

OBSERVATION LIST

AL Double Star Program

The Astronomical League's Double Star Observing Program features 100 of the finest double and multiple star systems in the heavens. The list progresses through the sky by right ascension, offering a year-round tour of colorful pairs, challenging splits, and famous multiple systems. Any telescope 60mm or larger can complete the program. Stars range from wide naked-eye pairs to tight sub-3" challenges requiring steady seeing.

100

Objects

79

Easy

9

Medium

4

Hard

2

Very Hard

Ori · Boo · Her · Dra · Psc · Sco · Lyr · Cep · Lyn · Leo · Oph · Cyg

Visibility scored for: **150mm Reflector** · Bortle 4

#	Object	Type	Constellation	Mag	RA	Dec	Level	<input type="checkbox"/>
1	Fulu HIP 2920; Zeta Cas; 17 Cas	• Double Star	Cas	3.5	00h 36m 58.3s	+53d 53' 49"	Easy	<input type="checkbox"/>
<i>Note: A beautiful color-contrast pair — golden primary with an orange-red dwarf companion at 13.4". Mags 3.5 + 7.4. One of the nearest Sun-like star systems at 19 light-years.</i>								
2	65 Psc HIP 3885; 65 Psc	• Double Star	Psc	6.3	00h 49m 52.8s	+27d 42' 39"	Easy	<input type="checkbox"/>
<i>Note: A neat equal pair of white stars at 4.4" separation. Mags 6.3 + 6.3. A satisfying split at moderate magnification.</i>								
3	Psi Psc HIP 5131; Psi1 Psc; 74 Psc	• Double Star	Psc	5.3	01h 05m 40.9s	+21d 28' 24"	Easy	<input type="checkbox"/>
<i>Note: A wide, easy pair of nearly equal white stars at 29.8" separation. Mags 5.3 + 5.5. Splits cleanly at low power.</i>								
4	Revati HIP 5737; Zeta Psc; 86 Psc	• Double Star	Psc	5.2	01h 13m 43.9s	+7d 34' 31"	Easy	<input type="checkbox"/>
<i>Note: A wide pair with a subtle color difference at 22.8" separation. Mags 5.2 + 6.3. Easy split in any telescope.</i>								
5	Mesarthim HIP 8832; Gamma2 Ari; 5 Ari	• Double Star	Ari	4.5	01h 53m 31.8s	+19d 17' 37"	Easy	<input type="checkbox"/>
<i>Note: Mesarthim — one of the first doubles discovered telescopically (by Robert Hooke, 1664). Equal white pair at 7.4". Mags 4.5 + 4.6.</i>								
6	Lambda Ari HIP 9153; Lambda Ari; 9 Ari	• Double Star	Ari	4.8	01h 57m 55.7s	+23d 35' 46"	Easy	<input type="checkbox"/>
<i>Note: A wide, unequal pair at 37.3" separation. Mags 4.8 + 6.7. The bright primary is a white star with a fainter companion. Easy at low power.</i>								

