

East Valley Astronomy Club

March 1998

<http://www.goodnet.com/~rkerwin/evac/evac.html>

Scottsdale, Arizona

UFO's and the Amateur Astronomer

(A Closer Look at the March 13, 1997 "Sighting")

By Tim Printy

On March 13, 1997 something strange happened over the state of Arizona. An unusual formation of lights was seen to fly over the entire state. Many people thought it was one or more extraterrestrial spacecraft visiting the state of Arizona and specifically, Phoenix. If so, why did they just fly over the city and not stop by for a visit? Phoenix has a lot to offer doesn't it? I visited the city in July of 1997 on my way west. I was impressed and loved the scenery. I also enjoyed some dark sky astronomy and the desert environment. I drove up to Flagstaff and became somewhat familiar with that area too. I am an amateur astronomer/astrophotographer and recently have begun reading/studying about UFO's. I have been called a "skeptic", "pseudo-skeptic", or "debunker". While UFOlogists think these are derogatory names, they are not and probably accurately describe my attitude towards UFO's. I feel that there is something wrong with accepting the claim that lights in the sky are something extraterrestrial (unless they are talking about meteors, comets, stars etc.) without any form of serious investigation. Carl Sagan wrote in "The Demon Haunted World", "When we notice something strange in the sky, some of us become excitable and uncritical, bad witnesses."

There are so many cases of misidentification in UFO lore. One famous example is the ZOND 4-booster/satellite reentry of March 1968 in which people saw a cigar shaped object with windows flying at treetop level. In reality, the object was many miles high and consisted of debris reentering the atmosphere. The same scenario occurred in November 1997 in the northwest United States. Despite these identifications, UFOlogists wanted to think otherwise and swore up and down that they had witnessed something more

extraordinary. People also put weight into pilots/air traffic controller's sightings. However, Philip Klass reports in the August 1997 issue of *Astronomy* that in June 1969, several pilots over St. Louis saw a "squadron of UFO's" swerve to avoid them. An alert newspaper photographer caught it on film. It was an ordinary fireball seen in daylight (an unusual event, but hardly alien spacecraft). Klass points out that if it were not for the photographer, this would have been an "unexplained" UFO encounter. The pilots were not very accurate. They seriously misidentified the meteors altitude and distance. Allan Hendry, a Center for UFO studies (CUFOS) investigator, pointed out on a NOVA Program (UFO's: Are We Alone?) how Air traffic controllers misidentified the planet Venus as an incoming aircraft and tried to give it directions to land. These are all highly trained people and they do make mistakes. The problem with UFO research is they believe everyone is 100% accurate. This is unacceptable. Amateur astronomers researching bright meteors often run into the general public's misperceptions of such events. Often they will state, "it landed just beyond those trees" or "it whizzed no more than 100 feet over my head." I have heard these descriptions and, of course, they are incorrect. It is not

EVAC & Other Events: 1998

	Mtng	Local	DS	Other
Jan	14	17	24	
Feb	11	21	28	
Mar	11	21*	28*	21: EVAC Cookout* 28: Messier Marathon*
Apr	8	18	25*	4: Astronomy Day 19-26: Texas Star Party 25: Sentinel Star Gaze*
May	13	16	23	22-25: Riverside TMC
Jun	10	20	27	13-20: Grand Canyon SP 27-28: Universe '98
Jul	8	18	25	24-25: Stellafane
Aug	12	15	22	
Sep	9	12	19	11-13: Astrofest 18-19: N AZ Star Party
Oct	14	10	17*	17: All-AZ Star Party*
Nov	11	14	21	
Dec	9	12	19	

the observer's fault, he just is not an accurate recorder of data and is trying to deal with a strange and unusual event that he has no experience with. If you put the passage of time into the equation, the facts get further distorted, and one has to wonder how much is really factual. The astronomer Francis Drake wrote an article for "UFO's: A scientific debate" entitled "On the Abilities and Limitations of Witnesses". He states, "...after five days, people reported more imagination than truth. It became clear that later they were reconstructing in their imagination an event based on some dim memory of what happened. This is something the UFO investigator rarely appreciates."

