STAR FIELDS

Newsletter of the
Amateur Telescope Makers of Boston
Including the Bond Astronomical Club
Established in 1934
In the Interest of Telescope Making & Using

Vol. 33, No. 5 May 2021

This Month's Meeting . . .

Thursday, May 13th, 2021 at 8:00 PM
Zoom On-line Meeting

All ATMoB meetings scheduled for the Harvard-Smithsonian Center for Astrophysics in Cambridge, MA have been **canceled indefinitely** due to concerns over the coronavirus outbreak.

We are holding virtual on-line meetings using the Zoom application. Please refer to the ATMoB website for future meetings. Members should check their email on the ATMOB-ANNOUNCE list for additional information. Please select this Zoom link to attend the 941th Meeting of the Amateur Telescope Makers of Boston.

A Nightwatchman's Journey: The Road Not Taken

Fragments of Comet Shoemaker-Levy 9 from the Hubble Space Telescope, NASA/ESA/H. Weaver and E. Smith (STSci)

I am happy to announce that this month's speaker is astronomer, David Levy!

I was fortunate to hear David speak at a long-ago Astro Assembly and again when he spoke at the Boston Museum of Science as part of the Wright Lecture Series. I am looking forward to his presentation, "A Nightwatchman's Journey: The Road Not Taken". David writes: "My presentation will be a brief summary of the passion for the night sky that has evolved over my lifetime, from the time I decided to begin a search for comets in 1965, to the first of my comet finds nineteen years later. I will also review the development of my love of astronomical poetry and literature."

David Levy certainly needs no introduction because his name is synonymous with amateur astronomy.

From the Planetary Society: "David H. Levy is a Canadian astronomer and science writer who co-discovered Comet Shoemaker–Levy 9 in 1993, which collided with the planet Jupiter in 1994. Levy was born in Montreal, Quebec, Canada, in 1948. He developed an interest in astronomy at an early age. However, he pursued and received bachelor's and master's degrees in English literature.

Levy went on to discover 22 comets, either independently or with Gene and Carolyn S. Shoemaker. He has written 34 books, mostly on astronomical subjects, such as *The Quest for Comets: An Explosive Trail of Beauty and Danger*, a biography of Pluto-discoverer Clyde Tombaugh in 2006, and his tribute to Gene Shoemaker in *Shoemaker by Levy: The Man Who Made an Impact*. He has provided periodic articles for *Sky & Telescope* magazine, as well as *Parade* magazine, *Sky News* and, most recently, *Astronomy* magazine.

In 2010, Levy was awarded a Ph.D. from the Hebrew University of Jerusalem for his successful completion of his thesis, *The Sky in Early Modern English Literature: A Study of Allusions to Celestial Events in Elizabethan and Jacobean Writing, 1572–1620*.

Levy was awarded the C.A. Chant Medal of the Royal Astronomical Society of Canada in 1980. In 1993 he won the Amateur Achievement Award of the Astronomical Society of the Pacific. In 2007, Levy received the Smithsonian Astrophysical Observatory's Edgar Wilson Award for the discovery of comets. In 2008, a special edition telescope, "The Comet Hunter" was co-designed by Levy. The asteroid (3673) Levy was named in his honor." David's asteroid is currently shining at magnitude 18 in the constellation, Aquarius.

Please join me on May 13th and spend an unforgettable evening with David Levy.

~ Rich Nugent – President ~

President's Message . . .

Now that the pandemic looks like it'll be winding down as we go through 2021, I just want to remind you we are slowly reopening the Westford site to a limited number of observers. By now, you know the drill: sign up for a pad or telescope on the event calendar, wear your mask, keep to your area, and limit your visit to the Clubhouse only to use the restroom. If you must be in there, please double mask. I'm sure as more folks are fully vaccinated, the restrictions will begin to ease, and my hope is that

by fall we'll be enjoying the site as we did before COVID. The Center for Astrophysics (CfA) is still off limits so our monthly meetings will continue via Zoom. I'll let folks know as soon as I hear things have changed. Of course, all of this really depends on the virus and its variants, the progress of the vaccinations and the overall health in the Commonwealth. Fingers-crossed! But it is my hope that, through all of this, the pandemic hasn't stopped you from observing!

