

June Sky 2024

at night

Notes from the
Smoky Mountain Astronomical Society
aka the SMAS



Remember the Zodiac?

Aries

Taurus

Gemini

Cancer

Leo

Virgo

Libra

Scorpio

(Ophiuchus)

Sagittarius

Capricorn

Aquarius

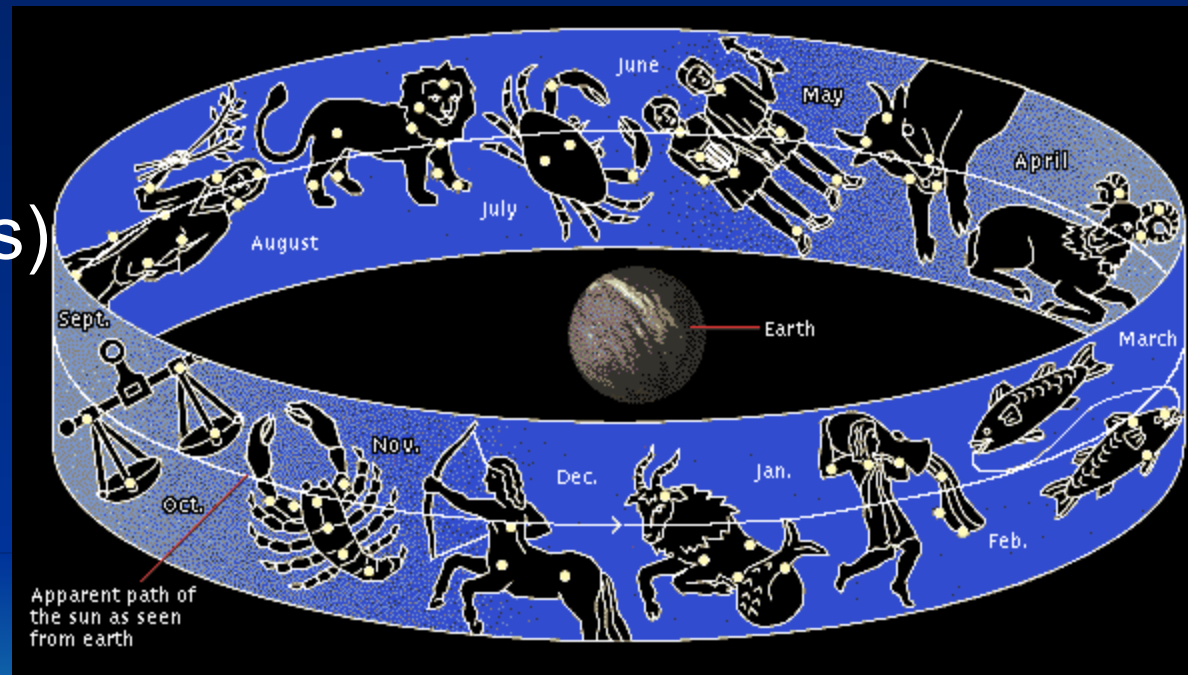
Pisces



How Do We Remember the Zodiac?


The Ramble Twins Crab Liverish; Scaly Scorpions Are Good Water Fish.


Aries	Libra
Taurus	Scorpio
Gemini	(Ophiuchus)
Cancer	Sagittarius
Leo	Capricorn
Virgo	Aquarius
	Pisces





Dates of the Zodiac?


The Ramble Twins Crab Liverish; Scaly Scorpions Are Good Water Fish.


 Aries (Ram): March 21–April 19


 Taurus (Bull): April 20–May 20


 Gemini (Twins): May 21–June 21


 Cancer (Crab): June 22–July 22


 Leo (Lion): July 23–August 22


 Virgo (Virgin): August 23–September 22


 Libra (Balance): September 23–October 23

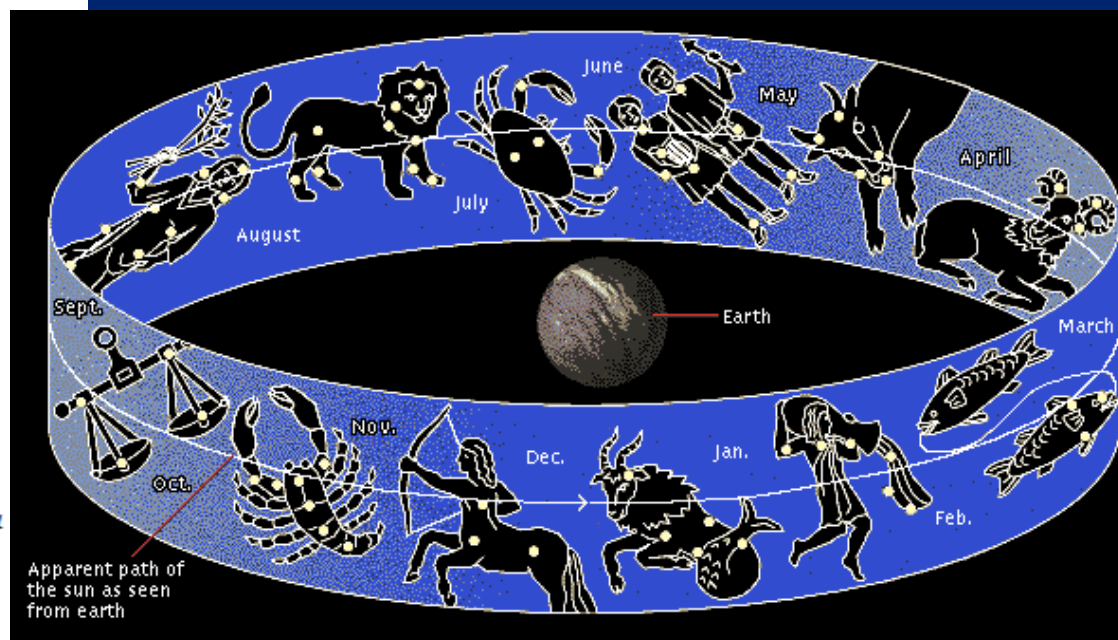
 Scorpius (Scorpion): October 24–November 21

 Sagittarius (Archer): November 22–December 21

 Capricornus (Goat): December 22–January 19


 Aquarius (Water Bearer): January 20–February 18


 Pisces (Fish): February 19–March 20





June Sun is in Zodiac Where?


The Ramble Twins Crab Liverish; Scaly Scorpions Are Good Water Fish.


