

Thanet Astronomy Group

Astronomy for Everyone in Plain English

NEWSLETTER

March 2017



*This illustration shows the possible surface of TRAPPIST-1f
Credits: NASA/JPL-Caltech*

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This space is available for promoting members' businesses. You can place an advert here for a donation to the group.

Contents

Cover	1
Contents	2
Executive Committee Messages	3
Advertisement (Steve Mcquaide)	4
About the cover picture	5
About the cover picture	6
Thanet Astronomy Group Contact Details	7
Members' Meeting Dates and Times	8
Advertisement (West Bay Cafe)	9
What we did last month	10
What we did last month	11
Advertisement (Renaissance Glass)	12
Book Review	13
What's in the sky this month	14
What's in the sky this month	15
Members' Page	16
Did You Know ?	17
Junior Astronomers' Club (JAC & Gill)	18
Adult Word Search	19
Junior Word Search	20
Members' For Sale and Wanted	21
Index to 2014 Newsletters	22

Executive Committee Messages

March 2017

The month of January will start with :-

March 1st Will be the Wednesday members' meeting.

March 4th Will start the Saturday meetings.

Notices :

AGM will be in April this year to allow the Beginners Guide to Stargazing Course members access to the sixth part of their course without a week break between parts 5 and 6.

Danny, George, Gill.

Advertisement

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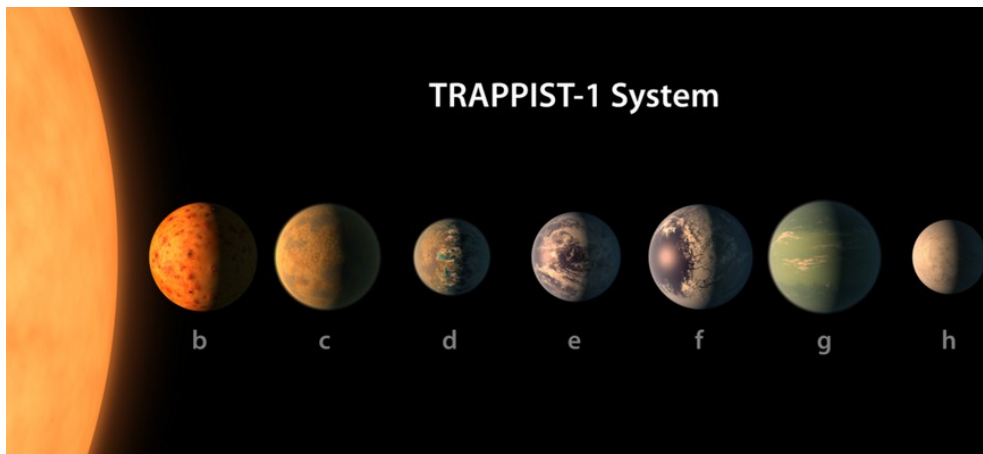
About the Cover Picture



*This illustration shows the possible surface of TRAPPIST-1f
Credits: NASA/JPL-Caltech*

Discovery of a new Solar System

Back in May 2016, the TRAPPIST (TRAnsiting Planets and Planetesimals Small Telescope) a Belgian operated observatory in Chile discovered the first two of the seven exoplanets (Trappist b and c) in the Trappist-1 Solar System (named after the observatory where they were discovered).



The Trappist 1 Solar System

NASA's SPITZER space telescope, with the aid of several ground-based telescopes, have just announced (Wednesday 22 Feb 2017) the discovery of five more planets (Trappist d - h)! They all orbit very close to each other and their cool dwarf star, which means most of them could be seen in the sky, like our moon.

The Trappist 1 star is in the constellation of Aquarius, at Right Ascension $23^{\text{h}} 06^{\text{m}} 29.283^{\text{s}}$ and Declination $-05^{\circ} 02' 28.59''$. You can find this star in Stellarium (search and click the [Position] tab), then enter the Ra. Dec.

