The Eldorado Star Party
2012 Binocular and Telescope Observing Clubs

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(who is grateful to Bill Flanagan and Brad Walter for their generous help!)

Purpose and Rules

Welcome to the Annual ESP Binocular and Telescope Clubs! Their purpose is to give you the opportunity to observe some Fall showcase objects under the pristine Southwest Texas skies, thus displaying them to their best advantage. This year, we will try to demonstrate that *some* clouds are ***welcome***!

Here are two batches of wonderful ***nebulae*** ("cloud of gas and dust") which can be fascinating, under good conditions. There are several types - planetaries, "bright", "emission", "dark", "diffuse"— each with its own, special character. While some are *relatively* large, and/or bright, and some are ***famous*** (***!***)***,*** many are quite elusive, and should test your skills.

Why *nebulae*? Because they are intimately involved in the life cycle of stars, from their birth in star forming regions, through their violent self-destruction reflected in supernovae remnants.

As you might expect, it will require an effort to detect all the available contrast between the nebulae and the surrounding space; well worth that effort! Thrill of the chase!, Mainly, visually detecting the contrast between the gas and dust, on the one hand, and the surrounding space, on the other, will usually prove the most rewarding. Our old friend"averted vision" helps a lot, since it exploits the relatively greater sensitivity to dim light of the "rods" in the back-of-the-eye which are largely peripheral to the center (chiefly populated by "cones". Since most visual observers agree that the *brain* is the most important player in interpreting what we "see", some of these nebulae certainly challenge us to work on our techniques!

Binocular Club. There is a listing of 25 objects, all observable with binoculars of modest dimension *You need only observe any **15**, your choice*. **Cheat Sheets** *are available in the registration/warming tent*.

Telescope Club. Filters can bring out the best qualities of some of these nebulae, but carefully visually detecting subtle differences in contrast should pay off the most. There is a listing of 25 objects. *You need only observe **20**, your choice*.

More. Please note that ALL the observing programs offered at ESP from 2004 *are still available, together with the badges wh**i**ch correspond***. Check in the registration/warming tent on the observing field to select one (or more!) lists you like.**

Badges. To qualify, all observations must be made at the Eldorado Star Party. Each person qualifying will receive a special badge.

To receive your badge, please turn in your observations to Blackie Bolduc any time during the Party. He will try to be available on the observing field, and prior to meals and Talks in the Lodge.

Binocular *Clouds I Have Known*

ID	Name/*type* of Neb	RA	Dec	Size arc min	Mag	Con	Date/Time Observed
B78	Pipe Neb	17h 33’	-26º 00’	200x140	6.3	Oph	
M20	Trifid Neb	18h 02’	-23º 02’	29	6.3	Sgr	
M8	Lagoon Neb	18h 04’	-24º 23’	90	5.0	Sgr	
M16	Eagle Neb	18h 18’	-13º 46’	35	6.5	Ser	
M17	Omega Neb	18h 20’	-16º 10’	11	7.0	Sgr	
M27	Dumbbell Neb	20h 00’	+22º 43’	8	7.5	Vul	
B145	*dark*	20h 03’	+37º 40’	45		Cyg	
NGC6960	West Veil Neb	20h 46’	+30º 36’	70		Cyg	
IC5070	Pelican Neb	20h 51’	+44º 21’	60x50		Cyg	
NGC6992	East Veil Neb	20h 56’	+31º 45’	60		Cyg	
NGC7000	North America Neb	20h 59’	+44º 31’	120		Cyg	
NGC7009	Saturn Neb	21h 04’	-11º 22’	2	8.5	Aqr	
IC1396	Elephant Trunk Neb	21h 39’	+57º 29’	170	3.5	Cep	
B168	*dark*	21h 53’	+47º 16’	10		Cyg	
NGC7293	Helix Neb	22h 30’	-20º 50’	13		Aqr	
NGC246	Skull Neb	00h 47’	-11º 52’	4	8.0	Cet	
IC1848	Soul Neb	02h 51’	+60º 26’	60x30		Cas	
NGC1333	*emission*	03h 29’	+31º 25’	9		Per	
NGC1535	Cleopatra’s Eye Neb	04h 14’	-12º 44’	1x1	9.6	Eri	
IC2118	Witch Head Neb	05h 05’	-07º 15’	180x60		Eri	
M1	Crab Neb	05h 34’	+22º 01’	6x4	8.4	Tau	
NGC1973	Running Man Neb	05h 35’	-04º 44’	40x25		Ori	
M42	Great Orion Neb	05h 35’	-05º 23’	65x60	4.0	Ori	
NGC1999	*dark+bright*	05h37’	-06º 43’	16x12		Ori	
NGC2174	Monkey Head Neb	06h 09’	+20º 30’	40	6.8	Ori	

