

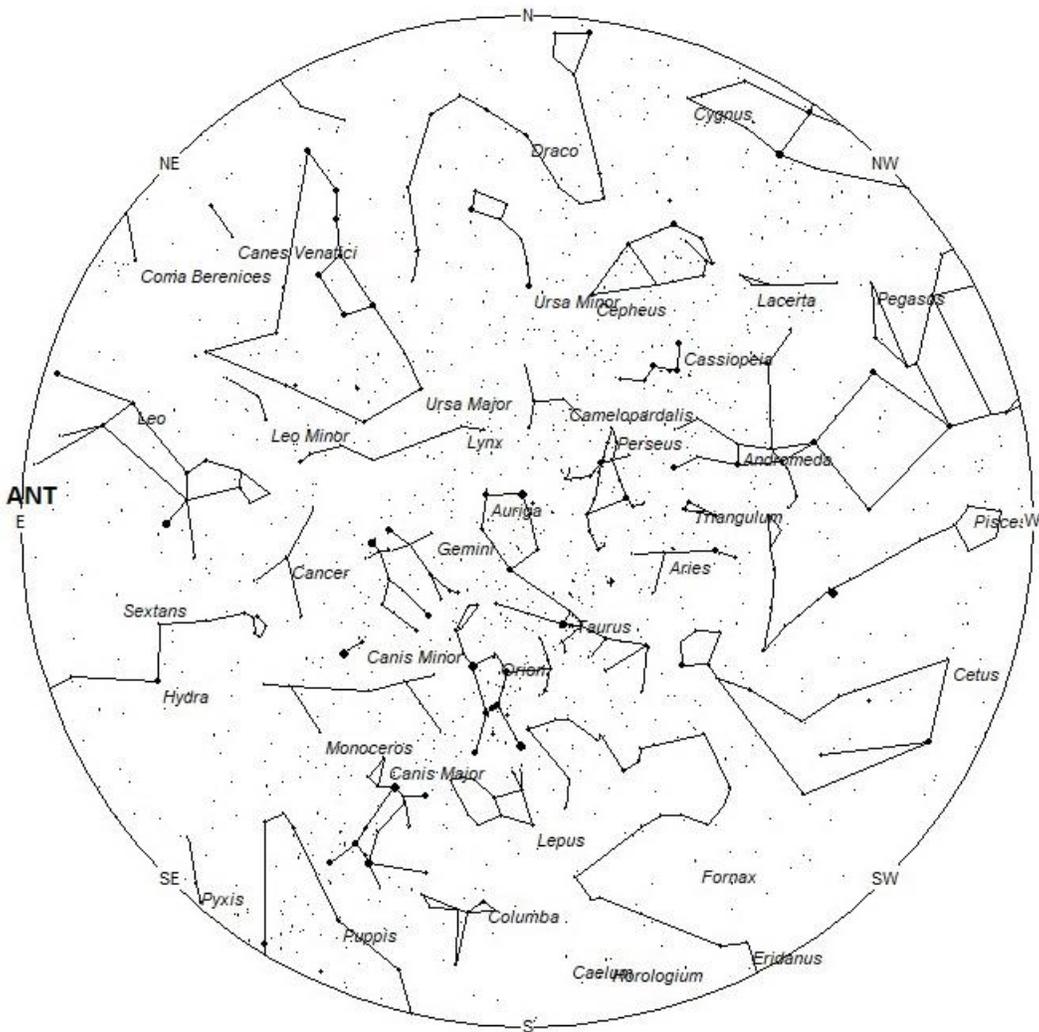


Gideon Holtz captured this brilliant fireball on February 16, 2020 at 20:31 MST (03:31 Universal Time 16 February) from Seligman, Arizona, USA. Refer to IMO Fireball Report [#834-202](#) ©Gideon Holtz

