Ogden Astronomical Society • Ogden Utah

THE STAR DIAGONAL

THE JOURNAL OF THE OGDEN ASTRONOMICAL SOCIETY

OAS Executive Committee
President- Mike Klein
(801) 775-0341
Vice Pres- Dustin Klein
(801) 309-1233
Secretary- David Dunn
(801) 544-7705
Treasurer- Doug Say
(801) 731-7324

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Meeting Announcement

We will not be holding a formal meeting in August. We look forward to seeing you at Monte Cristo and our other Star Parties. Please watch OAS_News for any last minute events.

Star Party Schedule

The proposed dates for the public star parties are as follows.

Aug. 16	Snowbasin
Aug. 23	Antelope Island
Sep. 6	Antelope Island
Sep. 13	Snowbasin
Oct. 4	Antelope Island

Requested Star Parties

Aug. 22 Terrace 3rd Ward Camp (See Map)

Our Private Star Parties are as follows.

Aug. 27-30 Monte Cristo
Oct. 24-25 Messier Marathon - Curlew Campground

Monte Cristo Report

We had a great time at Monte Cristo last week. We had great viewing each night. It was clear and warm all week. Some clouds finally rolled in around midnight on Saturday night. I spent some time on Thursday night viewing galaxies in Pegasus. Many of them were 13th magnitude. Our next Monte Cristo Star Party is the last week of August. I am planning to stay through to Monday since it is a holiday. I hope to see you all there.

Some Astronomical Diversions
Part One

By Jim McCormick

There is the usual and there is the unusual. The usual are favorite objects that we turn to again and again even though we have observed them fifty or a hundred times. The Orion Nebula, M51, M13 and a dozen more, depending on the season, are on our observing list. These are the same objects we share with others at star parties or to friends and neighbors. Among the category of the unusual, I would include some of the "challenges" offered up by writers in Astronomy or Sky & Telescope. Or perhaps we wish to see a bright star occulted by the Moon or disappear for a second or two behind an invisible asteroid. I'm sure we all have our favorite out of the ordinary observations. Many of us will never forget observing the dark spots left on Jupiter, left by the by the impacts of fragmented comet Shoemaker-Levy in 1994 or seeing Hale-Bopp a few year later. I think my favorite observation occurred about nineteen years ago when Saturn passed in front of a 5.6 magnitude star (28 Sgr) just after midnight on July 3, 1989. I will never forget watching the star flash off and on as it was blocked by Saturn's numerous ringlets. Most of these examples are unusual because they are rare. Other observations are unusual, not because of their rarity, but because we do not think of them as possible targets. In this issue and again next month, I want to suggest some unusual observations to try. This month, I will discuss daytime astronomy. Next month the subject will be artificial satellites.

Many years ago, in a time before "goto" telescopes, I purchased a Celestron C8 Classic. This model was a remake of the classic, orange-tubed C8. After using it to view the night sky and getting the hang of the C8's setting circles, I wondered if I could

find Venus or Jupiter in the daytime by making use of the setting circles. Aligning the telescope was not a problem. The only question was getting the R. A. circle set correctly when the drive was turned on. No problemo! All you needed to know was the local sidereal time at the instant the motor was switched on. Consulting planetarium software, I was able to find the LST. The planetarium program also provided the coordinates for Venus and Jupiter. The rest was easy. In no time I was finding the brighter planets and bright stars with ease.

At this point, I would like to stress the importance of getting good focus before trying to find things the sunlit sky. It is extremely difficult to find these objects with a poorly focused scope. Of course, you can use the same adjustment used for the last nighttime observing session, keeping in mind that it won't be perfect (the daytime heat will slightly change the length of your telescope, taking the scope a bit out of focus). For best results, use a solar filter to focus on the sun before proceeding to look for stars.

