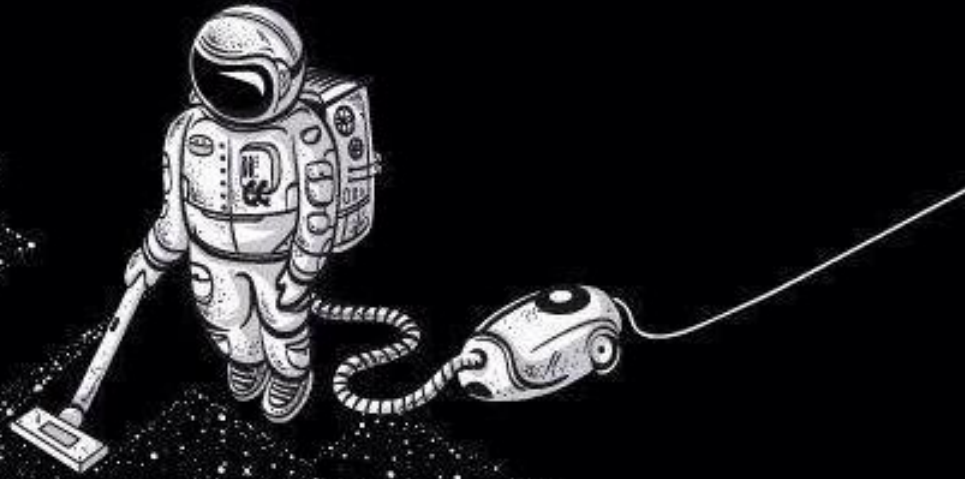




The Sky This Month

Paul Swallow



March - April



Upcoming Astronomical events – March

◆ **Tonight, Wednesday 7th:**

- 'Planet Parade', Mars, Saturn and Jupiter align in the early morning sky.





Upcoming Astronomical events – March

◆ **Saturday, 10th March:**

-Mercury at Perihelion.

◆ **Thursday, 15th March:**

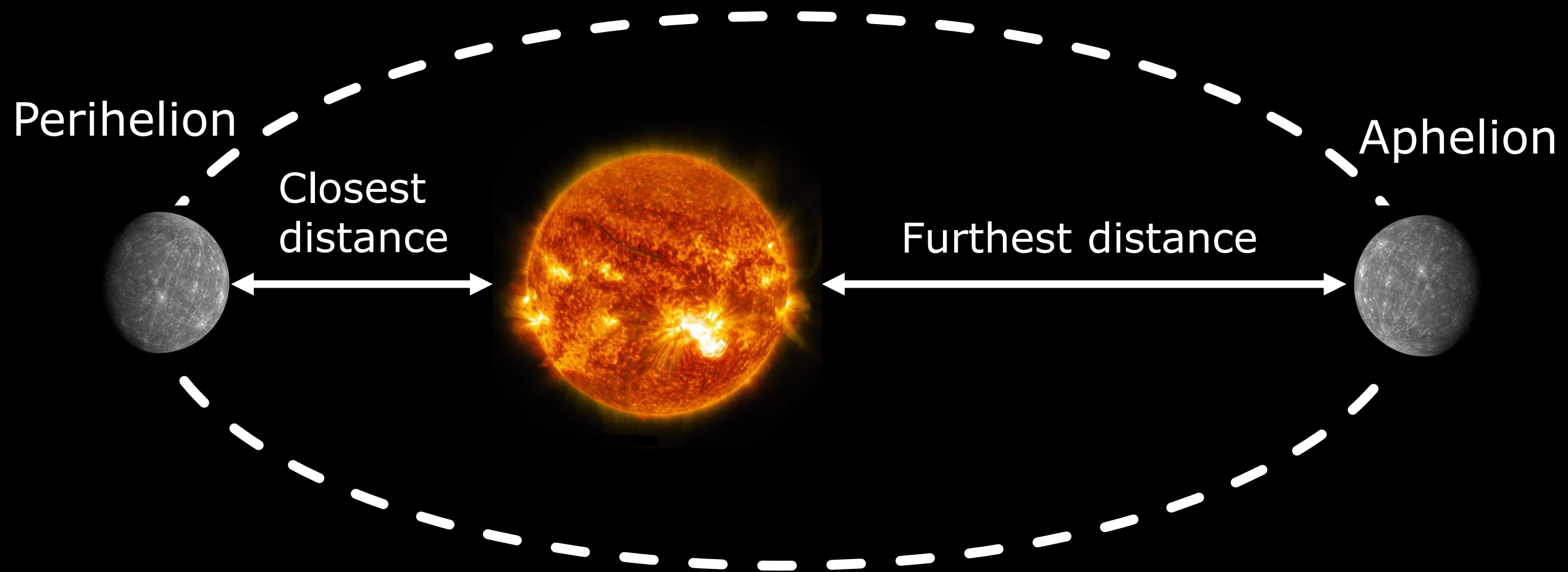
- Mercury at Greatest Elongation.

◆ **Saturday, 17th March:**

-New moon: Good for observing.



Upcoming Astronomical events – March



[Not To Scale]



Upcoming Astronomical events – March

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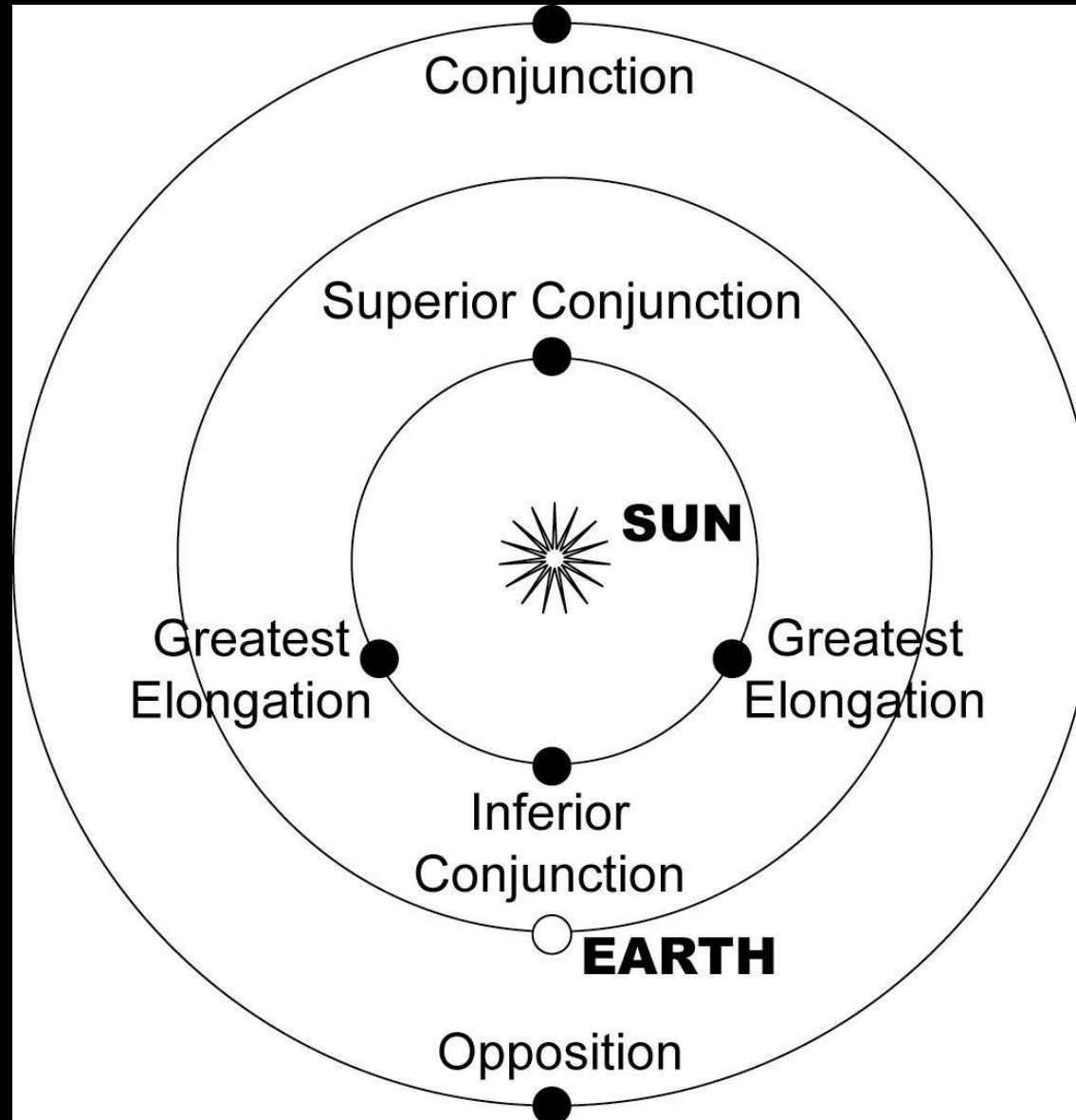
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[Not To Scale]



