

PRESS RELEASE MAY 2024






# ASTRONOMICAL DIARY

PREPARED BY ASTRONOMICAL PUBLICATION AND PLANETARIUM UNIT, SPACE SCIENCE AND ASTRONOMY SECTION

## ASTRONOMICAL EVENTS, MAY 2024

DATE	EVENT	TIME
01-31	Dark and Quiet Skies Awareness Month	---
04	Conjunction of Waning Crescent Moon and Saturn	06:32 a.m.
04	Close approach of Waning Crescent Moon and Saturn	07:10 a.m.
05	Close approach of Moon and Mars	10:16 a.m.
05	Conjunction of Moon and Mars	10:25 a.m.
05	$\eta$ -Aquariid meteor shower (ZHR = 40)	---
06	Moon at Perigee (Distance = 363,242.054 km)	06:04 a.m.
06	Conjunction of Moon and Mercury	04:25 p.m.
08	$\eta$ -Lyrid meteor shower (ZHR = 3)	---
10	Mercury at Greatest Elongation West	05:29 a.m.
11	Mercury at Highest Altitude in Morning Sky	---
15	Mercury at dichotomy	07:04 a.m.
18	Moon at Apogee (Distance = 404,574.964 km)	02:59 a.m.
31	Conjunction of Moon and Saturn	04:09 p.m.
31	Close approach of Moon and Saturn	04:26 p.m.

## PHASES OF THE MOON

	<b>Last Quarter</b> May 01 07:27 p.m.
	<b>New Moon</b> May 08 11:22 a.m.
	<b>First Quarter</b> May 15 07:48 p.m.
	<b>Full Moon</b> May 23 09:53 p.m.
	<b>Last Quarter</b> May 31 01:13 a.m.

## RISE AND SET TIMES OF PLANETS

DATE	MERCURY		VENUS		MARS		JUPITER		SATURN	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
May 01	04:19 am	04:32 pm	05:05 am	05:33 pm	03:20 am	03:22 pm	06:24 am	07:07 pm	02:38 am	02:26 pm
May 11	04:06 am	04:24 pm	05:08 am	05:46 pm	03:06 am	03:14 pm	05:54 am	06:38 pm	02:01 am	01:50 pm
May 21	04:08 am	04:38 pm	05:14 am	06:00 pm	02:52 am	03:06 pm	05:24 am	06:09 pm	01:24 am	01:14 pm
May 31	04:26 am	05:09 pm	05:22 am	06:15 pm	02:37 am	02:58 pm	04:53 am	05:40 pm	00:47 am	12:37 pm



## SOUTHERN RING NEBULA (NGC 3132)

### ASTRONOMY PICTURE OF THE MONTH

NASA's Webb Telescope captured this image of NGC 3132 in the Mid-Infrared Instrument (MIRI), with details previously unknown to astronomers. Webb's powerful infrared vision, reveals the second star of this nebula into full view, highlighting the remarkable structures formed as the stars mold the gas and dust around them. Also known as the "Eight-Burst" Nebula, this nebula is visible in the southern hemisphere and looks like a figure-8 when viewed through various telescopes. At a distance of 2,000 light years, the nebula has a diameter of over half a light year.

Image credit: [NASA](#), [ESA](#), [CSA](#), and [STScI](#)

Notes:

[1] All times displayed are in Philippine Standard Time (PhST)

"tracking the sky...helping the country"

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# Stars and Constellations

May is the perfect month to observe the marvelous constellations of **Canes Venatici** and **Coma Berenices** in the northern hemisphere while **Centaurus**, **Corvus**, **Crux**, **Musca**, and **Virgo** are in the southern sky. The prominent May constellations at 09:00 p.m. on 15 May 2024 are positioned directly overhead as shown in Figure 1. [1,2]

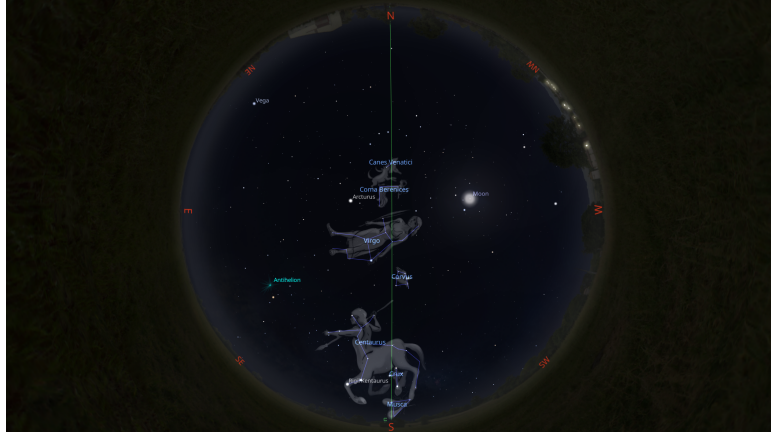


Figure 1: The view of the night sky featuring the prominent May constellations at 09:00 p.m. on 15 May 2024 using the Stellarium software

