

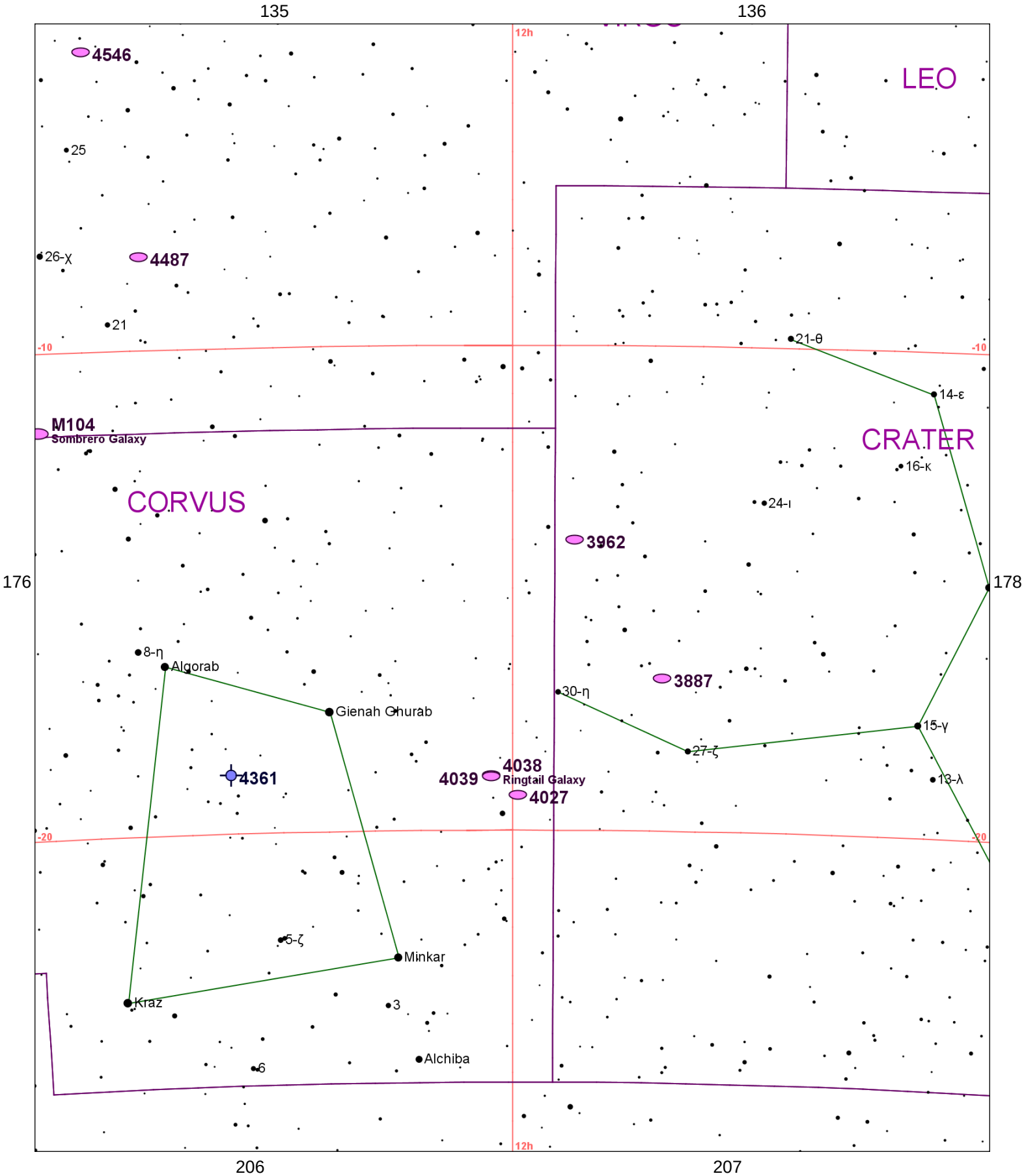


Chart 177													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 3887		CRT	10.6	GAL	3.5m x 2.7m	11h 47.1m	-16° 51.0'						
					pB,L,iR,vgpmBM - H I 120								
NGC 3962		CRT	10.7	GAL	3.4m x 2.8m	11h 54.7m	-13° 59.0'						
					cB,pL,iR,gmbM,tri 2 st - H I 67								
NGC 4027		CRV	11.1	GAL	3.3m x 2.4m	11h 59.5m	-19° 16.0'				O		
					pF,pL,R,rr,st16 - H II 296								
NGC 4038		CRV	10.3	GAL	3.4m x 2m	12h 01.9m	-18° 52.0'	C60	R74		O		
Ringtail Galaxy					pB,cL,R,vgbM - H IV 28;two filaments								
NGC 4039		CRV	10.6	GAL	3.3m x 1.7m	12h 01.9m	-18° 53.0'	C61					
					pF,pL - H II 282								
NGC 4361		CRV	10.9	PN	80s	12h 24.5m	-18° 47.0'		R75	S32	O		
					vB,L,R,vsmbMN,r - H I 65;PK294+43.1								
NGC 4487		VIR	10.9	GAL	4m x 2.8m	12h 31.1m	-8° 03.0'						
					F,vL,er - H II 776;Coarse structured spiral								
NGC 4546		VIR	10.3	GAL	3.3m x 1.6m	12h 35.5m	-3° 48.0'				O		
					vB,cL,pmE78,vsmbMN - H I 160								
NGC 4594	M104	VIR	8.0	GAL	8.6m x 4.2m	12h 40.0m	-11° 37.0'				O		B
Sombrero Galaxy					!vB,vL,eE92,vsmbMN - H I 43;dark equatorial lane								

