# Viewing the Lyrids in 2020

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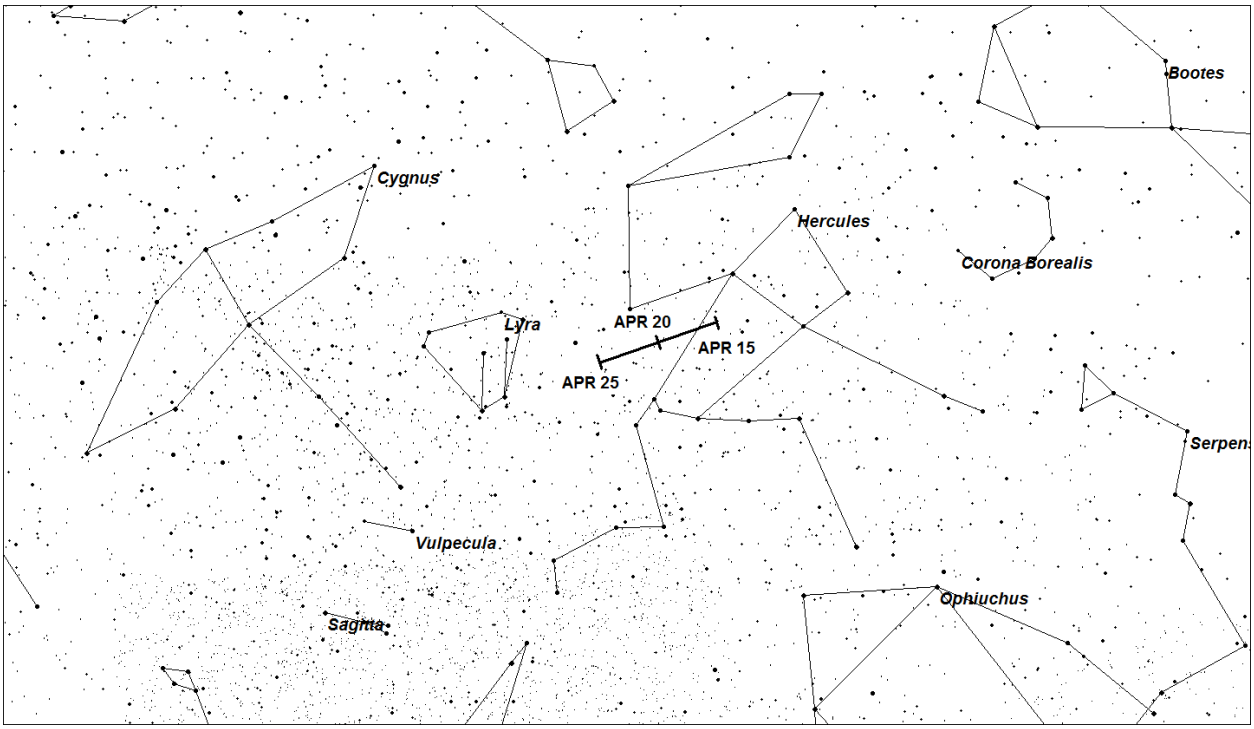


**Radiant Drift for the Lyrids Among the Stars of Hercules**.
This chart was created using SkyChart III Version 3.5.1 from Carina Software

The Lyrids are particles shed from comet 1861 G1 Thatcher, which last passed through the inner solar system in 1861. Don't expect this comet to return anytime soon as its orbit has been calculated to be near 415 years!

Two years after the last passage of the comet through the inner solar system, an impressive display of Lyrid meteors were observed. This helped link the relationship between this comet and the Lyrids. It was also noted that another impressive display of the Lyrids had occurred in 1803, 60 years prior. Despite these facts, no one was looking for enhanced rates from the Lyrids in the early 1920's. Yet in 1922, another strong Lyrid display occurred. You would have thought by now that astronomers would be eagerly anticipating the early 1980's for more enhanced Lyrid activity. But unfortunately, meteor studies tend to fall off the grid, even with the tremendous Leonid display of 1966. So again in 1982, meteor watchers were caught off guard when another Lyrid outburst occurred. I can only hope that during the early 2040's that we will be on guard for another grand meteor display from the Lyrids!

