

2014 TMSP Observer's Challenge

Atlas page #s												
#	Object	Object Type	Common Name	RA, DEC	Const	Mag	Mag.2	Size	Sep.	U2000	PSA	
1	IC 1287	Bright Nebula		18h31m25s -10°47'45"	Scutum			20'.0		295	67	
	SAO 161569	Double Star		18h31m25s -10°47'45"		5.77	9.31		12.3"			Near center of IC 1287
	NGC 6649	Open Cluster		18h33m28s -10°24'10"		8.9m Integrated		5'				Can be seen in 3/4d FOV with above. Brightest star is 13.2m. Approx 50 stars visible in Binos
2	NGC 6633	Open Cluster		18h28m +06°34'	Ophiuchus	4.6m integrated		27'		205	65	Visible in Binos and is about the size of a full Moon, brightest star is 7.6m
3	IC 4665	Open Cluster		17h46m18s +05°43'	Ophiuchus	4.2m Integrated		60'		203	65	2x diameter of a full Moon. Try to view this cluster with your naked eye, binos, and a small scope. Also check out "Tweedle-dee and Tweedle-dum to the east (IC 4756 and NGC 6633)
4	Harvard 20	Open Cluster		19h53m27s +18°19'12"	Sagitta	7.7m integrated		6'		162	64	A loose open cluster with a faint concentration of stars in a rich field, contains about 15-20 stars. Brightest star is 9.8m, 5 stars 9-11m, remainder about 12-13m. This is a challenge object to improve your observation skills. Can you locate the miniature coathanger close by at 19h 37m 27s +19d?
5	Corona Borealis	Constellation star asterism			Corona Borealis						55	Trace the 7 stars making up this constellation, observe and list the colors of each star
	Theta Corona Borealis	Double Star		15h 32' 55" +31° 21' 32"		4.2m	6.6m		.97"		55	Theta requires about 200x
6	Apex of the Sun's way	Point in the sky		18h 28" +30°0'0"	Lyra					117	63	The direction our Sun travels in our galaxy. Recommend you lie on the ground, look up and feel the Milky-Way wind blowing at you at 16.5 kms/sec. Combine this with the 220 kms/sec our galaxy is rotating at the Sun's location and it becomes quite breezy!!
	HP90627, HIP90632, ???	Multiple stars		18h 29'33" +29°58'45"		about 9m	????		???	117	63	3 double stars close together. No information on separation or companion magnitude. Can you split them? SEE FINDER CHART
7	Omega1 Cygni	Triple Star		20h30.5" +49°13'13"	Cygnus	5.0m	B- 12.9m C-9.4m		AB-17" AC-59"	85	62	
	Omega2 Cygni	Triple Star	Ruchba	20h30'30" +49°0'0"		5.4m	B-9.7m C- 13.5m		AB-59" AC-20"			
	Sh755	Double Star		20h31'0" +49°13'0"		6.9m	9.2m					In same field as Omega 2 -- shown overlapping Omega2 on Pocket Sky atlas and Uranometria
8	IC 4756	Open Cluster		18h39'05" +05° 27'09"	Serpens Cauda	4.6m integrated		40'.0		205	65	Another challenge with a diffuse cluster of 466 stars in this cluster with 75 visible. Recommend you try this naked eye first (unresolved glow) Best in a 6" richfield scope. Also this is about 2.5 degrees from #2 on the list. Can you see both in binos?
9	Quasar 1634+706	Quasar		16h34'29" +70° 31'33"	Draco	14.4m				29	51	The most distant object observable to the amateur at nearly 9 billion light years away nearly 2/3 the way to the edge of the visible universe!
