

# Night Visions

April 2017 Issue

*Newsletter of the Baton Rouge Astronomical Society*

**Next Meeting: Monday, April 10<sup>th</sup> at 7PM at HRPO**  
(2<sup>nd</sup> Mondays, Highland Road Park Observatory)

**Presenter: Dr. Tabettha Boyajian, discoverer of “Tabby’s Star”.**

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## President's Message

Our April speaker is Dr. Tabettha Boyajian, discoverer of “Tabby’s Star”. The title of her talk is “Planet hunters and the case for the most mysterious star in the galaxy”.

**Hodges Gardens Star Party** was a success. Full report with pictures will be in the May issue of ‘Night Visions’. Please send your photos and write-ups to Michele at [newsletter@brastro.org](mailto:newsletter@brastro.org)

Ephraim Craddock, who took 2nd place in the 2016 Astronomical League’s Horkheimer/O’Meara Journalism Award, has submitted an article about the Antikythera mechanism for the 2017 contest. We are all rooting for him!

The memorial service for Wallace Pursell (Wally) was well attended by members of BRAS. Merrill Hess spoke about his long friendship with Wally. Wally’s family was very touched by all the friends Wally had in Baton Rouge. They were very pleased to learn about the Advocate’s Legacy Page for Wally, and especially that BRAS member donations had permanently secured it. Michele will send them a link to the page this week. So please, if you have not yet done so, visit the page and leave an anecdote/ remark/condolences, or even a picture, for the family to enjoy.

<http://www.legacy.com/guestbooks/theadvocate/wallace-pursell-condolences/183224987>

The current large item raffle for BRAS is a Meade ETX 90 with tripod. Raffle tickets are \$5 each, (sale ongoing until sufficient money is raised). Buy a ticket (or more) and take a chance for a good secondary (or third/fourth/fifth etc.) telescope, and help support BRAS. \$1 tickets for other items will be available as usual.

Our July meeting will continue the ‘tradition’ of a picnic and meeting at LIGO. Last year’s picnic was cancelled due to flooding. As usual, we will help LIGO after our meeting with solar viewing and helping with their public day.

Clear Skies,

John R. Nagle  
President of BRAS and Observing Chairperson

P.S. On this page our Editor has placed another riddle. The first 3 members to find and email me the exact answer hidden somewhere in this newsletter (she has hidden the answer rather well this time), will receive one FREE \$1 raffle ticket to spend at the next meeting. (Must attend meeting to qualify.) Email me at [jonagle@cox.net](mailto:jonagle@cox.net) if you find it.



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# Secretary's Summary of January Meeting

- ✚ -Meeting called to order
- ✚ -Old business discussed briefly
- ✚ -LPC discussed by Thomas Halligan
- ✚ -Hodges Gardens discussed by Don Weinell (Possibly LAST one!)
- ✚ -Night Sky Network website discussed by Ben Toman
- ✚ -Raffle held
- ✚ -Meeting adjourned

Sorry for the short/incomplete notes. I gave a short presentation and completely forgot to take notes on the meeting. You don't have to worry about impeaching me, I'm term limited!

Clear Skies,



Ben Toman  
BRAS Secretary (For all the good I'm worth!)

### 2017 Officers:

President: John Nagle  
Vice-President: Craig Brenden  
Secretary: Ben Toman  
Treasurer: Trey Anding

### BRAS Liaison for BREC:

Chris Kersey

### BRAS Liaison for LSU:

Greg Guzik

### Committees/Coordinators:

Outreach:

Ben Toman

Observing:

John Nagle

Light Pollution:

Thomas Halligan

Webmaster:

Frederick Barnett

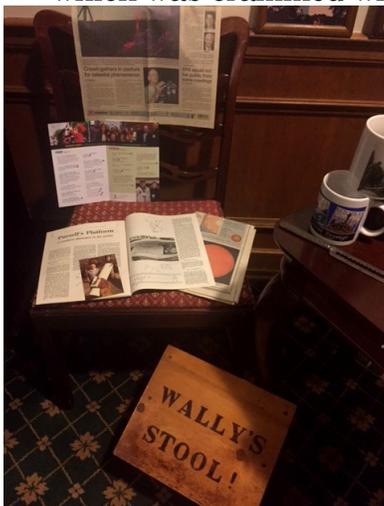
Newsletter Editor:

Michele Fry

## Fond Memories:

On April 1<sup>st</sup>, several BRAS members attended Wally's Memorial Service and got to meet his family – a charming son and daughter-in-law, two charming daughters, plus charming granddaughters, in-laws and 1 great grandson. A delightful family all, and they expressed much gratitude for our attendance. Bill, the eldest, said in his eulogy that “We tried and tried to get Dad to move closer to us (Wyoming), but now we understand why he would not leave Baton Rouge. He had so many good friends here.”