With this introduction, I want to discuss the UFO incident of March 13, 1997. Although, I do not have all the witness testimony, I have read almost all the updates/reports by the investigators and their conclusions. With the exception of Richard Motzer, the conclusions are *all wrong*. Richard correctly deduced the event I call "the lights in the hills" as flares. This was exposed to a national audience on the Discovery Channel. Despite protests by UFO "investigators" that Richard was out to lunch, it seems he was very accurate in his deductions. However, the lights that flew over the city were still unexplained. The Phoenix New Times had an informative article, written by EVAC member Tony Ortega, about amateur astronomer Mitch Stanley who saw the lights in his 10-inch Dobsonian telescope. He stated that he saw aircraft with lights on the wings flying at a very high altitude. I was intrigued. I had talked to Adam Sunshine just months before when I first heard about the lights. I was curious if any amateur astronomers had seen them. He stated that one astronomer had seen the lights and discovered they were planes. It sounded like the same sighting to me. Reading the article, I was surprised to read how Village Labs dismissed Mitch right away. Village Labs did the same thing with the flare story. Wanting to find the solution to the mystery seems to be the farthest from their minds! Village Labs, Skywatch International, NUFORC, MUFON, and other investigators (not all but most) have developed the attitude that anything that remains unexplained must therefore be an extraterrestrial spacecraft. There is no incentive to find the truth behind the event. Such an insight ruins their ET story. On the Discovery Channel, I was again shocked to see how the crowd, who was obviously pro-ET, appeared to verbally attack Mitch. One can assume that Mitch's observation was similar to an Atheist attending a church revival meeting. One of the witnesses, Mike Fortson, implied on the Internet that Mitch was not being truthful and several of the investigators said he was hesitant in telling his tale. Considering the somewhat "hostile" attitude I briefly saw, I would not doubt a 21-year old amateur astronomer, who probably was not expecting this response, would be hesitant. Fortson also told me that

Mitch's story of high altitude aircraft did not mesh with his perceptions of events. However, Fortson himself provides some key information that gives information that exposes how inaccurate the observers of this event were. Like the ZOND 4, St. Louis fireball, and many other incidents, the witnesses grossly underestimated the altitude of the objects.

Fortson gives exact numbers for his observations. According to him, the object was 2 miles distant, a mile wide, and 1500-2000 feet in altitude. Fortson noted that the object passed between him and the moon that night. This is a key observation. Fortson noted that the moon changed color and he deduced this meant it was a solid object with a translucent surface. The moon was 40° above the western horizon that night at 8:30 pm. Using his values, we find out the object would be only 11° above the horizon at closest approach! When I pointed this problem out, he dismissed it off hand but did wonder why nobody investigated the sighting using this data (the 40° elevation). His response to me via Email was: "Something, I forgot to mention, on March 13 at 8:30 pm the bright, white bottom-quarter moon was in the western sky. It was not straight up for us. It was more beginning to set in the west. I'm sure that someone at ASU astronomy could pinpoint this. *No one has yet to bother* (My emphasis). I suggested this to Jim Schnebelt of FOX channel 10."

So what did everyone see that night? My guess is ~~Mitch's high altitude planes. Based on Fortson's 40° elevation.~~ I computed that the object was much higher than his 2000 feet. Several observers along the interstate saw the object pass almost directly overhead. Fortson is 8-9 miles east of the interstate based on the location he told me. Some basic trigonometry indicates that the object(s) was (were) some 35,000 feet high. This one value solves much of the puzzle. If the aircraft were extremely high, it would explain why nobody heard any sound at all! 35,000 feet is very high and distant. This also explains the witnesses describing a seemingly slow transit across the city, but the overall sightings indicate that they actually transited at a speed of around 300-mph. An object moving 300 mph at 35,000 feet appears the same speed as an object moving at 17 mph at 2000 feet. This is about the speed many witnesses state. The most common phrase is that it moved at "blimp speed". This gives us a pretty good working model. It also may explain why there was no radar information at Sky Harbor. Sky Harbor has a control space up to roughly 18,000 feet. If the craft were at 35,000 feet, then they would not be of interest to the ATC's at Sky Harbor at all. It is the duty of the enroute ATC's to control these flights. They are in a separate location. To the best of my knowledge, nobody checked up on this.

The UFO investigators






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March/April 1998

All Times MST

From the Pole-star through Mizar Glide
Descend, and see the Virgin's spike
And mark what glorious forms are made
With Deneb west, Arcturus north,
While to the east a larger still,
From Virgo's spike to Gemma bright

with long and rapid flight,
diffuse its vernal light
by the gold harvest's ears,
a triangle appears
th' observant eye will start
and thence to Scorpion's heart
-Admiral Smyth

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8 March	9	10 Mercury 1° NW of Mars	11 EVAC Mtng 7:30 pm at SCC	12  Penumbral Eclipse	13 SAC Mtng Yesterday: Full Moon 9:35 pm	14 A. Einstein, b. 1879
15 Moon near Spica	16	17 <i>St. Patrick's Day</i>	18 Saturn, Mercury, & Mars close together till month's end	19 Mercury at greatest elongation E	20 Spring Equinox 12:55 pm	21  EVAC Cookout
22 Yesterday: Last Quarter Moon 12:40 am	23	24 Moon near Venus	25 Christian Huygens discovers Titan, 1655	26 Tomorrow: Venus at greatest elongation W	27  New Moon 8:15 pm	28 Messier Marathon
29 Moon near Head of Cetus	30	31 Mercury 3.7° NNW of Mars	1 April	2 PAS Mtng Mercury 1.9° NNW Saturn	3  First Quarter 1:20 pm	4
5 Daylight time begins	6 Moon near Regulus	7	8 EVAC Mtng 7:30 pm at SCC	9	10 SAC Mtng	11  Full Moon 4:25 pm

