

The

# DENVER OBSERVER

Newsletter of the Denver Astronomical Society

*One Mile Nearer the Stars*



The Pleiades (M45)  
Image © Joe Gafford, 2002

## How Many in One Night??

Gearing up for the Messier Marathon? Those folks who are new to astronomy may not yet be able to relate to the sheer joy of braving the early-spring temperatures (brrrrr) for a full night (and morning—I'm talking dusk to dawn, here) of observing some of the most beautiful objects in the heavens. Why now? Because for only a few weeks during the year is it possible to see all of the Messier objects in one night. Astronomers will dig in their heels and tripods, get out the star charts (See Page 7), and knock off one object after the next. Some people actually catalog 70 of the available 110 targets and submit their achievements to the Astronomical League for the coveted Messier Certificate. Others just like to look at the beautiful celestial wonders like the one in the photo to the left. Either way, get out to the DSS on the weekend of the 15th and enjoy the views!—PK


# Spring Fever Strikes

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## MARCH SKIES 2002

**I**f you've been reading your astronomy magazines, you know that by month's end, four naked-eye planets will grace the night skies. Jupiter is the main show-stopper but Saturn, Mars, and finally Venus will sparkle for all, moon or no moon. Remember that a little high-cloud haze can be good for telescopic planet observations. Moon-less springtime evenings are best if you'd like to check out the zodiacal light along the ecliptic. You'll need a dark site to observe it—see how high you can follow its glow. Finally, a welcome, yet unexpected visitor has been hugging the northwestern horizon lately. Comet Ikeya-Zhang (C/2002 C1) is putting on a better show than anticipated. Experts think it could brighten to 3rd magnitude with an ion tail of 10° to 15°. This icy interloper may be best observed photographically because of its high gas content—it definitely bears close watching. Our website will keep you posted with updated star charts. Happy Equinox, and clear skies.—Patti Kurtz

5 .....	Last quarter moon
13 .....	New moon,
.....	Double shadow transit on Jupiter
20 .....	Vernal Equinox
21 .....	First quarter moon,
.....	Double shadow transit on Jupiter
28 .....	Full moon,
.....	Double shadow transit on Jupiter



**High and bright this month, Jupiter is worth keeping an eyepiece close by for. Its moons will do some fairly fancy shadow dancing. Keep your cameras ready!**

Image: © Bert Harless, 2002

**"The Mystery Astronomer"**



Who is the dapper young man demonstrating proper eclipse etiquette? Hint: The picture is 31 years old. First correct answer wins a \$50.00 gift certificate to S&S Optika. Send responses to Patti Kurtz at [pkurtz@starfirecreations.com](mailto:pkurtz@starfirecreations.com).

## PRESIDENT'S CORNER

I want to take this opportunity to thank the outgoing E-board members and welcome the new. It has been a great year thanks to you. The Denver Astronomical Society has grown a lot this year. Patti and I particularly want to thank you for the enormous contribution of time, energy, and talent



dedicated to Colorado Astronomy Day.

I also want to thank all of the members that have contributed to making the DAS such a great organization. Thanks to those of you who participate in the Open Houses, the Public Night events, the school star parties, Colorado Astronomy Day, those that work at the Dark Sky Site, and The Dark Sky Site Committee. My thanks to people that show up for clean-up day, publish the newsletter and contribute

## DAS Schedule

### MARCH

- 1 E-Board meeting, 8 P.M.
- 15-17 Dark Sky Site Weekend (Messier Marathon, See Page 9.)
- 23 Observatory Cleaning Day at 10:00A.M. and Open House (begins at 7:00P.M.)
- 30 Spring Banquet at the Blue Bonnet Restaurant (cocktails at 6:30P.M.) and Installation of New Officers. See Page 3.

### APRIL

- 5 E-Board meeting, 8 P.M.
- 12-14 Dark Sky Site Weekend
- 20 Observatory Cleaning Day at 10:00A.M. and Open House (begins at 7:00P.M.)
- 26 General Meeting at Olin Hall, DU, 7:30 P.M.—Dr. Mark Vincent, (University of Colorado) "South Pole—Life in An Up-Side-Down World."

Public Nights are held every Tuesday and Thursday from 7:00-9:00 P.M. (Beginning April 3, 8:30-? P.M.) at Chamberlin Observatory

Costs to non-members are: \$2.00 adults, \$1.00 children  
Please call (303) 871-4333 for reservations.