Michele took several pics of the social afterwards, including Wally's Memorabilia Table, which was crammed with interesting stuff.





## BRAS Outreach Report

Hi Everyone,

It's been quite busy lately for outreach and we've had a good time. **Rockin' at the Swamp** was another big success, even though it was too cloudy for solar observing. We saw about 400+ people at our table! We also had a table set up for events at both **Woodlawn Middle and Oak Grove Primary** schools. Those events were equally well received. Unfortunately, we were in the midst of big storms on Saturday the 25th for the Boy Scout event so we were unable to participate.

As of my writing this, I still haven't heard about the turnout for the public night at **Hodges Gardens Star Party**, but I know it was good weather up there so hopefully a lot of folks showed up.

Thanks again to those that volunteered for these past events. Scott Louque, Chris Raby, John Nagle, Susan Miller, Roz Readinger, Ben Toman, Chris Kersey, Craig Brenden, Charles Edwards, Scott Cadwallader, Steve Richard and Don Weinell. (Along with any others that were at the HGSP for public night!)

Just a couple coming up for April now. Of course, there is **International Astronomy Day** on the 29th and there are details for that in the HRPO section so I won't repeat them here. Also happening are:

Tuesday, April 4th (Primary)

**Sidewalk Astronomy**

**Perkins Rowe Shopping Center**

7pm-9pm

telescope viewing

Thursday, April 6th (Secondary, if needed)

Sidewalk Astronomy

Same as above

Tuesday, April 11th

**Pride-Chaneyville Community Library** (13600 Pride-Port Hudson Road)

12pm-2pm

Solar Observing

Please let me know as soon as possible if you can help out with any of these events. Don't be shy! As always, keep an eye out for additions, or corrections to this list as the month goes by. We're always getting contacted.

Clear Skies,

Ben Toman  
Outreach Coordinator



## Pics from Last Month's Outreach Events

### Rockin' at the Swamp (Bluebonnet Swamp Nature Center)

Left to right: Susan Miller, Craig Brenden, John Nagle, Chris Raby



### Oak Grove Primary School's STEAM Night with Chris Kersey



## BRAS Light Pollution Committee Report

**2<sup>nd</sup> Mondays, from 6:15 pm to 7:00pm, before the BRAS public meeting.**

One does not need to be a BRAS member to attend.

Several items are on the agenda, including how to achieve in 2017 the goal of 200 GaN measurements that was *not* reached in 2016.

A handwritten signature in black ink that reads "Thomas J. Halligan".

Thomas Halligan  
Light Pollution Chairperson

***Space is right overhead—double stars, nebulae, the Milky Way Galaxy and other galaxies. We can see it if we let it through.***





## Recent Entries in the BRAS Forum

***Below are selected additions to the BRAS Forum. There are also nine active polls. The Forum has reached 4500 posts.***

**Answer to riddle: Because, they make up everything.**

HRPO's [NASA Spinoff](#) Talk Returns  
Service for [Wallace Pursell](#) on 1 April  
NASA Premieres "[SpaceCast Weekly](#)"  
[BRAS Forum](#) Hits 4500 Posts  
[Hodges Gardens Star Party](#) in Progress  
Instructions for Toggling [iPhone Display](#) to Red  
[Jupiter](#) Now a Before-Midnight Object  
[Dragon Cargo Capsule](#) has Safe Splashdown  
Views of [Aldebaran Occultation](#) Hindered by Clouds  
[Halo Around Moon](#) on 10 March  
[Geomagnetic Storm Level 2 Alert](#) in Effect  
At Least [Five Very Close Passes](#) of Asteroids in March  
[Naming Themes for Plutonian System](#) Released  
Comet [41P/Tuttle-Giacobini-Kresák](#) Predicted to Brighten  
[Arcturus](#) Returns to Night Sky  
LIGO Co-Founder [Ron Drever](#) Dies

**Planet, or no? Well, is our orbit "clear"?**



BY: IRMA

GOSMICAL

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## BRAS's 20/20 Vision Campaign

**GLOBE at Night: 18 to 27 April**

### **OBSERVATIONS NEEDED FOR SCHOOL PROJECT**

BRAS is in the process of assisting yet another student at St. Joseph's Academy acquire raw data. This young lady (named Shreya) will need data concerning how light pollution effects the view of certain variable stars while they are at their minima.