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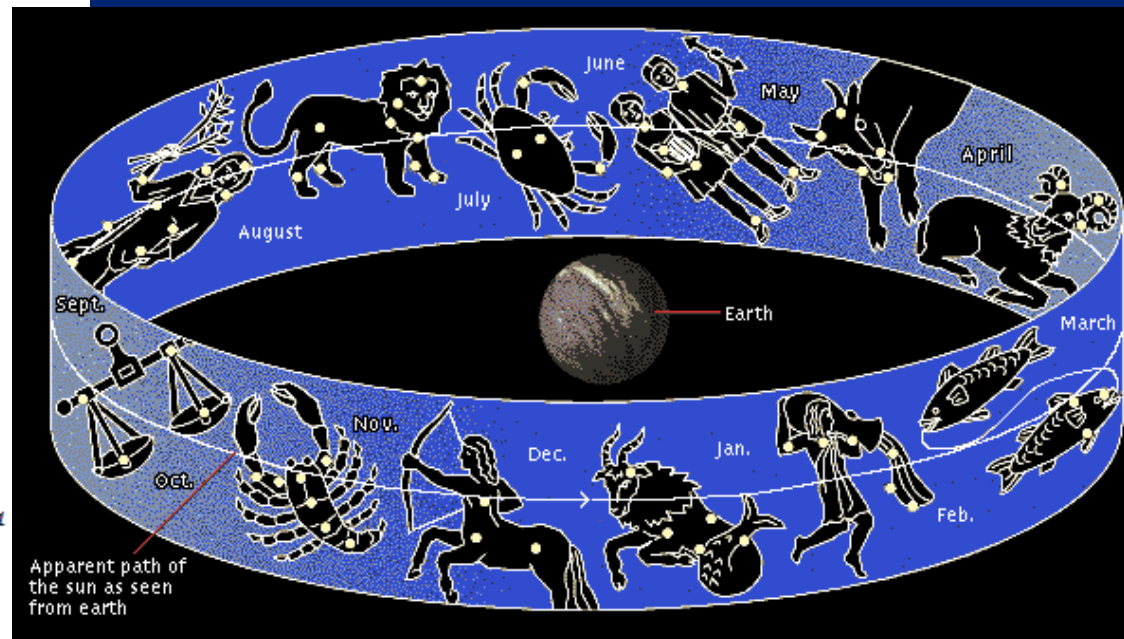
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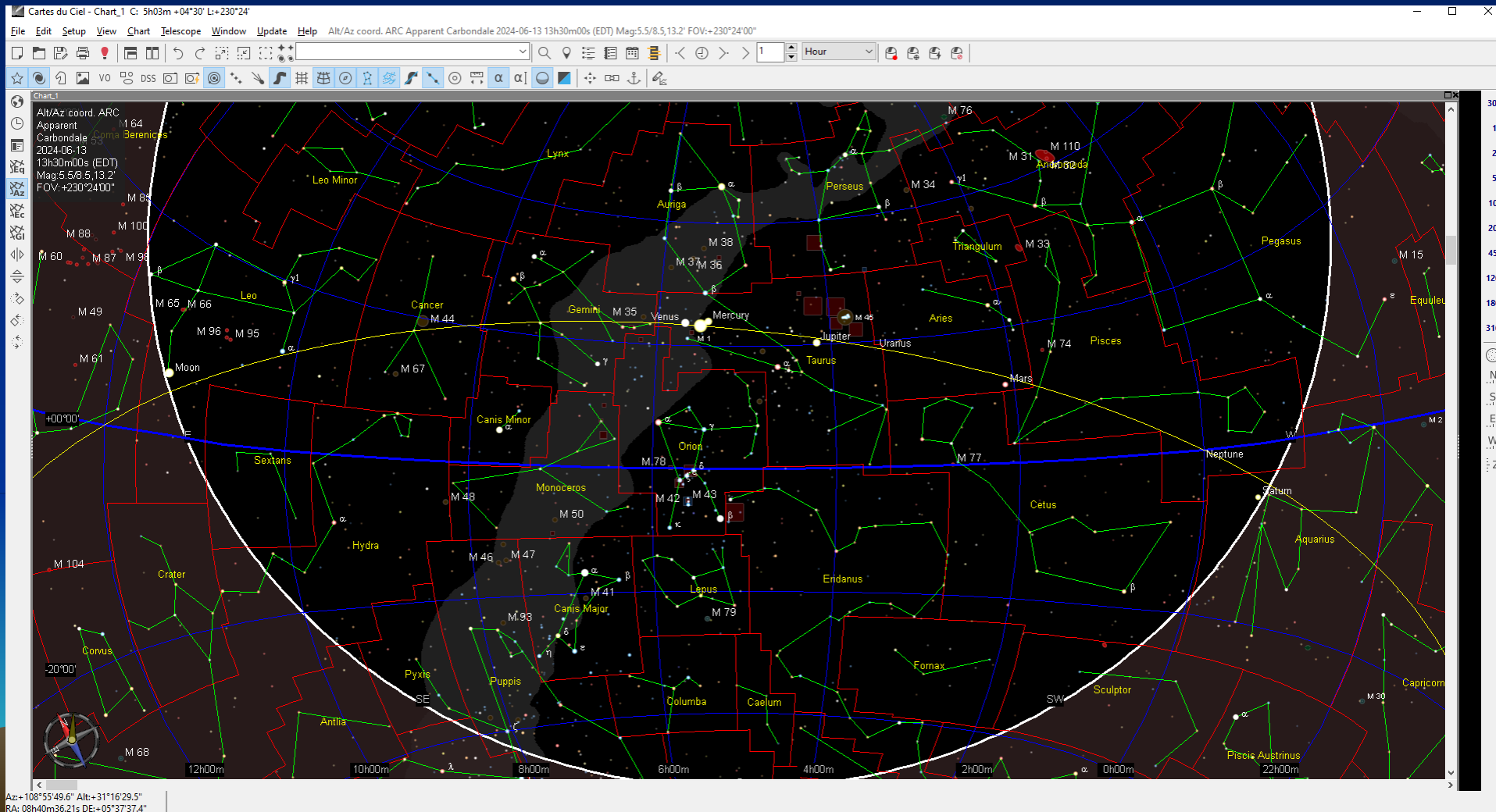
 Pisces (Fish): February 19–March 20



20240613 Dates of the Zodiac!

Sun is in Gemini? NO. Taurus

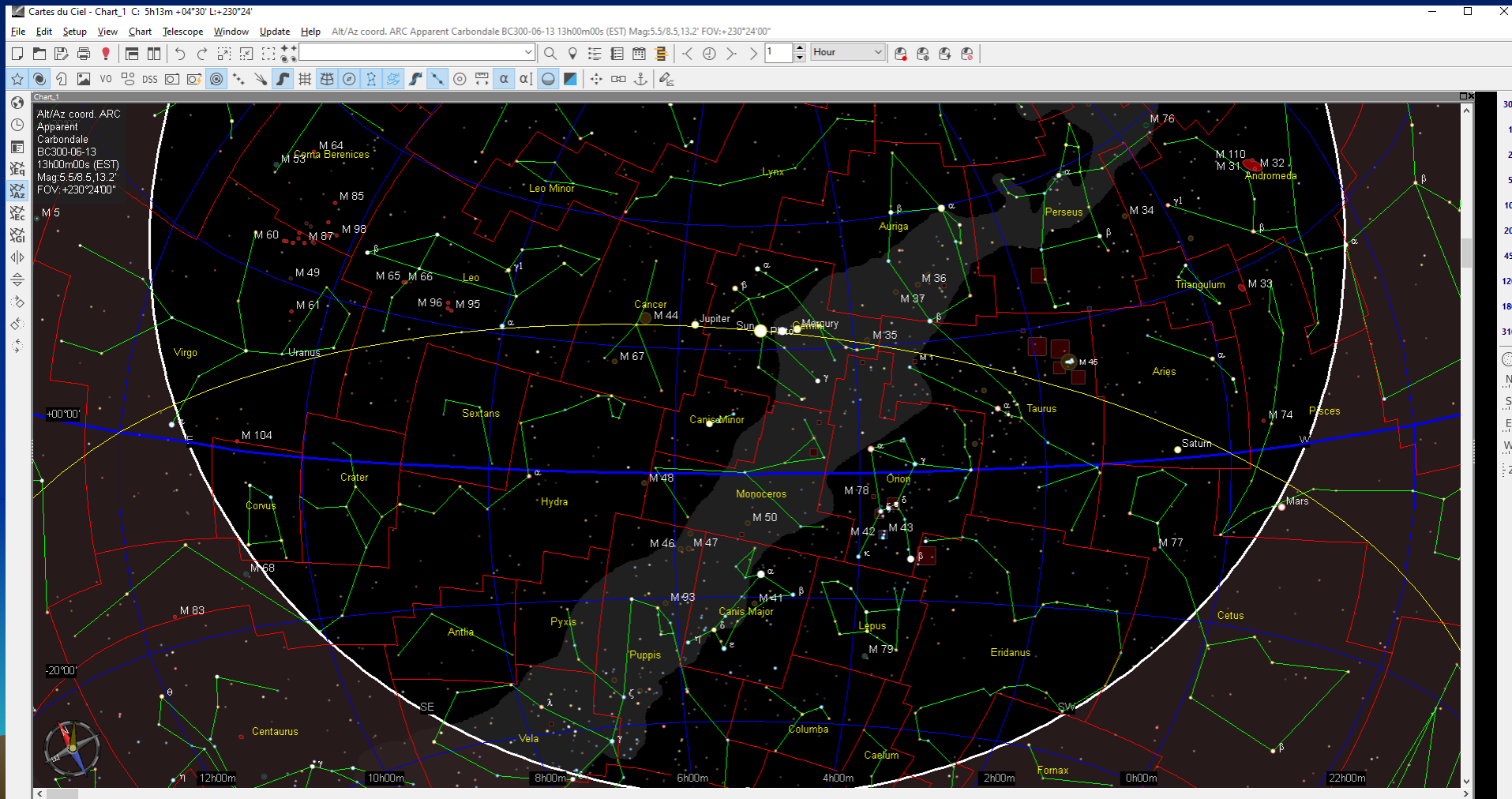
The Ramble Twins Crab Liverish;Scaly Scorpions Are Good Water Fish.