## DAS Officers

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## Executive Board Members

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**The Observer is available in color PDF format from the DAS website.**

**The Executive Board conducts the business of the DAS at 8 P.M. at Chamberlin Observatory. Please see the Schedule of Events for meeting dates. All members are welcome.**

# www.denverastrosociety.org

articles and pictures to the newsletter, run the web site, contribute to the web site, and last but not certainly not least, thanks for the continued support from the University of Denver's Physics Department. As you can see, I am not naming names because *The Observer* would need two extra pages to list everybody, and we've got two extra pages this month anyway. Thanks again to all, and clear skies.  
—Larry Brooks, *LBrooks100@aol.com*.

## Welcome New Members!

The following folks joined the Denver Astronomical Society during the last month.

Welcome new members!

- Robert J. Hilton, M.D.
- Robert Sticher

## S & S OPTIKA

Colorado's Premier Astronomical Supply Store

5174 So. Broadway, Englewood, CO 80110

(303) 789-1089

Hours: Tuesdays, Wednesdays, and Fridays: 10 A.M. - 6 P.M.

Thursdays: 10 A.M. - 8 P.M., Saturday: 10 A.M. - 4 P.M.

Closed Sundays and Mondays  
[www.sandsoptika.com](http://www.sandsoptika.com)



Image: © David Shouldice, 2002

## New Officers

With Chuck Carlson (Treasurer) cruising in the Antarctic, new officers had to smile without him at the last general meeting. Newly elected at

the February meeting were (left to right) Larry Brooks, President; Carla Swartz, Vice-President; and Ron Pearson, Secretary. New E-board members were also elected.

*Sky & Telescope sends only one notice before subscriptions end. The DAS sends only one issue of The Denver Observer after dues expire. The cost of magazines (Astronomy and Sky & Telescope) is in addition to the annual dues. For questions concerning memberships, please contact DAS Treasurer, Chuck Carlson ([chcarlo@du.edu](mailto:chcarlo@du.edu)). See the back page of this newsletter for more information.*

## Note from the editor:

Newsletter contributions (ccd and film astrophotos, members with telescopes, star party candid photos, short observing anecdotes, observing and imaging tips, etc.) are welcome and encouraged. This is your chance to strut your stuff! **Please submit by the 15th of each month as follows:**

**Film:** Glossy prints by mail\*\* or scanned and uploaded (high res.) to the listserv upload area.

**CCD:** Uploaded to the listserv upload area (resolution as high as possible, please).

**Text:** Articles should be no more than 250 words, please. Please paste article(s) into an email and send to me at: [pkurtz@starfirecreations.com](mailto:pkurtz@starfirecreations.com).

If you don't receive a confirmation email from me, I didn't get your email. Also, be sure to let me know if you've uploaded a file. Thank you!

*\*\*Patti Kurtz  
(303) 948-5825*

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# NOTICES

## New Officers Elected

Elections of new officers were held at the February meeting. Thanks to the outgoing officers and E-board members (see the President's Corner, Page 2), and welcome to the new:

President ..... Larry Brooks  
Vice-President ..... Carla Swartz  
Secretary ..... Ron Pearson  
Treasurer ..... Chuck Carlson

E-Board: Ted Cox, Jack Eastman, Joe Gafford, Patti Kurtz, Sandy Shaw, David Shouldice, Steve Solon, and Dan Wray.

## DAS Spring Banquet and Installation of New Officers

The Blue Bonnet Restaurant (457 South Broadway, 303-778-0147) will cook up a Mexican Fiesta for the DAS Spring Banquet on Saturday, March 30, 2002. The buffet will include cheese enchiladas, crispy chili rellenos, a scrumptious taco/burrito bar, green and red chili, rice and beans, chips, salsa, and guacamole.

Dinner this year will cost \$18/person and must be paid in advance. Please make

checks payable to the DAS and send to Greg Marino (10791 Grove Street, Westminster, CO 80031) by March 15, 2002. We have to cap the reservations at 70 people this year, so if you want to attend, be sure to get your checks in as soon as possible. Dr. Roger Clark will be our presenter this year and will be speaking about Mars. Thank you—hope to see you there!

# updates



# Observing the Great Llama: Recollections of the First Southern Skies Star Party

All Images © Vic and Jen Winter, 2001

by  
Sandy Shaw

## A Breadth of Fresh Space

The southern Milky Way sweeps overhead for those at the Southern Skies Star Party. Objects such as the Large and Small Magellanic Clouds, the Southern Cross, and 47 Tucanae are not seen by northern observers, but cherished by those in the southern hemisphere.

Bolivia 1996 (69°W, 16°S): Astronomical twilight was brief so close to the equator. Night fell with a bang, as though a nervous first-time stagehand had let the curtain slam down too fast at the end of a play. As I set up my observing station on the shores of Lake Titicaca, gems of the southern skies emerged through the rapidly darkening night. These celestial treats generously shared their photons with me and the other 18 people who had traveled to the southern hemisphere for the Astronomical League's first Southern Skies Star Party.

