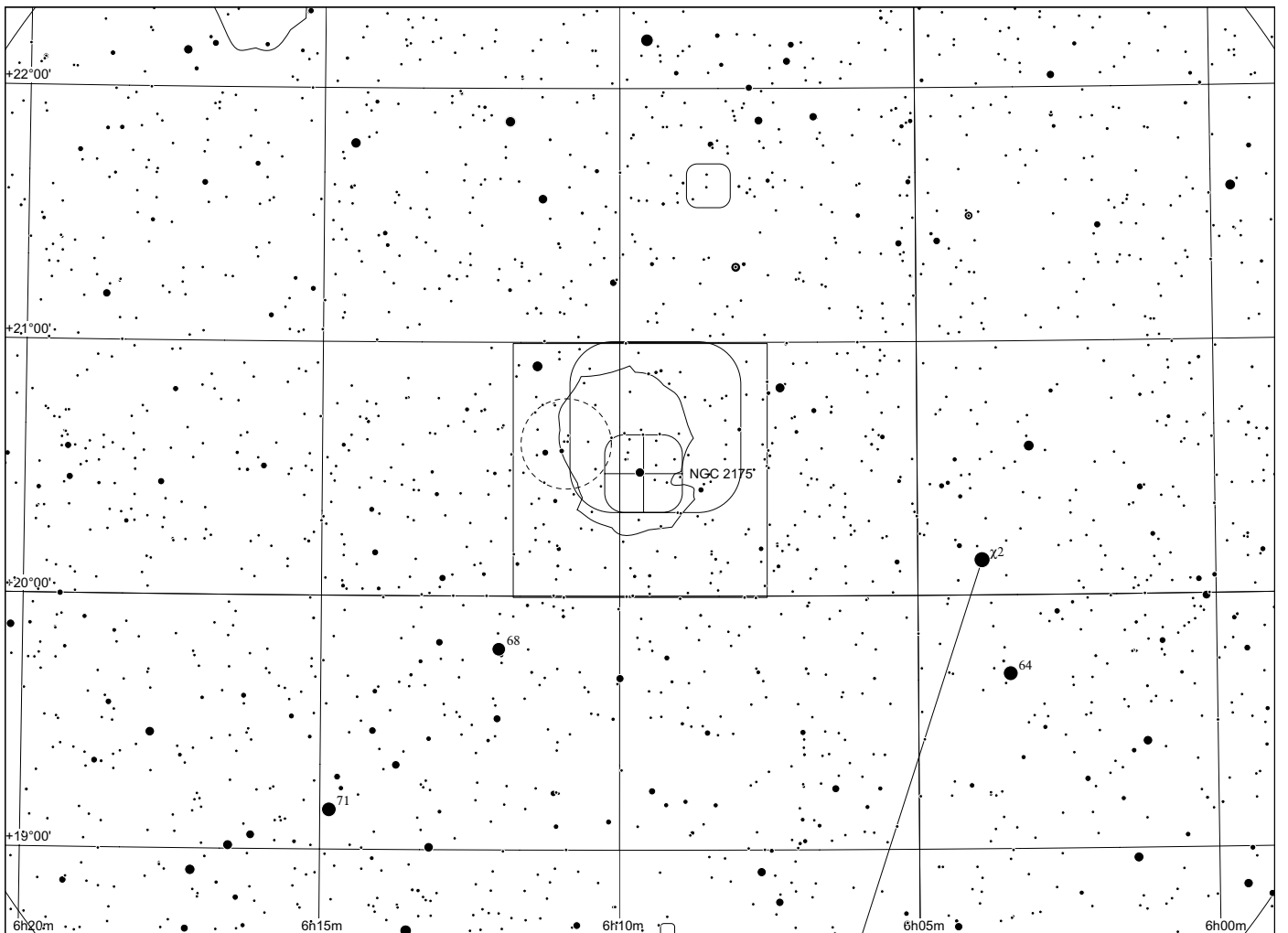
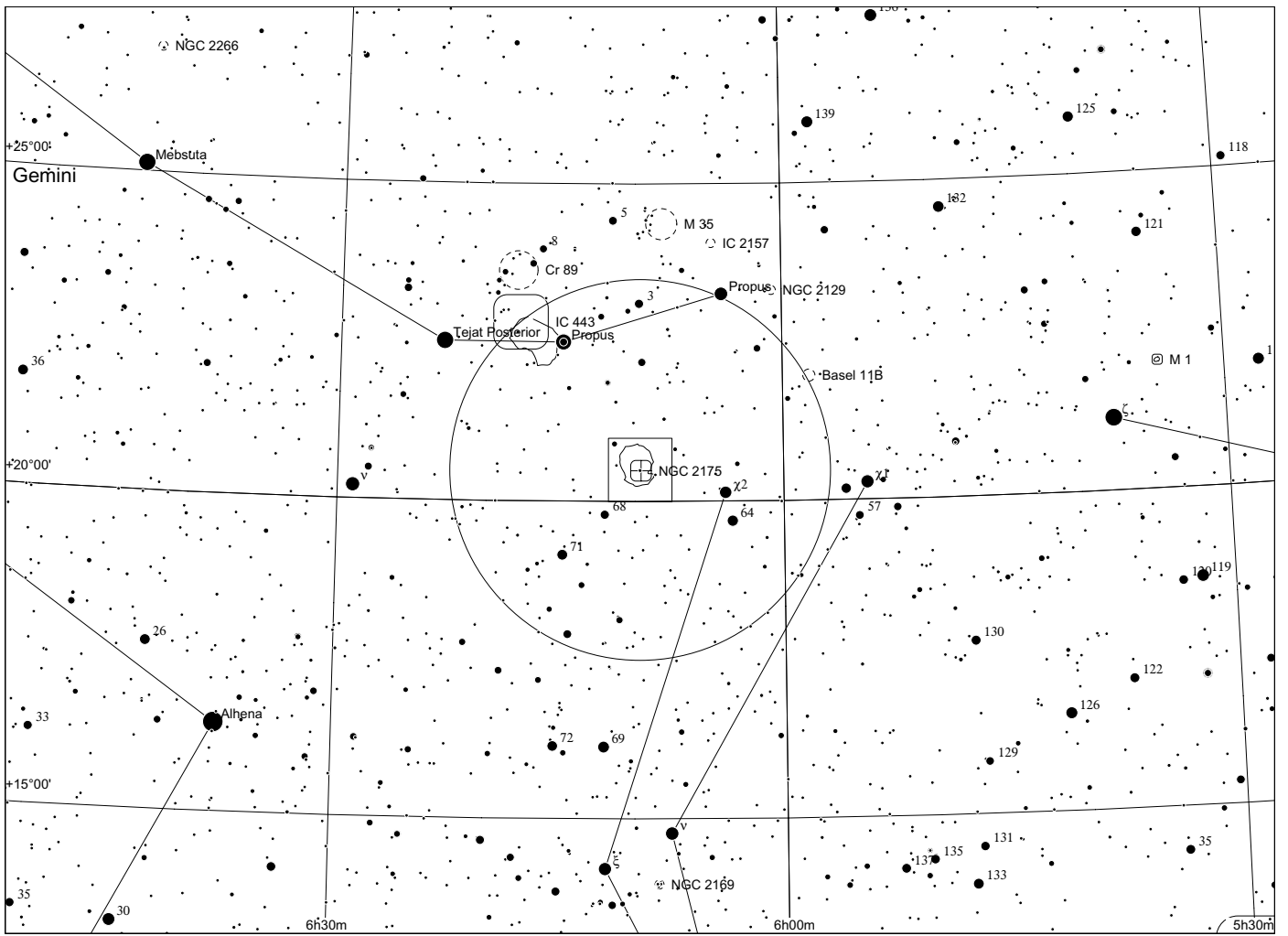
Distance: 2000 pc, Size: 23.3 pc, Source: 1995ApJ...445..246C

The Monkey Nebula (also called the Monkey's Head Nebula) surrounds the NGC 2175 star cluster in the depths of the Gemini giant molecular clouds.

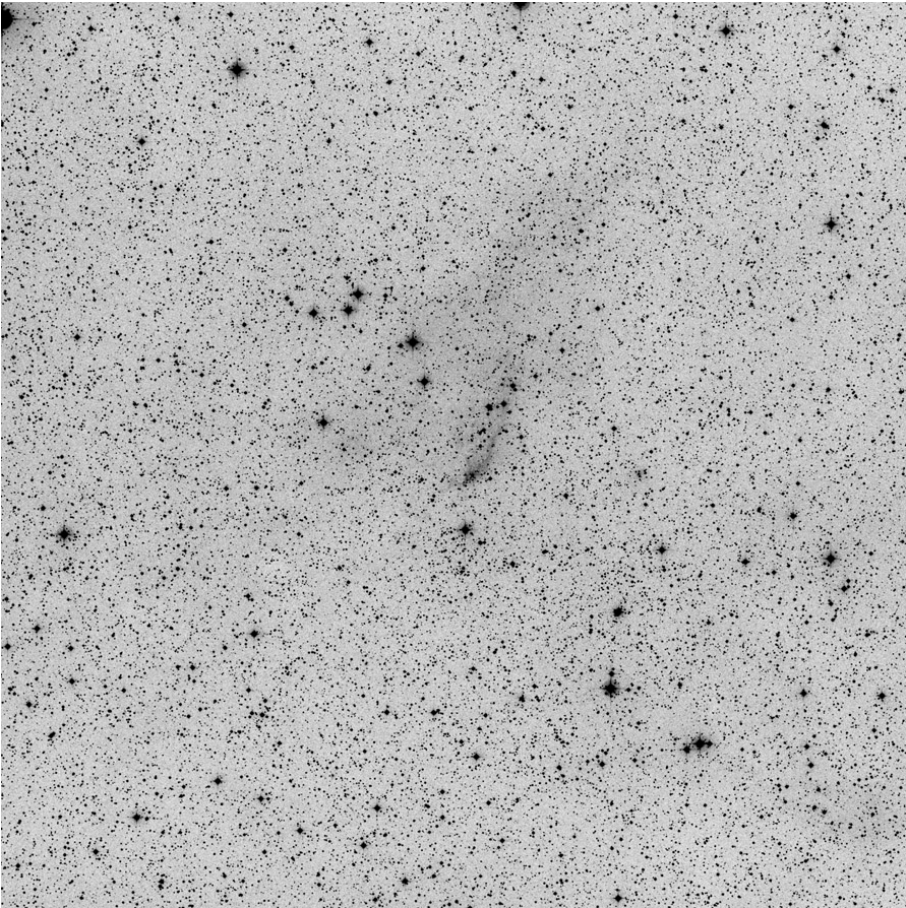
Observing notes:

22" f/4.5

12/2010: very bright nebula, visible already in my 8" without filter or in my 80mm finder with UHC as a large round glow around a bright star in the middle. Responds extremely well to OIII filter. Very structured with 22" with a well defined dark band penetrating from NW into the nebula with a superimposed chain of stars. Another more diffuse dark wedge is on the E side.



Sh 2 - 253
in Orion



60x60, red



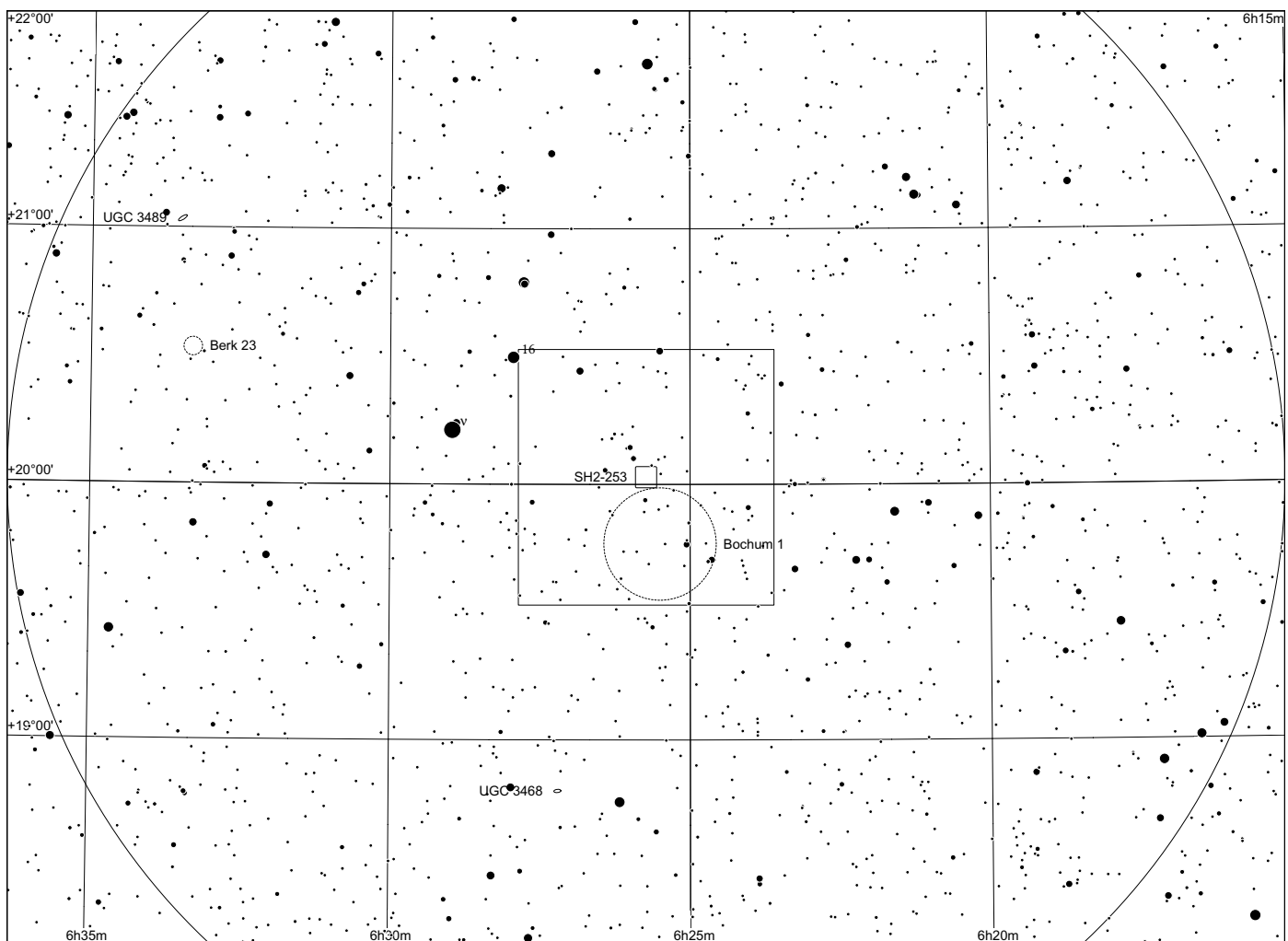
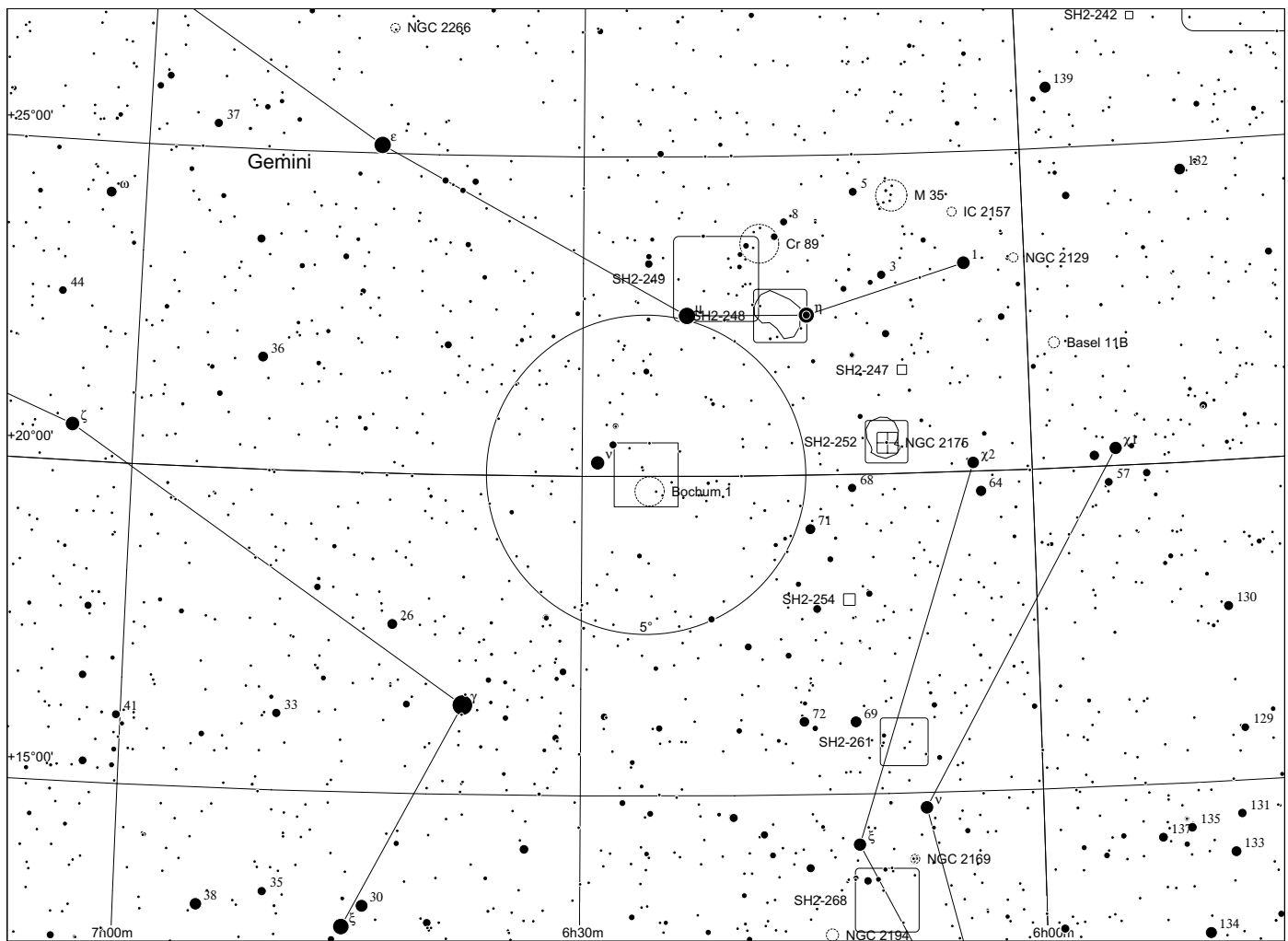
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-253		06 25 43.0	+20 01 41	5	3	1	1

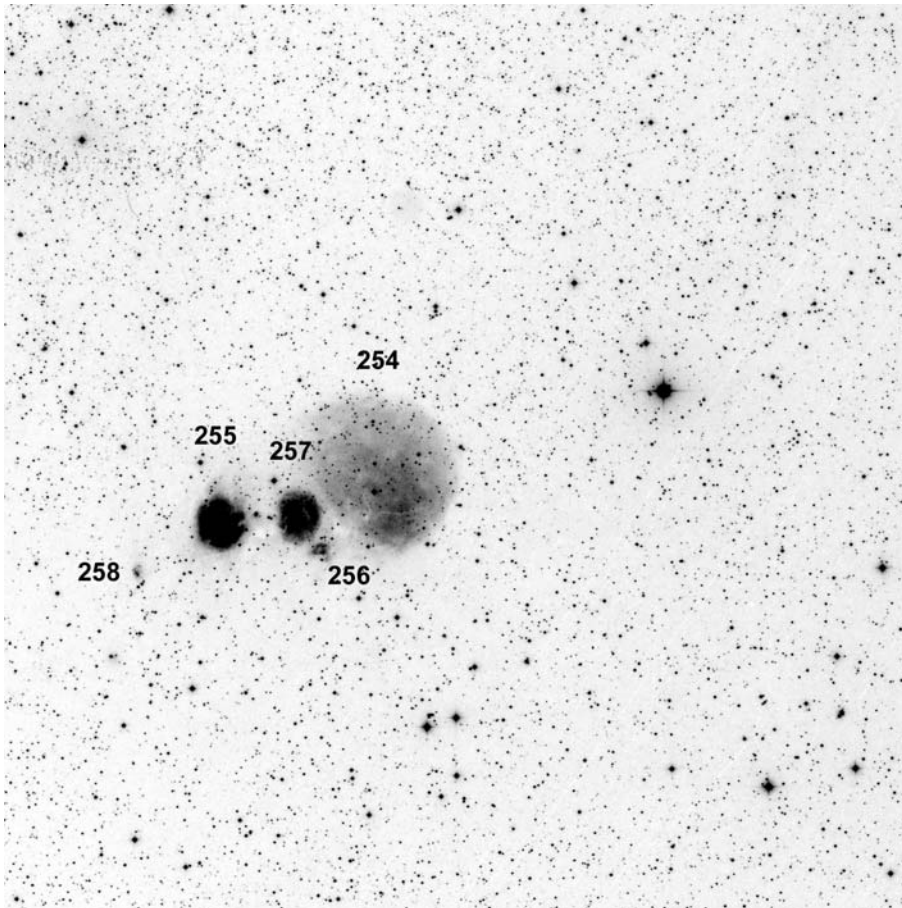
Distance: 4400 pc, Size: 6.4 pc source: 1982ApJS...49..183B

Sh 2-253 is probably ionised by stars in the Bochum 1 star cluster, including the B 1.5 V class LS V +20 40.

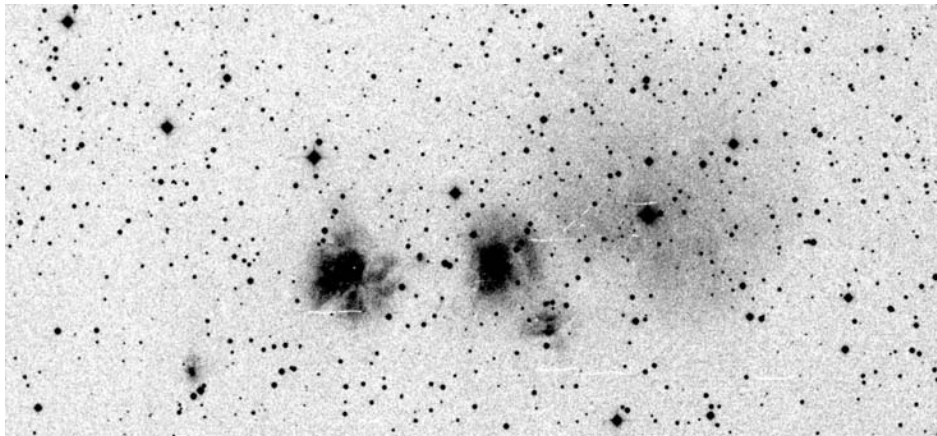
Observing notes:



Sh 2 - 254-258 in Orion



60x60, red



POSS blue



narrow band Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-254		06 12 20.5	+18 02 37	11	2	2	2
Sh 2-255		06 13 08.4	+17 58 31	3	1	2	3
Sh 2-256		06 12 38.3	+17 56 35	1	3	2	2
Sh 2-257	IC 2162	06 12 50.4	+17 58 33	3	1	2	3
Sh 2-258		06 13 32.3	+17 55 27	1	3	2	2

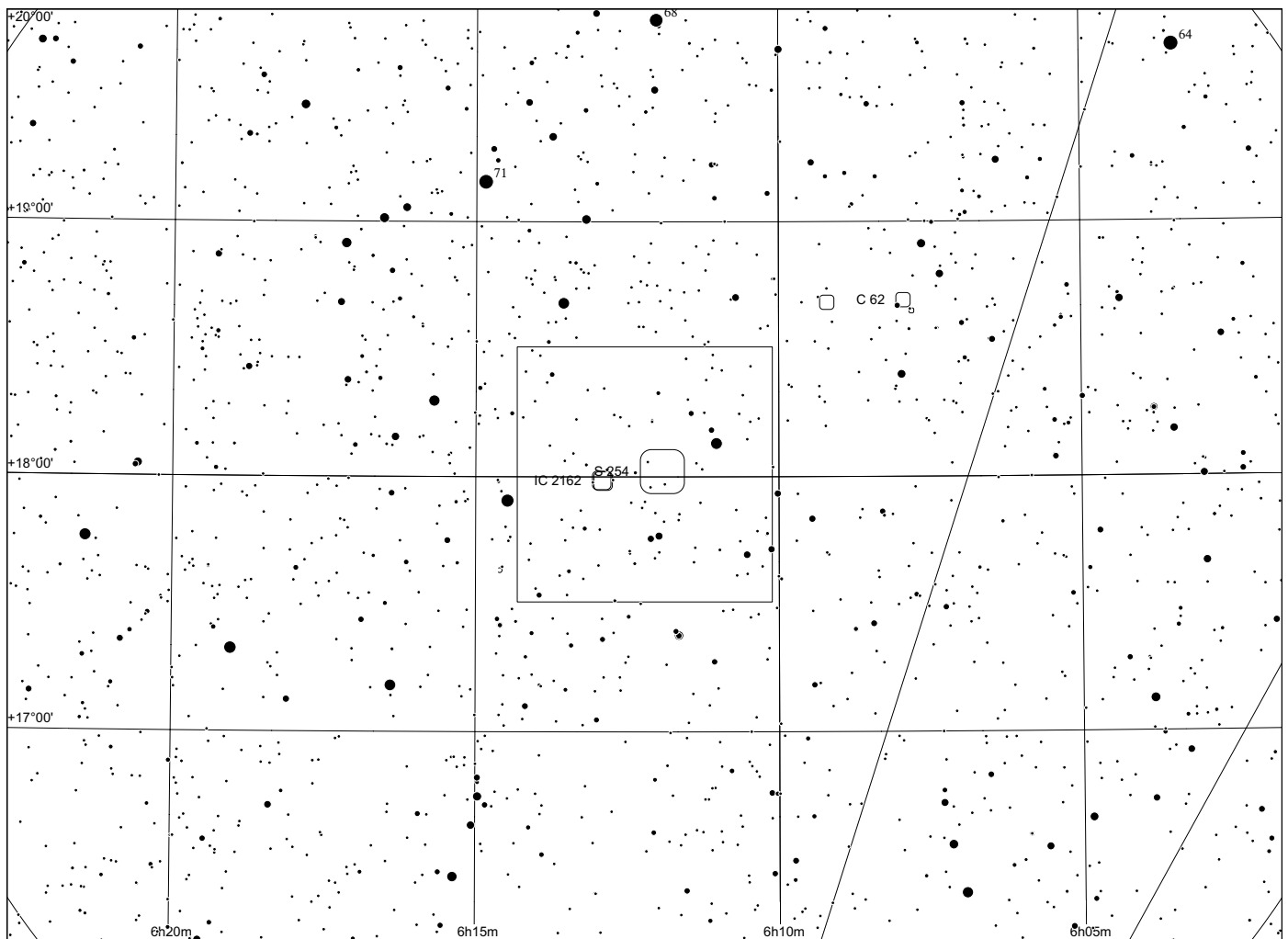
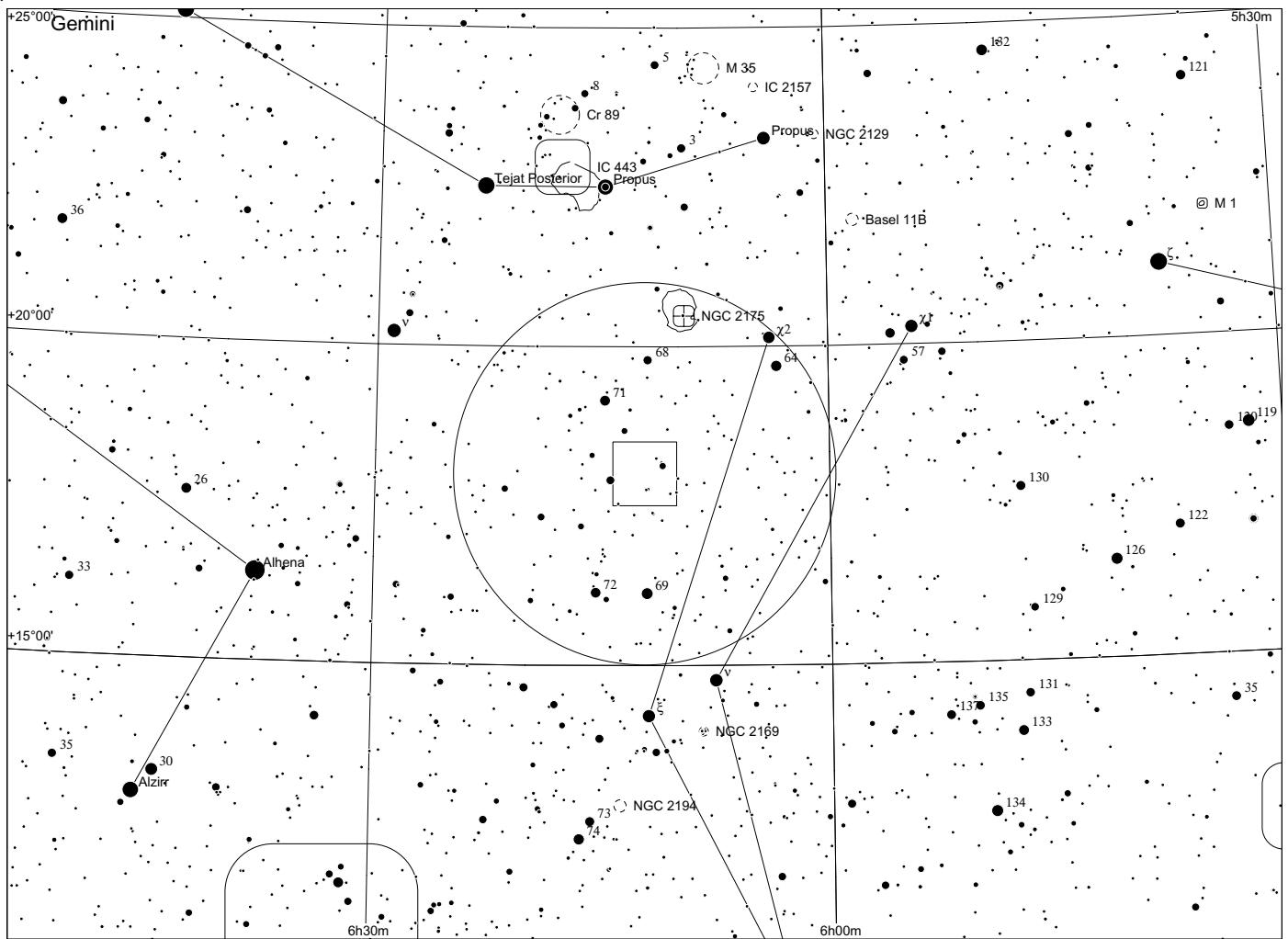
Distance: 2000 pc, Source: 1995ApJ...445..246C

A molecular cloud with 27 thousand solar masses surrounds the Sh 2-254 to Sh 2-258 HII and star formation region.

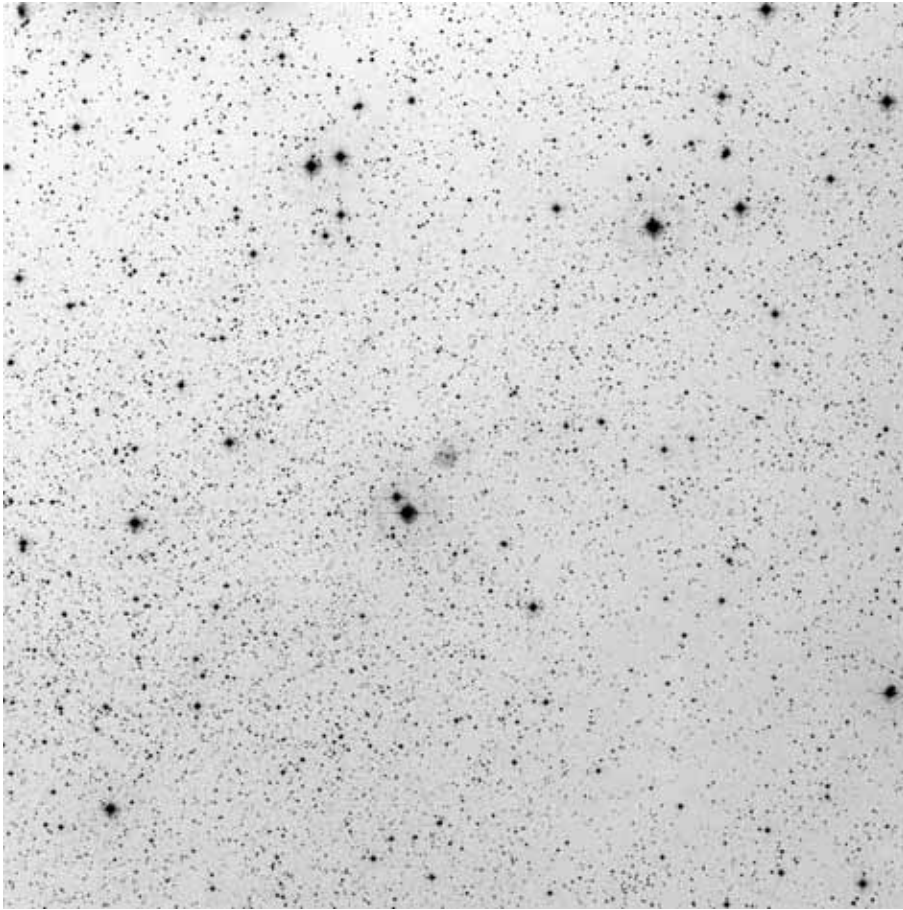
Observing notes:

22" f/4.5

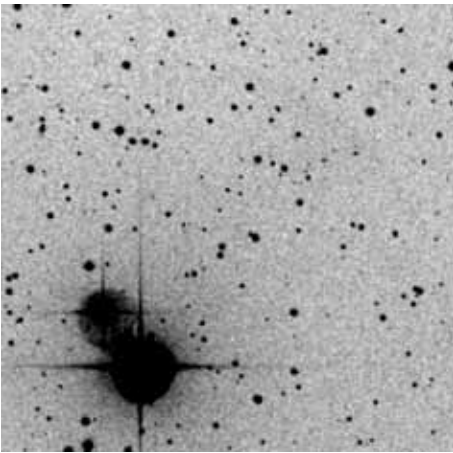
12/2010: H beta object. Dubbed the "Three Snowballs" 255 and 257 are classical Strömgren spheres with central star. 254 is larger and considerably more diffuse. 256 is visible offset from 257. Extremely nice group!



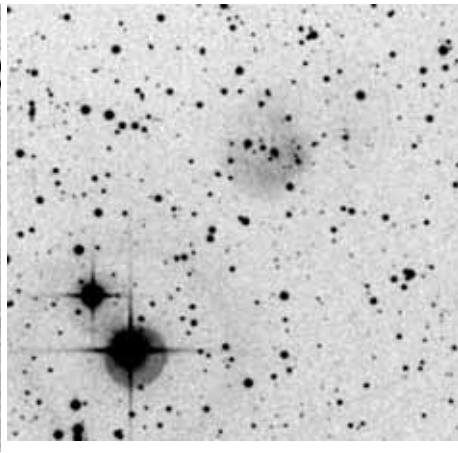
Sh 2 - 259 in Orion



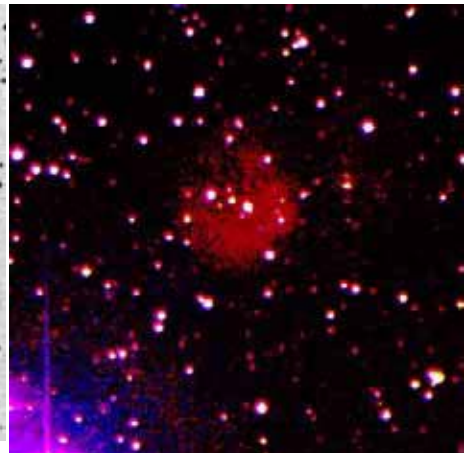
60x60, red



POSS blue



POSS red



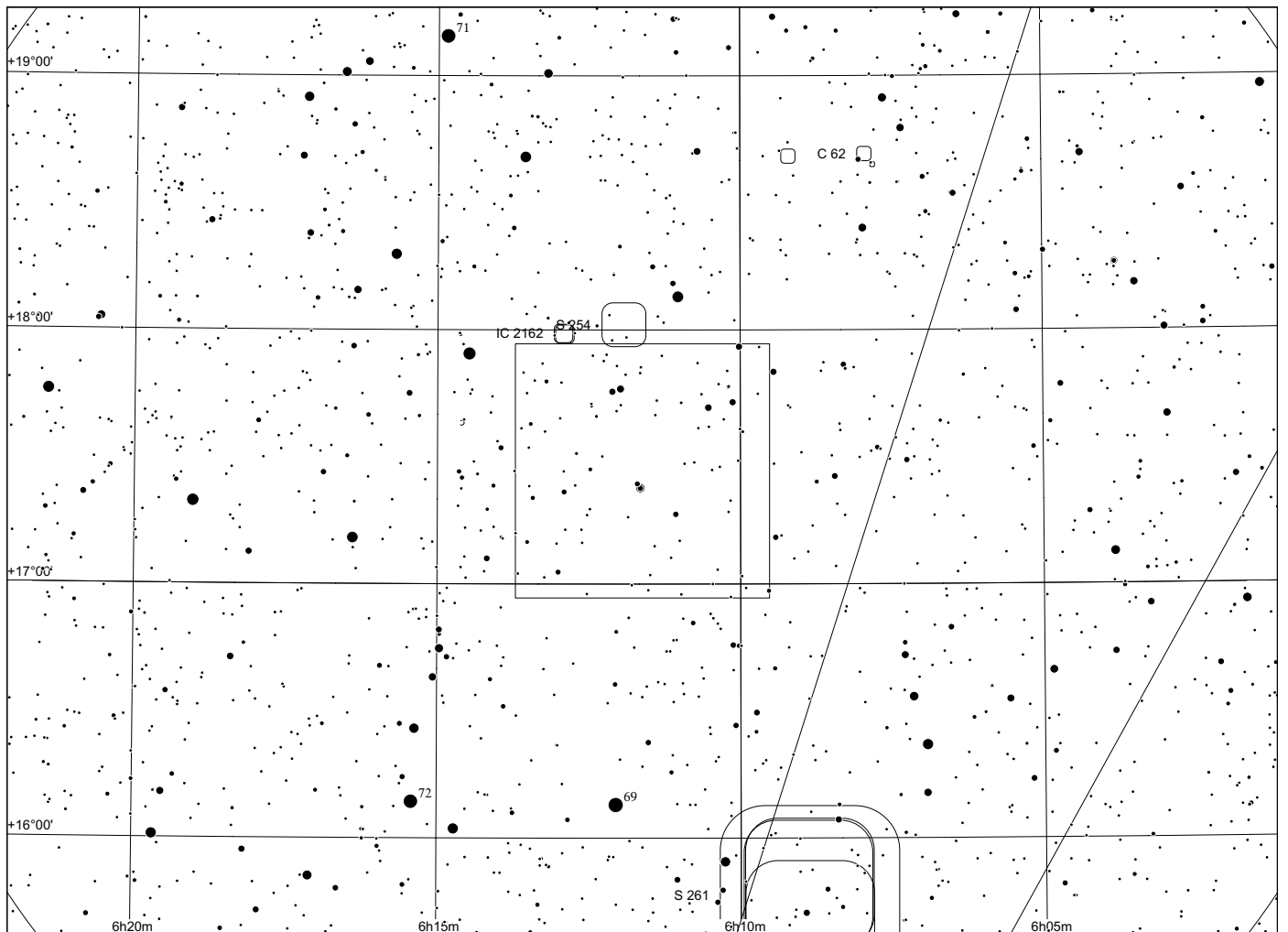
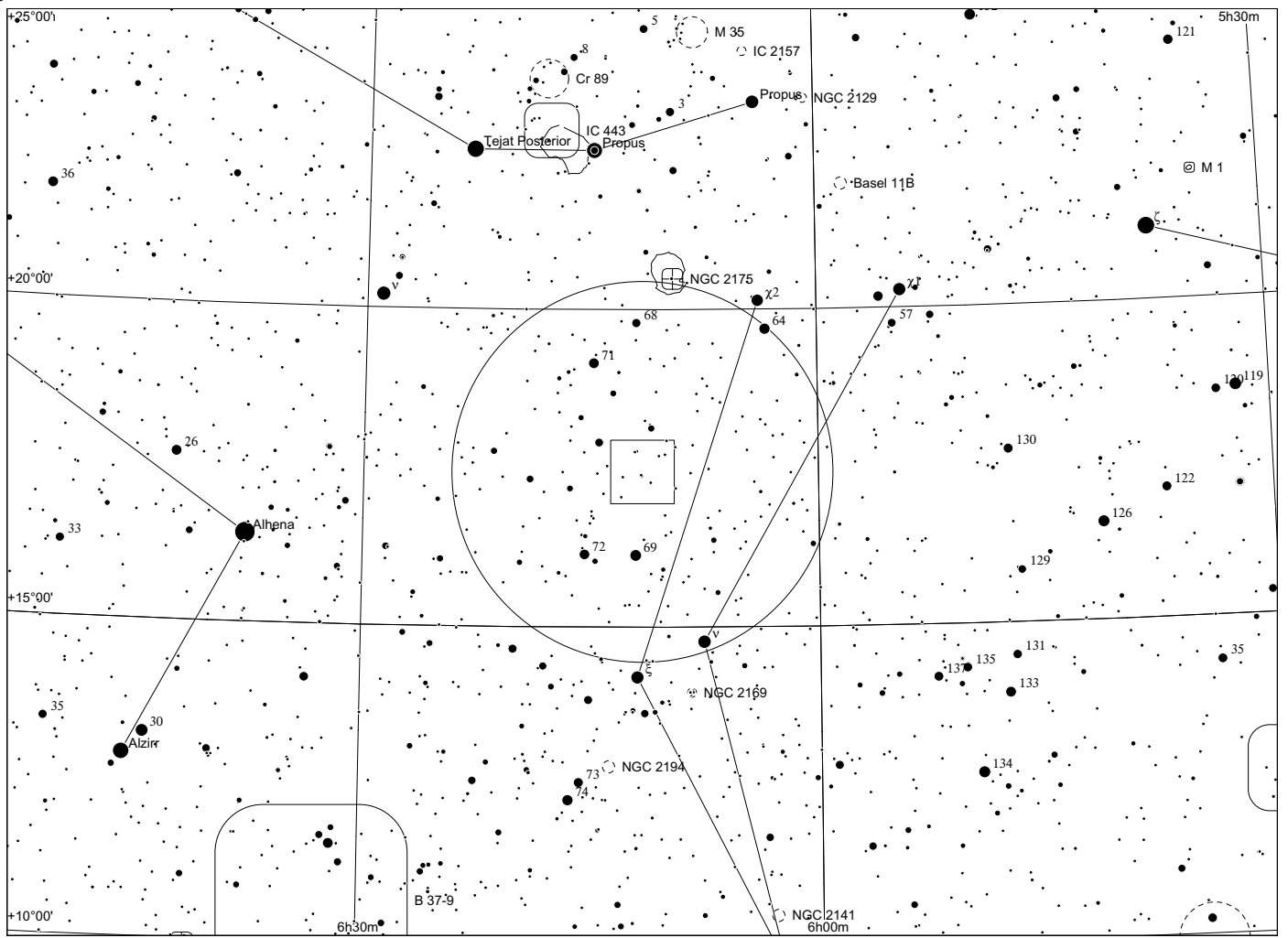
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-259		06 11 36.7	+17 26 44	2	1	1	1

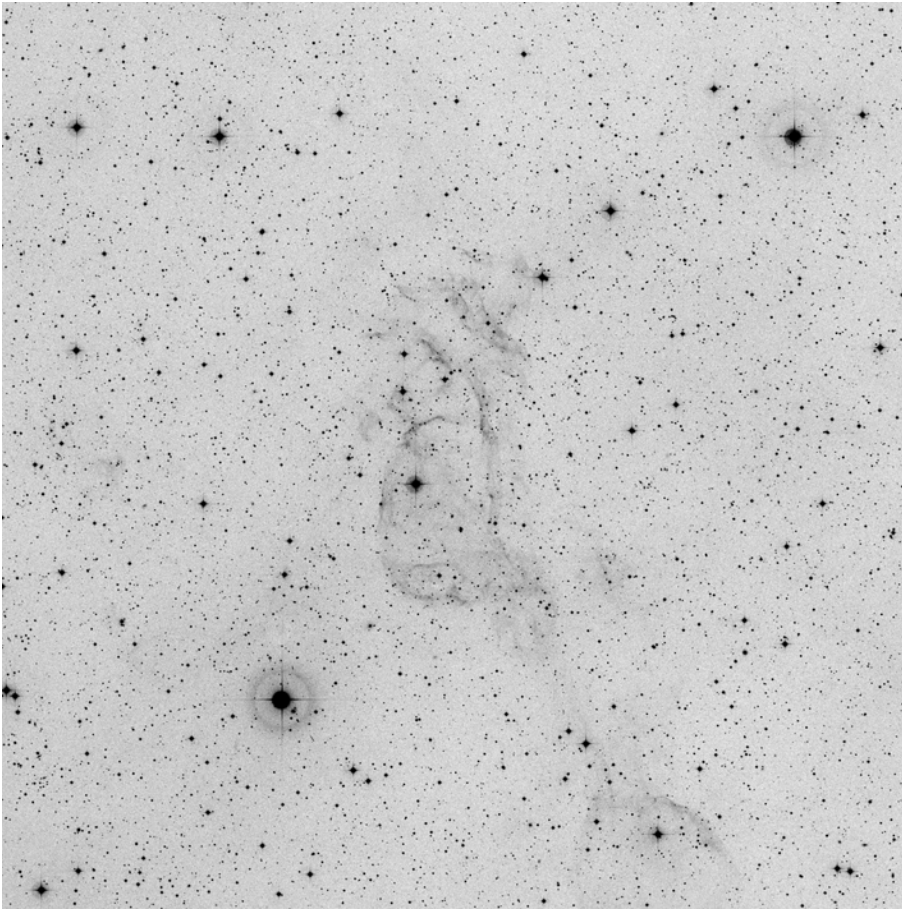
Distance: 8300 pc, Size: 4.8 pc, Source: 1982ApJS...49..183B

This is in the direction of the Gem OB1 molecular clouds but its distance seems to make it a background object. It is centred around a B1 V star.

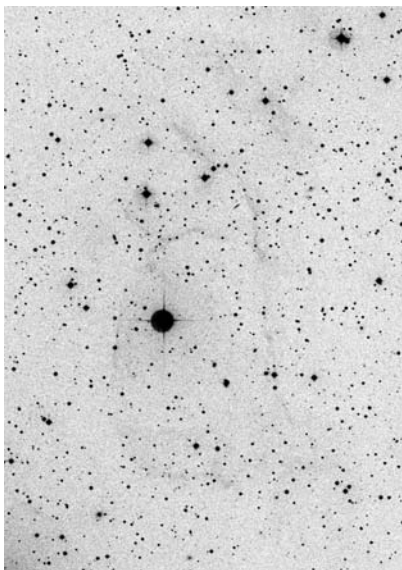
Observing notes:



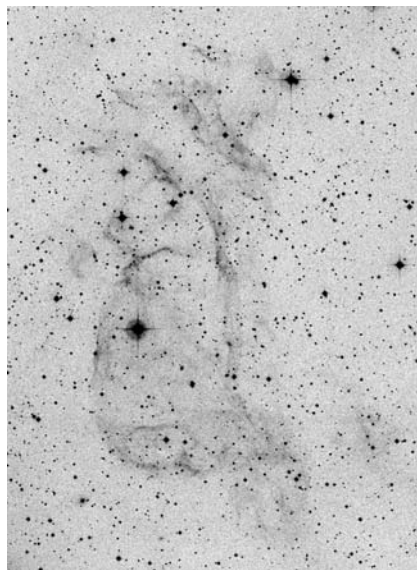
Sh 2 - 260 in Orion



60x60, red



POSS blue



POSS red

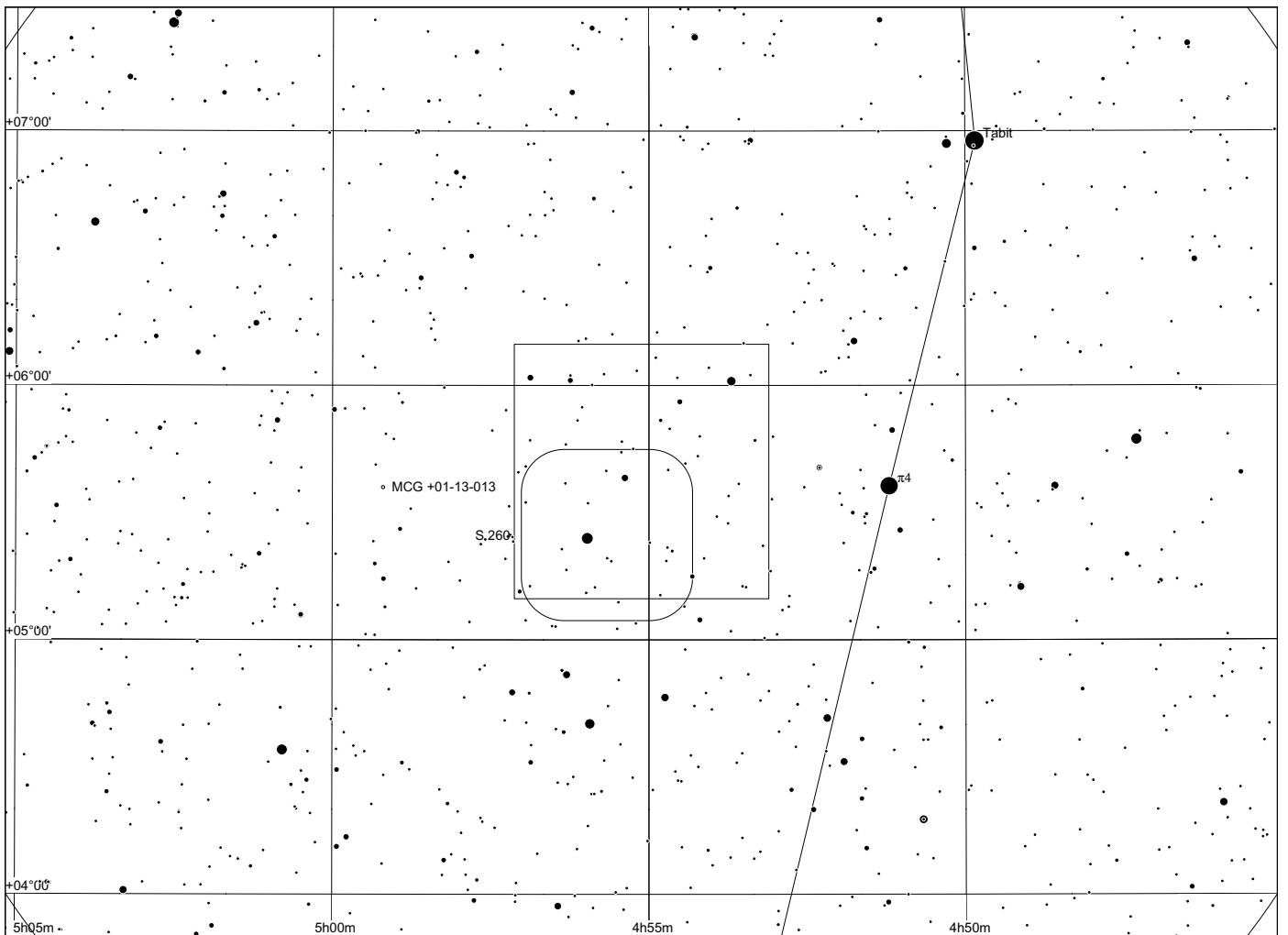
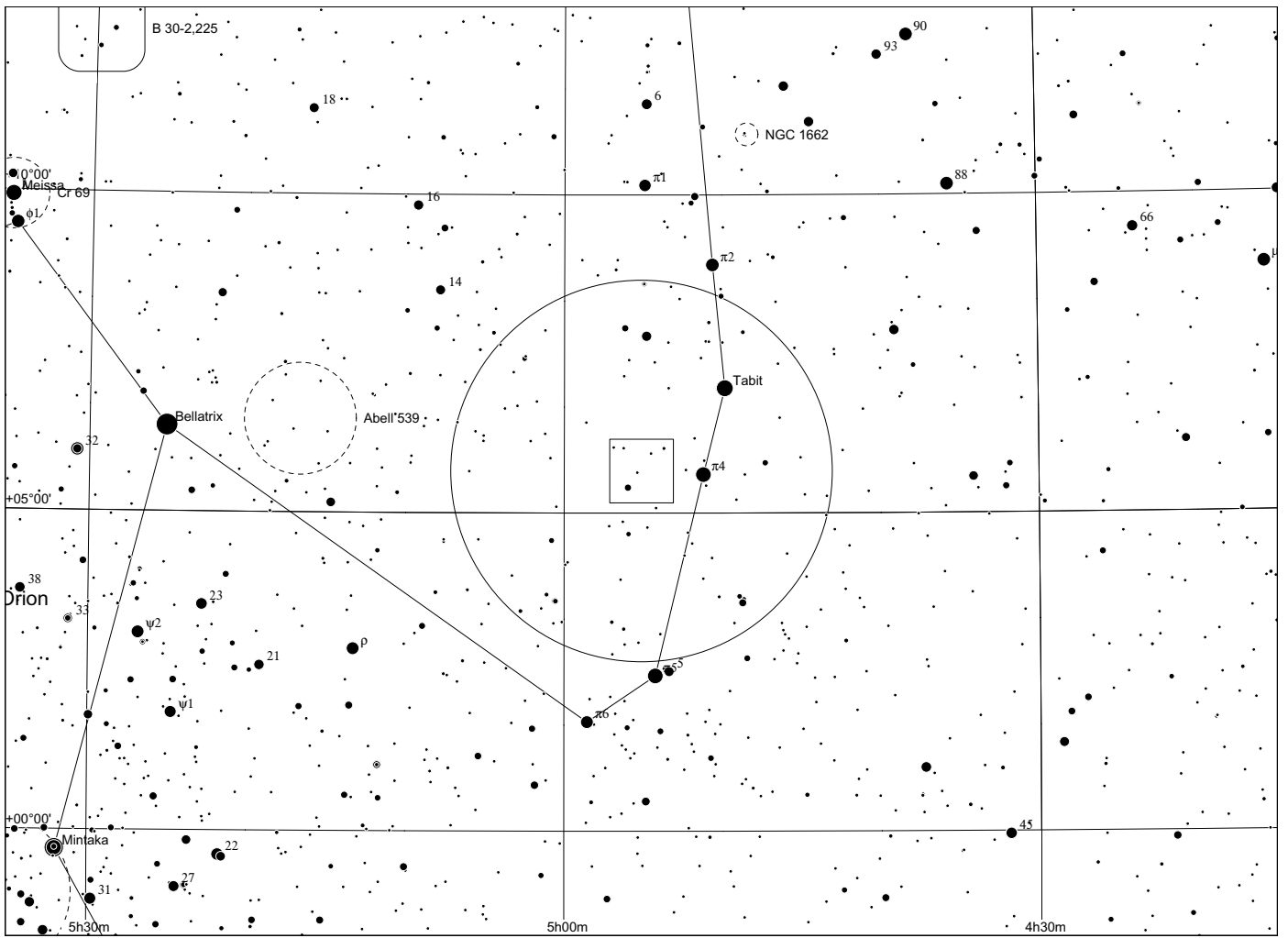


RGB Dean Salman

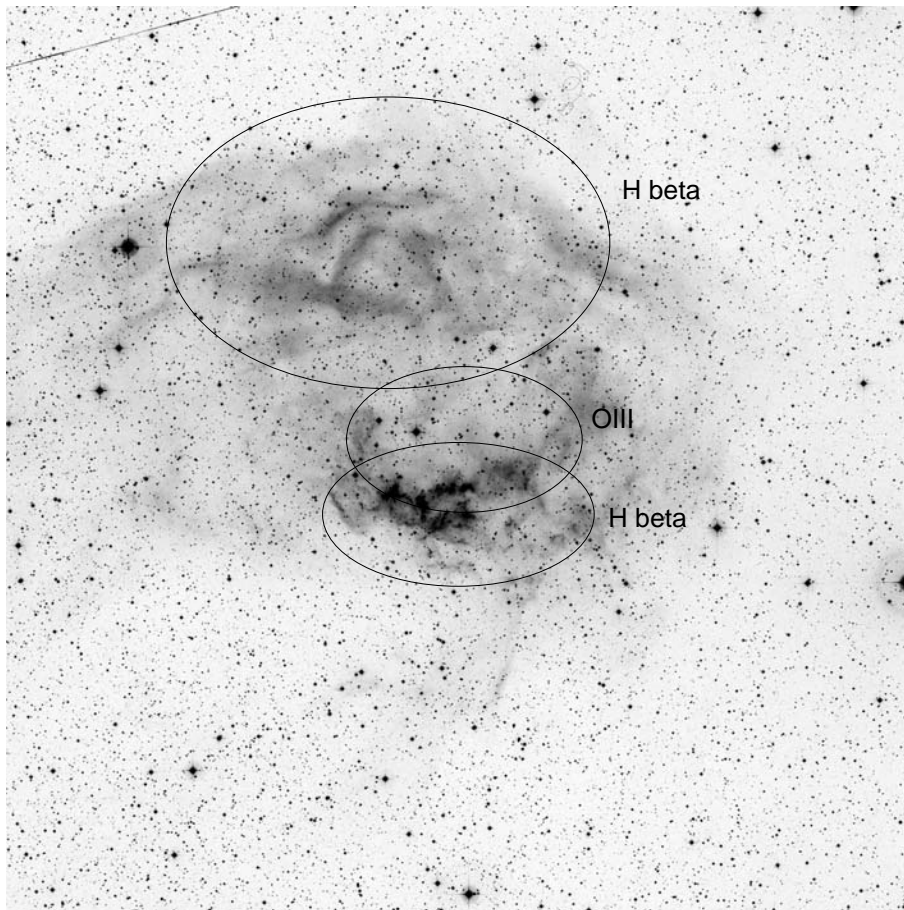
	other name	RA	dec	dia. '	F	S	B
Sh 2-260		04 55 07.0	+05 39 43	22	3	3	1

This red filamentary nebulosity is in the general direction of the Taurus dark cloud. It is most likely associated with the Lambda Orionis ring (Sh 2-264).

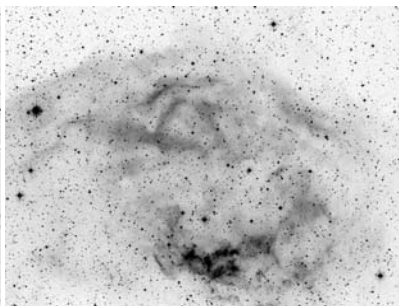
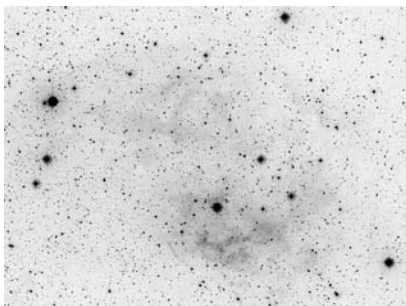
Observing notes:



Sh 2 - 261 in Orion



60x60, red



POSS blue

POSS red

narrowband, Dean Salman, sharplesscatalog.com

	other name	RA	dec	dia. '	F	S	B
Sh 2-261		06 08 56.6	+15 48 07	45	3	2	2

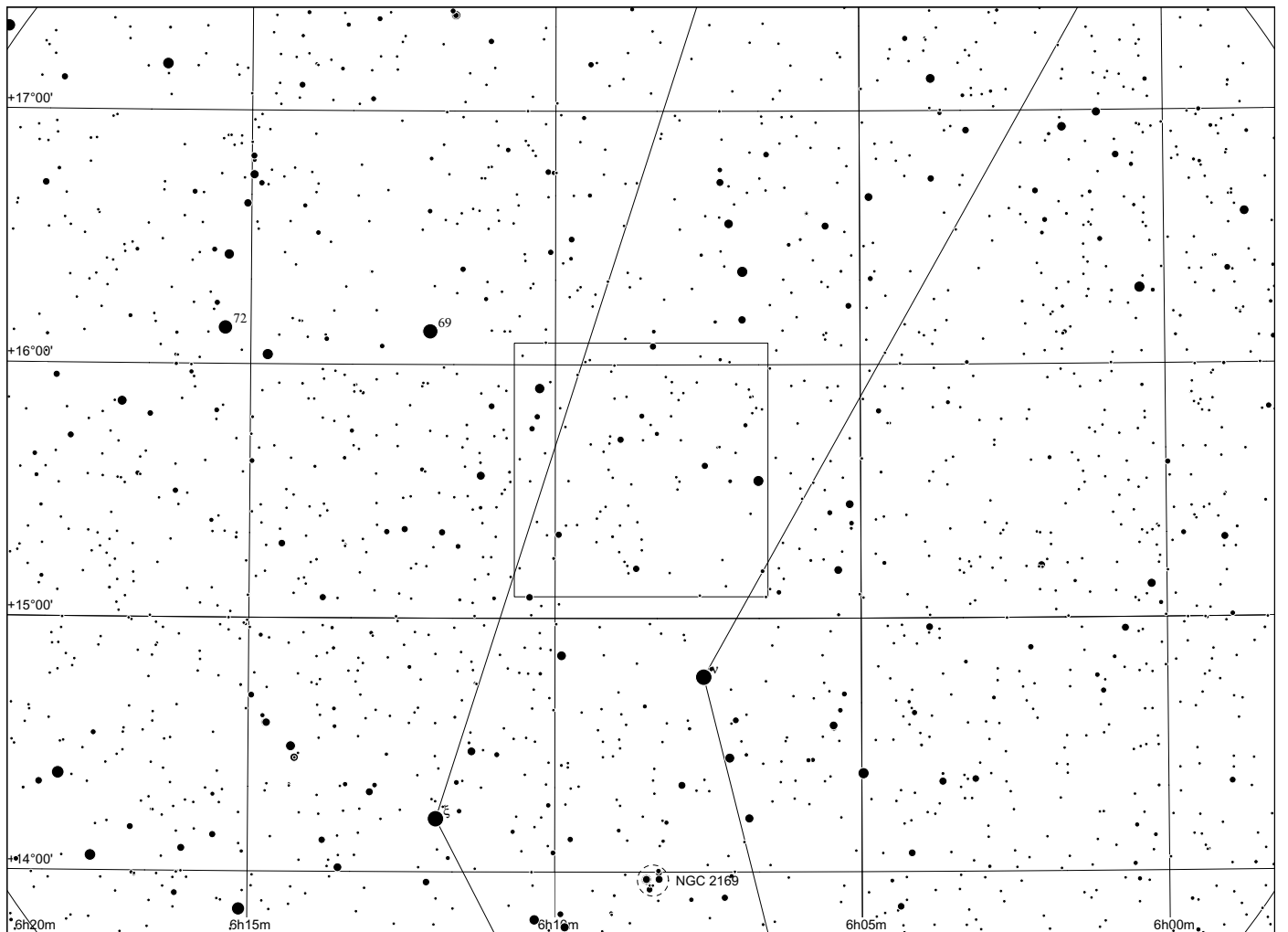
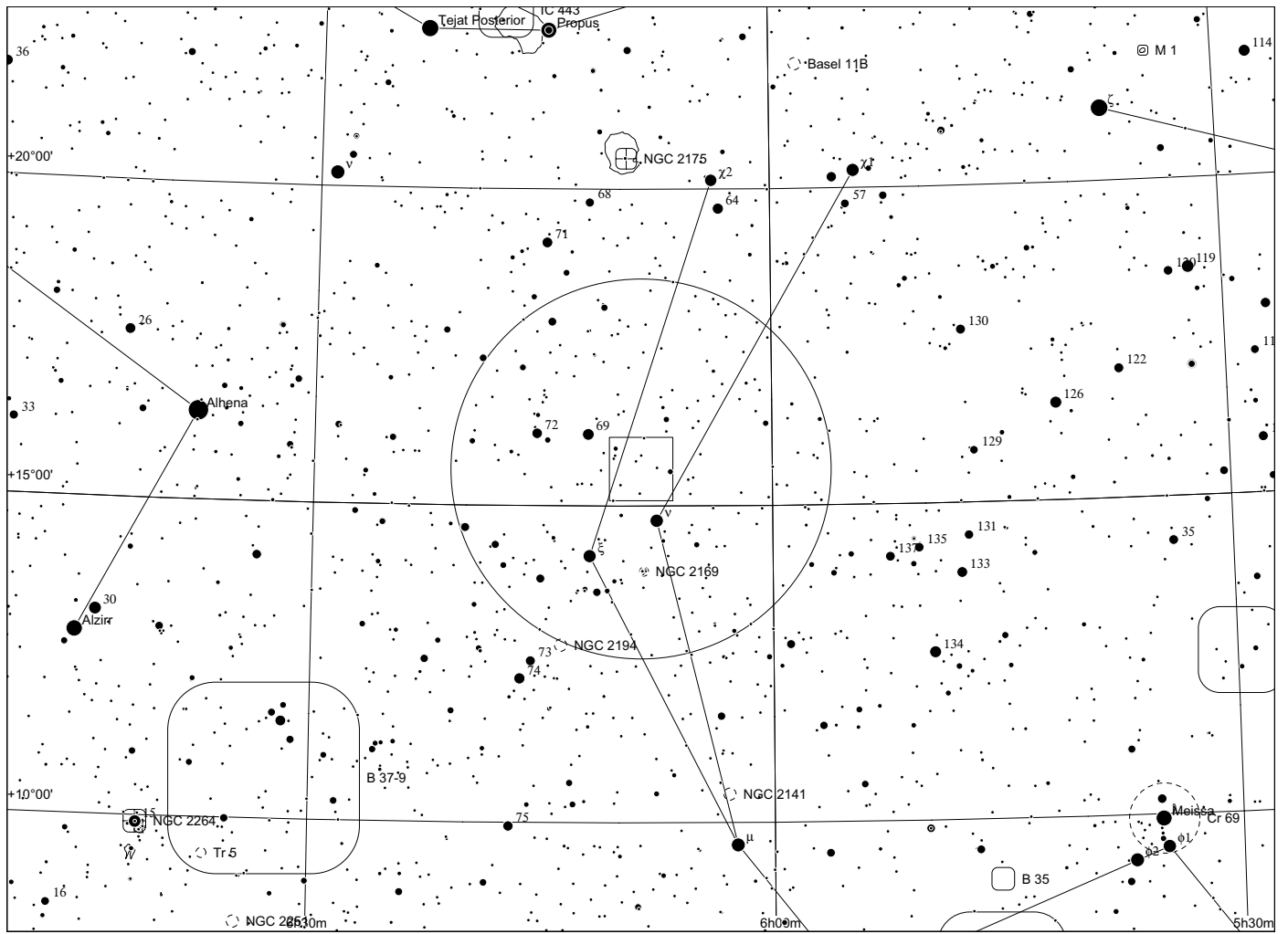
Distance: 1000 pc, Size: 13.1 pc, Source: 1987A&A...171..216C

This is Lower's nebula and appears to be ionised by the O7.5V runaway star HD 41997.

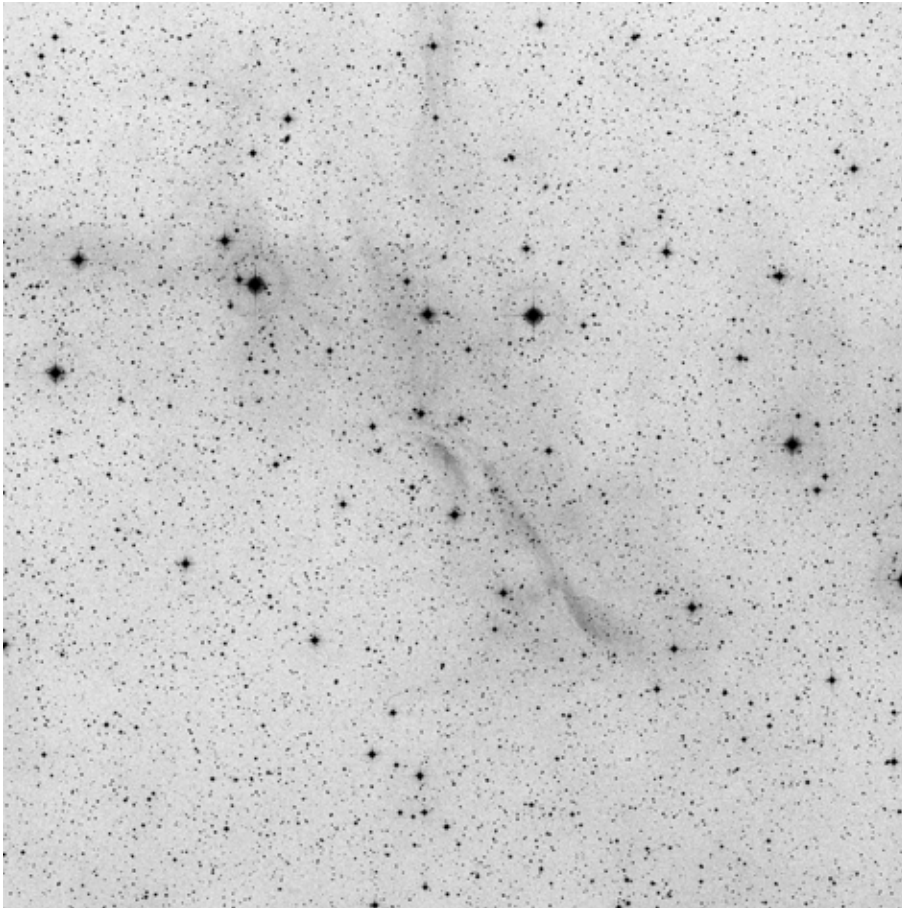
Observing notes:

22" f/4.5

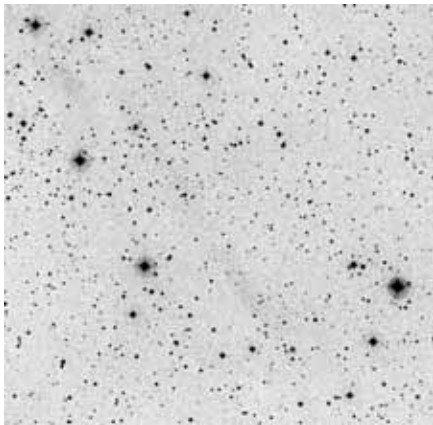
01/2011: 100x. This is a fairly faint nebula as compared to its brightness on the DSS. Responds both to OIII in the central part and to H beta in the outer parts (roughly marked in the DSS image). Large H beta region N of the central part.