Below is our suggested list of variable stars for Shreya. Dates are the times during which the star is at least thirty degrees above the horizon at 9pm Standard Time and 10pm Daylight Time. All periods (time from maximum to maximum) are fewer than ninety days. All chosen stars have a difference of at least 1.0 between maximum and minimum magnitude.

#### ***RX Leporis***

Magnitude Range: 5.4 to 7.4    Period: 75 days    Class: K  
Dates: 11 December to 9 March

#### ***T Monocerotis***

Magnitude Range: 5.6 to 6.6    Period: 27 days    Class: G  
Dates: 14 December to 12 April

#### ***S Leporis***

Magnitude Range: 6.0 to 7.6    Period: 89 days    Class: K  
Dates: 12 January to 4 March

#### ***ST Ursae Majoris***

Magnitude Range: 6.0 to 7.6    Period: 81 days    Class: M  
Dates: 12 February to 15 July

#### ***g Herculis***

Magnitude Range: 4.4 to 6.0    Period: 80 days    Class: M  
Dates: 29 April to 28 September

#### ***R Lyrae***

Magnitude Range: 3.9 to 5.0    Period: 46 days    Class: M  
Dates: 5 June to 6 November

#### ***Sheliak***

Magnitude Range: 3.3 to 4.4    Period: 12.9 days    Class: B  
Dates: 8 June to 31 October

#### ***X Cygni***

Magnitude Range: 5.9 to 6.9    Period: 16.4 days    Class: F  
Dates: 5 July to 29 November

#### ***Algol***

Magnitude Range: 2.1 to 3.4    Period: 2.87 days    Class: B  
Dates: 9 October to 9 March

**Observations should only be made when the Moon is below the horizon. Each observation should include the location's GLOBE at Night measurement or SQM measurement. Use all of these parameters to report your results to [observatory@brec.org](mailto:observatory@brec.org).**



# Messages from HRPO

*The Highland Road Park Observatory will be closed 28 April.*



## FRIDAY NIGHT LECTURE SERIES

*all start at 7:30pm*

**7 April: “Titanic 105<sup>th</sup> Anniversary”** One of the most infamous maritime disasters had a distinct astronomical connection. That connection and the sorrowful history of this event is recounted by BREC Education Curator Amy Brouillette.

**14 April: “Dating the Crucifixion”** The Crucifixion of Jesus of Nazareth is a pivotal event in the birth of Christianity. As usual, the Highland Road Park Observatory's Good Friday offering is Brad Schaefer's analysis of this event's contemporary historical records, as he uses archeoastronomy to pinpoint its actual date.

**21 April: “Wonders of the Spring Sky”** BREC Education Curator Amy Brouillette will take the audience on a fascinating tour of Baton Rouge's spring season. She'll highlight the celestial gems that will sparkle throughout the next three months—gems visitors will be able to see live if they continue to visit HRPO!

## SCIENCE ACADEMY

*Saturdays from 10am to 12pm*

*For ages eight to twelve. \$5/\$6 per child.*

**8 April: “Spring Day”**

**15 April: “Plate Tectonics”**

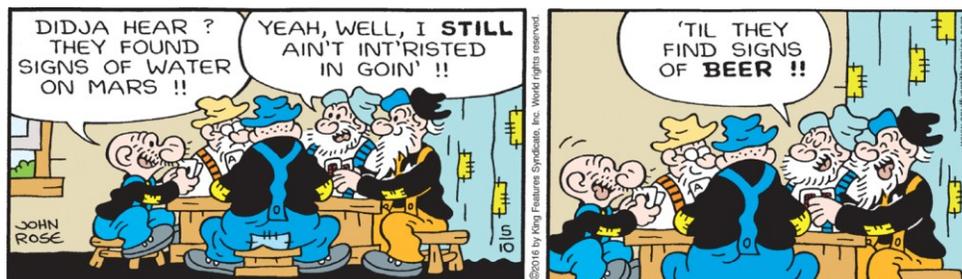
**22 April: “Expedition 4”**

## ONE-TIME CALLS FOR VOLUNTEERS

**\*Saturday 29 April, 3pm to 11pm.** *Eight to twelve volunteers.* **International Astronomy Day.** Telescope operation, front desk duty. Low to moderate difficulty.

## ONGOING CALL FOR VOLUNTEERS

HRPO periodically needs BRAS volunteers for crafting (gluing, cutting, painting, etc.); training is offered for these easy to moderate tasks. We also have plenty of “grunt work”. Also, we would more than welcome any who can help for at least one or two hours anytime during **Spring Rocket Camp** on 18 and 19 April. We are asking any BRAS volunteers with time to assist. Thank you.





