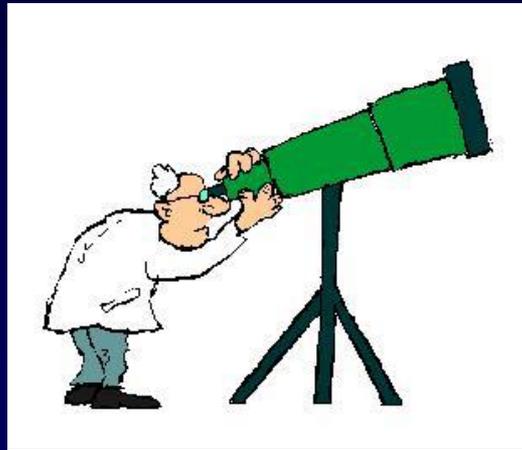


# What's Up!

For September 2017



**BROOKLANDS****RADIO**

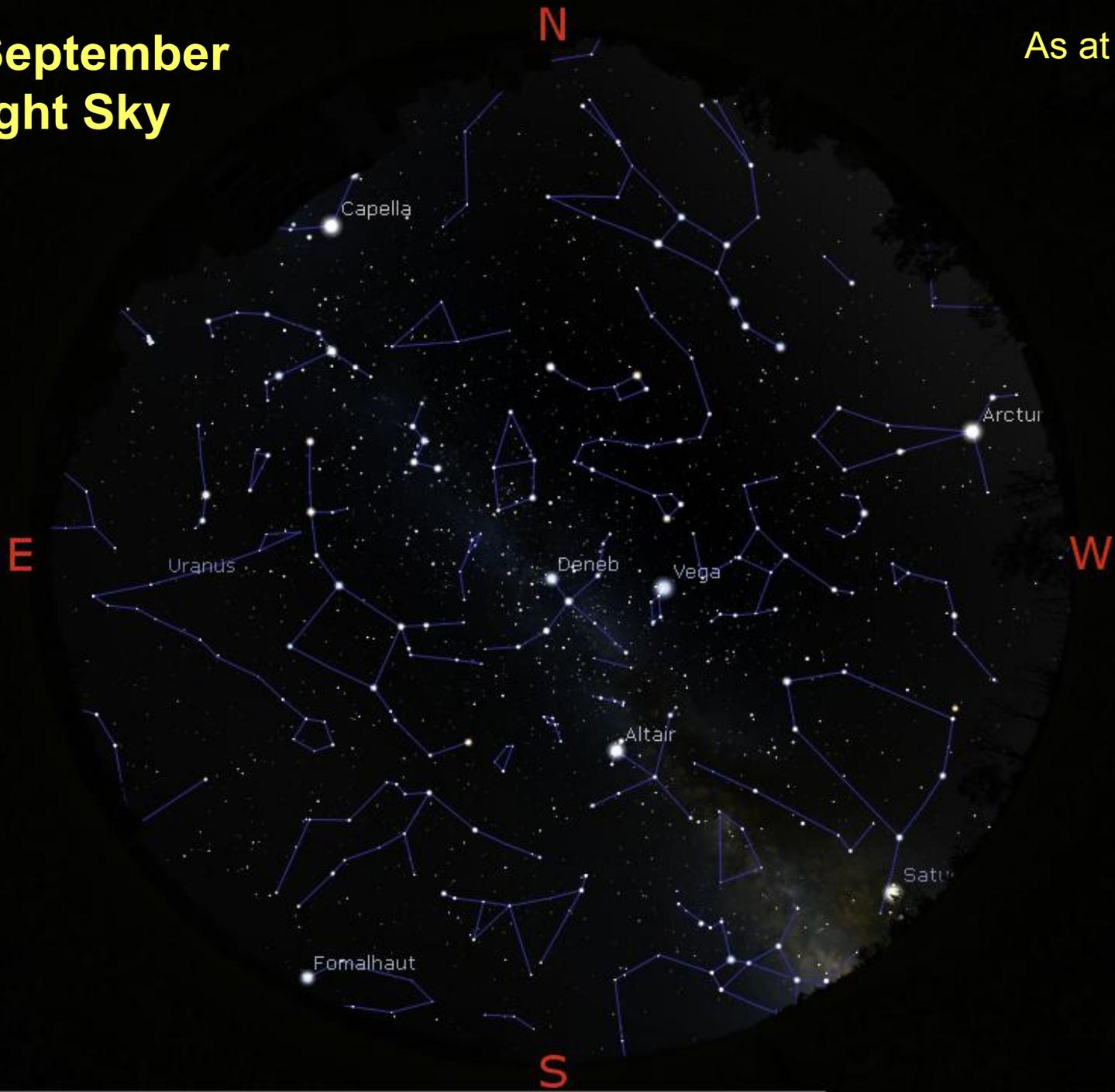
ONLINE

The Sound of Surrey



# The September Night Sky

As at 10 p.m.



# The Moon in September

[www.moonphases.co.uk](http://www.moonphases.co.uk)

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



# What's Up - Planets

- Mercury

- Best chance to see Mercury for the rest of the year, in the East as a predawn object from 6<sup>th</sup> to 20<sup>th</sup>, a bright spark at mag -1.0

- Venus

- Still a brilliant morning object at Mag -4.0 low in the E-NE, rising about 2 hours before the Sun at start of month:

- Mars

- A morning object, but just at mag +1.8, best from 11<sup>th</sup> onwards

# What's Up - Planets

- Jupiter

- Still visible most of the evening at mag -1.7 but now getting increasingly lower and getting effectively lost in the murk by end of month. Easily visible as a disc in binoculars and small telescopes.

- Saturn

- Still visible as an evening object, low in south to south west at magnitude +0.5. Its rings are tilted very favourably, so a fine sight in a small telescope.

- Uranus

- Telescopic morning object at Mag +5.7 in Pisces

- Neptune

- Telescopic evening object at Mag +7.8 in Aquarius

# Events of Interest in September

- **1<sup>st</sup>** Venus just  $1.5^\circ$  south of M44, the 'Beehive' cluster in Cancer
