

Object	Number	Date	Time	Seeing	Trans.	Location	Equipment	Description
<b>Galaxy Trios</b>								
7464, 7563, 7465	45	9/30/2005	10:24 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 3 galaxies in FOV. 7463 is the brightest of the 3. All 3 are round and faint. 7463 has a tiny, brighter nucleus glow. 7464 is the 2nd biggest. Round, with a hint of a hare brighter nucleus. 7465 is the smallest. Its round, with a tiny star like nucleus seen. All 3 are easy to see and stand right out in FOV.
5916, 5915	36	7/22/2009	9:47 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Nice. Dim oval glow with 2 small hare brighter nucleuses side by side near center of halo glow.
6120, 6122, 6119	38	7/22/2009	11:12 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Nice. Faint. Two glows, with the one on the right being a larger oval with 2 tiny dim nucleuses side by side on halo glow. NGC 6120 is on the right and NGC 6119 is the left one. Then above it and very near is NGC 6122 which is this very dim oval glow.
6927, 6928	40	7/23/2009	12:02 AM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Small oval glow with 2 tiny, brighter star like nucleuses side by side on glow. Oval goes from 10 - 4 o'clock in FOV. NGC 6927 is the nucleus on the left side.
5981, 5982, 5985	37	7/23/2009	12:24 AM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 3 galaxies in a line from 1 - 7 o'clock. All in 19mm FOV. Bottom one is NGC 5981 and is largest of the 3. Small, fat, uniformly lit oval. Dim. NGC 5982 is center one. Small, fat oval has brighter, larger nucleus in center of dim halo glow. Top one is NGC 5985. Dimmest of the 3 and is a long, linear smudge of light that is uniformly lit.
7018, 7016	41	10/17/2009	20:20 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	NGC 7018 19mm – A very faint circular glow just above a very faint field star. Once eye saw it, pretty easy to tell something is there. This one is mag 13.6.  NGC 7016 19mm – Then above 7018 and near it and to left is this hint of a smudge of light. This one I am not that sure about but by bumping scope, my eye catches that something is where this one is supposed to be. This one is mag 13.9.
7530, 7534, 7532	47	10/17/2009	22:42 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Top galaxy is 7530. Very faint, uniformly lit round glow. A bit below and to left is 7532. A dim round glow with hare brighter core. Near it and straight below is 7534. Exactly like 7532. A dim round glow with brighter core.
7700, 7701	48	10/17/2009	22:51 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Two circular faint glows with hint of hare brighter core in center of glows. Both look same. 7700 is top one and 7701 is below. Very near each other.
2854, 2856, 2857	17	1/9/2010	11:23 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	2 very faint oval smudges of light. 2854 and 56 look the same and are near each other and to right and a bit away, but in same FOV is a much fainter smudge of light 2857. All pretty faint and uniformly lit.

2292, 2293, 2295	12	1/9/2010	10:28 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Nice. Two galaxies near each other but not touching. Upper right is bigger and brighter than lower left one. Then above these 2 and to left is 2295. It looks similar to large galaxy 2293 below it. All 3 dim ovals with brighter cores seen. Very hard to see because low in south and sky is softer there now.
1721, 1725, 1728	11	1/9/2010	9:43 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 3 galaxies, all very dim, round uniformly lit that forms a triangle. Very tight grouping. Can see all 3 separately. They all looked about the same. Nice.
2929, 2930, 2931		3/12/2010	9:03 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 3 very tiny, faint, smudges of light. Basically vertical in FOV and very near each other. Middle one faintest, bottom one second faintest and top one brightest. Still all 3 are very faint.
2991, 2988, 2994		3/12/2010	9:21 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Two very faint glows seen. Upper one (NGC 2991) is dimmer and lower one is larger (NGC 2994 & NGC 2988). Lower one is uniformly lit. Upper one may have hint of a tiny, stellar core.
2388, 2389, 2385		4/8/2010	9:29 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Can see all 6 very faint, uniformly lit glows. Can see 2389 is nice and round. Below it and nestled in amongst some faint field stars is a tiny, oval glow 2385 and to right is a tiny glow of 2388. In same FOV and near these 3 and to right of them are 3 very faint oval glows of 2379 (largest of these 3), 2375 and dimmest of 6 is 2373. This is the second time I went for these and with the light baffle in place, these were much easier to see for the background sky was much darker and I took a picture to the field to help identify where the galaxies were hiding in the star field. 13mm eyepiece didn't show these as good as the 19mm.
2373, 2375, 2379		4/8/2010	9:29 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Can see all 6 very faint, uniformly lit glows. Can see 2389 is nice and round. Below it and nestled in amongst some faint field stars is a tiny, oval glow 2385 and to right is a tiny glow of 2388. In same FOV and near these 3 and to right of them are 3 very faint oval glows of 2379 (largest of these 3), 2375 and dimmest of 6 is 2373. This is the second time I went for these and with the light baffle in place, these were much easier to see for the background sky was much darker and I took a picture to the field to help identify where the galaxies were hiding in the star field. 13mm eyepiece didn't show these as good as the 19mm.
2510, 2513, 2511		3/12/2010	10:23 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – There is a small, oval glow with maybe 2 very faint star like cores very close together in center of glow. This could be NGC 2511 & 13. Don't know if I saw 2510, but there is something to the left and a bit above that shows a hint of something being there.
2872, 2873		3/12/2010	10:36 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – This is a round, dim glow with a tiny, relatively brighter core seen. NGC 2873 is below 2872 and is a long, slender, uniformly lit glow. Both approx the same, dim magnitude. Didn't see NGC 2874 in between them as charts indicate.

