



*NEWSLETTER*  
*April*  
2010

# FOXTON BEACH ASTRONOMICAL SOCIETY

## LIST OF OFFICERS 2009 – 2010

<b>President:</b>	Ron Fisher	Ph 368-6251
<b>Vice President:</b>	Bren Chainey	Ph 368-4987
<b>Secretary:</b>	Richard Leach	Ph 367-2075
<b>Treasurer:</b>	Tina Hills	Ph 368-6926
<b>Observatory:</b>	Gordon Dustin	Ph 363-7707
<b>Viewing hotline:</b>		Ph 0211270604

We welcome contributions from any members - observing reports, photos, news, links to interesting websites, just about anything astronomical will be considered. Please have your contributions in by the 21<sup>st</sup> of the month. Address any newsletter contributions to Stephen Chadwick at [stevechads@hotmail.com](mailto:stevechads@hotmail.com) or post to 628 Himatangi Beach Road, RD11 Foxton. We cannot guarantee everything will be included, but we will do our best.

### NEXT MEETING

THURSDAY APRIL 1st 2010 at 8.00 pm

Visitors are most welcome with no obligation to join. If you would like to join then simply contact a member of the committee for more information. The society meets on the 1<sup>st</sup> Thursday of the month at 8.00 pm at The Foxton Beach School staff rooms, Carthew Terrace, Foxton Beach.



Tea, coffee and biscuits are now available at all meetings at a nominal charge of 50c



We are a Registered Charity. All donations over \$5.00 can be used to claim a Tax Deduction.

## **President's Report**

Look out as Global Astronomy Month descends upon us in April! Mike White has headed up a team of FBAS members to organise an array of activities throughout the month for us all to get involved with. Amongst all that we have our usual monthly meeting. Stephen Chadwick has informed me that his account of what it took to build his own backyard observatory will have to be postponed until the May meeting. So instead we shall have a presentation on 'comets' delivered by Ian Cooper. At last month's meeting Ian reported back from January's Stardate event in which we got a glimpse of NZ's amateur astronomer scene and all that kiwi ingenuity that goes into building DIY telescopes and other astro gadgets.

At last month's meeting we were also advised that the Foxton Improvement Society had donated an unexpected amount of \$1500 towards our telescope upgrade! A huge thank you goes out to the Improvement Society and the people involved, that makes a big difference for us in gaining the extra funds required to have our telescope back up and running in prime condition.

One last thing, don't forget the AGM is coming up on May 6th. We are asking for all nominations to be made to the secretary before the meeting. At this point I would like to thank this year's committee for all the hard work they continue to put in. Some of our committee will not be able to run again so I urge everyone to look around you and put your nominations forward for next year. The committee is a very important part of the society, the roles can be fun and there is plenty of support from others for those that are unsure or inexperienced. I look forward to seeing those new faces taking on the challenge and combined with the more experienced members we will see another successful year at Foxton Beach.

Ron Fisher

## **AGM**

On May 6<sup>th</sup> it is the 20<sup>th</sup> Annual General Meeting. We are therefore open to nominations for the society officers. Please notify Richard Leach by the 25<sup>th</sup> April of your nominees (after ensuring their interest). Nominations will also be accepted on the night.

## Global Astronomy Month April 2010

Last year was the International Year of Astronomy, and one of the cornerstone projects was a massive global star party, known as the “100 Hours of Astronomy”, held in April. Many of you will recall attending the star party last year, hosted by Levin Stargazers and members of the Foxton Beach Astronomical Society – it was hard to miss, as there were around 1000 people who visited the event over a 3 hour period!

That event, which was named the “Worlds’ Largest Star Party”, won an international award for the best public outreach event out of about 1700 worldwide star parties! If you missed it last year, or did attend and were awestruck by the rings of Saturn and craters on the Moon, fear not, they are doing it all over again this year, and want you to be a part of it!

The Foxton Beach Astronomical Society and Levin Stargazers have joined forces to bring you 3 events this April, and encourage everyone to take part in another truly global celebration of our universe. The events are as follows:-

- **Saturday April 10 – Telescope Hunt.** The public is encouraged to hunt out those old telescopes that have been sitting unused and bring them down to the Levin Adventure Park to learn how to use them. Starts at 7pm, and the event is free. There is no postponement date - if the weather is bad, the event will be cancelled.
- **Friday April 16 – Take a trip around our solar system!** A DVD evening which will take you on a journey around all of the planets (and more) in our own solar system. To be held in the Horowhenua District Council Chambers from 7pm-9:30pm. Cost is \$2 per head.
- **Friday 23 April – Worlds’ Largest Star Party II.** Let’s put Levin on the global map again! Our telescopes will once again be set up at the Levin Adventure Park for you to enjoy views of Mars, Saturn and the Moon! Starts at 7pm and will run until about 10pm. The event is free. Should the weather not cooperate, the event will be postponed until the following night (Saturday 24 April).

