Event Horizon

March 2001

Volume 8 Issue 5

The Seven Star Dancers

Sheila Overall

ong ago, a group of Onondagas settled in the north to fish and hunt by the shores of Kan-ya-ti-yo. The waters were full of trout and sturgeon and the woods teemed with deer.



While the men hunted and the women worked about the village, one group of eight boys found a quiet place by the shores of the lake and started to go there regularly to meet in the evenings.

One of the boys, who became their leader said, "Let us form our own Medicine Society, just as the men do." The other boys agreed. "I know where there is an old water drum with a broken head," the leader said. "I will get it and fix it up and then we can dance."



other seven boys waited for him by the lake and when

The

he returned, they began to sing and dance around the fire, imitating the medicine songs of their elders. They had not been dancing long when a strange thing happened. An old man with long white hair, wearing white buckskins, appeared before the boys.



"Listen to me," the old man said. "You must stop this dancing. If you do not, something bad may happen." Then he was gone. The leader of the boys said, "Brothers, that old man is just trying to frighten us. Let us pay no attention to his tricks."

One day sometime later, the leader of the boys suggested, "Let us have a feast, just as our elders do when they do their ceremonies."

That night, each of the boys asked for food to take to their



secret place to have a great ceremony. But their parents laughed at

them and said, "You are too young for ceremonies. Why do you need to take good food into the woods? You are fed enough at home."

The next evening, the leader of the boys said, "Let us dance. Our parents cannot stop us from doing our medicine dance." Then they began to beat very hard on the water

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Dancers....

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drum and sing:

Ji-ji-ya, ji-hi-ya Ji-hi-ya, ji-ji-ya

Their song grew louder and louder until it could be heard back in the village.

"Who is singing that powerful song?" asked one of the parents of the boys. The strange music worried them and they followed the sound of it down to the hidden place by the lake.

But the other seven boys continued to dance. They went higher and higher until they reached the very top of the sky and became seven stars. They remain there to this day. The Onondaga people call them "Oot-Kwah-Tah, The Dancers." Some others know them as "The Pleiades."

To this day, you can see those dancing stars as they move across the heavens, circling just as the dancers circled.

There they saw a strange sight. The eight boys were dancing in a circle around their fire, but their feet were no longer touching the ground. The more they danced. each step took them higher and higher up into the sky. They were already above the heads of their parents, far out of reach. One of the mothers called the smallest of the eight boys. As soon as he looked back, he turned into a shooting star and fell from the sky.



H MILTON * MATEUR * STRONOMERS

vent 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

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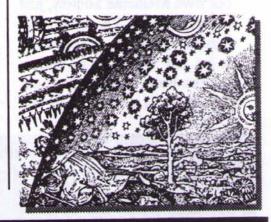
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Hamilton Amateur Astronomers Millennium Messier Marathon

arch is Messier marathon madness month! At this time of year, it is possible to view all 110 objects listed in the Messier Catalogue in a single night. It's a great excuse to go observing with friends and have a lot of fun. It's also a chance for us to raise money for our club!

On the back of your newsletter you'll find a sponsor sheet. Annoy your friends, family, neighbours & coworkers into pledging money for each object you can find during a single night of observing. (If they're afraid you'll bankrupt them if you manage to see all 110 objects, they can make a flat donation!) On the reverse side of the sponsor sheet, there is a list of the Messier objects in their most strategic viewing order.

CHARLES MESSIER

All 110 Messier objects are visible in moderate sized telescopes (4" and larger); many are visible in binoculars or small telescopes; and some are even naked eye objects. So, there's no excuse – you don't need any special equipment to participate!

Choose the darkest location with the clearest horizon available to you and a night at or near new moon in March or April for the best chance of seeing all the Messier objects. Our scheduled observing nights at the Binbrook Conservation Area are your best bet – check the events calendar or call me for these dates.