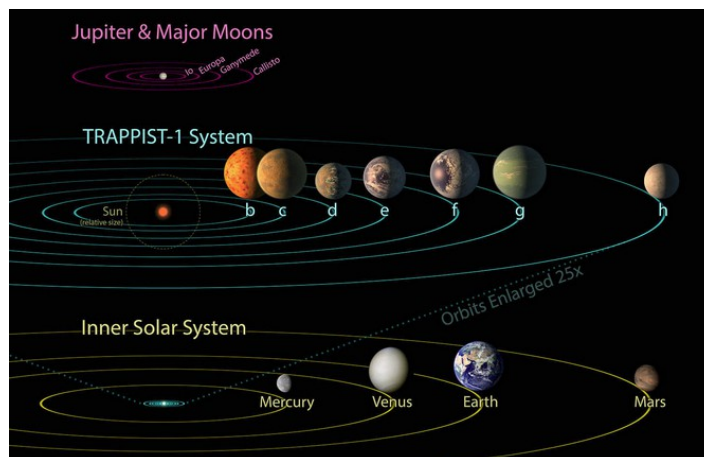
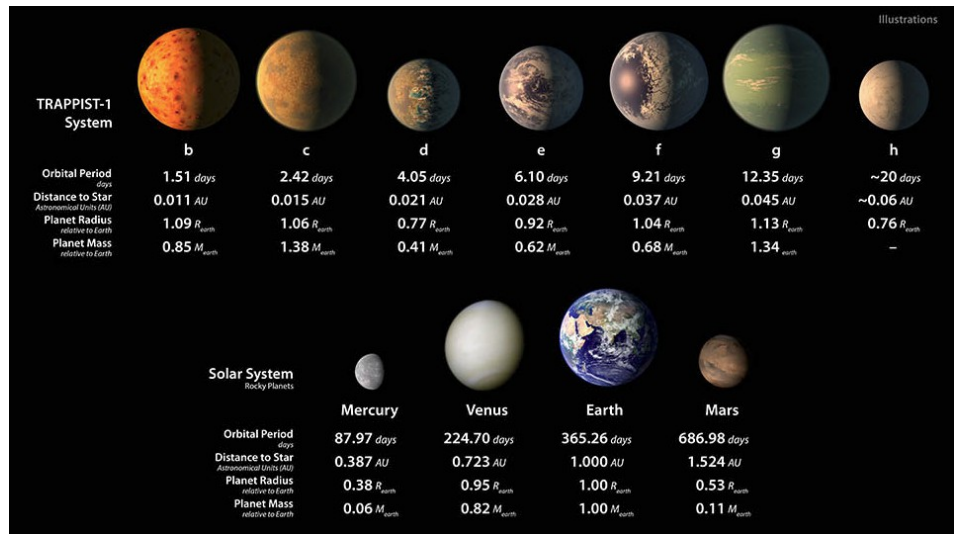


Approximate Trappist 1 location

About the Cover Picture

All of the seven planets (top row below) are rocky Earth-sized planets and, given the right conditions, could contain liquid water. Three of the seven are in their star's habitable zone.

All the planets are in a very tight orbit around their star.



see <https://exoplanets.nasa.gov/trappist1/>

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

Members' Meeting Dates and Times
Thanet Astronomy Group
Members' Meetings

Dates and Times

2017

4th January 2017 at 7:30pm

1st February 2017 at 7:30pm

1st March 2017 at 7:30pm

Next Meeting

AGM

5th April 2017 at 7:30pm

3rd May 2017 at 7:30pm

7th June 2017 at 8pm

5th July 2017 at 8pm

2nd 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.

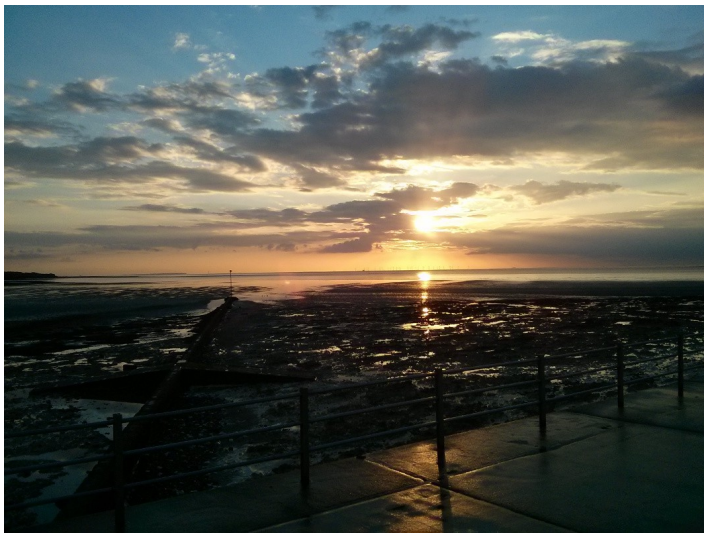
West Bay Cafe run by Alan and Kate has a very friendly atmosphere.



