

Event Horizon

December 2003

Volume 11 Issue 2

Starry Night Backyard *by Gail Muller*

Off the shelf software, available to the amateur astronomer these days, can almost substitute, and in many ways exceed, a library full of books. Even the lowliest of programs will plot constellations, name the brightest stars, and show which planets are “up” at any given time. More advanced titles provide animated tours of the Universe - sometimes with actual sky survey photos – and a fair number of those will even guide compatible telescopes.

At the recent HAA banquet, however, I was fortunate in winning the copy of *Starry Night Backyard* (SNB) that was generously donated by Camtech Photo of Hamilton. Fortunate, that is, in that my aging laptop will actually run this package. Though other CD's given away that night had some excellent features; SNB's less demanding requirements fit my hardware perfectly.



The box contains a CD with both MAC and Windows versions and an 80 page manual. When loaded, the screen presents a pleasing representation of black sky, white stars of varying sizes to represent apparent magnitude, and a clipart style horizon with hills, trees and small buildings. An intuitive menu bar allows for a good range of configuration choices, and the “hand” cursor easily drags the sky across the screen.

The vital stats of most of the brighter stars, galaxies, and clusters are just a click away and, with the Messier objects, planets and their moons, close up graphic representations make for a fun trip through Space. Also educational are the views from outside our galaxy, and being able to travel the path of famous comets. I also like the overviews of the solar system and the solar neighbourhood.

Rather than try to describe all the bells and whistles of SNB, it is probably quicker to tell you what it doesn't have, and most notable is the lack of NGC listings. This, of course, precludes it from being the stand-alone workhorse of the serious amateur. An upgrade to *Starry Night Pro* would no doubt cover those needs but, since I already have *Cartes du Ciel*, I find SNB handy for when I want more of a planetarium experience.

Overall, I think it makes for a nice gift, and one that would whet the appetite of any budding astronomer.

by Gail Muller

WebWatch

Site: micro.magnet.fsu.edu/primer/java/scienceopticsu/powersof10/index.html

Description: Check out this cool site. It is based on the movie 'Powers of 10'

Submitted by: Marg Walton

Web Watch	page 1
Chair's report	page 2
RASC Publications	page 3
Upcoming Council nominations	page 3
Upcoming events	page 3
Eye Candy	page 4
Thanks	page 5
Astronomical Tupperware	page 5

Errata	page 5
Ask the Experts	page 5
NASA	page 6
Letter to the editor	page 6
Banquet Donors	page 7
Financial Statements	page 8
Calendar	page 10

Chair's Report

by Glenn Muller

What an exciting time to be an amateur astronomer! With the Club into its eleventh orbit of the Sun, my cup runneth over with news-worthy items. So let's get started. Off the top, the HAA had its annual cabinet shuffle and joining the roster, as councilors, are Cathy Tekatch, Bob Christmas and John Gauvreau. Although Doug Welch is a hard act to follow, with a fine executive board to maintain the standard, I'm looking forward to filling this column over the next several months.

To commemorate the conception of The Hamilton Amateur Astronomers, Doug was presented with a plaque at the 10th Anniversary banquet, and those who attended the party at the Royal Botanical Gardens agree that Cindy Bingham and her (eclipse) elves outdid themselves. Anthony Tekatch has assembled a nice layout of the gala event on the HAA website.

John Gauvreau, Gail Muller, and I also spent a fun night helping the Cubs of the Hamilton 74th Pack earn their astronomy badge. They were extremely attentive and hands stretched high when John requested volunteers for his "solar system". Hopefully their interest in astronomy continues to grow.

