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Gliese

NEWSLETTER
October
2010

FOXTON BEACH ASTRONOMICAL SOCIETY

List of Officers 2010-2011

President:	Stephen Chadwick	Ph 329-9458
Vice President:	Ian Cooper	Ph 329-7829
Secretary:	Tina Hills	Ph 368-6926
Treasurer:	Simon Hills	Ph 368-6926

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 21st of the month. Address any newsletter contributions to Stephen Chadwick at stevechads@hotmail.com or post to 628 Himatangi Beach Road, RD11 Foxton.

NEXT MEETING

General Meeting

“Introduction to the Constellations”

THURSDAY October 7th 2010 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 refund.

Minutes of the General Meeting held on 2nd September 2010 from 7.30pm

Present: 13 Members **Guests** None **Apologies:** 3 members

Minutes were read and agreed to be accurate

Matters arising from previous meeting

- The council has now measured the street light outside school for a three quarter shielding. This will hopefully be completed by next month.

Correspondence

In bound:

- The following newsletters have been received and are now available to loan from the library:
 - Te Patiki August 2010
 - Aurora & Solar Section no 239 Aug 2010
 - Aurora & Solar Section Circular no 29
 - Dunedin Astronomy Society - invite to centennial celebrations (Sept & Oct)

Outbound:

- Letter of appreciation to Allen Little

General Business

- Meeting informed international students event was cancelled due to the weather. At the end of October these students will come back as well as another 25. Helpers for this event were requested.
- Resignation as a member of the committee was received from Allen Little. Letter of appreciation written.
- Projector screen has now been purchased for \$25. Ken Douglas has offered to collect it next week from Carterton.
- Funding for books and other resources for library to be made. Request for ideas needed.
- Other funding applications are also to be made shortly. Items needed for the club, suggested eye pieces, focuser for dobsonian, focal reducer for Meade and a new portable power pack. If anyone has any other suggestions please let someone on committee know.

- Douglas Jackson suggested purchasing sun filter for 10" Meade. This was followed by a discussion as whether it would be better to purchase sun scope.
- Mike White talked to meeting about International Observe the Moon Night on 18th September at the Levin Adventure Park. Plan to have a live web cast around the world. Event will also have displays, information desk and telescopes and Moon video. Requests for help from members to put posters in shops etc. hand out small leaflets. Club to print out posters. Standing display boards to be lent by Explore Services, Levin. Helpers for the day needed.
- Anyone who wants to subscribe to Google group please see Simon.
- Discussion around sun spots.
- Reminder of Foxton Spring fling on Saturday, help wanted
- Meetings will now begin at 8pm due to Daylight Saving
- Paul Fields donated two books to the library: Communication with Extraterrestrial Intelligence CETI – Edited by Carl Sagan (1973) & Space 50 years of space exploration by Piers Bizoy (2006).

Meeting closed 8:30 pm

This was followed by a DVD Wonders of the Universe, which was informative and enjoyed by all

Due to weather no viewing was possible this month

Foxton Spring Fling

September 2010 will be remembered for being the third wettest month since records began in June 1928. However, Saturday 4th turned out to be one of the few exceptional days with the clouds and rain keeping well away for the annual Foxton Spring Fling.

We had our stall in the usual spot next to the S.M. Clothes shop on Foxton Main Street. A few scopes were set up – The TAL owned by Simon and Tina, along with Paul Field's refractor and John's two reflectors.

Joan turned up with her lovely scones, which went down well, and she also went home to bring a jug, tea and coffee for us all.

We had lots of information to give to the public about the International Observe the Moon Night to be held on the 18th September, and we had a little helping hand from our mutual friend...The Moon! Yes, the moon was at last quarter and was riding high so we had a few of the scopes tracking it to the amazement of the public – most people we spoke to never even realised you could see the Moon in the daytime.



Before the hordes arrived

By Mid-day we had run out of leaflets to hand out, so Mike and I went in search of a photocopier or printer. Where do you find one of those on a Saturday afternoon? Luckily we bumped into Paul Matthews and Douglas, and so Paul took us round to his house to print some more.

