Sky Watcher

The Newsletter of the Boise Astronomical Society

January 2009 Volume 7 Issue 1

Club Officers

President
Irwin Horowitz
631-2206
irwinh@yahoo.com

Vice President
Randy Holst
867-1038
mrvolvo@cableone.net

Secretary
Bob Schneider
861-7979
bobschneider@clearwire.net

Treasurer
Bill Galther

Education Liaison
Sue Sharp
672-8075
sharpsu@gmail.com

ALCOR
Steve Bell
377-3500
steveb0513@aol.com

Web Site Editor
Mark Jones
343-7071
holly_mark@yahoo.com

Newsletter Editor
Larry Sevigny
283-8356
bas.newsletter.editor@gmail.com

ISP Coordinator
Art Burget
887-0817
artb@cableone.net

Officers At Large:
Fred Franz - 362-8627
fredafranz@aol.com
David Rowe - 466-5708
rdrowe@juno.com

Historian
Susan Kroenke
922-4853
idahojerry@cableone.net

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Letter from the President

I hope that everyone has had a joyous holiday season and is looking forward to an exciting 2009 with the Boise Astronomical Society. I want to take this opportunity to welcome Bill Galther, our new treasurer, and to thank Barbara Syriac for her many years of dedicated service to our group.

The January BAS Board meeting will take place on Tuesday, 06 January at 7 p.m. in Classroom #2 at DCI. All BAS members are welcome to attend, especially those interested in working on the board. We have a few expected openings for appointed positions such as Publicity Chair and ISP Coordinator as well as at-large positions on the board. If you are interested in any of the appointed board positions, please let Bob Schneider know prior to the meeting next week.

Our monthly membership meeting will be on Friday, 09 January at 7 p.m. in the group meeting room at the front of DCI (note change of venue!). This will be our annual "So I got a new telescope for Christmas…now what?" event. If you are new to the hobby or if you have new equipment that you would like assistance in learning how to operate, please bring it along (as well as any instruction manuals) and our members will be happy to provide you with whatever assistance is required. This event is open to the general public and we encourage non-members to join us for this evening.

We are still taking membership dues for 2009. It is only $25/family residing at a single address and includes membership in the Astronomical League and their quarterly publication "The Reflector."

Don't forget to mark your 2009 calendars for the Idaho Star Party™. This year it will take place at Bruneau Dunes State Park over the weekend of 21-23 August. We have reserved all of the campsites in loop A of Eagle Cove campground and will be taking reservations for them starting in February. As more information is acquired regarding the program and fees, we will be providing it to you.

Lastly, don't forget that we have begun to celebrate the International Year of Astronomy, to commemorate the 400th anniversary of the first use of a telescope by Galileo. BAS has a number of exciting events and activities in the works as part of this global star fest! Be sure to keep informed of our plans via the website and the BAS1 Yahoo! group.

Star Dates

Club Events

January

BAS Board Meeting:
Tuesday, January 6th, 7:00 PM
Discovery Center of Idaho, Classroom #2

BAS Meeting:
"You got a new telescope for Christmas... now what?"
Friday, January 9th, 7:00 PM
Discovery Center of Idaho, Classroom #2

BAS Star Party:
Saturday, January 24th
Dedication Point

BAS Star Party:
Saturday, January 31st
Dedication Point

February

BAS Board Meeting:
Tuesday, February 3rd, 7:00 PM
Discovery Center of Idaho, Classroom #2

BAS Meeting:
Friday, February 13th, 7:00 PM
Discovery Center of Idaho, Classroom #2

BAS Star Party:
Saturday, February 21st
Dedication Point

BAS Star Party:
Saturday, February 28th
Dedication Point

January Lunar Phases

	New 26th @ 12:55 AM MST
	1st Quarter 4th @ 4:56 AM MST
	Full 10th @ 8:27 PM MST
	Last Quarter 17th @ 7:46 PM MST

