

# *The Eldorado Star Party*

## *2016 Binocular and Telescope Observing Clubs*

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### **Purpose and Rules**

Welcome to the Annual ESP Binocular and Telescope Clubs! The main purpose of these clubs is to give you an opportunity to observe some of the showpiece objects of the fall season under the pristine skies of Southwest Texas. In addition, we have included a few items on the observing lists that may challenge you to observe some fainter and more obscure objects that present themselves at their very best under the dark skies of the Eldorado Star Party.

We are repeating the programs from last year because mostly cloudy skies did not offer much opportunity to observe and as a result, very few observers could complete the program. If you finished a good portion of the program last year and would like an additional challenge this year, we encourage you to try one of the previous year's ESP observing programs (*see description below*).

The rules are simple; just observe the required number of objects listed for each program while you are at the Eldorado Star Party to receive a club badge.

#### **Binocular Club**

The binocular club program, "**Binormous**," consists of 25 objects. All items on the list are large and require a field of view of 1 degree or greater to observe them. Because of their apparent size, they are best shown in binoculars which can take in a much larger area of the sky than most telescopes. You need to observe only **21 out of the 25** objects with binoculars to qualify for the Binocular Observing Club badge.

#### **Telescope Club**

The telescope program, "**Mis Amigos Imaginarios**," is a list of 26 objects. This program invites you to use your imagination while observing the objects to see what pictures you can form out of the patterns of stars and nebula contained in them. See if you can spot the accepted depictions as described in the attached observing list notes or perhaps something even better that you see with your own imagination. You only need to observe **24 of the 26** objects on the list with a telescope to qualify for the Telescope Observing Club badge.

#### **Previous ESP Observing Clubs**

ALL previous observing programs offered at ESP from 2004 onward are still available. Club badges from these earlier programs (*with the exception of 2009 - Texas Hash*) are also available and will be awarded to anyone completing them at ESP. Check the Eldorado Star Party website at [www.eldoradostarparty.org](http://www.eldoradostarparty.org) to select one (or more!) of these observing lists.

#### **Club Badges**

Any size telescope or binocular can be used to complete the observing programs. Again, all observations must be made at the Eldorado Star Party in order to qualify for an ESP observing badge. To receive your badge, please turn in your observations to Bill Flanagan any time during ESP. I will try to be available on the observing field as well as in the Lodge prior to the meals and talks. If you finish the list on the last night of ESP, or I am not available to give you your badge, just mail a copy of your observations to me at 815 Azalea, Houston, TX 77018, and I will send you your badge.

Good Luck and Good Observing!