Telescope *Clouds I Have Known*

ID	Name/*type* of Neb	RA	Dec	Size	Mag	Con	Date/Time Observed
NGC6210	Turtle in Space	16h 44.5’	+23º 48’	20”	9.5	Her	
Barnard72	Snake Neb	17h 23.6’	-23º 42’	2.5’		Oph	
NGC6543	Cat’s Eye Neb	17h 58.6’	+66º 38’	22”	9.0	Dra	
Barnard86	Ink Spot Neb	18h 03.0’	-27º 52’	5’		Sgr	
Barnard87	Parrot’s Head Neb	18h 04.2’	-32º 29’	5’		Sgr	
NGC6572	Blue Raquetball Neb	18h 12.1’	+06º 51’	15”	9.0	Oph	
Barnard92	Little Piggy Neb	18h 15.6’	-18º 13’	15’x9’		Sgr	
NGC6618	Omega Neb	18h 20.7’	-16º 10’	11’x6’	7.0	Sgr	
NGC6720	Ring Neb	18h 53.6’	+33º 02’	1.5’	9.5	Lyr	
Sh 2-86	*emission*	19h 43.1	+23º 17’	40’	15.0	Vul	
NGC6820	*emission*	19h 42.5’	+23º 05’	30”	15.0	Vul	
NGC6826	Blinking Planetary	19h 44.8’	+50º 31’	27”	9.0	Cyg	
LBN136	*bright*	19h 46.4’	+24º 38’	17’x8’	15.0	Vul	
NGC6888	Crescent Neb	20h 12.0’	+38º 21’	20‘x10’	10.0	Cyg	
Sh 2-106	Hourglass Bipolar	20h 27.4’	+37º 22’	3’x1’		Cyg	
NGC7008	*planetary*	21h 00.5’	+54º 33’	1.4’	13.0	Cyg	
NGC7662	Blue Snowball Neb	23h 25.9’	+42º 32’	37”	9.0	And	
NGC246	*planetary*	00h 47.1’	-11º 52’	3.8’	8.0	Cet	
M76	Little Dumbbell Neb	01h 42.0’	+51º 35’	2.8’	12.0	Per	
IC1805	Heart Neb	02h 32.8’	+61º 28’	50‘x44’	6.5	Cas	
NGC1952	Crab Neb	05h 34.5’	+22º 01’	6’x4’	8.4	Tau	
NGC1982	De Mairan’s Neb	05h 35.5’	-05º 16’	7’x6’	9.0	Ori	
NGC1999	Waterfall Neb	05h 36.5’	-06º 43’	16‘x12’	9.0	Ori	
Barnard 33	Horsehead Neb	05h 41.0’	-02º 27’	6’x4’		Ori	
NGC2068	*reflection*	05h 46.7’	+00º 03’	8’	8.1	Ori	

Commentary on objects from "Telescope *Clouds I Have Known"*

Object	Commentary
Sh 2-86 *emission*	Also known as LBN 135, and associated with open cluster NGC 6823 to its W; very low surface brightness, and very hard to observe, but deserving of an effort. Kepple and Sanner actually list this object as NGC 6820, call it a "faint haze", and recommend O-III or UHC filter.
NGC 6820 *emission*	Also known as IRAS 19403+2258; it is ***much confused with the much larger contiguous Sh 2-8***6 and more clearly matches the description given in Dreyer's original NGC..
NGC 6826 Blinking Planetary	The "blinking" apparently comes from our own eye reactions: stare at the planetary until the brightness overwhelms the eye, and causes the object to begin to fade; glance away, and the planetary's disk reappears. The alteration between direct and averted vision results in the apparent "blinking".
LBN 136 *bright*	Despite its listing in *Lynds Catalog of Bright Nebula* (LBN), it is ***not*** really ***bright***! Extremely low surface brightness. Requires wonderful observing conditions, remarkable eyes, and superb observing techniques!
NGC 6888 Crescent Nebula	Also known as "Van Gogh's Ear"; emission neb formed by stellar winds from a Wolf-Rayet star (W-136) colliding with slower gases shed earlier by same star when it was a red giant; expected to go supernova ....
Sh 2-106 Hourglass Bipolar	Star-forming region; looks like a planetary, but is ***not***: it's a bipolar gas cloud ionized by massive star IRS spreading its wings...
IC 1805 Heart Nebula	Also known as Sh 2-190; sometimes called "Running Dog Nebula"; please do not confuse with its neighbor, IC 1848, the "Soul Nebula" to its E; IC 1805 is associated with an imbedded open star cluster (Melotte 15) in its center. Lies NE of the "Double Cluster"!
Barnard 33 Horsehead Nebula	Very hard to see in telescopes with aperture less than 20", and probably requires an H Beta filter, while the associated IC 434 is more apparent. Using an Ultra Contrast filter, tapping the telescope tube, and pushing averted vision ... Or asking to look through a neighbor's telescope...?