AURORA
The Royal Astronomical Society of Canada - Windsor Centre
Volume 39, No. 4
January 2014

Nocturnal Bird Migration Research at Hallam by Paul Pratt

Visitors may have noticed an addition to the light pole at the Hallam Observatory in late September. An upward pointing microphone and recording unit was strapped to the light pole on the deck for several days. This was part of Matthew Watson's thesis work under Dr. Dan Mennill of the University of Windsor. Matthew's goal is to census the diversity of song birds passing over Essex County at night during fall migration.

The microphone points skywards and records sounds from birds passing overhead. Most song birds migrate at night when air masses are more stable, winds subside and less energy is required for flight. The recorder was programmed to turn on at sunset, and turn off at sunrise. Hallam was chosen as it is in a dark sky location. Some prior research has suggested that birds are affected by streetlights and other light sources at night. Matthew will be setting up recording stations at both dark and light locations this fall and comparing the number of flight calls at each. There are many documented negative impacts of light pollution on wildlife. This research will document the impact of light pollution on migrating song birds.

In This Issue

Calendar of Events

Our next meeting…

Tuesday February 18, 2014
7:30 p.m.
at
Ojibway Park Nature Centre
5200 Matchette Road

Main Speaker…

To Be Determined

Topic…

To Be Determined

Activities...

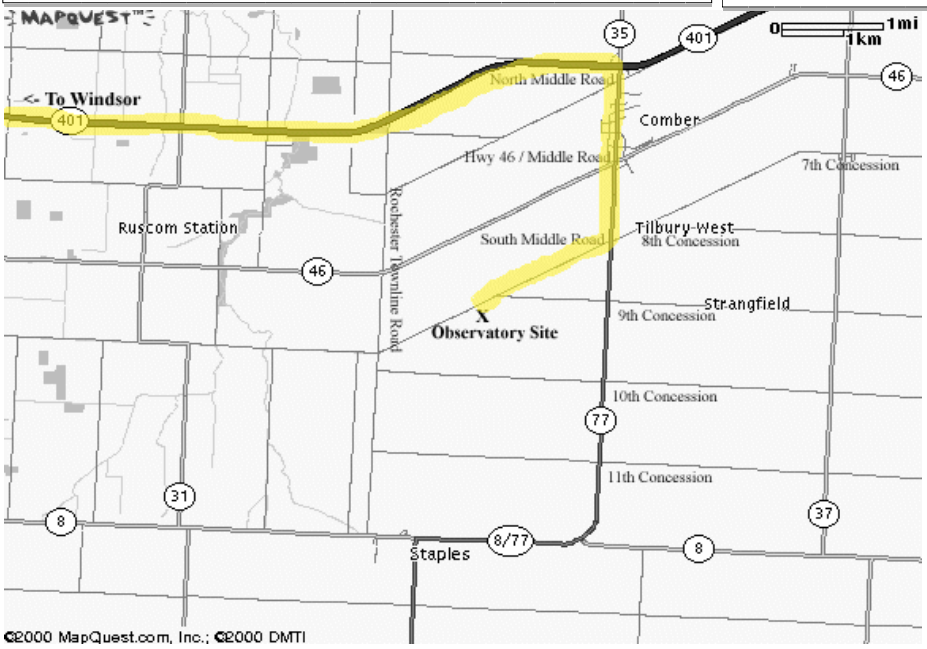
Spica and the Moon: Will be separated by 0.5 degrees (the diameter of the Moon) on **January 22nd** and 5 degrees below Mars.

Saturn and the Moon: Will be separated by 0.6 degrees on **January 25**

Mercury and the Moon: Will be separated by 4 degrees on the evening of **January 31** when Mercury is at it's maximum separation (18 degrees) from the Sun

Open House Night at Hallam: The next open house night at Hallam is on Saturday **February 8th** at 7:00 p.m..

Venus reaches its' greatest brilliancy at magnitude –4.9 on **February 15**



Hallam Observatory Site

Directions: The map at left shows the Comber area and it includes the major highways (401, 77, 8 and 46) that are in the area of the observatory.

The most direct route from Windsor is "highlighted" on the map which is to take Highway 401 East to Highway 77 South to South Middle Road. Turn right onto South Middle Road and go about 1 kilometer and just after the point where Concession 9 joins it (it is hard to see this intersection) you will find the observatory site on the South side (left) of the road. 3989 South Middle Road.

If you hit the Rochester Townline Road (you come to a stop sign) you have gone too far.