7	Alrescha HIP 9487; Alpha Psc; 113 Psc	• Double Star	Psc	4.1	02h 02m 2.8s	+2d 45' 49"	Medium	<input type="checkbox"/>
<i>Note: Alrescha — a tight pair requiring steady seeing and moderate magnification to split at 1.9". Mags 4.1 + 5.2. Both stars are blue-white. The knot tying the Fishes.</i>								
8	Almaak HIP 9640; Gamma1 And; 57 And	• Double Star	And	2.3	02h 03m 54.0s	+42d 19' 47"	Easy	<input type="checkbox"/>
<i>Note: Almach — a gorgeous color-contrast double, often called the autumn Albireo. Orange primary with blue-green companion at 9.6". Mags 2.3 + 5.0.</i>								
9	6 Tri HIP 10280; 6 Tri	• Double Star	Tri	5.3	02h 12m 22.3s	+30d 18' 11"	Easy	<input type="checkbox"/>
<i>Note: A close pair requiring moderate magnification at 4.0" separation. Mags 5.3 + 6.7. A yellow-white primary with a blue companion.</i>								
10	Polaris HIP 11767; Alpha UMi; 1 UMi	• Double Star	UMi	2.0	02h 31m 48.7s	+89d 15' 51"	Medium	<input type="checkbox"/>
<i>Note: Polaris — the North Star has a mag 9.1 companion at 18.4". The faint companion appears blue-white against the slightly yellow primary. Always above the horizon.</i>								
11	Kaffaljdhma HIP 12706; Gamma Cet; 86 Cet	• Double Star	Cet	3.5	02h 43m 18.0s	+3d 14' 9"	Hard	<input type="checkbox"/>
<i>Note: A tight, challenging pair at just 2.0" separation. Mags 3.5 + 6.2. Needs good seeing and 150x+. The bright primary overwhelms the faint secondary.</i>								
12	Theta Per HIP 12777; Theta Per; 13 Per	• Double Star	Per	3.8	02h 44m 12.0s	+49d 13' 42"	Easy	<input type="checkbox"/>
<i>Note: A wide, high-contrast pair at 28.7" separation. Mags 3.8 + 8.5. The bright orange primary dominates a tiny blue companion.</i>								
13	32 Eri HIP 18255; 32 Eri	• Double Star	Eri	4.8	03h 54m 17.5s	-2d 57' 17"	Easy	<input type="checkbox"/>
<i>Note: A fine color-contrast pair — topaz primary with emerald companion at 6.9". Mags 4.8 + 5.9. One of the best colored doubles in the winter sky.</i>								
14	Chi Tau HIP 20430; Chi Tau; 59 Tau	• Double Star	Tau	5.4	04h 22m 34.9s	+25d 37' 45"	Easy	<input type="checkbox"/>
<i>Note: A wide pair at 19.4" with a large magnitude difference. Mags 5.4 + 8.5. Near the Hyades star cluster. The primary is blue-white.</i>								
15	51 Cam HIP 37949; 51 Cam	• Double Star	Cam	5.8	07h 46m 40.1s	+65d 27' 21"	Easy	<input type="checkbox"/>
<i>Note: A neat pair in the far north at 10.4" separation. Mags 5.8 + 6.8. A fine double in an often-overlooked constellation.</i>								
16	55 Eri HIP 21986; 55 Eri	• Double Star	Eri	6.7	04h 43m 35.1s	-8d 47' 46"	Easy	<input type="checkbox"/>
<i>Note: A near-equal pair of faint stars at 9.3" separation. Mags 6.7 + 6.8. Both white. A satisfying close match.</i>								
17	Rigel HIP 24436; Beta Ori; 19 Ori	• Double Star	Ori	0.3	05h 14m 32.3s	-8d 12' 6"	Easy	<input type="checkbox"/>
<i>Note: Rigel — the brilliant blue-white supergiant has a faint companion at 9.7". Mags 0.3 + 6.8. The glare of Rigel makes the companion a nice challenge. Best at 150x+.</i>								
18	118 Tau HIP 25695; 118 Tau	• Double Star	Tau	5.8	05h 29m 16.5s	+25d 09' 2"	Easy	<input type="checkbox"/>
<i>Note: A moderately close pair at 4.6" separation. Mags 5.8 + 6.7. Both white. A fine double in the Taurus-Auriga border region.</i>								
19	Mintaka HIP 25930; Delta Ori; 34 Ori	• Double Star	Ori	2.4	05h 32m 0.4s	-0d 17' 57"	Easy	<input type="checkbox"/>
<i>Note: Mintaka — the westernmost Belt star has a wide companion at 56.2". Mags 2.4 + 6.8. The primary is itself a spectroscopic binary.</i>								
20	Struve 747	• Double Star	Ori	4.7	05h 34m 60.0s	-6d 00' 0"		<input type="checkbox"/>
<i>Note: A wide Struve pair south of the Belt. Mags 4.7 + 5.5 at 36.3" separation. Both blue-white stars in the Orion Nebula region.</i>								
21	Meissa HIP 26207; Lambda Ori; 39 Ori	• Double Star	Ori	3.5	05h 35m 8.3s	+9d 56' 3"	Easy	<input type="checkbox"/>
<i>Note: Meissa — a tight pair at 4.3" requiring moderate magnification. Mags 3.5 + 5.5. The head of Orion. Near the Lambda Orionis ring.</i>								
22	Theta Ori HIP 26221; Theta1 Ori; 41 Ori	• Double Star	Ori	6.6	05h 35m 16.5s	-5d 23' 23"	Easy	<input type="checkbox"/>
<i>Note: The Trapezium — the famous quadruple at the heart of the Orion Nebula. Four stars (A-D) from mags 5.1 to 7.5. E and F components visible in larger aperture. One of the sky's greatest sights.</i>								
23	Nair al Saif HIP 26241; Iota Ori; 44 Ori	• Double Star	Ori	2.8	05h 35m 26.0s	-5d 54' 36"	Easy	<input type="checkbox"/>
<i>Note: Nair al Saif — a bright pair at 12.5" separation. Mags 2.8 + 7.7. Located at the tip of Orion's sword, immersed in nebulosity.</i>								
24	Theta Ori HIP 26235; Theta2 Ori; 43 Ori	• Double Star	Ori	5.0	05h 35m 22.9s	-5d 24' 58"	Easy	<input type="checkbox"/>

