

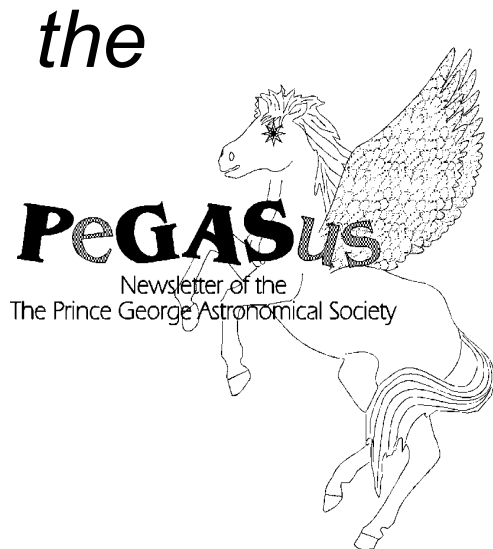
PeGASus
Newsletter of the
Royal Astronomical Society of Canada
Prince George Centre

**The RASC-PG meets next at 7:30 pm
Wednesday February 26th
at The Observatory** Map on Page 2

February 2003

In Issue # 126

PGAS Executive	2
Editorial	3
Coming Events	4
The Night Sky	4
Sky Map	8
Monthly Star Hop	14

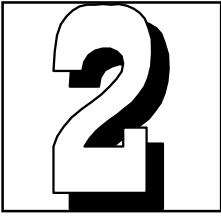


*Also This
Month;*

Page 7 Remembering STS-107

Page 10 A NEAT Comet!

Page 11 Have you done one of Wayne's crossword puzzles yet?



the PeGASus
 is published monthly by the
Royal Astronomical Society Canada
Prince George Centre

Our pursuits are out of this world.
 Our activities are astronomical.
 Our aim is the sky.

RASCPG
Executive, 2001/2002
President
Brian Battersby
 564-4789
 blbattersby@shaw.ca

Vice President
Gil Self
 964-7279
 Gil-pg@shaw.ca
Secretary
Glen Harris

Treasurer
Rod Herd

Members at Large
Rob Frith
Kane Sanders
Peter Wyper

Past President
Bob Nelson
 563-6928

Contributions to the newsletter
 are welcome.

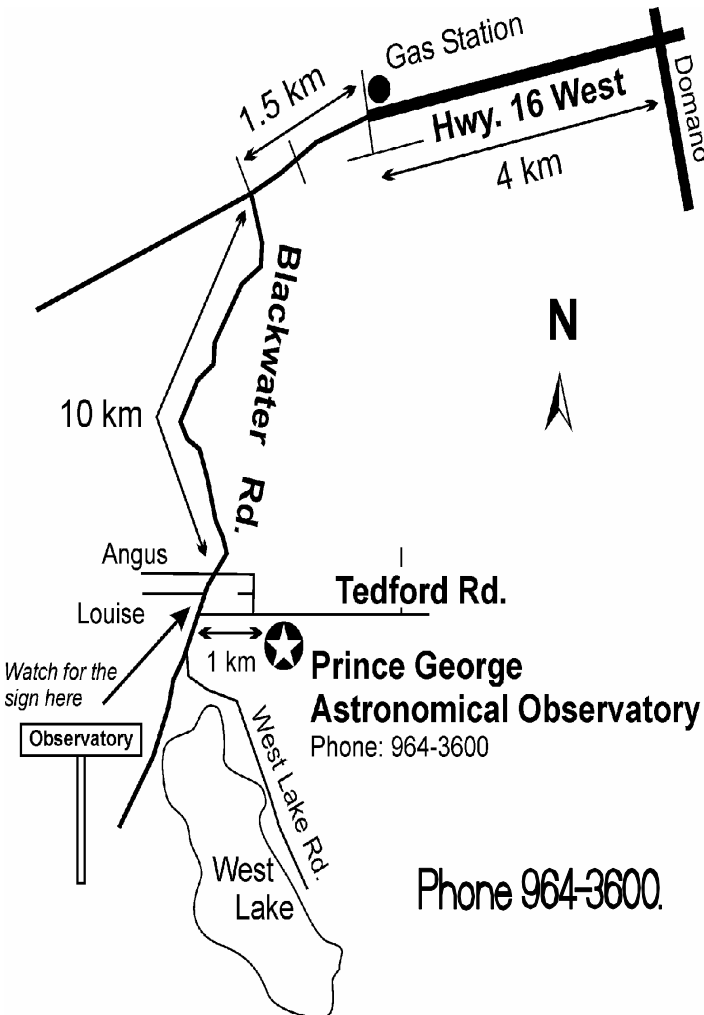
**Deadline for the next
 issue is**

March 14

PeGASus Editor
Gil Self

Send correspondence to
Prince George RASC
7365 Tedford Road
Prince George B.C.
V2N 6S2
 or
gil-pg@shaw.ca
 phone:964-3600

you can renew your membership at
www.rasc.ca/princegeorge



Phone 964-3600.

Editorial

By Gil Self

Page 3

I would always like to say something motivating or memorable in this space, but that's not always possible. So why don't I just tell you what's going on, and what you can get involved in. As always there are a lot of jobs/projects in progress. It's not that we can't finish what we start, but rather so much is dependant on funding.

