



Newsletter of the Pomona Valley Amateur Astronomers

It is the stars, The stars above us, govern our conditions.

*William Shakespeare*



Volume 40 Number 4

*nightwatch*

April 2020

### President's Message

Hi everyone,

It's a scary and uncertain time. Our club has been around for almost as long as I have, and it's been through a lot of changes over the years, but this is our first global pandemic. I'm sad to miss out on club meetings and star parties right now, but I know that we can all serve ourselves and each other best by staying home and staying safe.

So, what does amateur astronomy look like in the era of COVID-19? I don't think many folks are taking trips to dark-sky sites (at least I hope not). But maybe there will be a renaissance in driveway astronomy and backyard stargazing. I don't think it's my imagination that the night sky is a little darker these days. It would make sense that light pollution might be somewhat decreased, with so many businesses shuttered and so many fewer cars on the road. That's a pretty slim silver lining, but we'll take what we can get. It's been cloudy many evenings, but I don't begrudge that either—after the driest February in history in California, we need as much rain and snow as possible before the dry season starts. I imagine that it will be warmer soon, with clearer skies, and even if we can't be meeting in person, we can still share the night sky.

Here's a little challenge for anyone who wants to take it on: track down all of the objects on this month's Evening Sky Map. The Evening Sky Map is a free download every month at this link: <http://skymaps.com/downloads.html>. On the second page there are lists of objects for naked eye, binoculars, and telescopes. None of them are extremely challenging, but if you track down all of them each month, you'll learn a lot about the night sky and the objects within it, and you'll probably have a lot of fun along the way.

For my part, I'm going to commit to writing one article per newsletter in addition to the president's message. This month I wrote about how our meteorite show-and-tell at the September, 2018, general meeting led me to become a tektite junkie.

We will keep you all posted by Facebook and by this newsletter on any alternative club activities that we come up with, and on when and where our board meetings, general meetings, and star parties will resume whenever this crisis has passed. In the meantime, please do be safe, take care of yourselves and your loved ones, and I will look forward to seeing you all on the far side of this.

Clear skies,

*Matt Wedel*

### PVAA Officers and Board

**Officers**

President .....	Mathew Wedel .....	909-767-9851
Vice President ..	Joe Hillberg .....	909-949-3650
Secretary .....	Ken Elchert .....	626-541-8679
Treasurer .....	Gary Thompson .....	909-935-5509
VP Facilities .....	Jeff Felton .....	909-622-6726

**Board**

Jim Bridgewater (2018).....	909-599-7123
Richard Wismer(2018) .....	
Ron Hoekwater (2019).....	909-706-7453
Jay Zacks (2019) .....	

**Directors**

Membership / Publicity....	Gary Thompson ..	909-935-5509
Outreach .....	Jeff Schroeder .....	909-758-1840
Programs .....	Ron Hoekwater .....	909-391-1943

## Raymond Joseph Magdziarz

For those of you who have been PVAA members for a number of years, the name Ray Magdziarz should bring a smile. Ray has been a Club member since at least 1987. When we joined the Club in 1999, Ray was Editor of the Club Newsletter, Nightwatch, a post he held from 1998 through 2005 - in the days of taking a floppy disc of articles to the printer and folding then stamping close to 100 copies every month to let us all know what was going on with the Club. He was a member of the Board from 1992 until 2012, helping lead the Club by working to fulfill its mission of public outreach and education - a role at which he excelled.

Members who joined the Club more recently may recall a job Ray and his wife Irene began next to support the Club, which continued up through a few years ago. That was to provide the so important coffee and cookies for us to enjoy during the break at our monthly General Meetings!

Prior to his years with us in PVAA, Ray was the President of an amateur astronomy group that met at the Adler Planetarium in Chicago. He was a serious and knowledgeable amateur astronomer for decades who made and modified numerous telescopes as well as making precise and thorough observations which he recorded in various sheets and lists. Most recently, he observed from his backyard observatory in Claremont. About Ray it can accurately be said that "still waters run deep". He was never forward about his extensive knowledge and experience, but it was clearly there.

Ray passed away Tuesday (March 17) from several health issues, including complications from diabetes and dialysis.

He and his family have generously donated the bulk of his observatory equipment, telescopes, and the like to PVAA for the benefit of our astronomical activities.

