StarView
Visible Object Listing for:

September 15, 2017	**Local Time (Z-4): 21:30**	**Lat: 41.5**	**Minimum Criteria: Elev: 5° / Mag: 6 Sep: 10 arcmin / Size: 2 arcsec**
	Sidereal Time: 19:44	**Lon: -81.5**	

Name	Con	Type	Mag	Sep/Size	Elev
M31 - Andromeda Galaxy	And	Spiral Galaxy	3.44	190 arcmin	36°
kappa Bootes - Asellus Tertius	Boo	Double Star	4.5, 6.6	13.4 arcsec	35°
Zeta Bootis	Boo	Double Star	4.6, 4.5	0.8, 99 arcsec	20°
Eta Cassiopeiae - Achrid	Cas	Double Star	3.4, 7.5	13 arcsec	41°
Delta Cephei	Cep	Star	4		59°
Alpha Canum Venaticorum - Cor Caroli	CVn	Double Star	2.9, 5.5	19.6 arcsec	17°
Y Cvn - La Superba	Cvn	Star	5		20°
17 Cygni	Cyg	Double Star	5	26 arcsec	82°
31 Cygni - Omicron 1	Cyg	Double Star	3.8		83°
32 Cygni - Omicron 2	Cyg	Double Star	3.98		82°
Beta Cygni - Albireo	Cyg	Double Star	3.1, 5.1	35 arcsec	76°
M39	Cyg	Open Cluster	4.6	32 arcmin	70°
North American Nebula - Caldwell 20	Cyg	Nebula	4	100 arcmin	76°
Nu Draconis	Dra	Double Star	4.88	63.4 arcsec	65°
M13 - Hercules Cluster	Her	Globular Cluster	5.8	20 arcmin	55°
19 Lyncis - Struve 1062	Lyn	Double Star	5.6	14.8 arcsec	7°
Epsilon Lyrae - The Double Double	Lyr	Double Star	4.6, 5, 6	200,150,64 arcsec	78°
IC4665	Oph	Open Cluster	4.2	45 arcmin	46°

Beta Perseus - Algol	Per	Double Star	2.1		13°
Double Cluster - Caldwell 14, Chi Persei	Per	Open Cluster	3.7, 3.8	60 arcmin	30°
M34	Per	Open Cluster	5.5	35 arcmin	18°
M22 - Saggitarius Cluster	Sag	Nebula	5.1	32 arcmin	23°
Beta Scorpii - Graffias, Acrab	Sco	Double Star	2.6, 10.3	13.5 arcsec	10°
M4	Sco	Globular Cluster	5.9	2.5 arcmin	8°
M6 - Butterfly Cluster	Sco	Open Cluster	4.2	25 arcmin	11°
M7 - Ptolemy Cluster	Sco	Open Cluster	3.3	80 arcmin	10°
M33 - Triangulum Galaxy	Tri	Spiral Galaxy	5.7	50 arcmin	21°
Zeta Ursae Majoris - Mizar	Uma	Double Star	2.3, 4.0	14 arcsec	30°
Alpha Ursae Minoris - Polaris	Umi	Double Star	2.1, 9	18 arcsec	41°
Coathanger - Brocchi's cluster, Al Sufi's cluster	Vul	Asterism	3.6	60 arcmin	68°

End of Listing: 30 of 134 Stars matched criteria

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M31 - Andromeda Galaxy (And)		
RA: 0h 43m	Mag(v): 3.44	Type: Spiral Galaxy (NGC: 224)
Dec: 41d 16m	Size: 190 arcmin	
Distance: 2.5M ly		Mag: Binoculars El: 36° / Az: 63°
The Andromeda galaxy (M31) is the closest galaxy to our Milky Way at 2.5Mly away. Andromeda is a spiral galaxy that contains some 1 trillion stars. It is about six times as wide as the full Moon. On clear nights away from the city, it can be seen without a telescope as small hazy spot in the sky.		

kappa Bootes - Asellus Tertius (Boo)		
RA: 14h 14m	Mag(v): 4.5, 6.6	Type: Double Star
Dec: 51° 47'	Sep: 13.4 arcsec	SP Class: A8IV
Distance: 155 ly		PA: 236° El: 35° / Az: 311°
This is a double star viewable by a small telescope. It's traditional name, Asellus Tertius is Latin for 'third donkey colt'.		