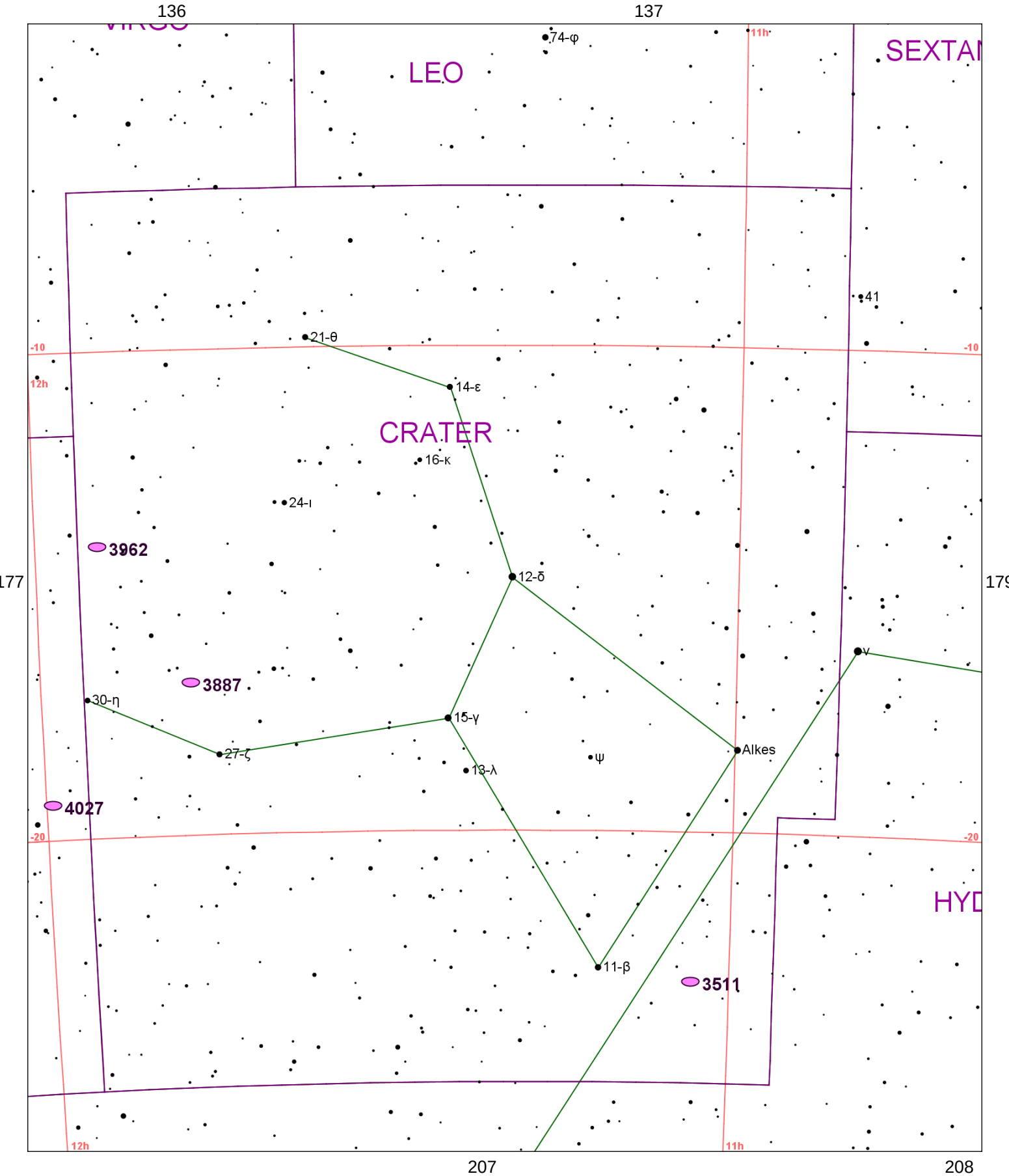


Chart 178													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 3511		CRT	11.0	GAL	6m x 2.1m	11h 03.4m	-23° 05.0'						
					vF,vL,mE - H V 39								
NGC 3887		CRT	10.6	GAL	3.5m x 2.7m	11h 47.1m	-16° 51.0'						
					pB,L,iR,vgpmB - H I 120								
NGC 3962		CRT	10.7	GAL	3.4m x 2.8m	11h 54.7m	-13° 59.0'						
					cB,pL,iR,gmbM,tri 2 st - H I 67								
NGC 4027		CRV	11.1	GAL	3.3m x 2.4m	11h 59.5m	-19° 16.0'				O		
					pF,pL,R,rr,st16 - H II 296								

