

NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC
VOLUME 2013 ISSUE 1 JANUARY FEBRUARY 2013



Never Leave Home Without It

by Leigh Cummings

I awoke the next morning (Saturday) to the sounds of my Aunt Mary busy in the pantry, reminding me of the old “Green Acres” theme song, “Country living is the life for me.” I looked at my watch and realized she had been kind to me and let me sleep in until 8 o’clock. I knew when I left for this trip that sleep was going to be a low priority so I wasn’t about to complain. In fact, I was glad to wake up early as it was going to be a big day at the old homestead, and I wanted to enjoy some quiet time visiting with my aunt. It had been a long time since I had been to Boswell and I wanted to make it count.

After a breakfast of cereal topped

with freshly picked raspberries, followed by a couple of cups of steaming hot coffee, sprinkled with



conversation about family and events, it was time to earn my keep. My aunt was hoping I could help her with a little clean up around the place before the crowds arrived

and I gladly volunteered. It was a beautiful sunny morning beside the lake with a gentle breeze from the south. It made the work of cleaning up an acre of leaves and several cabin porches seem to go much quicker. By the time we finished and were once again sitting at the kitchen table for a much-earned cup of coffee, people started to show up. Luckily, the first bunch to arrive were more volunteers to help set up tables and put out food for the horde yet to show. Before we went back to work, my aunt pulled me aside and asked if the telescope was still set up. I told her it was, which made her smile.

The afternoon celebrations were
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JANUARY 10

Jaymie Matthews of UBC: The extended Kepler mission to find exoplanets: To know the planets, you must know the stars. Room: Hennings 201

UBC



FEBRUARY 14

Members’ Night. Our former president, Howard Trottier, presents “Starry Nights @ SFU: Five Years and Counting.” Room: B9200

SFU



MARCH 14

lan McLennan will speak on his career building and advising planetariums and science centres. Room TBA.

DOUGLAS COLLEGE



Members' Gallery



NGC 6914 in Cygnus by Howard Trottier

Imaged between July 24 and Aug. 25, 2012. 15 hours total. PlaneWave CDK17 telescope on a Paramount ME, using an Apogee U16M camera with Astrodon filters and MOAG.

President's Message

Happy New Year to All!

For eight years, I have been a member of the Royal Astronomical Society of Canada, Vancouver Centre and for the last five years I have volunteered on council. I can honestly say I feel very lucky that Wayne Lyons gave me a call when I first joined and asked if I wanted to get involved at the AOMO in Maple Ridge. From that point on, I have

been a sponge to the riches that I have uncovered in this centre, to the Royal Astronomical Society of Canada–National and to the exciting world of astronomy. Today I feel privileged to stand as President of Vancouver Centre.

First off, I would like to sincerely say welcome to all the new members who have joined us for 2013 and welcome back to the returning

by Mark Eburne

membership. I look forward to interacting with all of you at the various events this year.

Secondly, I would like to say thank you to all those councillors who are stepping down for all their hard work and efforts in 2012. As well, I would like to send out a special welcome to those who are joining us for the first time on council. I would encourage

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About RASC

The RASC Vancouver Centre meets at 7:30 PM on the second Thursday of every month at various locations in Metro Vancouver (see page 1 for meeting locations and page 4 for maps). Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently \$73.00 per year (\$41.00 for persons under 21 years of age) and can be obtained by writing to

the Treasurer at the address on page 5. Annual membership includes the invaluable Observer's Handbook, six issues of the RASC Journal, and, of course, access to all of the club events and projects.

For more information regarding the Centre and its activities, please contact our P.R. Director.

NOVA, the newsletter of the Vancouver Centre, RASC, is published on odd-numbered months. Opinions expressed

herein are not necessarily those of the Vancouver Centre.

Material on any aspect of astronomy should be e-mailed to the editor or mailed to the address below.