## *Binormous*

Primary ID	Alternate ID	Type	Con	RA 2000	Dec 2000	Mag	Size	Date	Time
IC 4665	Collinder 349	Open	Oph	17h46m18s	+05°43'00"	5.3	70'		
B 111		Dark	Sct	18h50m00s	-05°00'00"	Opa 6	120'		
Collinder 399	OCL 113	Open	Vul	19h25m24s	+20°11'00"	4.8	89'		
Barnard's E	B 142/143	Dark	Aql	19h40m25s	+10°46'00"	Opa 6	66' x 45'		
Northern Coalsack		Dark	Cyg	20h40m00s	+41°00'00"	Opa 1	8.0°		
Veil Complex		Neb	Cyg	20h51m20s	+31°05'23"	7.0	3.2°		
North American Neb	NGC 7000	Neb	Cyg	20h58m30s	+44°22'28"	4.0	120'		
Lucky 7		AST	Cas	23h03m00s	+59°30'00"	5.0	2.1°		
Andromeda Galaxy	M 31	Gal	And	00h42m44s	+41°16'07"	4.3	2.6° x 1.1°		
Pinwheel Galaxy	M 33	Gal	Tri	01h33m50s	+30°39'36"	6.4	62'x 36'		
Muscle Man Cluster	Stock 2	Open	Cas	02h14m43s	+59°29'06"	4.4	60'		
Double Cluster		Open	Per	02h20m00s	+57°08'00"	4.3	60'		
Collinder 39	Melotte 20	Open	Per	03h24m19s	+49°51'42"	2.3	5.0°		
Kemble's Kite		AST	Cas	03h28m00s	+72°00'00"	6.0	90'		
Pleiades	M 45	Open	Tau	03h47m00s	+24°07'00"	1.5	120'		
Kemble's Cascade		AST	Cam	04h00m00s	+63°00'00"	6.0	2.5°		
California Nebula	NGC 1499	Neb	Per	04h03m12s	+36°22'00"	5.0	120' x 41'		
Davis' Dog		AST	Tau	04h22m30s	+21°25'00"	5.0	3.5° x 1.5°		
Hyades	Collinder 50	Open	Tau	04h26m54s	+15°52'00"	0.8	5.5°		
Smiley Face		AST	Aur	05h27m00s	+35°00'00"	6.0	100'		
Orion's Sword		Neb	Ori	05h35m05s	-05°07'42"	3.0	120' x 50'		
Collinder 69	OCL 479	Open	Ori	05h35m06s	+09°56'00"	2.8	70'		
Orion's Belt	Collinder 70	Open	Ori	05h35m30s	-01°06'00"	0.6	2.3°		
Rosette	NGC 2237	Neb	Mon	06h32m02s	+04°59'10"	5.5	70' x 60'		
Beehive	M 44	Open	Cnc	08h40m24s	+19°40'00"	3.9	70'		

# *Mis Amigos Imaginarios*

Primary ID	Alternate ID	Type	Con	RA 2000	Dec 2000	Mag	Size	Date	Time
Mini-Coathanger		AST	UMi	16h29m21s	+80°16'52"	10.0	20'		
S Cluster	Backwards 5	AST	Her	16h36m06s	+30°45'00"	8.0	20'		
Little Scorpion	DoDz 6	Open	Her	16h45m27s	+38°21'01"	8.0	3.5'		
Sailboat	DoDz 7	Open	Her	17h11m26s	+15°28'35"	10.0	10'		
Little Teapot	Markov 1	AST	Her	17h57m13s	+29°27'21"	7.0	15'		
Ruby Ring	Webb's Wreath	AST	Her	18h02m17s	+26°16'36"	7.0	11'		
Eagle	M 16	Neb	Ser	18h18m48s	-13°49'10"	6.0	9' x 4'		
Swan	M 17	Neb	Sgr	18h20m48s	-16°11'00"	6.0	11'		
Little Queen	W Cluster	AST	Dra	18h35m26s	+72°22'44"	7.0	21'		
Wild Duck Cluster	M 11	Open	Sct	18h51m05s	-06°16'12"	6.1	32'		
Meerschaum Pipe		AST	Cyg	19h51m00s	+30°07'00"	9.0	22'		
Dumbbell	M 27	PNe	Vul	19h59m36s	+22°43'16"	7.3	8'		
Triangle / "Y"	M 73	Open	Aqr	20h58m55s	-12°38'00"	8.9	9'		
Horseshoe		AST	Cyg	21h08m18s	+47°14'00"	10.0	25'		
Seedling		AST	Peg	21h43m00s	+10°20'00"	10.0	45'		
E. T. / Owl	NGC 457	Open	Cas	01h19m35s	+58°17'12"	5.1	20'		
Little Dumbbell	M 76	PNe	Per	01h42m20s	+51°34'31"	10.1	2.7'		
David's 'D'	Umbrella	AST	Tri	01h50m12s	+27°04'13"	9.0	10'		
Letter "D"		AST	Eri	03h39m10s	-01°45'22"	9.5	30'		
Elosser 1		AST	Ori	04h50m54s	+07°51'26"	7.0	21'		
Metronome		AST	Ori	05h22m35s	+07°04'35"	7.0	17' x 12'		
Spermatozoon		AST	Tau	05h42m51s	+21°23'20"	8.0	30'		
Funnel	The Martini	AST	Lep	05h45m47s	-15°55'26"	9.5	30'		
37 Cluster	NGC 2169	Open	Ori	06h08m24s	+13°57'54"	7.0	5'		
Arrowhead		AST	Mon	06h40m33s	-09°00'00"	8.0	7'		
Christmas Tree	NGC 2264 & Cr 112	Open	Mon	06h41m00s	+09°40'00"	9.5	30'		