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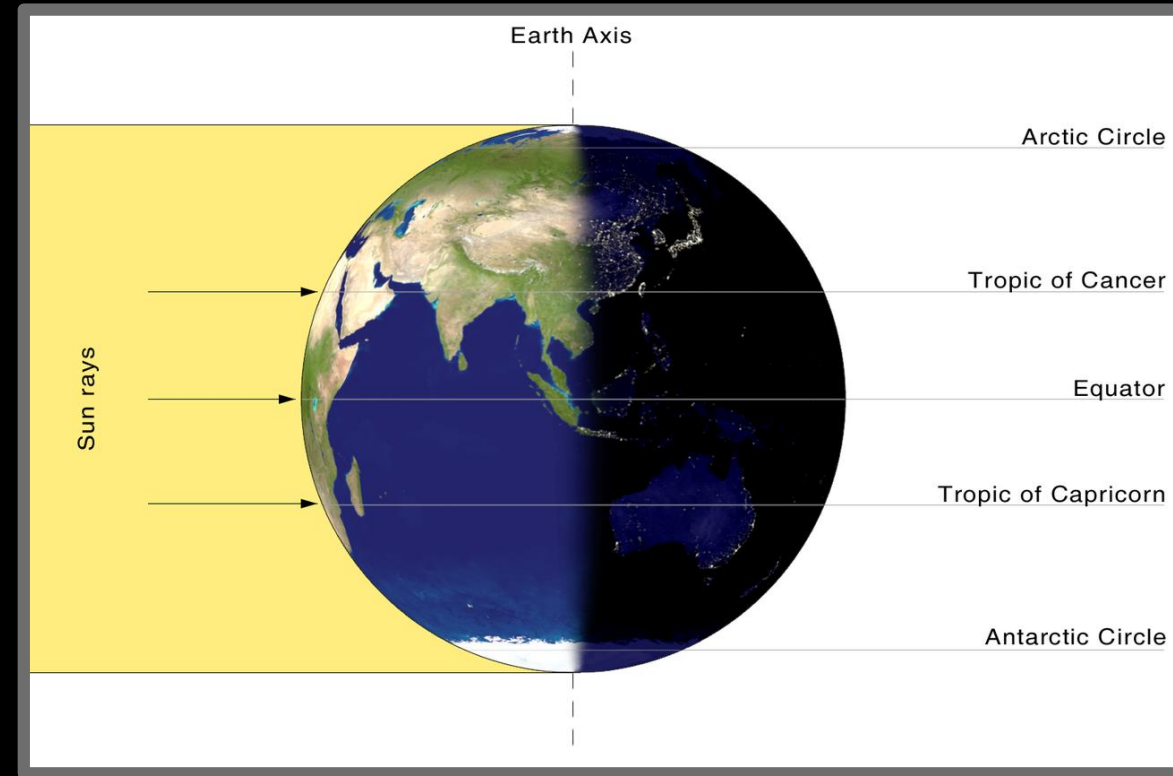
Upcoming Astronomical events – March

◆ **Tuesday, 20th March:**

- Vernal Equinox.
- Beginning of spring.

◆ **Saturday, 31st March:**

- Full moon: Bad for observing things other than the moon.





Upcoming Astronomical events – April.

◆ **Monday, 16th April:**

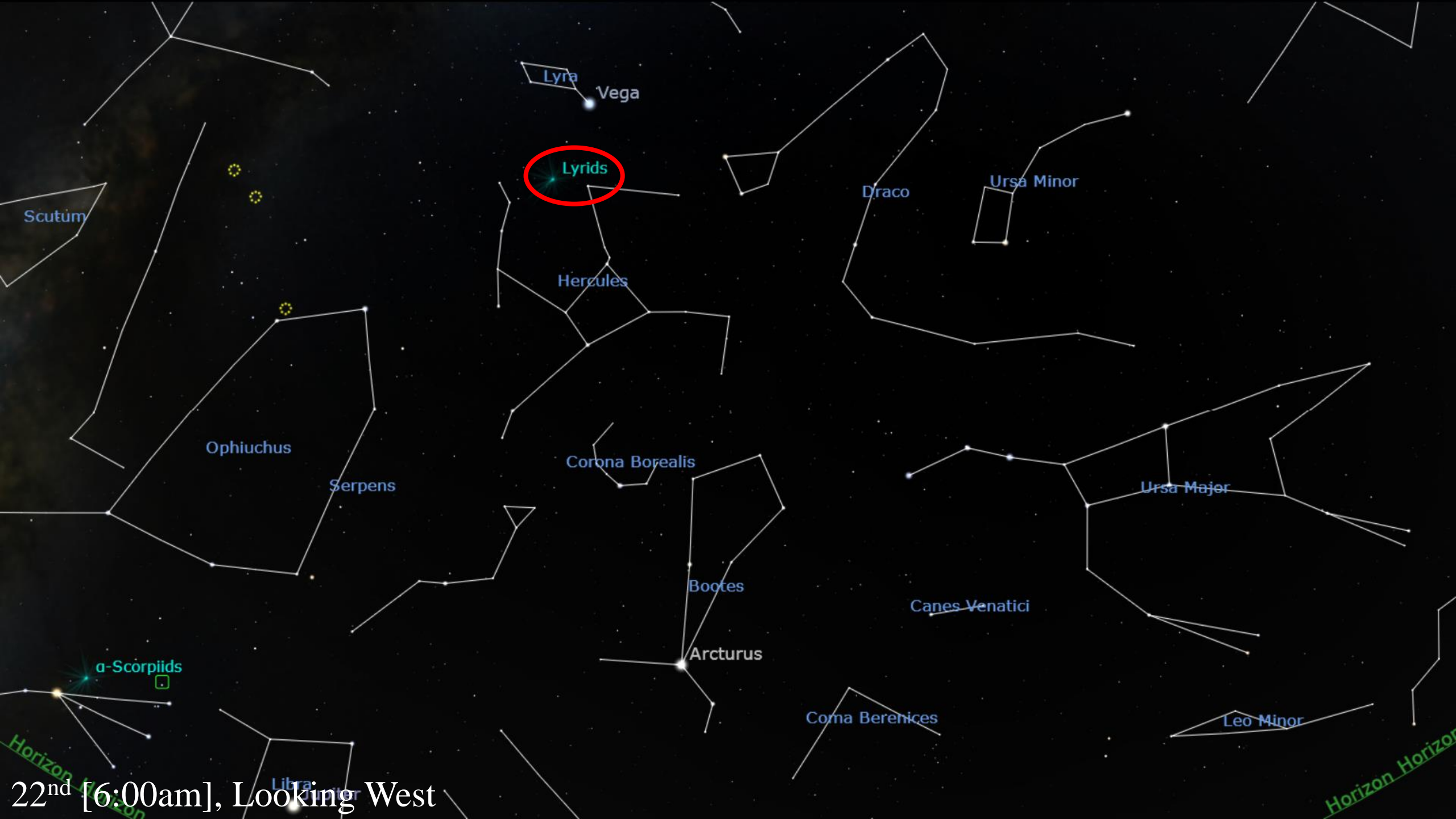
- New moon: Good for observing

◆ **Sunday, 22nd April:**

- Lyrid Meteor Shower: Peaks at 10-15 per hour
- Radiant in Lyra in the morning.