M105, 3384, 3389		3/12/2010	11:20 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Bright, tilted oval with larger, brighter core. NGC 3384 19mm – This is smaller than M105 yet a bright tilted oval with a large, bright core. NGC 3389 19mm – this is a dim, uniformly lit, larger oval.
2854, 2856, 2857		3/12/2010	11:23 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – NGC 2856 is the one on the lower right. A very small, dim, uniformly lit oval. NGC 2857 & 2854 are together and form a hare brighter, dim, uniformly lit oval, perpendicular to 2856.
3801, 3806		3/13/2010	12:00 AM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – There are 2 galaxies very near each other. 3801 is a slender, dim, uniformly lit glow. Then above it is 2806, a bit larger, rounder, but still a uniformly lit dim glow.
4076, 4059, 4066, 4055, 4065		3/13/2010	12:30 AM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 4 very faint galaxies in FOV. All look about the same. Small, very dim, round glows of light. All very close to each other.
4333, 4326, 4339		3/13/2010	1:12 AM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Can see all 3. 4333 is brightest. Round glow with hare brighter, larger core. Above it is an extremely dim smudge of light which is 4339. Then above 4339 and to left is a hint of a glow of 4326. It is extremely faint yet can see it once in a while.
3205, 3207, 3202		4/8/2010	20:40	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 3 galaxies all near each other, in same FOV, yet separate. 3205 is near a star. 3207 is the brightest of all 3 very dim, round glows. 3207 has a hare brighter core. 3205 has a hint of a core. 3202 is uniformly lit. w/AV, can see all glows easily, with 3202 the largest of 3. 3205 is second largest. All still very dim.
5801, 5802, 5803		5/11/2010	3:48 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – Hint of a small glow in area that there is something there. Verified I am in correct star field.
5916A		5/11/2010	3:52 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – Very dim oval glow. Small in size. W/AV can see center of glow has hare brighter core.
5614, 5615, 5613		5/11/2010	3:59 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 5614 & 15 are together. A dim, yet easy to see round glow with 2 tiny, dim star like cores seen just next to each other on glow. 5613 is an extremely dim smudge of light to the upper left of these two and very near it. Almost not there yet my eye is drawn to it if I move the FOV.
5153, 5150, 5152		5/12/2010	12:16 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 5153 and 5150 are together but separated, vertical and look the same. Small circular halo glows with brighter cores seen in center of glows. Then to left and a bit below two is a much smaller and dimmer circular glow of 5152. This one has a star like, bit brighter core.
3995, 3994, 3991		5/13/2010	12:31 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 3 very small faint galaxies forming a triangle. Bottom left (3995) is largest, oval, dim with something little brighter at core. Bottom right (3994) is more linear and is pretty uniformly lit. Tiny also. Then above these two and a little bit farther away than distance between first 2 is (3991) this tiny, round uniformly lit glow. A bright field star just below bottom two.

