Thanet Astronomy Group

Astronomy for Everyone in Plain English

NEWSLETTER

December 2016

The Christmas Tree Cluster and Cone Nebula (Inverted View)
*This photograph was produced by **European Southern Observatory (ESO)**.*
https://en.wikipedia.org/wiki/File:NGC_2264_by_ESO.jpg

Contents

Executive Committee Messages

December 2016

The month of December will start with :-

December 3rd Will start the Saturday meetings.

December 7th *Will be the Wednesday members' Stargazing Quiz and Buffet.*

Beginners' Guide to Stargazing Course

We are getting much closer to the 2017 run of the stargazing course in Jan – Feb and have started taking bookings.

The dates and times are :-

DATES	**:**	**Part 1**	**25th Jan 2017 ** Basic Stargazing ****
			1st Feb 2017 ** Members' Meeting **
		Part 2	**8th Feb 2017 ** Intermediate Stargazing ****
		Part 3	**15th Feb 2017 ** Advanced Stargazing ****
		Part 4	**22nd Feb 2017 ** Stellarium Stargazing ****
			1st Mar 2017 ** Members' Meeting **
TIME	**:**	**Course starts 7:30pm**	
LOCATION:		**West Bay Café, Sea Road, Westgate-on-Sea CT8 8QA**	
TICKETS	**:**	**Only £15 for members, £20 Non Members**	

****!!** Advanced booking required **!!****

All those that would like to attend this course (details on the web site) please email ThanetAstronomyGroup@gmail.com to register your interest.

Danny, George, Gill.

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About the Cover Picture

The Christmas Tree Cluster and Cone Nebula
This photograph was produced by ***European Southern Observatory (ESO)****.*
https://en.wikipedia.org/wiki/File:NGC_2264_by_ESO.jpg

As it is nearly Christmas I thought we needed something in keeping with the time of year so here it is.

NGC 2264 is the New General Catalogue number for the two objects, the Cone Nebula and the Christmas Tree Cluster, combined.

This area of the sky also contains the Snowflake Cluster and the Fox Fur Nebula. So this is just right for a Christmas Cover Story!

All these 4 objects are located about 2,600 light years away from Earth, none of them are easy to see.

As you can see from the non-inverted picture of the Christmas Tree Cluster above, the Cone Nebula is at the bottom of the picture. It replaces the traditional star or angle at the top of the tree. The Fox Fur Nebula is at the top right of the picture.

The Snowflake Cluster is in the middle but is clearer to see in middle of the infrared picture, to the right.

All of these objects are in the Monoceros constellation. However, this is not a well known or easy to see by eye constellation.

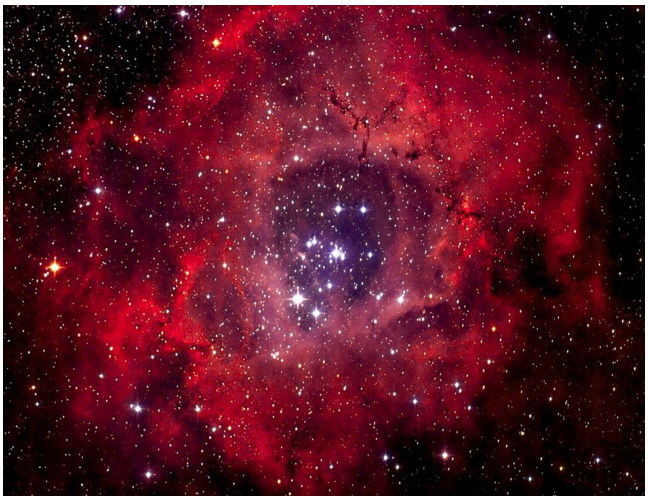
It only contains a few magnitude 4 stars and these are really below what you could see in our light-polluted sky.

*An infrared Spitzer Space Telescope image of NGC 2264 Credit: SIRTF/*NASA/ESA.

About the Cover Picture

The Christmas Tree Cluster and Cone Nebula

The constellation also Monoceros contains two “Super-Earth” exoplanets (Crot-7b ad Crot-7c) discovered in 2009. Crot-7b has a diameter of only 1.58 times that of Earth. At the time of discovery it was the smallest exoplanet ever discovered.



The Rosette Nebula - Andreas Fink - Own work

The Monoceros constellation is also home to the Rosette Nebula (NGC 2237, 2238,2239and 2246).