Zeta Bootis (Boo)		
RA: 14h 41m	Mag(v): 4.6, 4.5	Type: Double Star
Dec: 13° 44'	Sep: 0.8, 99 arcsec	SP Class: A3IVn
Distance: 180 ly	Sep (AU): 44, 5500	PA: 30, 254° El: 20° / Az: 271°
A binary star system composed of two giant stars orbiting each other every 124 years.		

Eta Cassiopeiae - Achrid (Cas)		
RA: 0h 49m	Mag(v): 3.4, 7.5	Type: Double Star
Dec: 57° 49'	Sep: 13 arcsec	SP Class: G0V, K7V
Distance: 19.4 ly	Sep (AU): 76	PA: 317° Mag: 133x El: 41° / Az: 43°
Achrid is a binary star system in the constellation Cassiopeia that is about 20 light years from earth. The brighter star is similar to our Sun along with a dimmer magnitude 7 class K dwarf star. It was discovered in 1779 by Sir William Herschel who also discovered the planet Uranus in 1781. He was later appointed the private astronmer to the King of England in 1782.		

Delta Cephei (Cep)		
RA: 22h 29m	Mag(v): 4	Type: Star
Dec: 58° 25'		SP Class: F8, B7
Distance: 887 ly		El: 59° / Az: 43°
A binary star that is also a variable star. It varies from magnitude 3.48 to 4.37 over a 5.36 day period. The name of this star is used to describe the class of variable stars, Cepheid Variables, that change brightness over a regular time period.		

Alpha Canum Venaticorum - Cor Caroli (CVn)		
RA: 12h 56m	Mag(v): 2.9, 5.5	Type: Double Star
Dec: 38° 19'	Sep: 19.6 arcsec	SP Class: A0, B8p to A7p
Distance: 114 ly	Sep (AU): 655	PA: 229° El: 17° / Az: 307°
Cor Caroli is a favorite of amateur astronomers. It is the brighter star of a binary system. The two stars are easy to see in a small telescope even though they are separated by about 650 AU. There is a slight color difference between the two with one reddish and the other blue. The brighter star is 60 times brighter than our sun. Cor Caroli also varies in spectral brightness over a period of 5.5 days. It is believed there is a strong magnetic field that produces starspots of enormous extent causing the change in brightness as the stars rotate. The star was named after King Charles of England in 1660. Cor Caroli means "Charles Heart."		

Y Cvn - La Superba (Cvn)		
RA: 12h 45m	Mag(v): 5	Type: Star
Dec: 45° 26'		SP Class: C
Distance: 711 ly		El: 20° / Az: 314°
This is a variable star whose brightness varies from a magnitude of 4.8 to 6.3 over a period of 160 days. This star is a bright, red giant "carbon star" with a surface temperature of about 2800K. Near the end of its life, carbon compounds migrate to the outer layer of the star and absorb the shorter wavelength blue light thus giving it such a red color. The radius of this star is about 2 AU which would be from our Sun to beyond the orbit of Mars.		

17 Cygni (Cyg)		
RA: 19h 46m	Mag(v): 5	Type: Double Star
Dec: 33° 44'	Sep: 26 arcsec	SP Class: F7V, M0.4
Distance: 69 ly	Sep (AU): 16k	PA: 73° El: 82° / Az: 176°
A binary star system.		

31 Cygni - Omicron 1 (Cyg)		
RA: 20h 14m	Mag(v): 3.8	Type: Double Star
Dec: 46° 44'		SP Class: K4 + B4
Distance: 880 ly		El: 83° / Az: 43°
31 Cygni is an eclipsing binary star with small changes in brightness over a ten year period. One star is an orange supergiant with a second blue-white star. The brightness changes are due to one star eclipsing the other.		

32 Cygni - Omicron 2 (Cyg)		
RA: 20h 15m	Mag(v): 3.98	Type: Double Star
Dec: 47° 43'		SP Class: K4 + B6
Distance: 1100 ly		El: 82° / Az: 39°
Similar to 31 Cygni, this binary star system has a super large orange giant with a smaller hot white star in a 3.1 year orbital period. The larger star is almost 2 AU in diameter and takes 9 years for one rotation.		