◆ **Sunday, 29th April:**

- Mercury at Greatest Elongation.



Lyrids

Lyra
Vega

Scutum

Draco

Ursa Minor

Hercules

Ophiuchus

Serpens

Corona Borealis

Bootes

Arcturus

Coma Berenices

Canes Venatici

Ursa Major

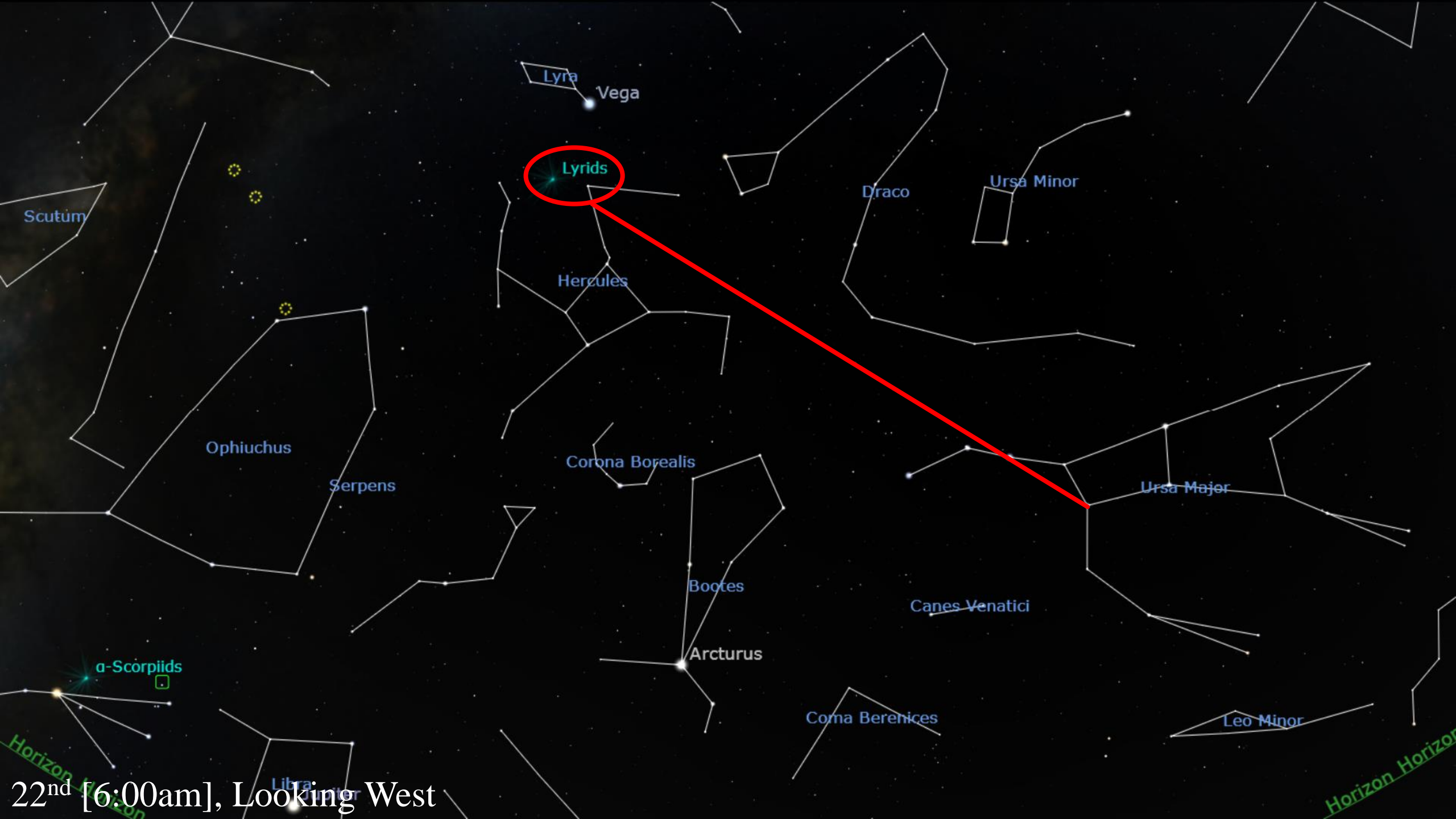
Leo Minor

α -Scorpiids

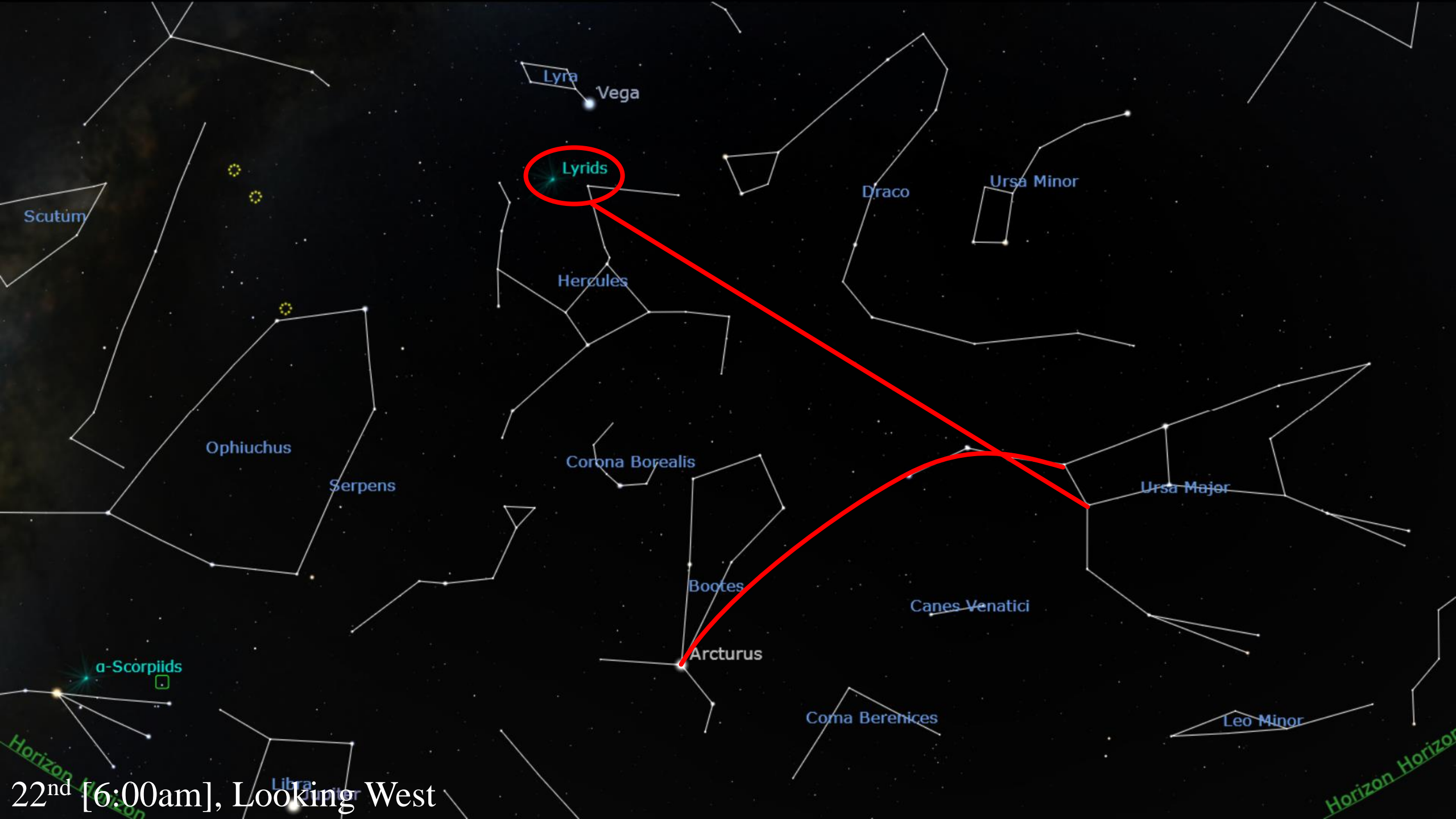
22nd [6:00am], Looking West

Horizon

Horizon Horizon



22nd [6:00am], Looking West



22nd [6:00am], Looking West





22nd [6:00am], Looking West



Upcoming Astronomical events – April.