Submissions

Aurora is published monthly except for July, August and December. The September, October, January, March and May issues are full newsletters (usually 6 pages) with a number of member submitted articles. The November, February, April and June issues are short flyers (2 pages).

Submitted articles can be of any length from a paragraph to multiple pages. I can scan pictures and/or diagrams (both prints and film) to support your article and the originals will be returned to you.

Submission deadline is the 1st of the month.

Editor: Steve Mastellotto Email: mmastellotto@cogeco.ca

Membership

The Windsor Centre of The Royal Astronomical Society of Canada meets on the 3rd Tuesday of every month (except July and August) at the Ojibway Park Nature Centre. In addition to regular meetings the centre hosts a number of observing nights, a picnic and a December social. Members receive a copy of the Observer's Handbook, a subscription to SkyNews magazine and access to the Centre's library and telescopes. Optionally the RASC Journal is available in print form—online version free.

Annual Membership Fees: Please see the RASC website at **www.rasc.ca** for current rates.

Contact Greg Mockler at (519) 326-7255 or visit our website at: http://www.rascwindsor.com for more information.

November 2013 Meeting Minutes by Matt McCall

The monthly meeting of The Royal Astronomical Society of Canada - Windsor Centre was held at the Ojibway Park Nature Centre on November 19, 2013.

Windsor Centre **President Rick Marion** chaired the Meeting. Rick called the meeting to order at 7:43 p.m. and welcomed members and guests to the Ojibway Nature Centre.

Motion to accept the minutes of the October 2013 meeting was made by Susan Sawyer-Beaulieu, seconded by Paul Pratt. **MOTION CARRIED.**

Rick introduced Past President Paul Pratt, who presented the slate for **2014 RASC Windsor Centre Council**:

Executive

President: Rick Marion
1st Vice President: Brian Thomas
2nd Vice President: Mike Mastronardi
Secretary: Matt McCall
Treasurer: Greg Mockler
National Council Representative: Mike Mastronardi
Past President: Paul Pratt

Council Members

Dr. Pierre Boulos
Randy Groundwater
Steve Mastellotto
Dave Panton
Steve Pellarin
Paul Preney
Dan Taylor
C. Joady Ulrich

Appointed Positions

Honorary President: Dr. Bill Baylis
Alternate Council Rep: ***Open Position***
Aurora Editor: Steve Mastellotto
Director(s) of Observing: Steve Pellarin, Juliana Grigorescu, Steve Mastellotto
Director of Public Education: Matt McCall
Director of Public Relations: Mike Mastronardi
Librarian: Dr. Pierre Boulos
Light Pollution Abatement Director: Dan Taylor
Recording Secretary: Matt McCall
Hallam Observatory Director: John Marn
Web Master: Steve Mastellotto

Motion to close executive nominations made by Dan Taylor, seconded by Randy Groundwater.

Motion to close council nominations made by Steve Mastellotto, seconded by Susan Sawyer-Beaulieu.

Nominations closed. All in favor of slate for 2014 RASC Windsor Centre Executive & Council. **MOTIONS CARRIED.**

Rick Marion thanked Paul Pratt for the presentation. He then gave thanks to the entire Centre for all the help during his first year as President.

Joady Ulrich was then called upon to present a **RASC Windsor Centre Service Award to Susan Sawyer-Beaulieu**; in honour of all her achievements as a member over the years. Susan served as the Centre's first female President, as well as in various other roles.

Announcements

Hallam Observatory key fee is now due
December Social is Friday, Dec. 6, members encouraged to bring favorite foods
Next meeting is January 21
Next Hallam open house is December 7 starting at 7 p.m.

Rick announced the **break** and then held the **Fifty-fifty draw**: Dr. John Huschilt won the winnings.

Dave Panton made a brief presentation regarding his **infrared light detector project**, informing the membership that it was nearly ready for use – simply needing a box to nicely fit all of the equipment. He claimed he could donate it to the Centre, and if anyone had any other ideas for use, to please let him know.

Director of Observing Report, Steve Pellarin: Steve's presentation began by showing the website www.cometisonnews.com, with lots of up-to-date info on **Comet ISON**. Current position showed it between the orbits of Venus and Earth.

Steve spoke of the unusual orbit of the comet, how it had recently dipped below the plane of the planets and would then cross back up again after perihelion. He then showed his own site of Leviathan Astronomy, which now contained an orbit simulator program for the comet, displaying live data.