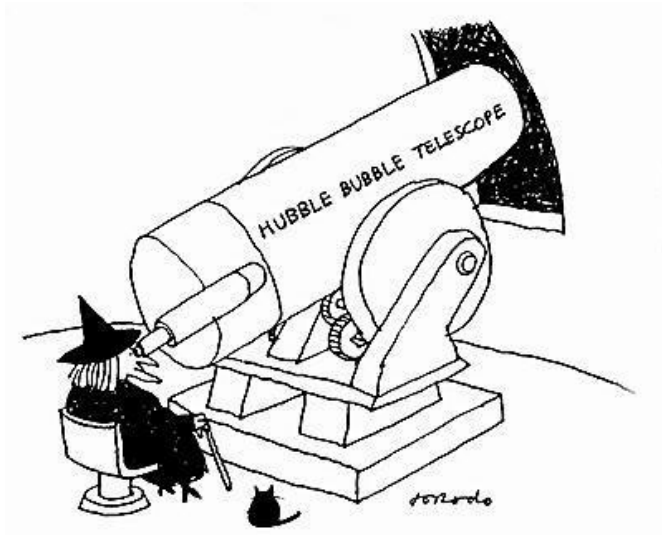
Armed with our new leaflets we returned to the stall to give them out.

Gords turned up wanting a volunteer to ride on the back of his tandem in the parade. Neither Tina nor I were too keen so he went in search of someone else. When the parade did eventually make its way past us, he was accompanied by a young female life guard, so his search was a success!

By mid-afternoon things were winding down so we started to pack up. We had gathered quite a few email addresses from people interested in coming along to the Society so hopefully we shall see a few new faces.

Thanks to everyone that came along to help.

Stephen



International Observe the Moon Night

It was a dark and stormy night...well, the forecasters didn't get their predictions wrong, and the "biggest storm on the planet" (well, the sting in the tail anyway) hit just in time for InOMN. Thankfully we had planned a two-pronged attack for this event - indoor and outdoor activities, and we were able to at least hold the indoor portion. Not that the public realised though - I think many assumed that the event would be cancelled, which is a fair assumption given that we have cancelled so many due to weather in recent months as we didn't have access to the indoor facilities previously.

We were cutting it fine with gaining access (not through lack of trying, believe me!), but the good news is that I now hold our own permanent set of keys to the Adventure Park kiosk and toilet facilities, so all we need to do is book when we want to use them in future.



Some of the displays

We had an abundance of helpers on the night, and I'm truly grateful to those who gave up their time to help set up and run this event. The free-standing display stands from Tina's workplace were a tight fit in my little van, but we got them there in the end and they were a great asset for the indoor display. The display looked great, with many laminated Moon images from Steve Chadwick, Maurice Collins (Palmerston North) and me (Mike), along with lots of articles and information around the walls.



Allen communicating with the world



No moon for Paul's scope tonight

A TV and DVD player was set up and played short but interesting videos about the Moon, and a laptop was also set up for webcasting the event. Allen Little was in his element webcasting to the world (even when the camera was off!), but unfortunately the laptop hardware and mobile broadband connection weren't up to the task, and most of the footage was unintelligible. However, I did put together a short video of the event, which can be viewed at <http://www.youtube.com/watch?v=1ZL5LYDMjDI> - it's worth watching, especially if you wait for the still images about halfway through the video.



A rare glimpse of the moon through John's scope

John Honore did manage to get his telescope outside for a few minutes during a (very!) brief break in the clouds, but it was very cold and very windy, so we weren't outside for long. In all, we probably only had about 15 members of the public attend, but that wasn't surprising given the conditions. Those that did attend seemed to enjoy themselves anyway. In future, now we have keys, we'll be able to plan bigger and better indoor activities for our events and make sure the public are aware that the event will proceed, rain or shine!



Mike in full swing

One lesson learned - never assume that the public don't care or aren't coming...be patient and don't pack up early! Literally the minute we packed up (assuming that no-one else would come out on a night like this), a family of 6 or 7 turned up! We rapidly put all the photos and info back out on tables and they turned out to be the most enthusiastic family of the evening!

Clear skies!
Mike White

Goldilocks Earth-Size Planet Discovered?