The Club would like to extend its sincere condolences to Ray's family and to his wife, Irene, who was almost as loyal a Club member as Ray - making sure he had transportation to all Club events when Ray was unable to drive himself and assisting for many years with his General Meeting coffee provisioning.

Claire and John Stover

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From: Anne McGuinness  
Wed, March 18, 2020 2:42 pm

Dear John and Claire,

I am Ray's daughter Anne, my mom shared the wonderful tribute you wrote about him. Thank you so much, it is truly a gift. You don't always get to see your parent through the eyes of others and know how he affected them. To know he was so appreciated by the club brings me great comfort. I always knew he was amazing and I'm glad others did too. Here is a photo of him from the 1970's when we lived in Wood Dale, IL; I thought you would like to see it.

Thank you again for your kind words, and for clearing out his observatory, it's great that his legacy will live on through his treasures.

Sincerely,  
Anne (Magdziarz) McGuinness



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You're very welcome, Sue. I'll be sure to share your letter with Ludd, the Club, and those who helped with his astronomy equipment.

I joined the Club in 1999 and saw your dad often at board meetings and Club events before John and I moved to the Sacramento area in 2009. He was such a pleasure to work with in the Club and I'd continue to see him and your mom when I visited Southern California on PVAA Meeting nights as they kept the Club going with hot coffee and cookies long after he'd left the board.

It's been fun to hear from you and your sister of more Club and Ray activities from before I joined - like the Knott's Berry Farm events, I didn't realize the Club did public outreach there.

In case you hadn't seen it, here is a link to Club newsletters I've shared with Anne that you may enjoy too.

<http://www.pvaa.us/nightwatch/>

We have a few decades of PVAA Newsletters posted on line. Your father is mentioned in many of them as well as being responsible for producing them for years. My favorite so far is from the first page of the September 1992 issue

(<http://www.pvaa.us/nightwatch/vol12num09.pdf>)

When Ray was first elected to the Board - a joke about asking your Dad to change his last name to Jones. I'm sure you've dealt with spelling and mispronunciations all your life!

Take care,  
Claire

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From: Sue Magdziarz  
Monday, March 30, 2020 9:54 PM

Dear Claire and John,

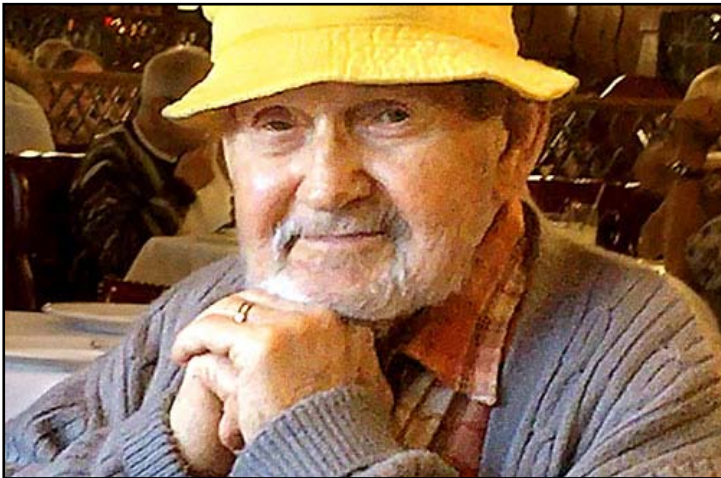
I just want to thank you for writing such a thoughtful notice about my dad. It was so nice to read about how you, John, and Ludd perceived my dad and that you appreciated who he was and what he contributed to the astronomy club. Astronomy and the club were such an important part of my dad's identity, and I benefited from his participation too. I have fond memories of star parties taking place in the desert and taking telescopes to Knott's Berry Farm to allow folks to view the stars. I'm glad to know that his astronomy equipment will be well taken care of and used by club members. It is comforting to know that he spent his time with such thoughtful, kind people. Please pass along my thanks to Ludd as well.

Sincerely,  
Sue Magdziarz



## Raymond Joseph Magdziarz Obituary

[Claremont Courier](#) [April 03, 2020](#)



OLA parishioner, amateur astronomer, electronic engineer Raymond Magdziarz died on March 17 from several health issues, including complications from diabetes. He was 91.

Ray is survived by his wife of 58 years, Irene (nee Elwart); children, Anne (husband Erik), William (wife Dawn), Susan, and Robert (wife Suzanne); and granddaughter Audrey.