I'm planning to continue to revise and resend my monthly list of 19+ objects. I hope you've been enjoying some of my favorite celestial objects. By now, if you've saved the lists, you have over 240 objects to enjoy throughout the year. And, if you've been using the lists, you know I've offered a wide range of objects-something for everyone, I hope! I'm always looking for new tips so if I've missed your favorite objects let me know and I'll add them to the list. Recently, I've started to send a mini-Messier marathon list for each month. When I was younger and had more stamina, I would engage in the yearly Messier Marathon. I don't think I ever got past the Coma-Virgo cluster. By midnight, starring up at the cluster, I was usually too tired to push onward and stopped the search. So, this monthly approach is more like a "Messier Fun Run"! If you haven't seen all of these favorite deep sky objects here's a way to do so without the pressure or being groggy the next day. Some of the Messier objects are downright hard to see, especially with the light pollution across eastern Massachusetts. I find M1, M74, M97, M98, and M101 particularly challenging! But that doesn't mean you should skip them. Experience counts for a lot, especially when looking for faint objects!

Speaking of faint objects, the monthly Observer's Challenge can be just that-challenging! Our North Carolina friend, Roger Ivester, has been coordinating the Challenge for the last 11 years. He posts each report on his blog and has watched as hundreds of thousands of the reports have been downloaded by interested observers across the world! Sue French has joined him and the Monthly Challenge objects for the next year or so have already been chosen. Quite a few members of our club, imagers and visual observers alike, report their observations each month. Roger and Sue always welcome newcomers to the Report. You don't image? Then sketch. You don't sketch? Then describe. Just report what you see, even if you see nothing. It's a lot of fun, it gives you another reason to get outside, and participating will make you a better observer.

I try to take advantage of clear skies as often as possible. On a recent morning, I was able to track down Jupiter as it crossed the meridian. I was hoping to see Io's shadow in transit but the air was very turbulent and all I could see was the North Equatorial Belt. During an afternoon session a few days later I was able to observe Venus and Mercury while they were just 8° from the Sun. I had to put a mask on my 10-inch scope to keep the solar glare at bay. Venus is an easy daytime target but Mercury is more difficult. Fortunately, both are bright enough to be visible and were close enough to each other to be visible in the same finder scope field. The scope is fully manual, so I use my phone's compass and tilt-meter to help point the way. Still, some sweeping is necessary, so I pay close attention to where the scope is pointing! Venus will become better placed for easy viewing as the next few months go by.

If the Sun is showing spots, a safely filtered telescope will reveal them. A dedicated Hydrogen-alpha solar scope will show prominences, filaments, solar flares and the overall mottling of the solar disk.

Sometimes I observe the Moon during daylight. Around the quarter phases, I use a single-element polarizing filter to take advantage of the sky's natural polarization. By rotating the eyepiece/filter until the background darkens, the contrast is improved and the Moon stands out nicely.

We recently passed the full, Pink Moon. Despite being hyped-up by the media as another "supermoon", many observers decide to skip the full Moon as a target. However, some interesting features are more prominent under high solar illumination. Ray structures are best viewed under high illumination. The craters Proclus, Tycho, Copernicus, and Kepler show some of my favorite ray structures. The Apollo 17 landing site becomes an easy feature to see at full Moon. The bright North and South Mastiffs and the Sculptured Hills, provide a sharp contrast to the dark Taurus-Littrow valley floor. The Moon's librations sometimes reveal far-side features. I always look for the elusive maria Humboldtianum, Marginis, and Australe and I really enjoy when portions of the Orientale Basin can be glimpsed. Not sure where to begin or what to look at? Check out the Astronomical League's Lunar Observing Program. You don't need to be a member to download the list of 100 features. Get yourself a map of the Moon or a lunar atlas app and get started! You know how fond I am of reminding you that the Moon was likely the very first object you ever observed. And you LOVED it! Spend some time learning your way around the Moon and you'll become reacquainted with an old friend.

