



SUN Moving through *Cancer* into *Leo*.

MOON New Moon on the 20th, Full Moon on the 6th. A very shallow penumbral eclipse occurs on the 6th but will not be visible to the naked eye.

PLANETS **Mercury** is an evening object visible just after sunset in the West. It is in close to Regulus on the 2nd but brighter than the star at -0.3^m .

Venus is a morning object in *Gemini* shining at -4.0^m .

Mars is a morning object moving through *Taurus* at 1.0^m .

Jupiter is a late evening object in *Capricornus* rising at 8:30pm. A great object viewed in any instrument where its moons and cloud belts offer ever changing variety.

Saturn sets before 9pm as it passes through *Leo* but is very close to presenting its rings edge on.

COMETS 22P/Kopff is a telescopic object of around 11^m this month, but slowly fades, remaining in *Aquarius*, and will be around 12^m magnitude in November when it sinks into the evening twilight for northern observers.

METEORS One of the best showers of the year occurs between July 23rd and Aug 20th, the Perseid meteor shower. It peaks in the early hours of the 12th when you can expect to see 75 per hour under clear dark skies. There will be some interference by moonlight this year. The tiny dust grains responsible for these "shooting stars" originate from the tail of comet Swift/Tuttle.

STARS ϵ *lyrae* is a naked eye double which resolves into two double stars through a telescope at high magnification. This is the famous "double double".

β *lyrae* or Sheliak is a binocular double, the main star of which is an eclipsing binary that changes its brightness by one magnitude every 13 days.

β *cygnii* or Albireo (the beak of the Swan) is a beautiful double star famous for its colour contrast. Binoculars or a small telescope shows the stars to be sapphire and topaz.

α *cygnii* (the lower of the two Ruchba stars) resolves into three stars in binoculars with contrasting colours.

χ *cygnii* is a Mira type giant star varying between 3.3^m and 14.2^m in 410 days.

61 *cygni* is the "flying star" and has a large proper motion across the sky due to its proximity. It is also a nice binocular double.

NEBULÆ There are two splendid planetary nebulæ on display in this region.

M57 in *Lyra* is called the Ring Nebula. Through a small telescope it resembles a smoke ring. Larger telescopes may show a greenish colour and the tiny central star that has blown off this ring of gas.

M27 in *Vulpecula* is visible in binoculars as a pale smudge. Telescopes reveal it has two lobes - hence its more familiar name, the "Dumbbell Nebula".

Under dark clear skies, you might just be able to pick out the brighter parts of the North America nebula (NGC 7000) in *Cygnus* with the naked eye or binoculars.

CLUSTERS People scanning this area of sky with binoculars have been intrigued to come across a pattern of stars that looks like an upside down coathanger. Its more formal name is Collinder 399 or Brocchi's cluster. You might be able to see it with the naked eye in the constellation of *Vulpecula*.

There is a small, faint globular cluster in *Lyra* - M56 and another in *Sagitta* - M71. Both of these objects are just visible through binoculars, but look better through telescopes.

There is a faint galactic cluster just below γ *cygnii* - M29.

GALAXIES Running down through *Cygnus*, *Sagitta*, and *Aquila* is the "Backbone of Night" - the Milky Way. This hazy band resolves into countless stars through binoculars or a telescope. On really dark, clear nights you can see dark dust lanes running through the haze. You are looking at one of the spiral arms of our own galaxy. There is so much dust and gas in the region that nebulæ abound, but galaxies beyond our own are rendered invisible.