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A **PDF** version of the *Bulletin* is available [here](#).

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## ➤ Editor's Notebook

by David Garner

### Summer is Nearly Upon Us

There is a lot happening this month; the transit of Venus June 5, Summer begins June 20, at 7:09 P.M. (EDT), and the Edmonton GA begins on June 28. With all this activity (and some of us have just returned from the solar eclipse in May) there will be plenty to discuss on the RASCals List. I look forward to tuning in to some great discussions.

## ➤ News @ RASC.ca

### Almost Perfect Twins - The 1769 and 2012 Transits of Venus

by [Ron Macnaughton](#), Chair, Education Committee

Transits have a strange pattern. Because 8 Earth and 13 Venus years are almost the same, there are two almost identical transits 8 years apart. Both 2004 and 2012 have early June transits with the Venus going slightly southward as it crosses the solar disk. This transit, the path is closer to the north part of the Sun making it easier to see at sunset in Canada.

Then there will be a long gap of 105½ years and another pair of transits separated by 8 years. Venus will be rising during both those early December transits.

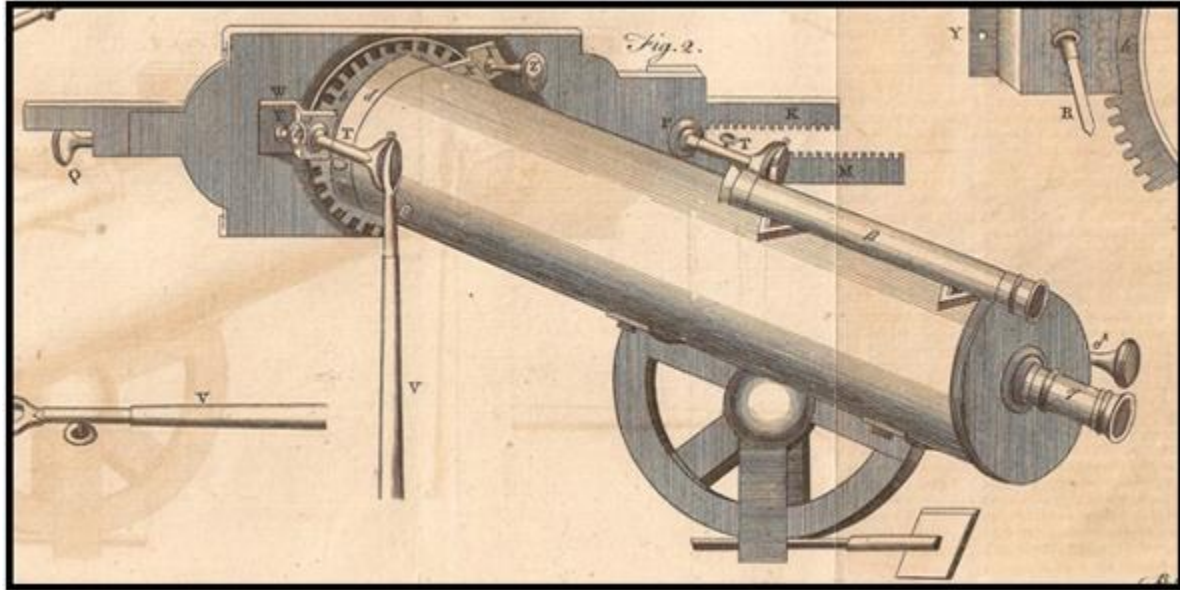
This transit is almost exactly analogous to the 1769 transit – the first one with many values of the duration. Both are centred on the Pacific Ocean with the planet descending over the northern part of the Sun.

The same transit was also observed by Captain Cook in Tahiti. His crew built a fort and spent many months on the island, presumably in more comfort than at Churchill. From the more southerly location, Cook saw Venus against the Sun for about 16 minutes less than Dymond.

That difference in duration from northern and southern observers allowed the distance to Venus during the transit to be calculated. The size of the astronomical unit followed from that. In the 17th century, it took two years to work out the distance to the Sun, getting a measurement only 2% above the modern value. Now there is a cell-phone app that will recreate the process done 343 years ago in a few hours.