10	AR Cassiopea	Multiple star		23h30'0" +58° 32'56"	Cassiopea	4.9m	9.3m		AB=0.8"	35		10 components in this system. This could keep you busy half the night and require a large variety of magnifications. Components AC 4.9m -7.2m SEP=76" PA=356d, AE 4.9m - 11.3m SEP=40" PA117d, AF 4.9m - 10.6m SEP=67" PA338d, AG 4.9m - 11.1m SEP=67" PA=347, FG 10.6m - 10.8m SEP=11" PA73d, AI 4.9m - 9.9m SEP=231" PA=207, CD 7.2m - 9.1m SEP=1.4" PA=215, CH 7.2m - 13.0m SEP=26" PA=338d, Ia, Ib 10.4m - 10.8m SEP=0.3" PA=287 (ADS16792) PHEW!!!!!!!
11	NU Scorpii	Quadruple Star	Mitchel 2	16h11'59" -19°27'39"	Scorpius	4.4	B-5.3m C-6.6 m D-7.2.		AB-1.4" AC-41" CD-2.2"		56	This star was occulted by the planet Mercury in 1821 and Venus in 1852. Occulted by Neptune in 1802
12	"Tommy's Tail"	Asterism+double star	75 Cygni	21h40'20" +43°16'15"	Cygnus	5.3m	9.8m	2.7"		86	73	Start your search with 75 Cygni and drift W to E to 2 more double stars. From there trace a 9 star linear trail to the north.
13	ARP 113	Galaxy cluster	NGC67 68 69 70 71 72 72A	0h19'11" +30°08'48"	Andromeda	12.9 - 14.8m				89		Just northeast of Alpheratz (alpha Andromeda) Eight lenticular and spiral galaxies. A galaxy cluster similar to Stephan's Quintet. A tough challenge
14	NGC 1	Spiral galaxy		0h8'42" +27°47'19"	Pegasus	12.9m		1.5x1'		89		Very first objects listed in NGC catalog. Located between 11m and 14m stars. NGCs 16 and 22 lie in the same FOV
	NGC 2	Spiral galaxy		0h07'16" +27°41'29"		14.2m		1'x0.6'				
15	NGC 7840	Spiral galaxy		0h07'09" +8°23'01"	Pisces	15.2		<1'		170		Very last entry in NGC catalog. Tiny and faint so have fun finding it! NGCs 4,3, 7835, 7837, 7838, will be in the same 12 arc minute field. Can you see any of them?

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16	NGC 133	Open Cluster		0h31'17" +63°21'0"	Cassiopea	9.0m-9.5m		7'		15		3 very diffuse, very open clusters. A real challenge and an opportunity to improve your observing skills. These clusters will be difficult to separate from the background stars. Yell at Kreig, not Tom :-)	
	NGC 146	Open Cluster		0h33'0" +63°18.5'0"		9.1m		6'		15		Located near 10m star. 2-3 "brighter" stars and about 24 visible	
	King 14	Open Cluster		0h31'54" +64°10'0"		8.5m		7'		15		Less compact cluster with stars about 12m. 5 "brighter" stars with about 20+ visible	
17	NGC 7789	Open Cluster	Carolyn's Rose	23h57'24" +56°16'0"	Cassiopea	6.7m		16'		35(59)	3	Known as Carolyn's Rose – can you see loops and dark lanes similar to rose petals? Hazy in binos, stunning in larger instruments.	
18	NGC 957	Open Cluster		2h33'20" +57°34'12"	Perseus	7.6		11'				2	Located 2 degrees West of the Double Cluster NGC 884. Visible in binos. Dominated by a 8.3m star which is a double. You will see 3, 9-10m stars curving away from the core. 30 stars visible in a haze (8" scope)
	HD 15690	Double Star		2h34'38" +57°35'46"		8.3m	9.9m	23"					At edge of NGC 957 cluster
19	NGC 6633	Open Cluster		01h46'0" +61°15'0"	Cassiopea	7.1m int		16'		37		1	Enjoy these three wonderful clusters located near the great "W" competing with the background stars. NGC 663 You can see the brightest stars in binoculars. This cluster contains about 400 stars. How many can you see?
	NGC 659	Open Cluster		01h44'24" +6040'24"		7.9m int		5'					Located about 10' NNE of 44 Cas, and is almost lost in its glare. Try low medium and high powers to get a real feeling of its size and density, the edges are easily lost in the background of the Milky Way.