The international organisation, Astronomers Without Borders (AWB), is behind the global push to hold public outreach astronomy events every April, for the whole month, and have dubbed it “Global Astronomy Month” (GAM). Not only are local astronomy groups encouraged to host events in their towns and cities, but there are online events that anyone from around the world can participate in. For more on the global and online events, visit the AWB website at [www.awb-gam.org](http://www.awb-gam.org) and choose the Global Programs link.

## **It's Official: an asteroid wiped out the dinosaurs**

A giant asteroid smashing into Earth is the only plausible explanation for the extinction of the dinosaurs, a global scientific team said on Thursday, hoping to settle a row that has divided experts for decades.

A panel of 41 scientists from across the world reviewed 20 years' worth of research to try to confirm the cause of the so-called Cretaceous-Tertiary (KT) extinction, which created a "hellish environment" around 65 million years ago and wiped out more than half of all species on the planet.

Scientific opinion was split over whether the extinction was caused by an asteroid or by volcanic activity in the Deccan Traps in what is now India, where there were a series of super volcanic eruptions that lasted around 1.5 million years.

The new study, conducted by scientists from Europe, the United States, Mexico, Canada and Japan and published in the journal *Science*, found that a 15-kilometre (9 miles) wide asteroid slamming into Earth at Chicxulub in what is now Mexico was the culprit.

"We now have great confidence that an asteroid was the cause of the KT extinction. This triggered large-scale fires, earthquakes measuring more than 10 on the Richter scale, and continental landslides, which created tsunamis," said Joanna Morgan of Imperial College London, a co-author of the review. The asteroid is thought to have hit Earth with a force a billion times more powerful than the atomic bomb at Hiroshima.

Morgan said the "final nail in the coffin for the dinosaurs" came when blasted material flew into the atmosphere, shrouding the planet in darkness, causing a global winter and "killing off many species that couldn't adapt to this hellish environment." Scientists working on the study analysed the work of palaeontologists, geochemists, climate modellers, geophysicists and sedimentologists who have been collecting evidence about the KT extinction over the last 20 years. Geological records show the event that triggered the dinosaurs' demise rapidly destroyed marine and land ecosystems, they said, and the asteroid hit "is the only plausible explanation for this."

Peter Schulte of the University of Erlangen in Germany, a lead author on the study, said fossil records clearly show a mass extinction about 65.5 million years ago -- a time now known as the K-Pg boundary. Despite evidence of active volcanism in India, marine and land ecosystems only showed minor changes in the 500,000 years before the K-Pg boundary, suggesting the extinction did not come earlier and was not prompted by eruptions.

The Deccan volcano theory is also thrown into doubt by models of atmospheric chemistry, the team said, which show the asteroid impact would have released much larger amounts of sulphur, dust and soot in a much shorter time than the volcanic eruptions could have, causing extreme darkening and cooling.

Gareth Collins, another co-author from Imperial College, said the asteroid impact created a "hellish day" that signalled the end of the 160-million-year reign of the dinosaurs, but also turned out to be a great day for mammals. "The KT extinction was a pivotal moment in Earth's history, which ultimately paved the way for humans to become the dominant species on Earth," he wrote in a commentary on the study.

([www.uk.news.yahoo.com](http://www.uk.news.yahoo.com))



"Once they stop believing that  
it's flat, I'll make it round."

## Young Astronomers in the Deep South

Last month we bade farewell to Brenden Johnstone of Himatangi Beach as he headed to Christchurch to attend Canterbury University. Brenden, along with our February guest speaker Rhiannon McNish, has joined the Canterbury Astronomical Society after settling in to the university campus life.

Brenden has had several visits to the C.A.S. outpost called West Melton Observatory. The observatory is about 16 km west of Christchurch and houses a plethora of telescopes in either domes or roll-off roof buildings. In less than a month Brenden has already had training on the Meade RCX400 a 40cm (16 inch) Cassegrain telescope (see picture attached from the C.A.S web site, <http://www.cas.org.nz/> ). Brenden has already noticed that the telescope needs work on its' polar alignment and will be pushing the established members to get it sorted out soon.



In the coming months Brenden and Rhiannon will be getting first hand training with the CCD camera as well as the Canterbury Society's Cannon DSLR camera. We hope to see some fine images coming our way from our young pair as they become more proficient in using the equipment. Along with their intense studies in physics, chemistry and astronomy Rhiannon and Brenden are finding a little time to keep advancing their astronomical imaging skills as well.