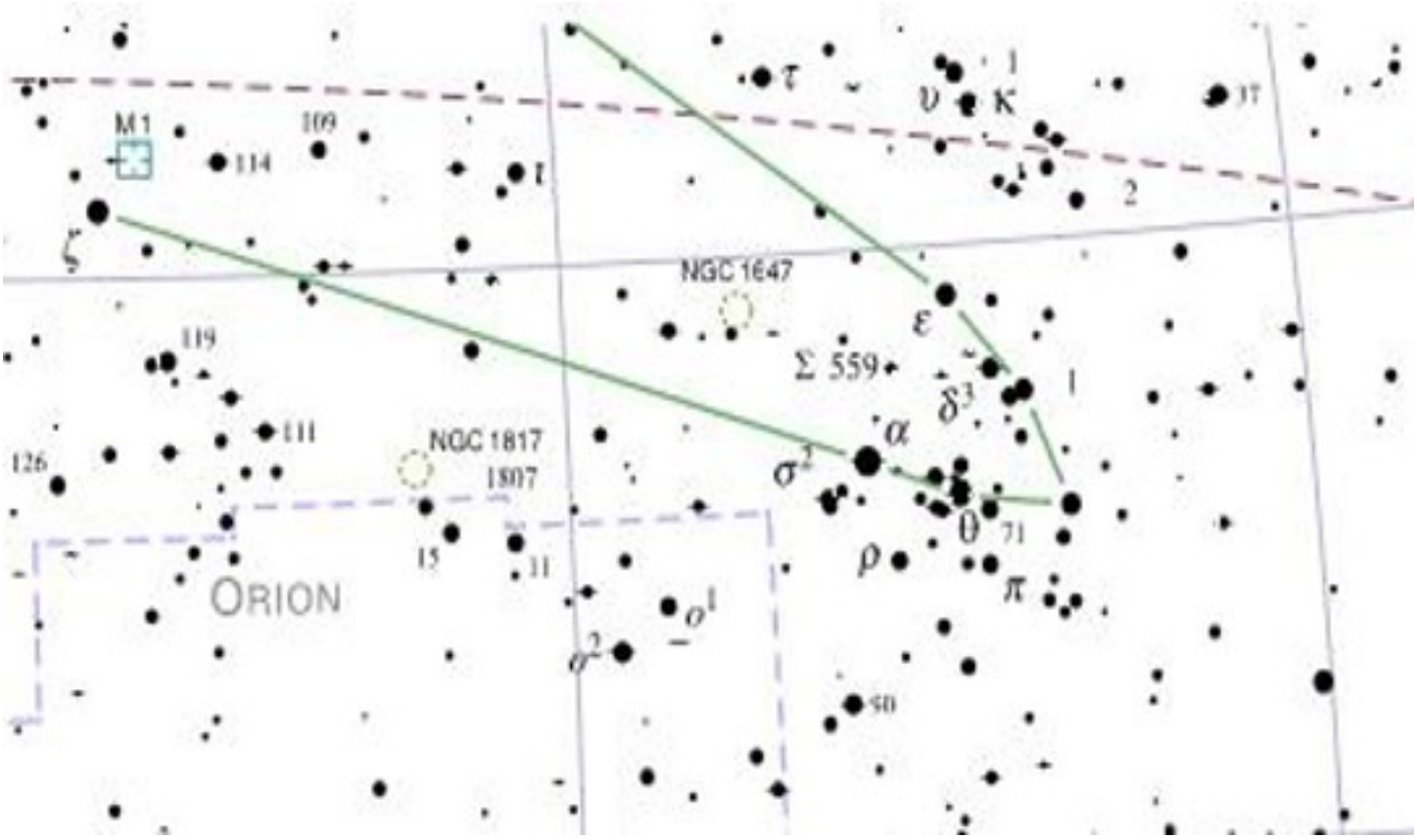
Comet ISON will soon pass only 638,000 km above the Sun on November 28, and nobody is entirely certain what will happen when it does. We now know that there is actually a fairly small comet nucleus, which could result in partial disintegration if it passes well inside the Sun's Roche limit – the point at which gravitational influences could break up this small chunk of ice.

When it was discovered back in 2012, many scientists initially thought it could be related to the Kreutz sungrazers, but now realize it's a completely different sungrazing comet. The latest outburst has been fading over the last day or so, and so it's still very difficult to tell what it may do as it approaches perihelion.