On tap: By Christmas Day, the European Space Agency should have its Beagle 2 Lander sniff-

ing the Martian terrain then, in January, NASA lands two more cool toys on Mars. In between, Saturn will be at opposition on New Year's Eve and, to coincide with the ringed planet's closest approach for the next 30 years, the HAA will host a public Saturn night on **January 3rd** at Bayfront Park in Hamilton. With a bit of luck, and some help from the media, perhaps we can propagate a Saturnian strain of Mars Fever. Spread the word and bring your scopes. In case of poor weather, **January 4th** is the alternate date. January 4th is also when "Spirit", the first of NASA's Mars Rovers, will touch down. Anyone who has seen the animations by Dan Maas will know these are slick machines. Wouldn't it be neat to stand on the surface when those billion dollar beach balls hit the ground and start bouncing across the landscape in gravity about one-third that of Earth.

Finally, mark your calendars for Mike and Larry's Cosmology Night on January 10th. Further details can be found in this issue.

Have a great month - and let us know if you get new toys. See you in 2004.



Event Horizon is a publication of the Hamilton Amateur Astronomers (HAA).

The HAA is an amateur astronomy club dedicated to the promotion and enjoyment of astronomy for people of all ages and experience levels.

The cost of the subscription is included in the \$25 individual or \$30 family membership fee for the year. Event Horizon is published a minimum of 10 times a year.

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 Secretary Margaret Walton
 Treasurer Cindy Bingham
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 Publicity .. Glenn and Gail Muller
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Nominations for the new HAA council

Honorary Chair	Jim Winger
Chair	Glenn Muller
2nd Chair	Doug Welch
Secretary	Marg Walton
Treasurer	Cindy Bingham
Observing Dir	Stewart Attlesey
Membership Dir	Ann Tekatch
Publicity	Gail Muller
Newsletter	Anthony Tekatch
Webmaster	Anthony Tekatch
Councillor 1	Grant Dixon
Councillor 2	Barb Wight
Councillor 3	Ray Badgerow
Councillor 4	Bob Christmas
Councillor 5	Cathy Tekatch
Councillor 6	John Gauvreau

RASC publications



2004 RASC handbooks and calendars Order your 2004 RASC handbooks and calendars. Handbooks are \$20, calendars are \$12 each.

E-Mail Margaret Walton <mwalton@cogeco.ca> to place your advance order. We will take orders at the meetings up to the December meeting.

Upcoming Events

Date: Friday December 12, 2003 7:30pm (tonight)

Event: HAA General meeting. Admission is free. Everyone is welcome!

Speaker: Peter Ceravolo

Details: Peter Ceravolo is a professional optician who has worked on MOST, Canada's first space telescope and the president of Main-Sequence Software, makers of Desktop Universe digital sky atlas and planetarium software. Peter will be speaking on the Comet Odyssey project. The first ever time lapse movie of a comet made in full colour. Best described as extreme astronomy, the effort to photograph the 1996 comet Hyakutake required travel to an Arizona mountain top for all night (for nine nights) of non stop photography. Peter will describe the process of turning a shoe box full of negatives into a stunning time lapse movie of a comet.

Location: The Hamilton Steam Museum

Also: There will also be other short presentations of general interest. If it is clear, there will be observing in the parking lot after the meeting.

Date: January 3, 2004 7:00 PM

Event: Saturn viewing party

Location: Hamilton Bayfront park

Details: Astronomers are alerting the public to view this awe-inspiring gas giant while its rings are near their maximum tilt. Orbital motion is about to slowly close the rings, and it will be another 30 years before they are, once again, this open.

Saturn is brightest during periods of opposition, and this will happen the week after Christmas. After that, planet-watchers will have to wait until 2005 for the next one.

To take advantage of this unique opportunity, the Hamilton Amateur Astronomers will hold a Saturn Session at Bayfront Park on Saturday January 3rd, 2004 starting at 7pm. All are invited to catch the ringed wonder in what could be it's best showing of the next three decades. For more info, go to www.amateurastronomy.org.

Club members will be bringing telescopes and please bring your own telescope!

Date: Saturday January 10th, 2004 8PM

Event: Cosmology Discussion Group

Topic: 1950's Concepts of Interplanetary Travel and How They Are Just Being Realized Today. Includes discussion and archival footage.

