

PRESS RELEASE FEBRUARY 2022





ASTRONOMICAL DIARY

PREPARED BY ASTRONOMICAL PUBLICATION UNIT, SPACE SCIENCE AND ASTRONOMY SECTION

ASTRONOMICAL EVENTS, FEBRUARY 2022

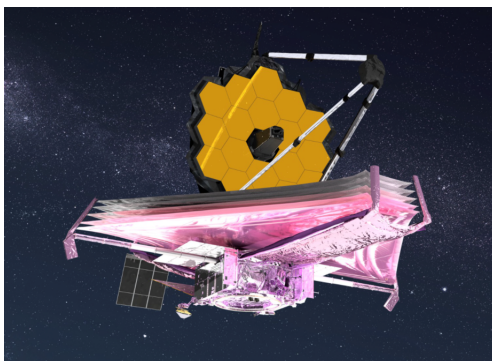
DATE	EVENT	TIME
8	α Centaurids	05:00 AM
9	Venus at greatest brightness	09:41 PM
11	Moon at Apogee (Distance = 404,831.89 km)	10:37 AM
12	Mercury at highest altitude in morning sky	---
12	Mercury at dichotomy	12:03 AM
13	Venus passing 6°34' N of Mars	10:38 AM
17	Mercury at greatest elongation west	06:01 AM
20-26	NATIONAL ASTRONOMY WEEK	---
27	Moon at Perigee (Distance = 367,839.38 km)	06:25 AM
27	Moon passing 8°44' S of Venus	02:30 PM
27	Moon passing 3°31' S of Mars	04:59 PM

PHASES OF THE MOON

	New Moon Feb 01 01:46 PM
	First Quarter Feb 08 09:50 PM
	Full Moon Feb 17 12:56 AM
	Last Quarter Feb 24 06:32 AM

RISE AND SET TIMES OF PLANETS

DATE	MERCURY		VENUS		MARS		JUPITER		SATURN	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Feb 01	05:15 AM	04:38 PM	04:13 AM	03:42 PM	03:59 AM	03:11 PM	07:56 AM	07:39 PM	06:40 AM	06:07 PM
Feb 11	04:45 AM	04:08 PM	03:46 AM	03:14 PM	03:51 AM	03:04 PM	07:25 AM	07:10 PM	06:05 AM	05:33 PM
Feb 21	04:46 AM	04:10 PM	03:31 AM	02:58 PM	03:43 AM	02:58 PM	06:54 AM	06:40 PM	05:30 AM	04:59 PM
Feb 28	04:54 AM	04:22 PM	03:24 AM	02:53 PM	03:36 AM	02:53 PM	06:32 AM	06:20 PM	05:06 AM	04:35 PM



APOM: JAMES WEBB SPACE TELESCOPE

ASTRONOMY PICTURE OF THE MONTH

This artist's conception of the James Webb Space Telescope in space shows all its major elements fully deployed.

Webb is NASA's largest and most powerful space science telescope ever constructed. It is an international collaboration between NASA and its partners, ESA (European Space Agency) and the Canadian Space Agency.

Webb's mission will explore every phase of cosmic history – from within our solar system to the most distant observable galaxies in the early universe.

Credit: NASA GSFC/CIL/Adriana Manrique Gutierrez

Notes:

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

"tracking the sky...helping the country"

PAGASA Science Garden Complex, BIR Road,
Brgy. Central, Quezon City, Metro Manila, Philippines

Telephone Number: 8-284-0800 loc 116, 107, 106
Website: <https://bagong.pagasa.dost.gov.ph>

Stars and Constellations

The month of February is the best month to observe the well-known constellations of **Gemini**, **Canis Major**, **Lepus**, and **Auriga** in the night sky. The view of the night sky at 9:00 P.M. in mid-February 2022 is presented in Figure 1 [1].

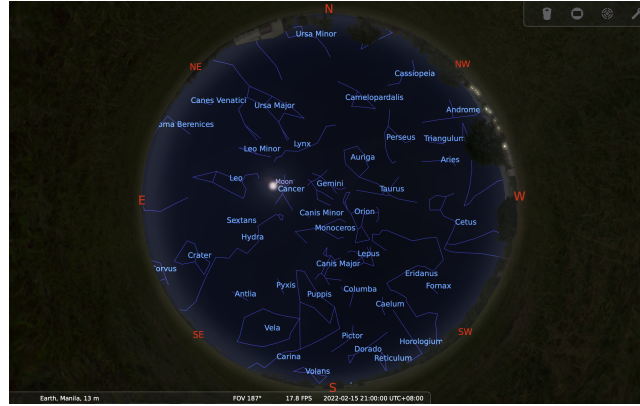


Figure 1: The view of the night sky featuring the prominent February constellations at 9:00 P.M. on 15 February 2022 using the Stellarium Application