## **INTERNATIONAL ASTRONOMY DAY**

**Saturday, 29 April from 3pm to 11pm**  
**Eleventh Consecutive Year!**  
**Over \$700 in raffle prizes!**  
***Volunteers needed! HRPO will be calling!***

RAFFLE TICKETS, \$5 EACH

### SOME RETURNING EXHIBITORS...

American Institute of Aeronautics and Astronautics  
Baton Rouge Amateur Radio Club  
Baton Rouge Metropolitan Airport  
Baton Rouge Mosquito Abatement  
Baton Rouge Zoo  
Bluebonnet Swamp Nature Center  
Civil Air Patrol  
LIGO  
MARS Van  
Saint Joseph's Academy

### RIDES...

18" Dry Slide  
Spacewalk  
Obstacle Course  
Hamster Ball

### OTHER...

Adventure Quest  
Face Painting  
Homemade Comet  
Scope-on-a-Rope

**Early volunteer sign-up is needed. It is extremely difficult to schedule a volunteer if that person reveals his availability with only two or three days to go.**

**Sign-up now, please!**





# Observing Notes:

by John Nagle

## Pyxis Nautica

The Mariner's Compass

Position: RA 9, Dec. -30°

### Named Stars

There are no named stars in Pyxis.

### Deep Sky:

There are no Messier objects in Pyxis.

NGC 2627, Herschel 63-7, mag. 8.4, 08 37 14.9 -29 57 01, 11' in size, is an open cluster of 60 stars; detached, no concentration of stars; medium range of brightness.

NGC 2658, Cr 195, mag. 9.0, 08 43 27.3 -32 39 22, 12' in size, is an open cluster of 80 stars.

Cr 196, mag. 9.0, 08 45 00 -31 38 00, 5.0' in size, is an open cluster of stars.

NGC 2613, Herschel 266-2, mag. 10.5, 08 33 23.0 -22 58 23, 7.2'x1.8' in size, is a spiral galaxy edge-on – looks like a spindle; quite bright, large; multiple filamentary arms; small, very bright nucleus.

NGC 2663, mag. 10.6, 08 45 08.3 -33 47 42, 3.5'x2.4' in size, is a pretty faint, pretty small, and slightly elongated galaxy.

Kohoutek 1-2, 08 57 49.34 -28 56 38.6, 63"x54" in size, is a planetary nebula, the central star is a binary in close orbit, and is emitting two jets.

Mukowski 3-6, 08 40 40.2 -32 22 34, 10.7"x6.3" in size, is a planetary nebula.

Ru 62, 08 32 32 -19 41 00, 6' in size, is an open cluster of 20 stars, mag. of brightest star is 11.0.

Ru 68, 08 44 38 -35 54 00, 10' in size, is an open cluster of 14 stars.

Ru 74, 09 21 03 -37 07 00, 2.2' in size, is an open cluster of 20 stars.

Ru 157, 08 29 49 -37 07 00, 17' in size, is an open cluster of 30 stars.

Wray 16-22, 08 36 16.34 -35 15 51.4, 20" in size, is a planetary nebula.

Pyxis Globular Cluster is 13.3+/-1.3 billion years old, located in the galactic halo – the same plane as the **Large Magellanic Cloud** – could have possibly escaped from it.

**Beyond mag. 11, there is 1 IC object, 1 Cr object, 2 Abell planetary nebulas, and 9 NGC objects with one of them being a planetary nebula with a white dwarf star.**

### Other Stars:

Alpha Pyx, mag. 3.68, 08 43 35.55 -33 11 11.1, is a hot blue giant star.

Beta Pyx, mag. 3.97, 08 40 06.14 -35 18 29.9, is a spectroscopic binary star with the primary a yellow giant star, and the companion star at mag. 12.5, and a separation of 9 arc seconds.

Kappa Pyx, mag. 4.62, 09 08 02.86 -25 51 30.7, is an orange giant star with a companion of mag. 10 and a separation of 2.1 arc seconds.

TY Pyx, mag. 6.87, 08 59 42.72 -27 48 58.7, is an eclipsing binary variable star emitting x-rays. The companion star orbits the primary every 3.2 days.

HD 73256 (CS Pyx), mag. 8.08, 08 36 23.02 -30 02 15.5, is a yellow star with a hot Jupiter sized planet with an orbital period of 2.55 days.