US astronomers said Wednesday they have discovered an Earth-sized planet that they think might be habitable, orbiting a nearby star, and believe there could be many more planets like it in space. The planet, found by astronomers at the University of California, Santa Cruz, and the Carnegie Institution of Washington, is orbiting in the middle of the "habitable zone" of the red dwarf star Gliese 581, which means it could have water on its surface.

The scientists determined that the planet, named Gliese 581g, has a mass three to four times that of Earth and an orbital period of just under 37 days.

Its mass indicates that it is probably a rocky planet and has enough gravity to hold on to an atmosphere, according to Steven Vogt, professor of astronomy and astrophysics at the University of California, Santa Cruz, and one of the leaders of the team that discovered the planet. If Gliese 581g has a rocky composition similar to Earth's, its diameter would be about 1.2 to 1.4 times that of the Earth, the researchers said.

The surface gravity would be about the same or slightly higher than Earth's, so that a person could easily walk upright on the planet, Vogt said.

Gliese 581g was discovered by scientists working on the Lick-Carnegie Exoplanet Survey, during 11 years of observing the red dwarf star Gliese 581, which is only 20 light years from Earth.

For astronomers, eleven years of observation is considered a short time and 20 light years, which is roughly 117.5 trillion miles, rather close. The sun is around eight and a half light minutes from Earth. "The fact that we were able to detect this planet so quickly and so nearby tells us that planets like this must be really common," said Vogt.

The planet is tidally locked to its star, meaning that one side is always facing the star and basking in perpetual daylight, and the other is in perpetual darkness because it faces away from the star. This would make the line between darkness and light the most habitable part of the new planet, which is known as the "terminator".

The researchers estimate that the average surface temperature of the planet would be between -31 to -12 degrees Celsius.

But actual temperatures would range from "blazing hot on the side facing the star, to freezing cold on the dark side," they said.

The findings, which will be published in the *Astrophysical Journal* and posted online at arXiv.org, "offer a very compelling case for a potentially habitable planet," said Vogt.

In their report, the scientists in fact announce the discovery of two new planets around Gliese 581, bringing the total number of known planets around this star to six.

Two previously detected planets around Gliese lie at the edges of the habitable zone, one on the hot side and one on the cold side of the star, and are probably not habitable. The newly discovered planet g, however, lies right in the middle of the habitable zone.

(Agence France-Presse, sourced by Simon)

The front cover of this newsletter shows an artist's impression of Gliese

Telescope for sale

Celestron 80mm refracting telescope

Wooden EQ Tripod with slow motion controls.