Alpha Centauri and its neighbor Beta sparkled down at us, immense and lustrous. According to legend, those two stars represented the bright eyes of a huge llama (pronounced "yama" in this nation of Spanish-speakers). The constellation of the Great Llama honors the ubiquitous local beast that provides wool, meat, milk, and hauling services. Several of the ruminants

slumbered near the observing area every night; one of these personal woolly mascots graces our group photo with its fetching smile. In the 6° field of my 10 x 50 binoculars, Alpha Centauri appeared as a single yellowish star (although it's actually a multiple) and Beta contrasted nicely as a single bluish star (it, too, is a multiple).

The Southern Cross was easy to spot at twilight and simple to distinguish from that celestial tease, the False Cross (bright portions of two neighboring constellations, Vela and Carina, that together look like, well, a cross.) A planisphere for the Southern Hemisphere strategically purchased a few weeks before the trip made identification a snap and cut to practically nothing the time needed to orient myself to this strange new sky. The constellation Crux is the true Southern Cross, a naked eye highlight of the South. Orangey Gamma, the topmost star, tipped the Cross

with fire in contrast to Beta's and Alpha's bright white and Delta's dimmer white. Scanning the sky with binoculars around Alpha presented a beautiful field with the brilliant white star accented by two open clusters, NGC 4103 and NGC 4349.

Close to the horizon, the Large Magellanic Cloud floated, huge and wispy, an enormous mottled patch of light. *Burnham's Celestial Handbook* considers the LMC to be the "richest astronomical treasure-house of the southern sky." Through the binoculars, the Tarantula Nebula (NGC 2070) and the open cluster NGC 1910 beamed within the mists of the LMC. *Uranometria* describes the Tarantula Nebula as having a "very complex ribbon-like or looped structure in the central regions."

The great globular cluster Omega Centauri (NGC 5139) soared majestically near the zenith. Only a month before I had seen this spectacular object for the first time, from about 30° N. There it rose in a

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small arc above a tree-lined ridge before plunging beneath the horizon a short time later. An immense fuzzball larger than the dark treetops and easily visible to the unaided eye, Omega Centauri had looked somewhat comet-like as it glided regally across the sky during its brief visit. From our Bolivian observing site, the cluster rose before dusk to arrange itself conveniently high overhead for many hours, setting about 4:00 in the morning.

Earlier that first day, our group had arrived in La Paz, Bolivia. We were whisked through the mountainous city past throngs of Aymaran people, the women in their traditional bright costumes with rakishly angled bowler hats and the men in their striking outfits with rainbow striped, earflapped caps. The modern skyscrapers of downtown La Paz presented a marked contrast to the hovels that clung to the sides of the ice-topped peaks high above the city. A ride across the Altiplano brought us to our hotel, the Inca Utama Resort, where we were greeted with cups of steaming coca tea, which is said to help combat altitude sickness.

At the 12,500 foot elevation of this observing site, altitude sickness is a potential hazard, especially for people with a history of heart or lung disease. However, arriving from Denver gave me a jumpstart of nearly 5,300 feet. That, together with the prescription drug acetazolamide, prevented any symptoms of hypoxia but had the unanticipated side effect of making cola drinks taste vile. Luckily, the coca tea retained its pleasant flavor, possibly helped by ample spoonfuls of sugar.

A delicious dinner in the hotel restaurant was a satisfying start to our first night of observing. Bowls of hot soup warmed and hydrated us, followed by a luscious entrée and yummy dessert. After dinner, the restaurant doubled as our all-night warming hut with tureens of hot cocoa and coffee provided by the hotel and snacks we had all brought from home for the necessary midnight refueling.

Our observing site was a large two-level concrete area only a few steps away from the restaurant. Most of the participants brought telescopes and some brought astrophotography outfits. I had only begun

observing the year before and had not yet bought a scope, so I brought a pair of highly portable binoculars and a sturdy tripod that fitted neatly in my check-through suitcase. Among the forest of sophisticated Schmidt-Cassegrains powered by experienced astrophotographers I arranged my simple setup, supplementing it with a comfy chair borrowed from the restaurant.

The site was very dark and seeing was steady, allowing long exposures for astrophotographers and easier viewing of dim objects for visual observers. Sky glow from La Paz was unobtrusive and the hotel controlled local lighting. During the night a few lights in nearby fields began to be bothersome. No problemo. As each annoying light winked on, a ghostly figure bearing a remarkable resemblance to one of the hotel staff could be seen slinking off through the shadows. Moments later the light would blink off, never to lighten our warming-hut-step again.

With my tripod-mounted binoculars, I explored wonders of the southern skies. A ten-inch on-site Dobsonian telescope enlarged, so to speak, my wanderings.