Location: McMaster's Burke Science Building, Room B148 Coffee and refreshments will be provided. We welcome our members to bring a small 'entree'. Everyone welcome, open discussion. For further information, call Larry @ (905) 529-1037 or Mike @ (905) 648-8919

Date: Friday Jan 9, Feb 13, March 12, 2004

Time: 7:30PM

Event: Future HAA meetings

Location: The Hamilton Spectator building

Eye Candy



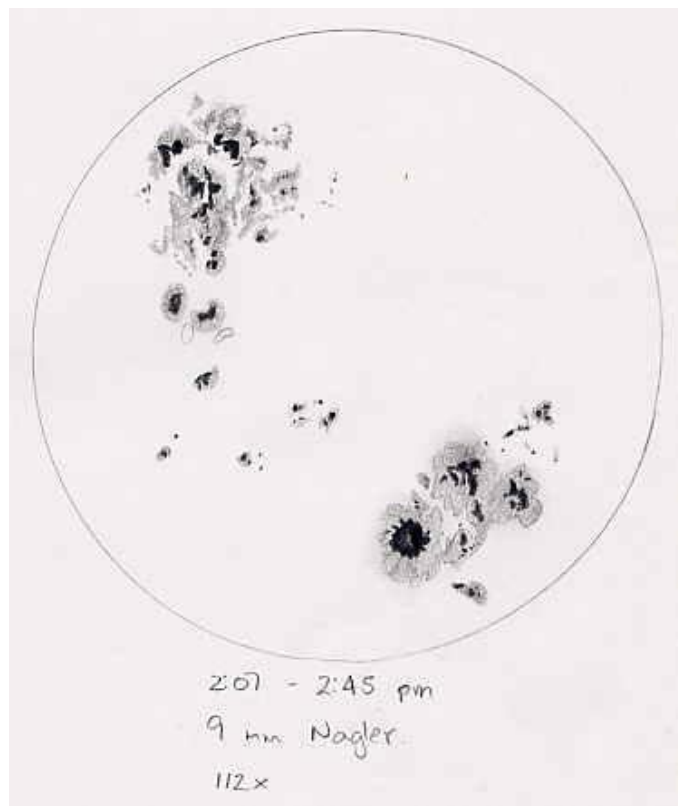
Here's a composite of the lunar eclipse as it rose from out of the clouds, over Lake Ontario.

Photo by Bob Botts.



Bob McDonald from CBC's Quirks and Quarks was the keynote speaker at the HAA 10th Anniversary Banquet.

Photo by Stewart Attlesley.



Sunspots, 5" f8 newtonian dob, drawn October 30, 2003, with a 9mm Nagler at 112x using a badaar solar filter. The seeing was excellent, and there was more detail visible than I could draw or describe. Granulation was visible across the entire surface.
Drawing by John Gauvreau.

Thanks

I used my \$50 gift certificate from Efston Science that I won at the HAA 10th anniversary banquet to purchase an Orion Cheshire eyepiece. I used it successfully last night to collimate my newly-acquired Skywatcher 150 mm refractor. Hope to use it as soon as clear skies prevail.

Hal Mueller

Skypieces Astronomical Tupperware

I had the very good fortune to win a bag full of Skypieces at our 10th. Anniversary Banquet. Skypieces are plastic containers for keeping eyepieces clean and safe. The two halves of a Skypiece container screw together to hold your favourite eyepiece snugly. One end of the container has a hexagonal shape that prevents the whole thing from rolling off a flat surface. Skypieces come in a

variety of sizes to fit everything from your smallest orthoscopic eyepiece to that honkin' huge widefield flat-screen eyepiece. Because the container screws together securely, it never allows even the heaviest eyepiece to fall out.

I especially like using Skypieces to take eyepieces to public education events. I can toss a couple in my purse or pockets without worrying about my eyepieces getting scratched up.