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

February 2017

Wednesday 1st February Members' Meeting

This members' meeting was planned to support both our regular members and the members of the “Beginners Guide to Stargazing Course” we are running at the cafe on Wednesday evenings.

The first half of the meeting was planned to do some basic stargazing if the sky was clear or to use Stellarium if it was cloudy.

In the second half we split into 3 groups. Group 1 with Gill P – looked at circumpolar constellations. Group 2 with George W – A talk on Seasonal Star Hopping. Group 3 with Danny – A demonstration of stripping down and rebuilding a Newtonian Telescope.

Saturday 4th February Public Outreach Meeting

This was a typical cold winter's day meeting. We attempted to get a look at the Sun through the gaps in the cloud without any success. We had a steady stream of people interested in the telescopes and what we were doing.

Some even wanted to book on the Stargazing Course but that “boat had long sailed”. Names and contact details were taken so they can attend the next time we run the course.

Gill was very busy with a steady stream of children (2 to 10 years old). She was teaching them about the planets and stars.

Saturday 11th February Public Outreach Meeting

A cold and quiet day at the cafe. The people that did turn up spent a while outside with the telescopes. The cold got to us all in the end and everyone ended up in the cafe with tea, coffee and cake, while discussing astronomy until we had to go at closing time.

Saturday 18th February Public Outreach Meeting

Today was a very sunny day and there were a lot of people at our meeting, all enthusiastically asking stargazing and astronomy questions. Many were interested in learning how to set up and use the telescopes.

However, the largest group were those on the “Beginners Guide to Stargazing Course” (that we are running in the cafe on Wednesday evenings). The group were keen to get a head-start on the next part of the course. They wanted help installing the Astronomy software that we are going to use in the next part of the course.

We also had a good look at the Sun with our Solar Filtered Telescopes but there were no sun spots visible.

Gill had one of our youngest visitors yet (11 months) who was playing with the cloth planets (made by Tracy) with her grandson, Justin (13 months).

What we did last month

February 2017

Saturday 18th February Stargazing and Viewing Evening

This evening was arranged for our group members and those on the “Beginners Guide to Stargazing Course”.

We had planned to see a huge list of objects both easy for the Stargazers and harder for the group members.

Here is the list (**Bold** = seen):-

Constellation of Orion, stars Betelgeuse and Rigel, Nebula M42

Constellation Gemini, stars Castor and Pollux

Planets - Venus, Mars, Uranus

Constellations - Pegasus, Andromeda

Galaxy Andromeda

Constellation Cygnus, star Deneb

Constellation Cassiopeia

Constellation Cepheus, Red Garnet Star.

Asterism The Plough, Constellation Ursa Major (The Great Bear)

Pole Star Polaris, Constellation Ursa Minor (The Little Bear)

ISS The International Space Station

That's:- 3 Planets, 9 Constellations, 7 Stars, 1 Galaxy, 1 Asterism, 1 Nebula...and some Satellites...

Not bad for one evening !!!

Saturday 25th February Public Outreach Meeting

A very busy day at the cafe - Danny was in the cafe with some of the Stargazing Course members that had missed one of the evening. We worked through what they had missed to make sure they did not get left behind.

George Ward was outside the cafe with the telescopes and most of the visitors explaining why the Thanet Astronomy Group was here in the day. George was teaching them how to use the telescopes whilst answering many questions.

JAC & Gill were learning about the newly discovered Trappist-1 Solar System. Dacey, one of the JAC & Gill members, read the whole of her new book “Dinosaurs in Space” to the group.

Dave was showing some of his amazing photos of constellations he had taken and getting them identified by Gill with the help of Stellarium.

Danny.

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Book Review

30-Second Astronomy

I can't remember where I bought this book but just quote the ISBN 978-184831597-6 in any book shop and they can order it for you.

It claims to explain "The 50 most mind blowing discoveries in astronomy, each explained in half a minute", published by ICON BOOKS UK, cover price £12.99 but, as I always say, shop around! I think I paid about a fiver for it.