Roger Ivester likes to observe with a purpose. So do I. Make an observing list for each session because knowing what you want to look at before you go out will help you to keep your observing purposeful. You know, we only get so many clear days and nights. Take advantage of as many as you can and enjoy this hobby to the fullest.

Be well.

~ Rich Nugent – President ~

Full Pink Moon. 26 April 2021. *

April Meeting Minutes . . .

Rachel Freed on Zoom *

ATMoB 940th Meeting Minutes
April 8, 2021

Rich Nugent presented the President's Welcome. The CfA remains closed with no projected opening date. April observing sessions are proceeding as planned, with two more observing weekends April 9/10 and April 16/17. Future observing possibilities include April 30/May 1; May 7/8; and May 14/15, subject to weather conditions and staffing.

- Alva Couch presented the Secretary's report, including summaries of the 939th meeting of members and the Board meeting on March 25, 2021.

- Eileen Myers presented the Treasurer's report including inflows from memberships and donations to the club, along with minimal expenses.

- Chris Elledge presented the Membership report and welcomed new members. Susan and Martin Corbett, Kingshuk and Arnab Dasgupta and Priya Sadhashivan, Brian Kimmons, Johann Sauer, Chris, Ben and Will Stokes, and Allessandra Ferzoco.

- Glenn Chaple presented the Observer's report. This month we have multiple meteor showers and conjunctions of Mars, Saturn, Jupiter, Venus, and Mercury with the Moon and other objects. The April Observer's Challenge is NGC 3226 and 3227. Mario Motta contributed an early picture of the challenge using his 32-inch telescope. Rich Nugent reminded us that the asteroid Vesta is still passing through the Leo constellation and his plan to observe the partial solar eclipse on the morning of June 10.

- Steve Clougherty presented the Clubhouse report. Friday, April 2 observing was cancelled due to weather, but Saturday's observing session went according to plan. A few astro-imagers were able to acquire images of April's Observer's Challenge objects, NGC 3226 and 3227. The vent fan in the bathroom failed and will soon be replaced. A window pane had popped out of one of the windows and was re-installed.

- Bruce Berger presented the Mittelman ATMoB Observatory report. He presented a luminance-only image of the Abell 1367 galaxy cluster in Leo, acquired by Alan Sliski and post-processed by Al Takeda. New Fiber-optic cables have now been pulled to all three observatories. A donated network equipment rack has been installed in the Electronics room of the Clubhouse. Photometric B and V filters are on loan from Arne Henden. Our Johnson-Cousins filters are still on backorder. The ACP automation software has been configured to properly open and close the observatory.

- Rich Nugent and Kelly Beatty presented the Outreach report. Kelly reported that PopScope is interested in scopes and volunteer enthusiasts for Thursday evening summer observing. Kelly Beatty reported that he contacted the libraries that were closed for business about scope placement. Kelly is looking for ways to get in touch with libraries on the South Shore.

- Old business: Rich Nugent reminded us to use https://smile.amazon.com in order to donate to ATMoB with each Amazon purchase.

- New business: The election for the nominating committee is open for voting at https://www.atmob.org/vote.
  Six candidates for the nominating committee include Bruce Berger, Glenn Chaple, Julie Kaufman, Corey Mooney, Kiera Mooney, and Laura Sailor. The election will select three people to serve on the committee. The voting page will remain open until April 11.

Our invited speaker for the evening was Rachel Freed, whose presentation was titled Astronomy - from Passion to Profession.