Astronomical Twilight

(All times are MST)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 6:35 AM 7:03 PM	**2** 6:35 AM 7:04 PM	**3** 6:35 AM 7:04 PM
4 6:35 AM 7:05 PM	**5** 6:35 AM 7:06 PM	**6** 6:35 AM 7:07 PM	**7** 6:35 AM 7:08 PM	**8** 6:35 AM 7:09 PM	**9** 6:35 AM 7:10 PM	**10** 6:35 AM 7:11 PM
11 6:35 AM 7:12 PM	**12** 6:34 AM 7:13 PM	**13** 6:34 AM 7:14 PM	**14** 6:34 AM 7:15 PM	**15** 6:34 AM 7:16 PM	**16** 6:33 AM 7:17 PM	**17** 6:33 AM 7:18 PM
18 6:32 AM 7:19 PM	**19** 6:32 AM 7:20 PM	**20** 6:31 AM 7:21 PM	**21** 6:31 AM 7:22 PM	**22** 6:30 AM 7:23 PM	**23** 6:30 AM 7:25 PM	**24** 6:29 AM 7:26 PM
25 6:28 AM 7:27 PM	**26** 6:28 AM 7:28 PM	**27** 6:27 AM 7:29 PM	**28** 6:26 AM 7:30 PM	**29** 6:25 AM 7:31 PM	**30** 6:24 AM 7:33 PM	**31** 6:24 AM 7:34 PM

Astronomical twilight begins in the morning when the sun comes to within 18º below the geometric horizon and ends in the evening when the sun sets 18º below the horizon. This is the traditional transition to and from the darkest sky conditions at a location; barring light pollution or the moon.

Boise Astronomical Society

A January Binocular Stroll

by Steve Bell

Each month in 2009 I am planning to do a short star hop type of article on objects that are visible in binoculars or a small wide-field telescope at low power. Objects selected will be both well known and relatively unsung. Selection will be based on the object being "interesting to look at" and being easily visible in binoculars. The

target indicators are Telrad reticles; the outer circle is four degrees in diameter, the middle is two degrees and the inner is half a degree. I will place a black and white PDF of the star chart on the BAS1 web site in a folder titled 'Binocular Strolls 2009'.

For January, we're looking at The Pleiades and a region of Perseus and Cassiopeia.