The northern constellations **Canes Venatici** and **Coma Berenices** are easy to locate for they are just above the handle of the famous asterism, the Big Dipper. [1,2]

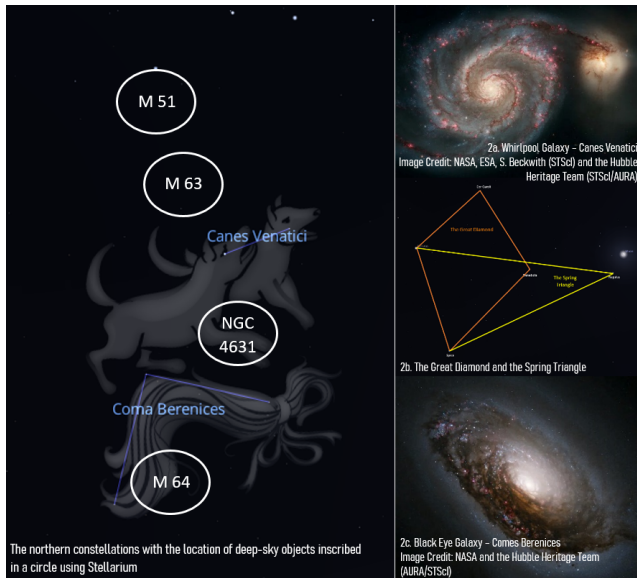


Figure 2: The Northern Constellations

**Canes Venatici**, Latin for “hunting dogs”, is a small northern constellation that presents a wealth of captivating celestial objects. The most renowned of these is the Whirlpool Galaxy (M51) [Figure 2a], one of the most stunning face-on spiral galaxies observable from Earth. Other notable galaxies include the Sunflower Galaxy (M63), and the Whale Galaxy (NGC 4631) to name a few. Cor Caroli, the brightest star in Canes Venatici, serves as one of the vertices of a prominent asterism, the Great Diamond, also formed by Denebola in Leo, Spica in Virgo, and Arcturus in Boötes [Figure 2b]. Canes Venatici also houses one of the reddest stars in the sky, the La Superba (Y Canum Venaticorum). [2,3]

Despite **Coma Berenices’** minor size, it is still rich in deep-sky objects. The constellation hosts the Coma Cluster of galaxies, as well as the northern portion of the Virgo Cluster making it abundant in galaxies. The most famous one is the Black Eye Galaxy (M64) [Figure 2c], distinguished by a dark absorbing dust band in front of the galaxy’s bright core. The constellation also contains the Coma Star Cluster, a

dense open star cluster nearly 288 light-years from Earth. [2,3]

The zodiacal constellation **Virgo** is the second largest constellation, next to Hydra. Its brightest star, Spica, is a component of the Great Diamond and serves as one of the vertices of the Spring Triangle [Figure 2b]. Virgo is most well-known for the Virgo Cluster, an immense galaxy containing about 2,000 galaxies. Several Messier objects belong to the Virgo Cluster, namely, M49, M58, M59, M60, M61, M84, M86, M87, M89, and M90. The Sombrero Galaxy (M104) [Figure 3a], an unbarred spiral galaxy that resembles a sombrero, is the only Messier object not included in the Virgo Cluster. [2]

Included in the best-known southern constellations are **Centaurus** and **Crux**. **Centaurus** is a gold mine for deep-sky objects, hosting the brightest globular cluster in the sky, Omega Centauri. It also contains the third brightest star in the sky, Alpha Centaurus, and the 11th brightest star, Beta Centauri. These two stars are known as the Southern Pointers as they point towards the smallest constellation, Crux. [2]



**Crux** is considered the best-known constellation in the southern sky. It is used for celestial navigation to the southern hemisphere. Crux contains two notable deep-sky objects: the Jewel Box or Kappa Crucis Cluster, one of the youngest known open clusters, and the Coalsack Nebula [Figure 3b]. Its four bright stars - Acrux (Alpha Crucis), Mimosa (Beta Crucis), Gacrux (Gamma Crucis), and Imai (Delta Crucis) - form an asterism known as the Southern Cross. [2]