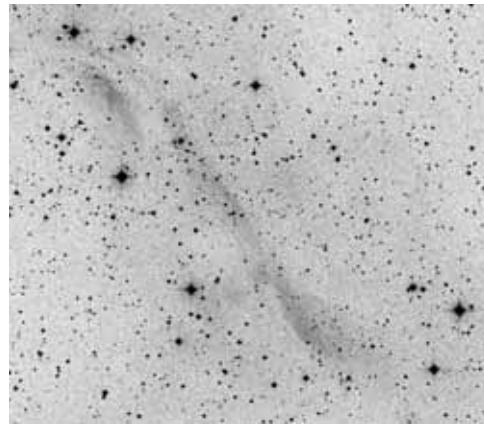
Sh 2 - 262 in Orion



60x60, red



POSS blue



POSS red



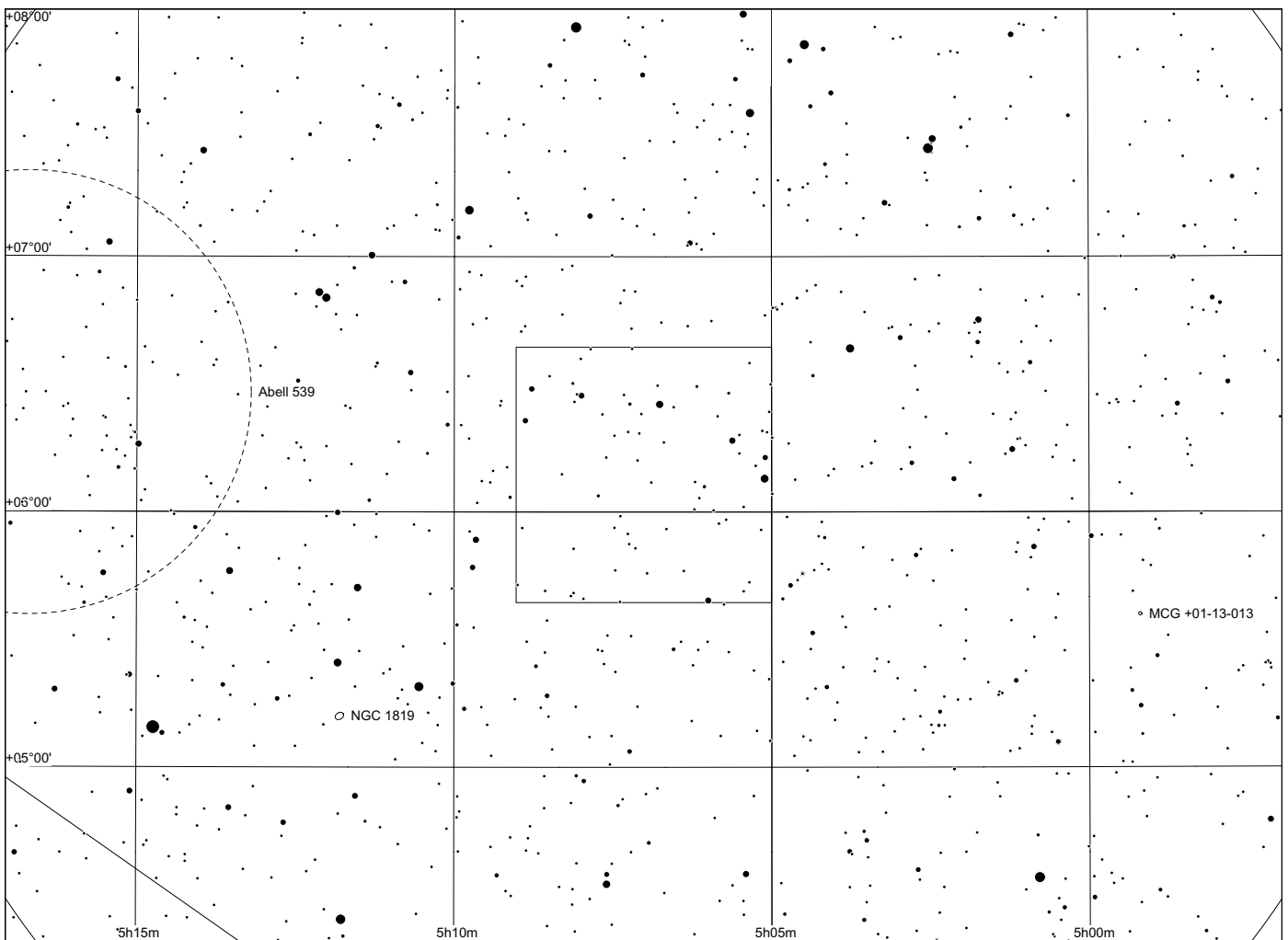
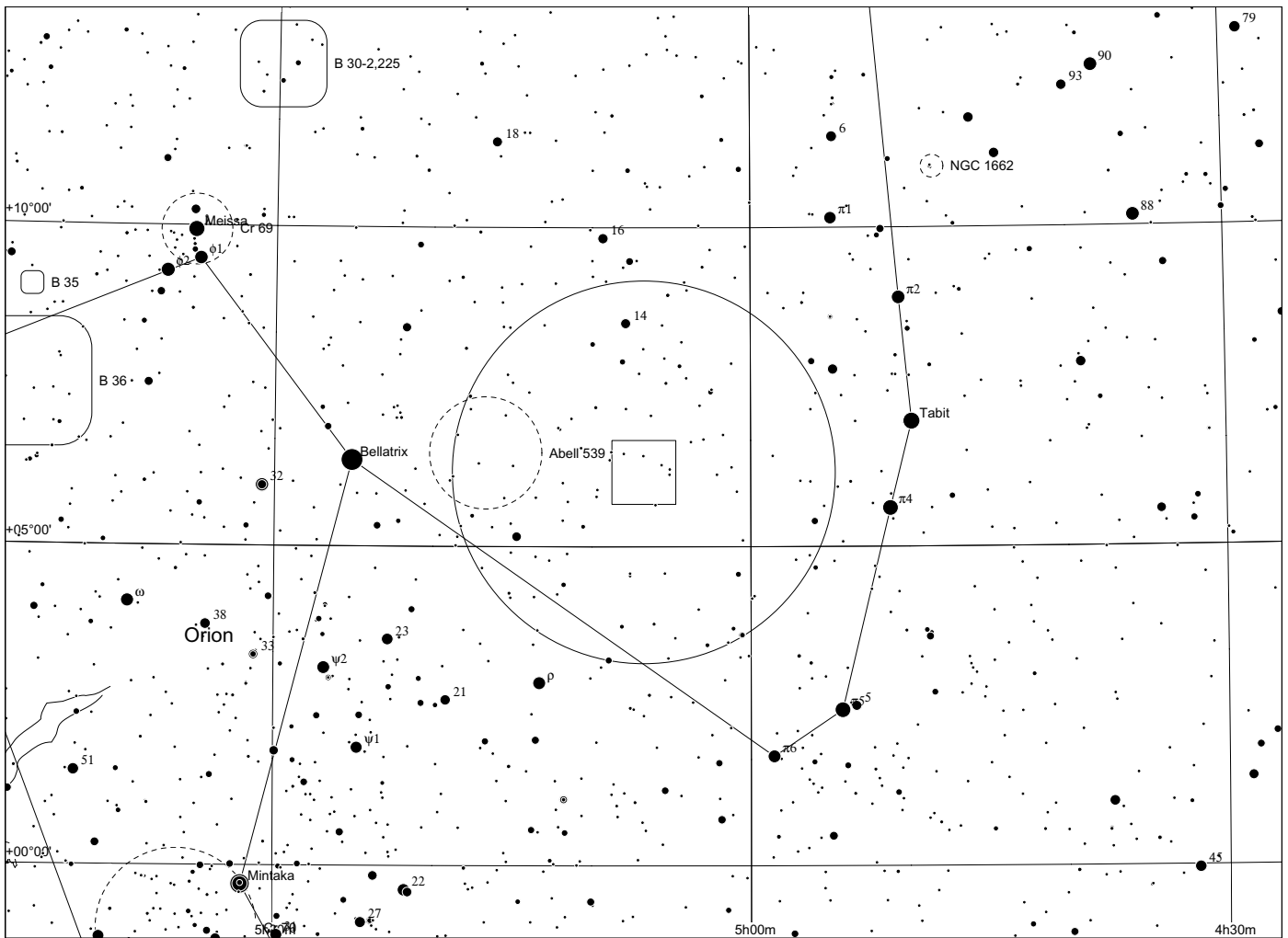
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-262		05 06 44.7	+06 10 04	20	3	2	1

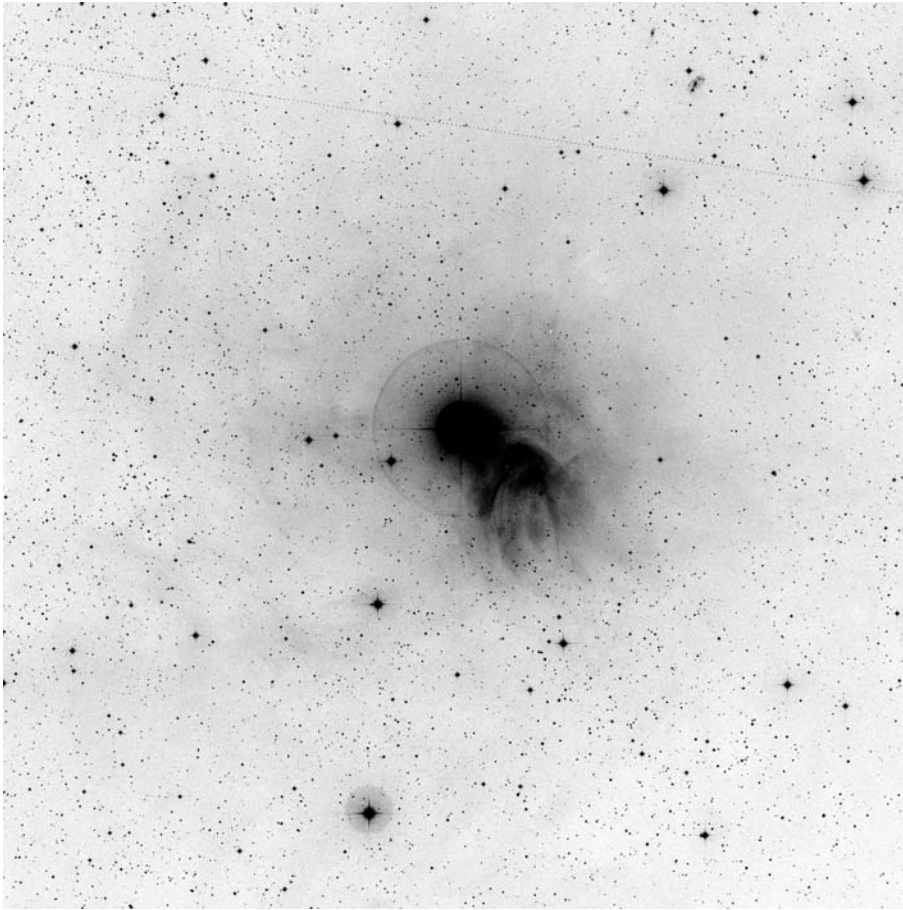
Distance: 900 pc, Size: 5.2 pc, Source: 2003A&A...397..133R

This nebula is most likely associated with the Lambda Orionis ring (Sh 2-264).

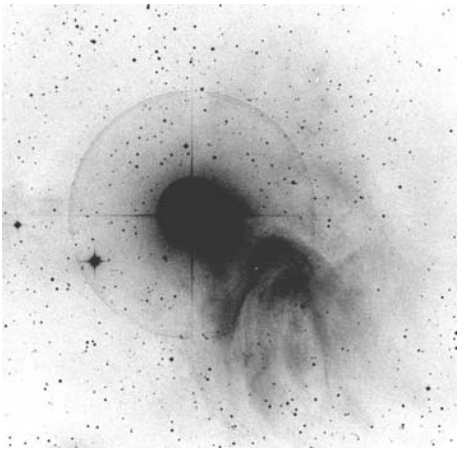
Observing notes:



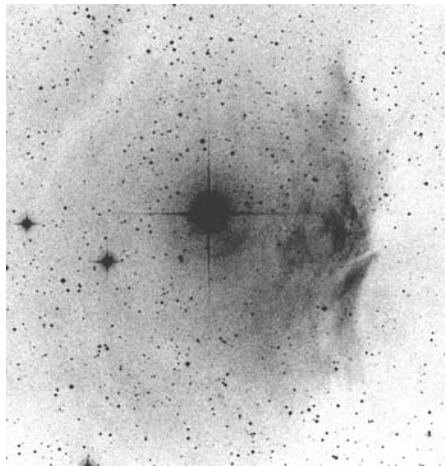
Sh 2 - 263 in Orion



60x60, red



POSS blue



POSS red



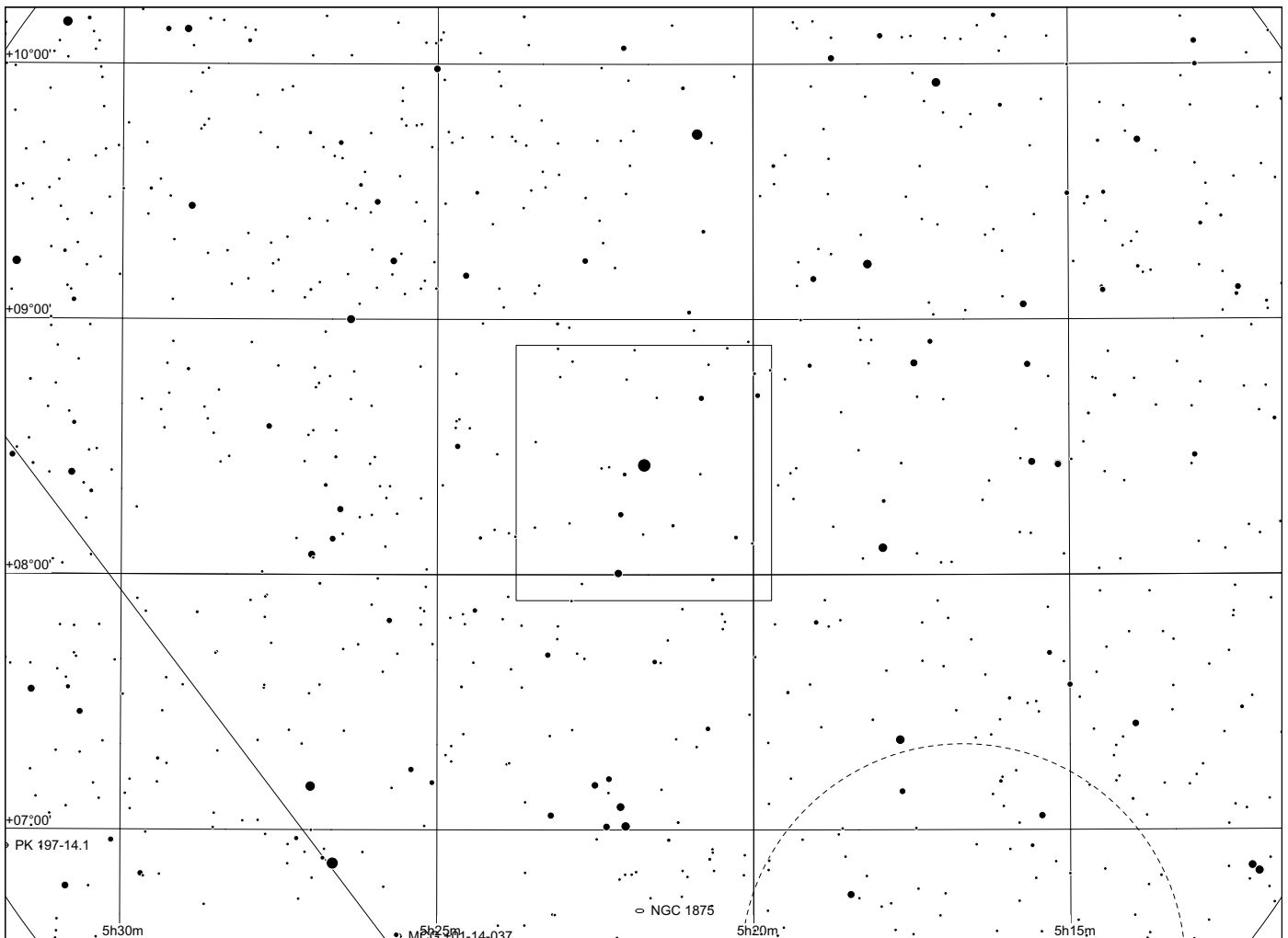
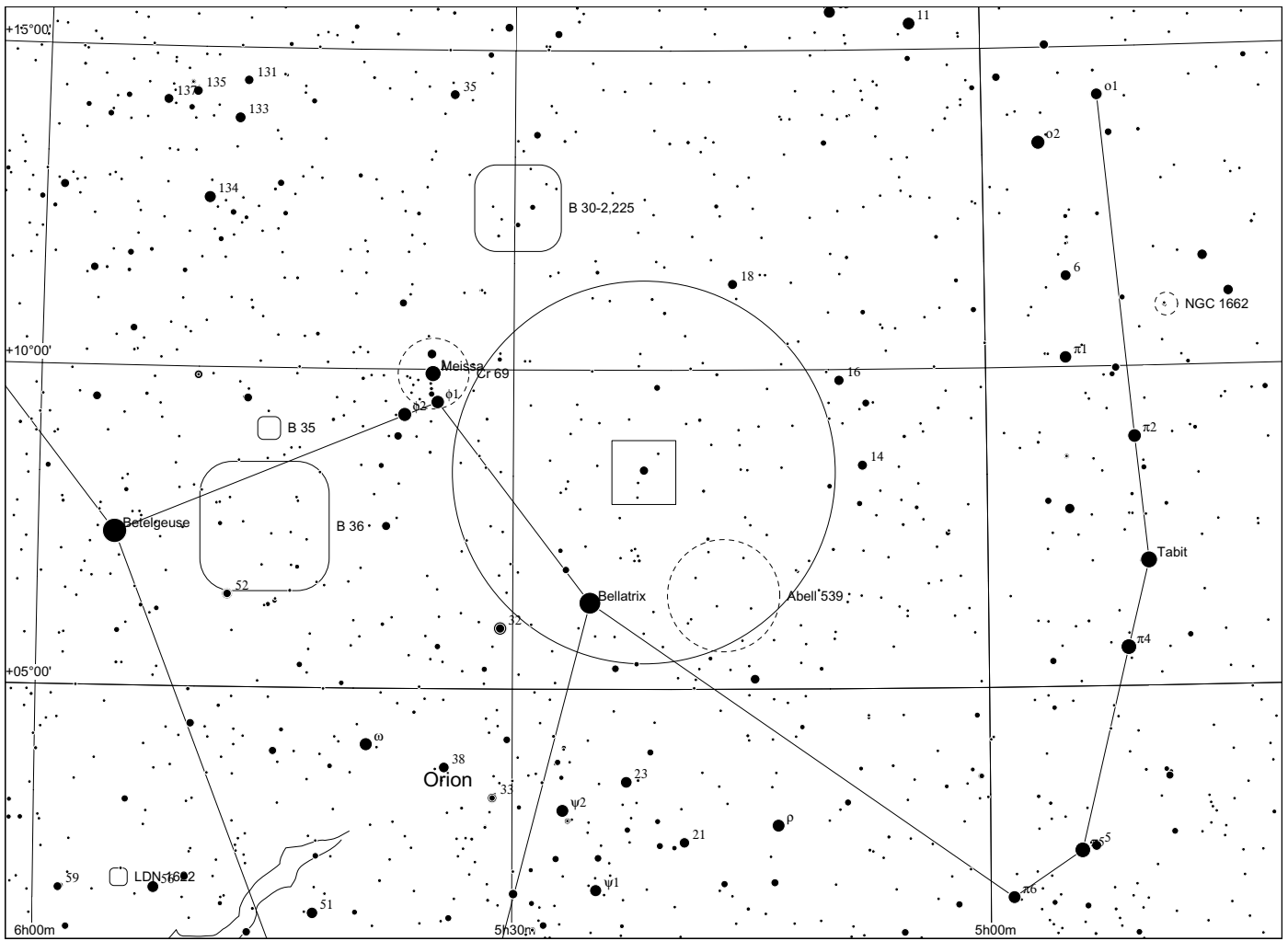
RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-263		05 21 44.4	+08 23 56	22	2	2	2

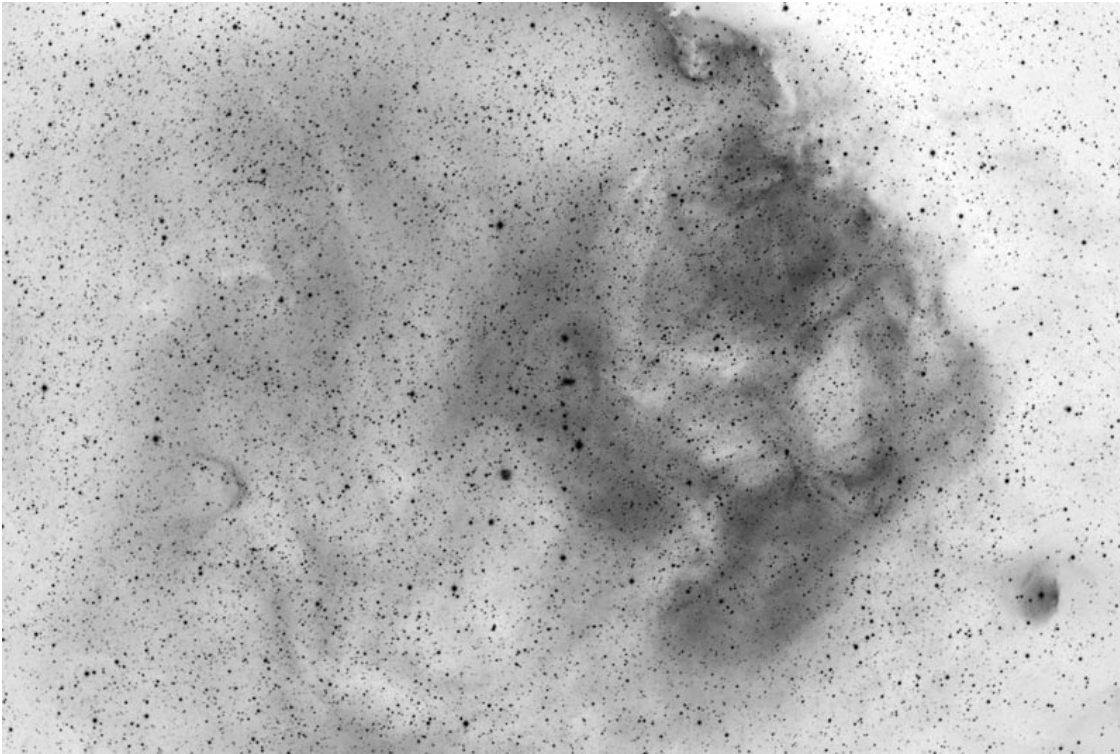
Observing notes:

22" f/4.5

01/2010: at 350x, visible w/o filter and with H beta filter (more diffuse) as a very faint structured glow.



Sh 2 - 264 in Orion



8°x6° H alpha
Dean Salman

	other name	RA	dec	dia.	F	S	B
Sh 2-264		05 35 12.3	+09 56 00	390	1	1	2

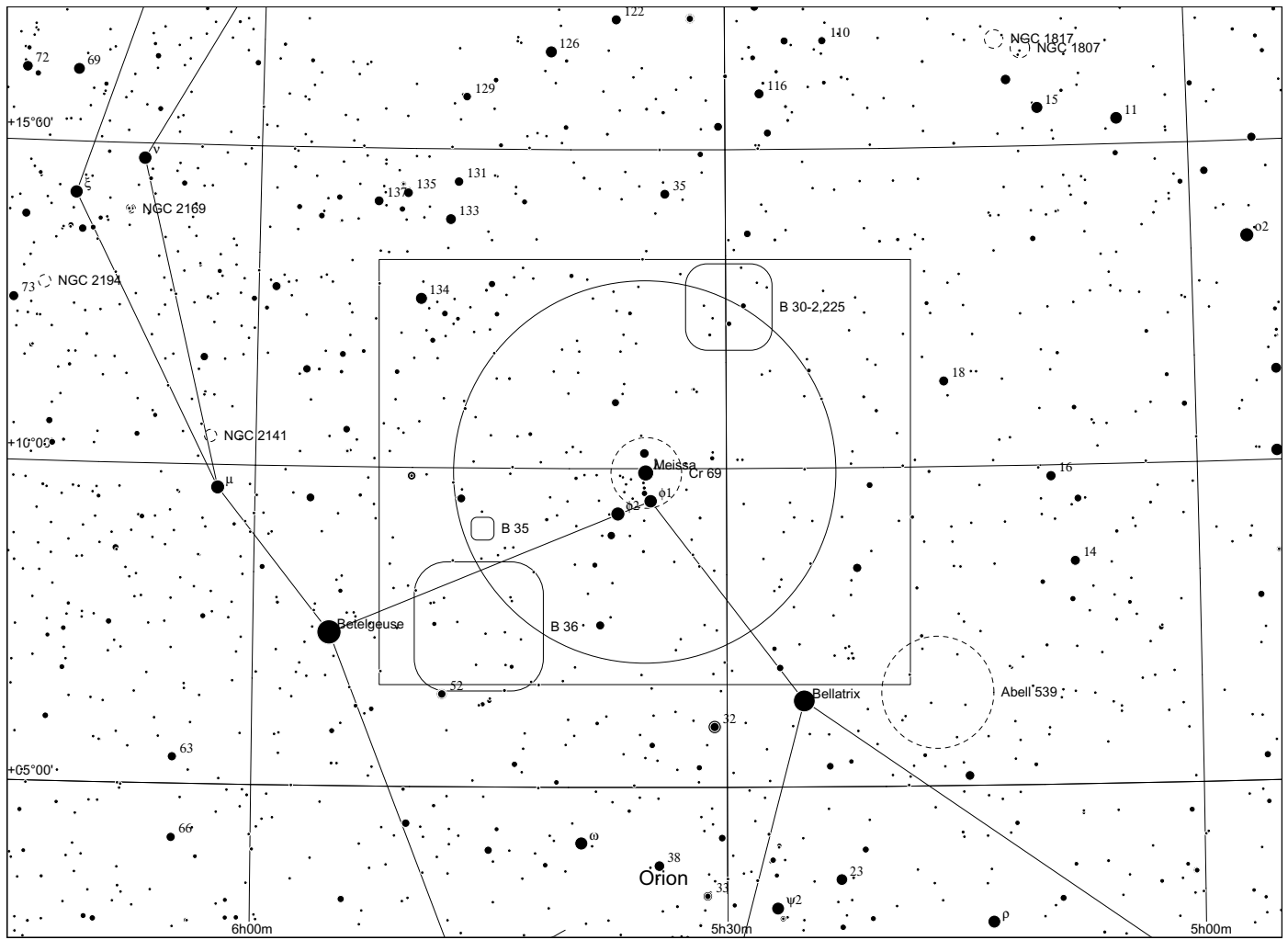
Distance: 400 pc, Size: 45.4 pc, Source: 1982ApJS...49..183B

Sh 2-264 is ionised by the O8 III subgiant star Lambda Orionis, and to a lesser extent, the 11 B stars near to it. The region around Lambda Orionis is dominated by a ring of molecular clouds whose structure can perhaps best be explained by a supernova very close to the star about 1 million years ago.

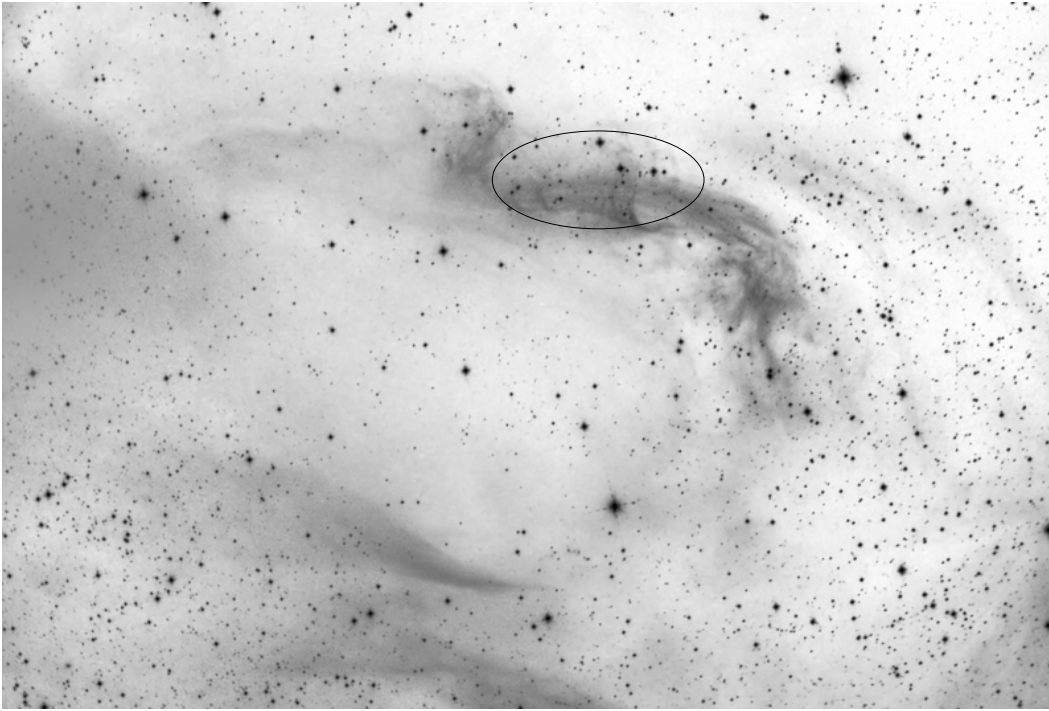
Observing notes:

14" f/5

12/2004: My notes say, that with H beta filter, a faint glow is visible around Meissa (lambda Ori), extending towards E. Observed several times. Needs to be re-observed.



Sh 2 - 265 in Orion



H alpha, Dean Salman



	other name	RA	dec	dia. ' F S B
Sh 2-265		05 18 36.3	+07 26 23	70 3 2 2

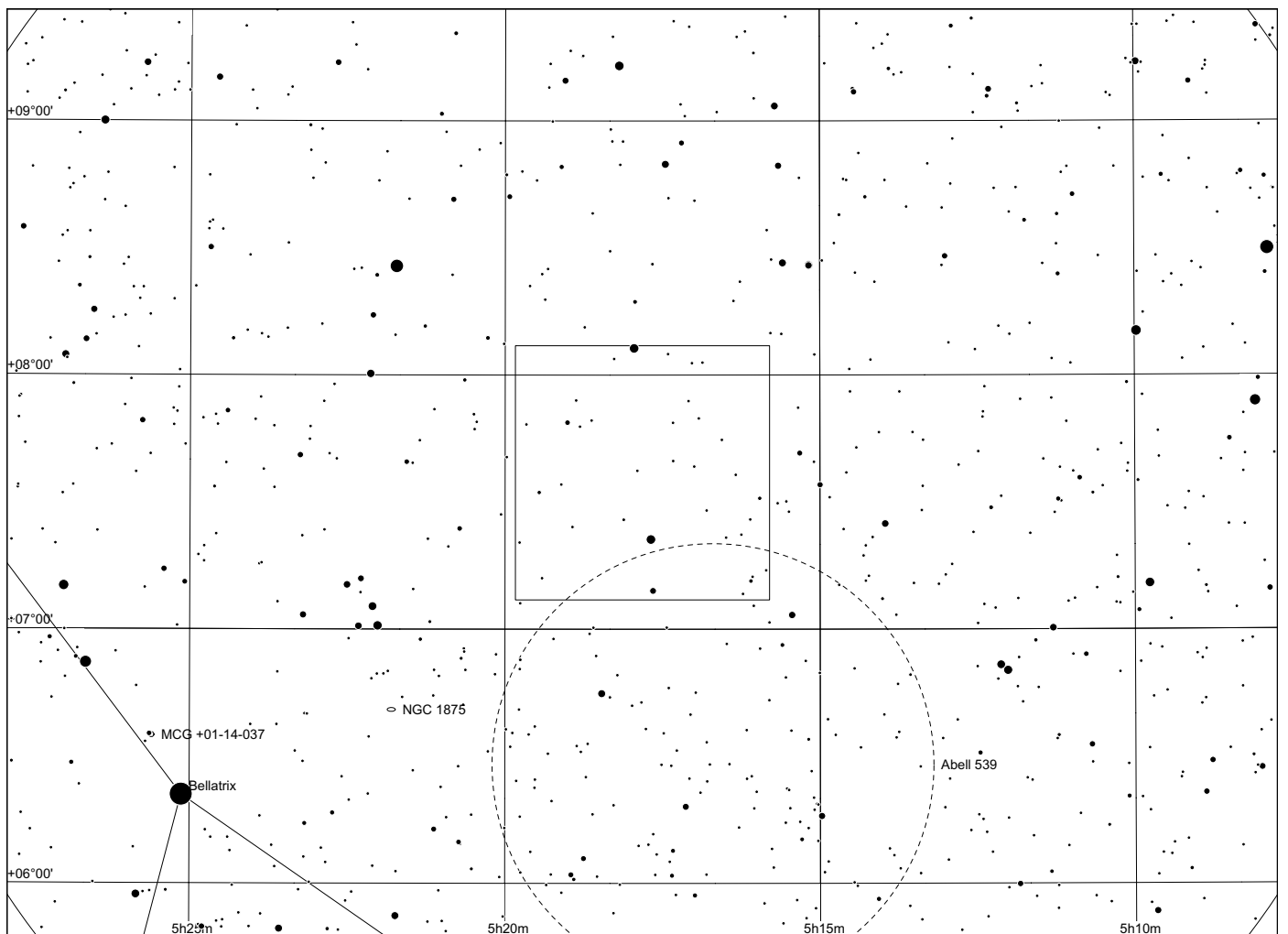
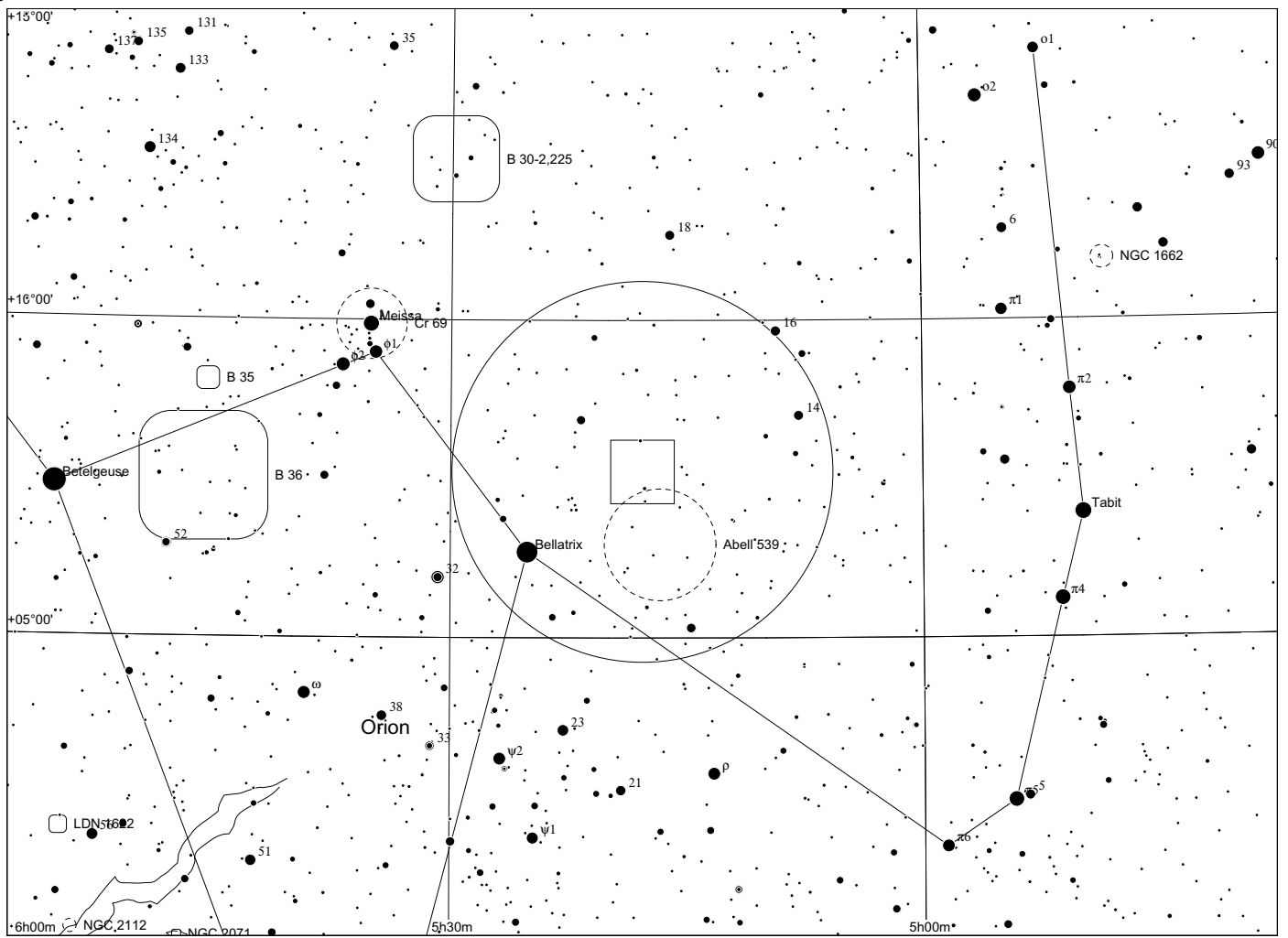
Distance: 400 pc, Size: 8.1 pc, Source: 2000A&A...357.1001L

This diffuse HII region is part of the B223 section in the southern part of the Lambda Orionis ring (most of which forms the huge Sh 2-264 HII region). However, Sh 2-265 is not ionised by Lambda Orionis itself. Instead it is probably ionised by stars in the Ori OB1b association.

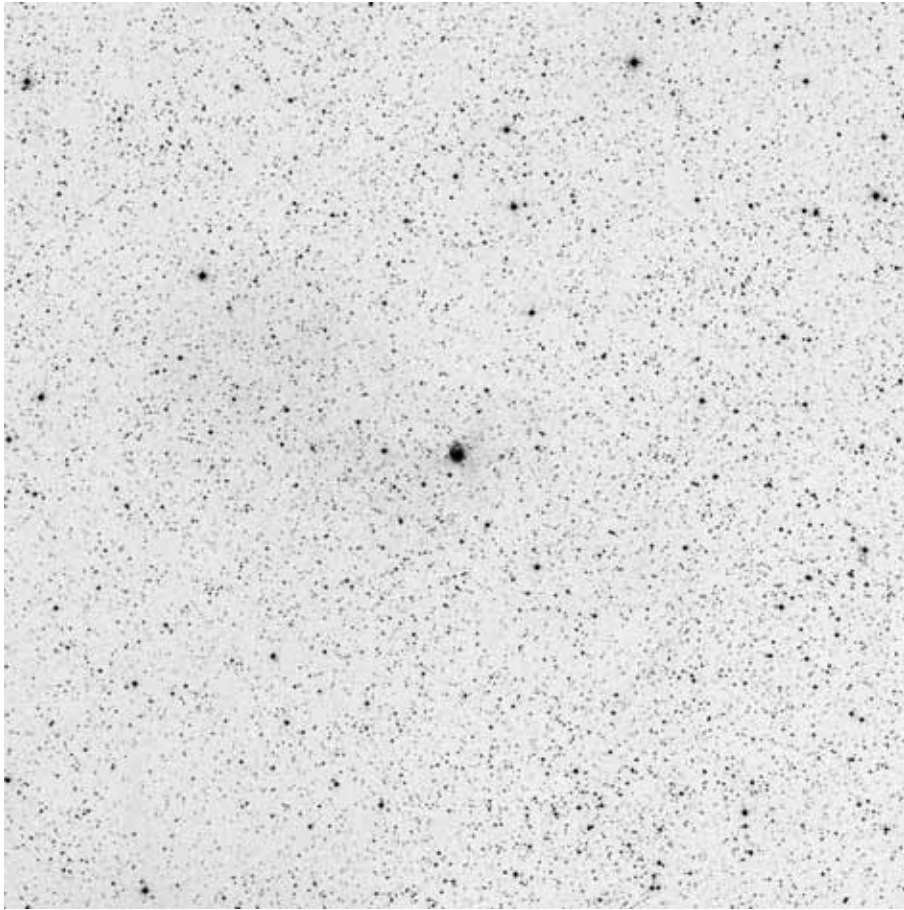
Observing notes:

22" f/4.5

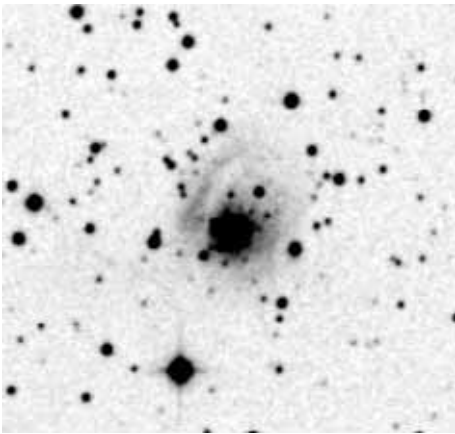
01/2010: A faint edge was suspected at the location indicated in the DSS image with H beta filter.



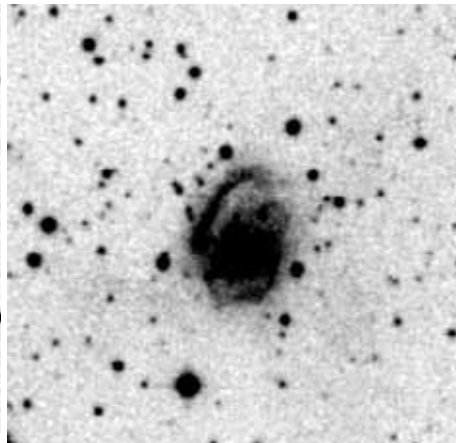
Sh 2 - 266 in Orion



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-266		06 18 48.9	+15 16 40	1	2	2	3

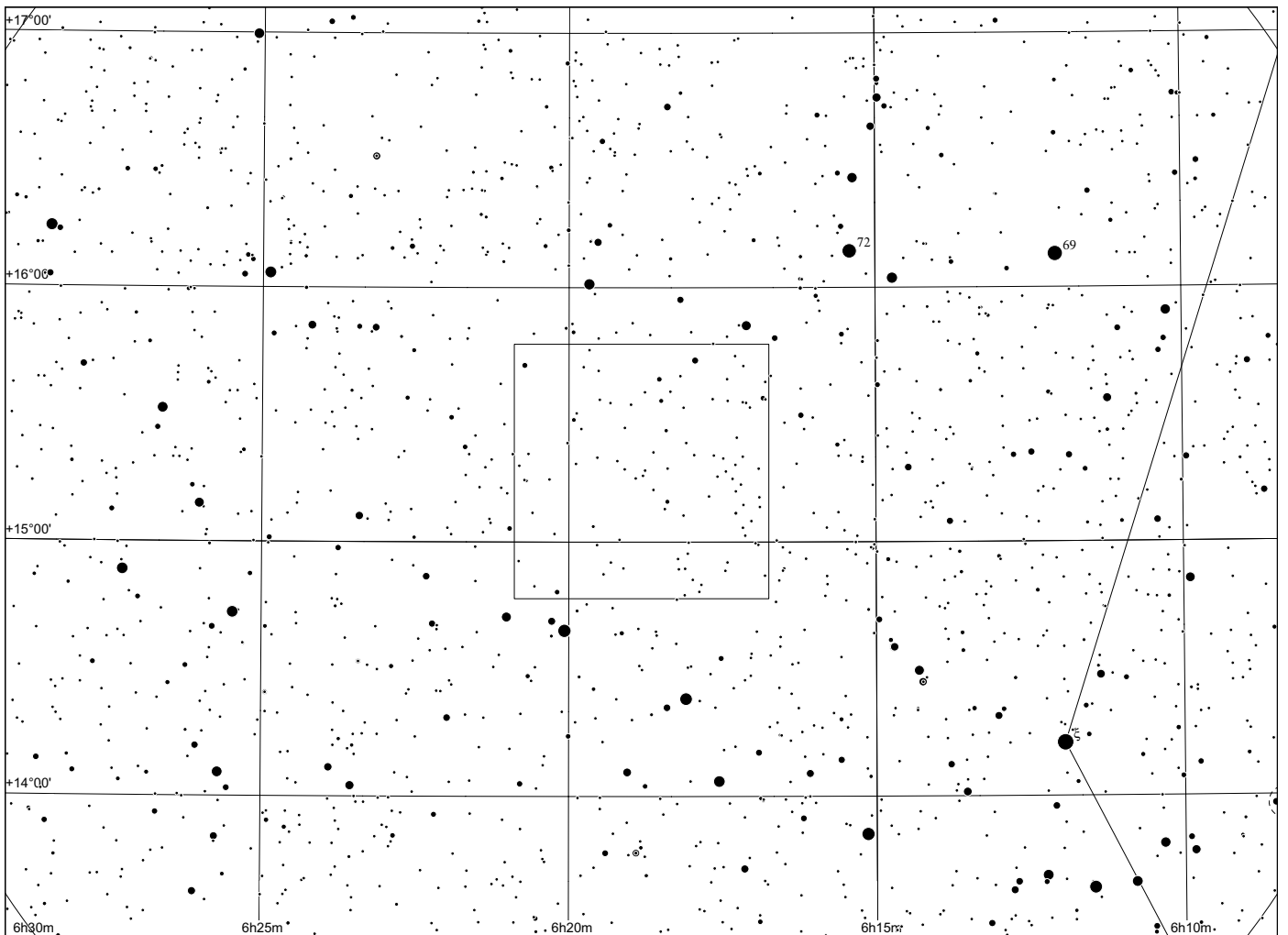
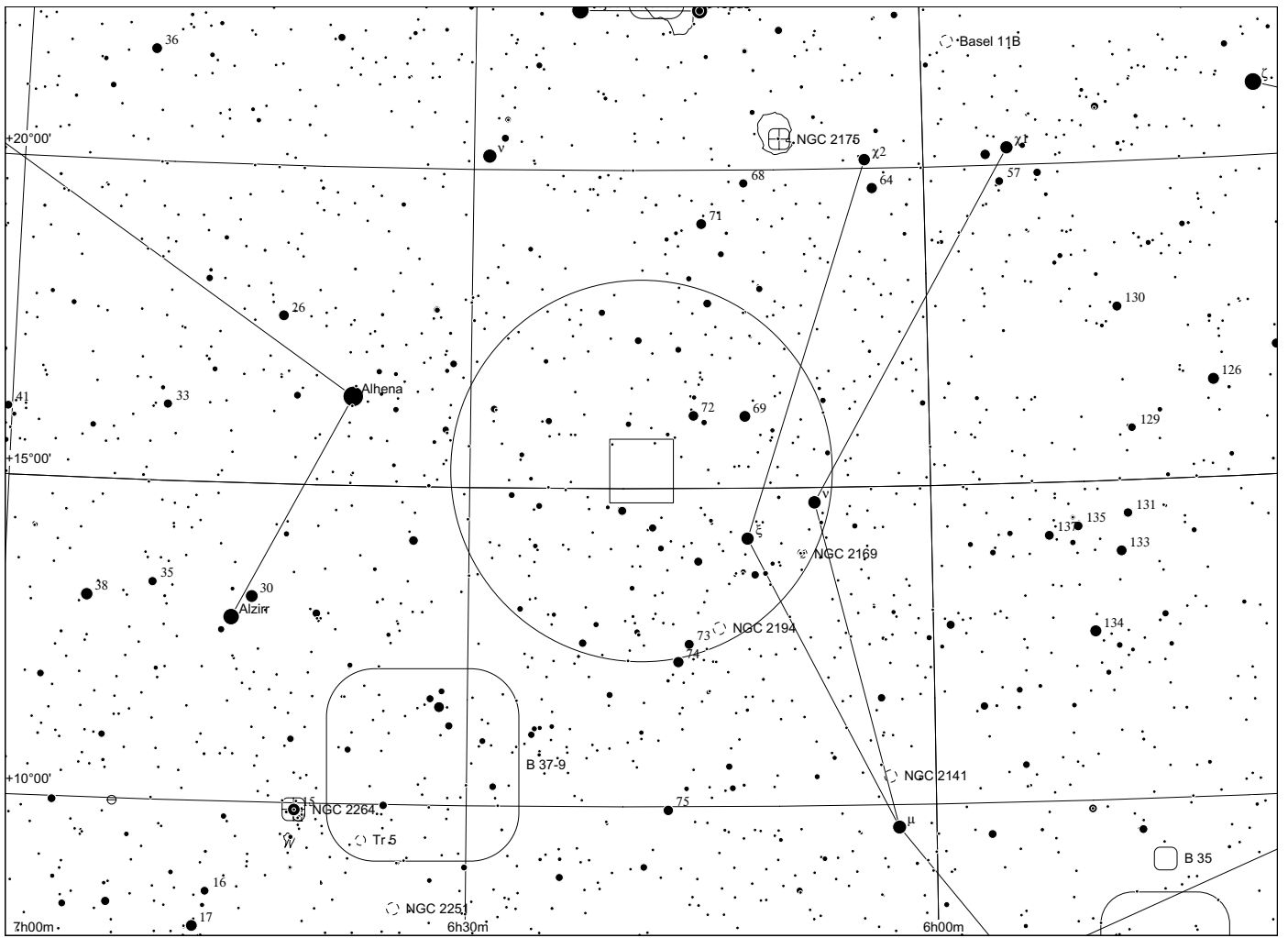
Distance: 6000 pc, Size: 1.7 pc, Source: 1998MNRAS.298..185E

This may be a ring nebula surrounding its central star, the Be class supergiant MWC 137.

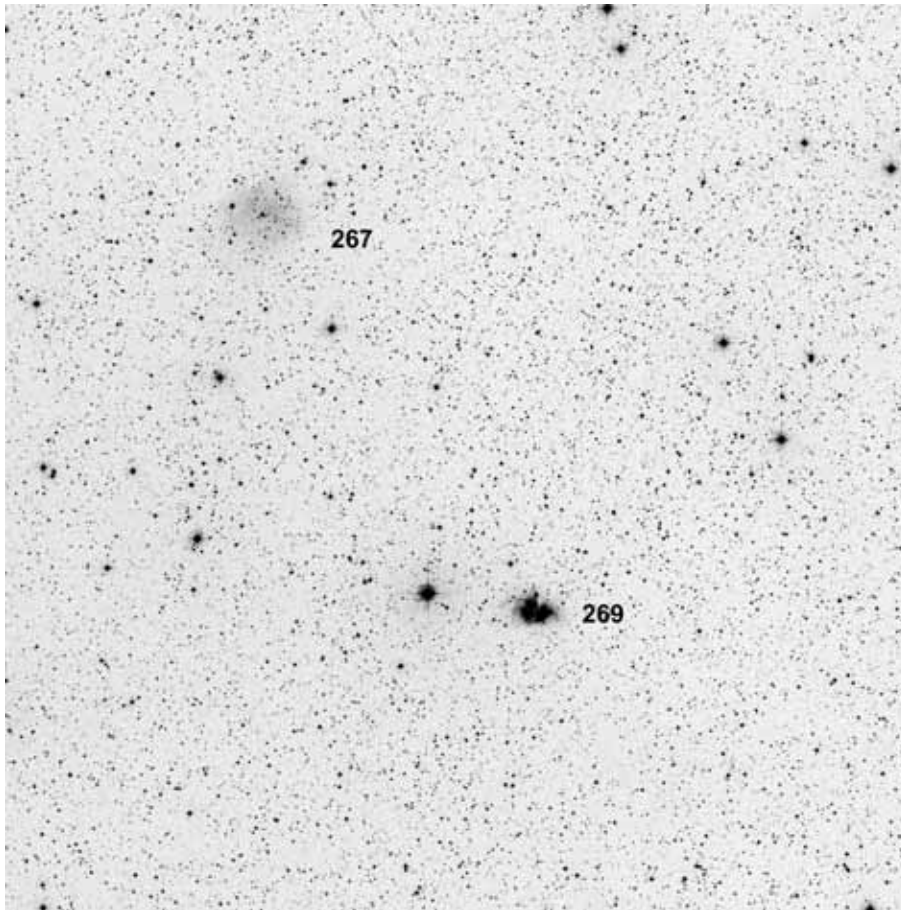
Observing notes:

22" f/4.5

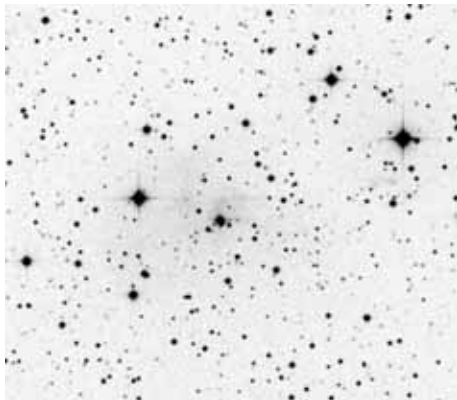
01/ 2011: At 200x with UHC, a very faint glow was visible surrounding the central star.



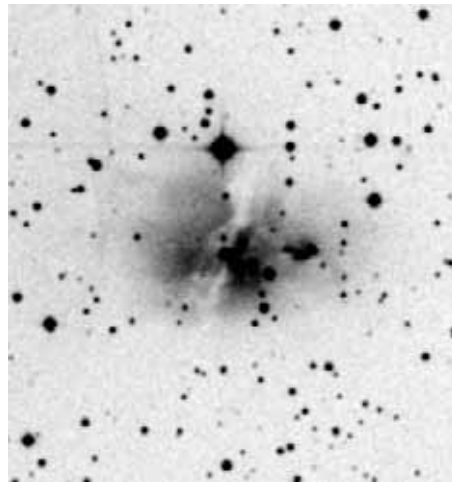
Sh 2 - 267/269 in Orion



60x60, red



POSS blue 267



269



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-267	LBN 875 = PK 196-01.1	06 15 52.7	+14 16 06	4	1	1	2
Sh 2-269		06 14 34.1	+13 49 18	4	3	2	3

267: Distance: 4500 pc, Size: 5.2 pc, Source: 1987AJ.....94.1062L

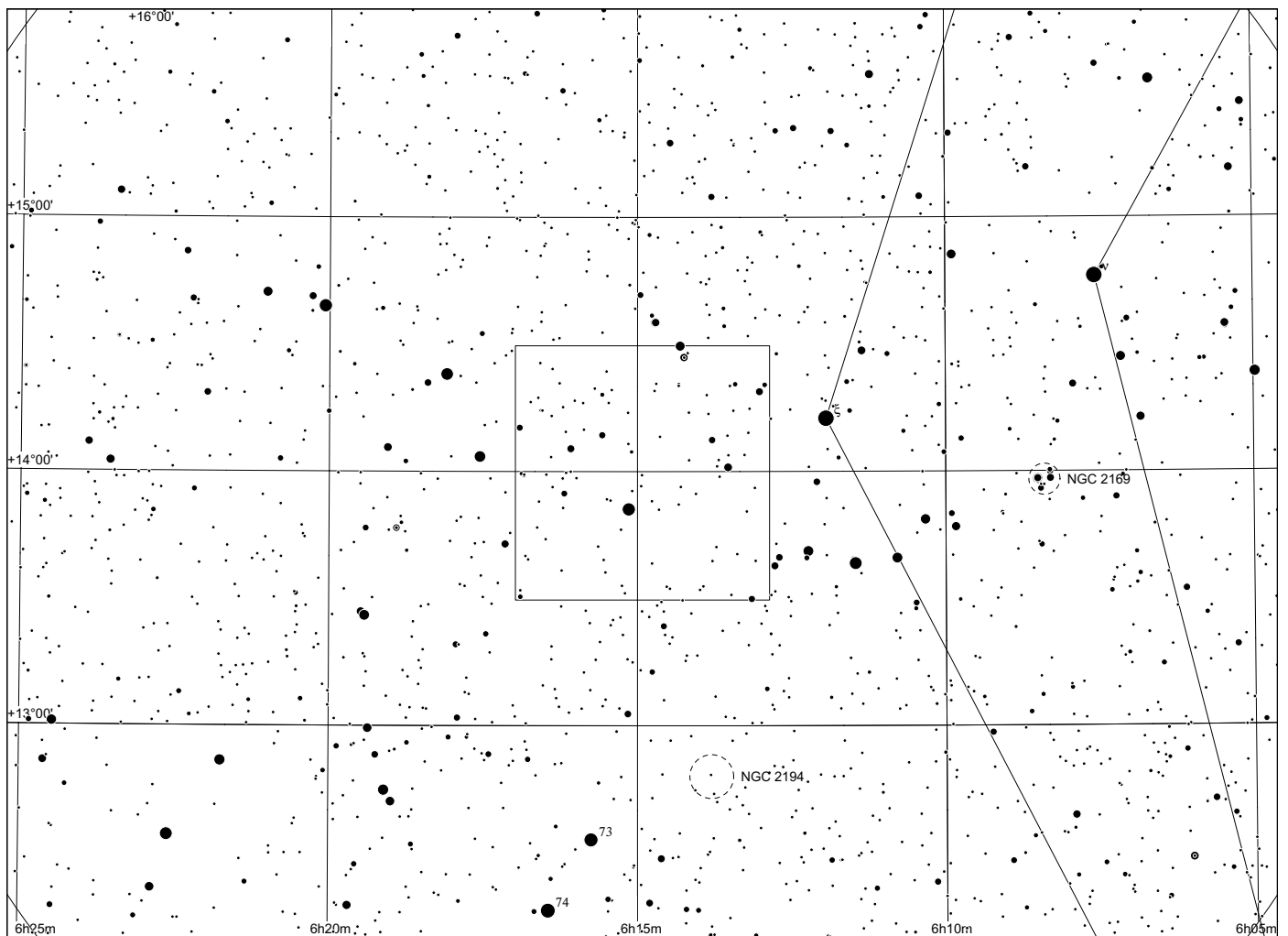
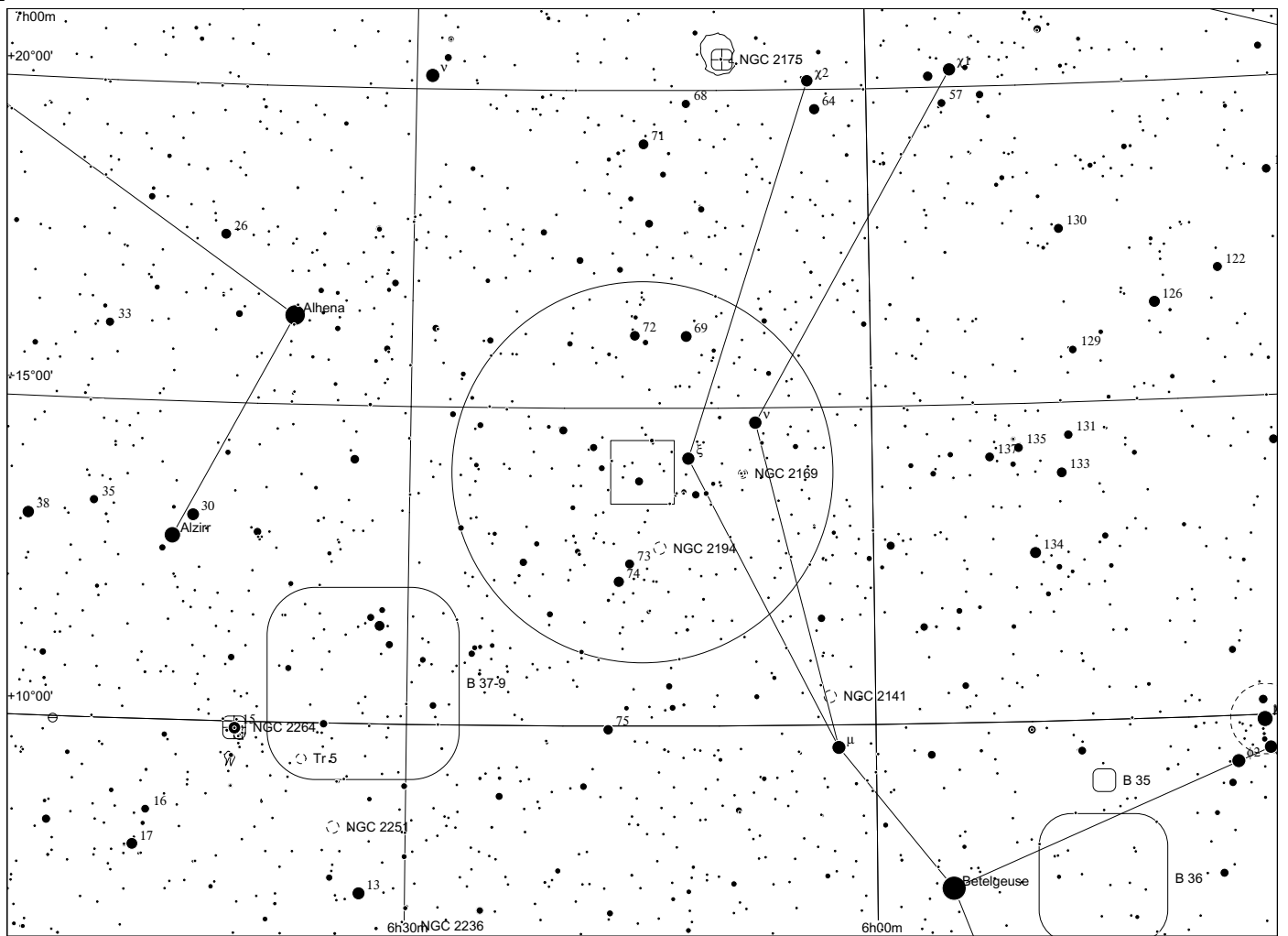
269: Distance: 3800 pc, Size: 3.9 pc, Source: 1997ApJ...478..271G

Sh 2-269 lies in front of a 8700 solar mass giant molecular cloud. It is bisected by a dust lane and is ionised by two stars in the western side of the nebula. One is a B0.5 V star, the other is visible only in the infrared and appears to be either O8 or O9.5.

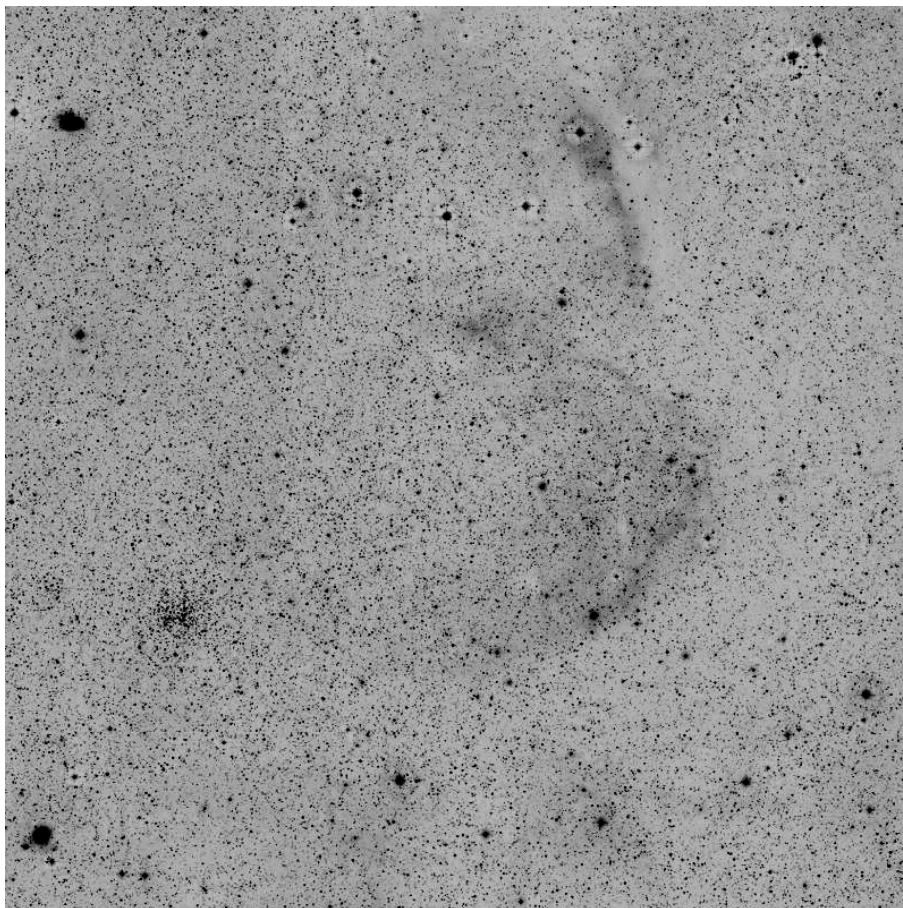
Observing notes:

22" f/4.5

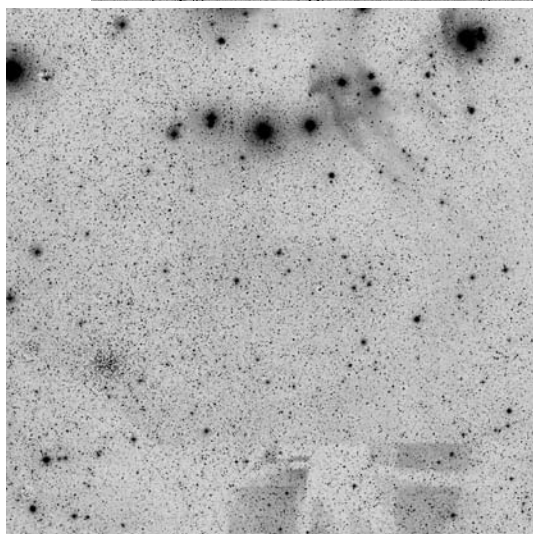
01/2010: At 200x, without filter, a faint glow was visible at the location of 269, that did not respond well to UHC. Nothing was visible at the location of 267.