300 BCE Dates of the Zodiac!

Sun is in Gemini

The Ramble Twins Crab Liverish;Scaly Scorpions Are Good Water Fish.



Reflect Just How Bad Astrology Is.

Not only can Astrologers not predict the future
they **CANNOT** predict the present!

The Ramble Twins Crab Liverish;Scaly Scorpions Are Good Water Fish.

♈ Aries (Ram): March 21–April 19

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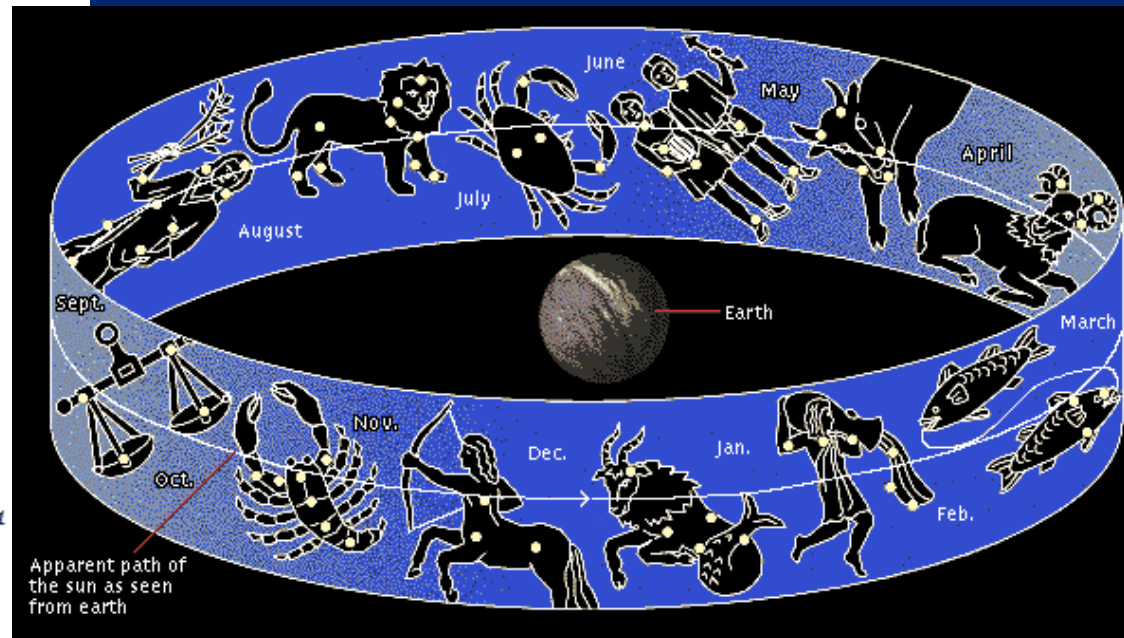
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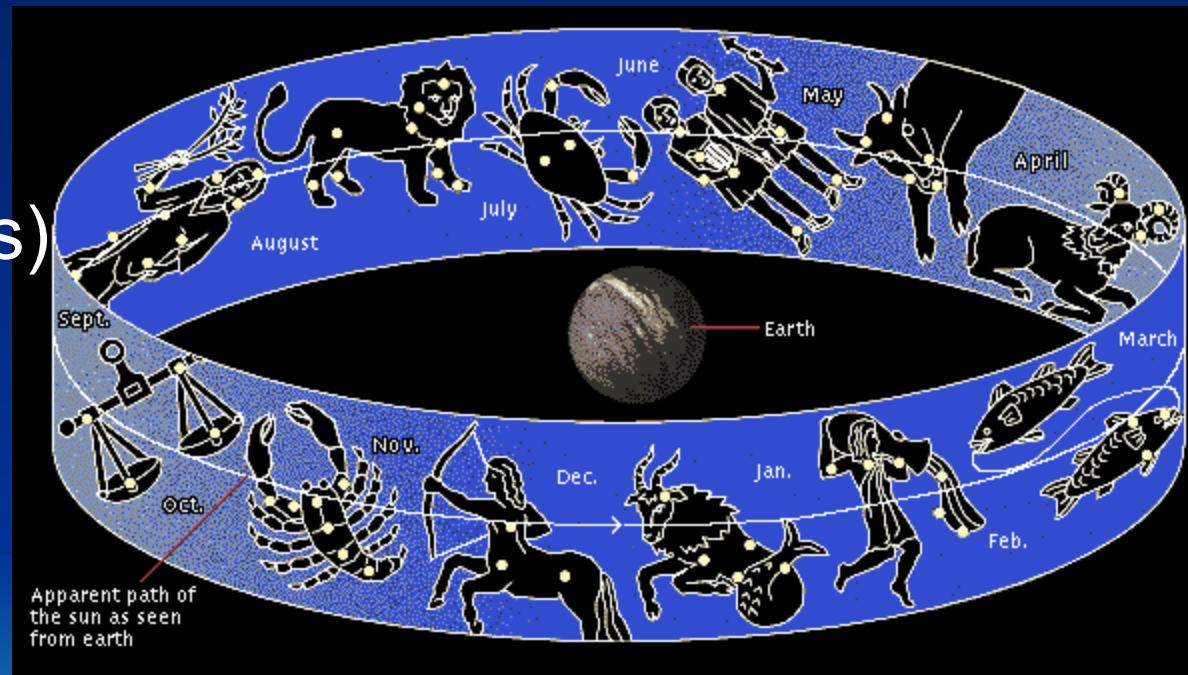


Sun in Gemini, What is Night Sky?

At Sunset? At Midnight?

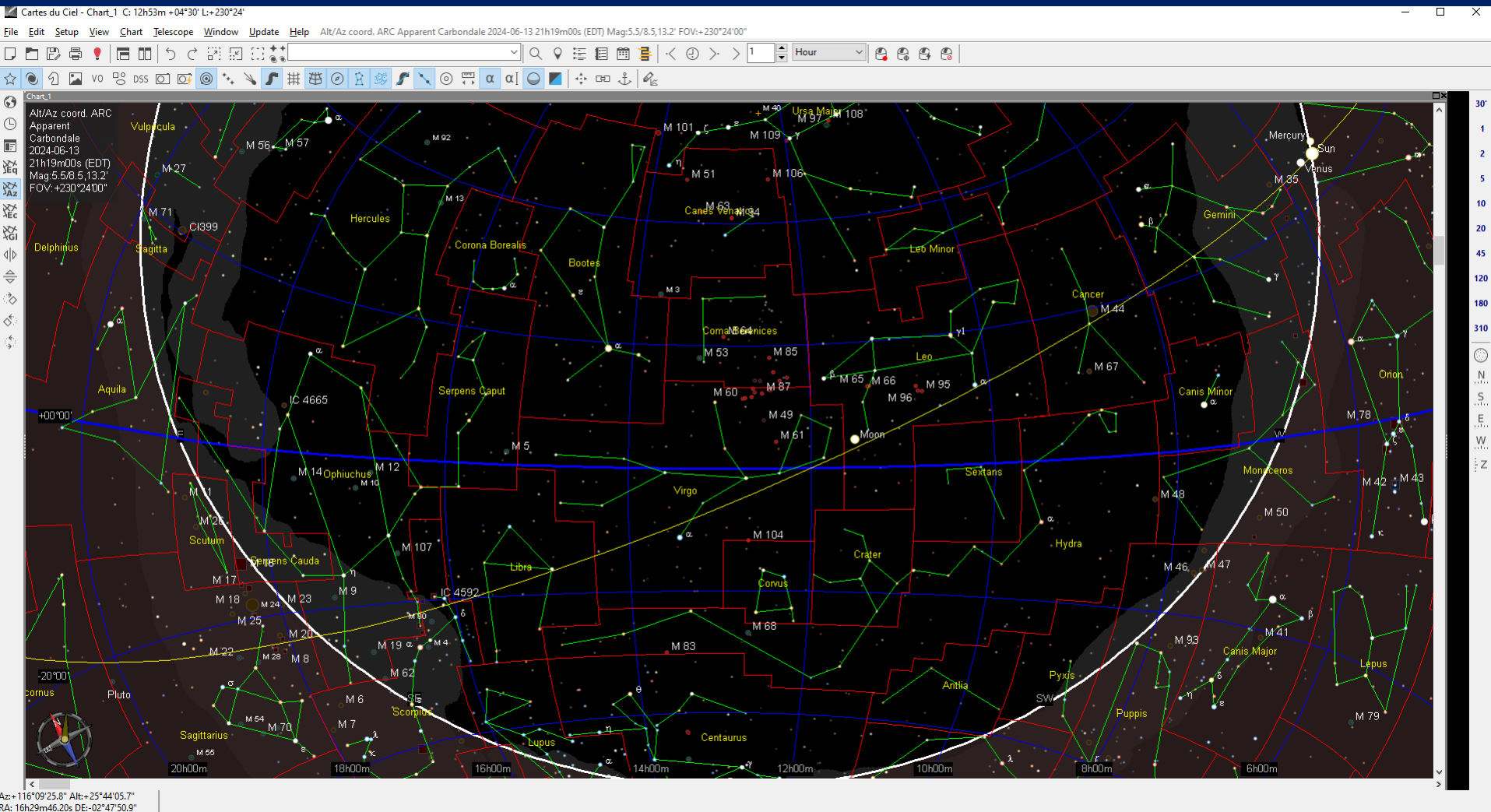
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Aries	Libra
Taurus	Scorpio
Gemini	(Ophiuchus)
Cancer	Sagittarius
Leo	Capricorn
Virgo	Aquarius
	Pisces



