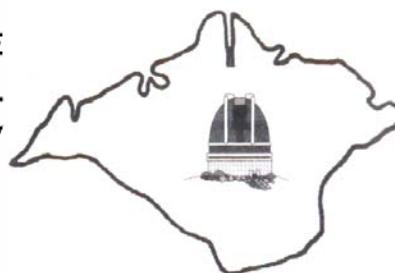


# THE NEW ZENITH

THE MONTHLY  
MAGAZINE OF THE  
VECTIS ASTRONOMICAL  
SOCIETY



VOLUME 14 No 11

DECEMBER\* 2006

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## STAR PARTY FALL OUT

Since the mid-October star party, the publicity fall out for VAS has been amazing. It would have cost hundreds of Pounds to insert similar advertisements in the County Press to the same effect.

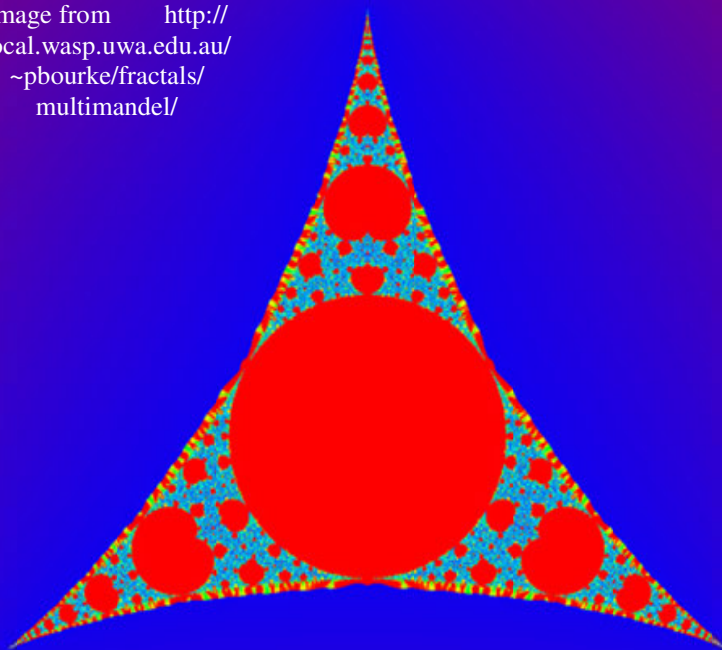
A full page article ran in the November 10th edition of the Week-

ender. Written by the CP's own Chris Philipsborn, it was very tongue in cheek, referring to Members at the Observatory as '*lots of excited Islanders with tousled hair and glasses looking like Albert Einstein after a night of passion...*'. Thanks for that, Chris. It couldn't have applied to Roger Hayward though, who no longer needs

glasses having had his eyeballs optically enhanced of late. Chris however did retract a little later on in his writings with '*Actually, they look reasonably normal and their enthusiasm for the wonders of the universe that surrounds us is highly infectious.*' Hmm.

Some atmospheric location shots of the Observatory were included with the article: one of the exterior of the dome at night looked eerily unfocussed, but Roger Hayward inside the dome appeared more within the bounds of normality. The photo of the Moon at the top of the page was beautiful. (Try mixing and matching these descriptions with their subjects on a cloudy night with nothing better to do and you could have hours of fun!)

Image from <http://local.wasp.uwa.edu.au/~pbourke/fractals/multimandel/>



FRACTAL CHRISTMAS TREE

While this particular NZ article was being cobbled together, my phone rang. It was Martin from the CP's reporters' room. He had called to say that they were doing a piece on our young man of the moment, James Dymock (Deep-Fried, himself) in next week's CP. I look forward to that with interest.

If all this publicity for

VAS does not recruit new Members, I shall have to get my Editorial Hat deep-fried in order to eat it. You have been warned...

Editor

## FROM THE EDITOR

Dear Readers

Well, that's it. Another Volume of New Zenith done and dusted for the year. Time now for the Editorial office to pack away the VAS printing press, wipe down the trays of metal type and spray a protective film of WD 40 over the office assistant (and I do not mean that to be taken as Mrs Editor).

Your favourite newsletter has certainly progressed this year. When I took the job on there were many applications of the glue brush to stick thing like the sky map and the star charts into place on these hallowed pages. Photographs, likewise. In this modern age of all things digital, it is a different matter. As many of you are aware, New Zenith is 100% digital now and capable of great flexibility. Many Members have signed up for the eZenith and are delighted with getting their magazine very early each month and in colour too. Next year, Bill Johnston (our IT whizz) and I will be attempting a breath-taking feat of publishing and without a safety net, so try not to worry about our safety too much. Until then -

Cheers



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### NEXT YEAR'S FIRST LECTURE\*

**Is There Anyone Out  
There?**

Bob Mizon

(Campaign for Dark Skies)

January 26th 2007

7:30pm

In Newport Parish Centre  
Town Lane

\* Subject to Confirmation

**Since nobody wanted to send seasonal greetings in this space, we shall take the opportunity of doing so ourselves. So,**  
**“MERRY CHRISTMAS and a HAPPY NEW YEAR”**  
**From Mr and Mrs Editor**  
  
**(That should save a few quid in card costs and postage!!)**

#### December 2006 Subscriptions

Will the following members please note that their subscriptions are now due. As usual, all cheques should be made payable to the Vectis Astronomical Society and sent to my Winford address.

