

THE ASTRONOMERS



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June 2026

A word from your editor by
Sapavith 'Ort' Vanapruck

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We have now reached the end of the 2025-2026 school year. The request for a school star party will start again in late August. There will be other organizations like Boy Scouts or Girl Scouts requests that would come in. Your involvement will help with bringing in more club memberships and promoting the club.

We helped Bishop Museum's Star Tonight on Friday, 5/15/2026. There was only 1 group attending The Stars Tonight. Chris was the only one there in the clouded-out evening.

Two of the star parties happened in May. The public star party at Dillingham Airfield on 5/9/2026 was canceled due to bad weather. We had 4 members and 5 disappointed visitors (3 from Toronto). The Dillingham Airfield Club Star Party on 5/16/2026 was on. Several members were there. They closed shop around 10PM. Michael Kinzer posted an image on M51 on Discord from this night.



Upcoming Events:

- The next Board meeting is Sun., May. 31st 3:30 PM. **(Zoom Meeting)**
- The next meeting is on Tue., Jun. 2nd at the Bishop Museum at 7:30 PM. —**Hybrid (In person and Zoom) Meeting**
- Bishop Museum's planetarium show "Star Tonight" is every 3rd Friday, 6/19/2026, of the month at 7:00 PM.

(Continued on page 9)

President's Message June 2026

Most of us have our favorite astronomical targets to observe. We will happily view almost anything located by a fellow astronomer, and we often challenge ourselves to find objects we haven't observed before, but we keep coming back to nearby sights. There are many reasons for this.

Just as we might listen to a well-known song or rewatch a favorite movie or TV show, having the experience again is enjoyable and beats just the memory. Also, there is often more to be learned by repeating the observation. Many objects have complex details that can't be completely absorbed with one quick look. Other objects change over time, so there is always the possibility of seeing something new. Jupiter is one example. The Moon is another.

The Moon? How is it changing? Well, the Moon itself doesn't change much, but we are always viewing it at a different phase. Even over the course of a few minutes of observing, areas near the terminator, especially when viewed at high magnification, reveal a parade of evolving details as shadow lengths change and new peaks are suddenly illuminated.

At the May Kahala Community Park star party I observed a couple of craters near the terminator. One showed shadows from its rim crossing the entire width of the crater floor. As those shadows began to shorten, I shifted my view to a nearby crater. It had a central peak that cast a shadow across the remainder of the crater to the far wall. I didn't go searching for those views, I just stumbled on them while looking for something to show a star party attendee. The Moon is full of surprises if you pay enough attention to it.

You may enjoy observing changes in Jupiter's atmosphere or transits of its moons and their shadows. Saturn's rings are always opening or closing. Mars gets close enough to show detail on its surface every two years or so. Even Venus passes slowly through its phases. Galaxies, nebulae, and star clusters reveal more details with repeated observations (especially during fleeting moments of excellent seeing). Keep looking, there's always more to see.

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Observer's Notebook—June 2026 by Ort

Planets Close to the Moon Times are Hawaii Standard Time

- Jun 9, 6h, Moon 4.0° NNW of Neptune; 75° from Sun in morning sky; magnitudes -9.5 and 7.9
- Jun 9, 22h, Moon 5.6° NNW of Saturn; 67° and 66° from Sun in morning sky; magnitudes -9.1 and 0.9
- Jun 12, 9h, Moon 5.4° NNW of Mars; 33° from Sun in morning sky; magnitudes -7.2 and 1.3
- Jun 13, 8h, Moon 5.2° N of Uranus; 20° from Sun in morning sky; magnitudes -6.1 and 5.8
- Jun 16, 11h, Moon 2.56° NNE of Mercury; 25° and 24° from Sun in evening sky; magnitudes -6.5 and 0.7
- Jun 16, 23h, Moon 2.47° NNE of Jupiter; 32° and 31° from Sun in evening sky; magnitudes -7.0 and -1.8
- Jun 17, 11h, Moon 0.37° ENE of Venus; 39° from Sun in evening sky; magnitudes -7.5 and -4.0

