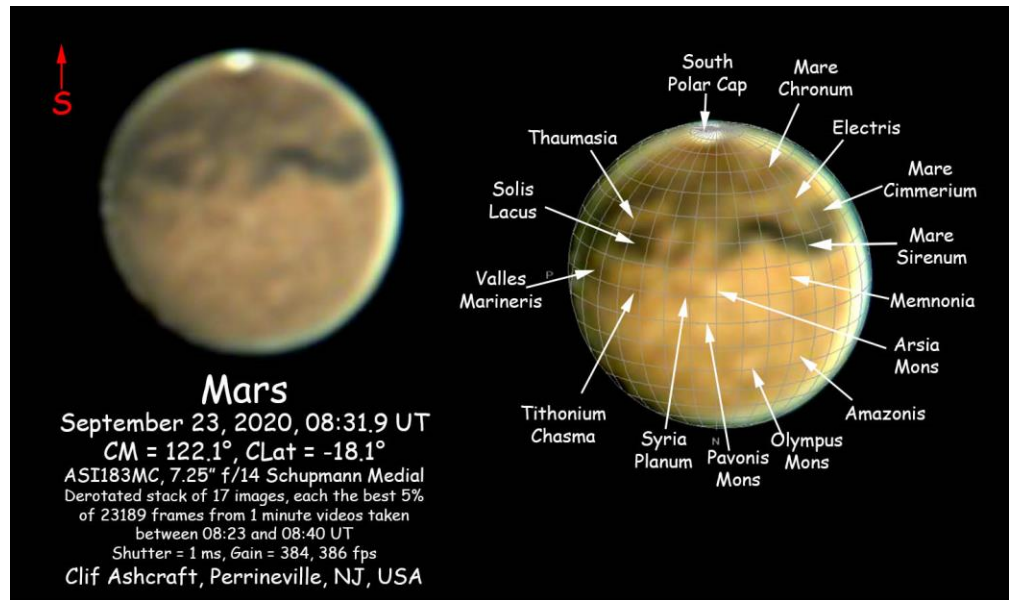


Despite skies clouded with smoke from extensive wildfires in California, Colorado and Oregon, clear weather has allowed members to image planets and deep sky objects.

Solar System: The Moon was imaged by Clif Ashcraft, Bobby Marinov and Isbel Gonzalez. Neil Yoblonski and Isbel imaged the conjunction of the gibbous Moon with Mars on September 6.

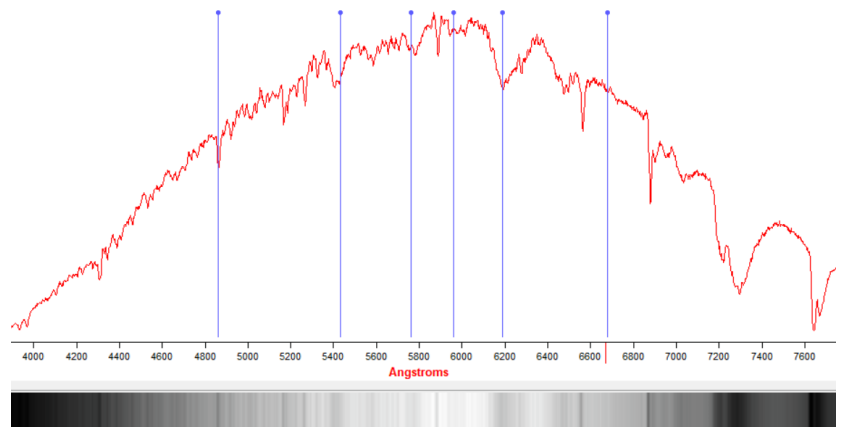
As Earth nears its closest approach to Mars in the last two years, Bobby and Clif took numerous images of the red planet. They report that there is no global dust storm as there was in 2018, but the bright “dent” on dark Syrtis Major caused by that storm is still there. When the seeing and transparency are good in New Jersey Clif

can resolve Gale Crater where rover Curiosity is exploring now, the long canyon Valles Marineris, and even the *big volcano Olympus Mons*. It is below the center of this image and slightly to the right. One of Clif’s images is featured on the Mars page of the international Association of Lunar and Planetary Observers (ALPO).



Bobby and Clif also imaged Jupiter where August’s small white storm in the North Tropical Zone has strung out a chaotic trail nearly halfway around the planet.

Steve Lowe took a spectrum of Jupiter showing strong methane absorption in its atmosphere at 6200 Angstroms (second blue line from the right).

