

Chart 9													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
Berk 59		CEP	11.0	OC	10.0m	0h 02.6m	67° 23.0'					40	
13"-F,S,nC, 12 F* at 135X													
NGC 40		CEP	10.7	PN	60s x 40s	0h 13.0m	72° 31.0'	C2	R110	S19	O		
F,vS,R,vsmbM,L*cont f - H IV 58;PK120+9.1;Lord Rosse saw spiral structure													
NGC 188		CEP	8.1	OC	14.0m	0h 47.5m	85° 14.0'	C1			O	20	
Cl,vL,R,150-200 st 10...18													
NGC 7129		CEP	11.5	DN	2.7m	21h 43.0m	66° 07.0'		R109	S22	O	10	
!,cF,pL,gbM*** - H IV 75;Sev F * invl													
NGC 7142		CEP	9.3	OC	4.3m	21h 45.2m	65° 46.0'					100	
Cl,cL,cRi,pC,*11..14 - H VII 66													
NGC 7160		CEP	6.1	OC	7.0m	21h 53.7m	62° 36.0'					12	B
Cl,P,vIC - H VIII 67;ln Cep OB2													
NGC 7748		CEP	7.1	MISC		23h 44.9m	69° 45.0'						
vL neby,surrounds *7													
NGC 7762		CEP	10.0	OC	11.0m	23h 49.8m	68° 02.0'					40	
Cl,pRi,pC,*11...15 - H VII 55													