The spectacular Eta Carinae Nebula (NGC 3372), also called the Keyhole Nebula, appeared in binoculars like a large area of nebulosity with a curved dark lane cutting through it. *Uranometria* calls it “very bright...

surpassing even the Great Orion Nebula.” *Burnham’s Celestial Handbook* says, “Sir John Herschel found words inadequate ‘to convey a full impression of the beauty and sublimity of the spectacle offered by this nebula, when viewed in a sweep, ushered in as it is by a glorious and innumerable procession of stars.’”

IC 2602 was a beautiful open cluster centered by a bright white star that just fit in the same 6 \_ degree field with the Eta Carinae Nebula. In larger binoculars, it was spectacular, filling the field with brilliance.

Resembling gems in a velvet case, the Jewel Box (NGC 4755), appeared in 20 x 80 binoculars as six bright stars, one a lovely orange. “Rich in stars”, says *Uranometria*. “The Kappa Crucis star cluster,” says *Burnham’s Celestial Handbook*, is a “brilliant and beautiful galactic cluster ranking among the finest and most spectacular objects of the southern Milky Way. The popular name ‘Jewel Box’ was derived from Sir John Herschel’s statement that this cluster produced upon him the impression of a superb piece of jewelry.”

The Coalsack, a dark nebula in Crux, was a huge black shape adjacent to the Jewel Box. Perhaps this is the velvet case for those starry gems.

Globular cluster 47 Tucanae (NGC 104) was magnificent in 10 x 50 binoculars, a

*Continued on page 6*



**Ready for the Dark**  
With Lake Titicaca shimmering behind him, world-renowned eclipse expert and photographer Fred Espenak is all set up and ready for a night of southern sky photography.

# observers deck

## Observing the Great Llama

*Continued from page 5*

bright fuzzball in the same field with a translucent Small Magellanic Cloud. In 20 x 80 binoculars, it was extremely dense with a large halo of decreasing opacity. And in the 10-inch Dob, it was fabulous. The Small Magellanic Cloud itself was a lovely sheer oval with two dense patches. *Burnham's Celestial Handbook* classifies 47 Tucanae as a naked eye object "usually regarded as the finest in the heavens with the single exception of the Great Omega Centauri."

Busy nights of observing still left plenty of time for exploring the hotel grounds and for day trips. Climbing to the hotel roof to get photographs of Lake Titicaca, I laddered up rungs made of bent rebar to the slanting concrete top where I found myself confronted by a electrician's nightmare. Ropes of live electrical wires festooned the rooftop, the strands forming

a crazy Maypole as they hung proudly from a tall stake to snare the unwary. Back on terra firma, reed boats, ancient-style huts, and a roll-off roof observatory provided less harrowing attractions.

Day excursions included trips to La Paz, to the Island of the Sun, to Paco Island and to Copacabana. In La Paz, we walked through the hilly streets of the witch doctor's market. Stallkeepers selling herbs, potions, and good luck charms offered unusual browsing opportunities. Three of us searched the city for a restaurant serving the local delicacy, "cuise". But no matter how you pronounce it, deep-fried guinea pig just doesn't make an attractive presentation.

On the Island of the Sun, we climbed up moss-covered stone steps to the sacred springs, drinking from which is said to guarantee wisdom, long life, and health. After having so carefully imbibed only from bottled water on this trip, I foolishly couldn't wait to scoop up some of the icy

water and take a good luck sip. Fortunately no ill effects followed, proving, I must assume, that the good health bit worked. One of my friends was not so lucky; months of infection followed his sip. He's fine now – and the wisdom part has finally kicked in.

We boated across Lake Titicaca to Paco Island, hiking up a steep hill past agricultural terraces that were remnants of pre-Incan civilizations. On our way back, a smiling man waited beside a hut with colorful blankets spread on its roof. As we approached, he proudly threw back the blankets, revealing a row of four gleaming white human-like skulls. Real or not, they caused considerable excitement amongst us hikers.

In Copacabana, we explored the town and its marketplace. We were warned to be sensitive with cameras and told that locals expressed their views on the subject by hurling gourds at any miscreants. Although I was meticulous in asking permission to photograph, apparently my interest in an aesthetically pleasing stack of golden corn offended. Moments later, dried gourds whizzed past our heads as we ran for cover.

Three of us traveled to Cuzco, Peru after the star party ended and took the day train to Machu Picchu. Giggling over the erotic statuary for sale in the street markets of Cuzco, we boarded the train and chugged up the mountains through constantly changing environments to the fabled Lost City. There we explored the ruins; among the buildings were an observatory and a high plinth with an ancient gnomon. Tall verdant peaks spiked the horizon while llamas grazed in the courtyard and the Urubamba River churned past far below.