Mercury on the Move

M. Aaron McNeely, Editor

Mercury, after achieving superior conjunction with the Sun on February 22, races into the evening sky for its best evening apparition of 1998. Mercury lies close to Mars, both low in the west at sunset, on March 7-16. Saturn enters the picture also. Early in March it lies above the action of Mercury and Mars. Mercury and Mars gradually approach Saturn, and the three planets lie close together for the rest of March. Complicating this event is the apparent individual motions of each of the planets: Saturn towards the Sun; Mercury away from and then back towards the Sun, Mars towards the Sun (but much slower than Saturn). The interplay of these three motions creates an intriguing and complex "dance of the planets." The three planets will form an isosceles triangle low above the west horizon on the night of the EVAC Cookout. A very Young Moon lies just below Saturn on the night of March 28.

Venus is prominent in the morning sky and will be for most of 1998. The planet achieves greatest elongation west on March 26. Jupiter appears in the morning sky beginning mid-March. Venus and

March 1998							April 1998						
S	M	T	W	Th	F	S	S	M	T	W	Th	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30					

Lunar Almanac: 1998

	FQ	Full	LQ	New
Jan	5	12	20	27
Feb	3	11	19	26
Mar	5	12	21	27
Apr	3	11	19	26
May	3	11	18	25
June	1	9	17	23
July	1	9	16	23
	31			
	Full	LQ	New	FQ
Aug	7	14	21	30
Sep	6	12	20	28
Oct	5	12	20	28
Nov	3	10	18	26
Dec	3	10	18	26

Jupiter will experience a brilliant conjunction in April.

Don't forget the **penumbral eclipse** of the Moon on March 12, the night after the EVAC March Meeting. The Moon will drift through the outer, lighter-shaded zone of Earth's shadow, the penumbra. Maximum immersion occurs at 9:20 pm. This event is a remnant of the last eclipse season, one that produced a spectacular total eclipse of the Sun for the Caribbean on February 26.

Midnight Culminations

Date	Constellation	Star
11 Mar	Ursa Major	
12 Mar	Crater	
15 Mar	Hydra	Alphard
28 Mar	Corvus	
30 Mar	Centaurus	
2 Apr	Coma Berenices	
7 Apr	Canes Venatici	
11 Apr	Virgo	Spica

Midnight culmination marks the time of the greatest visibility of an object or constellation, they are at "opposition" with respect to the Sun.

In Astronomical History

March 8-31

- Mar 8, 1977: Rings of Uranus discovered.
- Mar 11, 1811: U.J.J. Le Verrier, b.
- Mar 12, 1835: Simon Newcomb, b.
- Mar 13, 1781: William Herschel discovers planet Uranus.
- Mar 13, 1855: Percival Lowell, b.
- Mar 14, 1879: Albert Einstein, b.
- Mar 24, 1893: Walter Baade, b.
- Mar 25, 1655: Christian Huygens discovers Titan, the largest satellite of Saturn.
- Mar 28, 1802: Heinrich Olbers discovers asteroid Pallas.
- Mar 29, 1807: H. W. Olbers discovers Vesta, the brightest asteroid.

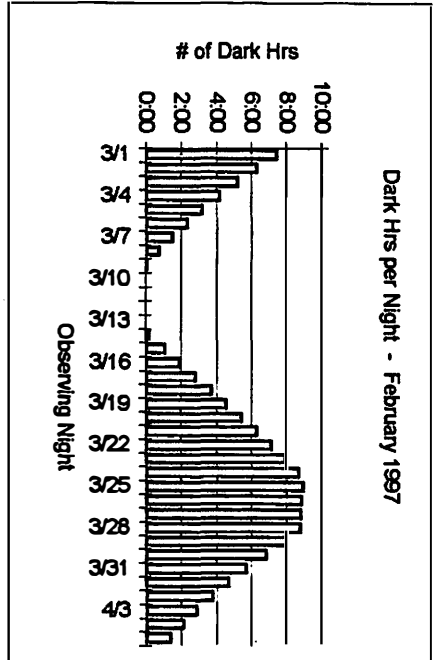
April 1-11

- Apr 3, 1843: William Miller and followers, the Millerites, pick this date as the end of the world. Prediction augmented by appearance of great comet of 1843.
- Apr 8, 1971: Meteorite penetrates roof of home in Wethersfield, Connecticut. Eleven years later another meteorite strikes a home in the same town, less than 2 miles from the previous impact.