One of the nagging projects underway for sometime is replacing the main telescope drives. Doesn't sound like much if you say it fast but in reality it is a complex, difficult engineering project. If the drive is to be replaced, it will need to be at least as reliable as the existing drive. Now admittedly at this time the old drive has a few problems, but it has worked very well for many years. The replacement must be rugged and easy to repair. This means simple, interchangeable elements. The drive must not be an impediment at very high magnification, it will need to move very smoothly at several hundred magnifications, if we are to produce satisfactory images of planets. And it will need to slew at a rate high enough that we can still us the telescope on open house nights to jump here and there around the sky. This is perhaps the biggest challenge. As you find out more about motors and power supplies and gear trains the two requirements seem to become mutually exclusive (you can't have one without

losing the other). But it can be done and we have two very able people on it. Wayne Sanders and Bob Nelson are approaching the problems very methodically, researching and testing, when they are satisfied we will undoubtedly have a very capable telescope again. One of the toughest parts of this job is we are trying to do this on a shoestring.

With the coming of warmer weather and hopefully some funding, we are planning some major improvements outside the observatory. It is easy to see anytime you are out at the observatory that members and guests all spend more time out in the field behind the building than in the dome. Everyone likes to get a look through the big scope, but all usually gather outside for some eyeball astronomy and to listen to members talk about the sky they are exploring with the smaller scopes. It would be nice to build a big observing deck with wind breaks and seats, this however would probably be an invitation to vandals. They already burnt our picnic table, and someone torched the shelter at West Lake, imagine what fun they would have with a whole deck! We need to design something that won't be a target. Sad as that is it's probably one of the main considerations in the design. Short of putting something behind razor wire we need to improve the back of the property to make safer and easier to use,

General improvements around the building such as better parking, fencing and sidewalks are also on the drawing board. Maurice Sluka has taken up this design and it won't be easy to come up with an affordable plan that meets all these requirements.

Perhaps the easiest project for you to participate in would be the ongoing audio-visual work we are doing. The common need here is a computer with PowerPoint installed on it. We already have a few short presentations. They are easy to produce and you don't need to be limited to any one subject. If something in astronomy interests you, go ahead and put a PowerPoint presentation together. They are easy to edit and update and really smooth out a tour. It would be nice before too long to have a small library to choose from.

There are approximately ten evening every month that the observatory is open. We have Open House every Friday night, when we are staffed and the doors are open to the public. We also have members night, every Saturday night, at least one members hosts the evening and we are open to new and "old" members. There are also sometimes as many as five booked tours each month, If you haven't been out to one of these evening — "your missing all the fun"! Gil



Coming Events

Feb. 26	General Meeting	7:30 pm	Observatory
March 8	“Rain or Shine” Members Night	7:30 pm	Observatory
March 12	Executive Meeting	7:30 pm	Gil’s Office
March 15	Tour: Cadets	7:30 pm	Observatory
March 26	General Meeting	7:30 pm	Observatory
March 29	2nd Annual Messier Marathon	5:30 pm	Observatory

Last year the Messier Marathon was a great success. We all brought some dishes and had a quick pot-luck beforehand to keep us going through the long cold, hours. We will do the same thing this year, bring some food to share and plan to be there by 5:30 pm. We will have a bite to eat, and then on to observing!

The Night Sky for March 2003

by Bob Nelson, PhD

Hi Folks,

Well, what a strange month! We started with some clear nights; now it's back to the usual guck at this time of the year. For moi, it's a good time to do some data analysis, and write some software and (hopefully) some papers. Ah, the indoor life!

Hopefully, clear weather will return and we can have some good nights out at PGO!

Here is what is happening in the sky next month:

PLANET ROUNDUP

MERCURY is lost in the glare of the Sun this month.

VENUS passes from Sagittarius to Capricornus on the 2nd and to Aquarius on the 25 th. At month's start, it is low in the southeast just before sunrise; however, it is soon lost in the glare of the Sun.

MARS, in Sagittarius all month, is a morning object in March, rising mid-month at about 3:30 AM (PST). It's a 6.7" disk of magnitude 0.7.

For the morning folk (but just wait til the opposition in August when, apparently it will be the closest approach in 100,000 years!!!)

JUPITER is in Cancer until June; at mid-month, it transits (is on the meridian due south) at 9:22 PM and sets at 5:21 AM (PST). Look for moon events in the Observer's Handbook, or in Sky and Telescope.

SATURN is in Taurus until May; at mid-month it's on the meridian at 6:00 PM and at

(Continued on page 5)

(Continued from page 4)

about 2:30 AM. It's a 17.9" disk of mag 0.1 and should be good viewing.

URANUS, in Aquarius until 2009, rises mid-month at about an hour before the Sun. As usual, it's a 3.6" disk at about magnitude 5.7.

NEPTUNE, Capricornus until 2010, rises mid-month at about an hour before the Sun. As usual, it's a 2.3" disk at about magnitude 8.0. Later.

PLUTO, in Serpens until May, rises at about 1:00 AM on the 15th. As usual, it's a 0.1" disk at magnitude 13.8. Hands up, now - how many have seen Pluto? All right; I thought so. Let's put it in our sights for later this spring.