He was born in Chicago on May 13, 1928, the youngest of three children. He served in Korea from 1950 to 1952. In 1961, he and Irene were married in Chicago. They moved their family to Claremont in 1978.

A serious amateur astronomer, Mr. Magdziarz built his own telescopes and home observatory. He was an active member of the Pomona Valley Amateur Astronomers club for several decades. He saw solar eclipses from five countries.

He was always learning new things, from how to develop photos in his home darkroom to panning for gold at the East Fork in the San Gabriel Mountains. His first attempt at homemade wine was deemed “undrinkable” by the LA County Fair judges. He didn’t give up, and finally received multiple gold, silver, and bronze awards for his wines. He also traveled to all 50 states with his family, visiting National Parks along the way.

“The heavens are brighter by one more star,” his family shared.

Mr. Magdziarz is interred at the National Cemetery in Riverside. Due to public health concerns regarding coronavirus, the date and time of a celebration of life will be determined in the near future.



## How I Became a Tektite Junkie

I'm obsessed with tektites, pieces of natural glass formed from molten material blown up through the atmosphere during big meteorite impacts. I mostly blame this obsession on our club Secretary, Ken Elchert. I'll explain.

A little over a year and a half ago, we had a meteorite show-and-tell at the September, 2018, PVAA general meeting. Lots of members, myself included, brought our meteorite collections to show off. Ken came with a single specimen, but it was a doozy: a black, dumbbell-shaped tektite the size of an éclair. He let me hold it and take some photos, and I was hooked. My fascination with tektites manifested in two forms: reading up on how tektites form and the history of tektite science, and acquiring some for myself.

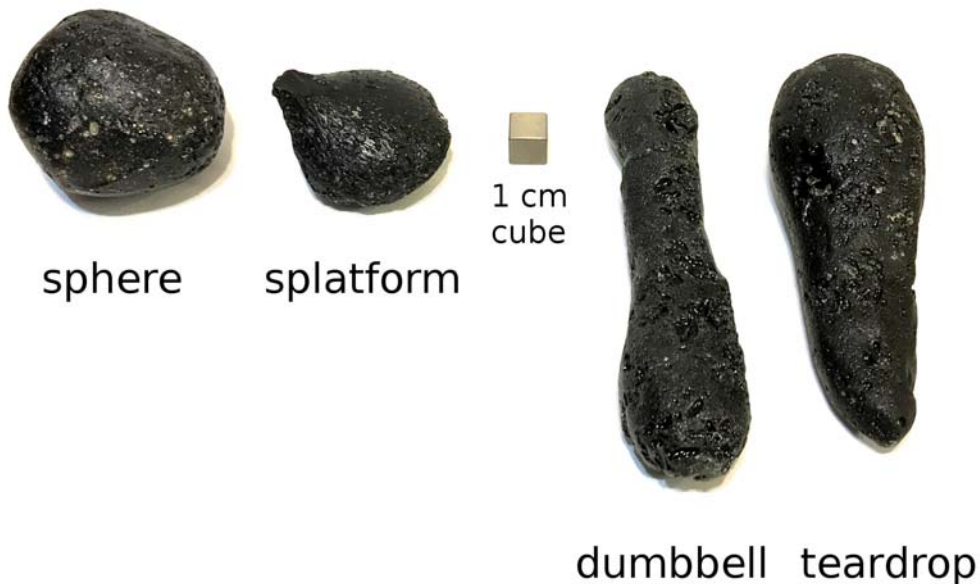
Initially I assumed that tektites must be pretty common, since they are impact glass from big meteorite impacts, and the Earth has had hundreds or thousands of crater-forming impacts in the last few hundred million years. But the vast majority of known tektites can be traced to just four impacts:

- an impact near southeast Asia or Australia, about 780,000 years ago, that produced the Australasian strewn field (australites, indochinites, philippinites, rizalites);



2g moldavite backlit

## indochinite tektites



- the Lake Bosumtwi impact in Ghana, about 1 million years ago, that produced the Ivory Coast strewn field (ivorites);
- the Nördlinger Ries impact in Germany, about 15 million years ago, that produced the Central European strewn field (moldavites);
- the Chesapeake Bay impact on the east coast of North America, about 34 million years ago, that produced a North American strewn field (bediasites, georgiites).

