

# The night sky in April & May

by Brian Mills

(Written for 22.00 UT on 2013 May 1.)

In the north Ursa Major lies close to the zenith with its tail straddling the meridian. On the other side of the pole the 'W' of Queen Cassiopeia is also on the meridian with Camelopardalis and Cepheus to the left and right of her respectively.

Camelopardalis, despite being a large constellation, has no bright stars to speak of and none above fourth magnitude. It does however have a smattering of distant galaxies, one of which is a binocular object (NGC 2403) and several open clusters (NGC 1502 and Collinder 464).

Cepheus, on the other hand, is brighter and more obvious, and was one of Ptolemy's original 48 constellations. As well as containing some moderately bright open clusters (NGC 7160, NGC 7380 and NGC 7510) it is also home to  $\delta$  Cephei, the prototype for Cepheid variables.

Towards the east the large and rather faint summer groups of Ophiuchus, Serpens and Hercules are holding sway, although Deneb and Vega from the Summer Triangle are also making their presence felt. Hercules contains several globular clusters, one of which (M13) is the most majestic in the northern sky at magnitude 5.8. Although not readily visible to the naked eye, it is a superb sight in even a moderate telescope. It can be found on a line drawn between eta and zeta Herculis and lying slightly closer to the former. The other globular, which tends to be overlooked in favour of its brighter neighbour, is M92 at magnitude 6.3. It lies between eta and iota Herculis.

Looking south Hydra, the water snake, is fully visible close to the horizon with the small constellations of Corvus and Crater riding on his back. The head of the snake is quite obvious below Cancer and can be found using the 'Twins' of Gemini as approximate pointers. The rest of the constellation sprawls across much of the sky, but despite this it contains no bright stars although there are a number of fainter galaxies. In terms of area Hydra is the largest constellation in the sky, followed by Virgo which coincidentally is located just north of it. Here lies the 'Virgo Cluster', a large collection of galaxies forming part of the 'Supercluster' which itself may contain in the order of 10,000 galaxies.

In the west Orion has already disappeared and both Gemini and Auriga are close to setting. Cancer is still well placed and the open cluster M44 (Praesepe) is a pleasing sight in binoculars or a rich field telescope.

## Phases of the Moon: 2013 April/May

Last quarter	New	First quarter	Full
Apr 3	Apr 10	Apr 18	Apr 25
May 2	May 10	May 18	May 25
May 31			



Globular cluster M13 in Hercules. A stack of 10x3 minute exposures with a Canon 350D at prime focus, 203mm F4.5 Orion Optics CT8 reflector. Simon Edwins.

## Planets

**Mercury** is a morning object at the beginning of April, but as the planet rises, the Sun is  $6^\circ$  below the horizon signalling the end of civil twilight in the dawn. The situation doesn't improve, so Mercury is to all intents and purposes unobservable from the latitudes of the UK. A superior conjunction follows on May 11 after which the planet moves to the east of the Sun and may be glimpsed at the very end of May when it sets nearly two hours after the Sun. On the evening of the last day of May, with the Sun  $6^\circ$  below the horizon, Mercury is  $8^\circ$  above the northwestern horizon.

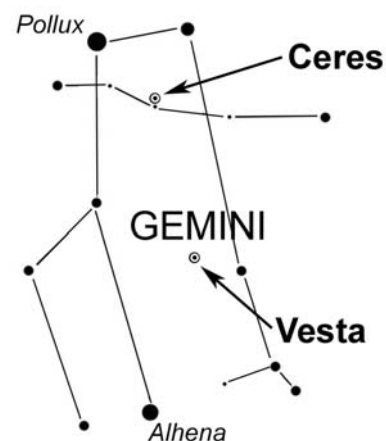
**Venus** underwent a superior conjunction on March 28 and is therefore not visible for most of this period. However it may be seen towards the end of May, as it moves increasingly east of the Sun. On the last day of May, with the Sun  $6^\circ$  below the horizon, the altitude of Venus is just over  $4^\circ$ . Identification will be made easier due to the planet's current magnitude of  $-3.8$ , which increases gradually throughout the year.

