

PRESS RELEASE MARCH 2022





ASTRONOMICAL DIARY

PREPARED BY ASTRONOMICAL PUBLICATION UNIT, SPACE SCIENCE AND ASTRONOMY SECTION

ASTRONOMICAL EVENTS, MARCH 2022

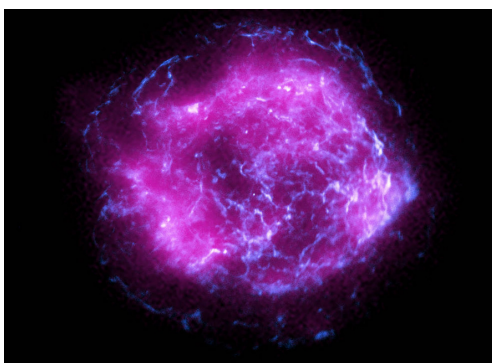
DATE	EVENT	TIME
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11	Moon at Apogee (Distance = 404,195.748 km)	07:04 AM
12	Venus passing 3°59' N of Mars	09:13 PM
15	γ - Normids	04:00 AM
16	Venus and Mars passing 3°53' of each other	10:30 AM
20	March Equinox or Vernal Equinox	11:33 PM
21	Venus at greatest elongation west	05:35 AM
21	Venus at dichotomy	01:45 PM
24	Moon at Perigee (Distance = 369,789.993 km)	07:37 AM
27-31	Planetary Trio (Venus, Mars, and Saturn)	before dawn

PHASES OF THE MOON

	New Moon Mar 03 01:35 AM
	First Quarter Mar 10 06:45 PM
	Full Moon Mar 18 03:18 PM
	Last Quarter Mar 25 01:37 PM

RISE AND SET TIMES OF PLANETS

DATE	MERCURY		VENUS		MARS		JUPITER		SATURN	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Mar 01	04:55 AM	04:24 PM	03:24 AM	02:52 PM	03:35 AM	02:52 PM	06:28 AM	06:17 PM	05:02 AM	04:31 PM
Mar 11	05:10 AM	04:48 PM	03:20 AM	02:50 PM	03:26 AM	02:46 PM	05:57 AM	05:47 PM	04:27 AM	03:57 PM
Mar 21	05:27 AM	05:19 PM	03:18 AM	02:52 PM	03:15 AM	02:40 PM	05:26 AM	05:18 PM	03:51 AM	03:22 PM
Mar 31	05:47 AM	05:57 PM	03:18 AM	02:56 PM	03:04 AM	02:33 PM	04:54 AM	04:48 PM	03:16 AM	02:47 PM



APOM: SUPERNOVA CASSIOPEIA A

ASTRONOMY PICTURE OF THE MONTH

This image of the supernova Cassiopeia A combines some of the first X-ray data collected by NASA's Imaging X-ray Polarimetry Explorer, shown in magenta, with high-energy X-ray data from NASA's Chandra X-Ray Observatory, in blue.

Cassiopeia A is an object consisting of the remains of a star that exploded in the 17th century. The shock waves from the explosion have swept up surrounding gas, heating it to high temperatures and accelerating cosmic ray particles to make a cloud that glows in X-ray light.

Credit: NASA/CXC/SAO/IXPE

Notes:

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

"tracking the sky...helping the country"

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Stars and Constellations

March is the best time to observe the constellations **Cancer**, **Canis Minor**, and **Lynx**, including some of the well-known deep-sky objects in these constellations, including **Messier 44 (M44)**, also known as the **Beehive Cluster** or **Praesepe (the Manger)**. **M44** is a bright, large open cluster, and **Messier 67 (M67)**, a small, fainter, and more concrete open cluster both located in the constellation **Cancer**. The view of the night sky in mid-March featuring the prominent March constellations located overhead at 9:00 P.M. (Figure 1) [1].



Figure 1: The view of the night sky featuring the prominent March constellations at 9:00 P.M. on 15 February 2022 using the Stellarium application

Lynx is the largest among the March constellations containing very faint, with no stars brighter than magnitude 3. **Lynx** is in between the prominent constellations **Ursa Major** and **Auriga**. **Lynx** also contains several notable deep-sky objects, including **NGC 2419**, also known as the **Intergalactic Wanderer**, one of the most distant globular clusters are known in the Milky Way, **NGC 2683 (UFO Galaxy)**, an unbarred spiral galaxy, and **NGC 2537 (Bear's Paw Galaxy)**, a compact dwarf galaxy [1].

Canis Minor is represented as one of the dogs of **Orion** and is the home of **Procyon**, one of the brightest stars in the night sky and one member of the asterism **Winter Triangle**, together with **Sirius** in **Canis Major** and **Betelgeuse** in **Orion** [1].

