

## Astronomical Objects by Constellation

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3/1/17

<b>Constellation, Object: Number, Name</b> [DS = double star, OC = open cluster, GC = globular cluster, PN = planetary nebula, RN = reflection nebula, EN = emission nebula, DN = dark nebula, G = galaxy, SNR = supernova remnant Group = see together]	<b>R = recommend,                      A = attempted,                      S = seen,                      C = from chart,                      I = imaged                      O = other imager</b>	<b>Notes</b> <b>After    SDH notes</b> <b>Signal with filters:</b> <b>H: high</b> <b>M: medium</b> <b>L: low</b> <b>X: none detected</b> <b>LBN Brightness: 1-6, 1 = brightest</b> <b>LBN Color: 1:blue, 2:red&amp;blue,</b> <b>3:red, 4:only red</b> <b>Sh2: 1 to 3, 3 = brightest</b>
<b>Andromeda</b>		
M31, Andromeda Galaxy	S, I	175' x 62', 3.5    Large, bright, have imaged dust lanes, but not seen. Imaged 80mm 80ED, IDAS filter, DSLR Huntsville State Park.
M32, G	I	5', 8.19    Companion to M31
M110, G	I	15' x 8', 8    Companion to M31
NGC 7662, Blue Snowball Nebula, PN	S	2.2', 9
Almach, Gamma Andromedae, DS	S, I	10", 2.3, 5.0, topaz, aquamarine    Imaged 80mm 80ED DSLR, very good double star.
NGC891, Outer Limits Galaxy	I	11.7' x 1.6', 9.9, One of sky's best edge on galaxies.    Imaged Fort McKavett Newt MPCC LRGB SC285 (only got L power cable came out of camera for rest).
NGC752, OC	S	50', 5.7    Dim, lots of stars
<b>Aquarius</b>		
NGC7009, Cald 55, Saturn Nebula, PN	R	1.7', 8
M2, NGC7089, GC	S, I	12.9', 6.5    Large, bright    Imaged LRGB + IDAS, Newt, SC285.

NGC7293, Cald 63, Helix Nebula {Binoculars & Finder scopes}	I	12' x 10', 7.3    Imaged but not seen, Imaged LRGB w/ 80ED & SC285 Ouray; R: H, G: H, B: H; Imaged Ha, SII, OIII Newt SC285; SII: X, Ha: H, OIII: M; Imaged AT8RC SC8300 LRGB Okie Tex
Abell 70 PN with PGC187663, G shining through rim	R	42"x37", 14.5 PN; 42"x18", 16 G
<b>Aquila</b>		Imaged 17mm lens 450D BTRSR w/ barn door tracker.
NGC6781, PN	R	2', 11.4, Classic round nebula, one of the prettiest objects in the Summer sky.
NGC6709, OC	R	15', 6.7
Barnard's E, DN	S	Seen in binoculars at Lake Tahoe.
NGC6778, PN	R	21"x16", 12.3
NGC6772, PN	R	70"x56", 12.7
Abell 55, PN	R	57"x52", 13.2
B138, DN	R	10'x3°
B139, DN	R	10'x2'
Sh2-071, PN	C	3', Sharpless brightness 3. Red & blue. Double star at center.
<b>Aries</b>		
NGC772, Hidden Treasure 8, Nautilus Galaxy	I	7'x5', 9.9, Moderately sized and somewhat bright spiral galaxy.    Imaged Newt SC285 MPCC IDAS LRGB. R: M, G: M, B: M.
Gamma Arietis, DS	R	7.3", 4.3, 4.6, both silvery blue
<b>Auriga</b>		Imaged in Ha: 17mm lens, SC285
M36, NGC1960, OC	S	12', 6    Seen at Fort McKavett Newt MPCC 17mm, best of M36,37,38.
M37, NGC2099, Salt & Pepper Cluster, OC	S,I	24', 5.6, Good in small and large scopes    Imaged AT8RC 450D & SC8300 LRGB
M38, NGC1912 OC	S	21', 6.4
NGC1931, LBN810, Sh2-237 Nebula surrounding group of stars, EN & RN	I	8', 11.3, Both emission and reflection nebulae, very bright. LBN brightness 1, LBN color 3. Sharpless brightness 3. Red & blue.    Imaged in Ha SC2M10.

IC410, Sh2-236 (cluster: NGC1893), Tadpoles Nebula, EN	I	11', 7.5    Imaged in Ha & OIII with SC2M10TEC. Imaged in Ha, SII, OIII with Newt SC285. SII: X/L, Ha: H, OIII: L. Imaged Ha 50mm lens SC285. Imaged as part of IC405, IC410, IC417 Area Ha 50mm lens SC285. Imaged Newt 450D CLS. Imaged 200mm lens at f/3.45 Ha, SII, OIII SC8300 as part of IC410 IC405 IC417 Sh2-230, M38 area. Imaged 105mm lens Ha SC285 as part of IC410 IC405 IC417 area.
IC405, Cald 31, Sh2-229 Part of Flaming Star Nebula, Nebula	I	37' x 10', 6, Pretty bright. Use nebula filter.    Imaged in Ha with SC2M10TEC & SC285. Imaged Ha 50mm lens SC285. Imaged Newt 450D CLS. Imaged SII, Ha, OIII 200mm lens SC285. Ha: H, SII: L, OIII: L.
IC417, Sh2-234, EN	I	13' x 10', 30    Imaged Ha, Newt, SC285. Newt SC285 SII Ha OIII. SII: L, Ha: H, OIII: L.
Theta Aur, DS	R	3.5" sep., 2.7, 7.2
Sh2-224 SNR G166.1 +4.4	C	30', Sharpless brightness 2. Narrowband.
Sh2-230, EN Nanette's Nebula	I	300', Sharpless brightness 2. Red & blue.    Imaged 50mm lens Ha SC285 as part of Auriga area. Imaged 105mm lens, Ha, SC285 as part of Auriga area. Imaged 200mm lens Ha, SII, OIII SC8300 as part of Auriga area.
Sh2-231, 232, 233, 235 Area, EN	I	12', 40', 2', 10'; Sharpless brightness 2,2,2,3. Red & blue.    Imaged 50mm lens Ha SC285 as part of Auriga area.
<b>Bootes</b>		
Izar, ε Bootis, DS	R	3", 2.6, 4.8, yellow, blue-green
Xi Bootis, DS	R	6", 4.8, 7.0, yellow, reddish-purple
NGC5248, G, Mixed Spiral	R	6.2' x 4.6', 10.3, Moderately bright & large. Dark sky needed.
NGC5466, GC	R	11', 9.1, Large, rich in stars

<b>Camelopardalis</b>		
NGC1502, Kemble's Cascade, Open Cluster	R	8', 5.7
NGC2403, Cald 7, G	I	18' x 11', 8.4, One of the sky's brightest galaxies.    Imaged Newt SC285 LRGB – moisture on CCD. Imaged NIR LRGB Newt SC285. GT880: L/M, 800-900:L/M, 700=800: M.
IC342, Cald 5, G, spiral	R	16', 8.4
NGC2146, G	R	
NGC1501, Oyster Nebula, PN	R	56" x 48", 10.6, Bright PN
Sh2-205, EN	C	120', Sharpless brightness 2. Red & blue.
<b>Cancer</b>		
M44, NGC2632 Beehive Cluster	S	95', 3.1    Naked eye visible at Fort McKavett & Enchanted Rock.
M67, OC	R	30', 6.9
Iota Cancri, Spring Albireo, DS	R	31", 4.1, 6.0, Yellow and royal blue.
Abell 31, Sh2-290, PN	C	15', Sharpless brightness 2. Red & blue. Narrowband.
<b>Canis Major</b>		
Sirius, Star	S, I	-1.4
M41, NGC2287, OC	S	38', 4.5    Seen at home Newt & 17mm
NGC2362, Tau Canis Major Cluster, OC	R	8', 4.1
NGC2359, Sh2-298, Thor's Helmet Nebula	S, I	22', Wolf-Rayet Nebula. Responds well to nebula filter. Sharpless brightness 3.    Seen at Fort McKavett Newt & 17mm; Imaged Newt SC285 SII, Ha, OIII. SII: M/L, Ha: H, OIII: H.
M50, OC	R	15', 5.9
Sharpless 2-292, 293, 295, 296, 297, IC2177, Seagull Nebula, EN	I	150' x 60', RA = 7h 06.0m, DEC = -10° 55'. Narrowband.    Imaged Ft. McKavett 80ED 450D.