Remember, you are always welcome to attend meetings of Council, held on the first Thursday of every month at 7:30pm in room P8445.2 of the Physics wing of the Shrum Science Centre at SFU. Please contact a council member for directions.

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Library

The centre has a large library of books, magazines and old NOVAs for your enjoyment. Please take advantage of this club service and visit often to check out the new purchases. Suggestions for future library acquisitions are appreciated.

On the Internet

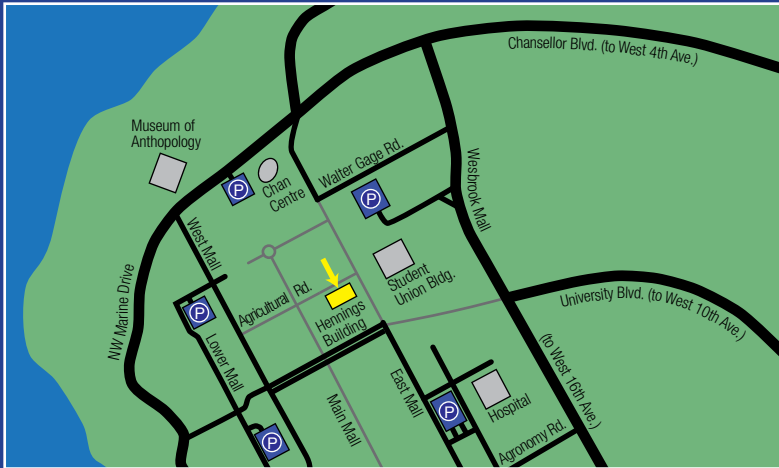
<http://rasc-vancouver.com> or
<http://www.rasc.ca/vancouver>
<http://astronomy.meetup.com/131/>
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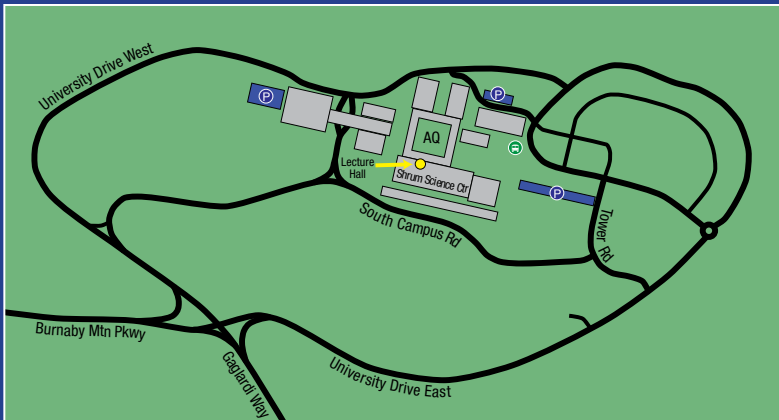
Maps to Meeting Sites



UBC

Our UBC meeting site is in room 201 of the Hennings Building. The main entrance is off Agricultural Rd. (indicated by the arrow on the map at left). Room 201 is up the stairs and on the left.

Pay parking is available at several parkades located around campus (indicated as "P" on the map).



SFU

Our SFU meeting site for February is in room B9200 along the south concourse of the Academic Quadrangle (indicated by the arrow on the map at left).

Pay parking is available at several lots located around campus (indicated as "P" on the map).

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all membership to get to know your members on council. The complete list of the 2013 council members is available in this NOVA publication and on our website. And just as important, I would like to recognize all the volunteers that we are lucky to have at the RASC Vancouver Centre. Without the efforts from each of these volunteers, our events would not be as successful as they have been. If you are thinking of getting involved to help out at our events or

work behind the scenes, please let us know as we would be happy to have you. We have several opportunities to make 2013 an even bigger success for everyone.