March Equinox occurs on March 20th at 5:00 PM, PST. Spring will spring up then!!

CONSTELLATIONS to look for in March (at 9:00 PM, PST) are Pyxis, Puppis, Western Hydra, Cancer and Lynx.

Pyxis ("the compass on the Argonaut's ship") is visible on the extreme south at 9:30 PM on the 15th. It's just at the edge of the Milky Way but contains little of interest (no open clusters, etc.).

Puppis ("the stern on the Argonaut's ship") is just to the northwest of Pyxis. Straddling the Milky Way, it contains numerous goodies including open clusters M46, M47, M93, NGC 2477 and others. M46 (at 7 deg south, and therefore visible in P.G.) is a rich open cluster, about 1/2 degree in diameter containing around 150 stars between magnitude 8 and 13 lying about 500 light years away. It also contains the planetary nebula NGC 2438 about 7' north of the cluster centre.

Hydra ("the Sea Serpent" - not to be confused with Hydrus, a small boring constellation) extends all the way up to declination +5. The western part contains M48, another fine open cluster. It does contain the bright eclipsing binary KW Hya. This system, which has a period of 7.75 days and varies between 6.11 and 6.6 magnitudes, is one of the brightest Algols in the sky. While not a classical Algol (which is supposed to have the cooler star filling its Roche lobe), this contains two type A (hot) stars which are detached (completely separate). SIMBAD (the engine that finds all the papers on a given celestial object) tells me that there are 42 publications that at least mention KW Hya, so it appears to have been well studied.

Cancer ("the Crab") is more familiar to us northerners, lying as it does between Gemini and Leo.

It contains the famous "Praesepe" or "Beehive" Cluster, M44 and M67, a

rich old cluster. It also contains RS Cancri, a RR Lyrae semi-regular variable star that is comprised of a type M6 supergiant star that pulsates in and out with a period of around 120 days.

Lynx ("the Lynx" -- gee!) lies to the north of Cancer, out of the Milky Way and contains only NGC 2419, the famous "Intergalactic Wanderer", the most distant of the globular clusters. It was discovered in 1788 by William Herschel (and rediscovered by his son John in 1833), observed by Lord Rosse in 1861, and finally classified as a globular in 1922 when photos were taken by the 42" reflector at Lowell Observatory. The distance was determined by observing 31 RR Lyrae stars in the cluster; it's some 182,000 light years (55,800 pc) from us (and 210,000 light years = 64,400 pc) from the galactic centre. This distance is comparable to that of the Magellanic Clouds and suggests that this cluster indeed is intergalactic.

Clear skies,
Bob Nelson





Executive Meeting Summary

2003/02/12

Treasurer's Report

Revenue: \$3086.32

Net Income: \$256.00

-The moldy ceiling has been repaired.

-Beefing up the building security is nearly complete.

-Not all members have received their Sky & Tel magazines.

-Calendar Sales: We have sold 101 and brought in \$1545.15 of which approx. \$750.15 is profit. We have 24 calendars left which we will try to sell but will only pay for what we sell and send the remainder back in a few months.

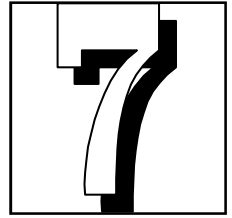
-Gil is in charge of organizing the trip to the RASC General Assembly. Date: June 26 (Thursday) - July 01 (Tuesday), 2003 in Vancouver, British Columbia

-There have been 2 tours conducted so far this year.

Coming Events

Feb. 26	General Meeting	7:30 pm	Observatory
March 8	"Rain or Shine" Members Night	7:30 pm	Observatory
March 12	Executive Meeting	7:30 pm	Gil's Office
March 15	Tour Quesnel Air Cadets	7:30 pm	Observatory, Gil to host
March 15	Member's night	7:30 pm	Help needed for tour
March 26	General Meeting	7:30 pm	Observatory
March 29	2 nd Annual Messier Marathon	5:30 pm	Observatory

STS-107



On February 1, 2003 the space shuttle Columbia was lost 16 minutes before landing.

Her mission lasted 15 days, 22 hours, 20 minutes.

As amateur astronomers we grieve for the seven lost souls. We will remember their sacrifice to enrich all mankind. We look forward to continued space exploration and attempting to understand the universe we all inhabit.

