

Vol. 24 Issue 4  
Autumn 2023

# HORIZON

LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
New Brunswick Centre du Nouveau-Brunswick  
THE ROYAL ASTRONOMICAL SOCIETY OF CANADA



*Why was the Fundy Star Party cancelled?  
The Fundy Nebula (NBC 2often)  
Image by Emma MacPhee*



***Congratulations SNASers!  
Asteroid (20020) Mipach***

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Inc.**

**<https://rascnb.ca>**

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Outreach: Curt Nason  
Website: Chris Weadick/Trevor Johnson  
Social Media: Gerry Allain  
Equipment: Chris Weadick  
Library: Ted Dunphy  
Newsletter Editor: Curt Nason***

## **Centre News**

### **Meetings**

January 9 or 16 (Presentations)  
January 20 (Business)

February 13 or 20 (Presentations)  
February 17 (Business)

### **What's Up for Winter**

**Curt Nason**

**Sun** Solar Cycle 25 continues at or above early predictions. The winter solstice occurs at 23:27 on December 21, and Earth is at perihelion January 2.

**Moon** New Moon dates are December 12, January 11 and February 9. The slim crescent Moon occults Antares around 11:00 on January 8—a challenge.

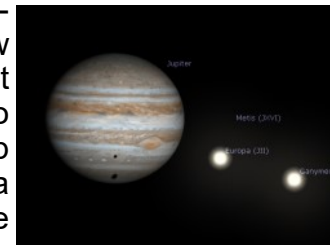
**Mercury** reaches greatest E elongation on December 4, inferior conjunction December 22, greatest W elongation January 12, and superior conjunction February 28.

**Venus** reigns as the Morning Star, in waxing gibbous phase over the winter. It has a close 0.6° conjunction with Mars on February 22.

**Mars** is two weeks past conjunction at the beginning of December, moving into the morning sky in January where it has a challenging 0.2° conjunction with Mercury on

January 27. Over a seven month period it will pass within 0.6° of all the other planets.

**Jupiter** rides high in Aries and reaches its second stationary point on December 31. On December 30 Gany-  
mede's shadow  
transits the planet  
from 18:17 to  
19:35, doubling up  
with that of Europa  
the entire time. The  
pair team up again  
on January 7 for 35 minutes.



**Saturn** sets around 23:00 on December 1, still giving great views of its rings in a telescope. It gradually sinks sunward, reaching conjunction on February 28

**Uranus** is an easy binocular object in Aries, resuming prograde motion after January 27.

**Neptune** is stationary on December 7, crossing back into Pisces mid-month. It fades into twilight in February, trailing Saturn sunward.

**Comet** 12P/Pons Brooks has had a few outbursts recently, with the latest one in November brightening to magnitude 9. 62P/Tsuchinshan passes with 0.5 AU of Earth in late January and could brighten beyond 9.5.

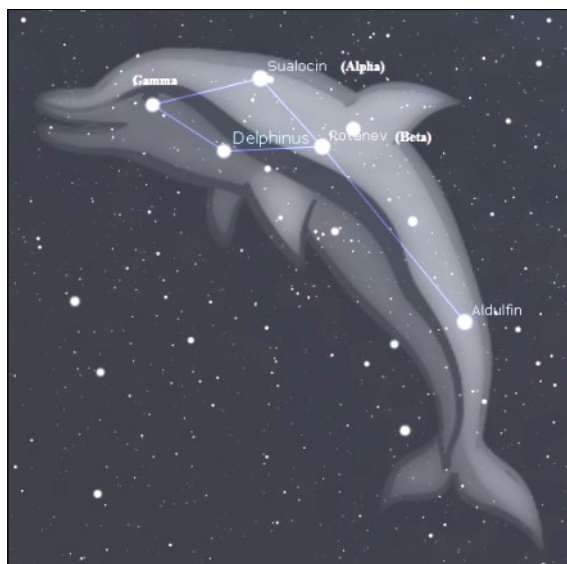
**Meteor Showers** This is a great year for the Geminids, peaking on December 14 with a two-day Moon setting early. The Ursids peak on the night of December 22/23 with a waxing gibbous Moon, and the Quadrantids peak January 4 around third quarter.



