Pretty Sky Alert

February 27 2009, Dr. Tony Phillips

A Moon-Venus conjunction in Dec. 2008 photographed by Tamas Ladanyi of Mönichkirchen, Austria. This month's conjunction will be even tighter and brighter.

Be careful, this sort of thing can cause an accident. On Friday evening, Feb. 27th, the 10% crescent Moon will glide by Venus, forming a gorgeous and mesmerizing pair of lights in the sunset sky.

Moon-Venus conjunctions are not unusual, but this conjunction has some special qualities:

(1) Venus is at maximum brightness: magnitude -4.6. The planet is twenty times brighter than Sirius, the brightest star in the sky. It is so luminous that it can actually shine through thin clouds and cast subtle

shadows on the ground.

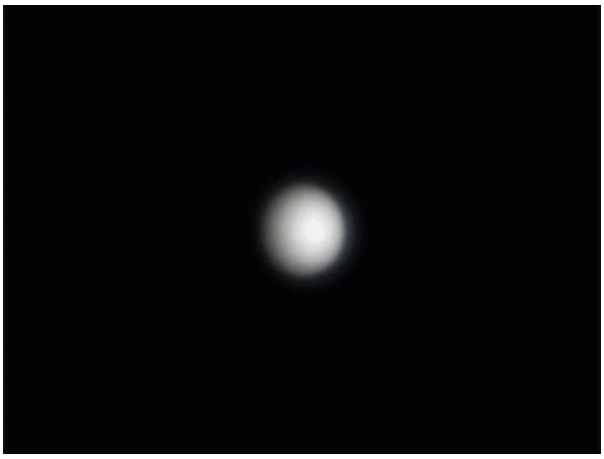
(2) As seen from North America, the Moon-Venus separation is only a little more than 1o. Stick up your thumb and hold it out at arm's length. Venus and the Moon will fit comfortably behind the thumb-tip. Tight conjunctions like this are the most beautiful of all.

(3) Not only is the Moon a crescent, but so is Venus. A small telescope pointed at the glittering planet will reveal a slender 20%-illuminated disk.

Add it all together and you've got a major distraction. Evening drivers should pull to the verge. Staring at Venus and the Moon could be riskier than texting!

Venus is a crescent because, like the Moon, it has phases. The planet can be be full, gibbous, new, or anything in between. The illuminated fraction we see on any given date depends on how much of Venus' nightside is turned toward Earth.

It might seem odd that Venus is brightest now when it is a crescent. That reverses our commonsense experience with the Moon, which is brightest when it is full. A 6-month animation of Venus created by Hong Kong astrophotographer "Wah!" solves the mystery at a glance:



(click for animated version)

The crescent phase of Venus occurs when Venus is close to Earth, very big and bright. The full phase of Venus, on the other hand, occurs when Venus is on the opposite side of the Sun, far away and relatively dim.

Crescent Venus is so bright, you can see it in broad daylight. During the day on Friday, scan the sky for the crescent Moon. Hint: Stand in the shadow of a tall building to block the glare of the Sun. At noon, the Moon will be due east of the Sun's position. Got it? Look a few thumb-widths around the Moon and—voilà!—Venus pops out of the blue. The planet is surprisingly easy to see when you know where to look.

Once daytime Venus has been located, you might feel tempted to examine the planet with binoculars or a telescope. Don't. The nearby Sun can damage your eyes if you accidentally point your optics in that direction.

Wait until the Sun sets and behold the pair framed by deepening twilight blue, first with your unaided eyes, then with a small telescope. On the Moon, you will see mountains, craters, and a vast expanse of nighttime

lunar terrain gently illuminated by Earthshine. On Venus, you will see a delicate little crescent of impenetrable clouds.

It's a nice way to end the day.

Source: by Dr. Tony Phillips, Science@NASA

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