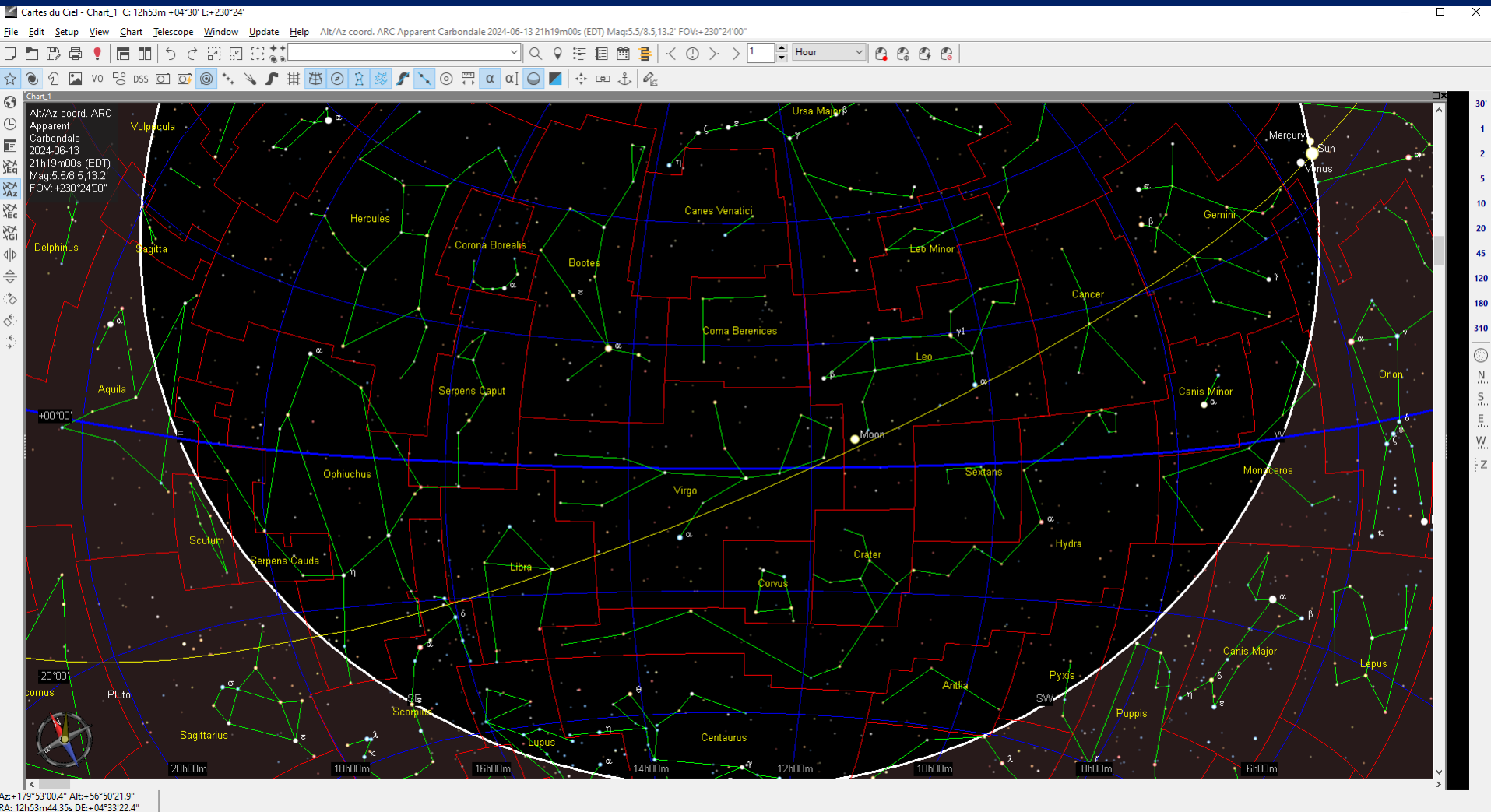
At Sunset

Milky Way around the horizon. Moon under Leo.
Leo is heading west. Virgo Galaxy cluster up.
Ursa Major (Big Dipper Handle) North.



At Sunset

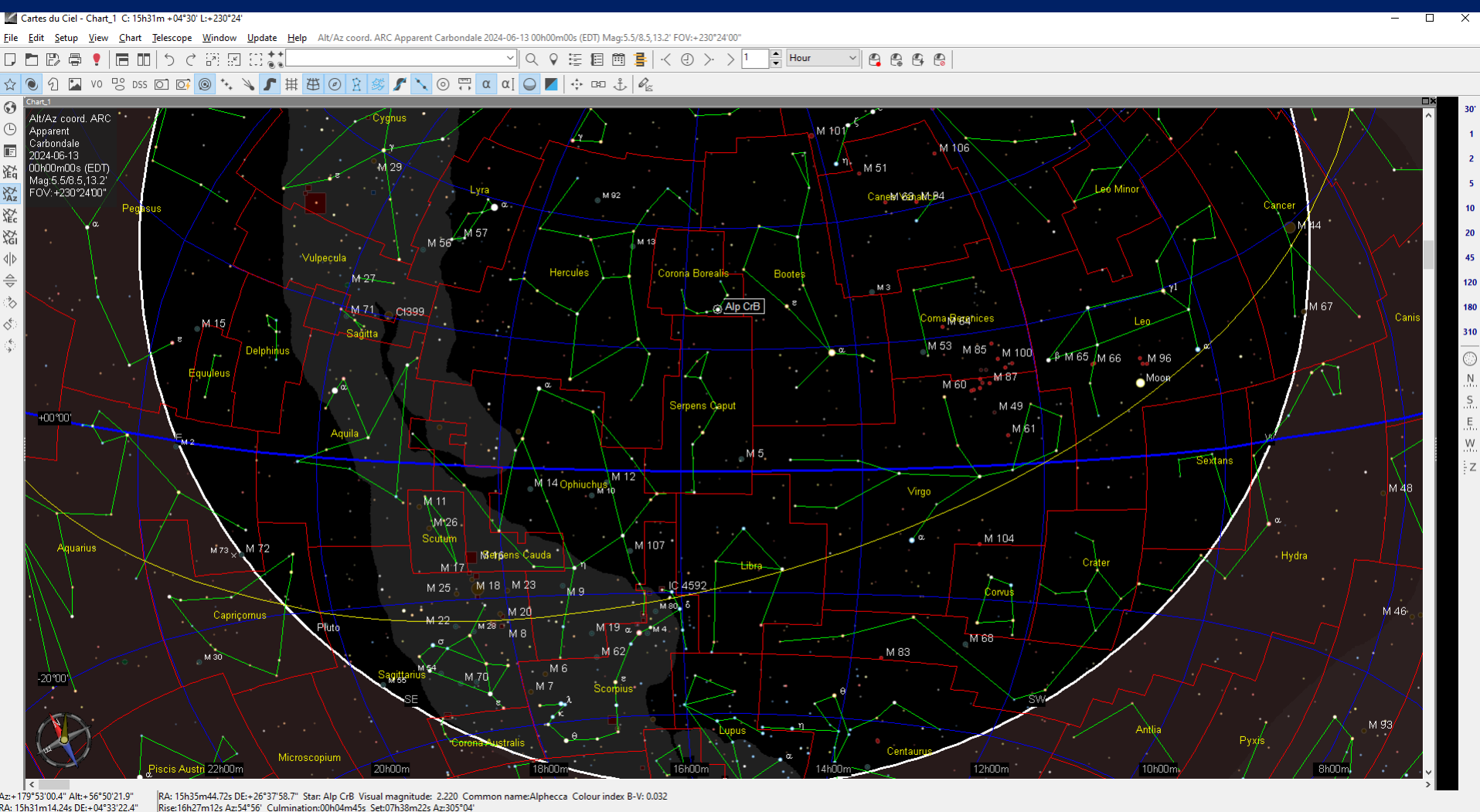
Turn Milky Way Off
Turn Deep Sky (galaxies) Off