I work on the principle that the more astronomy books I buy the better the astronomer I become. Well I'll let you be the judge of that, but the more you read on the subject the more you will learn!

The 30-Second Astronomy is 150 pages of information which gives you no more than two pages on each subject, One page text and the other graphics.

The first 20 pages are dedicated to the planets. Also is included a profile on Galileo.

The next 20 pages, on the Solar System, also with a profile on Copernicus.

Then follows 18 pages on The Milky Way.

The rest of the book covers :-

The Universe, Space and Time and Other Worlds.

With some info on people like Edwin Hubble and Carl Sagan, it also touches on subjects such as Dark Matter, the Big Bang, Exoplanets, Gravity and many more.

It's an ideal book to keep in the car for those occasions when you have a little time to kill.

Overall it's a fairly light read and does not get bogged down with too much complicated detail.

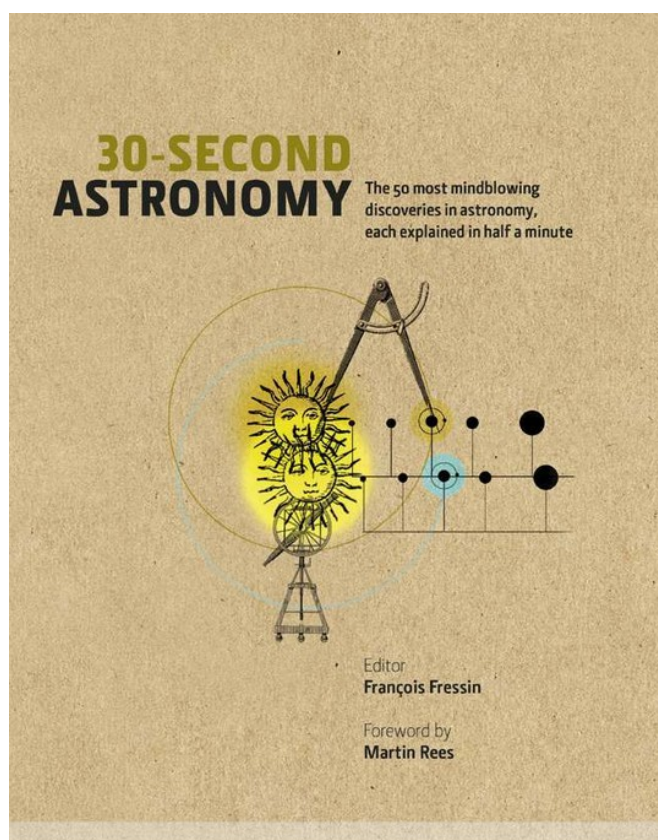
Enjoy!

Hard back New on Amazon £12.99 at the link below

Only 6 left !

<https://www.amazon.co.uk/30-Second-Astronomy-mindblowing-discoveries-astronomy/dp/184831597X>

George Ward.



30-Second Astronomer by Martin Rees

What's in the sky this month ?

March 2017

Constellation (**Coma Berenice**)

Planet (**Jupiter**)

Situated between Bootes and Leo is the constellation of Coma Berenices (*Berenice's hair*). Berenice was Queen to King Ptolemy III of Egypt, (246-222 BC) and this constellation is the only one named after an actual person.

It is the 42nd largest of the 88 constellations and consists of 3 stars. Only one of them is named and they form a triangle (they wouldn't they)! Bottom left is "**Diodem**", 58 light years from Earth.



Constellation Coma Berenices between Bootes and Leo 4th Mar 2017 @ 22:00

The next star is unnamed but has the number "**43 Com**" and is 30 light years from us. The third star is also unnamed with the number of "**15 Com**" and is 167 light years away.

Right next to 15 Com is a beautiful open cluster **Melotte 111**. This cluster is thought to be about 450 million years old.

In the 2nd century AD the Greek astronomer, Ptolemy, classified what is now Coma Berenices as part of the Leo constellation. Not until 1536 was it classified as a constellation in its own right by a German, Casper Vopel.

This area is home to no less than 8 Messier objects, namely M64 ,M88, M98, M99, M100, M91 and M85 - all galaxies and M53, a globular cluster.

M64, the Black Eye Galaxy, is 24 million light years away.

Coma Berenices disappears in mid-September then re-appears in early February and is at its highest point in May.