- **4<sup>th</sup>** Mercury just over  $3^\circ$  from the Moon
- **10<sup>th</sup>** Mercury less than  $1^\circ$  from Regulus
- **16<sup>th</sup>** Mars less than  $1^\circ$  from Mercury
- **18<sup>th</sup>** Venus less than  $1^\circ$  from Moon
- **19<sup>th</sup>** Venus less than  $1^\circ$  from Regulus
- **21<sup>st</sup>** Jupiter moves close to Moon
- **22<sup>nd</sup>** Autumn Equinox
- **26<sup>th</sup>** Saturn just  $3.5^\circ$  south of Moon near midnight

# Local Events in September

- **Saturday 23<sup>rd</sup> September**
- Guildford AS will have telescopes at Dapdune Wharf in Guildford for National Trust's  
**“Wey River Festival ”**
  - until 10.00 pm
  - free event

# September's Suggested Constellation



A SERIES OF 50 No. 40

## OUT INTO SPACE

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

### **CYGNUS (The Swan)**

A Northern Hemisphere constellation (known also as the Northern Cross) in the Milky Way, directly east of the Lyre, and nearly on the same meridian as the Dolphin. Seen from May to December. Its brightest star, Deneb, is in the tail of the Swan, and always above the horizon in England. One named 61 Cygni (a small variable star in this constellation and almost invisible to the naked eye), was the first to have its distance from the Earth determined—50 billion miles.