Good luck with your efforts Brenden. We look forward to the results.

Ian Cooper

## 12 day moon

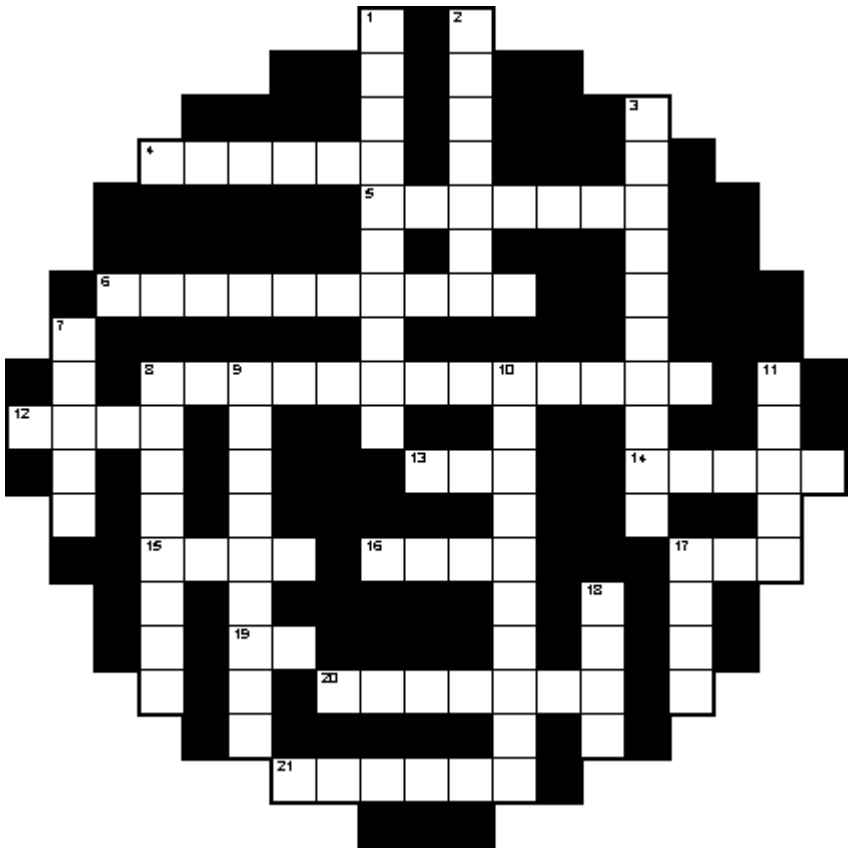


This image was taken Feb 26, 2010 09.30-09.49 UT. It is a mosaic of 8 separate images.

The Moon was 92.2% illuminated, waxing gibbous - south is oriented up. I quite like this lunar phase as there are a number of large and interesting craters along the terminator still and the bright ray craters of Tycho (upper centre), Copernicus (right of centre), Kepler (small crater right of Copernicus) and Aristarchus (lower right) are well illuminated. Just beside Aristarchus is the unusual rille, Vallis Schroter, which curves northward (down) before turning westward (right). Vallis Schroter stretches for about 165 km with a depth of about 1000m.

*(Image and Text by Mike White)*

## The Southern Crossword 4



### Across

4. Any of the celestial bodies (other than comets or satellites) that revolve around the sun in the solar system (6)
5. One celestial body obscures another (7)
6. Originally called black dwarfs, these substellar objects were first conceived of in the early 1960s as dark bodies floating freely in space. Stellar models had suggested that a true star must have a mass at least 80 times that of Jupiter to kindle the stable fusion of hydrogen. Objects with less than 80 Jupiter

masses were believed to exist, but it was recognized that they would be extremely difficult to find because they would emit very little light. Two words \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_ (5,5)

8. Short-lived bursts of gamma-ray photons, the most energetic form of light. At least some of them are associated with a special type of supernovae, the explosions marking the deaths of especially massive stars. Three words \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_ (5,3,5)

12. (astronomy) the luminous cloud of particles surrounding the frozen nucleus of a comet; forms as the comet approaches the sun and is warmed (4)

13. active galactic nuclei (abbreviation). A class of galaxies which spew massive amounts of energy from their centers, far more than ordinary galaxies. Many astronomers believe super massive black holes may lie at the center of these galaxies and power their explosive energy output. (3)