So, what is one to expect from Lyrid displays between these outbursts? Probably not much. There have been unverified reports of lesser outbursts which have led us to think that there may be debris from this comet trapped in shorter orbits with a 12- or 20-year return period. Therefore,

we suggest that potential observers observe the Lyrids at every opportunity just in case something unusual occurs.

The normal Lyrid display, seen under moonless conditions, usually offers a peak of around 10 meteors per hour in addition to the normal random meteor rate of about 5 per hour. The peak is sharp, only a few hours long, so don't be surprised if you see far less than 10 Lyrids per hour. Yet when compared to the normal low activity seen during the late winter and early spring nights, the nights around April 22nd offer a nice bit of entertainment to help one stay awake.

On April 22nd, the Lyrid radiant actually lies among the stars of eastern Hercules. There are no bright stars to pinpoint the radiant, yet the brilliant zero magnitude star known as Vega only lies 8 degrees to the northeast. As seen from mid-northern latitudes, this part of the sky rises around 9pm local daylight-saving time. Don't try viewing at that time as a great majority of the activity will be blocked by the horizon. It would be much better to wait until midnight when the radiant has risen higher into the sky. The best Lyrid activity should be visible during the last hour before the start of morning twilight. This is when the radiant lies highest above the horizon in a dark sky. This normally occurs between 4-5am local daylight-saving time this time of year.

Between midnight and dawn, Lyrid meteors can be seen in all parts of the sky. If you face away from the radiant it is difficult to tell if the meteors you see belong to the Lyrid shower. Therefore, it is suggested that you face in the general direction of the Lyrid radiant. That way you can easily trace the path of each meteor back to the radiant to see if it was a Lyrid or not. You don't need to stare directly at the radiant as Lyrid meteors seen there will be short and often missed. Meteors seen further from their radiant are longer and easier to see.

Compared to other meteor showers, the Lyrids tend to produce bright meteors and an occasional fireball. This makes them easier to see and photograph. While the average Lyrid is fairly bright, this shower is not photogenic unless you take time exposures during maximum activity. The brightest meteors will show up well in prints but most of the captured meteors will only appear as faint streaks. Attaching your camera to a driven mount is highly recommended as this will keep the stars as pinpoints and the meteors as streaks.

The moon often interferes with viewing meteor showers as bright moonlight can obscure all but the brighter meteors. Such was the case in 2019 with the Lyrids. This year however, on April 22nd, the moon is near its new phase and is invisible at night. So, circumstances are nearly perfect for viewing the Lyrids this year.

Should the morning of maximum activity be cloudy, the next night will usually sees a falloff of approximately 50 percent. This is also true for the Lyrids with maximum hourly rates of only 2-3 on the morning of the 23rd. Rates fall with each successive night until activity gradually disappears by the end of the month.

To provide a scientific useful observing session one needs to carefully note the starting and ending time of your session and the time each meteor appears. The type of meteor needs to be

recorded as well as its magnitude. Other parameters that can be recorded are colors, velocity (degrees per second or verbal description) and whether the meteor left a persistent train. Fireballs should be noted and a separate online form filled out after the session at: https://fireball.amsmeteors.org/members/imo/report_intro/

Serious observers should watch for at least an hour as numerous peaks and valleys of activity will occur. If you only few for a short time it may coincide with a lull of activity. Watching for at least an hour guarantees you will get to see the best this display has to offer. The serious observer is also encouraged to fill out a visual observing form on the website of the International Meteor Organization. You must register to use the form, but this is free. The registration site is located at: https://www.imo.net/members/imo_registration/register/