Planetary Location

Mercury, **Venus**, **Mars**, and **Saturn** are the planets observable in the morning in the southeast for the entire month, with **Mercury** and **Saturn** poorly positioned in the sky. Meanwhile, **Jupiter** is in solar conjunction on 5 March. Observing **Jupiter** is slightly difficult on the last days of the month since it is close to the Sun and lying near the horizon [2].

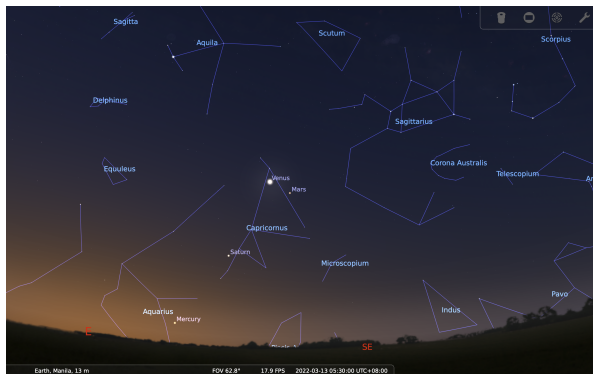


Figure 2: The view of the southeastern sky on 13 March 2022 showing the close pairing of the planets Venus and Mars before sunrise using the Stellarium application

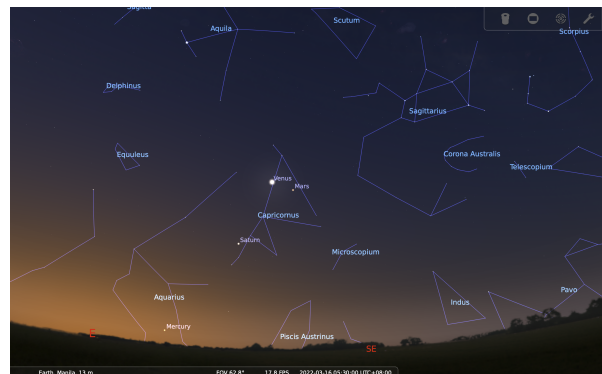


Figure 3: The view of the southeastern sky on 16 March 2022 showing the close pairing of the planets Venus and Mars before sunrise using the Stellarium application

Venus will be at its highest point in the sky in its 2022 morning apparition on 10 March [3]. On 21 March at 5:53 A.M., **Venus** is at the greatest separation from the Sun, known as the greatest elongation [4]. Also, on

the same day at 1:45 P.M., **Venus** is at dichotomy, where the planet reaches half phase [5]. On 12 March at 9:13 P.M., planets **Venus** and **Mars** will share the same right ascension, with **Venus** being $3^{\circ}59'$ to the north of **Mars**. The exact instance of the conjunction is not directly visible since **Venus** and **Mars** are still below the horizon by then. However, the view of the close pairing located in **Capricornus** can be observed as soon the planets rise in the southeast a few hours before sunrise (Figure 2). Similarly, **Venus** and **Mars** are at close approach again on 16 March at 10:30 A.M. as the planets pass $3^{\circ}53'$ of each other. The close pairing can be observed a few hours before sunrise (Figure 3) [6].

From 24 March through the month-end, the planetary trio consisting of planets **Venus**, **Mars**, and **Saturn** will unusually cluster close together on the southeastern horizon a few hours before sunrise. The sight of the **waning crescent Moon** joining the planetary trio on 28 March is also a must-watch. Figure 4 shows the daily view of the close pairing of the planetary trio from 24-31 March [7]. The separation of these close pairings is observable through the naked eye and is too wide to fit within the field of view of a telescope or a pair of binoculars.