## Up For a Challenge with the Dolphin?

by Len Larkin

You may know the story involving Beta Delphini, how a couple of stars in Delphinus got their names. As spelled out in Jim Kaler's pages, the odd star names Sualocin and Rotanev first appeared in Piazzi's Palermo Star Catalogue (published in 1814) attached to Alpha and Beta Delphini, respectively. Piazzi's observatory assistant was Niccolo Cacciatore, or Nicholas Hunter in English translation. That could also be Latinized to Nicolaus Venator. When spelled in reverse it gives the two names – Cacciatore's practical joke.



Decades later, Beta Delphini was discovered to be a binary star. At first glance it doesn't appear particularly difficult; both the A and B

stars are relatively bright at magnitude 4.1 and 5.02 and Delphinus is well-placed in the sky. The trouble is at 100 light years distance the fast 27 year orbit of the pair never gives a wide separation. Currently it is 0.36". That's deep into sub-arcsecond territory. As a comparison it is 1/100th the separation of the double Albireo!

Now, the Dawes limit of my 180 mm scope is 0.66" so that seems to be the end of it. But, like the police, double star observers can exceed the limit when needed. It is possible to detect (not split) a star system as being double down to 50-60% of a scope's Dawes limit. That means my 180 mm will be limited to 0.3" - 0.4". So what would that look like? In the 180, the Airy disks of this double should appear as a single oval (not perfectly round) or maybe egg-shaped. The long-axis of that oval would show how the two stars are aligned - the Position Angle. Succeeding at an observation of Beta Delphini sounds quite optimistic, but the chance to observe the orbit of two massive suns around each other over a few years is a tantalizing prize. This system will rotate over 100 degrees in 10 years.

So, a couple of nights ago I started an early session about 18:30 and, after set-up, immediately went to Beta Delphini. It's my toughest double ever! At 330x in my zoom eyepiece the view seemed too wild, but swapping in my 5 mm eyepiece (540x) I could see the Airy disk settling down and giving moments of a crisp, somewhat elon-

gated shape. Time to measure! After retrieving the measuring eyepiece from the house, I started calibrating it in the scope when I noticed the star dimming. Sure enough, some unpredicted clouds showed up and never left. Boo hiss! Oh well. Even if the clouds had stayed away it would still be a tricky one to catch.

However, while setting up prior to the Beta view, Gamma Del was a nice consolation prize. It's a relatively easy double with similar star brightness but a generous 9" apart. There's a K1 yellow primary and a secondary that the mind sometimes assigns an unlikely shade of green. But perhaps before I hang up my observing mitts for the season, the sky gods will relent and offer me one more steady sky moment for the privilege of peering into the orbital world of Beta Delphinus.

## Did You Know?

Venator and Sualocin were approved as official star names by the International Astronomical Union in 2016.

Gamma Cassiopeiae, the middle star of the W asterism, was a navigation star for the Apollo astronauts but it didn't have a proper name. Gus Grissom started calling it Navi. This seems like a logical name for a navigation star but, perhaps inspired by Cacciatore, he had another reason. His middle name was Ivan. As of 2021, It has yet to be approved by the IAU.

## A Long Overdue Book Review and Christmas Gift Suggestions by Alan Hindle

**Peterson Field Guides - Stars and Planets**  
**4th edition, copyright 2000**  
**Author: Jay M. Pasachoff**  
**Star Maps and Atlas Charts by Will Tirion**  
**18.3 cm x 11.5 cm x 3.3 cm**  
**Paperback, 578 pages, glossy paper**

I like books. I like this book. This is a good book, even if it is a bit dated in certain areas. This book has a very rare attribute that I'll tell you about. I'll compare this book with some of my other favourite astronomy books. That's the Christmas gift advice part. I would recommend any of the books referenced in this article as a good gift for the amateur astronomer on your list.

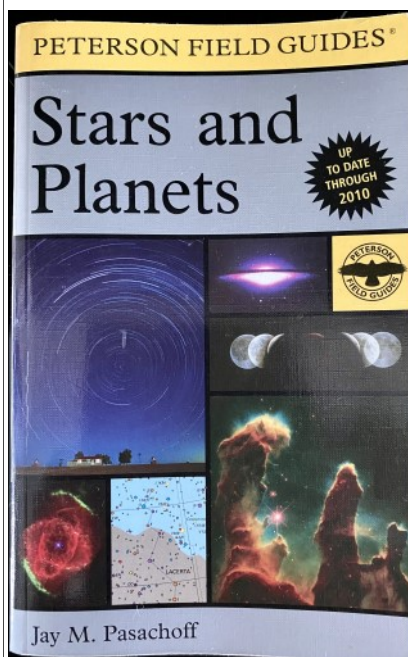
You may or may not have heard of Peterson Field Guides before. They are a collection of more than 40 books and products aimed at interests in the natural world that cover many sciences and fields of study, from animals and plants to geology and astronomy and more.

