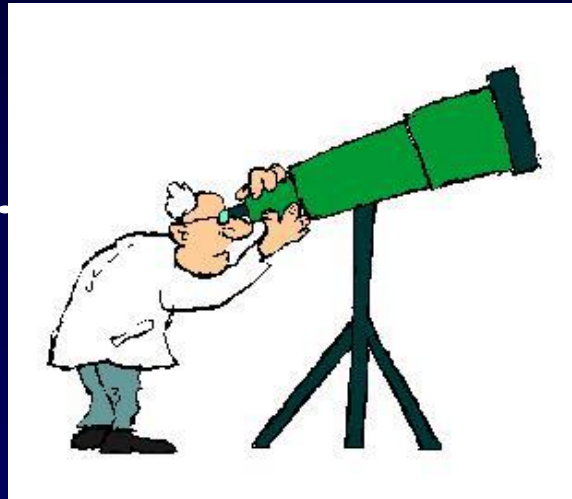


# What's Up!

For November 2017



**BROOKLANDS****RADIO**

ONLINE

The Sound of Surrey



# The November Night Sky

As at 10 p.m.  
mid-month



FOV 181°

15.3 FPS

2017-11-15

22:01:17 UTC+00:00

MON

TUES

WED







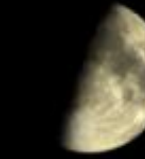
THUR

FRI

SAT

SUN

# The Moon in November

MON	TUES	WED	THUR	FRI	SAT	SUN
		1  Waxing Gibbous	2 	3  Full Moon	4 	5  Waning Gibbous
6 	7 	8 	9 	10  Third Quarter	11 	12  Waning Crescent
13 	14 	15 	16 	17  New Moon	18 	19 
20  Waxing Crescent	21 	22 	23 	24 	25 	26  First Quarter
27 	28  Waxing Gibbous	29 	30 			



# What's Up - Planets

- **Mercury**

- An evening sky object this month, but poorly placed, low in southwest after sunset. Best in last few days of November, at Mag -0.3 but only 3° above horizon.

- **Venus**

- A brilliant morning object at Mag -3.8 low in the E-SE, rising 90 mins before Sun at start of month, 1 hr at end.

- **Mars**

- Another morning object, relatively dim at Mag +1.7 in E-SE

# What's Up - Planets

- Jupiter

- Becoming visible again but as a morning object, towards the end of the month, rising about 2½ hours before Sun.

- Saturn

- A difficult early evening object, low in South Western sky, visible shortly after sunset.







- Uranus

- Well placed all month, binocular object visible all night at Mag +5.7 in Pisces

- Neptune

- Well placed all month, telescopic object at Mag +7.8 in Aquarius, best around midnight

# Events of Interest in November

- **5<sup>th</sup>** Moon passes through the Hyades cluster in Taurus, occulting Aldebaran between 02.30 & 03.21 (following morning)
- **13<sup>th</sup>** Venus and Jupiter just half a Moon's width apart, one hour before sunrise in E-SE 
- **15<sup>th</sup>** Waning crescent Moon will be  $3^\circ$  from Mars low in East, about 4.30 a.m. 
- **17<sup>th</sup>** Venus, Jupiter & 1% lit (very thin crescent) Moon form RA triangle, about 6.30 a.m. in E-SE 
- **17<sup>th</sup>** Peak of Leonids Meteor Shower, 10/hour. 
- **28<sup>th</sup>** Saturn & Mercury  $3^\circ$  apart, low SW, 30 mins after sunset  