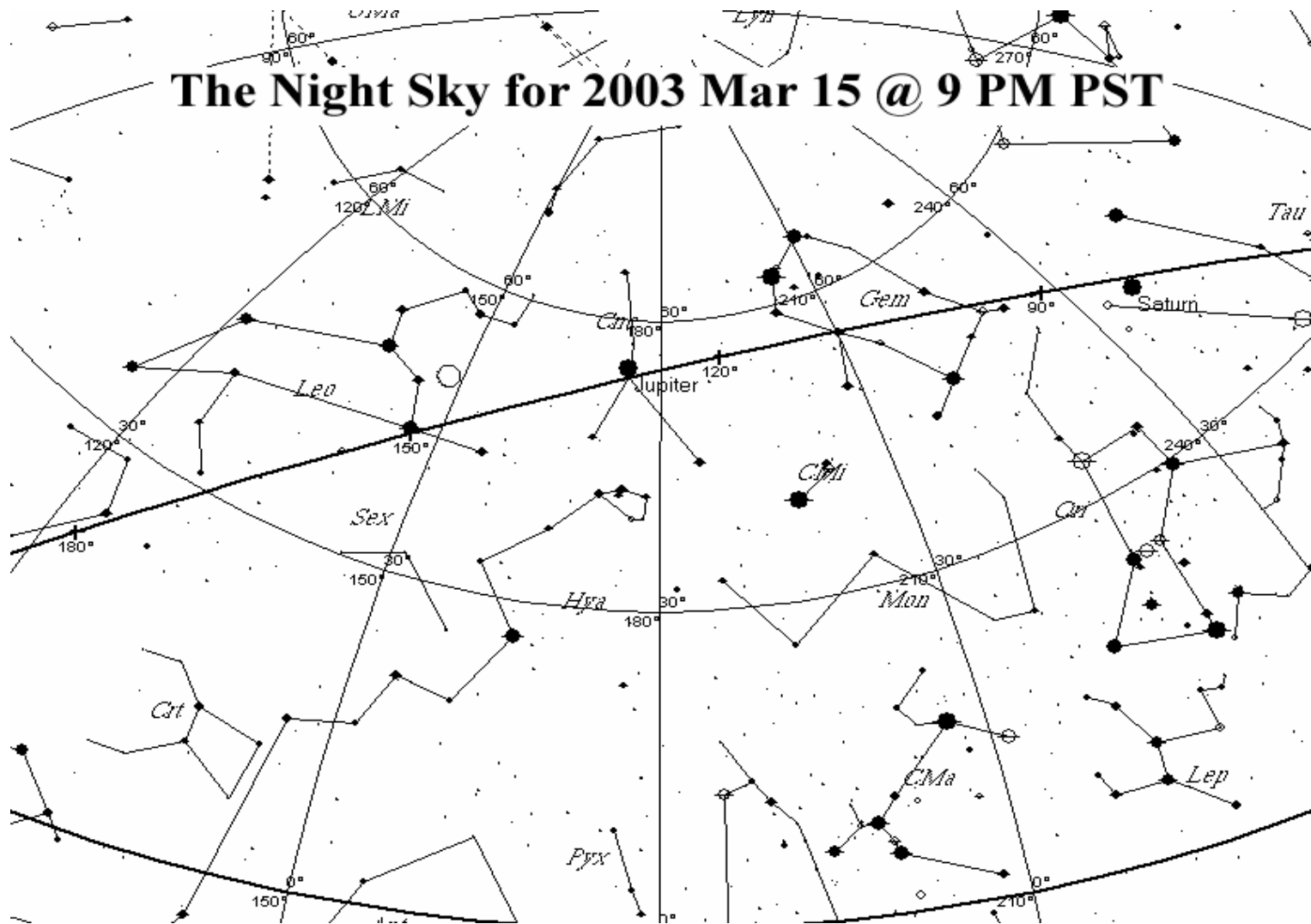
~ Brian Battersby

“They knew the risks, that’s what makes them heroes.”

