

Steve Yates
Fort Worth, Texas
2025

Astronomy Log

Visual Observation Notes

Time: CST/CDT (UTC-6/-5)

Telescopes: Astro-Tech **AT102ED**, 102 x 714 mm, f/7, ED Refractor
Astro-Tech **AT80ED**, 80 x 560 mm, f/7, ED Refractor
Bresser Comet Addition, **AR102s**, 102 x 459 mm, f/4.5, Achromatic Refractor,
Aperture Mask 60 mm (f/7.65) to meet the Sidgwick CA Standard
Aperture Mask 48 mm (f/10) to meet the Conrad's CA Standard
Sky-Watcher **Skymax 102**, f/13 Maksutov-Cassegrain

Eye Pieces: Astro-Tech ED Paradigm 60°, 5 mm, 12 mm, 18 mm, and 25 mm
Astromania Plössl, 25 mm
Stellarvue 4, 8, and 15 mm EUW Ultra Wide Angle 82 degrees
Bresser 70°, 20 mm eyepiece
Celestron 8-24 mm Zoom
Celestron Kit Plössls, 6 mm, 8 mm, 13 mm, 17 mm, and 32 mm
Meade Plössl, 25 mm
SvBONY 2", SV136 72°, 34 mm

Barlow: Celestron 2X
SvBONY SV137 3X

Mounts: Astro-Tech Voyager III, Manual Alt/Az
Sky-Watcher, AZ-GTi Mount
Explore Scientific Twilight I, Manual Alt/Az
Bresser, Manual Alt/Az (*Same as Explore Scientific Twilight Nano*)

2025-01-04

18:45-17:20

It was a cool night at 65° F with a lot of cloud cover and a stiff breeze out of the south. Not the best weather for observing, but the 0.28 waxing crescent Moon looked awesome mixed with clouds so I brought out my trusty AT80ED.

I first looked with my 25 mm low power eyepiece (22.4x) and I immediately noticed that it was about to occult a bright star. I switched to a 12 mm (46.7x eyepiece and saw the star blink out on the night side of the **Moon** at exactly 00:51:01 UTC (2025-01-05). The star was **HD 220035**.

I went back to 22.4x and observed the outstanding features on the **Moon**. The crater **Theophilus** was the most dramatic with its central peak shining bright. The snake like **Dorsa Smirnov** in the **Mare Serenitatis (Sea of Serenity)** was an obvious slither across the plains.

The mountainous region surrounding the crater **Zollner** was visible well into the darkness region of the **Moon**.

I next swung down to the 0.53 waning gibbous **Venus** and went up to 112x with my 5 mm eyepiece. The passing clouds make a very good neutral density filter to tame the brightness of the neighboring planet albeit a variable one. The image was sharp and it should be at its maximum elongation soon.

I switched back to the **Moon** and finished out my lunar observing with my 15 mm (37.3x), 82° eyepiece.

There were more clouds than not now so I went inside to have supper. At least I got some comfortable viewing in before the weather turns much colder the next day.

2025-01-13

19:30-20:00

I had noticed on the way home from work that **Mars** was getting very close to the full **Moon**. When I got home, I checked my star apps and saw that **Mars** was about to be occulted by **Moon**. I quickly setup my AT80ED telescope to observe the event. The weather was clear and 38° F (3.3° C).



I could clearly see details on the Martian surface. I captured some reference images with my iPhone 14 Pro. Since **Mars** had an obvious disk dimension, it didn't just blink out like stars do during occultations. I timed the midpoint of **Mars** to be at the edge of the **Moon** at 01:53:45 UTC (2025-01-14).

After **Mars** went behind the **Moon** I went inside to eat supper.



2025-01-15

20:45-21:30

I got home from work and my new Astro-Tech Voyager III Alt-Az Mount had arrived. After having supper and watching a show, I brought it out along with my AT80ED telescope to try it out. The skies were clear and the temperature was 42° F (5.6° C).



I first just zoomed around star fields testing the new mount. Then, I waited for **Mars** to clear the roof. I first checked out the beautiful double star **Castor**. The pair looked best with a 8 mm (70x) eyepiece. Then I observed **Pollux**, and then **Mars. Mars** best with a 4 mm (170x) eyepiece. I could see a dark region that kind of like a crescent on the upper right side of the planet (*northwest side in my reversed image*).

The new mount was smooth but rock steady once I stopped moving it. The stability was a large improvement over all of my other mounts. I didn't notice any stiction but I'll have to give it a workout in various weather conditions to be sure. For now I am impressed!

I heard lots of coyotes in the fields near my home though I live in the city.

