



Cache Valley Clear Skies
The Journal of the Cache Valley Astronomical Society



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Vol. 6 Number 5

January 2019

www.cvas-utahskies.org

Meeting Announcement

Our January meeting will be held **Wednesday, January 23rd at 7 pm in Room 824 of the main BTC Campus.** Enter on the east side of the building located at 1301 North 600 West. We will be having a panel discussion on different equipment (telescopes, mounts and eyepieces). If you have any questions you would like answered, let us know beforehand by sending them to any member of the CVAS Executive Committee.

Upcoming Star Parties

There are no “official” star parties scheduled for the month of January (but that doesn’t mean you can’t put one together on your own!!).

The President’s Corner By Dell Vance, CVAS President



President’s Corner
By Dell Vance

December has been an interesting month for sky observing. I was able to see Mercury one morning. It was in a crescent phase and Venus was about a quarter phase. It was a cold morning but worth seeing those two sights. I was also able to see Mars one afternoon as an experiment with my



6" SCT. I found you have to take opportunities as they come.

In December we had James Coborn, Director for USU Observatory, give a lecture on comets. His presentation was informative to me. He explained the nomenclature for the naming of comets and how periodic comets receive the "P" designation. To be periodic they must have a cycle of less than 200 years between appearances. He also presented information about Comet 46P Wirtanen which was visible in the night sky. It inspired me to go out that weekend to photograph Comet 46P. It was a crisp 12°F, but I was able to get several photos of the comet. I also was able to get another picture of the Orion Nebula. I never get tired of photographing that beautiful nebula.

Our January Meeting is a panel of some of our more experienced members, taking questions about telescopes, mounts, and eyepieces. This is your chance to ask those questions you have about why they choose certain equipment and what their experiences have been. We have received some questions at our December Meeting and we are soliciting more questions from you. Please send your questions to a member of the Executive Committee, so we can get them to the panel members to think about before the meeting January 23, 2019. Questions will also be accepted at the meeting. Be sure to bring your friends and family members to the meeting. It is always interesting to get the information directly from our own members.

My observatory has been a real motivator for me to get out and do observing, even during this cold weather. I would like to encourage each of you to take advantage of the great skies we can get during the winter here in Cache Valley. Sometimes, even a short observation session with binoculars or just visually can be very rewarding.

I hope everyone had a great Christmas and New Year. CVAS is looking forward to a very exciting 2019 and we all know that it can't happen without you. For those that have not yet paid their dues for this year I encourage you to do so. For those that have already paid their dues, Thank You. Be sure to look for opportunities to share astronomy with your friends and family.

Thanks again for your great support.
Clear Skies!

BOOK OFFER

One of our members is offering the following star atlas in excellent condition for sale.

Uranometria 2000.0 Volume 1 The Northern Hemisphere to -6 degrees,
Uranometria 2000.0 Volume 2 The Southern Hemisphere to +6 degrees,
The Deep Sky Field Guide to Uranometria 2000.0

The first two volumes have a total of 473 individual charts. The stars are shown to magnitude 9.5, about 250,000 stars, and 10300 non stellar objects
The third volume includes information on all the deep sky objects listed in Volume 1 and 2 plus a complete index of non-stellar objects including:

930 open Clusters
185 Globular Clusters
380 Bright Nebulae
160 Dark Nebulae
525 Planetary Nebulae
10300 total Non-Stellar objects including Galaxies down to magnitude at least 14.3
Double stars
Variable stars

All three volumes are in excellent condition, and include plastic templates for finding exact RA and Dec coordinates of stellar or non-stellar objects.

Volume 1 contains up to chart number 259 magnitude about 9.5
Volume 2 contains up to chart number 473 to magnitude about 9.5

Each volume contains Galaxies, Globular Cluster, Open Clusters, Planetary Nebulae, Bright Diffuse Nebula, Dark Nebula, Radio sources, X-ray Sources, Quasars, double stars and variable stars.

The Deep Sky Field guide gives extensive information on each deep sky object contained on each individual chart.

I am asking a total of \$30.00 for the complete set of three volumes.