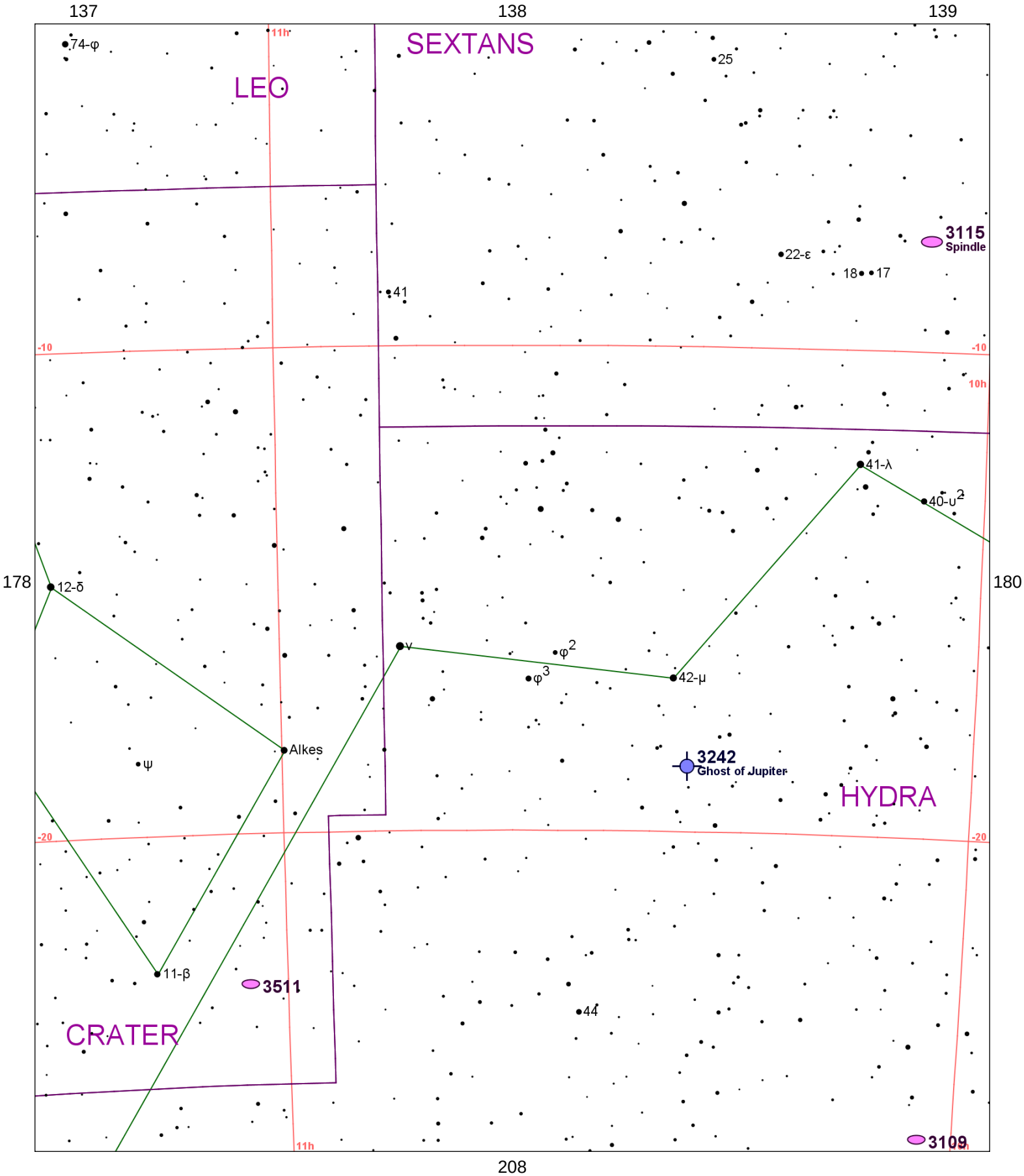


Chart 179													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 3109		HYA	9.9	GAL	19.7m x 3.4m	10h 03.1m	-26° 10.0'				O		
					cF,vL,vmE 82,lbm								
NGC 3115		SEX	8.9	GAL	7.3m x 3.4m	10h 05.2m	-7° 43.0'	C53	R49	S88	O		
Spindle Galaxy					vB,L,vmE 46,vgsmbMEN - H I 163								
NGC 3242		HYA	8.6	PN	40s x 35s	10h 24.8m	-18° 39.0'	C59	R50	S57	O		
Ghost of Jupiter					! vB,lE 147,45" d,blue - H IV 27								
NGC 3511		CRT	11.0	GAL	6m x 2.1m	11h 03.4m	-23° 05.0'						
					vF,vL,mE - H V 39								