2x 1.25" eyepieces

Packaging and Books included

\$300 o.n.o

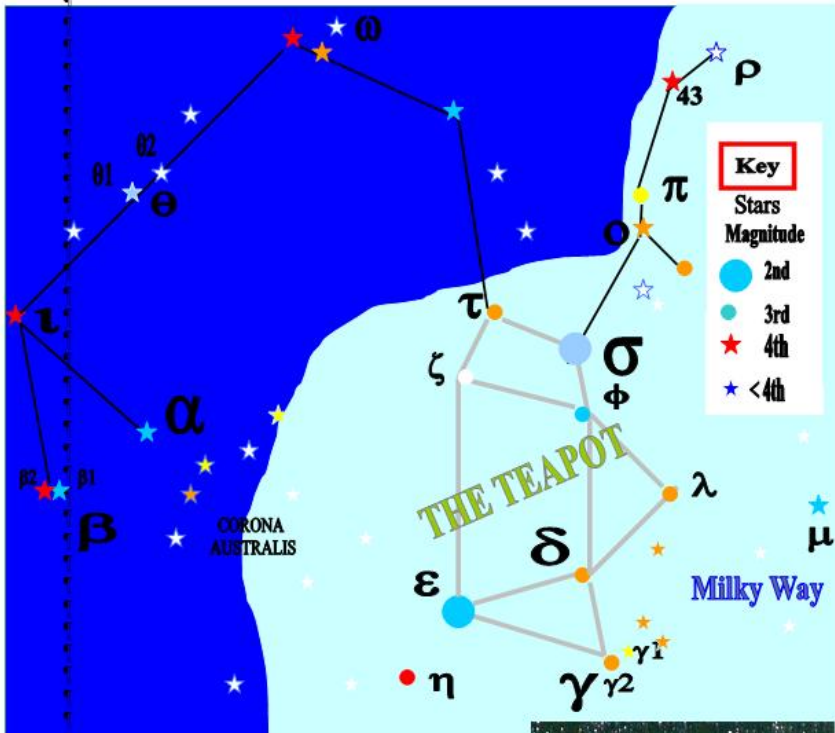
Contact Gordon on: 363-7707

Observing the Wonders of Sagittarius



Sagittarius, The Archer

Here is the centre of the Galaxy. The star fields of Sagittarius are unequalled. Fourteen Messier objects! Here are globular and open clusters, planetary nebulae, bright emission nebulae and dark nebulae. Surprisingly the Archer has no first-magnitude stars, but does lie in the path of the Sun: The Zodiac. →



Stellar Notes

Once the "teapot" shape is recognised, Sagittarius is easy to find, but the first time. Follow the Milky Way through Scorpius away from the Cross. Just past the Tail (and M6 & M7) the clouds of the Way get wide and rich. Look for the Teapot! How many Messier objects can you see with the naked eye?



Stellar Table

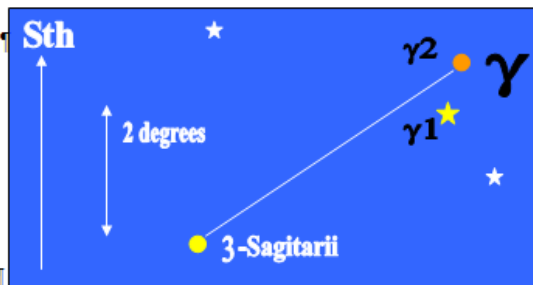
Bayer	name	Mag	Spectra	Dist (ly)	Separation & Notes
α	Rukbat	4.10	B8		
β	$\beta 1$ Arkab-Prior	4.3	B8		28
	$\beta 2$ Arkab-Posterior	4.50	F0	109	
γ	$\gamma 2$ Alnasr (Nash)	2.97	K0	124	
	$\gamma 1$	4.3	F8		Variable
δ	Kaus-Meridionalis	2.71	K2	71	
ϵ	Kaus-Australis	1.81	B9	124	
ζ	Ascella	2.61(2.7, 3.0)	A2	140	Binary
η		2.20	M3	73	
θ	$\theta 1$	4.40	B3		
	$\theta 2$	5.30	A3	99	
ι		4.20	K0	93	
σ	Nunki	2.12	B2	300	
λ	Kaus-Borealis	2.80	K2	71	
π	Albaldah	2.89	F2	250	
τ		3.40	K0	74	
ϕ		3.30	B8		