You may contact me on my phone 435-799-5211 or at brdickey@gmail.com
If you want to see them my address is 235 East Center St. Millville, Utah

Blaine Dickey

Best CVAS Images and Notes.

Hi CVAS imagers and observers.

We are planning on having a monthly newsletter article that highlights your observing. We would like you to submit images of the Sun, Moon, planets, comets, or deep sky objects. Each month we plan to include from one to three submitted objects. Please include your name, telescope, camera, when you imaged the object and any information about the object.

Email your submissions to: twestre45@aol.com

Best CVAS Images:

CVAS Observer: Tom Westre



NGC 884 and NGC 869 Double Clusters in Perseus

80 mm Orion Refractor, Canon T3i, 20 seconds @ ISO 3200

Constellation: Perseus

Right Ascension: 2h 20m

Declination: +57 deg 08'

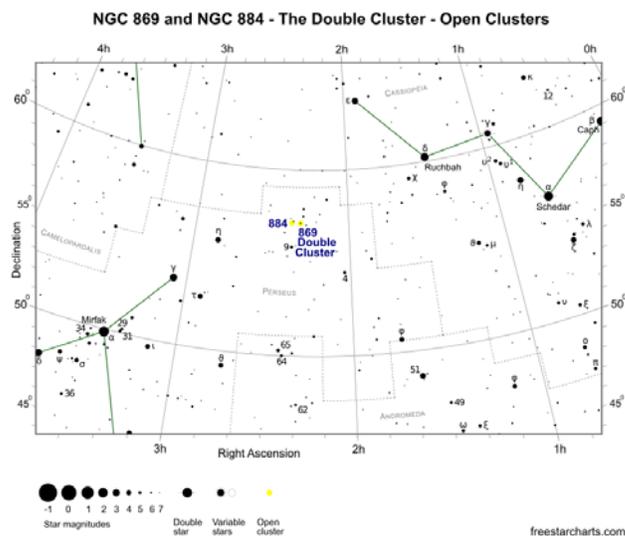
Apparent size: 60'

Designation: Double Cluster, Caldwell 14, NGC 869 and NGC 884, h Persei and x Persei

The Double Cluster is a circumpolar object. The Double Cluster lies between Cassiopeia and Perseus. It is high in the northern sky in early winter evenings. It is an excellent binocular target in a clear dark sky. With a telescope you will need a wide view to see both of them together. It thought they are at a distance of about 7,500 light years. Each contains from 300 to 400 stars. They are young stars, about 12 million years old. They

are separated from each other by a few hundred light years. Their light is blue shifted and are approaching earth at a speed of 24/s.

They are located in the Perseus arm of the Milky Way galaxy. Our Sun/solar system are in the Orion arm, so we see the Double Cluster in the next arm outward from the center of the Milky Way.



Finder Chart for NGC 869 and NGC 884 The Double Cluster (Credit: Freestarcharts)

Call for the Best CVAS Images and Observations

Next Month, February 2019, we will focus on **NGC 2438, the Planetary Nebula in M46 in Puppis.**

Submit your images and notes as an attachment to email:

twestre45@aol.com

Provide information such as telescope, camera, software, exposure, location and date.

Each month we will have object to report on, but feel free to send in a report on an object that you would like to share.

Make sure the object can be seen in February.

Kidstronomy Corner

By Bonnie Schenk-Darrington

Happy New Year, my astronomy friends! I hope you all had the chance to do some stargazing over the holidays.

I was thinking over the holidays that what attracts many people to astronomy is science fiction media they encounter as children. If I took a poll of CVAS members, I'll bet that many would cite space-themed books and movies as a strong influence in their childhood and teens. I usually focus on nonfiction space books, but I had a bit of a brainwave recently. While nonfiction books can have a strong influence on children, sometimes a kid just wants to read something lighthearted and fun. Why not slip a little astronomy into those fun books?

Therefore, I've decided to spend the next couple of months looking at space-themed fiction for children. This plan is not set in stone—it depends on the books I find. But my plan is to cover books for early readers in this issue, middle graders in February, and high schoolers in March.

