Commemorating SpaceX's first successful manned launch and docking with the Space Station

Monthly Meeting June 8th at 7:00 PM, at HOME

(Monthly meetings are on 2nd Mondays, routinely at Highland Road Park Observatory).

PRESENTATION: Meeting to be held via Zoom Webinar, due to continued caution re COVID-19. Speaker will be David Dickinson, talking on the Stellina telescope, new telescope technology, and his new book, **The Universe Today Ultimate Guide to Viewing the Cosmos.**

What's In This Issue?

Observing Notes: **Canis Minor – The Little Dog** & Mythology

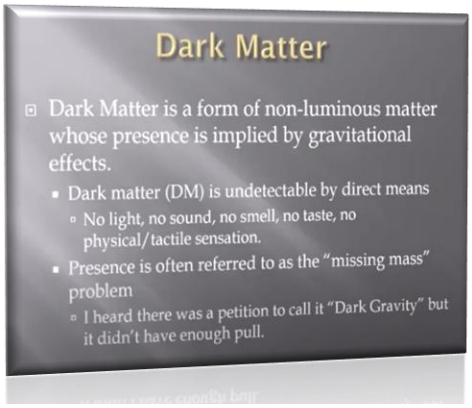
Like this newsletter? See PAST ISSUES online back to 2009
Visit us on Facebook – Baton Rouge Astronomical Society
NEW! BRAS Youtube Channel

President's Message

One more month in the record books—once we've made it through June, half of 2020 will be over with: hopefully, the second half will be a lot better than the first. The first indication for us that things will be getting back to normal is that the Observatory should start to open back up, even with some restrictions, starting in the first of June. By the end of June, we should even be doing some of our anticipated outreach events from HRPO. Both the Radio Field Day and Asteroid Day are scheduled toward the end of the month, and even though the details on Radio Field Day are still undecided, the last I heard we were going to try to hold Asteroid Day events. Both of these events will be topics of discussion at the June Business Meeting, so I should be able to have a definitive answer on them by the time of our main meeting next week. Barring that, please check the schedule for details, and contact Chris if you'd like to volunteer for either event.

Also at the meeting, I expect Chris to be able to give a more thorough explanation of how BREC is planning to re-open the observatory to the public. My general belief is that they are presently preparing for a virtual summer camp for select students and that a gradual re-opening of the facility with safety guidelines will be forthcoming under phase-2 of the grand plan, which we expect to be happening over the course of the month of June.

I'm not sure what Ben has lined up for our off-campus outreaches, but summer months have traditionally been a slow time for us, so it may just be the odd broadcast over the internet either live or scripted. In lieu of in-person events, Ben has been doing a fantastic job with informing the public over the past few months and I hope some of you have managed to catch at least one of his broadcasts. As for what's next, we'll just have to wait and see.



A Powerpoint slide from the May Zoom presentation given by Greg Andrews

For the past few months, we've been holding our **monthly meetings online** with some degree of success: the speakers for both April and May were fantastic, and Coy has another great one lined up for June. The format will be the same as the last time so watch your e-mail for the link to join in. If you missed out on May's talk and want to find out more about Dark Matter, you can find it on our BRAS YouTube page. Thanks to Ben for his efforts in trimming the fat there.

During the confusion of the Spring, we largely missed a chance to do some grass roots activism. Most of us have by now formed some opinion on the scourge that is **Daylight Saving Time**, that devilish convention by which our viewing evenings are cut short every summer. But not everybody dislikes DST. Thus a bill was introduced, and passed, in the state legislature that would mandate a permanent DST if this was made possible by the US congress. It is the opinion of BRAS that this was a terrible idea, and we are encouraging everybody to contact their elected representatives to express their opinion that we not switch to permanent DST, but instead move to a permanent **Standard Time**.

Lastly, we would all like to wish former BRAS presidents John Nagle and Steven Tilley best of luck in recovering from their recent surgeries (sorry I forgot to mention Steven earlier!).

Submitted by Scott Cadwallader, President 2020

15 people were in attendance when we started the May meeting. A few more joined in later.
If you missed the Dark Matter presentation, you can watch the whole thing here.

Secretary's Summary of May Meeting

The May meeting was held via Zoom session.

Coy opened the meeting by introducing the guest speaker, Greg Andrews, the manager of the planetarium in Shreveport. Greg gave a talk on Dark Matter (now posted to our YouTube page).