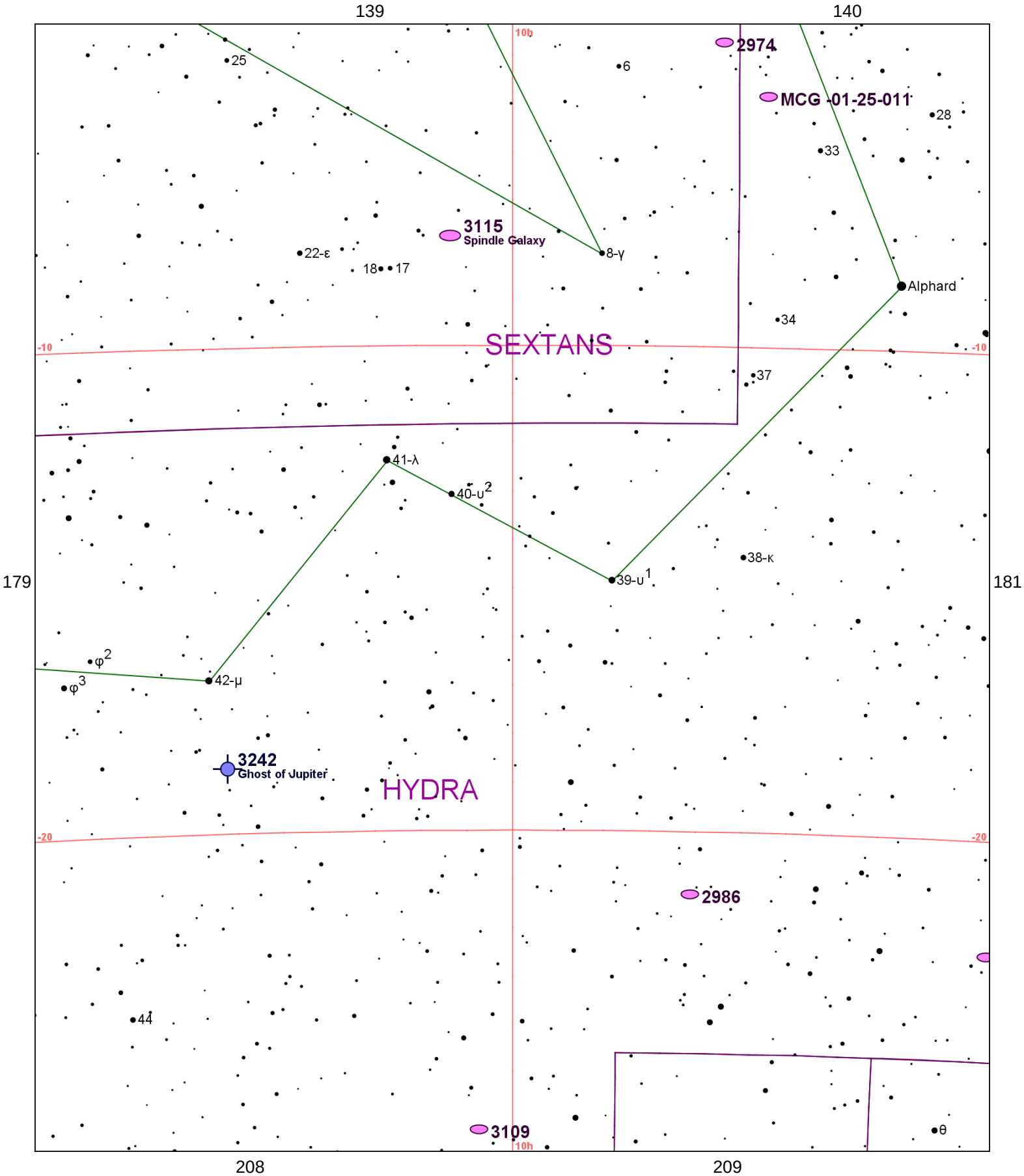


Chart 180													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
MCG -01-25-011		HYA	11.0	GAL	2m x 1.5m	9h 38.9m	-4° 49.0'						
					Inner Regions Completely Black--MCG - Mostly Edge On								
NGC 2835		HYA	10.5	GAL	6.3m x 4.2m	9h 17.9m	-22° 21.0'						
					F,*10 inv f,bet 2 st 9 - Fine multi arm spiral								
NGC 2974		SEX	10.9	GAL	3.4m x 2.1m	9h 42.6m	-3° 42.0'						
					B,cS,iR,bM,*9 sp 43" - H I 61;bright nucleus;10m * @ 0.7'								
NGC 2986		HYA	10.8	GAL	3.5m x 3m	9h 44.3m	-21° 17.0'						
					pB,pS,iR,mbM - H II 311								
NGC 3109		HYA	9.9	GAL	19.7m x 3.4m	10h 03.1m	-26° 10.0'				O		
					cF,vL,vmE 82,lbM								
NGC 3115		SEX	8.9	GAL	7.3m x 3.4m	10h 05.2m	-7° 43.0'	C53	R49	S88	O		
Spindle Galaxy					vB,L,vmE 46,vgsmbMEN - H I 163								
NGC 3242		HYA	8.6	PN	40s x 35s	10h 24.8m	-18° 39.0'	C59	R50	S57	O		
Ghost of Jupiter					! vB,IE 147,45" d,blue - H IV 27								

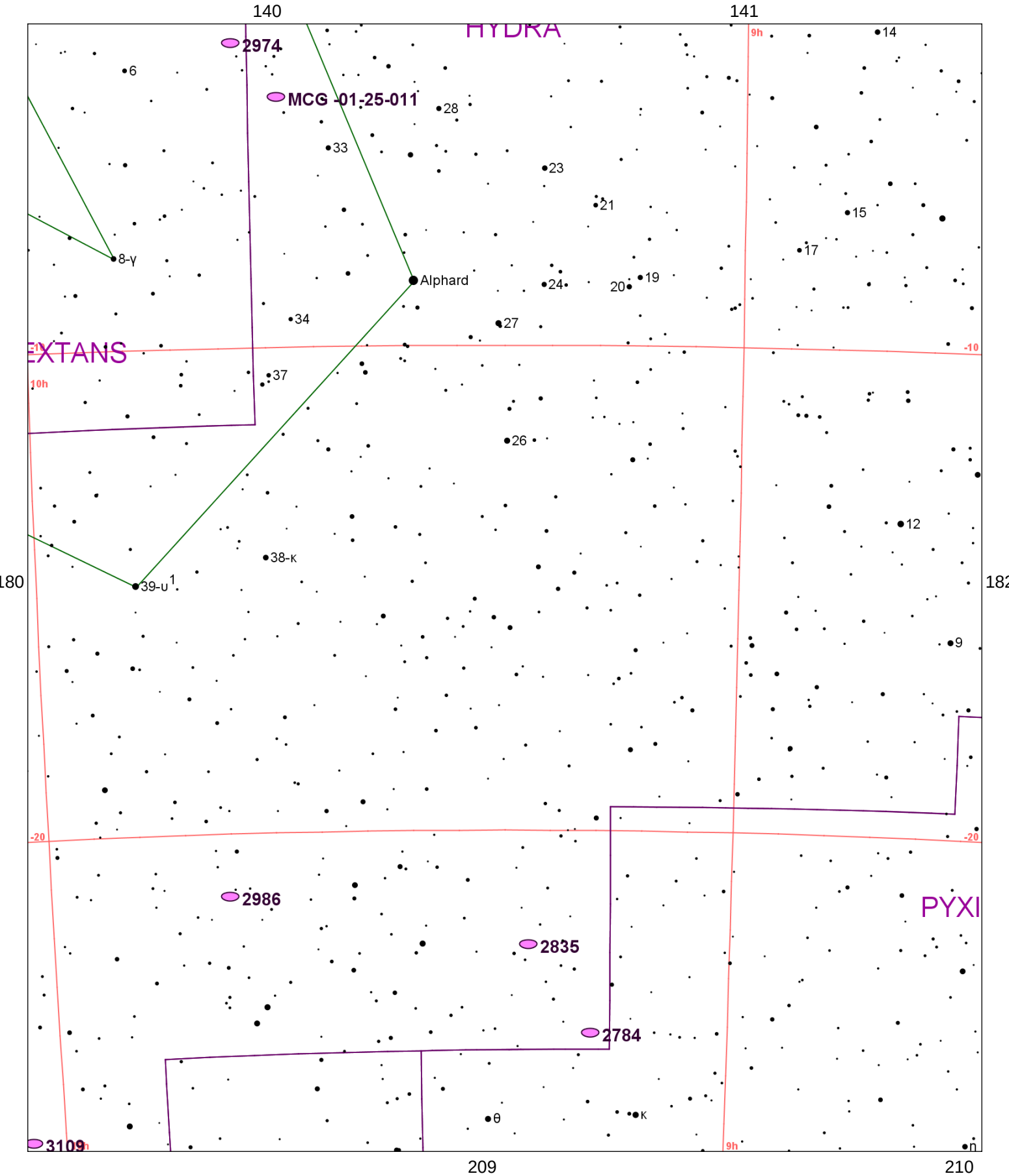
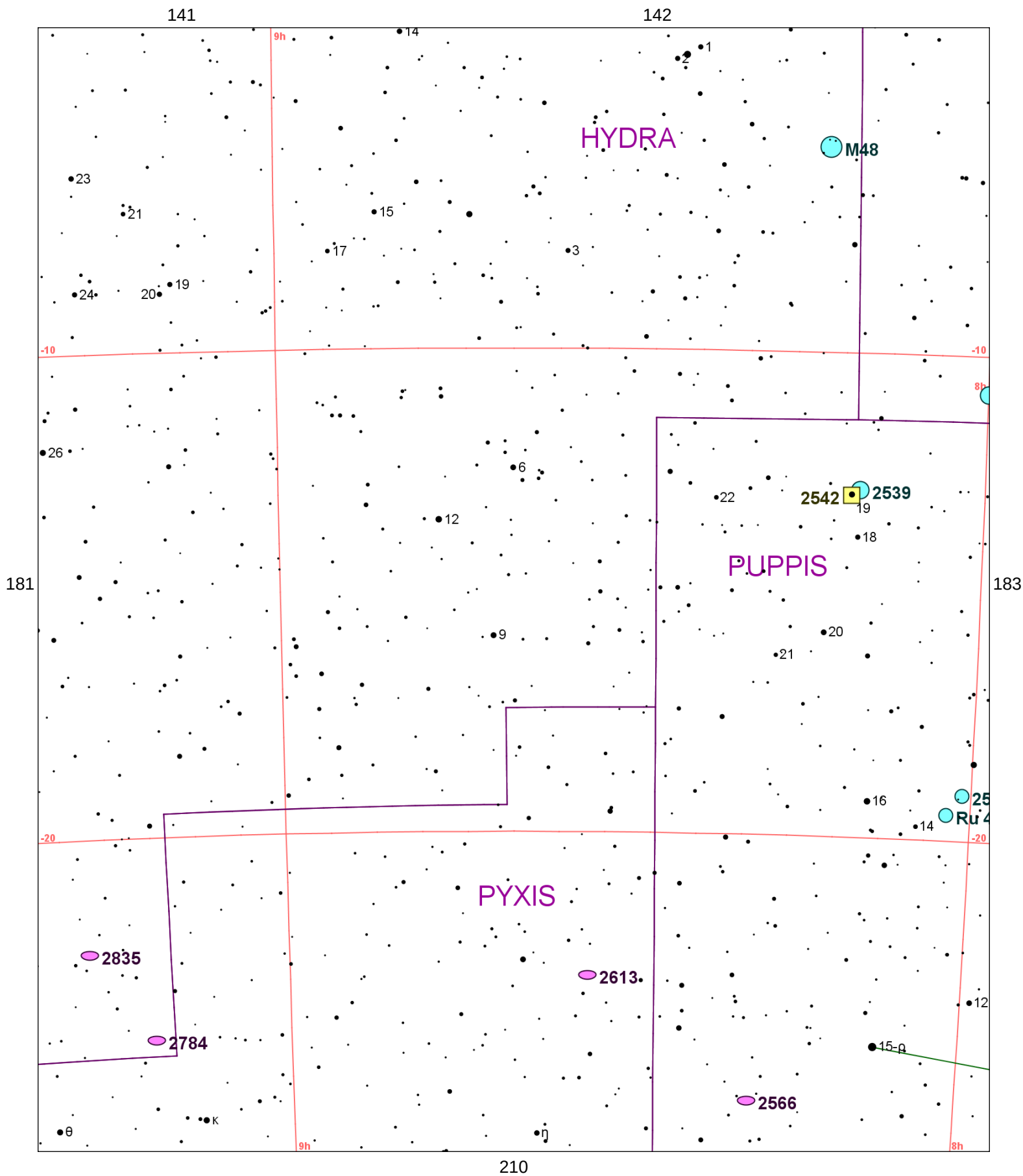


