

STARDUST

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Edmonton Centre



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*In Greek mythology, Zeus became a swan on several occasions.
Image courtesy of KStars and your editor.*

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Stardust	Articles for Stardust may be submitted by email to mward@interbaun.com . Submission deadline is the last day of the previous month (e.g. for the May issue submit by 30 Apr). Submit in any standard document format (MSOffice, OpenOffice, AbiWord, plain text). TimesNewRoman 10pt single-spaced is preferred. Don't bother with fancy formatting, odd spacing, strange fonts, etc.; it will only be discarded. Graphics (GIF or JPG please) may be submitted as separate files, and clearly identified.

Edmonton Area Astronomy Discussions

astro@mailman.srv.ualberta.ca

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Upcoming Events, Meetings, Deadlines, Announcements

MEETINGS 2009

	General	Council	Observers	NewMoon	FullMoon
Sep	14	28	2	18	4
Oct	19	26	5	18	4
Nov	9	23	2	16	2
Dec	14		7	16	2

MEETING LOCATIONS 2009

Regular General Meetings are at 7:30pm in Telus World of Science, 11211 – 142 St. *follow the signs, from the main entrance*

Council Meetings are at 7:15 pm in the ATA Building, 142 St & 111 Ave. *follow the signs, from the main entrance*

Observers Meetings: *location varies*

President's Report by Sherry Campbell

Based on the weather recently, it looks like winter finally decided to arrive in our corner of the world. The Sun sets so early now that a full night's observing is a fairly daunting task. If you do plan on heading out for some observing, make sure you dress for the weather. "Astronomy is not a contact sport", as my husband is fond of saying. You will be standing around for several hours and the body can lose heat very quickly. Dress for a temperature 20 degrees colder than what is the overnight low. It is always easier to shed layers when you are 50 kilometres from home than to try to warm up with insufficient clothing for the task. For those that don't like the short days and long cold nights, take heart, the solstice is one week away.

It is hard to believe that a year has almost passed since I took office as President. In that time, Council has tried to minimize the amount of business that takes place at the podium. In that light we will be doing things a little differently for the January Annual General Meeting. The AGM will start at 7:30 p.m. on Monday, January 11th, 2010, and conclude at 7:50 p.m. We will then have a break until 8 p.m. when the regular meeting will commence. For the 20 minutes of the AGM, we will do the minutes from the AGM held last January, the nominations of Council, and motions to accept the reports from the committees. As we will not have the required financial documentation from the bank in place for the January meeting, the AGM will conclude in February with the Treasurer's Report. In order for the above to work, we require quorum at the meeting, which according to the bylaws is 10% of the registered membership.

Since we have 271 current members, we will need 27 and 0.1 people to attend the AGM. If we do not have 27.1 people for the AGM, the AGM will start at 8 p.m. and cut into the regular meeting. So, now is the time to "convince" your friends to go to the AGM this year while you will return the favour by attending the AGM in 2011. If you do not want to hear the business portion of the AGM, then you may file in during the break and only attend the astronomy portion of the meeting. If you are interested in hearing the business portion, then join me at 7:30 p.m. since I have to be there. I can be the 0.1 person, so now we only need 27 other people to show up.

As 2009 comes to a close, it is with great pride that I announce we had a very successful International Year of Astronomy. Everyone in the club stepped up to the volunteer plate when called, and we were able to showcase our hobby to many people from around the world. This year would not have been possible without all of you and I wish to thank every one of you for all the extra time and effort you put forth. A huge thank you goes out to the IYA committee whose tireless efforts helped make every event run smoothly. I have made the suggestion that we should throw a huge thank you party sometime early in the new year to celebrate our volunteers. If anyone wants to organize this, please contact me.

I hope many of us will find a new telescope or eyepiece under the tree this year. I wish you all the best for the holiday season, and clear skies!

Past President's Report by Krista Stefan

I have little to report this year in my capacity as Past President. Along with sitting on the committees required (the Executive Committee and the Nominating Committee), I have also been sitting on the By-Laws Committee. I will not comment on the Executive Committee, and the Nominating Committee activities are represented by the slate of nominations for the positions that become vacant following the 2010 Annual General Meeting. The By-Laws Committee did exchange some e-mail communications regarding updating the By-Laws to bring them

in line with the changes made at the National level to By-Law No. 1 and ratified at the Annual Meeting during the General Assembly. Due to various factors, however, our By-Law Committee was unable to meet subsequent to that to discuss the required changes in detail. Thus we were unable to prepare proposed changes to the By-Laws of the Edmonton Centre in time to be considered at the January 2010 Annual General Meeting.

