Five Bright Planets Align Sequentially at Dawn!

- a June 2022 Sky Event from the Astronomy Club of Asheville

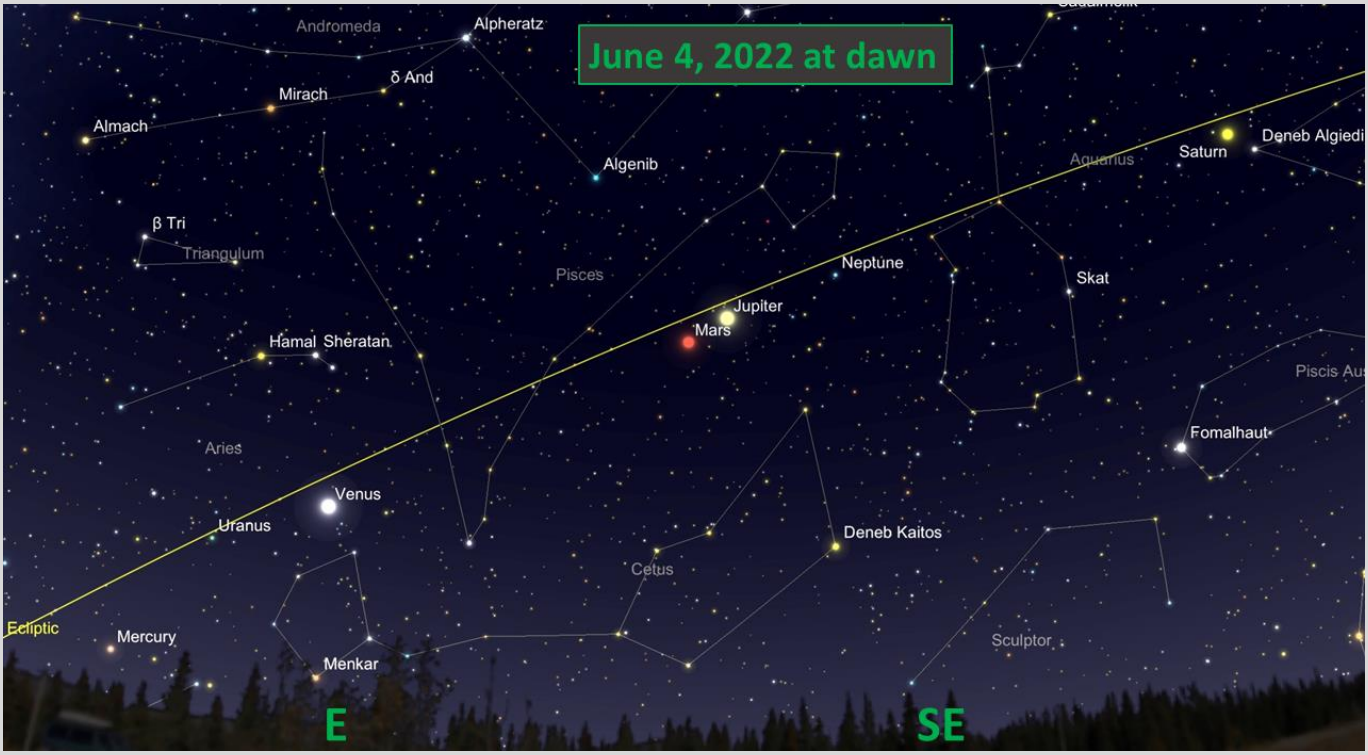

Illustration created using SkySafari and PowerPoint software.
Although the planets Uranus and Neptune are shown on the chart, optical aid is needed to observe them.

Saturday morning, June 4th, and for the rest of the month of June, the dawn skies present one of those events that perhaps looks more impressive on paper than it does in the sky. At dawn**, all five naked-eye planets are arrayed from east to south along the horizon**. Yes, that's pretty remarkable, but what's even more unusual is that **they appear in the same sequence in the sky as they are in their orbits around the Sun**. In other words, scanning from left to right, we have Mercury, Venus, Mars, Jupiter, and Saturn creating an arc that spans 91° from Mercury to Saturn.

Such a configuration doesn't happen very often. Indeed, **it's been about 100 years since a similarly compact parade of planets graced our skies**, and you'll have to wait until 2041 to see such an arrangement again.

This morning Mercury and Venus are 18° apart; Venus and Mars are separated by 30°; Mars is 4° from Jupiter; and Saturn lies 39° west of Jupiter. Certainly, that seems impressive, so what's the catch? The problem (as usual) is Mercury. The innermost planet is not especially bright (magnitude 2.1), and it pops up in brightening twilight to achieve an altitude of only 6½° at sunup. To claim Mercury in this solar-system survey, you're going to need an unobstructed eastern horizon and binoculars.

**** The above portion of this monthly highlight is excerpted, with edits, from the June issue of* ***SKY & TELESCOPE****.*

Venus, the most reflective of all the planets, will be the brightest of the five, followed by Jupiter, Mars, Saturn, and Mercury. It is difficult to discern a 3rd dimension while observing the sky from our 2-dimensional viewpoint, especially when some planets shine brighter than others. But try it, using the approximate distance values for the 5 planets -- that are shown below for the dates around June 4th.

Planet	Distance in millions of miles
Mercury	59
Venus	115
Mars	134
Jupiter	486
Saturn	884

By comparison, the Sun is 93 million miles away from Earth – a distance astronomers call an "astronomical unit" or AU. Direct sunlight takes about 8 minutes and 20 seconds to reach your eyes! So, the reflected sunlight from Mercury reaches your eyes in about 5 minutes, while the reflected sunlight from Saturn left it some 79 minutes ago! Ponder that light travels at the phenomenal speed of 186,000 miles per second! ***