On the last day of the star party, I rose early to watch dawn arrive. Alone on the observing field, I celebrated the bittersweet end to the first Southern Skies Star Party. By 5:35 a.m. a huge cone of Zodiacal light pierced the night high above the mountain peaks, its light saber much bigger and brighter than the sky glow from La Paz. By 5:44 both the Large and the Small Magellanic Clouds were up, diaphanous puffs of light in a sky that was starting to brighten with morning twilight. By 6:26 a thin crescent moon appeared, its unlit side a greenish-blue against the slate blue sky; Jupiter



Stars Trail in Bolivia

The world's highest lake navigable to large vessels is at 12,500 feet above sea level. Nestled in the Andes, Lake Titicaca is bordered by Peru and Bolivia and covers some 3,200 square miles.

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## MESSIER MARATHON LIST OF OBJECTS

Adapted from Sky & Telescope, March 2000, and the The Year Round Messier Marathon (Pennington). Listed in suggested order of viewing. Note: Object listed as M102 (alt) is not an official Messier object; viewing is optional. (O Cluster=Open Cluster; PLN=Planetary Nebula; Dif Neb=Diffuse Nebula; SN Remn=Supernova Remnant; O Cluster=Open Cluster; Glb Cluster=Globular Cluster; El Galaxy=Elliptical Galaxy)

### EARLY EVENING:

74	Pisces	Galaxy	Difficult
77	Cetus	Galaxy	Difficult
31	Andromeda	Galaxy	Easy
110	Andromeda	Galaxy	Difficult
32	Andromeda	Galaxy	Difficult
33	Triangulum	Galaxy	Difficult
34	Perseus	O Cluster	Easy
76	Perseus	PLN	Moderate
79	Lepus	Glb Cluster	Moderate
42	Orion	Dif Neb	Easy
43	Orion	Dif Neb	Easy
78	Orion	Dif Neb	Moderate
50	Monoceros	O Cluster	Moderate
47	Puppis	O Cluster	Moderate
46	Puppis	O Cluster	Moderate
41	Canis Major	O Cluster	Easy
93	Puppis	O Cluster	Moderate
52	Cassiopeia	O Cluster	Moderate
103	Cassiopeia	O Cluster	Moderate
1	Taurus	SN Remn	Difficult
45	Taurus	O Cluster	Easy
36	Auriga	O Cluster	Moderate
37	Auriga	O Cluster	Moderate
38	Auriga	O Cluster	Moderate
35	Gemini	O Cluster	Easy
48	Hydra	O Cluster	Moderate
44	Cancer	O Cluster	Easy
67	Cancer	O Cluster	Moderate

### LEO AND URSA MAJOR REGION:

65	Leo	Galaxy	Difficult
66	Leo	Galaxy	Difficult
95	Leo	Galaxy	Difficult
96	Leo	Galaxy	Difficult
105	Leo	Galaxy	Difficult
3	Canes Venatici	Glb Cluster	Moderate
53	Coma Berenices	Glb Cluster	Easy
64	Coma Berenices	Galaxy	Moderate

85	Coma Berenices	Galaxy	Moderate
51	Canes Venatici	Galaxy	Moderate
101/102:			
	Ursa Major	Galaxy	Moderate
106	Canes Venatici	Galaxy	Moderate
40	Ursa Major	Double Star	Difficult
81	Ursa Major	Galaxy	Moderate
82	Ursa Major	Galaxy	Moderate
97	Ursa Major	PLN	Difficult
108	Ursa Major	Galaxy	Difficult
109	Ursa Major	Galaxy	Difficult
102 (alt)	Draco	El Gal	Difficult
63	Canes Venatici	Galaxy	Moderate
94	Canes Venatici	Galaxy	Moderate
68	Hydra	Glb Cluster	Difficult
83	Hydra	Galaxy	Difficult

### VIRGO CLUSTER REGION:

104	Virgo	Galaxy	Moderate
61	Virgo	Galaxy	Moderate
49	Virgo	Galaxy	Moderate
58	Virgo	Galaxy	Moderate
59	Virgo	Galaxy	Moderate
60	Virgo	Galaxy	Moderate
84	Virgo	Galaxy	Moderate
86	Virgo	Galaxy	Moderate
87	Virgo	Galaxy	Moderate
88	Coma Berenices	Galaxy	Difficult
89	Virgo	Galaxy	Difficult
90	Virgo	Galaxy	Difficult
91	Coma Berenices	Galaxy	Difficult
98	Coma Berenices	Galaxy	Moderate
99	Coma Berenices	Galaxy	Moderate
100	Coma Berenices	Galaxy	Moderate