5079, 5076		5/13/2010	1:11 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm - 5076 is to the left and is an elongated tiny oval with star like core. To right and near it is 5079, a very faint round uniformly lit smudge of light.
4716, 4717		5/13/2010	1:45 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm - 4716 is to the left and is a very faint small round glow. 4717 is next to it and to the right and is smaller than 4716 but just as dim. Looks like an 8 on its side when you make the top part smaller than the than the bottom part of the 8.
<b>Hickson Groups</b>								
Stephen's Quintet	92	8/11/2002	12:07 AM	Good	Good	WUTS-Fox Park, WY-Great Dark Sky.	12.5" f/8 Newtonian and 30" f/4.5 Newtonian	Stephens Quintet is near by. I saw 2 pockets of glow. Almost at the limit of my 12.5"scope. Last night in Gary's 30", I say all 5 components. Two nucleuses are very close, the other two were separated a lot more and the fifth glow was by itself. Even in Gary's scope, the fifth was very hard to see. Looked at it again on 11/2/07, at 10:24 PM on Pawnee Grasslands. 19mm. 7331 is nice, long, tilted galaxy with nice, bright nucleus. 7335 just an oval smudge of light seen with AV. 7337 is a dim round glow with a tiny, hare brighter nucleus. 7340 is smaller and a round glow with hare brighter nucleus. Didn't see 7336 where it was supposed to be.
7674, 7675, M+1-59-81	96	12/3/2004	7:27 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	3 galaxies in the FOV, 2 very close together. The close pair can see a nucleus glow in both. They are VERY close together. The lower left galaxy (7674) is larger than the upper right (7675). A small amount of halo surrounds both of them Then up above 7674 is a galaxy (M+1-59-81) with a small, dim nucleus glow with a tiny bit of halo around this one also. All the nucleuses were almost starlike, tiny points of glow.
3193, 3189, 3187	44	3/5/2005	11:33 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm-3 faint galaxies in the field of view. 3187 is a very faint sliver of light, the next one to its right, 3189, is a small, brighter edge-on galaxy. This one has a nice nucleus glow. The next one to the right, 3193, is a round halo glow with a tiny, bright nucleus centered on the glow.
833, 835, 838, 839, 848	16	10/27/2008	9:22 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 5 faint, round galaxies make an arc on rhs of a very faint field star. 833 is lower one. Its round with tiny stellar core in center of halo. 835 is next and is a bit larger version of 833. It too has a bright stellar core. 838 is next and is very similar to like 835. 839 is next and it has a dimmer, but easy to see stellar core. 848 is at top. Faintest of all. Maybe a hint of a hare brighter nucleus. All pretty dim yet easy to see. This was pretty cool. Got Uranometria out to validate which galaxy was which.
1741	31	12/28/2008	9:00 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Very dim, small, circular glow. Almost not there. Pretty uniformly lit.

5236, 5313, 5353, 5354, 5365, 5350, 5371, 5351	68	6/23/2009	12:49 AM	Fair	Fair	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>NGC 5326 19mm - A small dim circular glow with tiny brighter core.</p> <p>NGC 5313 19mm - A small, circular, uniformly lit glow.</p> <p>NGC 5353 19mm - Brightest of all members of this group. Elongated oval with brighter center.</p> <p>NGC 5354 19mm - A uniformly lit oval glow a bit dimmer than 5353.</p> <p>NGC 5365 19mm - A hint of a small circular smudge of light.</p> <p>NGC 5350 19mm - A bit larger, circular uniformly lit glow.</p> <p>NGC 5371 19mm - A circular uniformly lit glow to the left of other galaxies.</p> <p>NGC 5351 19mm - A very faint uniformly lit oval glow.</p>
6162 a & b	82	7/22/2009	11:01 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Just to the left of a bright field star is this small, very dim oval glow. Pretty uniformly lit. Maybe hint of a 2nd glow just to the left of this one and very near it which would be NGC 6162b.
ESO 451-7	86	7/22/2009	11:46 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - See only 1 very dim tiny oval glow. Nailed the star field to this location. Low in south and it's a bit soft in seeing down there.
	79	8/20/2009	9:11 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 3 very dim, oval glows together with hare brighter cores. Very hard to see with AV. Maybe there are parts a, b and c. Very compact. Very near each other.
	77	8/20/2009	9:21 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - w/AV I think I see a very small dim smudge of light. Not sure but am in the correct star field.
6977, 6976, 6978	88	10/17/2009	20:31 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 6978 is the bottom one. It is a tiny, dim circular uniformly lit glow. Above it and next to it is 6977. An identical shape and glow to 6978. Then above 6977 and near it and to left a bit is this tinier, round smudge of light.
7214, M-5-52-35, M-5-52-36	91	10/17/2009	20:47 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Below 2 faint field stars is a round glow of 7214. On its center is a very faint star like nucleus. Then below it and to right, w/AV and waiting, see 2 faint points of light with parts d and c below. Really cool. c is mag 15.0 yet it's a star like point of light.