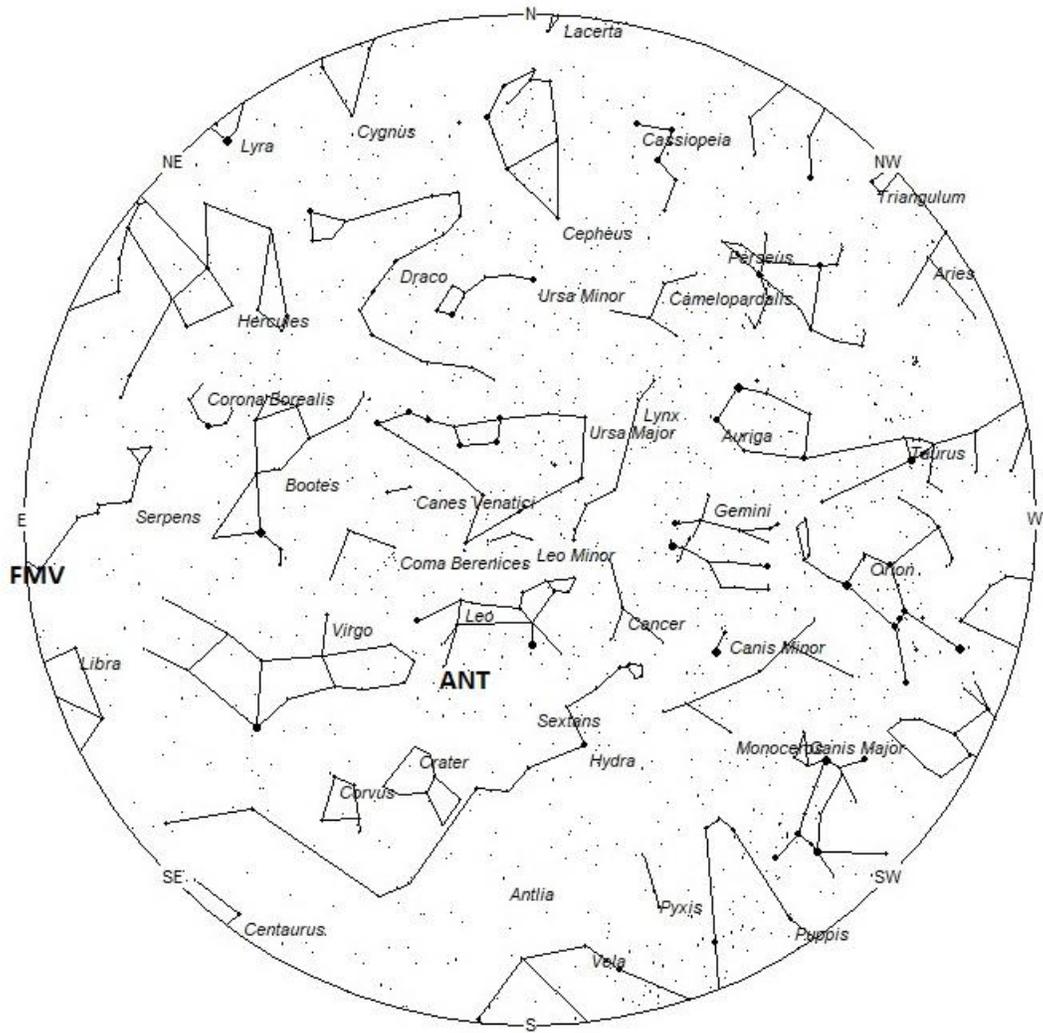
During this period the moon reaches its new phase on Sunday February 23rd. At this time the moon will lie near the sun and will be invisible at night. The moon will enter the evening sky later in the week but will not interfere with meteor observing. This is the best time of the month to view meteor activity as the moon will not be a factor at all. The estimated total hourly meteor rates for evening observers this week is near 3 no matter your location. For morning observers the estimated total hourly rates should be near 8 as seen from mid-northern latitudes (45N) and 13 as seen from tropical southern locations (25S). The actual rates will also depend on factors such as personal light and motion perception, local weather conditions, alertness and experience in watching meteor activity. Note that the hourly rates listed below are estimates as viewed from dark sky sites away from urban light sources. Observers viewing from urban areas will see less activity as only the brighter meteors will be visible from such locations.