**As the costs of postage continue to rise it would be appreciated if Members paid their annual fees due as soon as listed here and so reduce the need for reminder letters.**

Thank you

**John W Smith, 27 Forest Road, Winford, Sandown, IoW. PO36 0JY**

12	Mr K. Panteny	£13
32	Mrs V. Waterman	£7
208	Mr M. Shotter	£17
307	Mr D. Miller	£17
387	Mr P. Groves	£17

#### XMAS PARTY !!!

Come along to the Observatory on Thursday the 14th December and bring sausage rolls, mince pies and mulled wine.

We are having a members + guests bash with absolutely no dancing, but hopefully enough food to ruin our Christmas dinner.

Festivities start at 7:30 so get there early and grab a fresh vol-au-vent.

## The Search for Black Holes

Dr. Katherine Gunn

**G**ravity is a basic force of nature. It holds us to the surface of the Earth and keeps the Earth in orbit about the Sun. As a consequence of this force a spaceship that wants to leave the Earth's gravity-well has to achieve a certain minimum velocity or it will fall back to the ground. This minimum velocity is known as the escape velocity and for the Earth this is 11.2km/s.

The escape velocity for a body is dependant upon both the mass and the radius of the body and for our Sun is 618 km/s while a white dwarf will typically be 5200km/s and a neutron star over 200,000km/s. For very dense, collapsed cores of burnt out stars it is possible for the escape velocity to

exceed the speed of light. Since Einstein has shown that nothing can exceed this speed such an object will become a black hole from which nothing can escape.

Black holes can either be stellar mass – the burnt out core of a supernova – or super-massive, millions of times the mass of the Sun. These super-massive black holes exist at the centre of galaxies. It is probable that all galaxies have a central black hole but not all are active. An active black hole has material spiralling in from other stars and the associated accretion disc can be seen by high energy emissions from this material.

Black holes can be observed indirectly by looking for their effect on their surroundings. In a binary star system where one star has collapsed

to a black hole, optical telescopes can be used to observe the behaviour of the remaining star. X-ray telescopes such as the Chandra X-ray observatory and the XMM-Newton observatory can observe high energy particles given off by the accretion disc. Active galaxies can also be studied using infra-red as with the Spitzer space telescope. Finally gravity waves should be able to be used to measure the effect of black holes on their environment and instruments are currently in development to measure these effects.

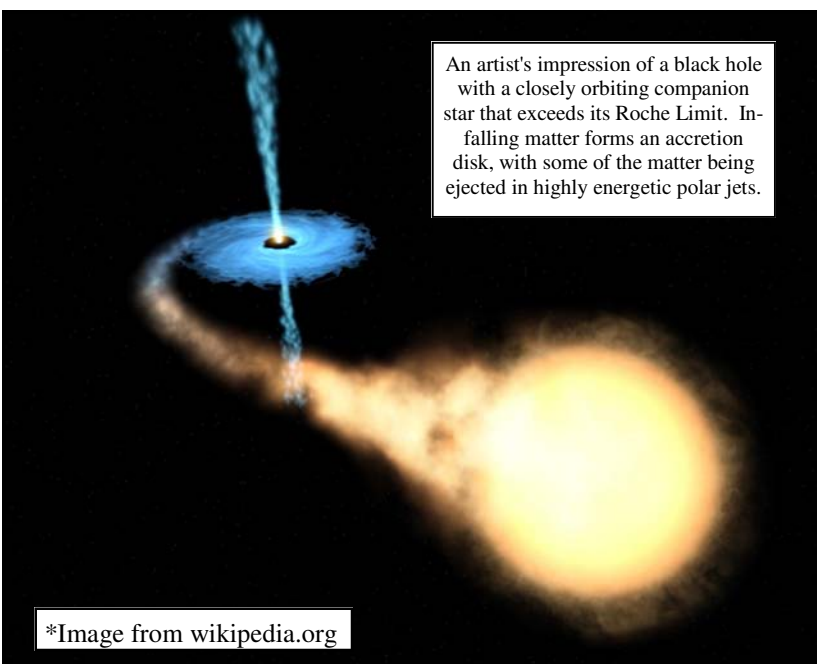
The existence of black holes has been proven by measuring the Doppler Effect on the frequency of light emitted by companion stars. The extent of the Doppler shift as the two stars orbit each other

can be used to measure the mass of the black hole. In active galaxies the speed of the gas and stars in the galactic central bulge correlates with the mass of the central black hole. In our own galaxy the motion of the stars close to the galactic centre has been plotted for some years to

obtain an estimate of the mass of the black hole at the centre of the Milky Way.