It has magnitude of 6.0

It is 4,900 light years from Earth.

Hubbles Variable Nebula (NGC 2261)
This nebula has an approximate magnitude of 10.
It is 2,500 light years from Earth.

Hubbles Variable Nebula Credit : NASA

An open cluster with no name (M50) also known as NGC 2323.

Finally an open cluster with no name (NGC 2254) with an overall magnitude of 9.7. It is 7,100 light-years from Earth.

Credit :Ole Nielsen - http://www.ngc7000.org/ccd/oc-winter.html#m50

Danny.

Thanet Astronomy Group Contact Details

Executive Committee

Chairman	Daniel Day	01843 228 904
Treasurer	George Ward	01843 292 640
Secretary	Gill Palmer	07543 942 245

Committee

Volunteers	George Cozens	07970 181 395
Members	Sheila Tomkins	07791 892 057
Newsletter	Janet McBride	01227 364 092
Newsletter	Tracy Howes	07917 710 638
Library	Janet McBride	01227 364 092
Web Site	Danny Day	01843 228 904
JAC & Gill	Gill Palmer	01843 848 064

Co-opted Members

Vice Chair	Sheila Tomkins	07791 892 057
Vice Treasurer	Tracy Howes	07917 710 638
Vice Secretary	Janet Mc Bride	01227 364 092

Thanet Astronomy Group

Members' Meetings

Dates and Times

2017

Next Meeting

4th January 2017 at 7:30pm

1st February 2017 at 7:30pm

1st March 2017 at 7:30pm

5th April 2017 at 7:30pm

3rd May 2017 at 7:30pm

7th June 2017 at 8pm

5th July 2017 at 8pm

2rd August 2017 at 8pm

***** 6th September 2017 at 8pm *****

***** Anniversary Four Years at West Bay Cafe Party *****

4th October 2017 at 7:30pm

1st November 2017 at 7:30pm

***** 6th December 2017 at 7:30 for 8:00pm *****

***** Christmas Stargazing Quiz and Buffet *****

All Members' meetings will be held at the :-

West Bay Cafe, Sea Road,

Westgate-on-Sea,

Kent.

CT8 8QA

Advertisement

WEST BAY CAFE

Sea Road, Westgate-on-Sea
CT8 8QA

Location :-
This Family Friendly Cafe is situated on the promenade just beside the sandy beach opposite the junction of Sea Road and Rowena Road, Westgate-on-Sea, CT8 8QA.

Access :-
via a flight of steps behind the cafe.

Disabled Access :-
via the main entrance to the bay and a slope at the cafe door.

West Bay Cafe run by Alan and Kate has a very friendly atmosphere.

Alan outside the new style West Bay Cafe

There is a wide variety of good food and drinks at very reasonable prices and there are always special offers.

There is seating both inside and outside for those extra hot days.

A Typical Sunset at the West Bay Cafe

The Sunsets at the West Bay Cafe are Spectacular.

With a meal, some friends, and a pint or two.

What more could you ask for!

West Bay Cafe have hosted Thanet Astronomy Group since September 2013.

We would like to say a
HUGE THANK YOU to Alan and Kate
for all the help and support they have shown us over the last year.

Please use this Brilliant Seaside Cafe and Tell Your Friends.

What we did last month

November 2016

Wednesday 2nd November Members' Meeting

This month's members' meeting started with the usual notices and updates from Gill.

This was followed by a discussion on green lasers. The Federation of Astronomical Societies is carrying out a consultation of member groups on the use of green lasers because of the increasing number of miss-use incidents that have resulted in prosecutions.

> *We have produced our own policy based on the best of those available at the time and this has been voted on in accordance with section 10 of the constitution, and was accepted by the membership at the members' meeting 2nd Nov 2016.*
>
> *We have added two new sections (Conditions of Membership) and (List of Policies) towards the end of the members' page, of our web site. The green laser policy has been added to the list of policies section. This page is where you will find what is required of all of our members.*
>
> *http://www.thanetastronomygroup.com/members.html*

We then discussed our plans for the group's Christmas meeting on Wednesday 7th December. The plan was to hold a Christmas Stargazing Quiz and Buffet.

There was a fee of £7.50 for members and £8.50 for non-members for the buffet.