The Planets by Murray Paulson

Mercury has slowly made its way up from the November 5th conjunction with the sun. By early December it will be peeking out of the evening twilight headed to the December 18th Greatest Eastern Elongation. It starts off the month (Dec 6th) at magnitude -0.5, and declines only slightly to magnitude -0.4 by the Greatest elongation. Mercury lies below the ecliptic, so it will be a bit difficult to spot, but look in the 220 degree compass direction, or

due SW and about 5 to 2 degrees off the horizon depending on how long after sunset that you look for it. I am counting on you waiting from 40 to 60 minutes after sunset to see it. Use binoculars to assist in finding it. On the night of the 18th, look for a fairly new moon just 7 degrees up at a 45 degree angle south of Mercury. This one is a good one to add to your things to do on

winter solstice calendar. After the GEE, Mercury will head rapidly to its January 4th inferior conjunction with the sun.

Venus is on her way out of the morning sky. We have a month left before her conjunction with the sun on January 11th and it will become harder to see over the next month. The month of December starts off with Venus only 9 degrees from the sun. This is a superior conjunction phenomenon, Venus moves very slowly on the far side of the sun as it makes its way around. Venus shines at magnitude -3.9 and shows a 9.9" disk in the eyepiece. It is visible to those of you intent on finding it in the morning glare. On January 11th, a -3.9 magnitude Venus will pass 33 arc minutes below the sun. This is a bit too close for comfort, but you can chase it up till it gets to within 5 degrees of the sun. **Be extra cautious when observing anywhere near the sun, a mistake can reward you with blindness.** The good thing is that the sun's motion takes it away from you.

Mars starts off the month high in the morning sky halfway between Leo and Cancer, heading towards Leo. It shines at magnitude -0.1 and will show you a 10.31" disk in the eyepiece. It now rises at 9 pm local time, but doesn't cross the meridian until 5 am! It is obviously gibbous and the north polar cap is large and easy to see. We are about a month and a half away from opposition and Mars is well positioned in the sky. The morning window will make it difficult for all but the hardy or the Mars aficionados. On December 19th, Mars hits its stationary point, and starts its retrograde motion back toward Cancer. By the first week of January, Mars now shines at magnitude -0.8 and has expanded to 13.1". It is 97% illuminated, no longer is obviously gibbous, and rises at 7 pm local time. Because of its high position on the ecliptic, it will be well placed for viewing

for us northern observers. I have included a panel of images of the view of Mars over the next month showing the view at midnight MST. South is up in the images as seen in a Newtonian.

At the beginning of December, **Jupiter** sits low in the South just after sunset, and transits the meridian at 5 pm. It shines at magnitude -2.2 and shows a 37.2" disk in the eyepiece. The window for seeing things on Jupiter is fairly short and it only gets worse over the month. Jupiter sets at 10 pm at the beginning of the month, but sets at 8:40 pm by month's end. On the night of December 21, Jupiter passes only 32 arc minutes below **Neptune** and as a bonus, the moon sits only 6.3 degrees to the east. Neptune shines at magnitude 7.9 and is at 30.6 A.U. distant where as Jupiter is only 5.5 A.U. away. They will be close together for a week on either side of the 21st. Jupiter moves from Capricorn to Aquarius in early January.

Saturn sits in the arms of Virgo, and rises at 1:40 am at the beginning of September. It shines at magnitude 0.9 shows a 17" disk in the eyepiece. It will be a good nightcap at the dark site when you are doing that all nighter. By the beginning of January Saturn rises at 11:45 pm and has grown to 18". The rings are tipped up at 4.9 degrees. While you are up checking out Mars, give Saturn a look.

Uranus still sits just below the circlet of Pisces shining at magnitude 5.7. In the eyepiece it shows a 3.5" disk. It sets at 1 am so you have lots of time to check it out while at out at the dark site. By early January, it now sets at 11 pm and still sits on the Pisces-Aquarius border.

Pluto is in Conjunction with the Sun on December 24th. We are 6 months away from its next opposition, so have thoughts of summer as you slide into Christmas.

George Moores' Astronomy Workshop 2009 by Sherry Campbell, GWMAW Chair

The George Moores' Astronomy Workshop was held this year on October 16-18th at Camp Maskepetoon, near Pigeon Lake, Alberta. It was well attended by 41 people, including our guest speaker, Stephen James O'Meara.

Mr. O'Meara gave a fascinating talk called The Devil's Broom: Comets and the Salem Witch Hysteria of 1692, which was attended by all. There were many questions for Mr. O'Meara, even from our younger members.