### AFTER MIDNIGHT:

13	Hercules	Glb Cluster	Easy
92	Hercules	Glb Cluster	Moderate
56	Lyra	Glb Cluster	Difficult
57	Lyra	PLN	Moderate
71	Sagitta	Glb Cluster	Moderate

27	Vulpecula	PLN	Easy
29	Cygnus	O Cluster	Moderate
39	Cygnus	O Cluster	Moderate
5	Serpens Caput	Glb Cluster	Moderate
10	Ophiuchus	Glb Cluster	Moderate
12	Ophiuchus	Glb Cluster	Moderate
107	Ophiuchus	Glb Cluster	Moderate
9	Ophiuchus	Glb Cluster	Moderate
14	Ophiuchus	Glb Cluster	Moderate

### SCORPIUS AND SAGITTARIUS REGION:

11	Scutum	O Cluster	Easy
26	Scutum	O Cluster	Difficult
16	Serpens Cauda	O Cluster	Easy
17	Sagittarius	Dif Neb	Easy
18	Sagittarius	O Cluster	Easy
6	Scorpius	O Cluster	Moderate
7	Scorpius	O Cluster	Easy
19	Ophiuchus	Glb Cluster	Moderate
62	Ophiuchus	Glb Cluster	Moderate
4	Scorpius	Glb Cluster	Easy
80	Scorpius	Glb Cluster	Moderate
8	Sagittarius	Dif Neb	Easy
20	Sagittarius	Dif Neb	Easy
21	Sagittarius	O Cluster	Easy
23	Sagittarius	O Cluster	Easy
24	Sagittarius	Star Cloud	Easy
25	Sagittarius	O Cluster	Easy
69	Sagittarius	Glb Cluster	Difficult
22	Sagittarius	Glb Cluster	Easy
28	Sagittarius	Glb Cluster	Easy
54	Sagittarius	Glb Cluster	Difficult
70	Sagittarius	Glb Cluster	Difficult
55	Sagittarius	Glb Cluster	Difficult
75	Sagittarius	Glb Cluster	Difficult

### EARLY DAWN:

15	Pegasus	Glb Cluster	Difficult
2	Aquarius	Glb Cluster	Difficult
72	Aquarius	Glb Cluster	Difficult
73	Aquarius	O Cluster	Difficult
30	Capricornus	Glb Cluster	Difficult

and the bright star Achernar were the only other celestial objects still visible. At 7:24 the sun began to peep above the eastern horizon.

Denver 2002: After six years, I'm eager for another look at the marvelous night sky sights that lie, unseen and tantalizing, below the southern horizon. My old friends the Southern Cross, the Eta Carinae Nebula, and the Jewel Box are calling. Alpha and Beta Centauri, those bright celestial eyes, are beckoning. The Great Llama is waiting.

### If you go to the Southern Skies Star Party

The next Southern Skies Star Party is June 8 – 15, 2002. One of the Astronomical League's observing programs, the Southern Skies Binocular Club, is a great introduction to the southern sky and can be easily completed during the star party. Temperatures usually top 60° F during the day and range from 20°- 40° F at night. Two on-site scopes are available to

participants; 10- and 22-inch Starmaster Dobsonians. Electrical power is available in 220v & 110v AC and 12v DC. English-speaking guides are provided: you don't need to speak Spanish!

Visit <http://www.icstars.com/southernskies/>. When requesting information, please refer to code DASPK.

# observers deck

# HELP WANTED(!) and The Dark Sky Site Update

*The weekend of March 15 - 17 will be the Messier Marathon.* The Dark Sky Site will be crowded with amateurs trying to capture as many Messier objects as they can. It is a lot of work but also a very

rewarding effort. Good luck to all of you. You can contact the Astronomical League (<http://www.astronleague.org/all/obsclubs/messier/mess.html>) and find out about getting the Messier Certificate; you can use

a telescope or binoculars, depending on which certificate you're going for. The Marathon night should at the very least get a good start. You cannot use computerized telescopes in order to qualify for the certificate. Check out their website for further details.

## The Chamberlin Observatory Library

Jerry M. Sherlin, DAS Librarian

Many DAS members may not know that they are entitled to use the library at Chamberlin; perhaps you are one of them. You are entitled to check books out of the library and not only are there many books and atlases but also videos and extensive collections of magazines. Recently one of our members, Mrs. Pauline Ide, cataloged most of the library and printed a listing of all she's done. There are still a dozen or so books to be done but about 99% of the library has been cataloged. Now we would like to ask you, the members of the DAS, what we can do to make the library more accessible and relevant to DAS members.