◆ **Monday, 16th April:**

- New moon: Good for observing

◆ **Sunday, 22nd April:**

- Lyrid Meteor Shower: Peaks at 10-15 per hour
- Radiant in Lyra in the morning.

◆ **Sunday, 29th April:**

- Mercury at Greatest Elongation.



Upcoming Astronomical events – April.

◆ **Monday, 30th April:**

-Full moon: Known as the Egg moon to American farmers.





Planets visible this month.

- ◆ **Mercury:** West to South-West, evening sky.
- ◆ **Venus:** West to South-West, evening sky.
- ◆ **Mars:** South-West, early morning sky.
- ◆ **Jupiter:** Eastern, early morning sky.
- ◆ **Saturn:** South-West, early morning sky.
- ◆ **Uranus:** Western, evening sky.

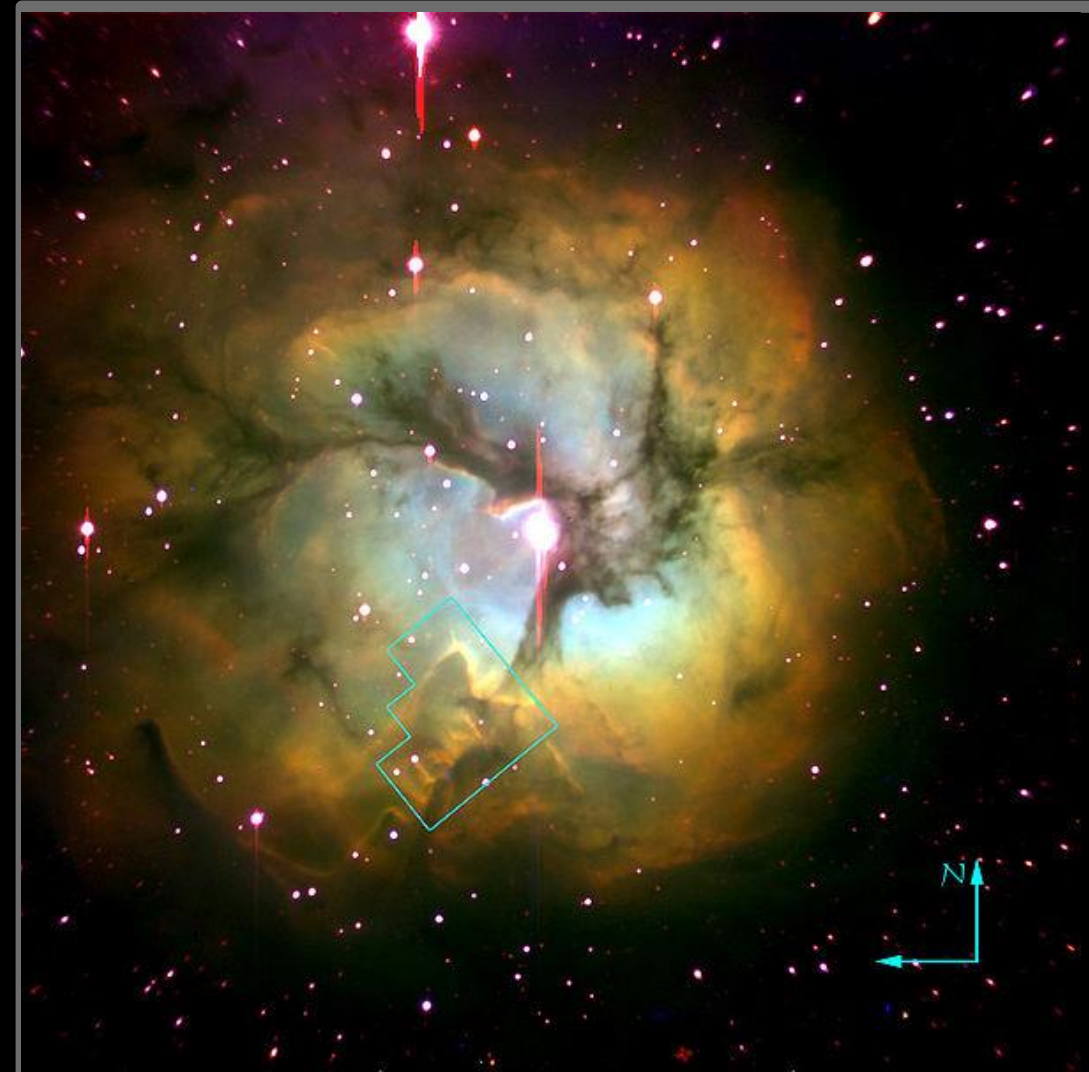


[Not To Scale]

Highlight Object: M20, Trifid Nebula

- ◆ Chance of observation here:
Fairly good, visible in early morning.

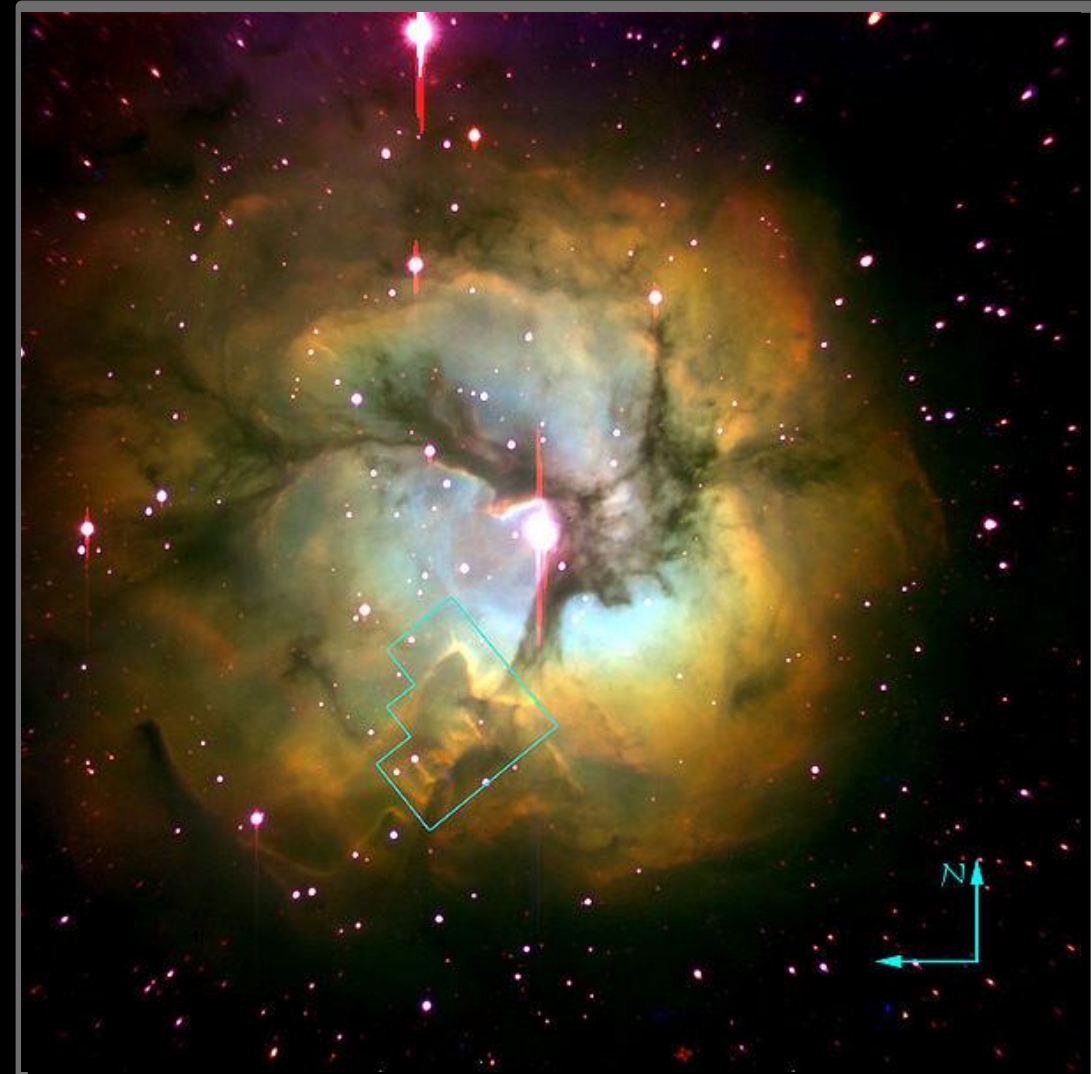
[NASA/ESA]