Dark of the Moon Table -- March 1998

OBSERVING NIGHT	START OF DARK		END OF DARK		TOTAL DARK		OBSERVING NIGHT	START OF DARK		END OF DARK		TOTAL DARK	
	DATE	TIME	DATE	TIME	DATE	TIME		DATE	TIME	DATE	TIME	DATE	TIME
SUN/MON	3/1	10:07 PM	3/2	5:33 AM	THUR/FRI	3/19	8:02 PM	3/20	12:36 AM	MR	4:34		
MON/TUES	3/2	11:14 PM	3/3	5:32 AM	FR/SAT	3/20	8:03 PM	3/21	1:29 AM	MR	5:28		
TUES/WED	3/4	12:18 AM	3/4	5:31 AM	SAT/SUN	3/21	8:04 PM	3/22	2:21 AM	MR	6:17		
WED/THURS	3/5	1:19 AM	3/5	5:28 AM	SUN/MON	3/22	8:04 PM	3/23	3:12 AM	MR	7:08		
THURS/FRI	3/6	2:18 AM	3/6	5:28 AM	MON/TUES	3/23	8:05 PM	3/24	4:00 AM	MR	7:55		
FRISAT	3/7	3:09 AM	3/7	5:27 AM	TUES/WED	3/24	8:06 PM	3/25	4:45 AM	MR	8:39		
SAT/SUN	3/8	3:57 AM	3/8	5:26 AM	WED/THURS	3/25	8:07 PM	3/26	5:01 AM	MR	8:54		
SUN/MON	3/9	4:41 AM	3/9	5:24 AM	THURS/FRI	3/26	8:08 PM	3/27	4:59 AM	MR	8:51		
MON/TUES	3/10	5:20 AM	3/10	5:23 AM	FRISAT	3/27	8:09 PM	3/28	4:58 AM	MR	8:46		
TUES/WED	none	none	none	none	SAT/SUN	3/28	8:10 PM	3/29	4:56 AM	MR	8:46		
WED/THURS	none	none	none	none	SUN/MON	3/29	8:55 PM	3/30	4:55 AM	MR	8:00		
THURS/FRI	none	none	none	none	MON/TUES	3/30	10:02 PM	3/31	4:53 AM	MR	6:51		
FRISAT	none	none	none	none	TUES/WED	3/31	11:08 PM	4/1	4:52 AM	MR	5:44		
SAT/SUN	3/14	7:59 PM	3/14	8:08 PM	WED/THURS	4/2	12:08 AM	4/2	4:50 AM	MR	4:42		
SUN/MON	3/15	7:59 PM	3/15	8:01 PM	THURS/FRI	4/2	1:04 AM	4/2	4:49 AM	MR	3:45		
MON/TUES	3/16	8:00 PM	3/16	8:54 PM	FRISAT	4/4	1:55 AM	4/4	4:47 AM	MR	2:52		
TUES/WED	3/17	8:00 PM	3/17	10:48 PM	SAT/SUN	4/5	2:40 AM	4/5	4:46 AM	MR	2:06		
WED/THURS	3/18	8:01 PM	3/18	11:42 PM	SUN/MON	4/6	3:21 AM	4/6	4:44 AM	MR	1:23		

EOI = End of Astronomical Twilight MR = Moonrise SOT = Start of Twilight MS = Moonset NOTE: Applies to Phoenix area (Mtn Std Time) Bernie Sanden 1/87



-continued from page 2 makeup a wild scenario to account for all the inaccuracies of the witness testimony. We find out that there are now numerous flying triangles, formations of lights, glowing orbs, spheres, and saucers all over the city. However, nobody reports seeing more than one of these formations. Could it be that many are describing the same set of lights but are just not being very accurate? Then there are those who are confused by regular celestial objects and may not recall what they saw. To add to this, the media brought the lights to national interest in mid-June, three months after the event. This probably brought more "witnesses" out of the woodwork who are working from faded memories or are just confabulating. If the investigators look hard enough, I am sure they could find a witness to make Fortson's claims sound more realistic, but finding a reliable witness after all of the media exposure would be difficult. Even if they keep the object 2 miles away, the altitude of the object would be about 9,000 feet high. If they say it was 1500-2000 feet in altitude the object would be less than a half mile away! The math does not lie on this. Several other things to note is that nobody saw any aircraft avoid a "mile wide object" flying at low altitude. Several pilots apparently reported seeing the object above them but nobody reports flying over the object to the best of my knowledge. Witnesses on the ground (including Fortson) report seeing aircraft fly above the object. Unless they saw the object(s) fly directly in front of the aircraft, they are suffering from an optical illusion. They assume that an object higher in the sky must be at a higher altitude. The witness can not tell from his singular point of reference. Below is a basic sketch for what I mean: While, there appears to be a desire to make the lights a solid object, I doubt this line of reasoning. This is because many witnesses just state the objects were separate lights that shifted in formation. They seem to have seen the same object as those that saw the "triangle object with structure". However, did they really see "structure"? Like Fortson, they seem to feel the triangular craft was something that was there but not really visible. The June 18, 1997 USA Today article gives us a few descriptions: "We could see the outline of a mass behind the lights, but you couldn't exactly see the mass" Dana Valentine said, "It was more like a gray distortion of the night sky, wavy. I don't know what it was, but I know it's not a technology the public has heard of before."