Rachel Freed presented a spirited talk about her 20-year journey from joining an astronomy club in 2000 to pursuing a Ph.D. in Astronomy Education. This was not a straight and narrow path, but instead, required quick reaction to serendipitous opportunities that built upon one another in unexpected ways. Rachel started her journey to Astronomy as a science teacher interested in examples that engage students in doing science. She noticed that Double Star Astrometry, making precise measurements of the locations and orientations of double star groups, was an approachable activity for high school students. This exposes them to the whole process of science, from observing to writing a technical paper in a journal on the subject. This process used resources readily available to the students, including robotic telescopes available via the Internet. As the number of students and published papers increased, Rachel formed collaborations to create a conference for robotic telescope science which led to an opportunity to become an Astronomy Outreach Coordinator. These activities in total led to an invitation to study for a PhD in Astronomy Education. Rachel reports that she's living the dream of turning her hobby and enthusiasm into a profession.

The next meeting of the membership is on Thursday, May 13, 2021.

The next quarterly meeting of the ATMoB board is scheduled for Thursday, June 24, 2021.

~ Alva Couch – Secretary ~

Quarterly Board Meeting . . .

At the Quarterly Meeting of the ATMoB Board on Thursday, March 25, 2021, the board discussed and voted on opening the Clubhouse grounds, Clear Sky Chart donation and the printing of the newsletter.

The observatory grounds will open as planned on April 2-3, 9-10, 16-17 with the same limitations as before: prior signup required, building access only to the bathroom. One additional requirement is that people be double-masked when using the bathroom. Second masks will be provided.

ATMoB will make a contribution of $100 to the maintainers of the Clear Sky Chart which provides our website sky forecasts. Donations were formerly conducted in person by passing the hat at CfA meetings, which is not possible this year.

Newsletter print copies will be discontinued as of the 2021 fiscal year. Print copies will be made available to those who need them only by request. ***Editor: This decision was rescinded at the next Board meeting. See below.***

~ Alva Couch – Secretary ~

Special Board Meeting . . .

At a special meeting of the ATMoB Board on Thursday, April 22, 2021, the Board considered and approved an option to make print copies of the newsletter available for an additional charge of $14 starting in the June 2021 renewal cycle. These will be printed and mailed as first-class mail via an online service.

This action amends and replaces the action at the March 25, 2021 board meeting to discontinue mailing newsletters.

~ Alva Couch – Secretary ~

Nominating Committee . . .

The Nominating Committee comprised of Glenn Chaple, Bruce Berger, and Keira Mooney and assisted by Laura Sailor and Julie Kaufmann, have completed a slate of candidates for the upcoming Executive Board election. The slate includes:

- Richard Nugent - President
- Corey Mooney - Vice President
- Ava Couch - Secretary
- Chris Elledge - Membership Secretary
- Eileen Myers - Treasurer
- Alan Sliski - Member-at-Large
- Kai Cal - Member-at-Large
- Mark Helton - Member-at-Large

The candidate list will be formally announced at the May meeting. Voting will take place at the June Annual Meeting.

ATMoB Bylaws
ARTICLE XI: Elections

§ 1: Nominations - At the regular meeting of the members in April of each year, the President shall propose a list of the names of six members from which the members present at the meeting shall choose by ballot the names of three members to act as a nominating committee to select a full slate of candidates for the elected positions on the Executive Board. The approval of all members of the nominating committee shall be required for a nomination. The nominating committee shall advise the members of its nominations at the next regular meeting of the members, and those nominations shall be included in the notices sent to the members of the annual meeting. Members shall have the right to offer additional nominations from the floor of the annual meeting, provided only that a suitable written notice, containing the name or names of the person or persons to be nominated from the floor at the annual meeting, and the signatures of at least seven members, is filed with the Secretary not less than ten (10) days prior to the date of the annual meeting.

~ Nominating Committee ~
~ Glenn Chaple, Bruce Berger, Keira Mooney ~

Newsletter Announcement . . .

ATMoB will resume mailing printed newsletters beginning with the June newsletter; however, we will only do so for memberships that renew this year while paying a required $14 additional fee for mailed newsletters. We will be using a service to handle the printing and mailing, and this fee will cover the expense to the club. When renewing online starting on June 1st, select the appropriate membership listing "with Mailed Newsletter" on the end to be charged the fee and receive the newsletter by mail.