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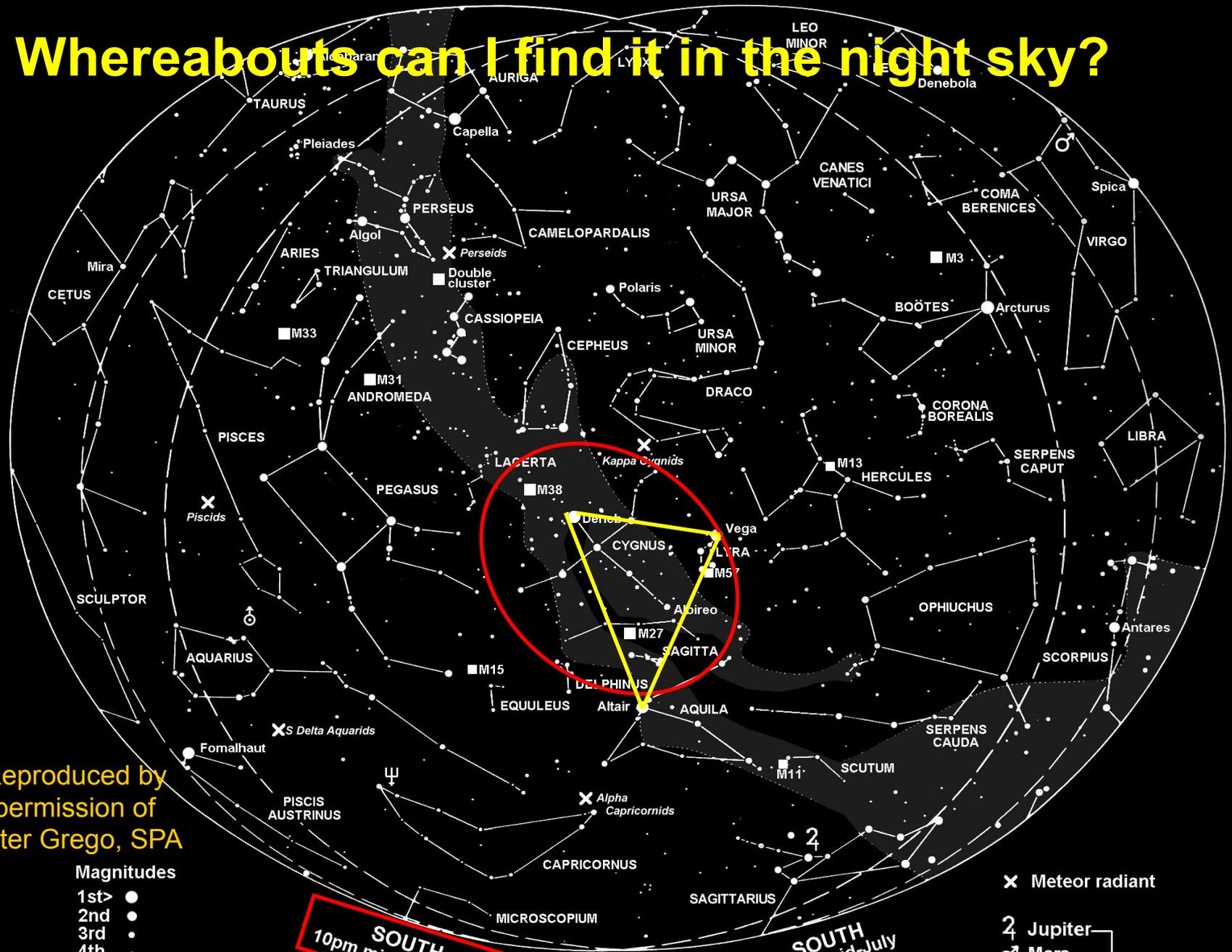
# Cygnus - The Mythology

- There are several differing accounts about Cygnus, however here's one popular one
- Zeus, the king of the gods, desired Leda who was the very beautiful wife of the King of Sparta
- He realised she wouldn't love him for what he really was, and so disguised himself as a swan and was successful. (Strange lady!)
- Their offspring included
  - Castor (twin of Pollux who's father was the Spartan King)

# Cygnus - The Constellation

- Its main star is Deneb, a 1st magnitude star and one of the corners of the Summer Triangle
  - the constellation's other main stars are 2<sup>nd</sup>/3<sup>rd</sup> magnitude.
- Two Messier objects lie within Cygnus
  - M29 & M39, both open clusters
  - M27, “The Dumbbell” planetary nebula lies close to Cygnus, but is actually just over the border in Vulpecula
- Its 2<sup>nd</sup> star,  $\beta$  Cygni aka Albireo, is one of the best known double stars
  - and there are several more that can be found with binoculars

# Whereabouts can I find it in the night sky?



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- Magnitudes**
- 1st > ●
  - 2nd ●
  - 3rd ●
  - 4th ●
  - 5th ●
  - Deep sky object ■

**SOUTH**  
10pm mid-September

**SOUTH**  
10.30pm mid-August

**SOUTH**  
11pm mid-July

- ♃ Meteor radiant
  - ♃ Jupiter
  - ♂ Mars
  - ♅ Uranus
  - ♆ Neptune
- Mid-August