The mentioned February constellations hosts some of the well-known bright stars in the night sky including, **Castor** and **Pollux** of **Gemini**, **Capella** of **Auriga**, the 6th brightest star, and **Sirius** of **Canis Major**, the brightest star in the night sky. Several interesting deep-sky objects can also be found in these February constellations, including the beautiful globular cluster located in the **Lepus** called **M79**, and several open clusters located in Auriga named **M36**, **M37**, and **M38**. These open clusters are visible through binoculars or a small telescope in a suburban sky setting. Figure 2 shows the location of several deep-sky objects and bright stars located nearly overhead in mid-February at 9:00 P.M. [1].



Figure 2: The view of the night sky showing the position of several deep-sky objects and bright stars located nearly overhead at 9:00 P.M. on 15 February 2022 using the Stellarium Application

Planetary Location

Mercury is a dim object observable in the morning located low in the sky before sunrise at the beginning of the month but best observed in mid-February. **Mercury** is at its highest altitude in the morning sky on 12 February 2022 [2] and is in dichotomy on the same day, at 12:03 A.M. Dichotomy occurs when a planet reaches half phase. By then, **Mercury** is shining brightly at mag 0.0. The exact instance of the dichotomy is not observable since **Mercury** is still below the horizon but, **Mercury** may be observed later in the southeast a few moments before sunrise (Figure 3) [3]. On 17 February 2022 at 6:01 A.M., **Mercury** is at its greatest elongation or the greatest separation from the Sun [4].

Venus and **Mars** are bright morning planets observable throughout the month, rising a few hours before the Sun rises [5]. On 9 February 2022 at around 9:41 P.M., **Venus** is at its brightest in its morning apparition,

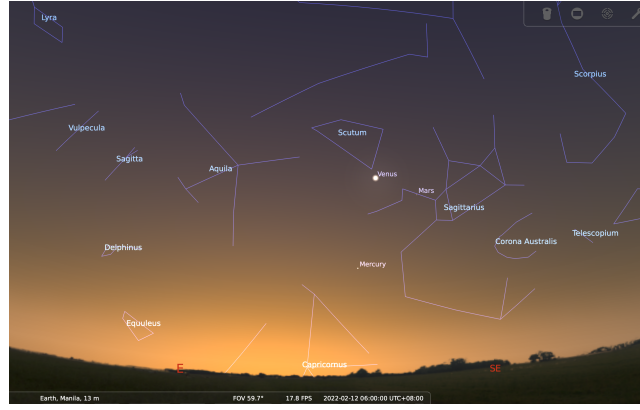


Figure 3: The view of the southeastern part of the sky on 12 February 2022 at 6:00 A.M. showing the position of Mercury before sunrise using the Stellarium Application

shining brightly at mag -4.6. Though **Venus** has set by then, it can still be observed the following morning before sunrise [6]. Then on 13 February 2022 at 10:38 A.M., **Venus** and **Mars** share the same right ascension. **Venus** will pass $6^{\circ}34'$ to the north of **Mars**. The exact moment of this planetary pairing is not observable since it will occur during daytime but it will still be visible in the southeast a few hours before sunrise (Figure 4).

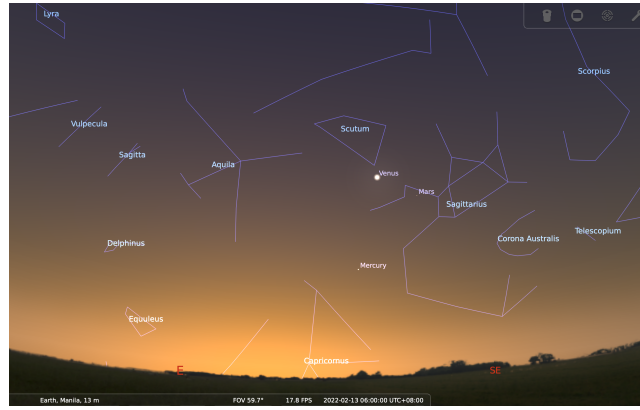


Figure 4: The view of the southeastern sky on 13 February 2022 at 6:00 A.M. showing the close pairing of the planets Venus and Mars before sunrise using the Stellarium Application

Meanwhile, on 27 February 2022 at 2:30 P.M., the **waning crescent Moon** and **Venus** share the same right ascension as the **Moon** will pass $8^{\circ}44'$ to the south of **Venus** while the **waning crescent Moon** and **Mars** will also share the same right ascension as the **Moon** will pass $3^{\circ}31'$ to the south of **Mars** on the same day at 4:59 P.M. The exact moment of the close pairings are not observable as it will occur during the afternoon and the pair have not yet risen by then but still, the close pairing can be observed few hours before sunrise in the southeast portion of the sky on the same day as shown in Figure 5 [7, 8]. 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.