There was also a round robin on talks by Larry Wood on How to Collimate a Newtonian Telescope, Alister Ling on the

Clear Sky Charts, Orla Aaquist did our Teacher's Session, providing ideas on how to teach astronomy in the classroom, and Rick Huziak from the Saskatoon Centre gave a talk on Variable Stars.

The weather co-operated for us on Friday night giving us clear skies until about 2 a.m. but it decided to rain on Saturday afternoon and all evening. Still, the evening was enjoyable as everyone had a chance to talk with others about astronomy, NASA, and whether or not it was a career killer for William Shatner to perform "Rocket Man".

Northern Prairie Starfest, September 2009 by Susan and Rick Bramm, NPS Coordinators

The Sixth annual Northern Prairie Starfest was held from Tuesday, September 15 to Sunday, September 20 at the Black Nugget Lake Campground, south east of Tofield, Alberta. This very successful star party has been described in detail in the November 2009 issue of *Stardust*.

More than 60 people attended the event that featured four good nights of observing, out of the five. Early Saturday afternoon, several attendees enjoyed a nature walk around the property, a remarkable oasis for wildlife in the area. Later in the afternoon and into the evening, we had the pleasure of hearing four very interesting presentations:

- "A dynamical tour of planetary interiors," by Dr. Moritz Heimpel, Department of Physics, University of Alberta;

- "The plasma universe with emphasis on the Sun and near-Earth space" by Dr. Clare Watt, Department of Physics, University of Alberta;
- "The current state of astronomy and the amateur society in Iceland" by Sverrir Gudmundsson; and
- "Space rocks!" (the Buzzard Coulee Fireball and the Whitecourt Meteorite Impact Crater) by Bruce McCurdy of the Telus World of Science.

We would like to reiterate our thanks to all those who supplied the 27 door prizes, our wonderful speakers and our team of volunteers. Mark your calendars now for the seventh annual Northern Prairie Star Party: Tuesday Sep7 to Sunday, Sep12, 2010.

As you can see, there are some significant gaps in positions on Council. **We desperately need a Vice-President for next year.**

If any of these positions sound like they would make a good fit for you, please contact me at 780-433-1516 or etagem@telus.net.

Council Positions - Elected Officers	
President	Sherry Campbell
Past-president	Krista Stefan
Vice-president	
General Secretary	Donna-Lee May
Treasurer	Mark MacDonald
Co-Nat'l Council Rep	Mike Noble
Co-Nat'l Council Rep	
Public Education Director (PED)	
Fundraising Coordinator	Franklin Loehde
Councillor	
Councillor	Mike Noble
Councillor	Sheldon Helbert
Councillor	Harris Christian
Councillor	Peter Hall
Internal Communications Officer	Ross Sinclair
Obsers' Group Director	
Membership Secretary	Massimo Torri
New Member Advisor	
Appointed Officers	
Assistant Fundraising Coordinator	Harris Christian
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Web Site Coordinator	Ross Sinclair
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Equipment Coordinator	Ross Sinclair

Observatory Planning Committee Report by *Massimo Torri*

2009 was a difficult year for the RASC Observatory. Two of the six telescopes had serious problems. The biggest one was posed by the Meade 10" SCT, partly because that telescope plays a crucial role in the Observatory's Solar Observing activities throughout the year, partly because of the nature of the problem: the electronics of the computerized fork mount stopped working properly with Meade refusing to provide a replacement. Despite the valiant efforts of Robert Rolf, fixing the electronics proved to be a very tough job. Eventually OPC purchased an EQ6 equatorial mount from Denis Fell as a replacement for the original fork mount. The manufacturing of a negative wedge (thanks to Roman Unyk and Dave Robinson) to compensate for the inclination of the pier top was also required. The mount was finally installed at the end of November and with another few tweaks we should have the 10" back online in early January. The other source of problems was the Meade 16" SCT. In this case the scope didn't go offline semi-permanently like the 10", but it required extensive and continuous servicing from OPC, based on the reports from both RASC and TWoSE volunteers. It is important to remember that the Observatory primarily has

consumer equipment that is designed to be used in less forgiving climates, occasionally, by a single user. That's due to the history of how the equipment was acquired and the state of the market place at the time. On the other hand, the Observatory's equipment is used almost continuously in a harsh environment by multiple users. That was a good lesson learned for OPC and the Club and it is with that in mind that OPC presented a proposal to Council last month to purchase an observatory-class mount (Paramount ME). You will have a chance to review and cast your vote on that proposal at the December meeting.