Other Events of Interest Times are Hawaii Standard Time

- Jun 7, 0h, Daytime Arietid meteors; ZHR 30
- Jun 7, 14h, Venus 4.7° S of Pollux; 36° and 37° from Sun in evening sky; magnitudes -4.0 and 1.2
- Jun 9, 11h, Venus 1.61° NNE of Jupiter; 37° from Sun in evening sky; magnitudes -4.0 and -1.9
- Jun 13, 7h, Moon, Uranus, and the Pleiades within circle of diameter 5.22°; about 21° from the Sun in the morning sky; magnitudes -6, 6, 3
- Jun 17, 14h, Moon, Venus, and Beehive within circle of diameter 2.51°; about 40° from the Sun in the evening sky; magnitudes -8, -4, 4
- Jun 25, 3h, Mercury 3.7° WSW of Jupiter; 22° and 25° from Sun in evening sky; magnitudes 1.5 and -1.8; quasi-conjunction
- Jun 28, 23h, Mars, Uranus, and the Pleiades within circle of diameter 5.34°; about 36° from the Sun in the morning sky; magnitudes 1, 6, 3 (4:45A HST)

Planets in June

 Mercury is visible as an evening object, having recently passed greatest elongation east. From Honolulu, it will become visible at around 19:43 (HST), 14° above your western horizon, as dusk fades to darkness.	 Venus is emerging into the evening sky as it approaches greatest elongation east. From Honolulu, it will become visible at around 19:29 (HST), 30° above your western horizon, as dusk fades to darkness.	 Mars recently passed behind the Sun at solar conjunction. From Honolulu, however, it is visible in the dawn sky, rising at 03:35 (HST) – 2 hours and 11 minutes before the Sun.
 Jupiter recently passed behind the Sun at solar conjunction. From Honolulu, however, it will become visible at around 19:29 (HST), 25° above your western horizon, as dusk fades to darkness.	 Saturn is currently emerging from behind the Sun. From Honolulu, it is visible in the dawn sky, rising at 01:39 (HST) and reaching an altitude of 48° above the eastern horizon before fading from view.	 Uranus recently passed behind the Sun at solar conjunction. From Honolulu, it is not readily observable since it is very close to the Sun, at a separation of only 21° from it.
 Neptune is currently emerging from behind the Sun. From Honolulu, it is visible in the dawn sky, rising at 01:09 (HST) and reaching an altitude of 48° above the south-eastern horizon before fading from view.	 Pluto (Dwarf Planet) is visible in the morning sky, becoming accessible around 23:57, when it reaches an altitude of 21° above your south-eastern horizon.	 4 Vesta (Asteroid) is visible in the dawn sky, rising at 01:49 (HST) – 3 hours and 57 minutes before the Sun – and reaching an altitude of 39° above the eastern horizon.

Meeting Minutes

H.A.S. Secretary

May 5th 2026 7:30 PM (Bishop Museum Planetarium and Zoom Meeting)

Andy Stroble

General Membership Meeting, Bishop Museum Planetarium and via Zoom, Cinco de Mayo, 2026, 7:30pm HST

Meeting called to order at 7:30 pm by President Chris Peterson. As the AstroNews was not distributed until a short time prior to last meeting, motion to accept both the March and April meeting minutes was made. All minutes of the previous meetings were approved by acclamation.

Star party reports: IfA open house went well. In-town star parties had a fair turnout.

Attending for the first time were Vassena and Peter, neighbors, and Nora and Victor visiting from Mexico.

School Star Party Coordinator Leilani reported May 9th is the date for the Tiger Den scout event, and Bishop Museum “The Stars Tonight” is on May 15th, and possibly some activity on Lahaina Noon, on May 26.

President Chris commented on the press coverage of the recent Artemis II mission, which said the astronauts were seeing the far side of the moon with human eyes for the first time. Not true, as the Apollo missions orbited the moon, so definitely viewed the far side with human eyes. But, the kernel of truth may be that the Artemis astronauts, due to the phase of the moon, had the best view of the Mare Orientalis basin.