Before long, I was able to find 2nd and 3rd magnitude stars and began to wonder just how far down the magnitude scale I could go. Well, to date, my personal best is magnitude 6.9 (witnessed and confirmed by another observer) and I am sure 7.0 is also obtainable. Another way to look at it is...with a telescope, it is possible to see objects in the daytime that are too faint to see with the naked eye at night. The following is an explanation of the method I used to glimpse at this particular 6.9 mag star before sunset.

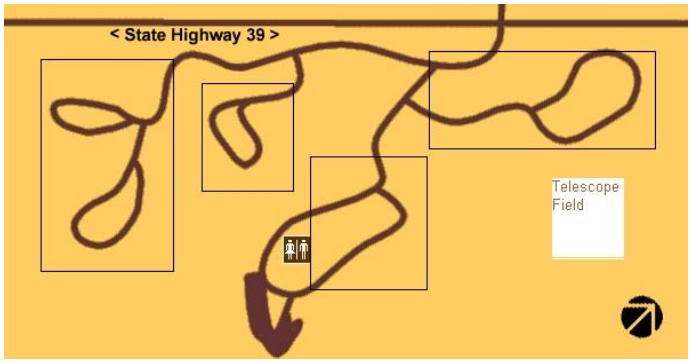
Our target for this challenge is the fainter component of the double-star Xi Bootes. Xi Boo consists of a 4.7 magnitude G5 star and a 6.9 magnitude K4. This particular double was chosen because Xi Boo has a declination almost identical to that of Arcturus. The coordinates for Xi Boo are 14:51:23 + 19° 06' 01". Arcturus is at 14:15:40 + 19°11'14". So, Xi is only about nine arcminutes south of Arcturus and about 36 minutes to the east of Arcturus. If you can find Arcturus you're halfway home. During your sweep toward Xi Boo (about 30% of the way), another star may appear in the field of view. This is the 5.4 magnitude star 22 Boo. After taking a look at this star (finding it is an accomplishment), keep going eastward, slowly until you find Xi and once you have Xi, look for its close companion. With the use of a star diagonal, look at about the ten o'clock position relative to the primary. Because of the small declination difference between Arcturus and Xi, you will not have to change the declination of the telescope. Using moderate magnification, says a 25mm eyepiece, both stars will be in the same field (but, of course, not at the same time). If necessary, you can make a small adjustment before moving the telescope to the east so that Xi Boo will be near the center of the field.

I know what you're thinking. Why not just find Xi boo before sunrise and track it into daylight? Of course, this will work too, but it's no way near as much fun or satisfying as using your skills to accomplish the same objective. Anyway, why do something the easy way when it can be done the hard way. By the way, the best time to try this technique is mid July, although it still works well in August. The reason is that Xi Boo is high in the sky while the Sun is close to the horizon. The "easy" method (tracking the star into daylight) works best in mid January and in the morning. Temperature wise, I prefer a warm Summer sunset to a cold Winter sunrise.