Knowing now that you have access to the library, we'd like to hear from

you. The officers and E-Board of the DAS are willing to spend money on new acquisitions but we'd like your opinions before we go out and spend hundreds of dollars. I could make suggestions here but I'd rather let you, without any prompting or suggestions from me, put forward your own ideas. This is an effort to revitalize a significant membership benefit and you can be an important part of it. You do not have to give your name if you don't want to and the following items are only meant as suggestions — you are free to make any comments or suggestions you please. Thank you for participating in this survey; it is appreciated.

### SURVEY

Did you know that you were entitled to use the library? Yes \_\_\_\_\_ No \_\_\_\_\_

If your answer was NO, do you now think you would use it more often?

Yes \_\_\_\_\_ No \_\_\_\_\_

Please give us your suggestions on how we can improve access and/or content of the library:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please mail your response to:

Jerry M. Sherlin, 17002 E. Prentice Dr., Centennial, CO 80015-2412, or E-Mail [sberlinj@aol.com](mailto:sberlinj@aol.com)

### New Conveniences

The dark sky site now sports a brand new porta potty. Life is sweet! Ted Cox has also built a porch for the warming shed to keep some of the mud out. Thanks Ted.

### Upcoming Construction Needs Help!

Spring will bring on a spurt of construction that we hope will include new pads on the south end for photographers. These pads will include places for members to set up light and wind breaks. Additional pads will be built near the warming shed, and we'll install a real vault toilet. We have been pretty successful in fund raising projects and have had a lot of contributions from members. We appreciate the donations, the construction workers at the site, and the volunteers at fund-raisers.

We can use more contributions, more volunteers at fund-raisers, and more volunteer workers at the site to complete this project in the style we would like to see. If you can volunteer for any of these, call or e-mail me, and if you care to make a donation, please send it to Chuck Carlson. You will find his address on the back page of the newsletter.

I hope you have dark, clear skies!—Larry Brooks, [Lbrooks100@aol.com](mailto:Lbrooks100@aol.com), telephone (303) 986-5255.



Image © Steve Bell, 2002

The Crab Nebula (M1) is the result of a star that exploded in Taurus in 1054 A.D.

# observers deck



## For Sale

### Tectron 20-inch Fork Mount Composite

\$4,000 (\$8,000 new in 1988)

#### Includes:

- 20.5-inch f/5 Richard Fagan Mirror—just resilvered
- Composite construction—featured in *Sky & Telescope* article
- “As is” condition—bearings need cleaning
- Fiberglass converted tube

Price assumes local pickup.

Contact Bryan White at home (303) 346-7373 or work (720) 489-3946.

## Dark Sky Site Courtesy

*Please remember that white light disrupts the eye's dark adaptation and can ruin Astrophotography. Following these simple guidelines will improve the experience for all:*

- ★ Drive carefully on the road, there are blind spots in the low area and you will find cattle on the road at times.
- ★ Try to arrive before dark.
- ★ If you have to arrive after dark, turn off headlights when turning into site.
- ★ Turn off all dome and trunk lights. If a light can't be turned off, pull the fuse, use layered red brake light tape or just duct tape over it.
- ★ When you drive in, position your car so you can drive out directly instead of using your back up lights.
- ★ Use only dim red flashlights. Never shine a flashlight in someone's face or on their scope.
- ★ Please wipe your feet carefully before using the warming hut.
- ★ Please chip in and do some cleaning up in the hut or at the observing sites. It is the responsibility of all users to keep the place nice.
- ★ Serious astrophotographers may wish to use the South field since it is somewhat isolated from the rest of the area.
- ★ If you are the last person to leave the site, turn off the lights and the heaters in the warming hut. Then, lock the warming hut and close the gate to the site.
- ★ Members are responsible for educating their guests as to the rules.
- ★ Prospective members, out of town astronomers, and others may be guests one time.

- ★ Members can bring family any time and personal friends on a limited basis, but should not abuse the privilege.
  - ★ Groups of five or more guests must be cleared through the President or Vice President prior to visiting the Dark Sky Site.
  - ★ There is no sleeping in the warming shed overnight. However if you need to nap for a short period, you can use the shed. We would rather you fall asleep there rather than at the wheel on the way home.
  - ★ You may warm drinks in the microwave—it is not there for warming food and cooking since we have no water to clean up. If you spill, please clean up after yourself
- OTHER SUGGESTIONS:**
- ★ Wear warm clothing. The nights can be extremely cold in the winter and surprisingly cold in the summer.
  - ★ Bring your own power such as a battery and/or an inverter since the power sites are limited. Also bring extension chords.
  - ★ Hot drinks can help you survive the night!
  - ★ When approaching the telescope of someone who does not know you, introduce yourself and ask before looking through the scope. Most members (with the exception of astrophotographers when they are taking pictures) will be happy to share their scopes.
  - ★ Bring your own toilet paper in case that in the porta-potty runs out.