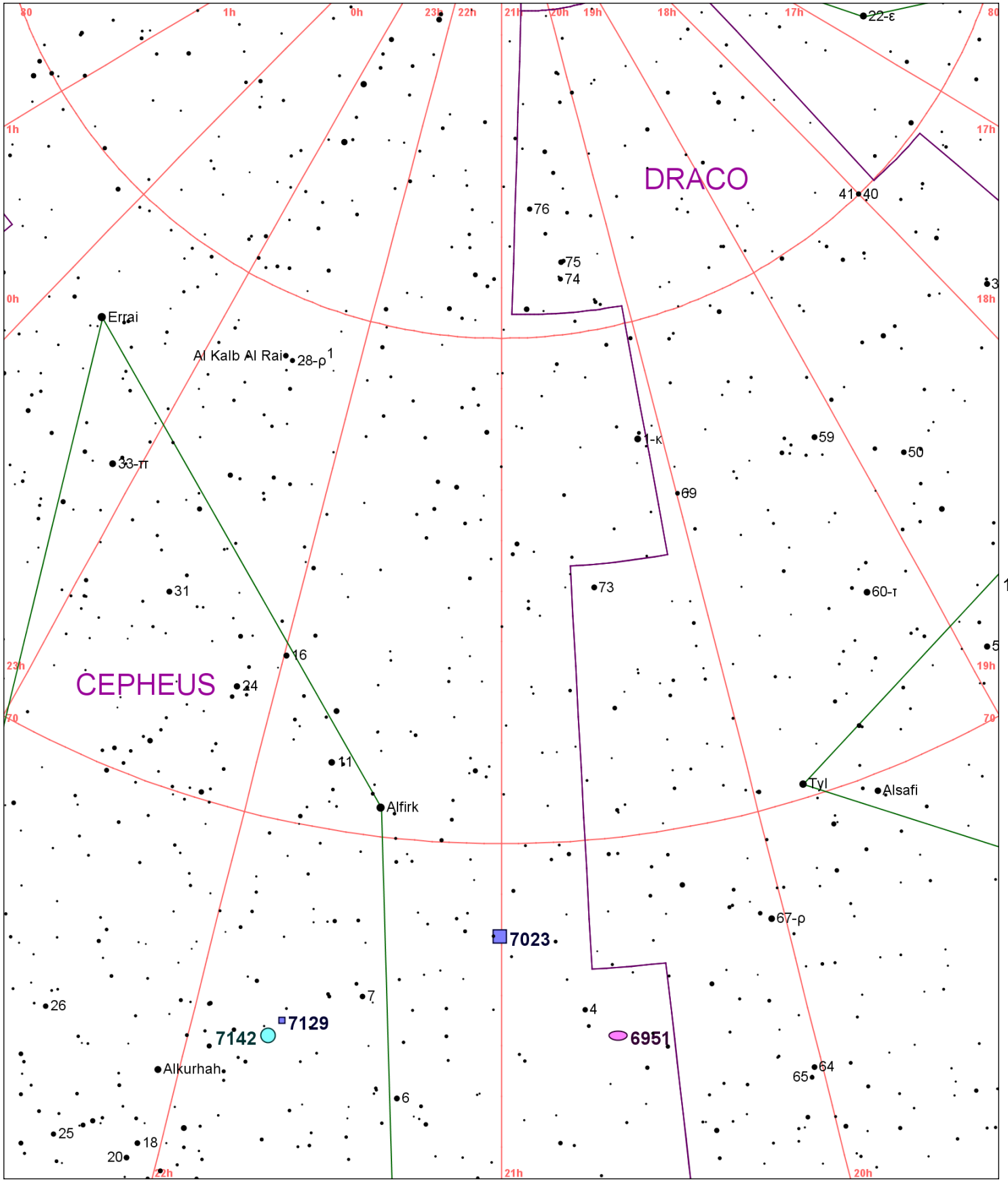


Chart 10

Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 6951		CEP	10.6	GAL	3.9m x 3.5m	20h 37.2m	66° 06.0'						
					pB,pL,IE								
NGC 7023		CEP	7.1	DN	5.0m	21h 00.5m	68° 10.0'	C4			O		
					*7 in eF,eL,neby - H IV 74;Complex structure w Br and dark filaments								
NGC 7129		CEP	11.5	DN	2.7m	21h 43.0m	66° 07.0'		R109	S22	O	10	
					!,cF,pL,gbM*** - H IV 75;Sev F * invl								
NGC 7142		CEP	9.3	OC	4.3m	21h 45.2m	65° 46.0'					100	
					Cl,cL,cRi,pC,*11..14 - H VII 66								