Highlight Object: M20, Trifid Nebula

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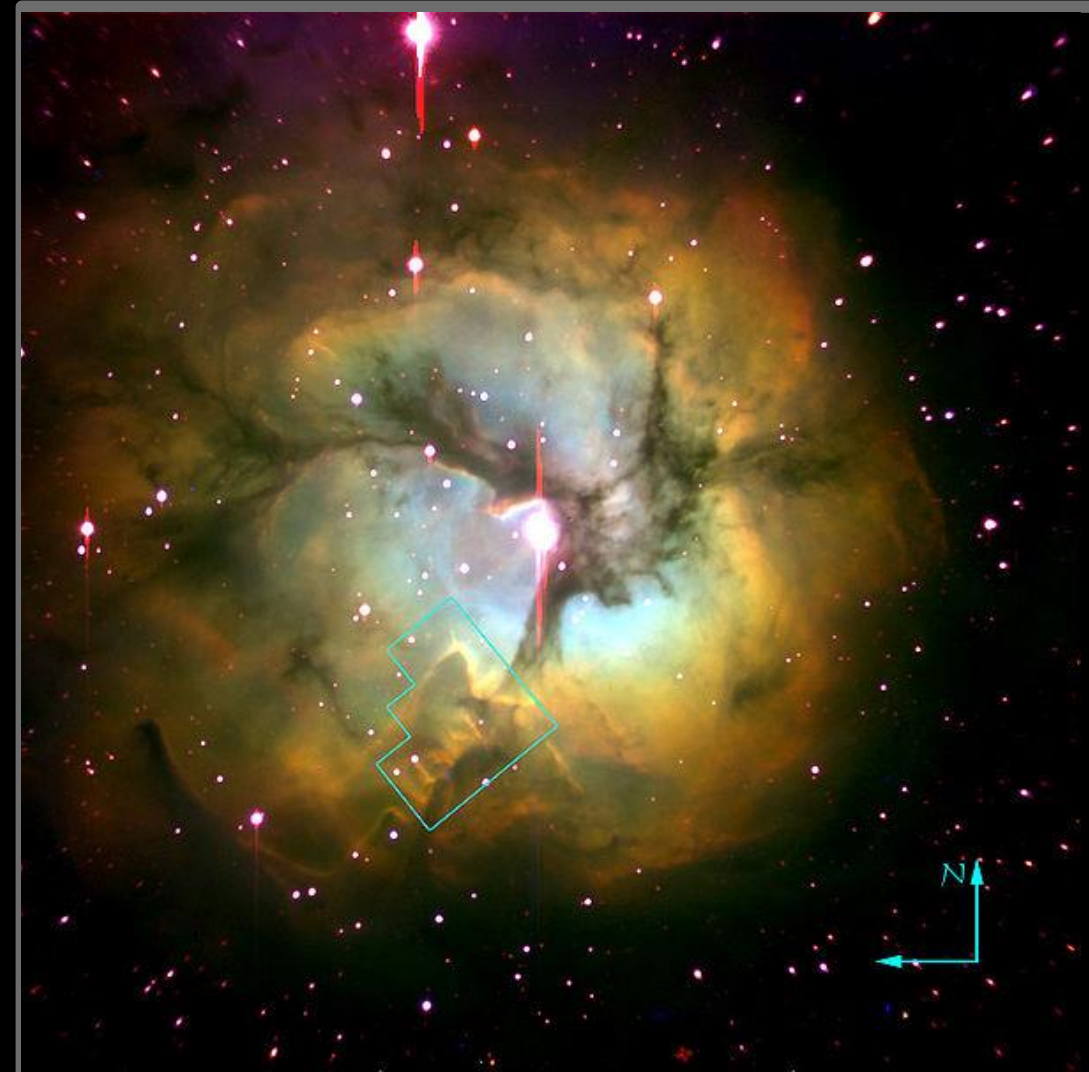
[NASA/ESA]