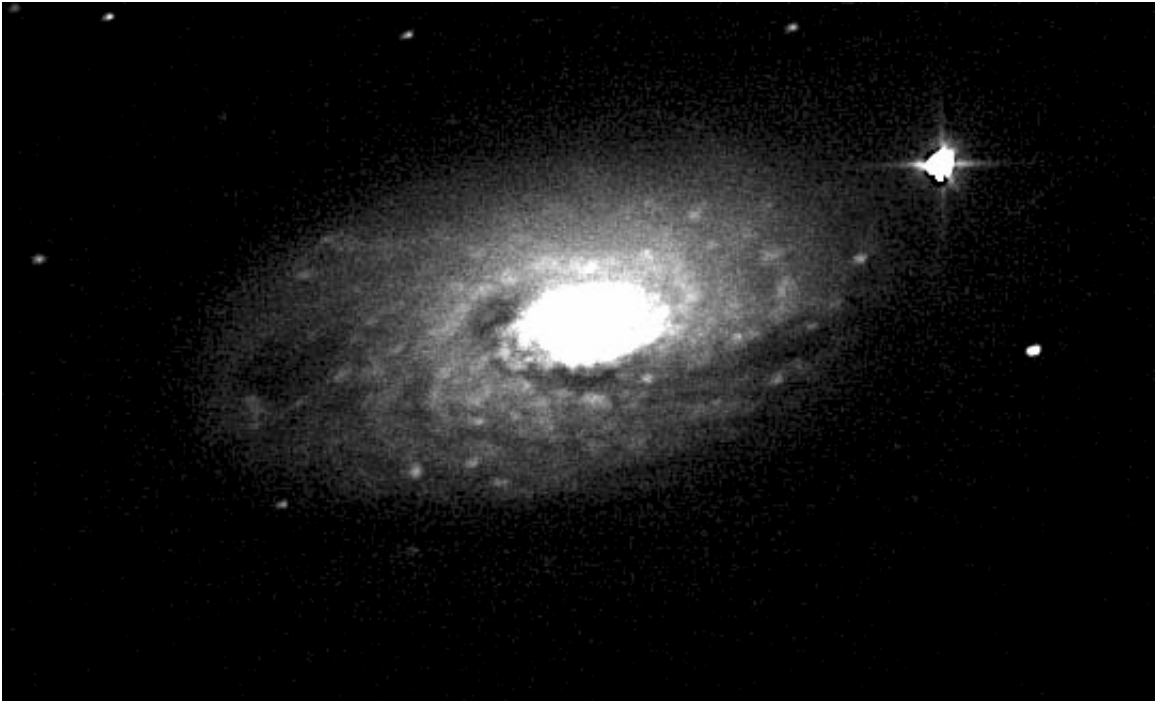
Unknown



The Night Sky for 2003 Mar 15 @ 9 PM PST



Map Courtesy Dr. Bob Nelson



M63

Taken Feb 4th in the wee hours with my telescope.

It's the sum of 13 separate exposures - all with the clear filter - for a total of 16 minutes (all unguided). Of course, the longer the exposure, the better the image. However, this is all I had time for. Notice that I did capture the knots of H II regions (of ionized hydrogen; star formation occurs there).

~ Bob Nelson



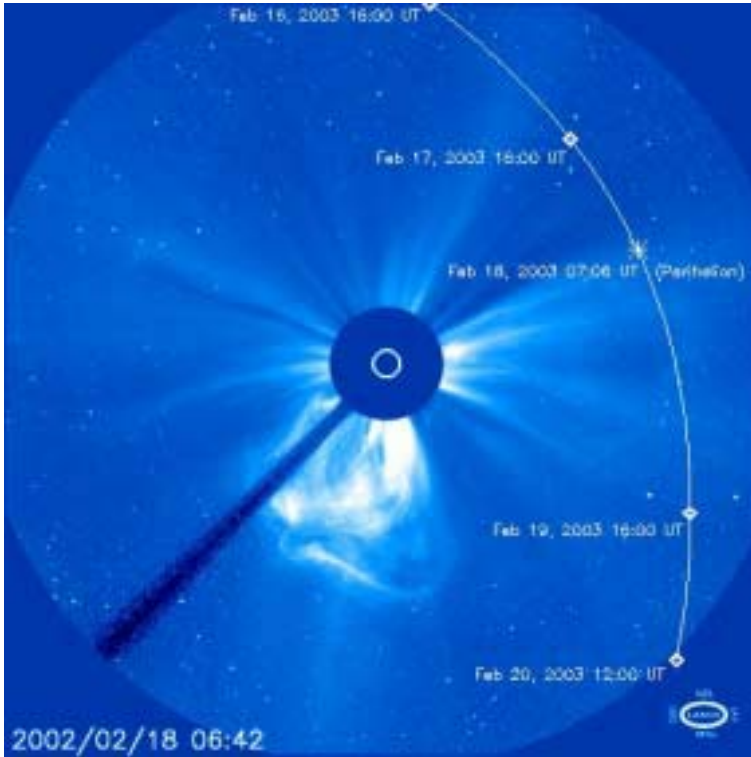
Saturn

Taken February 3rd this is my first attempt at imaging Saturn using my webcam setup. The image is comprised of 50 stacked frames from 1 minute AVI clips. A 2x Barlow was used. The next problem to tackle is focusing. Brian plans on making a hands free focusing device using a RC servo motor and a “Jog Box”. *See the better colour version of this image on page 10.*

~ Brian Battersby

A NEAT Comet

Comet C/2002 V1 Travels close to the sun.

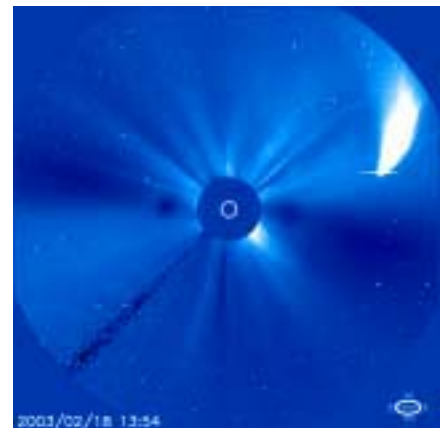
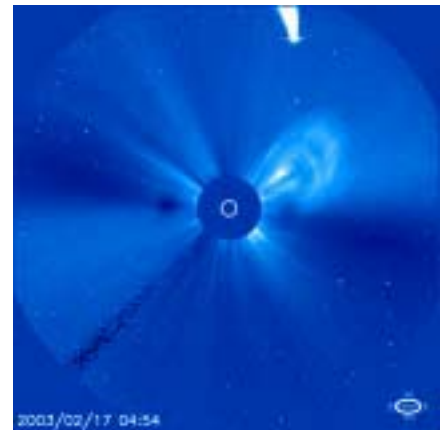
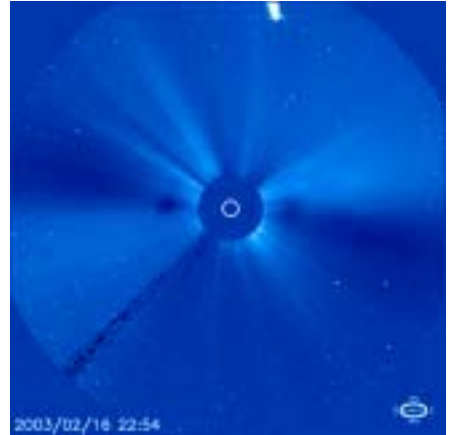