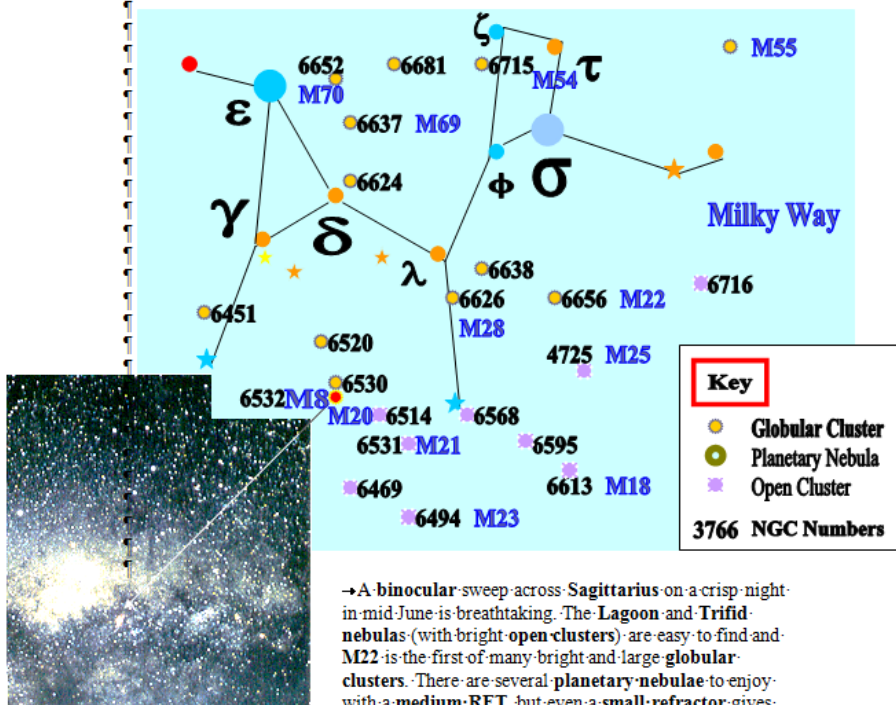
¶

Arkab (β -Sagittarii) is a striking **double**, with yellow and blue stars at nearly half a degree apart. The bright star **Ascella** is also double, with twin white diamonds in a **binary system**. Examining the individual stars in Sagittarius is difficult because the bright clusters are so numerous and distracting. ¶

The companion of **Nash**, $\gamma 1$ -Sagittarii, is **variable**, as are **3** (4.7, F8, 93 ly) and **43** (5.00, K0, 544 ly) respectively. **3** is near to γ , as shown in the chart on right. **43** is on the main map of Sagittarius above. It is near to ρ . ¶

→ The magnitudes of these stars are easy to estimate against the many stars of similar brightness, provided the time chosen is for a position high in the sky, away from the excessive twinkling near the horizon. **Binoculars** make the job more accurate, but be sure to only judge an object centred in the field of view. ¶





→ A binocular sweep across Sagittarius on a crisp night in mid-June is breathtaking. The Lagoon and Trifid nebulas (with bright open clusters) are easy to find and M22 is the first of many bright and large globular clusters. There are several planetary nebulas to enjoy with a medium RFT, but even a small refractor gives glorious views of the best of Sagittarius. †

Object	Proper-name	Mag	Size	Dist (ly)	Notes
Nebulae					
NGC6532(M18)	Lagoon Nebula	very bright	45' by 30'	~5000	OC with nebulosity
NGC6514(M20)	Trifid Nebula	6.3		~4000	
NGC6618(M17)	Horse-shoe or Omega	6.00	25'		
Open Clusters					
Object	Mag	Size	Dist (ly)	Notes	
NGC6530				On M18	
NGC6531(M21)	5.90	14'	3900		
NGC6494(M23)	5.50	29'	2000		
IC4725(M25)	4.6	29'	2300		
NGC6613(M18)	6.90	5'	4000	OC with nebulosity	
NGC6595	7.0	20'		OC with nebulosity	
NGC6716	7.5	10'	2000		

Object	Mag	Size	Dist (ly)
NGC6469	8.20	7	
NGC6568	8.6	12	

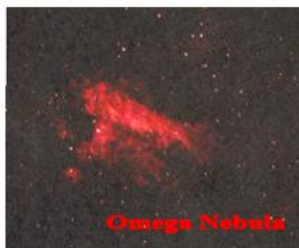
NGC6532, M8, the Lagoon Nebula, is a large **HII** region lit up by the extremely young **NGC6530** open star cluster, and the star **H36** (<10,000 yrs old!), which has the "hourglass" its own intensely bright emission nebula, that brightens that region of M8. M8 has magnitude about 5, making it easily seen by the naked eye. The half degree of spectacular detail is best enjoyed in larger scopes, especially an **RFT**, but any telescope reveals great detail. Must see!



NGC6514, M20, the Trifid nebula, is subtle where M8 is spectacular. The two may be associated. The three dust lanes give the *tri*- in Trifid, just as the wide dust lane gives the "lagoon" its title. This is, again, a complex HII region lit by stars within the gas cloud. The six stars of **HN40** are all visible in a 10" RFT with good transparency. While the brightest (7) causes the nebula to glow, its 9th and 10th magnitude companions may be spotted with **small scopes**, along with most of the detail, though not the colour, in this most delicate of deep sky sights. **NGC6531 (M21)** is almost in the same field (less than a degree away NNE).



NGC6618, M17, the Omega Nebula, has magnitude 6, but this is integrated, and only a telescope >8" shows any of the detail in this nebula, and reveals the stars that cause it to glow. It is closer than M8 and M20, at about 2,800 light years.