0:00 O'clock at Corona Borealis.

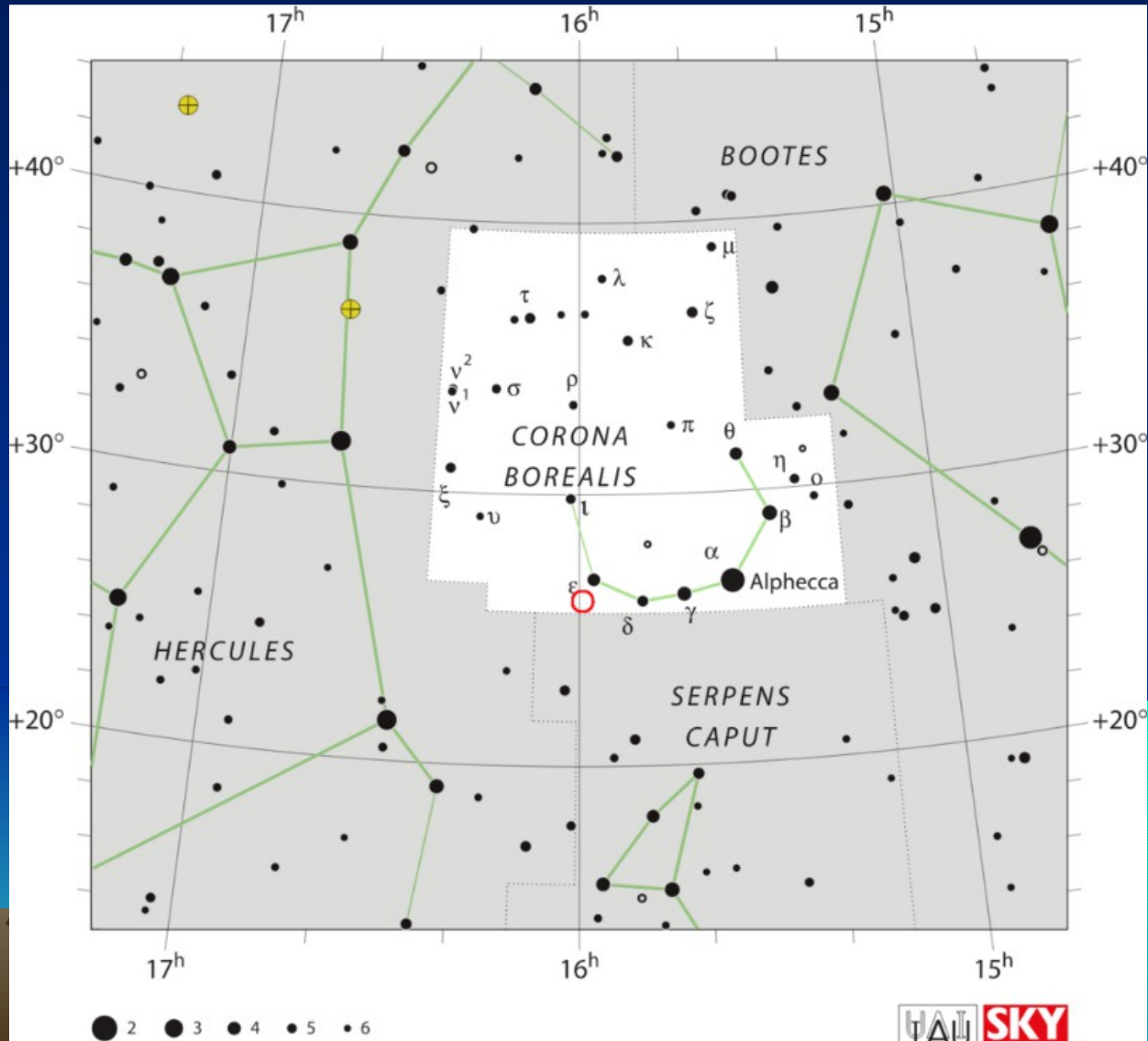
A predicted nova for 2024,

T CrB is a binary system, meaning a solar system with two stars



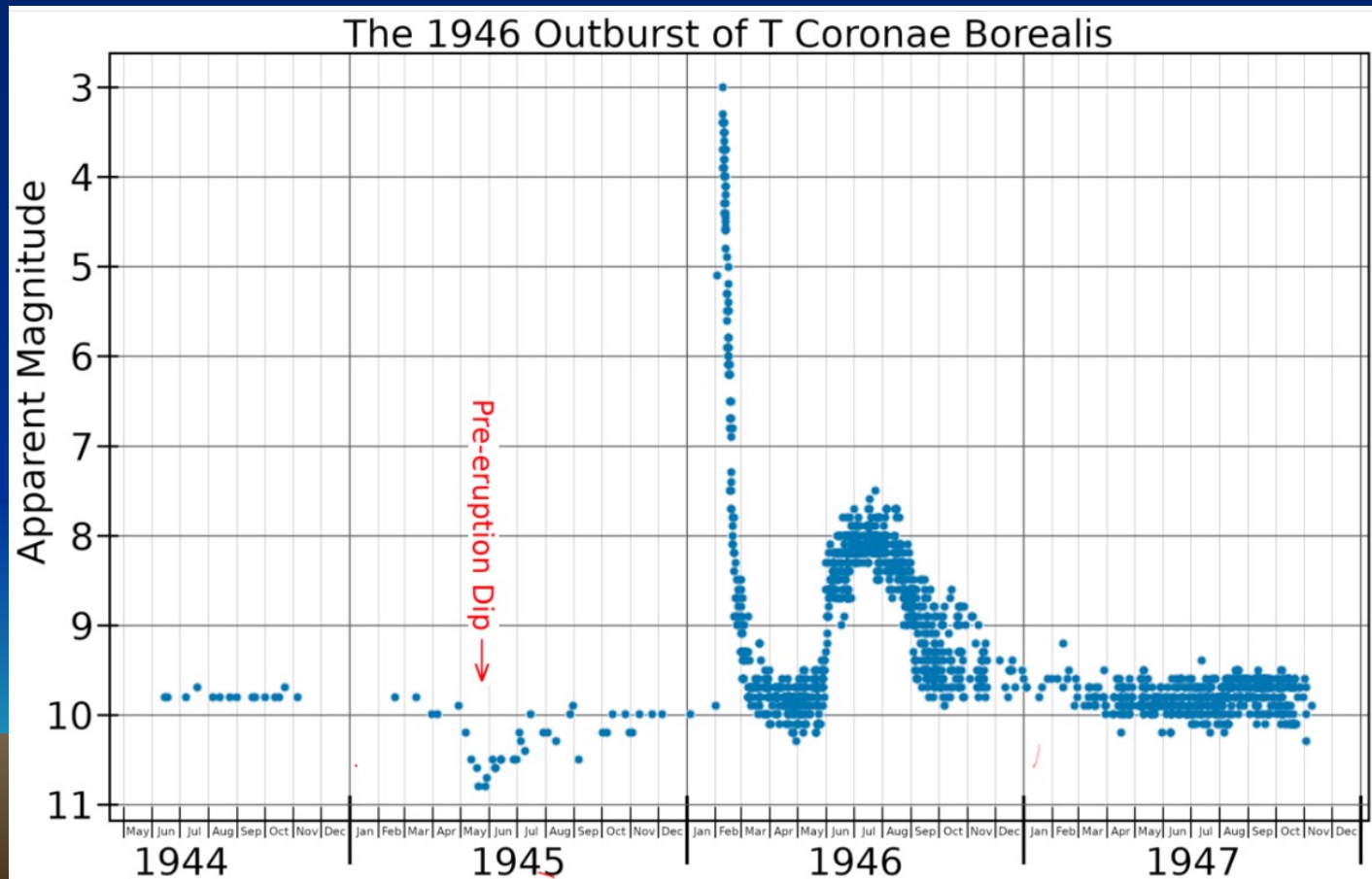
Location of T CrB

From: https://en.wikipedia.org/wiki/T_Coronae_Borealis



From Wikipedia

T Coronae Borealis (T CrB), nicknamed the Blaze star, is a recurrent nova in the constellation Corona Borealis.[11] It was first discovered in outburst in 1866 by John Birmingham,[12] although it had been observed earlier as a 10th magnitude star.[13] It may have been observed in 1217 and in 1787 as well.[14][15] It is expected to undergo an outburst again in 2024.



From AAVSO.ORG

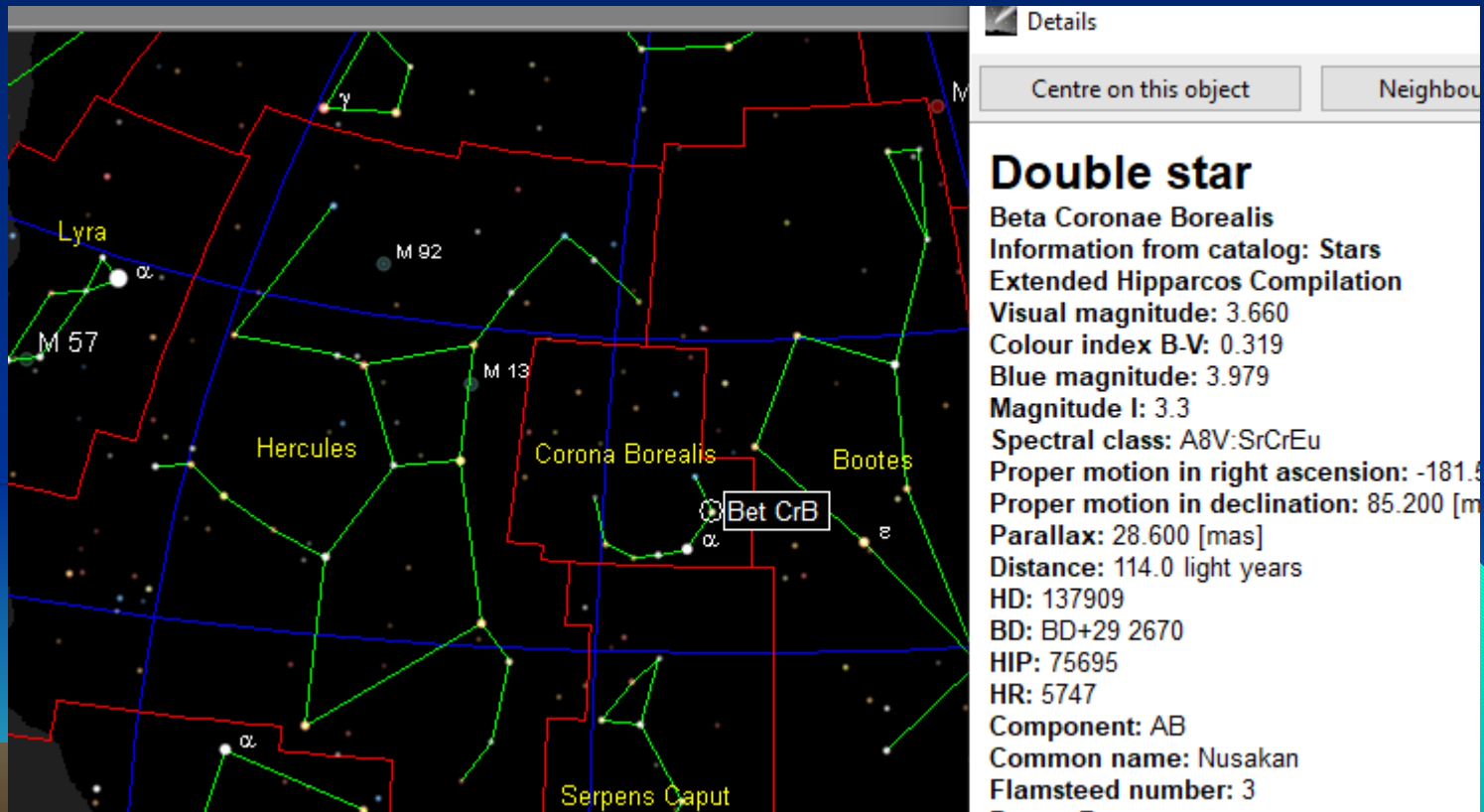
See: aavso.org/news/t-crb-pre-eruption-dip



The screenshot shows a web browser window with the address bar displaying aavso.org/news/t-crb-pre-eruption-dip. The browser's tab bar includes several open tabs: "Mail - forrestericks...", "Maryville, TN 10-D...", "Maryville, TN Weat...", "National Forecast C...", "Astro", and "How To Use | Foll...". The AAVSO website header features the AAVSO logo on the left, a "Login" button with a right-pointing arrow on the right, and a "Who We Are" dropdown menu. Below the header, a breadcrumb trail reads "Home / News and Announcements". The main content area has a large title "Announcing T CrB pre-eruption dip" and a subtitle "Recurrent nova T CrB has just started its Pre-eruption Dip in March/April 2023, so the eruption should occur around 2024.4±0.3". The authors are listed as "B. E. Schaefer (Louisiana State Univ.), B. Kloppenborg (AAVSO), E. O. Waagen (AAVSO), and the AAVSO observers". The text body begins with "T Coronae Borealis (T CrB) is a famous recurrent nova with known eruptions in the years 1217, 1787, 1866, and 1946. Many workers have realized that the rise in brightness from its low state (1954.5 to 2015.0) to its high state (2015.0 