

Chart 49													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
Cr 62		AUR	4.2	OC	28.0m	5h 22.5m	40° 60.0'						
IC 405		AUR	10.0	DN	50m x 30m	5h 16.5m	34° 21.0'	C31					
* 6.7 w pB,vL neb - Flaming Star nebula;variable AE Aur in center of neby													
IC 410		AUR	7.5	DN	11m	5h 22.7m	33° 25.0'						
Dif,many st inv - Incl cluster NGC 1893													
IC 2149		AUR	10.0	PN	12s x 6s	5h 56.4m	46° 06.0'						
S,vB													
NGC 1724		AUR	10.0	OC		5h 03.5m	49° 30.0'						
Cl,vS,(st+ neb)													
NGC 1857		AUR	7.0	OC	6m	5h 20.1m	39° 21.0'				O	40	
Cl,pRi,pC,st7... - H VII 33													
NGC 1893		AUR	7.5	OC	11m	5h 22.7m	33° 25.0'					60	B
Cl,L,Ri,IC - In Aur OB2;20* mags 9...12;neby IC 410 invl													
NGC 1907		AUR	8.2	OC	7.0m	5h 28.1m	35° 20.0'			S7	O	30	B
Cl,pRi,pC,R,st9...12 - H VII 39													
NGC 1912	M38	AUR	6.4	OC	21m	5h 28.7m	35° 51.0'				O	100	B
Cl,B,vL,vRi,iF,st L & S - in Aur OB1;Burnham-shaped like Greek letter Pi													
NGC 1931		AUR	10.1	DN	3m x 3m	5h 31.4m	34° 15.0'		R24	S8	O		
vB,L,R,B***in M - H I 261;Contains triple ADS 4112													
NGC 1960	M36	AUR	6.0	OC	12m	5h 36.3m	34° 08.0'				O	60	B
Cl,B,vL,vRi,IC,*9..11 - in Aur OB1;incl Struve 737 10.7"sep													
NGC 2126		AUR	10.2	OC	6.0m	6h 02.5m	49° 52.0'					40	
Cl,not Ri,*7 north - H VIII 68;Scattered 20 * mags 11..14													
NGC 2192		AUR	10.9	OC	6.0m	6h 15.3m	39° 51.0'					45	
Cl,cL,C,iF,st vS - H VII 57;25* mags 12...													
NGC 2281		AUR	5.4	OC	15.0m	6h 48.3m	41° 05.0'					30	B
Cl,pRi,vIC,st pL - H VIII 71													

Chart 50													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
Berk 11		PER	10.4	OC	6.0m	4h 20.6m	44° 55.0'					35	
					13"-pF,pS,nRi,C 8* with fuzzy backrnd at 165X								
Berk 68		PER	9.8	OC	12.0m	4h 44.5m	42° 04.0'					60	
Cr 62		AUR	4.2	OC	28.0m	5h 22.5m	40° 60.0'						
IC 405		AUR	10.0	DN	50m x 30m	5h 16.5m	34° 21.0'	C31					
					* 6.7 w pB,vL neb - Flaming Star nebula;variable AE Aur in center of neby								
IC 410		AUR	7.5	DN	11m	5h 22.7m	33° 25.0'						
					Dif,many st inv - Incl cluster NGC 1893								
NGC 1444		PER	6.6	OC	4.0m	3h 49.4m	52° 40.0'						
					Cl of ab 30*12...14 - H VIII 80;In Cam OB1?								
NGC 1491		PER		DN	6m x 9m	4h 03.2m	51° 19.0'		R19	S82	O		
					vB,S,iF,bM,r,* inv - H I 258								
NGC 1496		PER	9.6	OC	6.0m	4h 04.5m	52° 40.0'					10	
					Cl,segment of a ring								
NGC 1499		PER	5.0	DN	160m x 40m	4h 03.2m	36° 22.0'				O		
					California Nebula								
					vF,vL,mE ns,dif - 0.6 deg from Xi Per								
NGC 1513		PER	8.4	OC	9.0m	4h 09.9m	49° 31.0'				O	50	
					Cl,L,vRi,pC,st vL - H VII 60								
NGC 1528		PER	6.4	OC	24.0m	4h 15.3m	51° 13.0'				O	40	B
					Cl,B,vRi,cC - H VII 61;80 * mag 8...;1 deg NNW from b1 PER								
NGC 1545		PER	6.2	OC	18.0m	4h 20.9m	50° 15.0'				O	20	
					Cl,pRi,iC,st L - H VIII 85								
NGC 1582		PER	7.0	OC	37.0m	4h 31.8m	43° 47.0'					20	B
					Cl,vL,pRi,iC,st L - H VIII 70								
NGC 1605		PER	10.7	OC	5.0m	4h 34.9m	45° 16.0'					40	
					Cl,vF,pS,C,st eS - H VI 26								
NGC 1664		AUR	7.6	OC	18m	4h 51.1m	43° 41.0'				O		
					Cl,iRi,iC,pL - H VIII 59;40* mags 11...								