## Directions to the Dark Sky Site

*The DAS Deer Trail Dark Sky Site (DSS) is about 60 miles east of the “mousetrap” in downtown Denver.*

Take I-70 east to the Deer Trail exit (exit 328), turn left at the end of the exit ramp, and turn left again on CR 217 (after the Texaco station). Take CR 217 just over 1/2 mile, and turn right (east) onto CR 34. Stay on CR 34 about 6 miles until you get to CR 241. Turn left (north) onto CR 241 and continue about 1.5 miles – you'll see a culvert with a wide gate on the right (east) side of the road.

*Directions to DSS from Denver, arrival from the North (for after-dark arrivals):*

Take I-70 eastbound to exit 316 (Byers). Turn left at end of ramp which puts you on eastbound US-36. Take US-36 east 17.2 miles to CR 241. Turn right (south) onto CR 241 and continue for 6.2 miles. The DSS entrance is on the left between two tall posts.

*Note: Travel distance from Denver using the North route is actually 3.9 miles shorter than the traditional route. The first 5 miles of CR 241 going south from US-36 is narrow and somewhat rough. Be careful.*

## Warming Hut Rules

- The last people on the site must turn off the lights and the heat.
- A microwave will be provided for warming food. Please clean up after yourself.
- No pots and pans, appliances, or other supplies are to be left in the shed.
- No personal supplies are to be left in the shed overnight.
- Do not donate furniture or other things unless you clear it with the D.S.S. committee first.
- No food left overnight in the shed.
- No sleeping overnight in the shed.
- Quick naps are permitted if you feel you might fall asleep on the way home. We would prefer you get your nap rather than falling asleep on the road. However, we don't want it to become a tent for camping.
- Clean up after yourself before you leave the site.
- Please clean up all food that drops or is spilled, otherwise it will attract mice and insects.

# for sale

## About the Denver Astronomical Society

The DAS is a group of amateur and professional astronomers that share a mutual interest in the heavens. The DAS operates the University of Denver's Chamberlin Observatory, along with its prized 1894 Alvan Clark 20-inch refracting telescope. Our members have been involved with the first public planetarium at the Denver Museum of Science and Nature and the Smithsonian Astrophysics Observatory's "Moon Watch" program. The DAS successfully petitioned to have the Chamberlin Observatory listed on the National Register of Historic Places.

Our Credo is to provide members a forum for increasing and sharing their knowledge, to promote and educate the public about astronomy, and to preserve the historic telescope and observatory in cooperation with the University of Denver. To these ends we have established three tax deductible funds: the Van Nattan Scholarship Fund, the Chamberlin Restoration Fund, and the DAS Dark Sky Site Fund. This last fund was established in order to construct and maintain observing facilities near Deer Trail in eastern Colorado.

Please call our Info Line at (303) 871-5172 and drop by the General Membership meetings. Become a member and enjoy speakers, facilities, events, and our monthly newsletter, *The Denver Observer*.

APPLICATION FOR MEMBERSHIP TO THE DENVER ASTRONOMICAL SOCIETY	
New	<input type="checkbox"/>
Renewal	<input type="checkbox"/>
Name: _____	
Address: _____	
City, State, Zip: _____	
Phone numbers: Home ( ) _____ Work ( ) _____	
E-mail Address: _____	
Occupation: _____	
Other Interests: _____	
(Associates Only) School: _____	Grade: _____
Do you want to download the newsletter in PDF format from our website instead of by postal mail?	
Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
Do you want the above information excluded from the yearly roster?	
Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
<i>Please Circle All That Apply:</i>	
Regular Membership: \$30	Associate: \$10 ( <i>Age 22 and younger</i> )
.....	\$ _____
Astronomy Magazine/\$29	.....
Sky & Telescope Magazine/\$29.95	.....
.....	\$ _____
Van Nattan Scholarship Fund .....	\$ _____
Chamberlin Restoration Fund .....	\$ _____
Total Amount Paid .....	\$ _____
<i>Please mail Dark Sky Site donations to: DAS Treasurer, Chuck Carlson, at the address below. (Make checks payable to the Dark Sky Site Fund). Please complete this form, or a copy, and mail it with your check or money order payable to The Denver Astronomical Society: DAS Treasurer, Chuck Carlson; 1521 So. Vine St.; Denver, CO 80210</i>	



## Denver Astronomical Society

c/o Chamberlin Observatory  
2930 East Warren Avenue  
Denver, Colorado 80208

**SPRING BANQUET  
AND  
INSTALLATION OF  
NEW OFFICERS  
MARCH 30:**

Dr. Roger Clark will speak about Mars. (See Page 3.)  
Reservation deadline  
March 15!

join us