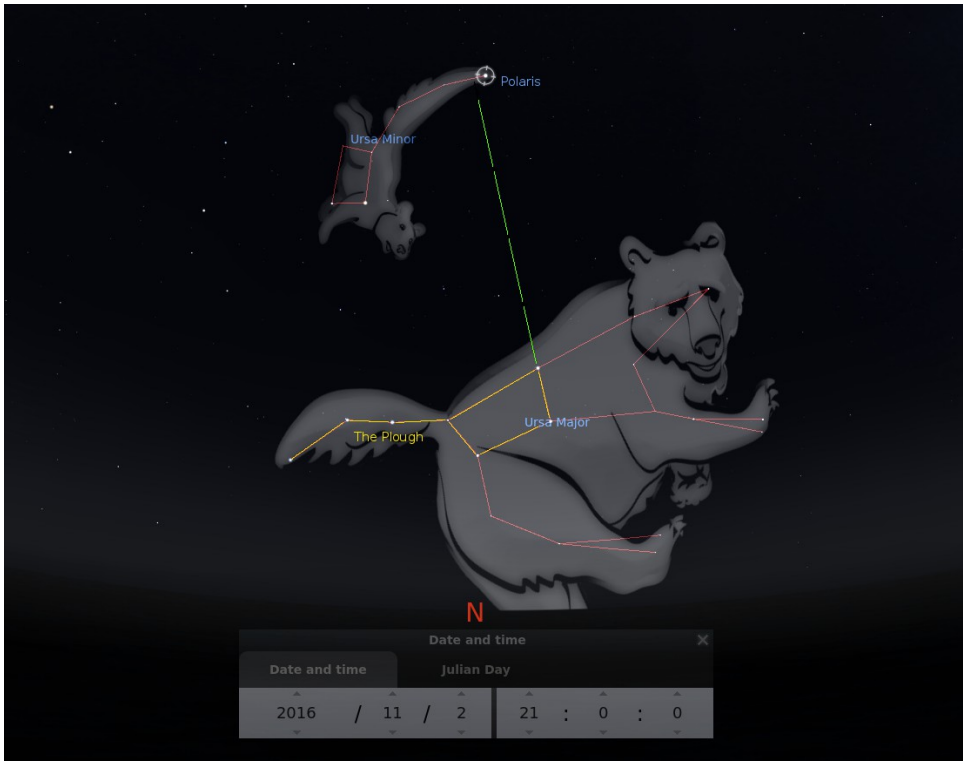
After the tea break, the second half of the meeting was an update and discussion on the astorid (99942) Apophis.

We were also lucky enough to have some clear sky and went outside to do some stargazing.

We looked at the Plough shown in yellow (part of Ursa Major – The Great Bear).

We then used The Plough to find the Pole Star (Polaris).

You need to project a line using the front two stars of The Plough about another 4 times the distance between the two stars, as shown in green.

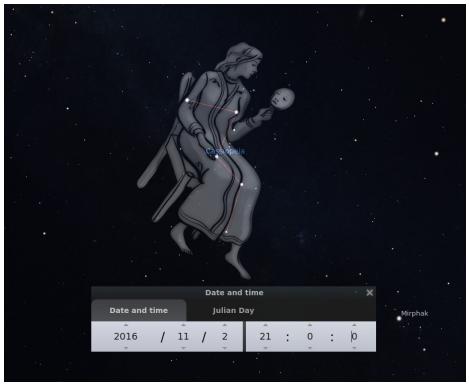


The plough, part of Ursa Major – Polaris the pole star, part of Ursa Minor

The Pole Star will be just above and to the right of the end of the projected green line.

What we did last month

November 2016



Cassiopeia

We looked at the "W" in the sky (Cassiopeia)

Then Steve Ward set his telescope set up so that our members could see the seven sisters – (Pleiades) our group logo.

Pleiades

Saturday 5th November Public Outreach Meeting

This was the coldest meeting of the year to date. We set the telescopes up and worked outside for about an hour, but then the cold got to us and we retreated back into the warm cafe for hot drinks and spent the rest of the afternoon chatting about and answering questions on astronomy.

Saturday 5th November Brian Cox

This evening was the night of the long awaited Brian Cox talk at the Winter Gardens. Many of the members were there and the talk was exactly as expected - amazing and amusing !

Thanks to a blinding flash of absolutely brilliant inspiration, by Gill, Thanet Astronomy Group had secured a table at the event and were able to talk to and hand out hundreds of leaflets to the people attending the talk.

This is the largest concentration of people that are both local and interested in astronomy that we are ever likely to have access to in one evening.