The author, Jay M. Pasachoff, was Chair of the Astronomy Department, Director of the Hopkins Observatory and Field Memorial Professor of Astronomy at Williams College in Williamstown, Massachusetts. He passed away in November 2022. He was a renowned eclipse chaser and travelled to more than 74 solar eclipses! There is a tribute to

his life on the Sky & Telescope website.

Wil Tirion, a Dutch uranographer, provided the monthly star maps and the star atlas charts in the book. Wil Tirion is recognized as one of the foremost experts in the field of celestial cartography. His works include the *Cambridge Star Atlas*, *Uranometria 2000.0* and *skyAtlas 2000.0*.

The combination of such publishing experience and top-of-class subject matter experts



makes for a good product. As a field guide it's intended to be taken places with you. It's well constructed with good materials and it easily fits in the pocket of my parka. It travels well in my backpack and it often makes its way to my nightstand. The book is well researched, well written, well arranged and

easy to navigate. It's organized with 16 chapters, 24 tables and 16 appendices. There are also charts, graphs, lists, illustrations, a glossary, index, bibliography and many colour photographs.

*Stars and Planets* is a field guide. It's impressive how much information is packed into such a small book. It is designed to put all the info you should need to observe and understand much of the night sky at your fingertips.

I could compare this field guide with *Night-Watch* by Terence Dickinson. *NightWatch* is a very good all-things-astronomical book for a beginner or novice astronomer. It explains what's in the night sky, the workings of the solar system and the universe, and about the equipment used by amateur astronomers. Lots of colour photos and illustrations and not overloaded with tables and data.

Along the same lines is *The Backyard Astronomer's Guide*, by Terence Dickinson and Alan Dyer. This is an excellent book that explains some celestial phenomenon and workings in more detail and depth than *Night-Watch*. This book was recently revised (4th edition) and contains a wealth of information on equipment and tech that is current now, in 2023. *The Backyard Astronomer's Guide* leans heavily on the equipment in use today for visual astronomy and astrophotography. It contains a lot of info dedicated to astrophotography equipment, capture techniques and set-ups, camera settings, post-processing programs and techniques. This book is very much up to date. *The Backyard Astronomer's Guide* contains some beautiful astrophotography images. The images in the Moon tours chapter are spectacular. Available wherever good books are sold.

One other all-things-astronomical book is our own RASC *Observer's Handbook*. RASCals know what's in it. Tons of info, reams of data, tables and lists. I refer to it often. Published annually, this is where the current data for the year is. There are exceptionally well-detailed explanations of pertinent astronomical topics by many authors and subject matter experts. This book can be intimidating to novice astronomers, and it is not particularly exciting; black and white on plain paper with very few photographs. This is a no-nonsense publication and an excellent resource for general and advanced knowledge, and it has a tremendous amount of good astronomy links and references. This is good book for planning observing sessions. And last year's makes a nice gift to your non-RASC friends who have astronomical interests.

*Stars and Planets* is an all-things-astronomical book too, but it is more than 20 years old already. This book may not see another revision and the time-sensitive data presented in it are now obsolete. In spite of that, I still recommend this book for your collection. (Editor's note: According to the ad on Amazon, the 16th printing of the 4th edition, in 2018, updated most time-sensitive data for the 2020s.)

Many of the photos in the book are exactly that, photographs from film cameras. CCD technology was just making it to amateurs then. The pictures are from all sources, professional and amateur. There are even a few photos by Alan Dyer in the mix. The astrophotography advice in the book is for film cameras. Can it still have some value for an

experienced (old) photographer?

Here's a tidbit as an example. Jay Pasachoff had a real interest in the Sun. Table 22, Solar Eclipse Photography advises and details techniques with film, camera and exposure settings during a total solar eclipse for partial phases, diamond ring, prominences, corona and at the end of the eclipse. This may or may not be useful. I don't really have the expertise to say.

Another option for all things solar is *Solar Astronomy*. Printed in 2021, this work is translated from French, edited by Christian Viladrich and published by Axilone, in France. It has 480 pages, 1473 images and 16 chapters. This book amazes me! The Sun is so dynamic. You know a book is well detailed and organized when the table of contents is 12 pages long! *Solar Astronomy* is like *The Backyard Astronomers Guide* for the Sun. It covers observing, imaging and studying the Sun. If you have a keen interest in the Sun you must check this one out. Research it and order at **[solar-astronomy-book.com](http://solar-astronomy-book.com)**, 69 euros, shipping included worldwide. Unfortunately, according to the website, it looks like it is out of print at the moment but a new edition is currently being printed.