HD 77338, mag. 8.63, 09 01 00 -24 28 23, has one planet in orbit.



**HD 73267**, mag. 8.90, 08 36 17.78 -34 27 35.9, is a yellow dwarf star with a super-jovian planet in a 1260 day orbit.

**RZ Pyx**, mag. 9.17, 08 52 04.40 -27 29 01.5, is an eclipsing binary star, both are hot blue white stars.

**Note: T Pyx**, mag. 15.5, 09 04 41.50 -32 22 47.5, is a recurrent nova star, a white dwarf star with a red dwarf star companion. **T Pyx** is thought to be near the *Chandrasekhar* limit, and could become a Type 1A super nova. The last nova occurrence was correctly predicted by Dr. Brad Schaffer of LSU.

**There is one more star beyond mag. 11 that has a planet in orbit, and a suspected 2<sup>nd</sup> planet.**

## ***Sky Happenings: April, 2017***

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



- April 1<sup>st</sup>** - Dusk – **Mercury** reaches its highest altitude of the year. Look for the bright spark low in the west 30 to 45 minutes after sunset. Orange **Mars** will be 15° above it;  
The **Moon** passes 0.3° north of **Aldebaran** at AM CDT;  
**Mercury** is at greatest eastern elongation (19°) at 5 AM CDT.
- April 3<sup>rd</sup>** - **First Quarter Moon** occurs at 1:39 PM CDT.
- April 6<sup>th</sup>** - All night: The waxing gibbous **Moon** pairs with **Regulus** high in the southeast at nightfall, and they travel together through the night;  
**Saturn** is stationary at 12:00 midnight CDT.
- April 7<sup>th</sup>** - The **Moon** passes 0.7° south of **Regulus** at 12:00 midnight CDT,  
**Jupiter** is at opposition at 5 PM CDT – **Jupiter** reaches its 2017 peak magnitude today, shining at magnitude -2.5 and appearing 44.3” across through a telescope.
- April 9<sup>th</sup>** - **Mercury** is stationary at 8 PM CDT.
- April 10<sup>th</sup>** - The Moon passes 2° north of Jupiter at 4 PM CDT,  
All night: the full Moon beams 2° to 5° from Jupiter, with the duo highest about midnight.
- April 11<sup>th</sup>** - **Full Moon** occurs at 1:08 AM CDT.
- April 12<sup>th</sup>** - **Venus** is stationary at 7 PM CDT.
- April 14<sup>th</sup>** - **Uranus** is in conjunction with the Sun at 1 AM CDT.
- April 15<sup>th</sup>** - The **Moon** is at apogee (251,950 miles from **Earth**) at 5:05 AM CDT.
- April 16<sup>th</sup>** - Morning: **Saturn** will be 5° below or to the lower left of the waning gibbous **Moon**, and **Saturn** will be highest about an hour before sunrise,  
The **Moon** passes 3° north of **Saturn** at 1 PM CDT.
- April 18<sup>th</sup>** - Evening: Look low in the west where modest **Mars** shines less than 4° from the **Pleiades** for the next 5 nights.
- April 19<sup>th</sup>** - **Last Quarter Moon** occurs at 4:57 AM CDT.
- April 20<sup>th</sup>** - **Mercury** is in inferior conjunction at 1 AM CDT,  
**Pluto** is stationary at 4 PM CDT.
- April 22<sup>nd</sup>** - **Lyrid Meteor Shower** peaks,  
The **Moon** passes 0.2° south of **Neptune** at 3 PM CDT.
- April 23<sup>rd</sup>** - Dawn: The crescent **Moon** cuts the sky about 8° to the right of **Venus**, low in the east,  
The **Moon** passes 5° south of **Venus** at 1 PM CDT.
- April 24<sup>th</sup>** - The **Moon** passes 0.8° north of asteroid **Pallas** at 11 AM CDT.
- April 26<sup>th</sup>** - **New Moon** occurs at 7:16 AM CDT.
- April 27<sup>th</sup>** - The **Moon** is at perigee (223.275 miles from **Earth**) at 11:15 AM CDT.
- April 28<sup>th</sup>** - The **Moon** passes 6° south of **Mars** at 3 AM CDT,  
The **Moon** passes 0.5° north of **Aldebaran** at 1 PM CDT – much of **North** and **Central America** will see an occultation.
- April 29<sup>th</sup>** - **Venus** is at its greatest magnitude (mag. -4.9) at 4 PM CDT.
- May 2<sup>nd</sup>** - **Mercury** is stationary at 9 AM CDT,  
**First Quarter Moon** occurs at 9:47 PM CDT.
- May 4<sup>th</sup>** - The **Moon** passes 0.5° south of **Regulus** at 5 AM CDT.