Chart 181													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
MCG -01-25-011		HYA	11.0	GAL	2m x 1.5m	9h 38.9m	-4° 49.0'						
					Inner Regions Completely Black--MCG - Mostly Edge On								
NGC 2784		HYA	10.2	GAL	5.7m x 2.5m	9h 12.3m	-24° 10.0'				O		
					B,L,mE 64 deg.gmbM - H I 59								
NGC 2835		HYA	10.5	GAL	6.3m x 4.2m	9h 17.9m	-22° 21.0'						
					F,*10v f,bet 2 st 9 - Fine multi arm spiral								
NGC 2974		SEX	10.9	GAL	3.4m x 2.1m	9h 42.6m	-3° 42.0'						
					B,cS,iR,bM,*9 sp 43" - H I 61;bright nucleus;10m * @ 0.7'								
NGC 2986		HYA	10.8	GAL	3.5m x 3m	9h 44.3m	-21° 17.0'						
					pB,pS,iR,mbM - H II 311								
NGC 3109		HYA	9.9	GAL	19.7m x 3.4m	10h 03.1m	-26° 10.0'				O		
					cF,vL,vmE 82,lbM								

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Chart 182													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
NGC 2506		MON	7.6	OC	7.0m	7h 60.0m	-10° 46.0'	C54				150	
					Cl,pL,vRi,C,*11...20 - H VI 37								
NGC 2509		PUP	9.3	OC	8.0m	8h 00.8m	-19° 03.0'					70	
					Cl,B,pRi,IC,st S - H VIII 1								
NGC 2539		PUP	6.5	OC	22.0m	8h 10.6m	-12° 49.0'		R36	S85	O	50	B
					Cl,vL,Ri,IC,*11...13 - H VII 11;rich cluster;near M46 and M47;D* 19 Pup in field								
NGC 2542		PUP	4.7	MISC		8h 11.3m	-12° 56.0'						
					nebulous *5								
NGC 2548	M48	HYA	5.8	OC	54m	8h 13.7m	-5° 45.0'				O	80	B
					Cl,vL,pRi,pmC,* 9..13 - Messier wrong position by 4 deg in dec;50* 9-13mag;H VI 22								
NGC 2566		PUP	11.0	GAL	3.4m x 2.3m	8h 18.8m	-25° 30.0'						
					vF,cL,eR,vS neg or neb *11 w *12 close								
NGC 2613		PYX	10.3	GAL	7.1m x 1.6m	8h 33.4m	-22° 58.0'						
					cB,L,vmE 110 deg - H II 266;1.2 deg W from D* Burnham 208;Nearly edge-on								
NGC 2784		HYA	10.2	GAL	5.7m x 2.5m	9h 12.3m	-24° 10.0'				O		
					B,L,mE 64 deg,gmbM - H I 59								
NGC 2835		HYA	10.5	GAL	6.3m x 4.2m	9h 17.9m	-22° 21.0'						
					F,*10 inv f,bet 2 st 9 - Fine multi arm spiral								
Ru 46		PUP	9.1	OC	2.0m	8h 02.1m	-19° 28.0'					15	