The majority of the information in *Stars and Planets* is about the sky and what's in it. There is a bit about equipment, but just the basics really. *Stars and Planets* leans heavily on the whole sky. There are chapters on a first look and a tour of the sky, monthly star maps, the constellations (including a brief history and/or mythology for all 88 modern

constellations), stars, nebulae and galaxies, double and variable stars, the Moon; observing the planets, comets, asteroids, meteors and meteor showers; observing the Sun; coordinates, time and calendars and, almost as an afterthought, telescopes and binoculars.

The information is well presented and goes into good detail on most subjects. The author writes in a manner that is easy to read and understand. I think all levels of astronomer could find something of interest here. The topics are supported by numerous images and illustrations, all neatly indexed. There's cohesiveness with the presentation and writing that tie different parts of the book together. I appreciate this.

There's more to *Stars and Planets* than that, though. *Stars and Planets* is also an atlas, two actually; one for the Moon, and one for the sky.

The Moon atlas divides the near side into eight sections. This is a field guide and as such the map is oriented for use at the telescope, flipped and mirrored; north is down, south is up, east is left and west is right. This is the eyepiece view for most Newtonian reflectors I believe.

The map used was prepared for the National Geographic Society and the U.S. Geological Survey so the quality is good. The map sections label prominent features and on the facing page for each section is a narrative describing the area, provided by Ewan A. Whitaker. A variety of interesting features are noted and detailed by the tour guide. There is

also a single full-face proper orientation map of the Moon's far side provided, accompanied by a short description.

If that Moon map orientation doesn't suit your telescope, the Sky & Telescope store has field maps of the Moon in mirrored view for most refractors and SCTs, and in straight up proper orientation for naked eye and binocular observing. These are nice and big, laminated and fold into four quadrants. Features are labeled and indexed. One might make a nice gift for the lunatic on your list.

Sky tours are a common feature of many of the books that I've already mentioned. They're a great way to become familiar with a little patch of sky at a time.

*Binocular Highlights* by Gary Seronik is a Sky & Telescope publication that is a favourite of mine for small tours like that. I enjoy the way the author writes; 99 short stories. The tour targets are arranged seasonally. Each page has a feature located on a specific little star map accompanied by a narrative from the author. It's for binoculars so most targets are the best and brightest in the area. It's great for telescopes too, of course. It's an interesting, enjoyable way to find things. Binoculars are great for cruising the sky.

I recently completed Sky Tour 10 (Ring Study) for the Northern Summer Sky in *The Backyard Astronomer's Guide* with my 300 mm Dob. The tour included M57, the Ring Nebula, and a few hops to some very interesting and pretty double stars in the constellation Lyra the Harp.

I've been seeking out double stars lately. One thing that I like about doubles is the variety of colour combinations that there are. *Stars and Planets* does a good job explaining colour and spectral types and the classification of stars. There is also some good info about double stars.

Colour in the night sky interests me. When a star is isolated its colour can sometimes be hard to determine. But situated next to another star the optical effect of a different or contrasting colour (if present) makes the colour of both stars appear more vivid. That makes a pretty double. Some seem prettier than others though. I believe it's wonderfully okay to view the sky just for its beauty, without really needing to know how everything works. I'm not ashamed to say I like some pretty things.

Not surprisingly, there is a list of selected double stars in *Stars and Planets*. What is surprising is that the list is extremely selective and has only seven entries! Oh my! There are other sources for such lists. The *Observer's Handbook* is a very good resource for this topic and has two good lists for double stars (one for coloured doubles).

There is also *double stars for small telescopes* by Sissy Haas. This is a Sky & Telescope publication with more than 2,100 entries. There is an informative introduction to viewing doubles and a good explanation of the stellar spectral classification system by temperature (colour) and luminosity. The 2100+ entries are organized by constellation. All entries have data for separation and spectral classification. All entries have com-

ments from the observers. The comments are good and provide a black and white publication on plain paper with a bit of colour and interest. This book is a data vault with a few illustrations and even fewer images. I like this book. I make notes in this book with a pencil, simple logging.

