

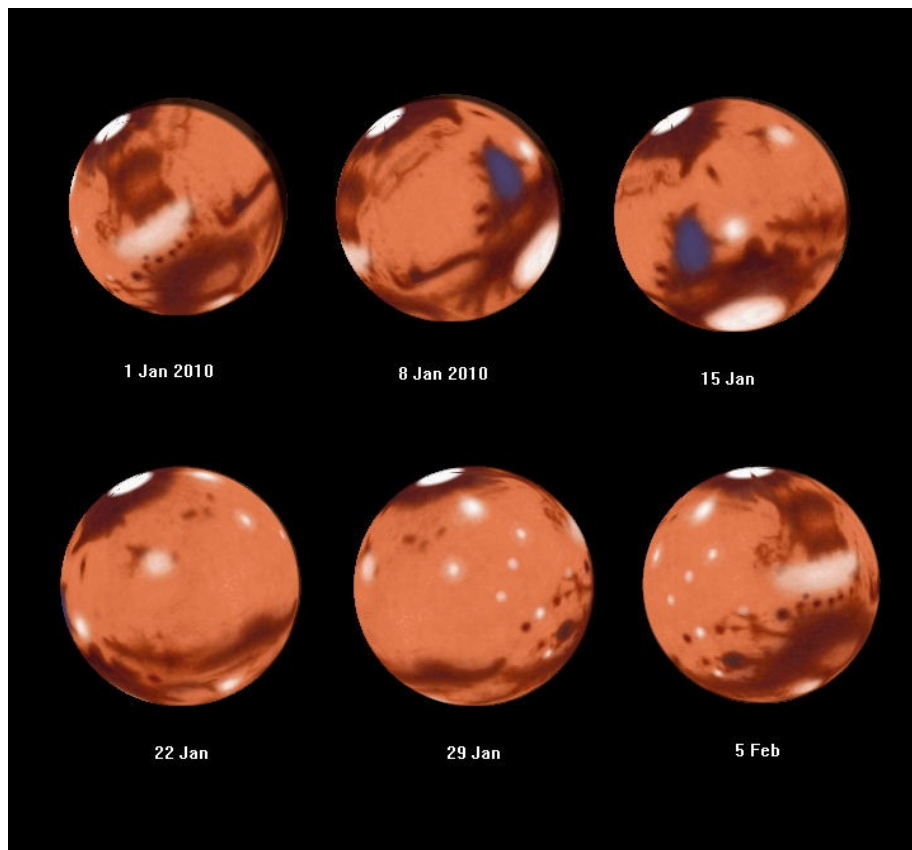
STARDUST

Newsletter of the Royal Astronomical Society of Canada
Edmonton Centre



January 2010

Volume 56 Issue 5



*Mars is in a good position for viewing this month, reaching opposition on 29 January.
Image courtesy of Murray Paulson; see The Planets, page 3.*

Inside this Issue

Contact Information.....	page 2
Upcoming Events, Meetings, Deadlines, Announcements.....	page 3
The Planets.....	page 3
Light Pollution Abatement and the Meeting of Minds.....	page 3
President's Report.....	page 5
Greek Mythology.....	page 5

Council Positions			
President	Sherry Campbell		
Past-president	Krista Stefan		
Vice-president	Orla Aaquist		
General Secretary	Donna-Lee May		
Treasurer	Mark MacDonald		
Co-Nat'l Council Rep			
Co-Nat'l Council Rep			
Public Education Director (PED)			
Fundraising Coordinator	Franklin Loehde		
Councillor	Bruce McCurdy		
Councillor	Mike Noble		
Councillor	Sheldon Helbert		
Councillor	Harris Christian		
Councillor	Peter Hall		
Internal Communications Officer	Ross Sinclair		
Observers' Group Director			
Membership Secretary	Massimo Torri		
New Member Advisor	Murray Paulson		
President	Sherry Campbell		
Past-president	Krista Stefan		
Appointed Officers			
Editor	Michael Ward		
Web Site Coordinator	Ross Sinclair		
Library Coordinator	Wally Anhorn		
Equipment Coordinator	Ross Sinclair		

Mailing address	RASC Edmonton Centre c/o Telus World of Science 11212 – 142 St Edmonton, AB, Canada, TM5 4A1
Centre Website	http://www.edmontonrasc.com
Observing Deck	452-9100 ext 2249
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

**To subscribe send a blank email to:
with the subject line:**

astro-request@mailman.srv.ualberta.ca
subscribe

The above mailing list is completely independent and is not associated with RASC Edmonton Centre in any way.