The 2012 transit is slightly west of the 1669 one. Observers in both Churchill and Tahiti can see most but not all of this transit. But historically they both had their moment in the Sun.

The figure below shows a heliostat that could have been used to observe transits of that time.



## RASC Group Property and Auto Insurance

by [Deborah Thompson](#), Executive Director

RASC Group Property & Auto Insurance Program exclusive to RASC members

First Durham Insurance Brokers & Waterloo Insurance

First Durham Insurance is pleased to present The RASC Group Property and Auto insurance program, exclusively for members of The Royal Astronomical Society of Canada. As a RASC member you will have exclusive access to a wide range of home and auto insurance products, while saving up to 60%. Underwritten by Waterloo Insurance, one of the largest insurers in Canada and specializing in Group Property and Auto Insurance programs. Waterloo insurance has partnered with hundreds of group programs across Canada and has the strength and financial depth to honour their commitments and financial obligations. RASC members will have access to dedicated insurance professionals who will deliver exceptional service while putting your need for coverage and value as their first priority.

For more information, click: [RASC Group Home Auto Insurance](#).

## Transit of Venus

by [Ron Macnaughton](#), Chair, Education Committee

A PowerPoint talk on the transit of Venus is posted [here](#). If any RASC member wishes to view this half-hour presentation feel free. It talks about:

- rarity of transits with tilted orbits
- why the start time in Vancouver is 3 minutes later than St John's
- different durations of transit from north and south, how distance to Venus found
- history of transit observations, especially the 1769 expeditions to Tahiti and Churchill
- equipment used then to observe transit – Gregorian telescopes and heliostats
- how transits are used to detect exoplanets

Transit times can be found [here](#):

City	Time Zone	First contact Time (PM)	Sunset Time (PM)	Azimuth of Setting Sun
St. John's	Newfoundland	7:30	8:54	306
Halifax	Atlantic	7:03	8:55	303
Toronto	Eastern	6:04	8:55	303
Winnipeg	Central	5:05	9:32	308
Calgary	Mountain	4:05	9:46	309
Vancouver	Pacific	3:06	9:14	307

## ➤ Across the RASC

### Asteroids With a Canadian Connection

by [Eric Briggs](#), Secretary, Toronto Centre

Just in case you didn't know, here is a list of several Canadians including RASC members who have recently had asteroids named for them:

Name/Contact	Asteroid Number	Name/Contact	Asteroid Number
Prof. Patrick Hall, York University	153686	Randall Rosenfeld, RASC Archivist	283990
Daniel Majaess, St. Mary's University	304233	Dr. Ken Tapping, DRAO	293878
Dr. Eric Chisholm, NRC/HIA	289314	Dr. G.G. Fahlman, NRC/HIA	288478
Angela Glinos	274137	Dr. Peter B. Stetson, NRC/HIA	255703
Dr. David Crampton, NRC/HIAs	246238	Timothy Nemet, Steve MacLean School Grade 6, Ottawa	241090
Susanne Sandness, King City	10593	-	

The entire list can be found posted [here](#). Go to the Web page and enter the person's last name into the Quick Search box. Next, click on the asteroid Number; this will take you to the JPL Web site where you will find an orbit diagram and orbital elements for that asteroid.

## ➤ Bulletin Photo of the Month

### The Rosette Nebula

by [Dr. Brian McGaffney](#), Kingston Centre



This deep space L+Ha+R+Ha+GB image was taken from the Nutwood Observatory here in Bancroft Ontario through a Williams Optics 132 piggy backed on a 14-inch Astrograph on an ME mount. Total exposure time was around 8 hours using an SBIG 6303e and using Astrodon filters.

## ➤ The Sky this Month

### What's New in the Sky

Members are encouraged to check out the [Northern Skies](#) section of the RASC Web site. Thanks to **Gary Boyle** for keeping us all in the know.

## ➤ Dates to Remember

- **2012 June 5** - Transit of Venus
- **2012 June 28 - July 1** - Edmonton GA
- **2012 August 16-19** - [Starfest](#), the 31st annual event of the NYAA, Ayton, ON
- **2012 August 16-19** - [Saskatchewan Summer Star Party](#), Cyprus Hills Interprovincial Park, SK



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