There's something special about *Stars and Planets*. And it has a rare attribute. Chapter 7 is Atlas of the Sky. This is where the stars shine in this book for me. To pull together all the information that is in this book, there is a complete, coloured, epoch 2000.0 atlas of the sky. This is an atlas produced by one of the top celestial cartographers of our time. It is 54 sky charts formatted for this book, and as with the Moon atlas it has a guided tour on the facing page or pages. Particularly rich areas such as Cygnus and Orion have more guidance and supplemental charts and/or photographs.

Chapter 7 is where some of the neatly indexed data and photos in other chapters are referenced. Flip a few pages and remind yourself what that galaxy or cluster on the chart looks like. The author has a nice way to walk you through the entire sky while drawing your attention to things you may have overlooked or underestimated, including colourful doubles stars. This is a good fit for me, but it gets better.

All star atlases are not the same of course. Thankfully, there are different ones for different circumstances. I'll compare the sky atlas in *Stars and Planets* with two others that you may be considering for Christmas. Both are available at the Sky & Telescope store. First



is Sky & Telescope's *Pocket Sky Atlas* (Jumbo Edition) by Roger W. Sinnott (\$41.95 USD). The other is *skyAtlas 2000.0* (desktop version, un laminated) by Roger W. Sinnott and Wil Tirion (\$39.95 USD).

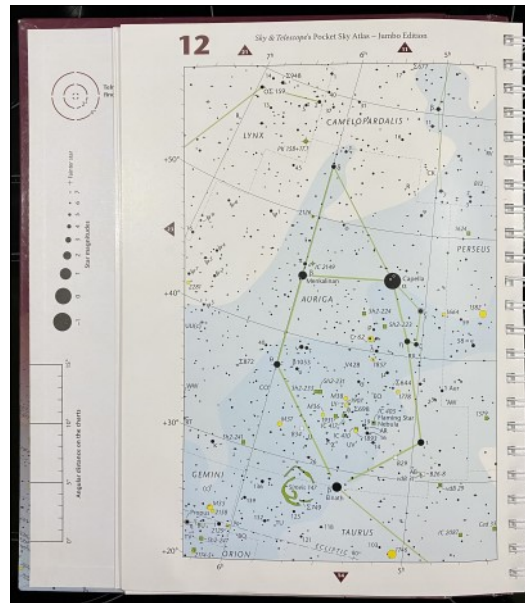
I believe the *Pocket Sky Atlas* is popular and for good reason. It is hard covered with a spiral binding so it can be folded back onto itself to view a single page. Measuring 23 cm x 30 cm it's a good size for handling and viewing but it certainly won't fit in your pocket. The charts are printed on two sides, on waterproof paper with black stars on a white background with colour features. There is a chart legend every ten pages on the 10s. This is the atlas that I use at the scope more often than any other; 80 charts, 30,000+ stars down to magnitude 7.6.

The desktop version of *skyAtlas 2000.0* is large. Measuring 46.5 cm x 34 cm, this atlas seldom leaves my house. I bought the un laminated version; plain paper, unbound, printed on one side only, black stars on a white background, no colour, every chart has a legend. I bought this version specifically so I could write notes on the pages (front or back) with a pencil and highlight stars and features that I spent time viewing. This may be more lazy logging, but it's still a record of sorts. *skyAtlas 2000.0* is also produced in other versions with various options; deluxe, colour, laminated, spiral bound. My version is 26 charts, 43,000 stars down to magnitude 8.5. All versions are not always available.

The sky atlas in *Stars and Planets* is small but clear. It measures 11.5 cm x 18.5 cm per page. It's a softcover pocketbook format with

waterproofish glossy paper, coloured stars on a white background with colour features. There is a legend on every chart. I refer to this atlas the most, because of the accompanying narrative from the author for every chart. I use this atlas pretty much anywhere and everywhere – 52 charts, 25,000 stars down to magnitude 7.5. Buy online, Amazon.ca or other new/used book sellers.

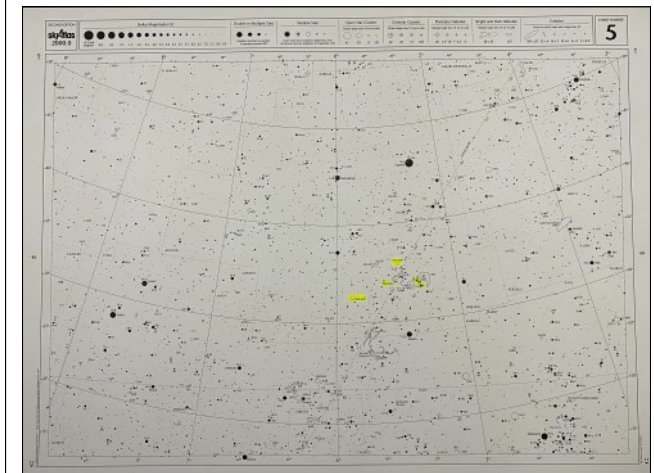
So lets really compare the three. I'll point out some differences that make a difference among the three. Oh, by the way, did you notice it? The special attribute?