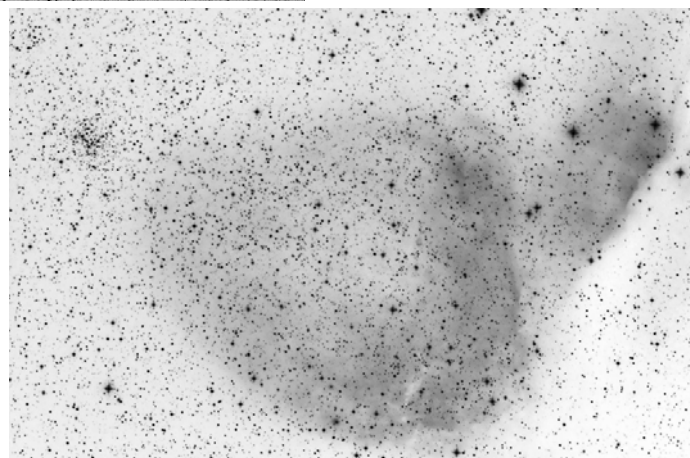
Sh 2 - 268
in Orion



120x120, red



POSS blue

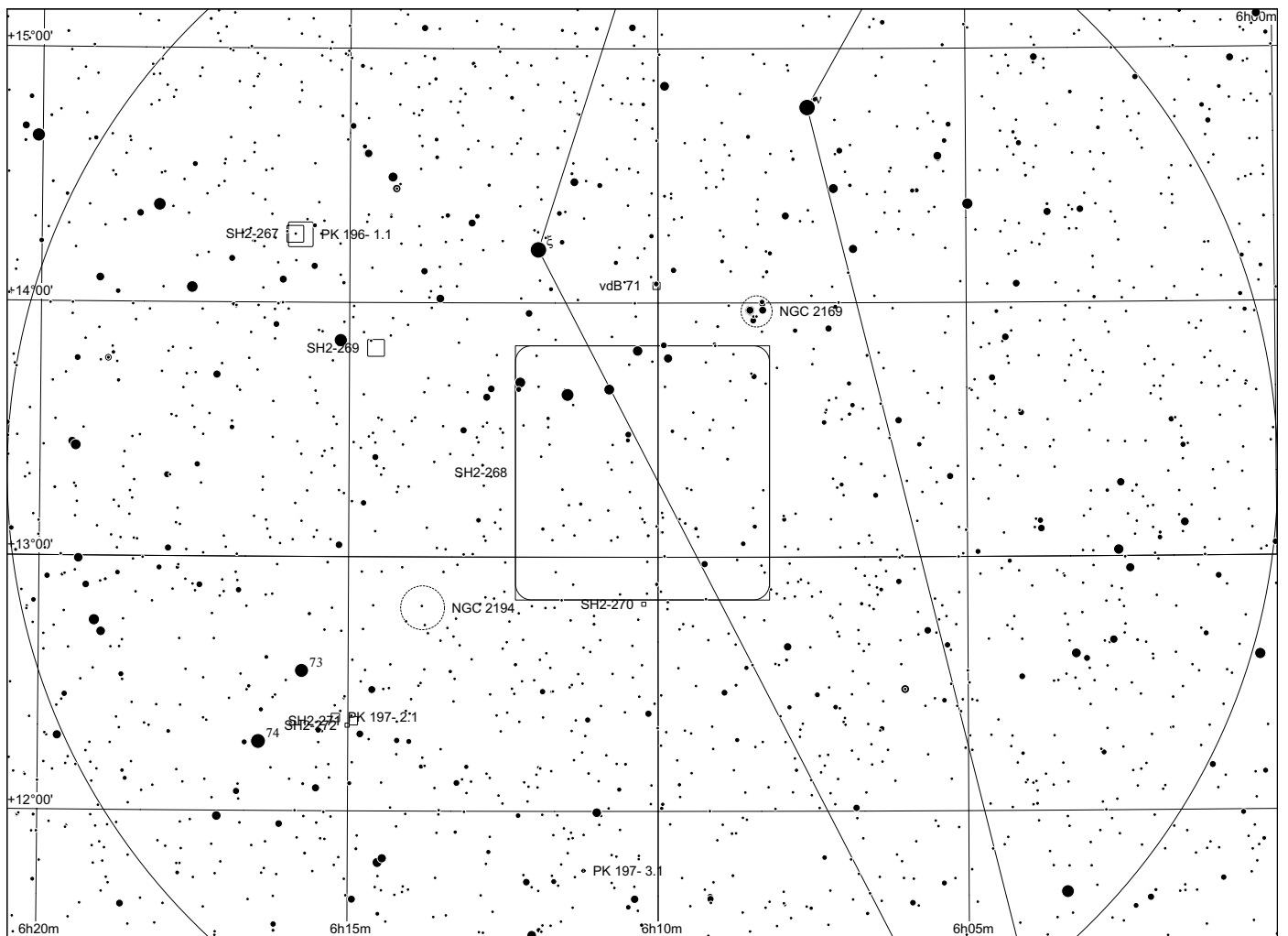
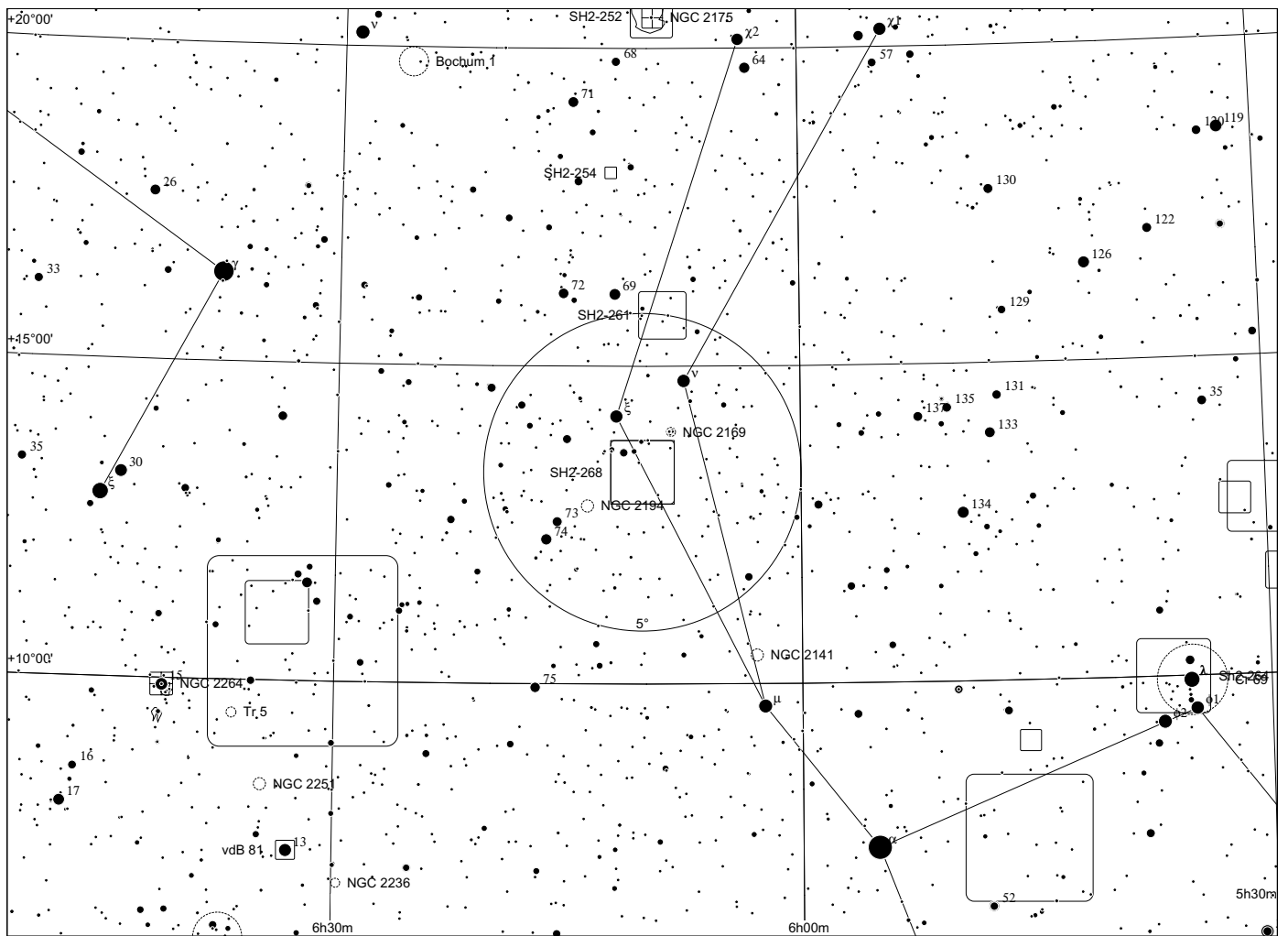


Dean Salman H alpha

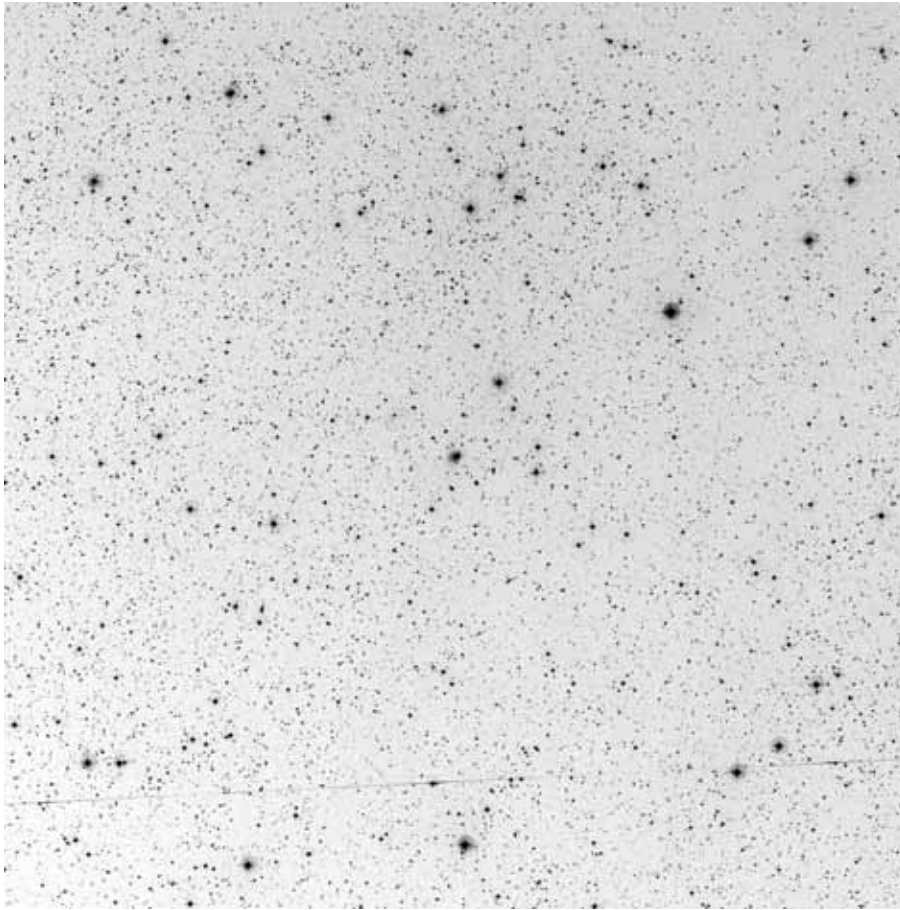
	other name	RA	dec	dia. '	F	S	B
Sh 2-268		06 10 14.6	+13 19 55	60	3	1	1

Distance: 1300 pc, Size: 22.7 pc Source: 2003A&A...397..133R

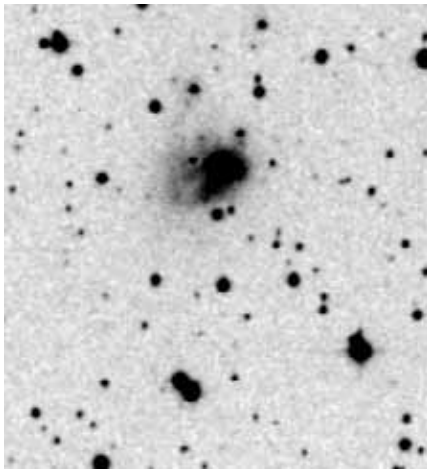
Observing notes:



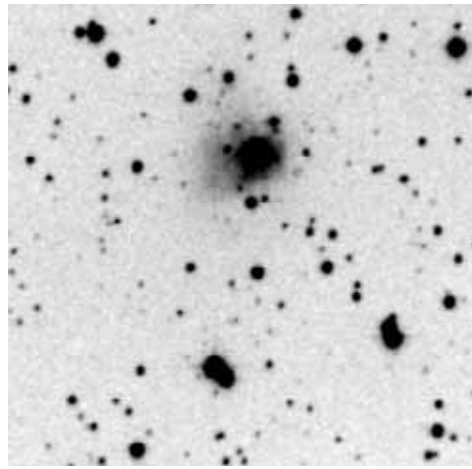
Sh 2 - 270 in Orion



60x60, blue



POSS blue



POSS red



composite

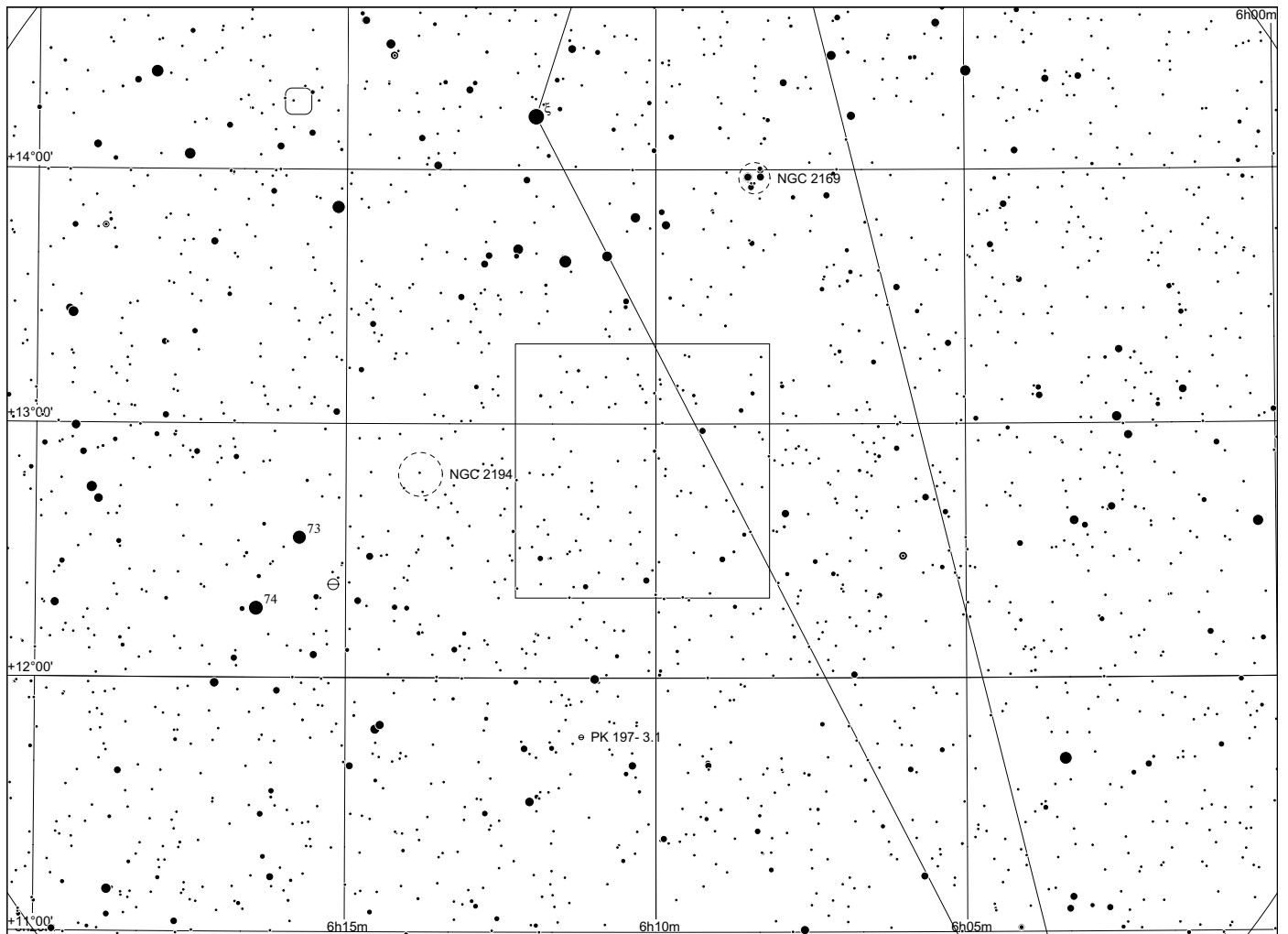
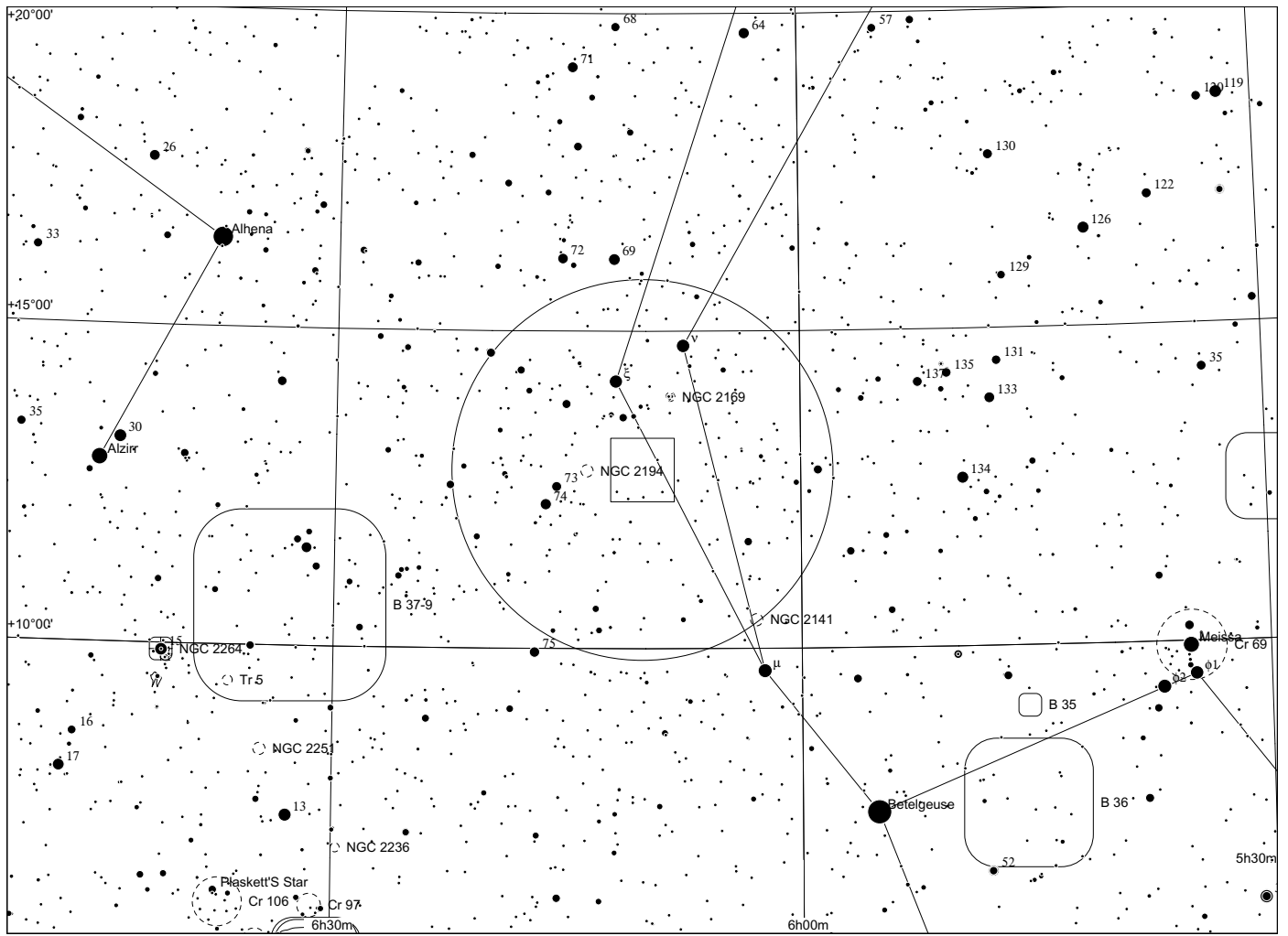
	other name	RA	dec	dia. '	F	S	B
Sh 2-270		06 10 12.9	+12 48 55	1	3	2	3

Distance: 6800 pc, Size: 2.0 pc, Source: 2003A&A...397..133R

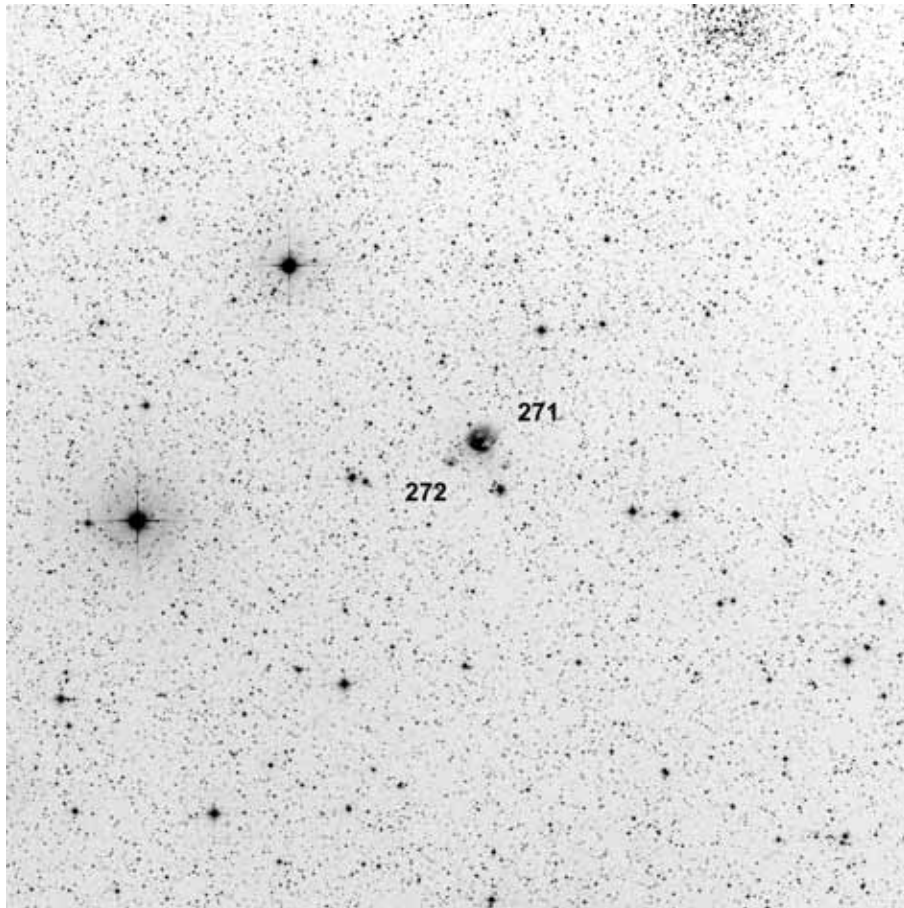
Observing notes:

22" f/4.5

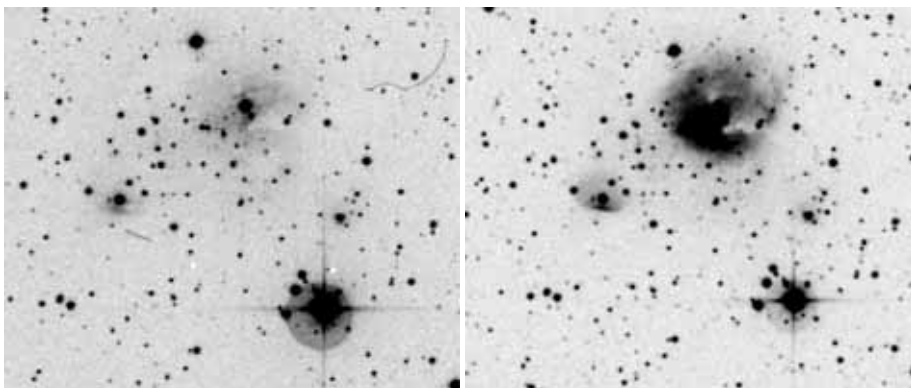
01/2010: Appears at 350x w/o filter as a small round patch.



Sh 2 - 271/272 in Orion



60x60, red



POSS blue

POSS red

composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-271	PK 197-02.1	06 14 54.3	+12 21 14	2	1	2	3
Sh 2-272		06 15 00.3	+12 20 14	1	2	1	2

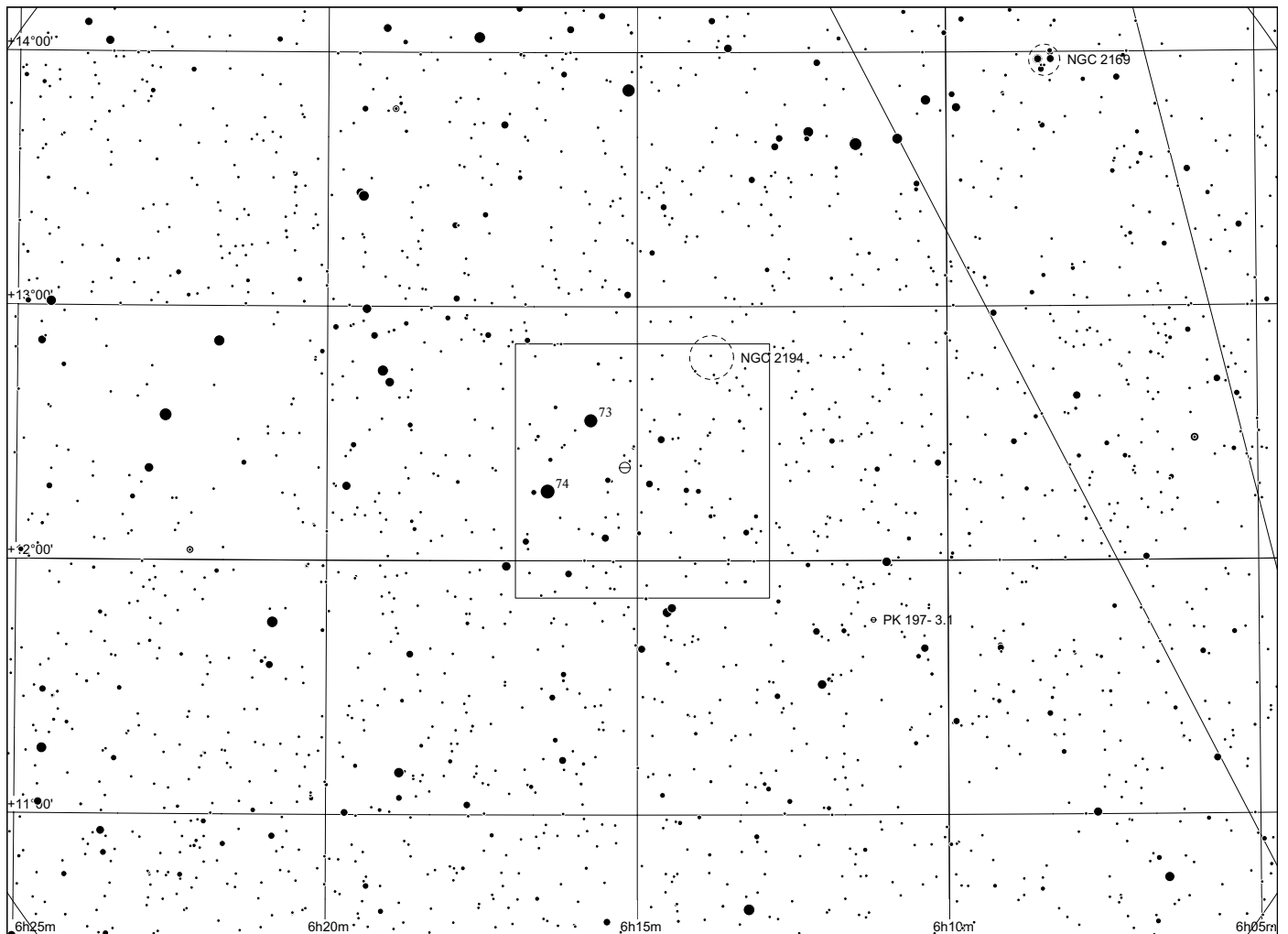
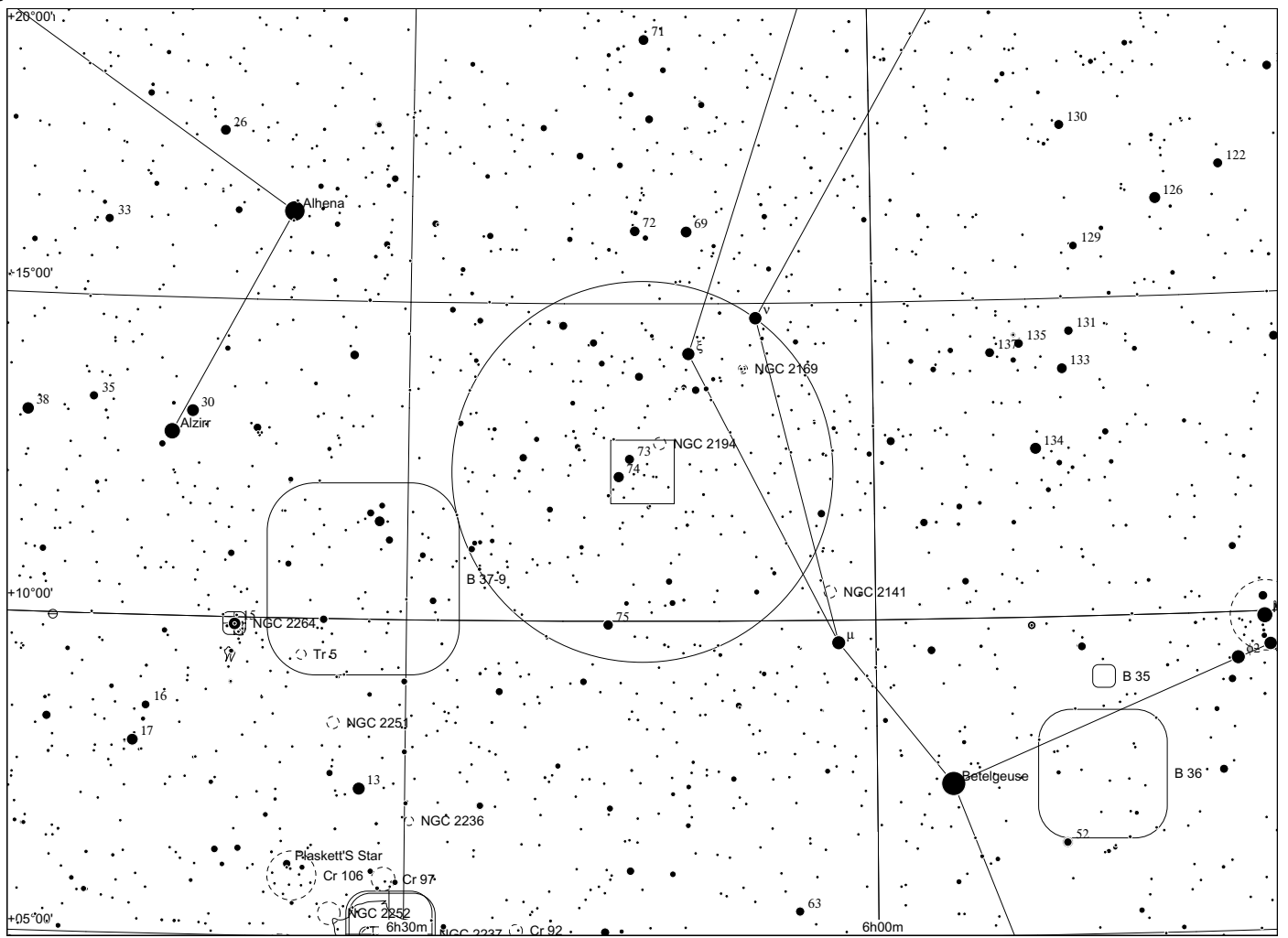
Distance: 4800 pc, Source: 1982ApJS...49..183B

Includes infrared cluster [BDS 2003] 82. There is confusion in the literature about whether this is an HII region or planetary nebula.

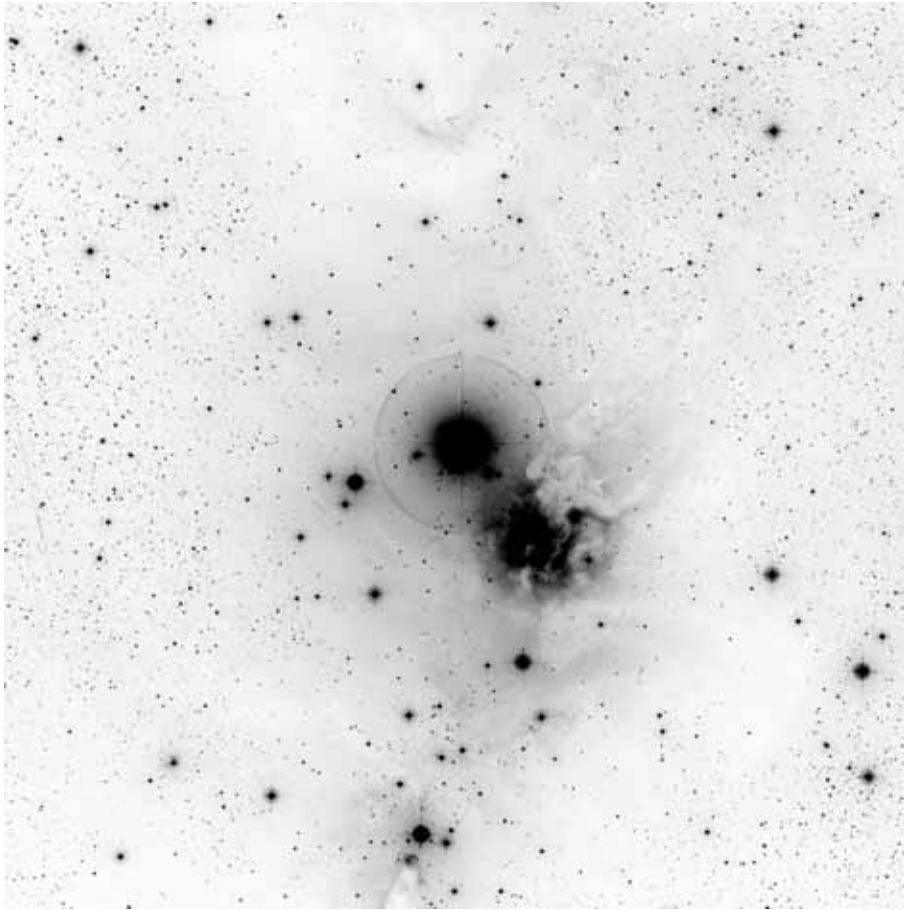
Observing notes:

22" f/4.5

01 2011: With H beta filter and at 350x, a faint glow was suspected.



Sh 2 - 273 in Monoceros



60x60, blue



POSS blue

POSS red

composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-273	NGC2264 = Christmas Tree	06 40 48.3	+09 54 28	250	3	2	3

Distance: 800 pc, Size: 58.2 pc, Source: 1982ApJS...49..183B

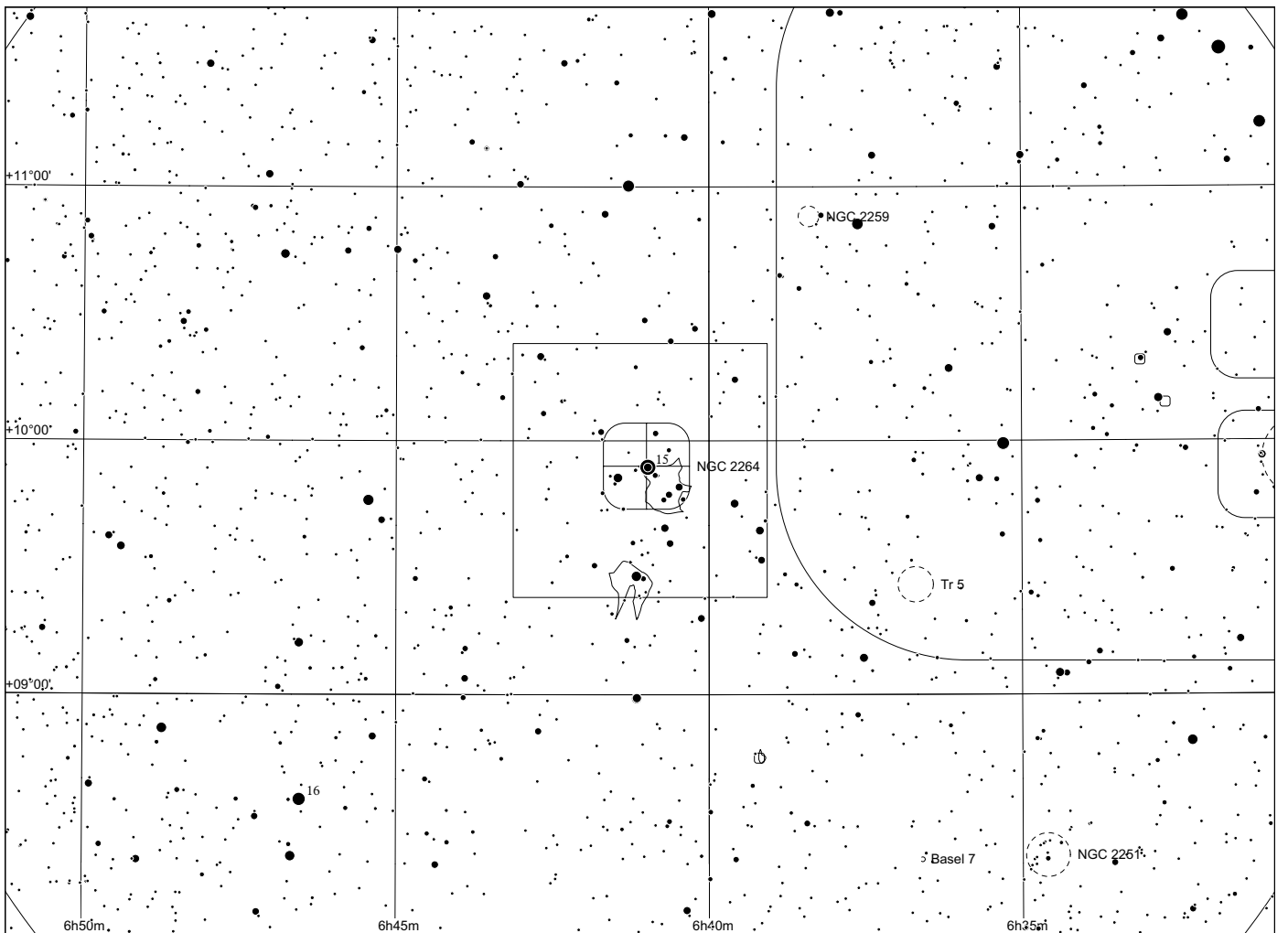
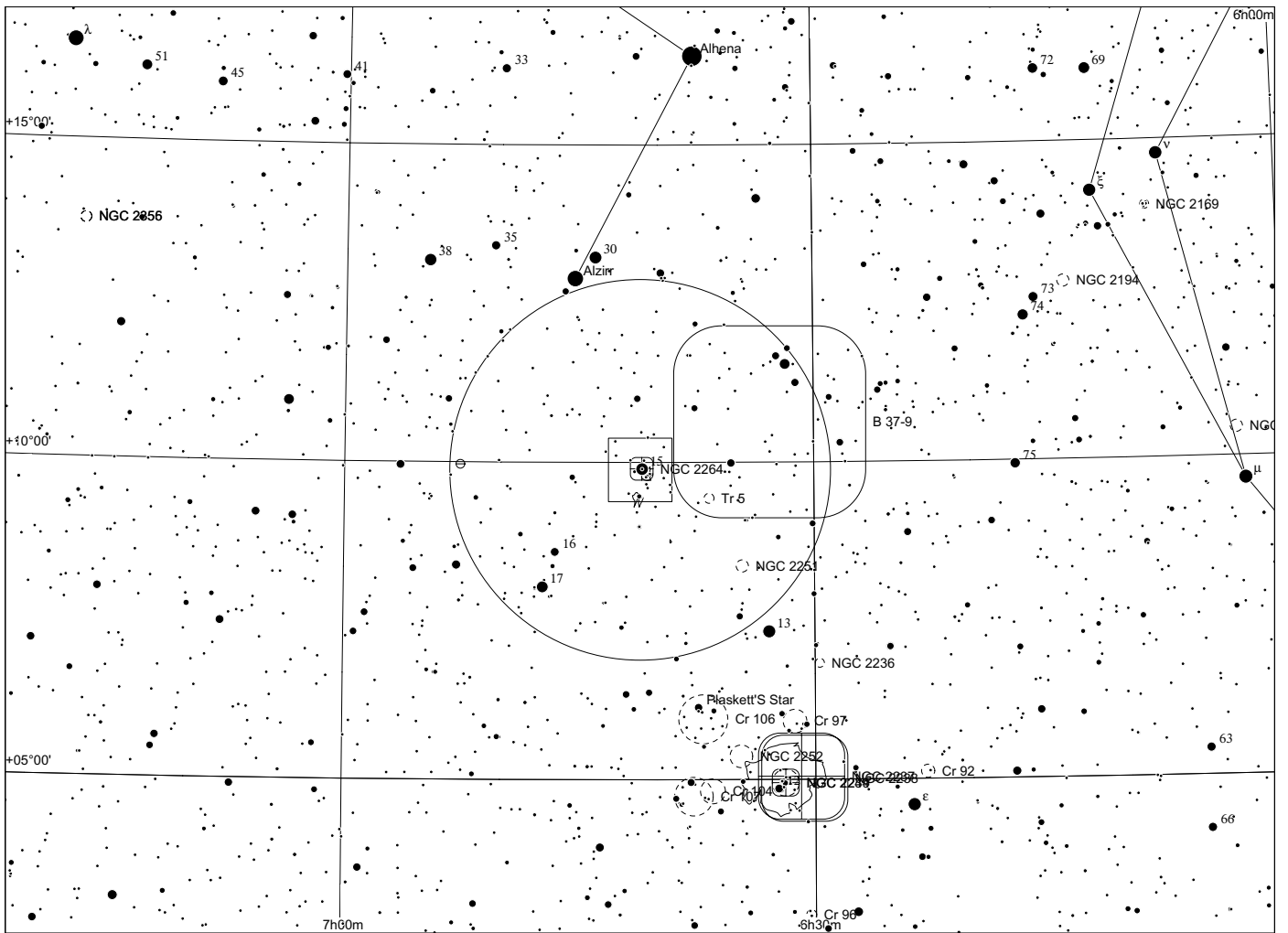
The Fox Fur nebula is associated with the star cluster NGC 2264, dominated by the O7Ve multiple star system S Monocerotis (usually abbreviated to S Mon). This region also includes the famous Cone nebula, visible at the bottom of the image.

Observing notes:

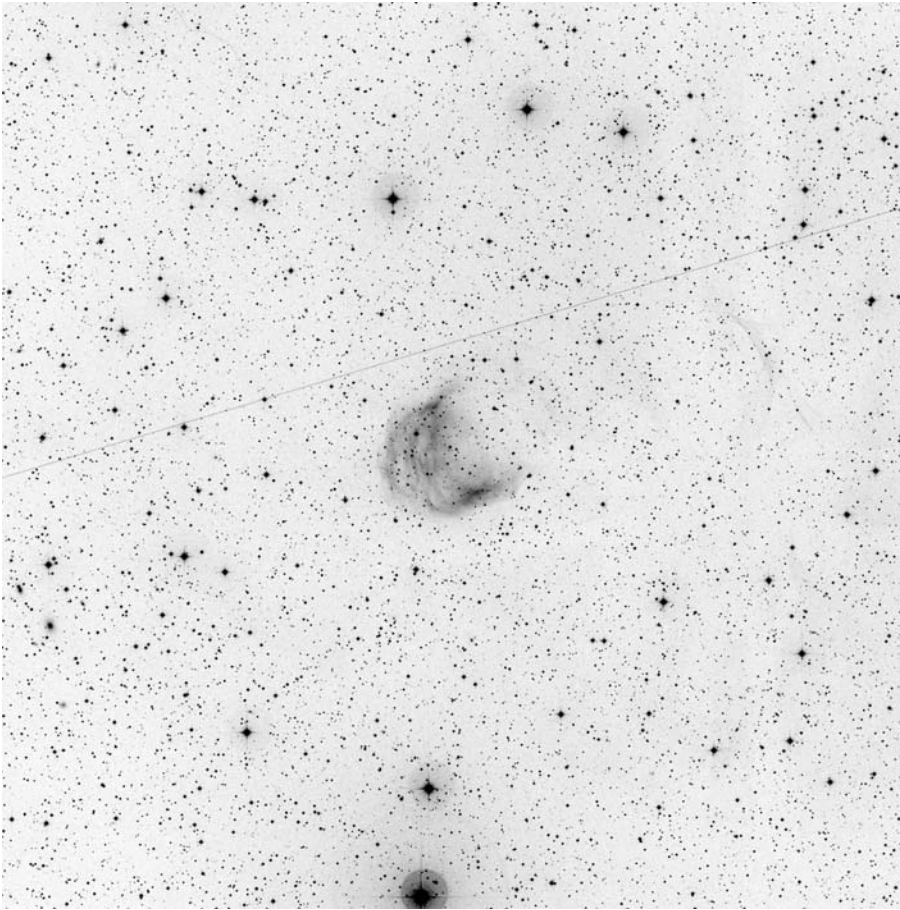
22" f/4.5

The RNe around S Mon are easily visible w/o filter.

The cone nebula was observed several times with H beta filter. Not symmetrical to the tip of the Christmas tree, the E side (with further nebulosity towards E) is slightly better defined than W side. Both sides are visible, but extremely faint, forming the silhouette of the cone.



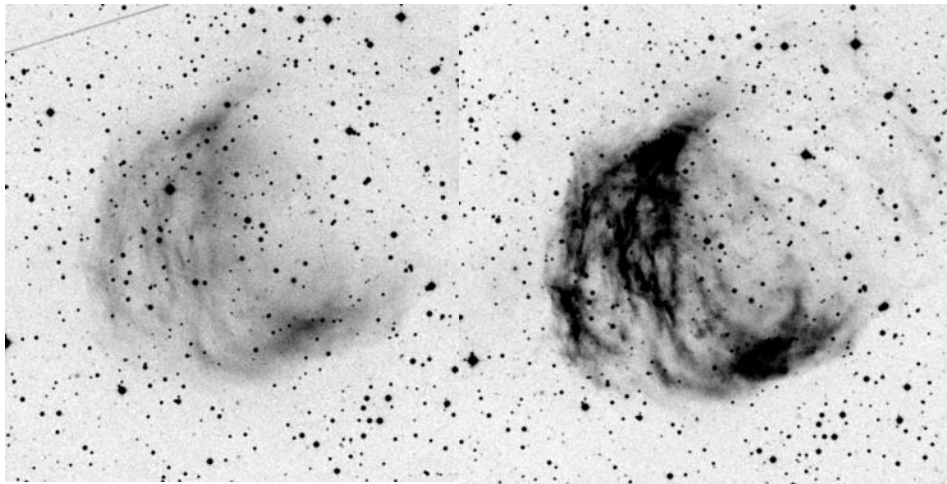
Sh 2 - 274 in Gemini



60x60, blue

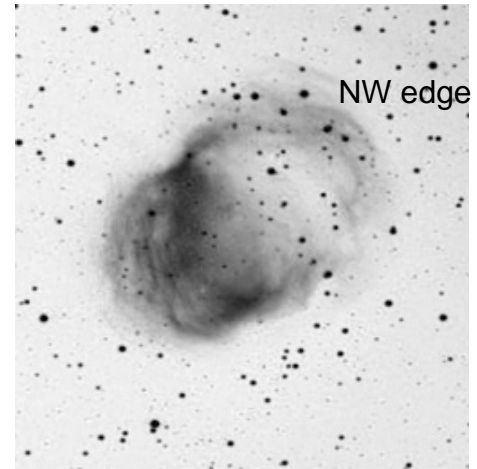


narrowband Dean Salman



POSS blue

POSS red



NW edge

OIII

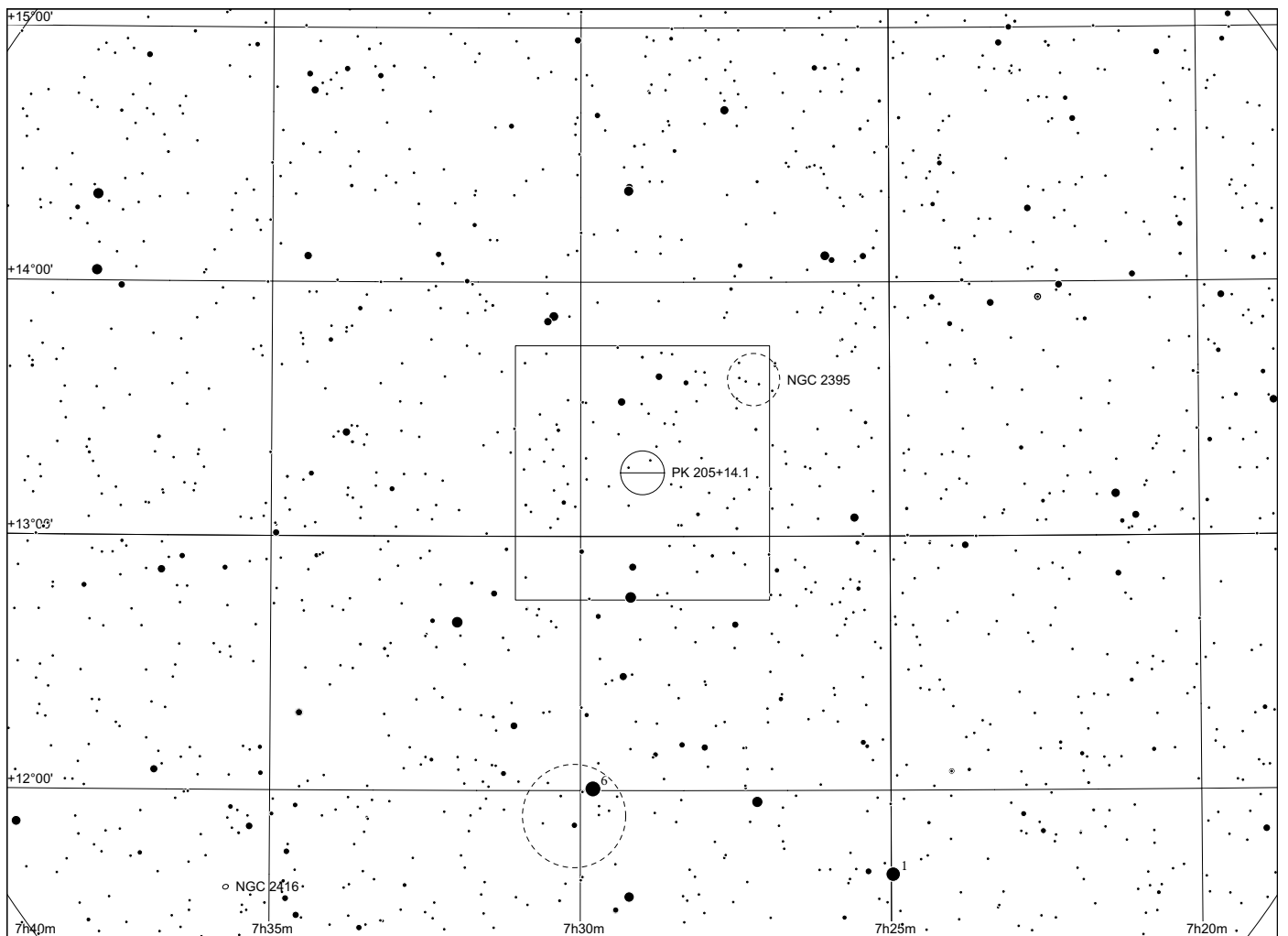
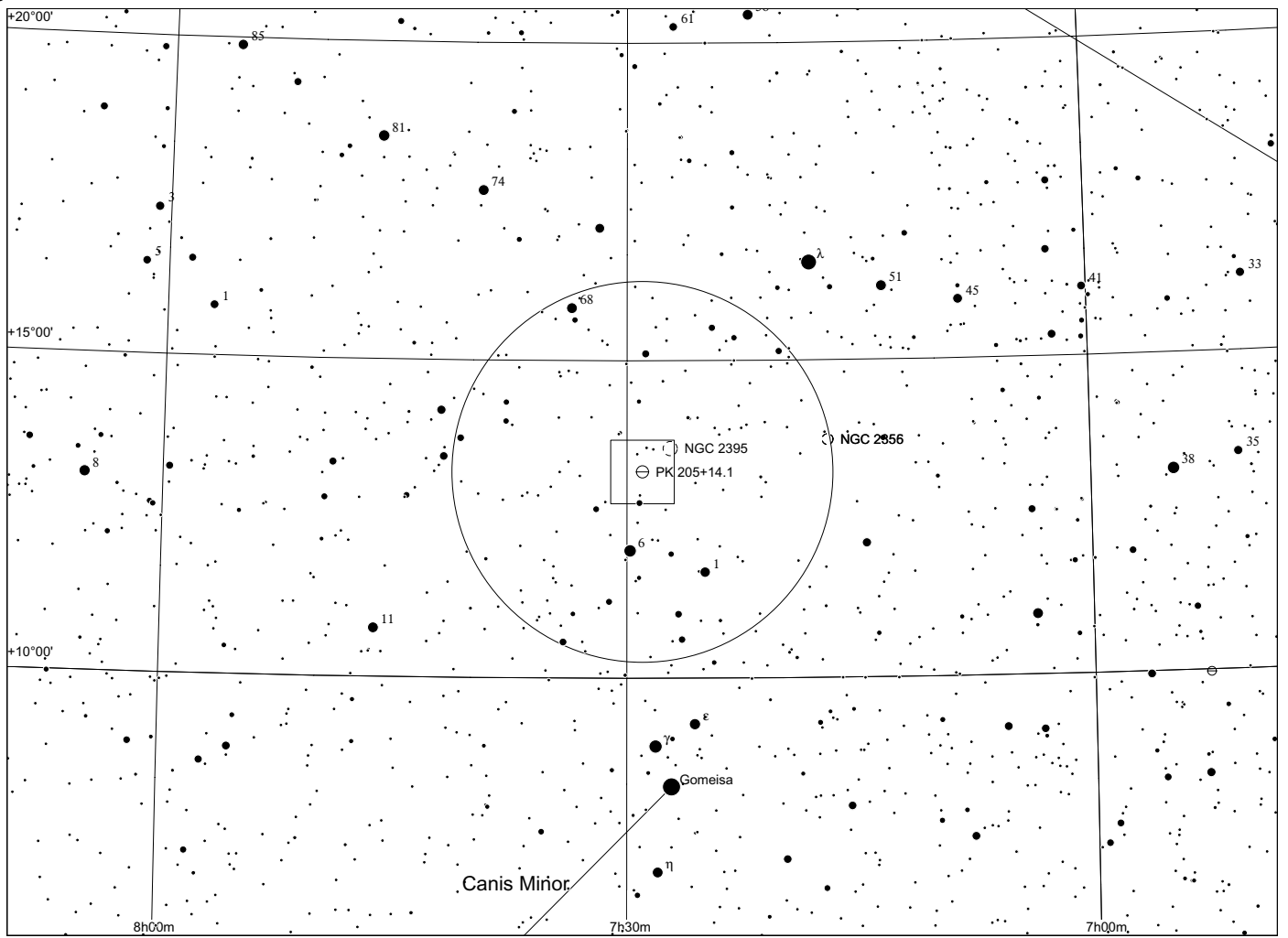
	other name	RA	dec	dia. '	F	S	B
Sh 2-274	Abell 21	07 29 06.4	+13 15 43	8	3	3	3

The Medusa nebula, Abell 21, is a planetary nebula located at a distance of about 188 pc and is 8800 years old.

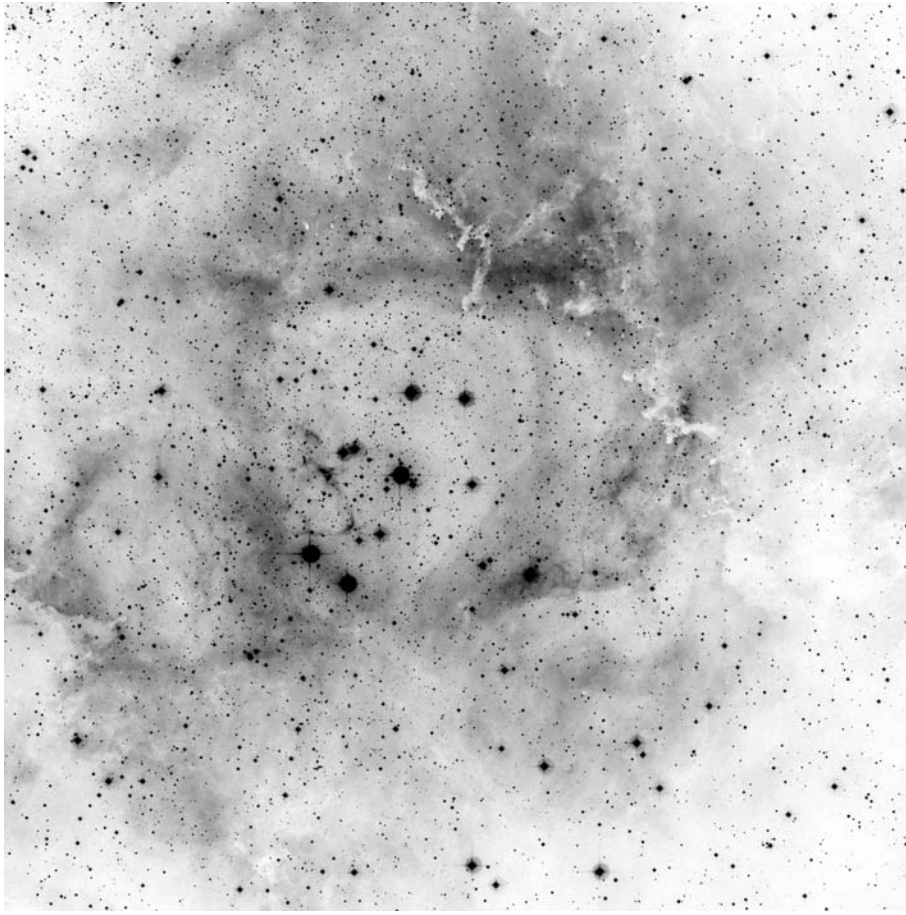
Observing notes:

22" f/4.5

The most beautiful ear of the universe! Responds very well to OIII filter. E side forms filamentous crescent, which is relatively bright in OIII. Inside filled with weaker OIII emission. NW counterpart also visible as an extremely faint crescent along chain of stars, forms with E crescent a closed structure.



Sh 2 - 275 in Monoceros



60x60, red



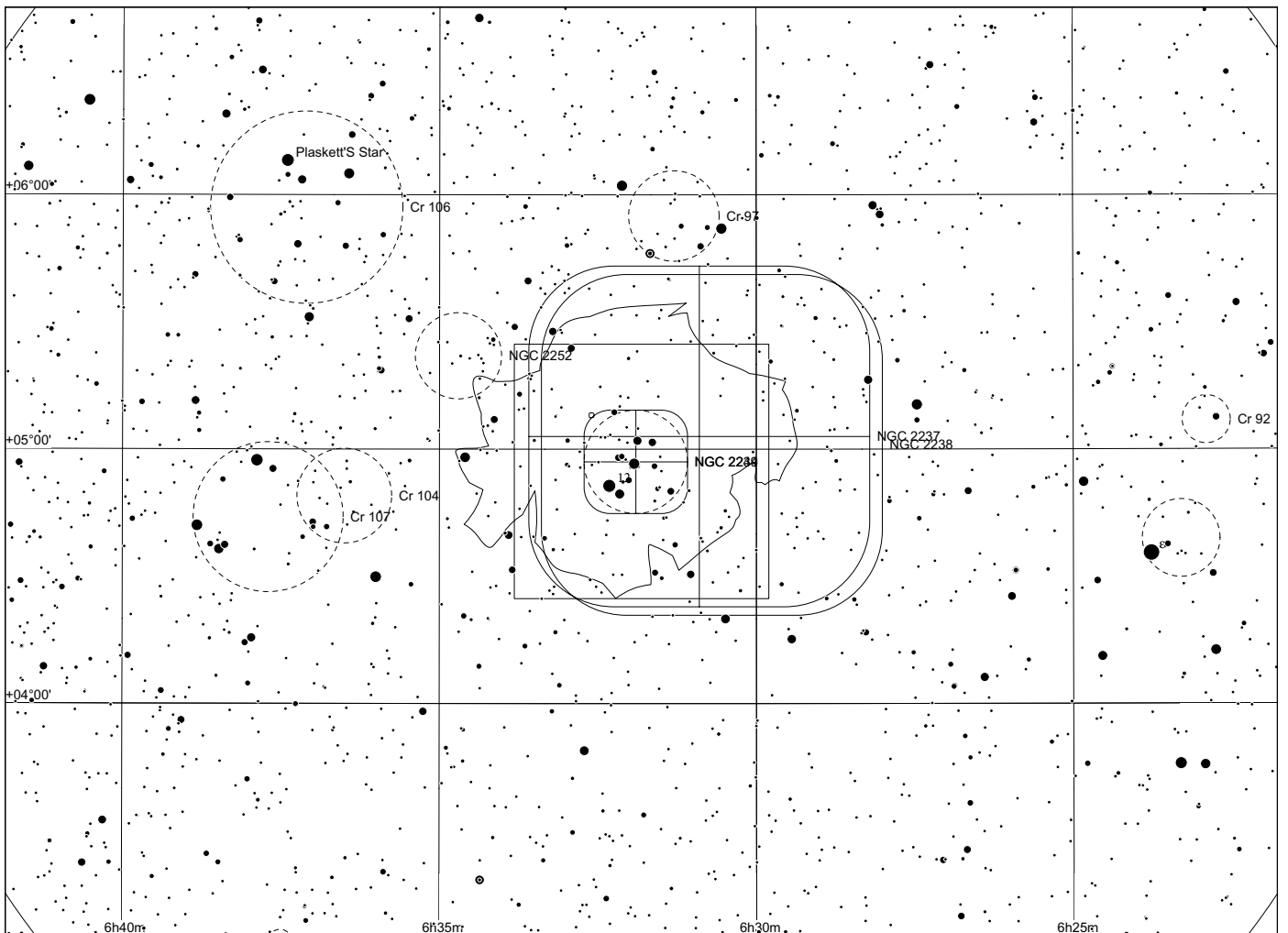
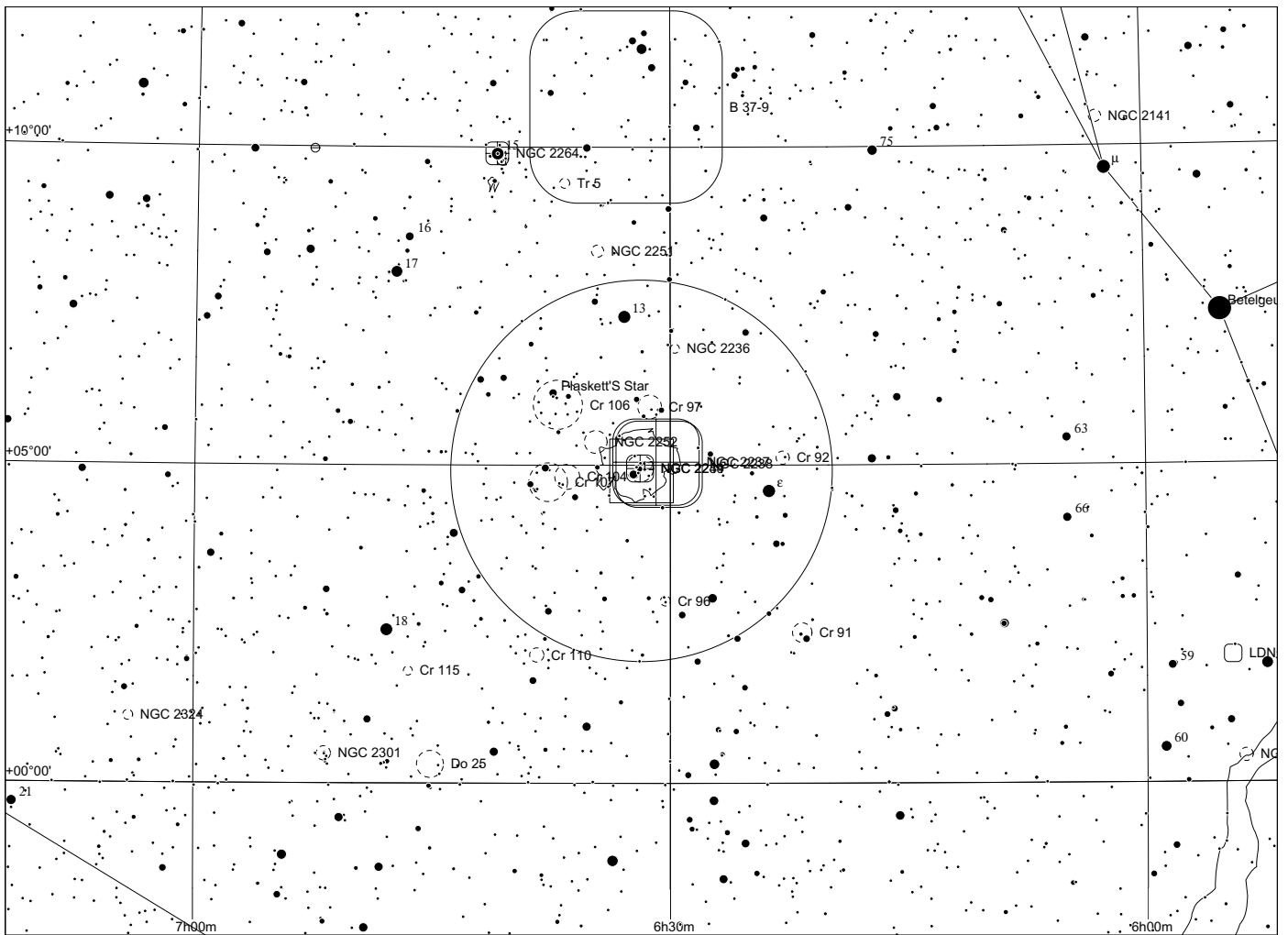
narrowband, Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-275	NGC2246 = Rosette Nebula	06 31 42.5	+04 55 47	100	1	2	3

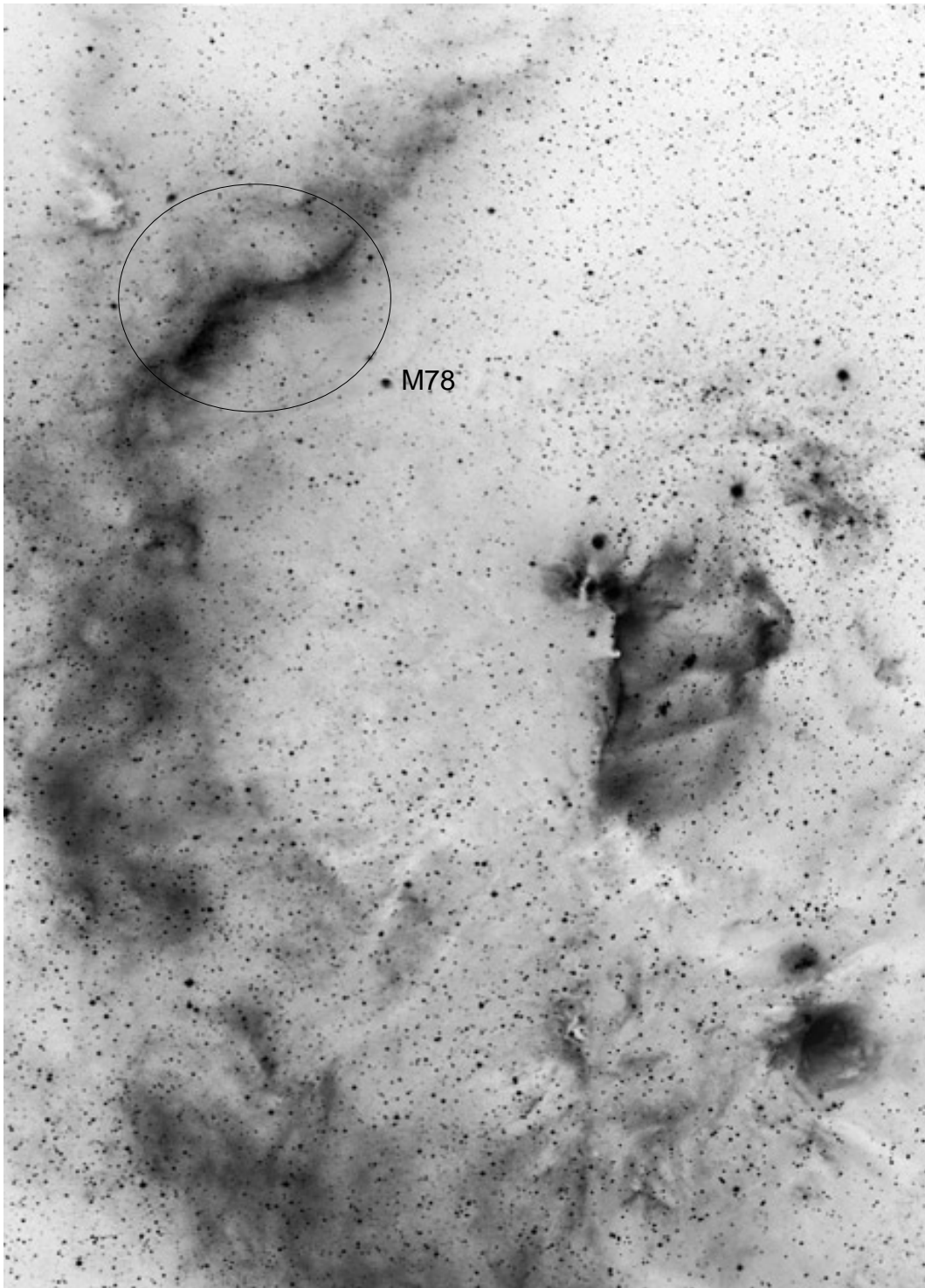
Observing notes:

22" f/4.5

Extremely detailed EN with several superimposed dark lanes.



Sh 2 - 276 in Orion



H alpha Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-276	Barnard's Loop	05 27 28.1	-03 57 55	1200	2	2	2

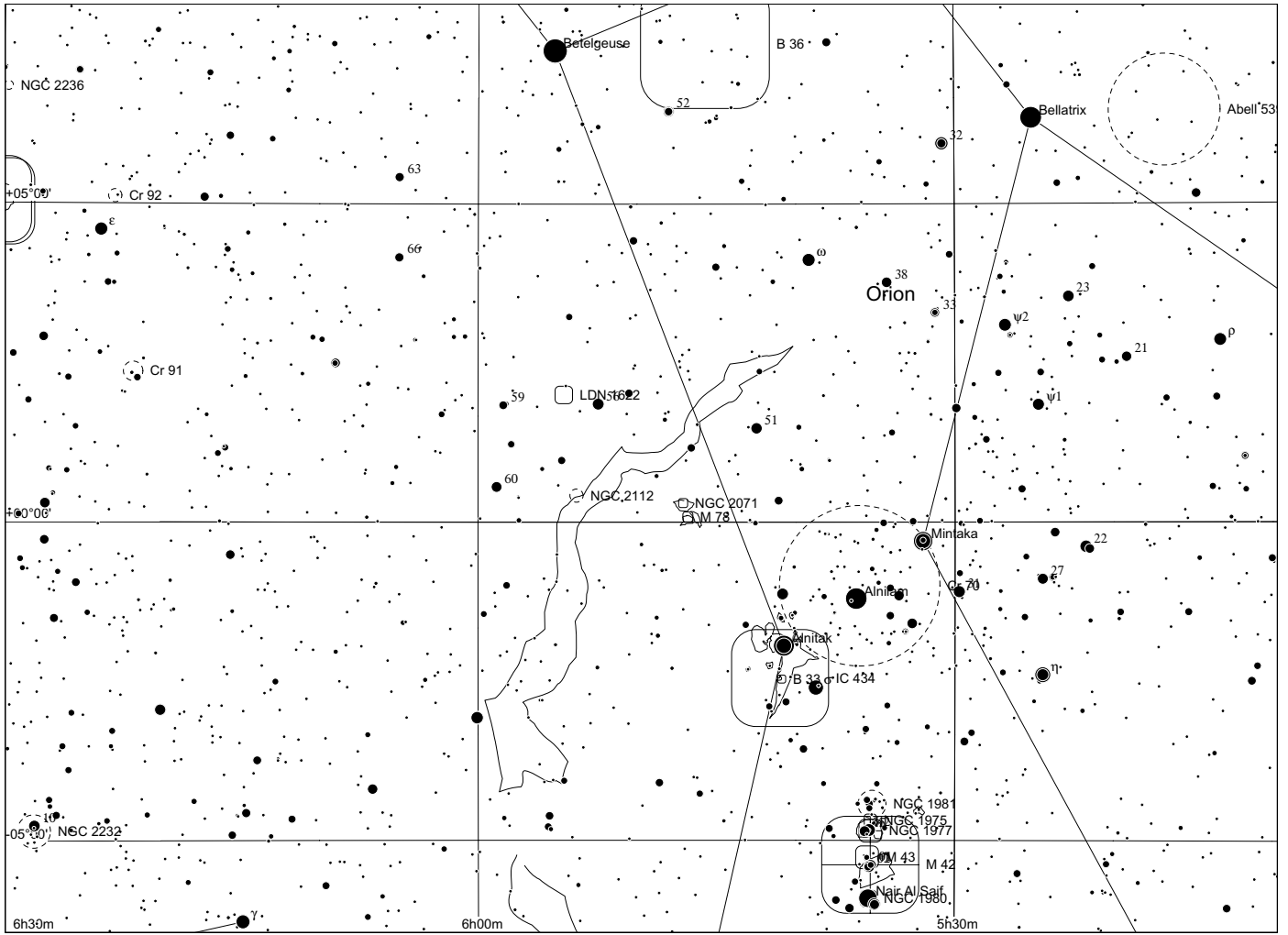
Distance: 159 pc, Size: 56.1 pc, Source: 2005A&A...430..523W

The largest nebula in apparent diameter in the Sharpless catalog is Barnard's loop, the ionised gas that makes up the nearest portion of the Orion Eridanus bubble. It is considerably closer than the gas that makes up the main portion of the Orion molecular clouds.

