

# Event Horizon

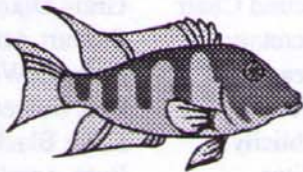
March 2001

Volume 8 Issue 5

## The Seven Star Dancers

*Sheila Overall*

Long 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."



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.

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.

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.

Each year, when the dancing boys reach the top of the sky, around the time of January or February, it is the signal for the Onondaga Ceremony of Mid-winter to begin.



## HAMILTON AMATEUR ASTRONOMERS

**E**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

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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## Ask Stella: Gravity Waves Bye-Bye

**'A**llo, '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 churning 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 Thorne, 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](http://www.curtin.edu.au/curtin/dept/phys-sci/gravity/index2.htm)

Sources of Gravitational Waves  
[www.dragonweave.com/gothos/html/gravitational\\_waves/sources.html](http://www.dragonweave.com/gothos/html/gravitational_waves/sources.html)

Ongoing & Planned Gravity Wave Experiments  
[www.yourastronomylink.com/observatories/gravitational-waves/](http://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](mailto:ask_stella@earthling.net).

Ask Stella: your source for astro-facts.

### MEETING LOCATION

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@icom.ca](mailto:margw@icom.ca).

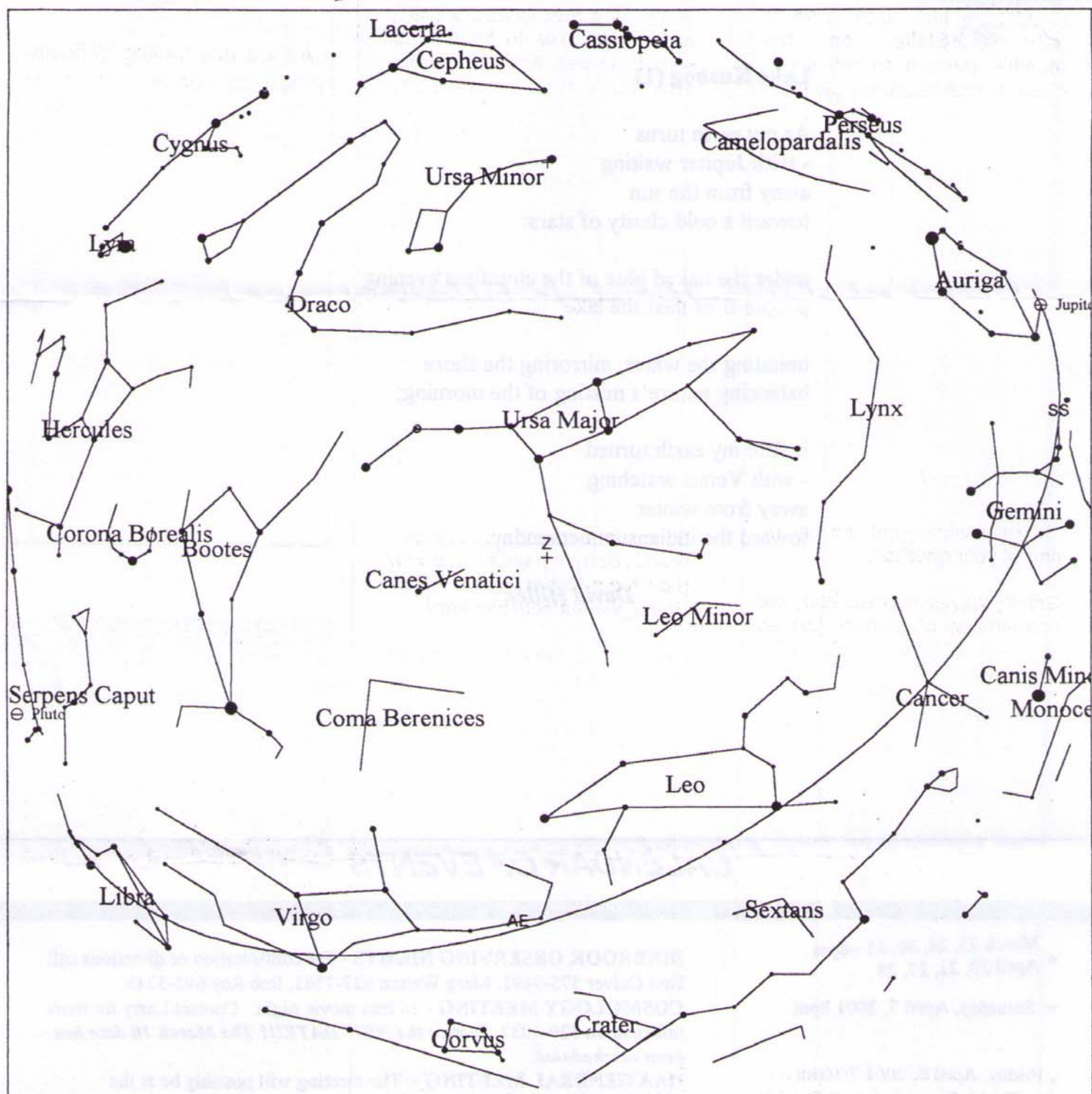
## Cosmology Discussion Group

### **\*\* change in date \*\***

The next cosmology meeting will be Saturday, April 7<sup>th</sup>, 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



ECU V3.0 (Star Atlas Mode) - April Night Skies

UTC: 2001/04/16 at 03:30  
 LMT: 2001/04/15 at 10:30pm

RA=11h47.7m Dec=+43°17'  
 Field=180.0° Azim=357°39' Alt=+90°00'

### 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 indian summersunday.

*David Hillen*

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## CALENDAR OF EVENTS

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- 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	Phone No.	Pledge per Object	Flat Donation	Paid?
1.					
2.					
3.					
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19.					
20.					

*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:
Location of Marathon: (show location you observed from. e.g. Binbrook Conservation Area, backyard in Hamilton, etc.)
Date of Marathon:
Equipment Used:

## 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 Cluster	
3) M33*		31) M105		59) M90		87) M7*	
4) M31** Andromeda Galaxy		32) M65		60) M88		88) 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*	
9) M76 Little Dumbbell Nebula		37) M108		65) M49*		93) 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	
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 Cluster		55) M84		83) M80*			
28) M67*		56) M86		84) M19*			

Return completed form with donations to Barb Wight, Treasurer or Ann Tekatch, Messier Marathon Co-ordinator