

May 2011 Sky Events – the Planets

- ★ **Saturn** continues to dominate the evening sky this month as it “wanders” by itself against the background stars in Virgo.
- ★ All the **other planets** (6 of them) are congregating in the pre-dawn sky.
- ★ Four planets trade partners this month in an amusing dance at dawn low in the east:
Mercury, Venus, Mars and Jupiter.
- ★ This is the most compact visible gathering of 4 bright planets in decades.

May 2011 Sky Events – 4 Planets Meet

- ★ Looking low to the **eastern horizon at dawn**, find the 4 planets (Mercury, Venus, Mars & Jupiter) changing their configuration with each other throughout the month.
- ★ This is how the planets' positions will appear about **30 minutes before sunrise** at 2-day intervals.
- ★ You may find **binoculars** useful for locating fainter Mercury and Mars.

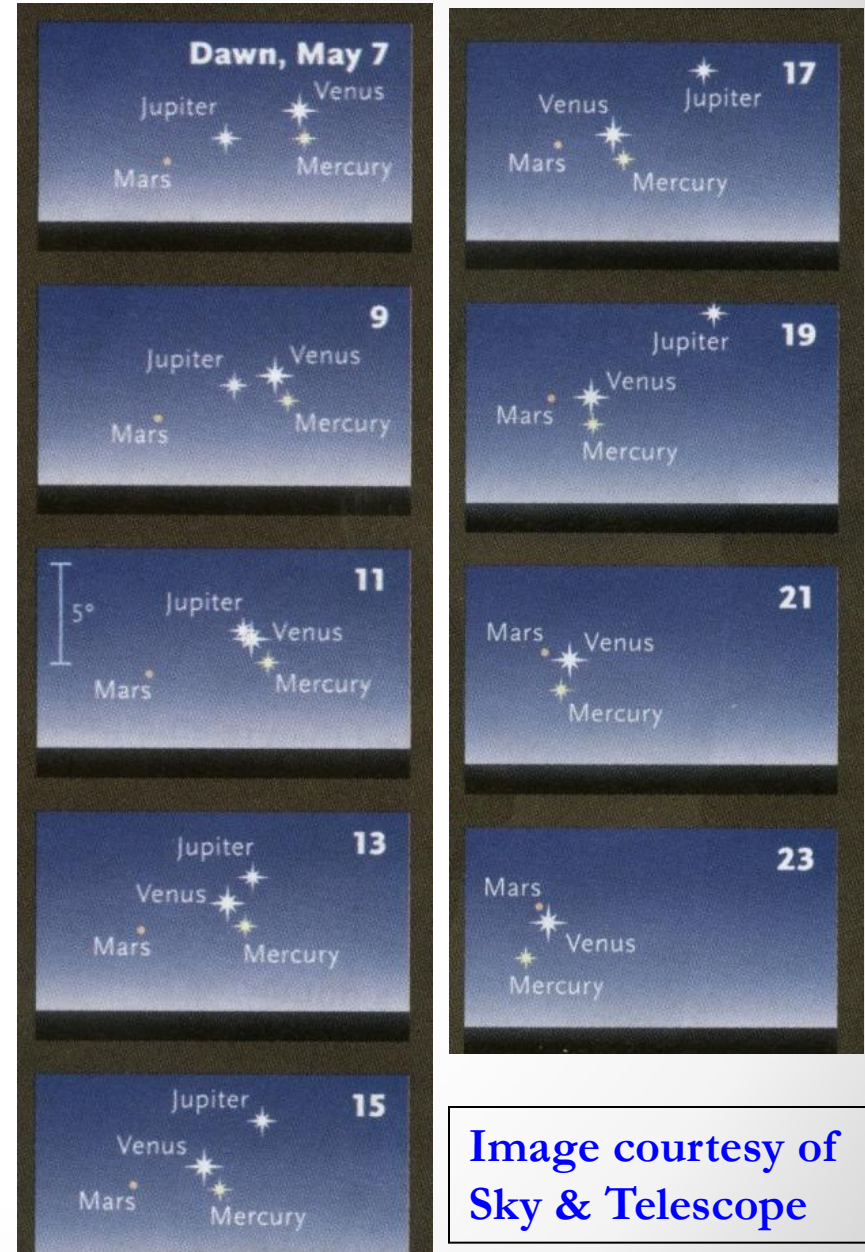


Image courtesy of
Sky & Telescope

May 2011 Sky Events – 4 Planets Meet the Moon

- ★ The waning crescent Moon joins the 4 planets at dawn on the mornings of May 29 - 31.