The approximate path of Comet NEAT through SOHO's C3 coronagraph,

Feb. 16-20, 2003. *Image: SOHO.*

More Information at:

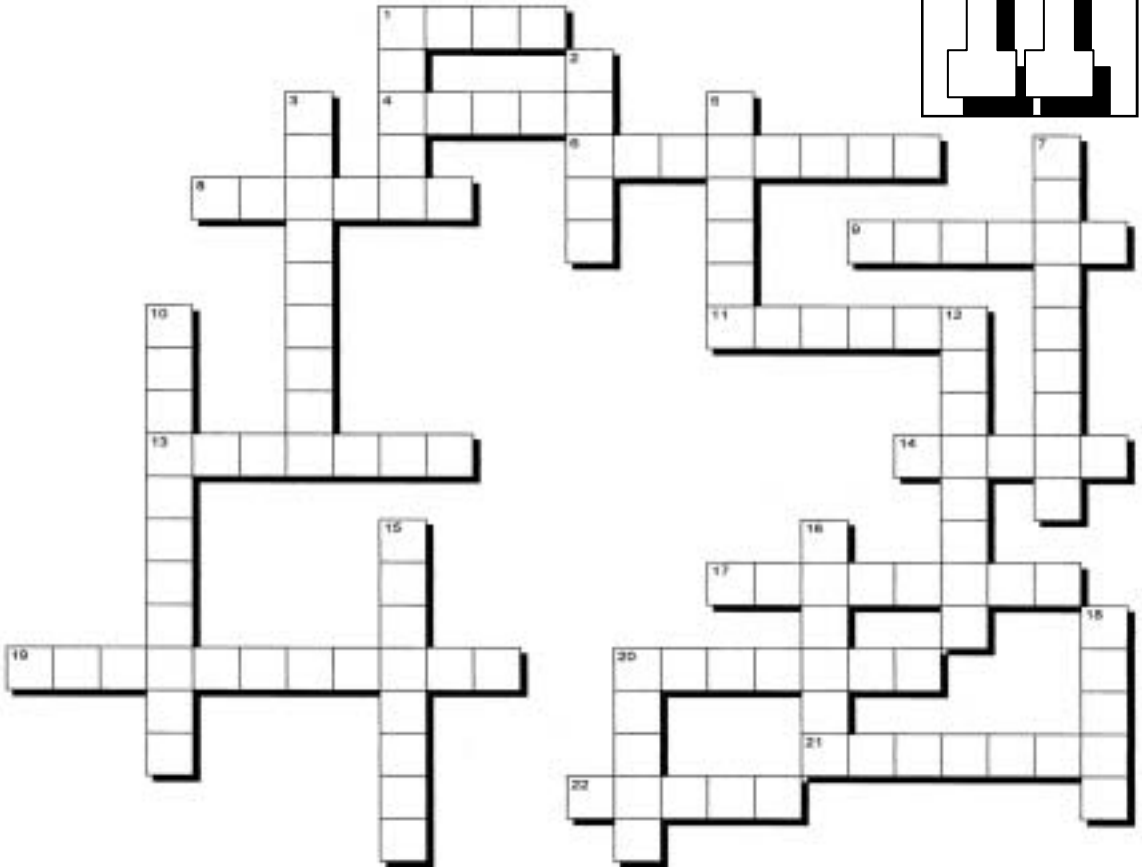
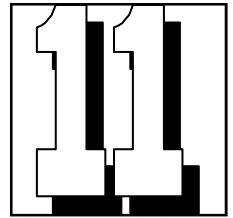
<http://sohowww.nascom.nasa.gov/>



Brian's Saturn Image.

See page 9 for more info.

February Crossword



Across Clues

1. Northern hemisphere constellation (4)
4. Winter star (5)
6. Main moon of Jupiter (8)
8. Exploding or fragmenting meteor (6)
9. Area where moons gravitational field is increased (6)
11. Brightest star in the sky - 1.47, 8.6 light years away (6)
13. Second brightest star in sky. Mag -0.73 , 110 light years away (7)
14. Point in sky directly above the observer, opposite nadir (5)
17. Plane of Earth's orbit around the Sun (8)
19. Celestial equivalent of latitude on Earth + is north, - is south (11)
20. Satellite of Uranus (7)
21. The moment of crossing the meridian. (7)
22. Point directly below observer's feet (5)