This is a must-have item that anyone with eyepieces should invest in. They are available through Sky Optics in Burlington and other fine astronomy shops in our area. Check out Skypieces? website at www.skypieces.com.

My thanks to Skypieces for donating this generous door prize to our 10th. Anniversary Banquet!

by Ann Tekatch

Errata

Thanks to an astute reader, an error was uncovered in last month's article "Spot the spots, Count the dots". Example 3 should add up to 51 not 55.

Ask the Experts

Q. Does the the earth have an electric charge? If so, since we are moving through space so fast, do we produce a giant magnetic field? *from Anthony Tekatch*

A. No, the earth is globally neutral, and thus does not have a negative or positive charge. If the earth were electrically charged, it would quickly become neutral, since charged particles from the solar wind would act to neutralize the planet. As you may know, the earth does in fact have a significant magnetic field; however, this field is not produced by an electrically charged moving earth. The earth's magnetic field is produced by the motion of electrically charged particles in the earth's core. Now, the core is also electrically neutral, but it is partially ionized (in which there are equal numbers of both positively and negatively charged particles). These charged particles move in such a way (which is not fully understood yet, this is an area of geophysics currently being worked on related to the earth's dynamo and involves magneto-hydrodynamics) as to produce electric currents, which in turn creates the magnetic field of the earth. *by Marcel VanDalfsen*

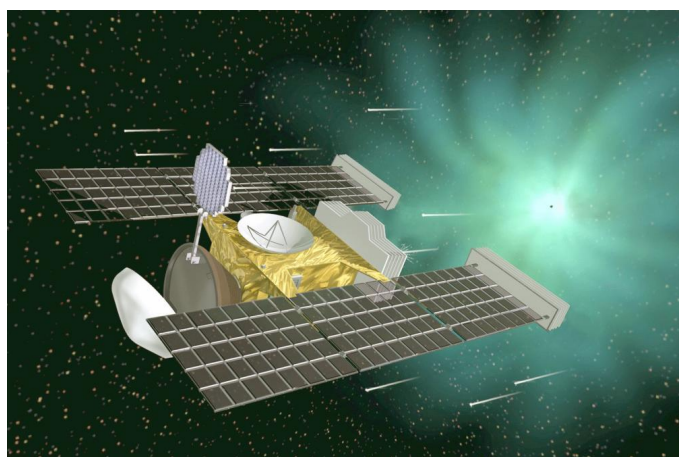
NASA's Space Place

Stardust

by Patrick L. Barry and Dr. Tony Phillips

Philosophers have long sought to “see a world in a grain of sand,” as William Blake famously put it. Now scientists are attempting to see the solar system in a grain of dust-comet dust, that is.

If successful, NASA's Stardust probe will be the first ever to carry matter from a comet back to Earth for examination by scientists. It would also be the first time that any material has been deliberately returned to Earth from beyond the orbit of the Moon.



NASA's Stardust mission will capture dust from comet Wild 2 and bring them back to Earth for study.

And one wouldn't merely wax poetic to say that in those tiny grains of comet dust, one could find clues to the origin of our world and perhaps to the beginning of life itself.

Comets are like frozen time capsules from the time when our solar system formed. Drifting in the cold outer solar system for billions of years, these asteroid-sized “dirty snowballs” have undergone little change relative to the more dynamic planets. Looking at comets is a bit like studying the bowl of leftover batter to understand how a wedding cake came to be.

Indeed, evidence suggests that comets may have played a role in the emergence of life on our planet. The steady bombardment of the young Earth by icy

comets over millions of years could have brought the water that made our brown planet blue. And comets contain complex carbon compounds that might be the building blocks for life.

Launched in 1999, Stardust will rendezvous with comet Wild 2 (pronounced “Vilt” after its Swiss discoverer) on January 2, 2004. As it passes through the cloud of gas and dust escaping from the comet, Stardust will use a material called aerogel to capture grains from the comet as they zip by at 13,000 mph. Aerogel is a foam-like solid so tenuous that it's hardly even there: 99 percent of its volume is just air. The ethereal lightness of aerogel minimizes damage to the grains as they're caught.