7176, 7174, 7173, 7172	90	10/17/2009	20:59 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 7176 and 7174 are a combined glow. Fairly small round glow with brighter core. Below it is ( c ) 7173 is a smaller round glow with a tiny, brighter, star-like core. Then below this and a bit away is (a), 7172, which is an uniformly lit oval dim glow.
	15	1/9/2010	6:26 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Can see a very faint doublet stars and very near it can see tiny, very faint nucleuses of parts a, b, c and d with AV.
	25	1/9/2010	8:12 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Found the asterism and where x is, is a very faint, small, compact glow. Very faint yet easy to see once eye adjusts to this dim object.
	23	1/9/2010	8:18 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – An extended, very faint glow with 2 brighter, yet very dim cores seen on this glow (parts a & b). There is a hint of a third, much dimmer core seen (part d).
1214, 1215	22	1/9/2010	8:44 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – NGC 1214. Nice, brighter oval. Uniformly lit. Hint of part b (NGC 1215) to upper left. So dim is was like a star, a stellar core.
	24	1/9/2010	8:51 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – This is faint. There is a hint of something in FOV. I can wiggle the scope to reveal it. Was too dim to make out any details.
	21	1/9/2010	8:52 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – A very small, dim round glow.
	19	1/9/2010	8:58 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – A dim smudge of light.
	30	1/9/2010	9:55 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – A very faint round, uniformly lit glow with a couple of faint field stars on glow.
U5345	41	4/8/2010	8:47 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Extremely dim, very small linear glow. w/AV and waiting can see it is there. Uniformly lit.
2783	37	4/9/2010	12:03 AM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – An extremely dim round to oval smudge of light just below the left of 2 brighter field stars.
	40	5/11/2010	10:28 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – An irregular extremely faint glow with 2 or 3 star like cores seen on glow of parts a, c and d.
	48	5/11/2010	11:08 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – A dim, uniformly lit oval glow.
	42	5/11/2010	11:24 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – A dim oval glow with hint of halo around a larger core.
	63	5/12/2010	12:21 AM	Great	Great	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – A very dim, oval to round glow. Pretty uniformly lit with maybe a hint of a core at center of glow.
	60	5/12/2010	11:05 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – There is a hint of the a part. As least my eye says there is something there.
	58	5/13/2010	12:55 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – A tiny, round very dim glow with a tiny star like core of 3882. Then above it and near is a bit dimmer round smudge of light of 3825. Extremely faint yet easy to see.
	67	5/13/2010	1:32 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 5306 is a fat oval shape, extremely dim and small. On glow in a line are 2 star like extremely faint cores seen w/AV. This could be M-1-35-15.

**Other Galaxy Groups**

7331, 7335, 7337, 7340	47	11/2/2007	10:24 PM	OK	Good.	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm. 7331 is nice, long, tilted galaxy with nice, bright nucleus. 7335 just an oval smudge of light seen with AV. 7337 is a dim round glow with a tiny, hare brighter nucleus. 7340 is smaller and a round glow with hare brighter nucleus. Didn't see 7336 where it was supposed to be.
M65, M66, 3628	18	4/1/2005	9:55 PM	Good	Good.	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm. One large bright oval shaped ?M65) and the other (3628) is much dimmer, slender edge on long sliver of light. Has a hint of a dust lane down the center of it. The nucleus is a hare brighter along the center axis. Its approx 1/3 FOV long. M66 is a nice oval, tilted galaxy with a bright nucleus glow in the center of the oval.
5490, IC982, IC983	36	4/1/2005	11:45 PM	OK	Good.	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Two galaxies next to an orange star, with a 3rd very faint sliver of light (982) to the upper left at the edge of the FOV. The larger one (5490) has a bright stellar nucleus with a hint of a circular halo around it. The other (983) is a much smaller version of the brighter one and a bit dimmer overall.
3599, 3607, 3605, 3608	17	2/24/2006	1:34 AM	Great.	Good.	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm-Very faint, round smudge of light (3599) with a brighter nucleus glow and at times a stellar point on glow. Just to the east are 3 circular glows, with the middle one the brightest (3607) the lower one 2nd brightest (3608) and the top one the dimmest (3605). Larger 2 have a nice bright nucleus with a bit of halo around them seen. 3605 has a tiny, dim, yet stellar nucleus seen on a very dim glow.
5047, 5037, 5049, 5054	37	3/20/2004	1:44 AM	Good.	Good.	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 5054 is small, very dim, uniformly lit and circular. Maybe a hare brighter nucleus. There are 3 other galaxies in FOV. 2 (5047 and 5037) are very faint, circular smudges of light and the 3rd (5049) is oval in shape with hare brighter nucleus.
M50, M60, 4647, 4660	31	5/7/2004	10:31 PM	OK.	OK.	East of Longmont, CO. Rural lit skies.	12.5" f/8 Newtonian	19mm - M59, M60, NGC 4647 and NGC 4660 all in same FOV. M60 is a small, dim circular patch of light with a relatively brighter nucleus that is easy to see. NGC 4647 is a very faint glow right next to M50 w/barely a hare brighter nucleus. M50 is smaller than M60 and is a circular patch of light and has a star like nucleus. NGC 4660 is oval in shape, dim and almost as bright as M60 with a hare brighter nucleus, but for the most part, is uniformly lit.
7623, 7619, 7626	5	9/30/2005	11:41 PM	Good	OK	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 7619 is the biggest of the 3, with 7623 just a hare smaller and 7626 just a tiny halo. All 3 have a nice nucleus glow. 19 and 23 are bright, circular nucleus that dims into a nice round halo. 7626 has a tiny halo with a star like nucleus seen on halo glow.