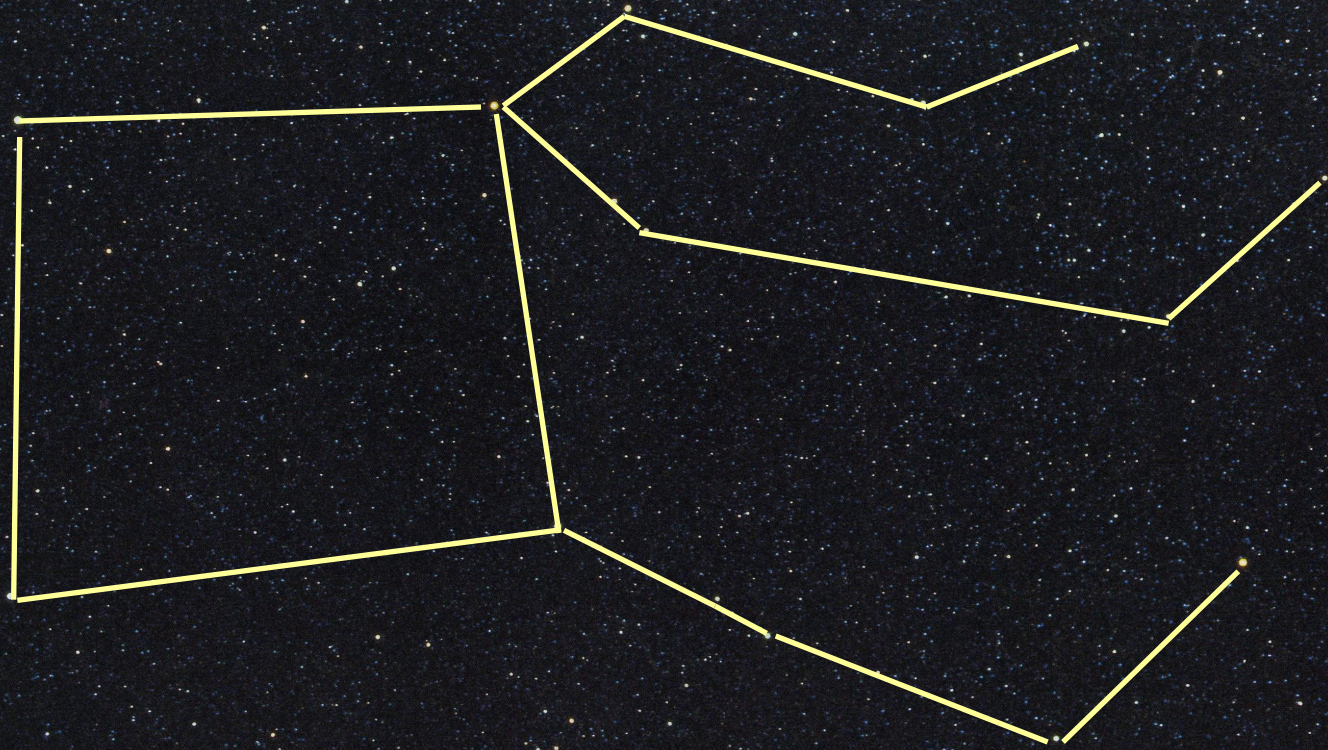


# November's Suggested Constellation - but which one?





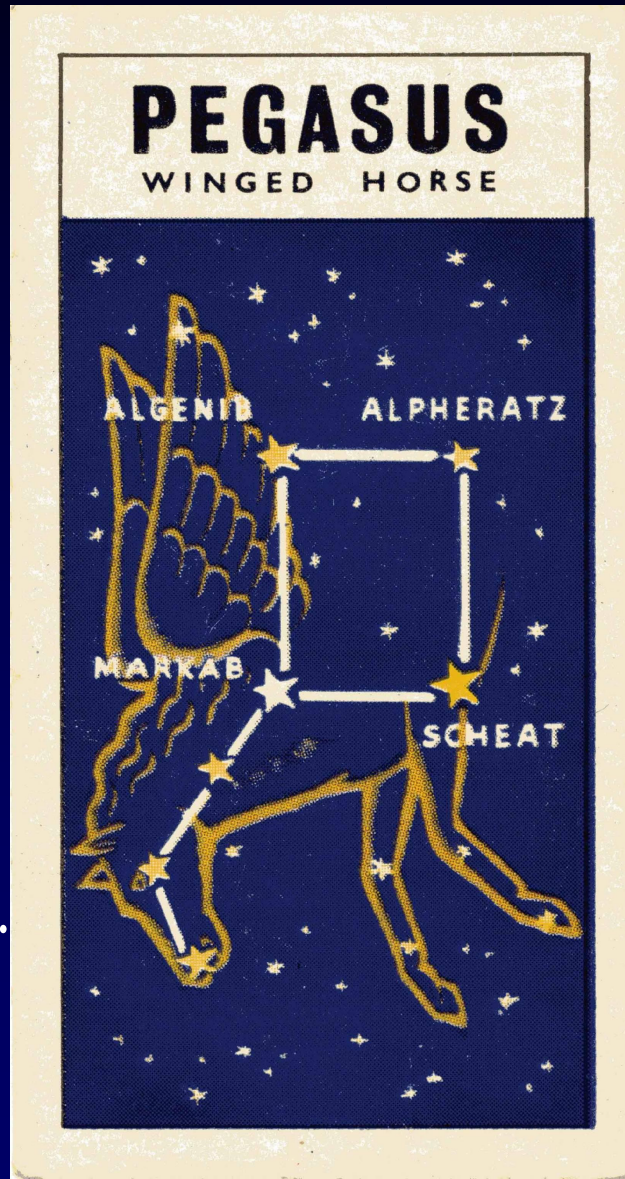
# November's Suggested Constellation - but which one?