The closest known black hole to the Earth is Cygnus X1 at a distance of 8000 light years. It has a mass more than six times that of our Sun. The companion star is a hot blue star more than 30 times the solar mass orbiting the black hole in 5.9 days.

*Reported by Roger Young*



## December Skies

John W Smith

### The Planets

**Mercury** may be seen in the south east about 45 minutes before sunrise. Its apparent brightness increases as the sunlit area of the phase increases in size.

**Venus** is rather insignificant with its present showing in Sagittarius.

**Mars** slowly moves away from the Sun's glare but is not very prominent.

**Jupiter** rises at 06:00 hours in the constellation of Scorpius at around the 11<sup>th</sup> of the month and will be some 47 minutes north of the much fainter Mars.

**Saturn** crosses the meridian at 04:30 hours by mid-month and in late December is approached by two minor planets, Thetis and Ariadne. Their close approach should make them easily photographed with a CCD camera.

**Uranus** and **Neptune** are not favourably placed for viewing.

### Meteor Showers

There are two active showers this month.

\*1 The *Geminids* are favourable on the 12<sup>th</sup>/13<sup>th</sup> with rates of around 100 per hour under ideal conditions.

\*2 The *Ursids* reach their maximum on the 24<sup>th</sup> with rates of 10 per hour.

### Moon Phases

New	1st Quarter	Full	Last Quarter
20 <sup>th</sup>	27 <sup>th</sup>	5 <sup>th</sup>	12 <sup>th</sup>

## Deep Sky Objects for small telescopes and binoculars

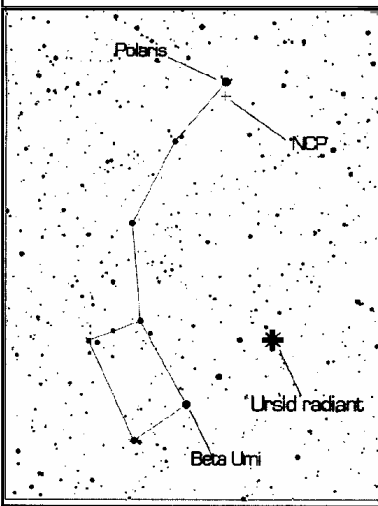
**M77 NGC1068.** The brightest object in a cluster of about 45 galaxies, some of six which can be found with a medium sized telescope. M77 is about 70 million light-years from Earth and is an active galaxy of the Seyfert type. It lies almost face-on to us and has a bright inner spiral arm.

**M42 NGC1976.** This is the Great Nebula in Orion and is favourite with amateur astronomers and photographers. A very easy object for binoculars and small telescopes. The central group of four bright stars are known as the Trapezium and they are largely responsible for illuminating the huge gaseous cloud that is the nebula. Visually the nebula appears a greenish colour but photographs show the reds and its variations throughout the nebulous structure.

**M1 NGC1952.** This is the famous Crab Nebula, so named because of its resemblance to a crab shape when seen by the third Earl Rosse with his 36inch telescope in 1844. Astronomically speaking, it is a relatively young object, being the remnants of a supernova explosion seen by the Chinese in July 1054. It lies about 6000 light-years distant and is a strong source of Radio and X-rays. Its neutron core rotates about 30 times a second and this is shown by the emissions from its poles as it rotates. Visually, it is somewhat disappointing as it looks like a small patch of fog, but CCD photographs show the nebula and its structure very well.

### Coordinates

OBJECT	RA	DEC	MAG	SIZE Arc mins
M77	02h 47m	-00deg 01m	10	2.5 x 1.7
M42	05h 35m	-05deg 23m	8	7 x 5
M1	05h 34m	+22deg 01m	9	5 x 3