Whether you are working on string theory, building your first telescope, writing research papers, delivering education, looking for a helping hand with your camera or like me, are just in love with the night sky, we are all fortunate we have the curiosity bug. We are fortunate that we can get together monthly and listen to such

a wide range of topics and presenters to feed the curiosity bug. We are fortunate to be able to collaborate our resources to provide public events that spread the curiosity bug. It may be at events where over 1,000 people gather to watch a meteor shower or where a young child tugs on your jacket and asks if he or she can look into your telescope—we all have the ability to spread that bug. For over eighty years, the Vancouver Centre has been around,

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2013: Year of the Comets

by Ciara Morgan-Feir

Despite the end of the world, which took place in December, astronomers were looking forward in 2012. One of the exciting discoveries made was that of comet C/2012 S1 (ISON), set to make an appearance in our skies in November and December 2013. Comet ISON was discovered by a group of astronomers in Eastern Europe and Russia. Discovery magnitude of a feeble 18.8 notwithstanding, Comet ISON has a big name to live up to. Living up to its categorization as a sungrazer, Comet ISON will travel 100 times closer to the sun than the Earth does. ISON is expected to reach a magnitude of around -12.

It is highly likely that Comet ISON will not be able to weather

the sun's heat. If this is the case, the comet will break up. Also, since ISON will be at its brightest when it is closest to the sun, we may not even be able to see it. On November 28th, at its perihelion, Comet ISON should only appear roughly 4° north of the sun, generating debate over whether or not we will be able to see it through the sun's glare.

If Comet ISON survives its long trip past the sun, it will be best viewed in December 2013.

If you're anxious to get some comet viewing in before that, Comet C/2011 L4 (Pan-STARRS) will also be making its way through the 2013 skies. Comet Pan-STARRS, discovered in 2011 by the Panoramic Survey Telescope and

Rapid Response System, is expected to be brightest in February and March. The almost parabolic orbit of Comet Pan-STARRS is notable, consequences of which include that this may be the first and last trip the comet ever makes to our Sun. At its perihelion on March 10th, Pan-STARRS is expected to brighten to an apparent magnitude of around -4, comparable to the magnitude of Venus.

2013 is shaping up to be an exciting year for comet hunters. Personally, I choose to withhold any excitement that might arise. In the words of David Levy, "Comets are like cats; they have tails, and they do precisely what they want." You've been warned. ★

Comets ISON and Pan-STARRS on the web

<http://earthsky.org/space/big-sun-diving-comet-ison-might-be-spectacular-in-2013>

<http://www.ifa.hawaii.edu/info/press-releases/PS1CometJune2011/index.shtml>

http://en.wikipedia.org/wiki/C/2012_S1

http://en.wikipedia.org/wiki/C/2011_L4

<http://www.jarnac.org/>

Membership has its Privileges!

New members, did you know? The Vancouver Centre has 8 telescopes available for loan free of charge! We have telescopes ranging from 60mm to 10" diameter. For more information see the Director of Telescopes after the members meeting. The loaner period is for one month, to be returned after the next meeting. Telescopes are not allowed to circulate outside of these meetings. You

can now reserve two different telescopes per year and use what is left at the end of the meeting anytime.

Your greatest opportunity as a member of the RASC is to take advantage of the company of other enthusiasts to increase your knowledge, enjoyment and skill in astronomy.

The best thing you can do to gain the most from your membership is to get ac-

tive! Take in the club meetings; engage other members with questions; come out to observing sessions (also known as "star parties"), and, by all means, volunteer to take part in our many public events.

For the usual observing sites and times, visit our website at <http://rasc-vancouver.com/observing-sites/> or contact the Observing Chair at observing.rascvancouver@gmail.com.