<i>Note: A wide pair at 52.3" separation. Mags 5.0 + 6.2. Located just north of the Trapezium. Easy to split.</i>								
25	Sigma Ori HIP 26549; Sigma Ori; 48 Ori	• Double Star	Ori	3.8	05h 38m 44.8s	-2d 36' 0"	Easy	<input type="checkbox"/>
<i>Note: A stunning multiple star system — the main pair at 12.9" with additional components at various separations. Mags 3.8 + 6.3 + 6.6. A showcase multiple star.</i>								
26	Alnitak HIP 26727; Zeta Ori; 50 Ori	• Double Star	Ori	1.9	05h 40m 45.5s	-1d 56' 34"	Easy	<input type="checkbox"/>
<i>Note: Alnitak — the eastern Belt star has a close companion at just 2.4". Mags 1.9 + 3.7. A challenging split due to the tight separation and glare. Near the Flame Nebula.</i>								
27	Gamma Lep HIP 27072; Gamma Lep; 13 Lep	• Double Star	Lep	3.6	05h 44m 27.8s	-22d 26' 54"	Easy	<input type="checkbox"/>
<i>Note: A very wide pair at 95.5" — nearly optical. Mags 3.6 + 6.3. The primary is a warm yellow star; best in binoculars or finder.</i>								
28	Mahasim HIP 28380; Theta Aur; 37 Aur	• Double Star	Aur	2.6	05h 59m 43.3s	+37d 12' 45"	Hard	<input type="checkbox"/>
<i>Note: A challenging close pair at 4.2" separation. Mags 2.6 + 7.2. The bright primary overwhelms the faint companion. Needs high magnification and steady seeing.</i>								
29	Epsilon Mon HIP 30419; Epsilon Mon; 8 Mon	• Double Star	Mon	4.4	06h 23m 46.1s	+4d 35' 34"	Easy	<input type="checkbox"/>
<i>Note: A neat pair at 12.2" separation. Mags 4.4 + 6.6. The brighter component is a yellow giant.</i>								
30	Beta Mon HIP 30867; Beta Mon; 11 Mon	• Double Star	Mon	4.6	06h 28m 49.0s	-7d 01' 58"	Easy	<input type="checkbox"/>
<i>Note: One of the finest triple stars in the sky — three blue-white stars in a gentle curve. Mags 4.6, 5.0, 5.4. William Herschel called it 'one of the most beautiful sights in the heavens.'</i>								
31	12 Lyn HIP 32438; 12 Lyn	• Double Star	Lyn	5.4	06h 46m 14.1s	+59d 26' 30"	Medium	<input type="checkbox"/>
<i>Note: A close pair at 8.9" with a wider third component. Mags 5.4 + 7.1. One of the nicest doubles in Lynx.</i>								
32	Adara HIP 33579; Epsilon CMa; 21 CMa	• Double Star	CMa	1.5	06h 58m 37.5s	-28d 58' 20"	Medium	<input type="checkbox"/>
<i>Note: Adhara — a very bright star with a faint companion at 7.9". Mags 1.5 + 7.5. Low declination but a rewarding split when the glare is managed.</i>								
33	Wasat HIP 35550; Delta Gem; 55 Gem	• Double Star	Gem	3.6	07h 20m 7.4s	+21d 58' 56"	Medium	<input type="checkbox"/>
<i>Note: Wasat — a moderately close pair at 5.5". Mags 3.6 + 8.2. Significant brightness difference makes this a good test of aperture and seeing.</i>								
34	19 Lyn HIP 35785; 19 Lyn	• Double Star	Lyn	5.8	07h 22m 52.1s	+55d 16' 53"	Easy	<input type="checkbox"/>
<i>Note: A pair at 13.8" separation in Lynx. Mags 5.8 + 6.7. Near-equal brightness makes for a pleasing sight.</i>								
35	Castor HIP 36850; Alpha Gem; 66 Gem	• Double Star	Gem	1.9	07h 34m 36.0s	+31d 53' 18"	Easy	<input type="checkbox"/>
<i>Note: Castor — a classic bright double of white stars at 5.5" separation. Mags 1.9 + 3.0. Actually a sextuple system. One of the finest doubles in the sky.</i>								
36	HIP 37229	• Double Star	Pup	4.4	07h 38m 49.3s	-26d 48' 6"	Easy	<input type="checkbox"/>
<i>Note: A near-equal pair at 9.9" separation. Mags 4.4 + 4.6. Both blue-white stars. Low declination for northern observers.</i>								
37	Tegmine HIP 40167; Zeta1 Cnc; 16 Cnc	• Double Star	Cnc	5.3	08h 12m 12.7s	+17d 38' 52"	Hard	<input type="checkbox"/>
<i>Note: A close pair at 6.2" that is actually a hierarchical triple system. Mags 5.3 + 5.9. The brighter component is itself a tight binary resolvable in large aperture.</i>								
38	Iota Cnc HIP 43103; Iota Cnc; 48 Cnc	• Double Star	Cnc	4.1	08h 46m 41.8s	+28d 45' 36"	Easy	<input type="checkbox"/>
<i>Note: A gorgeous color-contrast double — golden yellow primary with blue companion at 30.7". Mags 4.1 + 6.0. Often compared to Albireo. One of the finest spring doubles.</i>								
39	38 Lyn HIP 45688; 38 Lyn	• Double Star	Lyn	3.9	09h 18m 50.7s	+36d 48' 9"	Medium	<input type="checkbox"/>
<i>Note: A tight, challenging pair at just 2.6" separation. Mags 3.9 + 6.1. Needs steady seeing and 200x+ to cleanly split. A good test of optics.</i>								
40	Regulus HIP 49669; Alpha Leo; 32 Leo	• Double Star	Leo	1.4	10h 08m 22.3s	+11d 58' 2"	Easy	<input type="checkbox"/>
<i>Note: Regulus — the Lion's heart has a very wide companion at 179.2". Mags 1.4 + 8.2. The companion is visible in a finder or binoculars, blue-white.</i>								
41	Algieba HIP 50583; Gamma1 Leo; 41 Leo	• Double Star	Leo	2.4	10h 19m 58.3s	+19d 50' 30"	Easy	<input type="checkbox"/>
<i>Note: Algieba — a glorious gold-on-gold double, two orange-yellow giants at 4.7" separation. Mags 2.4 + 3.6. One of the finest double stars in the sky. Best at 150x+.</i>								
42	54 Leo	• Double Star	Leo	4.5	10h 55m 36.8s	+24d 44' 59"	Easy	<input type="checkbox"/>