Upcoming Events, Meetings, Deadlines, Announcements

MEETINGS 2010

	General	Council	Observers	NewMoon	FullMoon	Blackfoot
Jan	11	25	4	15	30	15-16
Feb	8	22	1	13	28	12-13
Mar	8	22	1, 29	15	29	12-13
Apr	12	26	28	14	28	16-17
May	10	24	24	13	27	14-15
Jun	14	28	28	12	26	
Jul			26	11	25	
Aug			23	9	24	6-7
Sep	13	27	20	8	23	3-4
Oct	18	25	20	7	22	8-9
Nov	8	22	17	6	21	5-6
Dec	13		20	5	21	3-4

MEETING LOCATIONS 2010

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*

Mar 14 Daylight Saving Time begins
Apr 2-4 Easter
Aug 11-15 Saskatchewan Summer Star Party

Sep 7-12 Northern Prairie Star Party
Sep 10-12 Alberta Star Party
Nov 7 Daylight Saving Time ends

The Planets by Murray Paulson

The New Year starts off with **Mercury** in Inferior Conjunction with the sun on Jan 4, and exactly one week later Venus follows suit with its superior conjunction on the 11th of January. Mercury will pass between the earth and the sun and 2.4 degrees above the sun, while Venus skims only 33 arc minutes below the sun. Mercury moves at an incredible rate, and zips up to its Greatest Western Elongation (morning sky) only 22 days later on January 26. In the eyepiece you will see a 7" 61% illuminated gibbous phase. It shines at magnitude -0.1. You may be able to glimpse it in the morning twilight low in the SE, three quarters of an hour before sunrise. You will need a very good SE horizon because the ecliptic is so shallow in the morning sky.

Venus is in conjunction with the sun this month and will not emerge into the evening sky until sometime in February. The only way to get a glimpse of it will be with coordinates and due care and attention to the sun nearby. As Venus passes beneath the sun, it will display a 9.75" disk and shines at magnitude -3.9.

The main event of January is the opposition of the planet **Mars** on Jan 29th. Mars will reach a maximum diameter of 14.09" on January 26-27 and shines at magnitude -1.3. Mars moves from the Leo-Cancer border in early January to just over the Beehive by early February. It is spring in Mars's northern hemisphere and this means the weather is more dynamic. The north polar cap is prominent and you may see cloud or haze over the South Polar Region. I have included a panel of simulations of the side of Mars that will be visible at 11:30 pm MST. Note that north is up, and the image is not mirror imaged. The year starts off with Syrtus Major rotating into view. Mars takes 40 minutes

longer to rotate on its axis than the Earth, so we see a face that is progressively earlier in the Martian day each night at the same hour. Mars actually rotates from left to right as you watch it. Our misfortune is that around the time of opposition, the blankest face of Mars will be turned toward us. That is not to say it is uninteresting, but you will have to have very good seeing to see the subtle details on this face. You may be lucky enough to observe orographic clouds over the giant shield volcanoes of Mars. The Tharsis volcanoes are the three little white spots in a row, and Nix Olympica is the larger white spot to the left of them on the Jan 29 image.

Jupiter is low in the south west and shines at magnitude -2.0. In the eyepiece it will show you a 34.4" disk early in January but sets rather early at just after 8 pm. Jupiter has a date with the sun next month, so it is low and hard to get a good image out of it.

Saturn now rises just before midnight and sits in the constellation of Virgo just above η Virginis. It shines at magnitude 0.8 and will show a 18" disk in the eyepiece. Take a look at the rings, they are tipped up to our line of sight at almost 5 degrees. By the time of opposition, they will be only 2.5 degrees to our point of view.

Uranus is near Jupiter and will suffer in the low south as Jupiter does. You may get a last chance to view the outer planet before it disappears into the twilight.

Neptune will be in Conjunction with the Sun next month, so is lost to our view for the next few months.