The radiant (the area of the sky where meteors appear to shoot from) positions and rates listed below are exact for Saturday night/Sunday morning February 22/23. These positions do not change greatly day to day so the listed coordinates may be used during this entire period. Most star atlases (available at science stores and planetariums) will provide maps with grid lines of the celestial coordinates so that you may find out exactly where these positions are located in the sky. A planisphere or computer planetarium program is also useful in showing the sky at any time of night on any date of the year. Activity from each radiant is best seen when it is positioned highest in the sky, either due north or south along the meridian, depending on your latitude. It must be

remembered that meteor activity is rarely seen at the radiant position. Rather they shoot outwards from the radiant so it is best to center your field of view so that the radiant lies at the edge and not the center. Viewing there will allow you to easily trace the path of each meteor back to the radiant (if it is a shower member) or in another direction if it is a sporadic. Meteor activity is not seen from radiants that are located below the horizon. The positions below are listed in a west to east manner in order of right ascension (celestial longitude). The positions listed first are located further west therefore are accessible earlier in the night while those listed further down the list rise later in the night.



Radiant Positions at 7pm Local Standard Time



Radiant Positions at Midnight Local Standard Time



Radiant Positions at 5:00 Local Standard Time

## These sources of meteoric activity are expected to be active this week.

The center of the large **Anthelion (ANT)** radiant is currently located at 11:08 (167) +05. This position lies in southeastern Leo, 2 degrees southwest of the 4th magnitude star known as sigma Leonis. Due to the large size of this radiant, Anthelion activity may also appear from Sextans and western Virgo as well as southeastern Leo. This radiant is best placed near 0200 local standard time (LST), when it lies on the meridian and is located highest in the sky. Rates at this time should be near 2 per hour no matter your location. With an entry velocity of 30 km/sec., the average Anthelion meteor would be of slow velocity.

The **February mu Virginids (FMV)** were discovered by Damir Šegon and the Croatian Meteor Network team based on studying SonotaCo and CMN observations (SonotaCo 2007-2011, CMN 2007-2010). These meteors are active from February 17 through March 5 with maximum activity occurring on February 26. The current radiant position lies near 16:12 (243) -03, which actually places it in southeastern Serpens Caput, just northwest of the 3rd magnitude star known as Yed Prior (delta Ophiuchi). Rates are expected to be near 1 per hour no matter your location. These meteors are best seen during the last hour prior to dawn when the radiant lies highest above the horizon in a dark sky At 62 km/sec. the February mu Virginids would produce mostly swift meteors.

As seen from the mid-northern hemisphere (45N) one would expect to see approximately 5 **sporadic** meteors per hour during the last hour before dawn as seen from rural observing sites. Evening rates would be near 2 per hour. As seen from the tropical southern latitudes (25S), morning rates would also be near 10 per hour as seen from rural observing sites and 3 per hour during the evening hours. Locations between these two extremes would see activity between the listed figures.

The list below offers the information from above in tabular form. Rates and positions are exact for Saturday night/Sunday morning except where noted in the shower descriptions.

SHOWER	DATE OF MAXIMUM ACTIVITY	CELESTIAL POSITION	ENTRY VELOCITY	CULMINATION	HOURLY RATE	CLASS
		RA (RA in Deg.) DEC	Km/Sec	Local Standard Time	North- South	
Anthelion (ANT)	-	11:08 (167) +05	30	01:00	2 - 2	II
February mu Virginids (FMV)	Feb 26	16:12 (243) -03	65	07:00	1 - 1	IV