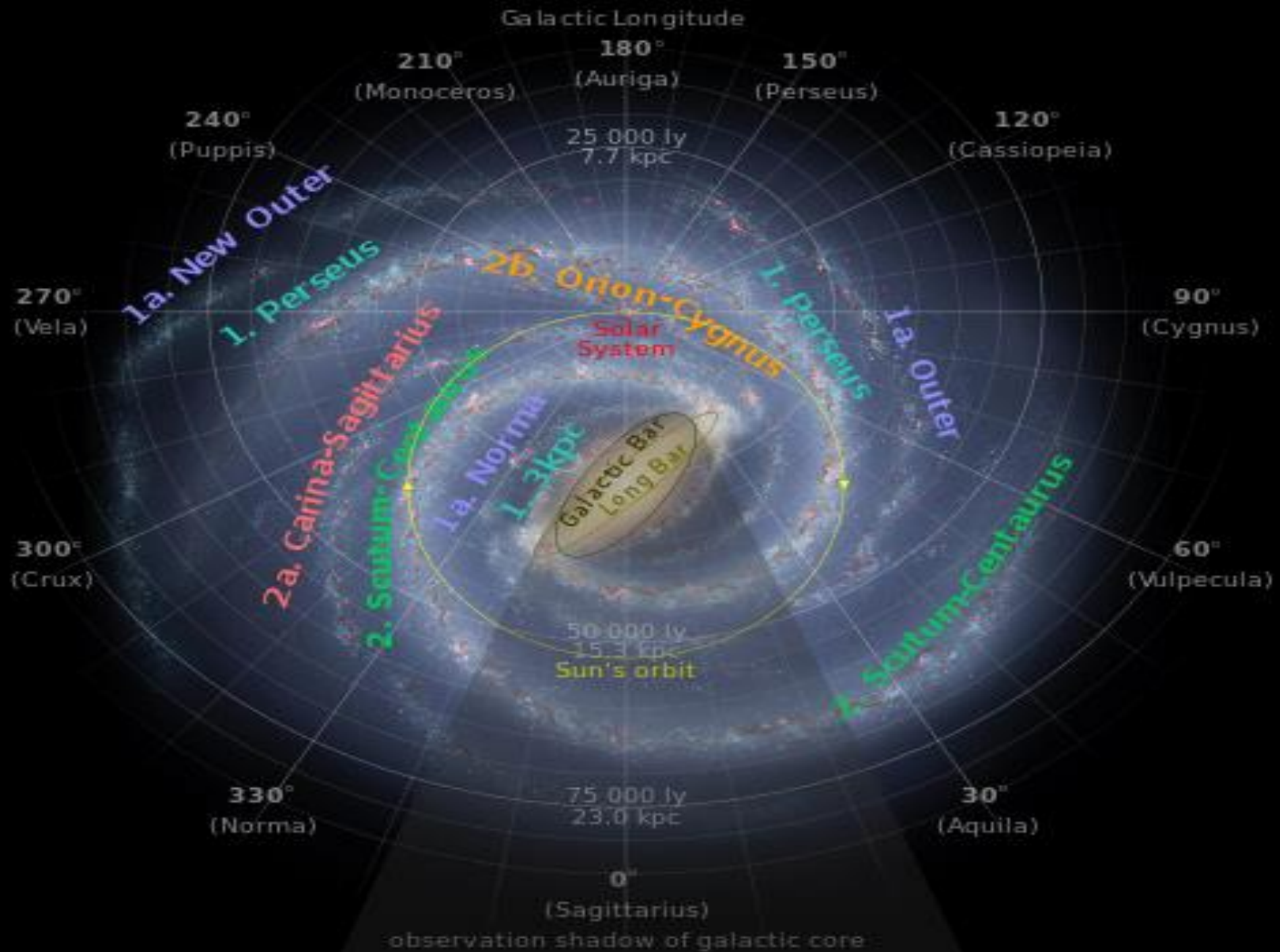


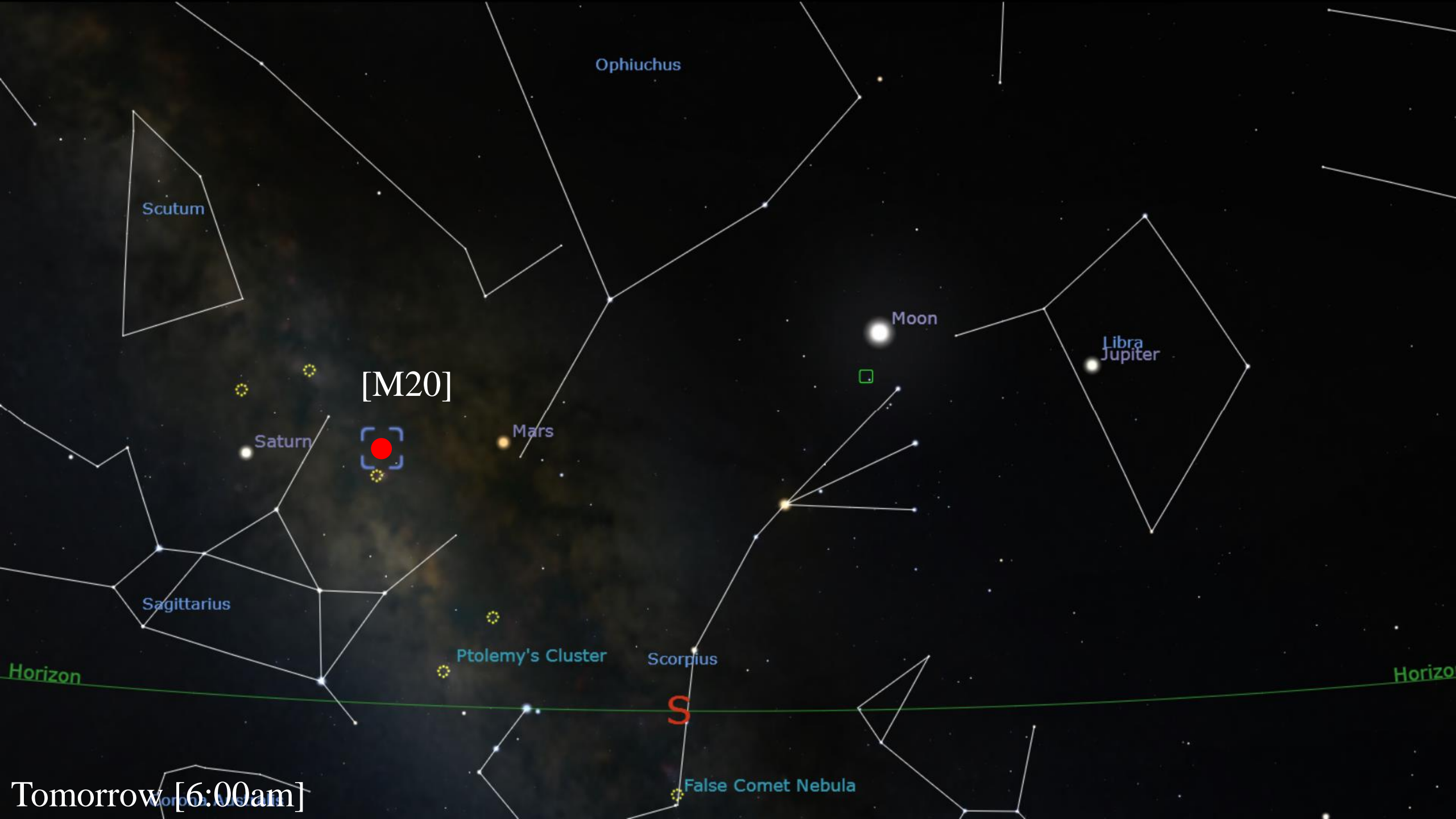
Highlight Object: M20, Trifid Nebula

[NASA/ESA]

- ◆ Chance of observation here:
Fairly good, visible in early morning.
- ◆ Trifid: “Divided into three lobes”
- ◆ Combination of open cluster, emission nebula, a reflection nebula and dark nebula.
- ◆ Star-forming region in the Scutum spiral arm.







Ophiuchus

Scutum

[M20]

Saturn

Mars

Moon

Libra
Jupiter

Sagittarius

Ptolemy's Cluster

Scorpius

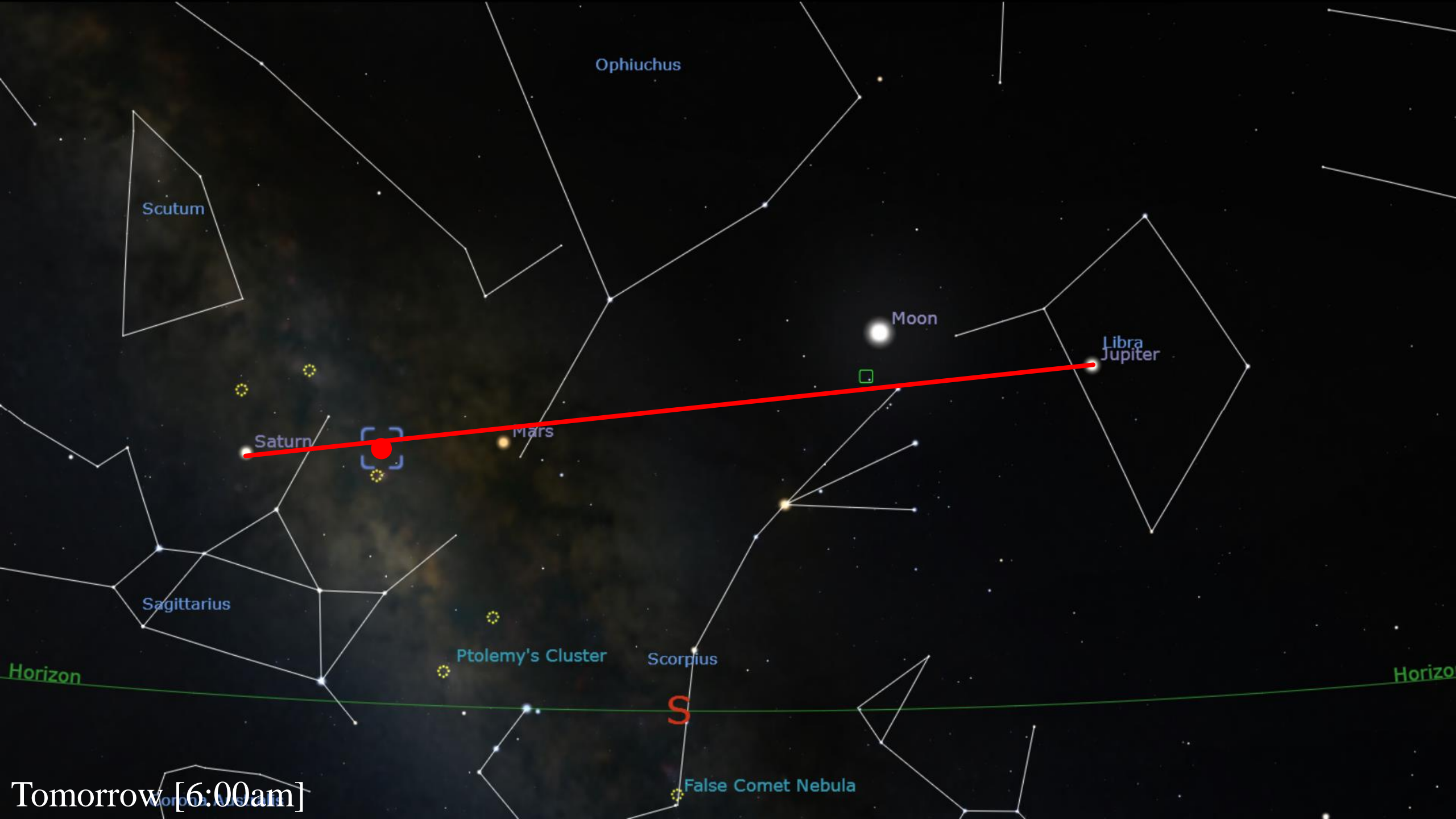
Horizon

Horizo

S

False Comet Nebula

Tomorrow [6:00am]