That's right - Pegasus



# November's Suggested Constellation



A SERIES OF 50 No. 42

## OUT INTO SPACE

*Approved by A. Hunter, Ph.D.,  
Sec. Royal Astronomical Society*

### PEGASUS (The Winged Horse)

Pegasus is seen upside down in our latitudes. Only half of Pegasus is illustrated in celestial maps—one star, Alpheratz, forming part of the adjoining constellation of Andromeda. It is prominent on the meridian at midnight in September. There are many small stars within and in clear atmosphere over 100 may be observed. Markab, a white star of second magnitude, is a navigational star. Scheat is a deep yellow star also of second magnitude. According to mythology Bellerophon tried to ride to heaven on Pegasus' back and was thrown off.

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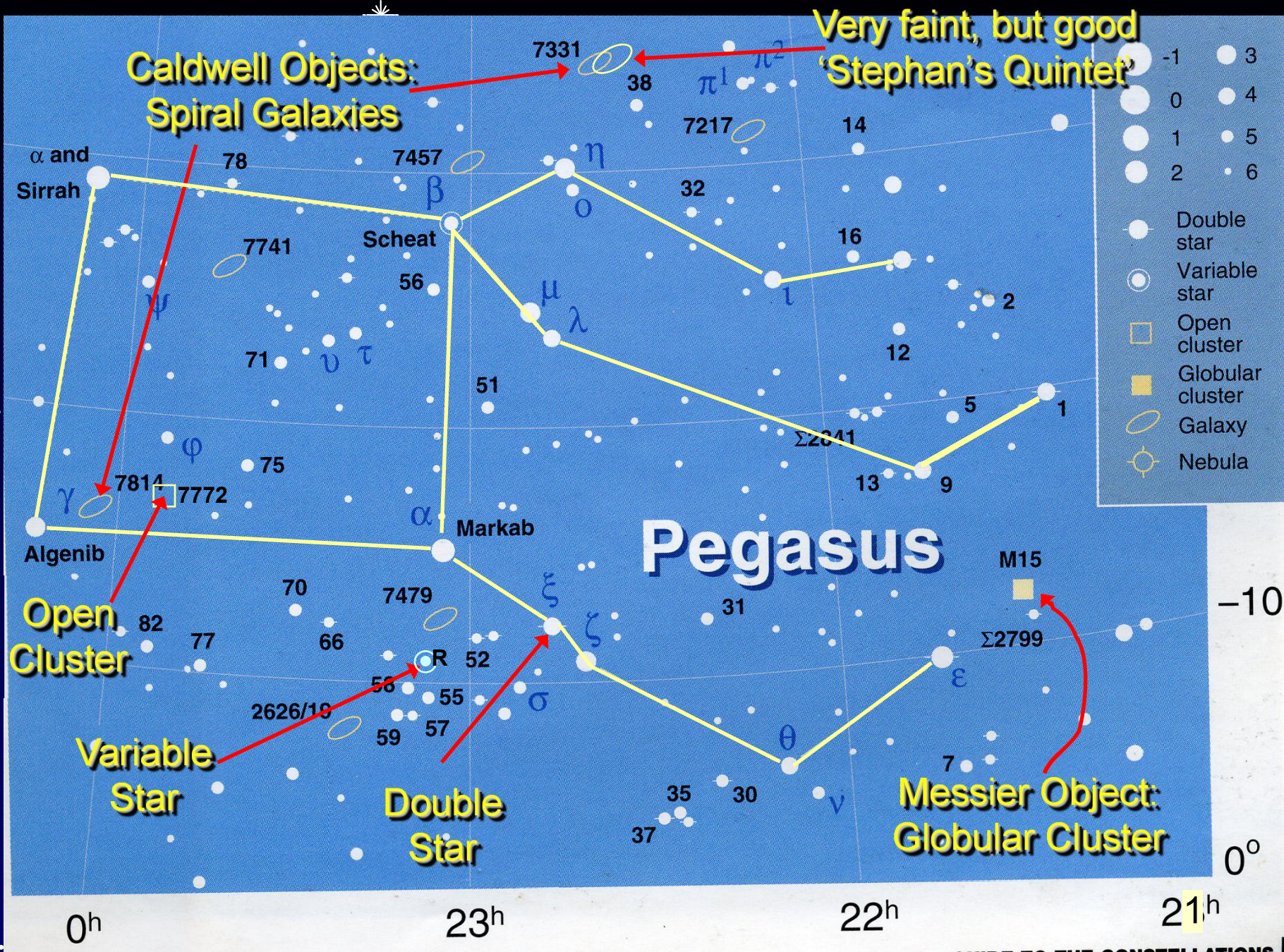
**Brooke Bond & Co. Ltd.**