14. The (usually elliptical) path described by one celestial body in its revolution about another (5)

15. The natural satellite of the Earth (4)

16. Any celestial body visible (as a point of light) from the Earth at night (4)

17. Any star around which a planetary system evolves (3)

19. The closest of Jupiter's moons; has active volcanoes (2)

20. A grouping of a number of similar things (7)

21. A star like object that may send out radio waves and other forms of energy; large red shifts imply enormous recession velocities (6)

## Down

1. A \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_ is what stars like our Sun become when they have exhausted their nuclear fuel. Near the end of its nuclear burning stage, such a star expels most of its outer material (creating a planetary nebula), until only the hot core remains, which then settles down to become a very hot ( $T > 100,000\text{K}$ ) young \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_ (5,5)

2. A diffuse mass of interstellar dust or gas or both, visible as luminous patches or areas of darkness depending on the way the mass absorbs or reflects incident radiation. (7)

3. The motion of a spinning body (as a top) in which it wobbles so that the axis of rotation sweeps out a cone. The act of preceding in time or order or rank (10)

7. (astronomy) the precise date that is the point of reference for which information (as coordinates of a celestial body) is referred (5)

8. The largest of Jupiter's satellites (8)

9. Stony or metallic object that is the remains of a meteoroid that has reached the earth's surface (9)

10. A system of two stars that revolve around each other under their mutual gravitation. Two words \_ \_ \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_ (6,4)

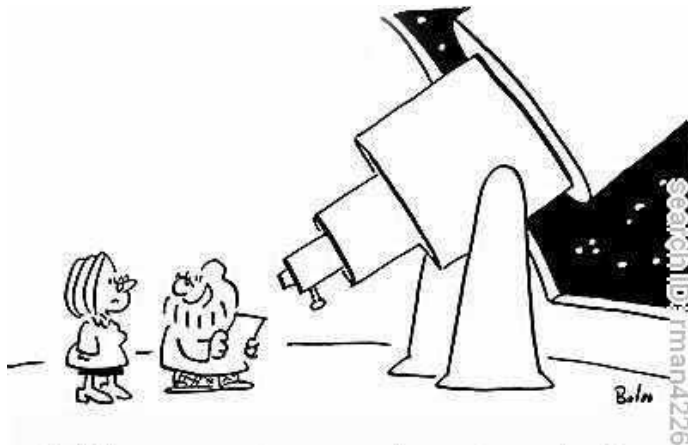
11. A constellation on the equator east of Taurus; contains Betelgeuse and Rigel (5)
17. The international scientific organisation searching for extra terrestrial life using radio telescopes (4)
18. The 4th planet from the sun. (Roman mythology) Roman god of war and agriculture; father of Romulus and Remus; counterpart of Greek Ares (4)

## Astro-nonsense

A seminar on Time Travel will be held last Tuesday

Archimedes' Principle brought up to date: When a body is immersed in water, the phone rings

Two atoms bump into each other. One says "I've lost an electron." "Are you sure?" "Yes, I'm positive."



"This new star sends out periodic pulses in a very appealing rhythm — I think I'll name it 'Bossa Nova.'"

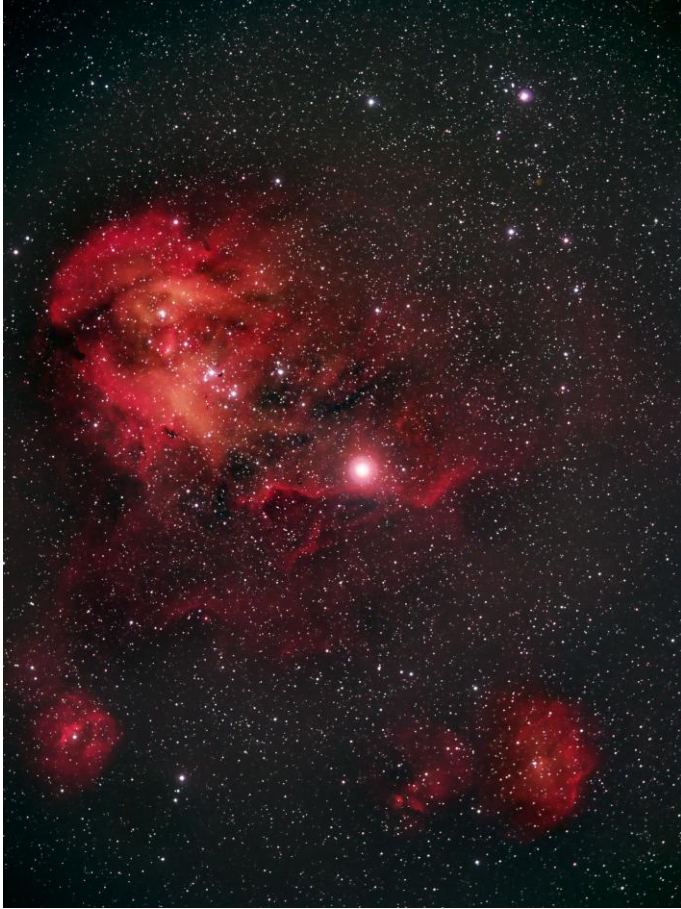
## The Stars out in the Night Sky

Images from the star party in the Levin Adventure Park, 6<sup>th</sup> March 2010. Clear skies, although the views of Saturn were far from perfect!