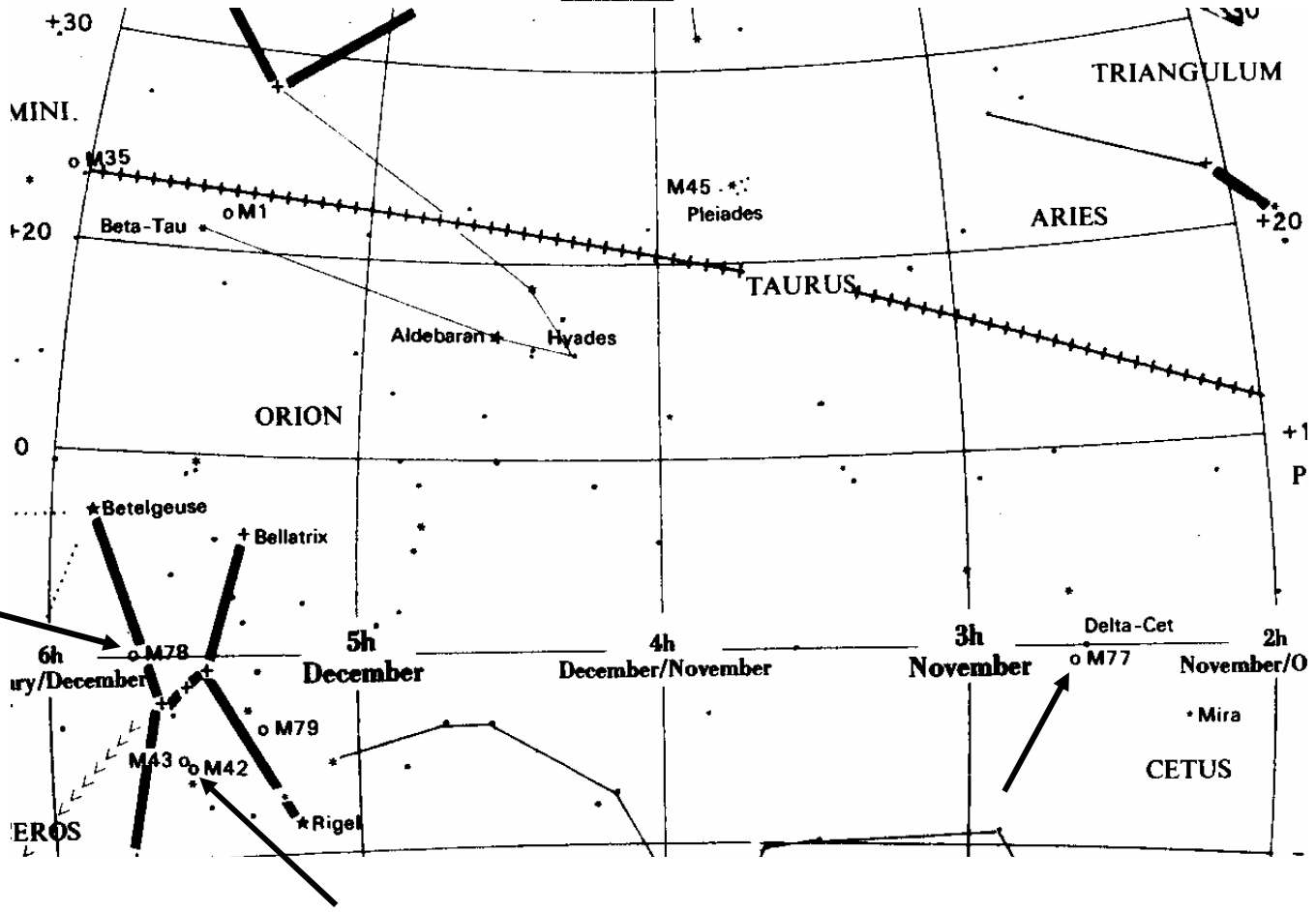
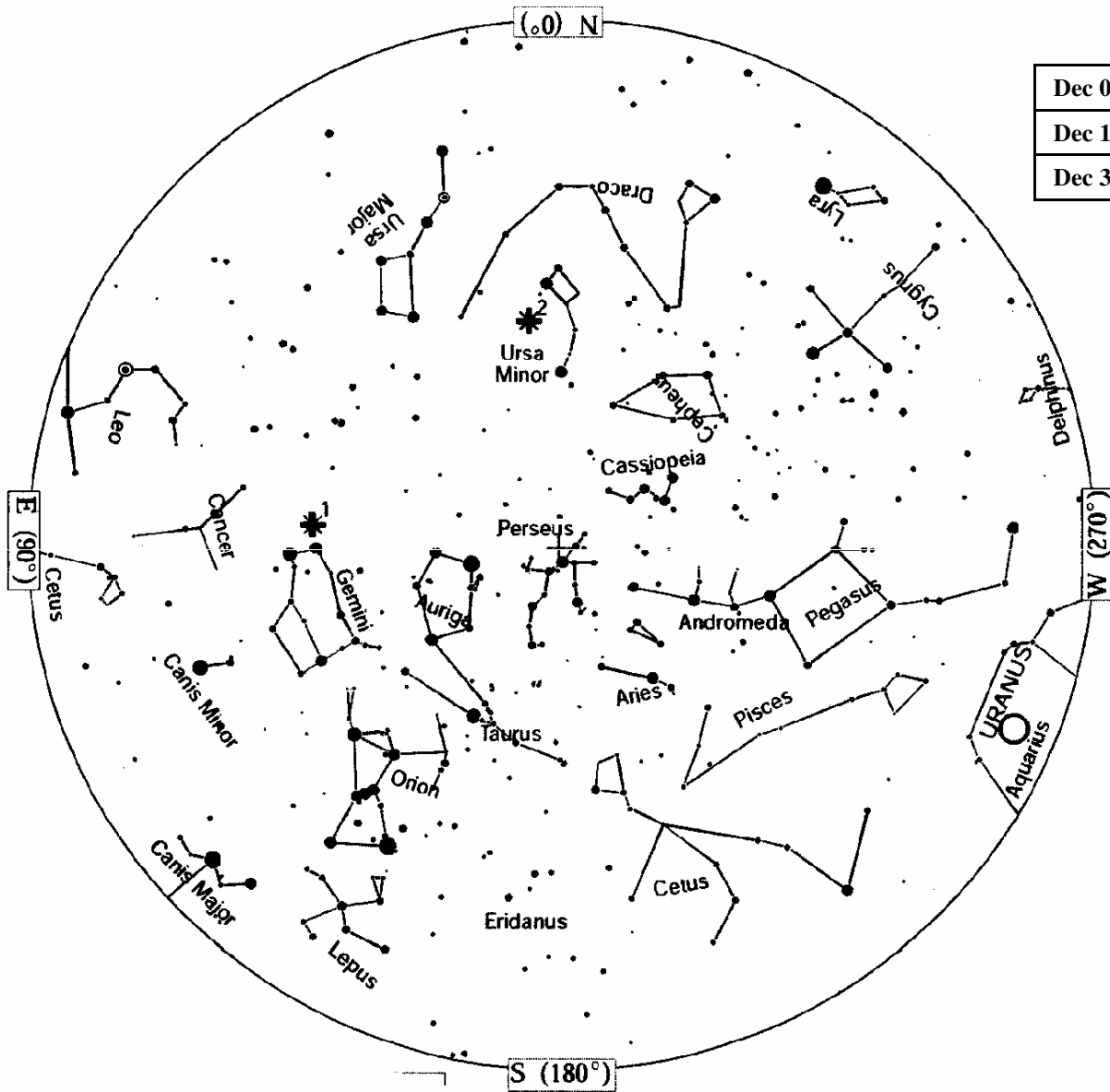
### A LITTLE-OBSERVED SHOWER OF CELESTIAL DEBRIS