NGC 1724		AUR	10.0	OC		5h 03.5m	49° 30.0'						
					Cl,vS,(st+ neb)								
NGC 1778		AUR	7.7	OC	7m	5h 08.1m	37° 01.0'				O	25	
					Cl,pC,iRi,iF,st L - H VIII 61								
NGC 1857		AUR	7.0	OC	6m	5h 20.1m	39° 21.0'				O	40	
					Cl,pRi,pC,st7... - H VII 33								
NGC 1893		AUR	7.5	OC	11m	5h 22.7m	33° 25.0'					60	B
					Cl,L,Ri,iC - In Aur OB2;20* mags 9...12;neby IC 410 invl								
NGC 1907		AUR	8.2	OC	7.0m	5h 28.1m	35° 20.0'			S7	O	30	B
					Cl,pRi,pC,R,st9...12 - H VII 39								
Ru 148		PER	9.5	OC	3.0m	4h 46.5m	44° 44.0'					15	
					13"-pF,pS,nC,nRi at 100X; 2* 10m and 12* 12m								

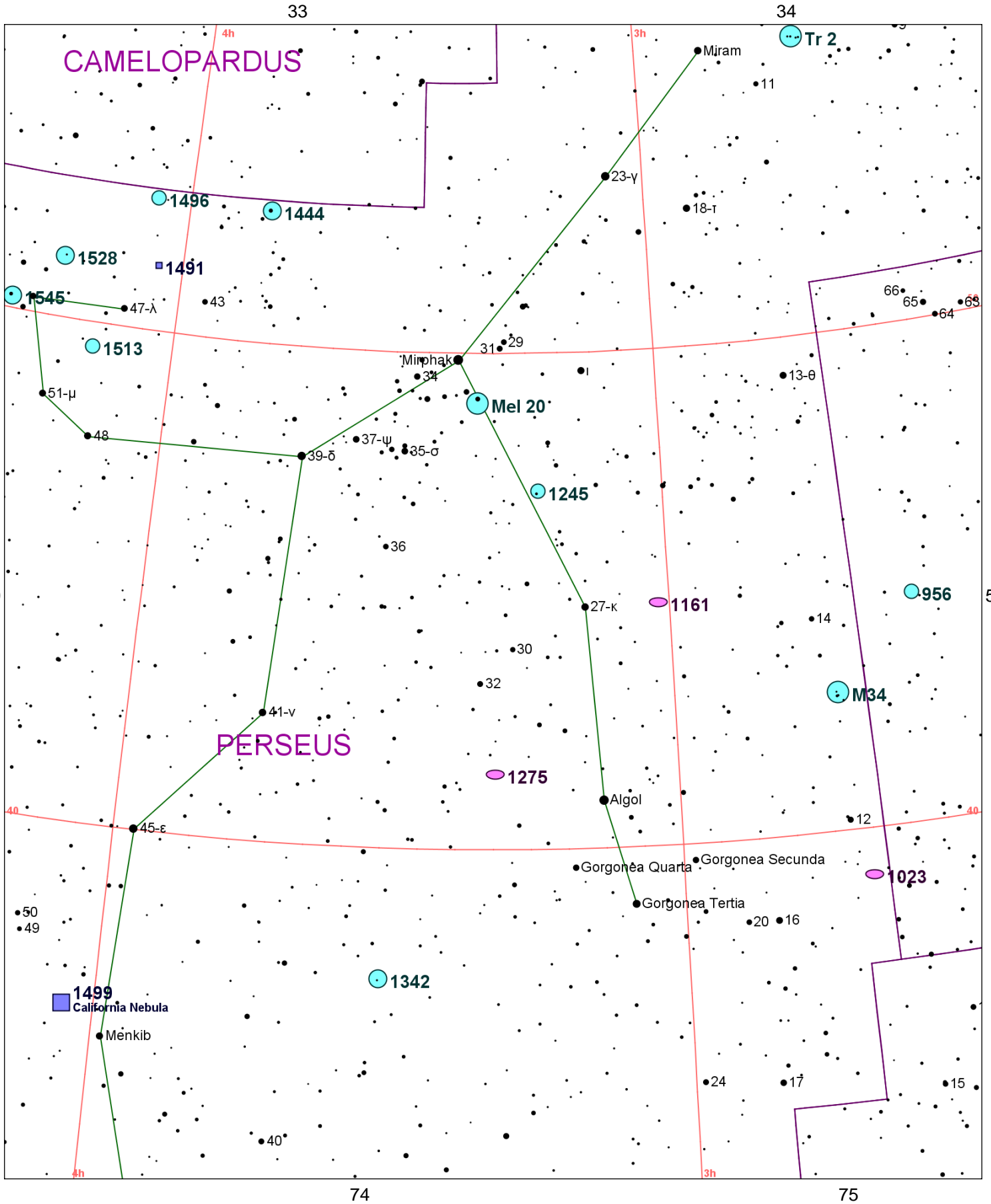


Chart 51													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
Mel 20		PER	1.2	OC	185m	3h 22.0m	49° 00.0'					50	B
					10X50-vB,vvL,scattered; 39° - Alpha Per moving cluster (Mag does not include Alpha Per)								
NGC 956		AND	8.9	OC	8.0m	2h 32.5m	44° 36.0'					30	
					Cl,pRi,*9...15								
NGC 1023		PER	9.4	GAL	8.1m x 3.4m	2h 40.4m	39° 04.0'		R18	S81	O		
					vB,vL,vmE,vvmbM - H I 156;brtst in grp;more neb 10' E;lens shp F tuft on E tip								