	HIP 53417; 54 Leo								
	<i>Note: A close pair at 6.8" separation. Mags 4.5 + 6.3. A white primary with a fainter companion. Pleasant at moderate magnification.</i>								
43	Ashlesha HIP 43109; Epsilon Hya; 11 Hya	• Double Star	Hya	5.6	08h 46m 46.6s	+6d 25' 8"	Easy	<input type="checkbox"/>	
	<i>Note: A near-equal pair at 9.6" separation. Mags 5.6 + 5.7. Also known as 17 Crateris. Both yellow-white stars.</i>								
44	Algorab HIP 60965; Delta Crv; 7 Crv	• Double Star	Crv	2.9	12h 29m 51.9s	-16d 30' 56"	Easy	<input type="checkbox"/>	
	<i>Note: Algorab — a wide pair at 24.2" with a large magnitude difference. Mags 2.9 + 8.5. The faint companion may show a slight reddish tint.</i>								
45	24 Com HIP 61418; 24 Com	• Double Star	Com	5.1	12h 35m 7.8s	+18d 22' 37"	Easy	<input type="checkbox"/>	
	<i>Note: A lovely color-contrast pair — orange primary with blue-white companion at 20.2". Mags 5.1 + 6.3. One of the best colored doubles in spring.</i>								
46	Porrima HIP 61941; Gamma Vir; 29 Vir	• Double Star	Vir	3.5	12h 41m 39.6s	-1d 26' 58"	Easy	<input type="checkbox"/>	
	<i>Note: Porrima — a near-identical white pair with a 169-year orbit. Currently widening to about 3" separation. Mags 3.5 + 3.5. A fine test of optics and seeing.</i>								
47	32 Camelopardalis	• Double Star	Cam	5.3	12h 49m 12.0s	+83d 25' 0"		<input type="checkbox"/>	
	<i>Note: A wide pair at 21.8" near the north celestial pole. Mags 5.3 + 5.7. Nearly equal white stars. A good circumpolar double.</i>								
48	Alpha2 CVn HIP 63125; Alpha2 CVn; 12 CVn	• Double Star	CVn	2.9	12h 56m 1.7s	+38d 19' 6"	Easy	<input type="checkbox"/>	
	<i>Note: Cor Caroli — 'Heart of Charles.' A wide pair at 19.5" separation. Mags 2.9 + 5.5. Subtle white and lilac color. The primary is the prototype magnetic Ap variable star.</i>								
49	Mizar HIP 65378; Zeta UMa; 79 UMa	• Double Star	UMa	2.2	13h 23m 55.5s	+54d 55' 31"	Easy	<input type="checkbox"/>	
	<i>Note: Mizar — the famous double in the Big Dipper's handle at 14.6". Mags 2.2 + 3.9. Alcor sits 707" away. The first double star photographed (1857). First known telescopic double (1617).</i>								
50	Kappa Boo HIP 69483; Kappa2 Boo; 17 Boo	• Double Star	Boo	4.5	14h 13m 29.0s	+51d 47' 25"	Easy	<input type="checkbox"/>	
	<i>Note: A wide pair at 13.8" separation. Mags 4.5 + 6.6. Both white. A fine easy double near the Big Dipper's handle.</i>								
51	Iota Boo HIP 69713; Iota Boo; 21 Boo	• Double Star	Boo	4.8	14h 16m 9.9s	+51d 22' 2"	Easy	<input type="checkbox"/>	
	<i>Note: A very wide pair at 39.0" separation. Mags 4.8 + 7.4. Easy split at any magnification.</i>								
52	Pi Boo HIP 71762; Pi Boo; 29 Boo	• Double Star	Boo	4.9	14h 40m 43.6s	+16d 25' 6"	Easy	<input type="checkbox"/>	
	<i>Note: A close pair at 5.4" separation. Mags 4.9 + 5.8. Both blue-white stars. Needs moderate magnification.</i>								
53	Izar HIP 72105; Epsilon Boo; 36 Boo	• Double Star	Boo	2.6	14h 44m 59.2s	+27d 04' 27"	Easy	<input type="checkbox"/>	
	<i>Note: Izar (Pulcherrima) — Struve called it 'the most beautiful.' Orange primary with blue-green companion at 2.8". Mags 2.6 + 4.8. Needs 150x+ and steady seeing. Magnificent when resolved.</i>								
54	Alpha Lib HIP 72603; Alpha1 Lib; 8 Lib	• Double Star	Lib	2.7	14h 50m 41.2s	-15d 59' 50"	Easy	<input type="checkbox"/>	
	<i>Note: Zubenelgenubi — an extremely wide pair at 231", visible to the naked eye. Mags 2.7 + 5.2. Both white. A binocular double. The companion has its own double nature.</i>								
55	Xi Boo HIP 72659; Xi Boo; 37 Boo	• Double Star	Boo	4.8	14h 51m 23.3s	+19d 06' 4"	Easy	<input type="checkbox"/>	
	<i>Note: A close pair at 5.2" separation. Mags 4.8 + 7.0. Yellow primary with orange companion. A rapid binary with a 152-year period.</i>								
56	Delta Boo HIP 74666; Delta Boo; 49 Boo	• Double Star	Boo	3.6	15h 15m 30.2s	+33d 18' 53"	Easy	<input type="checkbox"/>	
	<i>Note: A very wide pair at 105" separation. Mags 3.6 + 7.9. The primary is yellow; the faint companion is visible in a finder.</i>								
57	Alkalurops HIP 75411; Mu Boo; 51 Boo	• Double Star	Boo	4.3	15h 24m 29.4s	+37d 22' 38"	Easy	<input type="checkbox"/>	
	<i>Note: A wide pair at 109" with a sub-pair (Boötis). Mags 4.3 + 7.1. The fainter component is itself a tight double (Struve 1938AB at 2").</i>								
58	Delta Ser HIP 76276; Delta Ser; 13 Ser	• Double Star	Ser	4.2	15h 34m 48.1s	+10d 32' 15"	Easy	<input type="checkbox"/>	
	<i>Note: A tight pair at 4.0" separation. Mags 4.2 + 5.2. Both white. Needs moderate magnification.</i>								
59	Zeta CrB HIP 76669; Zeta2 CrB; 7 CrB	• Double Star	CrB	5.0	15h 39m 22.7s	+36d 38' 9"	Easy	<input type="checkbox"/>	