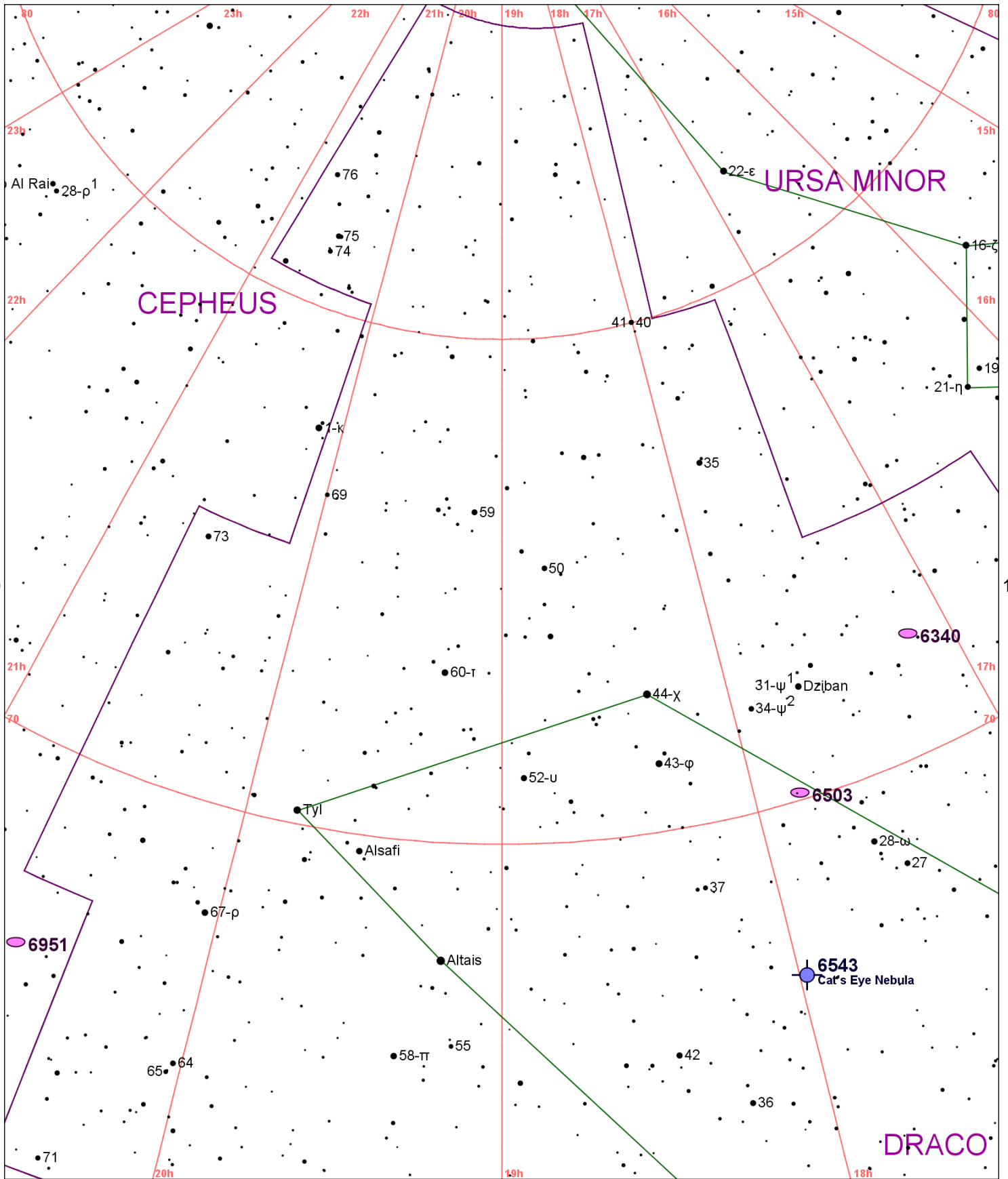


Chart 11													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 6340		DRA	11.0	GAL	3m x 2.8m	17h 10.4m	72° 18.0'						
					cF,pL,R,vgmbM - H II 767;Brightest of 3;IC 1254 at 7' PA 320;UGC 10762								
NGC 6503		DRA	10.2	GAL	7m x 2.5m	17h 49.5m	70° 09.0'		R88	S49	O		
					pF,L,mE,*9f4'								
NGC 6543		DRA	8.3	PN	22s x 16s	17h 58.6m	66° 38.0'	C6	R89	S50	O		
Cat's Eye Nebula					vB,pS,sbMvSN - H IV 37;PK96+29.1								
NGC 6951		CEP	10.6	GAL	3.9m x 3.5m	20h 37.2m	66° 06.0'						
					pB,pL,IE								