NGC2327, Sh2-292, Gum 1, vdB 93, Bright part of IC2177 (head of Seagull)	C	
h3945, DS	R	27" sep, 5, 5.8, Winter Albireo, reddish orange, sapphire
$\epsilon$ CanMa, DS	R	7" sep, 1.5, 7.5
Tau Canis Major Cluster, OC	R	6', 3.8
NGC2207, G, group; IC2163 interacting	R	3.5'x2', 10.8; 3'x0.8', 11.7 respectively, 1.5' apart
Sh2-297, LBN1039, Ced.90, Gum3, EN	R	10', Bright tip at the end of the Seagull Nebula right wing
Sh2-301, LBN1044, Gum 5, EN	R	10'x9', 3 brightness in Sh2, 1 brightness on LBN, 3 LBN color. Red & blue. Narrowband.
Sh2-308, EN, RN	C	35', Sharpless brightness 2. Blue & OIII. This ring nebula surrounds the Wolf- Rayet star WR 6.
Sh2-310, EN	C	480', Sharpless brightness 2. Red & blue. One of the largest single HII regions known in the Milky Way.
<b>Canes Venatici</b>		
M51, NGC5194, Whirlpool Galaxy	S, I	9' x 8', 8.4    Darkened background with 8mm. Seen in binoculars at Lake Tahoe. Seen at Fort McKavett, able to see spiral arms. Imaged at Fort McKavett Newt DSLR. Imaged 80ED LRGB SC285 Grand Canyon. Seen with spiral arms and companion at McDonald Observatory. Imaged NIR LRGB Newt SC285. GT880: H, 800-900: H, 700-800: H. Imaged TSP Newt SC285 LRGB.
M63, NGC5055, Sunflower Galaxy	S, I	13' x 8', 8.6    Imaged Newt SC285 LRGB.
NGC4111, Edge on galaxy	R	4' x 0.7', 10.8
NGC4244, Edge on, Silver Needle Galaxy	R	16' x 1.8', 10.19

NGC4631, Edge on, Whale Galaxy	I	14' x 2', 9.3, high surface brightness    SC285 LRGB w/ IDAS filter. R: M, G: M, B: M. Imaged Ft. McKavett Newt MPCC LRGB SC285.
NGC4656/ 57, Hockey Stick Galaxy, Edge on galaxy	R	20' x 2.5', 10.4, Near NGC4631 Whale G. Sep: 32'
M94, NGC4736, G, face on spiral	S	14' x 13', 8.19, Recommended for light polluted skies.
M3, NGC5272, GC	S, I	16.2', 6.4    Good at high power averted vision. Imaged Newt DSLR. Seen at Fort McKavett Newt 8mm. Imaged LRGB Newt SC285. R: H, G: H, B: H. Imaged AT8RC, CLS filter, 450D.
M106, Barred spiral galaxy	I	18.8' x 7.3', 8.4    Imaged Newt NIR SC285. Imaged Newt LRGB SC8300 Ft. McKavett.
NGC4485/90, Cocoon Galaxy, Interacting pair	R	3.5', 5'x2.5', 9.8 Easy target even for suburban viewers.
NGC4449, Cald 21, Magellanic Dwarf Galaxy, Box Galaxy	S	4'x2', 9.6, Irregular, high SB    Seen in Fred Miller's Dobsonian at Ft. McKavett.
$\alpha$ Canum Venaticorum, Cor Caroli, DS	R	19'', 2.9, 5.5, Blue & Lilac
NGC5033, G, Spiral	R	10.5'x 5.1', 10.2, Moderately large & bright.
NGC5005, G, Barred Spiral	R	5.8'x2.8', 9.8, Moderately large & bright.
NGC5395/94, G, Whirlpool type galaxy pair, The Heron Galaxy	R	3'x2', 11.4; 2'x1';13.0 respectively. Resembles a Great Blue Heron spearing a fish.
<b>Capricornus</b>		
M30, GC	C	11', 7.5
<b>Carina</b>		
Eta Carinae, NGC3372, Caldwell 92, Nebula	R	120', 30
NGC3199, EN	R	22', Very bright, remarkable
NGC3582, EN	R	30' x 20', Bright.7635

<b>Cassiopeia</b>		
NGC457, Cald 13, Owl Cluster / ET Cluster	S	13', 6.4    Two bright stars look like ETs eyes, others make arms and legs
Eta Cass, DS, Easter egg double	S, I	13", 3.4, 7.4    Yellow & purple, very nice, high mag. Imaged 80mm 80ED DSLR.
NGC281, IC11, Hidden Treasure 3, LBN616 PacMan Nebula, EN	A, I	35', 7.4 LBN brightness 1, LBN color 3.    May just barely see something with UHC & 17mm. Imaged in Ha SC2M10TEC. Ha and OIII SC285. Imaged Newt SC285 SII Ha OIII. SII: L, Ha: H, OIII: M. Imaged Newt 450D CLS. Imaged 200mm lens SC285 SII, Ha, OIII. Imaged AT8RC SC8300 SII, Ha, OIII.
NGC7635, LBN548 Bubble Nebula, EN	S, I	15' x 8', 11, near M52 OC LBN brightness 1, LBN color 3.    Barely hint with SG & 20mm ep, Barely with OIII & 17mm. Imaged with Newt DSLR. Imaged in Ha, SII, OIII SC285, Newt. SII: M, Ha: H, OIII: M. Imaged 80ED SII Ha OIII SC8300 with Sh2-157, NGC7538, Sh2-159. Imaged 200mm Newt SII Ha OIII SC8300 with NGC7538 and Sh2-159.
NGC7789, OC	S	16', 6.7    Dim
M103, OC	A	6', 7.4    Not sure if seeing M103
M52, OC	S	13', 6.9    Spread out, dim
NGC129, OC	S	21', 6.5    9 stars very open
Struve 3053, DS	R	15", 5.9, 7.3, gold & blue
IC1848, Soul Nebula, Baby Nebula, EN	I	100' x 53', 6    Imaged Ha 200mm lens, SC285 (2x). Imaged 200mm lens SII, Ha, OIII SC285. Ha: H, SII: L, OIII: L.
IC1871, EN	O	4', Small EN that is part of IC1848. Front of baby's face: forehead, nose, mouth, neck, shoulders.    Area of interest appears to be about 46' x 38'.
IC1805, Heart Nebula, EN	I	100' x 80', 10    Center might be good in smaller FOV narrowband image (Melotte 15). Imaged SII Ha OIII 200mm lens SC285. SII: M/H, Ha: H, OIII: M/H. Imaged 80ED SII Ha OIII SC8300. Imaged 80ED + Antares 0.5x focal reducer Ha SC8300 (vignetting & field curvature).