Tim Ley says, "It was astonishing and a little frightening. It was so big and so strange. You couldn't actually see the object. All you could see was the outline, as though something were blocking out the stars. The lights looked like gas. There was a distortion on the surface. Also the light did not spill out or shine. I've never seen a light like that."

Looking at what they say critically, it almost sounds

like nothing was there at all. Their imaginations took hold (as Dr. Drake states) and filled in the blanks in a celestial game of connect the dots! The lights were supposedly star-like according to Richard Motzer and seemed to be the brightness of Sirius. This statement indicates the objects were very far away.

Could the Phoenix formation been flying saucers bent on sending some sort of message? I doubt it. Remember the flight did nothing but fly overhead. There were no flashing of lights, no aerobatics, and no attempt at contact. The objects followed the interstate presumably as a convenient landmark. Surely alien spacecraft, after traversing the immense gulfs of space between the stars, would not require this form of navigation? However, earthly pilots trying to navigate in the dark would have a wonderful lighted ribbon to follow in the path to the south. I am not saying that this is the final answer, but when one looks at the basic facts involved it is a likely explanation.

As amateur astronomers, we are in a position to present the accepted lore of the heavens and inject a healthy dose of skepticism into many of the outlandish claims of UFO advocates. To allow charlatans to run around uncontested permits the public to sink into ignorance. Pseudoscience has no place in astronomy, unfortunately it has a well-developed niche in society. It is our responsibility as orthodox scientists to help expose these people for what they are. We must drive away the "demons" that haunt our past and attempt to educate the public about orthodox science. It is our job as amateur astronomers to hold a "candle in the dark" and light the way to understanding.

Tim Printy (TPrinty@aol.com) is an amateur astronomer from Florida currently living in Hawaii. He wrote this article especially for the EVAC Newsletter. If you want to read more about the Arizona UFO controversy check out his webpage—<http://members.aol.com/TPrinty/AZUFO.html>.

Astronomy from the Suburbs

Silvio Jaconelli, EVAC

Are you unable to get out to dark skies? Are you pressed for time? Are the evenings too cold out in the desert? Well, try catching some observing targets from your back yard!

This month, Orion and Monoceros are close to the zenith in the early evening. Let's look at some objects that I observed from my Gilbert back yard with my 10-

inch reflector. Read up on Burnham's for the objects below, get out your scope and binoculars and have fun !

took delivery of my O-III filter !!

ROSETTE NEBULA AND STAR CLUSTER NGC 2244

SIGMA ORIONIS

LOCATION - 6 hrs 32 min; +4° 52'

LOCATION - 5 hrs 39 min; -2° 36'

VISUAL FINDER - Extend a line from Lambda Orionis (the "Head" of Orion) to Betelgeuse by a further complete length, then head due east by a further complete length.

VISUAL FINDER - 1.5° south west of Zeta Orionis, the eastern star of Orion's Belt

DESCRIPTION - NGC 2244 is an open star cluster at 5th magnitude, surrounded by a circle of nebulosity (the Rosette Nebula). The cluster is obvious, but the Rosette was tough - I think that I may have saw the nebulosity but I was not sure. I will try again with my newly acquired O-III filter and see if it helps. But do enjoy the star cluster; at 60x, I saw 20 stars very easily, the brightest of which is 12 Monocerotis, a 6th magnitude star 2500 times more luminous than the sun. Remember the location for further observation of the nebula the next time you are under dark skies.

DESCRIPTION - This is one of my two favorite multiple stars (Beta Monocerotis is the other). There are eight (yes, eight !) stars in this system - the central star is about 4th magnitude, and has a very faint star (10th magnitude?) just off to the west side with two other stars (7th magnitude?) on the other side. The view is reminiscent of Jupiter with its moons. Above the "orbital plane" is what at first glance at 60x looks like a very faint double (each at 10th magnitude?). At 90x, the western star of this pair reveals itself to be a double - we are now looking at an isosceles triangle with an extremely narrow base !!! This gets us to 7 stars. On the other side of the "orbital plane" is a 7 magnitude (?) star, which seems to act as a counterweight to the triple just described. That makes 8 stars in all - wow !!

M1 - THE CRAB NEBULA

LOCATION - 5 hrs 35 min; +2° 01'

BETA MONOCEROTIS

VISUAL FINDER - Extend a line from Lambda Orionis (the "Head" of Orion) to Beta Aurigae (the most southern star in Auriga). Approximately mid-way is the bright star Zeta Tauri. M1 is 1.5° to the northwest.

LOCATION - 6 hrs 29 min; -7° 2'

DESCRIPTION - At 60x I detected a very faint cloud. At 90x, the view seemed to get a little better; I then used a wide band filter at 90x but the view actually got worse. This is another object for my O-III filter from my back yard.

VISUAL FINDER - Extend Orion's Belt 3 lengths to the southeast - this gets you to Gamma Monocerotis; then go one belt length due east - this is Beta.