Image courtesy of
Sky & Telescope

May 2011 Sky Events – the Planets

- ★ **Jupiter** remains low, but bright, in the eastern pre-dawn sky all month.
- ★ **Mercury** reaches **greatest elongation west of the Sun (27°) on May 7th.**
- ★ **Venus** remains brilliant in the morning sky.
- ★ **Mars**, although visible, will be challenging to find in the pre-dawn sky this month.
- ★ Faint **Uranus & Neptune** may be found with a telescope in the pre-dawn sky **in the constellations Pisces & Aquarius respectively.**

May 2011 Planet Highlights

<u>Planet</u>	Avg. Distance from Earth	Constellation(s)	Avg. Diameter in arc seconds	Avg. Magnitude	Comments
Saturn	8.8 AU _s	Virgo	18.7 but 42 with rings	0.6	Looks great this month
Jupiter	5.8 AU _s	Pisces	34.0	-2.1	Low and bright in the East at dawn
Mercury	1.0 AU _s	Pisces, Cetus, Aries & Taurus	7.3	-0.1	Use binoculars to locate

May 2011 Planet Highlights

<u>Planet</u>	Avg. Distance from Earth	Constellation(s)	Avg. Diameter in arc seconds	Avg. Magnitude	Comments
Venus	1.5 AU _s	Pisces & Aries	11.1	-3.8	Brilliant “morning star” low in the East
Neptune	30 AU _s	Aquarius	2.3	7.9	Rises about 3:00 a.m.
Mars	2.3 AU _s	Pisces & Aries	4.1	1.3	Difficult to see this month

May 2011 Planet Highlights

<u>Planet</u>	Avg. Distance from Earth	Constellation(s)	Avg. Diameter in arc seconds	Avg. Magnitude	Comments
Uranus	21 AUs	Pisces	3.4	5.9	Rises about 4:00 a.m.

The Moon this month – May 2011

- ☾★ New Moon – 3rd at 2:51 a.m.
- ☾★ First Quarter – 10th at 4:33 p.m.
- ☾★ Full Moon – 17th at 7:09 a.m.
- ☾★ Last Quarter – 24th at 2:52 p.m.

Unless otherwise indicated, all times are EDT

Friday evening, May 6th

Astronomy Club of Asheville monthly stargaze

- ★ **Sunset:** 8:21 p.m. EDT
- ★ **Saturn** will be well placed in the constellation Virgo for viewing right after sunset.
- ★ **Saturn's rings** will be tilted at about an 8° angle, and easily visible.
- ★ **Saturn** will be surrounded by many of its brighter **moons** tonight.
- ★ How many can you detect with your telescope?
- ★ We should see some flashes of light from the **Eta Aquarid meteor shower** on this night.
- ★ There should be a -3.3 mag. **Int'l Space Station** flyover about 8:44 p.m. EDT.

May 2011 Highlight: Eta Aquarid Meteors

- ★ The annual **Eta Aquarid meteor shower peaks** during the pre-dawn hours of **May 6th**.
- ★ The Moon is dark and will not interfere with the show.
- ★ These meteors performs better in the southern hemisphere, and the visible counts at Asheville's northern latitude are low.
- ★ This meteor shower is usually quite active for several days before and after the peak.

