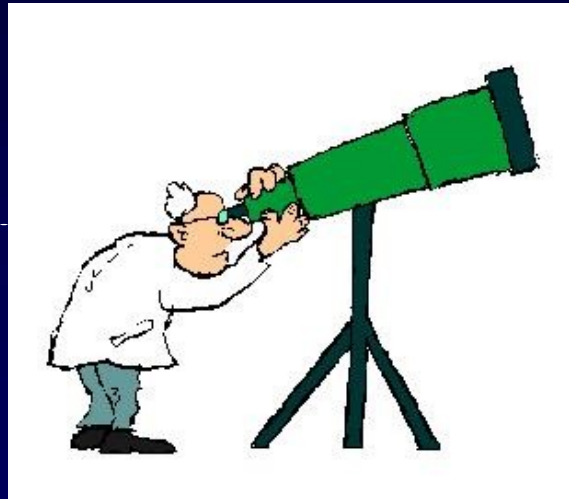


# What's Up!

For September 2018



**BROOKLANDS**RADIO

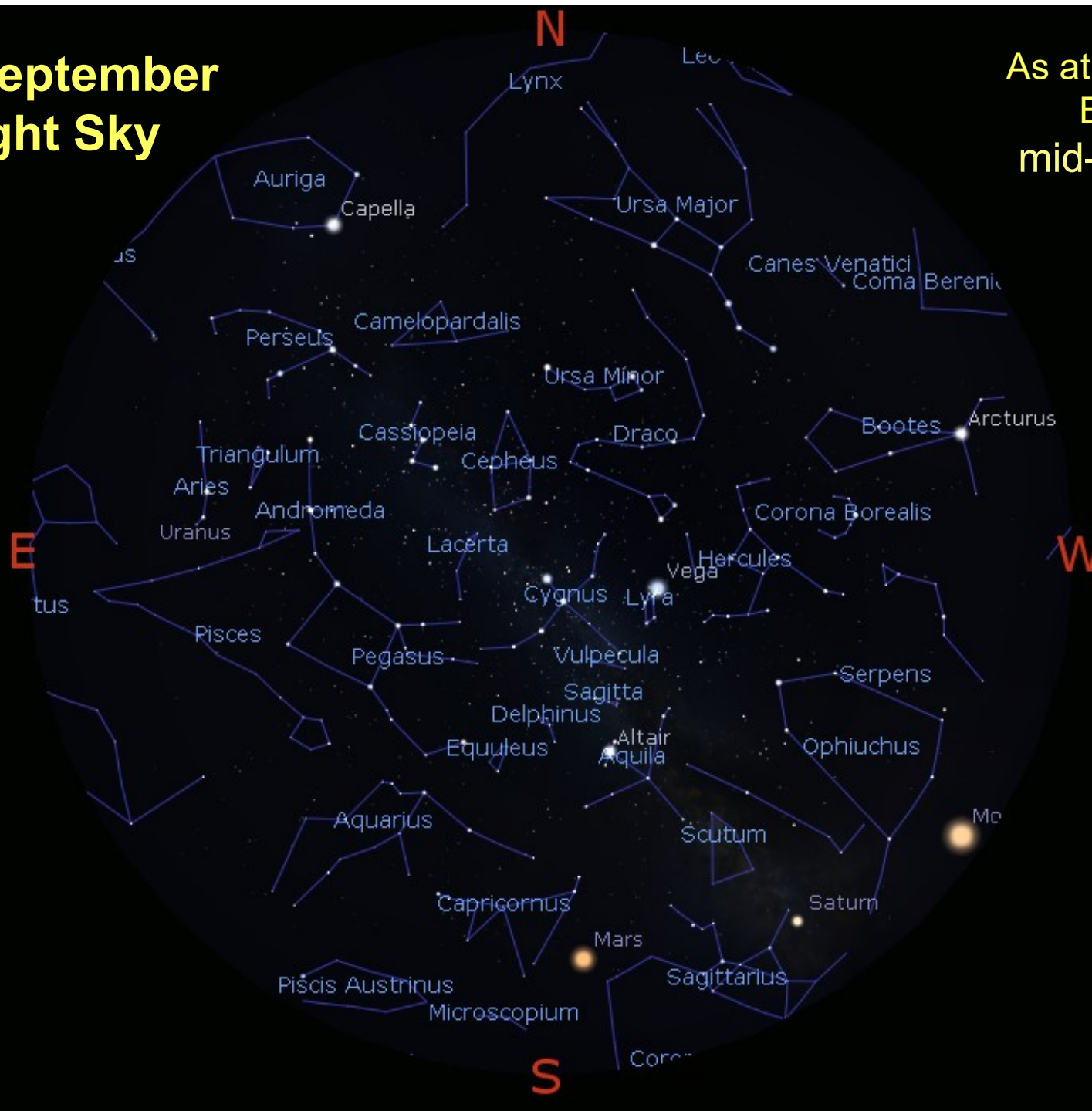
ONLINE

The Sound of Surrey














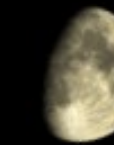
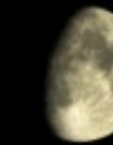












# The September Night Sky

As at 10 p.m.  
BST  
mid-month



# The Moon in September

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

# What's Up - September's Planets

- Mercury

- Visible as a morning object for first two weeks of the month, a bright spark rising in ENE before dawn.

- Venus

- Still brilliant at Mag -4.0 evening object in WSW, but sets less than an hour after sunset at start of month. It disappears into the twilight from mid-month.

- Mars

- Still putting on a great evening show despite being relatively low at  $11^\circ$  in South. As its distance from Earth increases it dims over the month from Mag -2.1 at the start to -1.3 by the end, with a correspondingly smaller disc.

# What's Up - August's Planets

## • Jupiter

- Just about still observable as an evening object, low in SW as night falls but only at the start of the month, getting lost in the twilight as month draws on.

## • Saturn

- An early evening object at Mag +0.9, low in Southern sky but rings favourably tilted, better in first half of month.