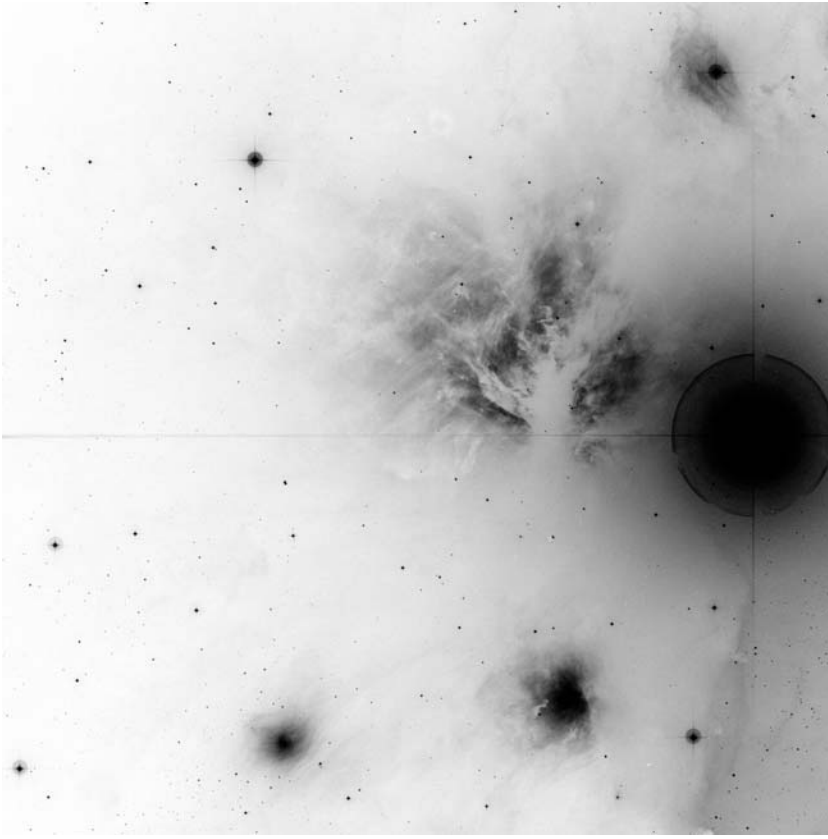
Observing notes:

80 mm finder

With UHC filter, the area NW of M78 (marked in DSS image) appears fairly distinct as a milky glow.



Sh 2 - 277 in Orion



60x60, blue

RGB Dean Salman

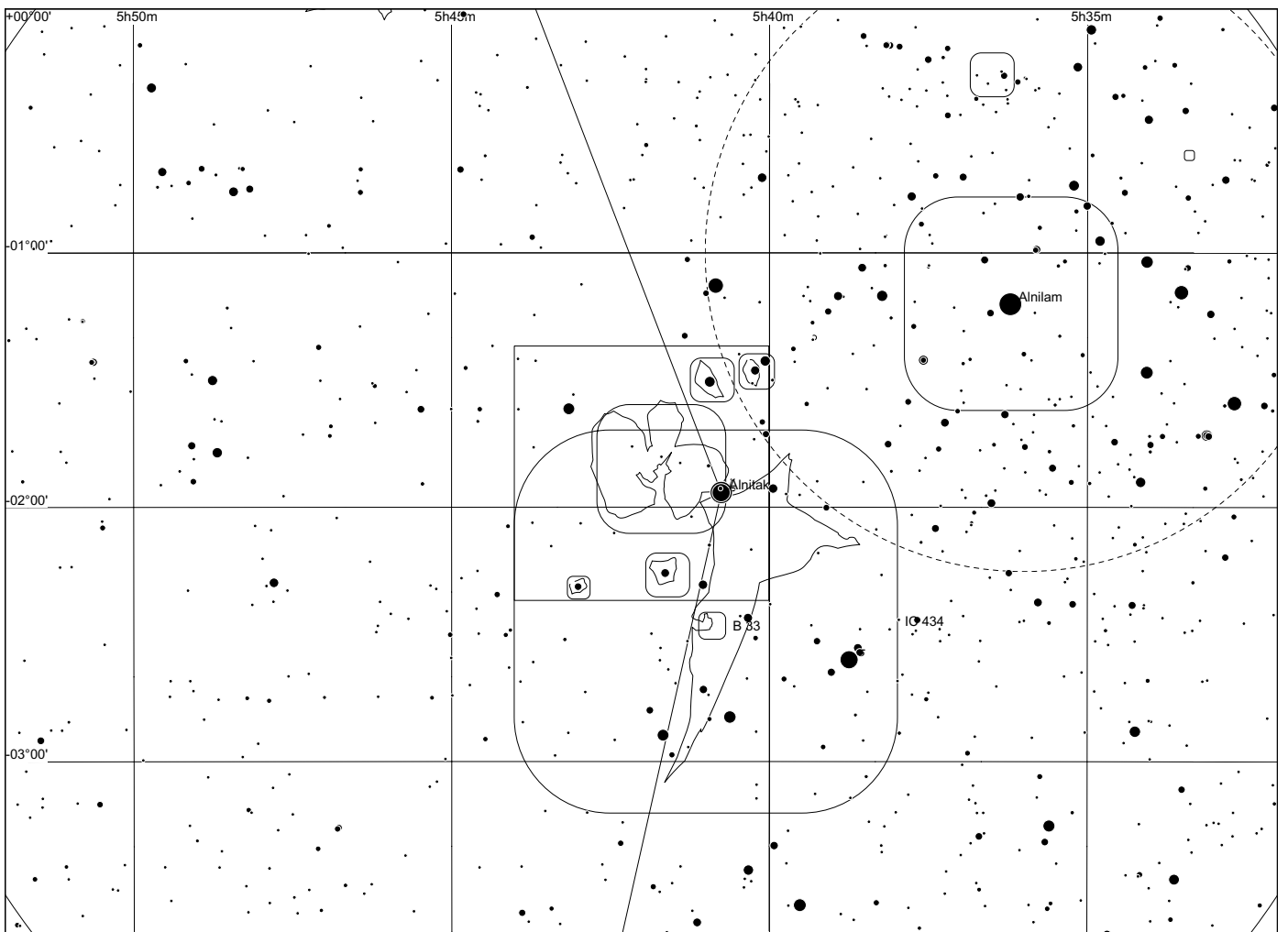
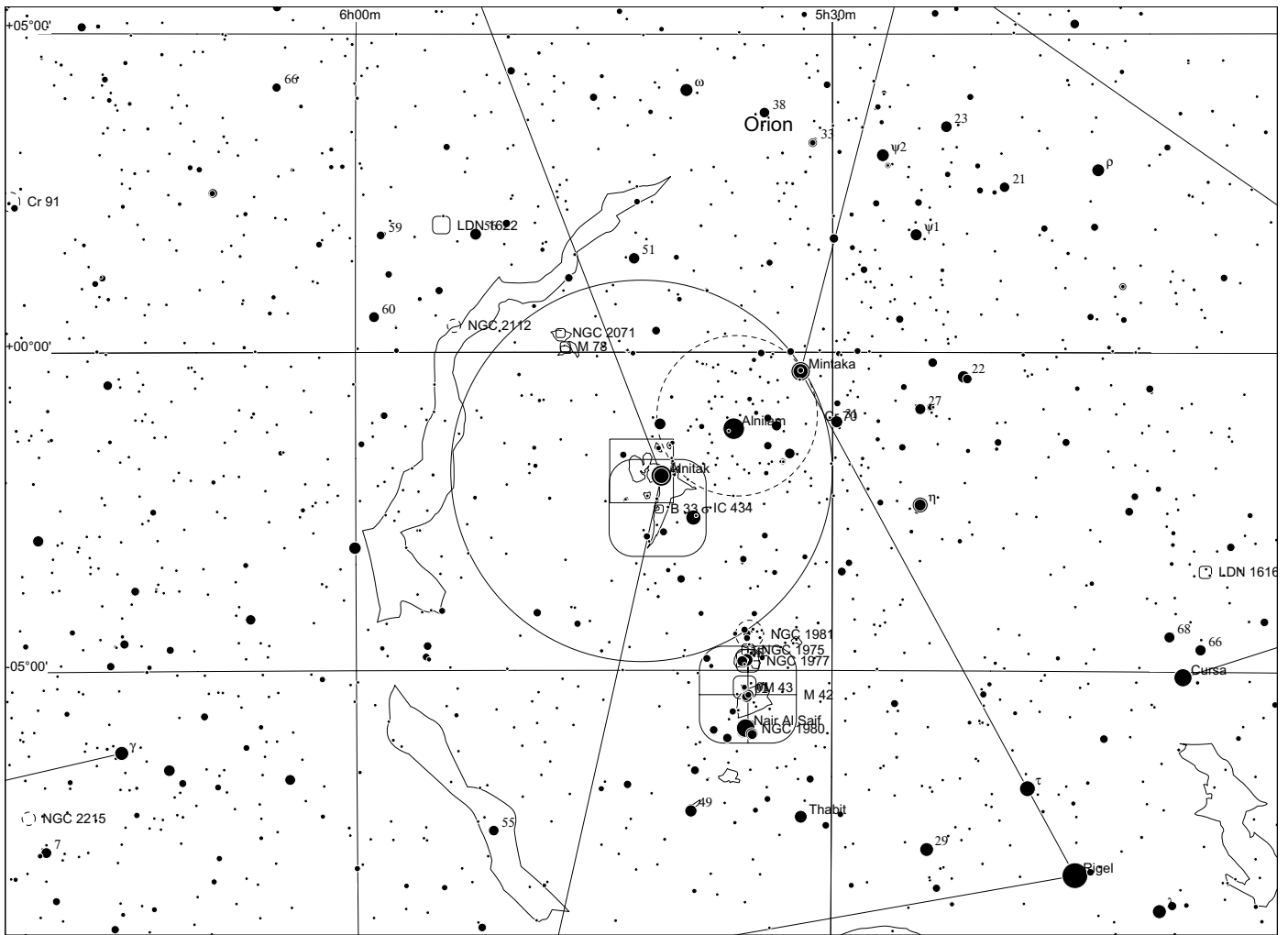
	other name	RA	dec	dia. '	F	S	B
Sh 2-277	IC 434 or NGC2024?	05 40 42.9	-02 26 49	120	3	2	3

Distance: 500 pc, Size: 17.5 pc, Source: 1982ApJS...49..183B

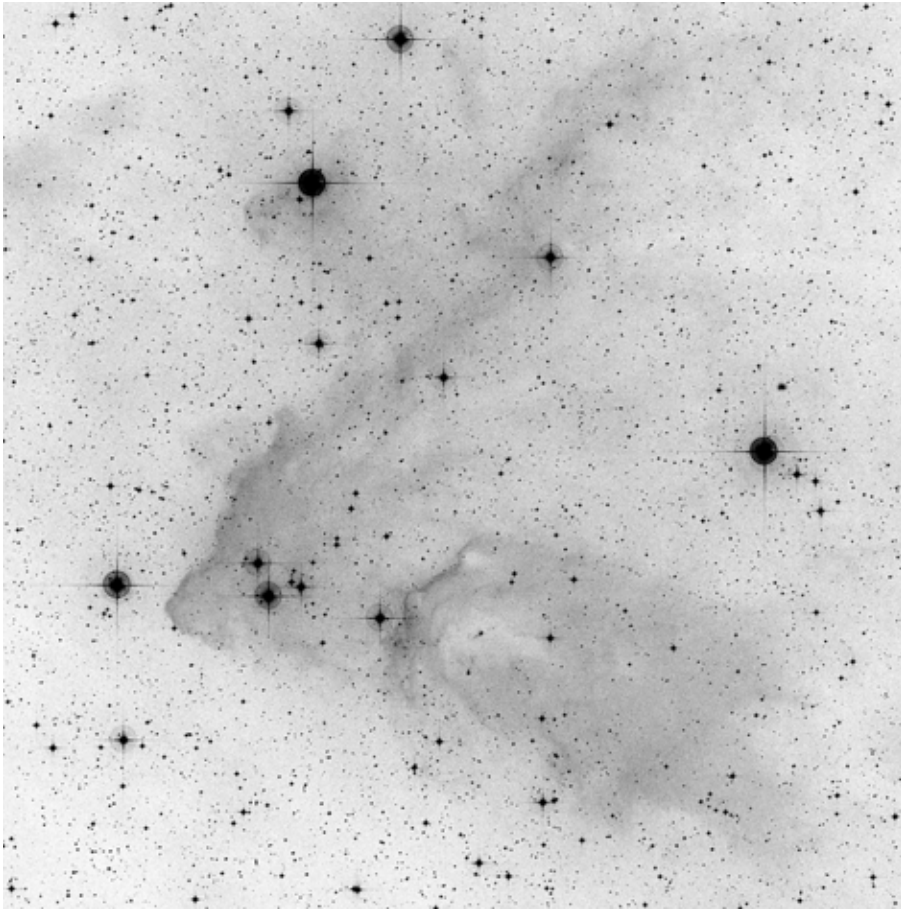
This is NGC 2024, the Flame nebula, illuminated by the O9.5Ib star Alnitak (Zeta Orionis), the eastern-most star in Orion's belt.

Observing notes:

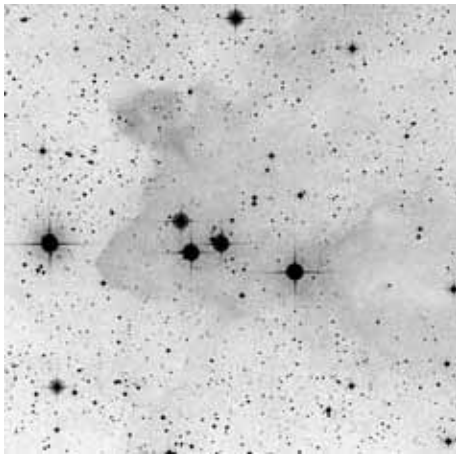
The Flame nebula is best w/o filter as well as the surrounding RNs, horse head with H beta



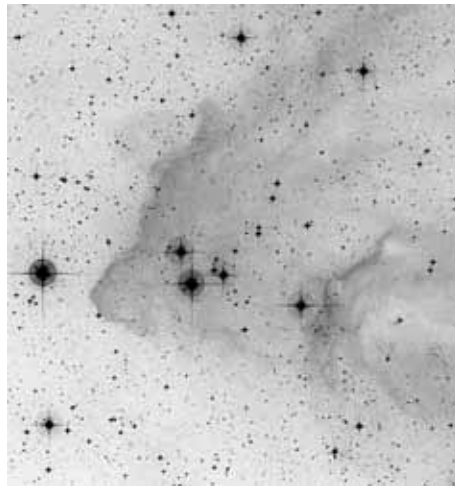
Sh 2 - 278 in Orion



60x60, red



POSS blue



POSS red



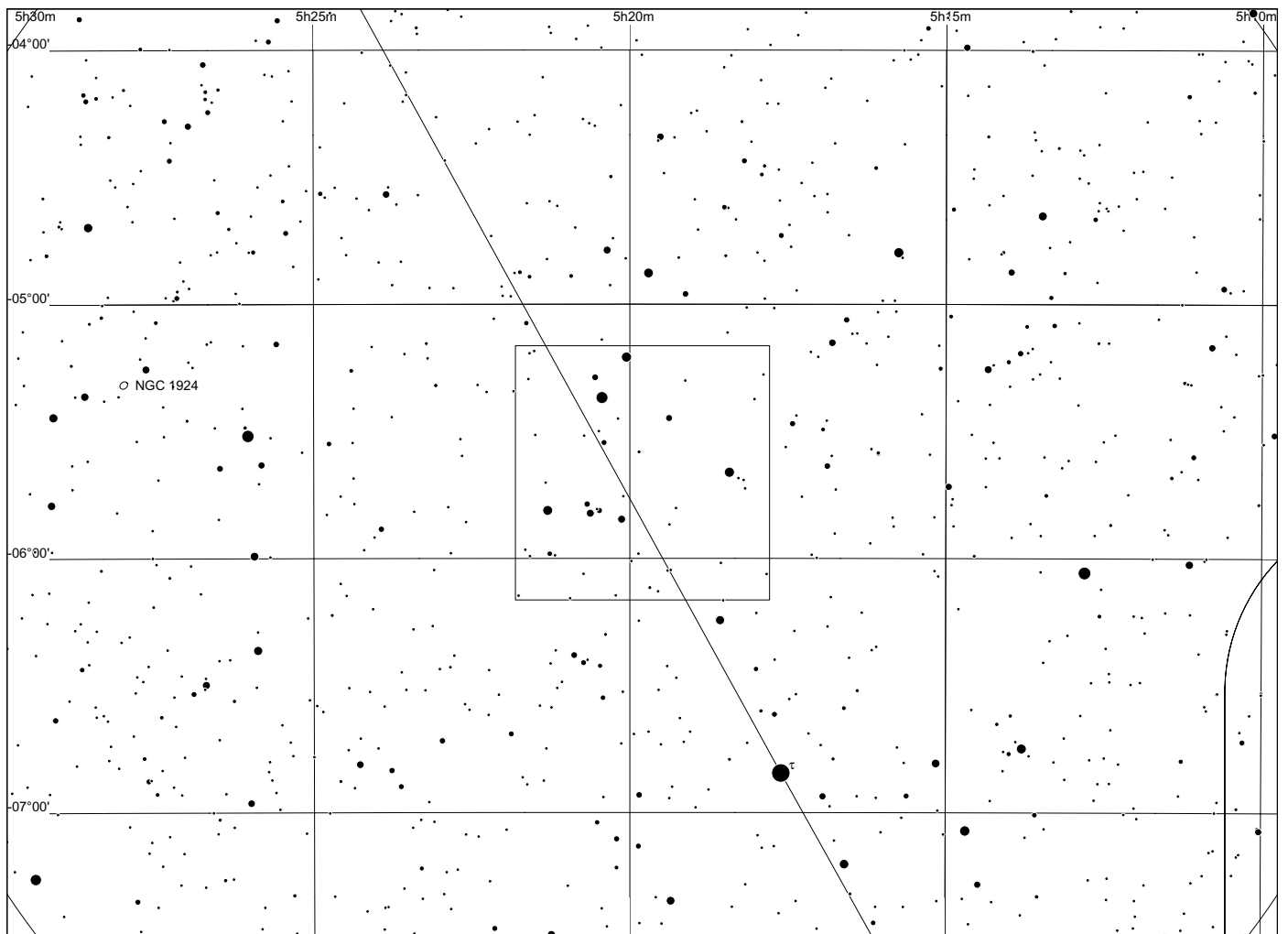
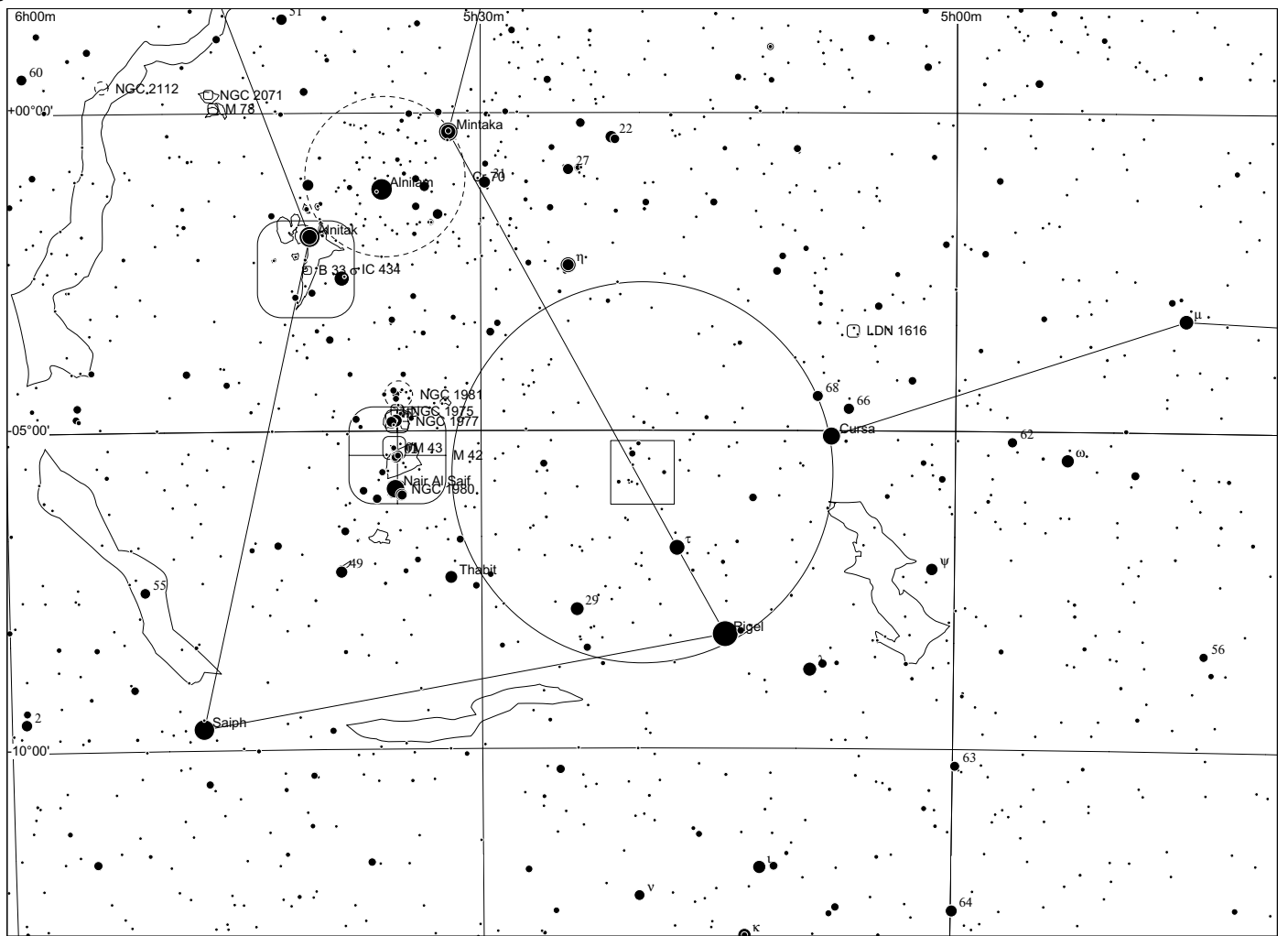
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-278		05 19 48.2	-05 39 49	50	3	2	2

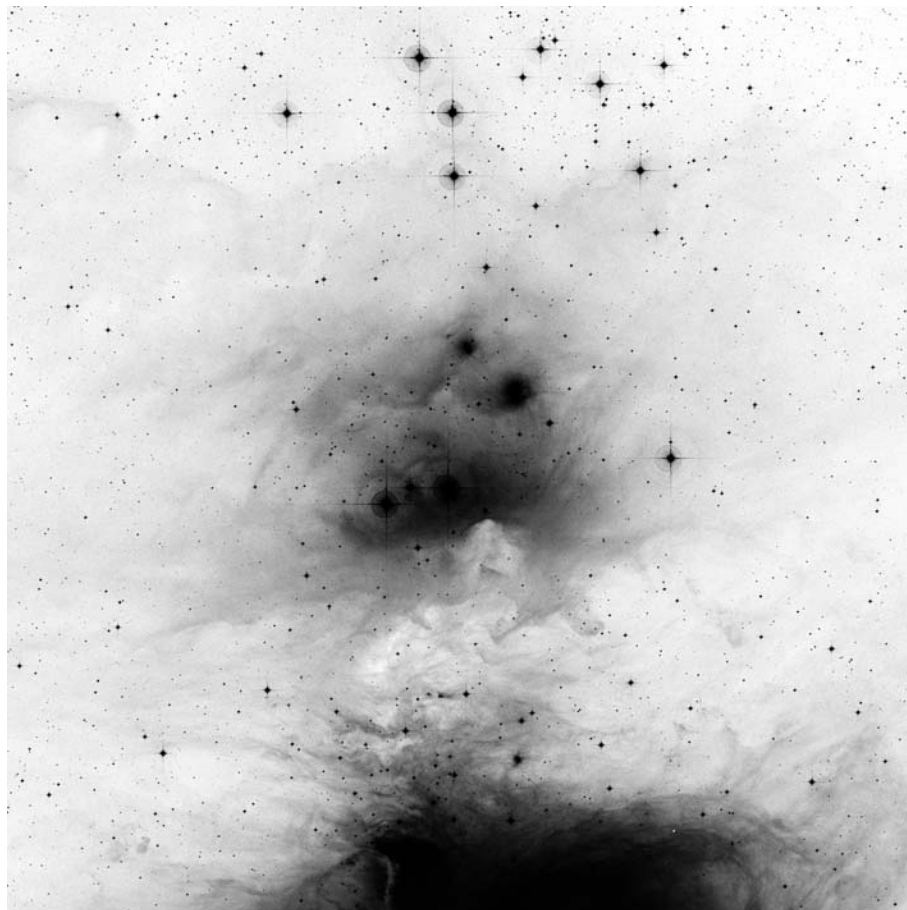
Distance: 500 pc, Size: 7.3 pc, Source: 1982ApJS...49..183B

This is the high latitude cloud MBM 110.

Observing notes:



Sh 2 - 279 in Orion



60x60, red



RGB Dean Salman

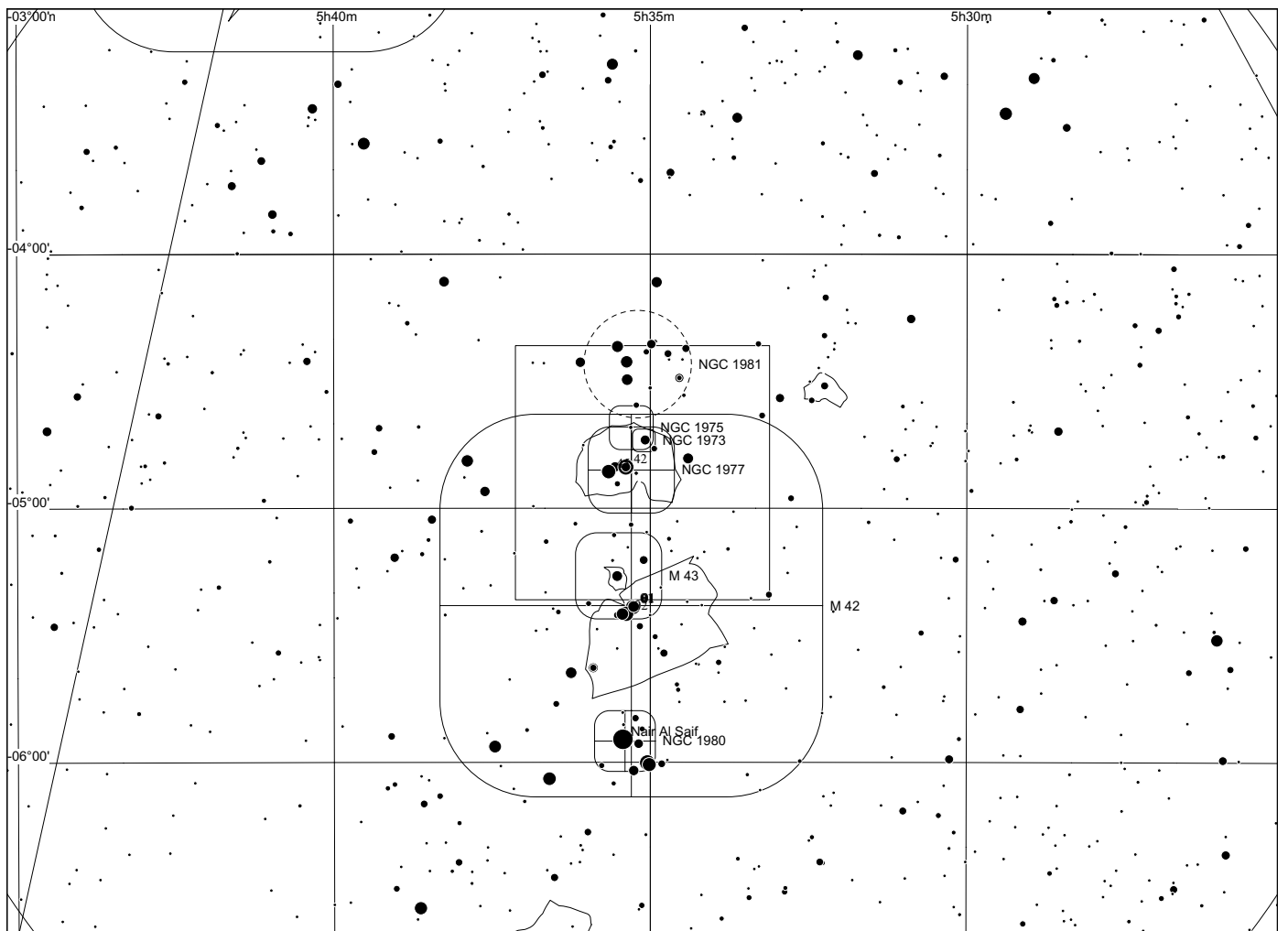
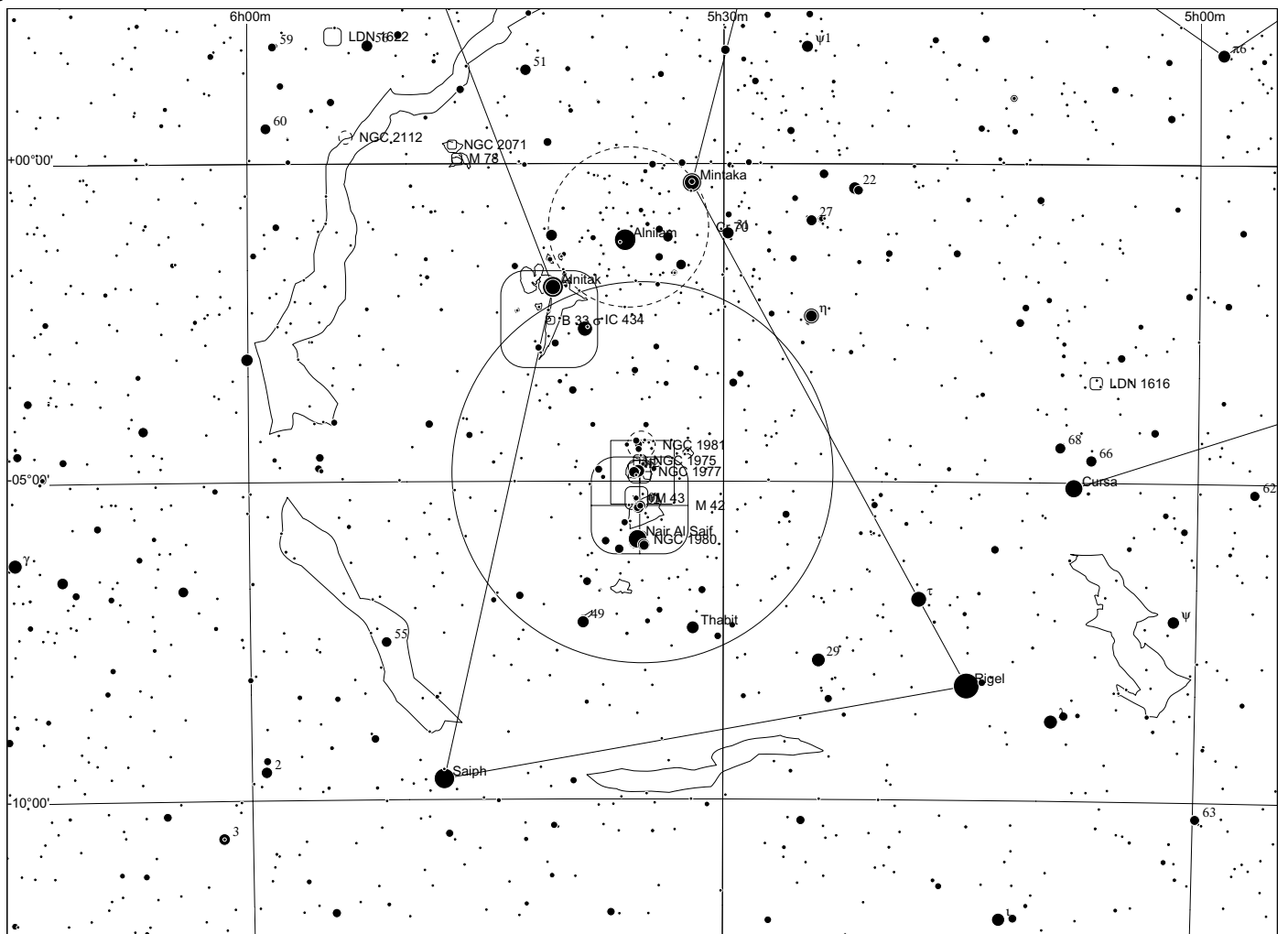
	other name	RA	dec	dia. '	F	S	B
Sh 2-279	NGC1973/1975/1977	05 35 20.1	-04 48 03	20	3	2	3

Distance: 500 pc, Size: 2.9 pc, Source: 1982ApJS...49..183B

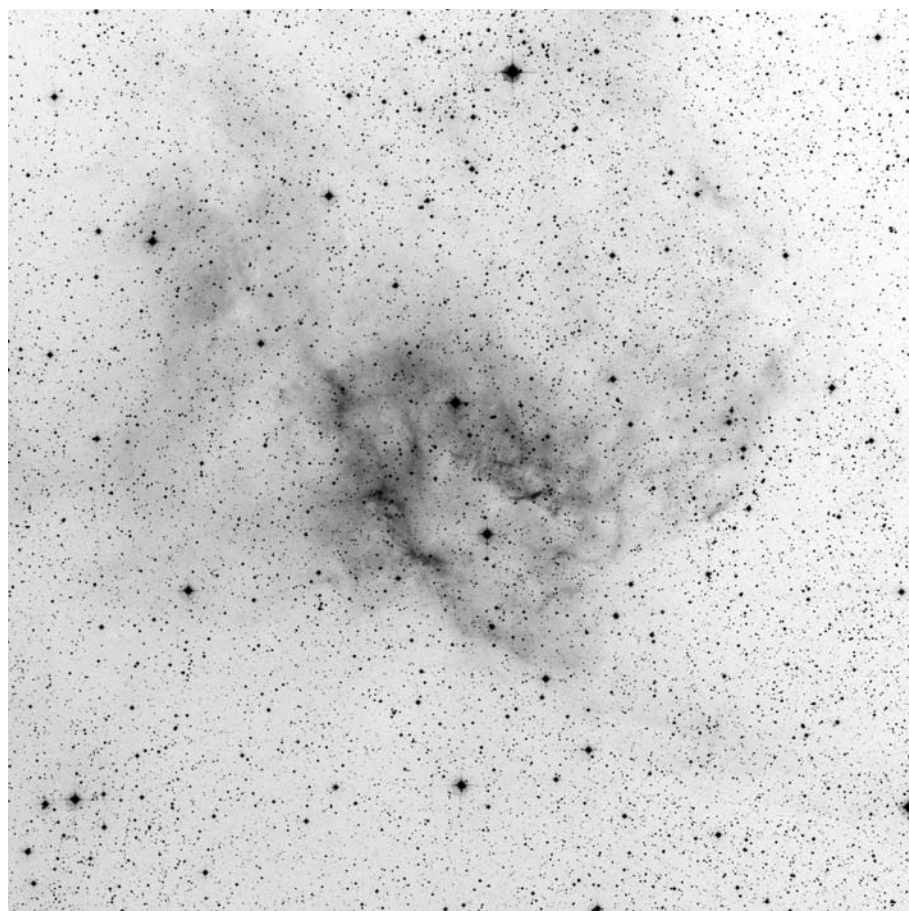
This nebulosity is associated with the Orion complex star cluster and molecular cloud NGC 1977. Running Man.

Observing notes:

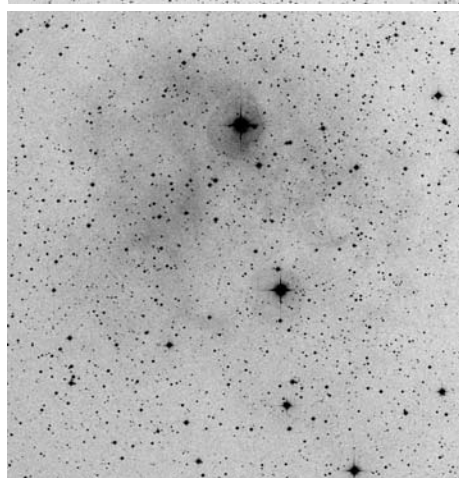
Best w/o filter



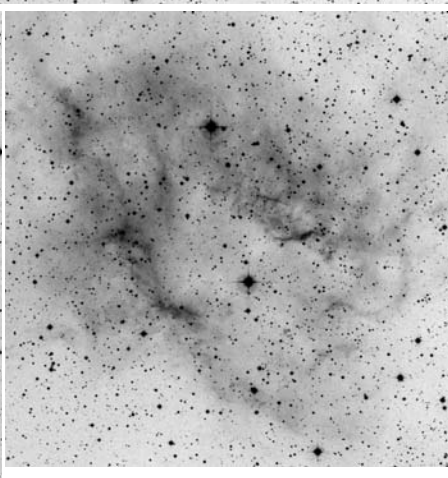
Sh 2 - 280 in Monoceros



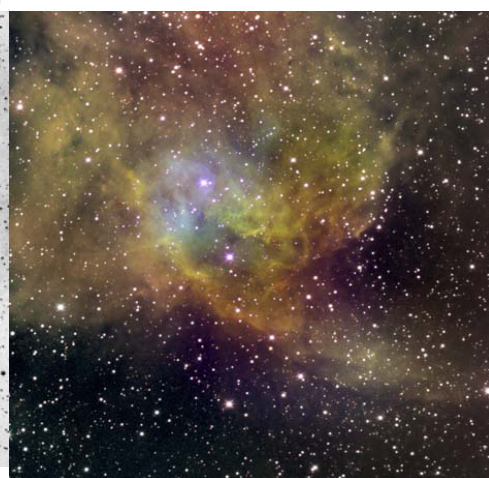
60x60, red



POSS blue



POSS red



narrowband Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-280		06 34 18.7	+02 32 23	40	3	2	2

Distance: 1700 pc, Size: 19.8 pc, Source: 1982ApJS...49..183B

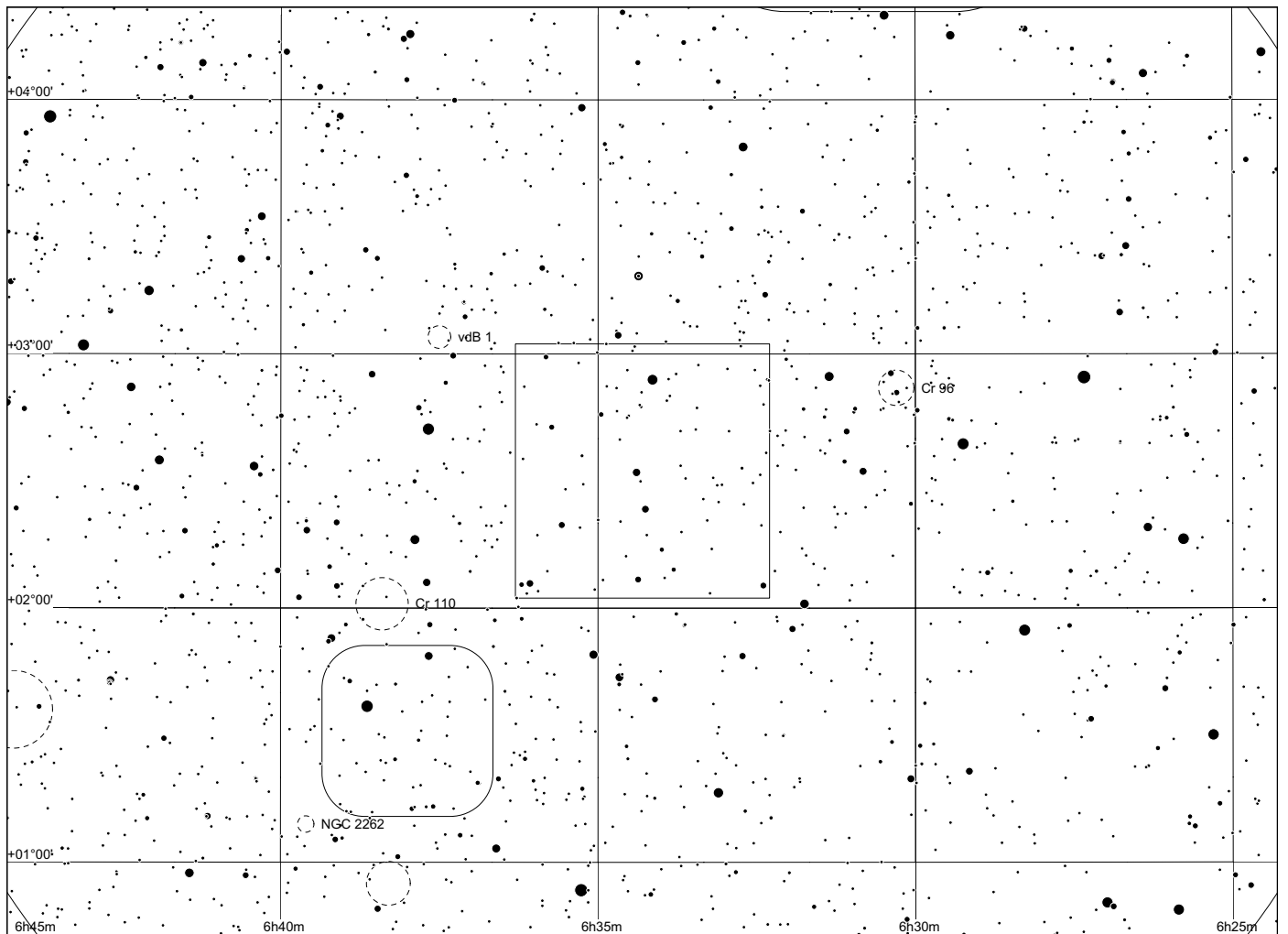
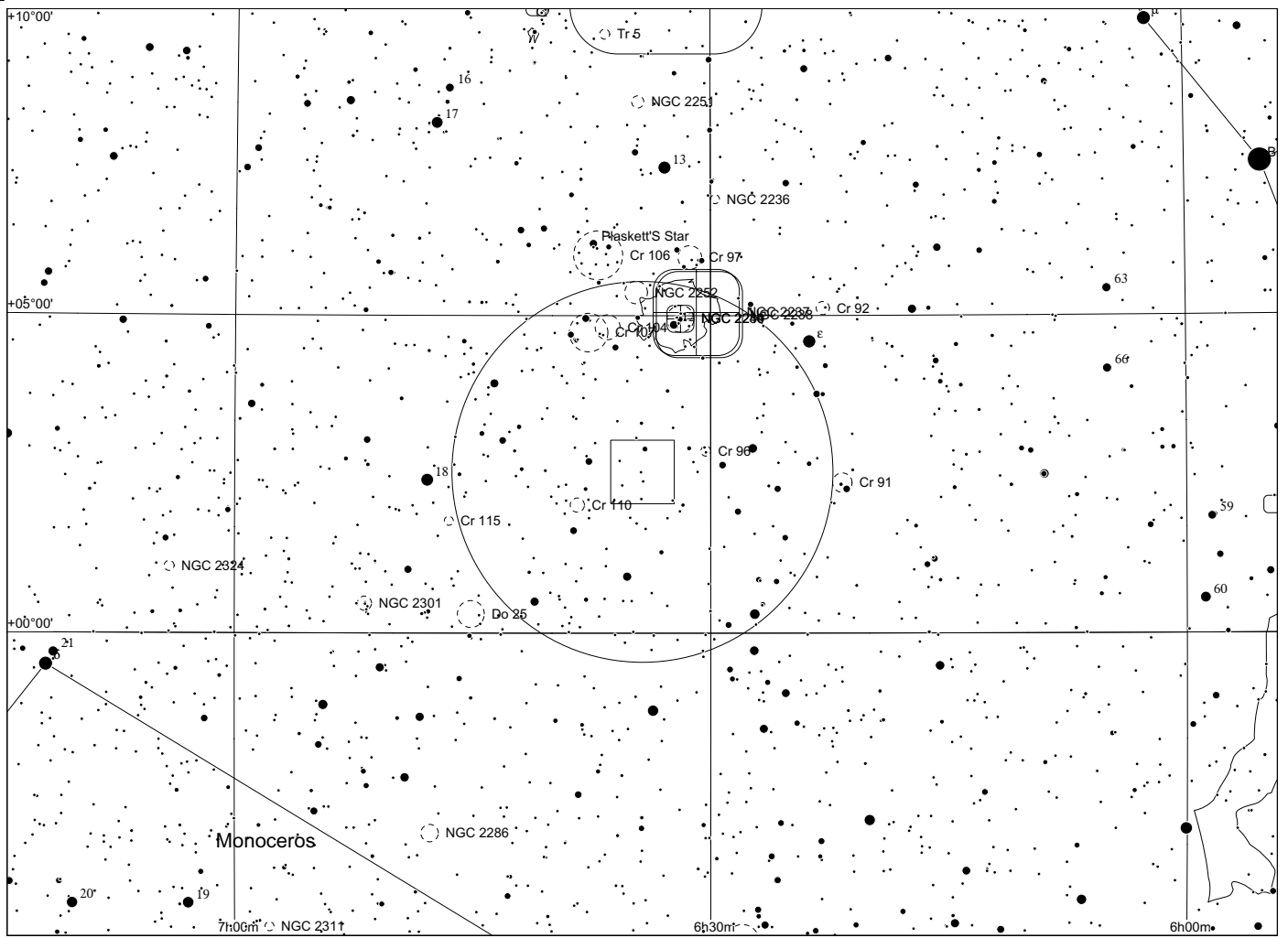
The exciting star for this HII region is HD 46573.

Observing notes:

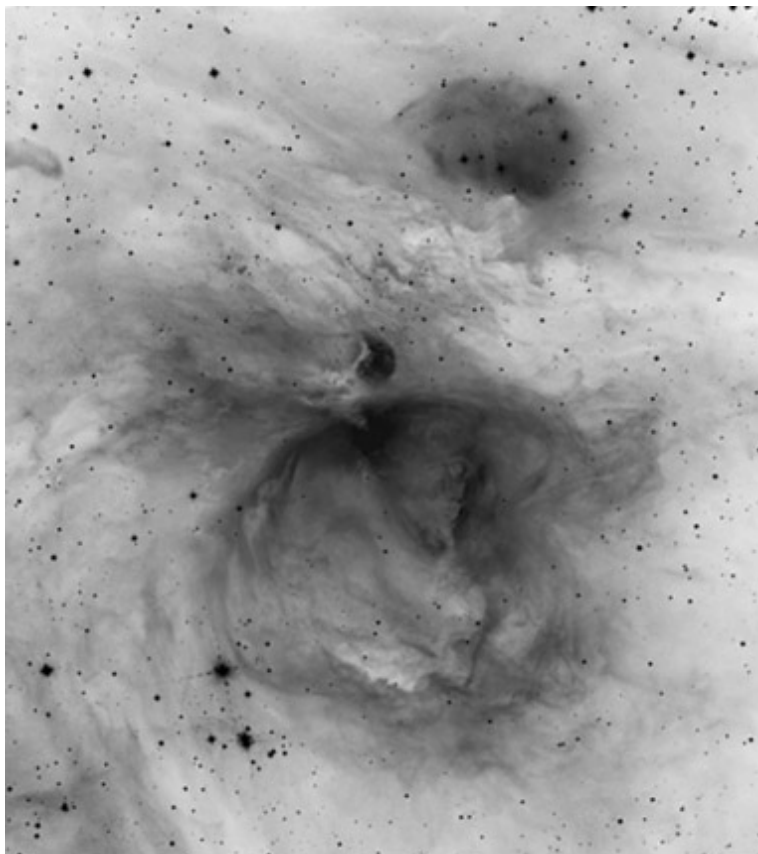
14" f/5

12/2008: At 70x with UHC. Large and very faint diffuse nebula

03/2003: with 32mm large and faint nebula, equally well with OIII and H beta, better with UHC, around pair of star, shifted somewhat toward N, heart shaped with two extensions towards SW. Shape relatively well defined.



Sh 2 - 281 in Orion



H alpha



narrowband, Dean Salman

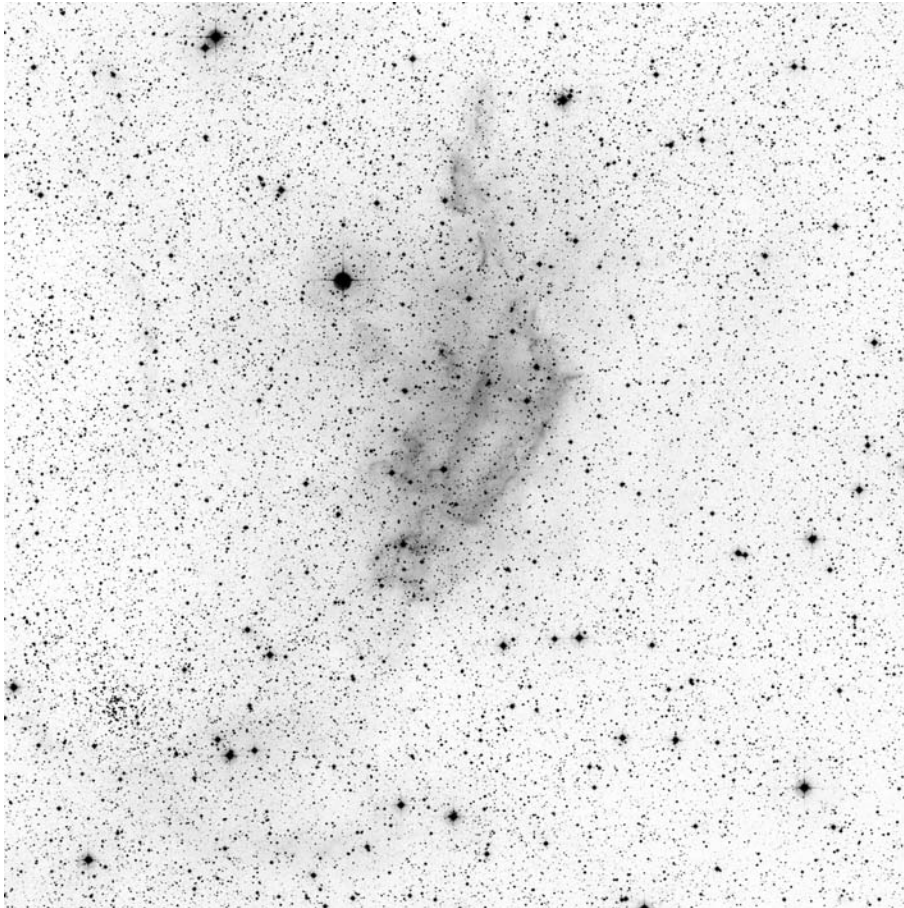
	other name	RA	dec	dia. '	F	S	B
Sh 2-281	M42/43 = Orion Nebula	05 34 54.4	-05 28 00	60	3	2	3

Distance: 500 pc, Size: 8.7 pc, Source: 1982ApJS...49..183B

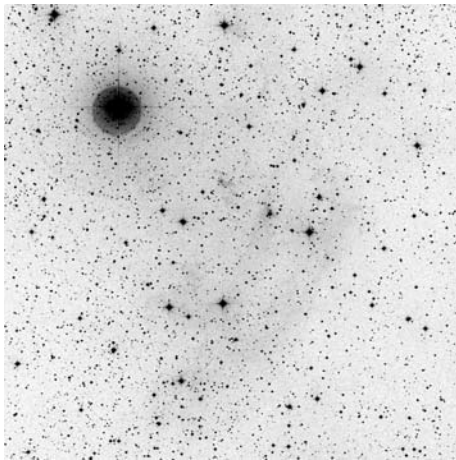
This is the Orion nebula.

Observing notes:

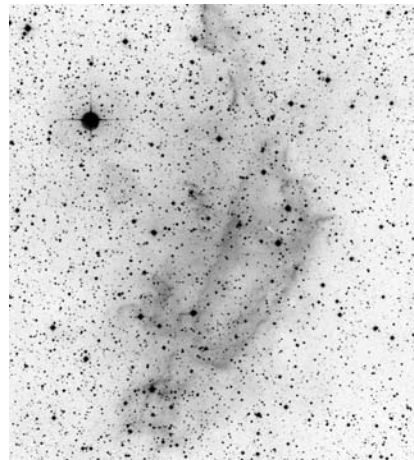
Sh 2 - 282 in Monoceros



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-282		06 37 58.5	+01 30 51	35	3	2	2

Distance: 1500 pc, Size: 15.3 pc, Source: 1982ApJS...49..183B

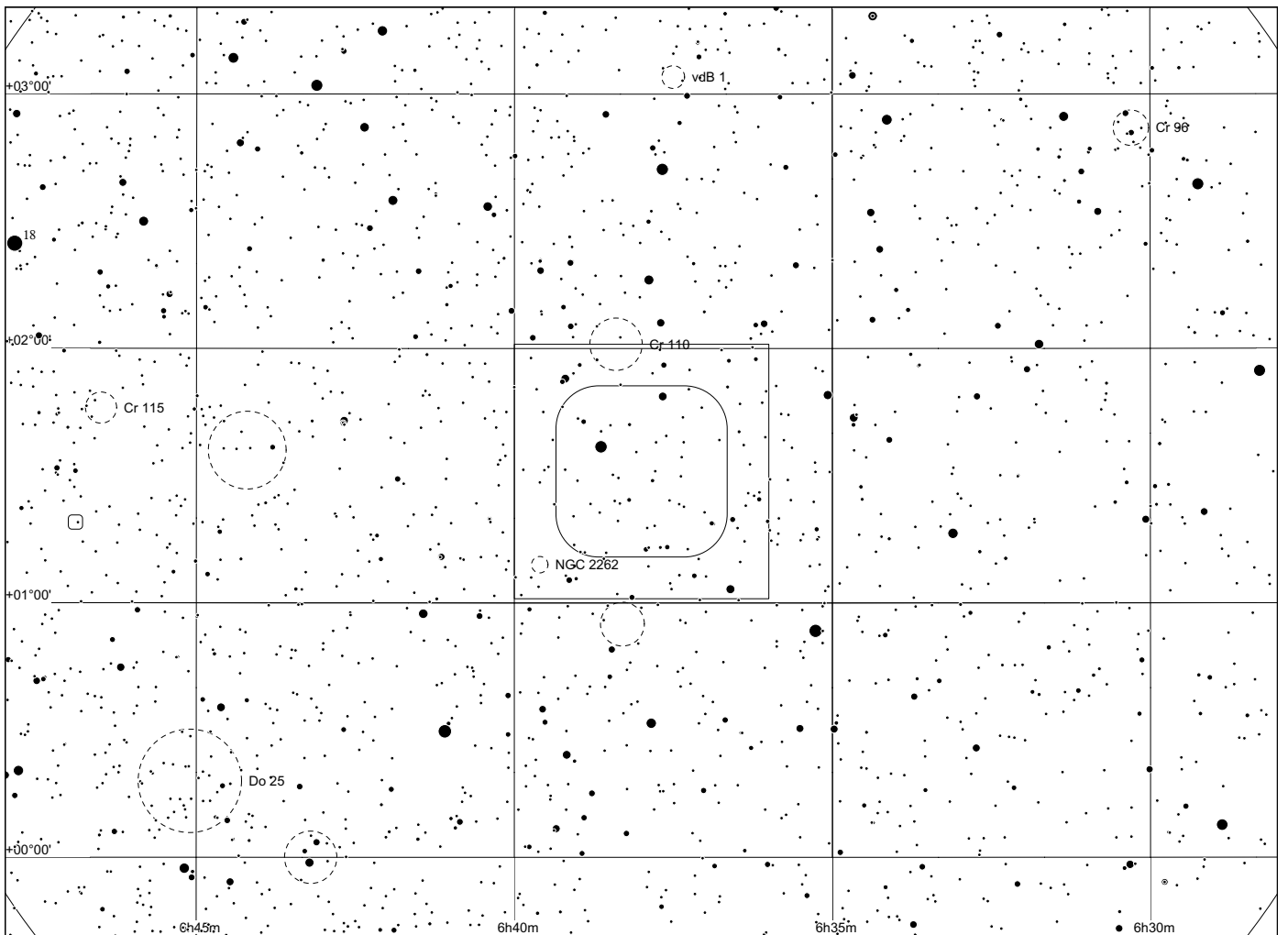
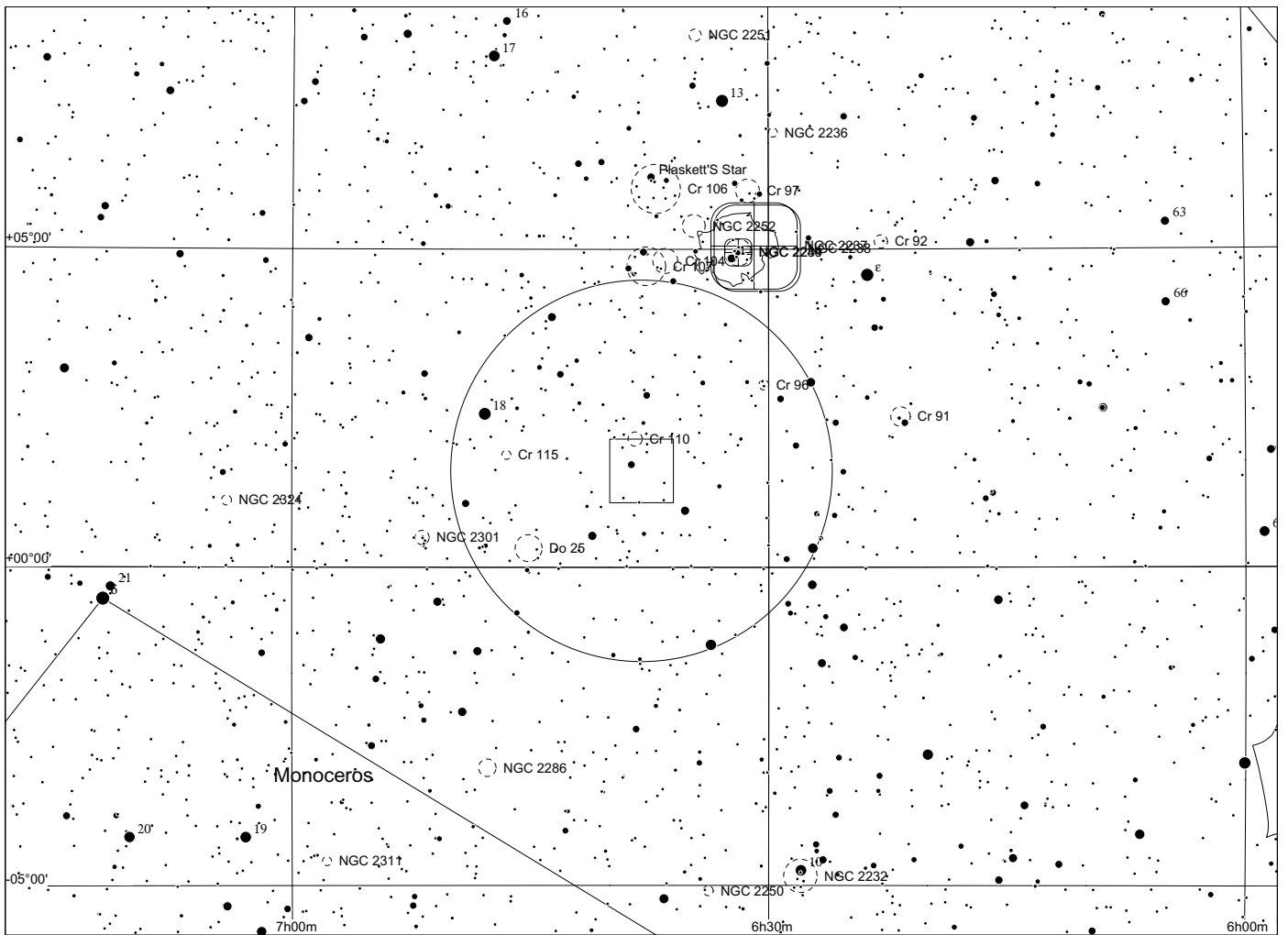
The exciting star of this HII region, HD 47432 (the bright star in the upper part of the image), is located at a distance of 1250 pc and is probably a member of the Mon OB2 association (whose distance is usually given as 1550 pc). The HII region contains a system of eight cometary globules.

Observing notes:

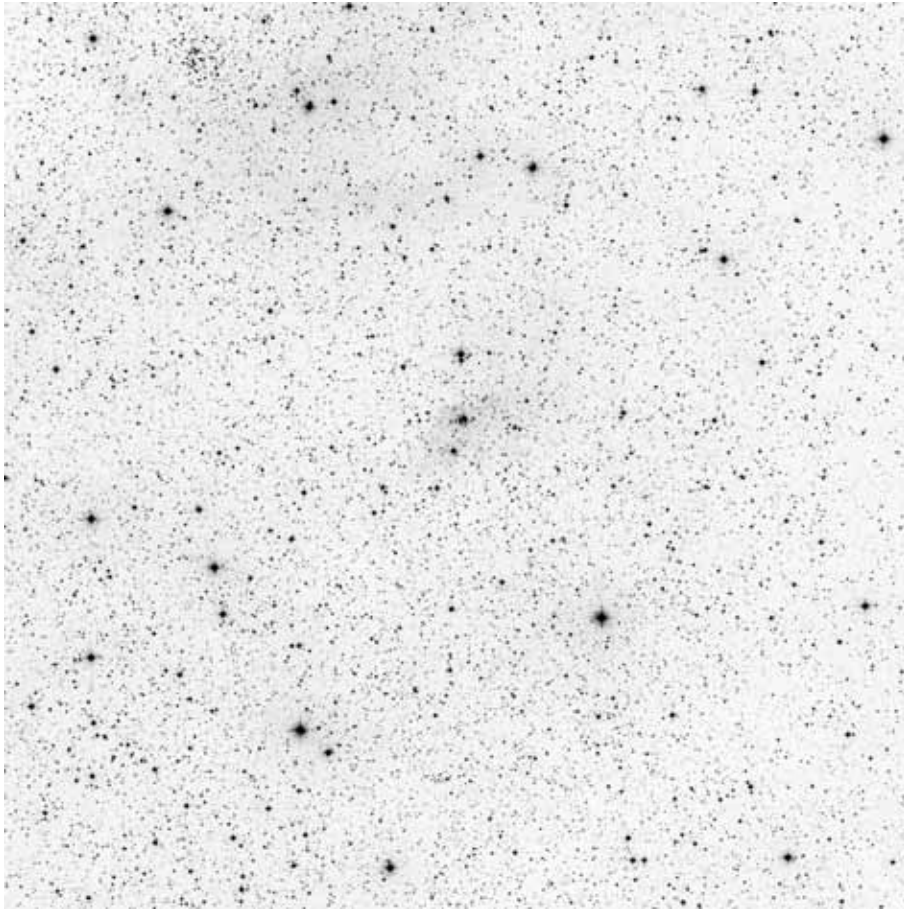
22" f/4.5

12/2008: Sometimes suspected with H beta (but not OIII) filter, doubtful.

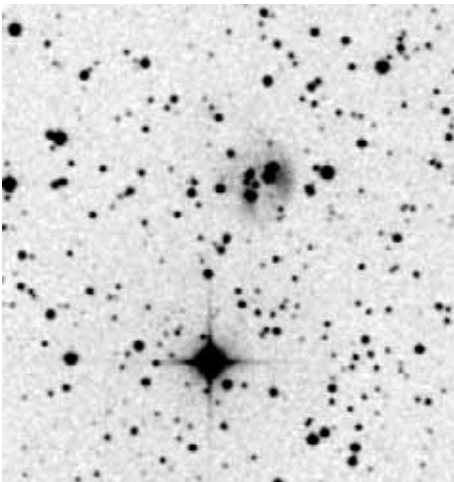
03/2013: fairly obvious, large structured nebulous area, best with 32mm and H beta



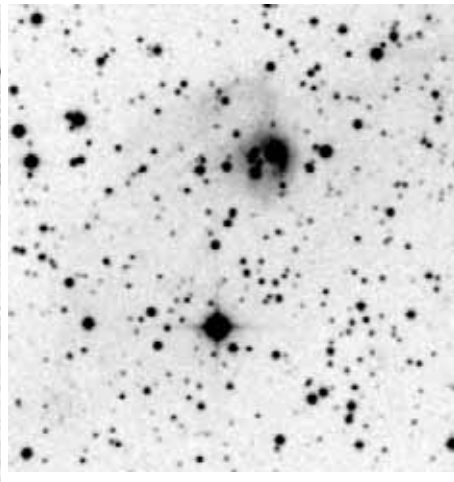
Sh 2 - 283 in Monoceros



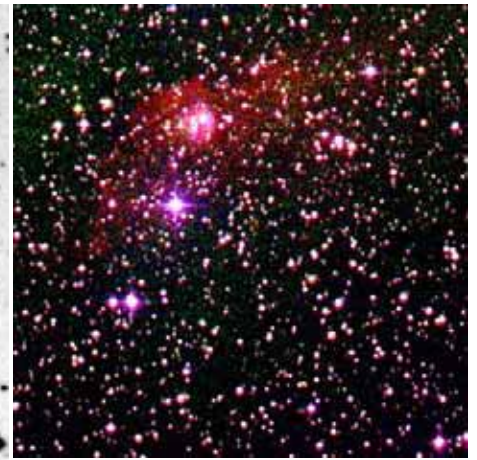
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-283		06 38 38.6	+00 42 45	3	3	1	1

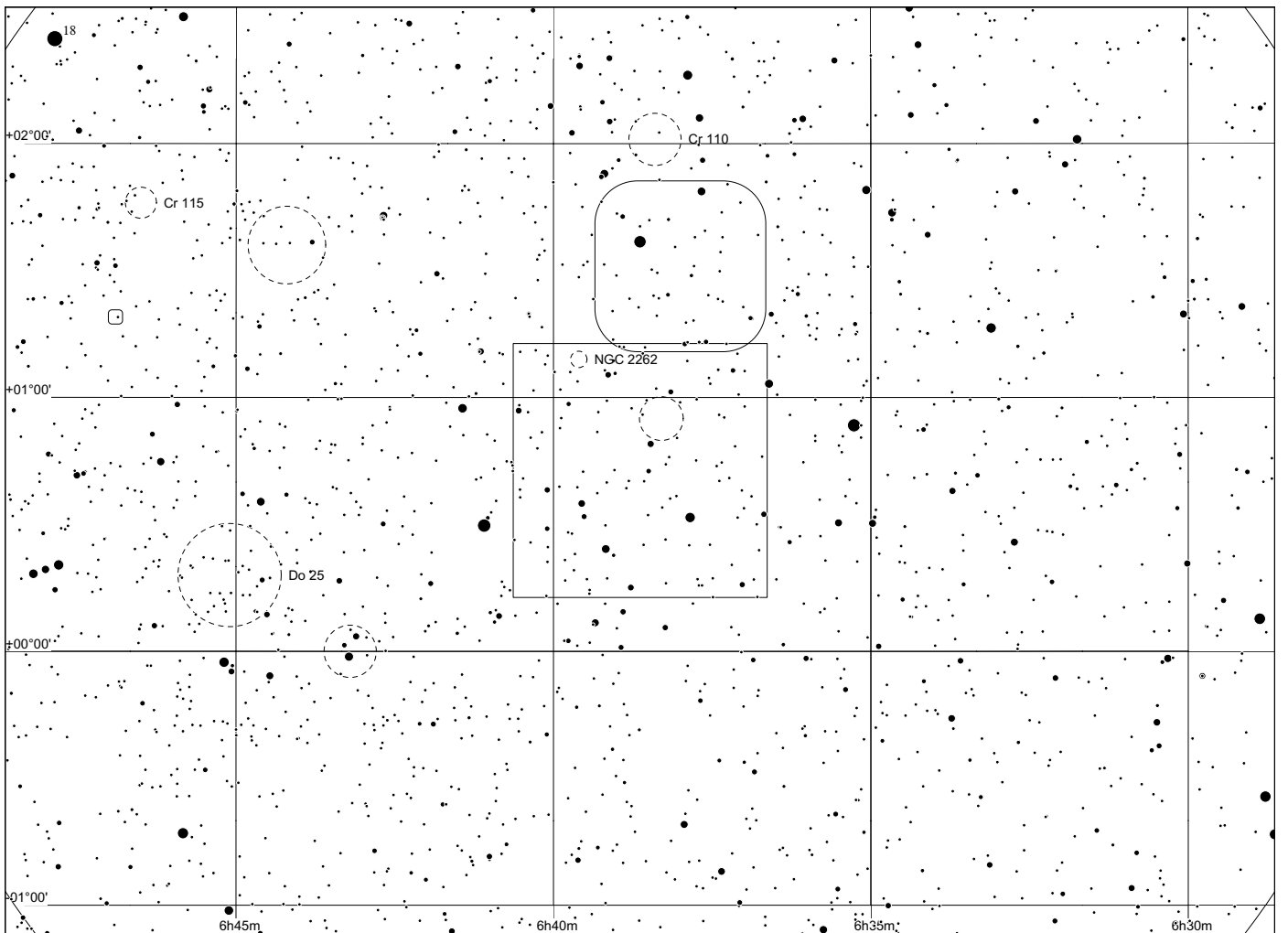
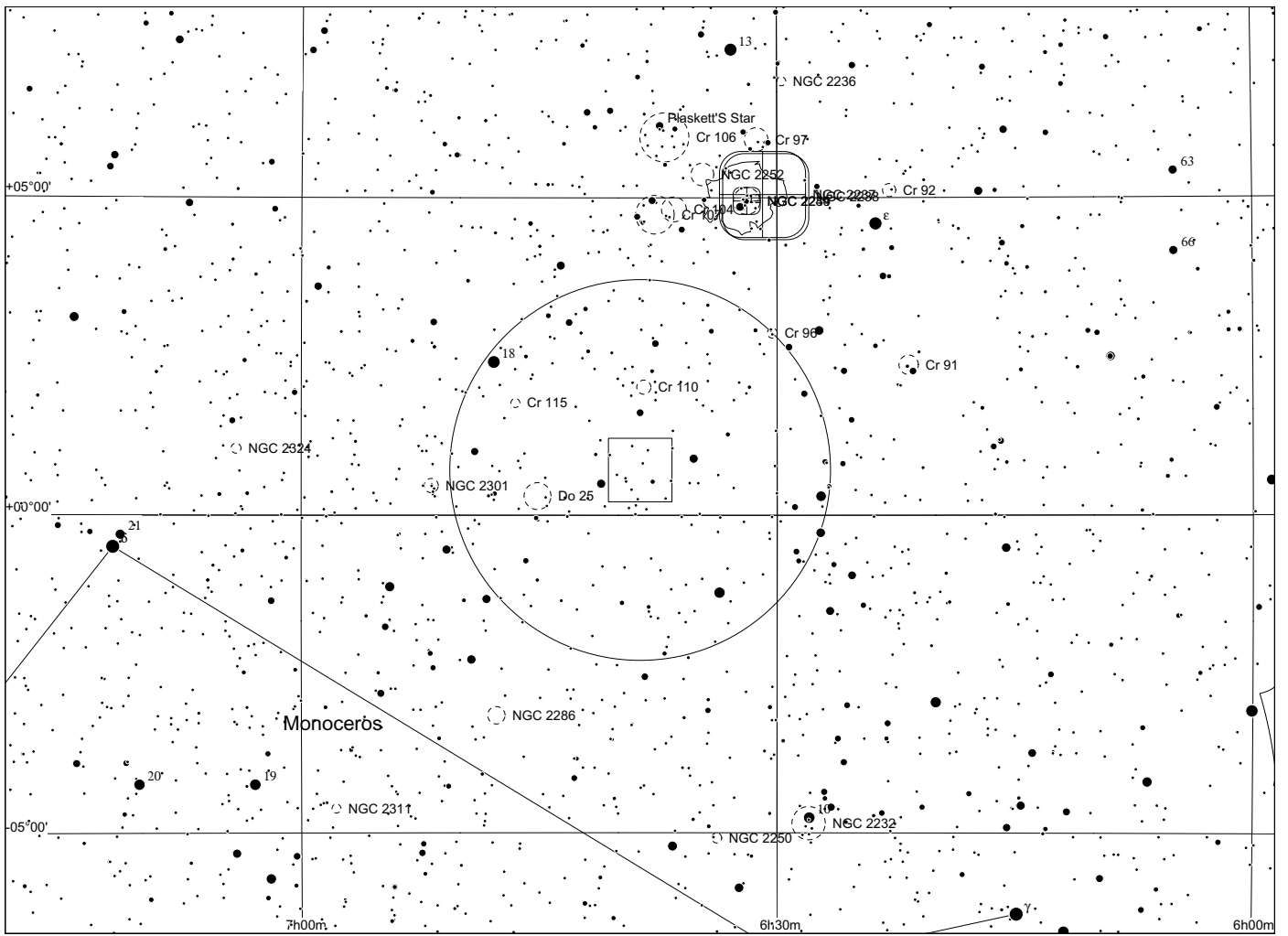
Distance: 9100 pc, Size: 7.9 pc, Source: 1982ApJS...49..183B

Includes the infrared cluster [BDS2003] 84.