Well Done Gill Fantastic !

Within days of the talk we have been having enquiries about our group!

Thanet Astronomy Group at Brian Cox Talk

What we did last month

November 2016

Saturday 12th November Public Outreach Meeting

Today was a strange day I (Danny) was stuck at home having badly injured my back and could not attend the meeting so most of the telescopes were also missing. Gill was also not there, she was very busy arranging a wedding and reception (more on that later). The day was cold but this did not stop the usual hardy members turning up.

There were a good number of people asking questions and looking at the remaining telescopes.

The main focus of the day was to come a little later. Our group's secretary Gill's son, Rob, was getting married to Demi, whom he met at our group meetings in the West Bay Cafe. (Demi works at the cafe)

The reception was at the cafe in the evening and therefore it closed very early to prepare for the reception. So the astronomy meeting also wound down early.

Rob and Demi's Wedding Reception

Saturday 19th November Public Outreach Meeting

No Danny this week - still not well enough to walk but getting better. Gill and the Georges were there and several interested people but a quiet day as there were few telescopes to attract people and it was very, very cold.

Saturday 26th November Public Outreach Meeting

Today was a good bit warmer than last week and there were a good number of people. Danny was absent, still having had a setback in recovery. The Georges looked after the adults.

Gill was busy with the junior group most of the afternoon with several children, including one young girl who came with her auntie and stayed almost all afternoon. The girl was very interested in astronomy and learned a lot.

Danny.

Lecture Review

Brian Cox at the Winter Gardens Margate

Saturday 5th November 2016

This massive tour of the UK saw Brian Cox explore the wonders of the universe.

He was joined on tour by his BBC Radio 4 co-presenter of "The Infinite Monkey Cage", Robin Ince, who was on hand to interview Brian Cox during the live shows and pose questions from members of the audience during the second half.

Some of the members of Thanet Astronomy Group were lucky enough to have bought tickets before they sold out - over a year ago.

Here is my personal review of this amazing event...

Gill Palmer (Secretary of Thanet Astronomy Group and "JAC and Gill" leader)

As soon as I heard last November that Brian Cox was coming to Margate to give a lecture at the Winter Gardens in December 2016, I knew I had to get tickets... and the year long wait was well worth it!

From the minute he walked on stage, his intellectual presence was awe-inspiring (and he's rather handsome too, in a rugged sort of way!)

He speaks in such a gentle but authoritative manner that you cannot fail to understand the concepts he is explaining, no matter how complex! Plus, the witty banter between Brian and his co-presenter Robin had us all in stitches to lighten the tone of the evening.

However, I must admit that if it hadn't been for all the information I have learnt by belonging to Thanet Astronomy Group for the past three years, then I probably wouldn't have understood any of it!!!

Many of the theories, explanations and stunning visual examples reinforced my basic understanding of the Universe which I have come to appreciate and reaffirmed how small and insignificant we all are in the big scheme of things, particularly if Professor Cox's theory that we are only one Universe amongst many trillions of others is true!!!

Gill and Brian Cox !!!

Gill Palmer.

What's in the sky this month ?

Orion Constellation.

November heralds the arrival of Orion the Hunter. Orion appears in the northern hemisphere between November and February. Of course it's there to see before and after this if you enjoy late night/early morning observing, but I prefer to do my stargazing in the evening!
Orion, in terms of constellation size ranks 27th. There's a lot going on in this large constellation.

The 7 main stars are :-

Top left - Betelgeuse

Alpha Orionis or α Orionis - abbreviated Alpha Ori, α Ori.

The 10th brightest star and the 2nd brightest in Orion.

A red super giant 640 light years away.

If it replaced our Sun its surface would extend past the asteroid belt !!!

Top right - Bellatrix

Gamma Orionis or γ Orionis - abbreviated Gamma Ori, γ Ori.

The 26th brightest star and the 3rd brightest in Orion.

A massive star, with a mass 8.6 times the mass of the Sun, 250 light years away.

The traditional name *Bellatrix* is Latin for "female warrior".

Bottom left - Saiph

Kappa Orionis or κ Orionis - abbreviated Kappa Ori, κ Ori)

The 58th brightest star and the 6th brightest in Orion.

A bright, super giant star that is about 650 light years away.

The name *Saiph* is from the Arabic, literally meaning "sword of the giant".

Bottom right - Rigal

Beta Orionis or β Orionis - abbreviated Beta Ori, β Ori

The 7th brightest star and the brightest in Orion.