You'll need star charts to find the objects and I've listed some good charts at the end of this article. Many are available at area bookstores, local astronomy shops or the library. Of course, if you join your fellow club members at the Binbrook Conservation Area, there will be lots of folks with charts to help you find your way around the sky.

By the way, we are using the Messier Catalogue printed in the RASC Observers Handbook 2001 (p.256-259) as our list. This list follows conventional M-lists except for M91 and M102. These two objects were incorrect in the original Messier list and some sources believe they are simply repeat observations of M58 and M101 respectively. However, the RASC list uses NGC4548 as M91 and NGC5866 as M102.

Because the weather in our area is

so lousy at this time of year, we decided to schedule the marathon within a large time window to enable participants to choose a convenient, clear night. Note that you must do the marathon on a single night – not spread out over many!

Our marathon includes GOTO scopes! Regardless of whether you star-hop or push buttons to locate the objects, you still have to stay up all night to see them and that qualifies as a "marathon" in my book!

If you have any questions about our Millennium Messier Marathon, don't be afraid to call or write me – my phone number and email address are listed below.

Now get outside, look up and have fun!

Ann Tekatch 905-575-5433 tekatch@nas.net

Recommended Charts/Reading:

- Bright Star Atlas by Wil Tirion
- Sky Atlas 2000.0 by Wil Tirion
- Messier Marathon Field Guide by H. Pennington
- The Messier Objects by Stephen J. O'Meara
- •The Messier Album by J. Mallas & E. Kreimer
- Messier's Nebulae & Star Clusters by Kenneth G. Jones
- RASC Observer's Handbook
 2001
- •Sky & Telescope, March 2000 p.119-124

Event Horizon - Hamilton Amateur Astronomers

Ask Stella: Gravity Waves Bye-Bye

Illo, 'allo? This is Stella, on her monthly mission to bring you closer to understanding the mysteries of the heavens above. And what a zinger I have for you. This lunation we have a supercool question from the chuming mass of grey matter that is Dan Owen -- a grad student in some obscure science from Dalton, Georgia. Dan's question is:

would gravity waves increase in proportion to increase in mass of black holes? Is there a limit of mass at which gravity waves no longer escape?

You're absolutely right on the first part of your question.

Gravity waves are caused by the acceleration of a mass just as wavelike electromagnetic radiation is produced by the acceleration of a charge. Thus, as you said: the greater the mass, the stronger the gravity wave.

The second part of your question is interesting. Another way to phrase it would be "Could there be a black hole which swallows even its own gravity waves?"

It's true that even massless photons can't escape from beyond the event horizon of a black hole. Also, the gravitational force is propagated by particles called gravitons, which are similar to photons in that they also travel at the speed of light. So, gravitons originating inside the event horizon of a black hole might well be trapped in the same manner as photons.

But to produce gravity waves, a mass would have to be accelerating. This means that a black hole would have to be orbiting something else, if this something else was a second black hole, then, perhaps no gravity waves would be emitted. That'd be my guess. But I'm not an expert on gravity waves by any means. So if you see Stephen Hawking or Kip Thome, you might to better to run it by them.

In the meantime, there are all kinds of cool websites dealing with gravity waves:

Exploring Gravity (click on Advanced: Gravitational Waves)

www.curtin.edu.au/curtin/
dept/phys-sci/gravity/index2.htm

Souces of Gravitational Waves www.dragonweave.com/gothos/html/gravitational waves/sources.html

Ongoing & Planned Gravity Wave Experiments www.yourastronomylink.com/observatories/gravitational-waves/

So if you're curious about this cutting-edge field of astrophysics, log on and scratch that itch. Until next time, mes amis, I remain

Astronomically yours,

Stella



Do you have a question that's keeping you up nights? Then send email to ask_stella@earthling.net.

Ask Stella: your source for astrofacts.