With that in mind, here's my first pick for early readers:



[Ricky Ricotta's Mighty Robot series](#)

by Dav Pilkey and Dan Santat

2014 – 2016 published by Scholastic

Ages 4 – 8

\$5.89 each on Amazon.com



(4 out of 5 planets)

I found these at my local library. I could not fail to recognize the name Dav Pilkey because it seems Dane (my third-grade boy) is always reading something by this author (who has also written the Dog Man and Captain Underpants series). While I'm not a screaming fan of Dav Pilkey (he writes exactly the sort of silly, gross fiction that you think would prove attractive to early-graders), I know that Dane devours everything he writes. So, I was a bit surprised not to have run into these books earlier.

Long story short: Mouse hero Ricky Ricotta defeats a bad guy and obtains a Mighty Robot, who becomes his best friend. Then, Mighty Robot defeats aliens from every planet in the solar system as they attempt to colonize earth. Titles include such hilarious gems as:

- *Ricky Ricotta's Mighty Robot vs. the Mecha-Monkeys from Mars*
- *Ricky Ricotta's Mighty Robot vs. the Jurassic Jackrabbits from Jupiter*
- *Ricky Ricotta's Mighty Robot vs. the Naughty Nightcrawlers from Neptune*

Now, before you have a conniption over the fact that if there were Mecha-Monkeys on Mars, we would surely have discovered them by now, just hear me out.

These books are fiction. But they have some great facts in them. Expect to read some backstory before you get to the planetary adventures. The first book, *Ricky Ricotta's Mighty Robot*, has a completely earthbound plot, featuring Ricky and Mighty Robot's face-off with earthling baddie, Dr. Stinky.

It's in book 2, *The Mutant Mosquitoes from Mercury*, that the solar system story gets really moving. For one thing, Mighty Robot is the most awesome friend imaginable, even when earth life is calm and quiet; he flies Ricky to school and helps him with his homework, for example. He also has a

removable telescopic eyeball, which Ricky uses to observe Mercury.

Meanwhile, on Mercury, Mr. Mosquito hates life. He hates that it's 800 degrees there in the daytime and 300 degrees below zero at night; he hates how his flip-flops melt during the hot days, and how his toothpaste freezes during the cold nights. He makes mutant mosquitoes from his fingernail clippings (see above: gross fiction that appeals to early-graders) and together they invade earth!

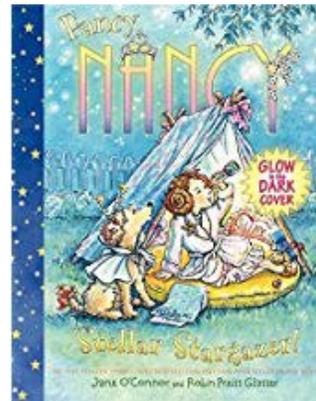
In book 3, *The Voodoo Vultures from Venus*, Victor Von Vulture plots his attack on earth. A blimp flies by announcing a temperature of 864 degrees, and today's forecast: "Mostly gassy (with a chance of sulfuric acid)" (p. 17). The vultures hate living on Venus because they can never eat ice cream and candy bars before they melt (p. 20 shows my favorite illustration in this entire series: a sobbing green vulture whose ice cream didn't last long enough for him to get in a single lick).

Do you see where I'm going with this? Each book contains a few facts about each planet, and explains why earth is just the right place to live. Even though the occasionally disgusting humor is not necessarily my favorite, the books have lots of other great features. For one thing, they are chapter books about 100 pages long, which make young readers feel grown up. Each page contains anywhere from a single sentence to three paragraphs of text. Each book also contains a sequence that mimics comic book format, as well as "Flip-o-Rama" battle sequences, where flipping the pages appears to animate the illustrations. (Flip-o-Rama is a Dav Pilkey staple—Dane always has to flip each Flip-o-Rama page ten times or so before we can move on.) Dan Santat's illustrations are engaging and hilarious. And if you have ever lovingly lingered over alliterative language, the titles alone will win you over.

Younger preschoolers and early-graders will not be able to read these books alone, although they will love the pictures and language. I think kids up to ten or eleven years old will enjoy the books, and will cope with reading the words easily. The hardest words will be planetary names and silly words/technological names like *Squeakyville*, *bug-spray factory*, *Mecha-Mosquito*, *hypno-helmet*, and *Voodoo-Schmoodoo 2000*. In other words, all the

hard words are fun words that you, yourself, might enjoy saying over and over again.