Double Star  
'Albireo'

Messier M27  
(planetary nebula  
'The Dumbbell')

The Veil

Messier M27  
Open Cluster

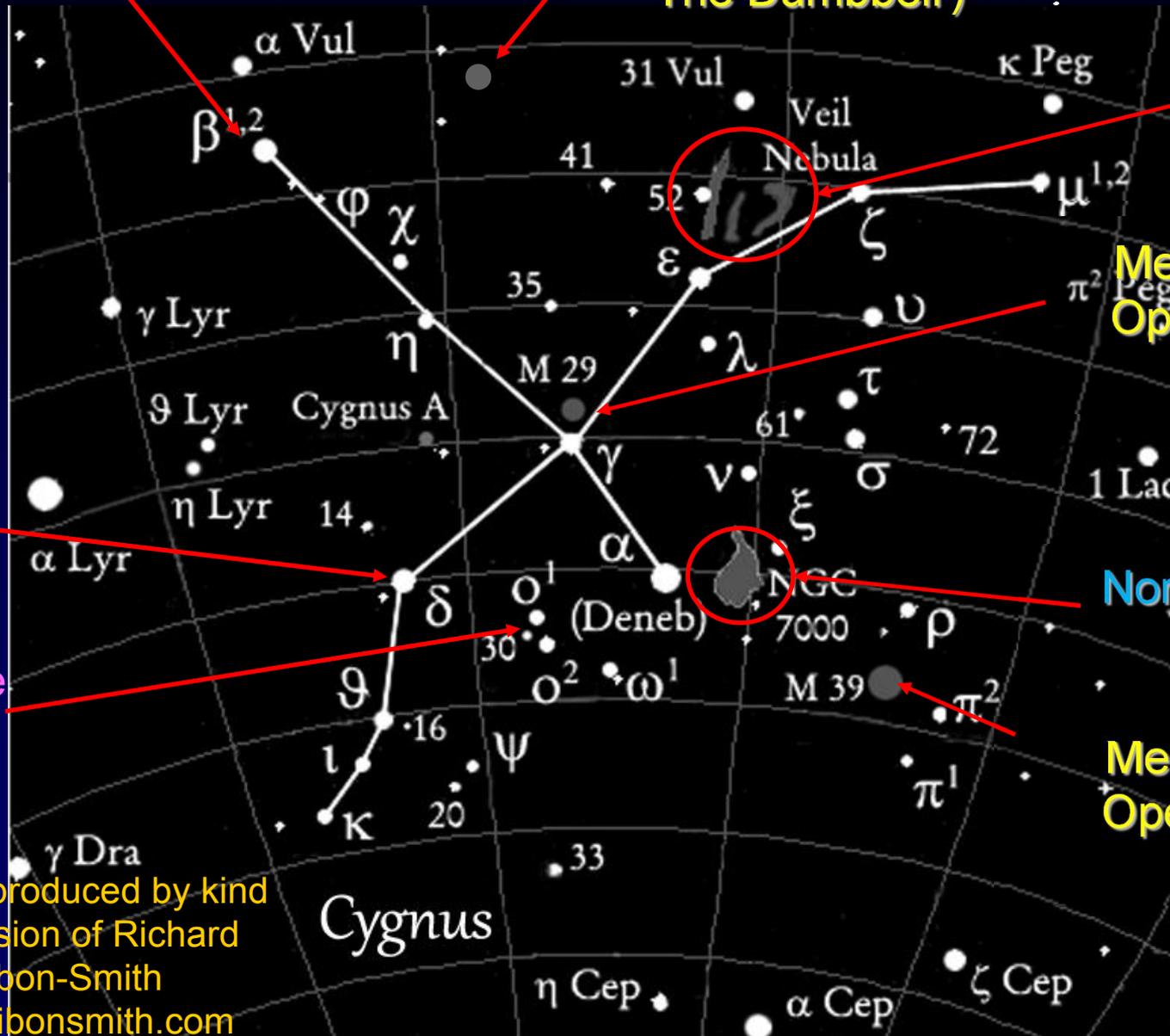
North American  
Nebula

Messier M39  
Open Cluster

Double  
Star

Triple  
Star

Chart reproduced by kind  
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# Albireo