# Where is it?



FOV 181° 15.3 FPS 2017-11-15 22:01:17 UTC+00:00







# Messier & Caldwell Objects in Pegasus



**M15 (NGC 7078)**

**Distance** 30,600 light years  
**Visual Brightness** Magnitude 6.3  
**Apparent Dimension** 18.0 arc minutes  
**Discovered** 1746 by Jean-Dominique  
Miraldi II



**C30 (NGC 7331)**

**Distance** 47,000,000 light years  
**Visual Brightness** Magnitude 9.5  
**Apparent Dimension** 9.7 arc minutes  
**Discovered** 1784 by William Herschel



# November's other Suggested Constellation ✨

## Andromeda: the myth

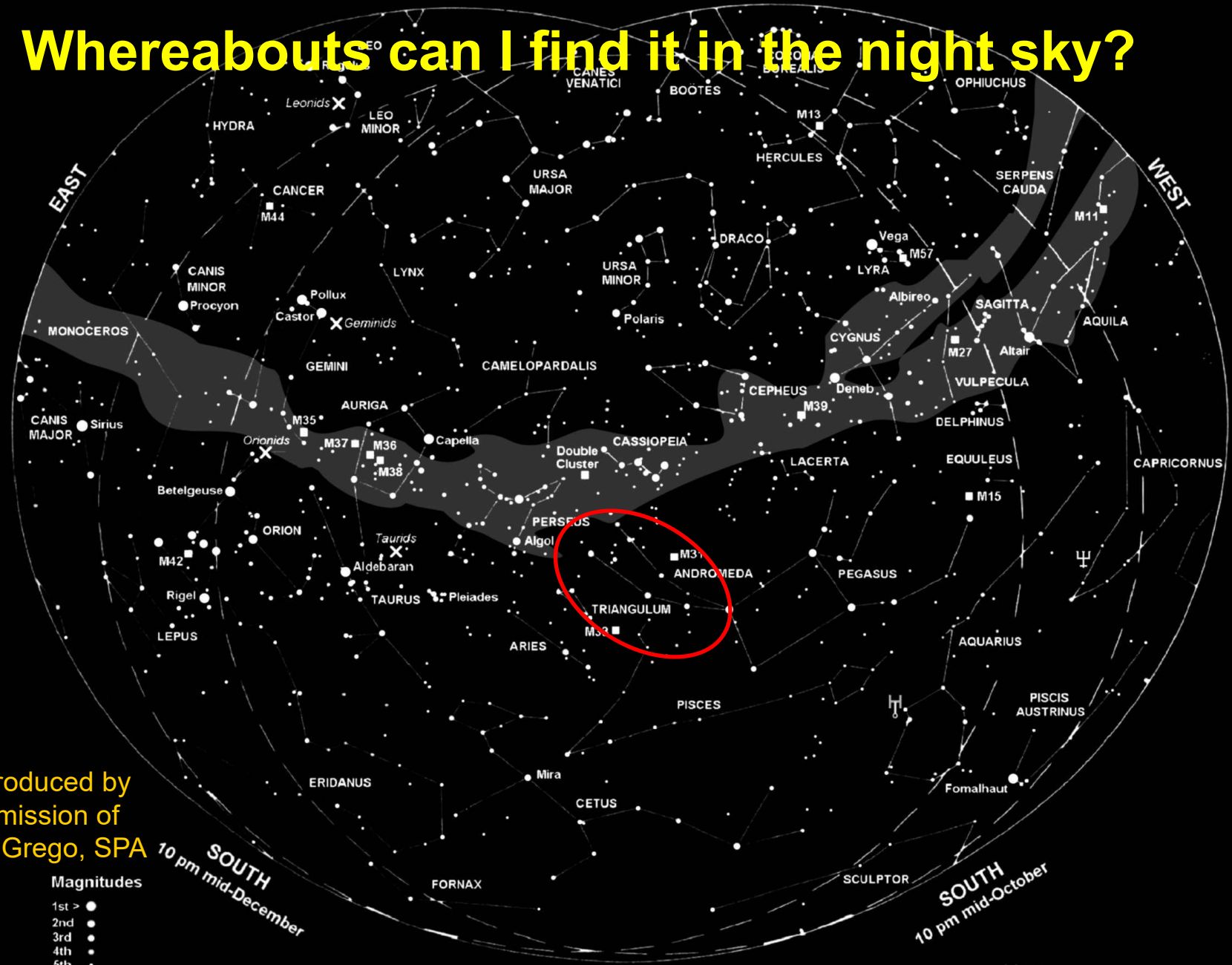
- In Greek mythology Andromeda was the daughter of Cassiopeia and Cepheus. Cassiopeia angered Poseidon by claiming that both she and Andromeda were more beautiful than any of Poseidon's nymphs. Poseidon retaliated by chaining Andromeda to a rock to be eaten by his sea-monster. Perseus arrived in the nick of time, flying on Pegasus and clutching Medusa's head, which he used to kill the monster. Having rescued her, what else could he do? He married her!