Any member that paid the $5 donation for postage in 2020, may request a refund from ATMoB since we were unable to handle the printing and mailing for that period of time. If you want to request a refund, please contact our Treasurer, Eileen Myers.

As always, any member with a financial hardship may request a waiver of dues. Contact the Membership Secretary for further information.

~ Chris Elledge – Membership Secretary ~

Membership Report . . .

I am pleased to welcome our newest members: Susan and Martin Corbett; Kingshuk Dasgupta, Priya Sadhashivan, and Arnab Dasgupta; Chris Stokes, Alessandra Ferzoco, Ben, and Will Stokes; Brian Kimmons; Johann Sauer; Brett Graham; Morgan MacLeod; Jordan Hasbrouck.

As of April 27th, 2021 we have 342 memberships covering 439 members. This is broken down as follows:

- 142 Regular Members
- 133 Senior Members
- 4 Student Members
- 57 Family Memberships covering 154 Members
- 3 Guest Members
- 2 Honorary Members

You can check if you need to renew and start your renewal process on the website at https://www.atmob.org/renew

You can also download the membership application from the website at https://www.atmob.org/signup by clicking on the "Download an application" link.

Please contact me if you need any help with renewing or logging into the website.

~ Chris Elledge – Membership Secretary ~

Meeting Recordings . . .

The recording of ATMoB meeting #940 is available on YouTube: https://youtu.be/sxL7Q7Cvl4M

I would like to thank Rachel Freed for giving her presentation and allowing us to record it.

This link is to the publicly available cut of the meeting recording. To view the original version of the meetings, please see the Announce Forum on the ATMoB Website https://www.atmob.org/forums

~ Chris Elledge - Membership Secretary ~

Clubhouse Report . . .

Venu Venugopal mowing the observing field. May 1, 2021 *

May 2021 Clubhouse Report

We held our first work party of the year at the ATMoB Clubhouse in Westford on Saturday, May 1st. There were a total of 14 members in attendance. Our main goal for the day was to clean and organize the Clubhouse, barn, and property for an eventual full reopening this season. Fortunately, all volunteers at the work party had been fully to partially vaccinated, but masks were worn and socializing took place outdoors. Thanks to John Reed for picking up pizza and soda for our picnic lunch.

The perennial garden in front of the Clubhouse had a spring cleaning. Fallen leaves and dead plant stalks were removed, plants were pruned, and garden edging was improved.

The parking area needed attention. Gravel was raked off of the grass and redistributed back to the driveway. Potholes were filled in and the overall driveway surface was made uniform.

Several volunteers operated the three working lawn mowers and completed mowing the entire property. Other members used weed "wackers" to trim around the buildings and perimeter. In addition, volunteers cleaned out the metal storage shed and the far barn, allowing for a more organized system for storing rakes, shovels, mowers and our snow blower. The far barn is much more accessible at this time.

Inside the Clubhouse a number of volunteers vacuumed and cleaned surfaces, as well as the refrigerator. The first floor of the Clubhouse is clean and ready for use. Next work party we will attempt to clean and organize the second floor.

Both the William Toomey and Ed Knight observatories were cleaned. Volunteers wiped down each telescope and mount. Optical cleaning and collimation will be done in the near future.

We will plan our next work session later in the month with a tentative date of Saturday, May 22nd, with Saturday, May 29th as a rain date.

Thanks go out to the following members for making this first work session a success:

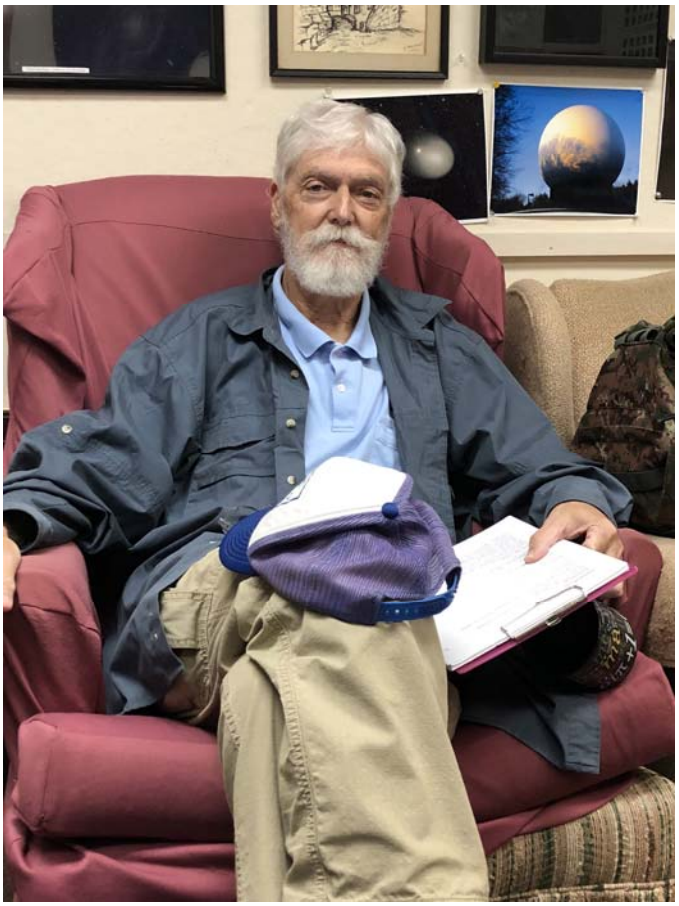
Maria Batista, Steve Clougherty, Alessandra Ferzoco, John Harrington, Mark Helton, Phil Levine, Amrita Masurkar, Tom McDonagh, Eileen Myers, John Reed, Steve Scampini, Chris Stokes, Al Takeda and Venu Venugopal.

~ Clubhouse Committee Chairs ~
~ Steve Clougherty, John Reed and Dave Prowten ~

Educational DVD Videos on Monday Evenings . . .

Member-at-Large Maria Batista is hosting Monday evening DVD lectures. These weekly Zoom meetings start at 7 PM. Members can sign up at www.atmob.org.

Bill Toomey - In Memoriam . . .



Bill Toomey at the Clubhouse. 15 Sept. 2018. Image by Rich Nugent

It is with great sadness that I share with you the news that our dear friend, Bill Toomey passed away this morning *(April 19, 2021)*. Please note that there will be no calling hours and the funeral service will be private. Bill's wife, Shirley will forward his obituary once it is ready.

After his retirement, Bill was frequently seen at the Clubhouse for afternoon work parties and evening observations with the imaging telescope. He was a strong advocate for outreach and worked with local students, helping them with data collection at our Westford site. Bill was a member of the Mittelman-ATMoB Observatory Committee and was a Member at Large on the club's board of directors. Shirley let us know that it meant a great deal to Bill that the ATMoB Research and Imaging Observatory (ARIO) was renamed in his honor. Bill will certainly be missed by his ATMoB friends.

It was Bill's wish that, in lieu of flowers, donations be made to the Amateur Telescope Makers of Boston. May he rest in peace. *Per aspera ad astra*…Godspeed, Bill.

Bill Toomey's Obituary from the Eagle-Tribune

William Patrick Toomey, 74

March 24, 1947 - April 19, 2021
Husband, Father, Scientist, Teacher
METHUEN, MA — William Patrick "Bill" Toomey, 74, of Methuen, passed away peacefully at home on April 19, 2021, surrounded by his loving family. He was born in Methuen on March 24, 1947, to his late parents, William J. and Rita P. (Howard) Toomey. Bill grew up on his family's dairy farm in Methuen, where he developed a lifelong passion for science. Continuing with that passion, he earned both a bachelor's and master's degree in Physics and was working towards completing his Ph.D. in Education. Bill ended his career teaching math and physics as part of the Engineering Academy at Nashoba Valley Technical High School. He was a longtime member of North Parish, Unitarian Universalist Church in North Andover. Bill touched many lives and will fondly be loved, cherished and missed by all.