**Mars** is in conjunction with the Sun in mid-April and is therefore not observable during this period.

**Jupiter** is still a brilliant evening object shining at magnitude  $-2.0$  in Taurus. At the beginning of April it sets some  $5\frac{1}{2}$  hours after the Sun, but by the start of May this has dwindled to 3 hours. As the month progresses Jupiter is lost in the solar glare as it heads towards a June conjunction with the Sun.

Jupiter's four Galilean moons are an easy target with binoculars providing they are mounted on a tripod or supported in some other way. Even a small telescope will give a hint of the cloud bands that are in constant motion about the planet.

**Saturn** is now an evening object that rises well before midnight (UT) and reaches opposition on April 28. On that date it will be magnitude  $+0.1$  and have an apparent angular size of 18.9 arc seconds. It begins the period in Libra but its continued retrograde motion takes it into neighbouring Virgo in mid-May, where it remains until the beginning of September.



Ceres & Vesta in Gemini at the end of May



The angle of the ring system as seen from Earth has decreased slightly and reaches 18° at the start of May. Despite this the planet is a superb sight in a moderate telescope – look also for Saturn’s largest moon, Titan, at magnitude 8.9.

**Uranus** is too close to the Sun at the start of the period for observation, but quickly moves clear to lie 12° high, with the Sun 6° below the horizon, on the last day of May. It currently lies in Pisces, where it stays for the rest of the year, despite flirting with the Cetus border on occasions.

**Neptune**, in Aquarius, also clears the solar glare to rise 3 hours before the Sun at the end of the period.

### Dwarf planets

(1) **Ceres** at magnitude 8.8 begins the period on the Taurus/Auriga borders before moving into Gemini and making its way across most of the constellation by the end of May. On May 27 it lies a little over 11 arcminutes north of the magnitude 3.7 star *iota* Geminorum.

(4) **Vesta**, at magnitude 7.9, moves from Taurus into Gemini towards the end of April, where it remains for the rest of the period. The map shows the location of both bodies on the evening of May 27.

### Lunar occultations

In the table I have listed events for stars down to magnitude 7.0 although there are many others that are either of fainter stars or those whose observation may be marginal. DD= disappearance at the dark limb, RD= reappearance at the dark limb whilst RB= reappearance at the bright limb. The column headed ‘mm’ shows the minimum aperture telescope required to observe the event. I’m sure that the occultation sub-section, within the Lunar Section, would welcome the results of any observations that you make. Times are for Greenwich and in UT.

### Meteors and comets

The Lyrid meteors are active from April 18 to 25 with maximum occurring around midday on April 22. Rates of around 10 are expected, but a waxing gibbous Moon will interfere throughout the nights of April 21/22 and 22/23.