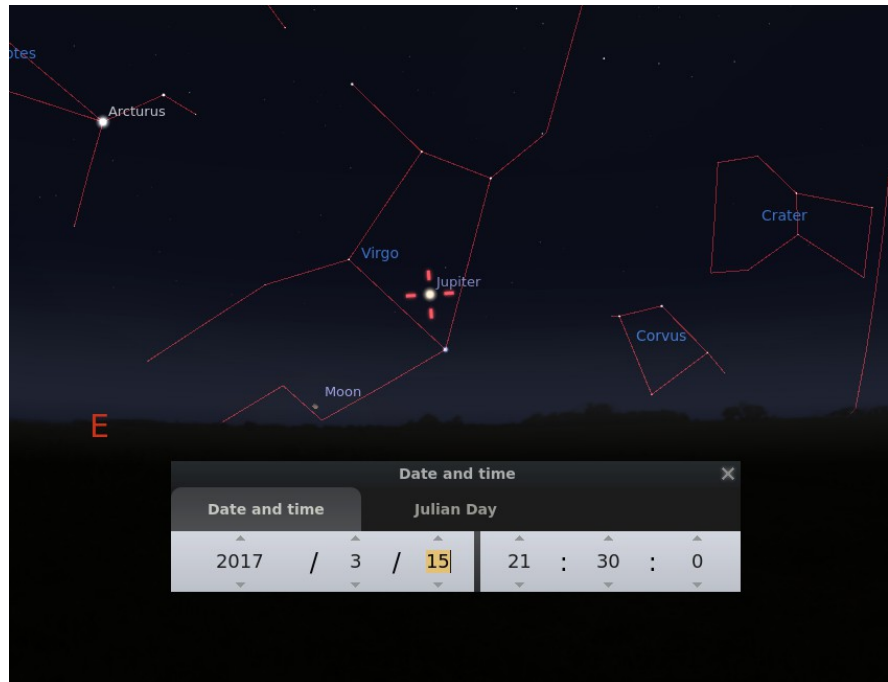
What's in the sky this month ?

March 2017

Jupiter is back !

On the 1st of March Jupiter will rise a little before 9:30pm. By mid March it will be at an altitude of 11° by 9:30pm and at the end of the month Jupiter will be at 20° above the horizon.

Jupiter is at its highest between April and May.



Jupiter in the East at 11° above the horizon 15th March 2017 @ 9:30pm

Jupiter stays with us until mid July and is a great planet to observe with its wonderful bands and enormous red spot. Jupiter will be about 4.7 AU or 690 million kms from Earth at the end of April.



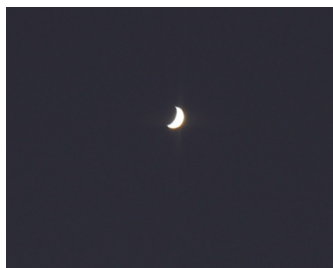
Jupiter and its Moons Io, Ganymede, Europa and Callisto 7 March 2017 @ 10:00pm

George / Danny

Jupiter is the 5th planet from the Sun and the largest in our Solar System. There are at least 67 moons orbiting Jupiter but it's the four Galilean moons, Io, Ganymede, Europa and Callisto that are the easiest to see (even with binoculars if on a tripod). They sparkle like diamonds. A beautiful sight!

Members' Page

Saturday 18th February saw a window of opportunity for clear skies at our afternoon meeting, so we grabbed it! While we still had the telescopes out we extended our time at the cafe into the early evening for Members, Stargazing Course Members and the General Public to view some of the objects we look at in the sky.



Crescent Venus

Just as the sun went down, we set a goal to see who could identify Venus appearing first. It wasn't long until Danny spotted the planet which could be seen hanging over West Bay and, as it got darker, Venus got brighter and brighter. By 5.30pm, it was joined by Mars and soon many of the constellations were making an appearance in the dark night sky.

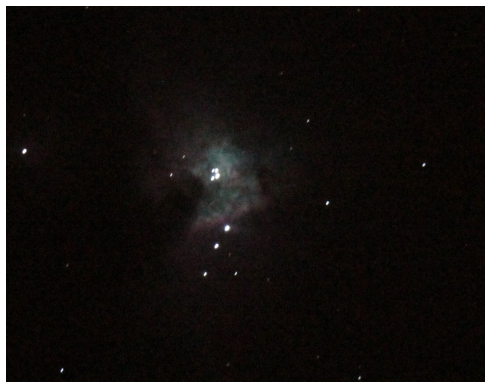
All the Northern Circumpolar Constellations were clearly visible...