DESCRIPTION - This is my other favorite multiple star. At 60x, Beta Monocerotis shows as a possible (very bright) double (I need to see this through a refractor !); this is confirmed to be a double at 90x. At 160x the eastern star looks elongated and at 280x a clean split is confirmed - Beta Monocerotis is actually a very bright triple !!!

M78

LOCATION - 5 hrs 47 min; +0° 06'

RIGEL

VISUAL FINDER - Form a right angle triangle with Orion's belt as one line, and the other line heading north east for the same distance.

VISUAL FINDER - The west knee of Orion.

DESCRIPTION - At 60x I just saw 2 stars looking like cat's eyes, with just a hint of the nebulosity that surrounds them. At 161x, the nebulosity was a little easier to make out, but still tough - if I did not know exactly where to look, M78 would have been tough to find. Like the previous two objects, this one looks neat from a dark sky site, so please remember where to look.

DESCRIPTION - Rigel is a double star, with a 7th magnitude companion 10" away; this companion may be difficult to see because of the overwhelming glare from Rigel. I find that at 160x the separation is tougher, but Rigel's glare is subdued, while at 280x the separation is easier, but Rigel's glare is worse. Rigel itself is a massive blue white color blazing in the eyepiece; study the color for a while than immediately swing over to Betelgeuse (Orion's west east shoulder)

At this point, I decided to give up on nebulae until I

and contrast the warm red (and I mean RED) color with Rigel's cold blue steel !!

DELTA ORIONIS

VISUAL FINDER - The west star of Orion's Belt.

DESCRIPTION - This is an easy double, even at 60x. The magnitudes are 2 and 7, with a separation of 1 arc minute. Very easy.

M42 - THE ORION NEBULA

VISUAL FINDER - Orion's Sword.

DESCRIPTION - To finish off any tour of Orion, we must include the Orion Nebula.

For this article, I was out in my back yard the night before the recent solar eclipse - Wed Feb 25th. It was a very cold night, no moon in the sky and the sky was very dark. The views were incredible !! At 60x and a 1.2 degree field of view, the star fields both above and below the nebula were all in the same field of view. I could write an entire article on this area alone ! The nebula itself was beautifully framed in the eyepiece - incredibly beautiful. At 90x, I still had all the nebula visible but lost the star fields, and I was able to split the Trapezium into its 4 component parts; at this point I should mention that the "D" star of the Trapezium (the east star of the four) is a variable that went through a 3 magnitude dimming on the evening of Feb 20th. At 160x, mottling of the nebula was easily seen, and I was also able to make out the 5th and 6th stars of the Trapezium; these stars are 11th magnitude. I didn't bother to go up to 280x because the 60x and 90x views far surpassed the 160 view. What a beautiful part of the sky!

EVAC Meeting Highlights

Don Wrigley, Secretary
February 11, 1998

President Sheri Cahn began the meeting at 7:40 pm. There were about 65 people in attendance, including 9 visitors and new members. Sheri introduced the club officers and made several announcements, including the following: The club picnic will be held on March 21st at Lost Dutchman State Park, in Apache Junction. The usual entrance fee will be covered by the club. This year's Messier Marathon will be on March 28th at the Arizona City site. Astronomy Day has been changed from April 4th to May 2nd.

For show and tell, Tom Polakis had a video of the NEAR flyby, but was unable to show it because the TV was not functioning properly. Fortunately the slide projector was working, and with it Chris Schur was able to show us his latest batch of outstanding astrophotos which included IC 443 with M36 and M37, the foot of Gemini with M35, an unhypered 50 minute exposure of Bernard's Loop with the Orion Nebula and Horsehead Nebula starkly portrayed, comet Temple-Tuttle, IC 443 in Gemini, and a stunning 120 minute photo of the Horsehead.

The main speaker for the night was Dr. Ryan Wyatt of the Arizona Science Center. Dr. Wyatt spoke about the Invisible Universe program at the Science Center which deals with infrared astronomy.

Infrared astronomy is only about 35 years old. The first work was done in the early 1960's by Frank Low. Dr. Wyatt was able to consult with Low about his work as he developed the program for the planetarium.

Infrared astronomy deals with the emission and absorption of infrared energy. The absorption factor was not considered until the 1970's. Most stars have peak output in the visible wavelengths. The longer wavelength of infrared indicates a less energetic photon. Most astronomers did not think there would be much to see in the infrared, but Frank Low found an extra hump in the light curve indicating warm emissions, perhaps dust around certain stars. This creates the possibility of detecting planets around other stars. Since infrared light is not scattered or absorbed as easily as visible light, it allows us to peer more deeply into such structures as the Orion Nebula. The next generation of space telescopes is therefore concentrating on the infrared end of the spectrum, with hopes of determining the origin of atoms and molecules, finding planets around stars, and learning the early history of the universe.