**Corvus** is a small southern constellation with an outstanding presence in the sky. Its four brightest stars - Gienah (Gamma Corvi), Kraz (Beta Corvi), Algorab (Delta Corvi), and Minkar (Epsilon Corvi) - form a quadrilateral asterism known as the Sail or Spica's Spanker. Impressive deep-sky objects can be seen in Corvus including the Antennae Galaxies (NGC 4038 and NGC 4039) [Figure 3c], a pair of interacting galaxies, and the Ringtail Galaxy (NGC 4027). [2]

**Musca**, being one of the smallest and lesser-known constellations, does not host any Messier object. However, it is home to one of the oldest globular clusters of the Milky Way, NGC 4372. [4]

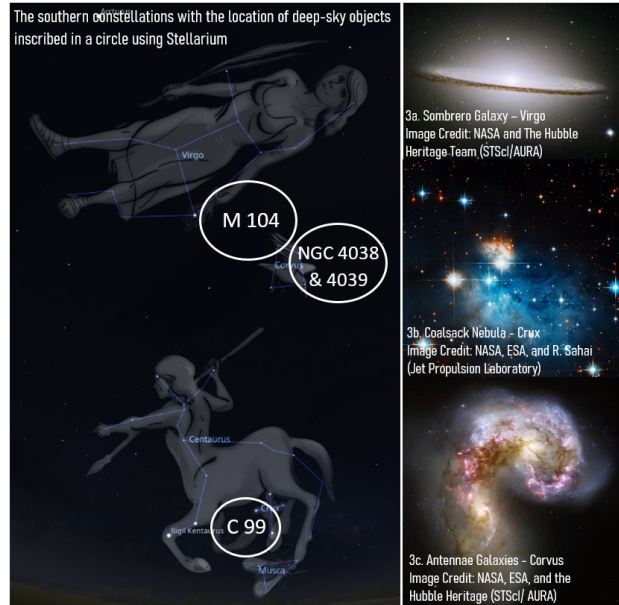


Figure 3: The Southern Constellations

## Planetary Location

**Mercury** can be seen lying low in the eastern sky in the early days of May, but will eventually be visible before sunrise as it reaches an altitude of more than  $10^\circ$  above the horizon. **Mars** and **Saturn** are morning objects, rising on the eastern horizon at least two hours before sunrise, presenting their visibility for the entire month. On the other hand, **Jupiter** will be sitting very low on the western horizon making it challenging to view as it gets lost in the glare of the Sun. Moreover, **Venus** will not be visible due to its proximity to the Sun. [1,5,6]



Figure 4: The view of the eastern sky showing the close pairing of the Waning Crescent Moon and Saturn (on the left) and the Moon and Mars (on the right) at 05:00 a.m. using Stellarium

On 04 May, the **Waning Crescent Moon** and **Saturn** will be in conjunction at 06:32 a.m., with the Moon passing  $50'$  south of Saturn. The two objects will make a close approach, at about the same time, passing within 44.7 arcminutes of each other, where both planets lie in the constellation Aquarius. The next day, at 10:16 a.m., the **Moon** and **Mars**, located in the constellation Pisces, will pass within 10.3 arcminutes of each other, followed by their conjunction at 10:25 a.m., separated by  $12'$ . The exact events will not be observable due to the presence of the Sun, however, the pairings can be seen close to each other at 05:00 a.m. when they will be more than  $20^\circ$  above the eastern horizon [Figure 4]. [7,8,9,10]

The **Waning Crescent Moon** and **Mercury** will share the same right ascension on 06 May at 04:25 p.m., with Mercury passing 3°49' south of the Moon. Due to the time of these events, the conjunction will not be viewed by the naked eye because of the Sun's presence, but the best view of their close pairing will be at 05:00 a.m. [Figure 5]. [11]



Figure 5: The view of the eastern sky showing the close approach of the Waning Crescent Moon and Mercury on 06 May at 05:00 a.m. using Stellarium.



Figure 6: The view of the east-southeastern sky showing the close approach of the Moon and Saturn on 31 May at 04:30 a.m. using Stellarium.