He then moved on to slides of conjunctions and various other events in the night sky: Early **fall constellations** now moving into the west, with **Jupiter** now rising fairly early after dark. **Venus** is going through some changes in its phases – last month it had nearly a first quarter phase, but the crescent is now becoming smaller as the planet itself grows bigger in size from

(Continued on page 5)

At The Eyepiece: Taurus by Mike Ethier



Most of us have a love/hate relationship with winter observing. We love the objects that come overhead from December through March, but we hate the suffering that northern latitude observers must endure during this period. Even the slightest breeze on a cold winter night can have a devastating effect on the observer, and new fallen snow turns an otherwise dark sky to milk. I happily confess to spending more time undertaking naked eye and binocular viewing in winter than telescopic. This month, I am combining all three methods for a brief session in Taurus.

Let us begin at Aldebaran, the eye of the Bull. The star burns bright and orange to the unaided eye, in binoculars, and also at 60x in a 12" scope. Though it appears within The Hyades cluster, Aldebaran is actually much closer (68 light years). The Hyades, also called Collinder 50 and Melotte 25, are 150 light years from us, and the closest open cluster after The Dipper. This V-shaped group has a wealth of material for binocular observers, and many fine doubles for the telescope. There are also two naked-eye doubles I enjoy splitting. θ1 and θ2 are magnitude 3.3 and 3.9 at 5.6', while the slightly more difficult σ pair are magnitude 4.6 and 5.1 at 7.2'. Good luck! My finest telescopic views of The Hyades are with the 4" Astroscan from Edmund Scientific, though I enjoy sweeping the group at low power with a 12" as well. In binoculars, this is one of the finest clusters out there! Fine doubles for binoculars include K and 67, magnitude 4.4 and 5.4 at 4.6' minutes, and LDS 2246, magnitude 4.8 and 6.7 at 4.2'. To name just one for the telescope, try lovely Σ559, magnitude 6.9 and 7 at 3".

Tracing the bottom of the Hyades 'V' through Aldebaran and continuing NW, open cluster NGC1647 is easily swept up. Binoculars will show it, but it is really a telescopic object. It is very large and filled with faint stars, mostly magnitude 11 and 12. There are several pairs and triplets, and because of its great size there are a few starless areas, too. In an 8" it is a really stunning object at low power, but worthwhile to zoom in on areas at higher power, too. If you are showing non-astronomers these objects for the first time, it's fun to begin with The Hyades, then to have a look at The Pleiades, and then on to open cluster NGC1647, as it gives an idea of interstellar distances and how the cluster stars get dimmer and more compact the further they are from us.

Though there are other fine clusters in Taurus (and also Messier 1, not far away), I will wrap up this session with a double cluster, not far from The Hyades. Heading due west from Aldebaran, open clusters NGC1807 and NGC1817 will nicely fit into a telescopic low power field of view, and may even remind the observer of another, more famous double cluster. NGC1817 is a loose group and quite large, richer in stars than its smaller companion. A bright line of stars first catches the eye, and then the many fainter ones. NGC1807 is more compact, has fewer stars but seems to hold the eye better than NGC1817. They make an attractive pair (see photo at right - page 5). Have a look the next clear night!

2014 Council of the RASC - Windsor Centre

Elected Officers

President	Rick Marion
1st Vice-President	Brian Thomas
2nd Vice-President	Mike Mastronardi
Secretary	Matt McCall
Treasurer	Greg Mockler
National Council Rep.	Mike Mastronardi
Past-President	Paul Pratt

Councilors

Dr. Pierre Boulos	Randy Groundwater
Steve Mastellotto	Dave Panton
Steve Pellarin	Paul Preney
Dan Taylor	C. Joady Ulrich

Appointed Officers

Honorary President	Dr. William Baylis
Librarian	Dr. Pierre Boulos
Recording Secretary	Matt McCall
Public Education Director	Matt McCall
Public Relations Director	Mike Mastronardi
Directors of Observing	Juliana Grigorescu
	Steve Mastellotto
	Steve Pellarin
Light Pollution Abatement Dir.	Dan Taylor
Hallam Observatory Director	John Marn
Aurora Editor	Steve Mastellotto
Webmaster	Steve Mastellotto