# Andromeda

- Andromeda is relatively easy to find, it's first star is Alpheratz, which is actually the top left corner of the square of Pegasus.
- Its main stars are only of 3<sup>rd</sup> or 4<sup>th</sup> magnitude, and form a stream of stars flowing away to the upper left from Pegasus
- It contains perhaps the most famous Messier object of all, and three in total – all members of our own Local Group of galaxies
- It also contains some other nice deep sky objects, binaries and variable stars



# Whereabouts can I find it in the night sky?



Reproduced by permission of Peter Grego, SPA

Magnitudes

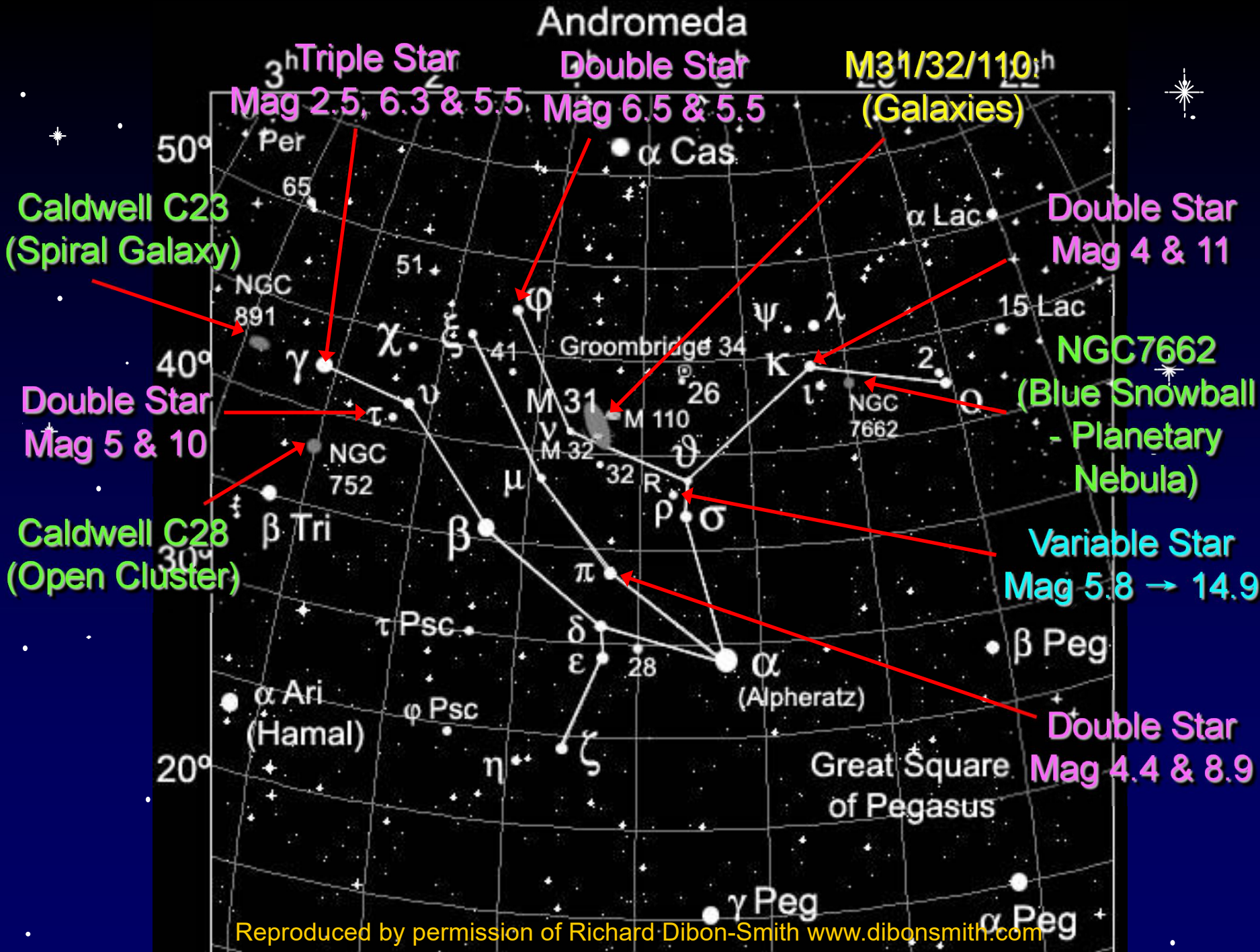
- 1st > ●
- 2nd ●
- 3rd ●
- 4th ●
- 5th ●