Ophiuchus

Scutum

Moon

Libra
Jupiter

Saturn

Mars

Sagittarius

Ptolemy's Cluster

Scorpius

False Comet Nebula

Horizon

Horizon

Tomorrow [6:00am]



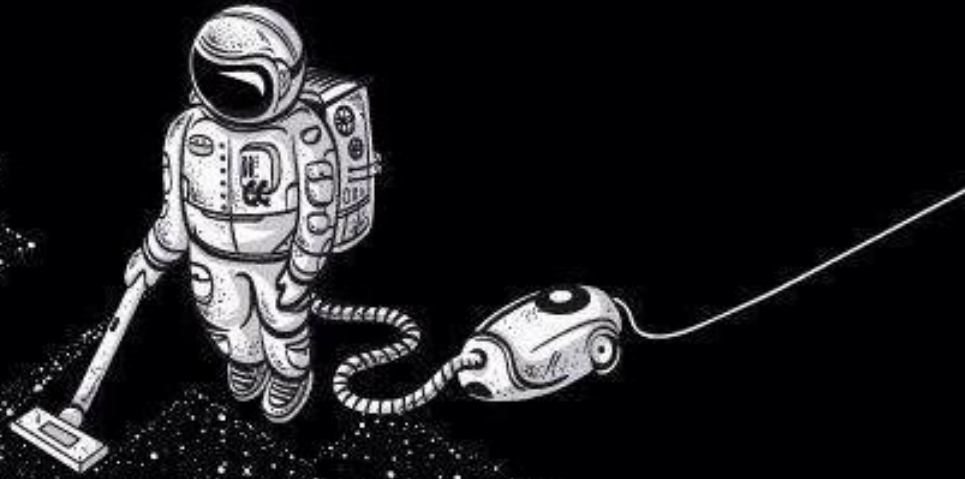
Summary

- ◆ Planet Parade: Mercury, Venus, Mars, Jupiter, Saturn, Uranus.
- ◆ Vernal Equinox on the 20th March.
- ◆ Lyrids meteor shower on the 22nd April.
- ◆ Look out for the Trifid nebula!
- ◆ <http://www.sr.bham.ac.uk/observatory/astronomyinthecity.php>



The Sky This Month

Paul Swallow



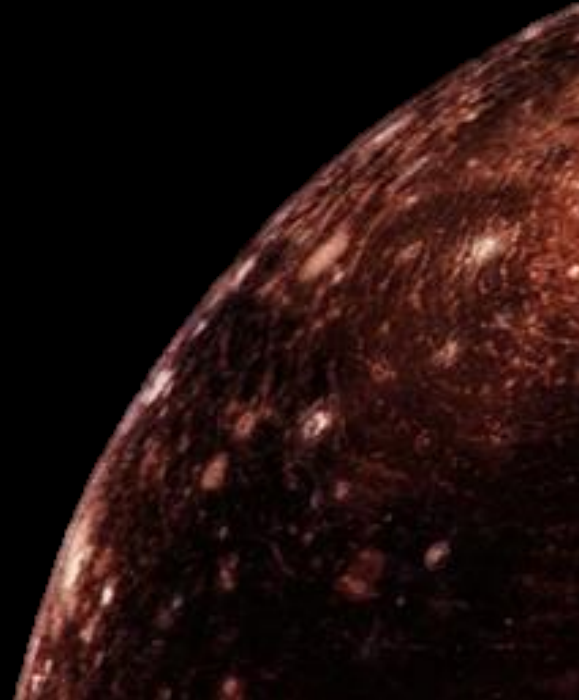
March - April



Bonus Slides

Jupiter

- Jupiter has 67 confirmed moons.
- Of the 53 named moons mostly named for Jupiter/Jupiter/Zeus' lovers.
- There's also the most famous group of moons: The Galilean moons.
- Discovered in 1610 by Galileo Galilei (surprisingly!).

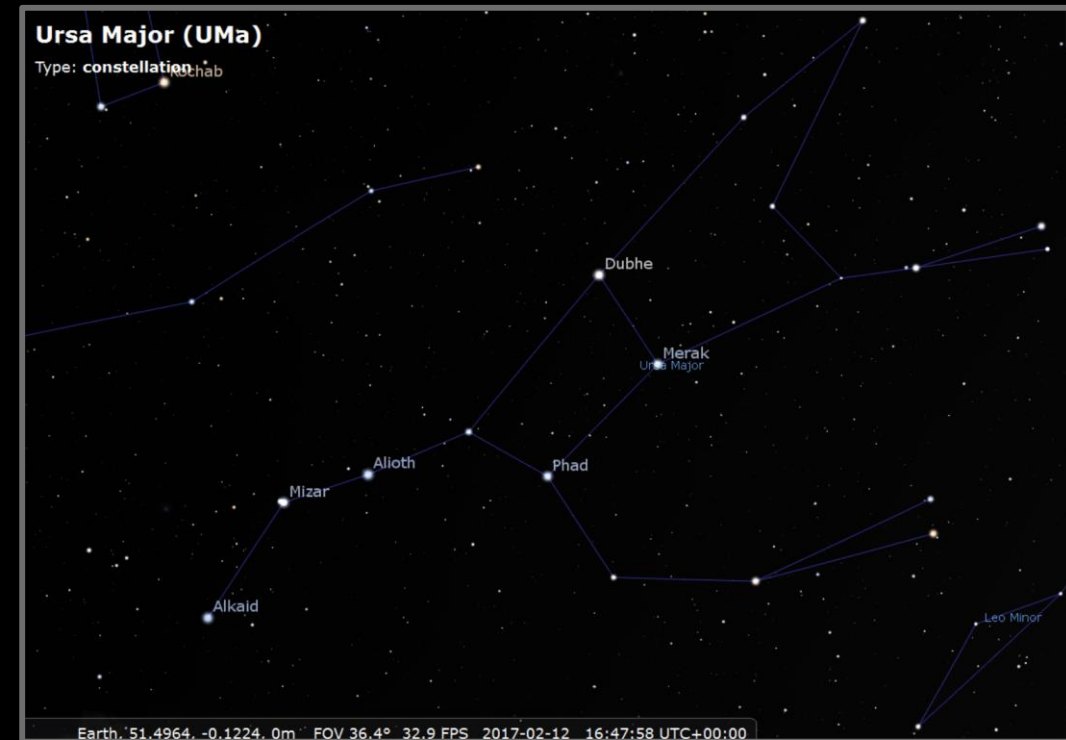


Callisto

- Mythology: Named for a nymph who Zeus tricked into having an affair with him, and who was then turned into a bear and placed into the sky as Ursa Major.
- Mean diameter: 4,800km (48,000fp)
- Age of surface: 4,000,000,000 years.
- The oldest landscape in the solar system.