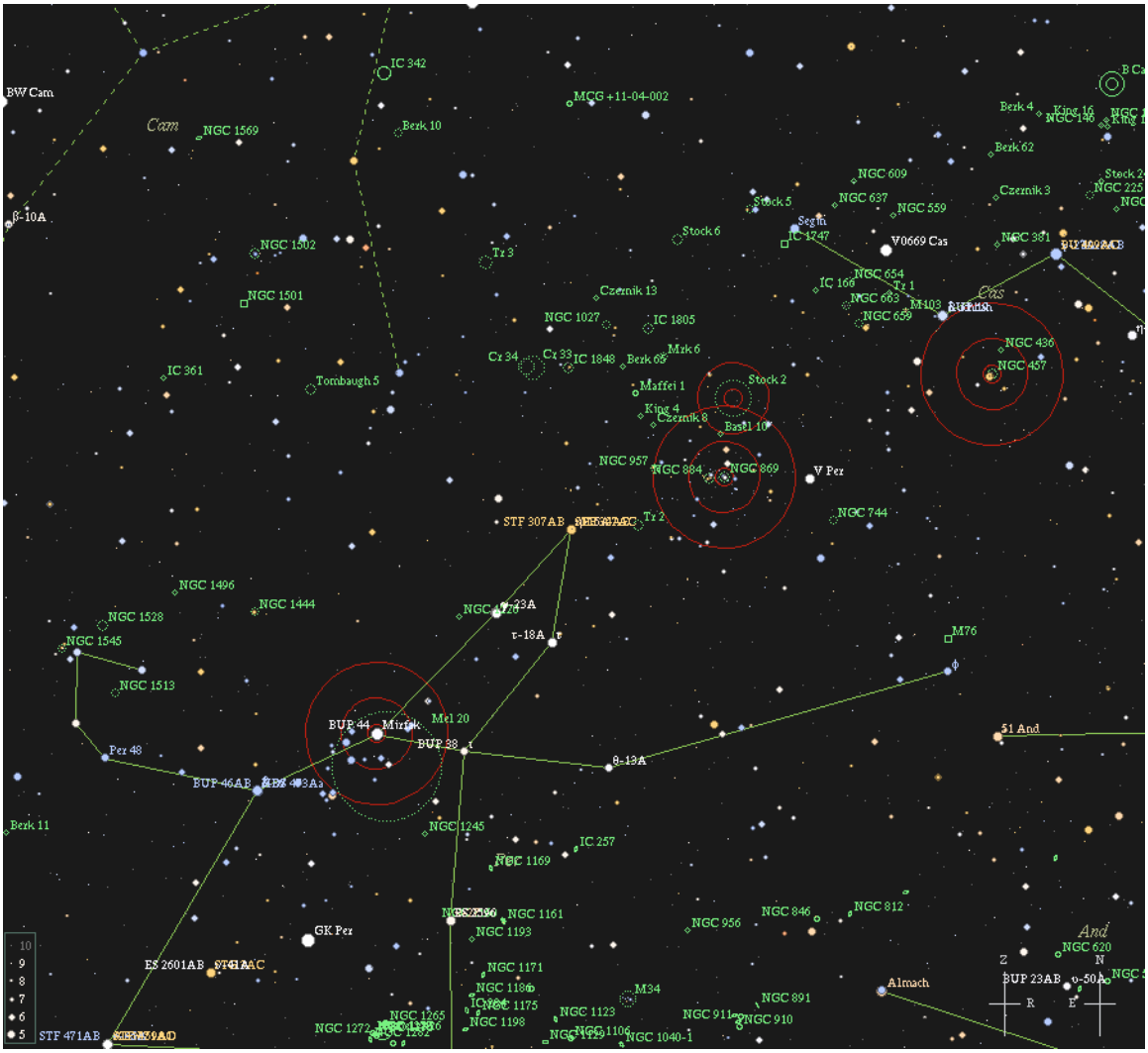


Chart Generated with XEphem

M45 – The Pleiades

How can you go out with a pair of binoculars in winter and not look at M45? This is an actual star cluster about 425 light years distant and 100 million years old, containing hundreds of stars, although you won't see that many. It is rising in the east as darkness falls and the small dipper-shaped asterism is unmistakable. Some claim to see the nebulosity around the stars (it does exist) with binoculars at truly dark sites, but I have not.

Melotte 20 – Alpha Persei Association

This is the cluster that almost made it. The stars have a common motion through space, but did not have the density to maintain its cluster status. It is thus known as a *stellar association*. Just center your binocs (or scope at low power) on Alpha Persei (Mirfak). You will see a large U-shaped asterism of blue-white stars. The object

is about three degrees in diameter and is bright. There are numerous fainter stars in the background. Mel 20 is about 600 light years distant.

NGC869/NGC884 – The Double Cluster
I never tire of this object; it is beautiful in any instrument with a large enough field of view to show the clusters. Both clusters contain hundreds of stars and are actually close to one another in space, if not adjacent. 884 is about 7600 light years and 869 at 6800 light years distant. Both are relatively young clusters at 3.2 million years for 884 and 5.6 million years for 869. Both are blue-shifted which means they are moving in our direction at about 21 km/sec. The double cluster can be seen naked-eye off Eta Persei (a double star) to the northwest if skies are dark enough. If not, just center on Eta and move your binocs northwest until you see it. Look for several yellow-orange stars in the field.

Stock 2 – The Muscle-Man Cluster
Stock 2 looks like a stick figure of a muscle man flexing his biceps. It is about a degree across and lies a couple of degrees north of the Double Cluster. It contains about fifty stars of magnitude 9 – 10. It can initially be a little difficult to separate from the background stars, but once you make out the stick figure, it is obvious.

NGC457 – The Owl or ET Cluster
NGC457 is the challenge object for 10X binoculars, being only about a quarter degree in diameter. The name comes from a stick-figure resemblance to either an owl flexing its wings or the character in the Spielberg movie. The two brightest stars are the eyes and the body is defined by fainter stars. Total stars are about 150, although not that many will be visible. The cluster is about 9000 light years distant. The cluster is the right angle vertex of a right triangle formed with Delta and Gamma Cas.

NASA Space Place

Superstar Hide and Seek

by Dr. Tony Phillips

It sounds like an impossible task: Take a star a hundred times larger in diameter and millions of times more luminous than the Sun and hide it in our own galaxy where the most powerful optical telescopes on Earth cannot find it.

But it is not impossible. In fact, there could be dozens to hundreds of such stars hiding in the Milky Way right now. Furiously burning their inner stores of hydrogen, these hidden superstars are like ticking bombs poised to 'go supernova' at any moment, possibly unleashing powerful gamma-ray bursts. No wonder astronomers are hunting for them.