## Beta ( $\beta$ ) Cygni

Distance: 400 LY

Magnitude: 3<sup>rd</sup> & 5<sup>th</sup>



**M29**



**M39**



**Distance 4,400 light years**  
**Visual Brightness Magnitude 6.6**  
**Apparent Dimensions 10 arc minutes**  
**Discovered 1764, Charles Messier**

**Distance 950 light years**  
**Visual Brightness Magnitude 4.6**  
**Apparent Dimensions 30 arc minutes**  
**Discovered 1750, Guillame Le Gentil**

**M27 (NGC 6853)**

**Planetary Nebula**



**Distance 815 light years**  
**Visual Brightness Magnitude 7.3**

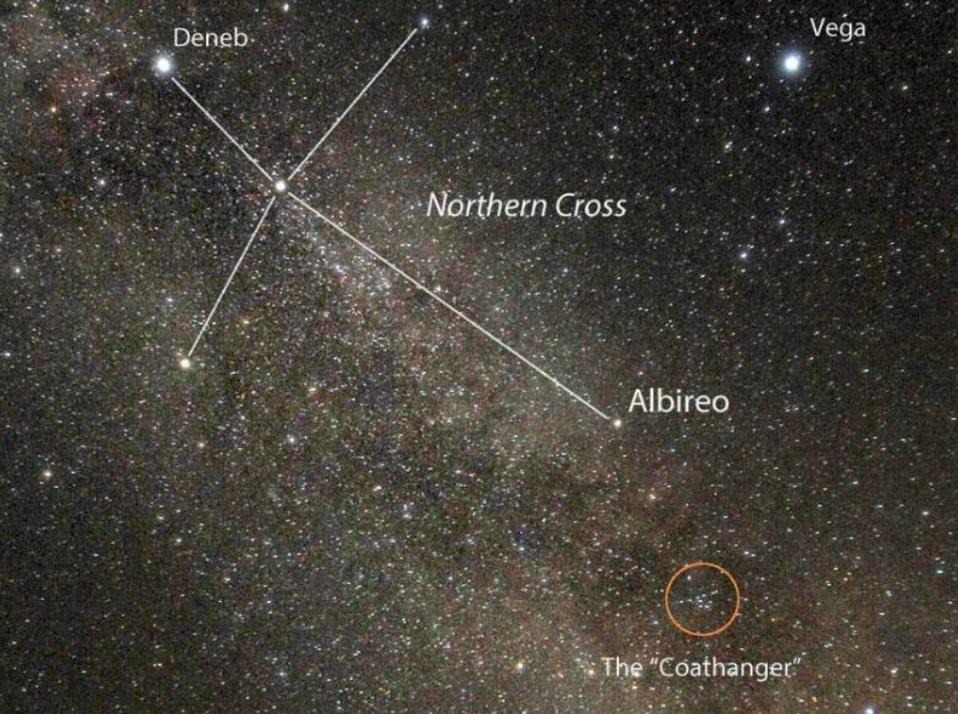
**Apparent Dimensions 8 arc minutes**  
**Discovered 1764 Charles Messier**