Melotte 15, OC with nebula	O, I	Center of Heart Nebula IC1805. Nebula with structure.    Imaged Newt MPCC SC285 Ha: M/H, SII: L, OIII: L.
NGC896 EN & IC1795, Nebula (Brightest part of IC1805, NGC896 brightest part)	I	12' x 12', 30    Imaged a Lake Tahoe, 80ED, SC285, LRGB. R: H, G: M/L, B: M/L.
IC59, RN	I	13' x 7', 30    Imaged with IC63 80ED SC285, L Okie Tex.
IC63, LBN622, EN	I	10' x 3', 30 LBN brightness 1, LBN color 2.    Imaged Ha SII OIII Newt SC285. SII: M, Ha: H, OIII: L. Imaged with IC59 80ED SC285, L Okie Tex.
Nebulosity surrounding Tsih (Gamma Cass) Same as IC59 and IC63.	R	
NGC288, GC	R	13', 7.9
LBN633, Sh2-188, SNR	R	10'x3' Brightness 1 in LBN, Color 3 LBN, Brightness 2 in Sh2.
LBN578, RN	R	5'x5' LBN brightness 1, LBN color 1.
Sh2-173, EN	C	30', Sharpless brightness 2.
<b>Centaurus</b>		
NGC5139, Cald 80, Omega Centari, GC	S, I	36.3', 3.7, King of Globular Clusters.    Seen at Fort McKavett through other member's Dob. Seen at Ft. McKavett in 9x50 finderscope. Imaged Ft. McKavett Newt MPCC 450D.
NGC5128, Caldwell 77, Centaurus A, Peculiar Galaxy	R	18', 7, Recommended for light polluted skies.
NGC5253, Dwarf Starburst Galaxy	R	5' x 1.9', 10.4
<b>Cepheus</b>		
Cederblad 214, Nebula	I	50' x 40', RA = 00h 03.5m, DEC = +67° 13'    Imaged 80ED 450D CLS, Newt SC285 narrowband, 200mm lens SC285 narrowband (also Ha only). Ha: H, OIII:L, SII:M.

NGC7822, Nebula	I	72' x 20', near Ced214    Imaged with Ced 214.
Cederblad 215, Nebula	R	72' x 20', RA = 00h 01.2m
IC1396, Elephant Trunk, Nebula	I	89', 3.5    Imaged SII Ha OIII Newt SC285 and 200mm lens SC285. SII: H, Ha: H, OIII: H.
NGC7538, LBN542, Nebula	I	8' x 7', 30    Imaged with NGC7635 and Sh2-159 200mm Newt SII Ha OIII SC8300. Imaged with NGC7635, Sh2-159 and Sh2-157 80ED SII Ha OIII SC8300.
NGC7023, Cald 4, Iris Nebula, RN {Binoculars}	I	18', 7.0    Imaged at Lake Tahoe, 80ED, DSLR. Imaged Ft. McKavett Newt MPCC LRGB SC285.
NGC40, Caldwell 2, Bow-Tie Nebula, PN	R	48'', 12.3, High surface brightness, good in all scopes.
Delta Cephei, DS	R	41'', 3.4, 6.1, yellow-orange, blue
NGC7129, Nebula	R	8', 12
NGC6946, Caldwell 12, Fireworks Galaxy	I	11', 8.9 Near NGC6939 OC    Imaged 80ED SC285 LRGB Grand Canyon.
Sh2-155 Cave Nebula, Caldwell 9, EN, RN, dark nebula	I	50' x 30', 10    Imaged 80ED 450D Lake Tahoe.
Herschel's Garnet Star, Mu ( $\mu$ ) Cephei	R	
NGC7380, Sh2-142, LBN511 The Wizard Nebula, Flying Horse Nebula, EN & OC	I	25', 7.2 LBN brightness 1, LBN color 3.    Imaged Newt, SC285 narrowband SII, Ha, OIII. SII: L/M, Ha: H, OIII: M. Imaged 80ED SC285 LRGB Lake Tahoe. Imaged AT8RC SC8300 Ha.
Sh2-129, EN, The Flying Bat Nebula	C	140', Sharpless brightness 2.
Ou4 Blue RN, The Squid in front of Sh2-129.	O	Blue bipolar nebula Ou4 floats in front of red emission nebula Sh2-129.
Sh2-132, EN	C	90', Sharpless brightness 2. Red & blue, Good in narrowband.
Sh2-136, Bok Globule, Ghost Nebula	C, I	5', Sharpless brightness 3. Red & blue. Not HII region.    Imaged 80ED SC285 LRGB Okie Tex.
Sh2-140, EN, RN	C	30', Sharpless brightness 3. Red & blue. V shaped, bright on one side.
Sh2-150, EN	C	40', Sharpless brightness 2. Red, but next

		to a blue RN.
Sh2-157, EN Lobster Claw Nebula	C, O, I	90', Sharpless brightness 3. Good in narrowband.    Imaged 80ED SII, Ha, OIII SC8300 along with NGC7635. NGC7538 and Sh2-159.
<b>Cetus</b>		
M77, NGC1068, Spiral Galaxy	R	7' x 6', 8.9
NGC246, Cald 56, Skull Nebula, Pac Man Nebula (another), PN	R	5' x 4', 10.9, Moderately bright & large planetary nebula.
NGC908, Spiral Galaxy	R	5.9'x2.3', 10.4, Moderately bright starburst galaxy.
NGC247 Mixed Spiral Galaxy	R	22.2'x6.7', 8.9, Fairly bright almost edge on.
<b>Coma Berenices</b>		
NGC 4565, Cald 38, Edge on, Needle Galaxy	S, I	12' x 1.5', 9.6    Imaged L Newt SC285. Imaged Newt SC285 LRGB. Imaged Newt LRGB SC8300 Ft. McKavett.
M64, NGC4826, Black Eye Galaxy	R	10' x 3.8', 8.5, Recommended for light polluted skies.
M53, GC	S, I	12.6', 7.7    Not able to see individual stars. Imaged Newt SC285 LRGB IDAS.
Group: M53 GC & NGC5053 GC	I	M53: 12.6', 7.7; NGC5053: 10.5', 9.8 faint, large; 1° separation    Imaged Newt SC285 LRGB.
Melotte 111, OC, Coma Berenices Star Cluster	S	Seen naked eye at Camp Bovay, Fort McKavett, Lake Somerville, Enchanted Rock.
NGC4559, Cald 36, Spiral Galaxy	R	6' x 2.5', 10
24 Com, DS	R	21'', 5.1, 6.3, orange, emerald
M100, G	R	7', 9.3, Near NGC4312, G
NGC4725, Hidden Treasure 69, G	R	11'x8', 9.2
Group: NGC4725 G, NGC4747 G, NGC 4712	O	NGC4725 center: dist to NGC4747: 25' 27''; to NGC4712: 11'01'', NGC4747 to NGC4712: 35'18''.
M99, NGC4254, G, spiral	R	6'x5', 9.8, Very remarkable, bright, large, round

NGC4548, G, barred spiral	R	5'x4.1', 10.2, Moderately bright & large.
<b>Corona Australis</b>		
NGC6729, Cald 68, EN & RN	R	1.3', 9.5
Group: Bernes 157, NGC6726, NGC6727, NGC6729, EN, RN	R	
<b>Corvus</b>		
NGC4038, Cald 60, G (irregular), Ringtail, Rattail, Antennae Galaxy (northwest component)	S, I	11' x 6', 10.5    Seen at Ft. McKavett in large dobsonian. Imaged Ft. McKavett Newt MPCC LRGB SC285.
NGC4039, Cald 61, G (irregular), Ringtail, Rattail, Antennae Galaxy (southeast component)	S, I	10' x 4', 10.3    Seen at Ft. McKavett in large dobsonian. Imaged Ft. McKavett Newt MPCC LRGB SC285.
NGC4361, PN	R	1.2', 10.5
<b>Cygnus</b>		Imaged at Lake Tahoe 18mm EFS lens, DSLR.
NGC6992, Cald 33, Veil Nebula / Network Nebula, SNR	S, I	60' x 8', 30    Seen at Lake Tahoe w/ 80mm 80ED, dim, UHC helped. Best w/ OIII, provided good detail. High surface brightness. Imaged in back yard and Lake Tahoe 80mm 80ED, DSLR.    Imaged NGC6992, 6995 & 6960 w/ 200mm lens & DSLR at Ouray. Imaged 80ED SC285 L only Lake Tahoe. Imaged 80ED SC285 LRGB Lake Tahoe.
NGC6995, Cald 33, Veil Nebula, SNR	S, I	12', 30    Connected to NGC6992. Imaged in back yard and Lake Tahoe 80mm DSLR.