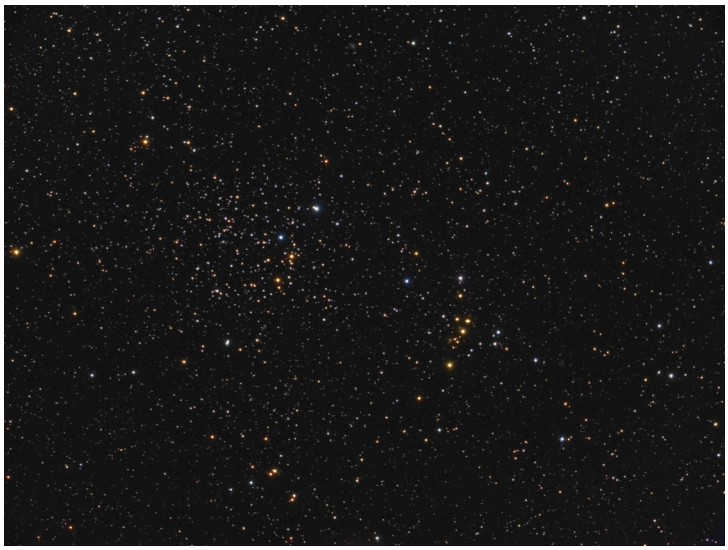


Image of NGC 1807 and 1817 from the internet by Bernhard Hubl (Austria)

November Meeting Minutes (continued)

(Continued from page 3)

Earth. As it nears us in its orbit, we're seeing less of the sunlit-side, but the crescent is now extremely bright. After having reached furthest Eastern elongation from the Sun about a week ago, it is now moving closer to the Sun in our sky, and will be at its brightest the weekend of Dec.6-7.

Last Quarter Moon is on the 25th of November. It is now moving into the early morning sky, so comets such as **Lovejoy & ISON** are affected by its brightness. **Mars** rises well before 1:45 a.m. after November. We are still in the middle of the **Taurid** meteor shower, which is caused by **Comet Encke** – lasting until about December 12, noting that pebbles enter the atmosphere during this shower and mere dust grains, which can make for a decent number of fireballs.

Rick thanked Steve for his excellent presentation, and had Randy Groundwater come up to make a brief announcement.

Randy mentioned that some members may have noticed the obituaries recently. **Dr. Shannon Sanborn** passed away not too long ago. He had been President of the Windsor Centre in 1977, with Randy becoming President the very next year. Dr. Sanborn had joined RASC Windsor not so much because he was an astronomer but because his son was very interested in it at the time.

Rick thanked everyone for coming and **adjourned the meeting at 9:43p.m..**

Point Pelee Dark Sky Night from September 14, 2013.

Photo by Dan Taylor.

Dan said we had nearly 100 guests and Matt and Randy handled most of the traffic as their scopes drew attention. Randy kept folks engaged doing sky tours and Matt wielded his scope from object to object.

A number of other RASC members helped out too.

Coloured Double Stars

This morning (October 10th) I completed the 2010 *compendium* of Coloured Double Stars from the Observer's Handbook (OH), started at the annual July picnic of the Warren Astronomical Society. Transparency was excellent. h3945 Canis Majoris (also known as the Winter Albireo) brought forth a cry of delight, and if not been practically sitting on the ground to look through the eyepiece, I would have danced a jig. What a wonderful object!

Michel Duval of the Centre Francophone de Montreal is the OH author and man of taste (the list is on page 296 of the 2014 OH).

Two refractors have been employed, selected for a) portability, and b) the spirit of the OH article, which is a list for small to moderate telescopes. As a sporting man I thought small would be appropriate in the tradition of Smythe or Webb, or at least small instruments by today's brobdingnagian standards:

1) 5 cm. "Eclipse Special" (1973, Mauretania) at Royal Oak, Wolcott Mill Metropark, and the University of Michigan Biological Station, Pellston, and
2) 9 cm. at the Veen Observatory, Lowell.

Sky conditions ranged from superb to atrocious. Stars ranged from difficult: Gamma (γ) Leonis, to falling off a log: Iota (ι) Cancri. Not all were successfully split despite revisiting some stars.

The rules of engagement were, primarily, never look at the separation or magnitude(s) data in Duval's list before-hand, and secondarily, never preview objects in big telescopes. One adheres to cool detachment in best Enlightenment tradition -- because better to fail as a gentleman than run a scam on the Centre Francophone.

The 2013 multiples await. Meanwhile, next month I go to Toronto after a couple of days drinking homemade *vino* with "Raimondo" Rea in Hamilton. R-square is an old astronomy mate going back to 1964 at the Detroit Astronomical Society, once an active observer before falling into worldly ways (the law). We will present photocopies from my observing book, a beautiful spiral job with Griffith Observatory on the cover, proclaiming my *puissance* and dedication to *La Causa*. The appropriate mailing envelope to Montreal will be part of the ceremony, and maybe the Royal Astronomical Society of Canada will spring for the postage, possibly the equivalent of an order of "Timbits."

Thanking the R.A.S.C. for such inspiration. Further the Deponent sayeth not.

G. M. ROSS,
Lowell, Michigan

Image of h3945 Canis Majoris from the internet by Peter Wienerroither