

Intermediate List

Again this year we have a large number of objects on the list to try, including many Caldwell items. Objects for this year are intended to be interesting, but for the most part not repeat items in recent prior lists (with the exception of the ice giant planets). There is a wide variety to choose from, including different temperature stars and pairs, open and globular clusters, nebulae and galaxies. Some are fairly challenging, others somewhat easier to find but hopefully just as interesting and rewarding to see.

Though you are encouraged to try them all, to receive the OSP Intermediate list observer pin you must observe and record at least 20 of the listed objects while you are here at OSP. A short description of each object is required and object sketches are strongly encouraged. Sketch double stars noting West (drift direction) or North. (Recommended for all sketches). Visual observations are encouraged but goto and image enhancers (photography) are permitted at OSP for the Intermediate List award. Each objects page number in the popular Sky and Telescope Pocket Sky Atlas (PSA) is listed as well (or the page it would be on if it were there) to help with location.

When finished, bring your record of observations to the Observing Program table next to the Information Tent to receive your pin. *Please check the information tent for updates on when the Observing Program table will be staffed, and where it is going to be for the next session. Typically it will be manned later in the afternoon.*

4/25/2023 v1.0

2023 Oregon Star Party Intermediate Observing List

#	Type	Object	Con	RA	Dec	Mag	Size/ Split	PSA	Alternate Name/Comments
1	P	Uranus	Ari	03h 19' 14.1"	17° 59' 53.0"	5.8	3.5"	15	Super Challenge: Any moons
2	P	Neptune	Aqr	23h 51' 52.7"	-02° 14' 22.0"	7.8	2.3"	76	Challenge: Triton
3	S	Xi Persei	Per	03h 58' 57.9"	35° 47' 27.0"	4.0	na	13	Very hot 35,000K/blue supergiant star "Menkib"; illuminates the California Nebula NCG1499
4	CS	Y Cvn	CVn	12h 45' 07.2"	45° 26' 25.0"	4.8-6.3	na	43	Extremely cool, 2,760K/red giant star "La superba"; among the coolest visible true stars known (i.e. not a brown dwarf)
5	CS/VS	Mu Cephei	Cep	21h 43' 30.4"	58° 46' 48.0"	3.4-5.1	na	73	Very cool, 3,551K/red supergiant star "Herschel's Garnet Star/Erakis"
6	DS	Alpha Piscium	Psc	02h 02' 02.7"	02° 45' 49.0"	4.1, 5.2	1.9"	4	Alrescha, very tight double star.
7	DS	Alpha Herculis	Her	17h 14' 38.8"	14° 23' 25.0"	3.5, 5.4	4.8"	54	Rasalgethi, double star, one is similar temperature/color to sun, one is two types cooler (more red) Class G, Class M
8	DS	95 her	Her	18h 01' 29.9"	21° 35' 44.0"	4.9, 5.2	3.6"	54	Double star, one is similar temperature/color to sun, one is two types hotter (more white/blue) Class G, Class A
9	EN	IC5146	Cyg	21h 53' 30.0"	47° 16' 00.0"	7.2	12'	73	C19, Cocoon Nebula
10	EN	NGC7635	Cas	23h 20' 42.0"	61° 12' 00.0"	11.0	15'	71	C11, Bubble Nebula
11	EN	NGC6888	Cyg	20h 12' 30.0"	38° 25' 00.0"	7.4	20'	62	C27, Crescent Nebula
12	GC	M71	Sge	19h 53' 46.4"	18° 46' 45.0"	9.3	3.3'	64	NGC6838, large dim globular cluster
13	GC	NGC6522	Sgr	18h 03' 34.0"	-30° 02' 02.0"	9.5	9.4'	67	Globular in Baade's Window, try all 3 in wide view
14	GC	NGC6528,	Sgr	18h 04' 49.6"	-30° 03' 22.0"	11.1	5'	67	Globular next to dark nebula, try all 3 in wide view
15	DN	B298	Sgr	18h 05' 11.0"	-30° 05' 00.0"	na	6'	67	Dark nebula next to Globular, try all 3 in wide view
16	GX	NGC7814	Peg	00h 03' 15.0"	16° 08' 44.0"	11.6	4.4"	5	C43, Little Sombrero Galaxy
17	GX	IC342	Cam	03h 46' 48.5"	68° 05' 46.0"	9.7	20'	11	C5, Hidden Galaxy
18	GX	NGC2403	Cam	07h 36' 51.4"	65° 36' 09.0"	8.8	20'	21	C7, several HII regions across the face
19	GX	NGC3184	Uma	10h 18' 16.9"	41° 25' 28.0"	10.4	7.4'	33	Barred spiral galaxy
20	GX	NGC4565	Com	12h 36' 19.4"	25° 59' 26.0"	10.4	15'	45	C38, Needle Galaxy
21	GX	NGC4631	Cvn	12h 42' 07.9"	32° 32' 31.0"	9.5	14'	43	C32, Whale Galaxy
22	GX	NGC4889	Com	13h 00' 08.1"	27° 58' 37.0"	12.5	2.6'	45	C35, Coma B, Giant Elliptical, challenge
23	GX	NGC6822	Sgr	19h 44' 57.0"	-14° 48' 00.0"	9.3	17'	66	C57, Bernard's Galaxy
24	GX	NGC6946	Cyg	20h 34' 52.6"	60° 09' 13.0"	9.8	11'	61	C12, Fireworks Galaxy
25	GX	NGC7479	Peg	23h 04' 56.7"	12° 19' 22.0"	11.7	3.6'	74	C44, spiral, prominent bar, some aperture needed to discern
26	OC	NGC188	Cep	00h 47' 28.0"	85° 15' 00.0"	8.9	17'	1	C1, open cluster with multiple chains
27	OC	NGC2169	Ori	06h 08' 24.0"	13° 56' 59.0"	6.0	5'	14	"37"
28	OC/EN	NGC7023	Cep	21h 01' 35.0"	68° 10' 00.0"	7.1	5'	61	C4, Iris Nebula
29	OC	NGC7044	Cyg	21h 13' 09.0"	42° 29' 00.0"	12.0	6'	62	Large open cluster, subtle
30	PN	M76	Per	01h 42' 22.1"	51° 34' 03.0"	10.1	2.7"	2	Little Dumbell/Cork Nebula
31	RN	IC405	Aur	05h 16' 12.0"	34° 16' 00.0"	10.0	30'	12	C31, Flaming Star Nebula
32	PN	NGC6302	Sco	17h 13' 44.3"	-37° 05' 57.0"	9.7	1.4"	58	C69, Bug Nebula, challenge (low)
33	PN	NGC6543	Dra	17h 58' 33.2"	66° 36' 07.0"	8.1	22"	61	C6, Cat's Eye Nebula (Also North Ecliptic Pole)
34	PN	NGC6781	Aqu	19h 18' 28.3"	06° 32' 31.0"	11.6	1.9"	65	Nice, fairly dim planetary nebula
35	PN	NGC7662	And	23h 25' 54.3"	42° 32' 08.0"	8.3	32"	72	C22, Blue Snowball

Key:									4/25/2023 v1.0
P	Planet	DP	Dwarf Planet						
GX	Galaxy	SC	Star Cloud						Locations J2000.0
GC	Globular Cluster	S	Star						From Starry Night 8
OC	Open Cluster	DS	Double Star						July 21, 2022, 1 PM
PN	Planetary Nebula	MS	Multiple Star						(except as noted)
EN	Emission Nebula	CS	Carbon Star						
SN	Supernova Remnant	VS	Variable Star						
DN	Dark Nebula	Ast	Asterism						