Light Pollution Abatement and the Meeting of Minds by Sheldon Helbert

Good news! The RASC Edmonton Center Membership has approved \$7,000 in support for the symposium on Scotobiology on condition of Gaming Commission approval. This is a phenomenal opportunity for astronomers, biologists and all interested or involved in environmental conservation to share and learn from each other here in Edmonton from **July 3-7, 2010**,

under the auspice of the Society of Conservation Biology. The University of Alberta and the City of Edmonton are the major organizers of the congress expected to host well over 1500 attendees from every sector of society from around the world. Within this large Congress are a number of smaller symposia of which one on the effects of light pollution has just received

approval (Dec. 15, 2009) by the International Congress on Conservation Biology (ICCB) organizing committee. I came up with the notion about two years ago when the local organizing committee was formed to make a competitive bid to host the congress here in Edmonton and have slowly worked at making this happen. I envisioned this great synergy developing from the collaboration of experts in different fields that do not often speak to each other and how much more of a positive effect this may have on our decision makers. Recently, I have had the good fortune to gain the assistance of real authorities on the subject and have given up chair of the committee to Travis Longcore of the Urban Wildlands Group and the University of California. He knows worlds more on the subject, has been studying it for close to two decades, and is well networked with other researchers in the science, policy development, resource management and education sub-disciplines. In addition to Travis, Catherine Rich, also of the Urban Wildlands Group and University of California, and Bryant Buchanan of Utica College in New York, are on our small committee. If anyone would like to assist us please let me know; there are still things for us to do and it is always easier with extra help. A synopsis of the proposal we submitted to the ICCB committee can be found on the main conference web site: <http://www.conbio.org/2010>

Artificial Lights and Nature: Challenges for Dusk-to-Dawn Conservation Management

Proposed Theme and Justification: A growing body of research supports the conclusion that artificial light at night has diverse and wide-ranging effects on sensitive species and ecosystems. The view of the planet from space at night, showing widespread and pervasive artificial lighting, is evidence of a dramatic planetary change caused by humans in a single century. Conservation managers have for too long forgotten to consider the night, assuming that if a corridor or reserve looks good in the day nothing more is to be done. The purpose of this symposium is to explore the breadth of relevance artificial lighting has for conservation management and present innovative management and education efforts to conserve, protect, and restore the ecology of the night. The symposium also provides a unique opportunity to strengthen collaboration with astronomers, who have a profound interest in curtailing light pollution and can assist biologists with research and outreach on this important topic. The symposium will include papers investigating the science of light impacts on species ranging from larval development to connectivity, management approaches such as the use of lights of different spectra to minimize impacts, policy questions such as the effectiveness of light pollution ordinances, and examples of public outreach efforts that meld conservation of species with preservation of views of the night sky.

Length: 04:00 hours with the option to have at most 16 speakers (15 minutes each) plus all the other uninvited speakers, papers, poster presentations that this will draw over the course of the five day event.

Expected Outcomes: The symposium can be expected to have several beneficial outcomes for conservation science, policy, and management. It will serve to update and highlight the best scientific research on this topic, contributing to the development of this field of study. It will strengthen collaboration and interaction with key allies from other disciplines (e.g., astronomy through participation and support of astronomical societies). It will contribute to public knowledge through popular dissemination of research presentations.

Knowledge of artificial night lighting as a conservation issue reaches back to the late 1800s and early 1900s when the “destruction” of birds at lighthouses and lightships was noted and mitigations investigated. Disorientation of juvenile sea turtles was noted in the 1960s but it was not until 1985 that “photopollution” was identified as a key conservation concern. Several conferences were held in the 1990s and early 2000s in Europe and the United States, with the first full length text published in 2006 (Rich and Longcore, eds., *Ecological Consequences of Artificial Night Lighting*, Island Press). Although significant research has been published since that time there has been no subsequent meeting for researchers to assess the state of the field, share results, and take stock of future research opportunities. This symposium will serve that purpose and introduce current researchers, potentially leading to future scientific collaborations. This is important, because even within disciplines, researchers studying the effects of artificial night lighting frequently attend different conferences and seldom have the opportunity to meet collectively. Because this symposium is occurring at the ICCB, it is hoped that students will become interested in the field and turn their attentions and energies toward the studies of impacts of artificial night lighting on ecosystems.

The symposium will strengthen relationships between conservation scientists and practitioners, policy makers, and educators who share a concern about the night sky and nocturnal environment but approach it from other disciplines (e.g., astronomy, lighting design, urban studies).