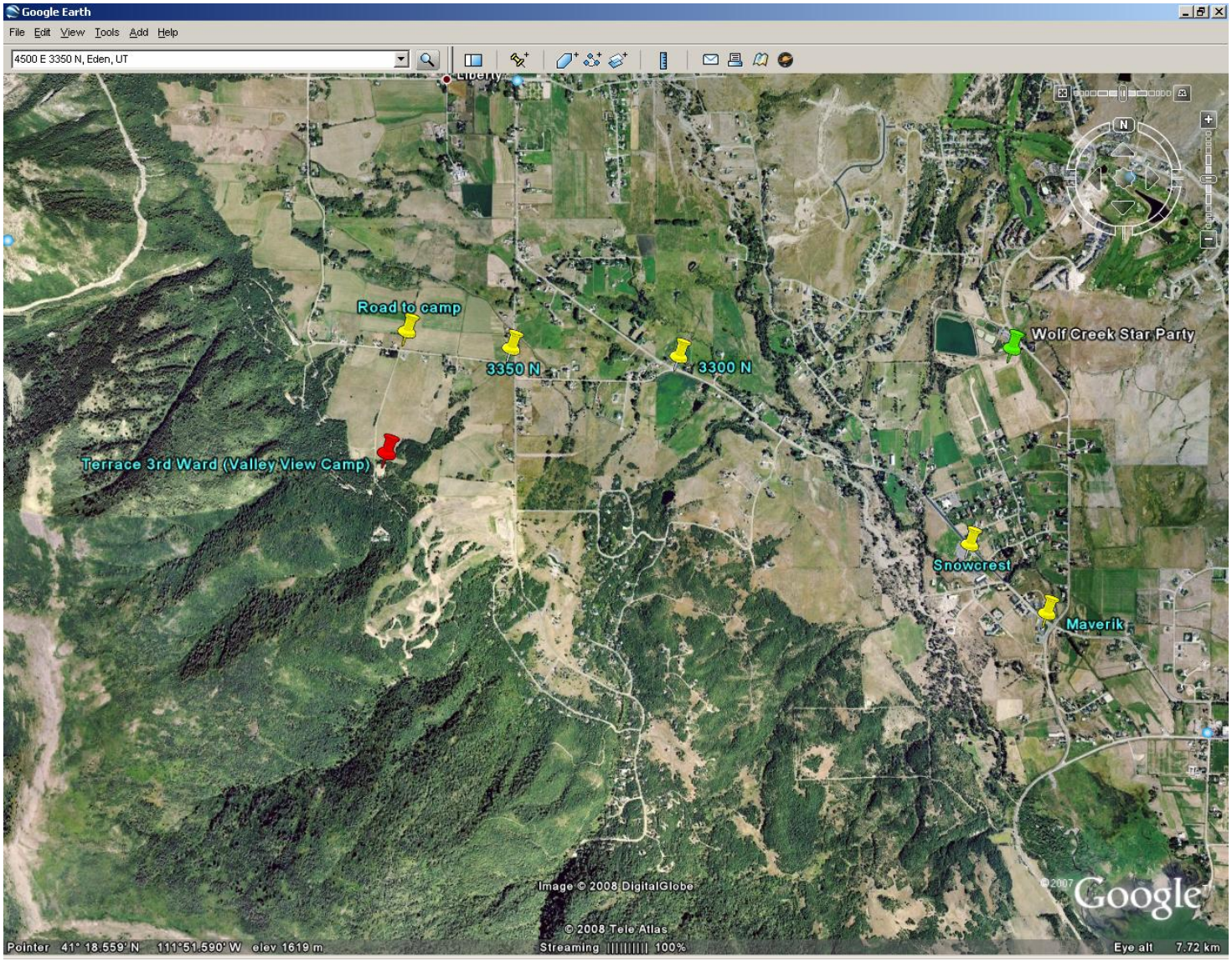
A Dobsonian scope can also be used to find to find bright planets and stars in the daytime, but requires a bit of patience. You will need software to obtain the objects altitude and azimuth at the time of the attempt. Use a protractor and a plum bob to adjust the Dob's altitude and slowly sweep back and forth near the objects azimuth. Be sure the rocker box is level. Goto scopes offer a new set of problems, but can be used if they allow a daytime alignment. I'm not sure they all do. I know the Celestron CPC telescopes do allow one to use the Sun and Moon as alignment objects and, when operating in an altazimuth configuration, the "auto alignment" feature can be used. I can't comment on Meade or other goto scopes.

So if give it a try, you'll be amazed at what can be see in a sunlit sky. Dew isn't a problem and chances are you won't trip over the dog.

Next month: Observing artificial satellites.



Map of Monti Cristo campground. There are more restrooms than noted. You want to try to get in the small loop by the Telescope field. The other loop near the field is also close.



After crossing dam and follow the road heading for Powder Mountain. At the Maverik station, turn left (towards North Ogden). Pass Snowcrest, Continue on road to 3300 N, turn left, follow 3300 N to where it jots over and becomes 3350 N. (there is a stop sign). Follow 3350 N to the road to the camp. There is a sign that calls it the Valley View Camp. Last time, they had covered this sign with a paper sign stating the group that was camping.