NGC6960, Cald 34, Veil Nebula, SNR	S, I	70' x 6', 30    Seen at Lake Tahoe w/ 80mm 80ED, dim, UHC helped. Bright star in middle. Best w/ OIII. Low surface brightness. Imaged from home, DSLR. Imaged Ha SII OIII Newt SC285. SII: M/H, Ha: H, OIII: H. Imaged 80ED SC285 LRGB Okie Tex.
NGC6979, Veil Nebula, SNR	R	,30
NGC6826, Cald 15, Blinking Nebula, PN	R	2.3', 8.8
NGC7008, PN Fetus Nebula	R	98" x 75", 9.9
Albeiro, DS	S	35", 3.4, 4.7, One gold, one blue star, high mag.
NGC7000, Cald 20, North American Nebula, EN	S, I	120', 30    Seen at Lake Tahoe w/ 80mm 80ED, dim, Mexico area most obvious. Best w/ OIII. Seen at Lake Tahoe with binoculars. Imaged at Lake Tahoe 80mm 80ED & 200mm f/2.8 lens, DSLR. Imaged center area 80ED SC285 LRGB Lake Tahoe. Imaged 200mm lens SII, Ha, OIII. SII: M, Ha: H, OIII: M. Imaged Mexico Area 80ED SII Ha OIII SC8300.
M39, NGC7092, OC	S	32', 4.59    Big, good OC
IC 5146, Caldwell 19, LBN424, Cocoon Nebula	A, I	12', 7 LBN brightness 1, LBN color 2.    Imaged at Lake Tahoe, 80ED, SC285, L channel only. Imaged 80ED SC285 LRGB Lake Tahoe & Grand Canyon.
NGC7086, OC	R	9', 8.4
M29, OC	C	7', 6.6
NGC6871, OC	C	20', 5.2
M56, GC	S	7.1', 8.3    Small, could not see individual stars, dim
NGC6888, Crescent Nebula	I	18' x 8', 8.8, Wolf-Rayet Star    Imaged in Ha with SC2M10TEC.    Imaged Ha, SII, OIII, Newt, SC285. SII: X/L, Ha: H, OIII: M/H. Imaged AT8RC SC8300 LRGB Okie Tex.
NGC6910, OC	R	8', 7.4
Omicron Cygni, DS	R	106", 3.8, 7.0, orange, blue
IC1318, LBN249 Gamma Cygni, EN & RN	I	50', LBN brightness 1, LBN color 3.    Imaged at Lake Tahoe 80mm 80ED & 200mm f/2.8 lens, DSLR. Imaged 200mm f/2.8 lens, 450D Lake Tahoe.

		Imaged Ft. McKavett 80ED AT2FF 450D.
Sh2-101, Tulip Nebula, EN	I	20' Brightness 2 / 3 (Sharpless rating) Nearby huge area of nebulosity called the Cygnus Star Cloud.    Imaged Ha Newt SC285.
IC5070, Pelican Nebula, EN	I	80'x60'    Imaged as part of NGC7000 at Lake Tahoe 80mm 80ED, DSLR. Imaged 80ED 450D Lake Tahoe.
IC5067, LBN353 Pelican Nebula, EN	R	25'x10' LBN brightness 1, LBN color 3. Part of Pelican Nebula.
NGC6894, PN	R	,Round Ring
61 Cygni, DS	R	31'', 5.2, 6.0, both orange
IC5076 LBN384, RN	R	7'x7', faint, large, stars involved, blue. LBN brightness 1, LBN color 1.
LBN337, Sh2-112, EN	R,C	13'x13', LBN brightness 1, LBN color 3, Sh2 brightness 2. Red & blue. Good in narrowband.
NGC6914 LBN274 LBN280, RN	R	3'x3' Both: LBN brightness 1, LBN color 1.
Sh2-091, SNR	C	120', Sharpless brightness 2. Red & Blue.
Sh2 -115, EN, RN	C	50', Sharpless brightness 2. Red & Blue.
Sh2-119, EN	C, O (S&T 12/16)	160', Sharpless brightness 3. Good in narrowband. Near NGC7000. Surrounds 68 Cygni.
Van den Bergh 135, RN	O	Yellow RN, RA: 20hr:36min:46sec; DEC: +32°:27':17'', faint
<b>Delphinus</b>		
Gamma Delphini, DS	R	9'', 4.4, 5.0, yellow, pale-green
<b>Draco</b>		
NGC6543, Cald 6, Cat's Eye Nebula, PN	S, I	23'' x 17'', 8.1    Small, bright, good with UHC, OIII & Skyglow. Imaged SC2M10TEC.
NGC5181, Galaxy	R	3'x0.5', 13.2
NGC5182, Elliptical Galaxy	R	3'x3.1', 11.1
NGC5185, Spiral Galaxy	R	5.5'x3', 11.1
* Note – Three above in 14' line.		

NGC5907, G	O	12.6' x 1.4', 10.3, Tidal streams circle around galaxy, Jay Gabny picture Reflector June 2016.
<b>Eridanus</b>		
32 Eridani, DS	R	7" sep, 5, 6, pale topaz, yellow, sea green
Theta Eridani, DS	R	8.4" sep, 3.2, 4.1, white
$\sigma$ 2 Eridani, Triple Star	R	83", 9.2", 4.4, 9.3, 11.2, white & red
IC2118, Witch Head Nebula, RN	I	180' x 60'    Imaged 200mm lens at f/3.2 450D.
NGC1535, Cleopatra's Eye, PN	R	48"x42", 9.1, SB = 15.6, Round planetary, bright inner disk
NGC1232, G, spiral	R	6.8'x5.6', 10, Face on spiral
NGC1300, G, barred spiral	R	5.5'x2.2', 10.4, Backward 'S'
<b>Fornax</b>		
NGC1365, G	R	11' x 6', 10.3, Southern sky's finest barred spiral. Able to see in small scope.
NGC1398, G	R	7.2'x5.2, 9.8, Looks like Star Wars Tie Fighter.
<b>Gemini</b>		
Castor Double Star	S	3 sets of doubles    A,B,C: A,B 4" sep, C 70", A, B: blue white, C: reddish orange
NGC2392, Caldwell 39, Eskimo Nebula, PN	S	40", 10, Can see in any scope.    Seen at Fort McKavett Newt 3.2mm.
M35, OC	S	28', 5.09    Seen in binoculars.
NGC2281, OC	C	15', 5.4
NGC2158, OC	R	5', 8.6
NGC2266, OC	R	7', 10
IC443, Sh2-248, Jellyfish Nebula, SNR	I	50', 30, Use UHC or OIII    Imaged Newt SC285 SII Ha OIII. SII: H, Ha: H, OIII: M/L. Imaged 200mm lens SC285 Ha. Imaged Newt 450D CLS MPCC.
Group: IC443 SNR & Sh2-249 EN	O, I	Sh2-249 80', Sharpless brightness: 2    Imaged 200mm Canon Lens at f/2.8, SC8300, Ha:H, SII:H, OIII:M/L.

∂ Gem, DS	R	5.4" sep., 3.65, 8.2, yellow & purple
Group: M35, OC & NGC2158, OC	R	Could be good image, M35 is blue, NGC2158 is red. 24' separation.
Abell 21, Sh2-274, Medusa Nebula, PN	R	12', 13, RA: 07h29.0min; Dec: +13° 15' Low SB 16 to 25, Brightness of 3 on Sharpless scale (3 highest). Red & blue.
Minkowski 1-7, PN G189.8+07.7, PN	R	38", 13, 6h 37m 21s; +24° 00.6'; use filters & high power
NGC2371-72, Gemini Nebula, PN	R	72", 11.2, SB: 20.3.
Sh2-247, EN	C	9', Sharpless brightness 2. Red and a little blue.
<b>Hercules</b>		
M13, NGC6250, GC	S, I	16.6', 5.9    Seen in binoculars at Lake Tahoe: bright. Imaged Newt DSLR. Imaged 80ED SC2M10 RGB. Imaged Newt SC285 LRGB.
NGC6210, The Turtle Nebula, PN	R	20" x 13", 8.8, bright
M92, NGC6341, GC	R	11.2', 6.5
Kappa Herculis, DS	R	27", 5.1, 6.2, yellow, garnett
Ras Algethi, α Herculis, DS	R	5", 2.7, 5.4, orange, blue-green
95 Herculis, DS	R	6", 4.8, 5.2, apple-green, cherry-red
NGC6229, GC	R	4.5', 9.4
<b>Hydra</b>		
NGC3242, Cald 59, Ghost of Jupiter, PN {UHC}	R	20.8", 7.7
M83, NGC5236, Southern Whirlpool Galaxy	R	10.5', 7.6
M68, NGC4590, GC	R	12', 7.7
NGC3621, G, spiral	R	14.9'x7.4', 8.5, Bright, short arms.
Abell 35, Sh2-313, PN	C	12', Sharpless brightness 2. Red & blue. Narrowband.