- May 5<sup>th</sup> -** Dusk: **Mars** gleams 6° north (the upper right) of **Aldebaran**, low in the west-northwest.
- May 5<sup>th</sup>/6<sup>th</sup>** The **Eta Aquarid** meteor shower peaks before dawn, and should be at its best before dawn on both days. Few or no **Aquarids** are visible for mid-northern latitudes.
- May 7<sup>th</sup> -** **Mars** gleams 6° north of **Aldebaran** at 2 AM CDT,  
The **Moon** passes 2° north of **Jupiter** at 4 PM CDT,  
**Mercury** passes 2° south of **Uranus** at 6 PM CDT,  
Night: Look for **Jupiter**'s yellow-white light about 3° to the right of the nearly full **Moon**.  
Blue-white **Spica** twinkles some 9° below or lower left of the pair.



## ***Planets:***

**Mercury** – On April 1<sup>st</sup>, **Mercury**, at greatest eastern elongation (19°) from the **Sun**, will shine at -0.2 magnitude and will not set until more than 1½ hours after the **Sun**. A fainter **Mars** appears 15° to the upper left of **Mercury** and the waxing crescent **Moon** gleams 30° to **Mars**' upper left. **Mercury** will have a 39% lit phase and an 8" diameter disk. On April 8<sup>th</sup>, **Mercury**'s phase, in telescopes, decreases from 39% to 16%, and has dimmed to magnitude 1.6. **Mercury** will stand about 7° above the horizon in the north-northwest 45 minutes after sunset, with **Mars** 17° to its upper left. A few days later **Mercury** will be too dim to detect in the bright twilight's sky. **Mercury** passes through inferior conjunction on April 20<sup>th</sup> before disappearing at dawn at the very end of the month.

**Venus** – On April 1<sup>st</sup>, **Venus** rises an hour before the **Sun** and climbs 5° above the eastern horizon 30 minutes later. Telescopes or even steady binoculars will show the -4.2 magnitude planet that is only 2% lit on the 1<sup>st</sup>, its ultra slim crescent 58" tall. **Venus** dramatically increases its brightness to its maximum of -4.7 during April, as its illumination swells to 26% and shortens to 39". **Venus**' altitude improves from about 8° to 15° 20 minutes before sunrise during April, rising about 1¼ hours before the **Sun** by month's end.

**Mars** – **Mars** stands about 20° high in the west one hour after sunset in early April, but only about 10°-12° high at the end of the month, with a disk of less than 4" in apparent diameter and its magnitude dropping from +1.5 to +1.6. **Mars** does not set until shortly after 10 PM local daylight time. **Mars** will shine 10° below the **Pleiades** on April 7<sup>th</sup>, and move from **Aries** to **Taurus** on April 12<sup>th</sup>. **Mars** passes less than 4° south of the **Pleiades** star cluster (**M 45**) on the 19<sup>th</sup>-20<sup>th</sup>, but the pair will appear in a single field of view for more than 10 days. **Mars** ends April at the upper left of the **Pleiades**, to the right of the **Hyades**, and about 7° to the right of **Aldebaran**. A waxing crescent **Moon** pictures this scene on April 27<sup>th</sup> and 28<sup>th</sup>, with the slender crescent 9° south of the **Pleiades**, and 11° west of **Aldebaran**. The following evening, a slightly fatter crescent **Moon** stands 4° east of **Aldebaran**.

**Jupiter** – **Jupiter** reaches opposition on April 7<sup>th</sup>, staying in view all night. During April, **Jupiter**, at magnitude -2.5, widens the gap between it and **Spica** – from 6° to 9° - as it moves westward. On April 5<sup>th</sup>/6<sup>th</sup>, **Theta Virginis** (at magnitude 4.4), will be 10' north of **Jupiter**. At opposition, **Jupiter** spans 44.3" across the equator while polar flattening causes the polar diameter to be just 41.4". **Jupiter**'s moons: **Io** transits **Jupiter** on April 2<sup>nd</sup>, with the moon's shadow touching **Jupiter**'s disk at 10:31 PM CDT, followed 8 minutes later by **Io** itself. On April 9<sup>th</sup>/10<sup>th</sup>, **Io** first appears against **Jupiter**'s cloud tops at 12:22 AM CDT, followed by its shadow three minutes later. On April 7<sup>th</sup>'s opposition, **Europa** passes behind **Jupiter** from 12:36 to 3:04 AM CDT. On April 9<sup>th</sup>, **Io** emerges from behind **Jupiter**'s eastern limb at 5:15 AM CDT, but you won't see it emerge from **Jupiter**'s shadow until 3 minutes later. On the evening of the 14<sup>th</sup>, watch **Europa** and **Callisto** approach **Jupiter**. After midnight **Europa** passes behind **Jupiter**'s limb at 2:52 AM CDT, and emerges from the planet's shadow at 5:38 AM CDT (after the planet sets from eastern **North America**). Meanwhile, outer most **Callisto** passes above **Jupiter**'s south pole.