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Chart 183													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
Bochum 4		PUP	7.3	OC	23m	7h 31.0m	-16° 57.0'					30	
					13"-pB,pL,sC; 22* at 135X								
Bochum 5		PUP	7.0	OC	11m	7h 30.9m	-17° 04.0'					12	
					13"-pF,pS,nRi,nC; 7* 135X; aster in horseshoe								
Bochum 6		PUP	9.9	OC		7h 32.0m	-19° 26.0'					40	
					13"-pF,pS; 15* mags 11... at 135X								
Czernik 29		PUP	10.3	OC	8.0m	7h 28.3m	-15° 24.0'					40	
					13"-pF,pL,nRi,nC; 18* mags 11... at 135X								
Haffner 6		CMA	9.2	OC	4.0m	7h 20.1m	-13° 08.0'					60	
Haffner 8		CMA	9.1	OC	4.2m	7h 23.4m	-12° 20.0'					30	
Haffner 16		PUP	10.0	OC	1.1m	7h 50.3m	-25° 27.0'					30	
					13"-pB,S,pRi,vC; 19* mags 11... at 165X								
Haffner 18		PUP	9.3	OC	1.0m	7h 53.3m	-25° 54.0'					25	
Haffner 19		PUP	9.4	OC	1.8m	7h 52.7m	-26° 15.0'					30	
Mel 71		PUP	7.1	OC	9.0m	7h 37.5m	-12° 04.0'				O	80	
					13"-B,pL,mC,mBM; 48* mags 10..14 at 100X - Very compressed w central condensation								
Mel 72		MON	10.1	OC	9.0m	7h 38.4m	-10° 41.0'					40	
					pS,F,Ri,40* mags 12... - Rich w many faint *								
NGC 2362		CMA	4.1	OC	8.0m	7h 18.7m	-24° 57.0'	C64			O	60	B
					Cl,pL,Ri,(30 CMA) - H VII 17;40 * to 13 mag surround Tau Cma;sev pairs								
NGC 2367		CMA	7.9	OC	3.5m	7h 20.1m	-21° 53.0'					30	
					Cl,S,P,IC - H VIII 28								
NGC 2374		CMA	8.0	OC	19.0m	7h 23.9m	-13° 16.0'					25	
					Cl,vL,pRi,IC,st L - H VIII 35								
NGC 2383		CMA	8.4	OC	6.0m	7h 24.7m	-20° 57.0'				O	40	
					Cl,pS,pmC,st12 - Near cluster NGC 2384								
NGC 2384		CMA	7.4	OC	2.5m	7h 25.2m	-21° 01.0'					15	
					Cl,IC,bifid,** - Near cluster NGC 2383								
NGC 2396		PUP	7.4	OC	10.0m	7h 27.5m	-11° 43.0'					30	
					Cl,vL,vIC - H VIII 36								
NGC 2414		PUP	7.9	OC	4.0m	7h 33.2m	-15° 27.0'					35	
					Cl,P,IC,st9... - H VIII 37								
NGC 2421		PUP	8.3	OC	10.0m	7h 36.2m	-20° 37.0'					70	
					Cl,L,cRi,*11...13 - H VII 67								
NGC 2422	M47	PUP	4.4	OC	30m	7h 36.6m	-14° 29.0'				O	30	B
					Cl,B,vL,pRi,st L & S - H VIII 38;Messier gave poor postion;Struve 1121 & 1120 invl								
NGC 2423		PUP	6.7	OC	19.0m	7h 37.1m	-13° 52.0'				O	40	
					Cl,vL,Ri,pC,st vS - H VII 28								
NGC 2432		PUP	10.2	OC	8.0m	7h 40.9m	-19° 05.0'					50	
					Cl,pL,pC,E 0 deg,st L & S - H VI 36								
NGC 2437	M46	PUP	6.1	OC	27.0m	7h 41.8m	-14° 49.0'				O	100	B
					!,Cl,vB,vRi,vL - PLNNB NGC 2438 on N edge;150 * 10-13 mag								
NGC 2438		PUP	11.0	PN	65s	7h 41.8m	-14° 44.0'			S83	O		B
					pB,pS,vIE,r,3s.75 d - H IV 39;PK231+4.2								
NGC 2440		PUP	11.5	PN	54s x 20s	7h 41.9m	-18° 13.0'		R35	S84	O		
					cB,not v well def - H IV 64;almost starlike;irregular at high power;PK234+2.1								
NGC 2447	M93	PUP	6.2	OC	22.0m	7h 44.5m	-23° 51.0'				O	80	B
					Cl,L,pRi,IC,st8...13 - 63 members to 13 mag;wedge shaped center								
NGC 2455		PUP	10.2	OC	8.0m	7h 49.0m	-21° 18.0'					50	
					Cl,cL,pRi,IC,st12								
NGC 2467		PUP	7.1	DN	15.0m	7h 52.5m	-26° 26.0'				O	50	
					pB,vL,R,er,*8m - H IV 22;Scattered stars 8..12 w vF haze of nebulosity;in PUP OB1								
NGC 2478		PUP	4.4	OC	30m	7h 36.6m	-14° 29.0'						
					cluster - Equals 2422 (M 47)								
NGC 2479		PUP	9.6	OC	7.0m	7h 55.1m	-17° 42.0'					45	
					Cl,pL,pRi,pC,st S - H VII 58								
NGC 2482		PUP	7.3	OC	12.0m	7h 55.2m	-24° 15.0'					40	