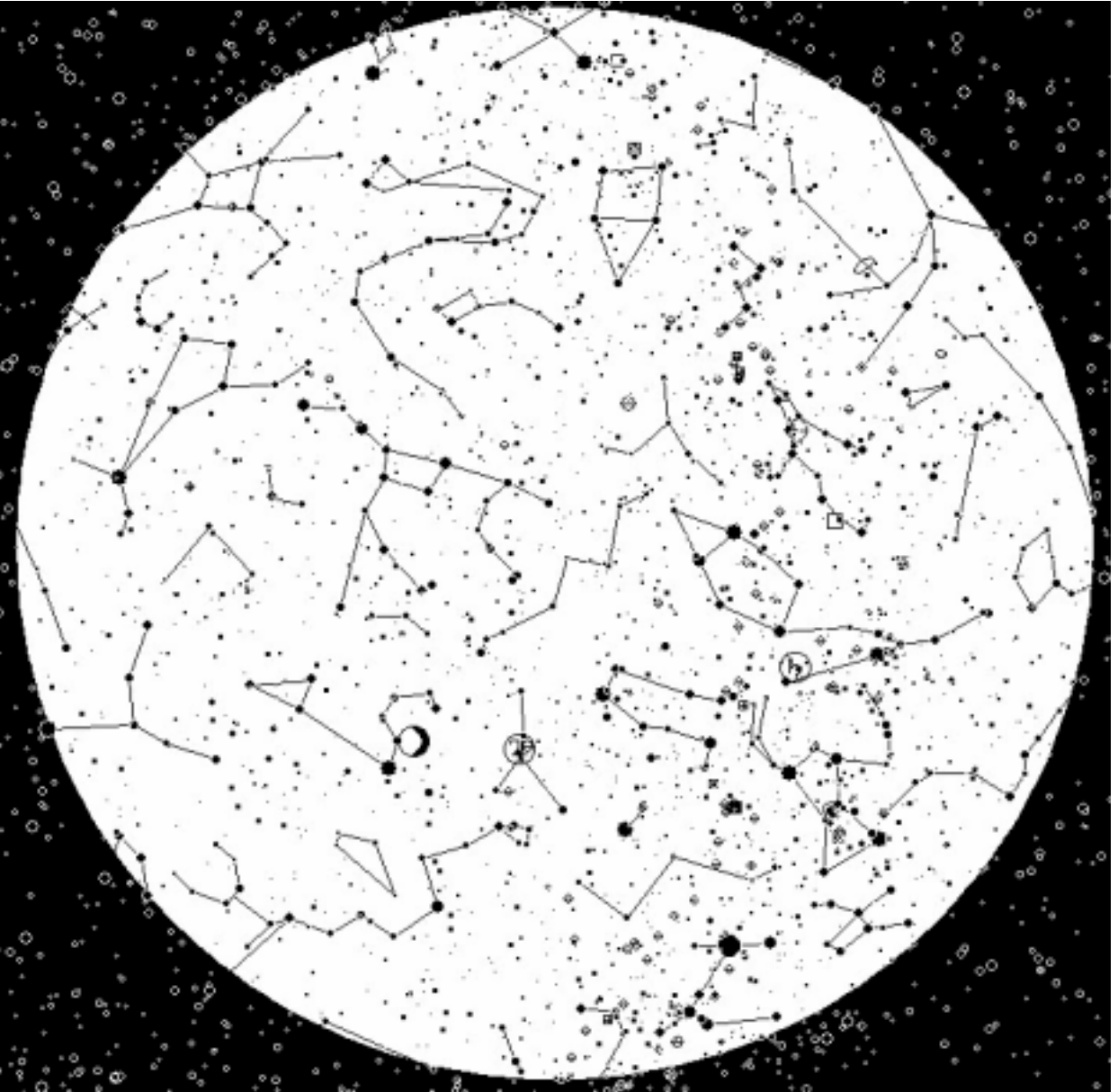
Down Clues

1. Meteor shower (5)
2. First eclipsing binary (5)
3. 2nd largest satellite of Jupiter (9)
5. Constellation near south pole of sky (6)
7. Stony meteorite (9)
10. Celestial object that appears not to set (11)
12. An iron meteorite (8)
15. North/South line passing overhead in the sky (8)
16. A nonluminous body that shines by reflecting sunlight (6)
18. Unit of time based on moons trip around Earth. (5)
20. Central star in the handle of the Big Dipper. "Double Star" (5)