## • Uranus

- Visible all month at Mag 5.7 in SE to S in the early hours but becoming an evening object, by month end.

## • Neptune

- Best time to see Neptune this year, well placed at 30 degrees above the horizon in South, but a challenge at Mag +7.8.

# Events of Interest in September







- **2<sup>nd</sup>** Comet 21P/Giacobini-Zinner passes  $1^\circ$   southwest of Capella. Mag 7, so binos needed
- **5<sup>th</sup>** Use Saturn to find 3 Messier Objects 
  - $1.3^\circ$  from M21 (open cluster)
  - $1.75^\circ$  from M20 (Trifid Nebula)
  - $2^\circ$  from M8 (Lagoon Nebula)
- **9<sup>th</sup>** Two low-rate Meteor Showers peak tonight, Piscids and Epsilon Perseids
- **12<sup>th</sup>** Comet 21P/Giacobini-Zinner at edge of M37, open cluster in Auriga 
- **13<sup>th</sup>** Thin crescent Moon  $6^\circ$  above Jupiter in SW



Image from Stellarium for 9 pm 5th Sept showing proximity of M20, M21 & M8 to Saturn

# Events of Interest in September (continued)

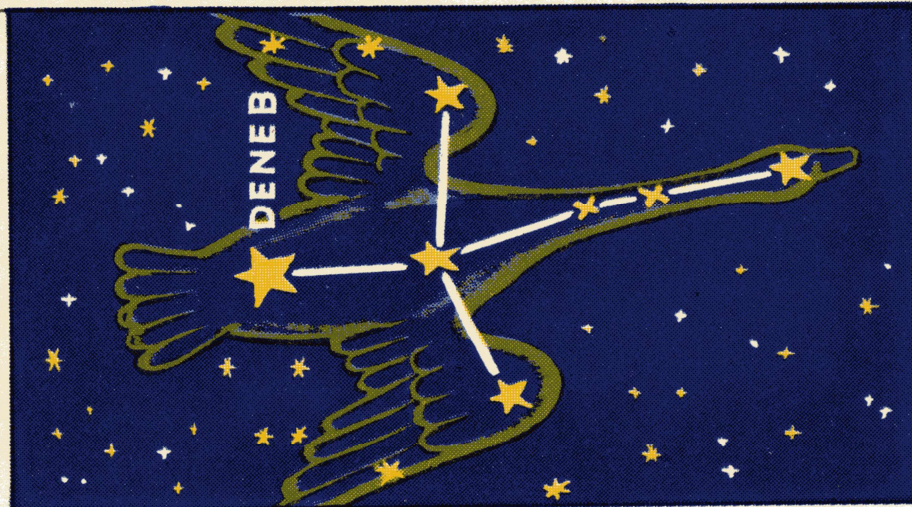
- **15<sup>th</sup>** Comet 21P/Giacobini-Zinner passes south of M35, open cluster in Gemini 
- **17<sup>th</sup>** Saturn only  $1.7^\circ$  below and to right of Moon 
- **19<sup>th</sup>** Mars and Moon  $5.5^\circ$  apart
- **23<sup>rd</sup>** Neptune  $3.6^\circ$  north-west of Moon 
- **30<sup>th</sup>** Moon central within the V of the Hyades cluster in Taurus, before dawn



