

PRESS RELEASE APRIL 2022

ASTRONOMICAL BIARY

PREPARED BY ASTRONOMICAL PUBLICATION UNIT, SPACE SCIENCE AND ASTRONOMY SECTION

ASTRONOMICAL EVENTS, APRIL 2022

DATE	EVENT	ТІМЕ	PHASES OF THE MOON
1-5 5 8	Planetary Trio (Venus, Mars, and Saturn) Saturn passing 0°19' N of Mars Moon at Apogee (Distance = 404.367.914 km)	before dawn 06:05 AM 03:11 AM	New Moon Apr 01 02:24 PM
19 22 24	Moon at Perigee (Distance = 365,208.786 km) Lyrids (ZHR=18) π-Puppids (ZHR=var)	11:13 PM 04:00 AM after sunset	First Quarter Apr 09 02:48 PM
25 27 29 20	Mercury at Dichotomy Venus-Jupiter-Moon Conjunction Mercury at highest altitude	06:37 PM before dawn	Full Moon Apr 17 02:55 AM
29 30	Venus-Jupiter Conjunction	before dawn	Last Quarter Apr 23 07:56 PM

RISE AND SET TIMES OF PLANETS

DATE	MERCURY		VENUS		MARS		JUPITER		SATURN	
	Rise	Set								
Apr 01	05:50 AM	06:01 PM	03:18 AM	02:57 PM	03:03 AM	02:32 PM	04:51 AM	04:45 PM	03:12 AM	02:43 PM
Apr 11	06:15 AM	06:47 PM	03:17 AM	03:02 PM	02:50 AM	02:25 PM	04:19 AM	04:15 PM	02:36 AM	02:07 PM
Apr 21	06:39 AM	07:27 PM	03:16 AM	03:09 PM	02:37 AM	02:18 PM	03:47 AM	03:45 PM	01:59 AM	01:31 PM
Apr 30	06:46 AM	07:41 PM	03:15 AM	03:15 PM	02:25 AM	02:11 PM	03:18 AM	03:17 PM	01:26 AM	12:58 PM



GLOBAL ASTRONOMY MONTH ASTRONOMY EVENT OF THE MONTH

Global Astronomy Month (GAM) is the world's largest annual event occurring for the entire month of April to celebrate astronomy. GAM is the flagship event by Astronomers Without Borders to encourage everyone to go outside and enjoy the beauty of the sky.

The highlights of GAM are the Planetary Trio on the first few days of the month and the Venus-Jupiter Conjunction at the end of the month.

Credit: Astronomers Without Borders

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

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Stars and Constellations

Ursa Major, Leo, Leo Minor, and Hydra are some constellations best observed during April. Figure 1 shows the view of the night sky in mid-April at 9:00 PM, showing that the prominent April constellations are overhead the observer. April is also the ideal time to see famous deep-sky objects, such as the Cigar Galaxy (M82), Pinwheel Galaxy, and Owl Nebula, all located in Ursa Major[1].



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

Ursa Major is the largest northern constellation and the third largest among the 88 constellations next to Hydra and Virgo. Ursa Major is circumpolar, so those in the northern hemisphere can observe it throughout the year. Ursa Major is also the home of the famous **Big Dipper** asterism. Merak and **Dubhe**, bright stars of Ursa Major, are used as pointer stars to find the north star, **Polaris** (Figure 2)[1].



Figure 2: The position of the Big Dipper asterism at 9:00 P.M. on 15 April 2022 using the Stellarium application

Leo also hosts a group of galaxies consisting of Messier 65, Messier 66, and NGC 3628 (Hamburger Galaxy), known as Leo Triplet. Leo is the 12th largest constellation in the sky, with Regulus as its brightest star. Meanwhile, another galaxy can be found in Hydra, called Southern Pinwheel Galaxy[1].

Planetary Location

Mercury is observable as an evening planet lying low on the northwestern horizon after sunset by the end of April (Figure 3). On 25 April at 6:37 PM, **Mercury** is at dichotomy, a phenomenon occurring when an inferior planet such as **Mercury** reaches half phase[2]. On 29 April at 3:34 PM, **Mercury** will be at its farthest distance from the Sun, called the greatest elongation[3]. And on the same day, **Mercury** will reach its highest point in the evening sky[4].