Deep Sky object ■

Meteor radiant ✕

SOUTH  
10 pm mid-November

♅ Uranus } Mid-November  
♆ Neptune }





# Messier Objects in Andromeda

**M31** (NGC 224) [also  
showing M32 & M110]

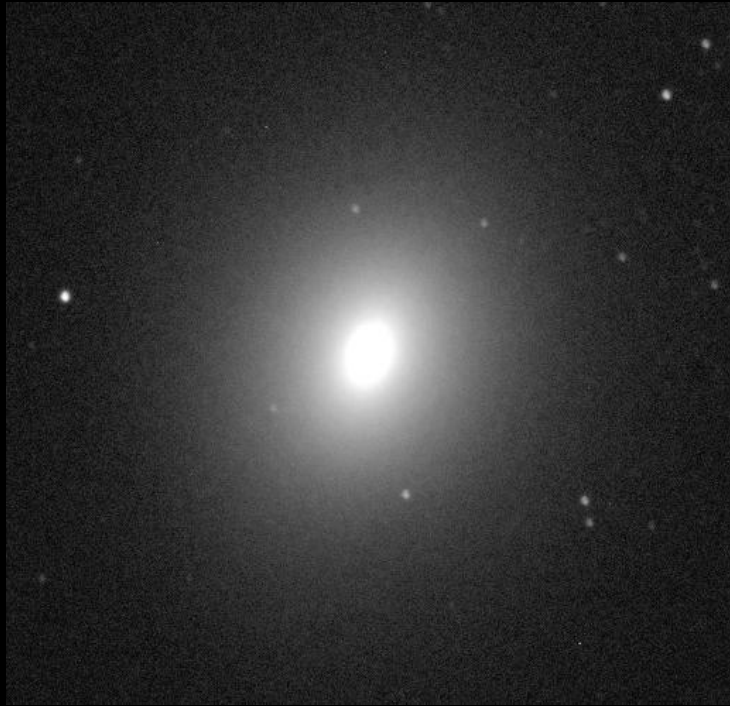
**Great  
Andromeda  
Galaxy**

**Distance** 2,900,000 light years  
**Visual Brightness** Magnitude 3.4

**Apparent Dimensions** 178 arc minutes  
**Discovered** 964 Abd-al Al-Sufi



# Messier Objects in Andromeda (contd)



**M32 (NGC 221)**

**Distance** 2,900,000 light years  
**Visual Brightness** Magnitude 8.1  
**Apparent Dimension** 8 arc minutes  
**Discovered** 1749 Le Gentil



**M110 (NGC 205)**

**Distance** 2,900,000 light years  
**Visual Brightness** Magnitude 8.5  
**Apparent Dimension** 17 arc minutes  
**Discovered** 1780 Messier

# Caldwell Objects in Andromeda



**C23 (NGC 891)**

**Distance** 10,000,000 light years  
**Visual Brightness** Magnitude 10.0  
**Apparent Dimension** 13.5 arc minutes  
**Discovered** 1784 William Herschel



**C28 (NGC 752)**

**Distance** 1,300 light years  
**Visual Brightness** Magnitude 5.7  
**Apparent Dimension** 60 arc minutes  
**Discovered** 1786 William Herschel



# Another Deep Sky Object of interest in Andromeda



NGC 7669

Blue Snowball Nebula

**Distance** 2,200 light years

**Visual Brightness** Magnitude 8.3

**Apparent Dimension** 18 arc seconds

**Discovered** 1865 Gaspare Ferrari

# Meetings at Local Societies

- **Guildford AS** *Lecture Theatre L, Uni of Surrey*

- Thursday 2<sup>nd</sup> November, 7.30 p.m.

- **Diamonds in the Sky**

- » The Importance of White Dwarfs in Modern Astrophysics

- » Prof Martin Barstow

- » Uni of Leicester

- » President RAS



# Meetings at Local Societies

- **Farnham AS Aldershot Cricket Club**

- Tuesday 14<sup>th</sup> November, 7.45 p.m.

- **The Legacy of Apollo**

- Nick Howes

- » Freelance Science Writer

