T CrB Nova Prediction and History

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The Blaze Star, T CrB, in the constellation Corona Borealis is predicted to erupt this spring after an 80 year quiescent period. Learn basic info about this star from Scientific American article at link - https://www.scientificamerican.com/article/this-nova-will-soon-erupt-as-a-once-in-a-lifetime-new-star-in-the-night-sky/

I became interested in witnessing this eruption after reading two articles on the American Association of Variable Star Observers website, aavso.org. The first article, titled Jewel in the Crown provides a good overview from this amateur astronomy group. The link to the article is https://www.aavso.org/blog/T-CrB-jewel-in-the-crown. Also, see a news article from AAVSO about a pre-eruption dip recorded in the Spring 2023. This article makes prediction that the eruption will occur 2024.4 +/- 0.3. The prediction corresponds to between Feb and Sept 2024 !! See article at link - https://www.aavso.org/news/t-crb-pre-eruption-dip.

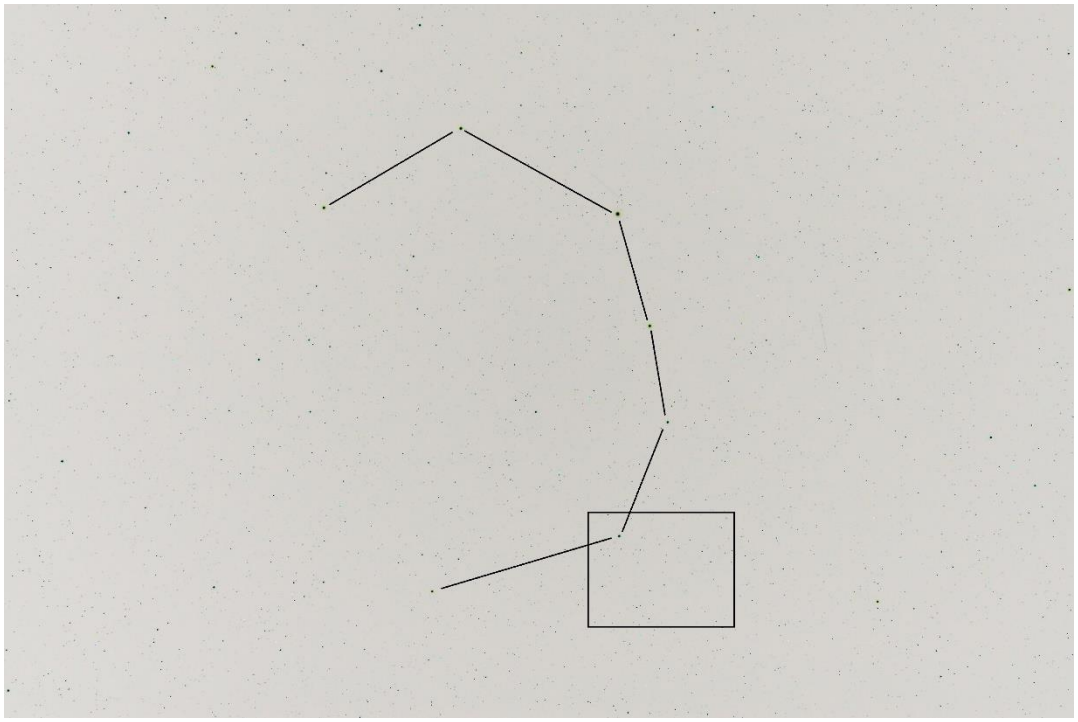
A technical review article explaining the physical process of Nova eruptions can be found at link - https://app.aavso.org/media/jaavso/2844.pdf

Find another version of T CrB story in Sky and Telescope Magazine article, at link - https://skyandtelescope.org/observing/whats-up-with-t-crb04202016/