1380, 1381, 1387, 1389, 1386	10	1/16/2009	7:11 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>NGC 1380 19mm – Nice tilted oval with larger, brighter core and tiny bit of halo around it.</p> <p>NGC 1381 19mm – Is dim, maybe oval with hint of hare brighter central region.</p> <p>NGC 1374 19mm – Is small, dim circular uniformly lit glow.</p> <p>NGC 1376 19mm – Is right next to NGC 1374 and is circular and very faint. Uniformly lit.</p> <p>NGC 1387 19mm – Is a bit of an oval. Dim. Uniformly lit.</p> <p>NGC 1379 19mm – Is a dim, circular glow.</p> <p>NGC 1389 19mm – Is a very small, dim, round glow.</p> <p>NGC 1386 19mm – Is a smaller and dimmer version of NGC 1389, which was a very small, dim, round glow.</p>
Markarian's Chain	27	3/18/2007	1:30 AM	OK	OK	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>M84 19mm - More oval shaped with nice bright core. In same FOV as M86.</p> <p>M86 19mm - Nice, round, bright. Has nice large bright core. In same FOV as M84.</p> <p>IC 3672 19mm - Right next to M59 is a smaller, oval, uniformly lit glow.</p> <p>M91 19mm - Small, round glow with tiny, bright core.</p> <p>M88 19mm - Nice, large oval halo glow with nice, large, bright core.</p>
M106, 4217, 4248	24	7/22/2009	10:10 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>19mm - M106 is a nice, long tilted oval with nice, large bright core. To the left and above it is NGC 4248. A dim, long slender shape with a hare brighter core area. Above 4248 and a bit away is NGC 4217 which is a long, slender dim, uniformly lit glow right next to a bright and brighter field stars. Easy to see. 13mm doesn't show it any better.</p>
NGC 4565	30	3/18/2007	2:24 AM	OK	OK	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>19mm - NICE!!! One of my favorites. Long, slender edge on with brighter, round core with nice central bulge. Center tapers to nice extended arms that dims slowly to nothing. Almost 7/8 of 19mm FOV in length.</p>