We haven't been able to get the whole series from the library yet, but thus far, we have been enjoying them. Dane feels that anything less than a million planets is too small a score. In my case, I find the books funny and engaging, and they keep kids reading until they've finished a 100-page book without realizing it. They do have a few planetary facts in them—I wish they had a few more, so that's why I give them a score of four out of five planets. Still, these books are a lot of fun and extremely worthwhile!



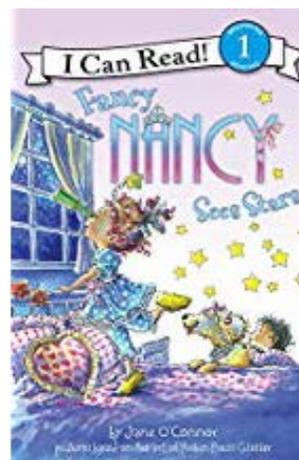
[Fancy Nancy: Stellar Stargazer!](#) O'Connor, Jane, and Robin Preiss Glasser. 2011. New York: HarperCollins.

Ages 4 – 8

\$8.98 on Amazon.com



(5 out of 5 planets)



[Fancy Nancy Sees Stars.](#) O'Connor, Jane, Robin Preiss Glasser, and Ted Enik. 2008. New York: HarperCollins.

Ages 4 – 8

\$3.67 on Amazon.com



(5 out of 5 planets)

I've been a fan of Jane O'Connor's books for children and adults for many years. She is one of the few authors who has realized that girls can be girly and still be smart, inquiring, and athletic. OK, yes, in other adventures, Fancy Nancy does ballet and quests for unicorns. But she also makes it a point to be an explorer extraordinaire and super sleuth, while in the meantime playing soccer and cultivating her fancy vocabulary in both French and English. It seems perfectly believable that this wunderkind enjoys practicing astronomy with her family and friends.

Stellar Stargazer! loads the fancy upfront with its glow-in-the-dark cover. In this picture book, we join Nancy's family as they finish up a family picnic and start a night of stargazing that culminates in a backyard sleep-out. Nancy teaches her little sister, JoJo, that the sun is a star, and that it's impossible to get a moon burn. They pretend to visit the moon, eat astronaut ice cream, and hop around in the moon's reduced gravity. They look at various constellations with their dad, and Nancy makes up her own constellation and corresponding legend. It starts to rain, and so the star party is cut short. But in the morning, Nancy's family wakes up to a beautiful rainbow.

Fancy Nancy Sees Stars is an "I Can Read! Level 1" book. It's not a chapter book, but it has a picture and three or four short sentences per page. Nancy's class is taking a night trip to the planetarium. All the kids and parents will meet there. The book follows Nancy to class and shows projects the kids have made about the solar system and stars. Nancy's friend, Robert, comes home with her and they make various astronomy art projects and star cookies. Finally, it's time to go to the planetarium! Unfortunately, a massive rainstorm floods the road and Nancy, Robert, and friends miss the planetarium show. They get home just as the weather clears, and spend the evening checking out real constellations in the real sky. They even see a meteor! In school the next day, they find out that the planetarium show has been rescheduled.

Glasser's and Enik's pictures are colorful, detailed, and engaging, and O'Connor's characters emphasize stargazing as fun for the whole family. I was disappointed they didn't make it to the planetarium in *Fancy Nancy Sees Stars*—I'd like a book that would be helpful to read with a child

before attending a planetarium show. But the Fancy Nancy books have a wonderful focus on building knowledge and vocabulary, as well as having adventures, and I love how both books show kids how to cope with disappointments. Rain spoils the adventures in both books to one extent or another, but both times, Nancy finds the silver lining. And these are the first books I've encountered that explicitly address the fact that weather can be a major deterrent to stargazing—even stargazing at a planetarium!