<b>Lacerta</b>		
NGC7243, Cald 16, OC	S	21', 6.4    Very interesting, very nice OC, should view again
M39, OC	S	32', 4.59    Large, good
Sh2-126, 10 Lacertae complex	C	160', Sharpless brightness 2. Lots of colors including yellow. Red & blue.
<b>Leo</b>		
NGC2903, The Hotspot Galaxy	R	13' x 5', 8.9, Recommended for light polluted skies. HII regions.
M95, NGC3351, Galaxy	I	7' x 4', 9.69, Close to M96, Sep: 41'. Recommended for light polluted skies.
M96, NGC3368, Galaxy	I	7.5' x 5', 9.19, Close to M95. Recommended for light polluted skies.
Group: M95 & M96	I	Imaged Ft. McKavett 80ED AT2FF 450D.
M105, NGC3379, Galaxy	R	4.6' x 4', 9.3, Recommended for light polluted skies.
M65, Galaxy	I	9' x 2', 9.3, Recommended for light polluted skies.
M66, Galaxy	I	7.6' x 3.3', 9, Recommended for light polluted skies.
NGC3628 Hamburger G	I	10' x 3.3', 9.5, Recommended for light polluted skies.
<i>Note – M65, M66, NGC3628 are the Leo Triplet</i>		Seen at Fort McKavett Newt 17mm. Sep: M65 to M66: 20', M65 to NGC3628: 37', M66 to NGC3628: 37'
NGC3226, NGC3227, Double Galaxy	R	NGC3226: .7' x .6', 11.4 NGC3227: 6' x 4.6', 10.8
NGC3190, Hickson 44, Group of 4 Galaxies (NGC3190, 3193, 3187, 3185)	I	NGC3190: 3.5'x1.3', 11; 3185: 1.7', 3187: 3.4', Sep. 17' & 4'    Newt SC285 L. Imaged Newt LRGB SC8300.
NGC3593, G, spiral	R	5' x 2.3', 11
NGC3521, Spiral Galaxy	R	5'x2', 9
$\gamma$ Leonis, Algieba, DS	S	4.4", 2.2, 3.5    Both yellow, others say gold & greenish yellow.

<b>Leo Minor</b>		
NGC3344, G Barred spiral	R	7', 9.9
<b>Lepus</b>		
M79, GC	C	8.7', 8
Gamma Lep, DS	R	97", 3.8, 6.3, yellow & garnett, binocular
R Leporis, Hind's crimson star	R	One of the sky's reddest stars.
<b>Lynx</b>		
12 Lyn, Triple Star	R	1.7", 9.4" sep, 5.4, 6.0, 7.0, white
NGC2419, The Intergalactic Wanderer, GC	R	One of the most distant GC (300,000ly)
NGC2683, The UFO Galaxy	R	9.1'x 2.7', 9.7, Bright.
<b>Lyra</b>		
M57, NGC6720, Ring Nebula, PN {High power}	S, I	80" x 60", 9    Good w/ UHC & OIII. Imaged Newt DSLR. Imaged Ha SII OIII Newt SC285. SII: L, Ha: H, OIII: H. Seen with large Dob, Televue Panoptic, Paracorr at McDonald Observatory.
Double Double, DS	S	4.67
<b>Monoceros</b>		
NGC2244, Cald 50, Open Cluster in Rosette Nebula, OC	S, I	24', 4.8
NGC2237-9, Cald 49, Rosette Nebula {UHC, Try finder scope}	S, I	30    Appears to be approx. 1.5°. Seen in binoculars at Camp Bovay and Fort McKavett. Imaged 80mm 80ED f/3.75 SC2MTEC Ha, OIII. Imaged Ha SII OIII 80ED SC285. Imaged Ha 50mm lens SC285. Imaged 200mm lens SC285 SII Ha OIII. SII: M, Ha: H, OIII: M.
NGC2261, Cald 46, Hubble's Nebula (R Mon), EN & RN	R	2', Bright

NGC2264, LBN911 Cone Nebula, Christmas Tree Cluster	A – Cone S – Christmas Tree I	60', 3.9 LBN brightness 1, LBN color 3.    Attempted at Fort McKavett – able to see Nebula at base of tree, not cone which is at top of tree. Imaged Ha OIII 80ED SC285. Ha: H, OIII: L. Imaged Ft. McKavett 80ED MPCC 450D. Seen Ft. McKavett including nebula around base area.
M50, NGC2323, OC	R	16', 5.9
NGC2232, OC	C	30', 3.9
$\beta$ Monocerotis, Triple Star	R	7.1'', 2.9'', 4.6, 5, 5.4, blue
$\epsilon$ Mon, DS	R	13'', 4.4, 6.5
NGC2170, Angel Nebula, EN & RN	R	2' (10'x20' for group),
NGC2346, Hour Glass, PN	R	60'', 12.5, SB: 21.1.
Sh2-280, EN	C	40', Sharpless brightness 2. Narrowband.
Sh2-282, EN	C	35', Sharpless brightness 2. Red & a little blue.
Sh2-284, EN	C	80', Sharpless brightness 2. Red & blue.
Sh2-287, EN	C	12', Sharpless brightness 2. Red & a little blue.
Sh2-294, EN	C	7', Sharpless brightness 3. Red and a little blue.
IC2169, Viking Ship RN, DN	O	25', Faint, large, diffused, several stars of mag 9-10 involved.    RN with DN that looks like Viking Ship. Ship extends from IC2169 to IC2167, sep. 33'. NGC2245 RN same region, sep. 27' from IC2169 (triangle with 2169 and 2167).
<b>Ophiucus</b>		
M10, GC	S	15.1', 6.6    Able to see individual stars. Seen in binoculars at Lake Tahoe.
M12, GC	S, I	14.5, 6.6    Able to see individual stars. Seen in binoculars at Lake Tahoe. Imaged Newt LRGB SC285.
M9, GC	R	9.3', 7.9
M14, GC	R	11.7', 7.6
IC4665, OC	S (Near B)	41', 4    Seen in binoculars at Lake Tahoe. Looks like a tree.
Group: M9, GC & B64		Sep: 25'

Barnard 64 {100x}	R	
Omicron Ophiuci, DS	R	10", 5.2, 6.6, orange, clear-blue
70 Ophiuci, DS	R	5", 4.2, 6.2, yellow, red
Rho Ophiuchi, Triple Star, surrounded by nebula	S, I	Seen in binoculars at Lake Tahoe. Imaged with Antares, M4, etc., 200mm f/2.8, 450D Lake Tahoe.
IC4604, RN	I	60'    Imaged TSP 80ED 450D. Imaged Ft. McKavett IC4604 & IC4603 80ED AT2FF 450D.
M107, NGC6171, GC	R	13', 7.8, Reasonably bright.
NGC6356, GC	R	10', 8.2, Relatively bright.
B72, DN, The Snake Nebula	O	28'x14' Average width: 2' to 3'.
Sh2-024, EN	C	30', Sharpless brightness 2, red & blue. Molecular cloud.
<b>Orion</b>		Imaged M42, Horsehead, Flame, Barnard's Loop 50mm lens SC285 Ha. Imaged Ha 17mm lens SC285.
M42, NGC1976, LBN974 Orion Nebula, EN	S, I	66', 4 LBN brightness 1, LBN color 3.    Good with OIII, large area with H $\beta$ . Imaged Newt 300D. Imaged 80ED 450D. Imaged Newt MPCC IDAS LRGB SC8300. Imaged AT8RC AT2FF LRGB SC8300.
M43, EN	S,I	Next to M42. Imaged Ha, Newt, SC285. Imaged NIR LRGB Newt SC285. GT880: H, 800-900:H, 700-800:H
NGC1977, Sh2-279 Running Man, EN, RN	I	20', Sharpless brightness 3.    Imaged as part of Orion Nebula, Newt, DSLR, Camp Bovay.
Horsehead Nebula, B33, IC434 LBN953, EN, DN	A, I	60', 30'    Attempted with many combinations including H $\beta$ , imaged but not seen. Imaged 80mm 80ED DSLR. Imaged 80mm 80ED f/3.75 in Ha, NIR, SII SC2M10TEC. LBN brightness 1, LBN color 3.    Imaged Ha, Newt, SC285. Imaged Newt 450D CLS. NIR: H, SII: M, Ha: H, OIII: X. Imaged 80ED 450D CLS.