I had to go in because it was a work night.

2025-01-19

14:35-16:00

The skies were clear with a slight breeze out of the north. Temperature was about 33° F. The sun was bright and was in the clear between trees in my backyard. I brought out my Astro-Tech AT80ED telescope and its new alt/az mount, an Astro-Tech Voyager III, and a Sky-Watcher Star Adventurer Tripod with extension.



First, I collected a bunch of photos of what I believe is the most perfect setup for my kind of observing, a small telescope with optics better than they should be, a light weight, yet sturdy tripod, and a alt/az mount that is ultra smooth with no stiction or vibration when moving to targets.

Afterwards, I observed the **sun** with the addition to my solar filter. I snapped several afocal photos with my iPhone 14 Pro but seeing conditions were pretty poor so they weren't very sharp.

The **sun** eventually went behind a tree so I brought the setup back inside.



2025-01-25

21:45- 22:45

It was clear and 43° F with a slight breeze out of the south. I came out with my AT80ED to check out the stars and **Mars** in the constellation **Gemini**.

Using my 15 mm (37x), 82° eyepiece, I found **Mars**. I then slewed over to **Pollux** and just to the west of **Pollux** was a small cluster of at least eight easily visible stars.

I switched to my 8 mm (70x), 82° eyepiece and moved to the beautiful double star **Castor**. Going back to **Mars** I could see a dark feature in the middle of the disk. The disk was noticeably larger than the last time I viewed the planet.

I put in my 4 mm (140x), 82° eyepiece to get a closer look. As usual, the higher power didn't buy me too much but **Mars** was easier to look at.

At the same power, I moved west to **Jupiter**. The four **Galilean moons** were lined up two on a side. I could see the usual belts. I went back down to 70x to get a sharper view.

I switched to my trusty Plössl eyepieces, first my 8 mm (70x) and then to my 6 mm (93x). Though it was hardly detectable to begin with, the Plössls have practically no chromatic aberration. **Jupiter** looked great through the Plössls.

I did the Plössl views with **Mars** and it look great. There seemed to be a “Y” shaped dark region with bottom of the “Y” orientated to the south. It could see a very slight northern polar cap.

I went back to **Castor** and I perceived that I could see their colors better. I was due east of **Pollux** and came upon a double star system with near identical separation as **Castor**, though fainter. Both had near the magnitude though one on the north side looked to me to be white whereas the more northerly star was slightly yellow. I found it to be **Iota Cancri** (**ι Cnc**, **ι Cancri**).

After that cool find I quit for the night.

2025-01-31

18:00-19:07

It was still very bright shortly after sunset. I could see the thin 8% waxing crescent **Moon** to the west so I brought my AT80ED out on its new Voyager III mount to check it out. The weather was perfect, clear, calm, and 58° F.



The crescent **Moon** revealed a lot of detail. The **Mare Crisium (Sea of Crises)** was in full display with its smooth surface and fine ripples. **Langrenus Crater** was standing out with its central peak as was **Petavius Crater**. The best view was with a 8 mm eyepiece (70x). On the southern trailing edge, I could see illuminated mountain peaks trailing off far into the darkness.



As darkness approached, I turned my telescope up towards **Venus**. It was at a 37.9% waning crescent and very bright. I experimented with various eyepieces and my 2X Barlow. I went all the way up to 224x with my 5 mm, 60° eyepiece and 2x Barlow and the view still looked pretty good. At 140x with my 4 mm, 82° eyepiece I could see some detail in the clouds along the terminator. All my eyepieces had some eye reflection issues with bright **Venus** except for my good ole Plössls. No matter how hard I tried, I could not see any eyeball reflections in the Plössls. My favorite views were with my 6 mm (93x) and 8 mm (70x) Celestron Kit Plössls.

I turned towards **Saturn** before it fell behind my neighbor's trees. It wasn't totally dark yet but I could see Titan relatively close to **Saturn** and the rings appeared edge on. It looks like **Saturn** had a line draw through the middle of it.

As a side note, a lot of people talk bad about the Celestron Kit Plössl eyepieces but I can find no problems with them except I can understand how some people may find the eye relief of the very short focal lengths problematic. I have the Astro-Tech Paradigm ED series and the Stellarvue 82° FMC series, but none of them have better optical qualities than the Plössls in my f/7 ED refractor telescopes. They of course have other advantages.

I took a break and went inside for supper and show.

21:25-23:35

I came back out to do a bit more observing. It was now 51° F. I started off with the star **Menkar (Alpha Ceti)** in the constellation **Cetus**. Using my 17 mm Plössl at 33x, I could see that it was a bright yellow-orange star, that of an incandescent light bulb.