On Christmas Eve, one of the northern hemisphere's 'forgotten' meteor showers reaches its peak.

With a radiant lying close to the North Celestial Pole (NCP), the Ursid meteors can be seen all night, weather permitting. It isn't clear if there is a sharp peak within a maximum or if activity is spread out throughout the night, so any observations made could be very useful; but bear in mind that not everyone in the family will appreciate your being bleary-eyed on Christmas Day morning!

The radiant is at its lowest altitude at around 20:00, so anytime after that rates should be a little higher with the best period being after midnight like most showers. The Moon is only 4 days old and will have set by the time any observations begin. While waiting, have a snoop around Ursa Major or Cassiopeia with binoculars to find how many deep sky objects you can see from your viewing spot.

Dec 01	at	23:00
Dec 15	at	22:00
Dec 31	at	21:00



## CPRE 80th Anniversary

**T**he Campaign to Protect Rural England (CPRE) celebrated its 80th Anniversary this November. CPRE exists to preserve all that is best of our countryside natural resources. One such resource that we all appreciate is our dark sky environment here on the Island. It was with great pleasure that we welcomed the enactment of the Clean Neighbourhoods and Environment Act 2005 that provides protection to the night skies over England. CPRE campaigned vigorously for this Act, supported by astronomy societies up and down the country; the Campaign for Dark Skies, of which January's guest speaker is the leading (well shielded) light; and of course the VAS. In fact, you will find us mentioned within those hallowed pages as having given useful evidence to the House of Commons Select Committee on Science and Technology regarding the detrimental effect of light pollution. So, what has happened since?

Quite a lot. CPRE held a conference in their London HQ for dark sky enthusiasts to attend and enrol as advisors to CPRE County Branches. Your Editor duly went and was roped in to assist CPRE(IW) with advice on issues of potential light pollution arising from proposals for new building developments on the Island. There are several well-known spots still causing severe light pollution such as the golf range at Ryde, Sandown's sports track and the ferry terminal at Fishbourne, to mention just three. CPRE have not abandoned these as lost causes, you will be pleased to know.

Enough of the gloomy news - problem is that by its nature, light pollution is not gloomy, odd isn't it? Back to those 80th celebrations: one day back in October, a sinister brown envelope arrived in the Editor's mail. As it looked like a Final Demand it was put aside as a 'read later' job. It almost got shredded for its impertinence. Towards bedtime the dreaded missive was opened. Amazement all round in *chez nous*. It was an invitation for me to trot Mrs Editor up to London to St James's Palace to attend a glittering reception to celebrate the 80th Anniversary of the CPRE where the Queen would be there to greet us. Five couples had been invited from the Island. Mrs Editor was well impressed.

It is said that pride comes before a fall. How very true.