NGC2023, LBN954, RN	I	10'x8' Across from Horsehead Neb. LBN brightness 1, LBN color 1.    Imaged as part of Horsehead 80ED & Newt 450D CLS filter.
Sigma Orionis, Quadruple Star	R	12", 13", 42" sep., 3.7, 8.8, 6.6, 6.3
M78, NGC2068, RN	S, I	8', 8, Brightest reflection nebula. NGC2067 fainter RN across dark lane.    Seen at George Observatory. Seen at Fort McKavett, better than George – Newt 17mm bright and by nebula. Imaged 80ED 450D at Enchanted Rock. Imaged Ft. McKavett Newt MPCC LRGB SC285.
NGC2064, LBN939, RN	C	10'x10' Across rift from M78. LBN brightness 1, LBN color 2.
Rigel, $\beta$ Orionis, DS	R	10" sep, 0.2, 6.8
Tau Orionis, Triple Star	R	11", 49" sep., 2.9, 7.0, 9.7
$\sigma$ Orionis, Triple Star	R	12", 13", 42" sep., 3.7, 8.8, 6.6, 6.3
Struve 761 Triple Star near $\sigma$ Orionis	R	AB: 6", 7.9, 8.4; BC 9", 8.4, 8.6
$\zeta$ Orionis, DS	R	23" sep., 1.9, 4.0
NGC2022, PN	R	0.3', 12, Bright PN
NGC2174, Sh2-252 EN & NGC2175, LBN854 OC, Monkey Head Nebula	I	40' x 30', 7, Bright but diffused emission nebula. Use OIII filter. LBN brightness 1, LBN color 3.    Attempted at Fort McKavett, no luck. Imaged NGC2174 Ha 50mm lens SC285, bright. Imaged Newt SC285 MPCC Ha SII OIII. SII: L, Ha: H, OIII: H/M. Imaged Newt 450D CLS. Imaged AT8RC SC8300 Ha OIII.
NGC2024, Flame Nebula, EN	S, I	30' x 30',    Seen at Fort McKavett Newt 17mm. Imaged NIR LRGB Newt SC285. GT880: H, 800-900: H, 700-800: H. Imaged narrowband Newt SC285. Ha: H, SII: M, OIII: L.
NGC2071, RN	R	7'x5'
NGC2169, 37 Cluster, OC	R	6', , Looks like the number 37, view at about .25° to see 37.
NGC1999, RN	R	
NGC1980, EN	R	14'x 14', , Low brightness, associated with Iota Orionis.
Sh2-261, Lower's Nebula, EN	R	33' x 29', 8.4, Sharpless brightness 2, RA: 6h 08.8m, DEC: +15° 47', Narrowband.

		Red & blue.
Sh2-276 Barnard's Loop	I	1200', Sharpless brightness 2.    Imaged Ha 50mm lens SC285.
Sh2-264, EN	I	6.5°, 4'    Imaged as part of Orion: 17mm lens, Ha, SC285.
IC431 & IC432 (LBN944 & LBN946), RN	C	5', 8' Near Alnitak & Flame Nebula. LBN brightness 1, LBN color 1 for both.
Sh2-254, 255, 256, 257, 258, EN Area	I	11', 3', 1', 3', 1'; Sharpless brightness 2,3,2,3,2. The three snowballs.    Imaged Newt Ha SC285.
Sh2-263, EN, RN	C	20'x16', Sharpless brightness 2. Red & blue.
Sh2-265, EN	C	70', Sharpless brightness 2. This diffuse HII region is part of the B223 section in the southern part of the Lambda Orionis ring.
Sh2-278, EN	C	50', Sharpless brightness 2. Red & blue.
NGC1788, RN	O	8' x 5' Bright nebula in Orion.
<b>Pegasus</b>		
M15, GC	S, I	12.3', 6.4'    Seemed small but fairly bright, smaller than M2. Imaged Newt LRGB SC8300.
NGC7753 G (spiral) & NGC7752 G (barred spiral)	O	Comparable to M51 (Whirlpool G) and companion NGC5195.
NGC7331, Caldwell 30 {Part of the Deer Lick Galaxy Group containing NGC7331, 7335, 7337}, G	I	10.5' x 3.5', 9.5, Like M31.    Imaged AT8RC SC8300 LRGB Okie Tex.
Stephen's Quintet, Group, G(s) around NGC7320 (Includes: NGC7317, 7318, 7319, 7320)	R	4'x3', 12.6
<b>Perseus</b>		
NGC869, NGC884 Double Cluster	S, I	35' each, 4; 30', 4, Sep: 27'    Very nice in low power. Imaged DSLR.

M76, NGC650, Little Dumbell Nebula (The Apple Core Nebula), PN	S, I	4.8', 12    Good w/ OIII, next UHC, next SG, then barely able to see w/o filter. High mag. Imaged Newt DSLR. Imaged Newt, SC285, Ha, OIII. Ha: H, OIII: H.
IC348, Cluster and nebulosity, RN	A	10', 7
NGC1499, LBN756 California Nebula, EN {UHC improves view, but responds better to H $\beta$ }	A, I	160' x 40', 5 LBN brightness 1, LBN color 3.    Attempted w/ H $\beta$ filter, no luck. Imaged Ha 50mm lens SC285. Imaged Ha SII OIII 200mm lens SC285. SII: H, Ha: H, OIII: X/L. Imaged Ha SII OIII 200mm Newt SC8300. Imaged 200mm lens at f/3.45 Ha SC8300.
M34, OC	S	35', 5.2    Good, approx. 45'
B4, DN	R	
B5, DN	R	
Eta Perseus, DS	R	28", 3.8, 8.5, orange & blue
Melotte 20, OC, Alpha Persei Association (Mirfak = alpha)	R	> 3°, 1.2, Binoculars
NGC1333, RN & EN, Phantom Tiara	A, I	6' x 3', 3.6    Maybe slight w/ SG. Imaged Ft. McKavett Newt MPCC LRGB SC285.
NGC1579, Sh2-222, Nebulous Complex, Northern Trifid	I	12' x 8', Sharpless brightness 3. Red & blue.    Imaged Newt SC285 Ha. Ha: H.
NGC1342, OC	R	17', 6.7
NGC1528, OC	R	, 6.4, Stars of many colors.
NGC1491, LBN704 EN	I	21', 8.5, Bright circular nebula. Fairly bright nebula 4' long. Use UHC or OIII. LBN brightness 1, LBN color 3.    Maybe glimpse w/ SG.    Imaged SII, Ha, OIII Newt, SC285. SII: H, Ha: H, OIII: M/L.
NGC1624, LBN722, Sh2-212, EN & Cluster	R	5', 10.4 LBN brightness 1, LBN color 3. Red & blue.
NGC1023, G lenticular	R	8'x 3.5', 9.5, High surface brightness.
Sh2-216, Simeiz 288, PN	C	80', Sharpless brightness 2. Closest known PN and one of the oldest. Narrowband.