Kids will probably need a bit more help with *Stellar Stargazing!* because it has more words total, and they are written in a semi-cursive font that new readers might find difficult. Difficult words include *reflecting*, *glamorous*, *astronaut*, and *connect-the-dots puzzle*. In *Fancy Nancy Sees Stars*, young readers will possibly trip over words like *fascinating*, *planetarium*, *orbit*, and *brilliant*. Still, Nancy tries to clue the reader in to the meanings of "fancy" words. And an older early reader (like Dane) can likely cope with them all.

Alannah tells me she never got much into Fancy Nancy because "she's too pink!" and the occasional French word intimidated her. So, it seems to me that in purchasing one of these books, it's wisest to know your audience. Find out if your little girl is a girly girl before you buy her this book. My experience is that boys will tolerate Fancy Nancy if necessary, but not linger over her. Dane stole *Fancy Nancy Sees Stars* off my desk to read it (per his usual M.O.), but I had to *ask* him to read *Stellar Stargazer!* afterward. So, he read both of these books, but quite speedily and without a lot of interest.

Still, on behalf of girly girls everywhere, I give both of these books five planets!

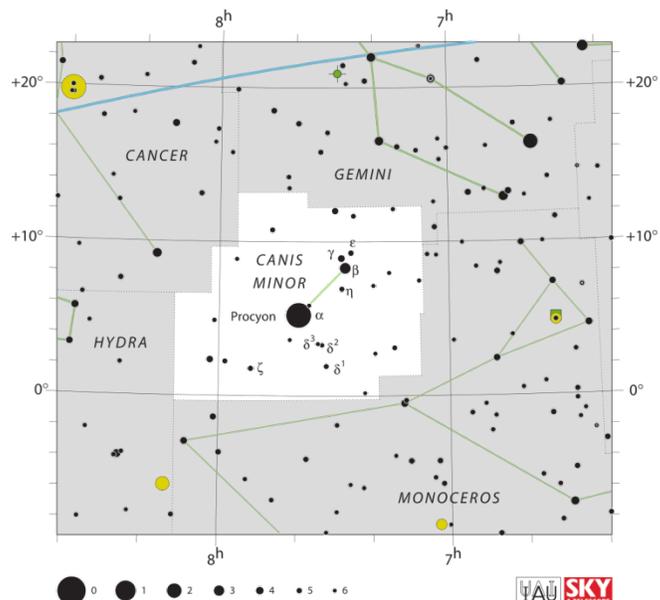
Spotlight on Canis Minor, the Little Dog

By Dale Hooper

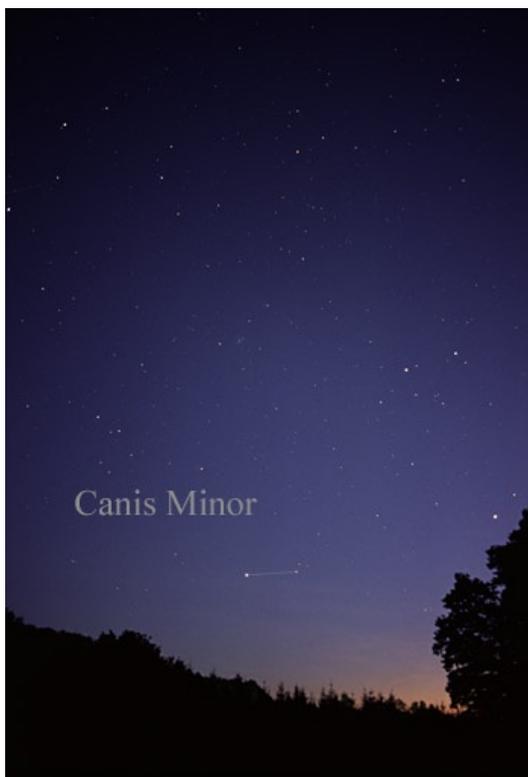
Canis Minor is a small constellation nestled between Gemini, Cancer and Monoceros. It is the smaller of Orion's two hunting dogs.

It is the home of the eighth brightest star in the sky, Procyon. Procyon is a first magnitude star which is about 11.5 light-years from us. Procyon has a white dwarf companion; however, it is even more difficult to observe than Sirius B and is about 15 AU from the main star.