to the present) is a precursor and harbinger for an upcoming eruption around 2025.5±1.3 or so (Munari et al. 2016; Schaefer 2023). A distinct and under-appreciated close-up harbinger is the unique and mysterious Pre-eruption Dip (Schaefer 2023). The Dip in 1945-1946 started around 1945.0 (1.1±0.3 years before the 1946 eruption), with the B-band magnitude fading from near 10.5 to 12.0 mag, while the V-band magnitude faded from around 9.8 to 12.3 mag. This fading ended abruptly with the nova eruption."

From Cartes du Ciel

If T Coronae Borealis (T CrB), reaches third magnitude, it will be brighter than all but the alpha star in the crown. The second brightest star is magnitude 3.66. (Alpha CrB is magnitude 2.2)



Night Sky in Stellarium

Free at: <https://stellarium.org/>

z Pup - OW Pup - HIP 36778 - SAO 198130 - HD 60606 - HR 2911

Type: **eruptive variable star** (GCAS)
Magnitude: **5.40**
Absolute Magnitude: -2.40
Color Index (B-V): **-0.09**
Magnitude range: **5.37+5.56** (Photometric system: V)
RA/Dec (J2000.0): 7h33m49.59s/-36°20'24.9"
RA/Dec (on date): 7h34m42.40s/-36°23'32.4"
HA/Dec: 6h20m26.97s/-36°23'32.4" (apparent)
Az./Alt.: +241°14'25.2"/-23°51'09.1" (apparent)
Gal. long./lat.: -110°08'49.3"/-7°57'12.3"
Supergal. long./lat.: -174°27'05.5"/-67°38'04.3"
Ecl. long./lat. (J2000.0): +125°56'32.3"/-56°53'21.4"
Ecl. long./lat. (on date): +126°16'46.7"/-56°53'12.7"
Ecliptic obliquity (on date): +23°26'18.4"
Mean Sidereal Time: 13h55m09.6s
Apparent Sidereal Time: 13h55m09.4s
Rise: 11h45m
Transit: 19h41m
Set: 19h36m
IAU Constellation: Pup
Distance: 1186.02±61.27 ly
Proper motion: 8.95 mas/yr towards 296.4°
Proper motions by axes: -8.02 3.98 (mas/yr)
Parallax: 2.750±0.150 mas
Spectral Type: B2Vne
Solar Az./Alt.: +310°26'52"/-11°54'31"
Lunar Az./Alt.: +234°54'29"/+44°30'40"



Date and Time									
Date and Time					Julian Day				
2024	-	6	-	13	22	:	0	:	0

Stellarium

With Babylonian Art Work!