*(Pictures taken by John Honore)*

## The View from the Sand Dune Observatory



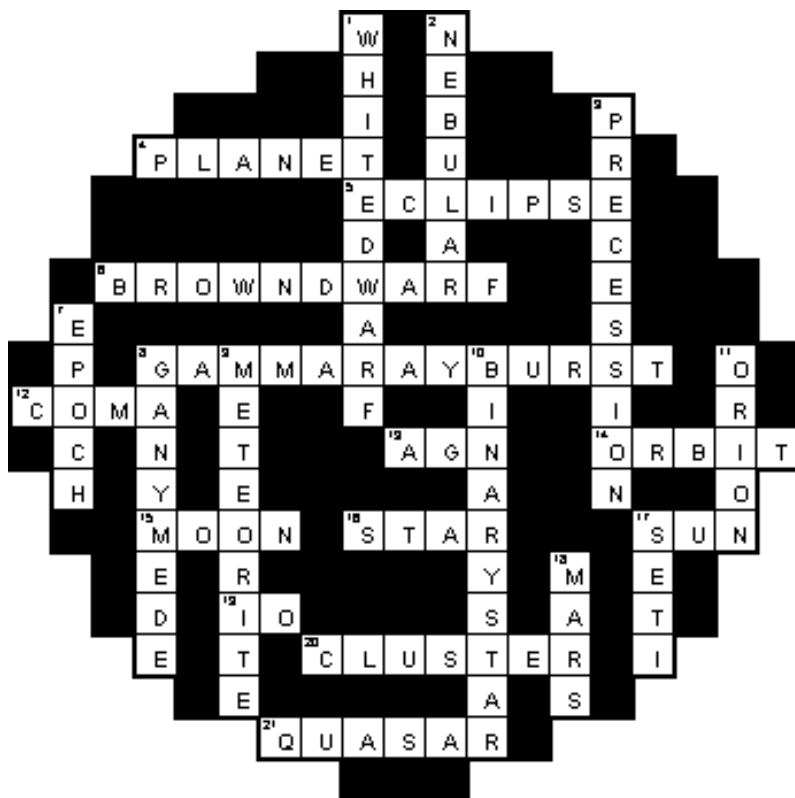
### **IC2944: The Running Chicken Nebula**

This nebula is situated just a few degrees away from the Eta Carina Nebula, and surrounds the star Lambda Centauri (centre). The nebula is heated by the loose cluster of hot, blue, massive stars (IC2944) and the shapes in the nebula are carved out by their strong stellar winds. The dark spots amongst the stars of IC2944 are Thackeray's globules – dark clouds of gas and dust that are in the process of condensing to form stars.

Can anyone see the chook?

*(Image and text by Stephen Chadwick)*

## Solution to Southern Cross-word 4



## **Calendar of events**

Here is a provisional list of upcoming events:

**April 1st:** Monthly meeting

Ian Cooper – ‘Comets’

**April 10th:** Telescope hunt

Levin adventure park, 7pm

**April 16th:** DVD evening: - ‘Take a trip around our solar system’

Horowhenua District Council Chambers from 7pm-9:30pm

**April 23rd:** World’s largest star party II

Levin adventure park, 7pm

**May 6th:** AGM followed by monthly meeting

Stephen Chadwick: “Building the Sand Dune Observatory”

**STOP PRESS!!!**

**F.B.A.S is 20 years young this May!!  
We shall be having a celebratory meal**

**The date and time will be announced at the 1<sup>st</sup> April monthly meeting and will also be placed on the society web-site:**

**[www.fbas.org.nz](http://www.fbas.org.nz)**

If undelivered return to:

Foxton Beach Astronomical Society  
C/- 15 Manchester Street, Levin



Nelson Bartlett Observatory

*(Photo by W Marshall)*

**THE FOXTON BEACH ASTRONOMICAL SOCIETY  
NELSON BARTLETT OBSERVATORY  
FOXTON BEACH SCHOOL STAFF ROOMS  
CARTHEW TERRACE  
FOXTON BEACH**