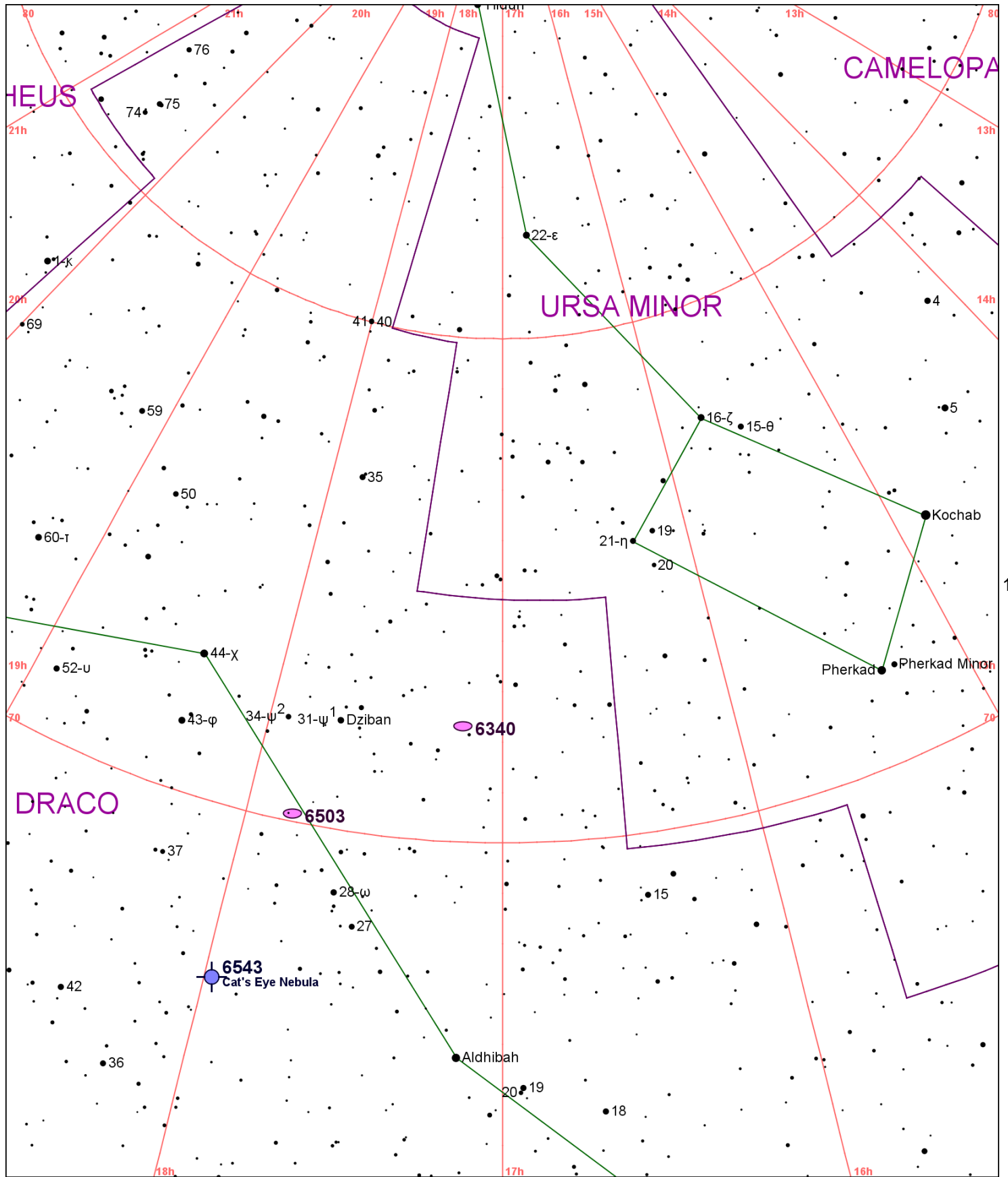


Chart 12													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 6340		DRA	11.0	GAL	3m x 2.8m	17h 10.4m	72° 18.0'						
					cF,pL,R,vgmbM - H II 767;Brightest of 3;IC 1254 at 7' PA 320;UGC 10762								
NGC 6503		DRA	10.2	GAL	7m x 2.5m	17h 49.5m	70° 09.0'		R88	S49	O		
					pF,L,mE,*9f4'								
NGC 6543		DRA	8.3	PN	22s x 16s	17h 58.6m	66° 38.0'	C6	R89	S50	O		
Cat's Eye Nebula					vB,pS,sbMvSN - H IV 37;PK96+29.1								