Chart 183													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
					Cl,L,cRi,vIC - H VII 10								
NGC 2506		MON	7.6	OC	7.0m	7h 60.0m	-10° 46.0'	C54				150	
					Cl,pL,vRi,C,*11...20 - H VI 37								
NGC 2509		PUP	9.3	OC	8.0m	8h 00.8m	-19° 03.0'					70	
					Cl,B,pRi,IC,st S - H VIII 1								
NGC 2539		PUP	6.5	OC	22.0m	8h 10.6m	-12° 49.0'		R36	S85	O	50	B
					Cl,vL,Ri,IC,*11...13 - H VII 11;rich cluster;near M46 and M47;D* 19 Pup in field								
NGC 2542		PUP	4.7	MISC		8h 11.3m	-12° 56.0'						
					nebulous *5								
NGC 2548	M48	HYA	5.8	OC	54m	8h 13.7m	-5° 45.0'				O	80	B
					Cl,vL,pRi,pmC,* 9...13 - Messier wrong position by 4 deg in dec;50* 9-13mag;H VI 22								
NGC 2566		PUP	11.0	GAL	3.4m x 2.3m	8h 18.8m	-25° 30.0'						
					vF,cL,eR,vS neg or neb *11 w *12 close								
NGC 2613		PYX	10.3	GAL	7.1m x 1.6m	8h 33.4m	-22° 58.0'						
					cB,L,vmE 110 deg - H II 266;1.2 deg W from D* Burnham 208;Nearly edge-on								
Ru 18		CMA	9.4	OC	4.0m	7h 24.8m	-26° 13.0'					40	
Ru 32		PUP	8.4	OC	6.0m	7h 45.0m	-25° 31.0'					30	
					13"-pB,pL,nRi,nC at 135X; 21* mags 11...								
Ru 34		PUP	9.5	OC	4.0m	7h 45.9m	-20° 23.0'					35	
Ru 36		PUP	9.6	OC	4.0m	7h 48.5m	-26° 18.0'					30	
Ru 46		PUP	9.1	OC	2.0m	8h 02.1m	-19° 28.0'					15	
Tr 6		CMA	10.0	OC	6.0m	7h 26.1m	-24° 18.0'						
					13"-pF,pL,sRi,sC at 100X; 16* and fuzzy back								
Tr 7		PUP	7.9	OC	5.0m	7h 27.3m	-24° 02.0'					30	
					13"-pF,pS,nRi,sC at 100X; 17*								
Tr 9		PUP	8.7	OC	6.0m	7h 55.3m	-25° 56.0'					20	
					13"-pB,pL,nRi,nC at 100X; 22* mags 11...13 - 40 * in clumpy groups								