Upcoming Events

March

16 – Night Quest at Pacific Spirit Park

April

20 – International Astronomy Day

August

Aug. 3 - 11 – Mt. Kobau Star Party

September

Aug. 31 - Sept. 7 – Merritt Star Quest

December

8 – AGM

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what my trip was supposed to be all about. There is a creek that flows through the old homestead that most locals have called “Goat Creek.” Highway 3A follows the eastern lakeshore from Creston to the Kootenay Lake ferry landing at Kootenay Bay, and passes through my aunt’s property, crossing the creek in the process. Various local organizations, including the First Nations Kootenai band in Creston, had been lobbying various levels of government to formally name the creek and the bridge. The result was the decision to name the creek by its original Kootenai name of “Akokli Creek.” This is the Kootenai word for the mountain goat. The bridge would be named for the family that originally homesteaded on the land where the creek flows into the lake. So for the first time in British Columbia’s history, a provincial highway bridge was going to have a sign with three names upon it. It would now be known as Cummings Bridge, over Akokli Creek, which would be printed in both English as well as the language of the Kootenai people (which I cannot type into this article as two symbols within it are not on my keyboard).

After the big ceremony on the highway, attended by local politicians, the Chief and families

of the Kootenai band, almost all the residents of Boswell, people staying at the resort, and a fair helping of my relatives, we retired to the lawns I had helped rake earlier for a typical country picnic with lots of homemade vitals and punches.

It wasn’t long before my aunt brought up the subject of my telescope set up on the beach. Soon I had a fair following of curious people wondering what they could possibly see in the daytime. I had left my Mak on the mount overnight so all I had to do was uncover it, power it up and slew it to Venus. Venus was in quarter phase on this month so it was not a surprise to me that most people thought at first they were viewing the moon. If you do not have any idea of the magnification and have never seen an object in daylight before, it is actually an easy mistake. It was fun to hear some of the kids who had been with me the night before explaining to the adults that they were, in fact, looking at a planet and not the moon. I also tried to slew to view Saturn but it was still in the trees to the east. I vowed to try again tomorrow.

After everyone that was in attendance got a view of Venus, I parked the mount and switched telescopes. With the RASC solar telescope on the mount, I slewed to the sun. The sun was not as active as

it had been when Howard, Loula and myself had been observing it from Howard’s poolside. There were still some active prominences that the kids were more than happy to explain to the adults present. The night before I had to keep opening my RASC Observers Guide to answer their questions, and here they were lecturing their parents and relatives without any reference materials. Ah, to be young again.

I had to call it quits late in the afternoon in order to attend a big family and friends dinner at a local restaurant. It was fun catching up with people I hadn’t seen in years. I was also peppered with questions about what they had been seeing earlier in the day through my telescopes. My aunt was also jumping in to answer a few of the questions. I have to say it felt very rewarding hearing how exciting everyone found the experience.

After dinner, everyone went their separate ways. I had planned on a quiet evening visiting with my aunt, however she was quite insistent that she was perfectly happy conversing with me under the stars at the beach. I ended up with another good-sized crowd and even though the night started out with soft viewing, it improved as it cooled down. Saturn had already set so I started

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Perfect Perseus

by David A. Rodger

When Comet Holmes blasted into view in October 2007, it drew the eyes of the astronomical world to one of my favourite northern constellations—Perseus. Why do I consider Perseus a “perfect” constellation? Because it offers just about everything.

To begin with, Perseus is easy to identify. In urging family and friends to seek out Comet Holmes, I mentioned that they should look for an upside-down letter “Y” in the northeast, just below Cassiopeia’s “W”.

Perseus boasts several attractive star clusters. Best known is the so-called “Double Cluster.” Distinctly visible

to the unaided eye at a dark site, it comes alive in binoculars and small telescopes. The view in my 127mm refractor is stunning, especially when I attach a binoviewer with 24mm eyepieces. I never tire of exploring the many knots, twists and sparkles of this unique pair. Nearby Messier 34 is another Perseus cluster worth seeking out.

For lovers of planetary nebulae, there’s Messier 76. Sometimes called the “Little Dumbbell,” it’s faint but distinct. And there are definitely two “lobes,” just as is the case with the “Dumbbell Nebula” in Cygnus. Ken Hewitt-White says M 76 reminds him of a peanut. Use an OIII filter

to pull this object out of the general background.