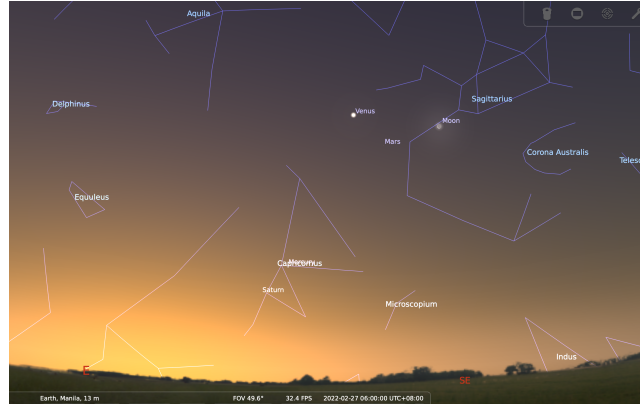


Figure 5: The view of the southeastern sky on 27 February 2022 at 6:00 A.M. showing the close pairing of the waning crescent Moon and Venus before sunrise using the Stellarium Application

Jupiter is a bright evening planet observable in the west southwestern part of the sky after sunset during the first few days of the month. However, **Jupiter** will continuously dive towards the horizon as the day progresses. The view of the west southwestern part of the sky on 1 February 2022 at 6:00 P.M. is shown in Figure 6 [5]. **Saturn** is not observable this month as it is lined up with the Sun on 4 February 2022 [5].

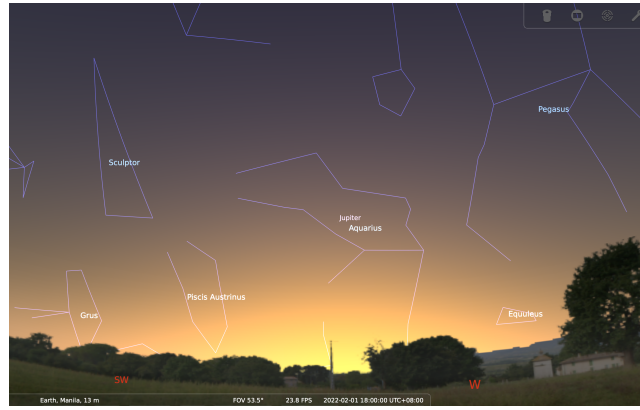


Figure 6: The view of the west southwestern part of the sky on 1 February 2022 at 6:00 P.M. showing the position of Jupiter after sunset using the Stellarium Application

Meteor Showers

α **Centaurids** is a meteor shower observable from 28 January to 21 February, with an expected peak of activity on 8 February 2022. The view of the meteor shower may be observed once **Centaurus**, its radiant, rise over the southern horizon around 12:22 A.M. The radiant will be highest in the sky at around 5:00 A.M. Thus, the shower will produce the best display before sunrise (Figure 7), with up to 6 observable meteors per hour. The value mentioned assumes that one is observing in a clear, dark, moonless sky condition, and the radiant is highest in the sky. The presence of a first-quarter Moon in the constellation Aries will set at around 5:44 P.M., thus, will not interfere with the meteor shower observation [9].

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.

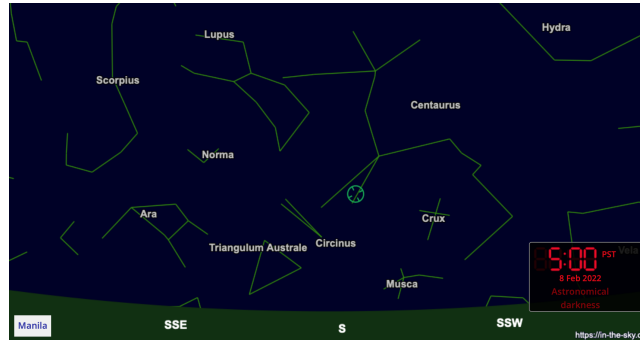


Figure 7: The view of the southern sky during the peak of α -Centaurids on 8 February 2022 at 5:00 A.M

Calendar of Astronomical Events for February 2022

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

Table 1: The summary of astronomical events for the month of January 2022

Date	Event	Time
8	α Centaurids	5:00 A.M.
9	Venus at greatest brightness	9:41 P.M.
11	Moon at Apogee (Distance = 404,831.89 km)	10:37 A.M.
12	Mercury at highest altitude in morning sky	- - -
12	Mercury at dichotomy	12:03 A.M.
13	Venus passing $6^{\circ}34'$ N of Mars	10:38 A.M.
17	Mercury at greatest elongation west	6:01 A.M.
27	Moon at Perigee (Distance = 367,839.38 km)	6:25 A.M.
27	Moon passing $8^{\circ}44'$ S of Venus	2:30 P.M.
27	Moon passing $3^{\circ}31'$ S of Mars	4:59 P.M.