### ***Pocket Sky Atlas (Jumbo ed.)***

This is the constellation Auriga in the *Pocket Sky Atlas*. Note the features. There are helpful scales on the inside margin of the front cover; black stars, white background, colour

features including the Milky Way outline. The constellation is clearly labeled on the chart. The constellation is presented with stick figure lines (in green) representing Auriga the Charioteer. The binding and paper are sturdy. This is a very good atlas for most purposes for most amateur astronomers regardless of experience.

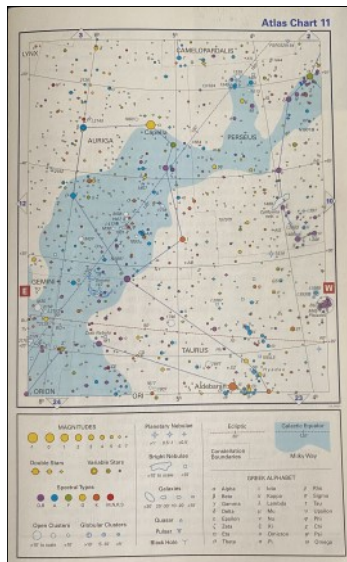


### ***skyAtlas 2000.0 (desk ed. un laminated)***

This is the constellation *Auriga* in *skyAtlas 2000.0*. Note the features. There is a complete legend on the chart; black stars, white background, no colour (other than my yellow highlighter). There is no outline of the Milky Way. The constellation is labeled only at its borders. There is not a stick figure representing Auriga, the Charioteer. The paper is plain. It takes a pencil well but try to keep it dry. This is a good atlas for an experienced observer, not so much for a beginner or some novices, in my opinion. If you get lost in a dark starry sky, you may get lost here. This particular chart also contains a recognizable amount of Gemini, Taurus and Per-

seus. That is not noticeable at a glance with this type of presentation.

## Peterson Field Guides - *Stars and Planets*



This is the constellation Auriga in Peterson Field Guides – *Stars and Planets*. Note the features. There is a complete legend on the chart; coloured stars, white background, colour features including the outline of the Milky Way. The constellation is clearly labeled, as are Taurus and Perseus.

There is a stick figure representing Auriga, the Charioteer. The paper is sturdy and wears well but the binding of the book can be damaged with abuse. Together with the accompanying chapters of the book and with the thorough description of the sky, this atlas is something special.

Some last words. Did you get it yet? The rare attribute?

This atlas has coloured stars! Stars coloured according to their spectral classification: (O, B, A, F, G, K, (M, N, R, S). This is at the sacrifice of the coloured fill on star clusters, galaxies and nebulae. Those features here have a blue border with white fill. No other sky atlas that I know of has stars presented in this way. None that I can find anyways, and I've searched for it. This feature transfers so

much more information at a glance and you don't even realize it. That is an incredible amount of data displayed visually, for the whole sky. That's brilliant, even at its most basic level. Looking for Auriga in the sky? Start by finding the bright yellow star Capella.

There's more. This atlas displays quasars, pulsars, and black holes. That's not really for most of you and me though, other than to look in that direction and wonder. These are a selected group of the brightest radio astronomy targets in the sky for the budding amateur with an antenna. That is not common. There's a tiny blue circle on chart 5 labeled Hubble Deep Field. That's not common either. I really like this book. And, by touring often with Jay Pasachoff as a guide and having such a complete legend on every chart, I'm actually learning the Greek alphabet without really trying. Very odd indeed!

This book is 20 or so years old already. I recommend you add it to your astronomy collection. I am confident that 20 years from now I will continue to recommend this book. You can lean on this book for a lifetime.



## Orbit: Around the Centre

### Alan Hindle

For my Christmas astrowish under \$1000 I wish I could be gifted a Sunspotter telescope. These look great for sharing the Sun, sunspots and eclipses with friends or for outreach. And they seem to make sketching sunspots easy!