Note: A close pair at 6.3" separation. Mags 5.0 + 5.9. Both blue-white stars in the Northern Crown. A 41-year binary.

60	Xi Sco HIP 78738; Xi Sco	• Double Star	Sco	4.8	16h 04m 22.1s	-11d 22' 23"	Hard	<input type="checkbox"/>
<p>Note: A moderately close pair at 7.2" separation. Mags 4.8 + 7.3. Yellow primary with a fainter companion. Part of a complex multiple system with Struve 1999 nearby.</p>								
61	Struve 1999	• Double Star	Sco	7.4	16h 04m 24.0s	-11d 26' 60"		<input type="checkbox"/>
<p>Note: The companion pair to Xi Scorpii — at 11.9" separation. Mags 7.4 + 8.0. Located just 5' south of Xi Sco. The two systems form a remarkable visual quadruple.</p>								
62	Graffias HIP 78820; Beta1 Sco; 8 Sco	• Double Star	Sco	2.6	16h 05m 26.2s	-19d 48' 20"	Impos.	<input type="checkbox"/>
<p>Note: Acrab — a fine pair at 13.4" separation. Mags 2.6 + 4.5. Both blue-white. A showcase double in Scorpius.</p>								
63	Marsic HIP 79043; Kappa Her; 7 Her	• Double Star	Her	5.1	16h 08m 4.5s	+17d 02' 49"	Easy	<input type="checkbox"/>
<p>Note: A wide, easy pair at 27.0" separation. Mags 5.1 + 6.2. Both white. Near the Keystone asterism.</p>								
64	Jabbah HIP 79374; Nu Sco; 14 Sco	• Double Star	Sco	4.4	16h 11m 59.7s	-19d 27' 38"	Easy	<input type="checkbox"/>
<p>Note: A wide pair at 41.3" that is actually a complex quintuple system. Mags 4.4 + 6.6. Careful observation reveals additional components.</p>								
65	Sigma CrB HIP 79607; Sigma CrB; 17 CrB	• Double Star	CrB	5.6	16h 14m 40.8s	+33d 51' 31"	Easy	<input type="checkbox"/>
<p>Note: A close pair at 7.2" separation. Mags 5.6 + 6.5. Both yellow. A near-equal binary with a 1000-year period.</p>								
66	16 Dra HIP 81290; 16 Dra	• Double Star	Dra	5.4	16h 36m 11.5s	+52d 54' 1"	Medium	<input type="checkbox"/>
<p>Note: A tight close pair (3.1") with a wide third component at 90.2". Mags 5.4 + 6.4 + 5.5. The wide companion makes this a satisfying visual triple.</p>								
67	Alrakis HIP 83608; Mu Dra; 21 Dra	• Double Star	Dra	5.7	17h 05m 19.7s	+54d 28' 13"	Easy	<input type="checkbox"/>
<p>Note: A tight, equal pair at 2.6" separation. Mags 5.7 + 5.7. Identical white twins. Needs steady seeing and 200x+ to split cleanly.</p>								
68	Rasalgethi HIP 84345; Alpha1 Her; 64 Her	• Double Star	Her	3.5	17h 14m 38.9s	+14d 23' 25"	Easy	<input type="checkbox"/>
<p>Note: Rasalgethi — a striking pair: orange-red supergiant primary with blue-green companion at 5.0". Mags 3.5 + 5.4. The primary is a semi-regular variable. Superb color contrast.</p>								
69	Sarin HIP 84379; Delta Her; 65 Her	• Double Star	Her	3.1	17h 15m 1.9s	+24d 50' 21"	Easy	<input type="checkbox"/>
<p>Note: A wide pair at 13.7" with a large magnitude difference. Mags 3.1 + 8.3. The faint companion is a challenge in the primary's glare.</p>								
70	Guniibuu HIP 84405; 36 Oph	• Double Star	Oph	5.1	17h 15m 20.8s	-26d 36' 5"	Easy	<input type="checkbox"/>
<p>Note: A close, equal pair of orange dwarfs at 5.1" separation. Mags 5.1 + 5.1. One of the nearest star systems at 19.5 light-years.</p>								
71	39 Oph HIP 84626; 39 Oph	• Double Star	Oph	5.2	17h 18m 0.7s	-24d 17' 13"	Easy	<input type="checkbox"/>
<p>Note: A moderate pair at 10.8" separation. Mags 5.2 + 6.6. Both slightly yellowish. In the rich Ophiuchus star fields.</p>								
72	Rho Her HIP 85112; Rho Her; 75 Her	• Double Star	Her	4.5	17h 23m 41.0s	+37d 08' 45"	Easy	<input type="checkbox"/>
<p>Note: A close pair at 4.1" separation. Mags 4.5 + 5.4. Both white. A 34-year binary; separation changes noticeably over decades.</p>								
73	Nu² Dra HIP 85829; Nu Dra; 25 Dra	• Double Star	Dra	4.9	17h 32m 16.0s	+55d 10' 23"	Easy	<input type="checkbox"/>
<p>Note: A very wide, equal pair at 62.1" — easily split in any instrument. Mags 4.9 + 4.9. Identical white twins. Beautiful in binoculars.</p>								
74	Dziban HIP 86614; Psi1 Dra; 31 Dra	• Double Star	Dra	4.6	17h 41m 56.3s	+72d 08' 56"	Easy	<input type="checkbox"/>
<p>Note: A wide pair at 29.6" separation. Mags 4.6 + 5.6. Both white. Easy and pleasant near the north celestial pole.</p>								
75	40 Dra HIP 88127; 40 Dra	• Double Star	Dra	5.7	18h 00m 3.4s	+80d 00' 3"	Easy	<input type="checkbox"/>
<p>Note: A wide pair at 18.7" separation. Mags 5.7 + 6.0. Nearly equal white stars near the north celestial pole. Circumpolar from most northern latitudes.</p>								
76	95 Her HIP 88267; 95 Her	• Double Star	Her	4.9	18h 01m 30.4s	+21d 35' 44"	Easy	<input type="checkbox"/>
<p>Note: A close, near-equal pair at 6.4" separation. Mags 4.9 + 5.2. Often described as having a gold and silver color contrast. A fine summer double.</p>								
77	70 Oph HIP 88601; 70 Oph	• Double Star	Oph	4.2	18h 05m 27.3s	+2d 29' 58"	Easy	<input type="checkbox"/>
<p>Note: A classic binary at 6.6" separation. Mags 4.2 + 6.2. Yellow-orange primary with a slightly redder companion. An 88-year orbit — separation changes observably.</p>								