A blue-white super giant, 863 light years away.

It is estimated to be 120,000 to 279,000 times as luminous as the Sun !!!

Betelgeuse

Bellatrix

Saiph

Rigal

Images on this page were cut from a larger image of the Orion constellation

Credit Mouser: https://en.wikipedia.org/wiki/User:Mouser

What's in the sky this month ?

Orion Constellation.

The three stars forming Orion's belt are, from left to right :-

Alnitak

Zeta Orionis or ζ Orionis - abbreviated Zeta Ori, ζ Ori.

The 33rd brightest star in the sky.

A hot, blue super giant, 820 light years away.

The name *Alnitak* is from the Arabic, literally meaning “the girdle”.

Alnilam

Epsilon Orionis or ε Orionis - abbreviated Epsilon Ori, ε Ori.

The 29th brightest star in the sky.

A large, blue super giant, 2000 light years away.

It is estimated to be 275,000 to 537,000 times as bright as our Sun !!!

Mintaka

Delta Orionis or δ Orionis - abbreviated Delta Ori, δ Ori)

The 66th brightest star in the sky.

A multiple star system with a triple central component and two stars orbiting that.

It is 900 light years away.

The name *Mintaka* is derived from an Arabic term for 'belt'.

From left to right, the three bright stars are Alnitak Alnilam and Mintaka (Orions Belt)

By Astrowicht - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=6118195

What's in the sky this month ?

Orion Constellation.

Orion's sword (below the belt)

Includes the Great Nebula of Orion, M42, situated near the bottom of the sword.

1350 light years away and 24 light years in diameter.

This nebula also contains the Trapezium Cluster.

The small white dot just above M42 is M43 - the Flame Nebula

The Horsehead Nebula is just below Alnitak, the left most star of the belt.

Orion's Belt and Sword

This image was cut from a larger image of the Orion constellation

Credit Mouser: https://en.wikipedia.org/wiki/User:Mouser

An Asterism.

The Winter Triangle is an asterism that is completed between December and March when Sirius comes into view. It consists of Betelgeuse in Orion, Procyon in Canis Minor and Sirius in Canis Major, otherwise known as the Morning Star or the Dog Star.

Picture The Winter Triangle shown in Yellow @10pm 25/12/2016

Meteor shower.

The Geminid meteor shower starts on the 6th December and peaks on the 13th. The hourly rate of 100 is expected but the full Moon will negate some of them. The shower is created by the Asteroid 3200 Phaethon, but - as ever, the best will only be seen in the early hours of the morning.

George Ward / Danny.

Members' Page

The East Sussex Astronomical Society recently held an 'Astronomy and Space' all day exhibition in Battle. There were lots of exhibitors, including Herstmonceux Science Centre; the British Interplanetary Society; F1 Telescopes and the Battle Cosmic Space Explorers (much like our own Junior Group).

Dr David Baker (Apollo Engineer) was exhibiting and gave a presentation on 'to the moon, then where'. David has been involved with the NASA space programme since the 1960s when men first went to the moon. He worked on developing the re-usable shuttle in the 1970s and advising on space policies in the 80s and 90s. He has written more than 60 books on space programmes and the development of technologies that have, and do underpin, the space age. A very fascinating person to talk to and listen to and he had some models of spacecraft that are being developed now for future space travel and they are most impressive, I have to say.

Bob Mizon. MBE; FRAS (picture below) gave a talk on 'comets: icy visitors from afar' which was most interesting. Bob is the national co-ordinator for the British Astronomical Association's Commission for Dark Skies. He has an extensive collection of meteorites which he showcased at the exhibition, which were available to purchase.



Pictures courtesy of www.google.co.uk-images

Melanie Davies (end picture) – whom I have written about in a previous newsletter was present and again gave a very informative talk on 'mission to Mars: fiction vs reality'. Melanie is the founder of Creative Space, which is an excellent resource, and she brings astronomy outreach and engagement across a huge section of society. Having spoken to her on the day – she would be more than willing to come to Thanet and do a talk/presentation for us.

Greg Smye-Rumsby - (middle picture). What an amazing presenter, nothing quiet and boring about this person! He is a space artist with the 'Astronomy Now' magazine and always brings along plenty of magazines and other goodies to distribute to his audience. I have now heard him speak twice and, along with Melanie, would love him to come and talk to our TAG. This he would be very willing to do. He spoke on 'building the planet Earth'. If you use Twitter, then please do look him up - his tweets are so informative and extensive! He is in Argentina at the moment and his tweets, re the Southern Hemisphere, are very engaging and again, informative.