NGC 1039	M34	PER	5.2	OC	35.0m	2h 42.1m	42° 47.0'				O	100	B
					Cl,B,vL,IC,sC st9... - At least 80 true members;sev D* incl h1123 & O Struve 44								
NGC 1161		PER	11.0	GAL	2.8m x 2m	3h 01.2m	44° 54.0'						
					F,pS,iE,sbM - H II 239;P w NGC1160 at 3.5';PA357								
NGC 1245		PER	8.4	OC	10m	3h 14.7m	47° 14.0'				O	200	
					Cl,pL,Ri,C,iR,*12...15 - H VI 25								
NGC 1275		PER	11.9	GAL	2.3m x 1.6m	3h 19.8m	41° 31.0'	C24			O		
					F,S - Seyfert;brtst in Persus Cl;center obj in dense galxy cluster								
NGC 1342		PER	6.7	OC	14.0m	3h 31.7m	37° 22.0'				O	40	B
					Cl,vL,ab60* - H VIII 88								
NGC 1444		PER	6.6	OC	4.0m	3h 49.4m	52° 40.0'						
					Cl of ab 30*12...14 - H VIII 80;In Cam OB1?								
NGC 1491		PER		DN	6m x 9m	4h 03.2m	51° 19.0'		R19	S82	O		
					vB,S,iF,bM,r,* inv - H I 258								
NGC 1496		PER	9.6	OC	6.0m	4h 04.5m	52° 40.0'					10	
					Cl,segment of a ring								
NGC 1499		PER	5.0	DN	160m x 40m	4h 03.2m	36° 22.0'				O		
California Nebula					vF,vL,mE ns,dif - 0.6 deg from Xi Per								
NGC 1513		PER	8.4	OC	9.0m	4h 09.9m	49° 31.0'				O	50	