# Talks at Local Astro Societies

- **Croydon AS** *Royal Russell School, Coombe Lane, Croydon*
  - Friday 10<sup>th</sup> November, 7.45 p.m.
    - "Optical quality and a comparison of optical systems"
      - John D Timmins
  - Friday 24<sup>th</sup> November, 7.45 p.m.
    - "Cassini/Huygens mission"
      - Prof. Steve Miller, UCL
- **Ewell AS** *Nonsuch High School for Girls, Cheam*
  - Friday 10<sup>th</sup> November, 8.00 p.m.
    - "15 Million Degrees: A Journey to the Centre of the Sun"
      - Prof. Lucie Green



# Seeing the Unseen



**Discover the hidden  
wonders of the Universe**

Join in with physicists from the University of Surrey celebrating International Dark Matter Day. Discover how cutting edge physics is allowing us to see the unseen in astronomy, quantum technologies, medical physics and much more.

Activities include demonstrations & activities with the researchers, talks, star gazing, arts & crafts and a mobile planetarium.

**31 October 2017  
17.30 to 21.00**

Stag Hill Campus,  
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To book your free place visit:

<http://www.surrey.ac.uk/events/20171031-seeing-unseen-public-event>



Department of Physics  
Astronomy Evenings  
begin again on 15th  
November  
1 - Talk by researcher  
2 - Stargazing (if clear)

# Astronomy on TV

- **The Sky at Night**

- *A Flash In The Sky*

- The team a range of space phenomena that occur over short time periods, from solar filaments to gamma-ray burts. They find out about the astronomers and telescopes capturing these fleeting events, and how they might change our understanding of the Universe.

Sunday            12<sup>th</sup> November            BBC 4, 10.00 pm

Thursday        16<sup>th</sup> November            BBC 4, 7.30 pm

*for exact times please check [www.radiotimes.com](http://www.radiotimes.com)  
or [www.bbc.co.uk/skyatnight](http://www.bbc.co.uk/skyatnight)*