Scott C reported:

- We will probably move to another platform for the June meeting
- BREC facilities to open soon, but on a limited basis
- We might possibly have the June meeting at HRPO
- We want to have a MOON night, but will not be able to use the HRPO dome, there is no limit on outdoor numbers
- HRPO will have a staggered opening, they are still planning on a summer camp, but it will be restricted
- Ben did an online outreach, via facebook, on the Moon
- The ALCon 2022 bid is postponed until 2023
- Asteroid Day is still scheduled for the end of June
- Radio Field Day is still expected at HRPO
- IAD will share time with Spooky Spectrum
- Comet Swan is coming!

Meeting adjourned

Thomas J. Halligan

Submitted by Thomas Halligan, Secretary

Upcoming BRAS Meetings:

- NSN Training Kit Session, Postponed
- Monthly Business Meeting: 7:00 p.m., Wednesday, June 3; via Webinar (TBA)
- Light Pollution Committee Meeting: No Meeting
- Monthly Member Meeting: 7:00 Monday, June 8; via webinar due to COVID-19 quarantining.
- Star Party at Chris Desselles' house, postponed
- MOON (Members Only Observing Night), TBA
- ALCon Planning Meetings: Saturday, TBA.; Coffee Call, 3132 College Dr F, BR, LA 70808, contact Steve

2020 Officers:

GET ZAZZLED!

President: Scott Cadwallader
Vice-President: Coy Wagoner
Secretary: Thomas Halligan
Treasurer: Trey Anding

BRAS Liaison for BREC:
Chris Kersey
BRAS Liaison for LSU:
Greg Guzik

Committees/Coordinators:
AL Awards
Merrill Hess
Light Pollution:
John Nagle
Newsletter:
Michele Fry
Observing:
John Nagle
Outreach:
Ben Toman
Public Information
Krista Reed
Webmaster:
Frederick Barnett

ALCon 2020 is Cancelled

As of 4/3/2020, ALCon 2020 has been postponed to August 4-7, 2021, as ALCon 2021.

BRAS Outreach Report

Hi Everyone,

It's deja vu all over again! Another month has passed by and it was another month of no direct outreach. I was able to do a livestream through my telescope on Mercury and Venus, though. That is a form of outreach!

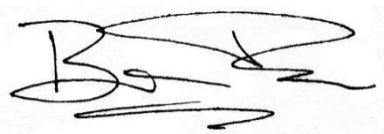
The livestreaming is really something that has unlimited potential to reach people. Along with our Night Sky Network demos, we are talking about ways to start utilizing social media (e.g., YouTube, Facebook, Instagram, etc.) to connect with as many people as we can. Just for some examples, the livestream I mentioned above has been viewed 381 times. The livestream I did featuring the Moon last month has over 3700 views and reached almost 10,000 people. The majority of those views and engagements come within 24 hours of streaming or posting the content. We've had some fantastic feedback from people around the community (and the world! One of our viewers was watching from Wales!!) and it's only uphill from here.

Here is Scott C. working with his imaging setup. Some of this equipment could be used in our future online offerings. Photo by Ben T.

One of the most important things about Outreach is simply getting people interested in our night sky. That's why the utilization of these resources is so exciting and rewarding. The more people we can reach, the more people we can educate and get energized about astronomy. With some pre-scheduling of livestream events and engaging the audience to help extend the reach by sharing the feed with their friends, we could be reaching 10k or more people on any given night. That would be amazing!

As we move into Summer, we're heading into a time when Outreach generally slowed down for us anyway. We'll try to keep things livelier with some fun, online content though. At the very least this can keep us in shape for when we can get back to our favorite kind of Outreach...face to face and at the telescopes!

If you want to be sure you catch our online offerings, be sure to "Like" and "Follow" our Facebook and other social media pages and "subscribe" to our YouTube channel (all links are listed on the first page of this newsletter). Help spread the word, too. If you see an upcoming BRAS event posted, share it with your friends. Again, the more people we reach, the better it is for our hobby in the long run.



Clear Skies,
Ben Toman

*

****

AND NOW…. let's talk about OUTREACH, and SOCIAL DISTANCING . . . . . Elon Musk style.

The Space X Dragon 2 mission was a huge success, we were holding our breath and crossing our fingers until /he/they landed 2 Americans on the space station thru a public/private partnership, and guess who is jumping for joy . . . yep, that's Elon Musk in the picture, and lots of us with him, because success of this magnitude just makes you feel SOOOO PROUD.