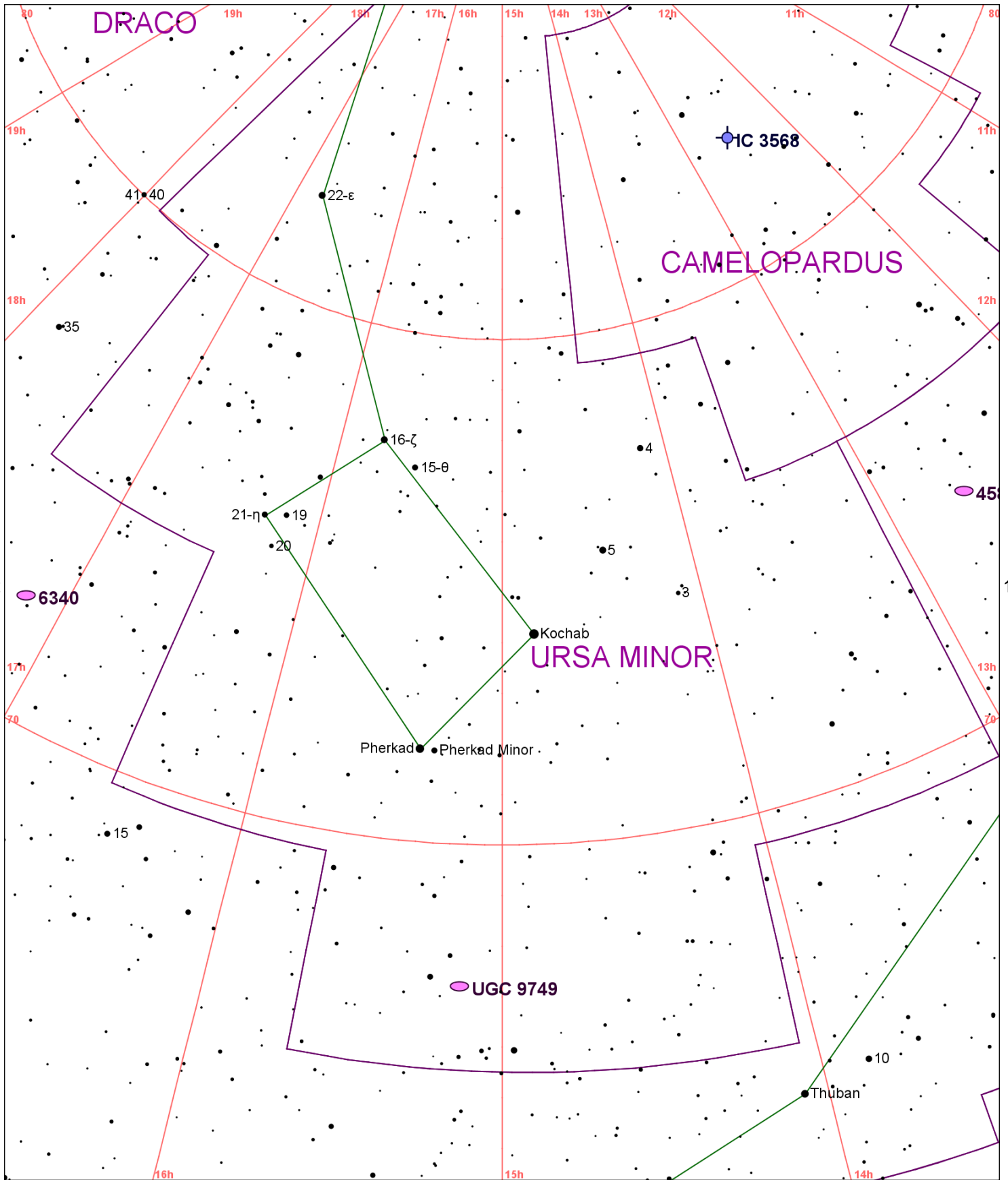


Chart 13

Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
IC 3568		CAM	11.6	PN	18s	12h 33.1m	82° 34.0'				O		
					planetary or neb *9.5,*13 p 15"								
NGC 4589		DRA	10.7	GAL	3.4m x 2.8m	12h 37.4m	74° 11.0'						
					cB,L,IE,pgmbM - H I 273;P w NGC 4572 @ 7.5';NGC 4648 @ 22'								
NGC 6340		DRA	11.0	GAL	3m x 2.8m	17h 10.4m	72° 18.0'						
					cF,pL,R,vgmbM - H II 767;Brightest of 3;IC 1254 at 7' PA 320;UGC 10762								
UGC 9749		UMI	10.9	GAL	27.3m x 16.0m	15h 08.8m	67° 12.0'						
					13"-vF,L,E 1.5X1 at 60X; low surface brghtnss - Member Local Group								

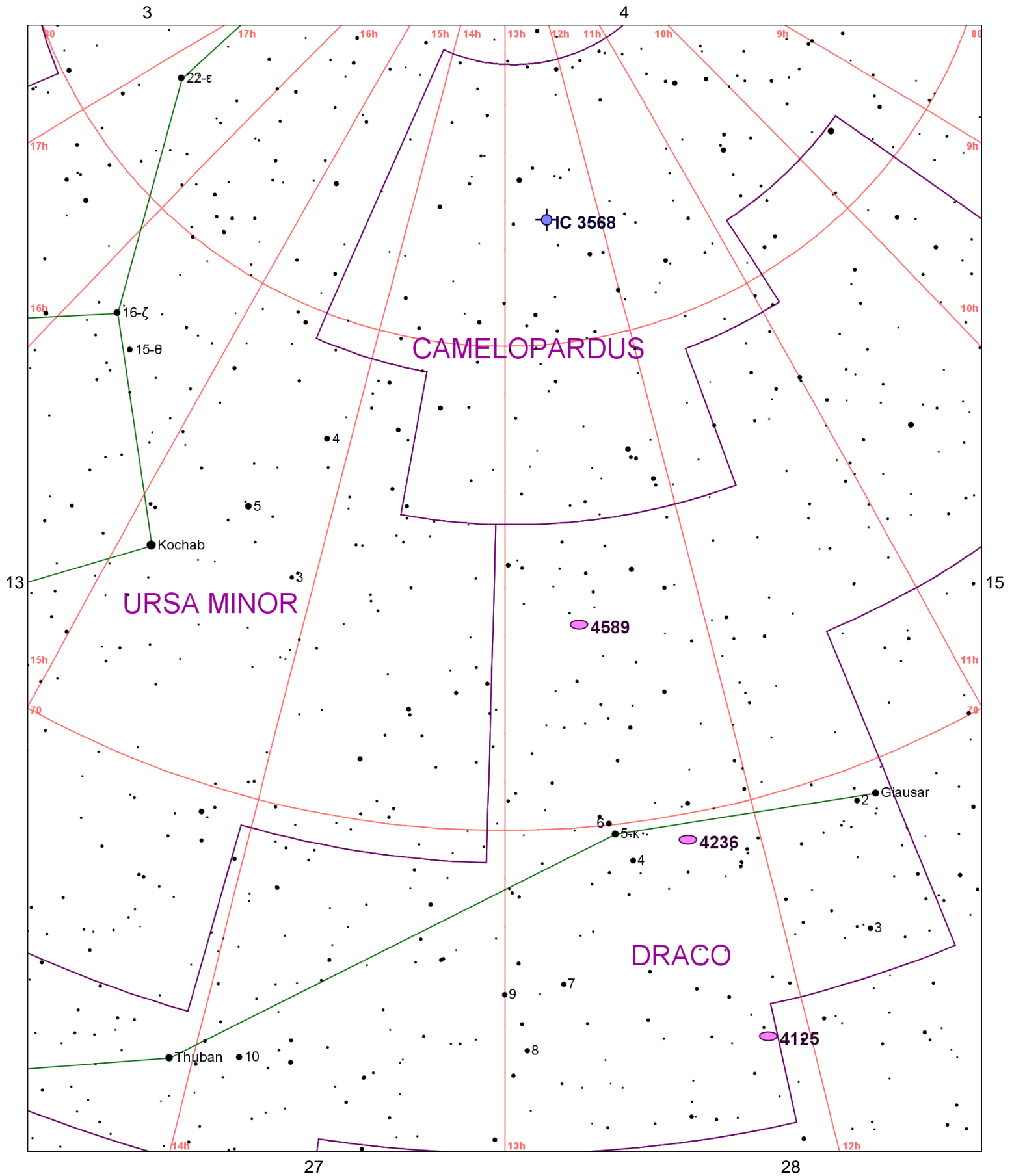


Chart 14													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
IC 3568		CAM	11.6	PN	18s	12h 33.1m	82° 34.0'				O		
					planetary or neb *9.5,*13 p 15"								
NGC 4125		DRA	9.7	GAL	6m x 5.1m	12h 08.1m	65° 10.0'				O		
					pB,pL,cE,mbM								
NGC 4236		DRA	9.6	GAL	22.6m x 6.9m	12h 16.7m	69° 28.0'	C3					
					vF,eL,mE160,vgbM - H V 51;P w Ho 357b @ 9';L;F spiral structure								
NGC 4589		DRA	10.7	GAL	3.4m x 2.8m	12h 37.4m	74° 11.0'						
					cB,L,IE,pgmbM - H I 273;P w NGC 4572 @ 7.5';NGC 4648 @ 22'								