The presentations of the invited speakers and related papers will be made available on CD. If the symposium presenters all provide their contributions by the due date, then it is likely that a CD version will be available at the time of the 2010 ICCB. These will also be freely available for downloading on the SCB website at a later date, along with any residual papers that may not have made the symposium paper and presentation deadline. Through ongoing outreach to governments and agencies by the symposium organizers, special interest groups and lobbyists, the contents of the symposium will be transferred to decision makers who can use this knowledge to develop policy.

I would like to thank all those of the Edmonton Centre that supported this proposal, and especially Bruce McCurdy, Sherrilyn Jahrig and Dave Robson for their ongoing encouragement and eloquent words of support. I would also like to thank Frank Florian and TWOSE as well as Parks Canada for their interest and support, because at the end of the day we will only succeed in reaching our mutual light pollution abatement objectives by working together as partners.

I hope everyone got what he or she wished for at Christmas. I was hoping for clear, warm skies but once again, on New Years Eve, the temperature was –20 degrees C. Ever since Edmonton started the First Night's Festival, the temperature on New Years Eve has been –20 or colder. Statistically, there should be at least one or two years out of the past 20 or so when the temperature is not bone chilling cold...shouldn't it?

As many of you noticed at the January meeting, we changed the way we do the Annual General Meeting. Remember to return the favour to your friends next January. What did you think of the new format? Let me know your thoughts. I can be reached at the contact numbers on page 2 of Stardust.

As many of you saw tonight, the awards were handed out. Of particular mention this year is the President's Award for Service to the Centre. While many of us toil away on Council or various committee's, usually we do not dedicate the time and effort this individual has given our club. I am speaking of course of **Bruce McCurdy**. Everyone knows Bruce, either from Council, a committee or the various events our club puts on throughout the year. He has served on just about every position on Council, sat on just about every committee we create, and is always present at just about every event we host. He is also a very active volunteer for the Observatory. Whenever a school or library called me asking for a volunteer, Bruce would gladly step up when no one else would. The only time he missed an event

was when he was out of town. After 21 years of hard work, dedication and commitment to our organization, he is stepping down from Council and his committees to allow the newer members of our club to fill his shoes. I do not think there is one individual that can replace him, but rather several people would be needed. Words cannot express the gratitude our club feels to you Bruce. Thank you for all that you have done over the years; your time given freely, your expertise, and your obvious joy of astronomy, which will live on in the people you have inspired.

Other awards that were presented tonight were:

Observer of the Year: **Sverrir Guðmundsson**

Bryce Heartwell Memorial Award for Astrophotographer of the Year: **Mike Noble**

George Moores' Award for Excellence in Public Education: **IYA Committee and Volunteers**

Franklin Loehde Award for Project of the Year: **Buzzard Coulee Meteorite Search Teams**

Angus Smith Award for Excellence in Telescope Design: Not being awarded for 2009

I hope everyone had a great holiday and I wish you all the best for 2010.

Greek Mythology: Lyra the Lyre by *Michael Ward*

The lyre (Latin *lyra*, Greek λύρα) [1] was a musical instrument, consisting of strings stretched across some sort of sound box or resonating chamber; tortoise shells were commonly used. The thing more resembled a small lute or guitar [2] rather than a harp, a common misconception. The number of strings was normally seven, although this might vary. The lyre in the sky was made by Hermes (Mercury) and ended up in the possession of Orpheus – a remarkable and mysterious character. He *may* have been a real person. [3]

Orpheus, by all accounts, was a talented singer and musician, and may have been a missionary of sorts, who went about preaching his own particular religious ideas. [4] It appears that he met with hostile resistance, and died violently because of his religious beliefs, somewhere in Thrace [5], the territory north-east of Greece (modern Bulgaria and Romania, more or less).

Orpheus and the nymph Eurydice [6] were very much in love, and got married, Sadly, she was soon bitten by a snake and died. Orpheus was inconsolable. He decided to try and rescue her from the Underworld, the realm of the Dead, ruled by Hades (Pluto) and Persephone (Proserpina). He went to the Underworld, and performed before Hades and Persephone. He sang so beautifully that they agreed to release Eurydice back into the land of the living. But! Don't look back as you lead the way up to the light, Hades warns. Of course, Orpheus *does* look back, he can't help it, just checking to see that Eurydice is alright. She went screaming back into the darkness as Orpheus flailed the air, his arms passing right through her, she being a mere ghost again.