AstroNews Editor Ort shared images of the club’s participation at the Onizuka day event at UH West Oahu. He also solar images taken with a Dwarf Mini.

Secretary Andy attempted to share images of the Comet c/2025 R3 PANSTARRS, but failed miserably. He offers apologies.

Treasurer Peter showed more really deep space objects, from M79 to galaxies NGC 2403, 2841 and 3521, with details.

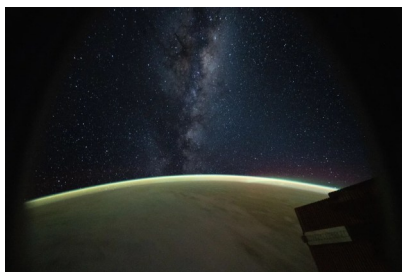
Stephan Doyle reported on star parties held at the Leeward Community College observatory.

Tom Giguere lead us on an inquiry into alleged STEVE sighting in Kona, as covered by KHON, under the title “Mysterious green lights in Kona sky leave astronomers searching for answers”. (“including Nick Bradley with Stargazers of Hawai‘i (and HAS member!), who says the color resembles aurora—but likely isn’t. . . . Keck Observatories suggest it could be STEVE or ‘strong thermal emissions velocity enhancement,’ which is similar to aurora but seen further south than aurora. But not as much is known about STEVE and it’s typically seen with aurora present.”) Take away, Pics are interesting, but independent confirmation is better. As Nick said, ““I would love more eyes on it—more data, the better,”

Ad hoc Board member Steven Chun shared a Space X video. Motto: “Only the paranoid survive.”

We adjourned at 9:00. There were some ten present in person, and 6-7 on zoom. Approximately.

Faithfully submitted,
James Andy Stroble, Secretary.
Honolulu, Hawaii



Glowing Views from the Space Station

NASA astronaut Chris Williams captured the Milky Way rising above Earth’s atmospheric glow on April 13, 2026, while aboard a SpaceX Dragon docked to the International Space Station.

Image credit: NASA/Chris Williams

Hawaiian Astronomical Society
Event Calendar

June 2026						
◀ May						Jul ▶
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31 BoD Meeting Zoom 3:30P	1	2 General Meeting Bishop Meum Hybrid 7:30P	3	4	5	6 Public Party Dillingham Airfield Gate Closes 7P
7	8  3rd Qtr 12:00A	9	10	11	12	13 Club Party Dillingham Airfield Gate Closes 7P
14 Flag Day  New Moon 4:54P	15	16	17	18	19 Juneteenth	20 Public Party Geiger / Kahala Sunset 7:16P
21 Father's Day / Summer Solstice  1st Qtr 11:55A	22	23	24	25	26	27
28	29  Full Moon 1:56P	30	Notes:			

<<Upcoming Star Parties>>

Public Party-Dillingham June 6 — Gate closes 7 PM
Club Party Dillingham June 13 — Gate closes 7 PM
Public Party Geiger/Kahala June 20 — Sunset 6:54 PM

Upcoming School Star Parties

Date	Time	Location



Discover the wonder, beauty, and mystery of our incredible Universe!