[(i) Callisto]

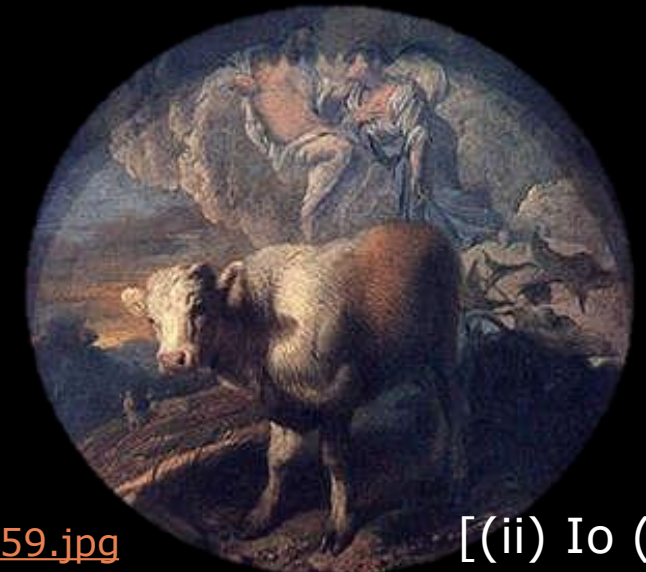
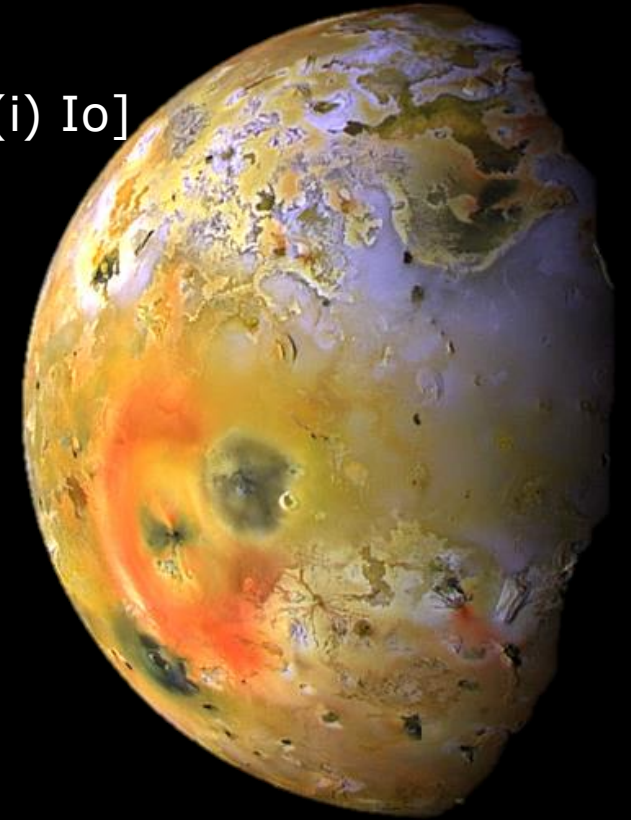


[(ii) Ursa Major]

Io

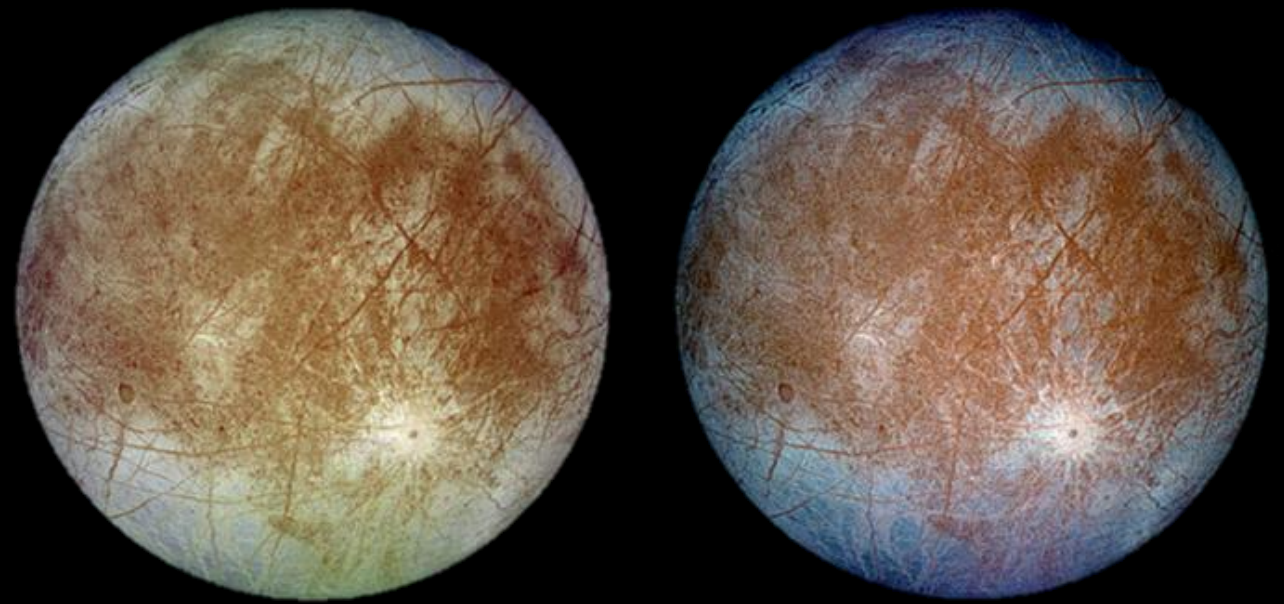
[(i) Io]

- Mean Diameter: 3,636km.
- Composition: Mostly Sulphur.
- Mythology: Priestess of Hera, turned into a cow.
- Most volcanically active celestial body in the solar system.
- Plumes of smoke and ash rising 190 miles above the surface.
- "Io looks like a giant pizza covered with melted cheese and splotches of tomato and ripe olives".
- Average surface temperature: -130°C
- The Io plasma torus.



Europa

- Mean diameter: 3,126km.
- Composition: Water ices.
- Two main features:
 - Linae
 - Underground Ocean.
- NASA mission set for 2020s.
- Mythology: Mother of King Minos of Crete. And a lover of Zeus', though they met weirdly.



[(i) Europa. (left) real colour (right) enhanced colour.]



[(ii) Linae]

Ganymede

[(i) Ganymede]

- Mean Diameter: 5,262km.
 - Largest moon in the solar system.
- Composition: Iron, Metallic iron, iron oxides, water ices and rocky materials.
- Mythology: A divine Greek hero stolen away while tending sheep and made immortal for his trouble.

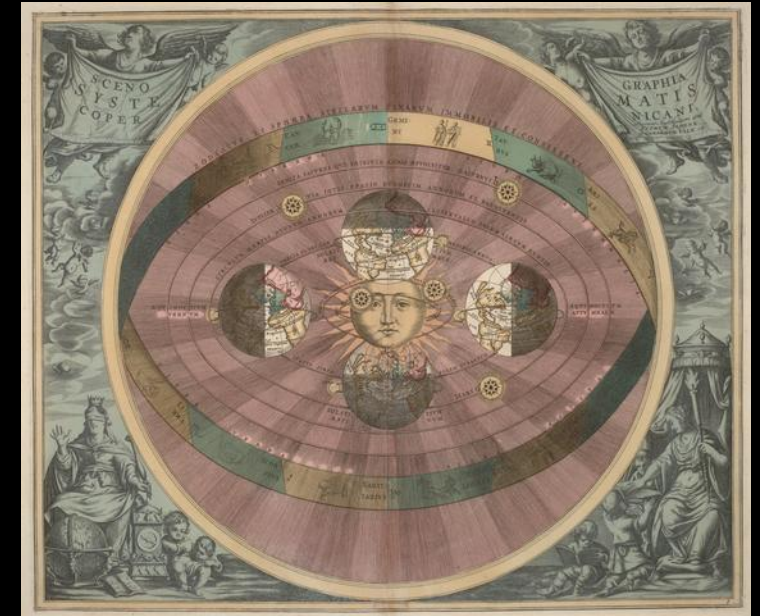


[(ii) Ganymede (hero)]



Importance of the Galilean Moons

- Verified the Heliocentric Model
- Allowing for accurate test of Kepler's laws.
- One of the first measurements of c .
- Ganymede, Io and Europa have a 1:2:4 orbital resonance around Jupiter.



[(i) Andreas Cellarius's illustration of the Copernican system]