Also, unfortunately Canis Minor doesn't contain too many other things which will attract our attention. It does contain a few nice double stars and a decent galaxy we can observe. It is also the home to several open clusters and a few galaxies which don't quite match our three stars requirement.



IAU and Sky & Tel - Roger Sinnott & Rick Fienberg



The constellation Canis Minor as it can be seen with the unaided eye.
© T. Credner & S. Kohle, AlltheSky.com - used with permission

Objects which rank at least three stars in *The Night Sky Observer's Guide* (Canis Minor is in Volume 1) have been included. As usual, the table is organized according to increasing Right Ascension values.

Object	R.A.	Dec.
Σ1095 (Double star)	07h27.4m	+08°45'
Σ1103 (Double star)	07h30.6m	+05°15'
Σ1149 (Double star)	07h49.5m	+03°13'
NGC 2470 (Galaxy mag 12.7)	07h54.3m	+04°27'

CVAS Loaner Telescope

CVAS provides a 10 inch Dobsonian telescope to club members. Contact Garrett Smith to make arrangements to use this telescope. Garrett can be contacted by email at GarrettGillSmith@gmail.com.



For Sale

Orion Atlas EQ-G computerized Equatorial Mount

I purchased this mount about seven years ago. It comes with a tripod and counter weight. Weight capacity is 40 pounds. The mount weighs 54 lbs. It is excellent for visual and astrophotography. Data base has over 40,000 objects. Has a built in polar axis finder scope.

This mount easily held my Celestron 11, guide scope and cameras.

The motors are very quiet.

Asking \$600

Tom Westre
Nibley
435-787-6380

Upcoming Events and Anniversaries

Jan 01 -New Horizons, Kuiper Belt Object 2014 MU69 Flyby, Successful
Jan 02 - 60th Anniversary (1959), Luna 1 Launch (1st Moon Flyby)
Jan 02 - 180th Anniversary (1839), Louis Daguerre Takes 1st Photograph of the Moon
Jan 03 - Moon near Jupiter
Jan 03 - Quadrantids Meteor Shower Peak
Jan 04 - 15th Anniversary (2004), Mars Exploration Rover A (Spirit), Mars Landing
Jan 06 - New moon
Jan 06 -Partial Solar Eclipse (Visible in Eastern Asia & Northern Pacific Ocean)
Jan 09 - 180th Anniversary (1839), Thomas Henderson Publishes 1st Stellar Parallax Measurements
Jan 13 - Mercury Passes 1.7 Degrees From Saturn
Jan 13 - Moon near Mars
Jan 14 - First quarter Moon
Jan 16 - 50th Anniversary (1969), Discovery of 1st Optical Pulsar by John Cocks & Michael Disney
Jan 17 - 90th Anniversary (1929), Edwin Hubble Publishes Paper that the Universe is Expanding
Jan 21 - Total Lunar Eclipse
Jan 21 - Super Moon
Jan 22 - Venus Passes 2.4 Degrees From Jupiter
Jan 25 - 15th Anniversary (2004), Mars Exploration Rover B (Opportunity), Mars Landing
Jan 27 - Last quarter Moon
Jan 31 - Moon Occults Venus



CACHE VALLEY ASTRONOMICAL SOCIETY MEMBERSHIP APPLICATION FORM

Member # _____

NAME: _____
 First Middle Initial Last

Address: _____
 Street City State Zip Code

Home Phone: _____ Cell Phone: _____

Work Phone : _____ Occupation : _____

Email Address: _____

How did you learn about CVAS?

_____ Website _____ Star Party _____ CVAS Member _____ Other _____

Membership: \$20 a year

Tell us about yourself: Do you have a special interest in astronomy? Do you have special skills? Are you willing to volunteer on CVAS projects or attend public outreach star parties? Astro equipment owned.

By signing this application, I acknowledge I have access to the CVAS website, cvas-utahskies.org, and the CVAS Constitution. I agree to abide by the constitution.

Signature: _____ Date: _____

Bring this form to the meeting or Mail Application to:

Brad Kropp, CVAS Treasurer
1573 E 1425 N
Logan, UT 84341

For any questions contact our Treasurer at brad.kropp@usu.edu or our Secretary Wendell Waters at wendellw57@comcast.net