# September's Suggested Constellation



**CYGNUS** (SWAN)



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)
  - Helen of Troy
  - Clytemnestra (wife of Agammemnon)

# 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?**



Double Star  
'Albireo'

Messier M27  
(planetary nebula  
'The Dumbbell')

The Veil

Messier M27  
Open Cluster

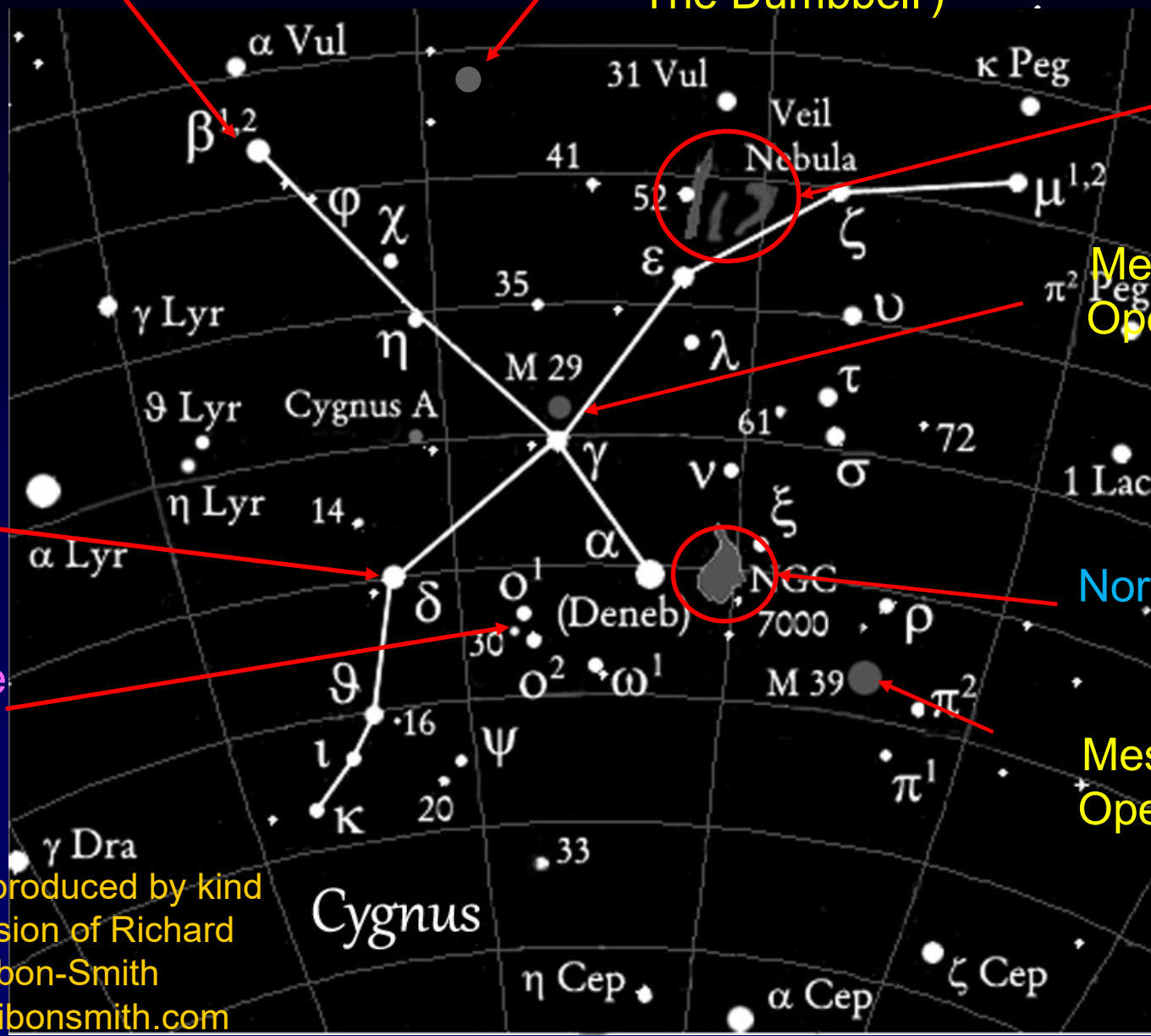
Double  
Star

North American  
Nebula

Triple  
Star

Messier M39  
Open Cluster

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**

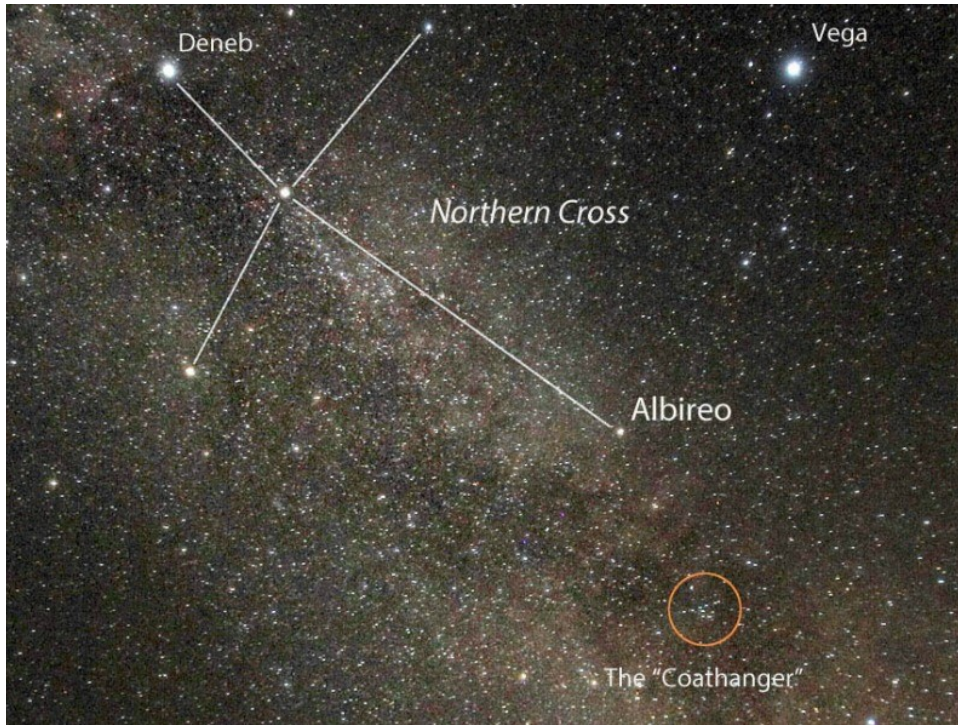




NGC 7000 : North American Nebula plus IC 5070 : Pelican Nebula



The Veil Nebula

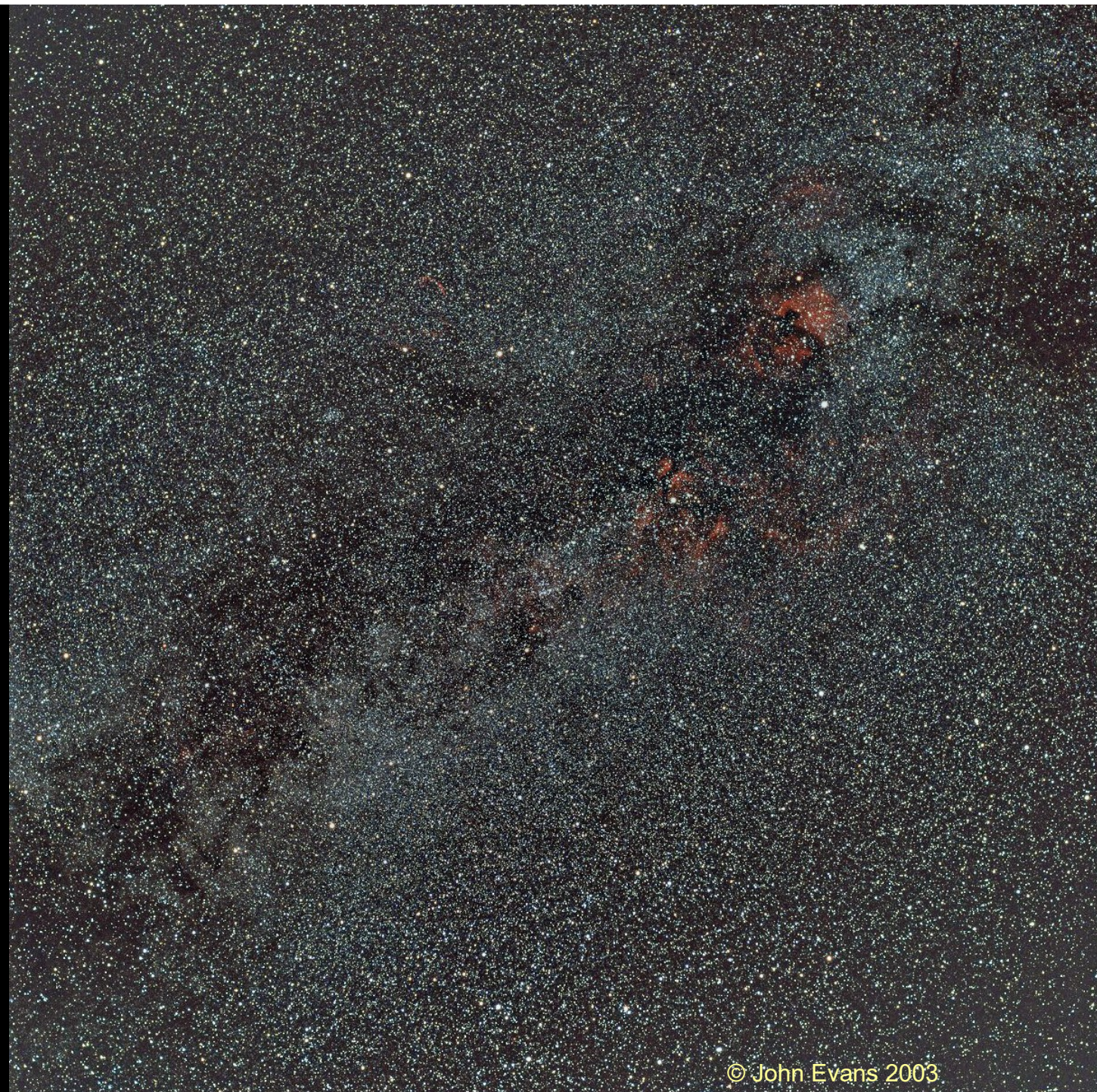


# “The Coathanger” asterism

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