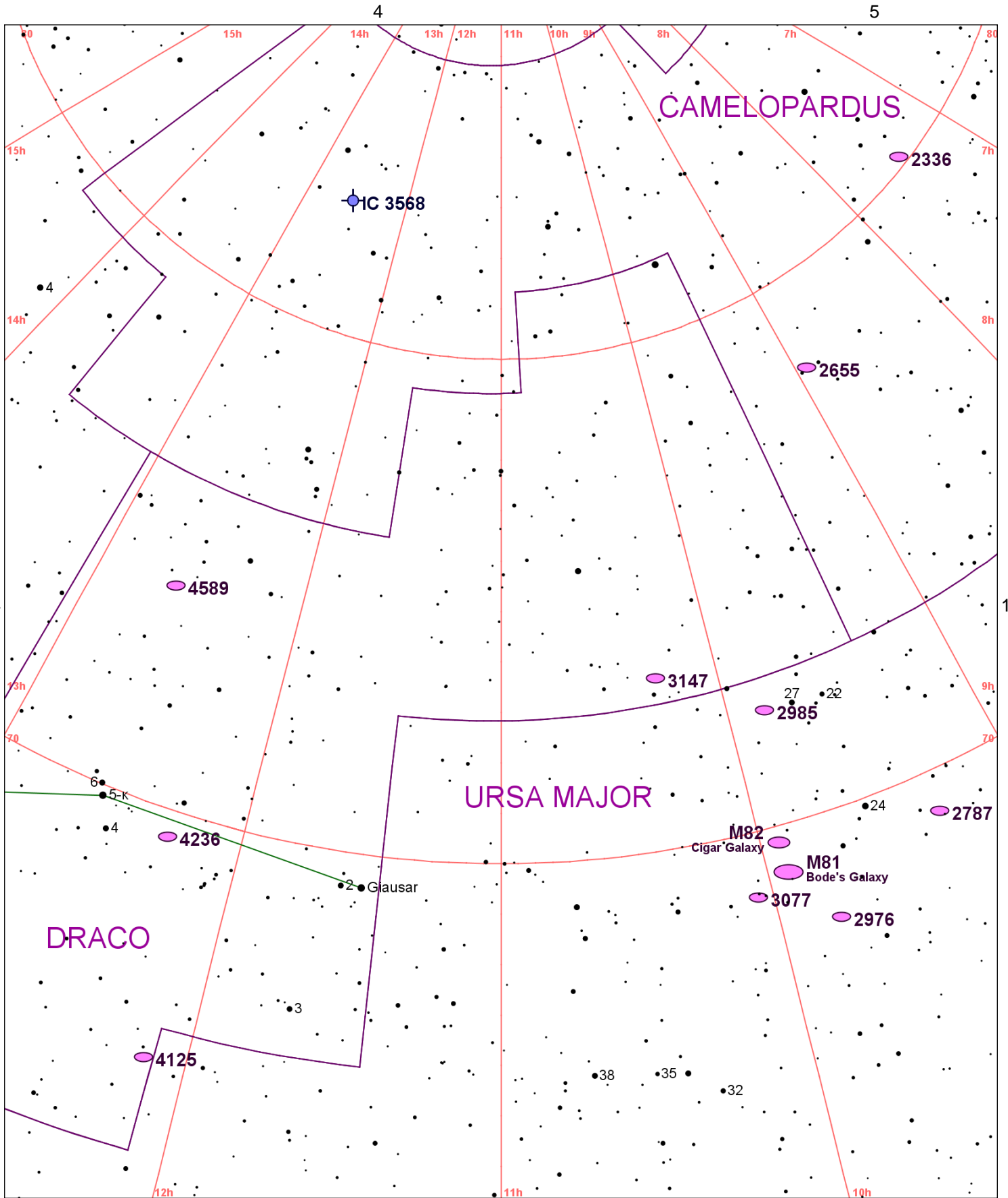


Chart 15													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
IC 3568		CAM	11.6	PN	18s	12h 33.1m	82° 34.0'				O		
					planetary or neb *9.5,*13 p 15"								
NGC 2336		CAM	10.4	GAL	6.8m x 3.7m	7h 27.1m	80° 11.0'						
					pB,pL,R,2*11 nr - weak bar;many weak filam arms w knots; P w IC 467								
NGC 2655		CAM	10.1	GAL	4.9m x 4.1m	8h 55.6m	78° 13.0'		R38	S11	O		
					vB,cL,IE 90,gsymbM,diff - H I 288;large nucleus w asym dk matter in lens;faint outer whirls								
NGC 2787		UMA	10.8	GAL	3.1m x 1.8m	9h 19.3m	69° 12.0'						
					B,pL,IE 90 deg,mbM,r,vS* sf inv - H I 216;B nucl in B inner lens;strong narrow bar w blobs								
NGC 2976		UMA	10.2	GAL	6.2m x 3.1m	9h 47.2m	67° 55.0'				O		
					B,vL,mE152,st inv - H I 285;B main body;chaotic inner w many dk lane;F outer disc								
NGC 2985		UMA	10.4	GAL	4.6m x 3.4m	9h 50.4m	72° 17.0'				O		
					vB,cL,R,psmbM,* inv f - H I 78;diff BN;many poor res knotty arms; P w NGC 3027 at 25'								