On moonlit nights, when nebulae and other subtle deep-sky objects are obscured, I seek out double stars with my 100mm refractor. Since Perseus is a circumpolar constellation, I can find Eta Persei almost any night of the year. It’s located between the double cluster and Mirfak, Perseus’ brightest star. The two stars in this pair are a contrast in both colour and brightness. Check it out!

For variable star observers, perhaps the most famous variable star in the sky is Algol. It’s here, too. In mythology, Algol marks the head of Medusa, the

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spreading and feeding that bug. Still today we deliver on what the Royal Astronomical Society of Canada is founded on: the advancement of astronomy.

In 2012, we held several outstanding events in several terrific venues around the lower mainland. Overall, our attendance has been up at these events and we are reaching out to a larger public audience, thanks in large part to the efforts of your committed follow councillors who work hard at making this all happen.

In particular in 2012, we were fortunate to enjoy a timely astronomical event: the transit of Venus. Typically we see a large spike in interest when events like this happen in our neighbourhood. Unfortunately the clouds prevented us from actually seeing the event

here in Vancouver first-hand but, nevertheless, we had a good crowd of appreciative members of the public who were treated to views from NASA sites, discussions of what was going on and, of course, a potent dose of that infectious bug, curiosity.

Today, as our membership holds at around 300, we have access to things like Twitter, Facebook, Meetup and websites to get the latest news on what is happening within our centre, within our community and with our world of astronomy. Today, my cell phone tells me that in five minutes, the ISS will be passing overhead. Instinctively, I check the weather as my ability to escape whatever I am doing and when I can, then I stand and wait and smile when I see it and just imagine what it would be like. The bug bites again. Thinking back to eighty years ago, even twenty years ago, I wonder how fast the organizers

were able to let the membership and public know when and what was going on. Today we are, some might say, fortunate (and others would say cursed) at the speed of which things can be communicated. Vancouver Centre is trying to connect in every way possible to our members and the public to keep them informed and to invite them along to an event.

2013 is turning out to be an outstanding year for astronomy enthusiasts. The Royal Astronomical Society of Canada, Vancouver Centre already has plans that will provide our membership and the public with great access to enjoy all the events as they unfold. I encourage you to get connected whichever way you can to keep plugged in to what is going on.

Welcome everyone, clear skies and let the curiosity bug feed! ✨

– Mark Eburne

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out the night outlining as many constellations as my memory would allow. Regrettably, I had forgotten my laser pointer at the house and I never found a quiet time to sneak away and get it. This time I had lots of help explaining star clusters, nebulae, and galaxies with my ever-growing youth group. I was surprised at how many of these young people had never had an opportunity to look through a telescope, despite their obvious fascination with the night sky. The local kids especially have such a dark sky to observe. I know there are a number of fellow astronomers in the Kootenay but it seems there is no organization of their resources.

The long day started to tell on everyone and although my aunt didn't want to admit it, I felt it was time to pack it in for the night. I parked the scope and covered it up and off we headed to the cabin. A hot cocoa in front of the TV was enough to make my eyes start to droop so I went off to bed before

I slumped over in my chair. I had a busy day planned for Sunday so it didn't hurt being in bed before the sky started to lighten.

I spent most of Sunday taking care of business at a property I own further north up the highway from my aunt's. Once I had that taken care of, I drove back to my aunt's where we went picking our dessert. After supper, I ventured back down to the beach to try to observe Saturn between sunset and Saturn set. The mountains on the other side of the lake made that an earlier event than here at the coast. Just after the sun set, a bank of clouds started climbing over the mountains from the west. I just managed to get Saturn in view for a couple of the kids to look at before the clouds shut us down. I left the telescope tracking just in case the clouds had a tear in them that allowed us to peek through but, alas, I had brought some of my west coast luck along for the ride.