OPC, thanks to Casino funds, was also able to repurchase the SBIG and the Planetary camera that were stolen back in 2008. The cameras are now available to any member who wants to borrow them. We also bought four Galileo Scopes and two Celestron First Scopes as part of the public outreach activities done at the Observatory.

As usual a big thank you goes to Cornelia Blunck and all the RASC and TWoSE volunteers for keeping the Observatory available to Club members and the general public throughout the year.

Edmonton Astrophotography SIG Presents: The Monthly Challenge

Each month, an astronomical target will be published. The winner of the challenge enjoys the title of *Challenger* for the next month, and selects the next months target and winner. For rules, and to make a submission, see <http://astrophoto.araska.org/> under *Monthly Challenge* (scroll down).

This month's challenge: M42 - The Orion Nebula

Greek Mythology: Cygnus the Swan by Michael Ward

I tend to use Greek names, with the Latin (Roman) equivalent in brackets, where applicable.

Cygnus is the slightly distorted Latin version of *kuknos* (κύκνος), the ordinary Greek word for *swan*. Some people in ancient times called this constellation *ornis* (ὄρνις), which simply means *bird* [1], perhaps out of ignorance. [2] This bird was placed among the stars by Zeus (Jupiter) as an emblem of himself; in the associated stories, the bird *was* Zeus in disguise. There are two commonly told tales of how the swan came to be in the sky, in both of which Zeus becomes a swan to deceive a female.

Zeus was a lusty fellow, always chasing females. He pursued the goddess Nemesis [3] at one point. He persuaded Aphrodite (Venus) [4] to become an eagle, while he was a swan, and she pretended to be chasing him. Zeus, then, as a swan, took refuge in the lap of Nemesis to escape the eagle. While still holding the swan protectively, Nemesis fell asleep, and then Zeus had his way with her, and flew away. Whether she awoke or not is unclear. After this incident, Zeus placed a swan and an eagle (Latin *aquila*) in the sky, quite close to each other.

The other occasion when Zeus became a swan involved the queen of Sparta, Leda. Her husband was Tyndareus (the king, naturally). In the form of a swan, Zeus lay with Leda, and later the same night, Tyndareus came home and also lay with her. The ancient Greeks believed that a woman could be pregnant by two men at the same time. Leda bore two sets of twins, but they weren't just born like ordinary babies: Leda first brought forth two eggs – something to do with the swan, one presumes - and two children emerged from each. The one yielded Helen and Polydeuces, the other Clytemnestra and Castor. Helen and Pollux were from Zeus (thus explaining her indescribable beauty) the other two from Tyndareus.

Polydeuces was known to the Romans, and is known to us, as Pollux, and the brothers are *Gemini*, Latin for *twins*. And yes, that is the famous beauty Helen, the “face that launched a thousand ships”. [5] She was originally Helen of Sparta, not Troy. Clytemnestra is equally famous, for marrying Agamemnon, supreme commander of the Greeks at Troy. [6]

Sources: Apollodorus 3.10.5-3.13.8; Hyginus 77-81; *Homeric Hymn* 17

One year ago, I started my Astrophotographic Journey on this naked-eye nebula in the constellation Orion. Show me what you can do with it. **New photos only.** Take them this month. Submissions will be judged one week before the January RASC Edmonton centre meeting.

When Castor was killed in an argument over stolen cattle, Pollux wanted to die too. Zeus fixed things so that they spend alternate days in the underworld and above ground, an unusual arrangement indeed.

In a complicated chain of events, Helen ended up being part of the cause of the Trojan War, having been kidnapped [7] and taken to Troy. She was the most envied, and most hated, character in Greek myth. Every other Greek woman wished to be as beautiful, and yet that beauty caused so much misery and destruction. Beauty is dangerous. The Greeks loved irony.

[1] As in *ornithology*.

[2] So Hyginus, 77.