There are a handful of exceptions:

- a Central American strewn field in Belize, with tektites dated to 820,000 years ago, which only started to be reported in the 2010s;
- Darwin glass, an impact glass associated with the Darwin Crater near the west coast of Tasmania, estimated to be about 810,000 years old;
- Libyan desert glass from the eastern Sahara, inferred to be the result of an impact or airburst about 26 million years ago (strictly speaking, probably a surface melt rather than melted material thrown through the air).

various tektites



By sheer number, the vast majority of commercially available tektites are from the Australasian strewn field. They are named for where they are found, hence indochinites, philippinites, and australites. Tektites from different regions of the strewn field traveled different distances and experienced different aerodynamic forces, so you can



usually tell where a given Australasian tektite is from just by its shape. Indochinites didn't fly very far, so they tend to come as spheres, oblongs, dumbbells (like the monster tektite that Ken brought to the meeting), and teardrops, which are dumbbells that spun fast enough to rip in half. Philippinites flew farther and cooled in the atmosphere, so they tend to cut by deep cracks or fragmented into concentric shells. Australites flew the farthest, so they are small and heavily ablated, like tiny space capsules. In fact, there was an intense burst of interest in australites that coincided with the Apollo program, in part because it was thought at the time that they might have been derived from an impact on the Moon rather than on Earth.

I've been fortunate to acquire representative samples of several kinds of tektites. The bulk of my collection is made up of indochinites. I've got a decently large sphere, a nice long dumbbell, a good teardrop, and an odd-looking splash- or splat-form, that might have hit the ground and deformed a bit before it cooled enough to fix its shape (see photos). I have a single philippinite, which is irregularly shaped—there are philippinites in the world that are perfectly fractured into geometric shapes, like little black glass soccer balls. Australites are now quite difficult to come by, because they can only legally be collected for scientific purposes, and it is illegal to export them from Australia. From this rare and desirable class I have only a plastic cast of a flanged "button" tektite, like a miniature UFO.

I have samples from two other impacts. I have two small pieces of moldavite, from the Nördlinger Ries impact in Germany 15 million years ago. These are beautiful bits of green glass, which look just gorgeous when they are held up to the light. The oldest and probably rarest sample in my collection is a little bediasite from Texas. The bediasites and georgiites were formed in the impact that created Chesapeake Bay, 34 million years ago. The impact must have showered tektites over much of North America, but the only areas that have produced tektites in any number are the state of Georgia, and an area of east Texas centered on the small town of Bedias.

Why am I so fascinated by tektites, in particular? I think it is the diversity of shapes. Tektites are travelers in space and time, a frozen snapshot from the moment that a giant rock from space slammed into our planet. Each one is unique, and its shape tells a story about its flight through the atmosphere and subsequent erosion. Tektites embody everything that interests me: space, time, astronomy, geology, aerodynamics, and the history of our planet.

Clearly at this moment we can help ourselves and each other most by staying home and staying safe from the coronavirus epidemic. But I look forward to the day that this horrible scourge is behind us and we can safely meet again in person. When that happens, I'll bring my tektites for show and tell. I'll even let Ken have a look, as long as he promises not to inspire any new hobbies for me.

*Matt Wedel*

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Ludd shares with us an interesting article discussing some new thinking about the expansion of the universe. There is also a picture of M106 that rewards close study for the numerous galaxies also in the photo.

<https://phys.org/news/2020-03-mystery-expansion-universe.html>

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NASA Night Sky Notes

April 2020

**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.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

## Hubble at 30: Three Decades of Cosmic Discovery

David Prosper

The **Hubble Space Telescope** celebrates its 30th birthday in orbit around Earth this month! It's hard to believe how much this telescope has changed the face of astronomy in just three decades. It had a rough start -- an 8-foot mirror just slightly out of focus in the most famous case of spherical aberration of all time. But subsequent repairs and upgrades by space shuttle astronauts made Hubble a symbol of the ingenuity of human spaceflight and one of the most important scientific instruments ever created. Beginning as a twinkle in the eye of the late Nancy Grace Roman, the Hubble Space Telescope's work over the past thirty years changed the way we view the universe, and more is yet to come!