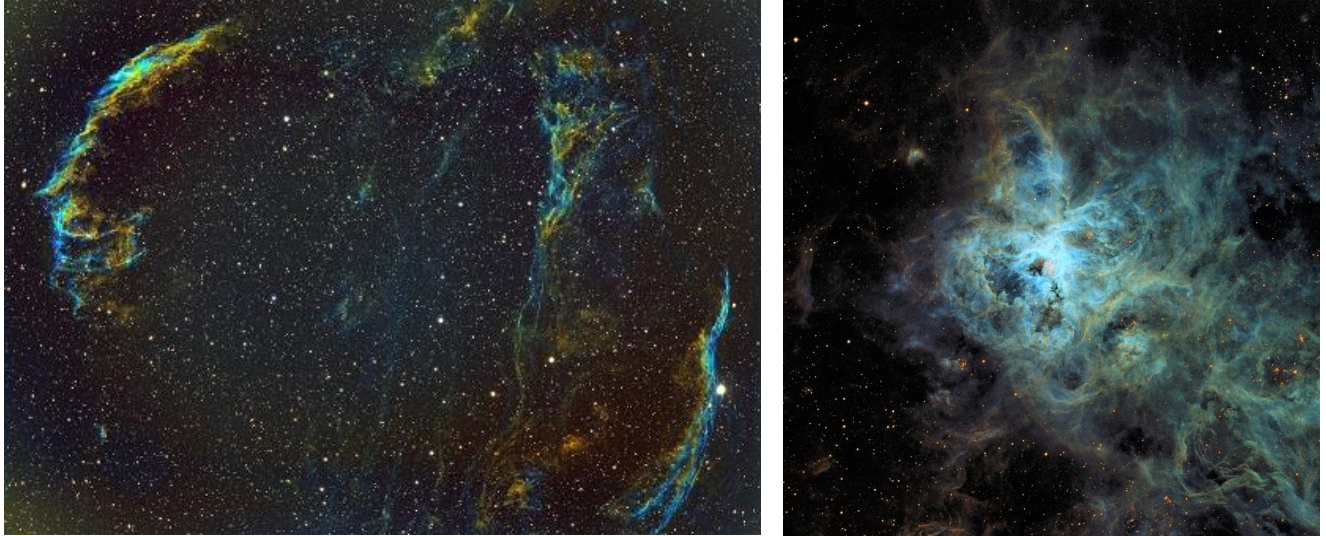


Saturn was observed by Clif and Bobby, but its low altitude made images fuzzy.

Michael Lamonaco’s father Daryl imaged a possible new comet near Mirach’s ghost galaxy in Andromeda. Follow up by David L (AZ), Tolga G (NM), Mark M (VT), and Paul W (VT) showed nothing, so the intriguing image was probably an internal reflection in his telescope/camera system.

Deep Space: Helder Jacinto used six hours to image the whole round *Veil Complex in Cygnus*, the remnant of a supernova explosion between 10,000 and 20,000 years ago. Bobby spent 11 hours on the Eastern Veil, the section on the left in Helder's image.

Bobby also imaged NGC2070, the *Tarantula Nebula in the Large Magellanic Cloud*, a satellite galaxy to our Milky Way. If it were as close to Earth as the Orion Nebula, the Tarantula Nebula would cast visible shadows. It is the most active starburst region known in the local group of galaxies. This is the first time



he has used a remote telescope, a 24" in Chile. However, it is pricey, the images were not calibrated, and there were hot pixels and dead pixels.

M27, the Dumbbell Nebula, was imaged by Mark Zdziarski, and Mary Ducca has been making Milky Way trails.

Presentations: One of Clif's images of Jupiter was included in *Crux*, the newsletter of the Astronomical Society of Victoria, Australia.

On September 9 Mark Zdziarski presented "Astronomy Adventures with EAA" to NJAG.

On September 25 Clif presented "Observing From His Telescope via EAA" at AAI's Fridays@Home.

The same night Al Witzgall presented "The Discovery Machine: Hubble Space Telescope 30 Years of Exploration" to NWJAA.

Other: John Kozimbo pointed out a speculative paper "The Final Size of the Universe Based on the Elasticity of the Fabric of Spacetime."

Bobby pointed out a paper indicating possible microbial life in the clouds of Venus by a detection of phosphine (PH₃). On Earth anerobic microbes make this gas as a byproduct of their metabolism, so it is considered a biosignature to look for in millimeter wavelength infrared to radio spectra of exoplanets. Observations were done on the James Clerk Maxwell Telescope in Hawaii and the ALMA telescope in Chile by a team of astronomers from England, MIT, and Japan. They thought they were using Venus as a zero point and were surprised. Further observations are planned.

Respectfully submitted, Mary Lou West, Research Chair