Orpheus tried a second time to get an interview with Hades and Persephone, but the ferryman Charon refused to take him across the River Styx. He sat on the gloomy bank for seven days mourning. Giving up, he went off to Thrace, and shunned all women henceforth. He wandered the forests singing, and wild

beasts gathered about him to listen, mesmerized. He incurred the anger of the Maenads, female (human) followers of Dionysus. The reason varies in different versions of the story: because he neglected women in general, or them in particular, or Dionysus, or something else. The Maenads attacked him, but their missiles and rocks just fell at his feet, mesmerized like the animals. Eventually the Maenads' shouts and shrieks drown out his music and their weapons hit him, and he is killed. His severed head ends up in a nearby river, rolling on the waves down to the sea. Whenever the mouth is clear of the water, you can still hear him crying, *Eurydice!*

The head came ashore on the island of Lesbos [7], where the locals gave it a respectful burial, recognizing the face. His soul [8] went to the Underworld, re-united with his beloved Eurydice. His lyre was placed among the stars out of respect.

[1] English has several words derived from it: lyric(s), lyrical, lyricist, etc. A *lyricus* or *lyrica* (λυρικός, λυρική) is *one who sings to the accompaniment of a lyre*; also in a more general sense, *a poet*. It is interesting that in both Latin and Greek there was little distinction between a *poem* and a *song* because poetry was usually sung or chanted with some type of musical accompaniment. The various words for *poem* and *song* were used interchangeably in both languages (Latin *carmen*, *poema*; Greek *poiema* [ποίημα]).

[2] Our word *guitar* comes from Greek *kithara* (κithάρα), a similar stringed instrument.

[3] A much-debated question. The Greeks and Romans considered him the founder of a religion, and a prophet whose priests and disciples committed their ideas to writing, including their own version of the creation of the universe. Only scraps of this writing survive, which, along with mentions in other writers such as Plato and Virgil (see Sources, below) are all we have to

go on.

[4] Orphism was one of the so-called Mystery Religions. The name is often misunderstood. *Mystery* did not mean *secretive*; it comes from *mystes* (μύστης), which means *initiated*. They were religions one had to formally and officially *join* and be *initiated* into via certain ceremonies, as opposed to the worship of, say, Zeus or Artemis. When Christianity appeared, it was just another of these Mystery cults. It is true, however, that the majority of mystery religions were not keen to make the details of their practices publicly known. Early Christians were also secretive to a degree: *mass* comes from the Latin verb *mittere* (to send), because during certain ceremonies all the uninitiated were *sent away*.