All in all - there were many other exhibitors, including a rather amazing Art Exhibition by Jill Tattersall (http://www.jilltattersall.co.uk/) whose paintings of stars/planets etc. are worth a look.

Another, Richie Jarvis, keen astrophotographer - again worth a Google search. His photos are superb! And another link - just in case you have not seen it, is the British Astronomical Society website: www.britastro.org

Sheila Tomkins; Membership Secretary

Did You Know ?

Do constellations exist ?

I was asked recently by a 9 year old boy **“Which is the nearest constellation ?”**

This is a very good question.

After having talked to him at length about constellations, I then had to explain to him that actually, they don’t exist!

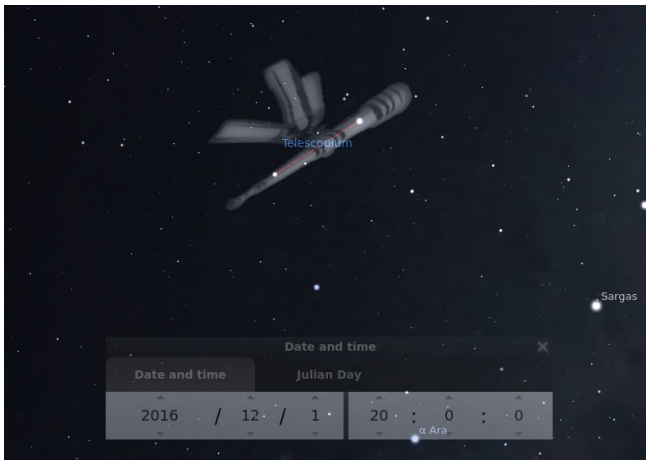
At which point - he quite rightly - looked puzzled !!!

There are no coloured lines in the sky joining up groups of stars and thus defining any of the 88 constellations that we now recognise.

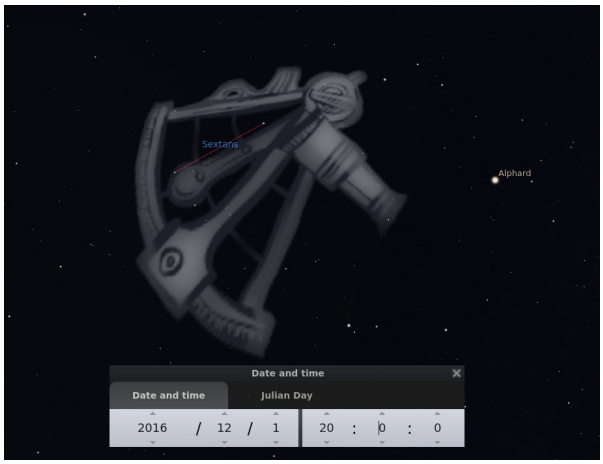
Constellations exist only in our imagination!

Constellations are arrangements of stars which, over thousands of years, have been named by various cultures, such as the Greeks and Arabs who saw them as human and animal forms.

The more recent constellations have been named after objects like Telescopium (telescope) and Sextans (sextant).



Telescopium



Sextans

Up until the 15th century just 48 constellations were named, these were mostly in the northern hemisphere.

As time passed and man explored our planet the southern hemisphere was charted, the telescope was invented, and many dimmer stars became visible. This led to more constellations being discovered.

Incidentally the 88 constellations are those officially recognised by the International Astronomical Union. There are up to a thousand others which have been named by various other cultures.

Did You Know ?

Do constellations exist ?

Of course, we can only observe the heavens from our planet Earth. If we could travel many thousands of light years in any direction the patterns of stars, as we know them, would appear unrecognisable. This is mainly due to the stars in most constellations being at greatly varying distances from Earth.

Orion (the hunter)

Let us take a look at the stars in the constellation 'Orion' the Hunter. This is visible in the evening sky between November and February every year.

Orion is shown on the left, on 1st December 2016 in the east.

The star, Betelgeuse, (Orion's right shoulder) is somewhere between 450 and 625 light years away from Earth.

The star, Bellatrix, (Orion's left shoulder) is about 244 light years away.

The star, Rigel, (Orion's left foot) is 722 light years away.

Saiph (Orion's right knee) is 820 light years away.