**Saturn** – **Saturn** rises near 1:30 AM local daylight time at the start of April, and some 30 minutes earlier with each passing week. **Saturn**, at magnitude 0.3, lies against the star fields of northwest **Sagittarius**. It moves slowly eastward during April's first few days, and then reaches a stationary point on the 6<sup>th</sup> before starting a westward trek. Throughout April, **Saturn** lies within 4° of the open star clusters **M 21** and **M 23** as well as the **Lagoon (M8)** and **Triffid (M 20)** nebulae. The best views of **Saturn** are when it climbs highest in the south near the start of twilight. The planet's disk measures 17" across at mid-month, while the ring system spans 39" and is tipped 26° to our line of sight. Look for **Saturn**'s moon **Titan** (magnitude 8) north of **Saturn** on April 6<sup>th</sup> and 22<sup>nd</sup>, and south of the planet on April 13<sup>th</sup> and 29<sup>th</sup>. The 10<sup>th</sup> magnitude

moons – **Tethys, Dione, and Rhea** can be seen with a 4-inch or larger telescope.

**Uranus** – **Uranus** remains lost in the **Sun**'s glare all month.

**Neptune** – **Neptune** briefly returns to view at month's end, but it lies only 5¾ high in the east as morning twilight begins. It will be hard to see the 8<sup>th</sup> magnitude planet so close to the horizon.

**Pluto** – **Pluto** remains in **Sagittarius** in the “steam” from the **Teapot** asterism. On April 15<sup>th</sup>, **Pluto** will be at RA 19 22.4 Dec. -21 12 and have a magnitude of 14.2

**Moon** – The **Moon** is a waxing crescent to the upper left of **Aldebaran** on April 1<sup>st</sup>. On the night of April 6<sup>th</sup>/7<sup>th</sup>, the waxing gibbous **Moon** will pair with **Regulus**. At nightfall on April 10<sup>th</sup>, the full moon beams just 3° to the lower left of **Jupiter**, with **Spica** 7° below it. The waning gibbous **Moon** shines 4°-5° to the upper right of **Saturn** at dawn on April 16<sup>th</sup>. The waning lunar crescent is about 8° to the right or lower right of **Venus** at dawn on April 23<sup>rd</sup>, and 10° lower left of it the next morning. At nightfall on April 27<sup>th</sup> and 28<sup>th</sup>, the waxing crescent forms patterns with **Mars**, the **Pleiades**, the **Hyades**, and **Aldebaran**, low in the west.

**Asteroids** – By the late evening in April, look 7° east-southeast of mag. 3.8 **Rho Leonis**. Asteroid **16 Psyche** and **29 Amphitrite** are lurking nearby. **Amphitrite** begins April at mag. 9.3 while **Psyche** glows about one magnitude fainter. You will need a 4-inch or larger telescope, and a magnification of about 75x to see them. Avoid the nights of April 6<sup>th</sup> and 7<sup>th</sup>, when the glare of the near-by **Moon** overwhelms the faint objects. On April 1<sup>st</sup>, **Amphitrite** will be about 0.25° east-southeast of **Rho Leonis**.

**Comets** – Comet **41P/Tuttle-Giacobini-Kresak** could reach 5<sup>th</sup> magnitude and be visible to the naked eye from a dark site. Comet **41P** spends the first half of April amongst the background stars of **Draco**, between the brighter patterns of **Ursa Major** and **Ursa Minor**. In early April, the best viewing comes in the moonless hours before dawn – the comet should be near peak brightness and quite active. As the **Moon** moves into the morning sky towards the end of April's second week, optimal viewing shifts to the evening sky.

**Meteor Showers** – The **Lyrid Meteor Shower** peaking under a waning crescent **Moon** the morning of April 22<sup>nd</sup>, promises the best viewing conditions of any spring or summer shower this year. Under dark skies, observers should see up to 18 meteors per hour before dawn.