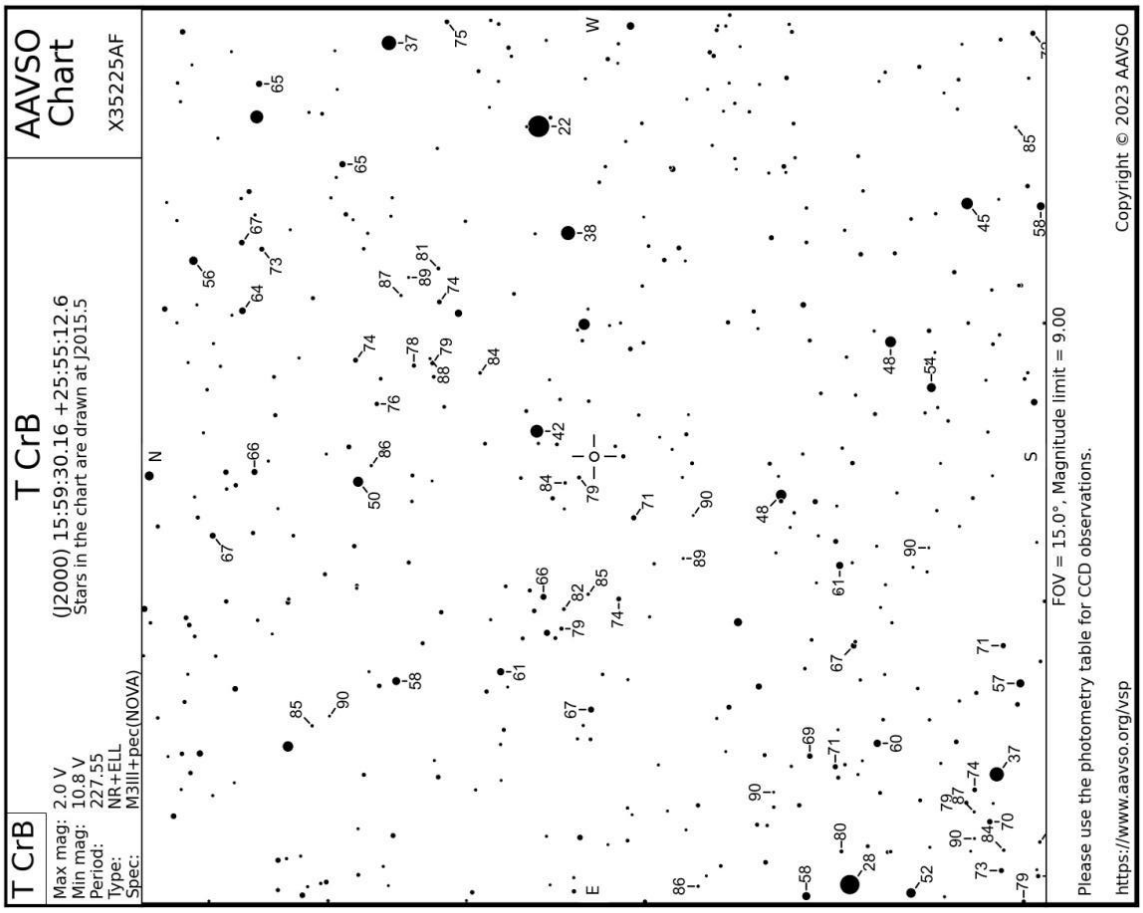
My recent imaging of the constellation on 17th and 24th of May; shows that T CrB has NOT erupted yet. If you have binoculars, I would recommend finding Corona Borealis in the night sky on any clear night. 7X binoculars with their wide FOV of approximately 9 degrees, can nicely frame this smallish constellation. Become familiar with this constellation, so you can witness its temporary transformation by the predicted Nova !!! T CrB will shine for a few days as bright as the brightest star in the constellation. Click on the following link to see My Report, including images and finder charts that I used in my observing sessions.

If I can master reliably locating this very dim pre-eruption binary system, T CrB; then I will make photometric measurements in the coming weeks at the KWU Observatory. If not, I hopefully will have a clear night or two to measure it during its eruption.