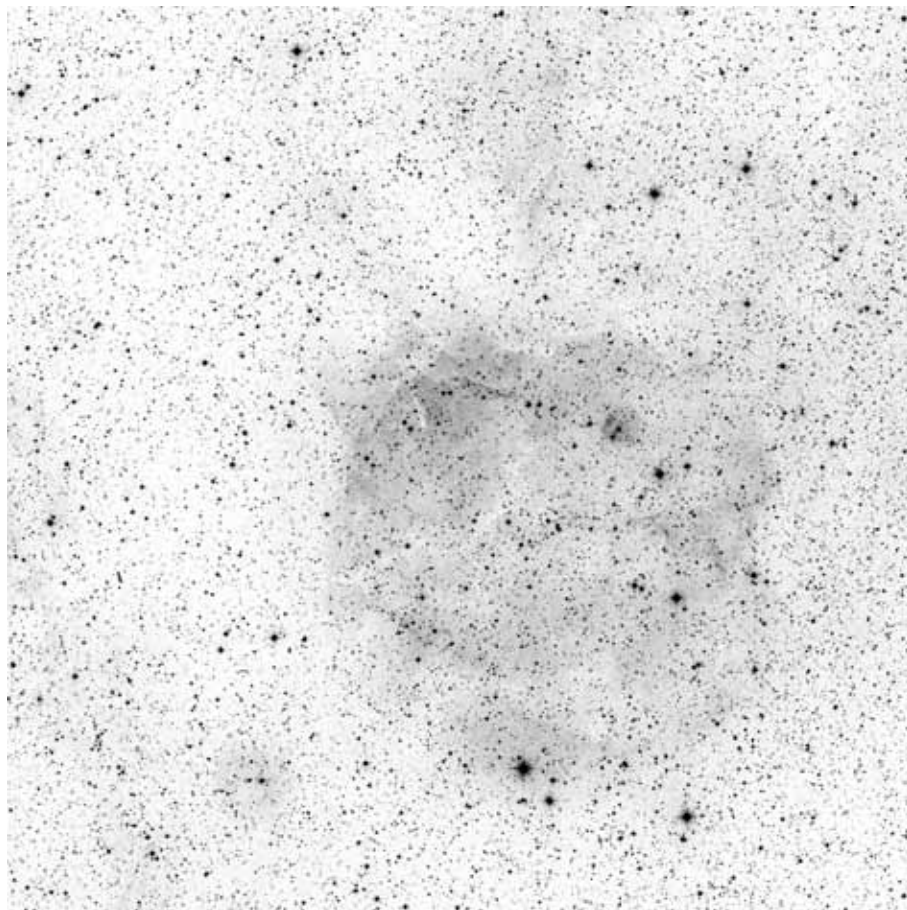
Observing notes:

22" f/4.5

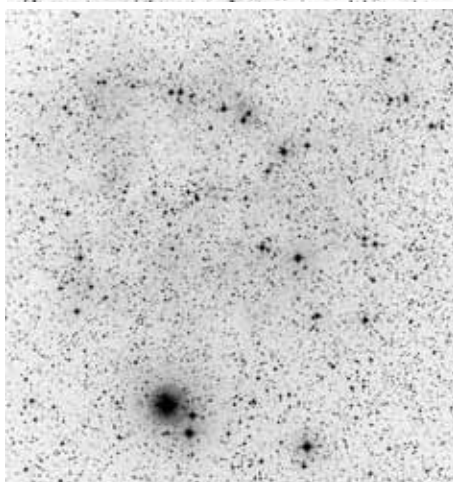
03/2013: with 13 mm very small nebuos glow around a tight group of stars suspected, difficult to separate from stars.



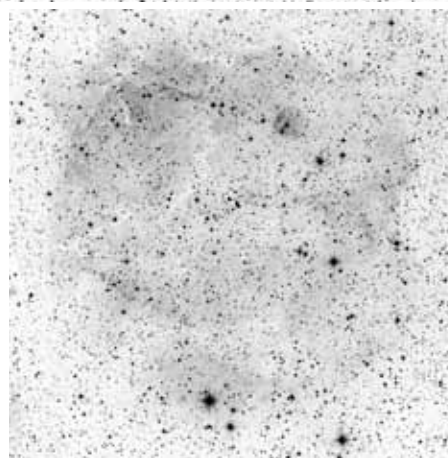
Sh 2 - 284 in Monoceros



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-284		06 45 02.0	+00 13 51	80	2	2	2

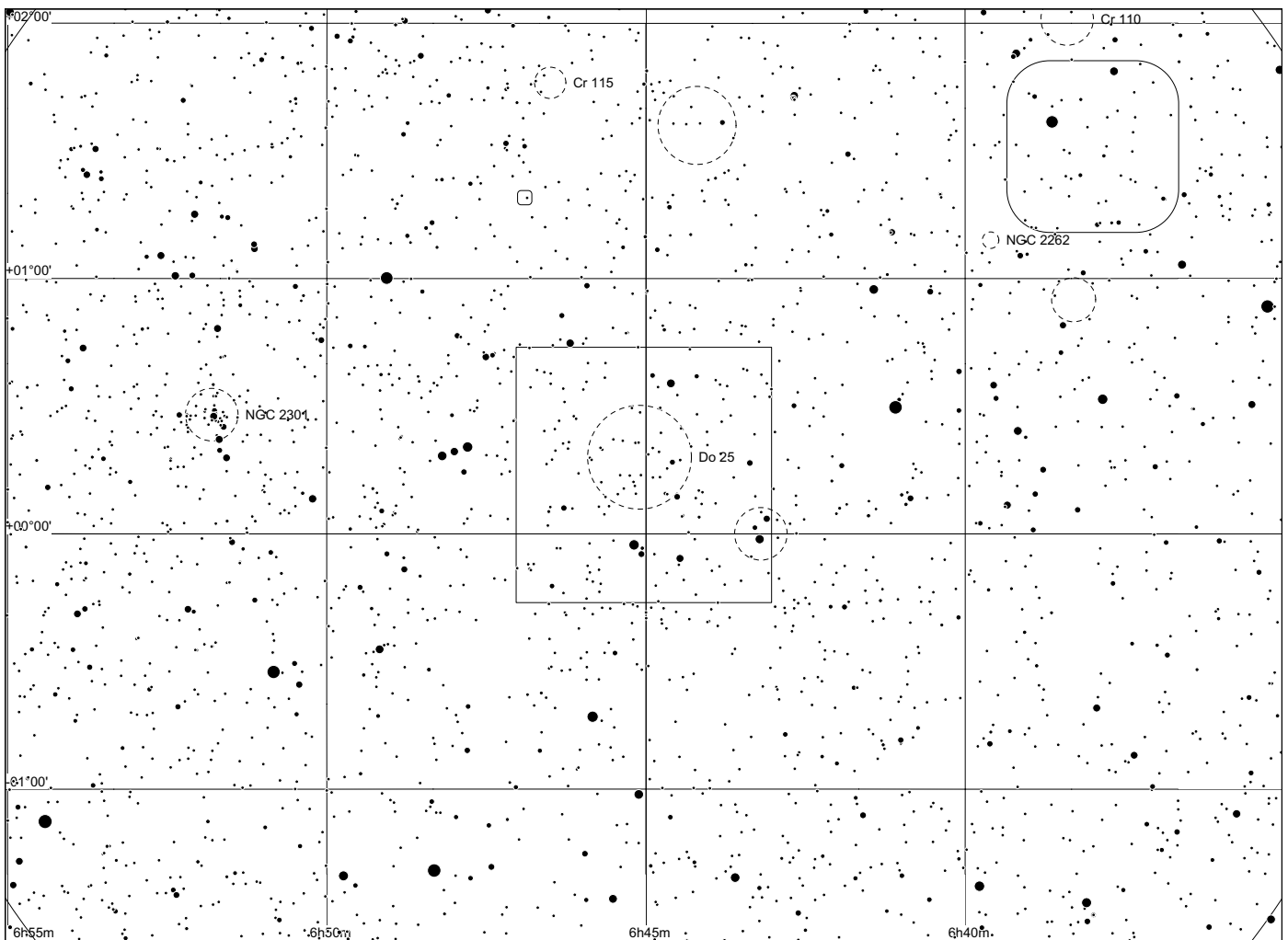
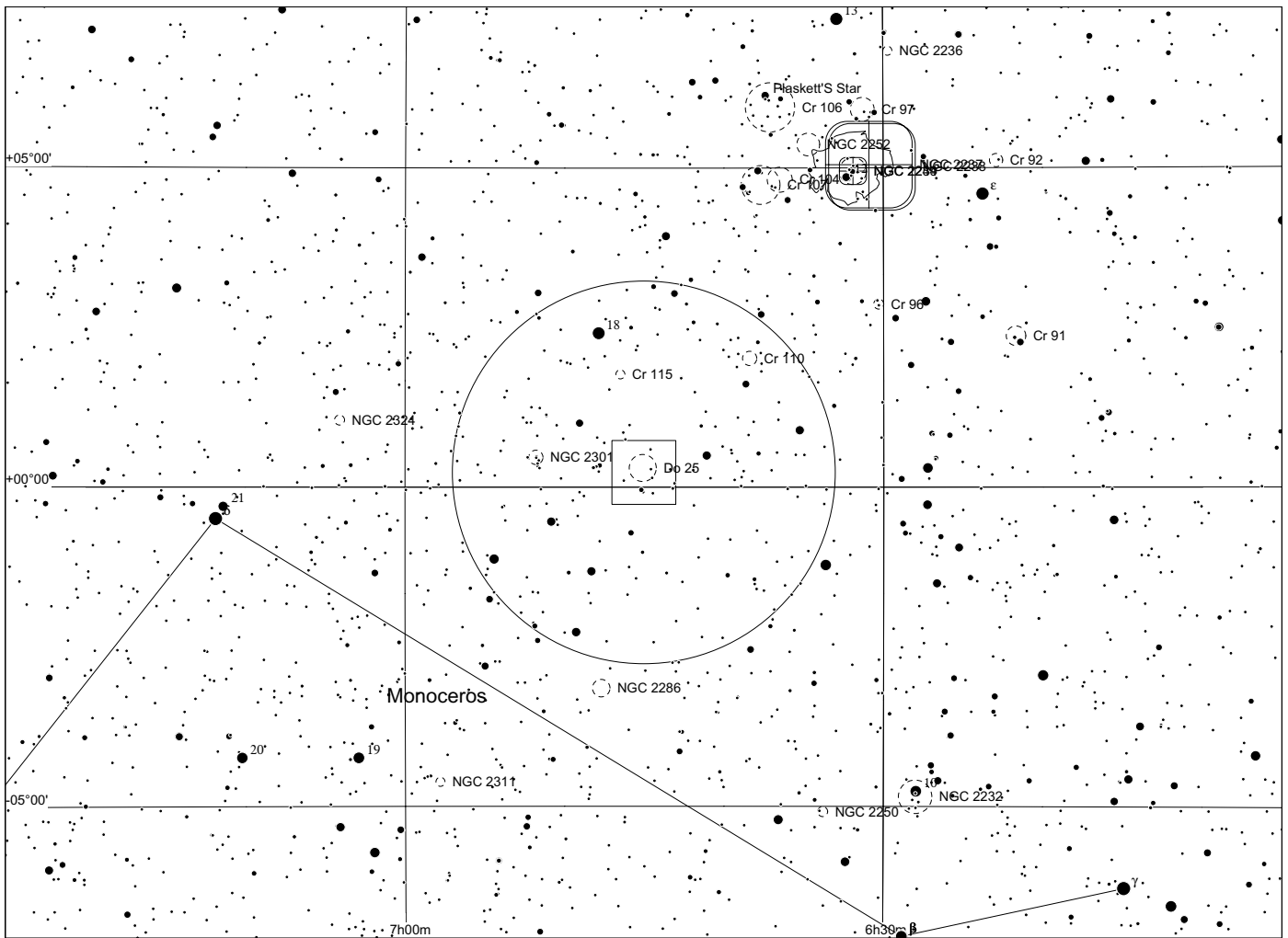
Distance: 5200 pc, Size: 121.0 pc, Source: 1982ApJS...49..183B

This large HII region is associated with the star cluster Dolidze 25 and is one of the few relatively unobscured major star formation regions in the outer galaxy.

Observing notes:

22" f/4.5

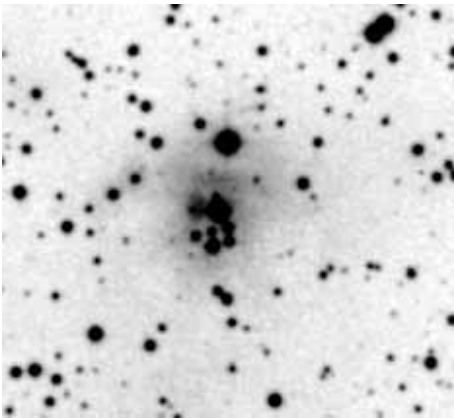
At 80x, a large diffuse nebula is visible with UHC.



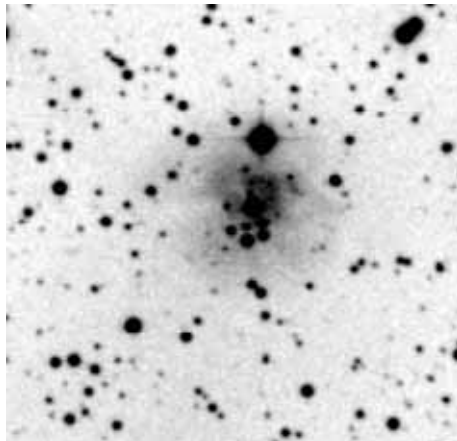
Sh 2 - 285 in Monoceros



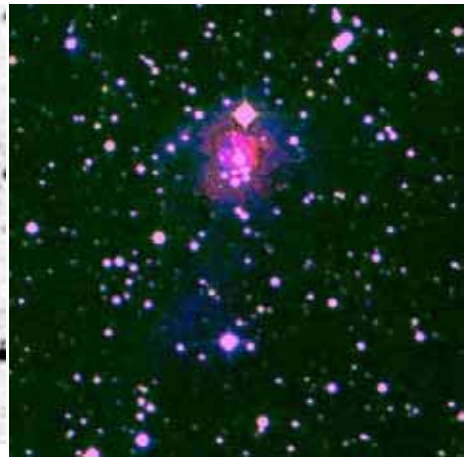
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-285		06 55 12.2	-00 30 37	1	1	2	3

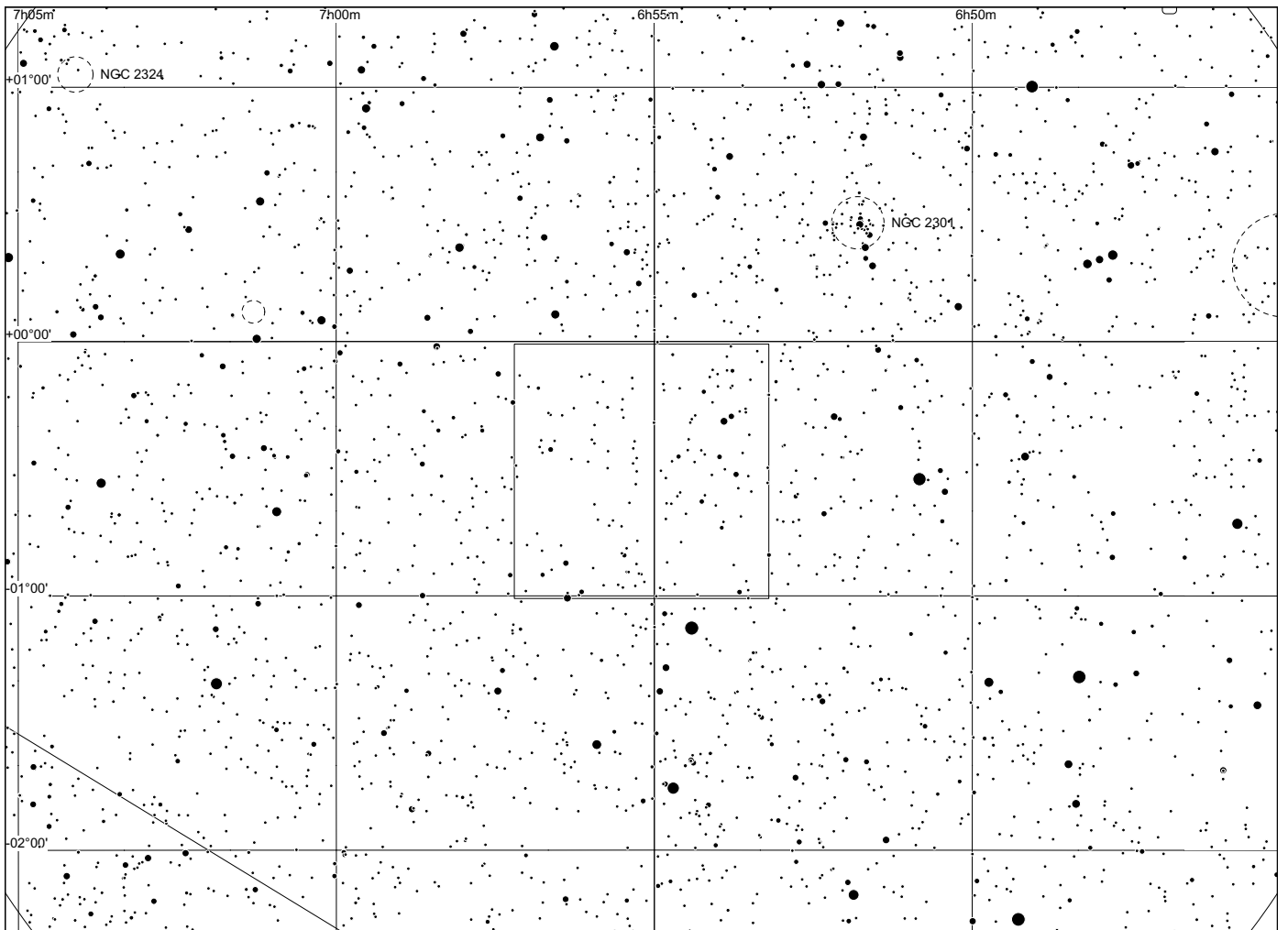
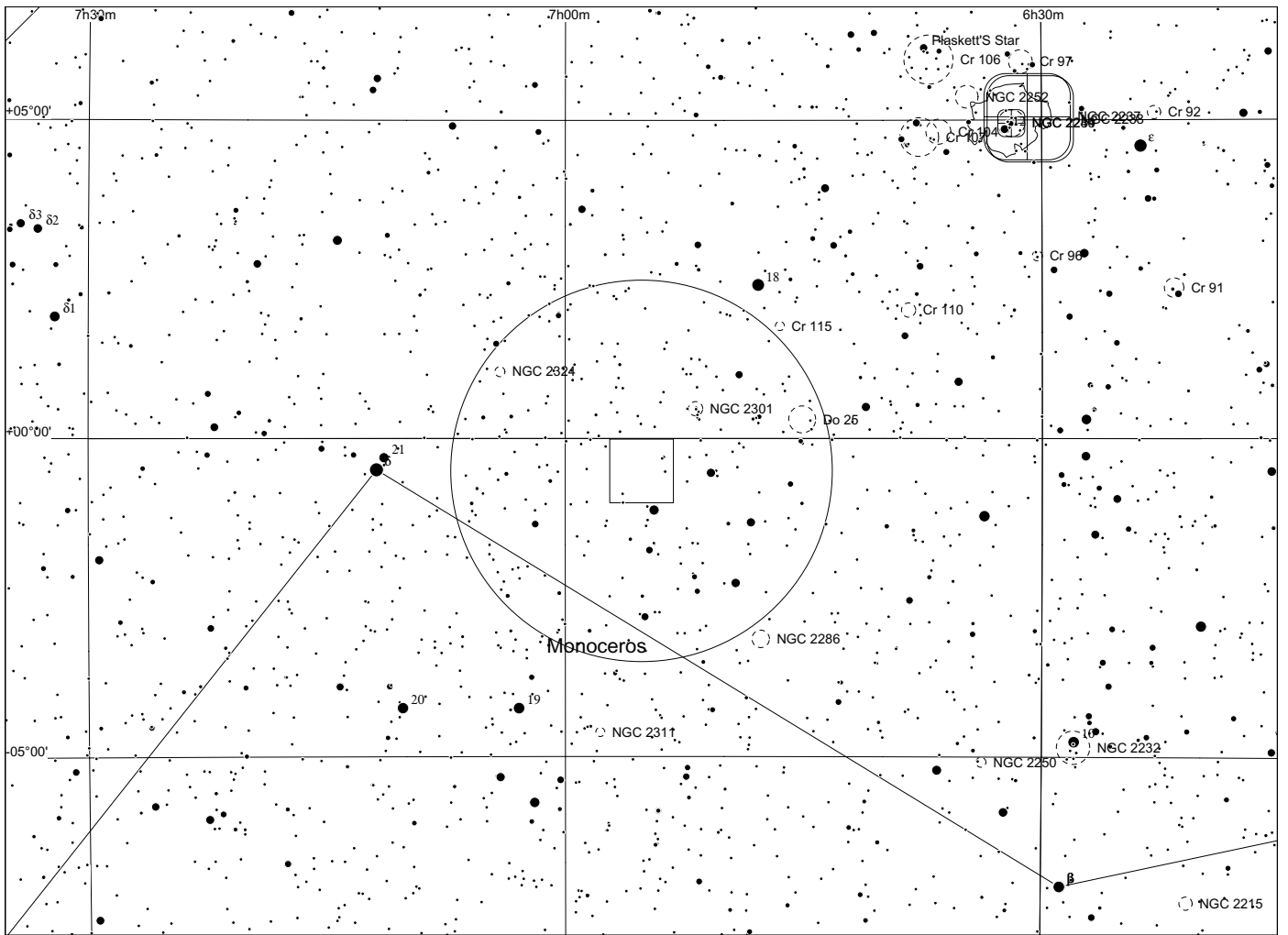
Distance: 6900 pc, Size: 2.0 pc, Source: 1982ApJS...49..183B

Contains at least two B0 V stars and the infrared cluster [BDS2003] 85.

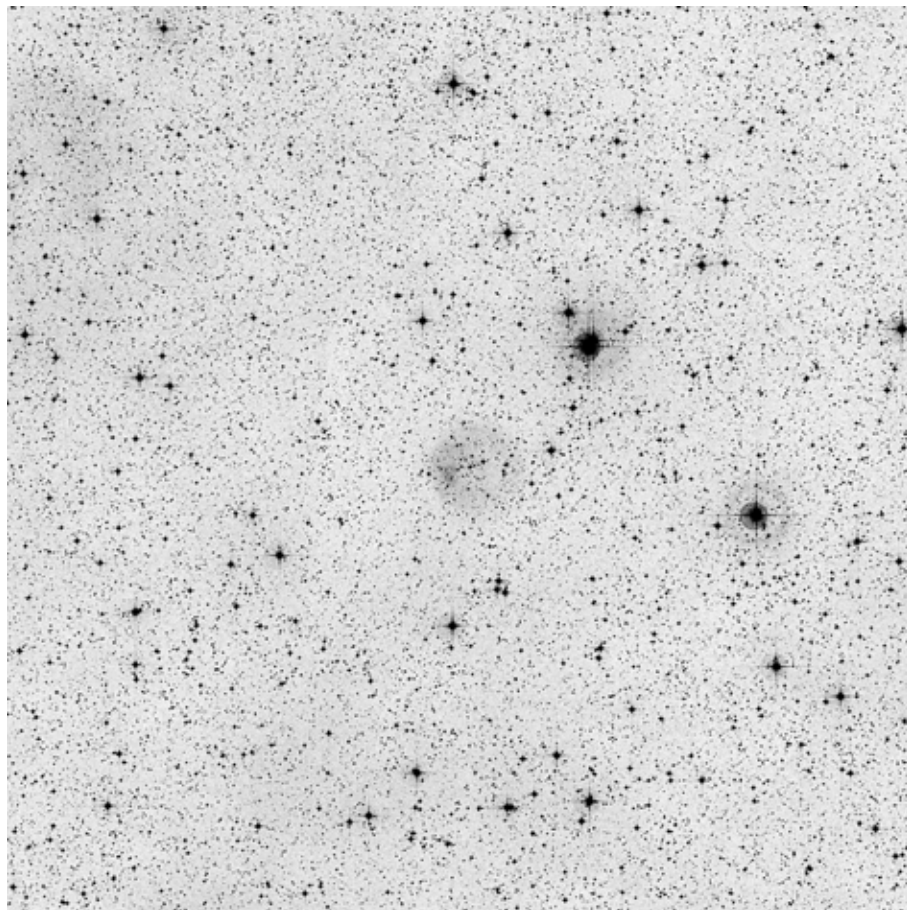
Observing notes:

22" f/4.5

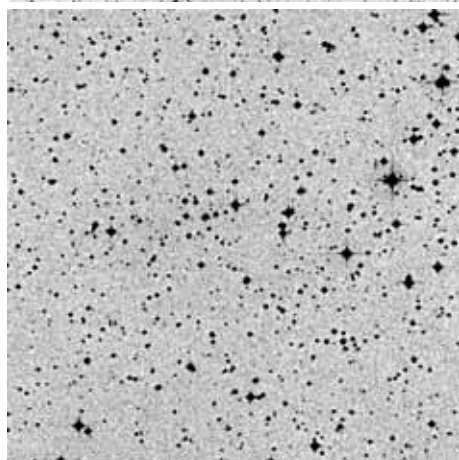
03/2013: unsuccessful



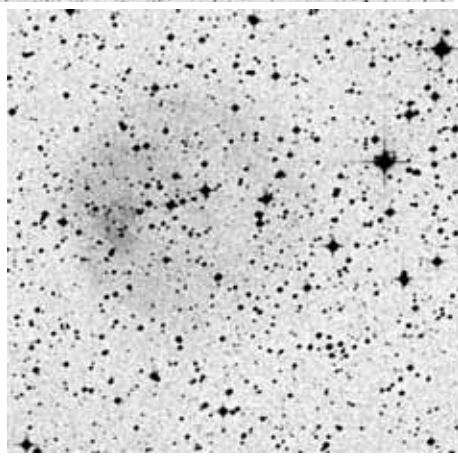
Sh 2 - 286 in Monoceros



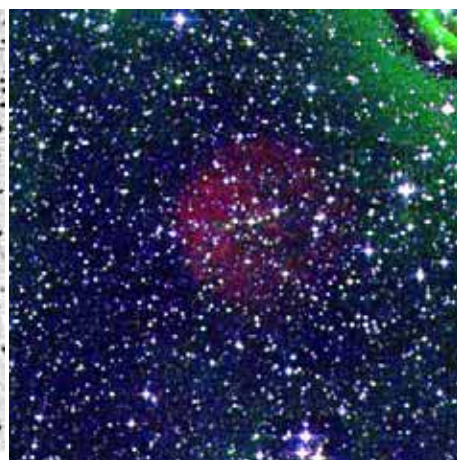
60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-286		06 54 32.6	-04 30 32	6	2	1	1

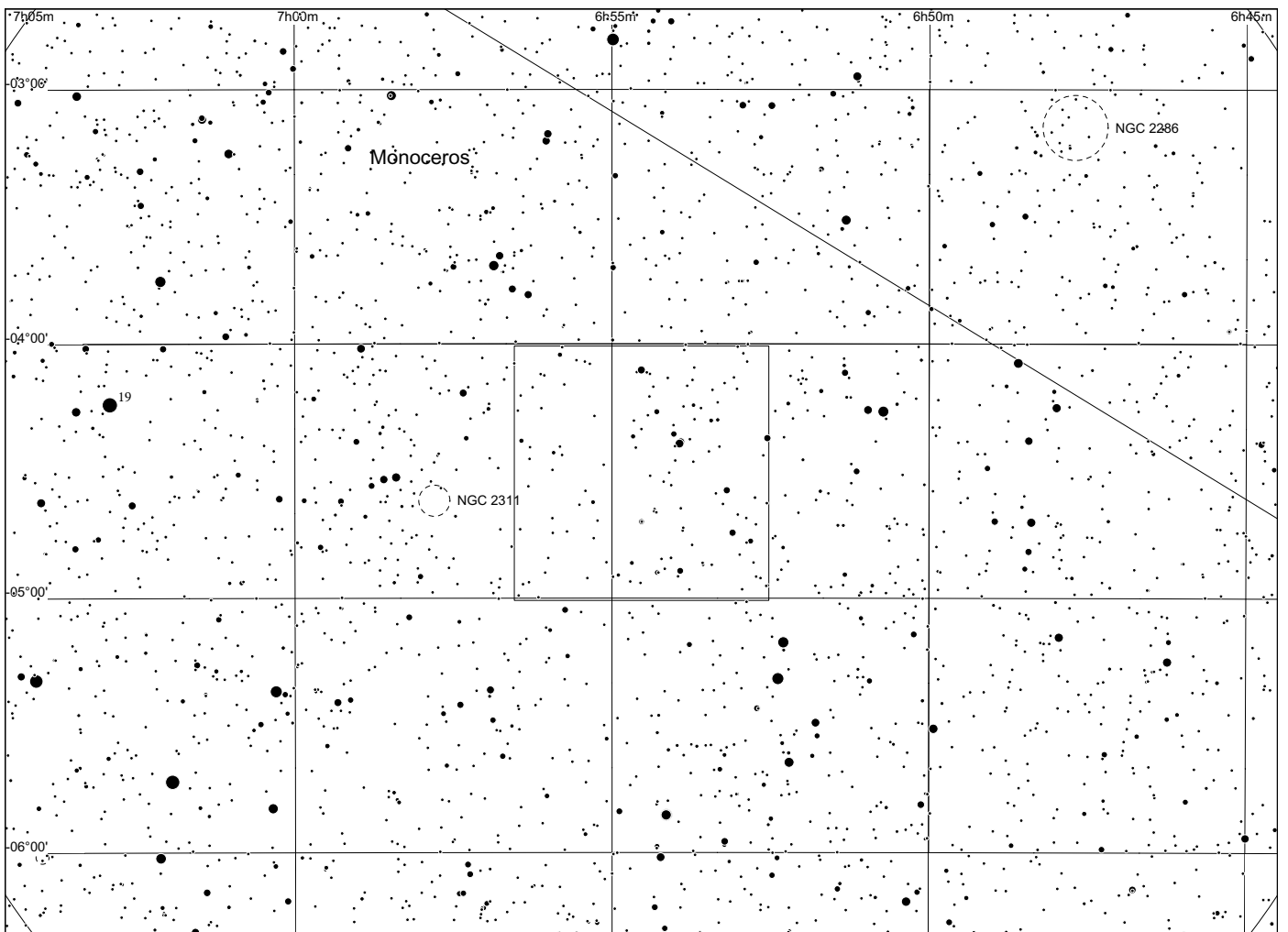
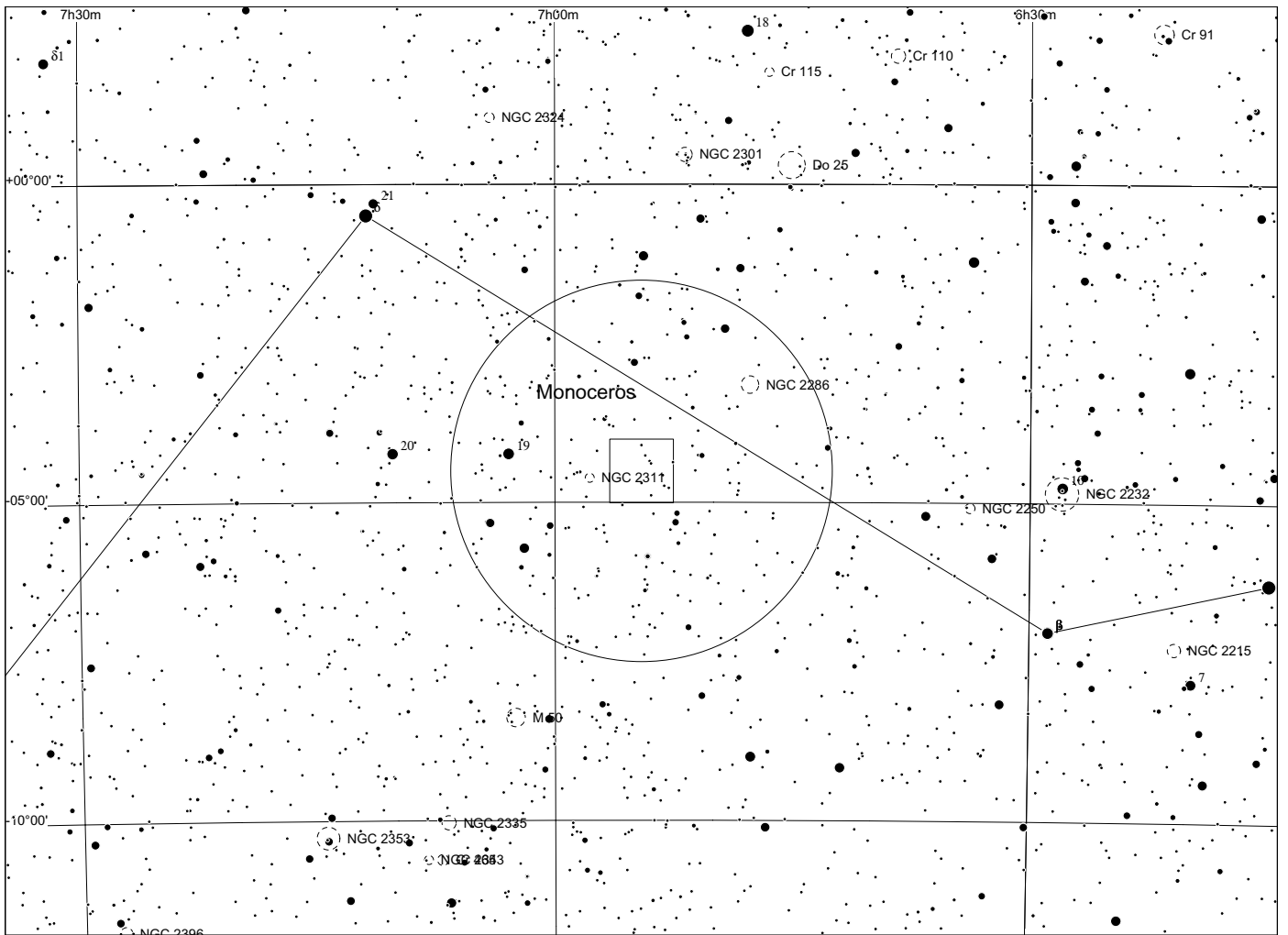
Distance: 6600 pc, Size: 11.5 pc, Source: 2003A&A...397..133R

Contains the infrared cluster [BDS2003] 88.

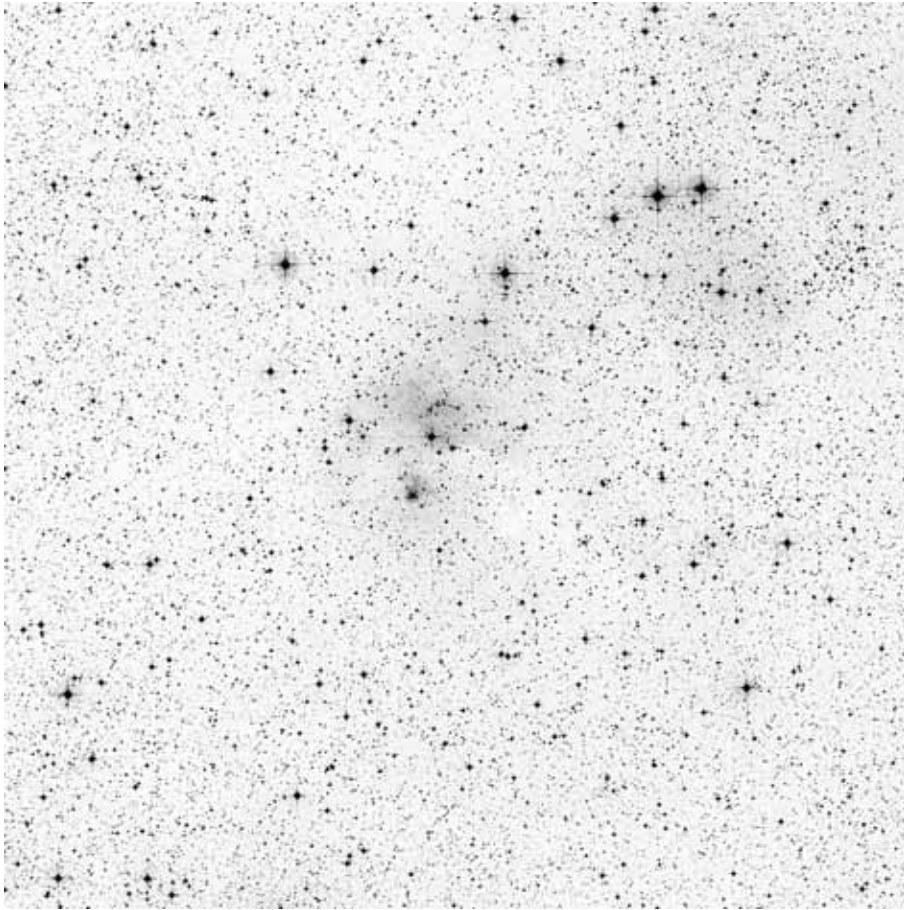
Observing notes:

22" f/4.5

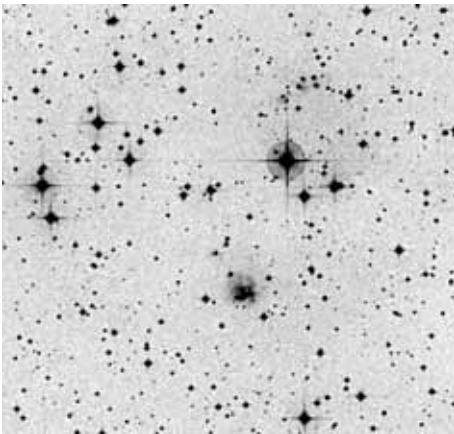
03/2013: unsuccessful



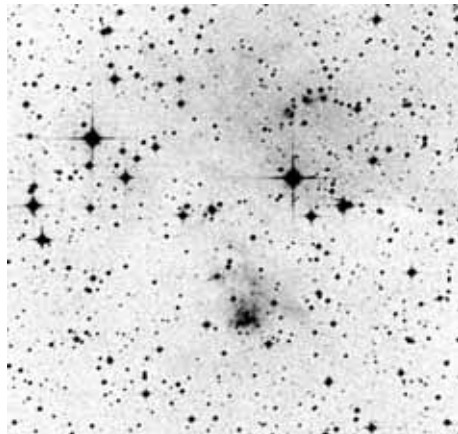
Sh 2 - 287 in Monoceros



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-287		06 59 32.3	-04 48 14	12	3	2	2

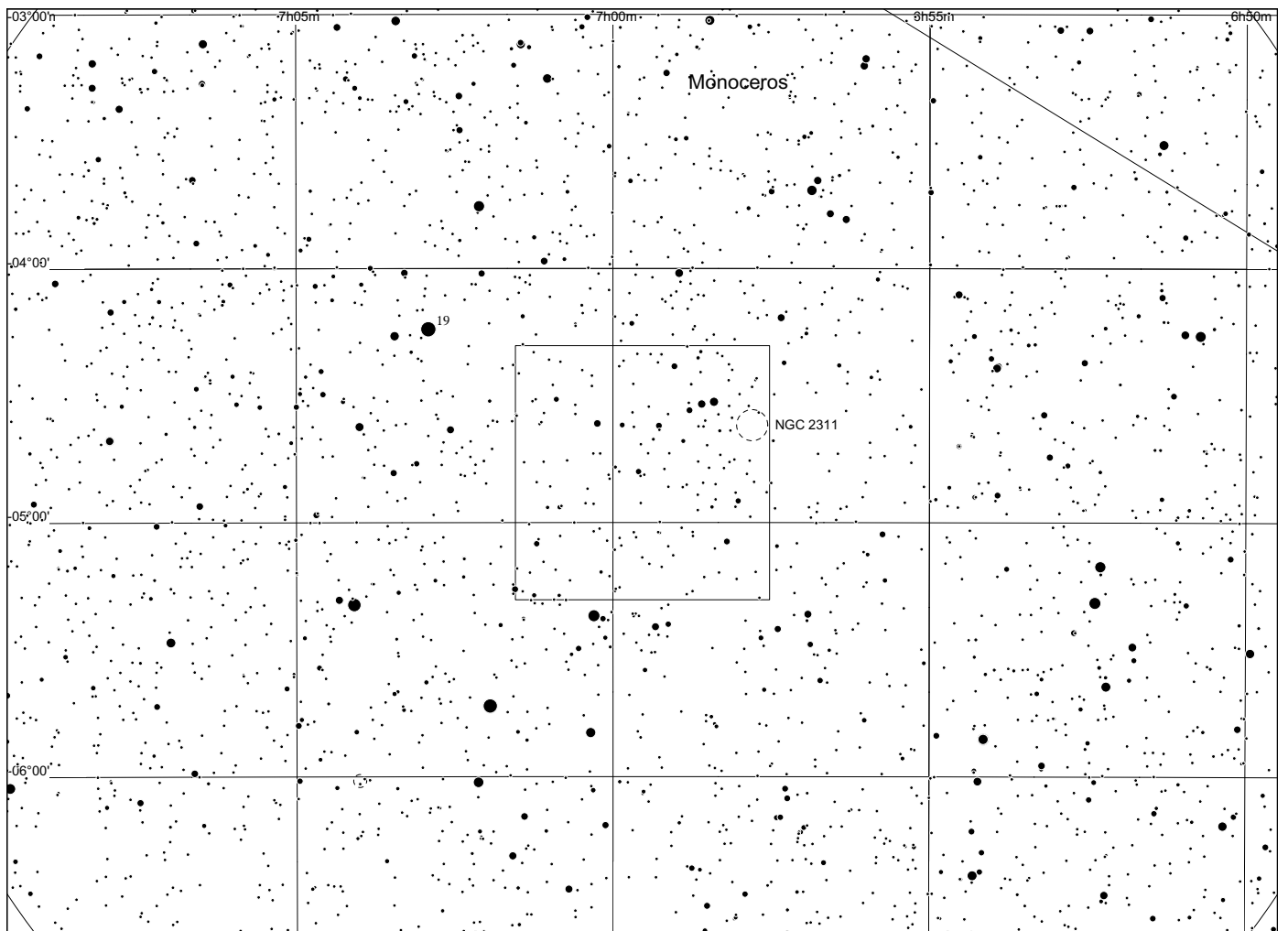
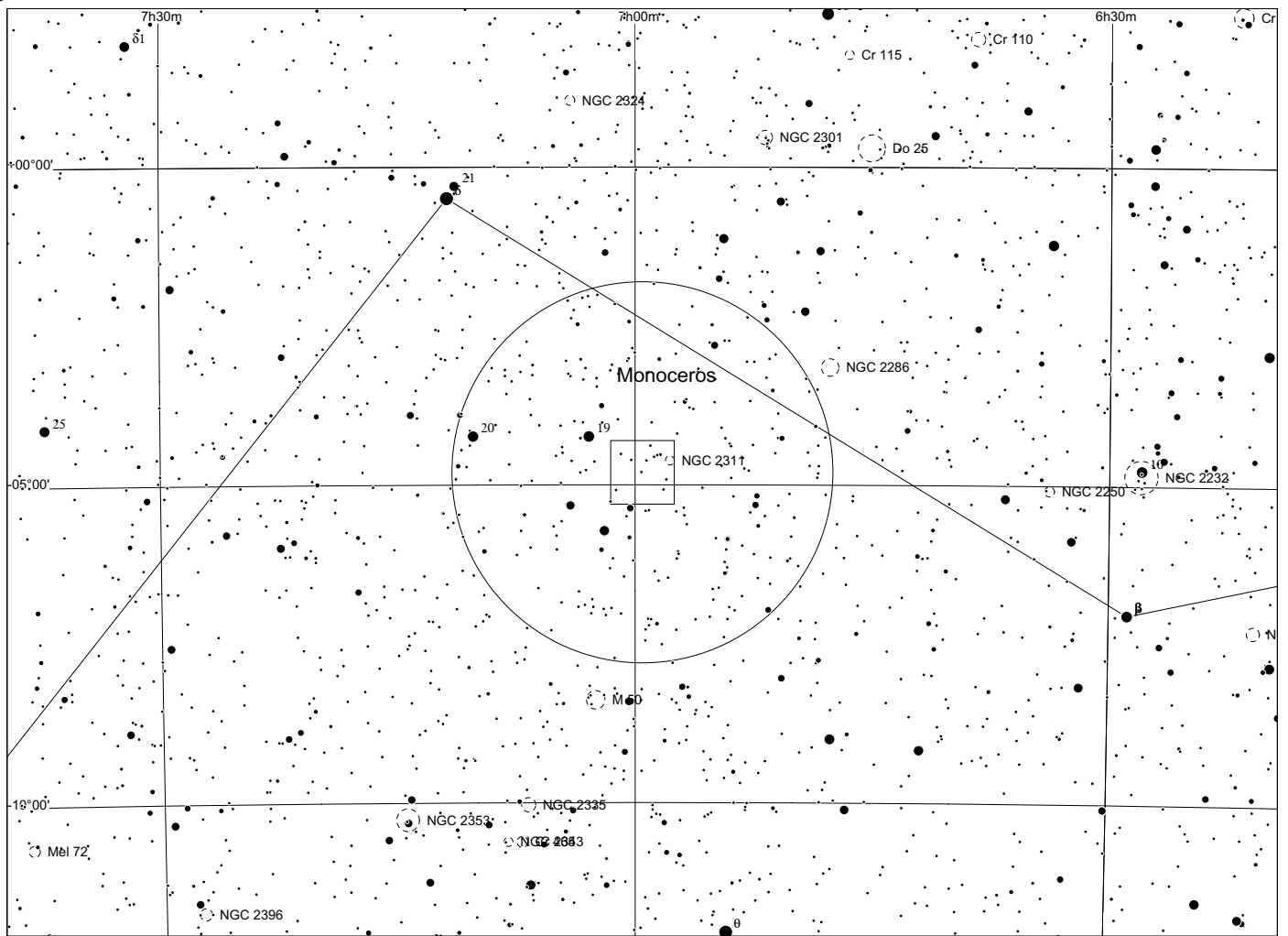
Distance: 2100 pc, Size: 7.3 pc, Source: 1992A&A...254..339N

Sh 2-287 appears to be associated with Maddalena's cloud (G216-2.5). It contains 4000-5000 solar masses of gas and dust and a bipolar nebula, NS 14.

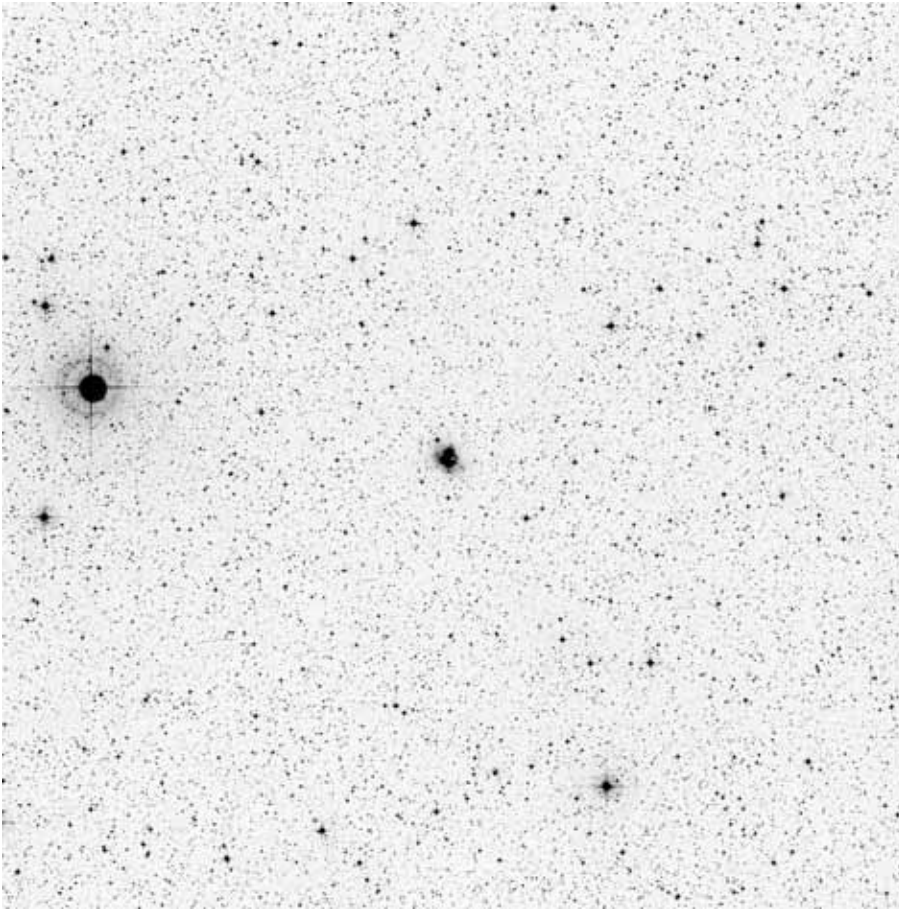
Observing notes:

22" f/4.5

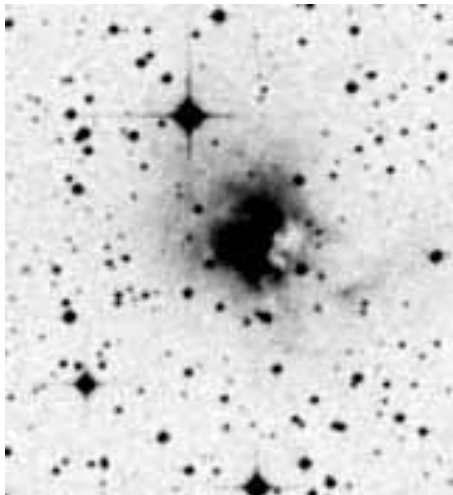
03/2013: 24mm, both with UHC and H beta visible as a distinct but faint patch



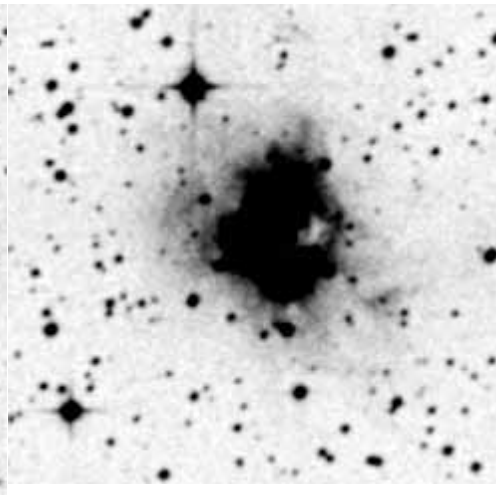
Sh 2 - 288 in Monoceros



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-288	IC 466	07 08 33.0	-04 18 30	1	3	2	3

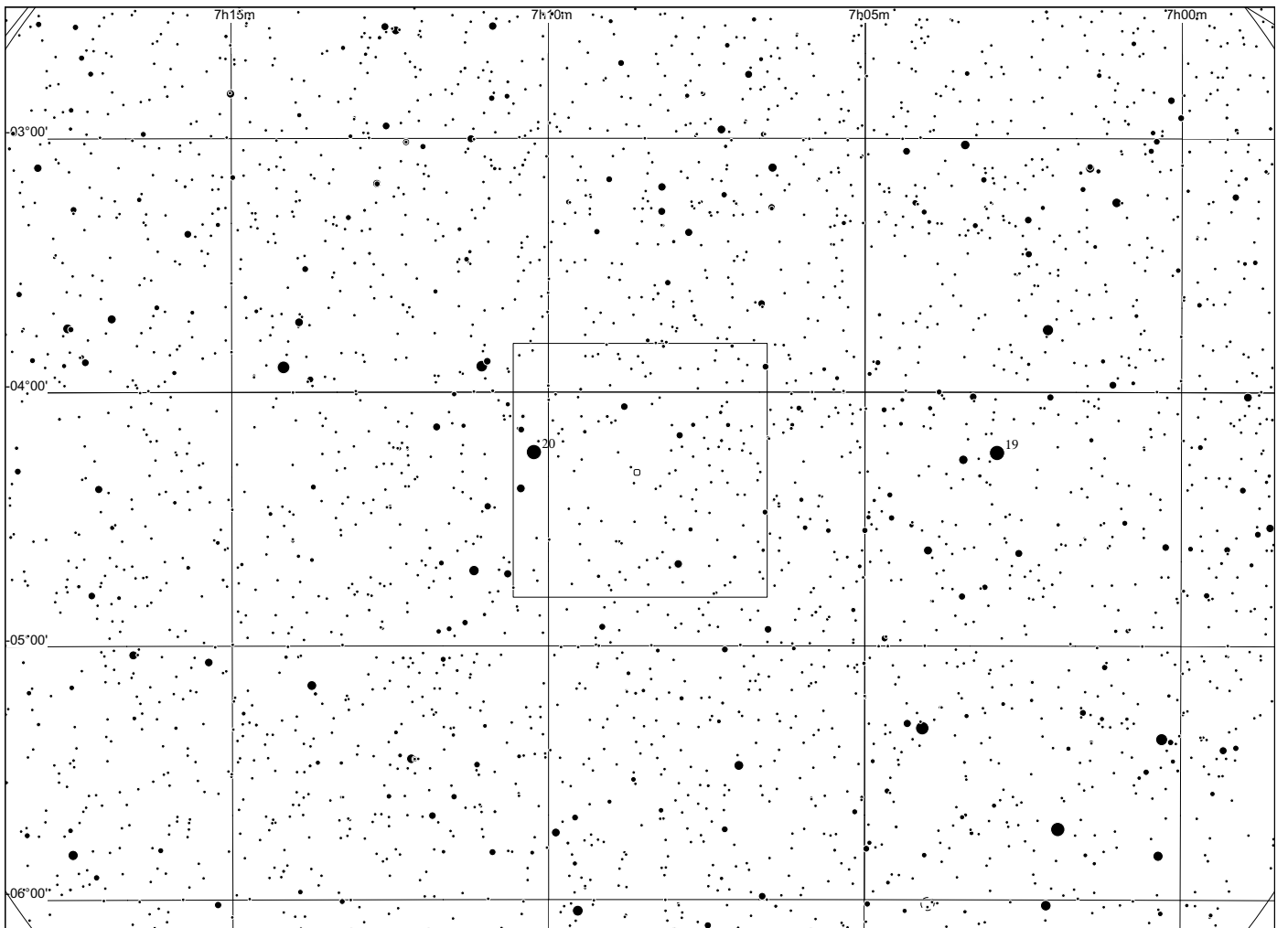
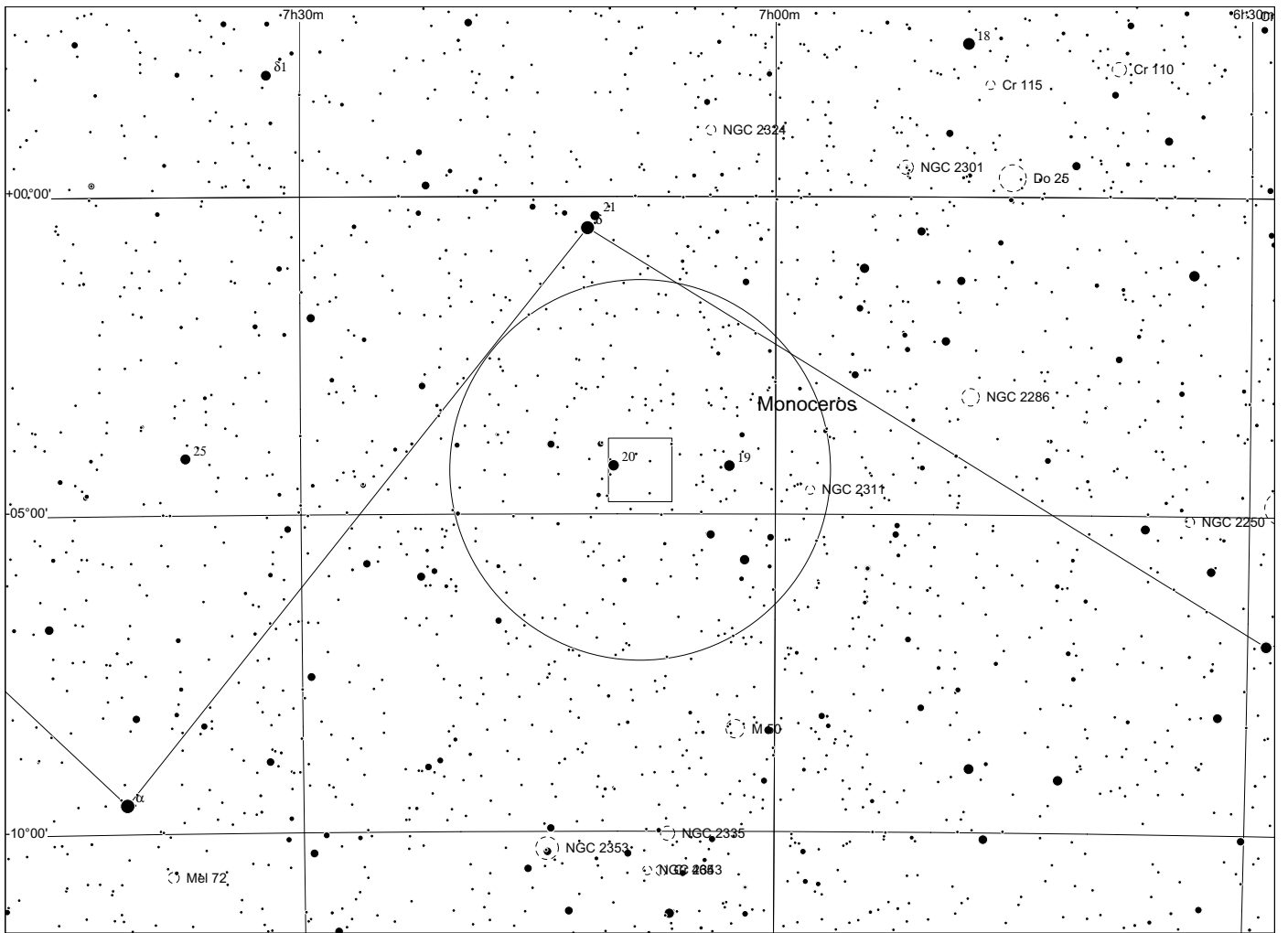
Distance: 3000 pc, Size: 0.9 pc, Source: 1982ApJS...49..183B

This HII region, also called IC 466, is ionised by an O9V star

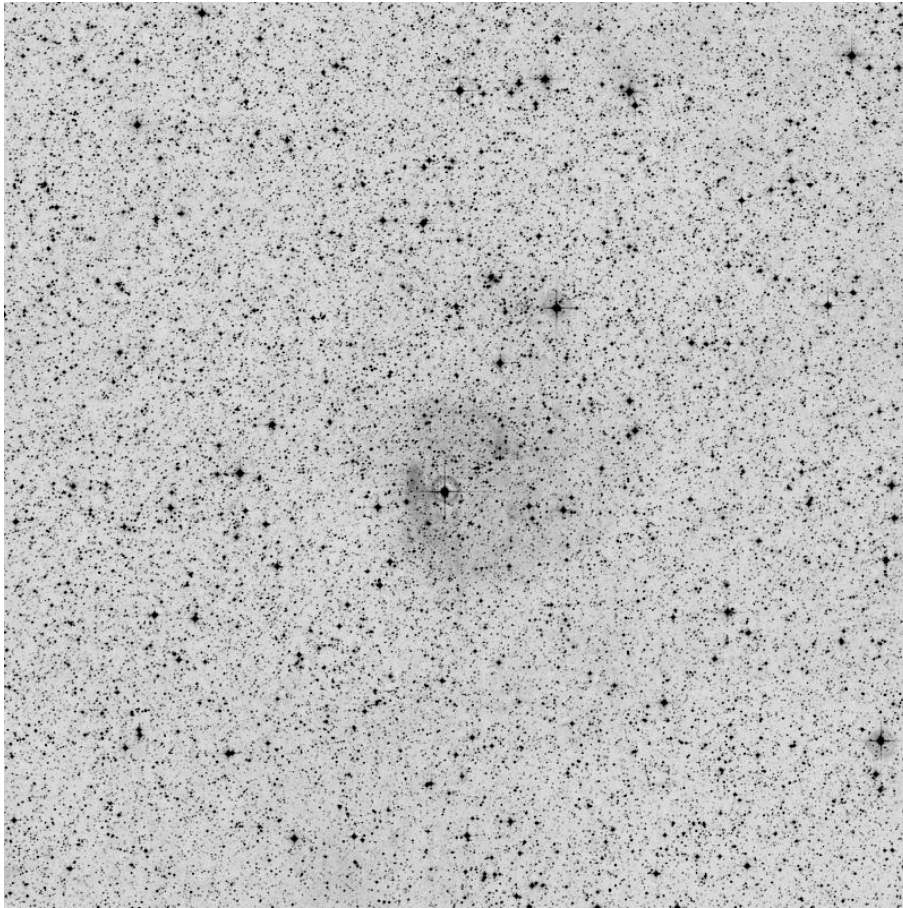
Observing notes:

22" f/4.5

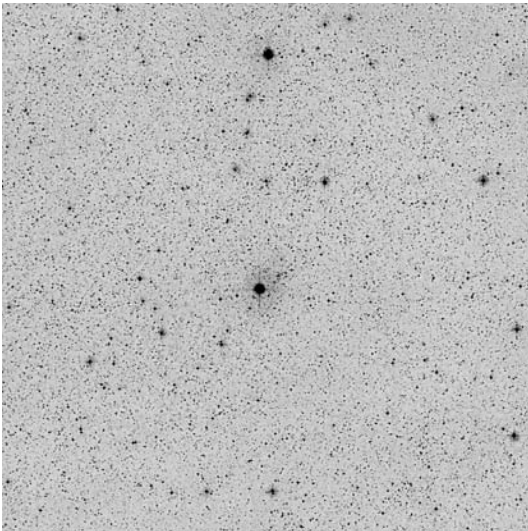
12/2008: small and bright patch of light, presumably with RN, UHC > w/o filter, responds hardly to OIII.



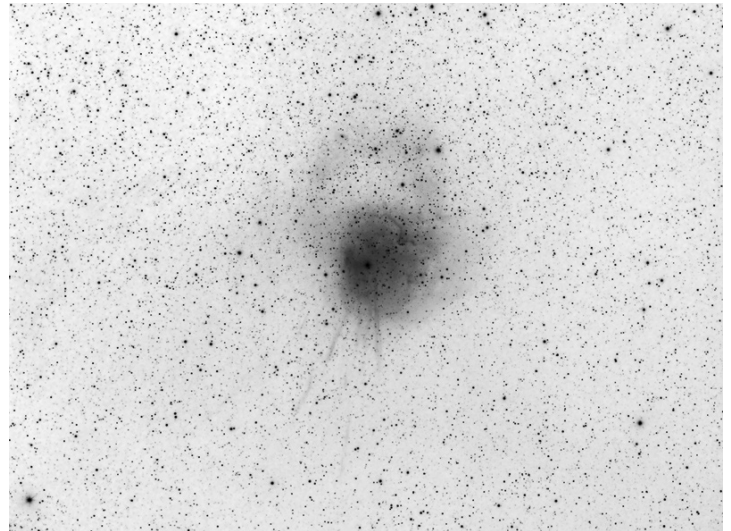
Sh 2 - 289
in Monoceros



60x60, red



POSS blue



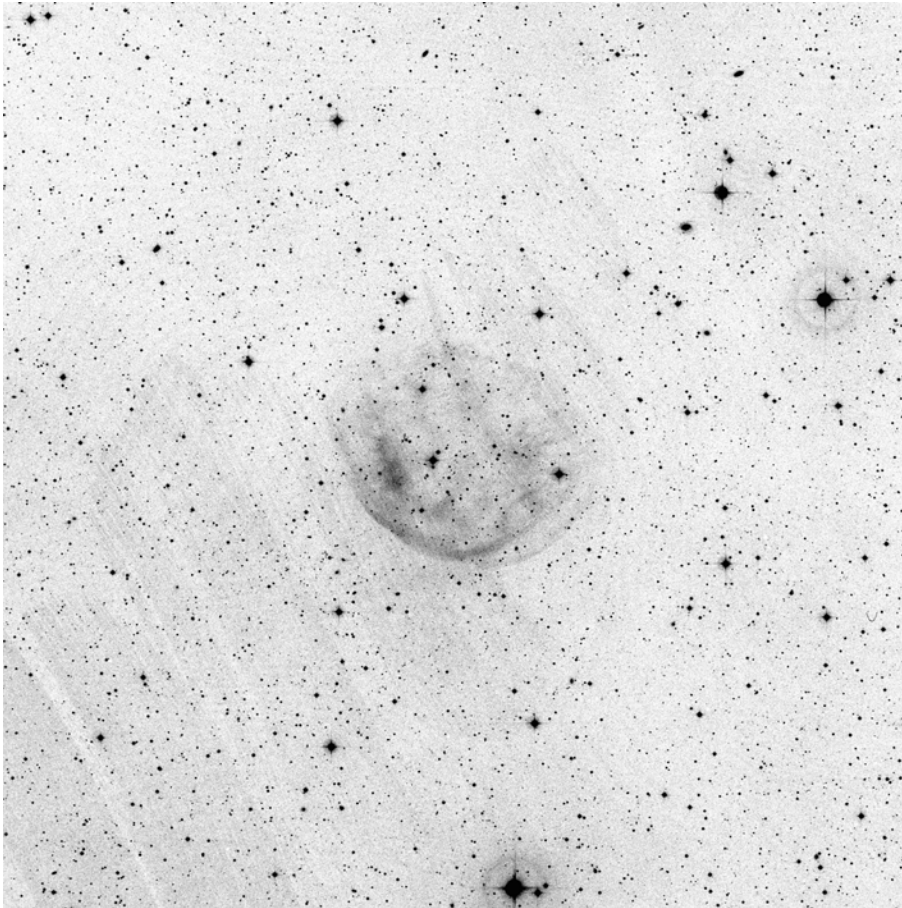
Dean Salman H alpha

	other name	RA	dec	dia. '	F	S	B
Sh 2-289		06 45 56.3	-07 20 18	11	2	1	1

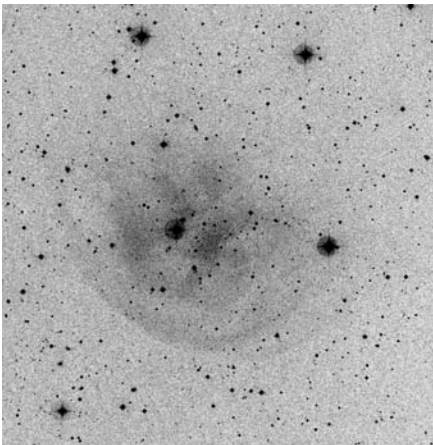
Distance: 10100 pc, Size: 32.3 pc Source: 1989AJ.....97.1727L

Observing notes:

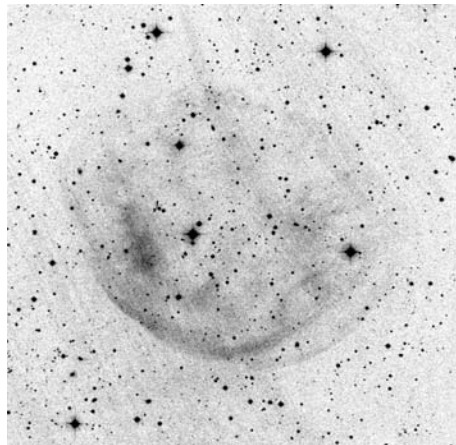
Sh 2 - 290 in Cancer



60x60, red



POSS blue



POSS red



narrowband Dean Salman

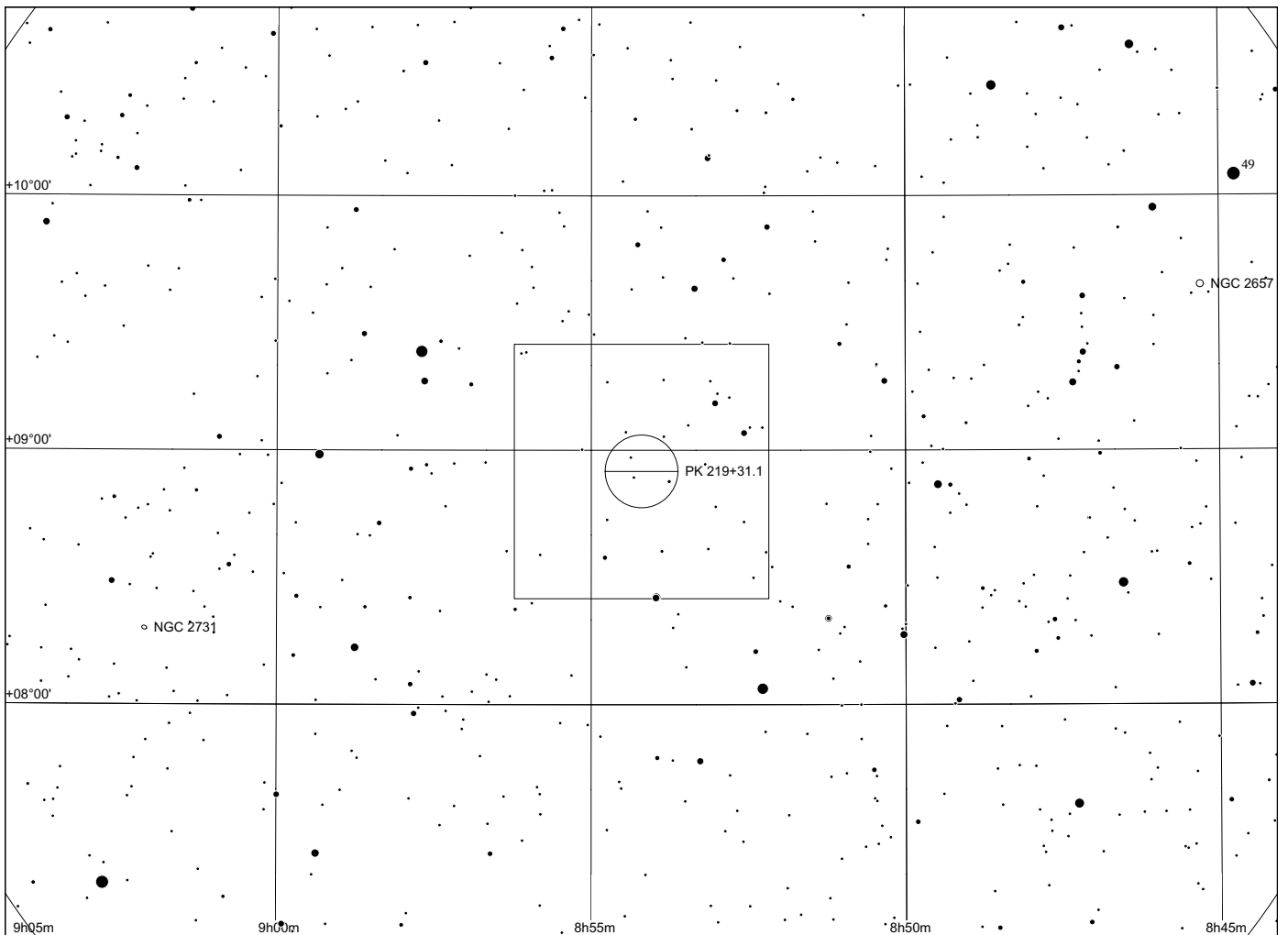
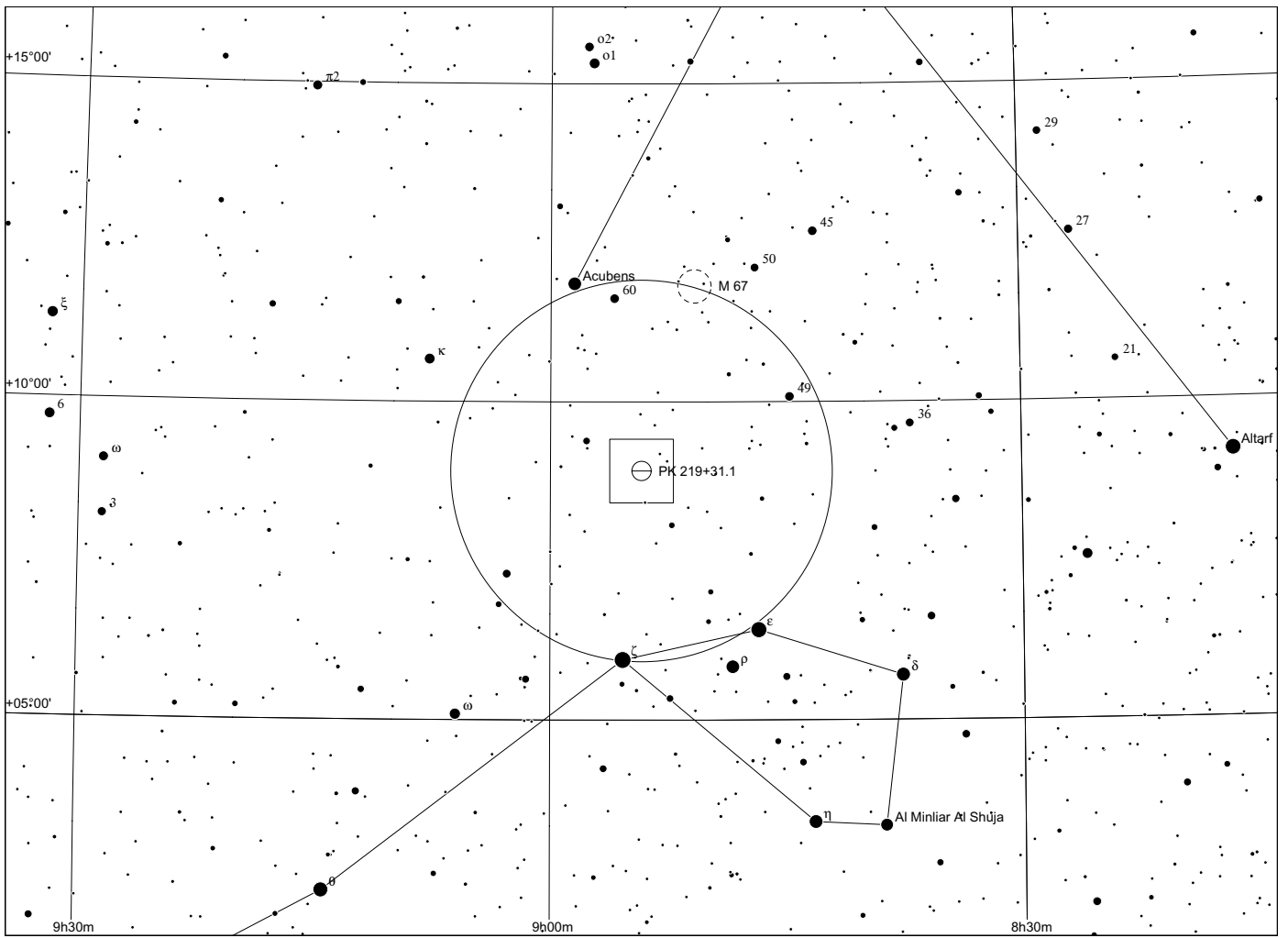
	other name	RA	dec	dia. '	F	S	B
Sh 2-290	Abell 31	08 54 10.5	+08 55 16	17	2	2	2

This is the planetary nebula Abell 31.