Wild 2 orbited the sun beyond Jupiter until 1974, when it was nudged by Jupiter's gravity into a Sun-approaching orbit-within reach of probes from Earth. Since then the comet has passed by the Sun only five times, so its ice and dust ought to be relatively unaltered by solar radiation. Some of this pristine “stuff” will be onboard Stardust when it returns to Earth in 2006, little dusty clues to life's big mysteries.

To learn more about Stardust, see the mission website at stardust.jpl.nasa.gov. Kids can play a fun trivia game about comets at spaceplace.nasa.gov/stardust.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Letter to the editor

Nov. 10/03 Dear Event Horizon Editor, I would like to thank all of the people who helped make Saturday night's 10th Anniversary Banquet such a success. It is an event that will be remembered for years. A special mention goes to Cindy Bingham for all of the very thorough work she accomplished for this celebration and the many extra hours of effort that she spent to make it the gala extravaganza that it was. What an effort for 10 years! Several of us could not get another club to spend more than \$20.00 after 100 years of existence(Cheep, cheep,.....CHEAP)! Very sincerely, to the best astronomy club going, -Mike Jefferson

10th Year
Anniversary Banquet



Many thanks to these donors for their generous contributions of door prizes for the HAA 10th Anniversary Banquet.



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www.skyoptics.net



Rob Dick



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**HAMILTON AMATEUR ASTRONOMERS
BALANCE SHEET
AS AT OCTOBER 31, 2003
(Unaudited)**

	Oct 31 2003	Oct 31 2002
ASSETS		
Bank	3124	2538
Investments	2442	2000
Inventory	212	0
Prepaid P.O. Box Rental	105	77
Prepaid Banquet Expenses	<u>837</u>	<u>0</u>
Total Current Assets	6720	4615
Fixed Assets - Equipment	<u>1287</u>	<u>1287</u>
TOTAL ASSETS	<u>8007</u>	<u>5902</u>
LIABILITIES		
Accounts Payable	0	0
Deferred Membership Revenue	665	350
Deferred Banquet Revenue	<u>1440</u>	<u>0</u>
TOTAL LIABILITIES	<u>2105</u>	<u>350</u>
EQUITY		
Opening Balance	5552	5252
Current Year	<u>350</u>	<u>300</u>
Closing Balance	<u>5902</u>	<u>5552</u>
TOTAL LIABILITIES AND EQUITY	<u>8007</u>	<u>5902</u>

Prepared by Cindy Bingham, Treasurer

**HAMILTON AMATEUR ASTRONOMERS
INCOME STATEMENT
AS AT OCTOBER 31, 2003**

(Unaudited)

	Oct 31 2003	Oct 31 2002
INCOME		
Donations	43	0
Membership Fees	1977	1940
Observers Handbook/Calendar Sales	585	481
Messier Marathon	0	95
Interest Income	442	0
	3047	2516
TOTAL INCOME		
EXPENSES		
Bank Charges	34	0
Donation Expense	150	100
Handbooks/Calendar Cost of Sale:	465	419
Insurance	810	783
Meeting/Observing Expense	73	109
Printing Expense	522	382
Post Office Box Rental	77	77
Postage	284	314
Promotion	282	32
	2697	2216
TOTAL EXPENSES		
SURPLUS/DEFICIT	350	300

Prepared by Cindy Bingham, Treasurer

January 2004

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
				1 New Year's Day	2	3	
4	5	6	7	8	9 HAA General Meeting	10	
11	12	13	14	15	16	17 Observing Night	
18 Observing Night	19	20	21	22	23	24 Observing Night	
25 Observing Night	26	27	28	29	30	31	
				For observing info, call Stewart Attlesey 827-9105, Rob Roy 692-3245, Glenn and Gail Muller 945-5050, http://amateurastronomy.org/events.php		December 2003 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	February 2004 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29