On Fri, 17-May-2024 I fitted to my equatorial mount a dslr camera, Canon 6D with a 120 mm lens; to image the constellation. I selected the 120 mm focal length to have a sufficient field of view to image the whole constellation. I found T CrB had still NOT erupted. The exposure was 30 sec. The lens opening was f/5.6. The ISO was 1600. IMG_0656 above does not impress. I hope to continue to monitor the constellation and measure T CrB brightness on clear nights.



An inverted color of same image, IMG_0656, is shown to the left with constellation lines sketched in and a rectangular box marked for zooming in to track down T CrB.
Below is the corresponding AAVSO Star Chart showing the visual magnitudes of stars & location of the Blaze star, T CrB, marked with x-hairs.



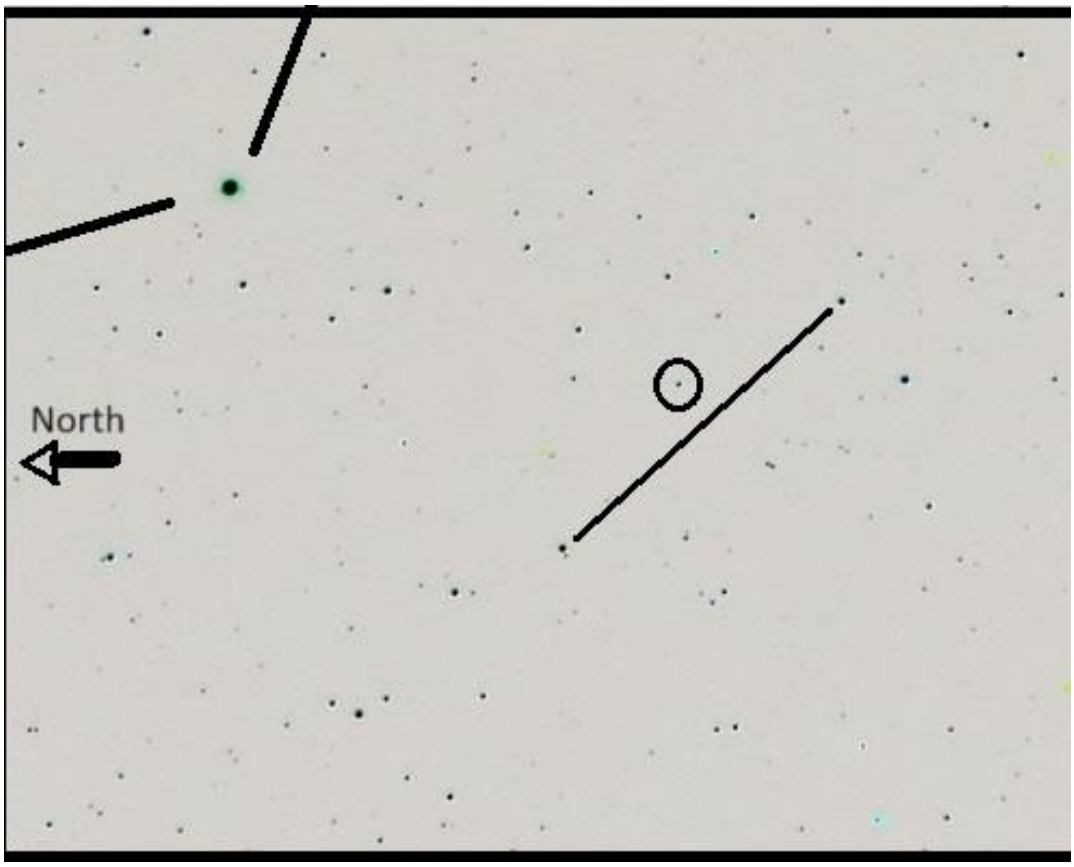
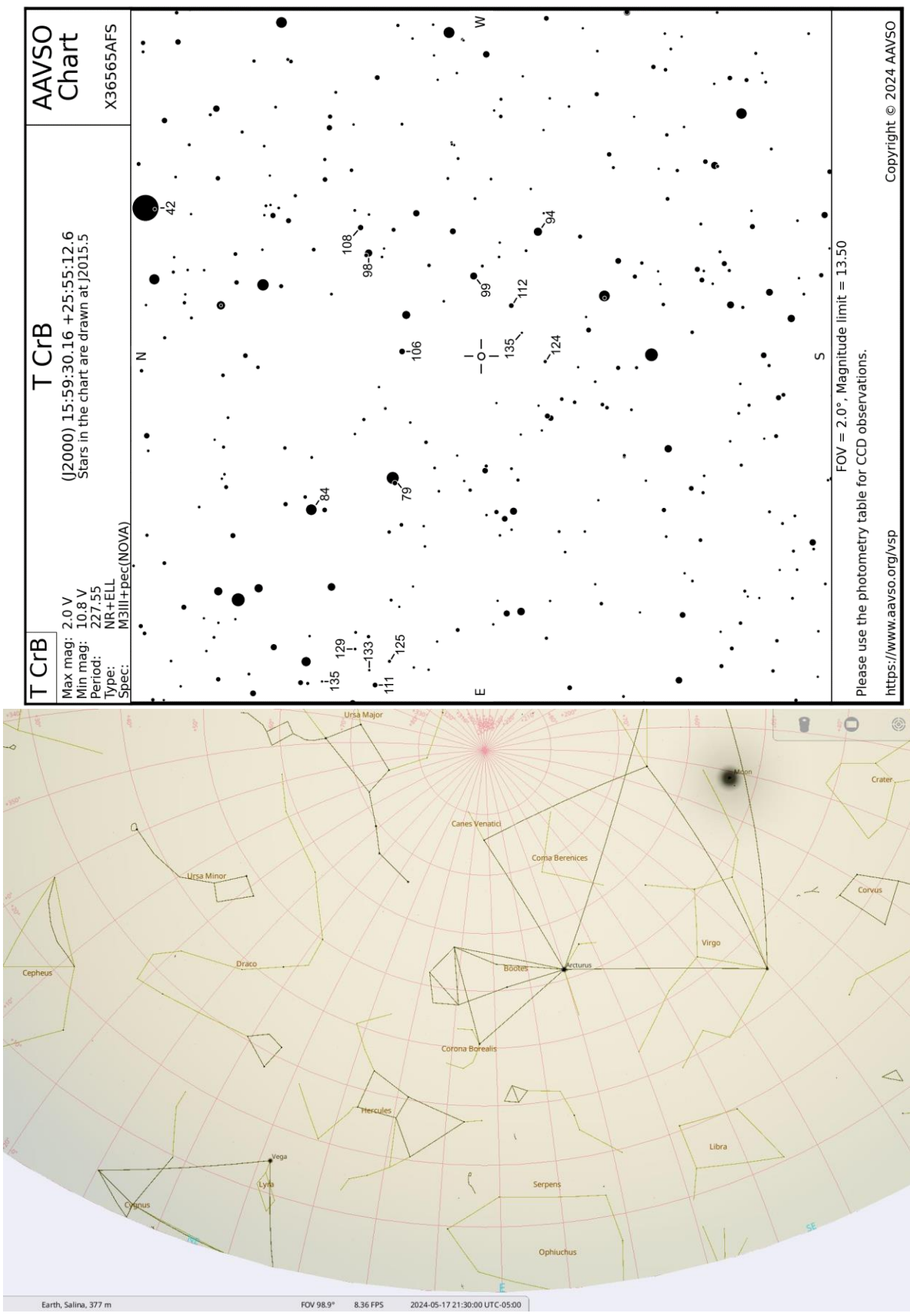


Image to the left is zoomed region of IMG_0656. The circled star is T CrB. The star to its left is labeled 106 or Visual Mag 10.6 on the below AAVSO finder Star Chart of the same region. Clearly, T CrB has NOT erupted yet!!! Note, the North direction on my imaging is on the left edge. The finder charts are for visual, binocular, camera views.



Above, a Star Chart created with Stellarium app; shows the location of Corona Borealis about 40 deg above the horizon, while looking East at 9:30 PM CDT on 17-May-2024 in Salina KS.

Lastly, T CrB location is marked with a circle in the following Star Chart of the constellation created with Stellarium app