**A stunning  
picture (time  
lapsed) of the  
star clouds  
within Cygnus  
by local  
astronomer  
John Evans  
FRAS**



© John Evans 2003

# Meetings at Local Societies

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

– Thursday 6<sup>th</sup> September, 7.30 p.m.

» **Hawking, Black Holes and the  
Edge of Physics**

» **Paul Fellows**

» Cambridge University, Institute of Astronomy

# Meetings at Local Societies

- **Farnham AS Aldershot Cricket Club**
  - Tuesday 14<sup>th</sup> August, 7.45 p.m
- **Latest Results From Cassini**
  - **Prof Andrew Coates**
    - » UCL, Mullard Space Science Laboratory

# Meetings at Local Societies

- **Croydon AS** *Royal Russell School, Coombe Lane, Croydon*
  - Friday 7<sup>th</sup> September, 19.45 hrs
    - Talk: title & speaker to be confirmed.
- **Ewell AS** *Nonsuch High School for Girls, Cheam*
  - Friday 14<sup>th</sup> September, 19.45 hrs
    - Talk by Sarah Bosman, title to be agreed.

# Astronomy on TV

## BBC - The Sky at Night

### *Expedition Asteroid*

This month's episode looks at the alarming number of space rocks that are currently orbiting close to the Earth, the US and Japanese attempts to return chunks of asteroids to Earth and the UK-wide network of detection cameras that has been set up with the specific aim of imaging a falling meteor.

Sunday      9<sup>th</sup> September      BBC 4, 10.00 pm

Thursday      13<sup>th</sup> September      BBC 4, 7.30 pm

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





*"That's all Folks!"*