78	Epsilon¹ Lyr HIP 91919; Epsilon1 Lyr; 4 Lyr	• Double Star	Lyr	5.6	18h 44m 20.4s	+39d 40' 12"	Medium	<input type="checkbox"/>
<i>Note: The famous Double-Double near Vega. Naked eye splits the wide 210" pair; 150x+ reveals each is itself a double (2.2" and 2.4"). Mags 5.6 + 6.1 and 5.3 + 5.4.</i>								
79	Zeta Lyr HIP 91971; Zeta1 Lyr; 6 Lyr	• Double Star	Lyr	4.3	18h 44m 46.4s	+37d 36' 18"	Easy	<input type="checkbox"/>
<i>Note: A wide pair at 43.7" separation. Mags 4.3 + 5.6. Both white. Easy and pleasant near the Ring Nebula.</i>								
80	Sheliak HIP 92420; Beta Lyr; 10 Lyr	• Double Star	Lyr	3.6	18h 50m 4.8s	+33d 21' 46"	Easy	<input type="checkbox"/>
<i>Note: Sheliak — a wide pair at 45.7". Mags 3.6 + 6.7. The primary is the prototype Beta Lyrae eclipsing variable (3.3–4.4 in 12.94 days).</i>								
81	Struve 2404	• Double Star	Aql	6.9	18h 50m 48.0s	+10d 58' 60"		<input type="checkbox"/>
<i>Note: A challenging close pair at 3.6" separation. Mags 6.9 + 7.8. Both faint — requires moderate aperture and steady seeing.</i>								
82	Otto Struve 525	• Double Star	Lyr	6.1	18h 54m 54.0s	+33d 58' 0"		<input type="checkbox"/>
<i>Note: An Otto Struve catalog double — a wide pair at 45.4" separation. Mags 6.1 + 7.6. Easy split near the Ring Nebula.</i>								
83	Alya HIP 92946; Theta1 Ser; 63 Ser	• Double Star	Ser	4.6	18h 56m 13.2s	+4d 12' 13"	Easy	<input type="checkbox"/>
<i>Note: Alya — a wide, near-equal pair at 22.4" separation. Mags 4.6 + 4.9. Both white. A satisfying easy double.</i>								
84	Albireo HIP 95947; Beta1 Cyg; 6 Cyg	• Double Star	Cyg	3.2	19h 30m 43.3s	+27d 57' 35"	Easy	<input type="checkbox"/>
<i>Note: Albireo — the finest color-contrast double in the sky. Gold primary with sapphire companion at 34.6". Mags 3.2 + 4.7. Splits at any magnification. A must-see.</i>								
85	57 Aql HIP 97966; 57 Aql	• Double Star	Aql	5.7	19h 54m 37.6s	-8d 13' 38"	Easy	<input type="checkbox"/>
<i>Note: A wide pair at 36.3" separation. Mags 5.7 + 6.4. Both yellow-white. A pleasant autumn double.</i>								
86	31 Cyg HIP 99675; 31 Cyg	• Double Star	Cyg	3.9	20h 13m 37.9s	+46d 44' 29"	Easy	<input type="checkbox"/>
<i>Note: A wide pair with a third component. Mags 3.9 + 4.8 at 337". The brighter orange star contrasts with a blue companion. Beautiful color.</i>								
87	Alpha Cap HIP 100027; Alpha1 Cap; 5 Cap	• Double Star	Cap	3.7	20h 17m 38.9s	-12d 30' 30"	Easy	<input type="checkbox"/>