					Cl,L,vRi,pC,st vL - H VII 60								
NGC 1528		PER	6.4	OC	24.0m	4h 15.3m	51° 13.0'				O	40	B
					Cl,B,vRi,cC - H VII 61;80 * mag 8...;1 deg NNW from b1 PER								
NGC 1545		PER	6.2	OC	18.0m	4h 20.9m	50° 15.0'				O	20	
					Cl,pRi,IC,st L - H VIII 85								
Tr 2		PER	5.9	OC	20.0m	2h 37.3m	55° 59.0'					20	B
					13"-pB,pL,pRi,sC at 100X; 20*; BI-Gold D* inv - Moderatly rich about 30 * to 11 mag some faint * to south								

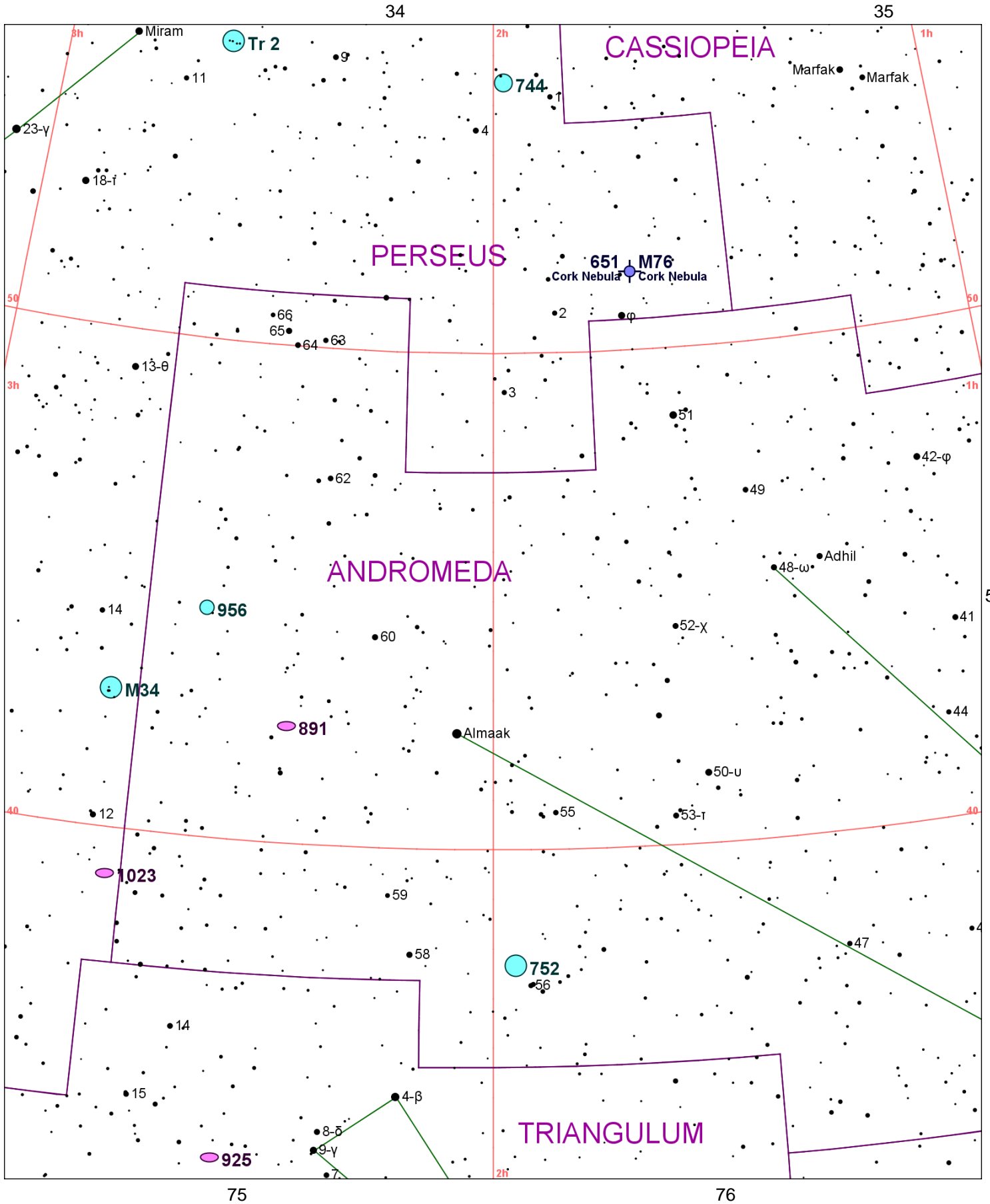


Chart 52													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 650	M76	PER	11.0	PN	163s x 107s	1h 42.3m	51° 35.0'				O		
Cork Nebula					vB,p of Dneb - aka Little Dumbbell Nebula; PK130-10.1								
NGC 651		PER	11.0	PN	163s x 107s	1h 42.3m	51° 35.0'						
Cork Nebula					vB,f of Dneb - aka Little Dumbbell Nebula; faintest M obj; H I 193								
NGC 744		PER	7.9	OC	11.0m	1h 58.5m	55° 28.0'					20	
					Cl,pL,pRi,iF,*11..13								
NGC 752		AND	5.7	OC	50m	1h 57.7m	37° 40.0'	C28			O	60	B
					Cl,vvL,Ri,*L & S,C - H VII 32;Best in RFT or binocs;lr scattered cl 70* mags 8...								
