

# Virtual Ghost Hunt Challenge 10/21 /2020

(Sorry we can meet in person this year or give out awards but try doing this challenge on your own.)



Participant's Name \_\_\_\_\_

Categories for the competition:

**Manual Telescope**

**Electronically Aided Telescope**

**Binocular**

**Astrophotography** (best photo)

(if you expect to compete in more than one category please fill-out a sheet for each)

\*\* There are four objects on this list that may be beyond the reach of beginning astronomers or basic telescopes. Therefore, we have marked these objects with an \* and provided alternate replacements for you just below the designated entry. We will use the primary objects to break a tie if that's needed.

## TAS Ghost Hunt Challenge - Page 2

Time Observed	#	Designation	Type	Con.	RA	Dec.	Mag.	Size	Common Name
<b>Facing West - 7:30 8:30 p.m.</b>									
	1	M17	EN	Sgr	18h21'	-16°11'	6.0	40'x30'	Omega Nebula
	2	M16	EN	Ser	18h19'	-13°47'	6.0	17' by 14'	Ghost Puppet Nebula
	3	M10	GC	Oph	16h58'	-04°08'	6.6	20'	
	4	M12	GC	Oph	16h48'	-01°59'	6.7	16'	
	5	M51	Gal	CVn	13h30'	47h05''	8.0	13.8'x11.8'	Whirlpool
<b>Facing West - 8:30 - 9:00 p.m.</b>									
	6	M101	GAL	UMa	14h03'	54°15'	7.9	24x22.9'	
	7	NGC 6572	PN	Oph	18h12'	06°51'	7.3	16"x13"	Emerald Eye
	8	NGC 6426	GC	Oph	17h46'	03°10'	11.0	4.2'	
	9	NGC 6633	OC	Oph	18h28'	06°31'	4.6	20'	Tweedledum
	10	IC 4756	OC	Ser	18h40'	05°28''	4.6	39'	Tweedledee
	11	M26	OC	Sct	18h46'	-09°22'	8.0	7.0'	
	12	NGC 6712	GC	Sct	18h54'	-08°41'	8.1	9.8'	
	13	M13	GC	Her	16h42'	36°25'	5.8	20'	Great Hercules Cluster
	14	NGC 6709	OC	Aql	18h52'	10°21'	6.7	14'	Flying Unicorn
	15	M71	GC	Sge	19h55'	18°50'	8.2	7'	
	16	M27	PN	Vul	20h00'	22°43'	7.3	8'x6'	Dumbbell Nebula
	17	M56	GC	Lyr	19h17'	30°13'	8.3	9'	
	18	M57	PN	Lyr	18h54'	33°03'	8.8	1.4'x1.1'	Ring Nebula
	19	M92	GC	Her	17h18'	43°07'	6.44	14'	
	20	M72	GC	Aqr	20h54'	-12°32'	9.2	6'	
<b>Facing West - 9 - 10 p.m.</b>									
	21	NGC 7009	PN	Aqr	21h05'	-11°17'	7.8	30"x24"	Saturn Nebula
	22	NGC 6934	GC	Del	20h34'	07°24'	8.8	7'	
	23	NGC 7006	GC	Del	21h07'	16°11'	10.6	3.6'	
	24	NGC 6940	OC	Vul	20h35'	28°17'	6.3	13'Mothra	Cocoon Nebula
	25	NGC 6888	EN	Cyg	20h12m	38°21'	8.8	18'x13"	Crescent Nebula
	26	NGC 6826	PN	Cyg	19h45'	50°32'	8.5	27"x24"	Blinking Planetary
	27	NGC 6543	PN	Dra	17h59'	66°38'	8.1	23"x17"	Cat's Eye Nebula