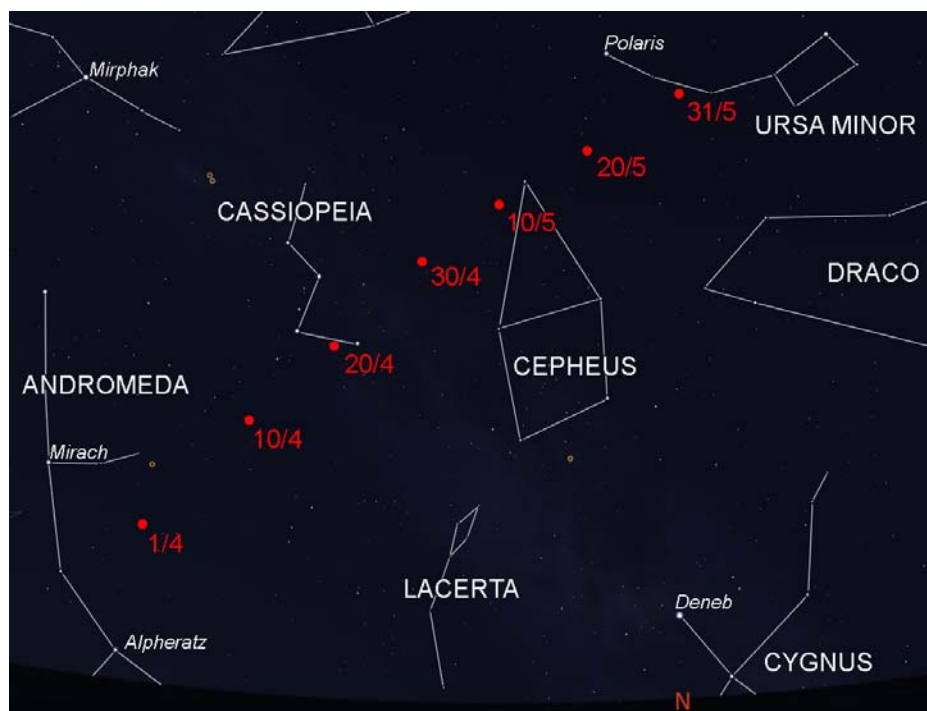
The Virginids produce a handful of long slow meteors from a variety of radiant during the first half of April with maximum around April 11, coinciding with new Moon.

Comet PanSTARRS will be fading towards the limits of visibility if predictions, which can be extremely difficult, are proven correct. By the end of May it will be close to Polaris and may have dimmed beyond magnitude 8.0. The map shows its position during April and May.

Brian Mills

### Lunar occultations of bright stars

Date	Time	Star	Mag	Ph	Alt °	% illum.	m m
Apr 4	05.22	46 Cap	5.1	RD	16	19	110
Apr 14	20.53	ZC 736	6.4	DD	20	18	40
Apr 18	19.35	ZC 1237	6.5	DD	50	53	50
Apr 24	20.09	ZC 1907	6.6	DD	17	99	120
Apr 30	04.30	ZC 2710	6.7	RD	19	75	130
May 7	03.38	62 Psc	5.9	RD	5	8	70
May 7	03.50	δ Psc	4.4	RD	6	8	40
May 11	14.58	ε Tau	3.5	DD	52	2	120
May 11	16.09	ε Tau	3.5	RB	43	2	300
May 13	17.56	71 Ori	5.2	DD	41	12	270
May 14	21.43	ZC 1091	6.5	DD	13	20	40
May 21	20.49	ψ Vir	4.8	DD	29	85	40
May 23	20.25	ZC 2111	6.9	DD	15	98	140
May 27	23.37	ZC 2794	6.6	RD	9	88	110
May 29	05.51	ZC 2969	3.0	RD	19	78	80



The path of comet PanSTARRS into the northern sky in April and May.

### BAA Notice

## Nominations for the Council ballot

Each year in May, your Council prepares the balloting list from the names of those members nominated. The Balloting List is sent to members in August and the members elected serve from the AGM in October. The elected Council comprises:

1 President, 1 Treasurer, 3 Secretaries and 10 other members.

It obviously shows a robust situation if the number of proposed members exceeds the number of vacancies so that a true election occurs. The elected member of Council with the highest number of votes will become one of the Vice-Presidents for the following session.

Council meetings normally take place during the afternoon of a Wednesday Ordinary Meeting or during the morning of a Saturday meeting. If you would like to be nominated you must be a paid-up member. Please ask two other paid-up members to propose and second you and then sign the letter yourself to show that you are willing to stand. Alternatively you may wish to nominate someone else, in which case the same conditions apply. Nomination forms are available from the Business Secretary.

All nominations must be in writing and sent to the BAA office to arrive by 2013 May 3.

Ron Johnson, Business Secretary