<i>Note: Algedi — an extremely wide naked-eye pair at 381". Mags 3.7 + 4.3. Both stars are themselves close doubles. The pair is optical (not gravitationally bound).</i>								
88	Dabih HIP 100345; Beta Cap; 9 Cap	• Double Star	Cap	3.2	20h 21m 0.7s	-14d 46' 53"	Easy	<input type="checkbox"/>
<i>Note: Dabih — a wide pair at 205" easily seen in binoculars. Mags 3.2 + 6.1. The brighter component is orange-yellow.</i>								
89	Gamma Del HIP 102532; Gamma2 Del; 12 Del	• Double Star	Del	4.4	20h 46m 39.5s	+16d 07' 27"	Easy	<input type="checkbox"/>
<i>Note: A lovely pair at 9.0" separation. Mags 4.4 + 5.0. Often described as gold and green, though true colors are debated. One of the finest summer doubles.</i>								
90	61 Cyg HIP 104214; 61 Cyg	• Double Star	Cyg	5.2	21h 06m 54.6s	+38d 44' 45"	Easy	<input type="checkbox"/>
<i>Note: A famous binary at 31.8" separation. Mags 5.2 + 6.1. Both orange dwarfs. Bessel measured its parallax in 1838 — the first stellar distance ever determined.</i>								
91	Alfirk HIP 106032; Beta Cep; 8 Cep	• Double Star	Cep	3.2	21h 28m 39.6s	+70d 33' 39"	Easy	<input type="checkbox"/>
<i>Note: A wide pair at 13.5" with a large magnitude difference. Mags 3.2 + 8.6. The primary is a prototype Beta Cephei pulsating variable.</i>								
92	Struve 2816	• Double Star	Cep	5.7	21h 38m 60.0s	+57d 28' 60"		<input type="checkbox"/>
<i>Note: A Struve triple in Cepheus. Mags 5.7 + 7.5 + 7.5 at 11.8" and 20.6". A fine multiple star at moderate magnification.</i>								
93	Enif HIP 107315; Epsilon Peg; 8 Peg	• Double Star	Peg	2.5	21h 44m 11.2s	+9d 52' 30"	Easy	<input type="checkbox"/>
<i>Note: Enif — the bright nose of Pegasus has a very wide companion at 143.9". Mags 2.5 + 8.7. The faint companion is a challenge in the primary's orange glow.</i>								
94	Kurhah HIP 108917; Xi Cep; 17 Cep	• Double Star	Cep	4.5	22h 03m 47.4s	+64d 37' 40"	Easy	<input type="checkbox"/>
<i>Note: A close pair at 8.1" separation. Mags 4.5 + 6.4. Blue-white primary with a fainter companion. A nice autumn double.</i>								
95	Zeta Aqr HIP 110960; Zeta2 Aqr; 55 Aqr	• Double Star	Aqr	4.3	22h 28m 50.1s	-0d 01' 12"	V.Hard	<input type="checkbox"/>
<i>Note: A very tight pair at 2.4" separation. Mags 4.3 + 4.5. Near-equal yellow-white twins. Needs high magnification and good seeing — a fine test object.</i>								
96	Delta Cep HIP 110991; Delta Cep; 27 Cep	• Double Star	Cep	4.2	22h 29m 10.3s	+58d 24' 55"	Medium	<input type="checkbox"/>