NGC 7000 : North American Nebula    plus    IC 5070 : Pelican Nebula



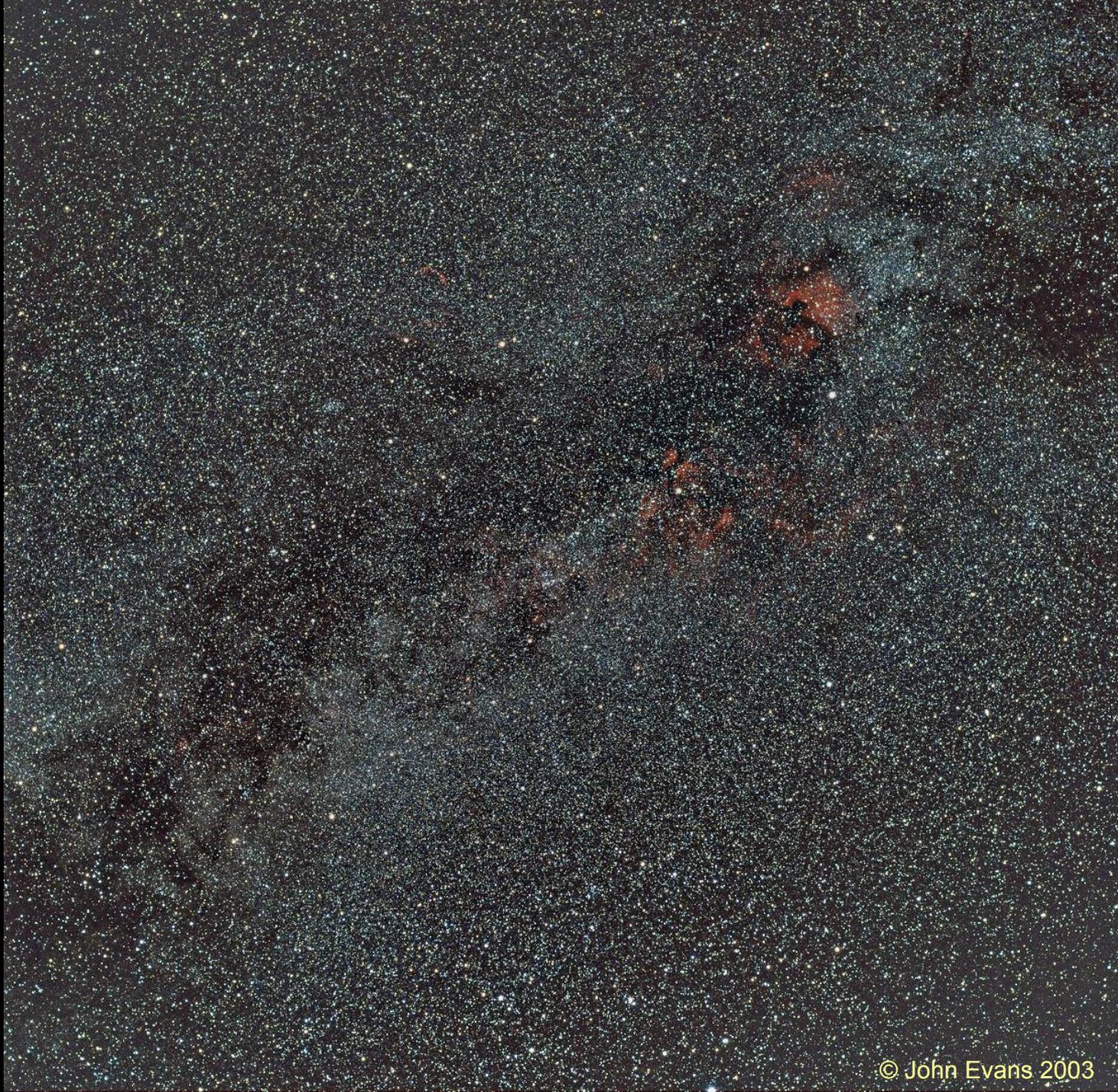
The Veil Nebula



**“The Coathanger”  
asterism**

**aka  
“The Ski Lift”  
“Brocchi's Cluster”  
Collinder 399**





# Meetings at Local Astro Societies

- **Guildford AS** *Lecture Theatre M, Uni of Surrey*
  - Thursday 7<sup>th</sup> September, 7.30 p.m.
    - “The Gaia Revolution”
      - Dr George Seabrook, MSSSL
- **Farnham AS** *Aldershot Cricket Club*
  - Tuesday 12<sup>th</sup> September, 7.45 p.m.
    - “A Universe of Dwarf Galaxies”
      - » Dr Samantha Penny, Uni of Portsmouth

# Meetings at Local Astro Societies

- **Croydon AS** *Royal Russell School, Coombe Lane, Croydon*
  - Date and title not yet known
    - check [www.croydonastro.org.uk](http://www.croydonastro.org.uk) for details
- **Ewell AS** *Nonsuch High School for Girls, Cheam*
  - Friday 8<sup>th</sup> September, 8.00 p.m.
    - "Hunting for Exorings and Exoplanets in our Galaxy"
      - Prof. Matthew Kenworthy
        - » Leiden Observatory, Netherlands