NGC 3031	M81	UMA	6.9	GAL	24.9m x 11.5m	9h 55.6m	69° 04.0'				O		B
					Bode's Galaxy								
NGC 3034	M82	UMA	8.4	GAL	10.5m x 5.1m	9h 55.9m	69° 41.0'				O		B
					Cigar Galaxy								
NGC 3077		UMA	9.9	GAL	5.2m x 4.7m	10h 03.3m	68° 44.0'			S94			
					cB,cL,mbM,R w ray - H I 286;M81 group;dust streamers tending to radial direction								
NGC 3147		DRA	10.6	GAL	4.3m x 3.7m	10h 16.9m	73° 24.0'						
					vB,L,R,vqsvmbM - H I 79;vBN;many filam. narrow arms in lens								
NGC 4125		DRA	9.7	GAL	6m x 5.1m	12h 08.1m	65° 10.0'				O		
					pB,pL,cE,mbM								
NGC 4236		DRA	9.6	GAL	22.6m x 6.9m	12h 16.7m	69° 28.0'	C3					
					vF,eL,mE160,vqbM - H V 51;P w Ho 357b @ 9';L;F spiral structure								
NGC 4589		DRA	10.7	GAL	3.4m x 2.8m	12h 37.4m	74° 11.0'						
					cB,L,IE,pgmbM - H I 273;P w NGC 4572 @ 7.5';NGC 4648 @ 22'								

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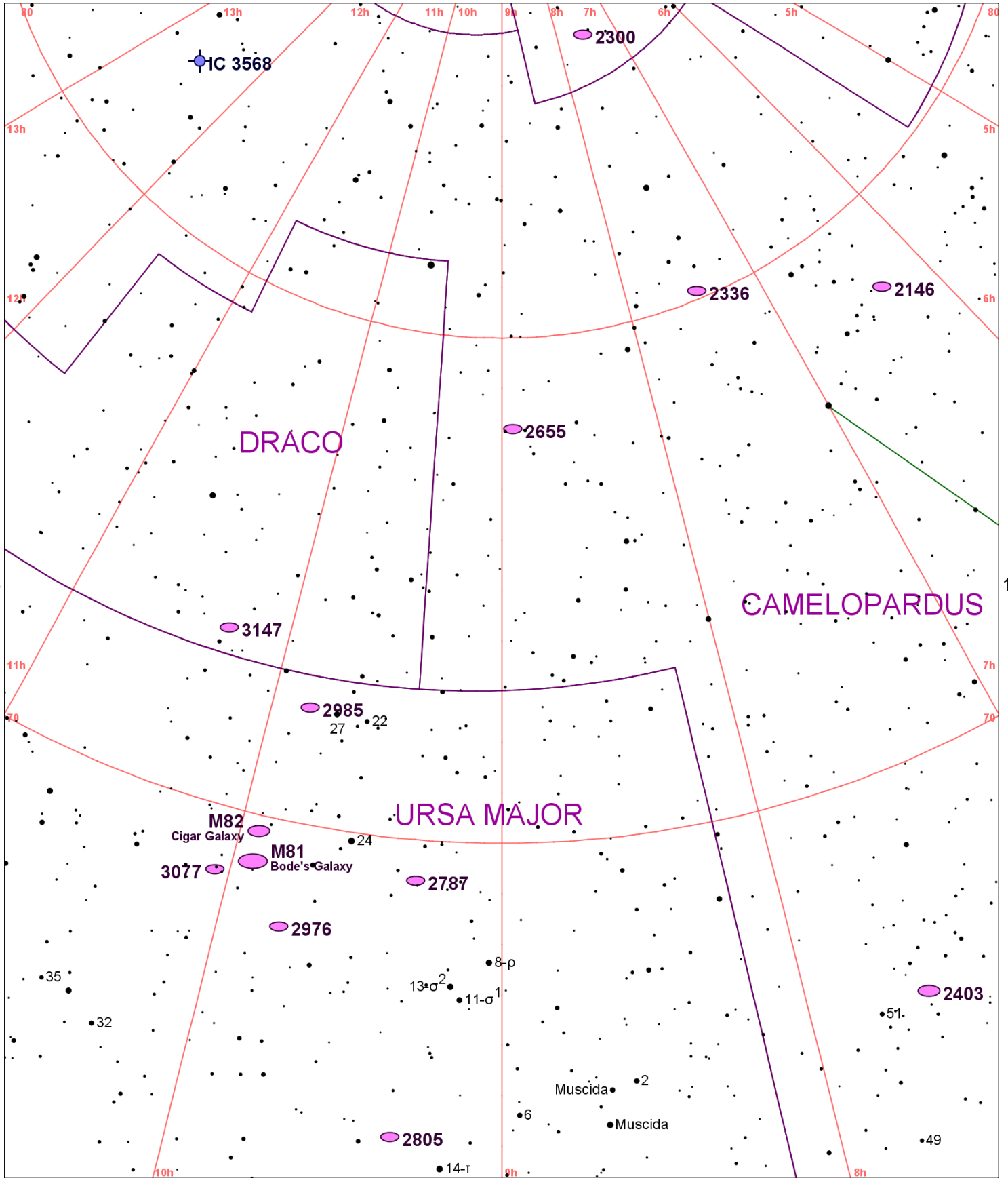