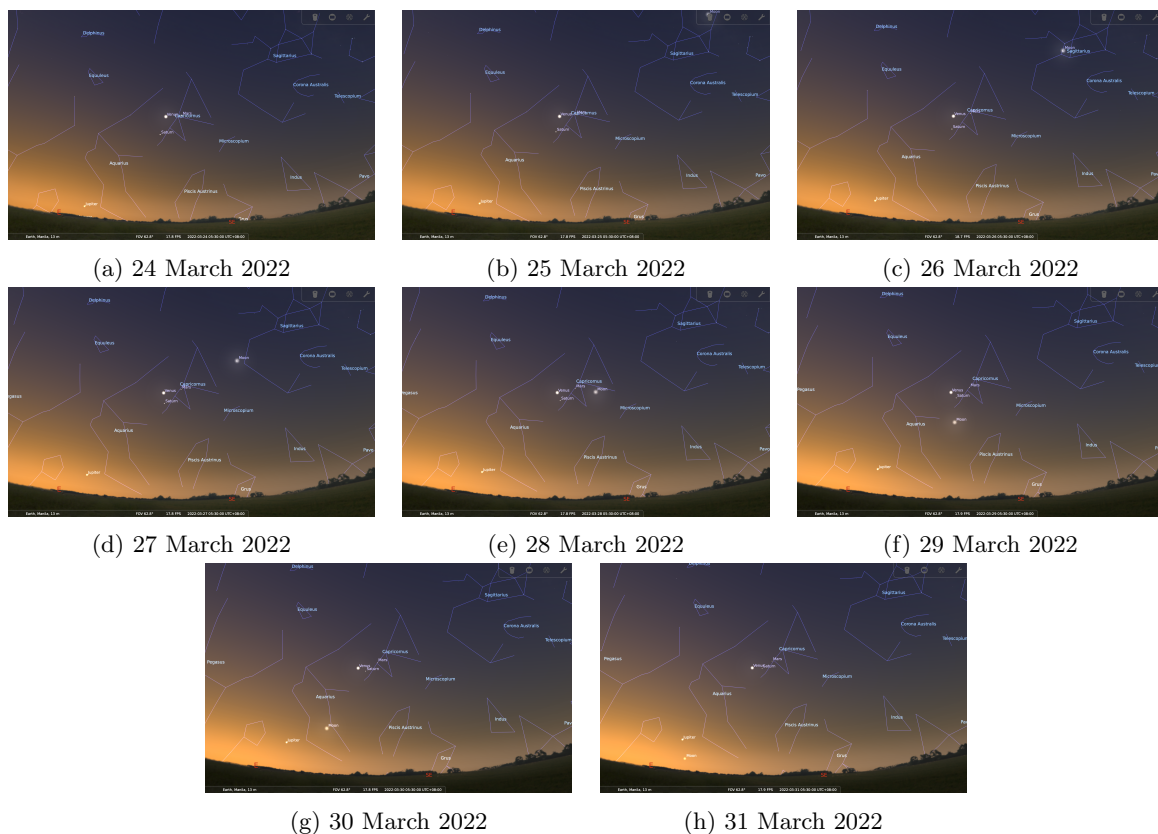


Figure 4: The daily view of the southeastern sky from 24-31 March 2022 showing the close pairing of the planetary trio: Venus, Mars, and Saturn before sunrise using the Stellarium application

Meteor Showers

γ -**Normids** is a meteor shower observable from 25 February to 28 March, with an expected peak of activity on 14 March 2022. The view of the meteor shower may be observed as soon as the constellation **Norma**, the shower's radiant rises over the horizon around 11:34 P.M. The radiant is highest in the sky at around 4:00 A.M as shown in the finder chart in Figure 5. Thus, the shower will produce the best display shortly before dawn, with up to 6 observable meteors per hour. The value mentioned assumes that the observer is in a clear, dark, moonless sky condition, and the radiant is highest in the sky. The shower will remain active until before sunrise. The presence of the **waxing gibbous Moon** in the constellation **Cancer** presents a significant interference with the meteor shower observation throughout the night [8].

Meteor showers are observable through the naked eyes, 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.

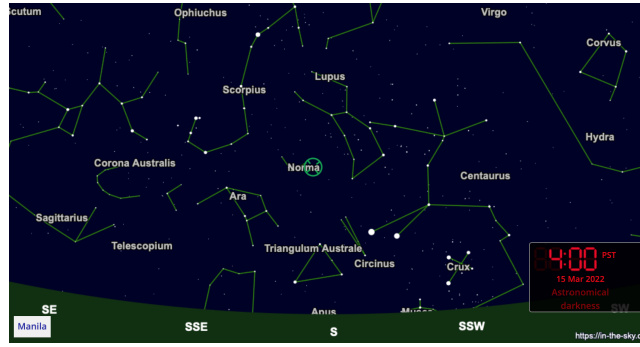


Figure 5: The view of the southern sky during the peak of γ -Normids on 15 March 2022 at 4:00 A.M. when the shower's radiant is highest in the sky

March Equinox

The **March Equinox** or **Vernal Equinox** is on 20 March at 11:33 P.M. **March Equinox** marks the first day of **Spring** for those in the northern hemisphere and the first day of **Autumn** for those in the southern hemisphere. During equinoxes, the Sun is directly pointing over the Earth's equator, thus, creating nearly equal day and night. And also, on this day, the Sun exactly rises due east and exactly sets due west [9].

Calendar of Astronomical Events for March 2022

Table 1 shows summary of the astronomical events for the month of March 2022. All times displayed are in Philippines Standard Time (PhST).

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Approved by:

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OIC, RDTD

17 February 2022

For more information, call or email:

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