You can get your very own Authentic NASA Mission SpaceX Dragon DM-2 Space Flight Patch

Launched May 27 2020

Available from The Space Store for $13.95

https://thespacestore.com/products/spacex-dm-2-mission-flight-patch

(Buy one for your kid's backpack. Or one for yourself. Or to stuff Christmas stockings. Or one for me . . . I won't complain! – the Editor**)**

BRAS Light Pollution Committee Report

This committee meets at 6:15, same day as the 7:00 BRAS Business Meeting
(normally on Wednesday before the Monthly Meeting)
Everyone is welcome to join in..

There was no LPC meeting in May due to the Corona Virus Lockdown. Light Pollution is getting a short reprieve, but not for long.

John R. Nagle

Submitted by John R. Nagle

Globe At Night

The target for this month's Globe at Night program is **Bootes, June 13th through 22nd.**
If you would like to participate in this citizen science program, you can find instructions at
https://www.globeatnight.org

****

Recent Entries in the Forum

Below are selected additions to the BRAS Forum. There are also nine active polls. The Forum has reached 6600 posts.

U.S Government Releases Aerial Phenomena Videos
Venus Crescent Growing at This Time
Mercury and Venus Had Close Meeting
Asteroid 2 Pallas Appeared at Magnitude 9 in Sagitta
363 Padua Occu 14 Cancri

****

No Asteroid and Comet News This Month

Maybe they are social distancing too

****

Message from HRPO

Highland Road Park Observatory

COVID 19 ALERT:

Permission has yet to be granted from BREC HQ for in-person programs with restriction guidelines. We were disallowed from using the property during Phase One which is why the BRAS membership didn't get any alert for reopening. We are hoping that HRPO is part of Phase Two. As soon as we hear from BREC HQ and other custodians of the on-site equipment we'll provide more information.

The first programs, of course, will be the viewings as those are the easiest to occur with those guidelines. The program that will never occur while restrictions are still mandatory is the Lecture Series. HRPO now has its own Zoom license; we may attempt remote lectures.

The HRPO Center Supervisor is working on an embed streaming policy to allow for live streaming of skygazing. We are also still awaiting word from LSU P&A regarding the possible use of the 20OGS for live streaming.

Meanwhile, we appreciate your patience and support.
T-Shirts are still available in all sizes.
$7.00 Apollo 8 "Earthrise"

Call the Observatory to place your orders.
225-768-9948 or email observatory@brec.org

Observing Notes: JUNE

by John Nagle

Canis Minor – the Little Dog

Position: RA 07 28, Dec. +06 56 °

Note: For six years I have been writing these Observing Notes, featuring the 60 constellations we can see before midnight from Baton Rouge, that contain objects above magnitude 10. Beginning with the February 2019 newsletter, I began to recycle and update the constellations, but the Sky Happenings calendar and associated information are new each month.

Named Stars:

Procyon (Alpha CMi), from the Greek word meaning "the one preceding the dog" or could be translated as "The Northern Sirius", in Arabic it appears as "Al Shi'ra al Shamiyyah", "The Bright Star of Syria", and also called "The Little Dog Star", mag. 0.34, 07 39 18.54 +05 13 39.0, is the 7th brightest star in the night sky, and is a binary star. Procyon A is a yellow-white, main sequence sub-giant star that is approaching the end of its hydrogen fusion days. Its companion, Procyon B, is a white dwarf star of magnitude 10.8, has a separation of 4.59 " with an orbital period of 40.83 years. There is an optical companion, Procyon C, which is not part of the star system.
Procyon is part of the "Winter Triangle" asterism, and is also one of the vertices of the "Winter Hexagram" asterism. Also known as HD 61421, HIP 37279, and 10 Canis Minoris.
Gameisa (Beta CMi), from the Arabic "al-ghumaisa", "the weeping or bleary-eyed one", mag. 2.89, 07 27 09.07 +08 17 21.9, is a blue-white dwarf star and a rapid rotator with an equatorial speed of 250- km per second. It is classified as an eruptive irregular variable star with a circumstellar disk. The Washington Double Star Catalog lists nine companions associated with Gameisa, with all of them being likely common proper motion components – all range from magnitudes 11.6 to 19.8, and separations ranging from 4.0" to 139". Also known as HD 58715, HIP 36188, and 3 Canis Minoris.
Luyten's Star, mag. 9.87, 07 27 24.91 +05 13 32.8, is a red dwarf star that was named after Willem Jacob Luyten, a Dutch-American astronomer who first determined the star's proper motion, a surprising 3.7 arc seconds. The star is located slightly less than 3˚ due west of Procyon. Also known as HIP 36208, GJ 273, and 36 more identifiers of this star.