### *When to View the Planets:*

**Evening Sky**

**Mercury** (west)  
**Mars** (west)  
**Jupiter** (southeast)

**Midnight**

**Jupiter** (south)

**Morning Sky**

**Venus** (east)  
**Jupiter** (west)  
**Saturn** (south)  
**Neptune** (east)

**DARK SKY VIEWING - PRIMARY ON APRIL 1ST, SECONDARY ON APRIL 29TH**

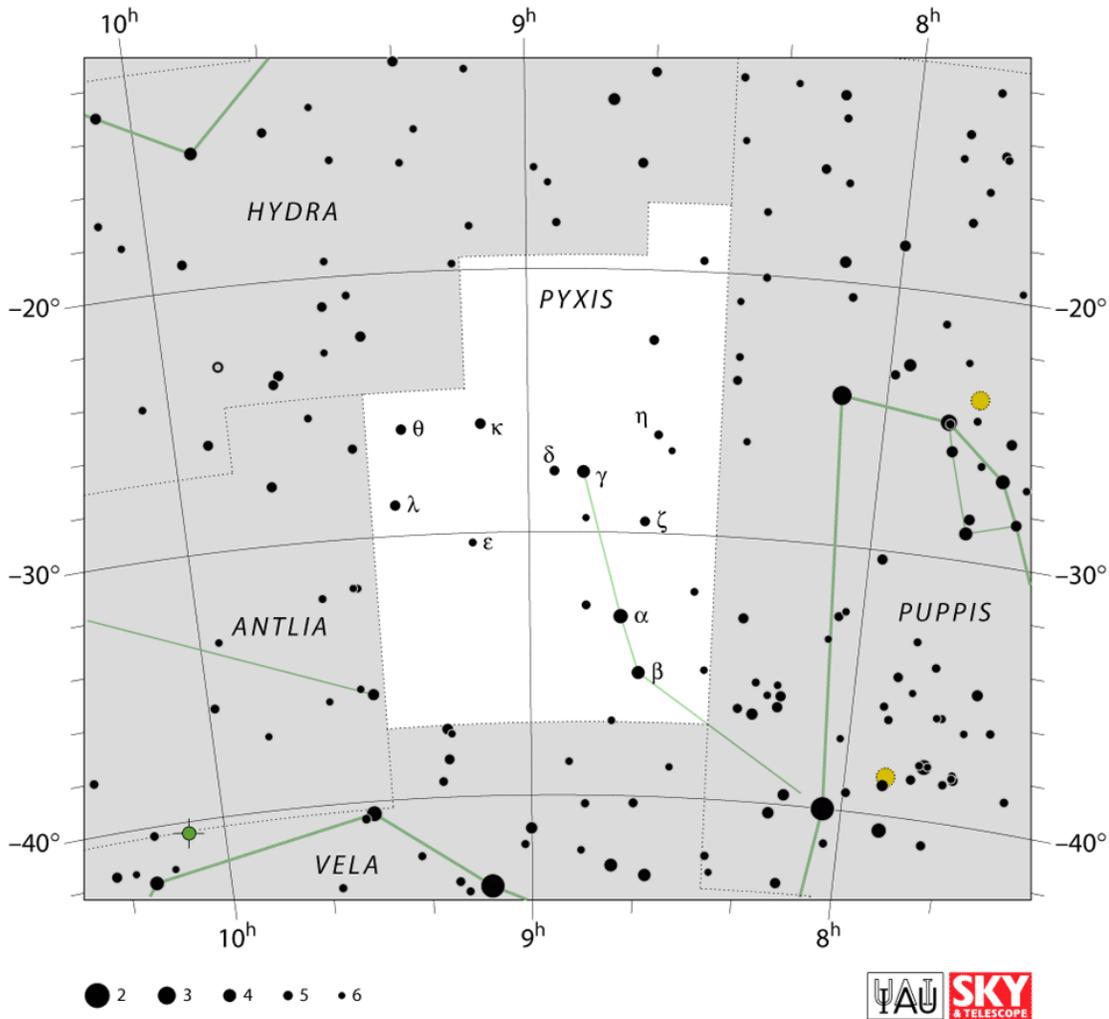


# Mythology:



## Pyxis Nautica – The Mariner’s Compass

**Pyxis** is a small southern constellation invented by the Frenchman Nicolas Louis deLacaille during his survey of the southern skies in 1751-1752. **Pyxis** represents a magnetic compass as used by seamen and is located near the stern of the ship **Argo**. Its brightest stars are only fourth magnitude and there are no legends associated with it – indeed, the magnetic compass was completely unknown to the ancient **Greeks**.



The End