On the day, we had booked to travel by coach from Portsmouth. The day started at it went on: the rail service on the Island was interrupted by a track fault outside Ryde, so we had to beg a lift up the pier to the Fast Cat terminal. The coach driver took a wrong turn at Battersea and got stuck up a narrow road that terminated with a low railway viaduct. One 33-point turn later, we arrived at Victoria only 20 minutes late to discover a great lack of taxis. Three buses later we arrived at our pre-booked hotel. "Mr Langley," announced the receptionist, "unfortunately...." Yes, you've guessed it - our \*room had been sold on despite our phoning two days previously to confirm all was well with our booking. They did arrange another room in a substitute hotel and agreed to run us round there in a taxi. Taxi took nearly an hour to collect us and time was getting a bit tight to get something to eat and to clap on the glad rags. *Desperate* was not the word to describe our feelings. The substitute hotel's room was, how can we put it? One way in description is to say that we would have needed a most miniscule moggie in order to swing it around the bedroom! Too late to complain at this stage, though.

The Palace, on the other hand, was magnificent. A fully grown tiger would have been swung with ease. The Throne Room and adjoining chambers, where all of the guests were congregated, glittered with gold, cream and crimson as far as the eye could see. HM was clad in rather sombre beige which in no way clashed with the colourful outfits worn by her guests, and some of the ladies looked nice, too. We were pleased that she managed to attend, despite her severe back pain that had caused cancellation of many of her previous official engagements. She wafted through each of the rooms being presented to the chosen few (not us!) and went as quickly as she arrived. An hour later we all departed for our various hotels and it was all over. That night we discovered that the bathroom window would not close, and also the banging pipework in the bedroom ceiling...

On the return journey the following day, the driver knew his route exactly and we arrived back on the Island in good but weary shape. Nary a Knighthood nor a medal had been won, but it was all worth the effort we felt.

JL



## Christmas in Space

Dr Lucy Rogers (VAS)

**O**n December 24<sup>th</sup>, 1968, three men became the first humans to orbit the Moon. They were Frank Borman, Jim Lovell and William Anders, aboard Apollo 8. The next day the crew also became the first astronauts to spend Christmas in space. To mark the occasion, they sent Christmas greetings and live images back to Earth and read from the Book of Genesis. It is estimated that one billion people watched or listened to the broadcast. In 1973, the crew of Skylab 4 spent Christmas orbiting the Earth and although cosmonauts aboard Salyut 6 and the Mir space station celebrated Christmases in orbit, it was another 22 years before another American spent Christmas outside of the Earth's atmosphere. John Blaha celebrated the holiday in Earth's orbit aboard the Mir space station in 1996. In 1999, the Space Shuttle mission STS-103 was in orbit during the Christmas period, during which time the crew carried out repairs and improvements to the Hubble Space Telescope. There have been people in space at Christmas ever since, following the permanent occupation of the International Space Station (ISS) in October 2000.

In space, everything is in freefall. Liquids do not pour, food does not stay on a plate and hot gases do not rise. This leads to a few difficulties in eating. The first space travellers in the early 1960s ate their meals straight from toothpaste style tubes. These were unappetizing as the astronauts could not see or smell the food they were eating. It was also pureed like baby food. After tubes came cubes. These were bite size, and covered in gelatine, to reduce the risk of crumbs. Crumbs in space float about and as well as being unhygienic, can get into electrical equipment and instruments and cause damage. Dehydrated food came next. As the Apollo craft produced water as a by-product of its fuel cells that were used to generate electricity, it made sense to reduce the weight of food by removing the water and re-hydrating it later. The Space Shuttles also produce water and electricity in this way and so dehydrated food is still used, although the International Space Station has to rely on recycling water and new supplies brought up in the Progress or the Shuttle. The Apollo 8 astronauts were the first American crew to have the luxury of eating utensils. Before then, all food and beverages were either consumed through a straw or tube or were eaten by hand. On Christmas Day, 1968, the Apollo 8 astronauts opened packages of thermostabilized turkey and gravy. The thermally stabilized or heat treated, ready-to-eat meal was in a flexible can. The weight penalty of using food that had not been dehydrated was compensated for by the astronauts' enjoyment of the food.

On Christmas Day in 2000, the ISS Expedition 1 crew, astronaut Bill Shepherd and cosmonauts Yuri Gidzenko and Sergei Krikalev spent the day quietly opening gifts and talking to their families through radio links. The crew of Expedition 4 in 2001 celebrated with re-hydrated turkey and other traditional holiday food and the Expedition 6 crew in 2002 made and iced a cake shaped like a candy cane. The Expedition 10 crew, Christmas 2005, had a festive meal that included Russian soup, bread and fish. This year onboard the ISS will be the Expedition 14 crew of European Space Agency astronaut Thomas Reiter; NASA astronaut Michael Lopez-Alegria; and Russian cosmonaut Mikhail Tyurin. The Shuttle is targeted for launch on December 6/7 and if it is delayed for any reason, it could possibly be in space at the ISS for Christmas as well.