Deep Sky:

There are no objects above magnitude 10 in this constellation.
Asterisms: "Shwuy Wei", from the Chinese for "a Place of Water", is composed of Zeta, Theta, Omicron, and Pi Canis Minoris.

The Winter Triangle – is composed of Procyon (Alpha CMi), along with Sirius (Alpha CMa), and Betelgeuse (Alpha Ori).

The Winter Hexagram – is composed of Procyon (Alpha CMi), Capella (Alpha Aur), Aldebaran (Alpha Tau), Castor (Alpha Gem), Rigel (Beta Ori), and Sirius (Alpha CMa).

Objects in Canis Minor are as follows: 19 NGC; 4 IC; 36 UGC; 3 Abell; 7 PGC; 4 PK; 4 PNG; 3 ARO; 21 MGC; 30 CGCG; 1 King; 1 HtDe; 1 HtWe, 1 Do; 1 Str; 2 Be; 1 Sr; 1 Pot; 1 Allen;

1 FSR; 2 Al; 1 A; 1 K1; 1 SSWZ94; 1 Radio Galaxy; 2 Quasars, and 1 VV.

Other Stars:

Delta[1] CMi, mag. 5.24, 07 32 05.95 +01 54 52.1, is a yellow-white giant star. Also known as HD 59881, HIP 36641, and 7 Canis Minoris.
Delta[2] CMi, mag. 5.59, 07 33 11.68 +03 17 25.0, is a main sequence star. Also known as HD 60111, HIP 36723, and 8 Canis Minoris.
Delta[3] CMi, mag. 5.83, 07 34 15.89 +03 22 18.3, is a white main sequence star. Also known as HD 60357, HIP 36812, and 9 Canis Minoris.
HD 66141, mag. 4.39, 08 02 15.95 +02 20 03.5, is an orange giant star that is 6.8 billion years old. This star was mistakenly named 13 Puppis as its celestial coordinates were recorded incorrectly when cataloged. A planet is in a 480 day orbit around the star. Also known as HIP 39311.
Of interest beyond magnitude 10:
HAT-P-50, mag. 11.76, 07 52 15.0 +08 08 22, has a transiting planet.
PSS 544-7, is an 18th magnitude red dwarf star of about 20% the mass of the Sun.
Stars in Canis Minor are as follows: 18 Σ; 4 OΣ; 1 OΣΣ; 6 A; 1 h; 1 β; and 1 ADS cluster.

Sky Happenings: June, 2020

(what follows pertains ONLY to the current month. Material above is good year after year.)

June 1st -	Dusk: A waxing gibbous Moon is in Virgo with Spica 6˚ to 7˚ below it.
June 2nd -	The Moon is at perigee3 (226,406 miles or 364,366 km from Earth) at 10:38 PM CDT.
June 3rd -	Venus is in inferior conjunction at 1 PM CDT.
June 4th -	Morning: Double shadow transit on Jupiter. See Jupiter for timing. Mercury is at greatest eastern elongation (24˚) at 8 AM CDT, Evening: The almost-full Moon is about 7˚ above Antares in Scorpio.
June 5th -	Full Moon occurs at 2:12 PM CDT, penumbral lunar eclipse (not seen in North America).
June 7th -	Evening: The waning gibbous Moon, Jupiter, and Saturn form a shallow arc about 12˚ long above the southeastern horizon.
June 8th -	The Moon passes 2˚ south of Jupiter at 12 Noon CDT, The Moon passes 3˚ south of Saturn at 9 PM CDT.
June 11th -	Double shadow transit on Jupiter. See Jupiter for timing.
June 12th -	Mars passes 1.7˚ south of Neptune at 7 AM CDT, The Moon passes 4˚ south of Neptune at 6 PM CDT, The Moon passes 3˚ south of Mars at 7 PM CDT.
June 13th -	Last Quarter Moon occurs at 1:24 AM CDT.
June 14th -	The Moon is at apogee (251,404 miles or 404,595 km from Earth) at 7:57 PM CDT.
June 16th -	The Moon passes 4˚ south of Uranus at 9 PM CDT.
June 17th -	Mercury is stationary at 3 PM CDT.
June 18th -	Double shadow transit on Jupiter. See Jupiter for timing.
June 19th -	The Moon passes 0.7˚ north of Venus at 4 AM CDT, occultation (not seen in the US).
June 20th -	Summer Solstice occurs at 4:44 PM CDT. Summer begins in the Northern Hemisphere. The longest day of the year.
June 21st -	New Moon occurs at 1:41 AN CDT, annular solar eclipse (not seen in the Western Hemisphere)
June 22nd -	Mercury is at aphelion.
June 23rd -	Neptune is stationary at 1 PM CDT.
June 24th -	Venus is stationary at 1 PM CDT.
June 25th -	Dusk: The growing crescent Moon is a little more than 5˚ from Regulus in Leo.
June 27th -	Asteroid Iris is at opposition at 9 PM CDT.