Toward this end the following instruments are slated to come into use in the next several years: SOFIA- Stratospheric Observatory For Infrared Astronomy-1999. SIRTIF- Space Infrared Telescope Installation-2001. NGST- Next Generation Space Telescope will be an infrared telescope 8 meters in diameter. Since infrared telescope mirrors can be very thin, the 8 meter scope will only need to be 8 inches thick. The shape of both the primary and the secondary mirrors on an earth based infrared telescope can easily be changed to account for atmospheric changes.

Dr. Wyatt was unable to show slides due to equipment failure, but was able to use the time to answer a host of questions. The meeting ended at 9:20 with soda and cookies being served.

March's Guest Speaker

Our guest speaker for the March 11th meeting will be Warren Kutok of Photon Instruments, Ltd., Mesa, Arizona. Warren will speak about the history of telescopes and his adventures in restoring antique telescopes and observatories.

For Sale

Two eyepieces offered to club members before going in *The Starry Messenger*: Tele Vue 20 mm Plössl (1.25") mint, new in box, unused, \$85. Tele Vue 40 mm Plössl (1.25") near mint, in box, used once, \$95.

Contact Bill Dellinges—602/983-6651.

Astronomy books & Magazines

Alter et al; *Pictorial Astronomy*, \$7.

Ashbrook, Joseph; *The Astronomical Scrapbook*, \$10.

Astronomy Magazine (Jan 78-Present), \$25. Will also include an index of all observing articles in these issues.

Crippen, Robert L.; *Spaceport USA*, \$1.

Friedman, Herbert; *The Amazing Universe* (National Geographic), \$3.

Fulton, Ken; *The Light-Hearted Astronomer*, \$3.

Harrington, Philip S.; *Touring the Universe through Binoculars*, \$13.

Life Magazine; *Life in Space*, \$9.

Meeus, Jean; *Astronomical Tables of the Sun, Moon, and Planets*, \$10.

Mitton, Simon; *The Cambridge Encyclopedia of Astronomy*, \$15.

Rey, H. A.; *The Stars: A New Way to See Them*, \$5.

Sagan, Carl; *Contact*, \$3; *Cosmos*, \$10; *Murmurs of Earth*, \$4.

Sky & Telescope (Jan 78-Present), \$25. Will also include an index of all observing articles in these issues.

Smyth, William H.; *The Bedford Catalog: A Cycle of Celestial Objects*, \$10.

Tirion et al; *Uranometria 2000* Vol. 1, \$25;

Uranometria 2000 Vol. 2, \$25. Both for \$45.

Vehrenberg, Hans; *Atlas of Deep Sky Splendors*, \$25.

Webb, Rev. T. W.; *Celestial Objects for Common Telescopes* Vol. 2, \$3.

Krisciunas, Kevin; *To The Edge of the Universe: The Exploration of Outer Space with NASA*, \$5.

Contact M. Aaron McNeely—602/954-3971.

Editor's Corner

M. Aaron McNeely, Editor
amcneely@primenet.com

With the one year anniversary of the great Phoenix UFO phenomenon upon us I want to pause and reflect upon what I have observed in this regard

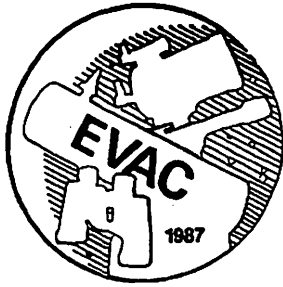
I personally did not see the lights, I wish that I had. I have seen other anomalous lights over Phoenix but have never concluded that they were alien spacecraft. On the evening of the March 23, 1997 partial eclipse of the Moon some friends and I watched strange lights hovering over the city. We were at the Vekol Road observing site. I watched one light drift behind South Mountain and reappear. I concluded that it was probably some kind of balloon-borne flair. Who knows what weird things the military is involved with?

One morning about 6 months ago I noticed a very bright beacon in the sky to the northwest. I observed the object with 15x80 binoculars and discovered it to be a balloon. The clear material of the balloon captured sunlight creating a brilliant reflection. I was hoping to see the mothership. Anyhow, I am sure that others less scrupulous could have easily concluded that a spaceship was hovering over Phoenix.

I personally do not believe that aliens are visiting Earth in spaceships on any kind of regular basis, but part of me wishes to remain open-minded. I do not enjoy hearing scientists dogmatically assert that an idea is completely right or wrong. I am reminded of Shakespeare's famous quote: "There are more things in heaven and earth, Horatio, Than are dreamt of in your philosophy." For example consider that, about 200 years ago, the scientific community claimed that stones from the sky, meteorites, were impossible. Thomas Jefferson, upon hearing of a meteorite fall that had been investigated by Yale College scientists, supposedly remarked "I would more easily believe that two Yankee professors would lie than that stones would fall from heaven." Another example is Alfred Wegener who, in the early 1900s, claimed that Earth's continents were once in different positions due to continuities of fossils and mountain chains. Ridiculed at the time, Wegener's ideas were revived and validated in the mid-1960's and have now become dogma.