Globular Clusters				
Object	Proper name	Mag	Size	Dist (ly)
NGC6656(M22)		5.24	15'	16000
NGC6626(M28)		7.45	10'	31000
NGC6637(M69)		8.27	3'	36000
NGC6652(M70)		8.50	3.5'	40000
NGC6715(M54)		7.92	4'	32000
NGC6809(M55)		5.74	12'	20000
NGC6723		6.88	7'	32000
NGC6638		8.95	2'	30000



All of the globular clusters listed are beautiful deep sky objects, but **M22 (NGC6656)** is the pick of the bunch. A 3" **refractor** begins to resolve the 10-11th magnitude stars, and the fuzzy blob of the **naked eye** and **binoculars** becomes a superb sight in a **medium reflector**. If you are **doing the tour**, remember to pick out the objects in binoculars, and go back and forth between the scope and binocs before examining the more magnified image comprehensively. Can you find *all* of them?

.....
 Herschel 36

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By Douglas Jackson

Russian company plans space hotel

A Russian company on Wednesday announced an ambitious bid to fill the vacuum in the space tourism market by stationing an orbiting hotel in the cosmos. The Moscow-based Orbital Technologies has sky-high hopes that its planned Commercial Space Station can serve as a tourism hub for well-heeled travellers and offer overspill accommodation for the International Space Station and workspace for science projects.

But it's unlikely to come anytime soon - the company wants to launch a seven-room station by 2016 but may increase or decrease that capacity based on customer demand.

It also remained unclear whether the state-controlled RKK Energia company, named as the general contractor for the project, would have enough funds and capacities to carry out the plan. Energia builds Soyuz crew capsules and Progress cargo ships to deliver space crew and supplies to the International Space Station, which will be the only link to space after planned retirement of the US shuttle fleet next year.

Sergey Kostenko, Orbital Technologies' chief executive, told The Associated Press in an interview that the planned station would be "a comfortable hotel in orbit, designed specifically for tourists."

"But it will be more comfortable than the International Space Station because there won't be any unnecessary scientific equipment," he said.

Until now, space tourists - a handful of megarich CEOs and philanthropists - have had to suffer the indignity of hitching a ride with astronauts and cosmonauts to the International Space Station and float around the space laboratory trying not to break anything.

On a Commercial Space Station they would have a place to gawk at the view in private. The design is still being worked out, but some sketches released by Orbital Technologies resemble the International Space Station.

Orbital Technologies did not disclose the cost of the project, or what it would cost for someone to stay at a Commercial Space Station. But it wouldn't be inexpensive, if Canadian Cirque du Soleil founder Guy Laliberte is any indication. In September 2009, he spent 12 days at the International Space Station - for US\$35 million dollars.

The project will require ample funding, but Kostenko voiced confidence that his company will turn a profit. "Of course, we expect to make profit - this is purely business," he said.

Alexey Krasnov, the head of manned space missions at the Russian space agency, said the new station could provide a temporary haven for the International Space Station's crew in case of an emergency or the need for maintenance.

However, Jim Oberg, a Houston-based space consultant and expert on the Russian space program, warned that two stations in close orbits would put too much strain on tracking and communications resources on the ground.

Oberg said that the new project raises doubts about Russia's commitment to the International Space Station. Having a new station in orbit accessible to the International Space Station would allow Russia to undock its modules from the space lab and move them to the new space outpost if it decided to opt out of the partnership, he warned.

"Why Russia would spend the required funds is a compelling question that has significant implications for its future commitment to the ISS - a commitment that NASA has decided to utterly rely on in the absence of US human orbital access," he told the AP via e-mail.

"NASA must focus now on making sure we don't get blackmailed by such threats by eliminating our vulnerability," Oberg added.