June 28th - First Quarter Moon occurs at 3:16 AM CDT,
Dusk: The first-quarter Moon, Spica, and Porrima form a triangle in Virgo.
June 29th - The Moon is at perigee (229,260 miles or 368,958 km from Earth) at 9:13 PM CDT.
June 30th - Dusk: The waxing gibbous Moon is in Libra, some 2˚ to 3˚ from Zubenelgenubi (Alpha Librae),
Mercury is in inferior conjunction at 10 PM CDT.

Planets:

Mercury – Mercury is the only planet visible as June's long evening twilight begins to fade. On June 1st, the planet will shine at magnitude 0.1. On the 4th, the planet will reach greatest eastern elongation (24˚), shining at magnitude +0.4, with an 8" diamete3r disk that is lit at less than 37%. During the first week of the month, the planet will set more than one hour and 45 minutes after the Sun. After that, the planet's altitude and brightness quickly decrease. On the 13th, the planet, at magnitude 1.4, will stand 11˚ below Pollux, with a low altitude of about 7˚. It will have a 19% illuminated crescent with an angular size of 10". On the 16th, the planet will dim to 2nd magnitude, and is just 3˚ high 45 minutes after sunset. Mercury will reach inferior conjunction on the evening of June 30th.

Venus – Venus is in inferior conjunction on June 3rd. The planet will then begin its appearance as the "Morning Star", brightening rapidly as its phase waxes from new to crescent. On the 12th, the planet rises about 45 minutes before the Sun, shining at magnitude -4.1, with a disk 55" wide and roughly 3% illuminated. By the 20th, the planet rises 80 minutes before the Sun at -4.5 magnitude, a 51" diameter disk that is 9% illuminated. By the 30th, the planet is 8˚ high one hour before sunrise, and is located 4.5˚ northwest of Aldebaran. At this time, the planet has brightened to magnitude -4.7, with a 44" wide disk at 18% illumination.

Mars – Mars will rise in Aquarius soon after 2 AM local daylight time on June 1st, and by the end of the month it will rise an hour earlier in Pisces. The planet's magnitude will increase from 0.0 to -0.5 during the month. The planet will stand only 20˚ high at 4 AM on the 1st, but 30˚ high at 4 AM on the 30th. On the 1st, the planet is less than 3˚ southeast of Lambda Aquarii, and crosses into southern Pisces on the 25th, south of the Great Square of Pegasus. The planet will begin the month with an apparent diameter of 9", and will grow to 11" by the 19th, with a distinctive gibbous disk that will be 84% lit. The planet will reach western quadrature (90˚ west of the Sun) on the 6th.

Jupiter – Jupiter will be 4.8˚ west of Saturn on June 1st, but the gap will increase to 6˚ by the 30th. Jupiter begins the month in retrograde, a few degrees west of the Capricornus-Sagittarius border. The planet, at magnitude -2.6 with an apparent size of 45", will increase during the month to magnitude -2.7 with a 47" diameter by month's end. On the 1st, Jupiter and Saturn (magnitude +0.4, 40" span) will bracket M75, a faint fuzzy object shining at magnitude 9.5, lying 1.5˚ south of the line joining the two planets. There will be three double shadow transits of Jupiter this month. The first is on the 4th, starting with Ganymede's shadow ingress at 5:35 AM CDT, then Europa's shadow will start ingress at 6:21 AM CDT. Ganymede's shadow will egress at 8:50 AM CDT, followed by Europa's shadow egress at 11:06 AM CDT. The second double transit is on the 11th. It starts at 8:54 AM CDT when Europa's shadow starts its ingress, followed by Ganymede's shadow's ingress at 9:33 AM CDT. Europa's shadow egresses at 1:39 PM CDT, followed by Ganymede's shadow's egress at 2:49 PM CDT. The last double shadow transit of the month happens on the 18th, starting with the ingress of Europa's shadow at 11:28 AM CDT, with Ganymede's shadow ingress at 1:33 PM CDT. Europa's shadow will egress at 21:13 PM CDT, with Ganymede's shadow's egress at 4:50 PM CDT.