Ursa Major, Ursa Minor, Cassiopeia, Cepheus and even parts of Draco! Leo, Cancer and Gemini, the twins, were in the East and Auriga was high above them in the sky, with Capella shining brightly within its constellation.

The Winter Triangle was coming up in the South. The constellations Orion, Canis Major and Canis Minor feature the main stars in the triangle, Betelgeuse, Sirius and Procyon respectively!

Taurus was pointing the way to Pisces in the South West where Venus and Mars were “sitting”, while Pegasus, Perseus and Andromeda were evident in the West.

The good weather also gave us the opportunity to look deeper into the sky where George W found the Andromeda



Galaxy and the Red Garnet Star in the constellation Cepheus, (with his 5” Skywatcher Explorer-130 telescope).



Herschel's Red Garnet Star in Cepheus position marked by the circle below the base of the house

M42 The Orion Nebula –

*This picture was taken without any polar alignment of the telescope. The scope was just pointed at M42 and the camera was attached with the ISO setting on auto and a 1 second exposure. **You do not have to be an expert just have a go!***

Danny was even more thrilled that he had found and photographed the Orion Nebula, M42, using his Celestron C8-N telescope and Canon D600 camera.

Other Members and Course Members stargazing with us took advantage of these opportunities and were in awe of the sights that met their eyes!

Altogether a very successful and fulfilling viewing session...even if our fingers and toes did drop off in the cold as we had been out for over 6 hours at West Bay in the middle of winter!!!

That's why they call “us” MAD...but it's worth it!

Gill Palmer

Clear skies, everyone!

Did You Know ?

The Red Dot Finder (love 'em or hate 'em)



Skywatcher RDF

We at the Thanet Astronomy Group are often asked “how do you use or set up the Red Dot Finder (RDF)”. Our response is always “don’t bother”.

There are some things that don’t need improving, and I think the finder scope is one of them. Having said that, the standard or usual type finder scope that is fitted to the cheaper range telescopes is not



Celestron RDF

altogether ideal, but better than the cheaper RDFs fitted to the same price range telescopes.

Just to refresh your memory, a finder scope needs to be aligned with its telescope in order to work successfully. The idea is the finder scope has a wide field of view (FoV) and can see a much larger area of sky than the telescope. Therefore it is much easier to find objects with a finder scope.

This is done as follows... if you choose to do this at night select the star Polaris, the Pole Star. The reason for this is Earth rotates on its axis which is centred on Polaris so Polaris will remain central and **not** keep moving out of sight while you align your finder scope, due to our planet's rotation.



Old style basic finder scope

Should you choose to perform this operation during daylight then select a land-based object as far away as possible. Now select an eyepiece in the range of between 20 and 40mm, this will give you



New style Basic Finder Scope

a wide field of view allowing you to locate your chosen object more easily through the main telescope.

Now centre your chosen object in the telescope. Next adjust the finder scope using the screws provided, so the same object is also centred. Now check the main telescope to ensure it has not moved. Readjust if necessary, and bingo, you are aligned!

Replacement finder scopes are available from specialist shops or online and start at about £25. Before purchase ensure it's suitable for your scope.

If however you are the optimistic type and wish to persevere with the RDF then centre your telescope as before, then turn on the red dot. (Not forgetting to turn it off after use as many people have done, or you will need a new battery each time you use it!!) Then looking at your selected object through the finder with both eyes - open, adjust the RDF so the red dot covers the selected object. Job done!

Good luck!



You can get Right Angle Finders

Junior Astronomers' Club (JAC & Gill)

February 2017

It was half term holiday for the children again, so I kept watching the weather forecast constantly for a clear gap in the clouds to try to take the Juniors out for a Stargazing Party. Monday 13th February (unlucky for some but lucky for us) saw a window of opportunity for clear skies, so we grabbed it!