The 3 stars forming Orion's belt, (left to right), Alnitak, Alnilam and Mintaka range between 800 and over 1000 light years away from Earth.

As you can see, the stars distances from Earth do not differ by tens of light years but by many hundreds of light years. Although when we look at Orion from Earth, the stars (ignoring the huge difference in distance) look like they form a group we assume that they are all at approximately at the same distance.

This could not be further from the truth! When looked at from a distant vantage point - far from Earth - the stars in the constellation of Orion, would not even be in the same area of that distant vantage point's sky.

One of the great benefits of constellations is their usefulness in enabling us to navigating the night sky - so get to know some of them and find your way around the sky more easily!

Remember, there is a trick to recognising constellations in the night sky. They never look the same as they do in books or on the charts.

The trick is to do with the brightness of the individual stars. Most of the stars in most of the constellations are too dim to see in our light-polluted sky.

Make sure you have Stellarium, a book or chart that shows the brightness (magnitude) of the stars and only look for the brightest stars in any particular constellation. Some constellations don't even have any bright stars, and are not easy to see at all. Start with the constellations with bright stars and when you have learnt them - then you can start filling in the dimmer gaps.

George Ward.

November 2016

My visit to the Natural History Museum

Dacey with the Huge Meteorite

On Saturday 25th September 2016, I went to London to visit the Natural History Museum.

I saw a HUGE Asteroid and I touched it and it felt cold.

It was found in 1783 in Argentina in South America.

It was about the size of a washing machine.

Its weight was as heavy as a small car.

I wouldn't want it to land on my head.

Ouch! ***

by Dacey Drury (Aged 6)

Dacey with the football meteorite

Dacey also found the constellation, Gemini, which is our JAC and Gill logo!

Last time Dacey went to the Natural History Museum, she also touched a meteorite the size of a football and got to "hold" the planet Jupiter in the palm of her hand!

Dacey looking at Gemini

Dacey often helps me (Gill) to chat to people at our Saturday meetings and loves showing visitors our own mini meteorite and postcard from the ISS.

Dacey with Jupiter

Well done, Dacey!

Reach for the stars!

Gill Palmer.

Adult Word Search

ASTERISM	BELLATRIX	BETELGEUSE
CASSIOPEIA	CHRISTMAS	CLUSTER
GEMINID	NEBULA	ORION
PLEIADES	PLOUGH	RIGAL
SAIPH	SNOWFLAKE	TREE

Z E X Y H A N E S P B A K C E
H G K P E E Y E Z E J N G A X
M V I A B P D U T L X A Y S I
C A N U L A J E P A S R W S R
S L L O I F L E X G J X V I T
W A U E I G W Z B I Y G X O A
E X L S E R T O S R D C V P L
N P T U T L O T N G Q G U E L
S O S B T E Q O B S X E R I E
H E T R E E R V A H U M N A B
H G U O L P R P I S B I W S E
A S T E R I S M A F E N P N Q
S A M T S I R H C F U I D I V
E U E W G A N A O E E D K X Y
P A Q K P C H W Z W P J N L M

Danny.

Junior Word Search

ASTERISM	**CHRISTMAS**	**CLUSTER**
GEMINID	**NEBULA**	**ORION**
PLEIADES	**SNOWFLAKE**	**TREE**

M N E B U L A N Y
S A M T S I R H C
I S E D A I E L P
R C L U S T E R I
E Q Z D I H R K A
T N O I R O T L Q
S N O W F L A K E
A D I N I M E G L
V F Z S G Q C N O

We hope that you find the Adult and Junior word searches interesting and that they inspire you to look up any of the words you don't know absolutely everything about :-)

If you like these please let us know and we will continue to produce them.

We are thinking of adding a crossword as well in future newsletters. If you like this idea please let us know.

Comments please : you all know the email address !

Danny.

Members' For Sale and Wanted

This page is for members to place items for Sale and Wanted adverts.

Please let us know if you have anything you would like on this page.

Email us at : - thanetastronomygroup@gmail.com
Or call Danny 01843 228904 or George 01843 292640

Index to Thanet Astronomy Group Newsletters

Newsletters 2014

Issue 1 October 2014

Issue 2 November 2014

Issue 3 December 2014

We will be adding to this list for 2015 and 2016 newsletters when time is available.

The list will be published at the end of the newsletter so you can easily identify where articles were published.

The Index will also be published on the newsletter page of the website.