Saturn – Saturn rises within 15 minutes of Jupiter, rising in the hour before midnight at the beginning of June, but an hour after sunset as the month ends. Saturn is in retrograde in Capricornus. The planet starts the month at magnitude 0.4, and will brighten to magnitude 0.2 by the 30th, with an 18" wide disk and the rings spanning 40" at a 20˚ tilt from edge-on. The moon Enceladus, at the outer edge of the rings, orbits the planet every 1.4 days, is at magnitude 11.9. Farther out from the rings are Tethys, Dione, and Rhea (10th and 11th magnitudes), with orbital periods of 1.9 to 4.5 days. Titan, the planet's brightest moon, orbits every 16 days, shining at magnitude 8.8. Titan can be found due north of the planet on the 14th and 30th, and due south on the 6th and 22nd. Iapetus, more distant from the planet,

varies in magnitude between its eastern and western elongations. It will be brightest (magnitude 10.2) when it is 9' due west of the planet on the 1st, just a day after its western elongation. Iapetus will reach superior conjunction on the 20th, 54" north of the planet, and will be near magnitude 11.0.

Uranus – Uranus is in Aries, and will rise in the hour before the onset of morning twilight. The planet will stand about 10˚ high on the 16th, with a waning crescent Moon nearby. The planet, at magnitude 5.9, will be 10˚ to the left of the Moon, with both being visible at 4:30 AM local daylight time. In the dawn sky of the 17th, the planet will be 5˚ north of the thinning crescent Moon.

Neptune – Neptune, in Aquarius, stands 1.8˚ due north of Mars on June 12th. Neptune has a 2.3" bluish disk, shining at magnitude 7.9. The planet is 3.5˚ east of Phi Aquarii. Just over a degree east of this star is a pair of 6th magnitude stars roughly aligned north-south. Another 2˚ farther is a second 6th magnitude star, forming a long triangle with the previous pair. The planet is a moon-width short of this star. For most of the month, the planet will drift slightly eastward before reaching a stationary point on the 23rd.

Pluto – Pluto, at magnitude 14.7, sits less than 2˚ southwest of Jupiter. On the 1st, Pluto lies just 4' due south of a 9th magnitude field star, HIP 97251. By the 20th, the planet has wandered westward near to a grouping of about nine 10th and 11th magnitude field stars that form a small oval-shaped collection about ⅓˚ across. By the 29th, the planet will be 41.3' due south of Jupiter.

Moon – At dawn on June 8th, the waning gibbous Moon marks the westernmost point of a gentle curve with Jupiter and Saturn equally spaced along it. On the following morning, the 9th, the Moon has shifted position and now anchors the eastern end of that curve. A close conjunction of the thin lunar crescent and Venus will be visible low in the east-northeast around 30 minutes before sunrise on the morning of the 19th.

Favorable Librations: Scott Crater – June 3rd; Helmholz Crater – June 4th; Gibbs Crater – June 6th, and Desargues Crater – June 17th.

Greatest North Declination on the 27th (+24.1˚)

Greatest South Declination on the 8th (-24.0˚)

Libration in Longitude: East Limb Most Exposed on the 9th (+5.9˚)
West Limb Most Exposed on the 22nd (-5.1˚)

Libration in Latitude: North Limb Most Exposed on the 14th (+6.9˚)
South Limb Most Exposed on the 1st (-6.7˚) and the 28th (-6.8˚)

Sun – The Sun reaches the Summer Solstice at 4:44 PM CDT on June 20th, ushering in the start of summer in the Northern Hemisphere, and winter in the Southern Hemisphere.

Asteroids – Asteroid 1 Ceres positions, in Aquarius, according to the RASC Observer's Manual, 2020 USA Edition, are as follows: On June 10th – 23 04.43 -17 11.8; at magnitude 8.9; on the 20th – 23 10.16 -17 24.7, at magnitude 8.7; and on the 30th – 23 14.01 -17 51.4, at magnitude 8.6.