We've all seen the amazing images created by Hubble and its team of scientists, but have you seen Hubble yourself? You actually can! Hubble's orbit -- around 330 miles overhead -- is close enough to Earth that you can see it at night. The best times are within an hour after sunset or before sunrise, when its solar panels are angled best to reflect the light of the Sun back down to Earth. You can't see the structure of the telescope, but you can identify it as a bright star-like point, moving silently across the night sky. It's not as bright as the Space Station, which is much larger and whose orbit is closer to Earth (about 220 miles), but it's still very noticeable as a single steady dot of light, speeding across the sky. Hubble's orbit brings it directly overhead for observers located near tropical latitudes; observers further north and south can see it closer to the horizon. You can find sighting opportunities using satellite tracking apps for your smartphone or tablet, and dedicated satellite tracking websites. These resources can also help you identify other satellites that you may see passing overhead during your stargazing sessions.

NASA has a dedicated site for Hubble's 30th's anniversary at [bit.ly/NASAHubble30](https://bit.ly/NASAHubble30). The Night Sky Network's "Why Do We Put Telescopes in Space?" activity can help you and your audiences discover why we launch telescopes into orbit, high above the interference of Earth's atmosphere, at [bit.ly/TelescopesInSpace](https://bit.ly/TelescopesInSpace). Amateur astronomers may especially enjoy Hubble's images of the beautiful objects found in both the Caldwell and Messier catalogs, at [bit.ly/HubbleCaldwell](https://bit.ly/HubbleCaldwell) and [bit.ly/HubbleMessier](https://bit.ly/HubbleMessier). As we celebrate Hubble's legacy, we look forward to the future, as there is another telescope ramping up that promises to further revolutionize our understanding of the early universe: the James Webb Space Telescope!

Discover more about the history and future of Hubble and space telescopes at [nasa.gov](https://nasa.gov).

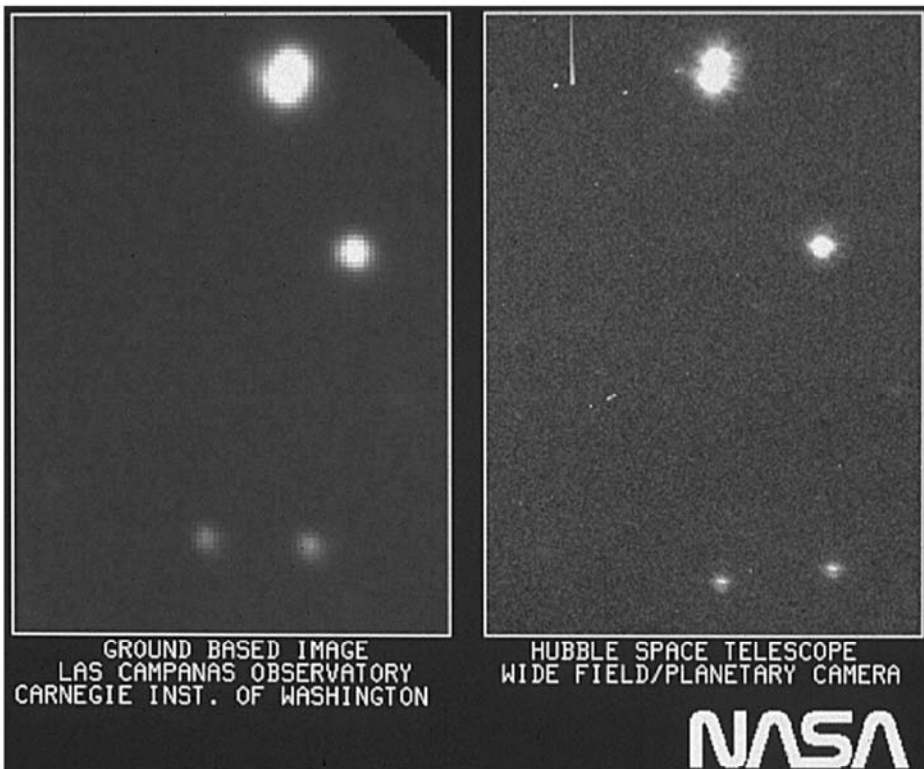
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Image Credit: NASA



Hubble's "first light" image. Even with the not-yet-corrected imperfections in its mirror, its images were generally sharper compared to photos taken by ground-based telescopes at the time. Image Credit: NASA