NGC 891		AND	9.9	GAL	13.1m x 2.8m	2h 22.6m	42° 21.0'	C23	R12	S1	O		
					B,vL,vmE22 - H V 19;NGC 1023 group;Lord Rosse drawing shows dark lane								
NGC 925		TRI	10.1	GAL	10.9m x 6.2m	2h 27.3m	33° 35.0'				O		
					cF,cL,E,vgbM,2*13 np - H III 177;NGC 1023 group;coarse spiral								
NGC 956		AND	8.9	OC	8.0m	2h 32.5m	44° 36.0'					30	
					Cl,pRi,*9...15								
NGC 1023		PER	9.4	GAL	8.1m x 3.4m	2h 40.4m	39° 04.0'		R18	S81	O		
					vB,vL,vmE,vvmbM - H I 156;brtst in grp;more neb 10' E;lens shp F tuft on E tip								
NGC 1039	M34	PER	5.2	OC	35.0m	2h 42.1m	42° 47.0'				O	100	B
					Cl,B,vL,IC,sC st9... - At least 80 true members;sev D* incl h1123 & O Struve 44								
Tr 2		PER	5.9	OC	20.0m	2h 37.3m	55° 59.0'					20	B
					13"-pB,pL,pRi,sC at 100X; 20*; BI-Gold D* inv - Moderatly rich about 30 * to 11 mag some faint * to south								