## *Mis Amigos Imaginarios – Observing List Notes*

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### **Mini-Coathanger**

8 stars form the bar of the coat hanger with 3 stars forming the hook. Looks like a small faint version of the Coathanger in Vulpecula.

### **S Cluster**

A group of stars forming the letter 'S' or a backwards '5'.

### **Little Scorpion**

A group of 6 stars in the shape of a little scorpion. 4 stars form the curved tail with 2 brighter stars marking the pinchers.

### **Sailboat**

A group of 7 stars make up the hull of the sailboat with 3 stars creating the mast.

### **Little Teapot**

A group of 9 stars of 9<sup>th</sup> to 10<sup>th</sup> magnitude in a pattern similar to the constellation Sagittarius.

### **Ruby Ring**

An asterism of fairly faint stars in the shape of a ring. A bright 7<sup>th</sup> magnitude orange star is the ruby.

### **Eagle**

Look for the eagle in the faint nebulosity of M16.

### **Swan**

Look for the swan swimming on a lake in the nebulosity of M17.

### **Little Queen**

A 'W' shaped asterism of 7<sup>th</sup> and 8<sup>th</sup> magnitude stars that looks like a small version of Cassiopeia.

### **Wild Duck Cluster**

Look for the distinctive chevron patterns in the stars making up the open cluster M11 that resemble a flock of wild ducks flying in the sky.

### **Meerschaum Pipe**

The stem of the pipe is made up of 5 stars in line with 3 stars making up the bowl.

### **Dumbell**

Look for the pinched center of the nebulosity of M27 that gives it the appearance of a dumbbell.

### **Triangle**

Look for the triangle shape of the 4 stars of M73.

## *Mis Amigos Imaginarios – Observing List Notes*

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### **Horseshoe**

Look for the U-shape asterism made up stars ranging from 10<sup>th</sup> to 11<sup>th</sup> magnitude.

### **Seedling**

Look for a group of stars ranging between magnitudes 10 to 12 forming the shape of a small tree or seedling.

### **E.T.**

Look for the stick figure that is in the shape of the ET with 2 bright stars marking his eyes. It was also known as the Owl cluster before the movie was released.

### **Little Dumbbell**

Look for the shape of the dumbbell in the nebulosity of M 76 which looks like a smaller version of its bigger brother dumbbell, M 27.

### **David's D**

About 13 stars in the field that form the capital letter 'D'.

### **Letter "D"**

Eight stars forming the letter 'D'.

### **Elosser 1**

An interesting pattern formed with about dozen stars that are hooked around a golden 9<sup>th</sup> magnitude star.

### **Metronome**

Six stars forming a pattern that looks like a metronome.

### **Spermatozoon**

A chain of nearly equal magnitude stars about ½ degree long that end with a triangular head. The brightest one of the group lies at the point of the triangular head.

### **Funnel**

Seven stars forming a funnel. An 11<sup>th</sup> magnitude star on the SE corner of the funnel also gives the impression of a toothpick holding an olive in a martini.

### **37 Cluster**

Look for the shape of the number '37' in this open cluster.

### **Arrowhead**

Look for the arrowhead formed by six relatively faint stars. Also know as the Unicorn's Horn.

### **Christmas Tree**

The triangle pattern of stars pointing south looks like a Christmas tree. A bright magnitude 5 star is at the base of the tree highlighting the trunk of the tree.