Bill is survived by his beloved wife, Shirley A. (Marsden) Toomey, with whom he celebrated 35 years of marriage together. He was the cherished father of his three children; his son William E. Toomey of Salem, N.H.; his son William C. Brackett and his wife Rosemary of Pelham, N.H.; and his daughter Amy (Brackett) Fortier and her husband Serge of Amherst, N.H. He was the proud grandfather to Kayla Brackett of Haverhill, Christopher Ruel of Minnesota, Alyson Fernandez and Breann Jenkins, both of Nashua, and Dawson Fortier of Amherst. He was the dear brother of Raymond Toomey and his wife Diane, John Toomey and his wife Patricia, and Michael Toomey and his wife Stacey and the loving uncle of Kathy Mejia, Shaun Toomey, Matthew Toomey, Kelly Carleton, Jason Toomey, Stephanie Goudreau, Charles W. Marsden III, Katelyn Marsden, Vanessa Marsden, Matthew Tardugno and Jonathan Tardugno. Bill also leaves his brothers-in-law Charles W. Marsden, David B. Marsden; and his sister-in-law Jane Tardugno and her husband Mark.

ARRANGEMENTS: To honor Bill's wishes, all services will be privately held. In lieu of flowers, please consider a donation in his memory to the Amateur Telescope Makers of Boston, where club members recently named one of the buildings as The Toomey Observatory in his honor. Please send the memorial contributions to ATMOB, c/o Myers, 73 Westcott Road, Harvard, MA 01451. To leave an online condolence, please visit www.pollardfuneralhome.com. The Kenneth H. Pollard Funeral Home is proud to serve the Toomey family.

If you were unable to attend but wish to see the recording of the memorial service for Bill, here's the link: https://www.youtube.com/watch?v=4WXtMfupBtM.

~ Rich Nugent – President ~

Observer's Challenge** . . .

May, 2021

Messier 3 – Globular Cluster in Canes Venatici
Mag: 6.2
Size: 18"

M3, Canon 80D, 400mm f/2.8 lens, ISO800. North is up. Image by Doug Paul

After a steady diet of faint Observer's Challenges in recent months, we can relax our eyes with the bright globular cluster Messier 3. At a magnitude of 6.2, it ranks among the 10 brightest of the roughly 250 globular clusters that inhabit our galaxy. It can be glimpsed with the unaided eye from remote dark-sky locations and is easily spotted in binoculars from suburban areas.

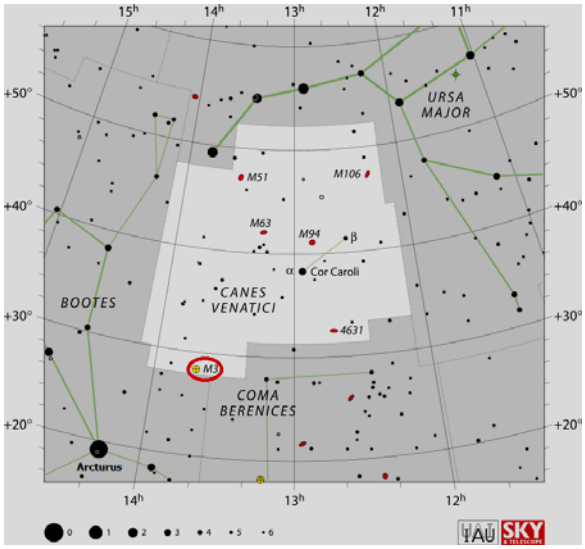
M3 was discovered by Charles Messier on May 3, 1764. To him, it appeared as a nebula without stars. Twenty years later, William Herschel resolved it into a stellar mass.

Finding M3 is one of its biggest challenges. It lies in a star-poor region of the constellation Canes Venatici. Owners of GoTo scopes can dial in its coordinates - RA 13h 42.2m, DEC +28° 22.6'. Star-hoppers will find M3 by aiming their telescopes towards an area roughly midway between Arcturus and Cor Caroli (alpha [α] Canum Venaticorum) and then slowly scanning the area with low power until a hazy circular patch of light comes into view.