<b>Pices</b>		
M74, NGC628, Spiral Galaxy	I	10'x10', 9.4, 8 inch shows even spiral arms and mottled halo that surrounds bright core. *** One of the few galaxies that are enhanced by nebula filters.    Imaged LRGB + IDAS, Newt, SC285. Imaged AT8RC SC8300 RGB Okie Tex.
NGC488, G, spiral	R	5.5'x 4.0', 10.3, Small but bright.
<b>Puppis</b>		
K Pup, DS	R	9.9"sep., 4.4, 4.6
Group M46 OC, NGC2438 PN	R	M46: 20', 6.1; NGC2438: 66", 11, SB: 19.8. One of the sky's top objects.
NGC2467, Sh2-311, LBN1065, Mandrill Nebula, OC & EN	R	16', 7, Pretty bright. LBN brightness 1, LBN color 3. Sharpless brightness 3. Red & blue. Narrowband. (Sh2-311 shows 45' for size).
NGC2440, PN	R	0.5', 11, High surface brightness. SB: 19.9.
Sh2-302, EN	C	21', Sharpless brightness 2. Red & blue.
<b>Sagitta</b>		
Sh2-082, EN, RN	C, I	9', Sharpless brightness 2. Red & blue.    Imaged AT8RC SC8300 LRGB Okie Tex.
<b>Sagittarius</b>		
M8, NGC6523, Lagoon Nebula, EN	S, I	90', 5.8    Able to see in all optics. Best w/ OIII.    Imaged M8 & M20 together 80ED DSLR, Ouray. Seen naked eye at BTSR and McDonald Observatory.
M20, NGC6514, Trifid Nebula, EN, RN	S, I	29', 6.3    80mm 80ED, Lake Tahoe. Best w/ UHC or no filter. Large EN clearly seen, RN barely seen. Imaged 80ED SC285 LRGB Lake Tahoe. Imaged TSP Newt SC285 LRGB.
M17, NGC6618, Sh2-045 Swan Nebula, Omega Nebula, EN	S, I	45' x 35', 6    Imaged. 80mm at Lake Tahoe. Best w/ UHC. High surface brightness. Imaged Newt SC285 SII, Ha, OIII. SII: M/L, Ha: H, OIII: H. Imaged AT8RC, CLS filter, 450D.

M23, NGC6494, OC	S	27', 5.5    Seen in binoculars at Lake Tahoe.
M24, Star Cloud, The Small Sagittarius Star Cloud	S	5', 11, Very large, bright.    Seen in binoculars at Lake Tahoe.
M22, NGC6656, GC	S	24', 5.09, Large, bright. 3 <sup>rd</sup> brightest GC in the sky.    Seen in binoculars at Lake Tahoe. Large and bright. 80mm best at high power.
M55, NGC6809, GC	R	19', 7
M71, NGC6838, GC	R	7.2', 8.3
M28, GC	S	11.2', 6.9,    Small, fuzzy
Group: NGC6723 GC, NGC5726 – 7/9 RN	R	NGC6723: 11', 6.8; NGC6726-7/9: 9' x 7',
M21, OC	S	Seen in binoculars at Lake Tahoe.
M25, OC	S	Seen in binoculars at Lake Tahoe.
M18, OC	S	Seen in binoculars at Lake Tahoe.
NGC6559, LBN28, EN & RN	I	8' East of M8, lots of color and detail. LBN brightness 1, LBN color 3.    Imaged 80ED 450D Ft. McKavett.
IC1274, EN & RN	I	5' Near NGC6559    Imaged as part of NGC6559.
IC1275, EN & RN	I	10', 9' from IC1274    Imaged as part of NGC6559.
NGC6822, Caldwell 57, Barnard's Galaxy	R	15'x14', 8.8
NGC6445, PN, The Box Nebula	R	3'x 1', 11.2, Able to see in small telescopes.
Group: NGC6589 (LBN46) RN, 6590 (LBN43) RN	I	6590: 4'x3'; 6589: 4'x3': Sep.: 7' 8"    Imaged Ft. McKavett 80ED 450D.
NGC6537, PN, The Red Spider Nebula	R	1.5', 11.6
Group: NGC6520, The Castaway Cluster; B86, The Inkspot	R	6', 7.6 Sep. approx. 12'
NGC6563, PN	R	48", 11.0    Looks like Ring Nebula
NGC6818, PN, The Little Gem	R	48", 9.3
M54, GC	R	9.1', 7.7 Most distant object in Messier

		catalog: 87,000 ly.
Sh2-037, EN	C	20', Sharpless brightness 2, red. Near 2 small RNs.
IC4701, Sh2-044, EN	C	60', Sharpless brightness 2, red.
<b>Scorpius</b>		Imaged TSP 70mm lens 450D. Imaged Lake Tahoe 200mm lens 450D.
NGC6231, Northern Jewel Box, OC	R	15', 2.3, Open cluster with nebulosity.
M4, NGC6121, GC	S	26.3', 5.9, Very large, bright, easy to see individual stars.    Seen in binoculars at Lake Tahoe.
M6, NGC6405, OC	S	15', 4.2, Looks like butterfly.    Seen in binoculars at Lake Tahoe. Able to see butterfly w/ 80mm & 17mm ep.
M7, NGC6475, OC	S	80', 3.3,    Large, bright, seen at Camp Bovay with eyes only. Seen in binoculars at Lake Tahoe.
Antares, DS	R	3", 0.9, 5.4, red, emerald-green    Surrounded by yellow reflection nebula.
IC4606 LBN1107 Antares Nebula, RN	I	60'x40' LBN brightness 1, LBN color 3. Appears yellow & red in images.    Imaged Lake Tahoe: 200mm lens, 450D.
M80, GC	S	10', 7.3
NGC6334, EN, Cat's Paw Nebula	R	40', 30, Use nebula filter
NGC6302, Cald 69, The Bug Nebula, PN	R	0.8', 9.6
B72, DN	R	4'
NGC6357, Lobster Nebula / The War & Peace Nebula, EN	R	50'
IC4592, RN Horsehead RN	I	150'    Imaged TSP 200mm lens 450D.
NGC6383 OC & Sh2-012 RN	C	120' Sh2 brightness 2, blue, 1°10'20" from M6, Butterfly Cluster
NGC6337, Cheerio Nebula	O	0.8' x 0.8', 12

<b>Sculptor</b>		
NGC253, Caldwell 65, Sculptor Galaxy, Silver Coin, Silver Dollar	A, I	25' x 5", 6.1, easily visible    Can't see with 20mm, 8mm, 30mm, SG    Imaged Newt, SC285, L + IDAS. Bright & big. Imaged Newt SC285 MPCC IDAS LRGB. Imaged Ft. McKavett Newt MPCC LRGB SC285 (able to see in Empire guide scope).
NGC288, GC	R	13', 8.1
Group: NGC253 G & NGC288 GC	O	Seen in S&T
NGC300, Caldwell 70, Southern Pin Wheel Galaxy, G	R	19' x 13", 8.1, More challenging than NGC55.
NGC 55, Cald 72, G (spiral), String of Pearls	R	34' x 6", 8.1, One of the sky's dozen brightest galaxies.
NGC613, G, mixed spiral	R	5.2' x 2.6', 10, Reasonably bright.
Kappa1 Sculptoris, DS	R	Sep: 1.3", 6.1, 6.2, Both pale yellow.
<b>Scutum</b>		
M11, NGC6705, Wild Duck Cluster, OC	S	14', 5.8
Sh2-053, EN	C	15', Sharpless brightness 2.
Group: NGC6712 GC & IC1295 PN	O	Sep. 0.4°
<b>Serpens</b>		
M16, NGC6611, Eagle Nebula, OC	S, I	35', 6    Imaged DSLR & narrowband SC2MTEC. OC seen w/ binoculars at Lake Tahoe. 80mm best w/ UHC, low surface brightness. Imaged Newt SC285 SII Ha OIII (noisy). SII: L, Ha: H, OIII: M. Imaged Newt SC285 SII, Ha, OIII. Imaged 80ED SC285 L only Lake Tahoe.
M5, NGC5904, GC	S, I	17.4', 5.8    Easy to see individual stars, brightest GC in the Northern Hemisphere, third brightest Messier globular (M72 and M4 outshine it). Imaged Newt SC285 L.
IC4756, OC	S	Seen in binoculars at Lake Tahoe.