May 2011 Highlight: Eta Aquarid Meteors

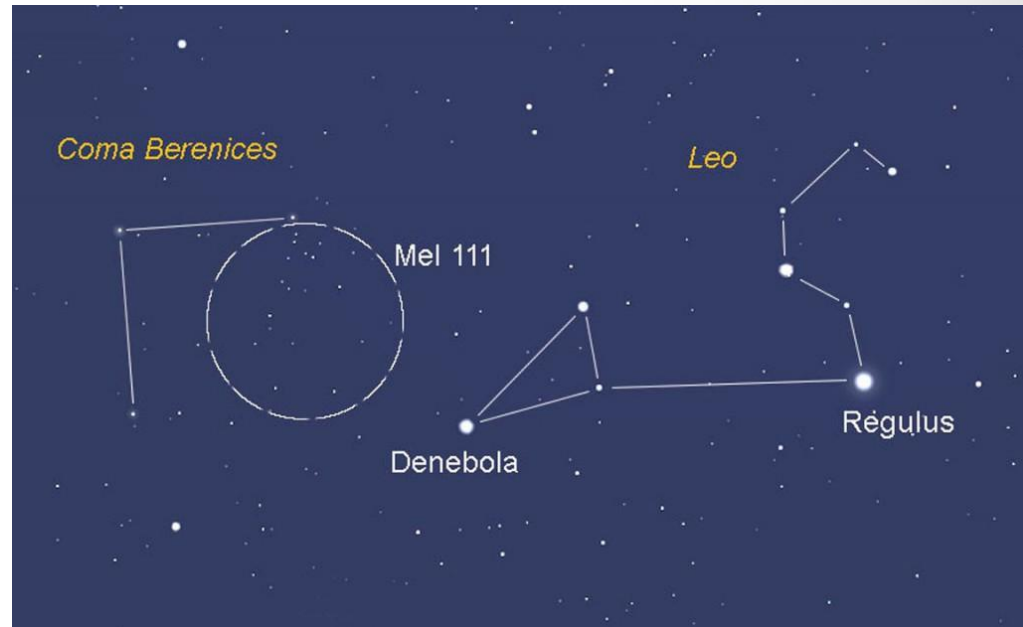
- ★ The Eta Aquarid and the Orionid meteor shower of October are the same meteoroid stream, shed by **Comet Halley**. Earth's orbit intersects the stream in two places.
- ★ The meteors appear to radiate from the direction of the **star Eta in the constellation Aquarius** – hence the shower's name.

May 2011 Highlight

Coma Berenices Open Star Cluster

★ Off the back end of the constellation Leo and above the constellation Virgo lies the constellation Coma Berenices.

★ The Coma Berenices open star cluster, designated as **Melotte 111**, is a spectacular naked-eye cluster.