MEETING LOCA-

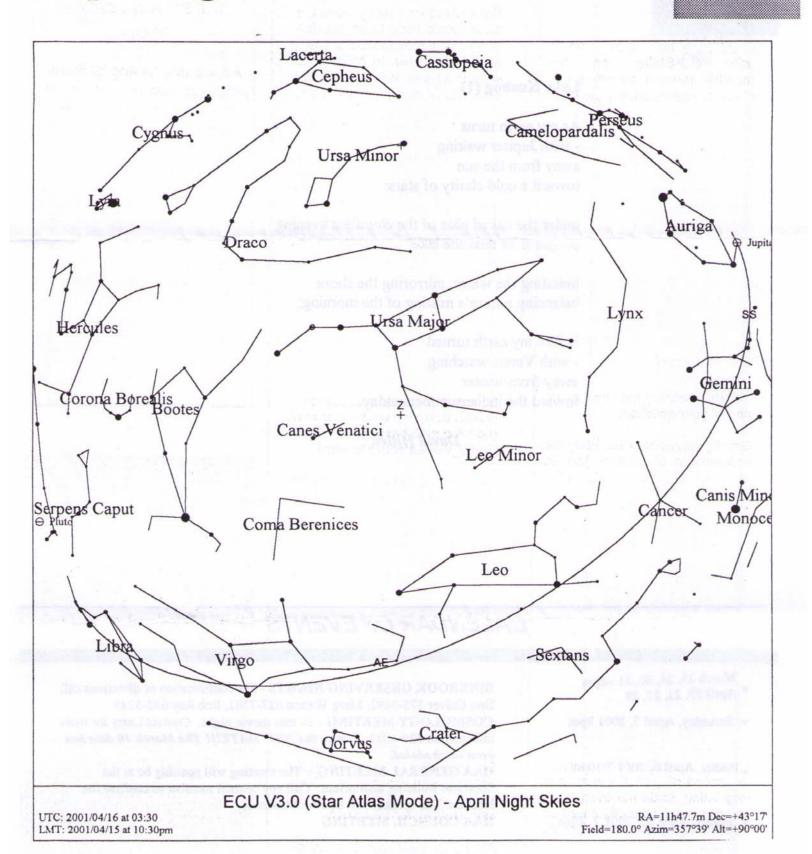
As we are having difficulty with our room booking at the Hamilton Spectator, some or all of our meetings may have to be held elsewhere. Please check the web, or your email, or the HAA discussion group, or phone any council member before each meeting to confirm its location. If anyone knows of a suitable room (for free!) could you please contact Margaret Walton at 627-7361 or margw@jcom.ca.

Cosmology Discussion Group

** change in date**

The next cosmology meeting will be Saturday, April 7th, 2000, 8pm. In McMaster's Burke Science Building room B148. The meeting will be a 16mm movie night. There will be free coffee, ginger ale, cola, and timbits. We welcome our members to bring a small entree. Everyone welcome, open discussion. For further information call Larry at 529-1037.

April Night Skies



Lake Kushog (1)

As my earth turns
- with Jupiter waiting
away from the sun
toward a cold clarity of stars:

under the naked blue of the cloudless evening people-fires mist the lake

imitating the water, mirroring the shore balancing nature's misting of the morning;

before my earth turned
- with Venus watching
away from winter
toward the indiansummersunday.

David Hillen

CALENDAR OF EVENTS

- March 23, 24, 30, 31 ~8pm April 20, 21, 27, 28
- Saturday, April 7, 2001 8pm
- Friday, April 6, 2001 7:30pm
- Friday, April 20, 2001 7:30pm
- BINBROOK OBSERVING NIGHTS For confirmation or directions call Bret Culver 575-9492, Marg Walton 627-7361, Rob Roy 692-3245 COSMOLOGY MEETING - 16 mm movie night. Contact Larry for more

information 529-1037. Notice the NEW DATE!!! The March 10 date has been rescheduled.

HAA GENERAL MEETING - The meeting will possibly be at the Spectator Building auditorium. Call any council member to confirm the location. The speaker will be Ivan Semeniuk.