LBN72, Sh2-54, EN	R,C	140' Brightness 1 in LNB, LBN color 3, Brightness 3 in Sh2. Blue & red. Contains NGC6604.
<b>Sextans</b>		
NGC3115, Cald 53, Spindle Galaxy, Edge on Galaxy	R	3' x 1', 9.19, high surface brightness
<b>Taurus</b>		
M45, Pleiades, OC, RN	S, I	110', 0, Best in binoculars    Imaged many times, DSLR, none great. Nebula seen at Fort McKavett Newt 17mm. Imaged Ft. McKavett 80ED AT2FF 450D.
M1, NGC1952, LBN833, Sh2-244 Crab Nebula	S (barely), I	6', 8.4 LBN brightness 1, LBN color 3.    Barely seen on good clear night, best w/o filters or w/ UHC, small. Imaged Ha, OIII, Green SC2M10TEC. Imaged SII, Ha, OIII SC285. SII: M, Ha: H, OIII: H.
Hyades, OC	R	0, Best in binoculars
Theta 1, Theta 2, DS	R	337" sep, 3.4, 3.8
NGC1647, OC	R	30 stars in 4", close binaries.
NGC1514, Crystal Ball Nebula, PN	R	120", 10.8, SB: 20.9, OIII filter.
Sh2-238, NGC1555/4	C	1', Sharpless brightness 3. Shoot 40' to 60' to get dusty area around object. Herbig-Haro object associated with the T Tauri young star nebula
Sh2-239, EN	C	5', Sharpless brightness 2.
Sh2-240, Simeiz 147, SNR	I	180', Sharpless brightness 2.    Imaged 105mm lens, Ha, SC285.
Sh2-242, EN	C	7', Sharpless brightness 2. Red & blue.
Sh2-245, EN	C	720', Sharpless brightness 2. Part of the Eridanus loop
<b>Triangulum</b>		
M33, NGC598, Pinwheel Galaxy, Triangulum Galaxy	I	64' x 35', 5.7    Imaged w/ DSLR but cannot see. Imaged 80mm 80ED, IDAS filter, DSLR Huntsville State Park. Seen at Huntsville State Park.    Imaged at Lake Tahoe, 80ED, DSLR.    Imaged Ft. McKavett M81 & M82 Newt MPCC 450D.

NGC752, OC	C	50', 5.7
NGC925, Barred Spiral Galaxy	R	11'x6', 9.9
<b>Ursa Major</b>		
M81, NGC3031, Bode's Nebula / Galaxy	S, I	20' x 9', 6.9    Imaged from home with DSLR. Seen together with M82 at Fort McKavett Newt 17mm – very bright.    Imaged NIR LRGB Newt SC285. GT880: M, 800-900: M/L, 700-800: L.
M82, Cigar Galaxy	S, I	8.4' x 3.4', 8.4    8mm works well w/ Newt. Imaged from home with DSLR.
M101, NGC5457, Spiral Galaxy	A, I	40', 7.7    Imaged LRGB 80ED DSLR, Lake Tahoe. Imaged 80ED SC285 LRGB Grand Canyon. Imaged TSP Newt SC285 LRGB. Imaged Newt SC285 LRGB Ft. McKavett. Imaged Area 80ED 450D Ft. McKavett.
Group: M101, NGC5473, NGC5474	O, I	NGC5473: 2.6'; NGC5474: 4.5 Sep: M101 to NGC5473: 35'29"; M101 to NGC5474: 43'58"    Imaged Ft. McKavett 80ED f/7.5 450D.
Mizar & Alcor, double star	S	8', 30
M97, NGC3587, Owl Nebula, PN	S, I	3.2', 9.9, Close to M108    Only able to see w/ UHC filter. Imaged Newt DSLR.
Group: M97, PN; M108, G	R	M97: 225", 9.9; M108: 8.1' x 2.1', 9.9; Separation: 48'
NGC4605, Peculiar Barred Spiral Galaxy	R	5.8' x 2.2', 10.3
Mizar, Z Ursae Majoris, DS	R	14", 2.2, 3.9, Both blue-white
Polaris & The Engagement Ring, Asterism	S	Seen in binoculars at Lake Tahoe. Seen in finder scope.
NGC3184, Hidden Treasure 52, Little Pinwheel, G	R	7'x7', 9.6, Reasonably bright, nearly face on.
Group: NGC3718, G; NGC3729, G	R	NGC3718: 8'x4', 10.5; NGC3729:3'x2', 11.6, Sep: 11'31"
M109, G	I	8'x5', 9.8    Imaged Newt SC285 LRGB.
NGC3938, G, spiral	R	4.9'x 4.7', 10.4, Somewhat bright.

NGC4051, G, mixed spiral	R	5.5' x 4.6', 10.2, Bright & obvious.
NGC3198, G	R	5.2' x 3.5', 10.3, O'Meara: Somewhat dim; Dreyer: Pretty bright.
NGC3893/96, G, Whirlpool type galaxy pair	R	5' x 3', 4' x 1'; 10.5, 12.9 respectively. Bright pair.
NGC4088, G, Whirlpool type galaxy pair	R	6' x 2', 0.5'; 10.6, 14.5 respectively. Fairly high surface brightness.
NGC2841, G, spiral	R	6.6' x 3.4', 9.0, Small but bright.
IC2574, G Coddington Nebula	O	12' x 4', 10.4 Irregular weakly barred spiral. Mostly blue. Very faint, very large, irregular figure.
<b>Ursa Minor</b>		
NGC6217, G	R	3' x 2.5', 11.2, Round bright core, long broad bar.
<b>Vela</b>		
NGC2736, Pencil Nebula, SNR	R	20', Extremely faint.
NGC3132, Cald 74, Eight Burst Nebula, PN	R	1.4' x 0.9', 9.9
NGC3201, Cald 79, GC	R	20', 6.7
<b>Virgo</b>		
M104, NGC4594, Sombrero Galaxy	S, I	8' x 5', 8.3, Recommended for light polluted skies.    Best w/ 8mm & Newt., 25mm & 80ED. Imaged SC2M10 RGB.
M49, NGC4472, Galaxy	S	14' x 13', 8.19
M87, NGC4486, Galaxy	S	6' x 5', 8.6, Recommended for light polluted skies.    Dim blob 20mm / Newt.
NGC4216, G, edge on spiral	S	7.3' x 1.7', 10    Barely seen with 20mm / Newt.
M61, Galaxy	A	6' x 5.5', 9.7    Could not see in any scope
M84, G, lenticular	S	1.3' x 1.2', 9.3    Able to see, small
M86, G, lenticular	S	1.5' x 1.2', 9.19    Able to see, small

Markarian's Chain, Galaxies: M84, M86, M87, M88	R	
NGC4304, G, spiral	R	6.0'x 5.9', 9.7, Bright.
NGC5054, G	R	4.8'x 2.8', 10.9, Small, faint but interesting shape.
NGC4535, G, spiral	R	7.1'x 6.4', 10, Reasonably bright. Hard with small telescope and light pollution.
γ Virginis, Porrima DS	R	3.5, 3.5, 1.8"
M90, NGC4569 G spiral	C	11'x3', 9.5
NGC5634, GC	R	4.9', 9.6
Group: NGC4517 G edge on & NGC4517A G face on	O	
<b>Vulpecula</b>		
M27, NGC6853, Dumbbell Nebula, PN	S, I	15.2', 8.1    Good detail w/ OIII, SG good view too, not as good with UHC. Imaged Newt DSLR. Seen in binoculars at Lake Tahoe.    Imaged L only Ouray, 80ED, SC285.    Imaged Newt SC285 SII Ha OIII. SII: M, Ha: H, OIII: H. Imaged AT8RC SC8300 LRGB Okie Tex.
Collinder 399, The Coathanger, Asterism	R	, 3.6
NGC6820, Sh2 – 86, EN; NGC6823, OC	R	40', Sharpless brightness 2. Red & blue. Emission nebula surrounding open cluster, low brightness. Good in narrowband.