## TAS Ghost Hunt List - Page 3

<b>Facing West 10- 11 p.m.</b>									
	28	NGC 7293	PN	Aqr	22h31'	-20°41'	6.0	12'x10'	Helix Nebula/ Eye of God
	29	M2	GC	Aqr	21h34'	-0°49'	6.3	16'	
	30	M15	GC	Peg	21h30'	12°10'	6.0	18'	
	31	NGC 6992/95	SNR	Cyg	20h56'	31°43'	7.5	60'x8'	Eastern Veil Nebulas
	32	NGC 6960	SNR	Cyg	20h46'	30°43'	7.9	70'x6'	Western Veil Nebula
	33	NGC 6866	OC	Cyg	20h04'	44°10'	7.6	15'	Frigate Bird Cluster
	34	NGC 6819	OC	Cyg	19h41'	40°11'	7.3	5'	Fox Head Cluster
	35	Northern Coalsack	Dark Nebula	Cyg	20h40'	41°00'	~	480'x300'	Naked Eye Object
	36	NGC 7000	EN	Cyg	20h59'	44°20'	3.8	100'x60'	North American Nebula
<b>Facing West - 11 p.m. - 12 a.m.</b>									
	37	IC 5146	EN	Cyg	21h53'	47°16'	9.3	10'x10'	Cocoon Nebula
	38	NGC 7008	PN	Cyg	21h01'	54°33'	9.9	98"x75"	Coat Button
	39	NGC 7331	Gal	Peg	22h37'	34°25'	9.5	10'x4.5'	Deer Lick Group
	40	NGC 7662	PN	And	23h26'	42°32'	8.3	32"x28"	Blue Snowball
	41	NGC 7789	OC	Cas	23h58'	56°43'	6.6	25'	Screaming Skull
	42	M52	OC	Cas	23h25'	61°36'	6.9	16'	Scorpion Cluster
	43	NGC 7023	RN	Cep	21h02'	68°10'	7.7	10'x8'	Iris Nebula
<b>Facing South - 12a.m. - 1:30 a.m.</b>									
	44	NGC 246	PN	Cet	0h47'	-11°52'	10.9	5'x4'	Skull Nebula
	45	M74	Gal	Psc	1h37'	15°47'	8.5	10.5'x9.5'	Phantom Galaxy
	46	M33	Gal	Tri	1h34'	30°39'	5.7	71'x42'	Pinwheel Galaxy
	47	NGC 404	Gal	And	1h09'	35°43'	9.8	7'x7'	Ghost of Mirach
	48	M31	Gal	And	0h43'	41°16'	3.4	3°x1°	Andromeda Galaxies/ These 3
	49	M32	Gal	And	0h43'	40°52'	8.2	9'x7'	Galaxies Can Be Seen Together In A
	50	NGC 205	Gal	And	0h42'	41°54'	8.0	16.2'x9.6'	Very Wide Field/ Low Power Ocular
	51	NGC 185	Gal	Cas	0h39'	48°20'	9.2	17'x14'	Satellite of M31
	52	NGC 147	Gal	Cas	0h33'	48°30'	9.5	18'x11'	Satellite of M31
	53	NGC 281	EN	Cas	0h53'	56°37'	7.8	35'x30'	Pac-Man Nebula
	54	NGC 457	OC	Cas	1h20'	58°17'	6.4	20'	Owl Cluster/ E.T. Cluster
	55	NGC 663	OC	Cas	1h46'	61°13'	6.7	15'	Horseshoe Cluster
	56	NGC 559	OC	Cas	1h30'	63°18'	9.5	7'	Ghost's Goblet Cluster

## TAS Ghost Hunt List - Page 4

### Facing South 1:30 – 2:30 a.m.

57	NGC 869/884	OC's	Per	02h21'	57°08'	5.3/6.1	18'/18'	Double Cluster in the same view
58	M76	PN	Per	1h42'	51°34'	10.1	67"	Little Dumbbell/ Cork Nebula
59	NGC 752	OC/Ast	And	1h58'	37°50'	5.7	75'	OC in Telescope/Golf Ball & Putter in Asterism in Binoculars
60	NGC 891	GAL	And	2h23'	42°21'	9.9	12'x3'	Outer Limits Galaxy
61	M34	OC	Per	2h42'	42°45'	5.2	25'	
62	NGC 1023	GAL	Per	2h40'	39°04'	9.3	7.5'x3'	Perseus Lenticular Galaxy
63	NGC 1535	PN	Eri	4h14'	-12°44'	9.1	48"x42"	Cleopatra's Eye
64	M45	OC	Tau	3h48'	24°06'	1.5	2°	Pleades Cluster
65	NGC 1333	RN	Tau	3h29'	31°25'	5.7	6'x3'	Embryo Nebula
66	NGC 1528	OC	Per	4h15'	51°13'	6.2	18'	M & M Double
67	NGC 1545	OC	Per	4h21'	50°15'	6.2	12'	M & M Double
68	NGC 1501	PN	Cam	4h07'	60°55'	10.6	56"x48"	Oyster Nebula
69	IC 342	GAL	Cam	3h47'	68°06'	7.9	16'	
70	NGC 188	OC	Cep	0h48'	85°15'	7.1	15'	
71	NGC 40	PN	Cep	0h13'	72°31'	12.3	38"x35"	Bow Tie Nebula
72	NGC 1360	PN	For	3h33'	-25°52'	9.1	9'x5'	Comet Planetary Nebula

### Facing South 2:30 – 3:30 a.m.

73	M79	GC	Lep	5h24'	-24°32'	7.7	6'	
74	NGC 1999	EN	Ori	5h37'	-06°42'	9.5	2'x2'	Rubber Stamp Nebula
75	M42	EN	Ori	5h35'	-05°23'	3.7	1.5°x1°	Look for the Fish's Mouth & Trapezium
76	M43	EN	Ori	5h36'	-05°16'	6.8	20'x15'	DeMairan's Nebula
77	NGC 1973/5/7 (*NGC 2017)	EN OC	Ori Lep	5h36' 5h40'	-04°52' -17°49'	6.3 ?	20'x10' 12'	Running Man Double Stars Galore
78	NGC 2024 (*NGC1662)	EN OC	Ori Ori	5h42' 4h°50'	-01°51' 10°58'	7.2 6.4	30'x30' 20'	The Lips Klingon Battle Cruiser
79	M78	RN	Ori	5h47'	00°03'	8.0	8'x6'	
80	NGC 1647	OC	Tau	4h46'	19°07'	6.2	40'	Pirate Moon Cluster
81	NGC 2163 (*NGC 2169)	En OC	Ori Ori	9h32' 6h08'	18°39' 13°57'	11 5.9	3'x2' 5'	----- The Answer
82	M1	SNR	Tau	5h35'	22°01'	8.0	6'x4'	Crab Nebula