12

All Sky Map

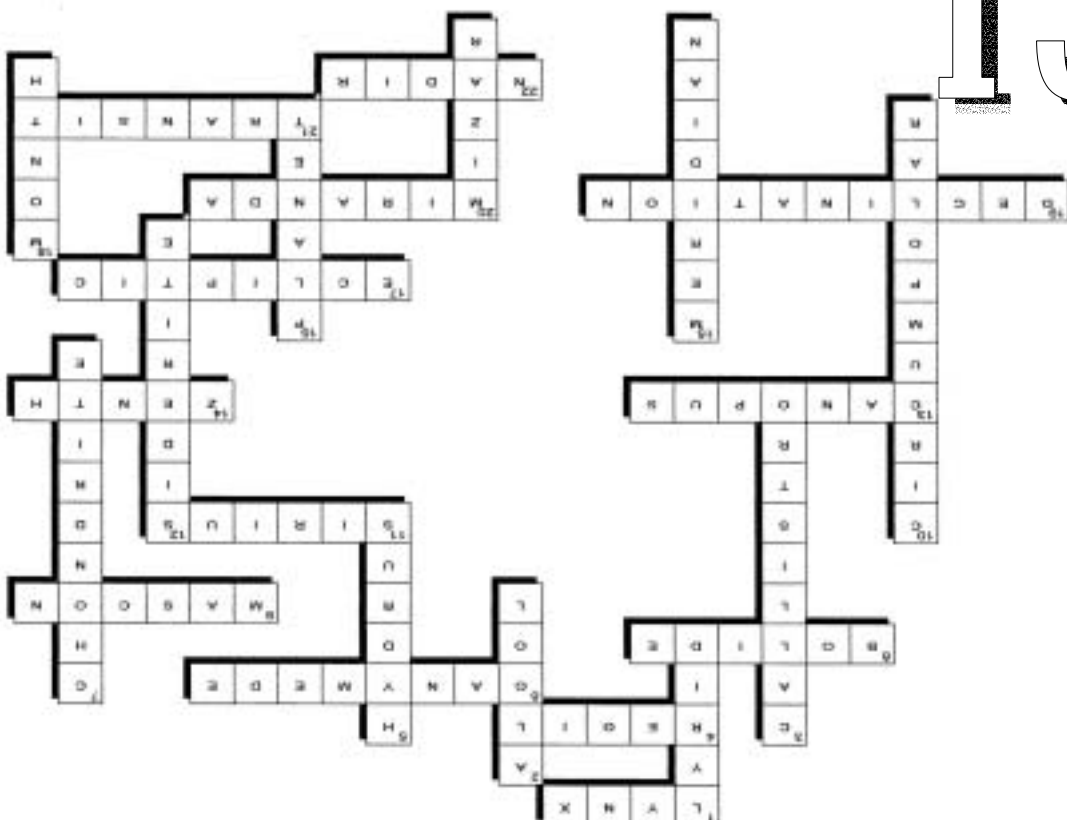
Prince George, BC - March 15, 2003 - 9:00 pm



SOUTH

Crossword Puzzle Answers

13



THE GATLING NEWTONIAN
 Knock off them Messiers in seconds flat!

**Call (426) 264-3468
 (LAM) ANI-DIOT**

*** Factory Direct from SKYCO INC. ***
 A breakthrough in telescope manufacturing and design!

The Gatling Newtonian

Holder of International time-to-acquisition records for the Messier, Herschel, and NGC marathons.

Price does not include optional pack mule or draft horse.

Ask about our Rent-To-Own plan!
 Just one easy, payment of \$50,000 (WAC).



March Star Hop in Cancer

Cancer the Crab plays a small part in Hercules' battle with the multi-headed Hydra in Greek mythology. During the battle the goddess Hera sends the little crab to distract Hercules. Cancer pinches Hercules' toe with his claw. Unfortunately, Hercules doesn't even notice the attack and ends up stepping on the little crab. Grateful for his attempt to help her Hera put Cancer into the night sky.

Cancer is a member of the Zodiac and as such is well known despite being small, dim and looking nothing like a crab. It contains no stars brighter than 4th magnitude. Polaris, for comparison, is second magnitude.

Hop #1: M44 – Open Cluster
Praesepe, Latin for manger, is a well known cluster has been known since ancient times. It is now commonly known as M44 and the Beehive Cluster. Aratos (260 BC), Hipparchos (130 BC) and Ptolemy (approx. 100 AD) all mentioned this "Little Mist". M44 is roughly the same age, and has the same direction of proper motion, as the Hyades cluster and it is thought that perhaps they both formed out of the same diffuse

nebula about 750 million years ago.

To view M44 it is best to use binoculars or a similar wide field instrument. Locating it is simple as it is a naked eye wisp located more or less between Delta and Gamma Cancer. If you are unable to see it naked eye simply pan this area with you binoculars, the Beehive will be an obvious large grouping of stars. It is about 1.5 degrees in diameter. The book "Deep Sky Observing With Small Telescopes" available at the Prince George Public Library lists several double stars within the Beehive cluster to have a look at.

Hop #2: Iota Cancer – Double
This double shows a "beautiful combination of yellow and blue". (Deep Sky Observing With Small Telescopes) The stars are separated by 30.5" (arc seconds) and have a PA (Position Angle) of 307 degrees. It is located 7 degrees north of Gamma Cancer and forms the rear of the Crab. The double can apparently be viewed in 10x50 binoculars although with great difficulty (having the binos mounted on a tripod would be necessary).

Hop #3: M67 – Open Cluster

M67 lies about 1.5 degrees due west of Alpha Cancer. Spanning about a half degree of sky it encompasses about 500 stars. At an age of 3 to 4 billion years this interesting cluster is one of the oldest known clusters. Keep in mind while it is an old cluster it is still younger than our solar system. This cluster can be observed by all sizes of instruments but with more aperture comes more resolved stars.

Hop #4: Zeta – Triple

This is a double star with the brighter component being a binary star. It is unlikely you will be able to view the binary component as it is never more than 1.2" away from its companion. The double stars are mag 5.1 & 6.0 separated by 5.8" with a PA of 83 degrees. To find this yellow-white pair of stars look for a triangle shaped grouping stars of mag 5.5, 6.0 and 6.5 in a wedge shape. "V" about 8 degrees due west of Gamma Cancer. The double star is the mag 5.5 star on the upper right hand of the wedge. Use high power, around 120x, to get a good look.

Good viewing and good luck!,
Brian Battersby