A switch to high power brings M3 to life, especially in scopes with apertures of 6 to 8-inches and above. Smaller instruments at high magnification will hint at its stellar nature. Rich Nugent reports a grainy appearance when viewing M3 with a 5-inch refractor. Through a 4-inch rich-field scope, I suspected a hint of graininess.

M3 lies about 33,000 light years away. Its estimated half million stars occupy a sphere 180 light years across.

M3, 32-inch telescope, SBIG STL1001E Camera, RGB filters. North is up.
Image by Mario Motta



www.messier-objects.com

**The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'll be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge or access past reports, log on to https://rogerivester.com/category/observers-challenge-reports-complete/ .

~ Submitted by Glenn Chaple ~

*Editor: * Photos by Al Takeda unless otherwise noted.*

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June *Star Fields* DEADLINE
Sunday, May 23rd

Email articles to Al Takeda at
newsletter@atmob.org

Articles from members are always welcome.
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POSTMASTER NOTE: Not mailed due to the coronavirus pandemic

Amateur Telescope Makers of Boston, Inc.
c/o Chris Elledge, Membership Secretary
99 College Ave
Arlington, MA 02474
FIRST CLASS

EXECUTIVE BOARD 2020-2021

PRESIDENT:	Rich Nugent	(508) 935-8158
VICE PRES:	Tom McDonagh	(617) 966-5221
SECRETARY:	Alva Couch	
MEMBERSHIP:	Chris Elledge	(781) 325-3772
TREASURER:	Eileen Myers	(978) 456-3937
MEMBERS AT LARGE:	Maria Batista	(617) 347-3730
	Alan Sliski	
	Bill Toomey	
PAST PRESIDENTS:		
2018 - 20	Tom McDonagh	(617) 966-5221
2015 - 18	Glenn Chaple	(978) 597-8465

COMMITTEES

CLUBHOUSE:	John Reed	(781) 861-8031
	Steve Clougherty	(781) 784-3024
	David Prowten	(978) 369-1596
OBSERVING:	Bruce Berger	(978) 387-4189
NEWSLETTER	Al Takeda	newsletter@atmob.org

PUBLIC OUTREACH

COMMITTEE CHAIR:	Rich Nugent	starparty@atmob.org
STAR PARTIES:	Bernie Kosicki	
	Laura Sailor	
	John Harrington	

How to Find Us...
Web Page www.atmob.org

MEETINGS: Zoom On-Line Meetings until further notice. Meetings held the second Thursday of each month (September to July) at 8:00 PM. For meeting details go to www.atmob.org and check your email on the ATMOB-ANNOUNCE list.

CLUBHOUSE: Latitude 42° 36.5' N Longitude 71° 29.8' W

The Tom Britton Clubhouse is CLOSED. It is the white farmhouse on the grounds of MIT's Haystack Observatory in Westford, MA. Take Rt. 3 North from Rt. 128 or Rt. 495 to Exit 33 and proceed West on Rt. 40 for five miles. Turn right at the MIT Lincoln Lab, Haystack Observatory at the Groton town line. Proceed to the farmhouse on left side of the road. Clubhouse attendance varies with the weather.

Heads Up For the Month . . .

To calculate Eastern Daylight Time (EDT) from Universal Time (UT) subtract 4 from UT.

May 3 Last Quarter Moon (Moonrise at midnight)
May 3 Mercury 2 deg. S. of Pleiades (M45) at sunset 22 UT (18 EST)
May 6 Eta Aquariid meteors peak 02:00 UT (22:00 EDT, 5/5)
May 11 New Moon
May 17 Mercury at greatest eastern (evening) elongation
May 19 First Quarter Moon (Moonset at midnight)
May 26 Full Moon, Total Lunar Eclipse (U1 contact: 09:45 UT (05:45 EDT)
May 29 Mercury 0.4 deg. South of Venus at sunset (20:13 EDT)
Jun 2 Last Quarter Moon (Moonrise at midnight)
Jun 10 New Moon
Jun 17 First Quarter Moon (Moonset at midnight)