

The mystery of Venus' ashen light

April 30 2012

May is the best time to try and spot one of the most enduring unsolved mysteries in our Solar System. Ashen Light is a faint glow allegedly seen on the unlit portion of Venus, during its crescent phase, similar to the earthshine often observed on the Moon, though not as bright. It is more commonly observed while Venus occupies the evening sky, as now, than when it is in the morning sky. But no one really knows for sure what causes it.

So what's the history of our knowledge about this enigmatic glow?

The phenomenon was first noted in 1643, by Italian astronomer Giovanni Battista Riccioli. Though many notable astronomers have reported sightings in the 369 years since, including Sir William Herschel and more recently, Sir Patrick Moore, many others have failed to see the effect, leading to claims that it is due to nothing more than observer error, an illusion, atmospheric effect or equipment malfunction. Things are not helped by the fact that nobody has managed to capture an image of Ashen Light, yet.

As the month progresses, [Venus](#) nears the Sun, ready for its transit on June 5th to 6th and the planet's crescent phase will increase in diameter during the month, from 37 arcseconds to 56 arcseconds. The best option for amateur astronomers hoping to catch a fleeting glimpse is to use an occulting bar to block the bright crescent, making any glow present on the unlit portion of Venus, more visible.

There is much controversy and many theories as to the cause of Ashen

Light. The Keck 1 telescope on Hawaii reported seeing a subtle green glow and suggested it could be produced as ultraviolet light from the Sun splits molecules of carbon dioxide, known to be common in Venus' atmosphere, into carbon monoxide and oxygen, but the green light emitted as oxygen recombines to form O₂ is thought too faint to explain the effect. Another more likely theory is that multiple lightning strikes are illuminating Venus' skies. Though the Cassini spacecraft flew by Venus twice on its voyage to Saturn and failed to detect the high frequency radio noise we associate with thunderstorms on Earth, in 2007 Venus Express did detect low frequency 'whistler waves' that can also result from lightning. It could also be the Venusian equivalent of aurorae.

By far the most bizarre theory, and my personal favourite, was proposed in the early 19th century by the Bavarian astronomer Franz von Gruithuisen, who suggested that Ashen Light was the result of fires lit to clear land for farming on Venus, or to celebrate the coronation of a new Venusian Emperor!

More information: [www-ssc.igpp.ucla.edu/personne ...
ussell/papers/ashen/](http://www-ssc.igpp.ucla.edu/personne...ussell/papers/ashen/)

Provided by [Universe Today](#)

Citation: The mystery of Venus' ashen light (2012, April 30) retrieved 9 April 2024 from <https://phys.org/news/2012-04-mystery-venus-ashen.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
