NIGHTFALL

A PUBLICATION OF THE HUACHUCA ASTRONOMY CLUB

OCTOBER 2019

PRESIDENT'S NOTES

October. As a preteen kid the newness of the school year would have worn off and entered a period of repetition by October, so that I could spend more time out in the cooling fall evenings with my mighty Tasco 66TE 50×600 refractor. That's an objective lens diameter of fifty millimeter and a focal length of 600 millimeters.

Yep, many of you out there probably started out with one of these as well. Mine was on a flimsy metal-legged, alt/az yoke mount, but still I spent a lot of hours gazing through that little telescope. The objective was a doublet, as I remember, because I took it apart once. The scope was very much achromatic, pick a bright star like Vega and you could focus through the entire rainbow. Once you found best focus you would have a very nice narrow purple ring of haze surrounding the star.

The two eyepieces were of questionable quality. Well not really, their quality was not in question at all. They were terrible. Each eyepiece had a single spot where they could be said to be an eyepiece. The rest of the throughput was awash with aberrations and dead zones. The lenses making up the eyepieces were of pressed glass, as I remember, not ground and shaped to precise formula as quality eyepieces are made today. These eyepieces were of long-gone eyepiece lineages, Huygens and Ramsdens, but hey they did make small things a long way away seem bigger and closer. I'm not complaining. I'm fondly reminiscing. I saw Saturn through that scope and that started the stumbling that led me to a lifelong hobby (obsession), and that's what brings me back to October.

I saw Saturn in October of 1969, fifty years ago, from a hilltop park less than a block away from my house. Saturn was a little disk with arches at opposing sides. Maybe they were concentric rings, maybe not, it was hard to tell. A little more power, and looking through the sweet spot, and… oh yeah, those were two concentric rings. There was a dark gap in between them, and the planet was a cool yellow. I wanted to get up and show somebody, but no one was around that evening. I barely knew anything about Saturn, astronomy, science, mathematics, telescopes, people, places or things in general. But I knew that others should experience the excitement I felt at that moment.

That is my story about my first try at outreach. By the way, I'd love to hear about that moment that triggered your own obsession with astronomy. Send in a story to the upcoming newsletters. Anyway, the lesson in this tale is that you don't need to know a lot of astronomical facts and figures, nor have the most expensive gear to do outreach. You just need excitement for the subject, the object, the equipment, the discovery. Did I mention Saturn is up in the evenings this October? I think it's time to see it again and maybe it's time for you to share your excitement with others as well. I hope to see you at an outreach evening this fall.

Until then get out there and stare.

AT THE OCTOBER MEETING

The October meeting of the Huachuca Astronomy Club will be held on Friday, Oct 18, at 7 pm in the Student Union Building at Cochise College, 901 N. Colombo Avenue, Sierra Vista.

Our speaker will be Dolores Hill, Senior Research Specialist for Cosmochemistry, Small Bodies and part of the OSIRIS REx mission team at the University of Arizona Lunar and Planetary Laboratory.

She will update us on the OSIRIS REx Mission. We will take Dolores and her husband Rik to dinner at Outback before the meeting (5 pm). RSVP to Bill Howard (howardwj51@gmail.com) if you would like to join us for dinner.

Sign up for the 2020 Astronomy Magazine Calendar

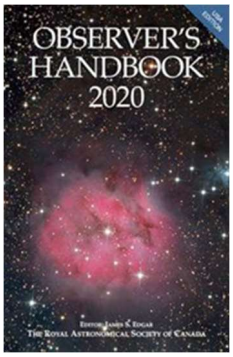
The treasurer will have a sign-up sheet for the purchase of 2020 calendars at the special club price of $6.50 (regular $12.99)

PLEASE PAY IN ADVANCE (Cash or check made out to Huachuca Astronomy Club) when signing up for calendars.

Orders will be taken at the October, and November meetings and placed on order after the November meeting for distribution in December.

Sign up for the 2020 RASC Observer's Handbook

The treasurer will have a sign-up sheet for the purchase of the Royal Astronomical Society of Canada (RASC) 2020 Observer's Handbook (U.S. Edition) and will collect $23.00 for each copy ordered. Purchasing the books together, we can benefit from a volume discount off the regular $29.95 price (over $35 on some websites).



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Name NASA's Next Mars Rover Contest

Spread the word! NASA's Mars 2020 rover needs a name! Any K-12 student in U.S. public, private, and home schools has a chance to name the next Mars rover bound for the Red Planet in July 2020.

