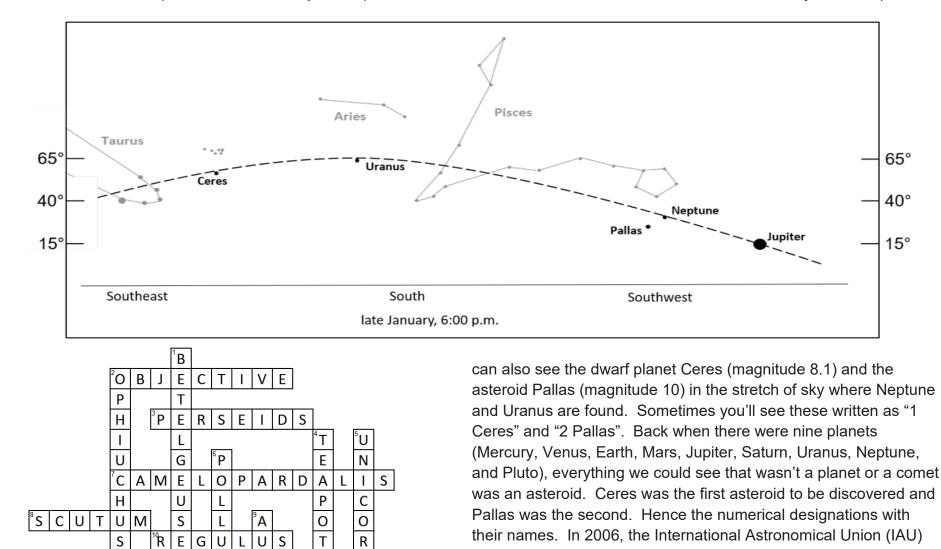
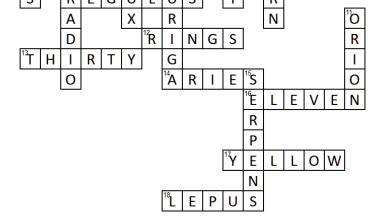


Hi, there again! It's a new year and we keep truckin' along in our orbit around the Sun. I hoped you enjoyed the 2021 year-end puzzle in the previous installment. You can find the answers below. During the past year or so, we've been identifying the constellations that can be seen from here at different times of the year. Of the 88 constellations now recognized by the IAU, we've talked about 53 of them. Of the rest, 7 are completely visible above our horizon at certain times of the year and 13 are partially visible. The rest (15 of them) never peak even a bit over our horizon. We will get to these in 2022. Also in the coming year, I'll tell you about *deep sky objects*. These are things found outside of our solar system. Some are even outside of our Milky Way galaxy. These objects are almost all only visible with binoculars or a telescope, but will (I hope) be interesting to hear about even if you are unable to view them. And as always during the year, I'll fill you in on where the planets are, what phase the Moon is in, and the occasional meteor showers and comets.

**Planet Roundup:** As we move into the new year, the lineup of bright planets in the evening just about disappears. Just after sunset, Jupiter still shines brightly at magnitude -2.0 low in the southwest and Saturn (even lower) can just be seen in the dusky sky at magnitude 0.7. That's it. Moving eastward along the ecliptic, telescope viewers can see Neptune (magnitude 7.9) and Uranus (magnitude 5.8 – which can also be seen with binoculars). These are shown in the accompanying diagram. We have to wait until dawn before Mars and Venus are visible and Mercury is too close to the Sun to be visible. On January 23<sup>rd</sup>, Mercury passes between the Earth and the Sun (called an *inferior conjunction*) and will start to become visible to us before sunrise in February. Telescope users





reclassified solar system objects. Ceres and Pluto are now considered to be *dwarf planets*. Pallas is still an asteroid. Both Ceres and Pallas were considered to be planets at the time of their discovery (1801 and 1802, respectively) but as more and more objects were found in a zone between Mars and Jupiter, in the 1850s, they were all classified as *asteroids*. Upcoming Moon phases are: 3Q on the 25<sup>th</sup>, New Moon on February 1<sup>st</sup>, and 1Q on February 8<sup>th</sup>.

You can reach me at astroblog@comcast.net with any questions and comments. This is What's Up? installment #56

Barry

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