On 08 May, the **Moon** and **Venus** will be in conjunction at 12:03 a.m., with the Moon passing 3°30' north of Venus. On the other hand, the **Moon** and **Jupiter** will share the same right ascension on 09 May at 02:14 a.m., separated by 4°19' from each other. Unfortunately, the exact instances of these conjunctions are not directly visible since the Moon and the above-mentioned planets are still below the horizon. [5]

On 10 May at 05:29 a.m., **Mercury** will reach its **Greatest Elongation West**, when it will be farthest from the Sun by 26.4°. Mercury will shine with a magnitude of 0.4 and will be at its highest point in the morning sky the next day. On 15 May at 07:04 a.m., Mercury will undergo **dichotomy**, when the planet appears half-illuminated as seen from Earth. The exact time of the event will not be visible as it will occur below the horizon. [12,13,14]

Another conjunction of the **Moon** and **Saturn** will happen on the last day of the month, at 04:09 p.m., with the Moon passing 22' south of Saturn. The two objects will approach closely at about the same moment, passing within 20.2 arcminutes of each other. Both planets will be behind the stars of the constellation Aquarius. Due to the presence of the Sun, the conjunction will not be viewed by the naked eye, but the best view of their close pairing will be at 04:30 a.m. when the two objects will be lying high in the east-southeastern sky [Figure 6]. [15,16]

All the conjunctions and near approaches mentioned between the planet and the Moon, or planet to planet, will be visible enough to fit within the field of view of a telescope and can also be viewed with the naked eye or using a pair of binoculars.

## Meteor Shower

The **η-Aquariid** meteor shower will be observed from **19 April to 28 May** with its peak activity on **05 May**. The meteor shower is expected to produce about 40 meteors per hour. It will be visible once its radiant point, the constellation Aquarius, is above the eastern horizon around 01:33 a.m. each night and remains active until around 05:06 a.m. the next day. The radiant point is highest in the sky around 08:00 a.m. and will likely produce its best display shortly before dawn as seen in Figure 7. However, the presence of the Waning Crescent Moon will provide minimal impact on the meteor-watching throughout the night. [17]

Another meteor shower that can be viewed in May is the **η-Lyrid** meteor shower which will be active from **03-14 May**, peaking on **08 May**. In Manila, the shower will be observed around 08:57 p.m., when its radiant point, the constellation Lyra, rises above the eastern horizon until dawn breaks around 05:05 a.m. the following day. An estimate of 3 meteors per hour will be produced at the shower's peak activity. The radiant point is highest in the sky around 04:00 a.m. providing the best view of the meteor as depicted in Figure 8. The moonlight will present an insignificant interference on the meteor observation. [18]

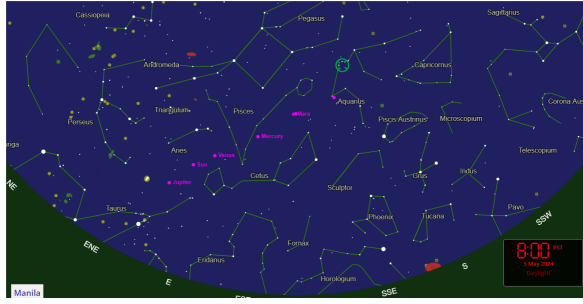


Figure 7: The view of the southeastern sky during the peak of  $\eta$ -Aquariid on 05 May 2024 at 08:00 a.m. when the shower's radiant is represented by the green solid circle.

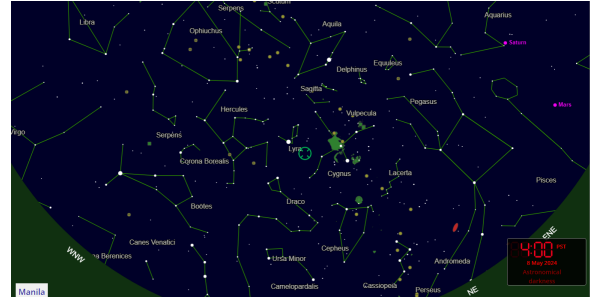


Figure 8: The view of the northern sky during the peak of  $\eta$ -Lyrid on 08 May 2024 at 04:00 a.m. when the shower's radiant is represented by the green solid circle.

Meteor showers are observable through the naked eye, and no special equipment such as telescopes or binoculars is needed. Maximize the viewing experience by choosing a dark observation site away from the city lights under clear and moonless sky conditions.

## Calendar of Astronomical Events for May 2024

Table 1 shows a summary of the astronomical events for May 2024. All times displayed are in Philippines Standard Time (PhST).

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12 April 2024

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