Asteroid 2 Pallas positions, in Vulpecula, according to the RASC Observer's Manual, 2020 USA Edition, are as follows: On June 10th – 19 29.3 +21 33.6, at magnitude 9.7; on the 20th – 19 22.71 +22 00.2, at magnitude 9.7; and on the 30th – 19 15.03 +22 01.0, at magnitude 9.6. Pallas positions, by my estimates, are as follows: On June 1st – 1.15˚ north and a little west of 9 Vulpeculae; on the 5th – about 1.2˚ north and a little east of 7 Vulpeculae; on the 10th – about 1.5˚ north and a little west of 7 Vulpeculae, or 1.8˚ north and a slight bit east of 5 Vulpeculae; on the 15th – about 2¼˚ north and a slight bit west of 4 Vulpeculae; on the 20th - about 1.4˚ northeast of 1 Vulpeculae.

Asteroid 7 Iris positions, in Sagittarius, according to the RASC Observer's Handbook, 2020 USA Edition, are as follows: on June 10th – 18 46.12 -2101.5, at magnitude 9.4; on the 20th – 18 36.59 -20 49.0, at magnitude 9.1; and on the 30th – 18 25.9 -20 36.4, at magnitude 8.8.

Comets – Comet C/2020 F8 (SWAN) has a decaying core, and its magnitude is dropping – at 7th magnitude on May 22nd. This is now the third promising comet that has become a disappointment.

Comet C/2017 T2 (PANSTARRS) is in Ursa Major. The comet's positions, by my estimates, are as follows: On June 15th – about 0.2˚ southwest of Gamma Ursa Majoris, or about 0.7˚ almost due west of M109; on the 17th – just over 2˚ south-southeast of Gamma Ursa Majoris; on the 19th – about 4˚ southwest of Gamma Ursa

Majoris, or 2˚ northeast of Chi Ursa Majoris; on the 21st – just under 2˚ west and a touch south of 3 Canem Venaticorum; on the 23rd – about 0.6˚ due west of M106 in Canes Venatici, or just under 4˚ east and a little north of 65 Ursa Majoris; and on the 27th – about ½˚ west and a touch south of NGC 4449.

Meteor Showers – There are no major meteor showers in June. There are two Class III showers (does not provide annual activity). The Tau Herculids – active from May 19th to June 14th, peaks on June 2nd, radiant at 15 14 +39.8; and the June Bootids – active from June 23rd to June 25th, peaks on June 23rd, radiant at 14 58 +48 00. There are three Class IV showers (weak minor showers with a zenith hourly rate rarely exceeding two). The Daytime Arietids – active from May 22nd to June 24th, peaks on June 7th, radiant at 02 56 +24.4; the June Mu Cassiopeiids – active from May 18th to June 15th, peaks on June 8th, radiant at 01 03 +55.4; and the Beta Equulids – active from June 7th to June 30th, peaks on June 14th, radiant at 20 04 +009.1. There are two more Class IV showers that start in June, but do not peak until July.

When to View the Planets:

Evening Sky		**Midnight**	**Morning Sky**	
Mercury	(west)		Venus	(east)
			Mars	(southeast)
			Jupiter	(south)
			Saturn	(south)
			Uranus	(east)
			Neptune	(southeast)
			Pluto	(south)