CO-57

NORAD 27848; International Designator: 2003-031J

Type: **artificial satellite**

RA/Dec (J2000.0): 4h32m54.00s/+32°58'43.7"
RA/Dec (on date): 4h34m28.49s/+33°01'51.2"
HA/Dec: 9h20m40.88s/+33°01'51.2" (apparent)
Az./Alt.: +326°43'36.8"/-11°49'31.1" (apparent)
Gal. long./lat.: +167°27'12.6"/-10°08'35.6"
Supergal. long./lat.: -8°04'00.5"/-30°39'05.4"
Ecl. long./lat. (J2000.0): +71°31'20.3"/+10°55'32.8"
Ecl. long./lat. (on date): +71°51'45.7"/+10°55'44.0"
Ecliptic obliquity (on date): +23°26'18.4"
Mean Sidereal Time: 13h55m09.6s
Apparent Sidereal Time: 13h55m09.4s
Parallactic Angle: +32°06'25.1"
IAU Constellation: Per
Range: 4906 km
Range rate: 3.801 km/s
Altitude: 828 km
Perigee/apogee altitudes: 816 km / 830 km
approx. angular size: +0°00'00.01"
Orbital period: 101.15 min (1h41m — 14.23559 rpd)
Inclination: +98°40'45" (98.6793°)
SubPoint (Lat./Long.): 62.60°/-136.49°
TEME coordinates: X: -3046, Y: 1332, Z: 6375 km
TEME velocity: X: 6.70, Y: -0.28, Z: 3.24 km/s
Phase angle: +61°51'40.5"
Last updated TLE: 13 June 2024 at 6h06m
Epoch of the TLE: 12 June 2024, 12h34m UTC
Radar cross-section (RCS): 0.029 m²
Groups: amateur
The satellite is not visible



Date and Time						Julian Day		
Date and Time						Julian Day		
2024	-	6	-	13		22	:	0 : 0

Stellarium

Babylonian, Mul.Apin Art Work!

SIN [Moon]

Type: moon
Magnitude: -10.24 (reduced to -10.05 by 1.43 Airmasses)
Absolute Magnitude: 0.21
Mean Opposition Magnitude: -12.74
RA/Dec (J2000.0): 11h30m35.48s/+4°28'49.8"
RA/Dec (on date): 11h31m50.80s/+4°20'46.2"
HA/Dec: 2h23m15.85s/+4°21'31.7" (apparent)
Az./Alt.: +234°54'29.0"/+44°30'39.9" (apparent)
Gal. long./lat.: -101°02'09.4"/+60°15'23.0"
Supergal. long./lat.: +105°56'56.0"/-18°55'53.7"
Ecl. long./lat. (J2000.0): +171°28'47.7"/+1°11'56.7"
Ecl. long./lat. (on date): +171°49'13.8"/+1°11'57.4"
Ecliptic obliquity (on date): +23°26'18.4"
Mean Sidereal Time: 13h55m09.6s
Apparent Sidereal Time: 13h55m09.4s
Rise: 13h01m
Transit: 19h33m
Set: 1h57m
Parallactic Angle: +41°47'49.9"
IAU Constellation: Leo
Hourly motion: +0°21'46" towards 131.7°
Hourly motion: dα=+0°16'16" dδ=-0°14'30"

View

Starlore

Al-Sufi

Anutan

Arabian Peninsula

Arabic

Arabic Lunar Stations

Aztec

Babylonian (MUL.APIN)

Babylonian (Seleucid)

Belarusian

Boorong

Chinese

Chinese Contemporary

Chinese Medieval

Dakota/Lakota/Nakota

Egyptian

Greek (Almagest)

Greek (Farnese + Almagest)

Greek (Leiden Aratea + Almagest)

Hawaiian Starlines

Indian Vedic

Babylonian — MUL.APIN

This Babylonian sky culture, which had been in use before the Greek one, is preserved in a (probably almost) canonical state dating back to the 12th century BCE. The earliest fragment known is from the 7th century BCE but the celestial data in the text suggests a much earlier origin of the observational base - most likely between -1350 and -1150.



Options

☒ Use this sky culture as default

☒ Show labelsTranslated

1

☒ Show constellation lines

1

☐ Show asterism lines

1

☐ Show ray helpers

1

Constellations font size

15

☒ Use native names for planets

☒ Show art in brightness0.45

0.45

☐ Show asterism labels

☐ Show boundaries

1

Asterisms font size

14

Earth, +35°41'18", -84°04'36"

FOV 193° 18 FPS 2024-06-13 22:00:00 UTC-04:00

Babylonian, Mul.Apin Art Work!

Note Corona Borealis becomes Asterism of Dignity

Virgo becomes furrow with wheat

Corvus is a Raven, Moon is SIN

SIN [Moon]

Type: **moon**
Magnitude: **-10.24** (reduced to **-10.05** by 1.43 Airmasses)
Absolute Magnitude: 0.21
Mean Opposition Magnitude: -12.74
RA/Dec (J2000.0): 11h30m35.48s/+4°28'49.8"
RA/Dec (on date): 11h31m50.80s/+4°20'46.2"
HA/Dec: 2h23m15.85s/+4°21'31.7" (apparent)
Az./Alt.: +234°54'29.0°/+44°30'39.9" (apparent)
Gal. long./lat.: -101°02'09.4°/+60°15'23.0"
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Mean Sidereal Time: 13h55m09.6s
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Rise: 13h01m
Transit: 19h33m
Set: 1h57m
Parallactic Angle: +41°47'49.9"
IAU Constellation: Leo
Hourly motion: +0°21'46" towards 131.7°
Hourly motion: $da=0^{\circ}16'16"$ $d\delta=-0^{\circ}14'30"$
Elongation: +88°17'39.0"
Elong. in Ecl. Long.: +88°17'57.7"
Phase angle: +91°33'18.9"
Illuminated: 48.6%
Distance from Sun: 1.016 AU (151,932 M km)
Distance: 0.002670 AU (399,432,548 km)
Light time: 0h00m01.3s
Orbital velocity: 0.967 km/s
Heliocentric velocity: 29,308 km/s
Sidereal period: 27.32 days (0.075 a)
Synodic period: 29.53 days (0.081 a)
Apparent diameter: +0°29'54.36"
Diameter: 3474.8 km
Sidereal day: 655h43m11.6s
Mean solar day: 708h44m02.9s
Equatorial rotation velocity: 4.624 m/s
Moon age: 7.3 days old (Waxing Crescent)
Position angle of bright limb: -66°46'50"
Position Angle of axis: +21°48'43"
Libration: +2°29'39" towards +19°34'02" (SSW)
Libration: +0°50'07"/-2°21'01"
Subsolar point: +92°07'31"/+1°28'34"
Longitude: +357°52'29"
Albedo: 0.12
Solar Az./Alt.: +310°26'52°/-11°54'31"