From **Menkar**, I went down to the yellow-white triple star **86 Ceti**. I could not see the B component but what I believed was the much more distant C component was visible to the east.

After those stars, I simply scanned the star fields in my western skies with my 17 mm Plössl at 33x.

Next, I adjusted my telescope to view Jupiter near my zenith. With my 6 mm (98x) Plössl, **Jupiter** looked fantastic. The NED and SEB were clearly visible as well as numerous other belts in both hemispheres. All the **Galilean moons** were visible except **Io**. **Callisto** and **Ganymede** were right next to each other.

I put my 17 mm Plössl back into and slewed northwest to **M 45**, The **Pleiades**. I then switched to my 25 mm (22.4x), 60° eyepiece to capture the whole cluster. As usual, it was quite the sight to see.

I went up to **Aldebaran** and then the **Hyades Cluster**. I switched to a 25 mm (22.4), 52° Plössl to remove artifacts created by the wide field eyepiece:

I scanned around in the dense star fields at my zenith with the 26 mm Plössl and then called it a night.

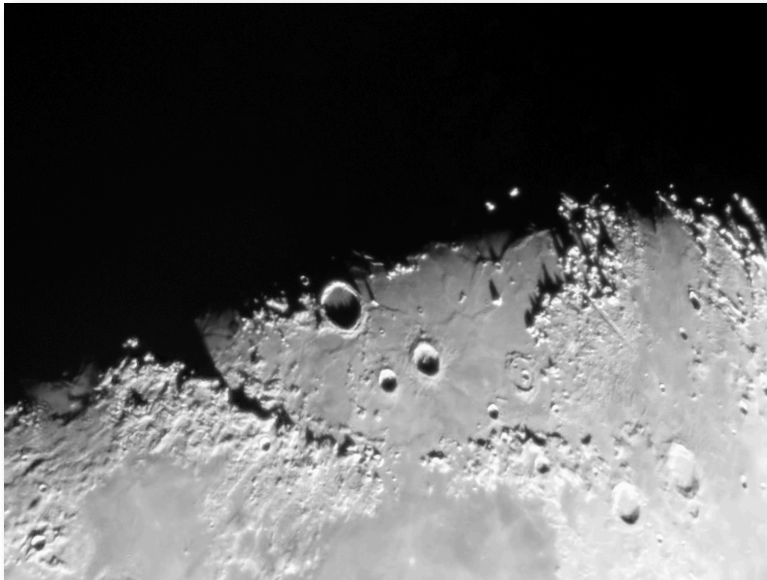
2025-02-05

20:13-21:20

The skies cleared up after days of fog. A warm front came over and cleared the skies. The temperature was 68° F (20° C) with a breeze out of the south. I brought my AT80ED on its Voyager III Alt-Az mount out to observe the 59% waxing gibbous **Moon**.



I started with my 8 mm (70x), 82° eyepiece. The **Moon** looked incredible! Seeing was about a 7/10. The heavily cratered southern half along the terminator revealed extreme relief. The **Lunar Apennines (Montes Apenninus)** appeared very rugged and tall. Two mountain peaks beyond the terminator were brightly illuminated and appeared as a pair of cat eyes in the darkness. They were likely **Mons Pico** and an unnamed peak to its south. Bumping up to 140x with my 4 mm eyepiece brought in a much closer look.



The wall of **Archimedes Crater** was casting a long shadow into the crater basin. The shadow appeared to be very jagged.

Mons Piton was casting a long shadow across the **Mare Imbrium**. A large wavelike structure was seen connecting to

the **Piazz Smyth Crater** and cross the smooth floor of **Mare Imbrium**. I also found Thor's Hammer to the south of **Mons Piton**.

I had my wife come out to look at the **Moon** through my telescope with her new eye (recently had cataract surgery). She was amazed at the clarity of the **Moon** she saw. I moved up to the **Pleiades (M 45)** she was nearby and she said “Wow!”. She could see them like never before and reported no artifacts except on the brightest star she could perceive some spikes.

My next stop before bed was **Jupiter**. It looked fine at 70x with my 8 mm, 60° eyepiece. I went ahead and slipped in my 140x, 4 mm, 82° eyepiece for a closer look. Three of the **Galilean moons** were on the east side and one of the north side. The **NEB (Northern Equatorial Belt)** and **SEBn & SEBs (Southern Equatorial Belts)** were clearly visible as were many smaller belts in the northern hemisphere. I could detect some detail in the southern hemisphere.

Mosquitoes were getting me (yes, in February) so I went inside for the night. The temperature was now 67° F (19.4° C).