Chart 16													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
IC 3568		CAM	11.6	PN	18s	12h 33.1m	82° 34.0'				O		
					planetary or neb *9.5,*13 p 15"								
NGC 2146		CAM	10.6	GAL	5.7m x 3.3m	6h 18.6m	78° 21.0'				O		
					pB,2l,IE - extreme broad spiral arms;2 main smooth arms;1 w dark lane								
NGC 2300		CEP	11.0	GAL	3.5m x 2.4m	7h 32.3m	85° 43.0'						
					pB,pL,IE,bM - Pair with NGC 2276 at 6' and IC 1455 at 10'; vsBN								
NGC 2336		CAM	10.4	GAL	6.8m x 3.7m	7h 27.1m	80° 11.0'						
					pB,pL,R,2*11 nr - weak bar;many weak filam arms w knots; P w IC 467								
NGC 2403		CAM	8.5	GAL	23.4m x 11.8m	7h 36.8m	65° 36.0'	C7	R37	S10	O		B
					!! cB,eL,vmE,vgmbMN - H V 44;in M81 group;many well res irreg arms;broad bar								
NGC 2655		CAM	10.1	GAL	4.9m x 4.1m	8h 55.6m	78° 13.0'		R38	S11	O		
					vB,cL,IE 90,gsymbM,diff - H I 288;large nucleus w asym dk matter in lens;faint outer whirls								
NGC 2787		UMA	10.8	GAL	3.1m x 1.8m	9h 19.3m	69° 12.0'						
					B,pL,IE 90 deg,mbM,r,vS* sf inv - H I 216;B nucl in B inner lens;strong narrow bar w blobs								
NGC 2805		UMA	11.0	GAL	6.3m x 4.5m	9h 20.3m	64° 06.0'						
					vF,L,R,mbM - H III 878;slightly asym;many irreg res vF knotty arms;multi sys								
NGC 2976		UMA	10.2	GAL	6.2m x 3.1m	9h 47.2m	67° 55.0'				O		
					B,vL,mE152,st inv - H I 285;B main body;chaotic inner w many dk lane;F outer disc								
NGC 2985		UMA	10.4	GAL	4.6m x 3.4m	9h 50.4m	72° 17.0'				O		
					vB,cL,R,psmbM,* inv f - H I 78;diff BN;many poor res knotty arms; P w NGC 3027 at 25'								
NGC 3031	M81	UMA	6.9	GAL	24.9m x 11.5m	9h 55.6m	69° 04.0'				O		B
Bode's Galaxy					! eB,eL,E 156,gsymbM,BN - brightest in group;fine spiral								
NGC 3034	M82	UMA	8.4	GAL	10.5m x 5.1m	9h 55.9m	69° 41.0'				O		B
Cigar Galaxy					vB,vL,vmE(ray) - M81 group;eruptive;H IV 79								
NGC 3077		UMA	9.9	GAL	5.2m x 4.7m	10h 03.3m	68° 44.0'			S94			
					cB,cL,mbM,R w ray - H I 286;M81 group;dust streamers tending to radial direction								
NGC 3147		DRA	10.6	GAL	4.3m x 3.7m	10h 16.9m	73° 24.0'						
					vB,L,R,vqsvmbM - H I 79;vBN;many filam. narrow arms in lens								