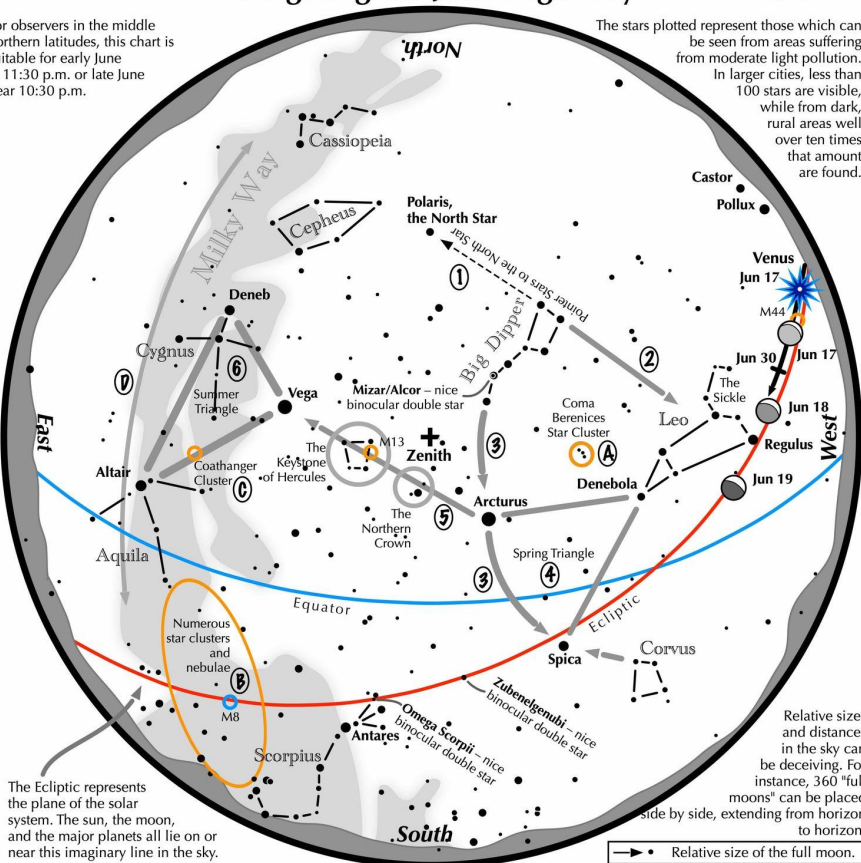
This June is the month for Venus and Jupiter. Keep an eye on those two planets as they trade places.

Navigating the June Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for early June at 11:30 p.m. or late June near 10:30 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Navigating the June night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Draw another line in the opposite direction. It strikes the constellation Leo high in the west.
- 3 Follow the arc of the Dipper's handle. It first intersects Arcturus, the brightest star in the June evening sky, then Spica.
- 4 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 5 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 6 High in the east are the three bright stars of the Summer Triangle: Vega, Altair, and Deneb.

Binocular Highlights

- A: Between Denebola and the tip of the Big Dipper's handle, lie the stars of the Coma Berenices Star Cluster.
- B: Between the bright stars of Antares and Altair, hides an area containing many star clusters and nebulae.
- C: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
- D: Sweep along the Milky Way for an astounding number of faint glows and dark bays.

Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.

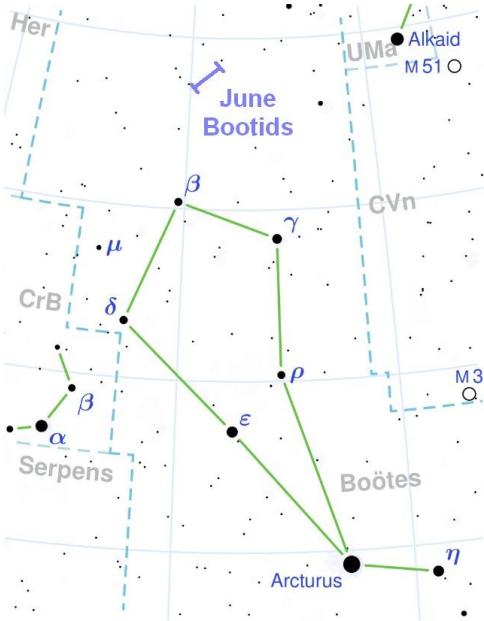


(Continued on page 10)