Just as the sun went down, I was joined on the cliff top above West Bay Cafe by some of our younger members, Evan (4 years old) and Maia (2 years old) to see who could spot Venus appearing first. It wasn't long until Maia spotted the twinkling "star" which could be seen hanging over West Bay and as it got darker, the shining light got brighter and brighter. Soon, it was joined by another pinkish "star"...Mars!

But by that time, it was past bedtime for our younger Juniors...which is when the older ones took over.

Thomas (although technically now an adult member as he celebrated his 18th birthday at the Members' Meeting this month) arrived as all the constellations were making an appearance in the dark night sky.

At the Stargazing evening

All the Circumpolar Constellations were clearly visible...

Ursa Major, Ursa Minor, Cassiopeia, Cepheus and even parts of Draco!

Gemini the twins (our JAC and Gill logo) were playing happily in the East.

The Winter Triangle was coming up in the South East...

Orion, Canis Major and Canis Minor, featuring the main stars in the triangle

Betelgeuse, Sirius and Procyon!

Pegasus, Perseus and Andromeda were evident in the West.

It was quite a collection for one night!

Once everyone had gone home, I took the opportunity to do some Starhopping on my own using my binoculars and was thrilled to find the Orion Nebula, the Andromeda Galaxy AND the Garnet Star...all by myself!!!

Later that week, we were blessed with another break in the clouds at our Saturday meeting. So we extended our time at the cafe, while we still had the telescopes out, and gave the Juniors a chance to see it all again!

Hollie (4 years old) loved it so much that she stayed for the whole afternoon and into the early evening to watch Venus wake up before it was time for her to go home to bed!

However, our most recent exciting news is that NASA has found a New Solar System around a star called Trappist-1, only 39 Light Years away from ours!



Learning about Trappist-1

To find out more, read our Cover Story...or ask the Juniors!

Gill Palmer.

Reach for the stars!

Adult Word Search

ANDROMEDA

AQUARIUS

BETELGEUSE

CASSIOPEIA

CYGNUS

DENEK

HABITABLE

NEWTONIAN

SOLAR

SPITZER

STARHOPPING

TRAPPIST

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

Danny.

Junior Word Search

ANDROMEDA

AQUARIUS

CYGNUS

DENEK

HABITABLE

NEWTONIAN

SOLAR

SPITZER

TRAPPIST

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

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

Cover	1
Contents (this page)	2
Cover Story (Open Star Cluster Pleiades)	3
What we did last month	6
Junior Members' Page (Remembering the Planets)	7
Book Review (Astronomy for dummies)	10
What's in the sky this month (Great Square of Pegasus, Andromeda)	11
Members' Page (Happy One Year at West Bay Cafe)	12
Telescope Review (Carl Zeiss Telementor 2 Refractor)	13
JAC & Gill (Shooting Stars Evening)	14
Executive Committee Messages	15
Members' For Sale and Wanted	16

Issue 2 November 2014

Cover	1
Contents (this page)	2
Cover Story (M42 the Orion Nebula)	3
Contact Details	4
Members' Meeting Dates and Times	5
What we did last month	6
Junior Members' Page (The Summer Triangle)	7
Advertisement	8
Advertisement	9
Book Review (The Sky at Night, Patrick Moore and Dr Chris North)	10
What's in the sky this month (Uranus, Neptune and Pleiades)	11
Members' Page (Lin and Ian)	12
Telescope Review (Sky Watcher 150P EQ3-2 mount)	13
Junior Astronomers Club (Ramsgate 8 th Brownies and All Thanet Beavers 80+ children)	14
Executive Committee Messages	15
Members' For Sale and Wanted	16

Issue 3 December 2014

Cover	1
Contents (this page)	2
Cover Story (Cygnus the Swan)	3
Contact Details	4
Members' Meeting Dates and Times	5
What we did last month	6
Junior Members' Page (George's Celestron 114 telescope)	7
Thanet Astronomy Group Library	8
Thanet Astronomy Group Library	9
Book Review (Hubble the mirror on the universe)	10
What's in the sky this month (Polaris, Deneb, Errai, Alfirk Alderamin, Zeta Cephei, Iota Cephei Garnet Star, Cepheus, Geminids)	11
Members' Page (The Old Tartu Observatory Estonia)	12
Telescope Review (Sky-Watcher Explorer 130M)	13
Junior Astronomers Club (Maidstone Cubs)	14
Executive Committee Messages	15
Members' For Sale and Wanted	16

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.