All the drinks aboard the ISS are dehydrated and come in packets similar to the Capri Sun drinks that can be bought in a supermarket. The astronauts have a choice of drinks, including juices, tea and coffee. Once water has been added, it is drunk through a straw. The straws have a clamp on them, so when the astronaut has finished drinking, but not finished the drink, the liquid stays in the pouch and does not dribble out and float around the station. Alcoholic drinks were allowed in moderation on the Mir Space Station, but no alcohol is allowed aboard the ISS. Even alcohol in perfume, aftershave or mouthwash is banned.

Once or twice during a typical six month ISS mission, a crew care package is delivered to each astronaut. These are sent from home or from the support staff and are designed to make life in space a bit more homely and familiar. The crew care packages are approximately 23 cm diameter by 42 cm deep (9 inches by 16 inches) and the weight limit is 5 kg (about 11 pounds) per crewmember. The amount of goodies sent into space is limited. Christmas presents are usually sent up in these packages, but contents of the bags are restricted. Food is allowed, but anything with significant crumbs, such as crisps and peanuts, can't go. Homemade treats like cookies, apart from the crumb factor, can't go, because they're perishable and their quality can't be monitored. Clothing can go, as long as it is 100 percent cotton, and books, magazines and CDs are also allowed.

The Russians orthodox tradition celebrates Christmas in accordance with the old Julian calendar, which makes it thirteen days after the Western Christmas, on January 7<sup>th</sup>. So an advantage of spending Christmas on the ISS is that the crew get to celebrate Christmas twice!

©Lucy Rogers 2006

## Did you photograph the "W" of Cassiopeia in October?

Posted by: "Tom Krajci"  
tom\_krajci@tularosa.net tom\_krajci

Date: Mon Nov 13, 2006 6:52 am ((PST))

**D**id you photograph the "W" of Cassiopeia in October? If so, you may be sitting on a gold mine and not even know it!

A star (GSC 3656-1328, at 00 09 22 +54 39 44 (2000)) recently brightened from approx. magnitude 11.5 to as bright as magnitude 7.5 on Halloween Night! (This is in the western end of the "W" of Cassiopeia.)

Since its discovery in late October the star has been intensely studied by amateurs, professionals, and observing time of orbiting telescopes has even been allocated to observe this object! We have very little coverage of this object before discovery, so any image taken of this field in October can tell us a great deal about how this star behaved before the start of intense coverage.

If you photographed this field at any time in the month of October, your image has scientific value. It can be an image taken with film, digital SLR, CCD...anything. Even a wide field shot taken with a short focal length lens can reach deep enough to show the presence or absence of a star of the brightness we're talking about.

Why all the fuss about one star? It appears to be a very unusual event: possibly a gravitational microlensing event. (Spectra of the star don't show the typical signs of an exploding/outbursting star, and the light curve from late October to mid-November appears to fit what one would expect for a micro-lensing event. But more data is needed to provide the best possible analysis and conclusion about this event.)

I can send finder charts to those that need help determining the location of this star.

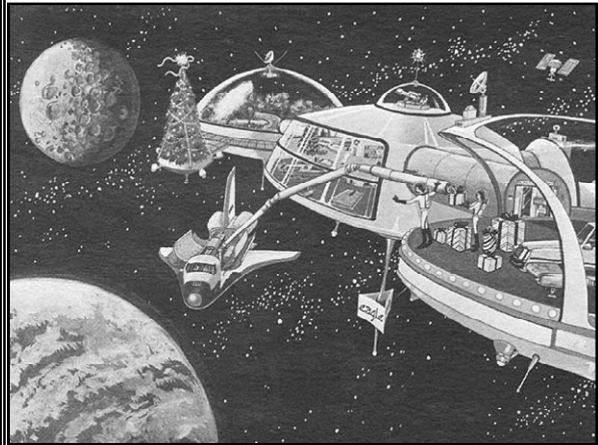
Please pass this on to any astrophotography/astro-imaging forums you know about and spread the word!

Thanks in advance.

Tom Krajci

*The above appeal for information has been sent to New Zenith via Peter Burgess.*

## Illustrations for Lucy Rogers' article on Page 7\*



Artwork courtesy of [www.eaglezen.com](http://www.eaglezen.com)



A Christmas tree made out of cans by the Skylab 4 crew. Image courtesy NASA



Crew care packages contain items specially selected for each astronaut. Image courtesy NASA



## A Recollection of Childhood

*John W Smith*

**I**t was very encouraging to read in the New Zenith about James Dymock and his enthusiasm for astronomy and that he had the full support of his parents and Ventnor School. Noting his age it took me back to when I was ten years old.

In those far off days, seventy-three years ago, I was a local lad and had very little pocket money so what I spent had to be done with a bit of forethought. On one occasion with the great sum of 2d (old pence) I went to a nearby jumble sale to see if there was anything that might take my fancy. Rum-maging though a pile of books I came across a Star Atlas that looked very interesting so I duly purchased it with my 2d.