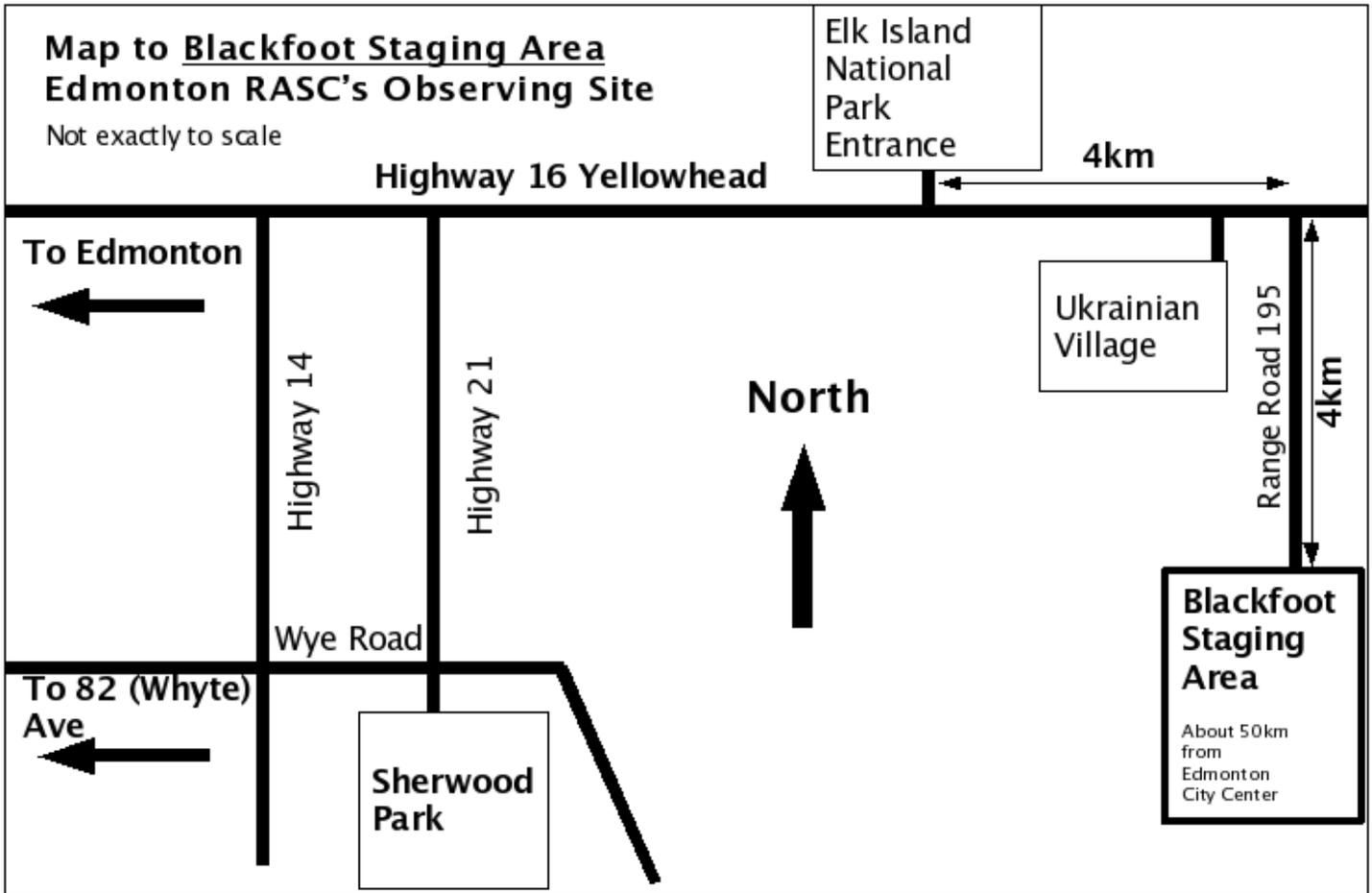
[3] An interesting idea in its own right: *Nemesis*, like numerous female deities of Greece and Rome, is the personification of a collection of related abstract concepts. The root of the word is the verb *nemo* (νέμω), meaning to allot, to apportion, to distribute; by extension, it can mean *that which is apportioned*. *Nemesis* meant various things like *envy*, *resentment*, and especially *vengeance*. Zeus is seeking to conquer Nemesis – however you wish to interpret that.

[4] Aphrodite tends to be an ally of Zeus – she is his daughter in some stories (Homer), although in others she arose from the sea foam around the genitals of Uranus after his son Cronos castrated him – but that's another story (Hesiod, *Theogony* 178-206).

[5] So-called by Christopher Marlowe (1564-1593) in his *Doctor Faustus*.

[6] Agamemnon belonged to the House of Atreus, the most disgusting family in Greek myth. They are an example of anti-heroes: they are exactly what a family should *not* be, guilty of theft, adultery, child abuse, rape, murder, cannibalism – they did it all, to each other.

[7] Whether it really counted as a kidnapping or not was a matter of hot debate even among the ancients. Aphrodite fogged her mind so that Paris was able to persuade her to run off to Troy with him. It's a complicated story, as I said.



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