And if that fails I believe plans and instructions can be found online to build one!





## HAL-CON 2023: Where non-neuro-typicals go to play by Mary King

Hal-Con 2023 is self-proclaimed as “Atlantic Canada’s premiere sci-fi and gaming convention.” It was sold out this year, but this intrepid reporter made it through the lines. For people who are only into the pure sciences the event can seem trivial. With an open mind and a sense of humour, the event is an opportunity to have fun and learn.

It was exciting to sit in a session entitled *Hellish Worlds: The Science of Lava Planets* with presenter Dr. Lisa Dang, an exoplanet researcher from Université de Montréal. How do people get cool jobs like this? Anyway, using a mere nine pixels from the James Webb Space Telescope (and with a little help with telescopes on the ground), Dr. Dang and her team were able to learn about the climates of exoplanets. Actually, it was many series of nine pixels, still impressive. Many exoplanets are rocky, like Earth, but unlike Earth they are composed of bubbling lava. One exoplanet has a six-day year. The new information about exoplanets is exciting for scientists and creative writers.

*Far, Far Away and in Our Own Backyard: Astronomy and Science Fiction* was a session featuring Hugo Award winning British writer Adrian Tchaikovsky, graphic artist Sandy Caruthers, and Dr. Lisa Dang and Dr. Martin Sawicki, both from the JWST. This session was a guide to a tour of distant galaxies, which took the audience back to the beginning of how the universe was formed.

The notion that our sun is average, like ten percent of all stars in the Milky Way, was somehow comforting given the massive variations that are now known to exist.



***RASC NB's Lois Lane sporting her umbral T-shirt at HAL-CON 2023***

Hal\_Con has many strands for writers and gamers. The name Sam Maggs seemed familiar to me, so I checked out her session. She has lost the big earrings and the long hair from her days co-hosting for Cineplex with Tanner Zipchen. Sam is now a respected and sought after author. After writing stories for free in Toronto, she was asked to write a book about girls who like to play video games. The result was a book entitled *The Fangirl Guide to the Galaxy*. Yes, girls do have game. Another book she wrote was *Wonder Women: 25 Innovators, Inventors,*

*and Trailblazers who Changed History*. I think I will check those out. It is wonderful to find people who can turn their passions into a career.

Saturday at Hal-Con is family day, it seemed. Whole families come out in costume (Dad Spiderman, Son Spiderman) and manga and anime costumes are everywhere. Every iteration of the Star Trek Universe was represented. Even so, I think I got some jealous looks as I walked around with my Eclipse 2024 T-shirt. Still, I left thinking more and more about going next year as Ripley.



***Mary's talent as an intrepid reporter has led to her acceptance into an exclusive sorority: The Butter Tarts***



## Holiday Astroverse by Yolanda Kippers

### Christmas Gift List



On  
The 12th  
Month a-changing  
The sky gods Gave to me:  
12 hours of  
Darkness; 11 constellations  
'n counting; 10 asterisms a-plenty;  
9 zodiacs a-leaping; 8 planets dancing;  
7 sisters shining;  
6 colours glowing - 5 Saturnian  
rings – 4 Jovian moons, 3-starred belt, 2  
chasing dogs, and a lunar cycle marking the  
passage of  
TIME  
(cost priceless)

**Do you know what I know?  
(way up in the sky, little rock?)**

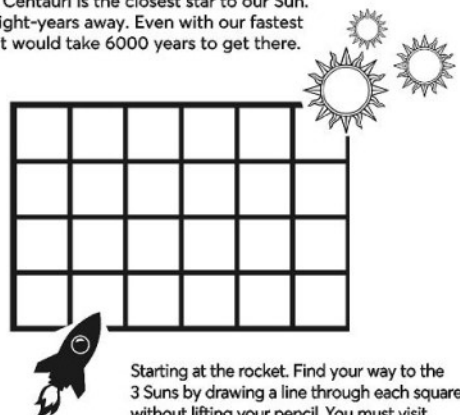
You know...  
Marshy and Mercy,  
Earthy and Venus,  
Saturn and Jupid,  
Necter and Unis;  
But do you recall?  
The most famous planet of all:



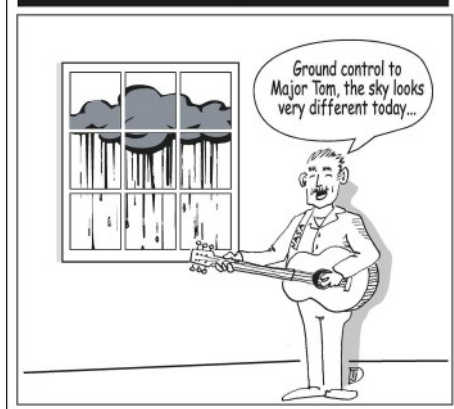
## Ted's Space & Toon By Ted Dunphy



Alpha Centauri is a triple star system. It consists of three stars: Rigil Kentaurus, Toliman and Proxima Centauri. Proxima Centauri is the closest star to our Sun. It is 4.3 light-years away. Even with our fastest rockets it would take 6000 years to get there.