The planets Venus, Mars, Jupiter, and Saturn are morning planets observable in the southeastern part of the sky before sunrise. Venus, Mars, Jupiter, and Saturn will unusually pair together on the first few days



Figure 3: The view of the northwestern sky on 15 April 2022 at 6:30 PM showing the position of Mercury after sunset using the Stellarium application

of April. Figure 4 presents the view of the Planetary Trio on 1-5 April before sunrise[5, 6].



Figure 4: The daily view of the southeastern sky from 1-5 April 2022 showing the close pairing of the Planetary Trio: Venus, Mars, and Saturn before sunrise using the Stellarium application

At the end of the month, the close pairing of **Venus** and **Jupiter** is observable in the southeastern part of the sky before sunrise (Figure 5). For an additional astronomical treat, the **waning crescent Moon** will join the close pairing of **Venus** and **Jupiter** on 27 April as shown in Figure 6[5, 6].



Figure 5: The view of the southeastern sky on 30 April 2022 at 5:00 AM showing the close pairing of Venus and Jupiter using the Stellarium application



Figure 6: The view of the southeastern sky on 27 April 2022 at 5:00 AM showing the close pairing of Venus, Jupiter, and waning crescent Moon using the Stellarium application

Mars and **Saturn** will share the same right ascension on 5 April at 6:05 PM, with Saturn passing $0^{\circ}19'$ N of Mars. Both planets are in Capricornus (Figure 7)[7]. The said close pairings are observable by the naked eye. Moreover, the wide angular separation of these astronomical pairings cannot fit into the field of view of a telescope or a pair of binoculars.



Figure 7: The view of the southeastern sky on 5 April 2022 at 5:00 AM showing the close pairing of Mars and Saturn using the Stellarium application

Meteor Showers

Lyrids is a meteor shower observable from 16-25 April, with an expected peak of activity on 22 April. The meteor shower can be observed when Hercules, the meteor shower's radiant rise at around 9:17 PM nightly and remains active until around 5:14 AM of the following day. The radiant is highest in the sky at around 4:00 AM, as shown in the finder chart in Figure 8. Thus, the shower will produce the best display shortly before dawn, with up to 18 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 presence of the Waning Gibbous Moon in Sagittarius presents a significant interference with the meteor shower observation throughout the night[8].

 π -Puppids is another meteor shower observable in April. π -Puppids is active from 15-28 April, with an expected peak of activity on 24 April, having Puppis as its radiant. The view of the meteor shower can be observed after sunset until the shower's radiant sinks towards the horizon around 10:09 PM. Figure 9 exhibits the position of the shower's radiant on 23 April at 8:00 PM. The presence of the last quarter Moon in Capricornus during the peak activity will produce an insignificant effect with the meteor shower observation [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 8: The view of the northwestern sky during the peak of Lyrids on 22 April 2022 at 4:00 AM when the shower's radiant is highest in the sky



Figure 9: The view of the southern sky during the peak of $\pi\text{-Puppids}$ on 24 April 2022 at 8:00 PM

Global Astronomy Month 2022

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Calendar of Astronomical Events for April 2022

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

Date	Event	Time
1-5	Planetary Trio (Venus, Mars, and Saturn)	before dawn
5	Saturn passing $0^{\circ}19$ ' N of Mars	6:05 AM
8	Moon at Apogee (Distance = 404367.914 km)	3:11 AM
19	Moon at Perigee (Distance = 365208.786 km)	11:13 PM
22	Lyrids $(ZHR=18)$	4:00 AM
24	π -Puppids (ZHR=var)	after sunset
25	Mercury at Dichotomy	$6:37 \ \mathrm{PM}$
27	Venus-Jupiter-Moon Conjunction	before dawn
29	Mercury at highest altitude	
29	Mercury at greatest elongation	3:34 PM
30	Venus-Jupiter Conjunction	before dawn

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

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16 March 2022

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