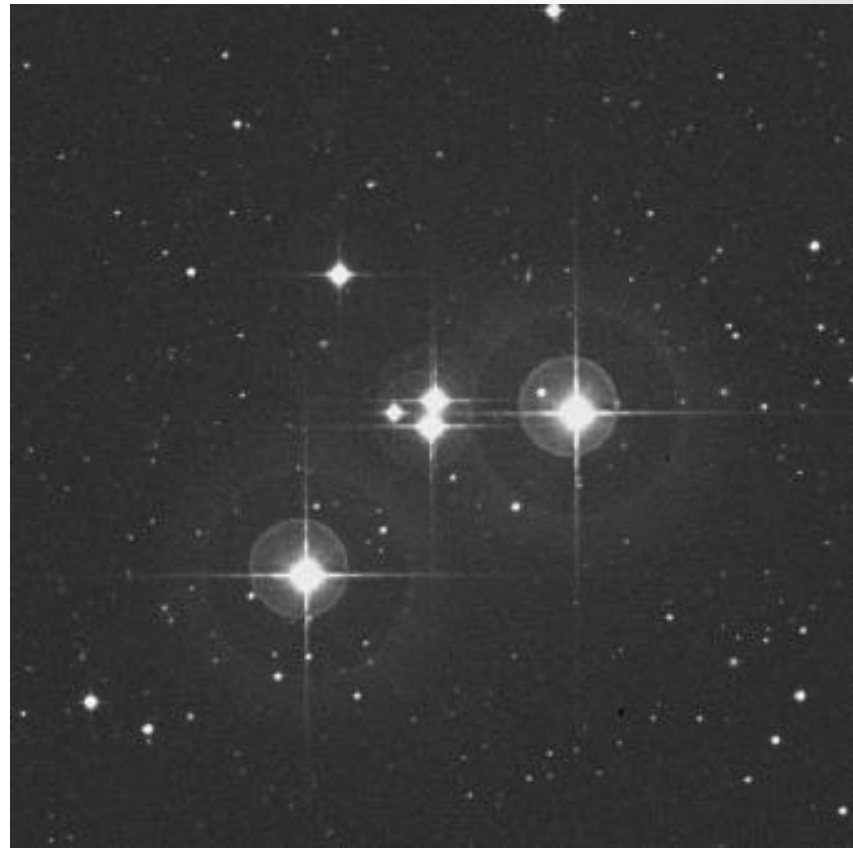


Located only 300 light years away, this cluster is a great sight in binoculars, spanning several degrees of the sky.

May 2011 Highlight

The “Stargate” cluster in Corvus

- ★ This asterism (a chance alignment of stars and not a true star cluster) is known as **STF 1659**
- ★ [Stargate](#) is located about 67 arc minutes W-SW of M104 – the Sombrero galaxy.
- ★ It forms a visually striking combination of a small equilateral triangle inside a larger one.



This looks great through a telescope at higher powers.

Coordinates:

RA 12h 36m; DEC -12° 02m

May 2011 Highlight

The Sombrero Galaxy in Virgo

- ★ The Sombrero Galaxy (M104) is located just across the border (in Virgo) from the Stargate cluster.
- ★ At magnitude 8.3, this is an easy galaxy to observe in a small telescope.
- ★ And it's a large galaxy with a diameter of 126,000 light years.



Located 48 million
light years away

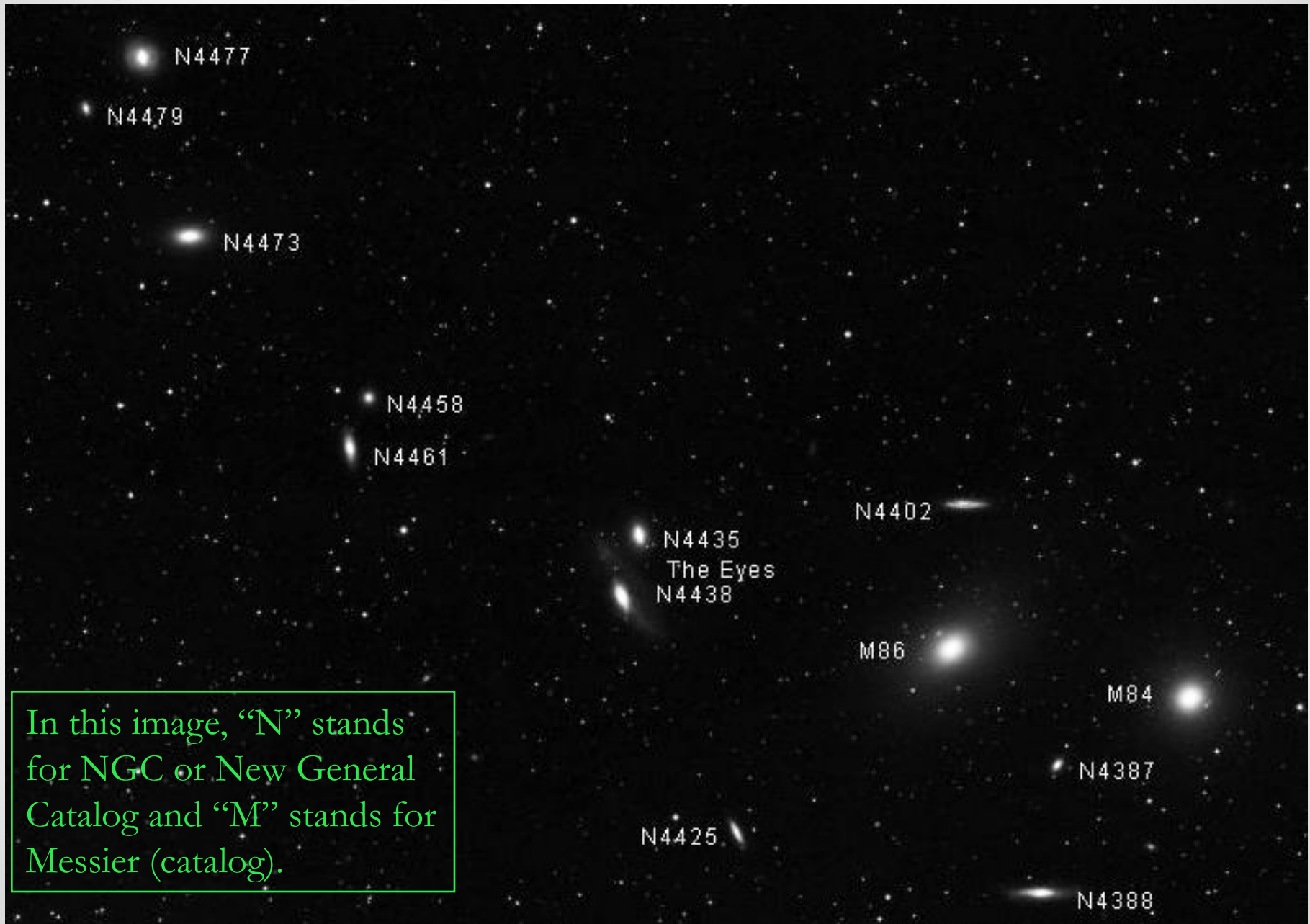
Coordinates:

RA 12h 40m; DEC -11° 37m

May 2011 Highlight - Markarian's Chain of Galaxies

- ★ Located along the Virgo – Coma Berenices border is a chain of galaxies (**Markarian's Chain**) belonging to the **Virgo Galaxy Cluster**.
- ★ The Virgo Galaxy Cluster contains some 2,000 individual members lying 50 to 60 million light years away from Earth.
- ★ Markarian's Chain contains 4 pairs of galaxies stretched out in a $1\frac{1}{2}^\circ$ arc.
- ★ On one end of the chain are a pair of huge elliptical galaxies – **M84 & M86** (Messier objects).
- ★ On the other end of the chain are galaxy pair NGC 4473 & 4477.
- ★ In between are galaxy pairs **NGC 4435 & 4438** (known as **"the Eyes"**) and NGC 4458 & 4461.
- ★ Ranging in magnitude 8.9 to 12.1, all of these galaxies are within reach of small telescopes.

May 2011 Highlight - Markarian's Chain of Galaxies



In this image, “N” stands for NGC or New General Catalog and “M” stands for Messier (catalog).

May 2011 Highlight

The Whirlpool Galaxy in Canes Venatici

- ★ The Whirlpool Galaxy (M51) is actually 2 galaxies.
- ★ The smaller and more distant galaxy is called “the Knot” or NGC 5195.
- ★ These 2 galaxies have interacted in the past.
- ★ At magnitude 8.1, M51 is magnificent under dark skies, even with a small telescope showing both cores easily, and, with good transparent skies, the spiral arms appear as well.



Located 37 million
light years away

Coordinates:
RA 13h 30m; DEC +47° 12m

May 2011 Highlight

Galaxy Pair M81 & 82 in Ursa Major

- ★ Another interacting galaxy pair is M81/82.
- ★ This is the brightest galaxy pair in the sky at mag. 6.8 and 8.4, and visible in the smallest telescopes and binoculars.
- ★ Separated by only 37 arc minutes, the pair fits nicely in the same low power telescope field of view.
- ★ M81 is known as the **Bode Galaxy**, and M82 is known as the **Cigar Galaxy**.



Located 10 million
light years away

Coordinates:

M81: RA 9h 56m; DEC +69° 04m

M82: RA 9h 56m; DEC +69° 41m

End