Beta Cygni - Albireo (Cyg)		
RA: 19h 31m	Mag(v): 3.1, 5.1	Type: Double Star
Dec: 27° 58'	Sep: 35 arcsec	SP Class: K3II
Distance: 385 ly	Sep (AU): 4015	PA: 54° Mag: 50x El: 76° / Az: 192°
Albireo is a beautiful double star in the constellation Cygnus, the swan. It is easy to find and easy to see with a small telescope. You'll see a bright yellow		

star contrasting with a fainter blue companion. The blue and gold colors have dubbed it "The Cub Scout Star." It can be easily seen in small telescopes. Albireo is about 430 light years away.

M39 (Cyg)		
RA: 21h 32m	Mag(v): 4.6	Type: Open Cluster (NGC: 7092)
Dec: 48° 25'	Size: 32 arcmin	
Distance: 824 ly		Mag: Low El: 70° / Az: 61°

M39 is a beautiful open cluster with about 10 bright blue stars that stand out in a roughly triangular shape. Four of the brighter stars form the corners and side of the triangle. There are about 30 stars spread out over an area about the size of the full moon. M39 is actually about 8 light years in diameter and 900 light years from earth. It is a good view in binoculars since it is about ½ degree across.

North American Nebula - Caldwell 20 (Cyg)		
RA: 20h 59m	Mag(v): 4	Type: Nebula (NGC: 7000)
Dec: 44° 32'	Size: 100 arcmin	
Distance: 1600 ly		Mag: Binoculars El: 76° / Az: 71°

A nebula that is more than four times the size of the full moon. It will appear as a foggy patch of light. It is a large interstellar cloud of ionized hydrogen gas. A band of interstellar dust absorbs the light to give it the rought shape of North America.

Nu Draconis (Dra)		
RA: 17h 32m	Mag(v): 4.88	Type: Double Star
Dec: 55° 11'	Sep: 63.4 arcsec	SP Class: A6, A4
Distance: 99 ly	Sep (AU): 1900	PA: 312° Mag: 10-50x El: 65° / Az: 314°

A double star, with nearly equal magnitudes, and a 44,000 year rotation period.

M13 - Hercules Cluster (Her)		
RA: 16h 42m	Mag(v): 5.8	Type: Globular Cluster (NGC: 6205)
Dec: 36° 28'	Size: 20 arcmin	
Distance: 25k ly		Mag: Low El: 55° / Az: 277°

M13 is one of the best examples of a globular cluster with more than 100,000 stars.

19 Lyncis - Struve 1062 (Lyn)		
RA: 7h 23m	Mag(v): 5.6	Type: Double Star

Dec: 55° 17'	Sep: 14.8 arcsec	SP Class: B4V
Distance: 468 ly		PA: 315° Mag: 100x El: 7° / Az: 3°
A blue double star.		

Epsilon Lyrae - The Double Double (Lyr)		
RA: 18h 44m	Mag(v): 4.6, 5, 6	Type: Double Star
Dec: 39° 37'	Sep: 200,150,64 arcsec	SP Class: F1V, A8V
Distance: 162 ly	Sep (AU): 10200, 128	PA: 173, 350, 82° Mag: Binoculars El: 78° / Az: 265°
This system contains two sets of binary stars.		

IC4665 (Oph)		
RA: 17h 46m	Mag(v): 4.2	Type: Open Cluster
Dec: 5° 43'	Size: 45 arcmin	
Distance: 1400 ly		Mag: Binoculars El: 46° / Az: 224°
This open star cluster began to develop less than 40 million years ago. The relatively large size of 97' likely eluded the narrow field telescopes of Messier and Hershel.		

Beta Perseus - Algol (Per)		
RA: 3h 8m	Mag(v): 2.1	Type: Double Star
Dec: 40° 57'		SP Class: B8V, K0
Distance: 93 ly	Sep (AU): 0.062	El: 13° / Az: 46°
An eclipsing binary star dropping from magnitude 2.1 to 3.4 about every 2.8 days.		

Double Cluster - Caldwell 14, Chi Persei (Per)		
RA: 2h 20m	Mag(v): 3.7, 3.8	Type: Open Cluster (NGC: 869, 884)
Dec: 57° 8'	Size: 60 arcmin	SP Class: B0
Distance: 7500 ly		Mag: Binoculars El: 30° / Az: 38°
This open cluster has over 300 blue-white super-giant stars in each cluster.		

M34 (Per)		
RA: 2h 42m	Mag(v): 5.5	Type: Open Cluster (NGC: 1039)
Dec: 42° 46'	Size: 35 arcmin	
Distance: 1500 ly		Mag: Low El: 18° / Az: 48°
This loose open cluster contains about 20 brighter stars.		