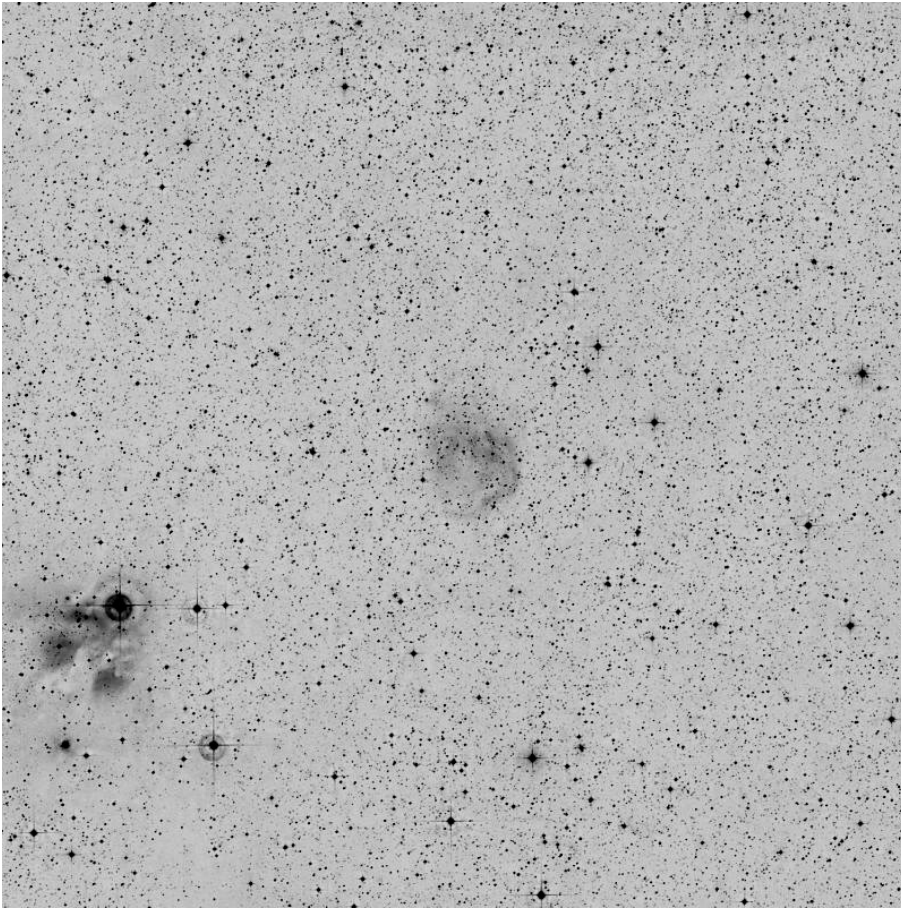
Observing notes:

22" f/4.5

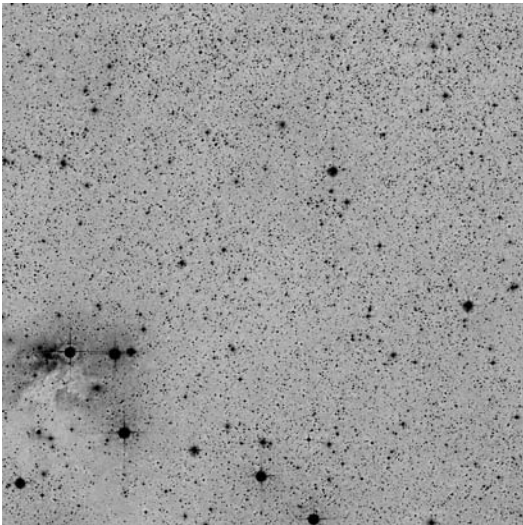
At 100x and with OIII filter, this PN is huge and diffuse with no sharp boundaries. Appears structured, though details are difficult to pin down.



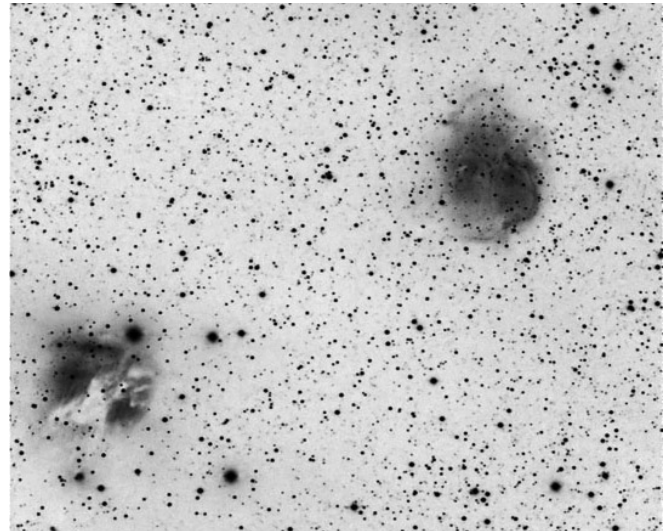
Sh 2 - 291 in Monoceros



60x60, red



POSS blue



Dean Salman H alpha

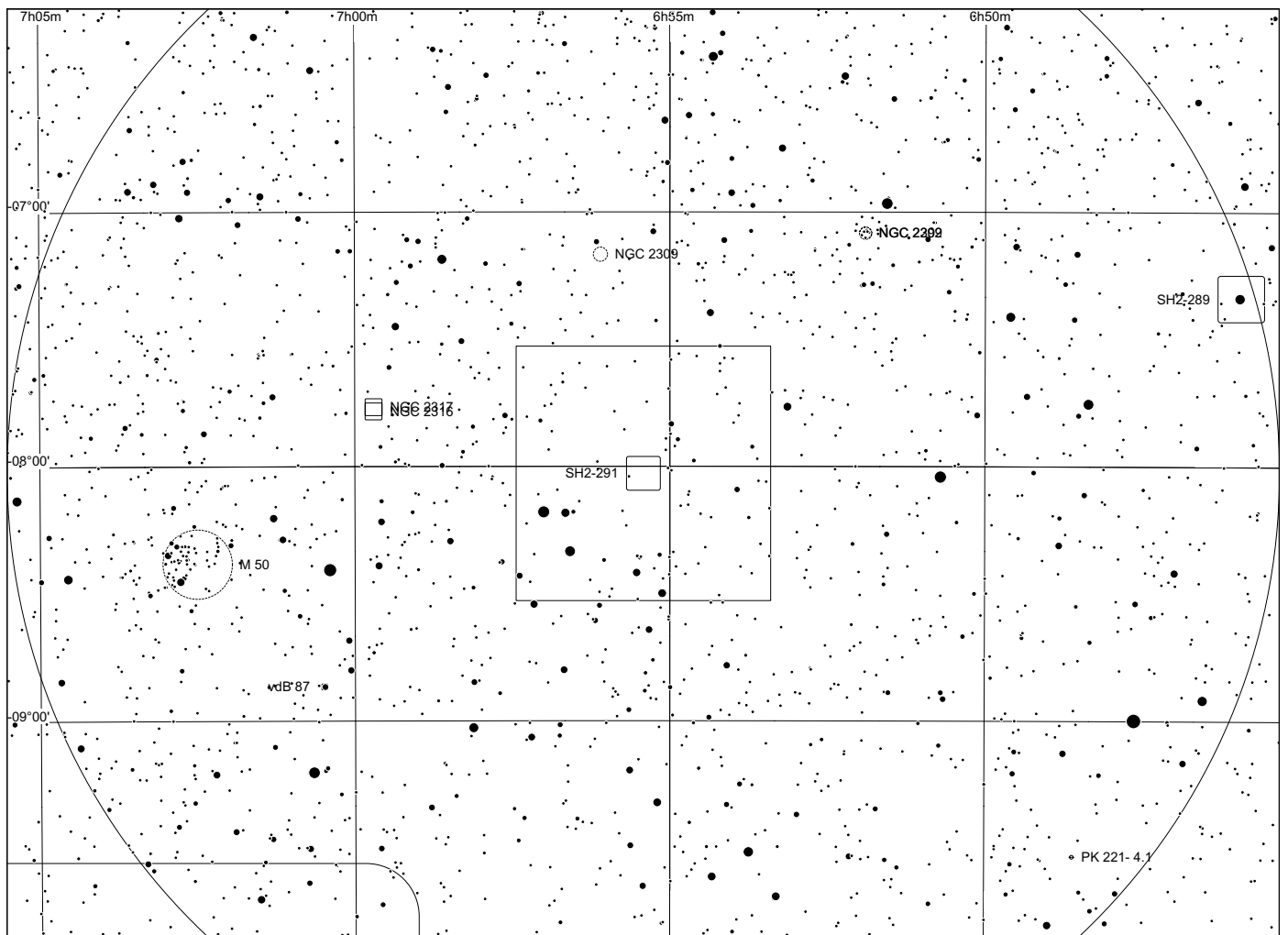
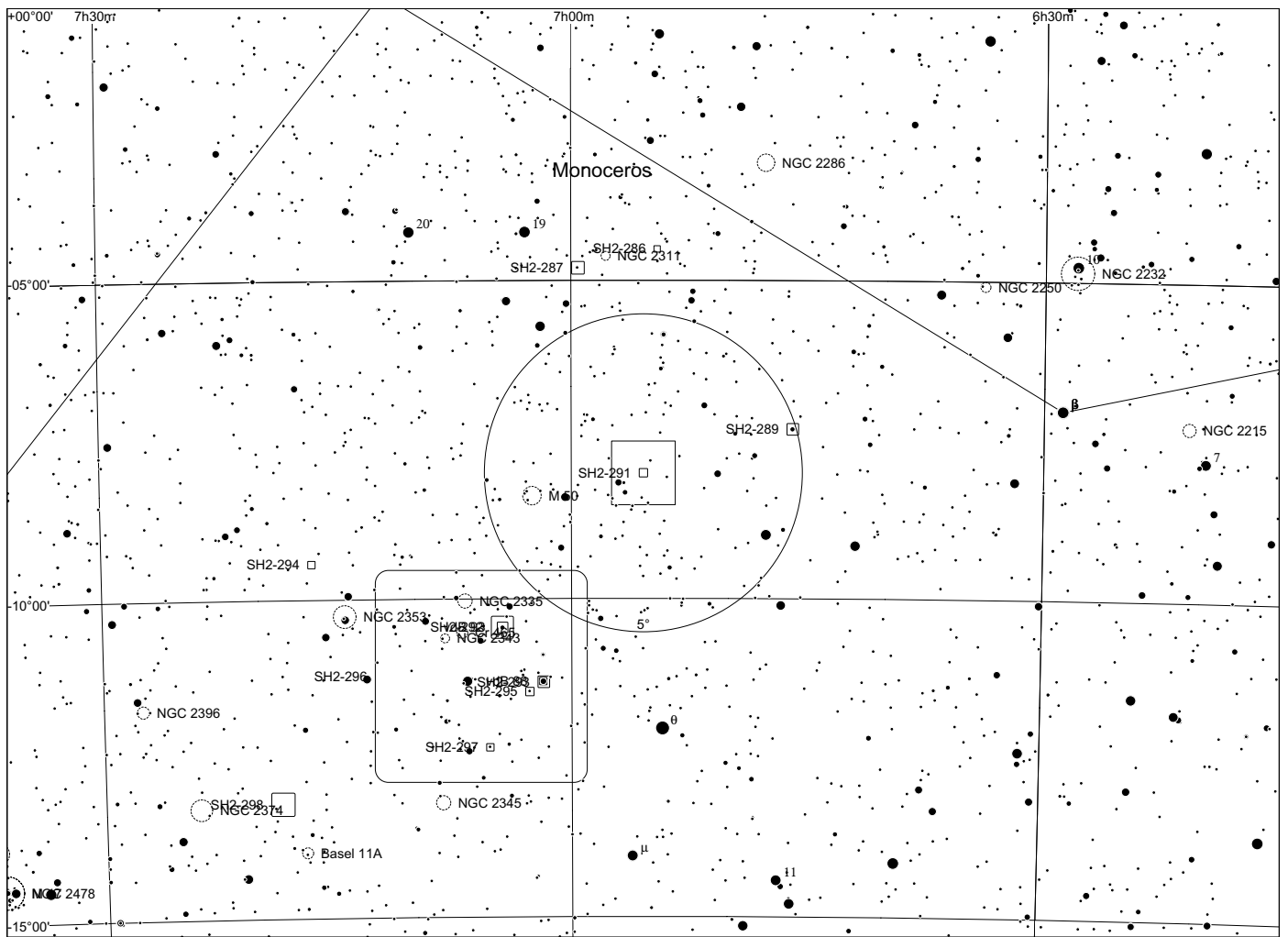
	other name	RA	dec	dia. '	F	S	B
Sh 2-291		06 55 24.6	-08 01 40	8	2	1	2

Distance: 8500 pc, Size: 19.8 pc Source: 2003A&A...397..133R

Observing notes:

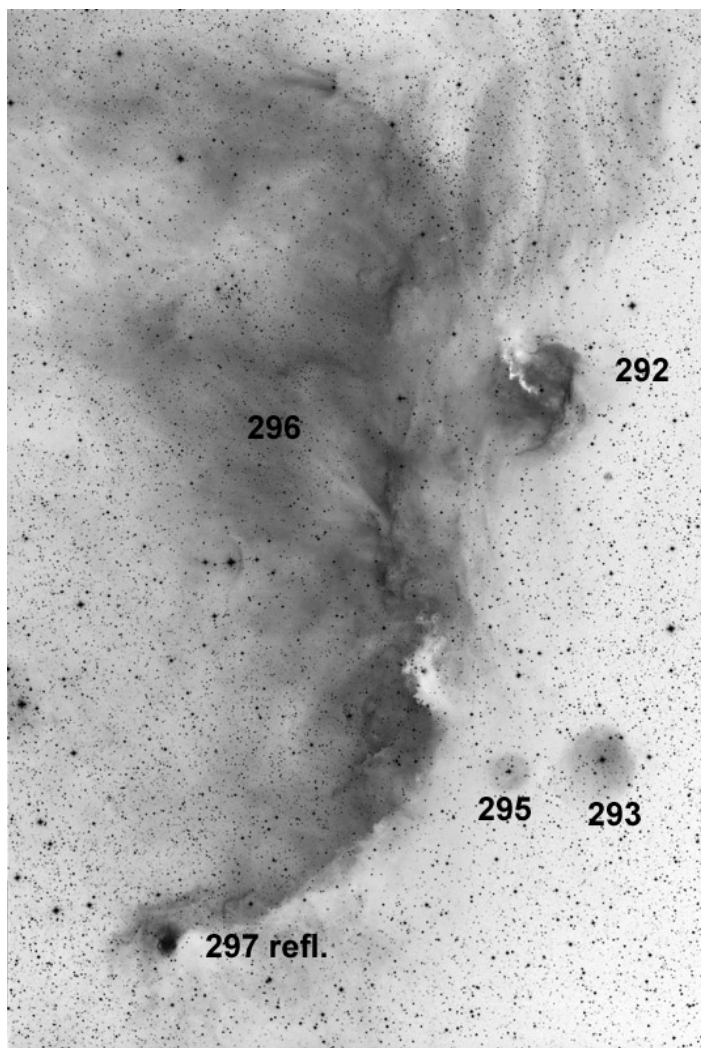
22" f/4.5

03/2013: unsuccessful

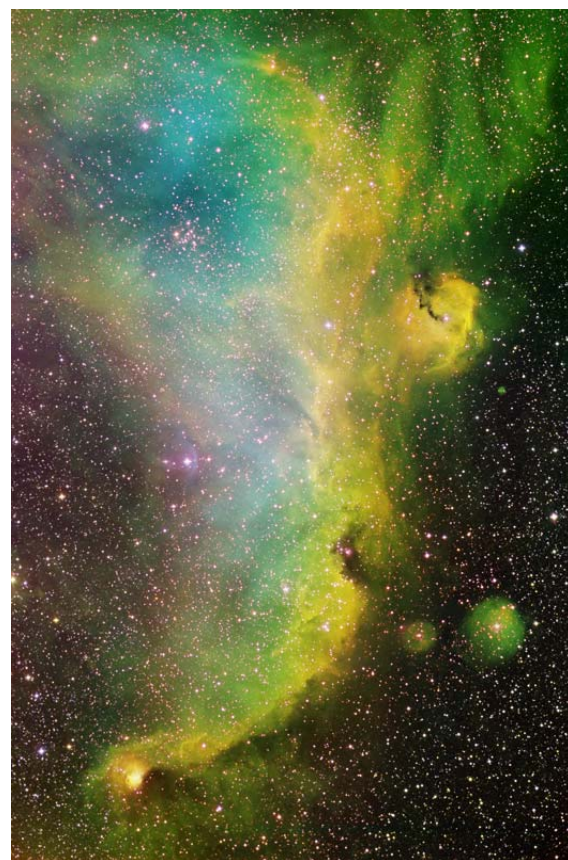


Sh 2 - 292/293/295/296/297

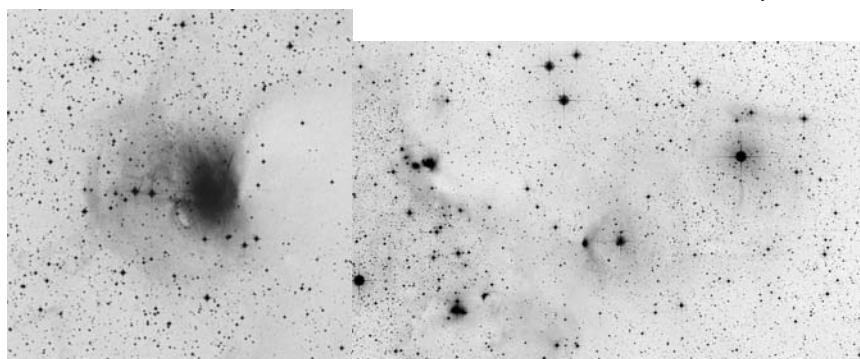
in Monoceros



H alpha

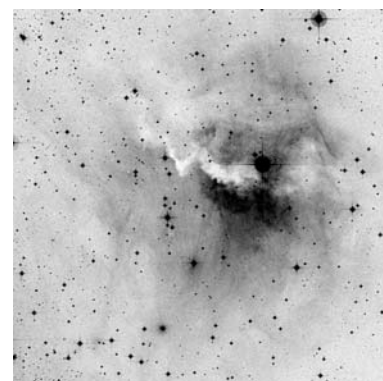


narrowband Dean Salman



POSS blue 297

295/293



292

	other name	RA	dec	dia. '	F	S	B
Sh 2-292	vdB 93 = Gum 1	07 04 24.9	-10 26 56	21	3	2	3
Sh 2-293		07 01 46.9	-11 18 34	11	1	1	2
Sh 2-295		07 02 40.7	-11 27 42	8	1	1	1
Sh 2-296	IC 2177 = Seagull Nebula	07 05 48.0	-11 13 08	200	3	2	3
Sh 2-297		07 05 14.7	-12 20 04	7	3	2	3

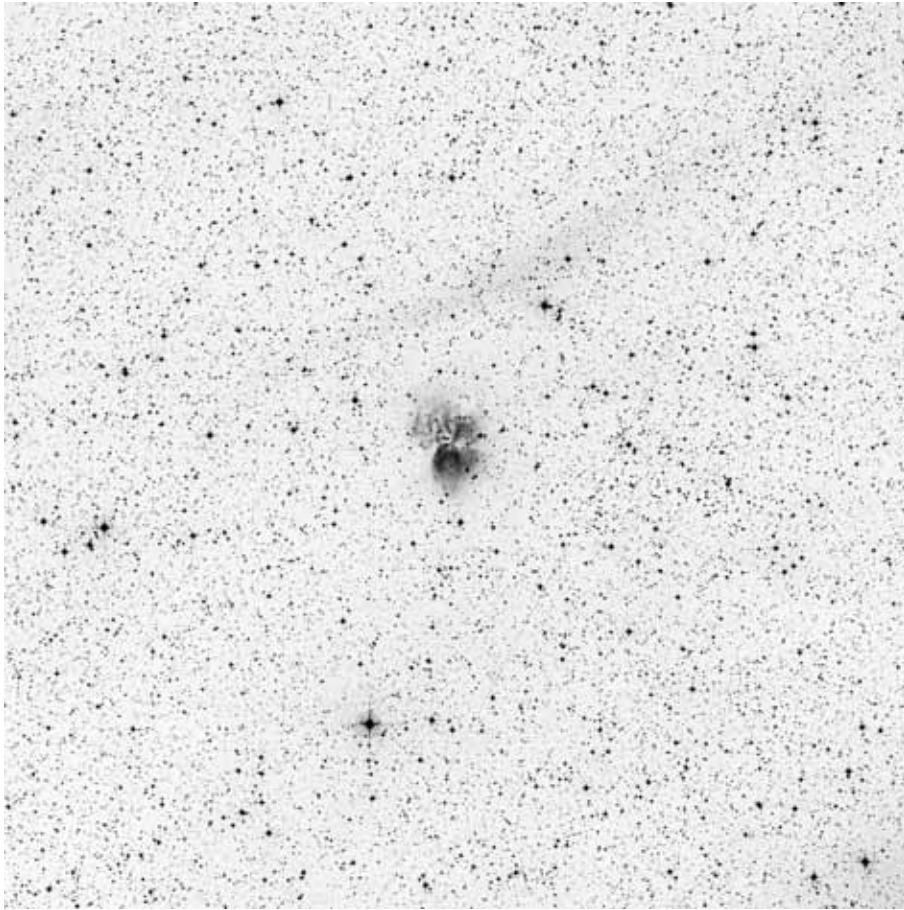
Distance: 1150 pc, Size: 7.0 pc, Source: 1982ApJS...49..183B

292, the head of the Seagull nebula is both an HII region and reflection nebula (VDB 93). It is part of the CMa OB1 association and is ionised by the B0IV:e subgiant HD 53367, a young 20 solar mass star orbited by a 5 solar mass companion in a highly elliptical orbit.

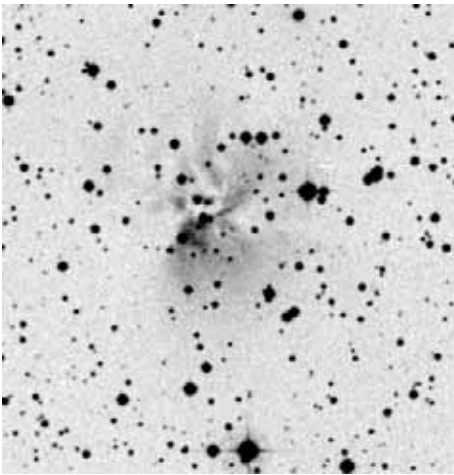
Observing notes:

14 f/5: best with UHC, Ced 90/297 with RN, Gum 1 best with H beta (dark lane). Several RNs are superimposed, Z CMa is nearby. Extremely interesting area.

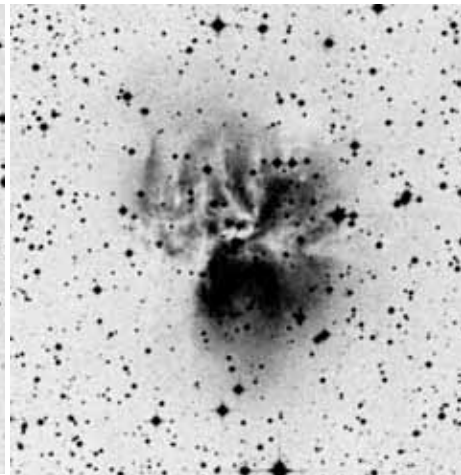
Sh 2 - 294 in Monoceros



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-294		07 16 34.3	-09 26 38	7	3	2	3

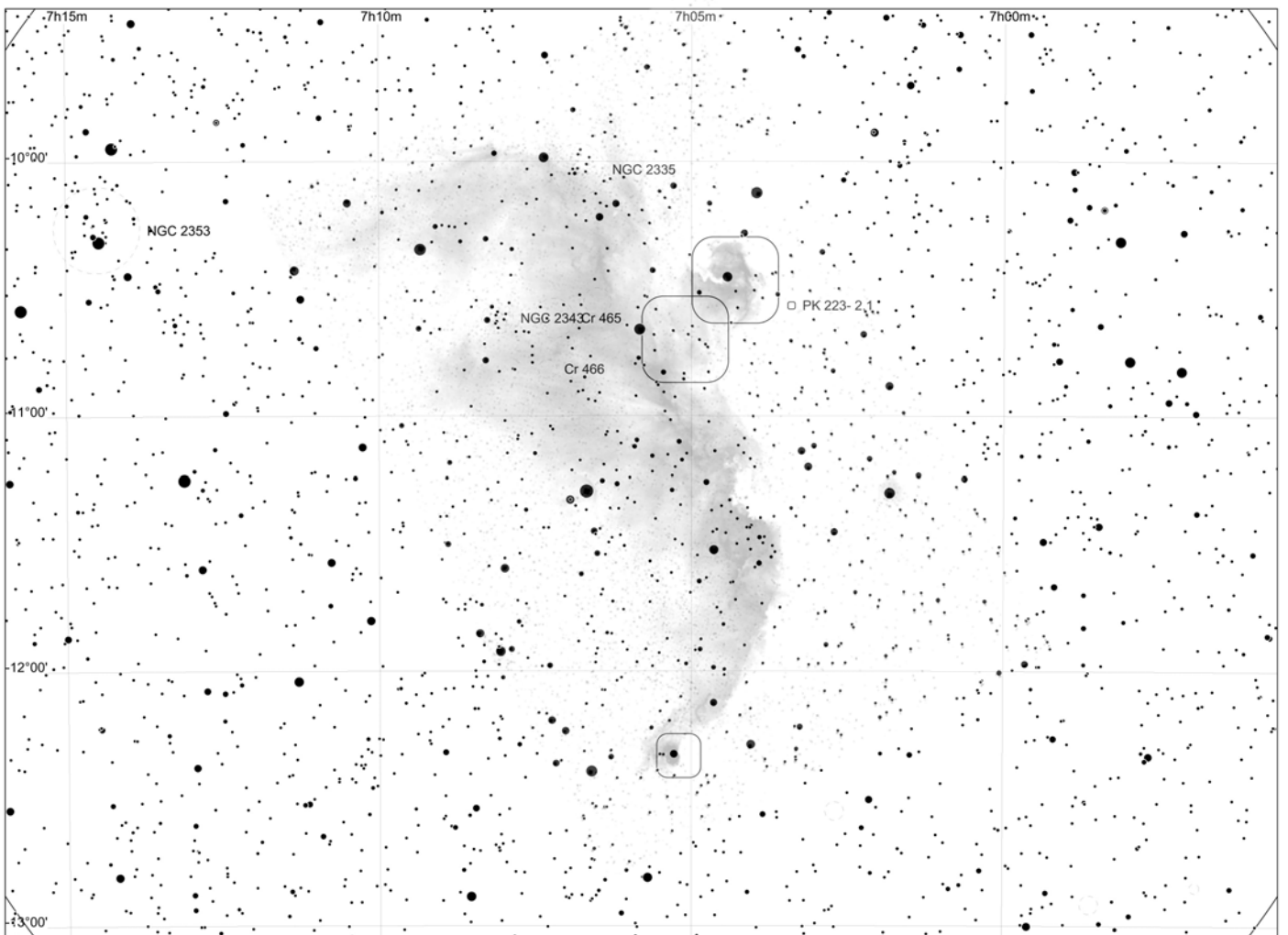
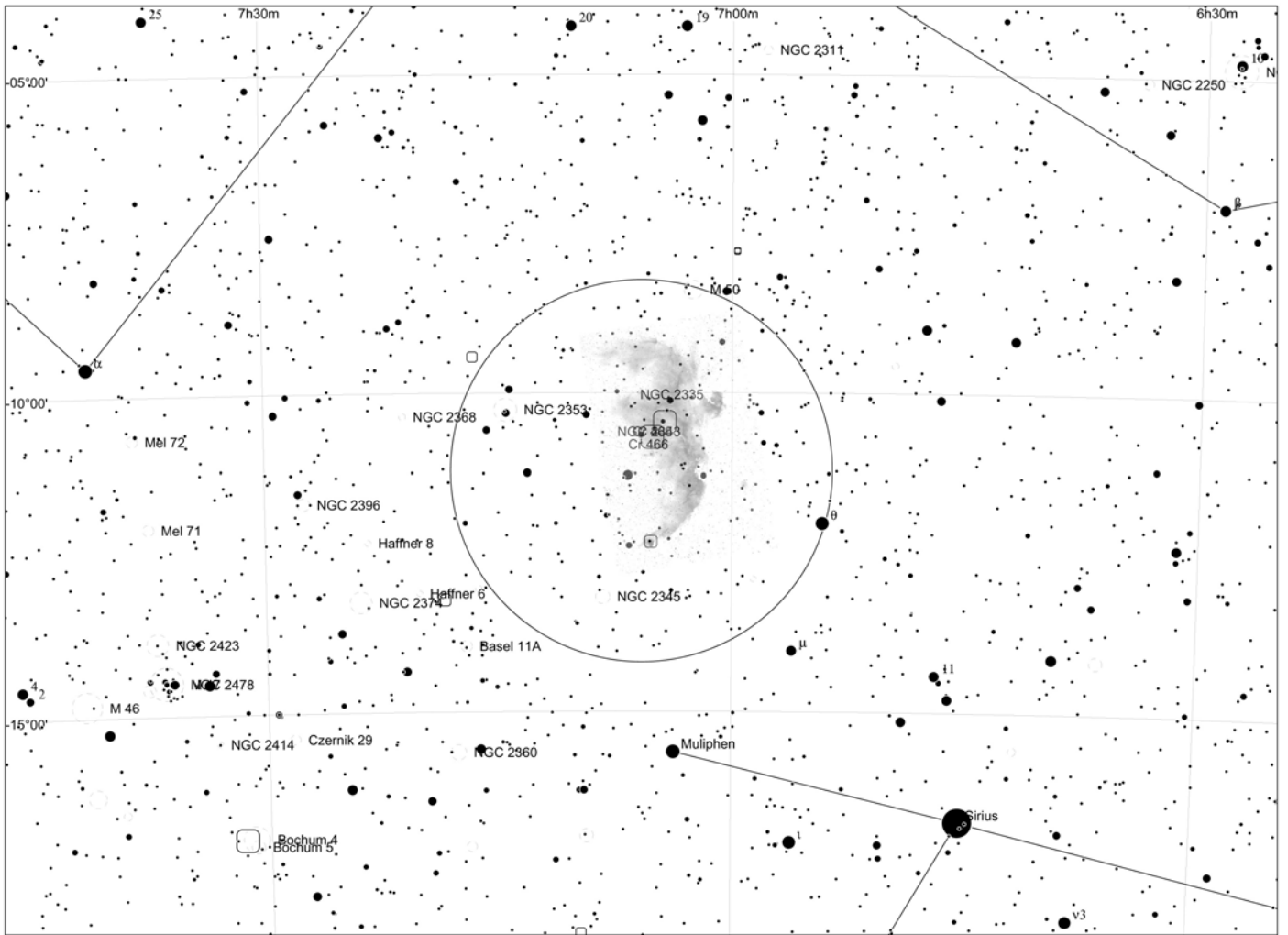
Distance: 4600 pc, Size: 9.4 pc, Source: 1982ApJS...49..183B

This HII region contains the loose infrared star cluster [BDS2003] 95. Its odd shape looks like an upside down octopus - should it perhaps be called the Octopus nebula?

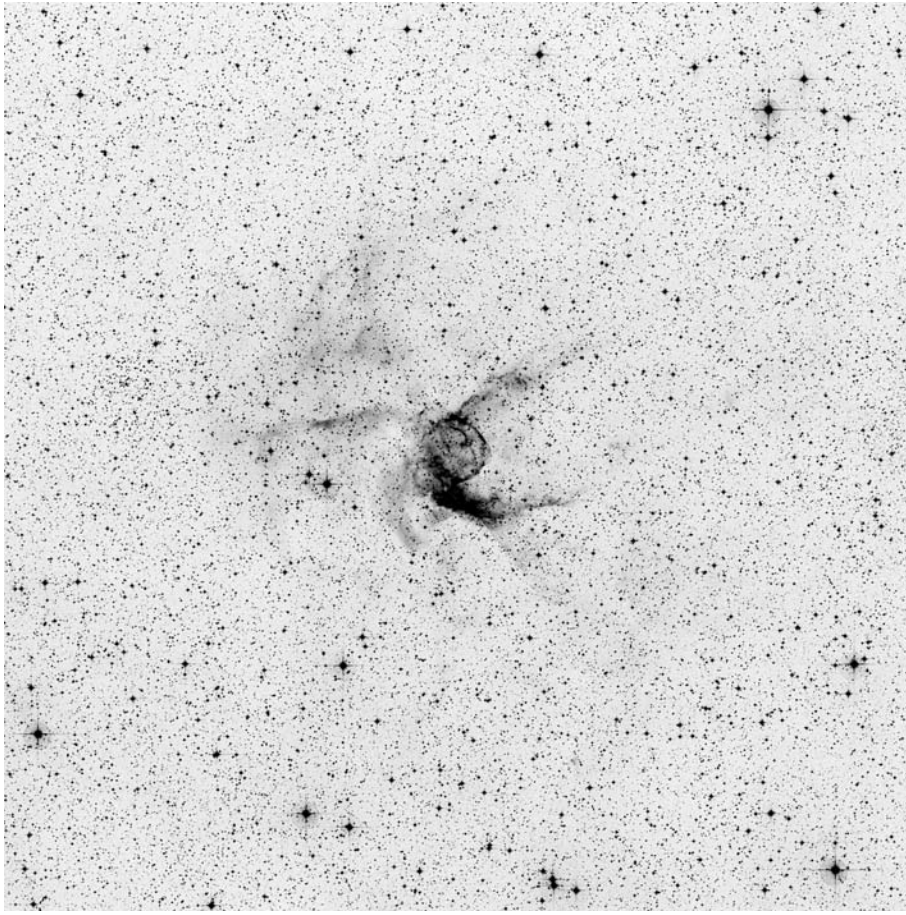
Observing notes:

14" f/5

12/2004: relatively bright nebula with OIII filter.



Sh 2 - 298 in Canis Major



60x60, red



narrowband, Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-298	NGC2359 = Thor's Helmet	07 18 38.0	-13 11 55	22	3	3	3

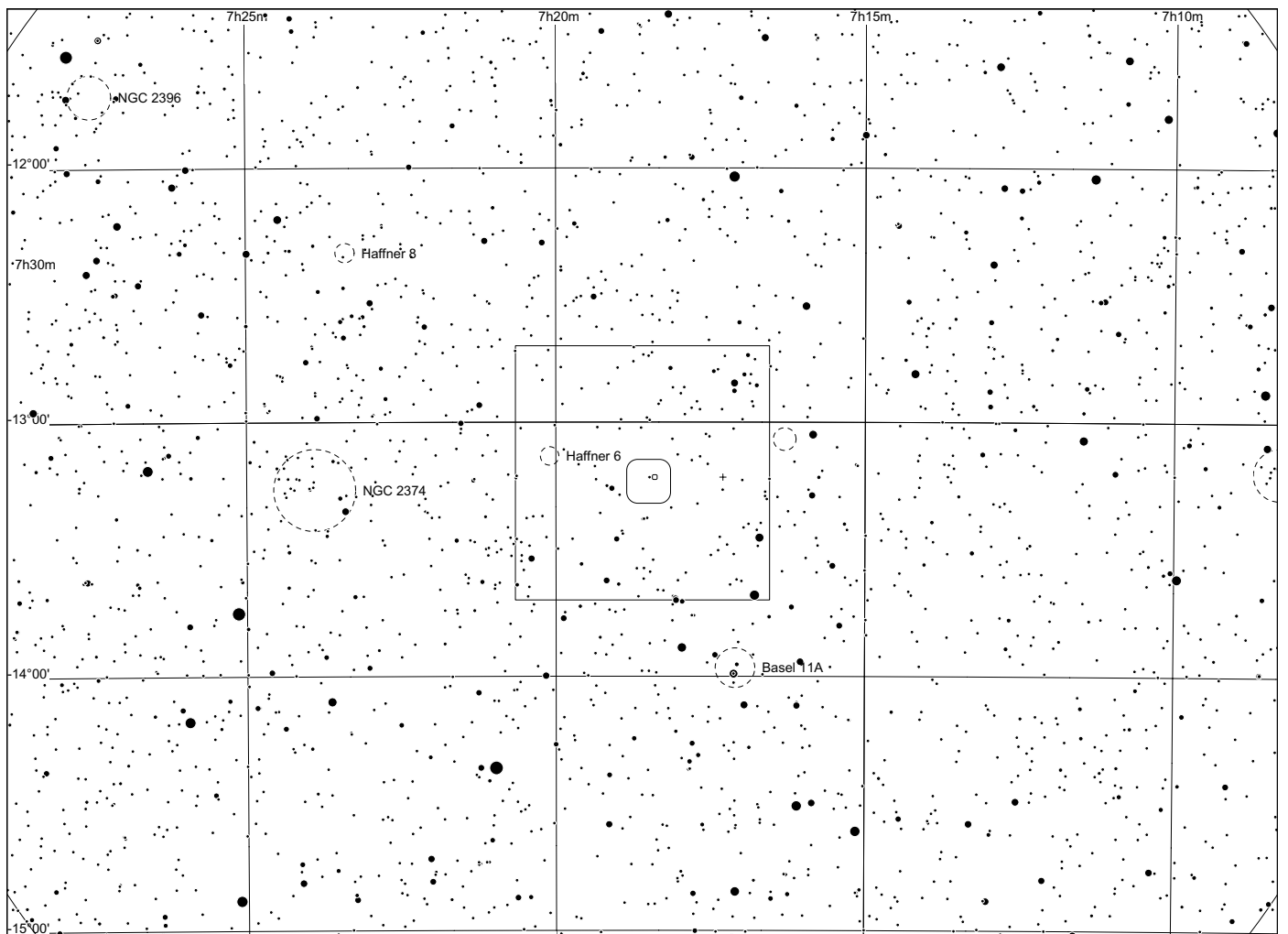
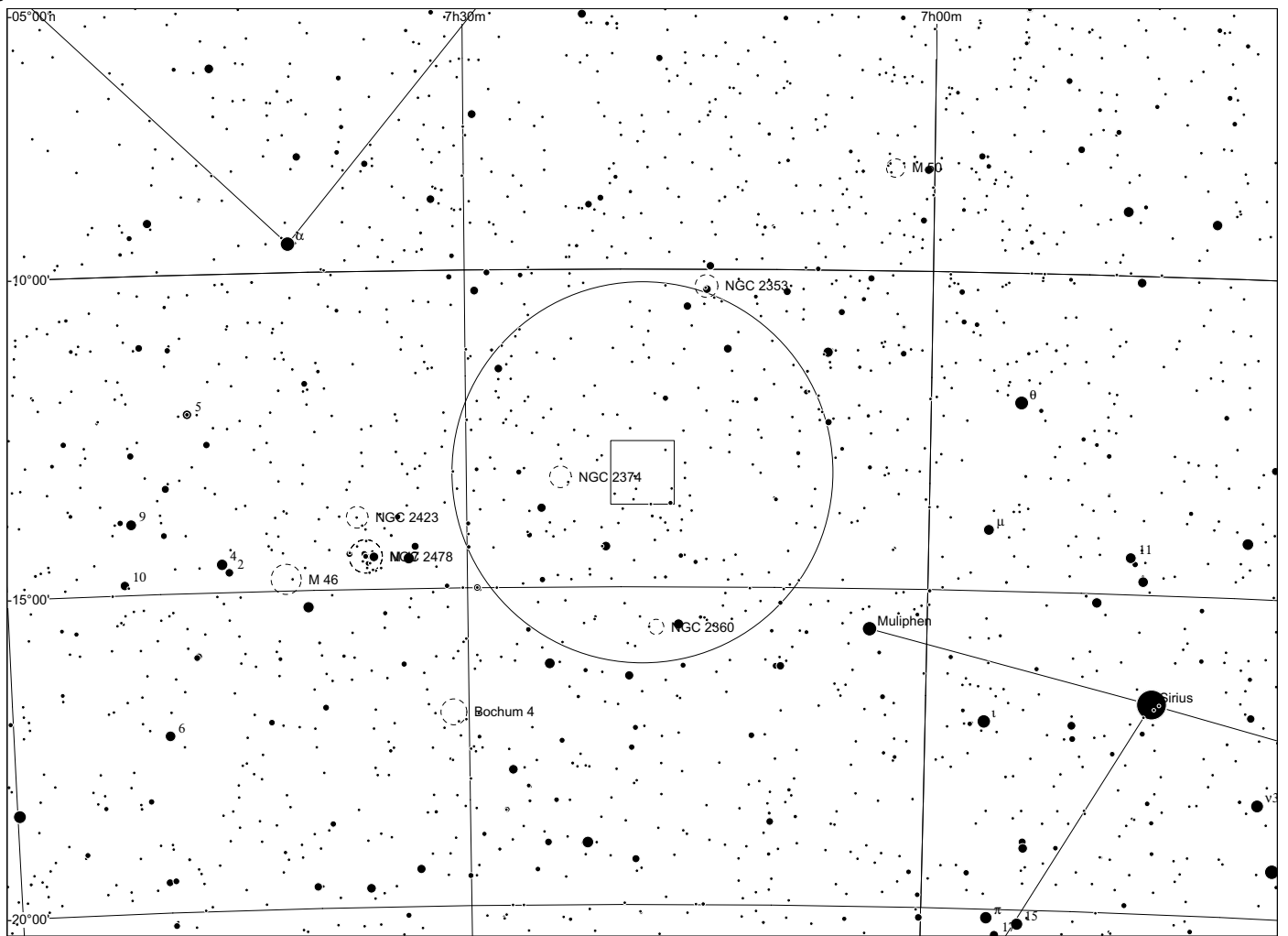
Distance: 5000 pc, Size: 32.0 pc, Source: 2001AJ....121.2664C

Nicknamed Thor's Helmet, this nebula (also called NGC 2359) is a wind blown bubble ionized by the Wolf-Rayet star WR 7 (HD 56925).

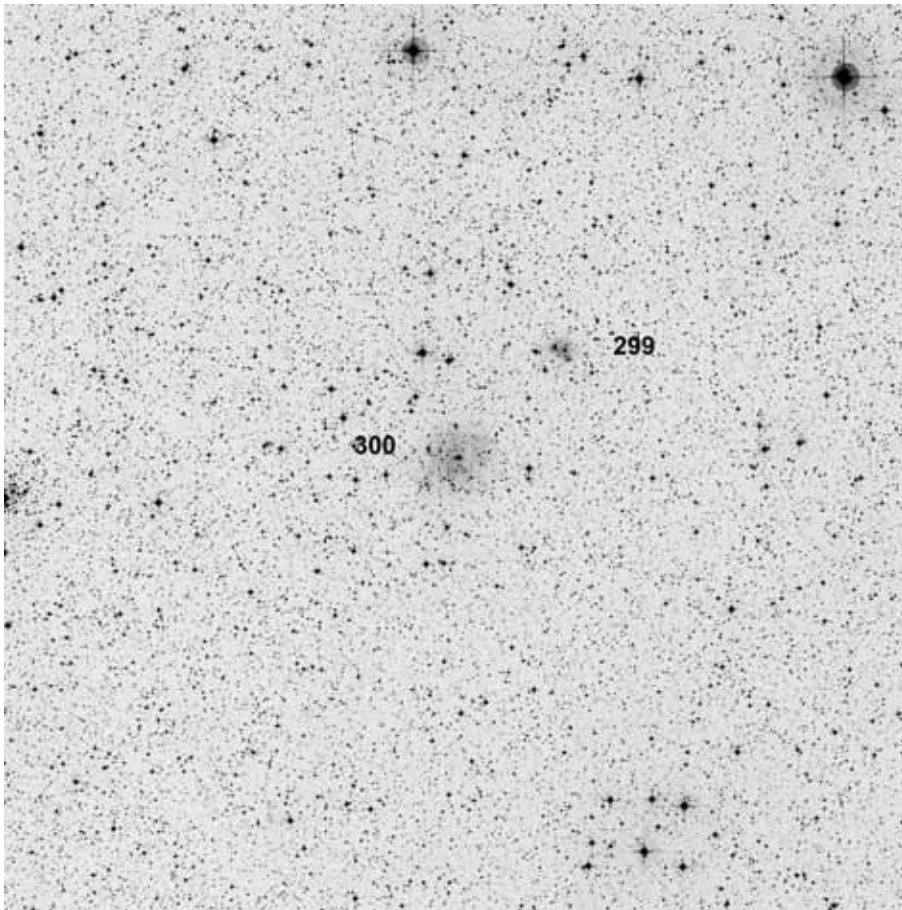
Observing notes:

22" f/4.5

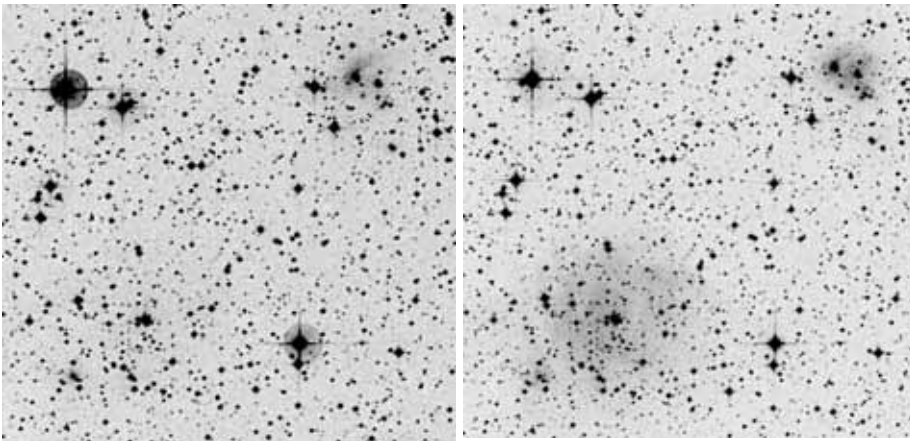
Responds extremely well to OIII filter. Very structured and bright WR nebula with shell, E bar and extensions toward NW and SW



Sh 2 - 299/300 in Puppis



60x60, red



POSS blue

POSS red

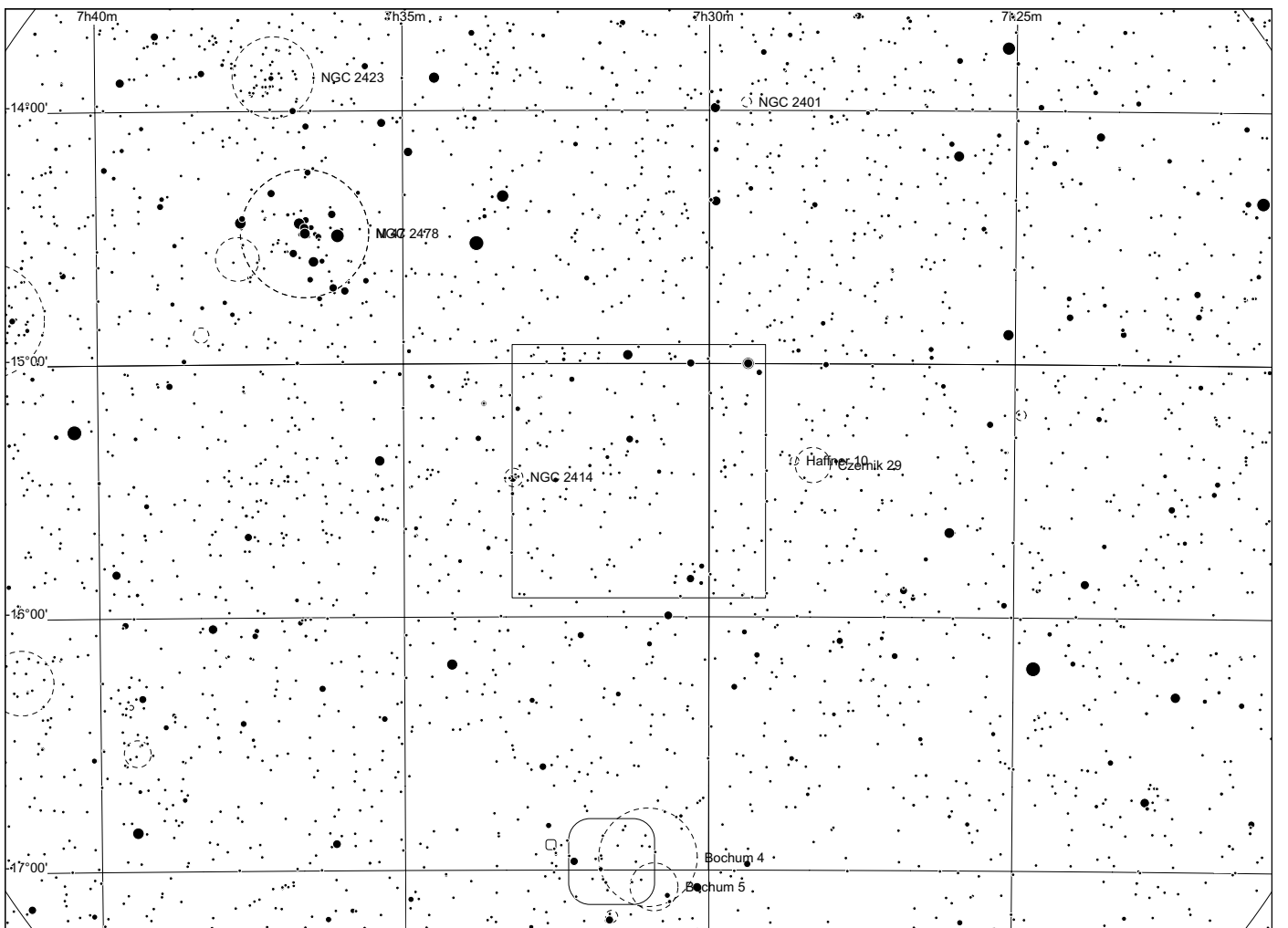
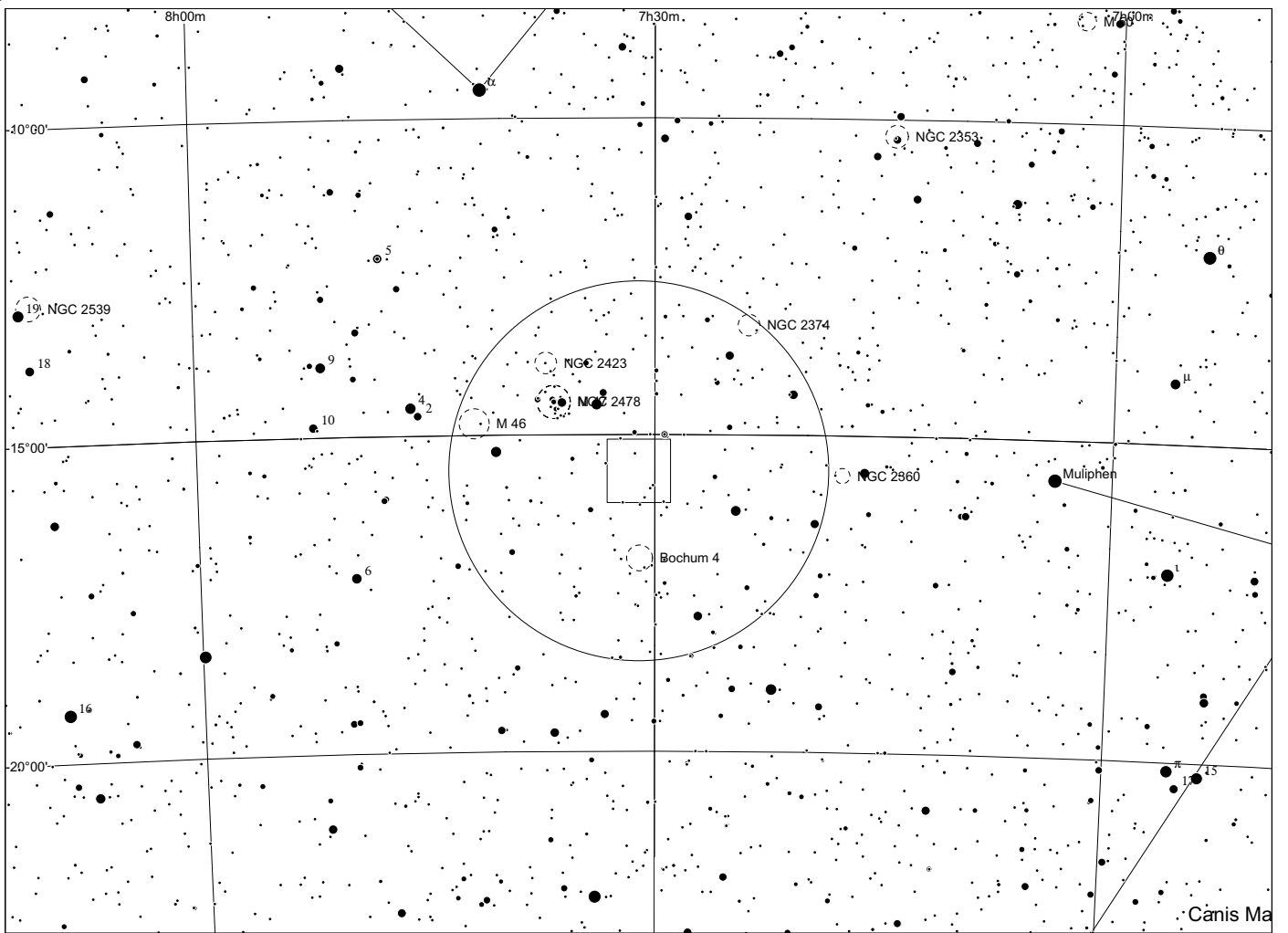
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-299		07 30 38.9	-15 17 34	1	3	1	1
Sh 2-300		07 31 02.8	-15 24 37	3	2	1	1

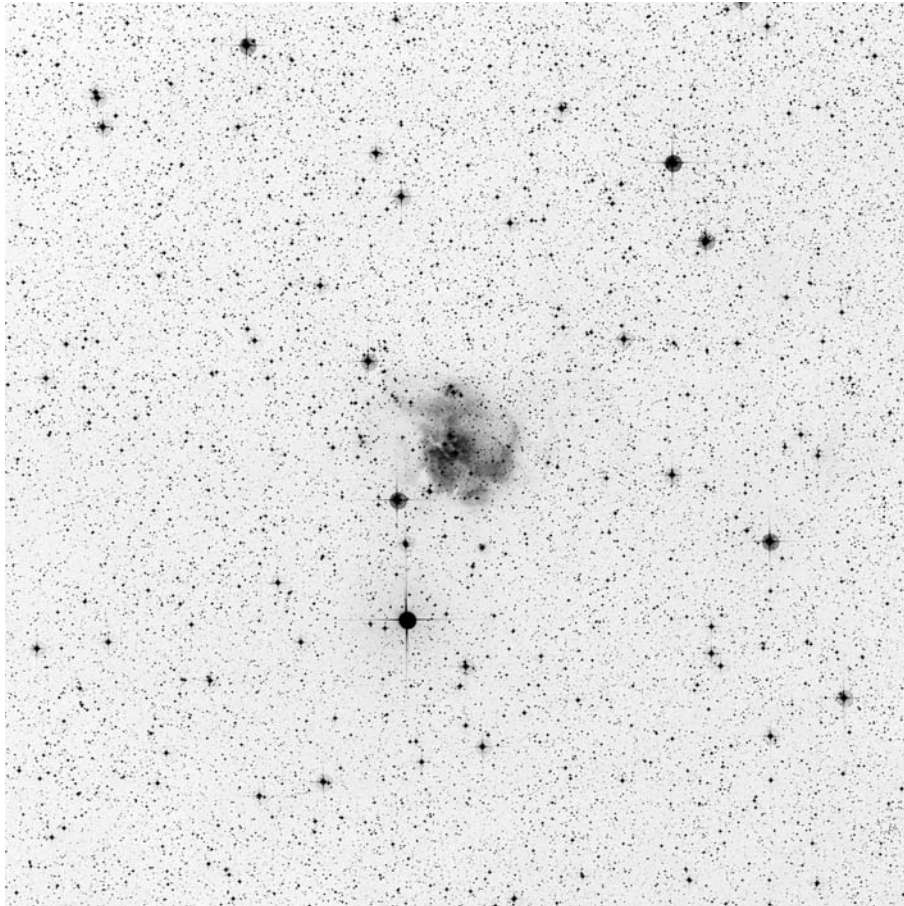
Distance: 4200 pc Source: 1995A&AS..114..557R

S299, S300, S305, S306, S307 and S309 are all part of the same giant molecular cloud complex at 4200 pc.

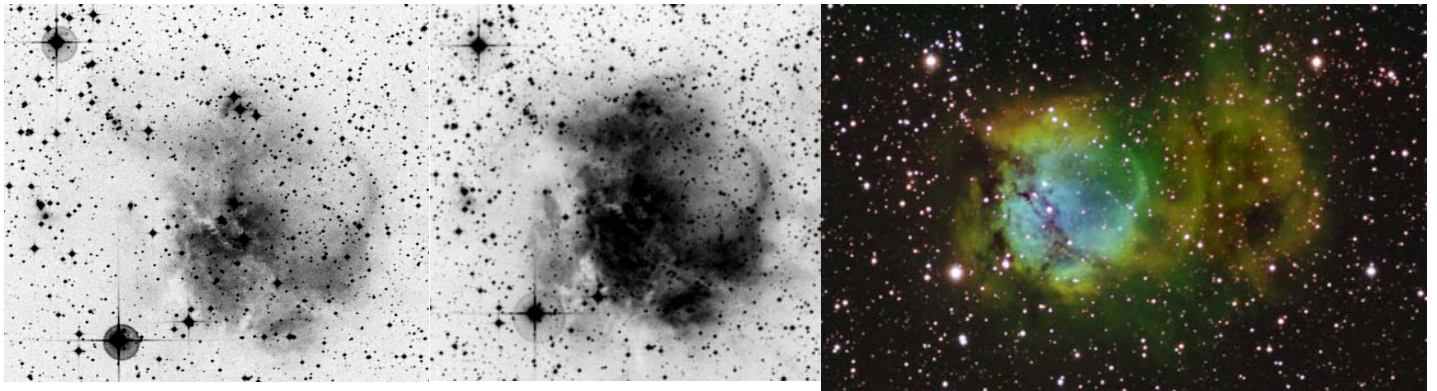
Observing notes:



Sh 2 - 301 in Canis Major



60x60, blue



POSS blue

POSS red

narrowband, Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-301		07 09 48.4	-18 28 43	9	2	2	3

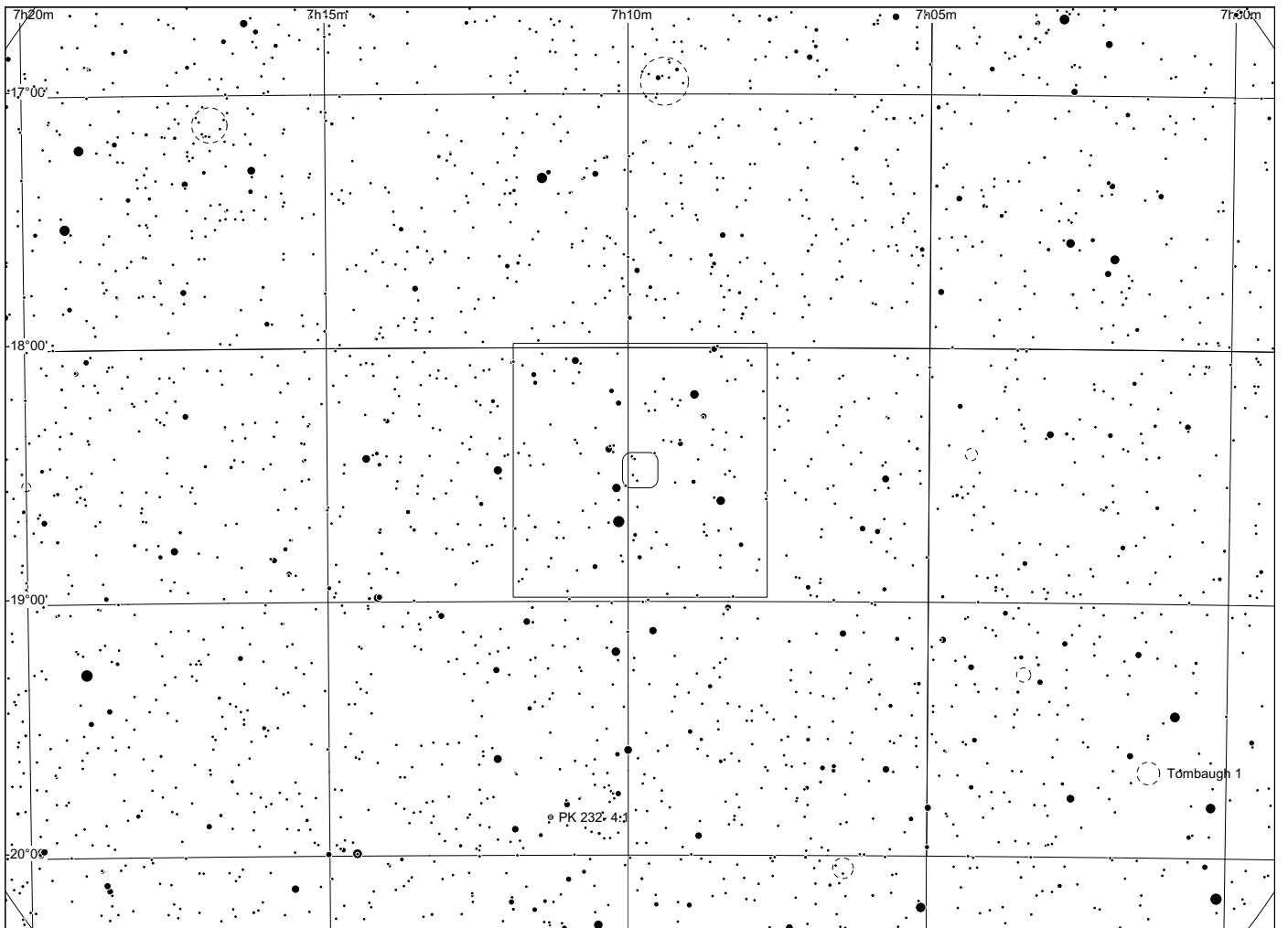
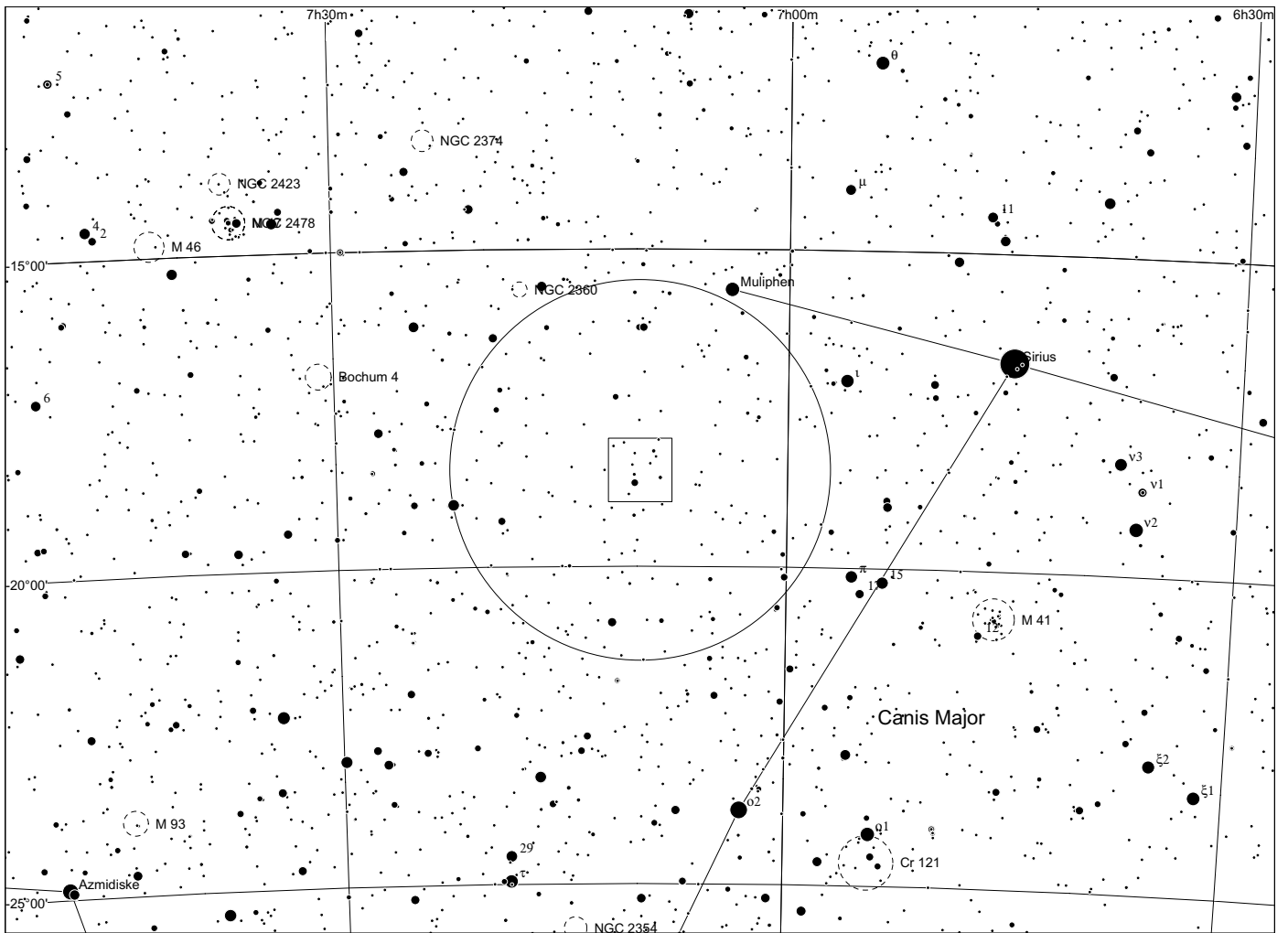
Distance: 5800 pc, Size: 15.2 pc, Source: 1982ApJS...49..183B

This HII region, also called Gum 5, may be associated with the GS234-02 star forming supershell.