To enter the contest, students submit their rover name and a short essay (max 150 words) to explain the reasons why their chosen name is the best. The contest closes Nov. 1, 2019. For contest entry and details, visit www.futureengineers.org/nametherover

Interested adults, especially with STEM experience can sign up to be a judge by visiting www.futureengineers.org/registration/judge/nametherover

Read more about the Mars 2020 mission here: https://mars.nasa.gov/mars2020/

Outreach Volunteers Needed

With the end of monsoon, we will again be accommodating outreach requests from teachers, youth groups and civic organizations. Interested members need only show up to be involved. We can use your help (with or without your telescope) at the Patterson Observatory and at the numerous outreach events we hold at schools, parks, and the library. Watch the HACAstro list for announcements and check the calendar there frequently (new events pop up all the time). No experience necessary – just bring your enthusiasm. You are sure to find it a fun and rewarding experience!

Kartchner Star Party

Mark your calendars: the fall Kartchner Star Party at Kartchner Caverns State Park will be held on Saturday October 19. Details and information will be provided in the October Nightfall newsletter.

Welcome our new Members

Nancy Goldcamp of Sierra Vista joined the club in September after attending a Patterson Public Night. Barry Disbrow of Sierra Vista and Evan Hubbard of Bisbee joined in October. June and David Lee Spencer of Bisbee joined as a family in October. Welcome, we are glad you joined!

NASA Night Sky Notes

October 2019

This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

Find Strange Uranus in Aries

David Prosper

Most of the planets in our solar system are bright and easily spotted in our night skies. The exceptions are the ice giant planets: Uranus and Neptune. These worlds are so distant and dim that binoculars or telescopes are almost always needed to see them. A great time to search for Uranus is during its opposition on October 28, since the planet is up almost the entire night and at its brightest for the year.

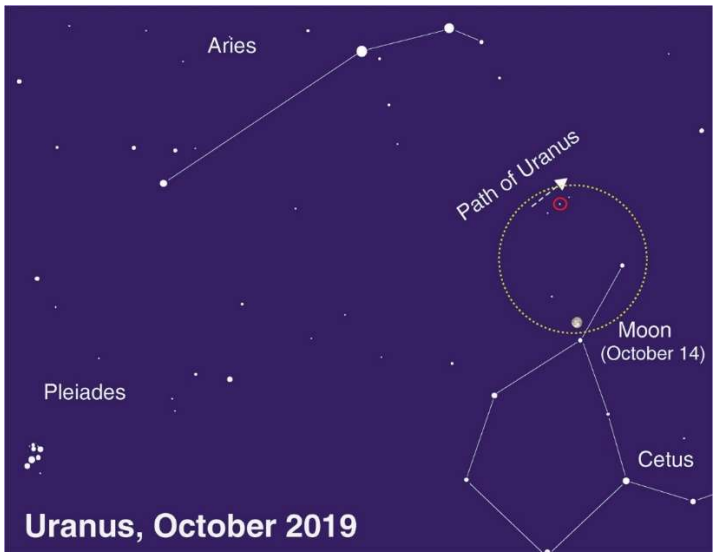
Search for Uranus in the space beneath the stars of Aries the Ram and above Cetus the Whale. These constellations are found west of more prominent Taurus the Bull and Pleiades

star cluster. You can also use the Moon as a guide! Uranus will be just a few degrees north of the Moon the night of October 14, close enough to fit both objects into the same binocular field of view. However, it will be much easier to see dim Uranus by moving the bright Moon just out of sight. If you're using a telescope, zoom in as much as possible once you find Uranus; 100x magnification and greater will reveal its small greenish disc, while background stars will remain points.

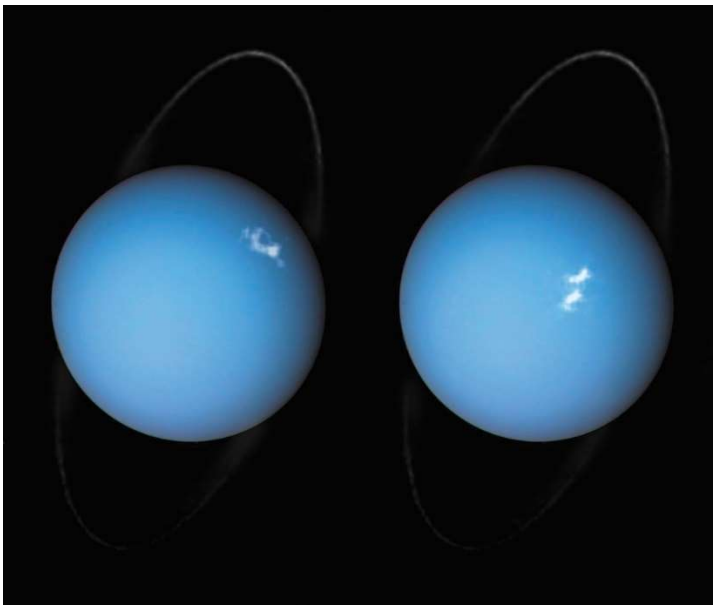
Try this observing trick from a dark sky location. Find Uranus with your telescope or binoculars, then look with your unaided eyes at the patch of sky where your equipment is aimed. Do you see a faint star where Uranus should be? That's not a star; you're actually seeing Uranus with your naked eye! The ice giant is just bright enough near opposition - magnitude 5.7 - to be visible to observers under clear dark skies. It's easier to see this ghostly planet unaided after first using an instrument to spot it, sort of like "training wheels" for your eyes. Try this technique with other objects as you observe, and you'll be amazed at what your eyes can pick out.