M49 (4472), 4470, 4519	28	3/17/2007	2:22 AM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>M49 19mm - Nice, round halo glow with brighter core. Bright field star at 4 o'clock of it and on glow.</p> <p>NGC 4470 19mm - Just above M49 and to its right is this dim, round halo glow with tiny, brighter nucleus glow seen.</p> <p>NGC 4519 19mm - Large, roundish dim glow with mottling seen. Nice bright edge on. Brighter core and central bulge and tapers and dims slowly on each side into extended halo arms.</p>
M61 (4303), 4339, 4333	25	3/17/2007	1:46 AM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>M61 19mm - Nice, large round glow with tiny bright core.</p> <p>NGC 4339 19mm - Bright, easy to see with DV. Round glow with brighter core and stellar nucleus seen in center of core glow. Hint of halo seen around central core glow.</p> <p>NGC 4333 19mm - Above NGC 4339 is this tiny, dim round glow with very dim stellar core seen with AV.</p>
M87, M89, M90	29	3/18/2007	1:33 AM	OK	OK	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>M87 19mm - Nice, tilted oval halo glow with larger, brighter core.</p> <p>M90 19mm - Nice. Long linear glow with brighter central region.</p> <p>M89 19mm - Nice bright round glow with small, bright core.</p>
3158	16	4/20/2006	23:59 PM	Great.	Great	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>134x (19mm) – A dim round glow with much brighter nucleus that is larger than stellar. It IS nestled in the middle of a triangle of 3 faint stars. Nucleus best seen w/AV.</p>
3599, 3605, 3607, 3608	17	2/25/2006	1:34 AM	Good.	Good.	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>19mm - Very faint, round smudge of light with brighter nucleus glow and at time a stellar point on glow. Just to east are 3 circular glows, with the middle one the brightest (3607) the lower one 2nd brightest (3608) and the top one the dimmest. Larger 2 have nice bright nucleus with a bit of halo around them seen. 3605 has a time, dim, yet stellar nucleus seen on a very dim glow. All this seen with 19mm eyepiece.</p>
M100 (4321), 4312, 4379	26	3/17/2009	3:56 AM	OK	OK	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	<p>NGC 4379 19mm - Small, round glow with tiny brighter core seen on center of glow. Easy to see with DV.</p> <p>NGC 4312 19mm - Small, cigar shaped oval with hint of a hare brighter core area.</p> <p>M100 19mm - In same FOV and to left of NGC 4312 is this NICE, large bright oval halo glow with small, round brighter core.</p>

5846, 5850	40	5/25/2006	1:36 AM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	NGC 5850 134x (19mm)- Small, dim round glow with tiny core, a bit brighter than halo and also a tiny stellar dot on this core seen right in the middle.  NGC 5846 134x (19mm)- This is a bit larger and more round than 5850. Uniformly lit.
7184, 7180, 7185, 7188	46	10/17/2009	19:30 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	NGC 7184 19mm – Nice faint edge on. Long cigar shaped with hare brighter central area and bit dimmer halo arms.  NGC 7180 19mm – Above 7184 and in same FOV is a small dim oval with a hint of a core.  NGC 7185 19mm – To right of 7180 is this very dim, uniformly lit circular smudge of light. 7184, 7180 and 7185 in same FOV.  NGC 7188 19mm – To right of 7185 and below it. Can see a hint of a tiny circular smudge of light. Extremely dim yet the more I stare at star field, I am convinced that something is there.
7103	45	10/17/2009	19:56 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Very faint round smudge of light. By staring at it w/AV I see it, once in a while, it pops clearly into view and can see a hint of a brighter central area on a circular, faint glow.
1129	9	10/17/2009	23:43 PM	OK	OK	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Small, round to oval shaped dim glow. Pretty uniformly lit.
7386, 7385, 7383, U 12202	48	10/18/2009	12:20 AM	OK	OK	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 7385 is biggest and brightest. Larger oval. To left of dim field star. Hint of a hare brighter core. Above it is 7386. A very dim circular uniformly lit glow. Below and to left is 7383, a bit bigger than 7386 yet round, very dim, uniformly lit glow. Then a bit to right, out by itself, is UGC 12202. A dim, oval uniformly lit glow, like 7383. All very dim yet easy to see in same FOV.
2943		3/12/2010	10:45 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – A very dim, oval, uniformly lit smudge of light.
IC 696		3/12/2010	11:50 PM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – A long, slender, uniformly lit, fairly dim halo glow. Can see arms coming off central bulge on each side. Goes from 9:30 – 3:30 o'clock in FOV. Fairly large. Has tiny, really bright star like core in center of halo glow.
4005		3/13/2010	12:43 AM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – A very faint oval glow. w/AV, see 3 or so extremely faint stars on glow. Stars on upper right side of glow.
3730		3/13/2010	12:58 AM	OK	OK	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – A very small, very dim oval glow with 2 brighter stars on very dim glow.
2289		4/8/2010	9:37 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Very faint, dim, oval, uniformly lit smudge of light.
2804		4/8/2010	9:45 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Extremely dim, yet larger round halo glow with tiny, relatively brighter core seen in center of circular glow.

2340		4/8/2010	11:30 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Very dim, oval glow. Uniformly lit. Larger than most galaxies I've seen tonight, yet still small.
5754		5/11/2010	4:04 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – An extremely faint, larger round uniformly lit smudge of light. My eye is drawn to it when I move the FOV.