	NGC 654	Open Cluster		0h43'59" +61°52'58"		6.5m int		5'					Stars are 11m and fainter. There is a 7m star on the south side. There are a lot of unresolved members in the background. Fuzzy and granular ball with averted vision
20	HIP 876	Multiple star		0h10'46" +58°31'56"	Cassiopea	8.4m	9.1m	0.14" (!!!)		35		3	5 Double stars! Three stars located SW of Beta Cas which themselves become a total of 5 doubles!! Numbers from Hipparcos catalog. Specific information is not clear but you will find at the coordinates and can compare with the chart at the info booth. This first star becomes 3 doubles!
	HIP 848	Multiple star		0h10'24" +58°29'22"		7.8m							This star becomes 2 doubles
	V742	Multiple star		0h13'30" +58°13'00"		7m(?)							This star becomes 2 doubles
21	VDB-1	Reflection Nebula		0h10'46" +58°31'56"				1'		35(59)	3 (72)	Very faint and small reflection nebula centered around star 876 listed above (#20) Use of a nebula filter NOT recommended. Rated as "Difficult" - good luck!	
22	Struve 3057	Double Star		0h05'0" +58°32'0"	Cassiopea	6.7m	9.3m	4"		35		3	2 more double stars 1 degree from VDB-1 (#21 above) This double with another double located about 18' E, 9m
	Struve 3062	Double Star		0h06'0" +58°26'0"		6.4m	7.3m	1.6"					
23	Mellote-20	Open Cluster	Alpha Persei Cluster, Collinder 39	3h38'0" +49°0'0"	Cassiopea		1.2m int	3" !		63		13	VERY LARGE, downright HUGE, Open Cluster spanning over 3 degrees. Your eyes, your binos, your rich rich field scope
24	Perseus Galaxy Cluster	Galaxy cluster	Abell 426	3h20'0" +41°30'0"	Perseus	11.6 –13.5m		1.5° FOV		63		13	Consists of NGC 1275=11.6m, NGC 1272=12.5, NGC1270=12.9, NGC 1281=13.5, NGC1293=13.3, NGC 1294=13.1, NGC 1282=12.9 MANY other galaxies in this area. How many can you see????
25	Alpha Delphinus	Multiple star	Sualocin(Nicolaus spelled backwards)	20h39'38" +15°54'43"	Delphinus	3.9m	6.4m	0.2"		209		6	Alpha Delphinus has 7 components, A and G are physical, and B,C,D,E,F are optical. There is some question as to G being a physical companion. Alpha's was named by astronomer Niccolò Cacciatore in the early 1800s. Its name is his first name spelled backwards.
26	Beta Delphinus	Double Star	Rotanev (Venator spelled backwards)	20h38'0" +14°36'0"	Delphinus	4.0m	5.0m	0.6"		209		64	Beta is a physical binary with a period of 27 years. You will need some high magnifications and careful observing skills. Special project: Are you young enough to observe this star each year at TMSP until it completes a full orbit? This star was also named by Niccolò Cacciatore and it the latinized form of his family name spelled backwards. Funny guy that of' Nic, huh?
27	Pleiades	Asterism		You know where									You have seen the Pleiades a hundred times but have you traced out the string of stars south of Alcyone? 6 stars of 7-8-9 magnitude ENJOY!
28	Struve 3053	Double Star		0h3'0" +66°0'0"	Cassiopea	6m	7.2m	15"					
	Cederblad 214	Emission nebula			Cepheus			40' x 50'		15		1	Cederblad 214 located aprox 1.5 degrees N of Struve 3053. A very large rather faint nebulosity with the open cluster Berkeley 59 imbedded in its norther portion. Open cluster NGC 7762 lies just to the west.
29	Blanco-1	Open Cluster		0h4'24" -29°56'24"	Sculptor	4.8m int		89'				7	An open cluster with about 30+ stars visible, 170 stars down to 12 th mag.
30	Observer's Choice												Choose and observe your favorite object and enter here.