This hardback book was in reasonable condition and its contents captured my imagination. The atlas was a translation from the German and published by the "Society for Promoting Christian Knowledge" and dated 1901. The contents had very detailed information about many stars, eighteen pages of sky maps, photos of hand drawings of deep sky objects, several detailed explanations of the catalogue material and a very interesting write-up on Nebulae. At the time of publication nebulae were little understood and the write-up said that these strange fuzzy objects may be new planets in the making or the dis-integrated remnants of old solar systems! However, as I possessed neither binoculars or a telescope my main interest lay in the sky maps and enabled me to find my way around the night sky with the brightest stars as a guide.

The Right Ascension and Declination information meant little to me at that time and in any case is now far from correct due to precession and individual star movements.

I did find a comet in the constellation of Ursa Major and no doubt it was fully men-

tioned in the scientific press at the time. Our family did not have newspapers and our limited radio was a bit unreliable, so I don't know how well the event was publicised. This atlas is now one of my most treasured possessions.

Soon after purchasing this book, our family was invited out to Sunday tea with an elderly gentleman by the name of Mr Jefferies who lived in a cottage between Borthwood and Alverstone Garden Village. I told him about my atlas and seeing my interest he produced some B/W photos of the main planets and this enthused me even more in the subject of astronomy. He said that he possessed a six inch telescope and that if he left the Island (which was likely) he would give me this instrument so that I could pursue my interest further. He went away about a year later and although I desperately wanted to mention his promise to me I was strictly forbidden to do so by my Mother who said that such an action would be most improper, so I never obtained this instrument. Several months later a relative of Mr Jefferies said that as I had not asked for this telescope he assumed that I was no longer interested in astronomy!!

Many years passed with the Second World War intervening. Getting married and bringing up a family prevented any serious application to astronomy until nearly retirement age when I heard of the new organisation, VAS, and joined as soon as I could. Astronomy has been my main hobby through all of the intervening years and my interest in the VAS has never waned, although due to health and old age I have moved from being an active amateur to an armchair member of late.

I wish James a long and happy interest in the wonderful world of astronomy and am so glad that many persons now have the opportunity to pursue this fascinating subject through the Observatory and its excellent team at Watery Lane.

## INTERESTING FACTS PART 27

The number of stars visible to the human eye without any artificial aid is around 6000 (down to mag 6). 10 of these are hidden in this issue - see Last Words below!

## Website of the Month

[http://en.wikipedia.org/wiki/Black\\_hole](http://en.wikipedia.org/wiki/Black_hole)

Lots of interesting stuff here about our favourite mystery objects.

### 2007 Provisional Programme

January 26th	Is There Anybody Out There?	Bob Mizon
February 23rd	Stellar Collisions	Dr Tom Maccarone
March 23rd	Introduction to the Night Sky	Peter Burgess
April 27th	Development of the Calendar	Keith Brackenborough
May 25th	Why Pluto had to go	Robin Gorman
June 22nd	Stars that go bang in the night	Dr Robert Smith
July 27th	Dark Matter, Dark Energy	Dr David Bacon
August 24th	Visual Deep Sky Observing	Faith Jordan
September 28th	What we have learnt from Hubble?	Rob Turner
October 26th	Eclipses*	Alan Drummond
November 23rd	Telescopes and other Instruments	Richard Flux/Barry Bates

The above programme is still provisional until Roger Young finalises the schedule of speakers. At least a couple of lectures may well be swapped round so please do not pin any hopes on a wanted talk until you see it in the official VAS Programme Card. Members will agree, we hope, that next year we will have a wealth of interesting presentations waiting to be heard.

## Last \*Words

**Hidden around these pages are 10 asterisks, but be warned: the meteor radiants shown on Pages 4 and 5 are NOT included. The first VAS Member to contact me, by any means, giving the locations of the symbols, will win a bottle of Editorial wine in time for Christmas. Dead line for applications will be Friday 22nd December, and do not forget to include your Membership number.**

**Good hunting, Editor.**

Submissions to the NEW ZENITH are very welcome and should be sent to the the following address  
The Editor NEW ZENITH  
'Keepers Lock', Youngwoods Way  
Alverstone Garden Village  
Sandown PO36 0HF  
Tele: 01983 407098  
E Mail: [johnvl@tiscali.co.uk](mailto:johnvl@tiscali.co.uk) (any attached files in Word Document format, preferably)

### FIND VAS ON THE INTERNET\*

Members should note the Vectis Astronomical Society Website address:

<http://www.vectis-astro.org.uk/>

MATERIAL FOR THE NEXT ISSUE TO BE RECEIVED BY THE 6TH OF THE MONTH

The Vectis Astronomical Society and the Editor of the New Zenith accept no responsibility for advice, information or opinion expressed by contributors