Note: Delta Cephei — the prototype Cepheid variable also has a wide companion at 41" separation. Mags 4.2 + 6.1. The companion appears blue. Observe both the double and the variable nature.

97 **8 Lac** • Double Star Lac 5.7 22h 35m 52.3s +39d 38' 3" **Easy**
HIP 111546; 8 Lac

Note: A wide pair at 22.3" separation. Mags 5.7 + 6.3. Both white stars. A pleasant autumn double in Lacerta.

98 **94 Aqr** • Double Star Aqr 5.3 23h 19m 6.7s -13d 27' 32" **Easy**
HIP 115126; 94 Aqr

Note: A moderate pair at 12.1" separation. Mags 5.3 + 7.0. The primary is slightly yellowish. A good autumn target.

99 **Sigma Cas** • Double Star Cas 5.0 23h 59m 0.5s +55d 45' 18" **Easy**
HIP 118243; Sigma Cas; 8 Cas

Note: A tight pair at 3.1" separation. Mags 5.0 + 7.2. Needs moderate magnification and steady seeing. A fine ending to the list, returning to Cassiopeia where we started.

100 **HIP 14043** • Double Star Per 5.3 03h 00m 52.2s +52d 21' 6" **Easy**

Note: A Struve catalog double in Perseus — a neat pair at 12.0" separation. Mags 5.2 + 6.2. Easy to split at moderate magnification.