I did get to do some more viewing and a small crowd gathered around. However, the sky was a lot softer

than the past nights and, facing another day of driving, I called it quits early and started packing up my gear and loading it into the car. I have to admit, any let down I might have felt was swept away by the thought of another night visiting the "Cabin in the Sky."

The next morning, I enjoyed a leisurely breakfast with my Aunt Mary before spending a little time taking another stroll around the old homestead. I snapped a few photos, bid my goodbyes, and then hit the road again. It was so nice being able to drive at such an easy pace homeward knowing that I had two whole days to do it in. Howard's "Cabin in the Sky" is almost exactly halfway between my home in Maple Ridge and my aunt's in Boswell. With the weather a balmy 70° and sunny, driving was ideal and enjoyable.

After a brief stopover at Greenwood for lunch, I continued the climb up to Anarchist Summit. Just over the summit was the turnoff

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snake-haired gorgon slain by Perseus. (Note that her proper name is Medusa; her species is gorgon. So it's not correct to call her "the medusa," as many writers have done.) Algol is not an "intrinsic" variable (one that swells and shrinks in brightness because of internal processes) but an "eclipsing binary." Here, two stars revolve around a common centre of gravity, and the change in brightness occurs when one partially blocks the other. You can follow the entire cycle in just under three days. Dates and

times of Algol's "minima" are listed in the *RASC Observer's Handbook*, and can be followed with your eyes alone.

Then there's the grand Perseus arm of our Milky Way galaxy, which flows through Perseus and blocks our view of much of what lies beyond it. Still there are several galaxies off to the side of the Perseus arm to reward telescopic searches. I often visit NGC 1023, which forms a triangle with M 34 and Algol. It's a challenge for me in the city, even in my 280mm Schmidt-Cassegrain telescope, but with a little patience and practice its ghostly blur

will appear.

Have I convinced you that Perseus is a perfect constellation yet? Then let me add one final attraction. It's seen by millions of astronomers and non-astronomers every summer—who enjoy the Perseid meteor shower. ★

David Rodger is the Founding Director of Vancouver's HR MacMillan Planetarium (1967-80) and has been writing about astronomy for over 50 years. He usually observes the sky from his north-facing patio in North Vancouver.

The Hunt for NGC 2403

by Bill Burnyeat

One of the pleasures of the holiday season is seeing old friends. I recently took a long-time acquaintance to a grassy lot with a clear view of the sky. My friend is a 4.25-inch $f/11$ reflector mounted on an Edmund Scientific equatorial mount.

The sky was clear and a few stars twinkled irresolutely in the winter heavens. Someone asked if they could see a galaxy. Glancing up I noticed that the fine spiral NGC 2403 was well-placed. I turned the reflector until I could see Castor, a bright star in Gemini. Carefully centring Castor, I then locked one of the axes and swung the telescope north. In a few moments, we were looking at the galaxy. It looked like a round button of fog in the eyepiece.

I noticed that a couple of my guests now had an additional question to the usual request for statistics about the galaxy.

“How did you find it?” said one man. “And why,” said his partner, “did you look at the star first, and then find the galaxy?”

They looked up at a blank patch of sky and marvelled. It was true. The galaxy NGC 2403 is an under-observed object because it’s in the constellation Camelopardalis. It’s a star-poor area of the sky off the dipper. There are no bright guide stars to hop to the field. Finding this target has always presented difficulties and, for that reason, it gets few sightings.

When the public asks how this is done, I usually reply—tongue in cheek—that I use magic techniques passed down from generation to generation from the Greek

astronomers to the present. There’s some truth to this but not in the way most people think.

It works like this. The mount is a German-type equatorial and equipped with setting circles. Setting circles often put people off because it’s assumed a great deal of messy math is needed to grasp the matters. What most people don’t know is that there are simplified ways of using setting circles that are just as effective in finding some objects provided the right magic formula is followed.