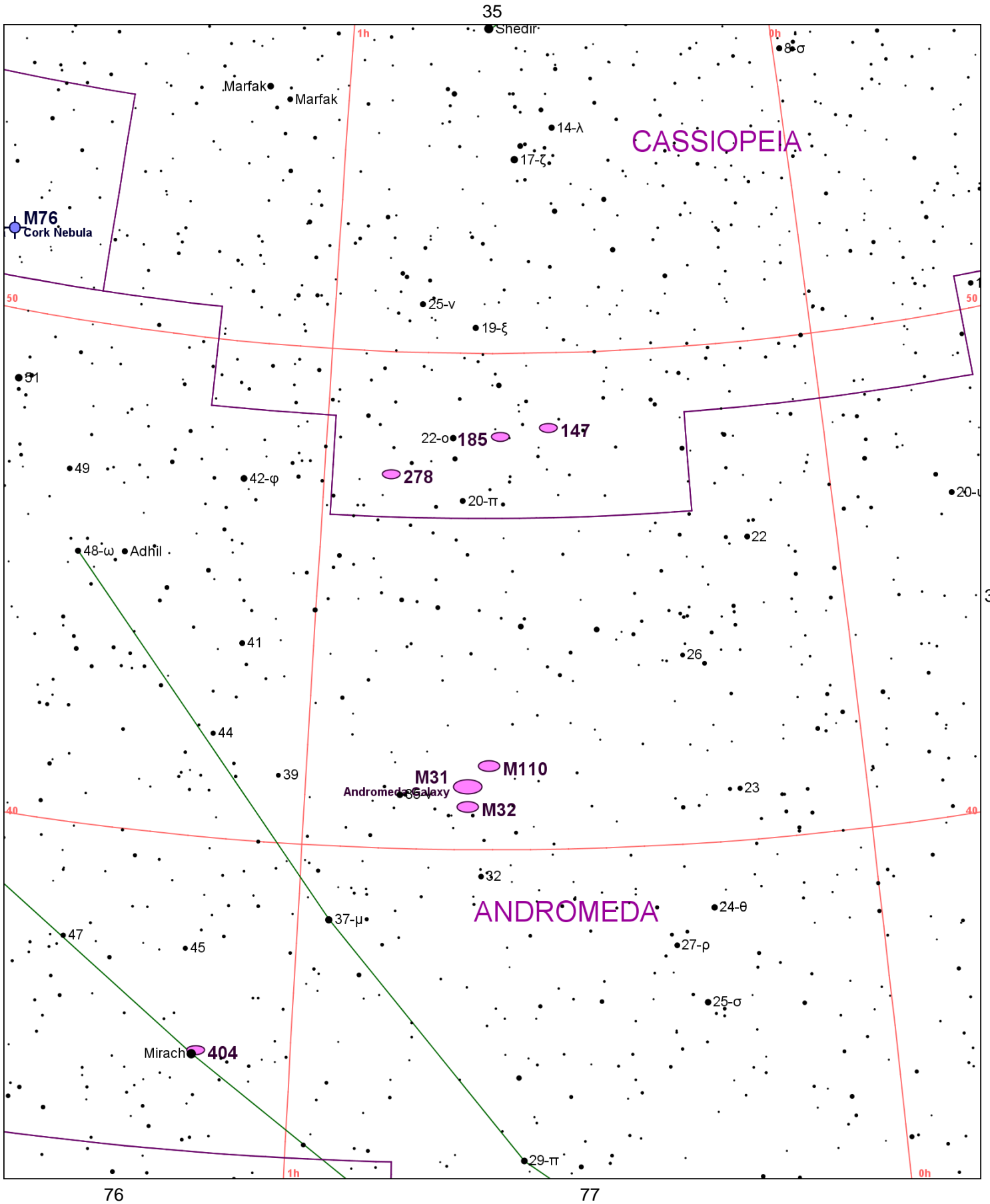
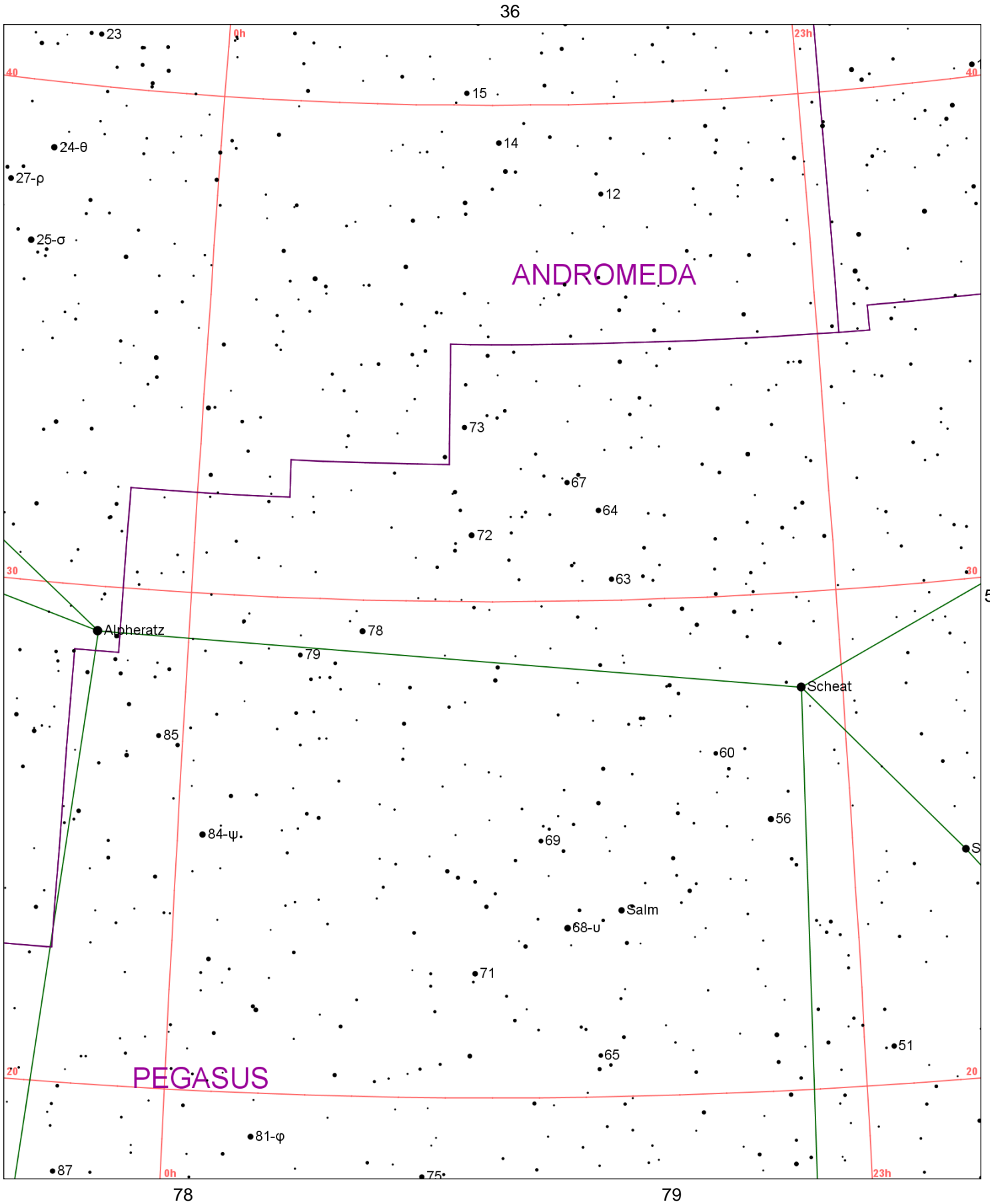


Chart 53													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 147		CAS	9.5	GAL	13.5m x 8.2m	0h 33.2m	48° 30.0'	C17					
					vF,vL,iR,gsmbM,*1.1 - Dwarf EI;P w NGC 185 at 58';low surface br								
NGC 185		CAS	9.2	GAL	12.5m x 10.4m	0h 39.0m	48° 20.0'	C18	R6	S12	O		
					pB,vL,iR,vgmbM,r - H II 707;Dwarf elliptical;NGC 396								
NGC 205	M110	AND	8.1	GAL	19.5m x 11.5m	0h 40.4m	41° 41.0'				O		B
					vB,vL,mE 165 degrees,vgvmbM - M31 Companion;UGC 426;H V 18								
NGC 221	M32	AND	8.1	GAL	8.5m x 6.5m	0h 42.7m	40° 52.0'				O		B
					vvB,L,R,psmbMN - M31 Triplicate;Comp to M31								
NGC 224	M31	AND	3.4	GAL	189.1m x 61.7m	0h 42.7m	41° 16.0'				O		B
Andromeda Galaxy					!!!eeB,eL,vmE - Local Group;nearest spiral								