M22 - Saggitarius Cluster (Sag)		
RA: 18h 36m	Mag(v): 5.1	Type: Nebula (NGC: 6656)

Dec: -23° -54'	Size: 32 arcmin	
Distance: 11000 ly		El: 23° / Az: 197°
One of the first globulars discovered in 1665. There are roughly 70,000 stars in a dense central core.		

Beta Scorpii - Graffias, Acrab (Sco)		
RA: 16h 5m	Mag(v): 2.6, 10.3	Type: Double Star
Dec: -19° -48'	Sep: 13.5 arcsec	SP Class: B0.5V
Distance: 530 ly	Sep (AU): 81, 2209	PA: 132, 21° El: 10° / Az: 231°
This is a multiple star system is composed of six stars.		

M4 (Sco)		
RA: 16h 24m	Mag(v): 5.9	Type: Globular Cluster (NGC: 6121)
Dec: -26° -32'	Size: 2.5 arcmin	
Distance: 5200 ly		El: 8° / Az: 224°
A fuzzy ball of light about the size of the Moon. One of the easiest globular clusters to find, being located 1.3 degrees west of Antares. Both objects are visible with a wide field telescope.		

M6 - Butterfly Cluster (Sco)		
RA: 17h 40m	Mag(v): 4.2	Type: Open Cluster (NGC: 6405)
Dec: -32° -13'	Size: 25 arcmin	
Distance: 1600 ly		El: 11° / Az: 206°
Most of the stars are hot, blue B type stars but the brightest is a K type orange giant star which contrasts sharply with its blue neighbors in photographs.		

M7 - Ptolemy Cluster (Sco)		
RA: 17h 54m	Mag(v): 3.3	Type: Open Cluster (NGC: 6475)
Dec: -34° -48'	Size: 80 arcmin	
Distance: 980 ly		Mag: Binoculars El: 10° / Az: 203°
Easily detected with the naked eye, it is close to the stinger of Scorpius. Ptolemy described it as a nebule in 130 AD. The main field is composed of about 80 stars.		

M33 - Triangulum Galaxy (Tri)		
RA: 1h 34m	Mag(v): 5.7	Type: Spiral Galaxy (NGC: 0598)
Dec: 30° 40'	Size: 50 arcmin	
Distance: 3M ly		El: 21° / Az: 67°
The third largest member of the Local Group of galaxies, which includes the		

Milky Way galaxy and the Andromeda galaxy.		
Zeta Ursae Majoris - Mizar (Uma)		
RA: 13h 24m	Mag(v): 2.3, 4.0	Type: Double Star
Dec: 54° 56'	Sep: 14 arcsec	SP Class: A1V, A5V
Distance: 83 ly	Sep (AU): 345, 16	PA: 152, 71° Mag: 10-50x El: 30° / Az: 318°
Mizar and it's neighbor Alcor are a binary star system that is 80 light years away in the constellation Ursa Major, the Great Bear, otherwise known as the Big Dipper. These stars are found in the middle of the handle of the Big Dipper. In the past, some have used the two stars as a test of your eyesight if you can see both stars. Mizar, the brighter star, is itself a double star, though you won't see this in a telescope. Spectroscopic analysis shows Mizar has two additional stars and Alcor has three. Spectroscopy gives us the color spectrum of each star which astronomers can use to determine if it is coming from a single star or more than one. You are really looking at a total of seven stars.		
Alpha Ursae Minoris - Polaris (Umi)		
RA: 2h 32m	Mag(v): 2.1, 9	Type: Double Star
Dec: 89° 16'	Sep: 18 arcsec	SP Class: F7Ib
Distance: 325 ly	Sep (AU): 2430	PA: 218° Mag: 50x El: 41° / Az: 1°
The North Star as used in celestial navigation. It has two companion stars that orbit at 18 and 2400 AU. Polaris is a 4.5 solar mass F7 yellow supergiant.		
Coathanger - Brocchi's cluster, Al Sufi's cluster (Vul)		
RA: 19h 25m	Mag(v): 3.6	Type: Asterism
Dec: 20° 12'	Size: 60 arcmin	SP Class: A, K
Distance: ly		Mag: Binoculars El: 68° / Az: 192°
Ten visible stars make up a coathangar shape spanning 1 degree across.		