Meteor Log—June 2026

by Tom Giguere

The June Bootids shower is known for its returns of 1998 and 2004. The return predicted in 2010 yielded a poorly established ZHR < 10 on June 23–24. Prior to 1998, only three more probable returns had been detected, in 1916, 1921 and 1927 (however, with different reliability). The orbit of the parent comet 7P/Pons-Winnecke (orbital period about 6.3 years, last perihelion passage on 2021 May 27) currently lies around 0.23 astronomical units outside the Earth's at its closest approach. The 1998 and 2004 showers resulted from meteoroids ejected from the comet when the it was in a different orbit. For the 2026 return, there are no predictions of peculiar activity expected. Nevertheless, we encourage all observers to monitor throughout the proposed period. Koseki (2021) reported that recent video meteor observations of the SonotaCo and GMN show weak activity of the June-Boötids annually. A maximum occurs at $\lambda_{\odot} = 90.3^{\circ}$, i.e. 2026 June 22, 01h UT with a radiant near $\alpha = 221^{\circ}$, $\delta = +48^{\circ}$. Activity from the radiant known from the 1998 and 2004 events is currently not observable. So observers should try to cover not only the given time but also the adjacent intervals.



Phases of the Moon (courtesy timeanddate.com)

First Quarter	Full Moon	Last Quarter	New Moon
June 21	June 29	June 8	June 14

Shower	Activity	Maximum		Radiant		V _∞	r	ZHR
		Date	λ _☉	α	δ	km/s		
Dayt. Arietids (171 ARI)	May 14 - Jun 24	Jun 07	76.7°	43°	+24°	38	2.8	30
June Bootids (170 JBO)	Jun 22 - Jul 02	Jun 22	90.3°	221°	+48°	18	2.2	Var

Moonlight decreases after midnight as we observe the June Bootids. Tom Giguere, 808-782-1408, Thomas.giguere1@gmail.com.

Cash Flow - 4/10/2026 to 5/10/2026

Beginning Balance	\$10,183.62
Money into selected accounts comes from	
Donation	\$212.00
Membership - Electronic	\$340.00
Membership - Family	\$32.00
Membership - Paper	\$104.00
T-Shirt	\$75.00
Total Money In	\$763.00
Money out of selected accounts goes to	
Subscription - Astronomy	\$266.00
T-Shirt	\$2,963.00
Total Money Out	3,229.00
Difference	-\$2,466.00
Ending Balance	\$7,717.62

Here are the financials up through May 10. Thanks to everyone who renewed, and donated.

As you can see, the T-shirts are in, thanks to Ort. T-shirts are one of those line items that will show up as an expense and as income. We are selling these at cost, and we ordered enough to cover what people ordered. At this point, it’s time to collect your shirts and pay for them. I will be at star parties and meetings for the next few months. Bring cash or checks to the next HAS meeting. If you have any questions about your order, be sure to e-mail me.

We have been having trouble with Astronomy Magazine lately. I noticed in March that the check for a large order for Astronomy Magazine was never cashed. After some re-search it turns out that Kalmbach Publishing, Astronomy’s publisher, is no more. They were bought out by Firecrown Media, and raised the subscription rate. I have resubmitted the orders, along with some new ones, and we will eat the cost of the raised rates for those who have already paid. Sorry for the delay.



Rise Goes to Washington

“Rise,” the Artemis II zero gravity indicator, is seen sitting on the dais as NASA astronauts Reid Wiseman, Victor Glover, and Christina Koch, and CSA (Canadian Space Agency) astronaut Jeremy Hansen speak with congressional staff, Tuesday, May 12, 2026, in Washington. NASA’s Artemis II mission took Wiseman, Glover, Koch, and Hansen on a nearly 10-day journey around the Moon and back to Earth in April 2026.

Image credit: NASA/Joel Kowsky

Message From Your Vice President

June 2026

by Bill Barr

Nothing for June.

(Continued from page 1) A word from your editor

In-town Star Parties on 5/23/2026 were on. At Geiger, we had 3 members & one visitor. Jim & Ort showed Moon, Jupiter, & Venus visually. Peter showed a few galaxies from his table fed from Origin. Ort has a photo of a Moon with Xiaomi phone from eyepiece projection. At Kahala, we had 5 members (2 with Dwarflab devices & 1 Seestar). Sue reported that they had 8-10 visitors.

Many members now use Electronically Assisted Astronomy (EAA) devices. So, if you are observing and able to capture any night sky object. You can share it in AstroNews by emailing it to me at astronews@hawastsoc.org with some detail. I will post it. I will be needing more of your photos & articles than ever to fill up the June AsroNews.