NGC 278		CAS	10.8	GAL	2.4m x 2.4m	0h 52.1m	47° 33.0'				O		
					cB,pL,R,2 st 10 nr - H I 159;Lg B nucl;sev knotty massive arms;B part sharp edge;UGC 528								
NGC 404		AND	10.3	GAL	4.3m x 3.9m	1h 09.4m	35° 43.0'				O		
					pB,cL,R,gbM - H II 224;UGC 718;Beta AND sf 6'								
NGC 650	M76	PER	11.0	PN	163s x 107s	1h 42.3m	51° 35.0'				O		
Cork Nebula					vB,p of Dneb - aka Little Dumbbell Nebula; PK130-10.1								
NGC 651		PER	11.0	PN	163s x 107s	1h 42.3m	51° 35.0'						
Cork Nebula					vB,f of Dneb - aka Little Dumbbell Nebula; faintest M obj;H I 193								



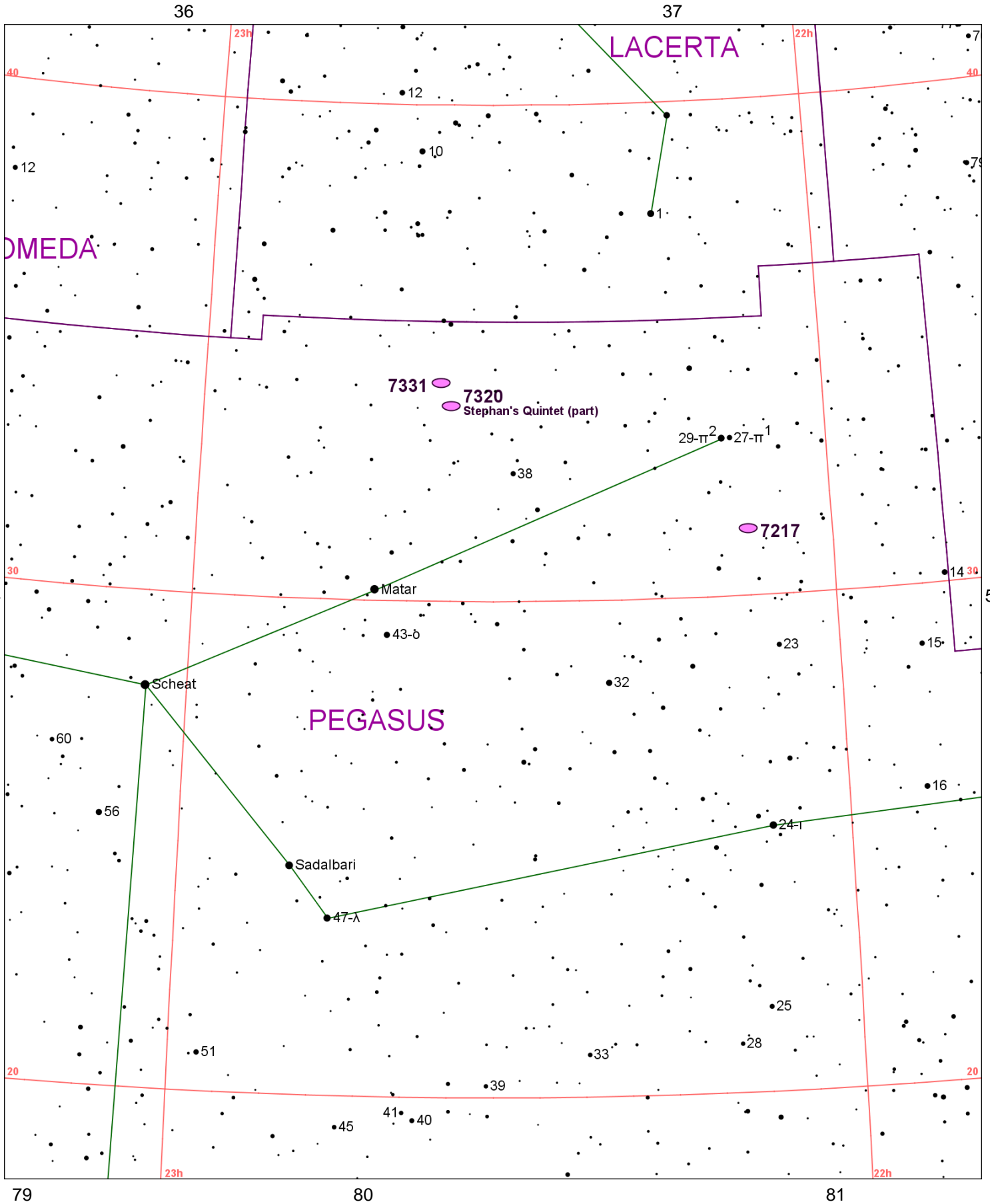


Chart 55													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 7217		PEG	10.1	GAL	4m x 3.4m	22h 07.9m	31° 22.0'				O		
					B,pL,gbM,er - H II 207;vB diff Nuc .35'X0.27'many knotty arms								