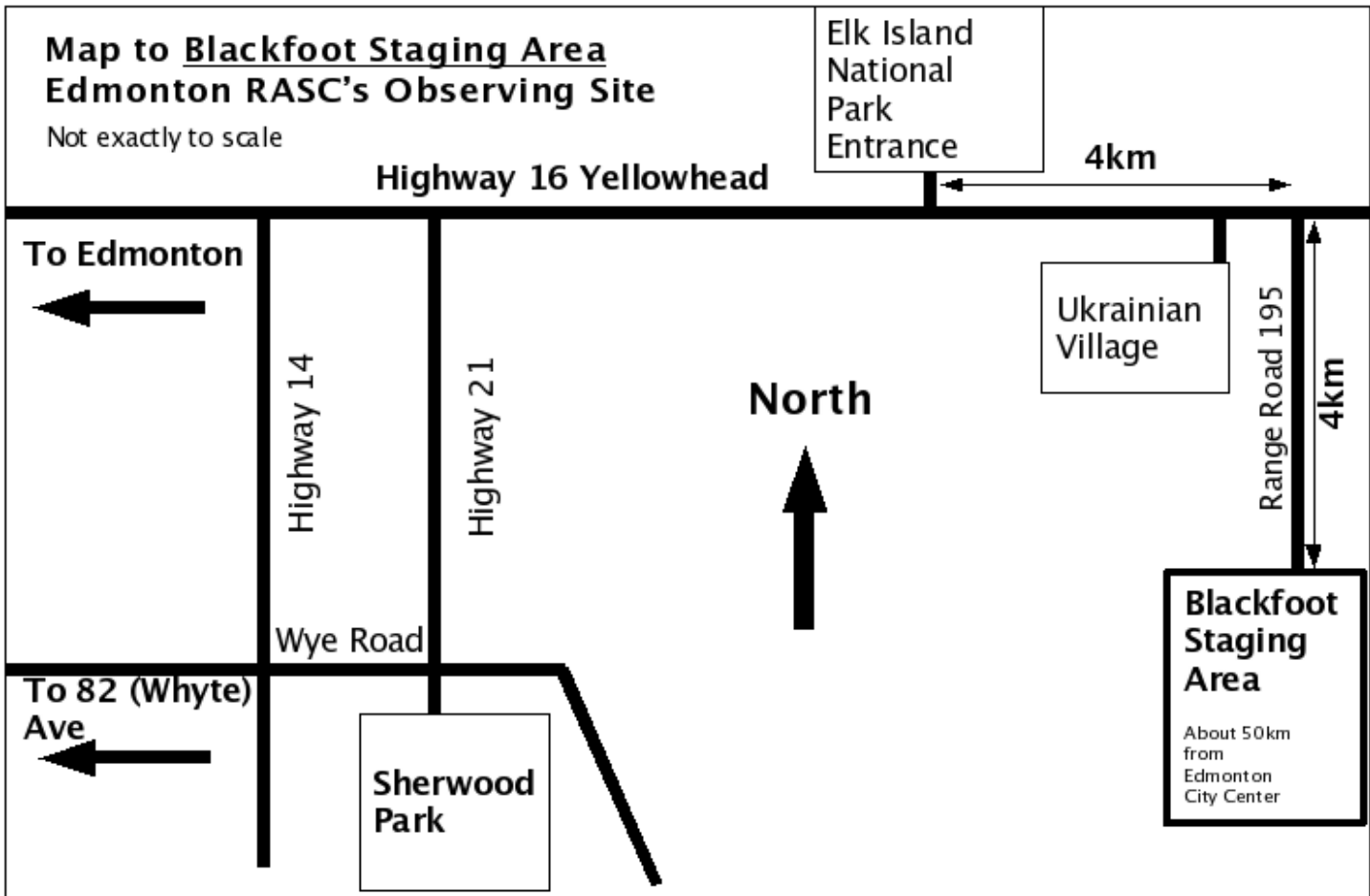
[5] To both Greeks and the later Romans, Thrace and its inhabitants were considered wild, lawless, and somewhat dangerous. Thracian women were rumoured to have voracious sexual appetites.

Sources: Hyginus *Astronomica* II.7; Ovid *Metmorphoses* 10.1-85, 11.1-66; Pausanias 6.20.18, 9.25.5-9.25.10, 9.30.4-9.30.12, 10.30.6-10.30.7; Plato *Cratylus*; Virgil *Georgic* 4

[6] Eurydice: awkward for English speakers to pronounce; *zur a dee see* is close. It appears to mean something like *far-reaching justice* (eurys + dike, εὐρύς + δίκη). The origin of the name *Orpheus* is uncertain.

[7] Yes, that's where we get the word *lesbian*, because of the (female) poet Sappho, a Lesbian in more than the geographical sense.

[8] soul: the usual translation of the Greek word *psyche* (ψυχή), although it is misleading. Greek ideas about what happened after death are very complex, and changed considerably over time. Western thought, descended from the Judeo-Christian tradition, tends to think of a person as having a physical part (body) and a spiritual part (soul); for ancient peoples, including the Greeks, Romans, and Egyptians, and others, a person was made up of three, four, or more parts, each one having a different function in life and in death. We *think* it was the *psyche* that ends up in the Underworld, but it is not entirely clear.



Visit our Gift Shop for all your Stargazing Needs!

TELUS WORLD of SCIENCE edmonton

Featuring Celestron products, binoculars and telescope accessories. Plus, you'll find everything from astronomy books and stargazing aids to general science merchandise.

TELUS World of Science Members receive 20% off*.
* Ask for details. Discount not applicable on some items.

11211 - 142 Street Edmonton, AB T5M 4A1 • (780) 451-3344 (press 5) • www.telusworldofscience.com/edmonton