First of all, let’s consider the celestial sphere. This is a ball with the earth in the centre. Since the sphere is featureless, at least as an initial idea, clever astronomers have divided it up into a system of hours and degrees. Consider the little picture of the celestial sphere (see fig. 1 on p. 10). The ball is marked with a North and South Pole. Notice that if we construct circles that pass through both poles, they must meet the celestial equator at right angles. An infinite number of lines can be constructed through the poles but, in practice, 24 equally-spaced lines are imagined to go through the ball from top to bottom. These specify the locations of objects on lines. They are called lines of *right ascension*. The lines of RA show how far west or east an object is against an arbitrary zero mark in the sky. These tell only half the story. The position of an object also requires its *declination* to be specified. This is a second set of circles that are parallel to the equator and ring the sphere from pole to pole.

Now if we look at the setting

circles—those are the funny rings on the head of the mount—we can see numbers printed on circles which imitate the large sky circles above “and all our actions they performed in small” as Mandeville says in his *Fable of the Bees*.

The RA dial has strange numbers on it but we are going to ignore it completely and concentrate only on the more straightforward declination dial. We can find deep-sky objects using just one of the setting circles. That’s a pretty good trick. Notice the declination dial is marked off in degrees from 0 to 90. Then it repeats four fold. That’s to divide up the whole sphere which is 90 times four or 360 degrees around.

So, let’s go through the steps I used to find the galaxy NGC 2403 in a vacant part of the sky. My old four-inch doesn’t even have a finder scope. First, I anticipated that someone would want to see a galaxy and so I had planned to look for it. This is just like the magician who plans a trick by placing a card, before the show, to be found later under a glass of water or in someone’s pocket by an amazed member of the audience. Only my assistant was not a young lady in tights but the RASC *Observers Handbook*. Often, the handbook is used solely to find what’s happening in the current sky but now we are going to learn other uses for this very valuable publication. Turning to the list of galaxies, I wrote down the RA and dec of NGC 2403 on a piece of paper. Next, I turned to the Table of Brightest Stars near the back of each

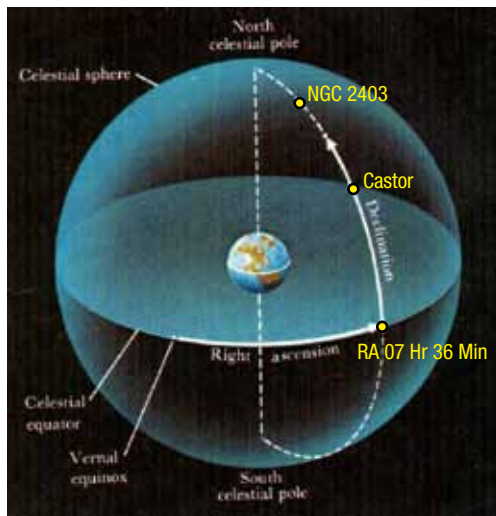
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handbook and I hunted through the list, looking for a bright star that has an RA very similar to the galaxy's. It turned out that the star Castor has an RA very like the galaxy. Both the star and galaxy are about 07 hrs 36 min east of the prime sky meridian. At this point, it may help to consider the sky globe (fig. 1). The meridian of 07hrs and 36 min is drawn on the globe. It's a "great circle" and the observer's handbook tells us that both the galaxy and the star sit on it. The next step is to look at the declination of the two objects. The galaxy has a declination of about 65° north of the equator. Castor is at nearly 32° north. Subtracting the star's dec. from the galaxy's, we can find the difference is $33^\circ 44'$.