NGC 7320		PEG	12.6	GAL	2.3m x 1.4m	22h 36.1m	33° 57.0'				O		
Stephan's Quintet (part)					F,vS - Brightest in Stephan's Quintet								
NGC 7331		PEG	9.5	GAL	10.2m x 4.2m	22h 37.1m	34° 25.0'	C30	R3	S78	O		
					B,pL,pmE163,smbM - H I 53;UGC 12113;Brightest in group of F obj;sev dark lanes								

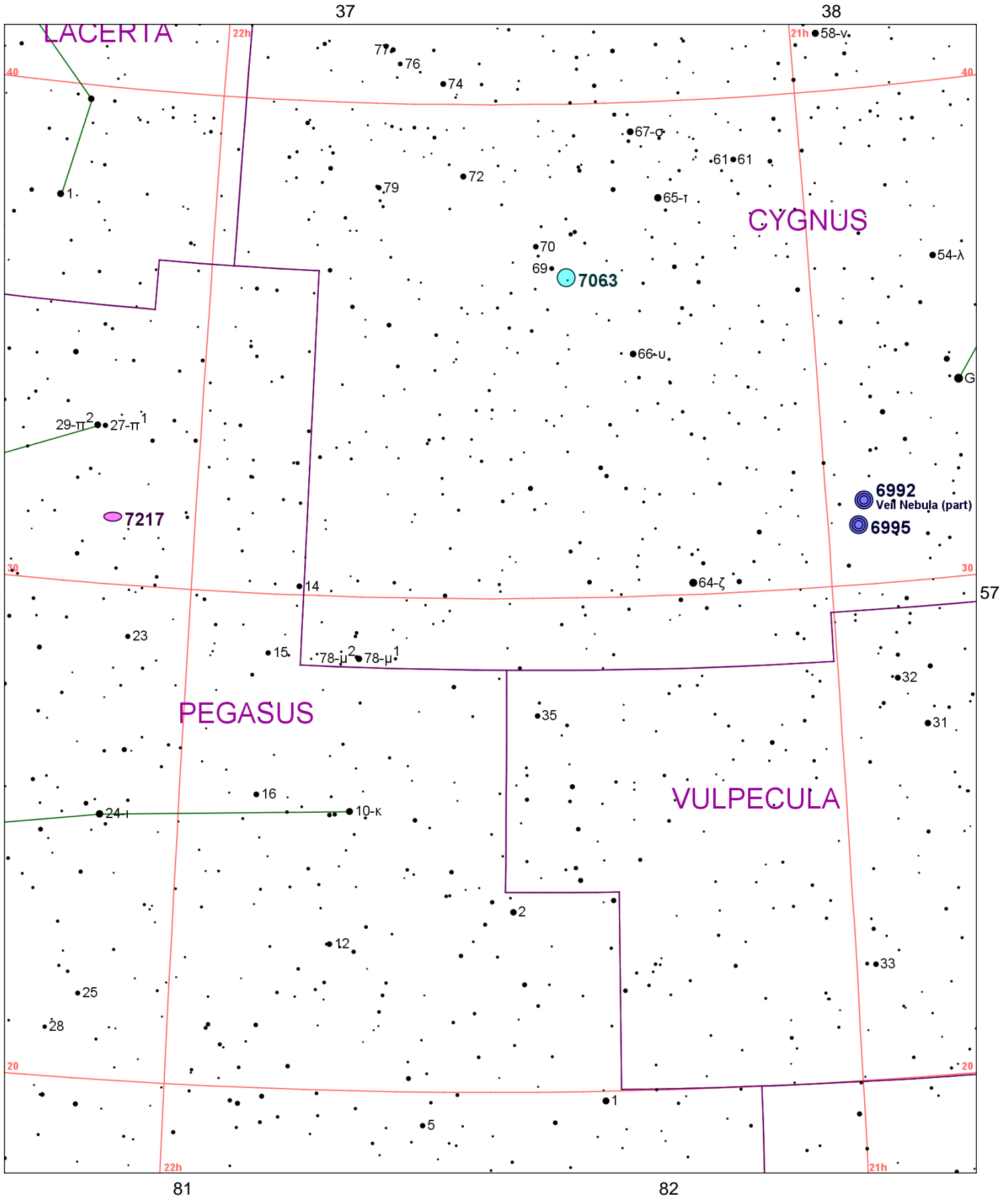


Chart 56													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 6992		CYG	7.0	SR	60m x 8m	20h 56.4m	31° 43.0'	C33	R99	S45	O		
Veil Nebula (part)					eF,eL,eE,eiF,Bifid - H V 14;Veil Nebula eastern part								
NGC 6995		CYG	7.0	SR	12m	20h 57.1m	31° 13.0'						
					F,eL,neb&st in groups								
NGC 7063		CYG	7.0	OC	8.0m	21h 24.4m	36° 30.0'					12	B
					Cl,P,st10...								
NGC 7217		PEG	10.1	GAL	4m x 3.4m	22h 07.9m	31° 22.0'				O		
					B,pL,gbM,er - H II 207;vB diff Nuc .35'X0.27'many knotty arms								