**Abell Clusters**

	20	4/1/2005	8:13 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	20" f/4.5	250x - Small, dim glow to the right of a brighter field star.
	539	4/1/2005	7:41 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	20" f/4.5	250x - Real faint glow w/hare brighter nucleus. Its to the right of and next to a bright field star.
	2147	7/22/2009	10:37 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - A larger, very dim (magnitude 14.2)circular glow. Uniformly lit. It is just above a little brighter field star.
	2152	7/22/2009	10:38 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - An extremely dim, small circular smudge of light.
	2151	7/22/2009	10:41 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - An extremely dim, small, circular, maybe fat oval smudge of light.
	2162	7/22/2009	10:49 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - A very dim, tiny oval with hare brighter core. Looks like an out of focus star.
	2197	8/20/2009	9:45 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 6173 is to the left and approx 1 FOV away from 6180 on a line from 2 - 8 o'clock. 6180 is a dim oval. Easy to see w/AV and has 3 extremely dim stars on the glow. 6173 is small, oval glow with hare brighter nucleus and hint of a star like nucleus in center of glow. All seen with AV. Then to left another FOV is 6146. A small, brightest of 3, round glow with brighter core seen. The brighter field stars match finder chars that are in the vicinity of these 3 galaxies. Nice.
	2199	8/20/2009	9:55 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - 6166 is an oval, maybe round uniformly lit glow. NGC 6166 See w/AV but see its larger with AV. 6137 is a small, dim, round glow best seen w/AV. 6134 is near 6137 and is to the left of a very dim field star. 6134 is a very dim, round uniformly lit glow seen w/AV. Almost not there but I can see it.
	347	10/17/2009	22:09 PM	Good	Good	Pawnee Grasslands in NE Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 909 is a small faint round glow with hare brighter core. 906 is to lower right. A bit bigger round glow than 909 and hare brighter core. Above these is 914, a faint uniformly lit glow. Below these 3 and near a field star is the faint round glow of 911. The below 911 is 910, a bit larger, but very faint round uniformly lit glow.
	400	1/9/2010	6:43 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Very faint found glow at the end of a chain of 3 stars. Stars match picture I printed.

	548	1/9/2010	9:13 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – These galaxies had stellar cores and not any halo. Saw 3 of these members. Matched the picture I had of them. E480-27 and M4-14-35 were very near each other and M-4-14-37 was a above these and a bit away from them. All in same FOV.
	634	1/9/2010	11:04 PM	Good	Good	Deer Trail, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – Nice. 9 members seen. U4289 is bigger and brightest with maybe a hint of brighter core. Rest uniformly lit but easy to see. C 287-56 a faint smudge as is U4270. Rest are like out of focus stars while rest of stars in FOV are pin points. Used printed picture to find asterisms to help spot these galaxies. The 2 galaxies right next to each other (U4289 & C-287-61) stood right out and identified this grouping.
	569	4/8/2010	11:30 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – 3 faint galaxies in a row. Pretty dim and uniformly lit little fuzz balls. U3696 on upper right. To lower left and next to it is a larger, round glow of 2329. Then to right and at end of chain of 2 dim stars is this out of focus star of C234-59.
	779	4/8/2010	11:30 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm – NGC 2832 is a larger, round glow with brighter central region. Then off to the right and near it in same FOV is a dim, round smudge of light of NGC 2839. Not seeing any other members of this group on my picture I have of this cluster.
	1060	5/11/2010	10:40 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm - Just below a bright field star are these galaxies. 3311 and 3309 are together with a combined halo glow. See 2 tiny star cores on this very small glow. To left is a very dim smudge glow of 3308. To right of these two is a tiny glow smudge of 3312. To right of these 4 is a bit larger, uniformly lit glow of 3316. On opposite side of bright field star and a bit away (approx 1 ½ FOVs) is a large oval, uniformly lit glow of 12597. Then to left of this is a tiny smudge of light of M-4-25-43. Even though all members are very faint, easy to see all of them. By upper dim star that 3311 et. al. was between are the two tiny, extremely faint smudges of light from 3314 A and B.
	3574	5/12/2010	12:48 AM	Great	Great	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – Nice. About 10 smudges of light, largest is I 4329. A roundish uniformly lit very dim glow. To right is a very small round smudge of light of I4329A. The above it in a triangle with some space between them and extremely dim smudges of light of 5298, 5302 and E 445-35. Off to right and by itself is 5304. A bit larger and brighter smudge of light than triangle 3. Roundish in shape.
	3565	5/12/2010	1:03 AM	Great	Great	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – I 4296 is a larger, dim, yet easy to see, round, uniformly lit glow. To upper right is I 1299, a small, dim smudge of light.
	3537	5/12/2010	1:10 AM	Great	Great	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – E 443-41 is a round smudge of light. Above it and almost 1 FOV away are two extremely dim smudges of light of I 3986 and E 443-21. Both near each other and look the same.