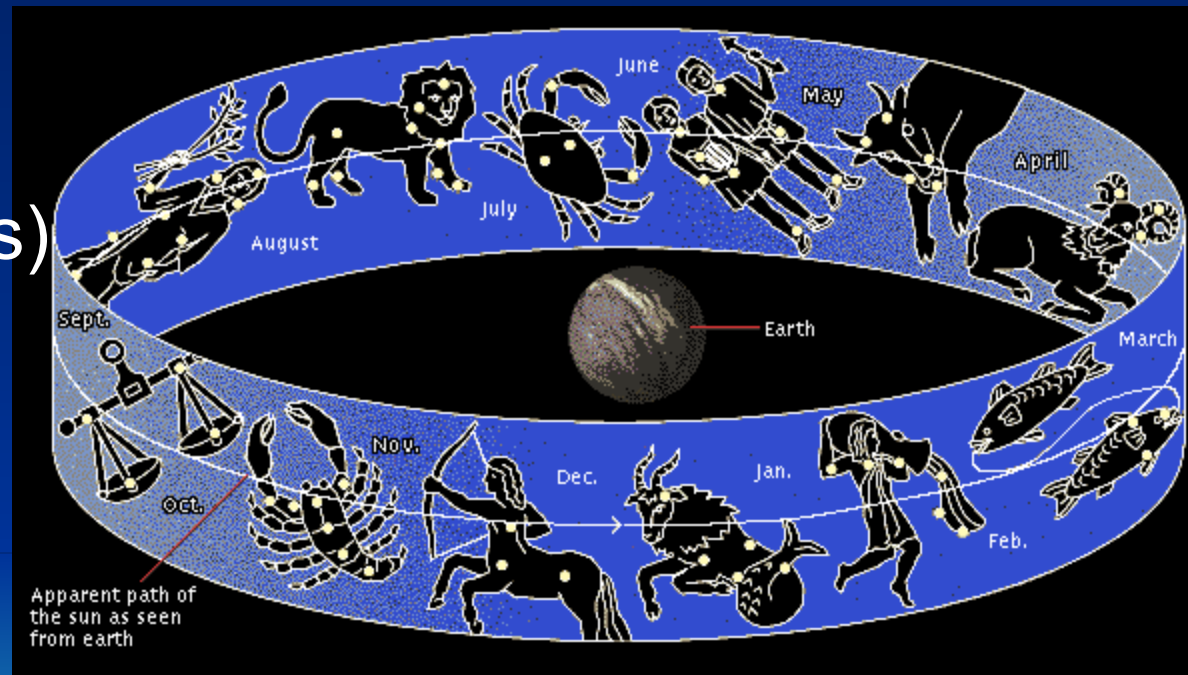


Date and Time									
Date and Time					Julian Day				
2024	-	6	-	13	22	:	0	:	0

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The Ramble Twins Crab Liverish; Scaly Scorpions Are Good Water Fish.

Aries	Libra
Taurus	Scorpio
Gemini	(Ophiuchus)
Cancer	Sagittarius
Leo	Capricorn
Virgo	Aquarius
	Pisces



Review

- Sunset, Lion is to west.
- Moon under and a bit east of Lion.
- Big Dipper to north.
- Watch for a “new” star or jewel in the crown.



Most Accurate Horoscope

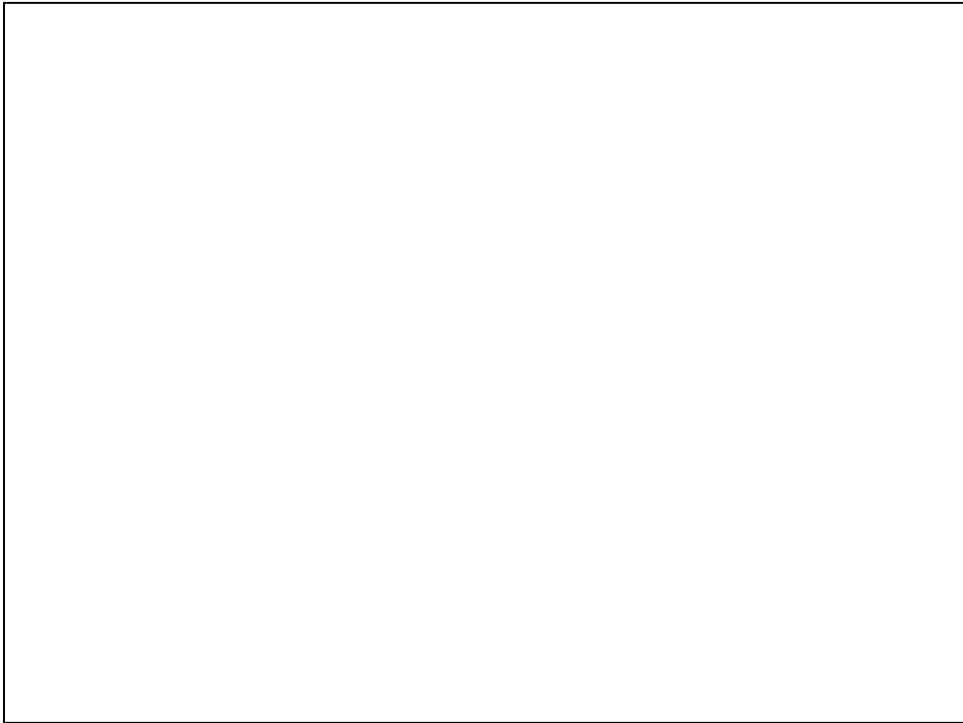
What's Your Sign?

Unless you go out to look,...

<i>Aries</i>	The stars and planets will not affect your life in any way.
<i>Taurus</i>	The stars and planets will not affect your life in any way.
<i>Gemini</i>	The stars and planets will not affect your life in any way.
<i>Cancer</i>	The stars and planets will not affect your life in any way.
<i>Leo</i>	The stars and planets will not affect your life in any way.
<i>Virgo</i>	The stars and planets will not affect your life in any way.
<i>Libra</i>	The stars and planets will not affect your life in any way.
<i>Scorpio</i>	The stars and planets will not affect your life in any way.
<i>Sagittarius</i>	The stars and planets will not affect your life in any way.
<i>Capricorn</i>	The stars and planets will not affect your life in any way.
<i>Aquarius</i>	The stars and planets will not affect your life in any way.
<i>Pisces</i>	The stars and planets will not affect your life in any way.



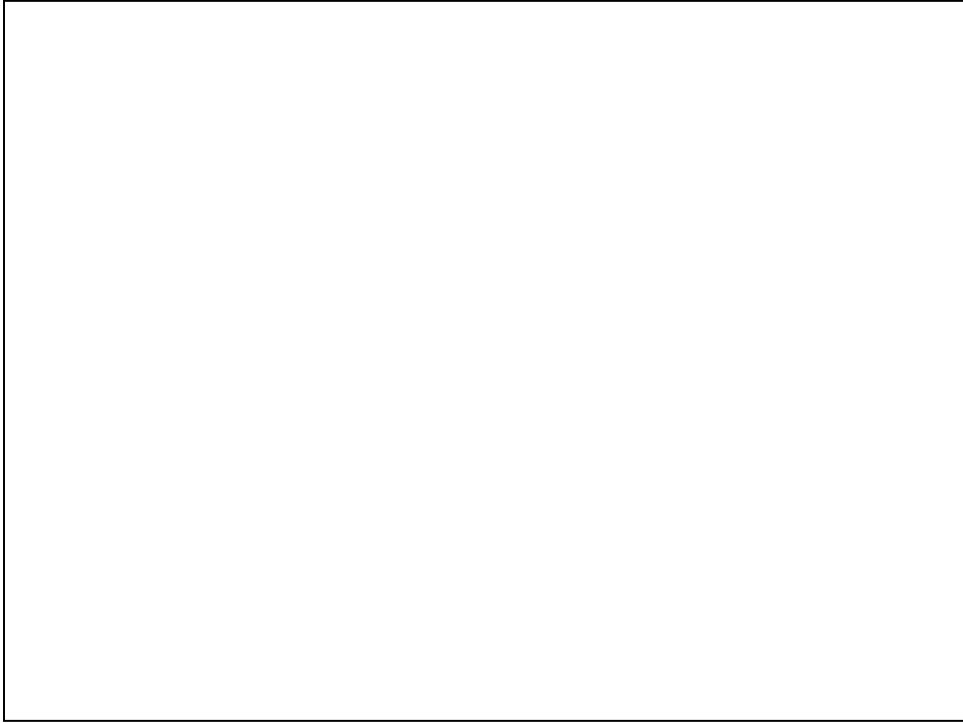
?



Review.

Any questions?

Have I confused anyone?



So get out and look!