By the way, you've spotted the first planet discovered in the modern era! William Herschel discovered Uranus via telescope in 1781, and Johan Bode confirmed its status as a planet two years later. NASA's Voyager 2 is the only spacecraft to visit this strange world, with a brief flyby in 1986. It revealed a strange, severely tilted planetary system possessing faint dark rings, dozens of moons, and eerily featureless cloud tops. Subsequent observations of Uranus from powerful telescopes like Hubble and Keck showed its blank face was temporary, as powerful storms were spotted, caused by dramatic seasonal changes during its 84-year orbit. Uranus's wildly variable seasons result from a massive collision billions of years ago that tipped the planet to its side.

Discover more about NASA's current and future missions of exploration of the distant solar system and beyond at nasa.gov



Caption: The path of Uranus in October is indicated by an arrow; its position on October 14 is circled. The wide dashed circle approximates the field of view from binoculars or a finderscope. Image created with assistance from Stellarium.



Caption: Composite images taken of Uranus in 2012 and 2014 by the Hubble Space Telescope, showcasing its rings and auroras. More at bit.ly/uranusauroras Credit: ESA/Hubble & NASA, L. Lamy / Observatoire de Paris

Want Ads

FOR SALE: A nearly unused ZWO 1600 with CFW and filters, and an ASA 12" Astrograph

Contact Max Mirot

FOR SALE: Nikon camera gear and lenses

Nikon D750 w/24-120 lens, five batteries, stock charger, Nikon mc-dc-2 remote cable release, box, manual, lens and body caps $1500
Nikon 80-400 zoom, lens caps, soft case $1275
Nikon 70-200 f/4, lens caps $900
Nikon 50mm f/1.8 G, 85mm f/1.8 G, lens caps $385 set
Tamron 15-30, lens caps, $775
Nikon D7200, Nikon 18-140 lens, Nikon 18-300 lens, Nikon mc-dc-2 cable release, two batteries, stock charger, manual, $1100 as a set

Contact Mike J. Shade at mshade@q.com

Club Officers and Contacts

President: David Roemer **Vice President:** Bill Howard

Secretary: Bert Kelher **Treasurer:** Ted Forte

Past President: Bob Gent

Board Members-at-Large

Howard Day Ken Duncan Gary Grue Ken Kirchner

***Nightfall* Editor:** Cindy Lund cindy.jean.lund@gmail.com

Webmaster: Ken Kirchner

Facebook Editors: Bert Kelher

Website: http://www.hacastronomy.org

Facebook: http://www.facebook.com/HuachucaAstronomyClub

Email: info@hacastronomy.org

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Our sponsors have been keeping us supplied in door prizes for some years. If you have not contacted them lately, please consider this. They have a lot of great astronomical products that we all need.

For more information on products and contact information, their websites are:

Farpoint Astronomy http://www.farpointastro.com/

Starizona http://starizona.com/

HAC Oct/Nov Calendar of Events

SU	MO	TU	WE	TH	FR	SA
29	30	1 Oct School field trip to Patterson 9:30AM	2	3 Patterson Public Night 6:30 PM D. Hill Talk at UA South	4 School field trip to Patterson 9:30AM	5 9:47AM **Dine Under the Stars 6-9PM**
6	7	8 Draconid meteors	9 Draconid meteors	10	11 School field trip to Patterson 9:30AM	12
13 2:08PM	14	15	16 School field trip to Patterson 9:30AM	17	18 **HAC Meeting Student Union**	19 **Kartchner Star Party noon-9**
20	21 Orionid meteors	22 5:39AM Orionid meteors	23	24	25	26
27 8:38PM	28 Uranus Opposition	29	30	31 	Nov 1	2
3 Daylight Savings Time Ends	4 3:23AM	5	6	7	8 **HAC Meeting Student Union**	9
10	11 **Transit of Mercury Patterson Obs Event dawn**	12 6:34 AM Vesta Opposition	13	14	15	16 Kartchner 20th Anniversary Astrronomy Outreach
17 Leonid Meteors	18 School Field Trip at Patterson 9:30AM Leonid meteors	19 2:11 PM Leonid Meteors	20	21	22	24 Rune Winnery Star party
24	25	26 8:06AM	27	28 	29 Saturn/Moon 0.9º apart	

Mark your calendars for Dine Under the Stars on October 5. All event times MST.
Join **HacAstro** to keep up to date with all of the Huachuca Astronomy Club events
Send an email to: HACAstro+subscribe@groups.io