	1314	5/12/2010	10:55 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – Beneath a brighter field star I see 4 extremely faint smudges of light. 2 are almost the same (the U galaxies) and I 708 is the largest of the 4. Closest to the field star is U6558 and then near it is U6541. Then to the right of these 2 is I 708 and to the right of I 708 is I 712, a very faint round tiny smudge of light.
	1318	5/12/2010	11:25 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – Around a bright field star I see 5 glows of light. 3733 is brightest. All real dim. Below field star is small round dim uniformly lit glow of 3738. Equidistant below 3738 is an identical small round dim uniformly lit glow of 3756. Above field star and near it is an oval glow of 3733. Has hare brighter cor. Then to left if a faint smudge of light of 3737, which is the smallest and below and to left is a faint smudge of light of 3759.
	1377	5/12/2010	11:32 PM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 3898 is a small oval glow with large bright core and bit of halo around it. To right and in same FOV but at edge is 3888, an oval small uniformly lit glow. maybe a hint of a little brighter core.
	1228	5/13/2010	12:04 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – U6394 is an extremely faint round smudge of light.
	1185	5/13/2010	12:18 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 3350 is an extremely faint oval smudge of light.
	1631	5/13/2010	1:11 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 4756 is a very dim oval glow with hint of hare brighter core. Then above it is a tiny curves glow with 2 star like cores on glow on right hand side of 3 galaxies. Right is M-2-33-37. Then middle is I 829 and left one with no core is M-2-33-36.
	1656	5/13/2010	2:15 AM	Good	Good	Texas Star Party. Ft Davis, Tx. Dark Skies.	12.5" f/8 Newtonian	19mm – 4 faint glows seen in FOV. Below a bright field star is a faint, round, uniformly lit glow of 4874. Below it and to left is a bit larger faint round glow of 4889. Way to the left of these 2 but in same FOV is largest round glow with hint of brighter core of 4921. Then below and to right is a tiny, round, smudge of light of 4911.
	2666	8/10/2010	11:55 PM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - Well to the left of a bright field star are 3 glows of this cluster. One glow is faint, with 2 star like cores on glow, next to each other. Then below these is an extremely faint smudge of light. I think I see, once in a while, other faint smudges of light way to the left of these two and another one way to the right.
	2634	8/11/2010	12:08 AM	Great	Great	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - I see 3 members of this cluster. NGC 7768 is easiest to see and largest of 3. An oval, very dim glow with hint of core seen on glow. Above and to the left is NGC 7766, a linear, small, almost not there uniformly lit smudge of light. Below 7768 and to right is this tiny, circular, almost not there, extremely faint smudge of light of NGC 7765.

	262	8/11/2010	1:09 AM	Great	Good	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - There are 8 glows seen. No details. Just glows. In center are 4 <i>easier</i> to see glows, all near each other. In same FOV are 4 much fainter smudges of light. A bit away from the brighter 4 but in same FOV. They are at 5 o'clock, 2 o'clock, 11 o'clock and 9 o'clock from the brighter 4. Very faint yet when move FOV (bump scope) you can see them easier.
	426	8/11/2010	1:36 AM	Great	Good	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - NGC1275 is largest and brightest of those seen. Has brighter core seen in center of circular, dim glow. NGC 1272 next largest and brightest. It too has a hint of a brighter core in center of it's glow. Smaller in size than 1275. Rest are all <u>very</u> faint, round, uniformly lit smudges of light. These are NGC 1276, 1277, 1270 and 1267. Seeing is great but the transparency is not what it was an hour ago.
	194	8/11/2010	2:01 AM	Great	Good	Keota, Colorado. Moderately Dark Sky.	12.5" f/8 Newtonian	19mm - I saw 4 galaxies of this cluster. NGC 545 and 547 are very near each other and almost touching. Both are dim, larger glows with tiny, relatively brighter cores. To left and smaller in size is a dimmer, circular glow of NGC 541. It too has a relatively brighter tiny core. To left of 541 is NGC 535, an extremely dim, uniformly lit, circular smudge of light.

Galaxy Trios	30	of 30
Hickson Groups	30	of 30
Other Galaxy Groups	30	of 30
Abell Clusters	30	of 30
Total Count	120	of 120