Beacon of Light

A spiral galaxy shown in mid-infrared light. The image is dominated by an extremely bright glow from the galaxy's nucleus. Six large and two smaller rays of light emit from the center, which are diffraction spikes created by the telescope's optics. The galaxy's spiral arms are visible by two lines of glowing orange bubbles which whirl out into the disc. Swirling blue clouds of dust make up the rest of the galaxy.

This latest Picture of the Month from the NASA/ESA/CSA James Webb Space Telescope features Messier 77 (M77), a barred spiral galaxy famous and appreciated among astronomers for its combination of relative proximity and spectacular features to study. It is located 45 million light-years away in the constellation Cetus (The Whale).

Image credit: ESA/Webb, NASA & CSA, A. Leroy

Hubble Spots a Starry Spiral

In this new picture from NASA's Hubble Space Telescope, a spiral galaxy glittering with star clusters is the center of attention. NGC 3137 is located 53 million light-years away in the constellation Antlia (the Air Pump). As a nearby spiral galaxy, this target offers astronomers an excellent opportunity to study the cycle of stellar birth and death, as well as giving researchers a glimpse of a galactic system similar to our own.

Image credit: ESA/Hubble & NASA, D. Thilker and the PHANGS-HST Team



Corona Borealis: Allows direct visual comparisons of stellar magnitudes.



Corona Borealis: Allows direct visual comparisons of stellar magnitudes



The stars of the Little Dipper are often used to estimate limiting magnitude and observing conditions.

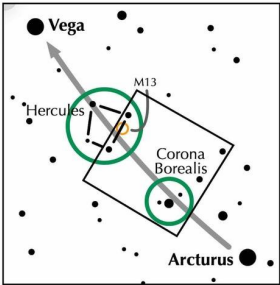
At times, though, the stars in Corona Borealis will be more useful.

Best if this small constellation is at least 30° above the horizon.

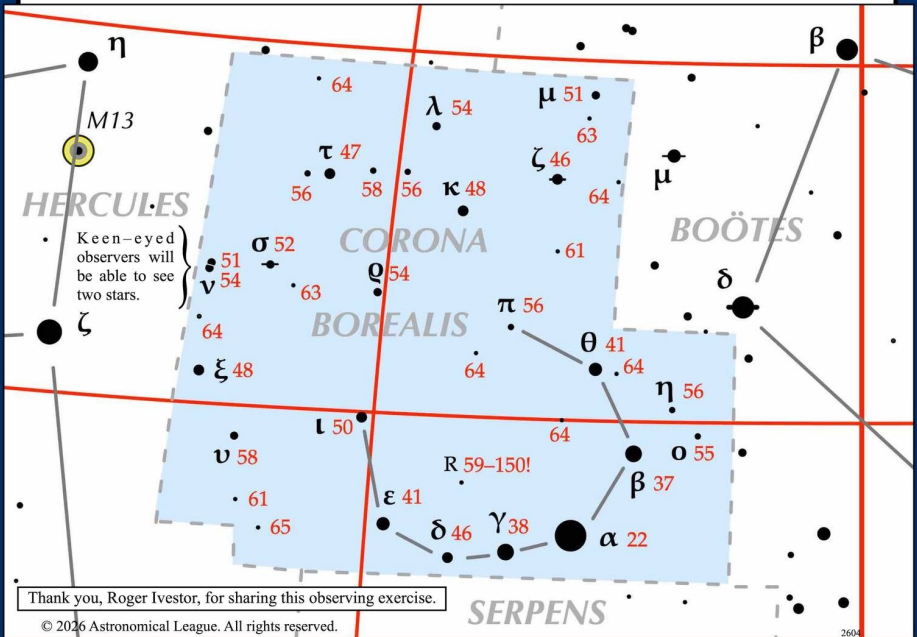
Corona Borealis allows you to ...