So, this is the magician's trick or how the deep sky target is magically produced. I had set up the mount by first ensuring the polar axis looked towards the North Star. Next, swinging the scope south I looked along the tube and sighted on Castor. I centred the star in the middle of the field of a low-power eyepiece. Next, I slipped the declination circle until a 0 was right next to the mount's pointer. Since the galaxy is right on the same line of RA, I locked the knob on RA and prepared to move the scope

north. Of necessity, a sweep with the RA locked must follow the line on fig 1. At some point, I will sweep over the galaxy. But we can do better than that. Since the galaxy is $33^\circ 44'$ north of the star, I looked once more



at the declination circle, still centred on Castor and reading 0. Moving the telescope north I continued until the pointer has just passed 33° and was not quite at 34° . Looking into the eyepiece, I saw a foggy signature of light that had traversed 2.5 megaparsecs (eight million light years) to keep its appointment on the earth.

Everyone with a setting-circle-equipped German equatorial mount can do the same. I suggest, just to get your feet wet, the following

little exercise. Take up the RASC handbook and scan the table of brightest stars. Notice that the table lists stars in order of increasing RA. Select two consecutive stars on the list. These stars should have nearly identical RAs, just like the galaxy and Castor in our example. Next, find the difference in the two stars' dec. Take care to acknowledge a minus sign. The difference in angle of two stars of 20° and -5° is 25° , not 15° . Once you have the data, take the scope outside when the two stars are conveniently placed. Polar align the telescope and swing to one of the stars. Lock the RA down and rotate the dec. circle to 0, or, in some setups the circle can't rotate but make sure it reads the dec. of the first star. Then swing the telescope through the correct pre-calculated number of degrees to find the second star. After you get good at this, proceed to the next step. Substitute a deep-sky object for the second star. May I suggest another pair in the spring sky? Try Regulus and NGC 3115, the Spindle Galaxy, in Sextans. Finding objects this way is satisfying, magical and engages the observer in understanding the celestial sphere, the most ancient—but still the most valuable—tool in the Astronomer's bag of tricks. ★

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that led to Howard and Loula's country retreat. This time I knew exactly where to park and, as soon as I was out of the car, I was warmly greeted by Cali, Loula and Howard. We had a visit and exchanged news

of what had transpired while I was visiting my aunt and then, as is customary with astronomers, we took an afternoon siesta. While Howard took to his den/office, I retired to the hammock outside. There is nothing quite like the gentle

swaying of a mountain breeze to lull you into a peaceful slumber.

Next thing I know, Loula was calling us to another delicious meal. Now there is a hard day of travelling! It wouldn't take much

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of this lifestyle to spoil me rotten. While we were having our dinner on the front patio, we noticed the weather to the west did not look very promising. As much as we tried not to, we found, as usual with astronomers, the conversation kept drifting back to the sky.

As it got darker, it also got clearer. The sky remained fairly soft though, so Howard decided to continue his imaging with the Ha filter only. I had set up my telescope once again by the pool and soon we were doing some more dark-sky viewing. Howard brought out his binoculars and we spent some time looking for dark nebulae in Cygnus. I found the “coat-hanger” more by accident than by design, but it still felt like

an accomplishment. Again I have to plead guilty of not keeping notes on all the objects we were observing. We were just having too much fun jumping from object to object to stop and take notes. Too soon it was getting on the wrong side of midnight for a guy with a drive home the next day still ahead of me. I had to pack it off to bed leaving Howard to tend to his telescope through the night.

Tuesday morning I got up early by astronomer standards and after another of Loula’s hardy breakfasts, I got to packing up my equipment and loading the car. Before I left, I sat at their dining room table for a last coffee for the road while Cali decided that Howard had to get up to say goodbye. Honest, I had

nothing to do with her decision. I would have let Howard have his much needed rest. Still, it was nice to be able to thank them all for making my extended weekend trip so much more relaxing and pleasant.

The trip back through Manning Park was warm and sunny until I turned the corner into the Skagit valley and began the last plunge down to the coast. Right away, the weather started to cloud up and soon it was lightly raining. What a surprise—rain at the west coast. I will not complain, however, as I had six straight days and nights of sunshine and clear, dark sky to soothe my savage soul. And am I glad I didn’t leave home without my telescope (and binoculars). ✱



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