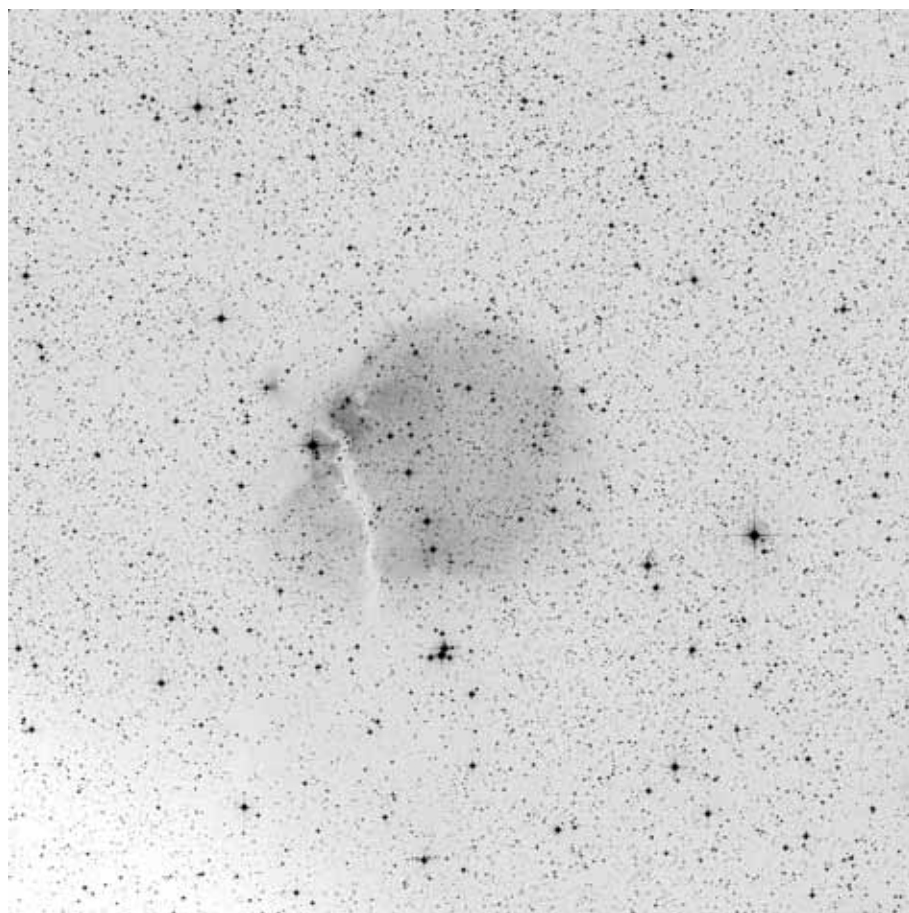
Observing notes:

22" f/4.5

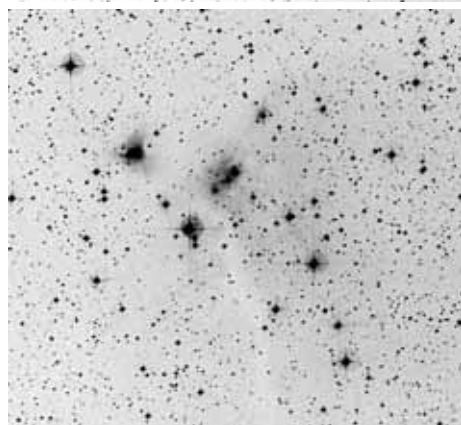
12/2008 With OIII distinct and structured nebula with dark lane and superimposed stars.



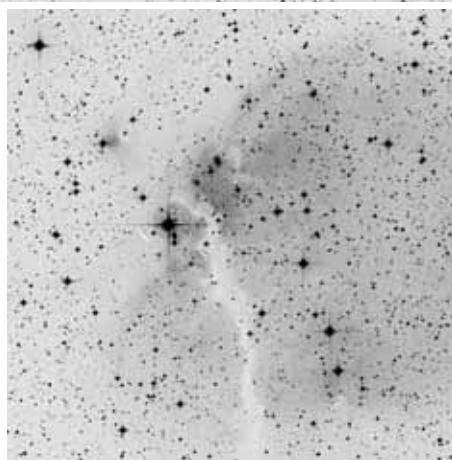
Sh 2 - 302 in Puppis



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-302		07 31 41.0	-16 58 43	21	2	1	2

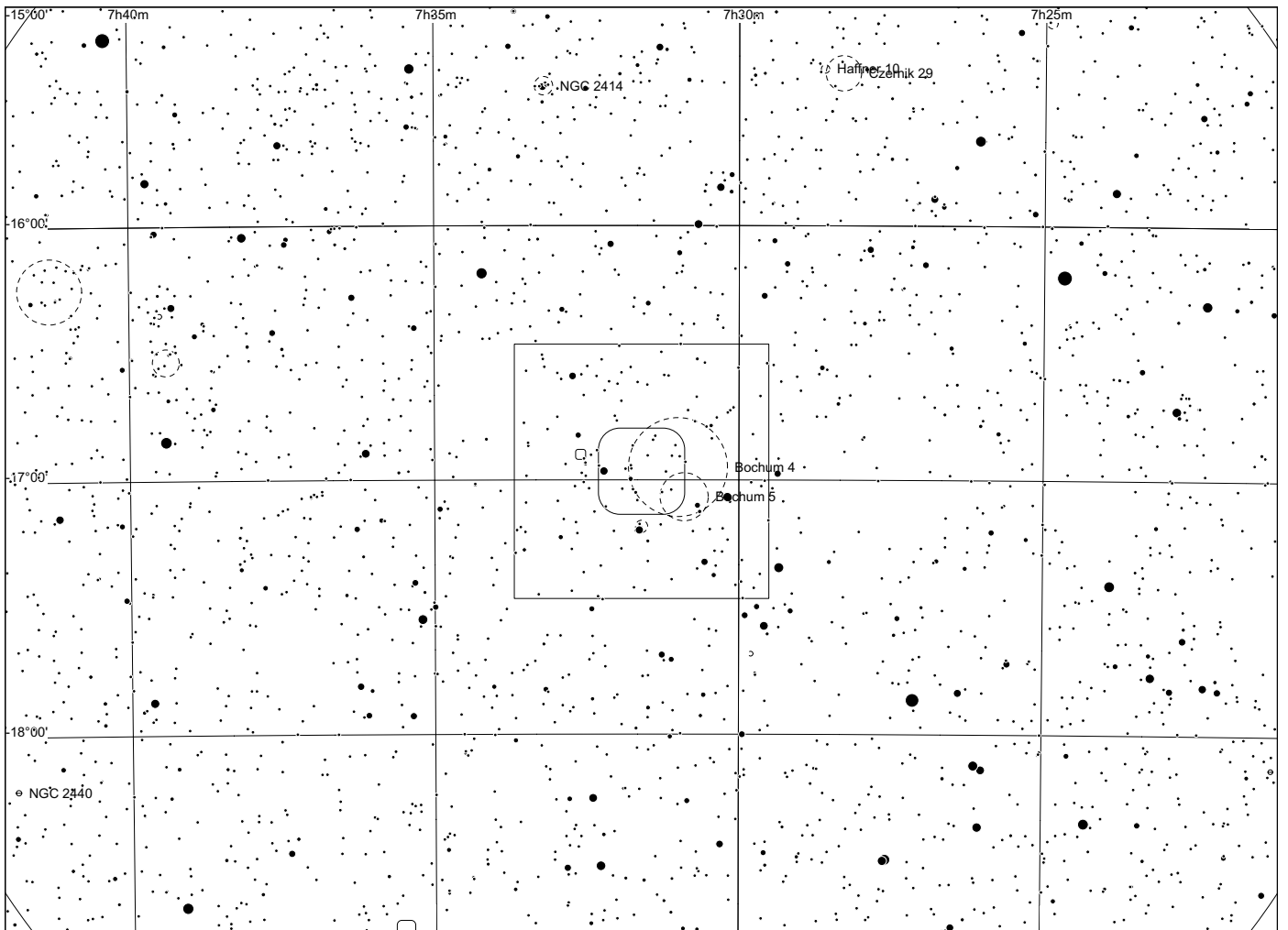
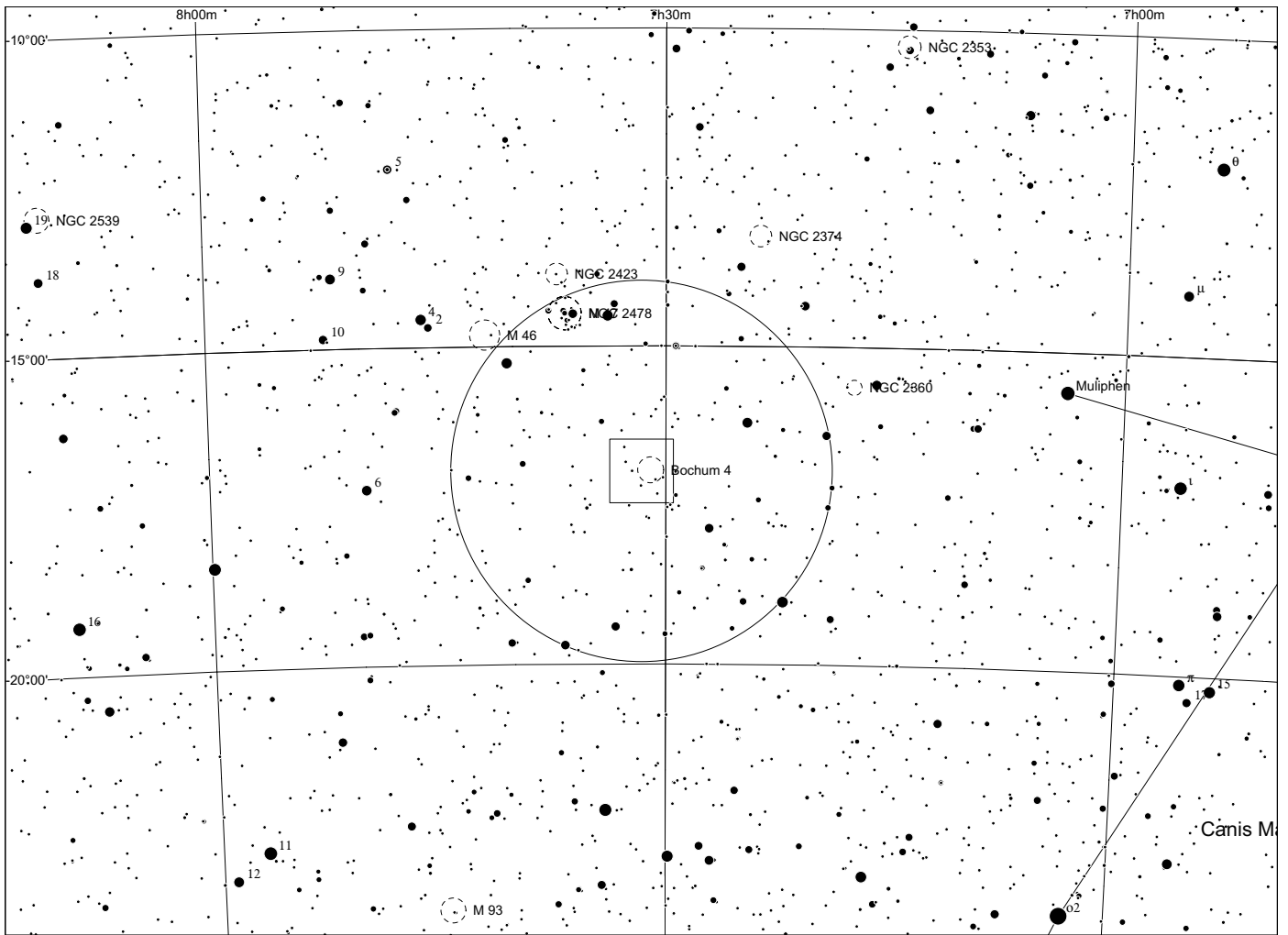
Distance: 1800 pc, Size: 11.0 pc, Source: 1996AJ....112.1625J

Also called RCW 7, Sh 2-302 is part of molecular cloud A in front of supershell GS234-02 and is located at a distance of 1800 pc.

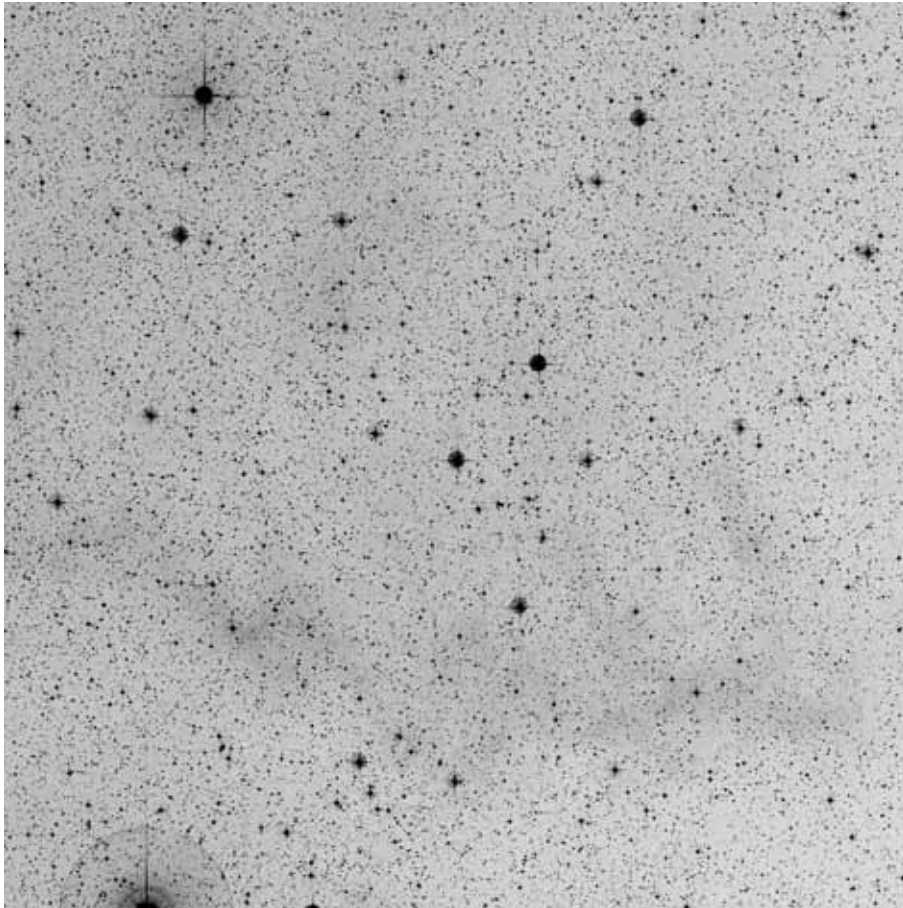
Observing notes:

22" f/4.5

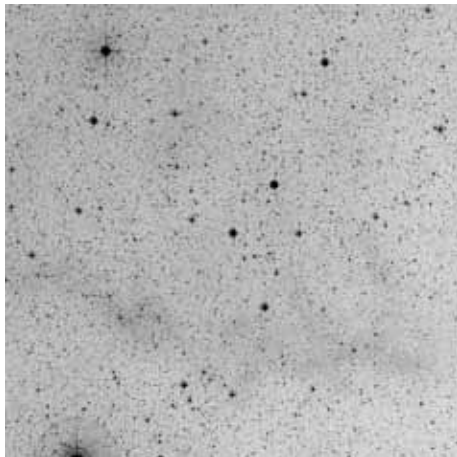
01/2010: at 100x with H beta extremely faint glow around the central stars



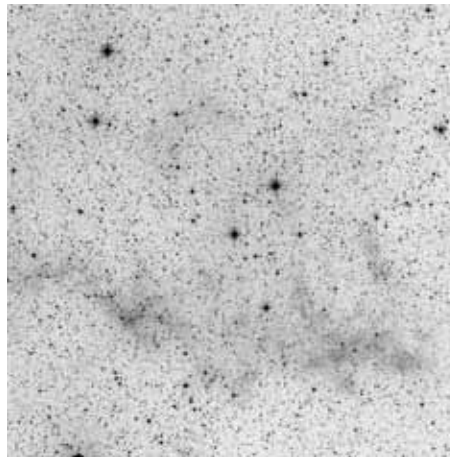
Sh 2 - 303 in Canis Major



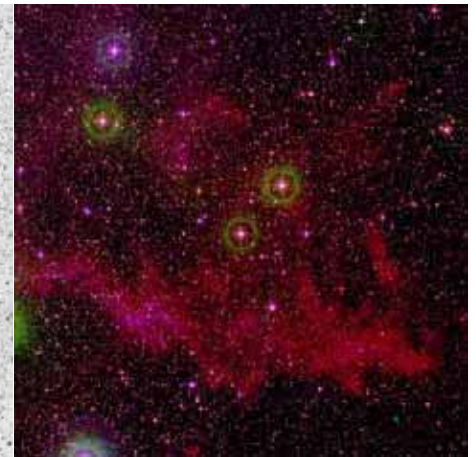
60x60, blue



POSS blue



POSS red



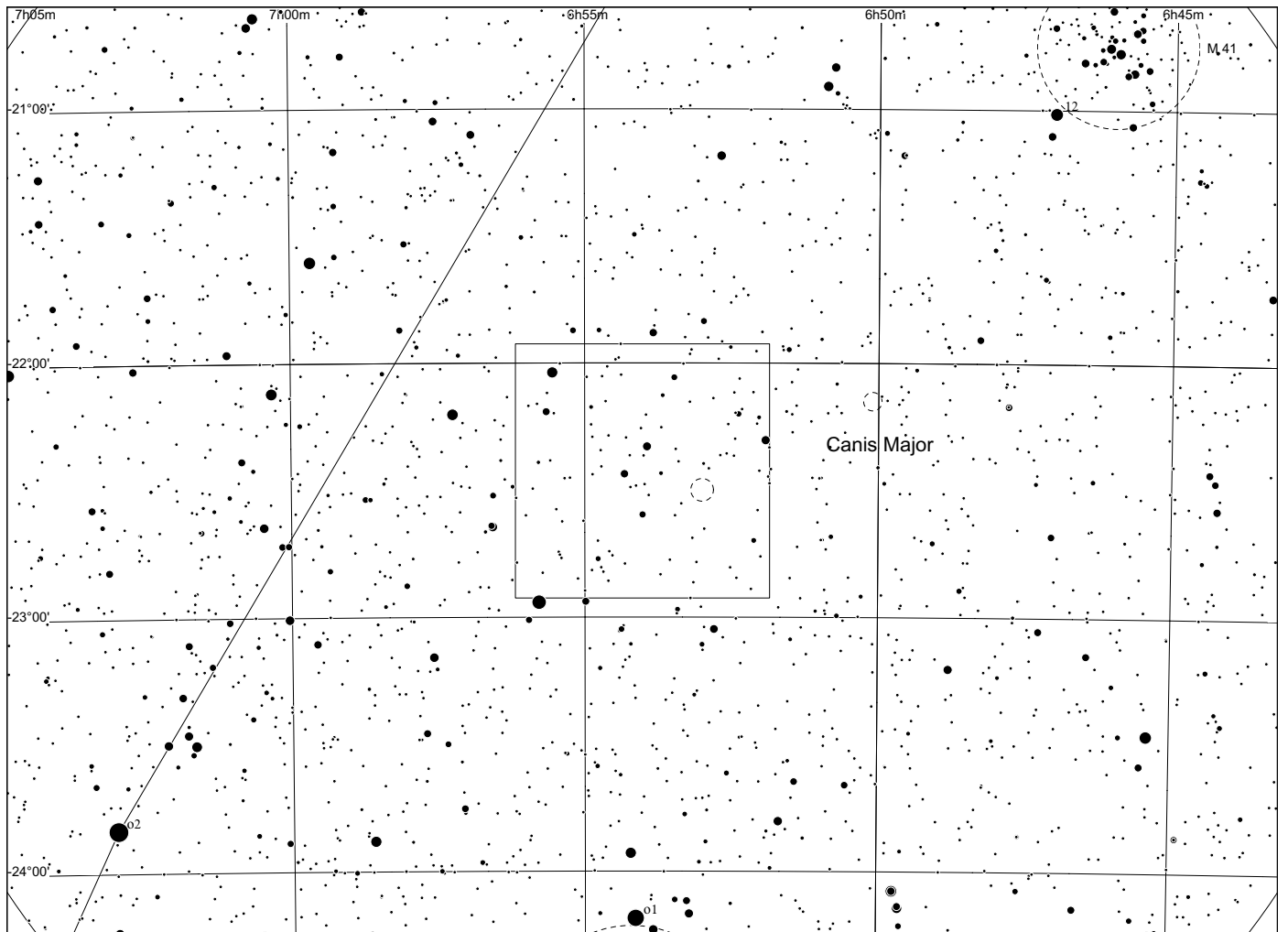
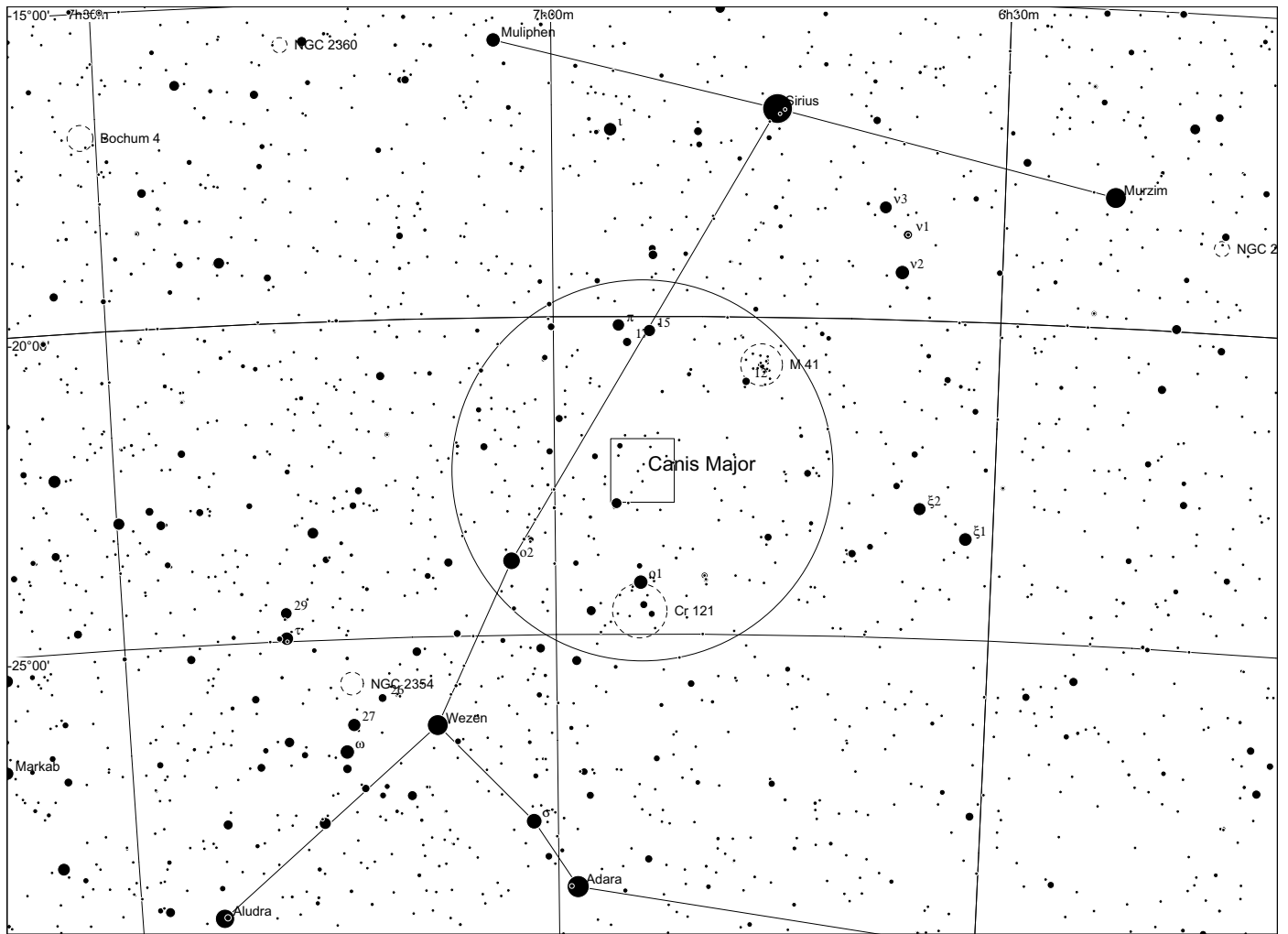
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-303		06 54 00.9	-22 25 31	90	2	2	2

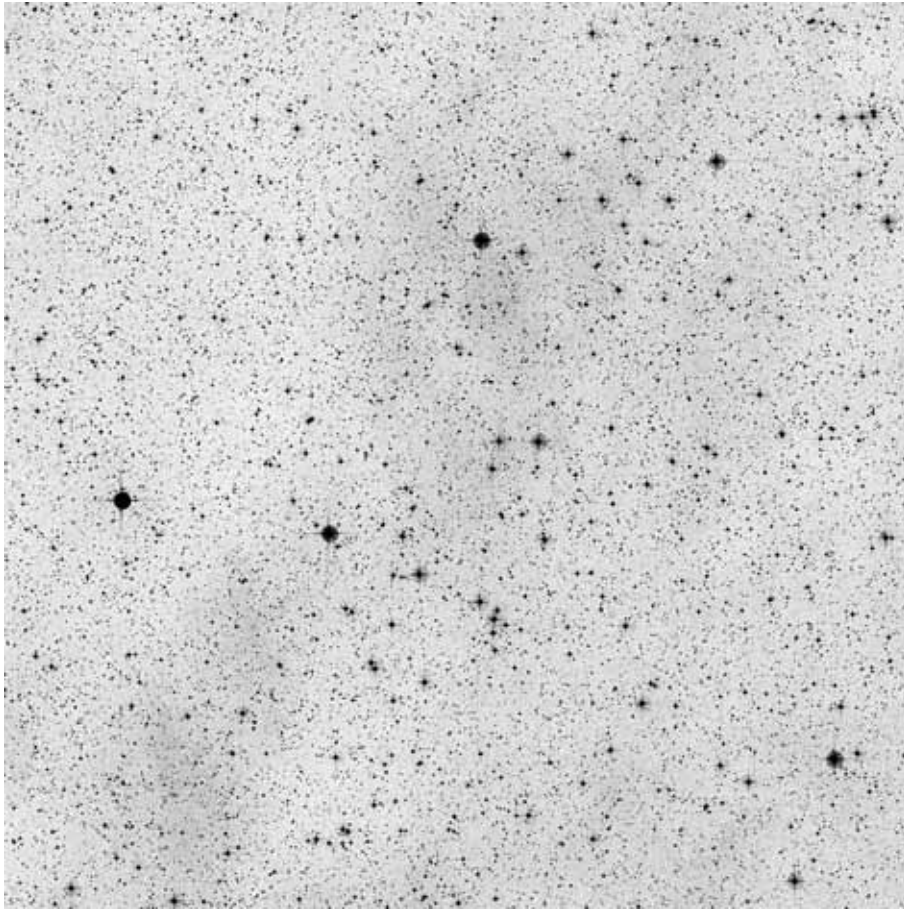
Distance: 575 pc, Size: 15.1 pc, Source: 2003MNRAS.346.1143B

Along with Sh 2-304 and Sh 2-308, this HII region is ionised by WR 6 (EZ CMa).

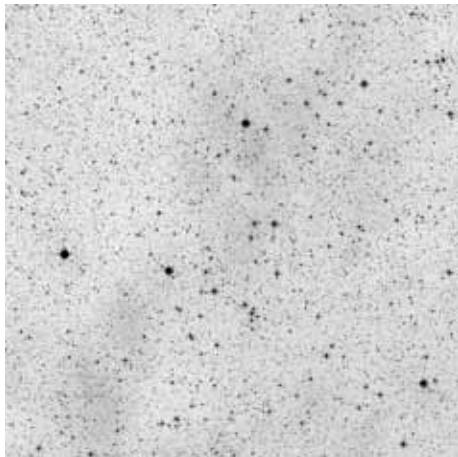
Observing notes:



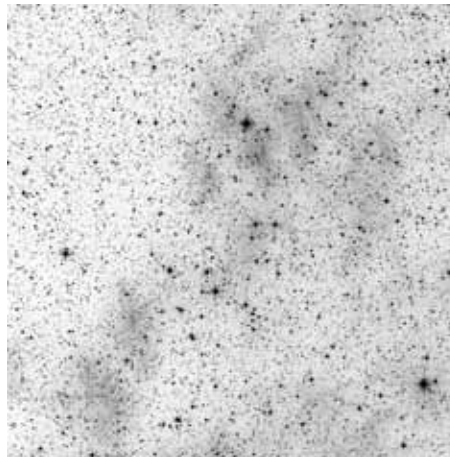
Sh 2 - 304 in Canis Major



60x60, red



POSS blue



POSS red



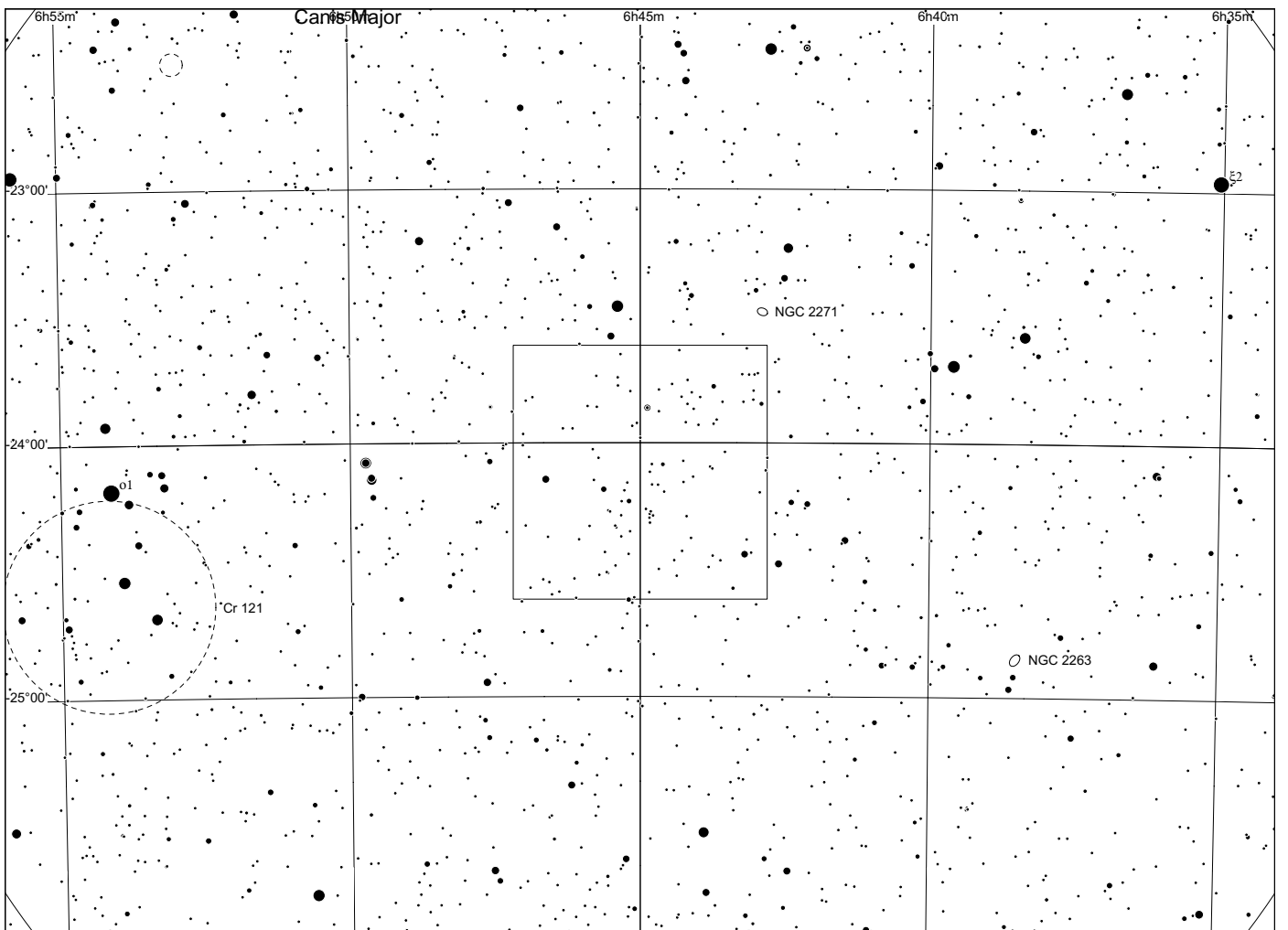
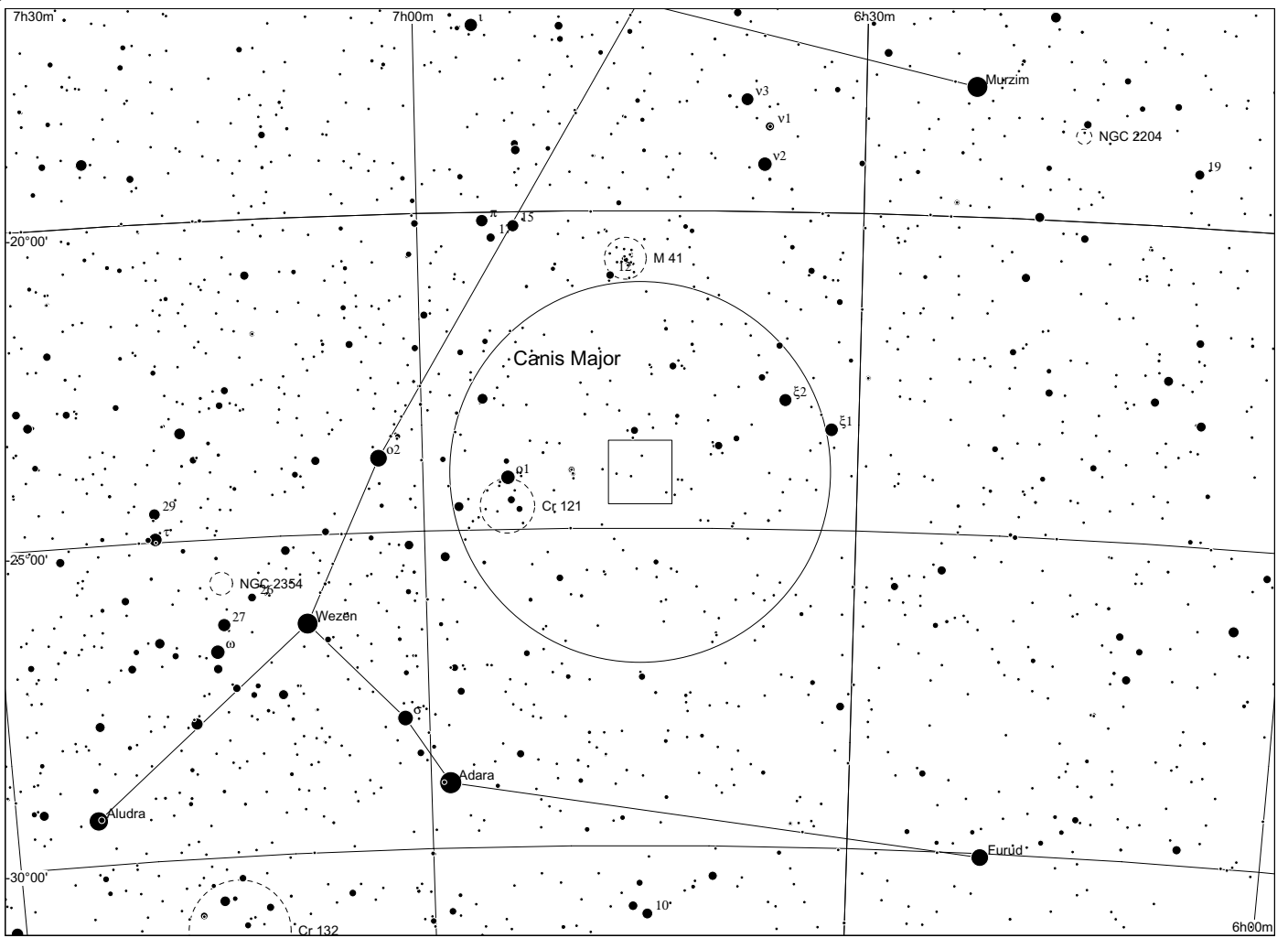
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-304		06 43 26.3	-24 07 59	200	3	2	2

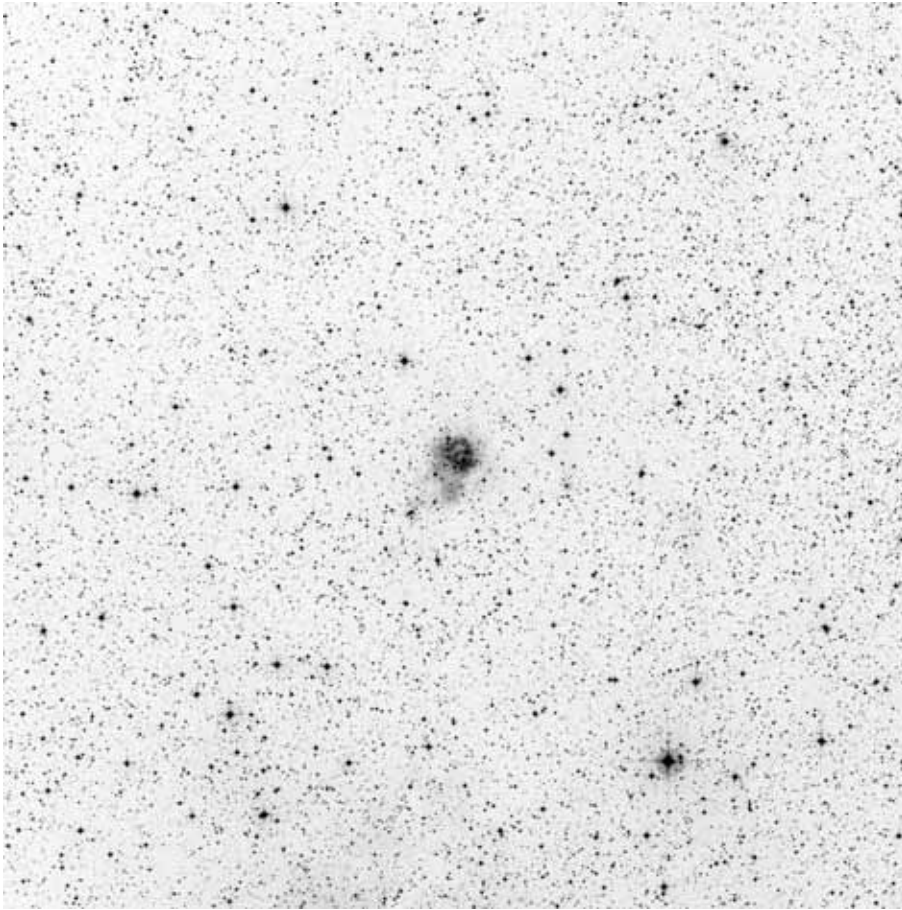
Distance: 575 pc, Size: 33.5 pc, Source: 2003MNRAS.346.1143B

Along with Sh 2-303 and Sh 2-308, this HII region is ionised by WR 6 (EZ CMa).

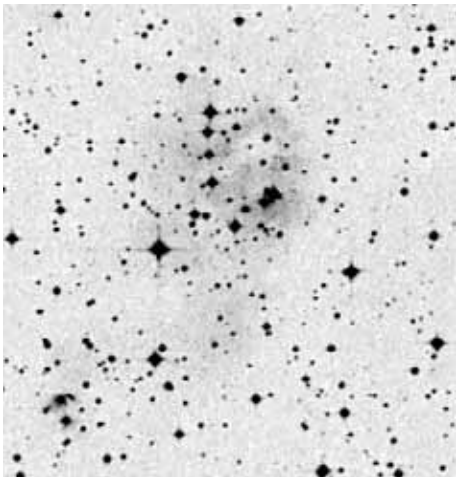
Observing notes:



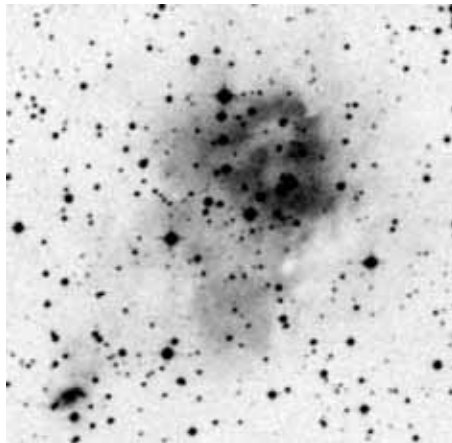
Sh 2 - 305 in Puppis



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-305		07 30 08.1	-18 31 31	4	3	2	3

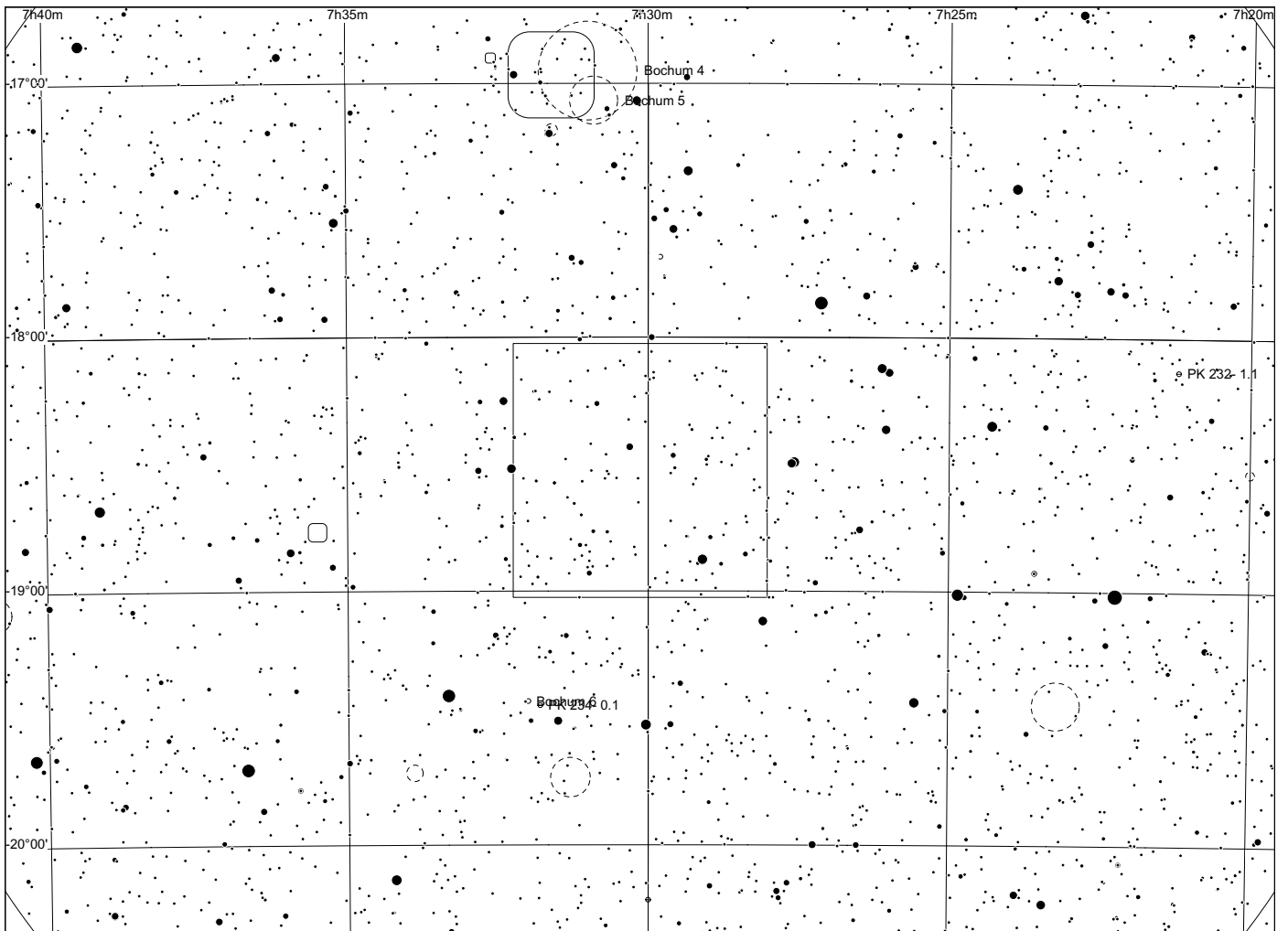
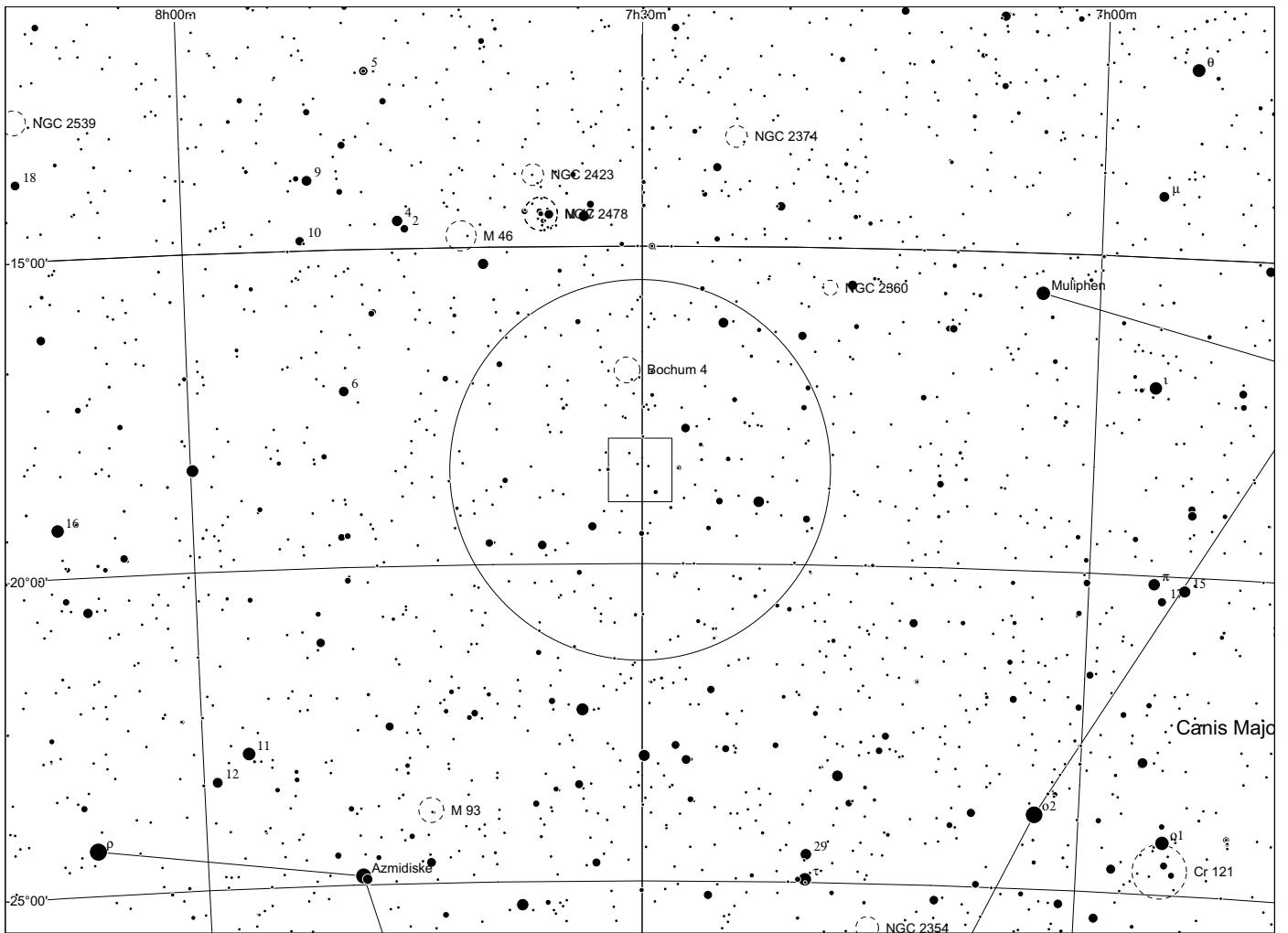
Distance: 4200 pc, Size: 4.4 pc, Source: 1995A&AS..114..557R

RCW 8 is part of a huge molecular cloud complex with a distance of 4200 pc and is ionised by at least two O-class stars, and possibly two B0 class stars as well.

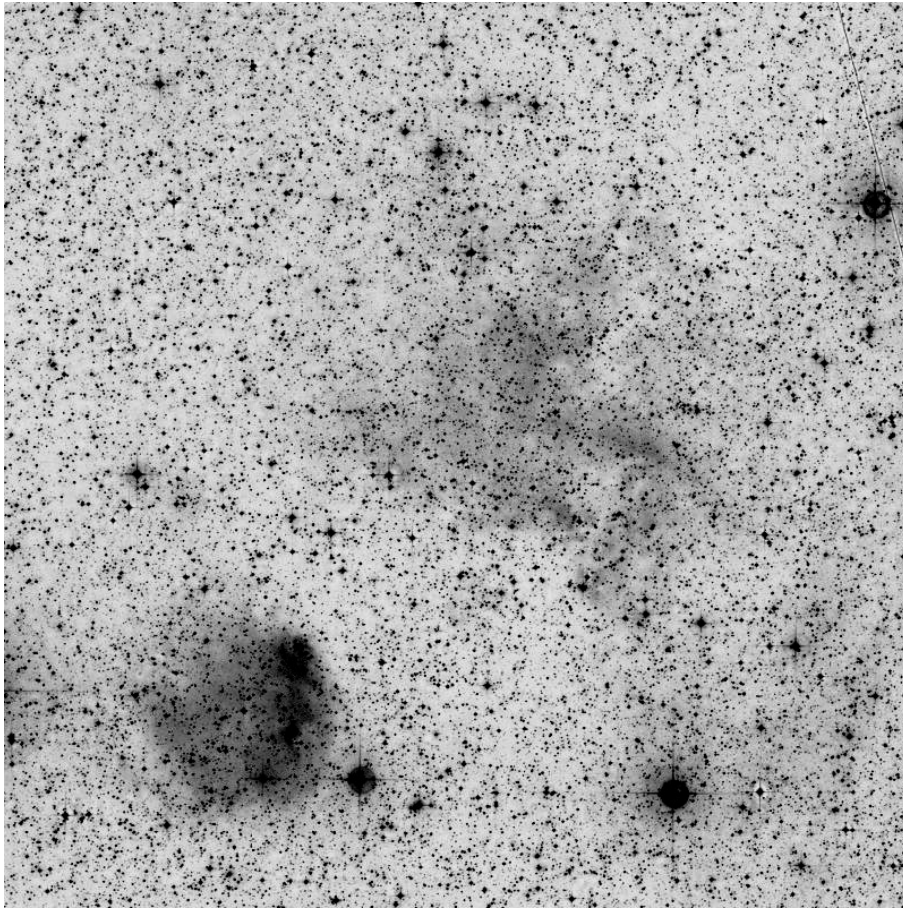
Observing notes:

22" f/4.5

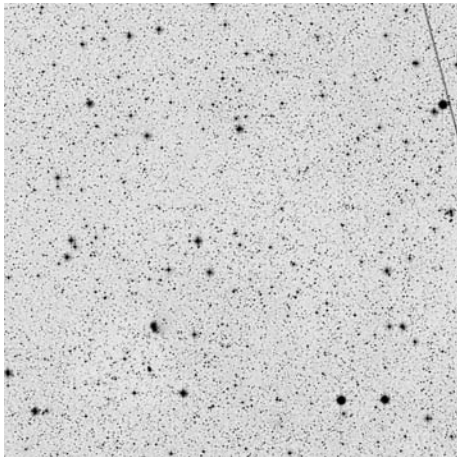
01/2011: At 200x and with H beta, there is a very faint glow around stars



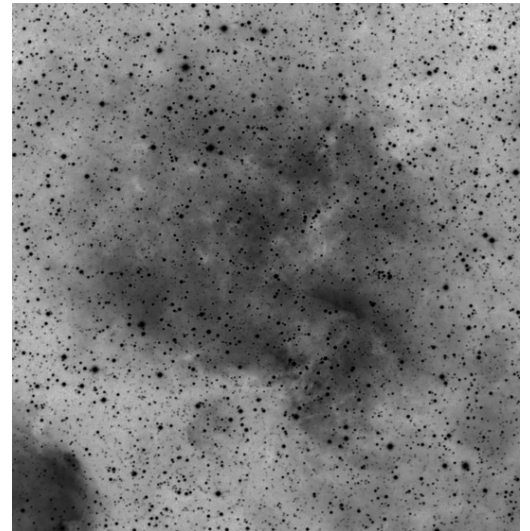
Sh 2 - 306 in Puppis



60x60, red



POSS blue



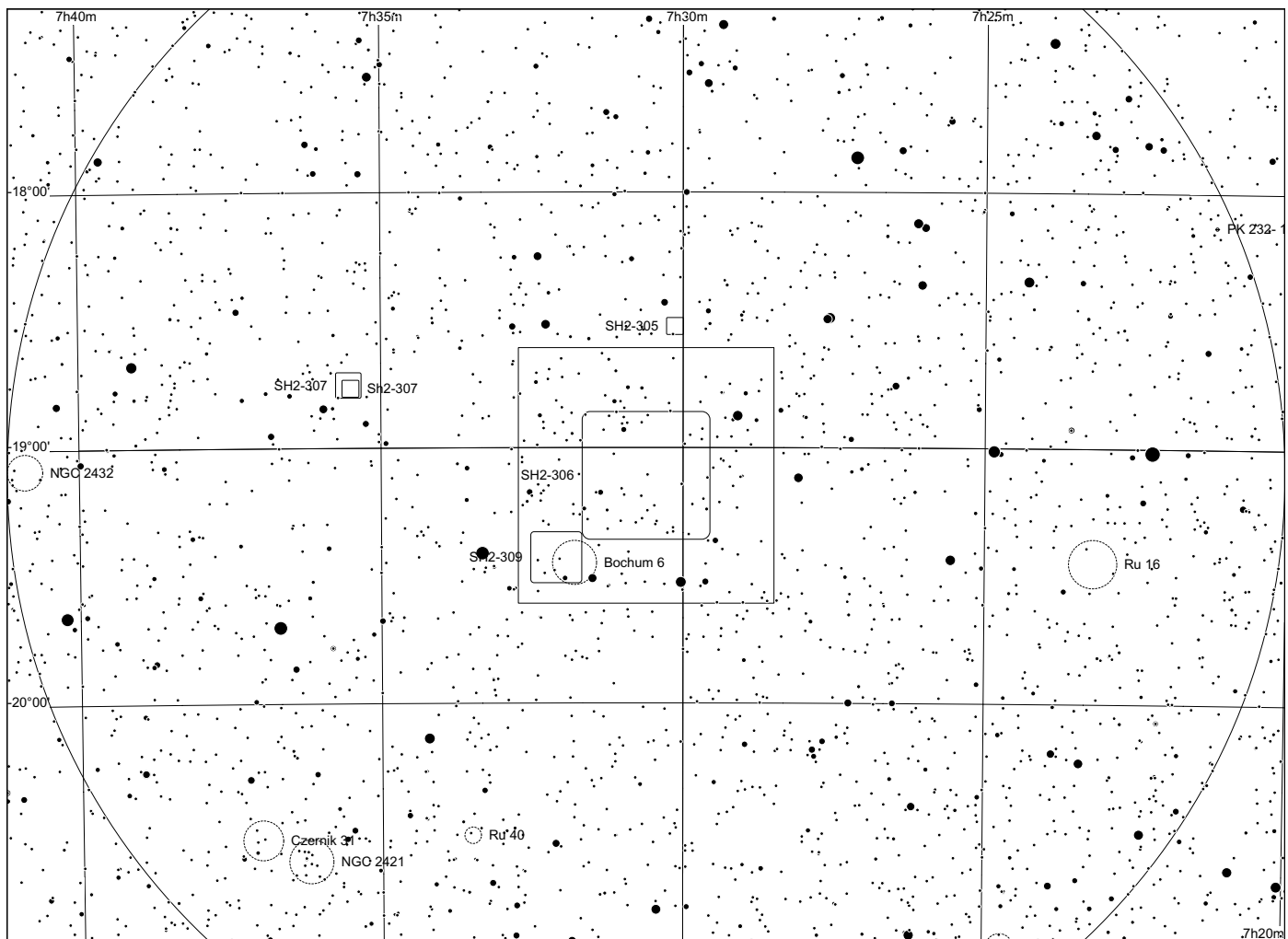
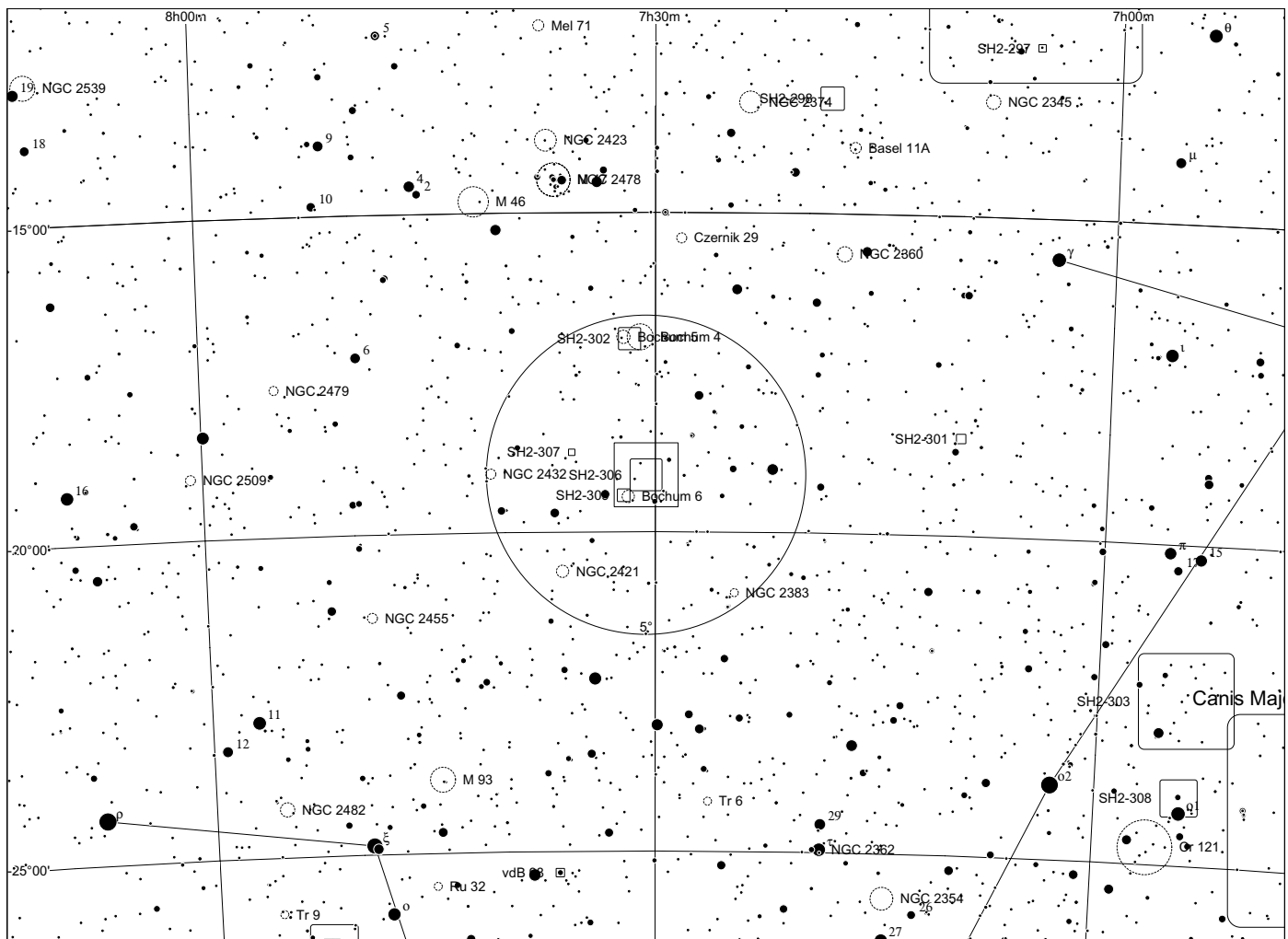
H alpha Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-306		07 30 36.4	-19 06 35	30	3	2	1

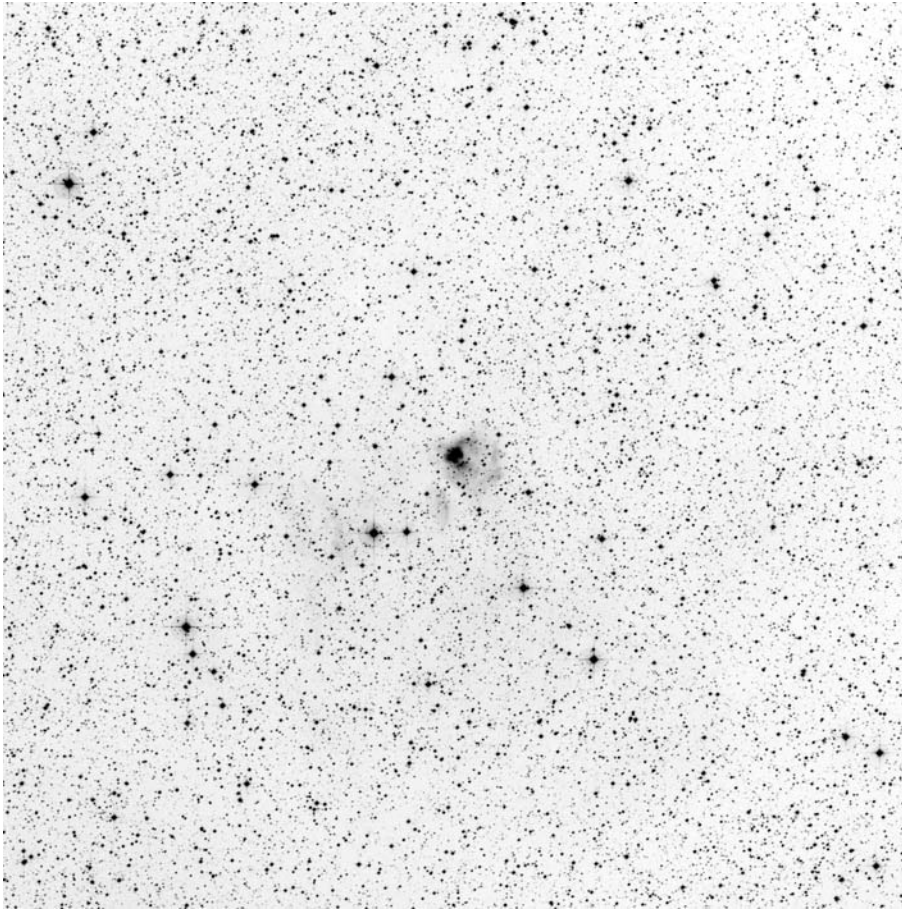
Distance: 4200 pc, Size: 36.7 pc, Source: 1995A&AS..114..557R

The faint Sh 2-306 is part of the GS234-02 supershell. A part of the much brighter Sh 2-309 (RCW 13) is visible in the bottom left of this image.

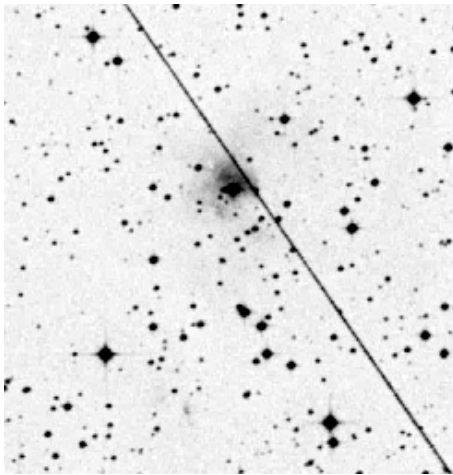
Observing notes:



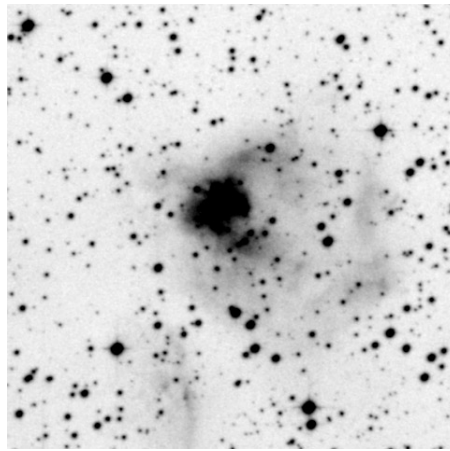
Sh 2 - 307 in Puppis



60x60, red



POSS blue



POSS red



RGB Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-307		07 35 32.0	-18 45 13	6	3	2	3

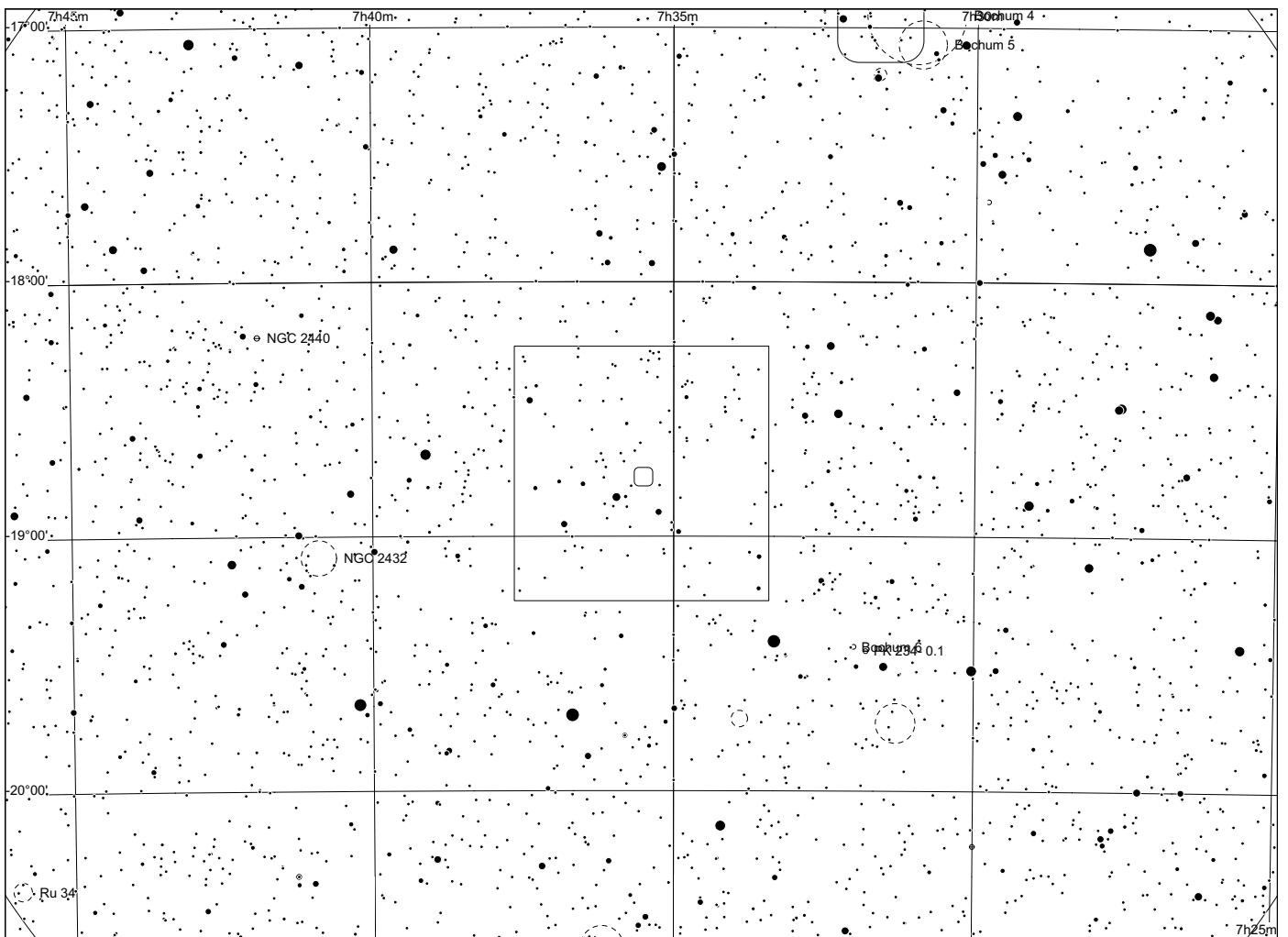
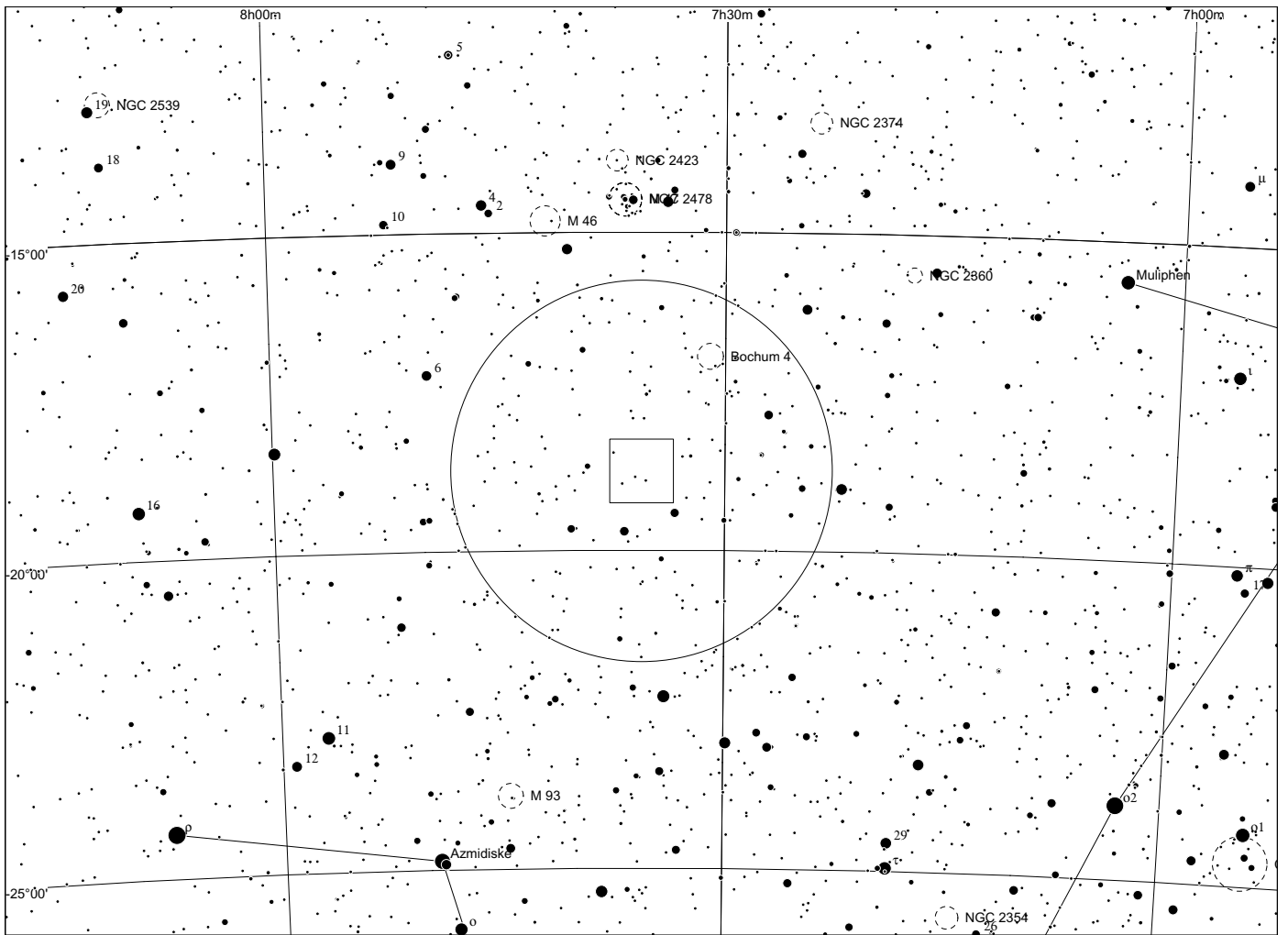
Distance: 4200 pc, Size: 7.3 pc, Source: 1995A&AS..114..557R

The exciting star for this nebula is the B0V star MFJ Sh 2-307 3 and the nebula contains the infrared cluster candidate [DBS2003] 8. It is part of the same giant molecular cloud complex that includes S299, S300, S305, S306 and S309.