Earlier this year, they found one.

"It's called the Peony nebula star," says Lidia Oskinova of Potsdam University in Germany. "It shines like 3.2 million suns and weighs in at about 90 solar masses."

The star lies behind a dense veil of dust near the center of the Milky Way galaxy. Starlight traveling through the dust is attenuated so much that the Peony star, at first glance, looks rather dim and ordinary. Oskinova's

team set the record straight using NASA's Spitzer Space Telescope. Clouds of dust can hide a star from visible-light telescopes, but Spitzer is an infrared telescope able to penetrate the dusty gloom.

"Using data from Spitzer, along with infrared observations from the ESO's New Technology Telescope in Chile, we calculated the Peony star's true luminosity," she explains. "In the Milky Way galaxy, it is second only to another known superstar, Eta Carina, which shines like 4.7 million suns."

Oskinova believes this is just the tip of the iceberg. Theoretical models of star formation suggest that one Peony-type star is born in our galaxy every 10,000 years. Given that the lifetime of such a star is about one million years, there should be 100 of them in the Milky Way at any given moment.

Could that be a hundred deadly gamma-ray bursts waiting to happen? Oskinova is not worried.

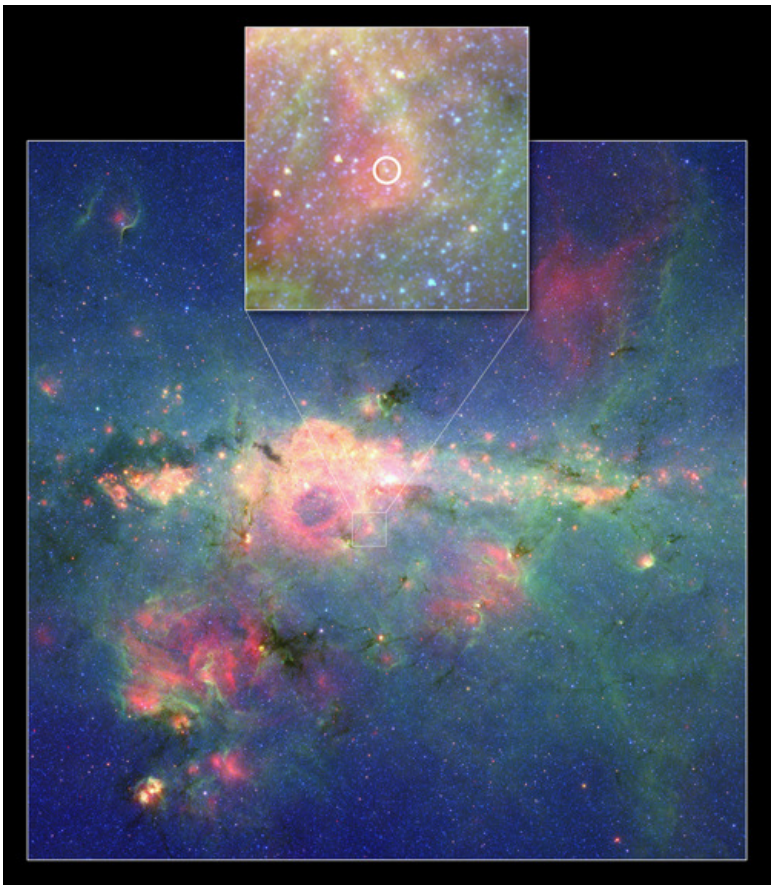
"There's no threat to Earth," she believes. "Gamma-ray bursts produce tightly focused jets of radiation and we would be extremely unlucky to be in the way of one. Furthermore, there don't appear to be any supermassive stars within a thousand light years of our planet."

Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers monitoring a Peony-type star could witness with their own eyes one of the biggest explosions since the Big Bang itself.

Now *that* might be hard to hide.

Find out the latest news on discoveries using the Spitzer at www.spitzer.caltech.edu. Kids (of all ages) can read about "Lucy's Planet Hunt" using the Spitzer Space Telescope at spaceplace.nasa.gov/en/kids/spitzer/lucy.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Caption:
The "Peony Nebula" star is the second-brightest found in the Milky Way Galaxy, after Eta Carina. The Peony star blazes with the light of 3.2 million suns.