- Directly compare the brightness of stars that lie in the same general direction in the sky, and at about the same altitude above the horizon.
- Directly see the difference between stars of different magnitudes, say those Delta (4.6) and Epsilon (4.1), or of Pi (5.6) and Iota (5.0).
- If you see stars dimmer than 5.5, your eyesight is good and the sky transparency is good!

Can you spot any of its 6th magnitude stars?



The semi-circular shape of Corona Borealis lies one-third between Arcturus and Vega. Hercules lies another one-third.



Thank you, Roger Iverson, for sharing this observing exercise.

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(Continued on page 11)

Delta Librae

*An eclipsing variable star
suitable for binoculars*

Observing Activity

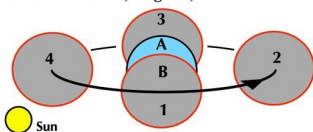
Where is Delta Librae in the sky?

- Look mid way between Spica and Antares for the 3rd mag. Alpha Librae (Zubenelgenubi).
- Look almost 10° nw of Alpha for the slightly brighter Beta Librae.
- 4° west is Delta. In binoculars, three 6th magnitude stars curve towards it from the north.

Your Observing Project

- Consult an ephemeris for the star's brightness location on its brightness curve.
- Since its brightness range is 4.9–5.9 magnitude, view through binoculars (or a telescope).
- If possible, closely examine Delta beginning 120 minutes before its predicted minimum. Make observations spaced 10 minutes apart.
- Estimate its magnitude by interpolating the charted magnitudes of its surrounding stars.
- Construct a graph showing the brightness of Delta over the observed period.

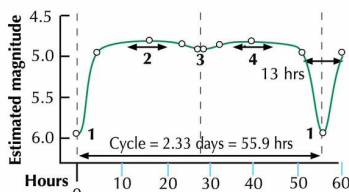
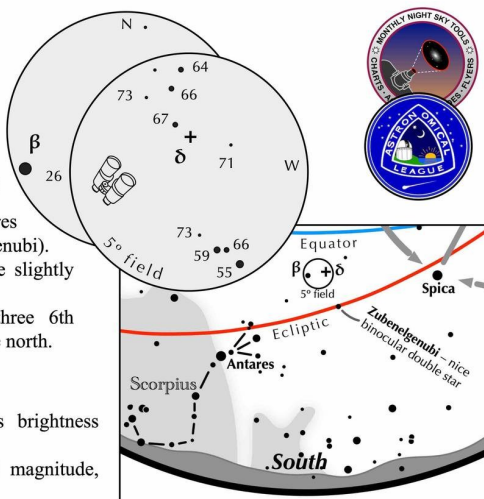
Delta Librae: larger, dimmer, less massive
B orbits smaller, brighter, more massive A



Orbital plane viewed tilted so that the dimmer star occults only 66% of the primary star.

Orbital position

- 1: System at minimum brightness, larger and dimmer 66% occults brighter A.
Both stars appear unobstructed.
- 2: System at maximum brightness.
Both stars appear unobstructed.
- 3: Brighter A transits dimmer B
Secondary minimum.
- 4: System at maximum brightness again.
Both stars appear unobstructed.



Light curve of Delta Librae

What you are seeing

- Delta Librae consists of two stars, A and B, of unequal brightness and size. They are so tightly separated that a telescope cannot split them.
- When the dimmer but larger star, B, is off to either side of the brighter A, the system appears at its maximum brightness of 4.9 magnitude. (Positions 2 & 4)
- When the dimmer star passes behind the brighter one, it is partially blocked by A causing the system's brightness to reach its secondary (shallow) minimum at 4.9 magnitude. (Position 3)
- As the dimmer, but larger star orbits in front of the brighter, their total magnitude drops to the deep minimum of magnitude 5.9. (Position 1)

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Curiosity Shakes Loose a Pesky Rock

After NASA's Curiosity Mars rover drilled a sample from this rock on April 25, 2026, it withdrew its robotic arm and pulled the entire rock off the surface with it. Engineers spent several days repositioning the arm and vibrating the drill to try and get the rock loose. When it finally detached on May 1, the rock broke into pieces.

Credit: NASA/JPL-Caltech/MSSS