## TAS Ghost Hunt List Page 5

### Facing South - 2:30 - 3:30 a.m.

83	NGC 2175 NGC 2395	EN OC	Ori Gem	6h10' 7h28'	13°33'	6.9 8.0	40'x30' 14'	----- Astronomer's Cluster
84	M35	OC	Gem	6h09'	24°21'	5.1	25'	Amazing
85	IC 405	EN	Aur	5h16'	34°16'	6.0	30'x20'	Flaming Star Nebula
86	NGC 1931	OC/EN	Aur	05h33'	34°16'	10.1	17'	Spider & Fly

### Facing East 3:30 - 4:30 a.m.

87	M41	OC	CMa	6h46'	-20°45'	4.5	40'	Little Beehive
88	NGC 2301	OC	Mon	6h52'	00°28'	6.0	15'	Hagrid's Dragon
89	MGC 2237-9	EN/OC	Mon	6h32'	05°03'	5	80'x60'	Rosette Nebula with OC
90	NGC 2261	RN	Mon	6h39'	08°44'	10	3.5'x1.5'	Hubble's Variable Nebula
91	NGC 2392	PN	Gem	7h29'	20°55'	9.2	47"42"	Eskimo Nebula
92	M44	OC	Can	8h40'	19°40'	3.1	1.2°	Beehive Cluster
93	NGC 2683	GAL	Lyn	8h53'	22°25'	9.8	9'x3'	UFO Galaxy
94	NGC 2419	GC	Lyn	7h40'	38°50'	10.4	4.6'	Intergalactic Wanderer
95	NGC 2841	GAL	UMa	9h22'	5059'	9.0	7'x3'	Tiger's Eye Galaxy
96	M81	GAL	UMa	9h56'	69°04'	6.9	27'x14'	Bode's Galaxy
97	M82	GAL	UMa	9h56'	69°41'	8.4	11'x4'	Cigar Galaxy (both 81 & 82 can be seen in a very wide field view)
98	M97	PN	UMa	11h15'	55°01'	9.9	3'	Owl Nebula
99	M108	GAL	Uma	11h12'	55°40'	10	9'x2'	

### Facing East 4:30 a.m. - Dawn

100	NGC 2467	EN	Pup	7h35'	-26°24'	8.0	16'x12'	
101	NGC 2440	PN	Pup	7h42'	-18°13'	9.1	74"42"	Albino Butterfly
102	NGC 2903	GAL	Leo	9h32'	21°30'	9.0	12'x26'	
103	NGC 4236	GAL	Dra	12h17'	69°28'	9.6	20'x8'	Dumbledore's Challenge
104	NGC 4449	GAL	CVn	12h28'	44°06'	9.6	5'x4'	Box Galaxy
105	NGC 4631	GAL	CVn	12h42'	32°32'	9.2	15'x3.5'	Whale Galaxy
106	NGC 4656	GAL	CVn	12h45'	32°03'	9.4	6.5'x0.5'	
107	Mel 111	OC	Com	12h25'	26°07'	1.6	300'	Flying Witch Cluster
108	NGC 4565	GAL	Com	12h36'	25°59'	9.6	16'x2'	
109	NGC 3628	GAL	Leo	11h20'	13°35'	9.5	15'x3'	King Hamlet's Ghost

# Ghost Hunt - Page 6



**Key:** Time Observed; # = Ghost Hunt Number; Con. = Constellation; R.A. = (Right ascension 2000.0); Dec. = (Declination 2000.0); Mag. = Visual magnitude; DN = Dark Nebula; EN = Emission Nebula; Gal = Galaxy; GC = Globular cluster; OC = Open cluster; PN = Planetary Nebula; RN = Reflection Nebula, SNR = Supernova remnant

**\*\*If you plan to observe objects for AL observing programs at this event, remember they must be accompanied with carefully noted observations of the field of view, time, conditions and equipment used. So take your time to record all of that information and do your homework to study the AL list(s) you plan to include. Objects included in this list are from, but not limited to the following AL programs: Messier, Caldwell, Open Clusters, Globular Clusters, Planetary Nebula, Herschel 400, Messier Binocular, Deep Sky Binocular, Arp Peculiar Galaxies, Universe Sampler and Asterisms.**

**GOOD LUCK AND GOOD HUNTING**