Star Parties & Special Events for 2009

Date	Event	Sunset	Moon	Location
Jan. 24	BAS Star Party	1745	2%, Set 1616	Dedication Point
Jan. 31	BAS Star Party	1755	29%, Set 0000	Dedication Point
Feb. 21	BAS Star Party	1823	9%, Set 1509	Dedication Point
Feb. 28	BAS Star Party	1832	16%, Set 2303	Dedication Point
Mar. 21	BAS Star Party	1958*	23%, Set 1500	Dedication Point
Mar. 27-29	Messier Marathon	2006*	6%, Set 2304	Bruneau Dunes State Park, ID
Apr. 2-5	100 Hrs of Astronomy			Discovery Center of Idaho
Apr. 18	BAS Star Party	2031*	37%, Set 1350	Dedication Point
Apr. 25	BAS Star Party	2039*	1%, Set 2201	Dedication Point
May 2	Astronomy Day			Discovery Center of Idaho
May 16	BAS Star Party	2103*	54%, Set 1231	Dedication Point
May 17	Zoo Daze 10am-5pm			Boise City Zoo
May 23	BAS Star Party	2110*	1%, Set 2053	Dedication Point
June 20	Bogus Basin Star Party	2128*	5%, Set 1943	Bogus Basin
June 27	Bogus Basin Backup	2129*	34%, Set 0035	Bogus Basin
July 17-18	Sugarloaf Star Party	2120*	14%, Set 1831	Cascade, ID
July 17	MVAS Star Party[1]	2120*	14%, Set 1831	City of Rocks near Almo, ID
July 25	BAS Star Party	2114*	21%, Set 2303	Dedication Point
Jul 23-25	Table Mountain SP			Ellensburg. WA
Aug. 15	BAS Star Party	2047*	27%, Set 1720	Dedication Point
Aug. 15	MVAS Star Party	2047*	27%, Set 1720	Pomerelle Mountain, ID
Aug. 21-23	Idaho Star Party™	2036*	9%, Set 2128	Bruneau Dunes State Park, ID
Aug. 21-23	Oregon Star Party			Ochoco National Forest. OR
Sep. 12	BAS Star Party	1959*	40%, Set 1609	Dedication Point
Sep. 19	BAS Star Party	1946*	2%, Set 1953	Dedication Point
Oct. 10	BAS Star Party	1909*	55%, Set 1455	Dedication Point
Oct. 17	BAS Star Party	1857*	0%, Set 1819	Dedication Point
Oct. 31	Boo at the Zoo, 10-5			Boise City Zoo
Nov. 14	BAS Star Party	1720	4%, Set 1548	Dedication Point
Nov. 21	BAS Star Party	1714	24%, Set 2132	Dedication Point
Dec. 12	BAS Star Party	1708	12%, Set 1420	Dedication Point
Dec. 19	BAS Star Party	1710	11%, Set 2023	Dedication Point

* Daylight Savings Time. All times based on 24-hour clock. Revised: 1/5/2009
All locations for BAS Star Parties will be Dedication Point unless changed to another dark sky site. Notification will be via BAS1 Yahoo Group and www.boiseastro.org calendar.

[1] Magic Valley Astronomical Society

Welcome to BAS

Welcome to the club and hello. We hope you have a good time, enjoy the hobby, and bring good skies with you. We hold indoor meetings each month at the Discovery Center of Idaho. These start at 7:00pm on the second Friday of the month. There will always be a very interesting program, class or presentation at these meetings, as well as good fellowship. There is always something new to learn.

We typically have two star parties each month around New Moon, except on months that have special events going on (see StarDates). The star parties are usually held at Dedication Point which is just off Swan Falls Road, about 16 miles south of Kuna. For directions and dates check the Calendar page of our website at www.boiseastro.org. These are free and you don't have to bring your own telescope. Everyone with a telescope is more than willing to let you look. This is one of the best ways to see what kinds of telescopes are available if you're thinking of getting one.

Membership has its privileges:

- Discount subscriptions to Astronomy and Sky and Telescope magazines.
- Sky Atlas 2000
- The Sky Version 4 PC Software
- "The Astronomers" series
- and many more books, videos, and instruments
- Dobsonian and Refractor scopes to check out for a month
- John Dobson's "How to Build a Telescope"
- "The Planets" with Patrick Stewart

Wishing you dark skies and clear nights!