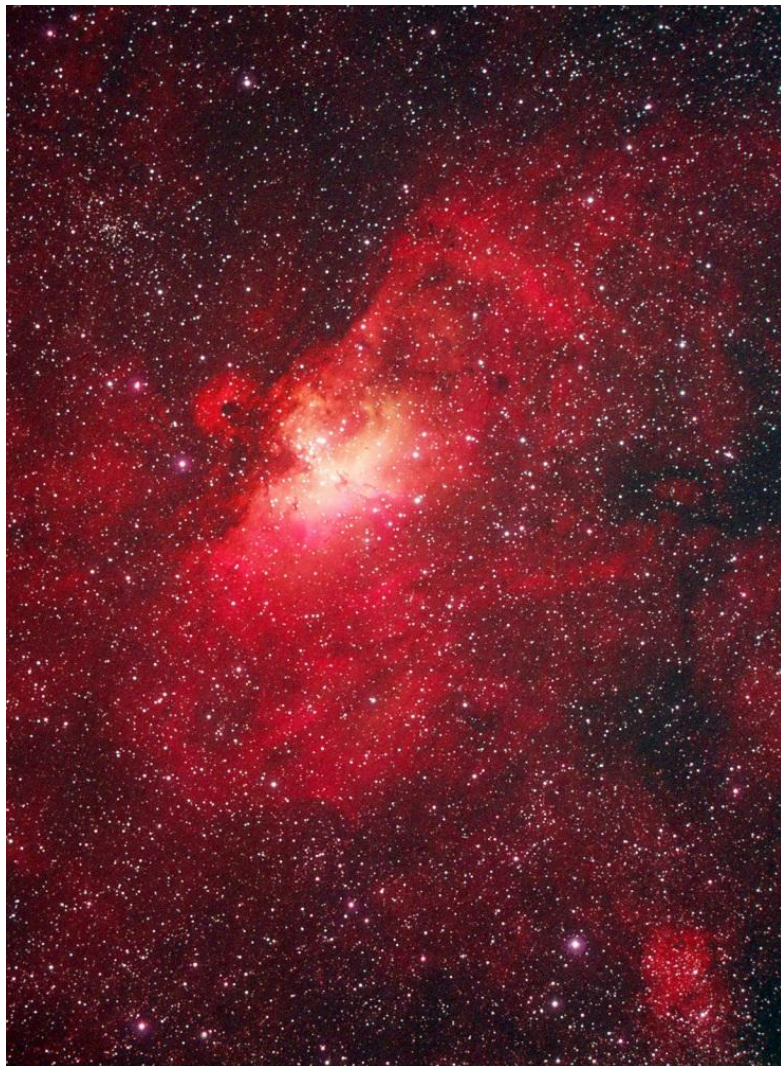
All the space tourists who have travelled to the International Space Station were trained in Russia and sent into orbit on Russian Soyuz capsules, although their trips were organized by a Virginia-based company.

Laliberte was the last space tourist to travel to the station. Russia halted space tourism this year after the crew size was increased, using the seats in Soyuz that would have been sold to paying travellers.

Food at the new station would be suited to individual preferences, Kostenko said, and the organizers are thinking of employing celebrity chefs to cook the food before it is packaged and sent into space.

(Associated Press; sourced by Paul Matthews)

The View from the Sand Dune Observatory



The Eagle Nebula (M16)

Here is an image of the newly discovered face found in the Eagle Nebula. Funny what you see when you examine a famous image from a completely unusual orientation.

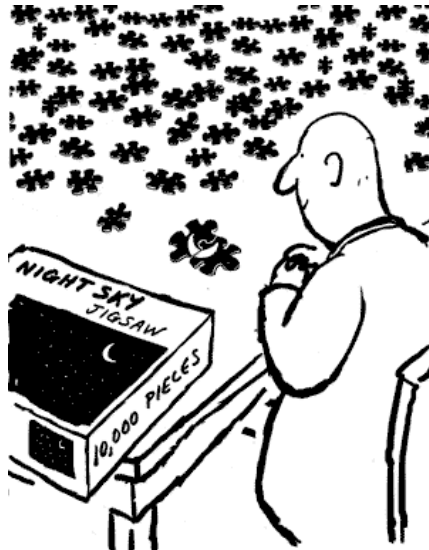
(Image by Stephen Chadwick)

Calendar of Events

Due to day-light saving the monthly meetings commence at the later time of 8.00pm.

October 7th: Monthly Meeting
"Introduction to the Constellations" DVD

November 4th: Monthly Meeting
Special Guest: Karl Knight will discuss his work observing and monitoring variable stars.



If undelivered please return to:

**Foxton Beach Astronomical Society
c/o 6A York Street, Levin 5510**



Nelson Bartlett Observatory

(Photo by W Marshall)

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