Dark Sky Viewing - Primary on June 20th, Secondary on June 27th

Canis Minor – The Little Dog

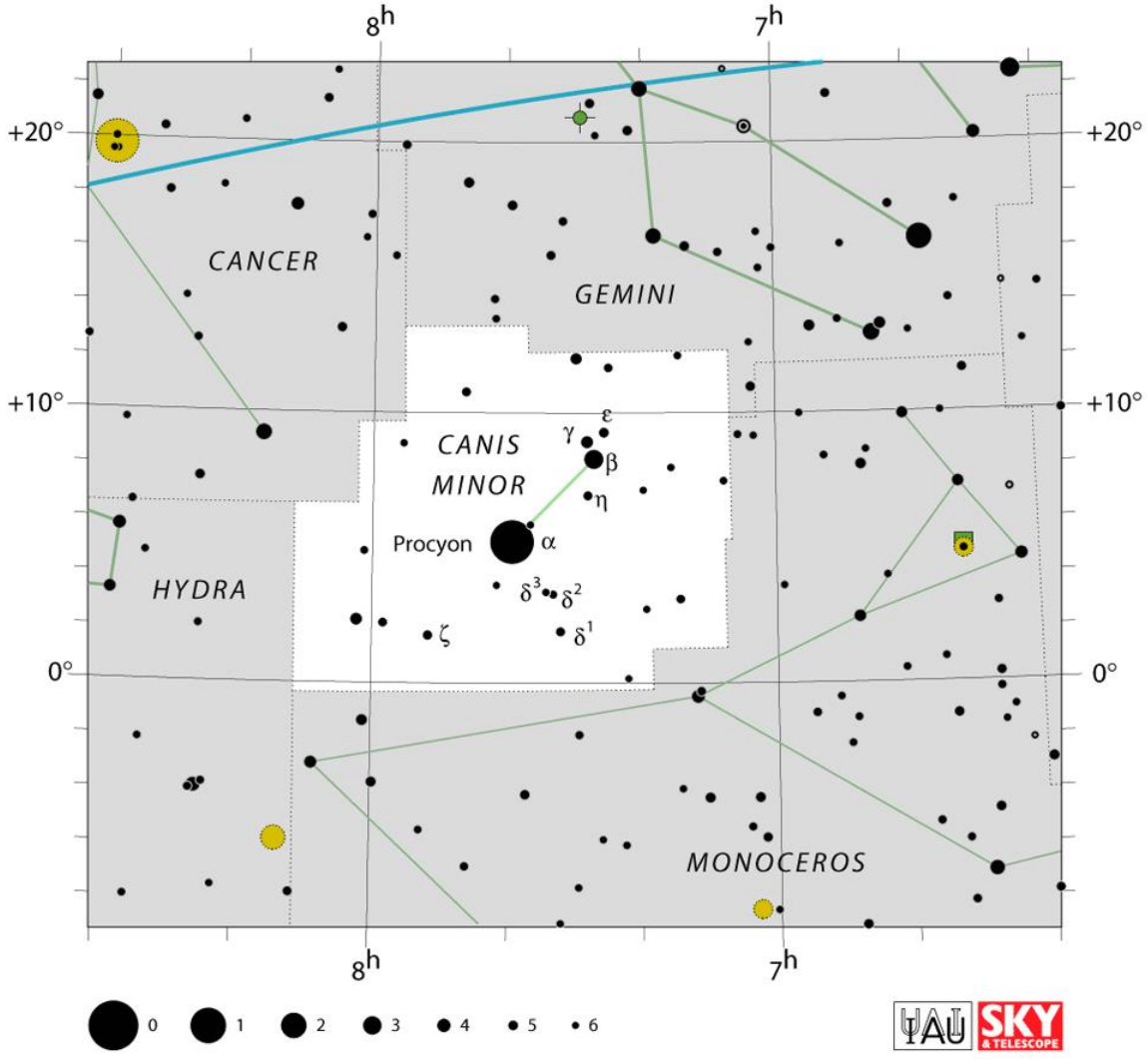
This constellation originally consisted of just its brightest star, Procyon, whose name in Greek means “before the dog”, from the fact that it rises earlier than the other celestial dog, Canis Major. It is a small constellation and contains little of interest other than the star Procyon itself, a white, main sequence sub-giant binary star that is 11.3 light years away, and is the 7th brightest star in the night sky.

Canis Minor is usually identified as one of the dogs of Orion. But in a famous legend from Attica (the area around Athens), recounted by the mythographers Hyginus, the constellation represents Maera, dog of Icarius, the man whom the god Dionysus first taught to make wine. When Icarius gave his wine to some shepherds for tasting, they rapidly became drunk. Suspecting that Icarius had poisoned them, they killed him. Maera the dog ran howling to Icarius’s daughter Erigone, caught hold of her dress by his teeth, and led her to her father’s body. Both Erigone and the dog took their own life where Icarius lay. Zeus placed their images among the stars as a reminder of the unfortunate affair. To atone for their tragic mistake, the people of Athens instituted a yearly celebration in honor of Icarius and Erigone. In this story,

Icarius is identified as the constellation Boötes, Erigone is Virgo, and Maera is Canis Minor.

According to Hyginus, the murders of Icarius fled to the island of Ceos, off the coast of Attica, but their wrong doing followed them. The island was plagued with famine and sickness, attributed in the legend to the scorching effect of the Dog Star (here Procyon seems to be confused with the greater Dog Star Sirius in Canis Major). King Aristaeus of Ceos, son of the god Apollo, asked his father for advice and was told to pray to Zeus for relief. Zeus sent the Etesian winds, which every year blow for forty days from the rising of the Dog Star to cool all of Greece and its islands in the summer heat. After this, the priests of Ceos instituted the practice of making yearly sacrifices before the rising of the Dog Star.

Procyon is of particular interest to astronomers because it has a small, hot companion star, a white dwarf that orbits it every forty years. Coincidentally, the other Dog Star, Sirius, also has a highly dense white dwarf star companion.



The End