Approved by:

MA. CECILIA A. MONTEVERDE
OIC, RDTD

17 January 2022

For more information, call or email:

Ms. MA. ROSARIO C. RAMOS, RCE
Chief, SSAS-RDTD
PAGASA-DOST
Diliman, Quezon City
Trunkline: 8284-0800 local 107
Email add: astronomyph.pagasa@gmail.com

References

- [1] Sea and S. Presents, "The Sky February Constellations." <http://www.seasky.org/constellations/constellations-february.html>, Last accessed on 2022-1-6, 2021.
- [2] D. Ford, "In-The-Sky.org Guide to the night sky: Mercury at highest altitude in morning sky." https://in-the-sky.org/news.php?id=20220216_11_100, Last accessed on 2022-1-6, 2022.
- [3] D. Ford, "In-The-Sky.org Guide to the night sky: Mercury at dichotomy." https://in-the-sky.org/news.php?id=20220211_11_100, Last accessed on 2022-1-6, 2022.
- [4] D. Ford, "In-The-Sky.org Guide to the night sky: Mercury at greatest elongation west." https://in-the-sky.org/news.php?id=20220216_11_101, Last accessed on 2022-1-6, 2022.



Figure 7: The view of the southern sky during the peak of α -Centaurids on 8 February 2022 at 5:00 A.M

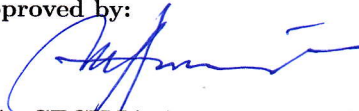
Calendar of Astronomical Events for February 2022

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

Table 1: The summary of astronomical events for the month of January 2022


Date	Event	Time
8	α Centaurids	5:00 A.M.
9	Venus at greatest brightness	9:41 P.M.
11	Moon at Apogee (Distance = 404,831.89 km)	10:37 A.M.
12	Mercury at highest altitude in morning sky	- - -
12	Mercury at dichotomy	12:03 A.M.
13	Venus passing 6°34' N of Mars	10:38 A.M.
17	Mercury at greatest elongation west	6:01 A.M.
27	Moon at Perigee (Distance = 367,839.38 km)	6:25 A.M.
27	Moon passing 8°44' S of Venus	2:30 P.M.
27	Moon passing 3°31' S of Mars	4:59 P.M.

Approved by:


MA. CECILIA A. MONTEVERDE
 OIC, RD TD

17 January 2022

For more information, call or email:


Ms. MA. ROSARIO C. RAMOS, RCE
 Chief, SSAS-RDTD
 PAGASA-DOST
 Diliman, Quezon City
 Trunkline: 8284-0800 local 107
 Email add: astronomyph.pagasa@gmail.com

References

- [1] Sea and S. Presents, "The Sky February Constellations." <http://www.seasky.org/constellations/constellations-february.html>, Last accessed on 2022-1-6, 2021.
- [2] D. Ford, "In-The-Sky.org Guide to the night sky: Mercury at highest altitude in morning sky." https://in-the-sky.org/news.php?id=20220216_11_100, Last accessed on 2022-1-6, 2022.
- [3] D. Ford, "In-The-Sky.org Guide to the night sky: Mercury at dichotomy." https://in-the-sky.org/news.php?id=20220211_11_100, Last accessed on 2022-1-6, 2022.
- [4] D. Ford, "In-The-Sky.org Guide to the night sky: Mercury at greatest elongation west." https://in-the-sky.org/news.php?id=20220216_11_101, Last accessed on 2022-1-6, 2022.

- [5] P. Lawrence, "Observing the planets in 2022, month by month," *BBC Sky at Night Magazine*, Nov 2021.
- [6] D. Ford, "In-The-Sky.org Guide to the night sky: Venus at greatest brightness." https://in-the-sky.org/news.php?id=20220209_11_100, Last accessed on 2022-1-6, 2022.
- [7] D. Ford, "In-The-Sky.org Guide to the night sky: Conjunction of the Moon and Venus." https://in-the-sky.org/news.php?id=20220227_20_100, Last accessed on 2022-1-6, 2022.
- [8] D. Ford, "In-The-Sky.org Guide to the night sky: Conjunction of the Moon and Mars." https://in-the-sky.org/news.php?id=20220227_20_101, Last accessed on 2022-1-6, 2022.
- [9] I. M. Organization, "List of Meteor Showers for Observation Session." https://www.imo.net/members/imo_showers/working_shower_list, Last accessed on 2022-1-10, 2022.