I hope, if UFO's are ever proven to be "real," that I have not protested too much.

I would like to thank Tim Printy for his original article about the Arizona UFO controversy. I would also like to thank the following EVAC members for their contributions and help in the preparation of this newsletter: Kathy Doyle, Silvio Jaconelli, Bernie Sanden, Bill Smith, Kathy Woodford, and Don Wrigley.



East Valley Astronomy Club

Membership Form

Please complete the information on the form and return to the address below along with a check payable to EVAC for the appropriate dues amount. See below:

Kathy Woodford, EVAC Treasurer
PO Box 213
Apache Junction, AZ 85217
Call: 857-3438 evenings

Enclosed:

- ___ \$20 annual
- ___ \$15 April -Dec.
- ___ \$10 July - Dec.
- ___ \$ 5 Sept.-Dec.

Please Print

Indicate any information
you want kept confidential.

Name _____

Address _____

Zip _____

Phone # _____

Email address _____

New

Renewal

Change of Address

If you have a web page or URL, please indicate address _____

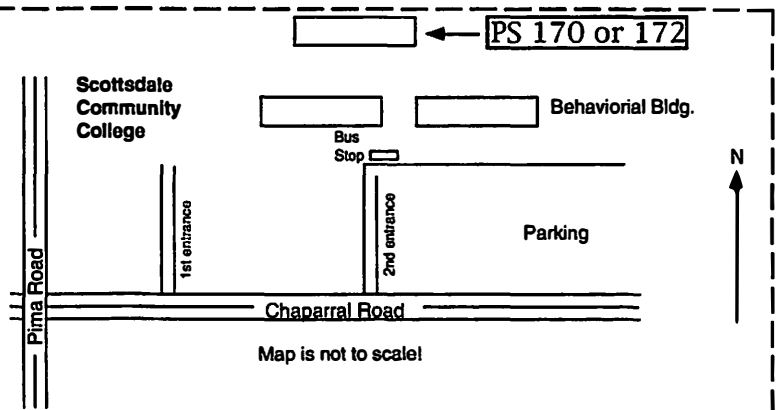
How did you hear about the East Valley Astronomy Club? _____

Major area(s) of interest:

- General observing
- Lunar observing
- Planetary observing
- Telescope Making
- Astrophotography
- Deep Sky
- CCD/Computer
- Other _____

CLIP AND SAVE

Monthly business meetings
are on the 2nd Wednesday of
each month at 7:30pm.





Important Notice: The March 11 EVAC Meeting will be held in Room PS 172!

- AZ UFO Controversy
- Astronomy from the Suburbs
- EVAC Cookout: March 21
- Messier Marathon: March 28
- Infrared Astronomy

Next EVAC Meeting — March 11 7:30 pm Room 170

Valued member since 1/17/92



EAST VALLEY ASTRONOMY CLUB
 M. Aaron McNeely, Editor
 4402 North 36th Street, #22
 Phoenix, AZ 85018

EAST VALLEY ASTRONOMY CLUB—1998

EVAC Homepage—<http://www.goodnet.com/~rkerwin/evac/evac.html>

PRESIDENT: Sheri Cahn 602/841-7034	VICE-PRESIDENT: Kathy Doyle 602/953-8184	TREASURER: Kathy Woodford 602/857-3438	SECRETARY: Don Wrigley 602/982-2428	PROPERTIES: Enrico Alvarez 602/837-0486
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MEMBERSHIP & SUBSCRIPTIONS: \$20 per year; renewed in December. Reduced rates to *Sky & Telescope* and *Astronomy* available. Contact Kathy Woodford, P.O. Box 213, Apache Junction, AZ 85217, 602/857-3438.

CLUB MEETINGS: Second Wednesday of every month at the Scottsdale Community College, 7:30 pm. Normally Room PS 170 or 172 in the Physical Sciences Building.

NEWSLETTER: Mailed out the week before the monthly Club meeting. Send your thoughts and stories to M. Aaron McNeely, 4402 North 36th Street, #22, Phoenix, AZ 85018, 602/954-3971. Email—amcneely@primenet.com

CHANGES: Address, Phone Number, or Email: Send to Bill Smith, 1663 South Sycamore, Mesa, AZ 85202, 602/831-1520. Email—bsmithaz@aol.com.

EVAC LIBRARY: The library contains a good assortment of books, downloaded imagery, and helpful guides and is usually brought to the Club meetings. Contact Enrico Alvarez for complete details, 602/837-0486.

BOOK DISCOUNTS: Great savings for members through Kalmbach and Sky Publishing. Contact Don Wrigley, 423 West 5th Avenue, Apache Junction, AZ, 602/982-2428.

EVAC PARTY LINE: Let other members know in advance if you plan to attend a scheduled EVAC observing session. Contact Robert Kerwin, 602/837-3971. Email: p24493@email.mot.com