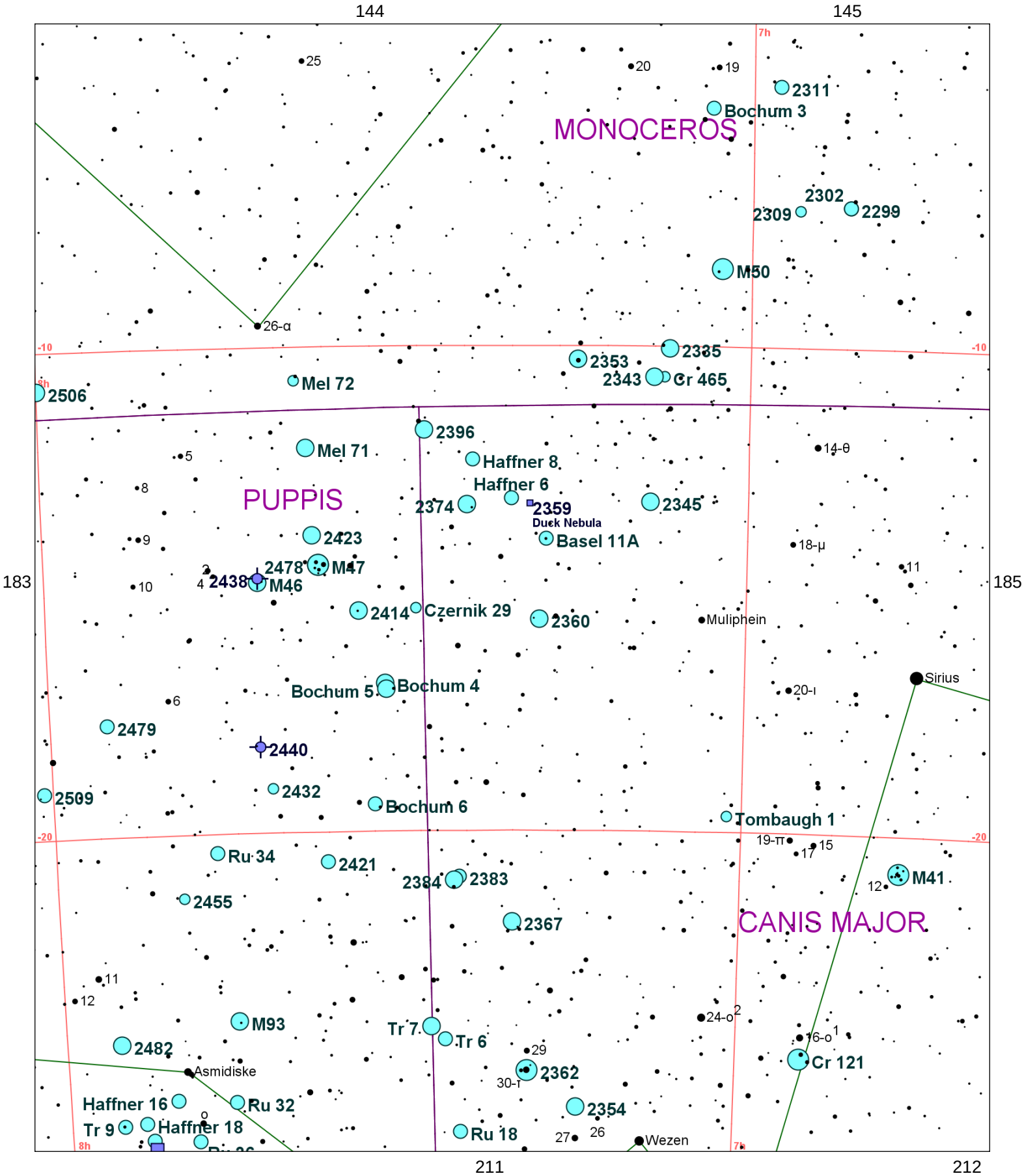


Chart 184													
Name	M	Const.	Mag.	Type	Size	R.A.	Decl.	C	R	S	O	# Stars	B
Common					Notes								
Basel 11A		CMA	8.2	OC	9.0m	7h 17.1m	-13° 58.0'					30	
Bochum 3		MON	9.9	OC		7h 03.4m	-5° 04.0'					25	
Bochum 4		PUP	7.3	OC	23m	7h 31.0m	-16° 57.0'					30	
13"-pB,pL,sC; 22* at 135X													
Bochum 5		PUP	7.0	OC	11m	7h 30.9m	-17° 04.0'					12	
13"-pF,pS,nRi,nC; 7* 135X; aster in horseshoe													
Bochum 6		PUP	9.9	OC		7h 32.0m	-19° 26.0'					40	
13"-pF,pS; 15* mags 11... at 135X													
Cr 121		CMA	2.6	OC	50.0m	6h 54.2m	-24° 38.0'					20	
Cr 465		MON	10.1	OC	9.0m	7h 07.2m	-10° 37.0'						
Czernik 29		PUP	10.3	OC	8.0m	7h 28.3m	-15° 24.0'					40	
13"-pF,pL,nRi,nC; 18* mags 11... at 135X													
Haffner 6		CMA	9.2	OC	4.0m	7h 20.1m	-13° 08.0'					60	
Haffner 8		CMA	9.1	OC	4.2m	7h 23.4m	-12° 20.0'					30	
Haffner 16		PUP	10.0	OC	1.1m	7h 50.3m	-25° 27.0'					30	
13"-pB,S,pRi,vC; 19* mags 11... at 165X													
Haffner 18		PUP	9.3	OC	1.0m	7h 53.3m	-25° 54.0'					25	
Haffner 19		PUP	9.4	OC	1.8m	7h 52.7m	-26° 15.0'					30	
Mel 71		PUP	7.1	OC	9.0m	7h 37.5m	-12° 04.0'				O	80	
13"-B,pL,mC,mBM; 48* mags 10..14 at 100X - Very compressed w central condensation													
Mel 72		MON	10.1	OC	9.0m	7h 38.4m	-10° 41.0'					40	
pS,F,Ri,40* mags 12... - Rich w many faint *													
NGC 2287	M41	CMA	4.5	OC	38.0m	6h 46.0m	-20° 45.0'				O	80	B
Cl,vL,B,IC,st 8... - 150 members to 13 mag;orange * near center													
NGC 2299		MON	8.9	OC	2.5m	6h 51.9m	-7° 05.0'						
Cl of 30 or 40 *													
NGC 2302		MON	8.9	OC	2.5m	6h 51.9m	-7° 05.0'					30	
Cl,L,P,IC - H VIII 39													
NGC 2309		MON	10.5	OC	3.0m	6h 56.1m	-7° 10.0'					40	
Cl,pL,pRi,mC,st13 - H VI 18													
NGC 2311		MON	9.6	OC	7.0m	6h 57.8m	-4° 37.0'					50	
Cl,IC,not Ri - H VIII 60													
NGC 2323	M50	MON	5.9	OC	16m	7h 02.5m	-8° 23.0'				O	80	B
Cl,vL,Ri,pC - About 100 stars mags 9...14													
NGC 2335		MON	7.2	OC	12.0m	7h 06.8m	-10° 02.0'					35	
Cl,L,IC - H VIII 32;In Cma OB1													
NGC 2343		MON	6.7	OC	7.0m	7h 08.1m	-10° 37.0'					20	B
Cl,cL,P,IC - H VIII 33													
NGC 2345		CMA	7.7	OC	12.0m	7h 08.3m	-13° 12.0'					70	
Cl,pL,pRi,gbM,*10.14													
NGC 2353		MON	7.1	OC	20.0m	7h 14.5m	-10° 16.0'				O	30	
Cl,L,IC,one vB* - H VIII 34;In Cma OB1													
NGC 2354		CMA	6.5	OC	20.0m	7h 14.3m	-25° 42.0'				O	100	
Cl,cRi,IC - H VII 16													
NGC 2359		CMA		DN	10m x 5m	7h 18.5m	-13° 14.0'		R34	S25	O		
Duck Nebula !!,vF,vvL,vIF - H V 21; curved filam;cent* Wolf Rayet;UHC filter helps													
NGC 2360		CMA	7.2	OC	13.0m	7h 17.7m	-15° 38.0'	C58				80	B
Cl,vL,Ri,pC,st9...12 - H VII 12													
NGC 2362		CMA	4.1	OC	8.0m	7h 18.7m	-24° 57.0'	C64			O	60	B
Cl,pL,Ri,(30 CMA) - H VII 17;40 * to 13 mag surround Tau Cma;sev pairs													
NGC 2367		CMA	7.9	OC	3.5m	7h 20.1m	-21° 53.0'					30	
Cl,S,P,IC - H VIII 28													
NGC 2374		CMA	8.0	OC	19.0m	7h 23.9m	-13° 16.0'					25	
Cl,vL,pRi,IC,st L - H VIII 35													
NGC 2383		CMA	8.4	OC	6.0m	7h 24.7m	-20° 57.0'				O	40	
Cl,pS,pmC,st12 - Near cluster NGC 2384													
NGC 2384		CMA	7.4	OC	2.5m	7h 25.2m	-21° 01.0'					15	