The "second" most scariest thing Chris Hatfield has ever done... coming to New Brunswick to see a total eclipse of the Sun !



## Abbey Landry School Visit by Gerry Allain

On the last week of October I contacted the Abbey Landry school in Memramcook to see if they would be interested in me doing a presentation. We confirmed I would present to two classes of grade 7 students and two classes of grade 8 students on November 7.

A few days before the presentation I updated my PowerPoint with some new moon numbers for Jupiter and Saturn. Mary King also brought me Star Finders, Moon Guides and other material for the students. The night before, I contacted my best friend Elmer, aka brother from another mother, to see if he wanted to see the presentation. The next day I picked him up and we headed to the school.

A bit of history: That school opened in 1973, and Elmer and I were in grade 7, in the same class, the year it opened. He sat behind me, and we have been best friends since. Once at the school, we registered and the secretary contacted the teacher. As we waited, I told her Elmer and I went to this school the first year it opened. She said that was cool, and that the school still had the list of ALL the students that came here. I said no way, prove it. Laughing she said she would.

The teacher led us to the amphitheatre where he would combine all four classes at once for the presentation. I have been to this school since I left it in grade 9, doing Santa Claus to help the community at the Christmas market. Elmer, on the other hand, had not been here since grade 9. He was having flashbacks of the great times we had there.

After setting up the laptop up front, I saw that if Elmer sat at the laptop pressing the keys for me, I could be at the back of the room and do my presentation closer to the kids. Elmer was happy to help, and I was happy he had come along, that was not planned. The teacher set a table up front, and we set up all the handouts there for the kids to take after I finished.

The kids arrived and quickly filled the room; we had 88 kids and 4 teachers. I started my presentation, hoping I was going to have enough time with questions. There were a lot of questions from the kids AND the teachers, but one kept telling the kids that I had to keep going to finish before the bell.

I did my usual talk on everything we can see in the sky with our eyes, binoculars or a telescope. I talked about the solar eclipse in April, and to be careful to NOT look at it with the eyes, to use proper solar glasses. They were excited about this rare event.

I did not run out of time and thanked the kids for being so good. They said, almost in unison, thank you Mr. Gerry. They picked up the handouts and went off to their next class. The teacher wants me to come again next year. He sent me an email later saying the kids talked about it after and really enjoyed it. I did too, and so did Elmer.

The day I retire, I'm doing this more often during the school year, at all the schools in the area. I really like the excitement in the kids, and impressed how much they know.

RASC NB Outreach Events and Handouts									
Year	# of Events	People At Events	Live Feed	Youth	Star Finders English	Star Finders French	Moon Guides English	Moon Guides French	Volunteer Hours
2014	104	4843			1716	241	1378	199	
2015	114	7262			2106	244	2568	156	
2016	219	9498			1984	115	2290	87	988
2017	248	9951	8441		2276	162	2262	131	1937
2018	187	7289	37,922	>1300	1788	170	1635	79	1355
2019	240	7036	46,675	2997	1320	216	1520	213	1950
2020	171	1859	161,688	954	817	22	636	125	1079
2021	131	731	60,240	565	108	0	46	0	1160
2022	173	12,952	63,122	10,192	586	60	472	106	1809
2023	168	23,419	9787	20,612	556	223	452	110	1789

Types of Outreach Events							
Year	Presentation	Night Observing	Day Observing	Youth Group	School Talks	Exhibition	Observ./ Planet'm
2014	23	21	20	17	12	8	3
2015	22	33	23	7	15	13	1
2016	31	55	39	19	54	11	10
2017	61	89	22	19	50	6	1
2018	50	80	13	18	20	5	1
2019	73	94	10	22	36	5	0
2020	86	43	5	8	29	0	0
2021	65	48	6	1	11	0	0
2022	72	52	6	4	34	4	0
2023	60	13	8	14	69	4	0