HAA COUNCIL MEETING

Hamilton Amateur Astronomers Millennium Messier Marathon Sponsor Sheet

The Messier Catalogue is a list of 110 deep sky objects (galaxies, nebulae, star clusters, etc.) that are visible in backyard telescopes. Each year, during early spring, it is possible for an observer to see all 110 objects in a single night. This is a challenge that few have mastered! The person you are sponsoring has accepted the challenge to find as many Messier objects as they can in a single night sometime between March 10, 2001 and April 30, 2001. On the back of this sheet, they will note the objects they found, the date they attempted the marathon, and the equipment (telescope, binoculars, naked eye) they used.

The Hamilton Amateur Astronomers is a registered charitable organization. The money raised by this marathon will enable us to continue our work in public awareness and astronomy education. Donations of \$10 and more will receive a tax receipt. Thanks for your support!

Name		Address	37.1	Phone No.	Pledge per Object	Flat Donation	Paid?
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Cheques should be made payable to:

Hamilton Amateur Astronomers P.O. Box 65578 Dundas, ON L9H 6Y6

Hamilton Amateur Astronomers Millennium Messier Marathon

Participant's Name:	reserve contract that of 110 deep sky objects (galaxies, ne
Location of Marathon: (show location you observed f	rom. e.g. Binbrook Conservation Area, backyard in Hamilton, etc.)
Date of Marathon:	10. 2011 the the back of this sneet they will mote the objects to
Equipment Used:	A SHE THE THE WAY WAS CONSTRUCTED TO THE SECOND TO THE SEC

Messier Objects Observed:

(Listed in order of appearance from West to East. Objects visible in binoculars are marked * and those visible to the naked eye are marked **)

Object	Seen? Object	Seen? Object	Seen?	Object	Seen?
1) M77	29) M95	57) M87	85)	M62*	
2) M74	30) M96	58) M89	86)	M6* Butterfly Custer	
3) M33*	31) M105	59) M90	87)	M7*	
4) M31** Andromeda Galaxy	32) M65	60) M88		M11* Wild Duck Cluster	
5) M32	33) M66	61) M91	89)	M26	
6) M110	34) M81*	62) M58	90)	M16* Eagle Nebula	
7) M52*	35) M82*	63) M59	91)	M17* Swan Nebula	
8) M103*	36) M97 Owl Nebula	64) M60	92)	M18*	
M76 Little Dumbbell Nebula	37) M108	65) M49*		M24*	
10) M34*	38) M109	66) M61	94)	M25*	
11) M45** Pleiades	39) M40*	67) M104 Sombrero Galaxy	95)	M23*	
12) M79*	40) M106	68) M5*	96)	M21	
13) M42** Orion Nebula	41) M94*	69) M13** Hercules Cluster	97)	M20 Trifid Nebula	
14) M43	42) M63*	70) M92*	98)	M8* Lagoon Nebula	
15) M78*	43) M51 Whirlpool Galaxy	71) M57 Ring Nebula	99)	M28*	
16) M1 Crab Nebula	44) M101 Pinwheel Galaxy	72) M56	100)	M22*	
17) M35*	45) M102	73) M29*	101)	M69	1
18) M37*	46) M53*	74) M39*	102)	M70	
19) M36*	47) M64* Black Eye Galaxy	75) M27* Dumbbell Nebula	103)	M54	
20) M38*	48) M3*	76) M71	104)	M55*	
21) M41*	49) M68	77) M107	105)	M75	
22) M93*	50) M83*	78) M12*	106)	M15*	
23) M47*	51) M98	79) M10*	107)	M2*	
24) M46*	52) M99	80) M14*	108)	M72	
25) M50*	53) M100	81) M9	109)	M73	
26) M48*	54) M85	82) M4*	110)	M30*	
27) M44* Beehive Cluste	er 55) M84	83) M80*			
28) M67*	56) M86	84) M19*			