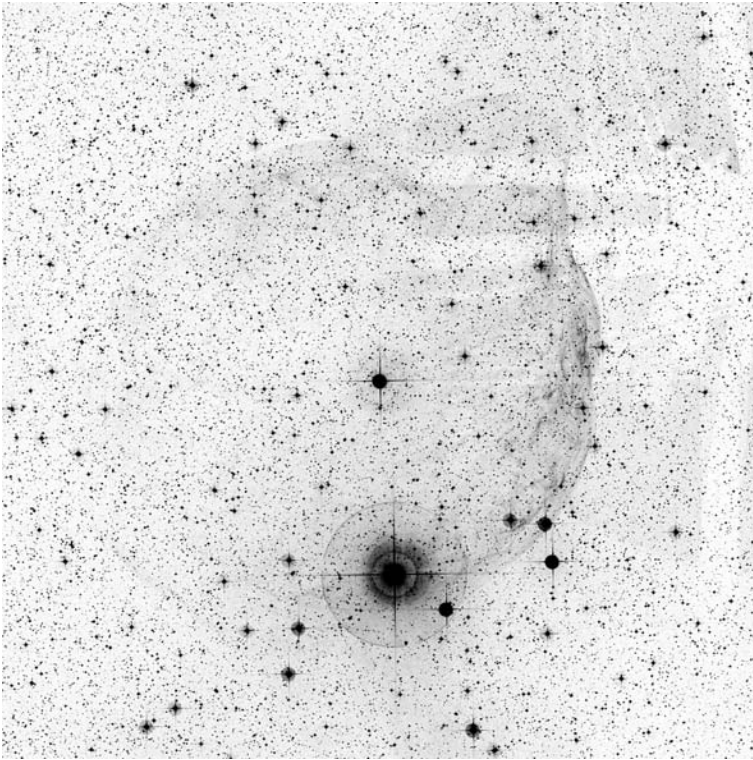
Observing notes:

22" f/4.5

01/2011: At 200x, there is a very faint patch around around star. Best with H beta.



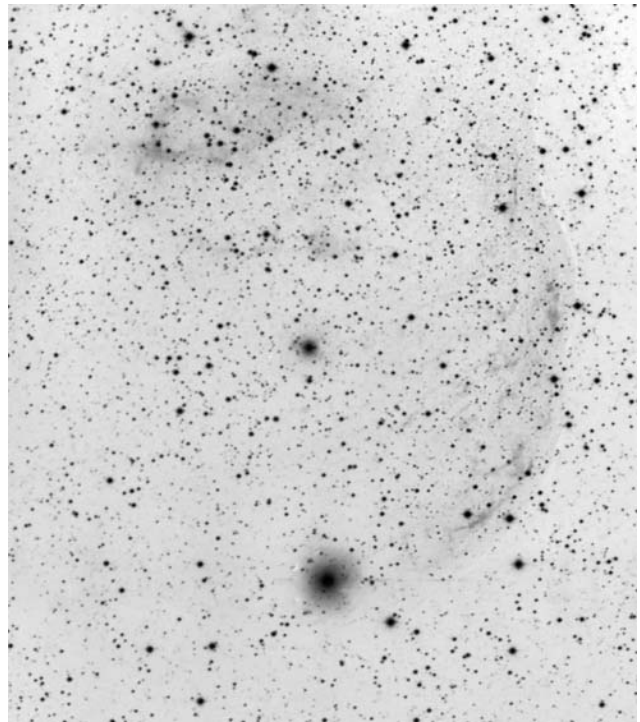
Sh 2 - 308 in Canis Major



60x60, blue



RGB Dean Salman



OIII

	other name	RA	dec	dia. '	F	S	B
Sh 2-308		06 54 08.9	-23 56 31	35	3	3	2

Distance: 575 pc, Size: 5.9 pc, Source: 2003MNRAS.346.1143B

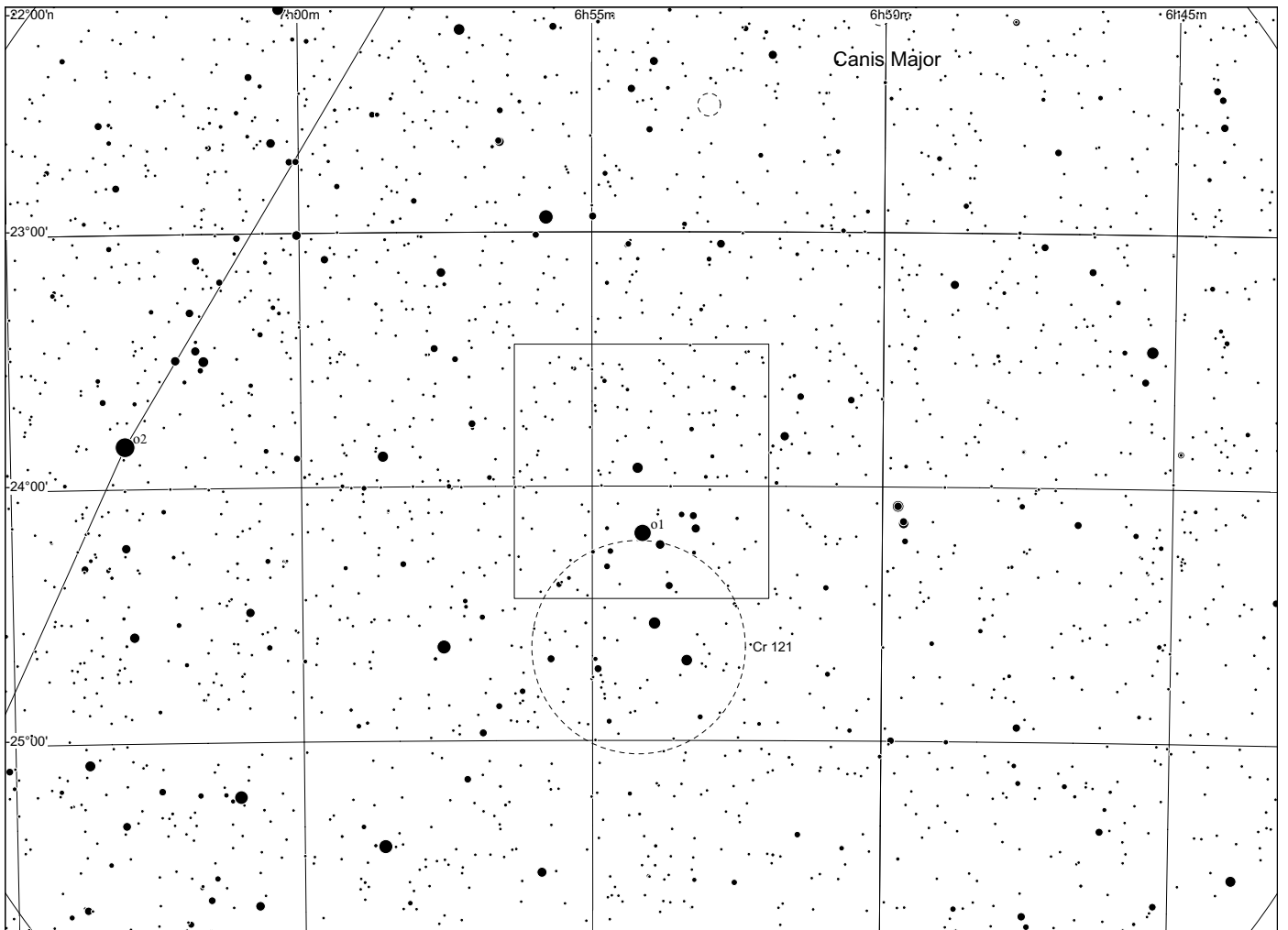
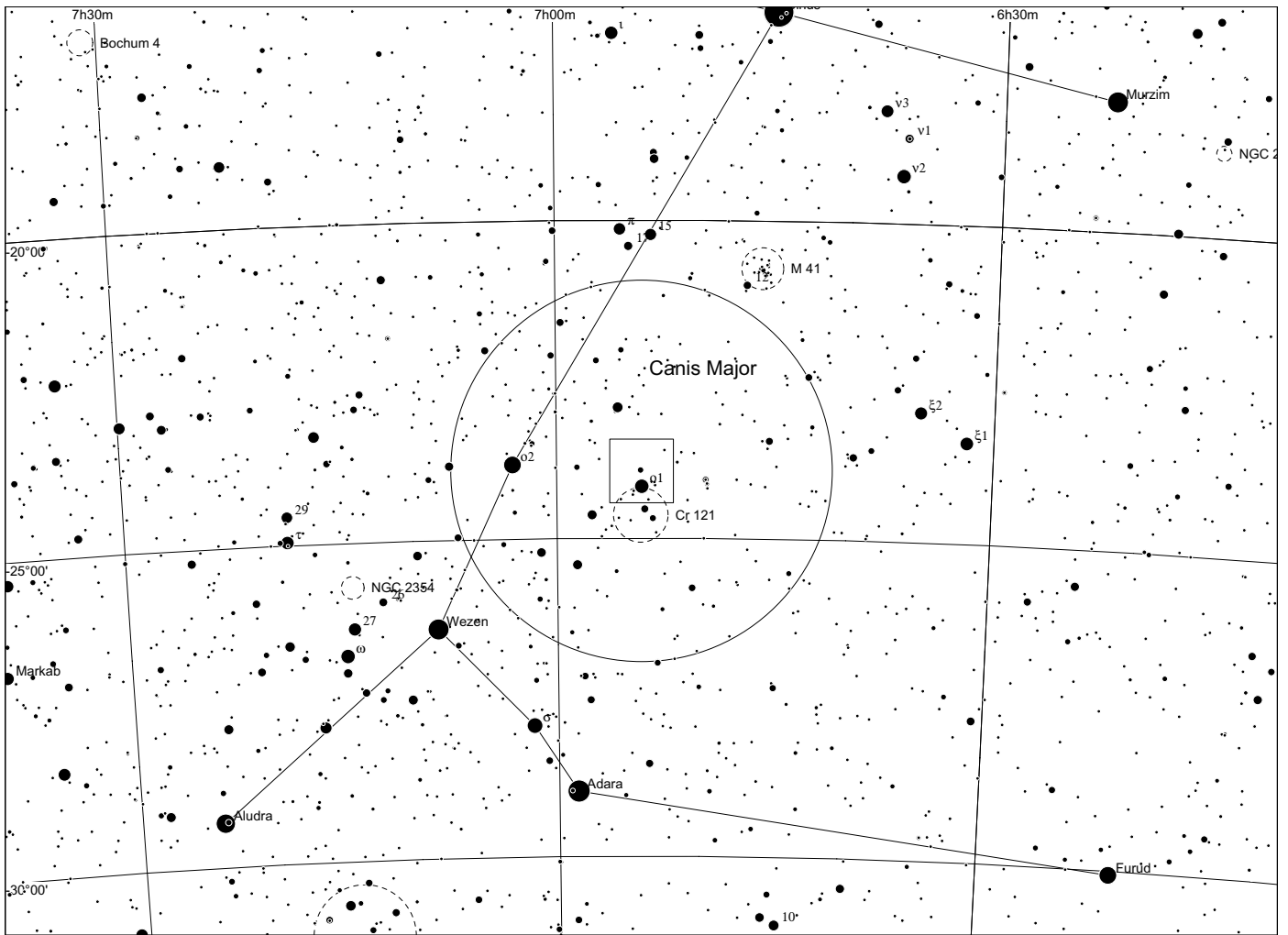
This ring nebula surrounds the Wolf-Rayet star WR 6.

Observing notes:

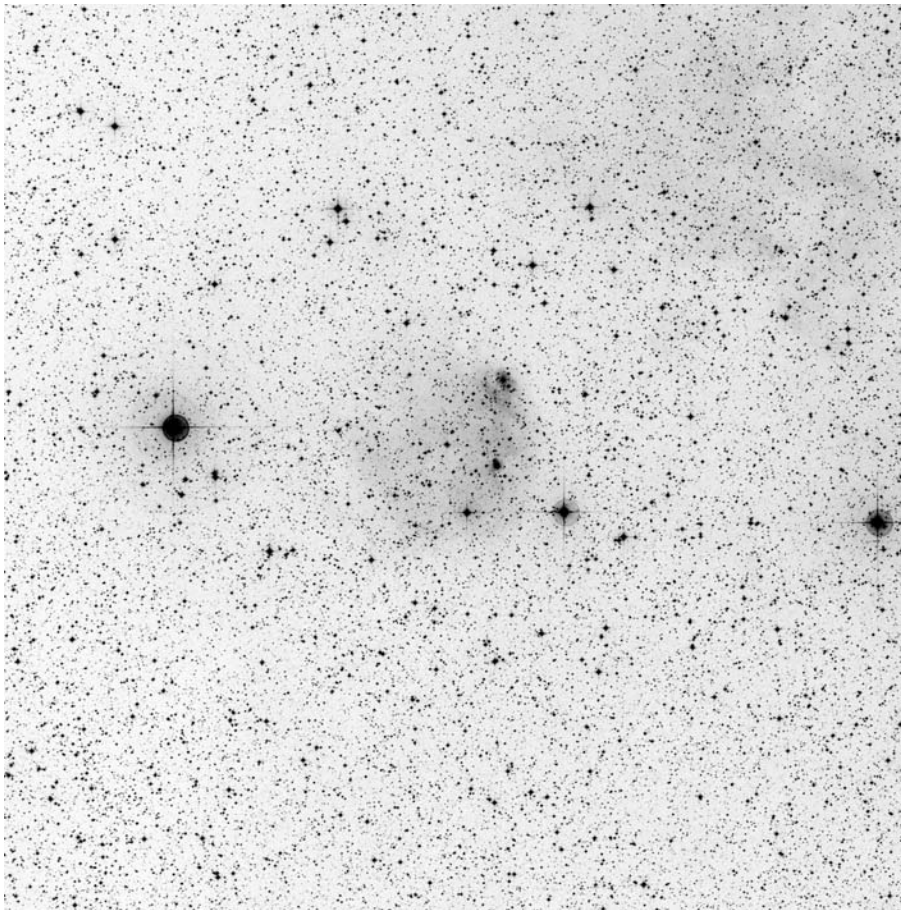
22" f/4.5

01/2011. Fantastic WR bubble, responds extremely well to OIII filter. Shell is most obvious as a crescent NW of o1 CMa, becoming fainter at NW. Brighter patch again at N to NE.

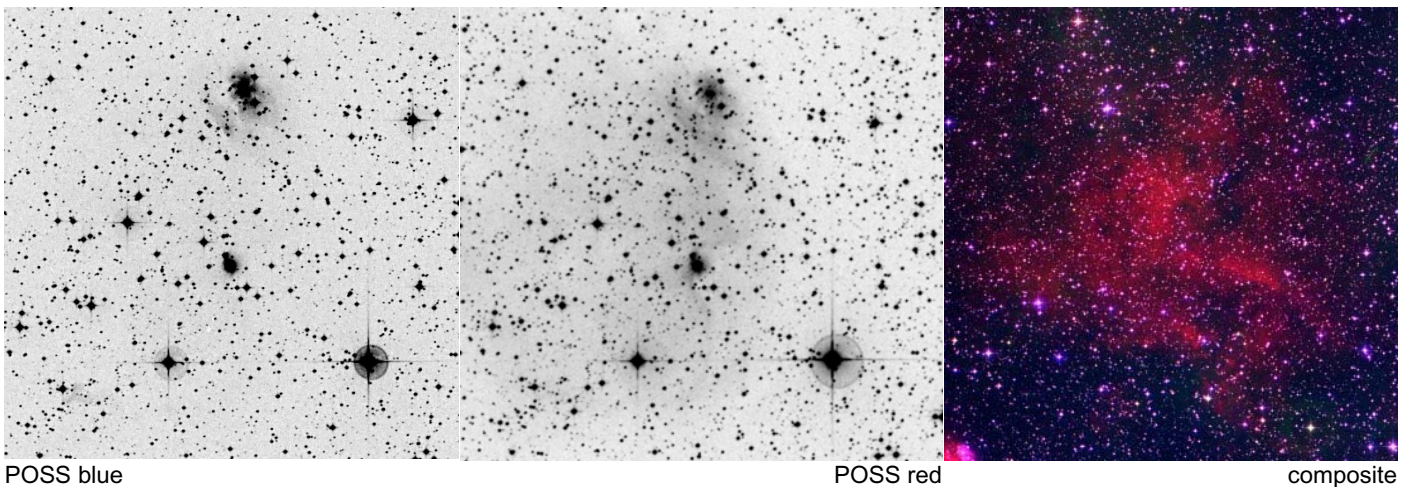
At 80x under excellent conditions, the shell can be further followed from this N part down the E side back to o1 CMa, forming a closed bubble around EZ CMa. Only with 7mm exit pupil, the center appears filled and somewhat lighter than the outside of the bubble. This is not visible with 5.5mm exit pupil.



Sh 2 - 309 in Puppis



60x60, red



POSS blue

POSS red

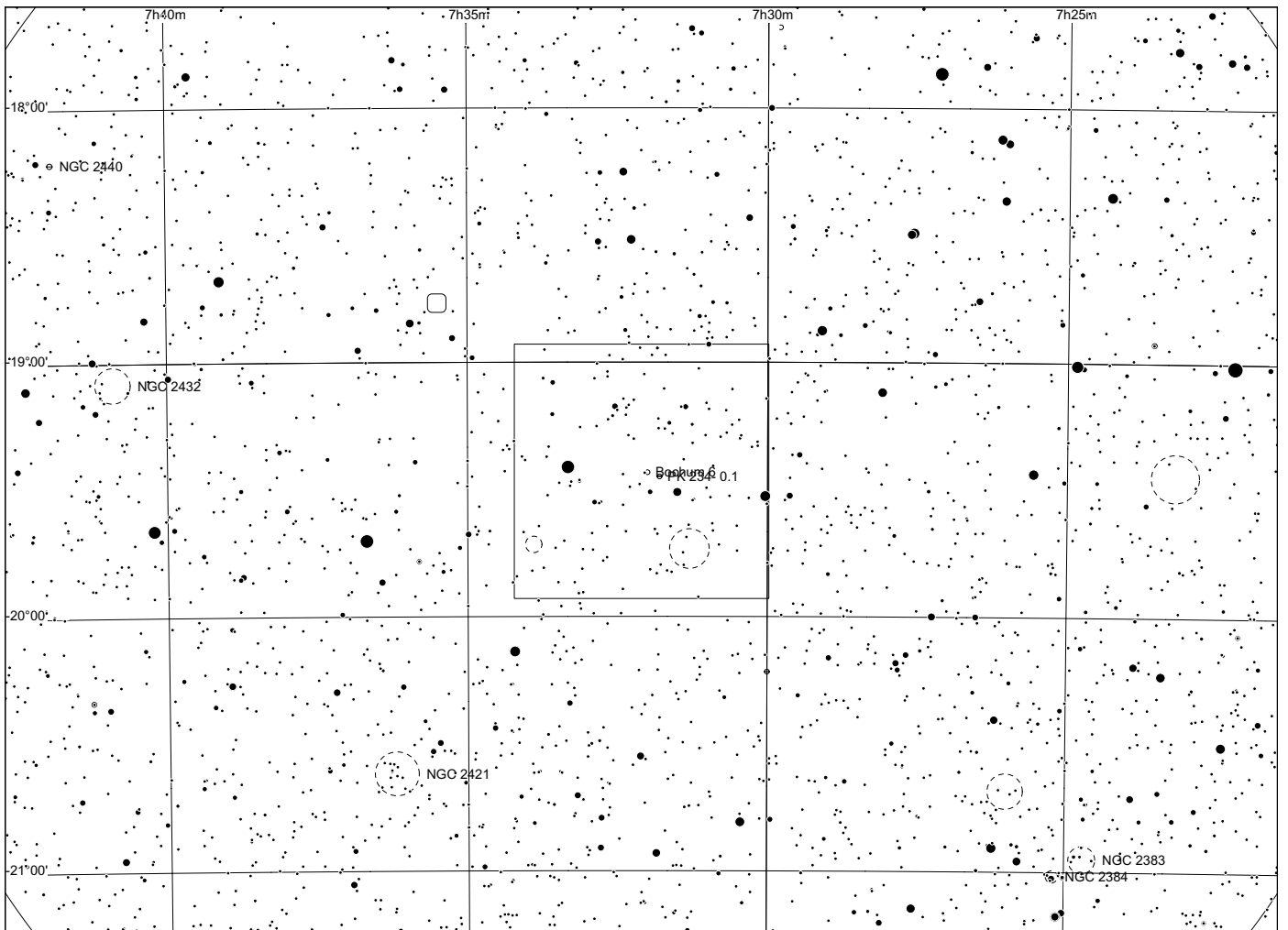
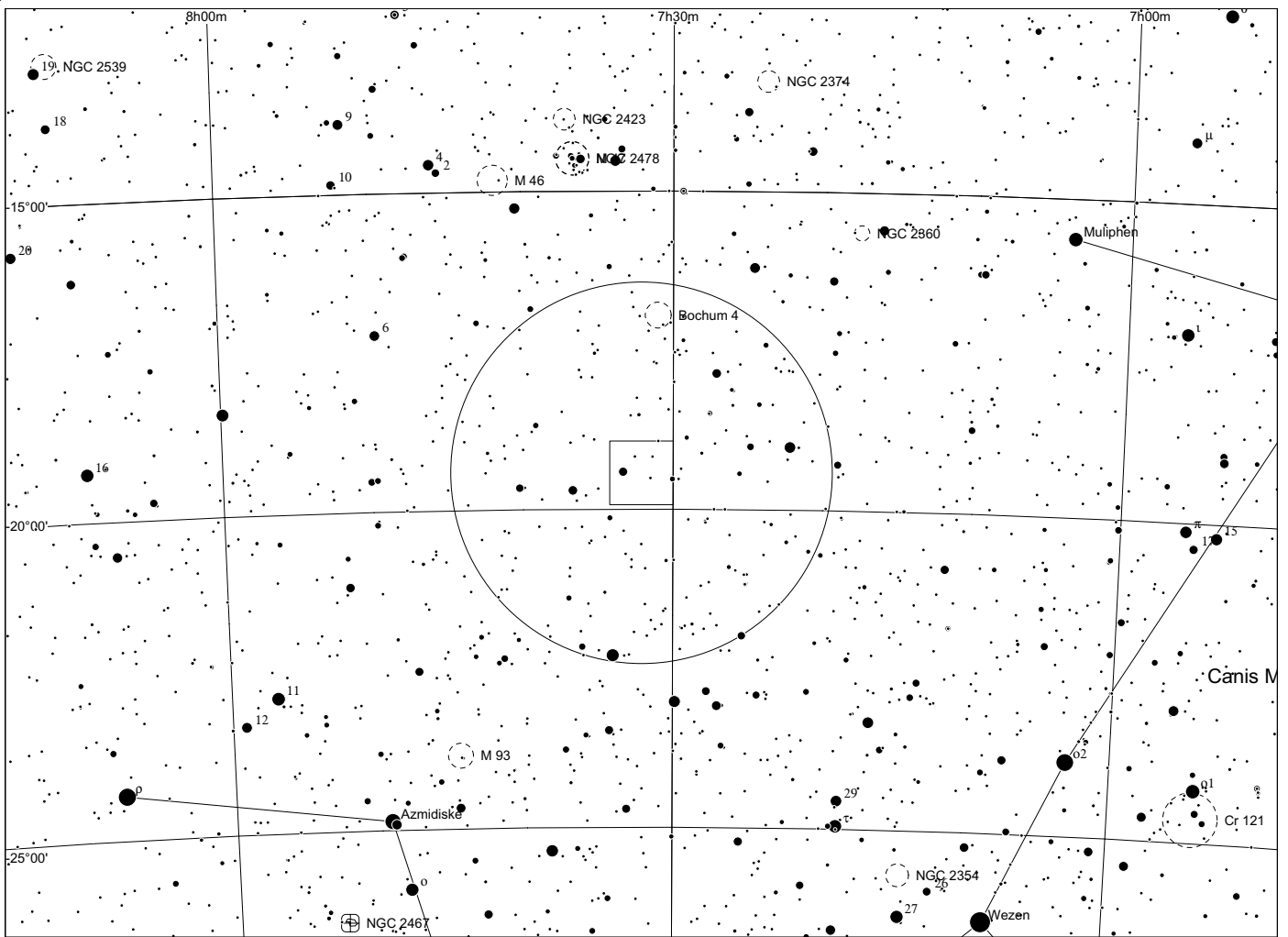
composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-309		07 32 06.1	-19 25 47	12	2	1	2

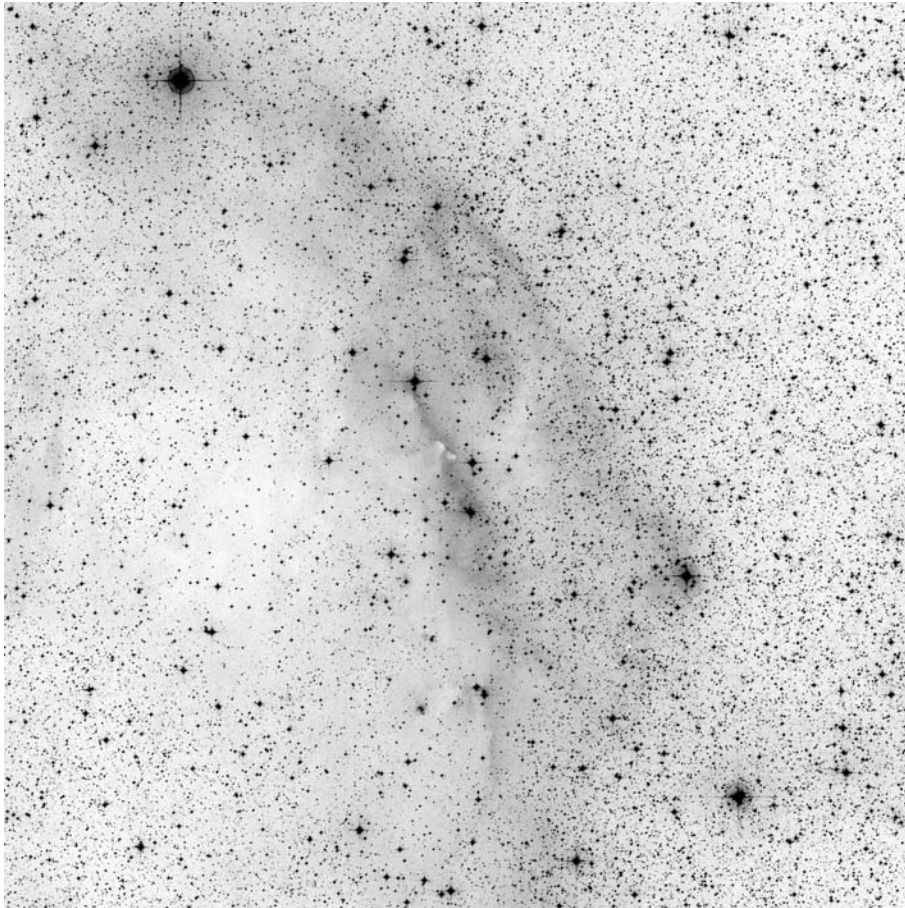
Distance: 4200 pc, Size: 14.7 pc, Source: 1995A&AS..114..557R

This HII region is part of the GS234-02 star forming supershell, at 4000 pc from the Sun.

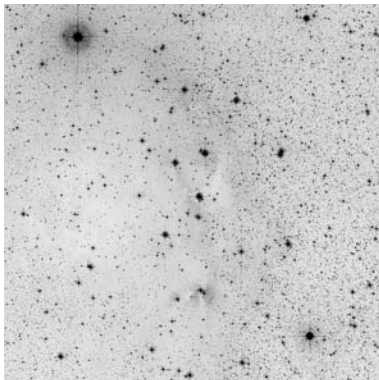
Observing notes:



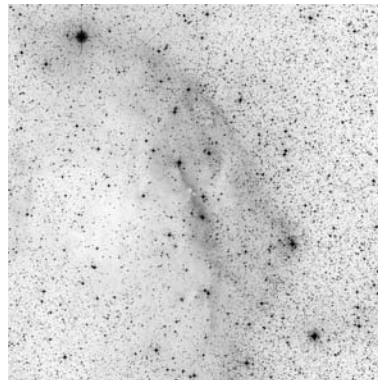
Sh 2 - 310 in Canis Major



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-310	image centered at	07 24	-25 35 30	480	3	2	2

Distance: 1500 pc, Size: 209.8 pc, Source: 1982ApJS...49..183B

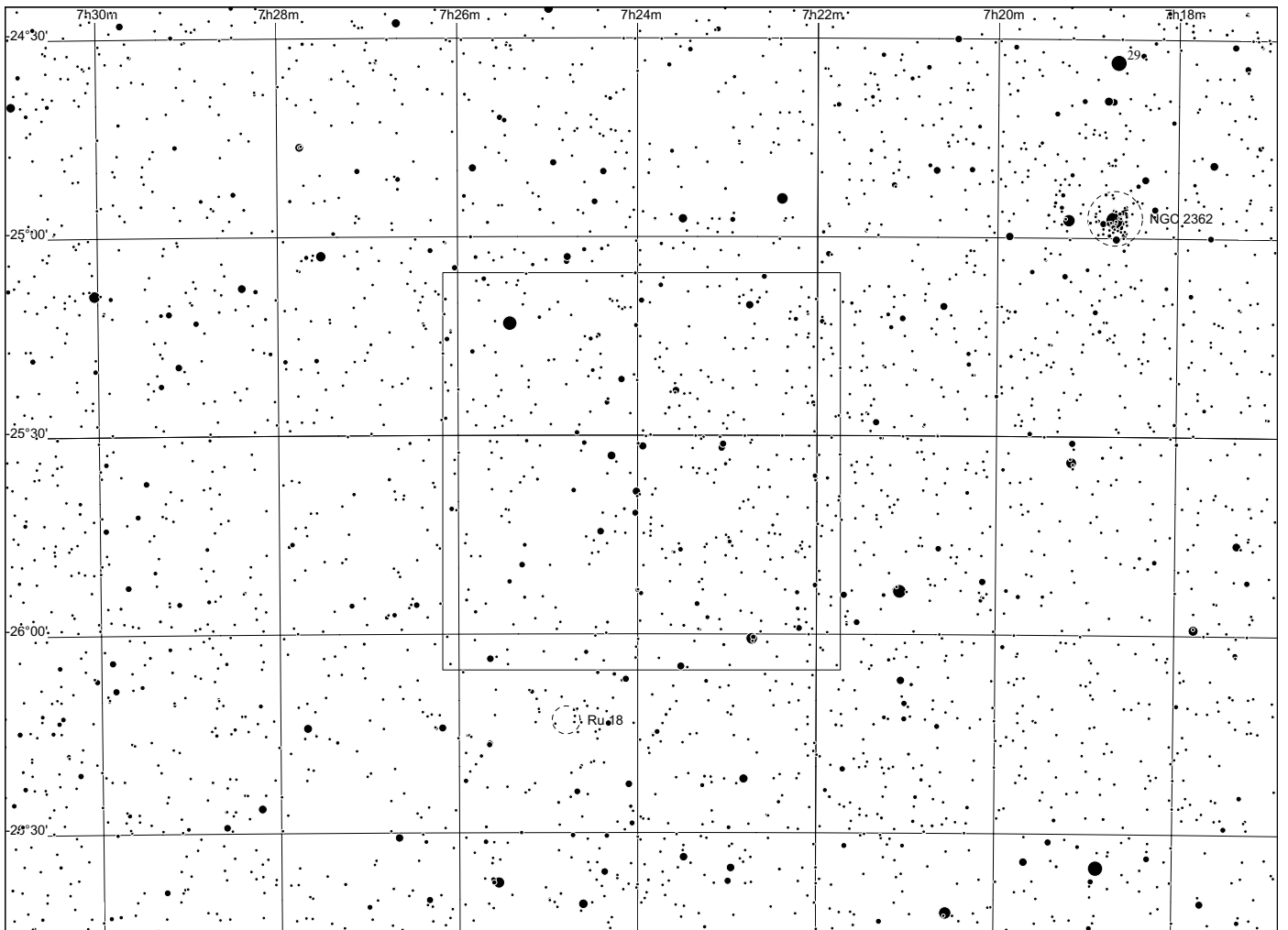
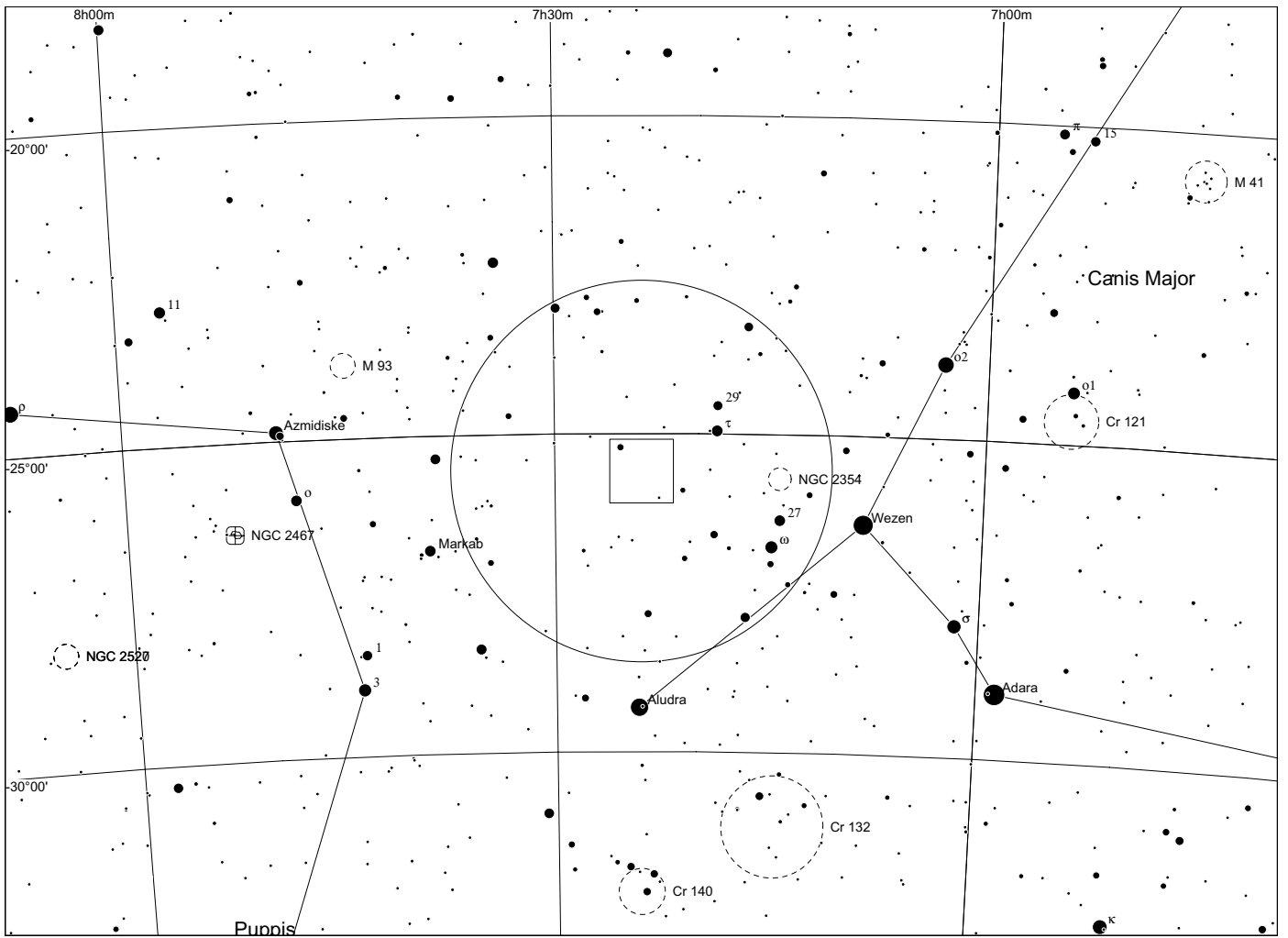
This vast nebula, one of the largest single HII regions known in the Milky Way, is ionised by two multiple star systems (Tau Canis Majoris and UW Canis Majoris) each made up of several O-class stars. This image shows only the brightest part of the enormous Sh 2-310 complex. The intense radiation from the Tau Canis Majoris and UW Canis Majoris star systems has created a cavity in the molecular clouds at the centre of Sh 2-310, which is located beyond the upper right of the image.

At least one scientific paper notes the "arrow-shaped bright rim" shown in this image. Perhaps Sh 2-310 should be known as the Arrowhead nebula?

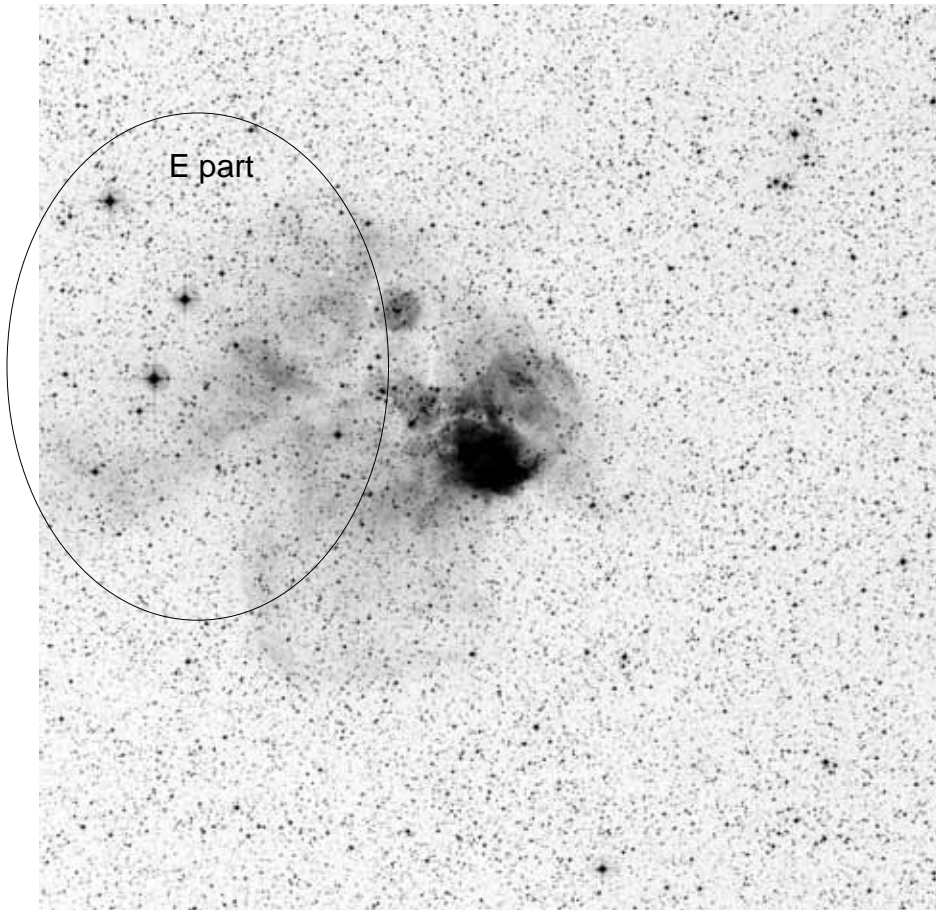
The extremely luminous red supergiant VY Canis Majoris is located near the bright rim. (This incredible star is green in this false colour image because of the infrared radiation emitted by the large dust cloud it ejects.)

Tau Canis Majoris, which may be one of the brightest stars in the Milky Way, is sometimes called the "Mexican jumping bean star", allegedly because of the way it moves around in the eyepiece of amateur telescopes.

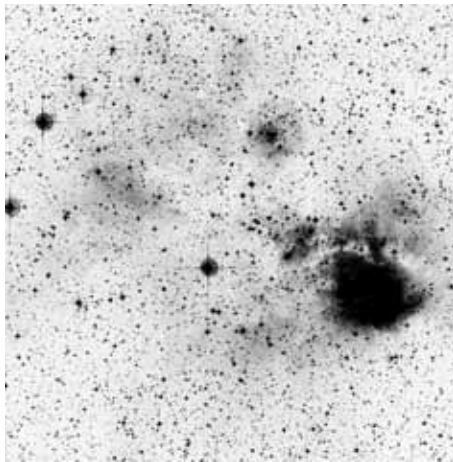
Observing notes:



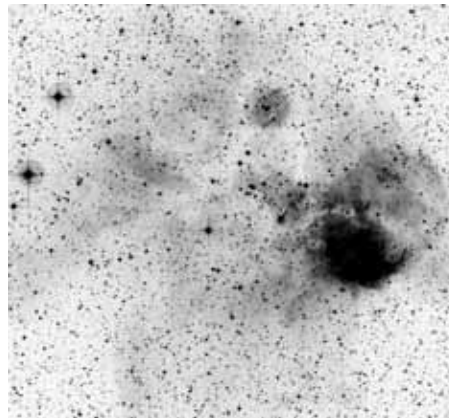
Sh 2 - 311 in Puppis



60x60, red



POSS blue



POSS red



narrowband

	other name	RA	dec	dia. '	F	S	B
Sh 2-311	NGC2467	07 52 20.4	-26 26 28	45	3	2	3

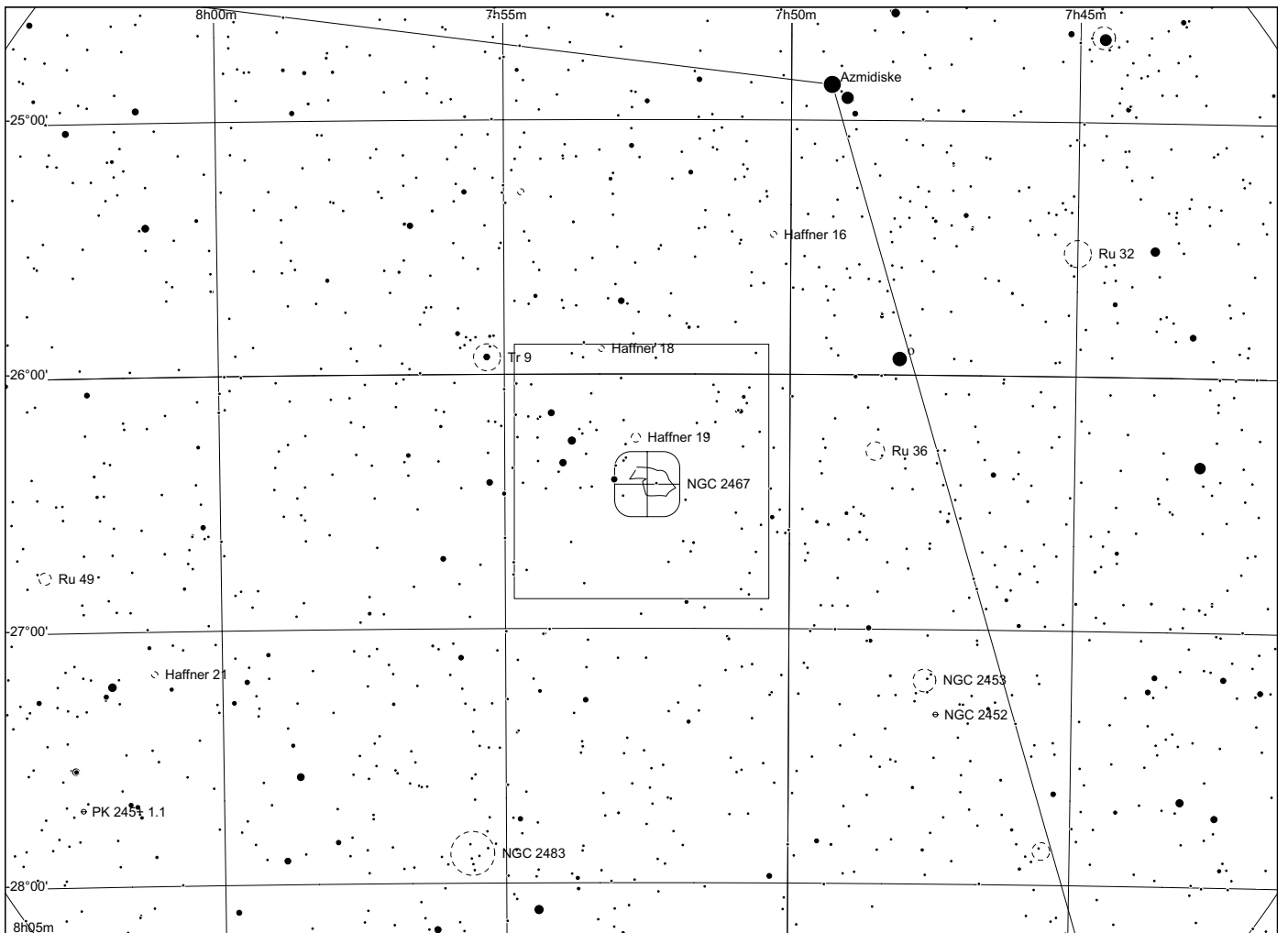
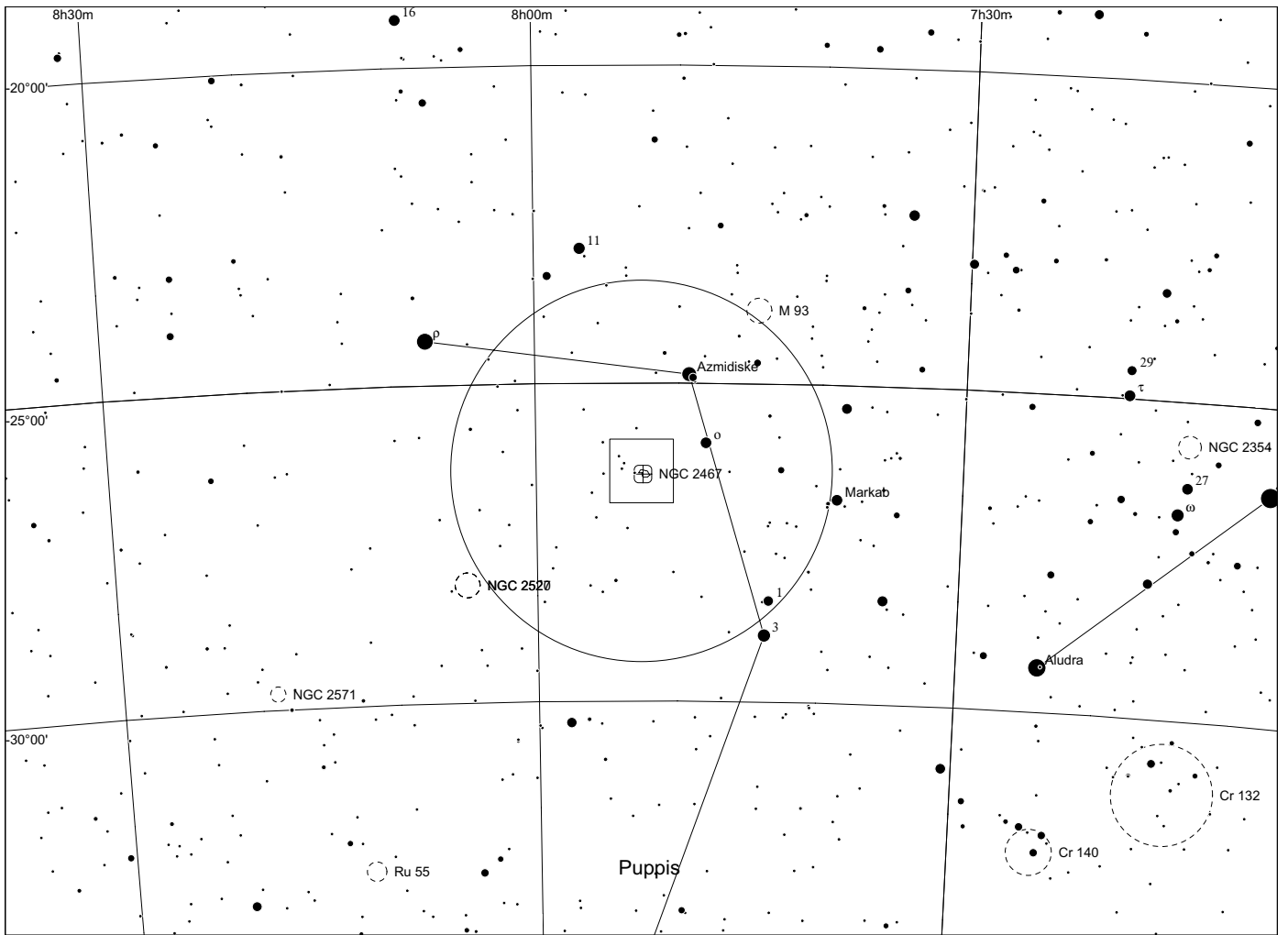
Distance: 4850 pc, Size: 10.6 pc, Source: 2003A&A...397..213P

NGC 2467, sometimes called the Mandrill nebula, is ionised by the O6 star HD 64315 and includes the star clusters Haffner 18ab and Haffner 19. The bright foreground star on the far left of the image is the B8 IV subgiant HD 64455.

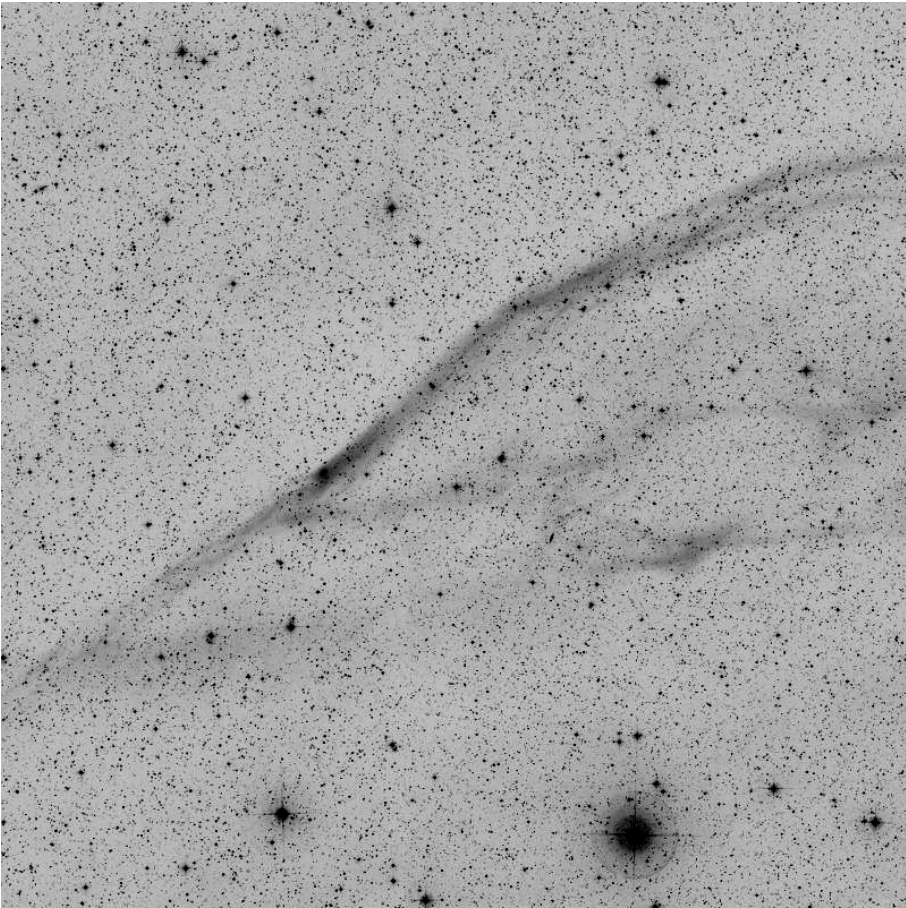
Observing notes:

22" f/4.5

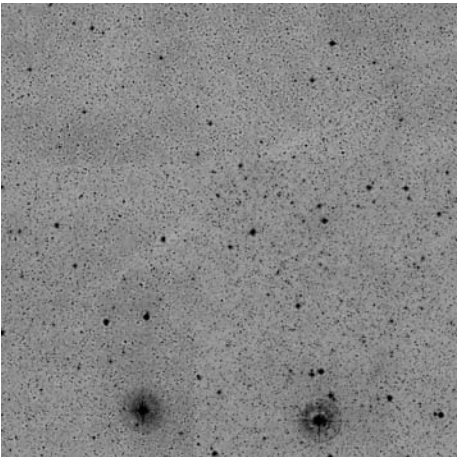
01/2011: Already visible w/o filter. OIII > UHC. Central part around star, slightly offset to S. Further parts separated and extending to N and NE. Another extremely large part to E, forming an approximately 30' long crescent open toward NE.



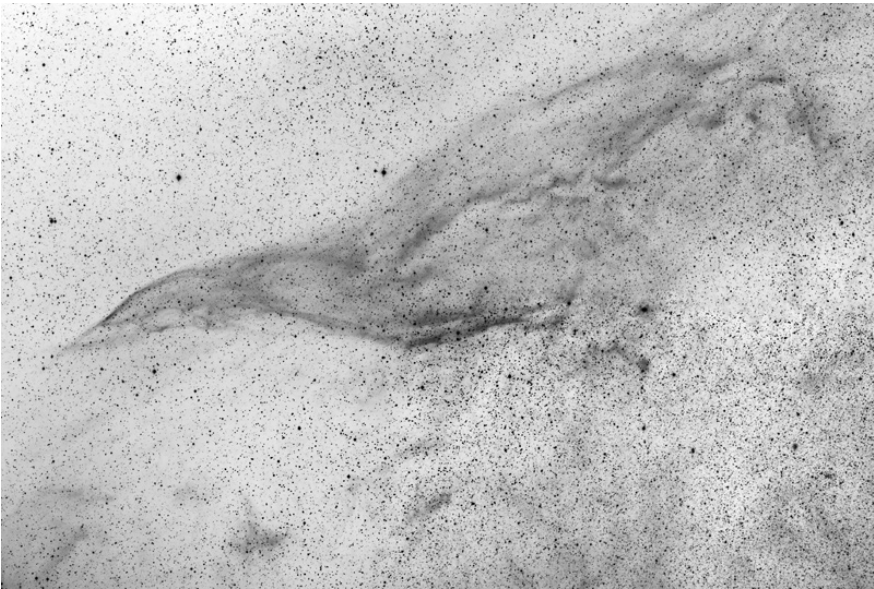
Sh 2 - 312
in Pyxis



120x120, red



POSS blue



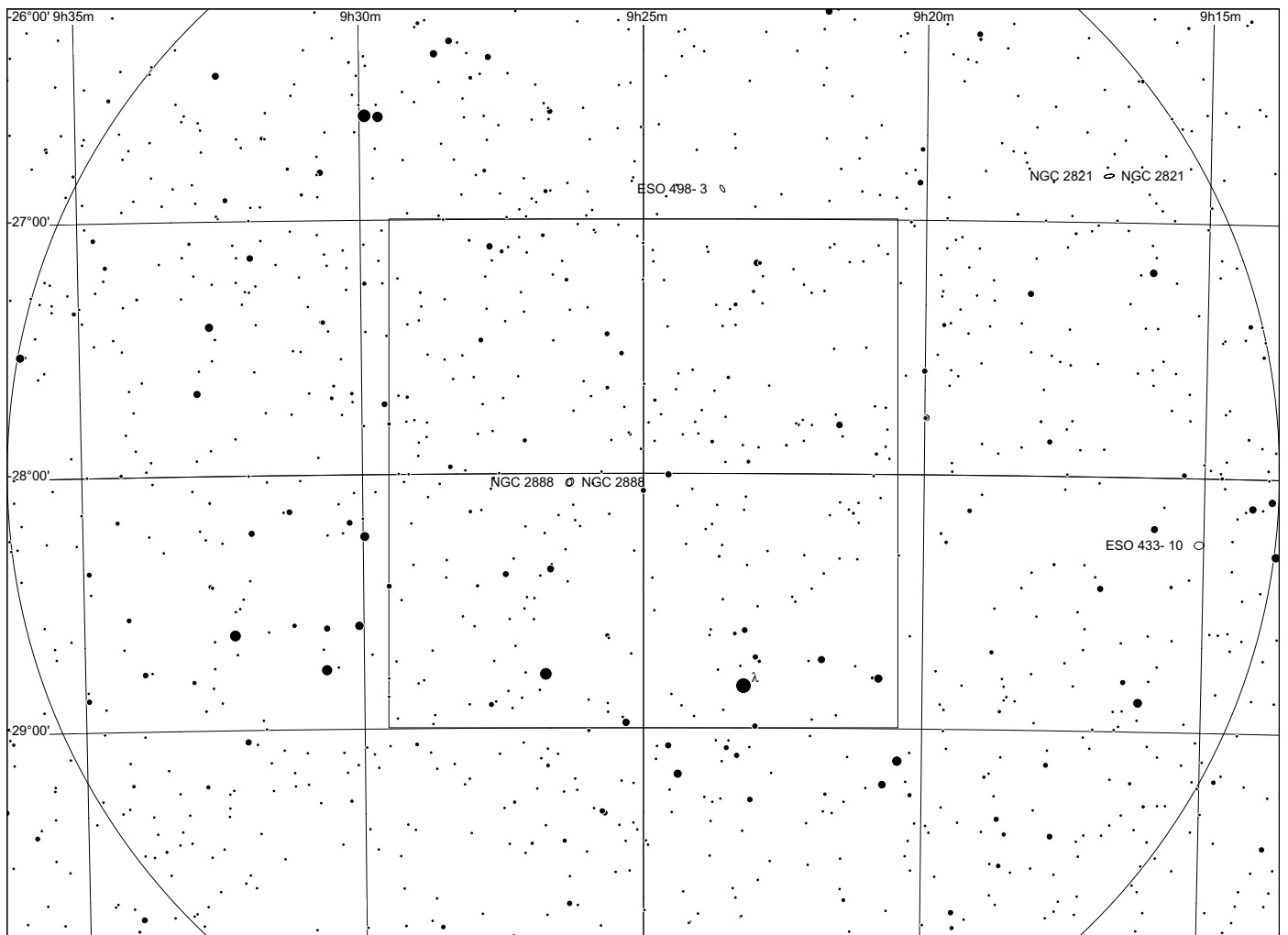
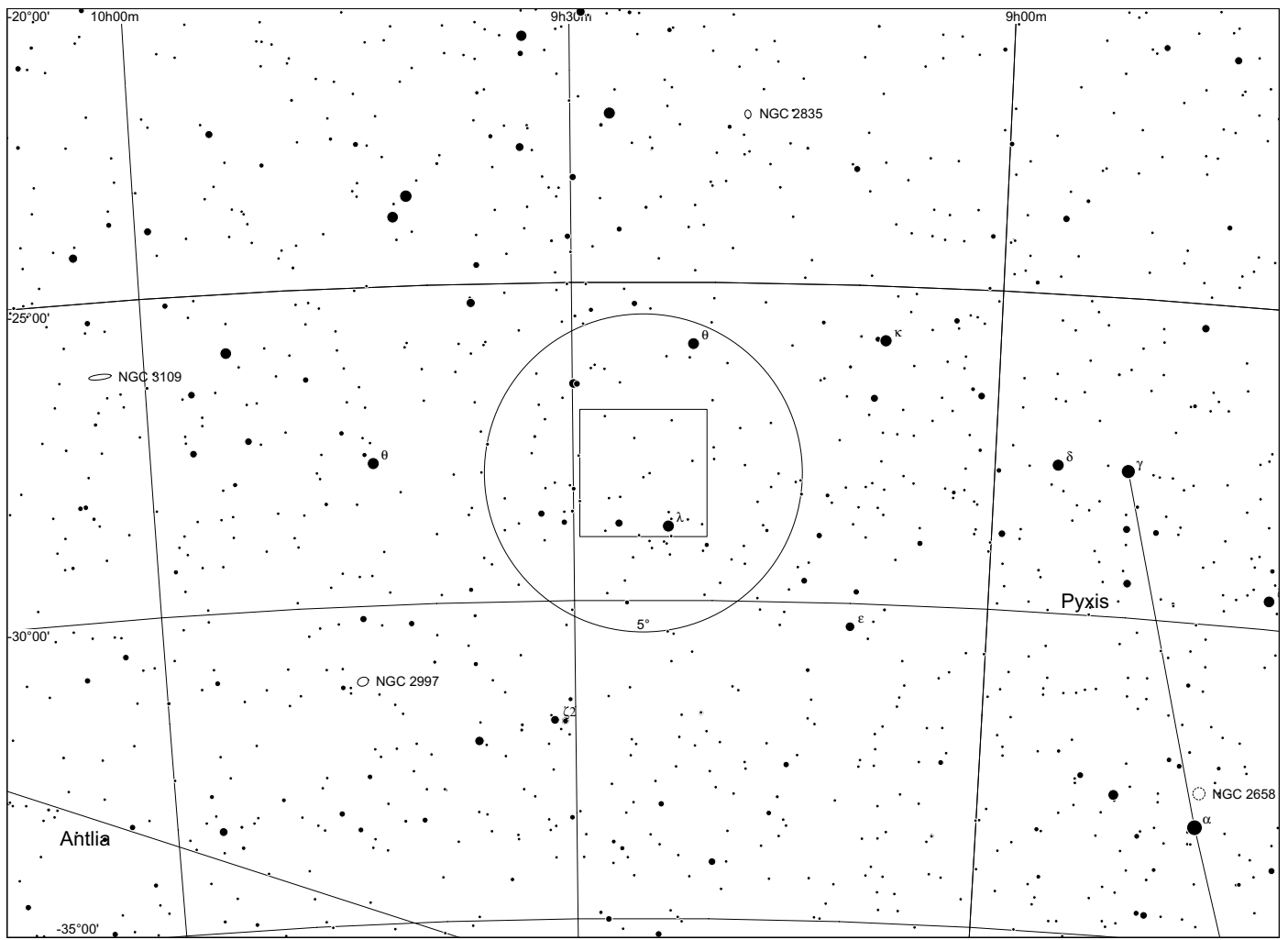
H alpha Dean Salman

	other name	RA	dec	dia. '	F	S	B
Sh 2-312		09 25 00	-28 00 00				

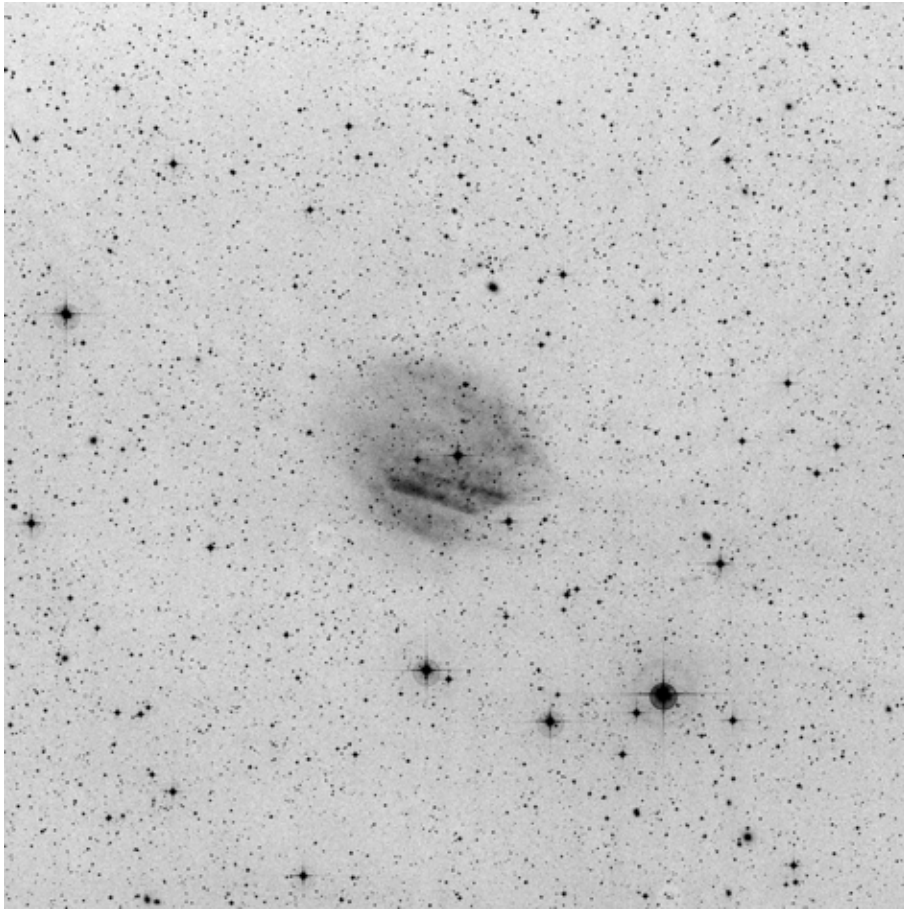
Distance: Unknown

This image shows only a tiny fragment of a vast region of nebulosity. It is the fourth object in the Sharpless catalog by area of apparent sky covered. As this is in the general direction of the Vela Molecular Ridge, perhaps it is a fragment of the even larger Gum nebula?

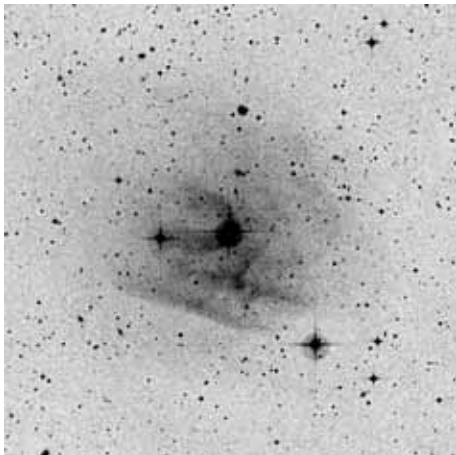
Observing notes:



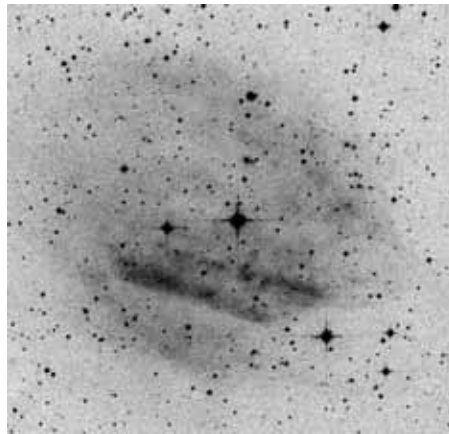
Sh 2 - 313 in Hydra



60x60, red



POSS blue



POSS red



composite

	other name	RA	dec	dia. '	F	S	B
Sh 2-313	Abell 35	12 53 31.0	-22 51 35	12	1	2	2

This is the planetary nebula Abell 35. Like Sh 2-52 (Abell 65), it has a highly unusual binary central star. It probably lies at a distance of 160 pc.

Observing notes:

22" f/4.5

01/2010: With OIII, diffuse distinct glow around group of three stars. Band at S boundary suspected.

