NATURALISTS' NOTES

The Wanderers

The ancients, more aware of the night sky than modern people, knew that five "stars" wandered among the stars that remained fixed relative to each other. These non-twinkling "stars" are planets, coined from the Greek word for wanderer. Starlight is diffracted by turbulence in the atmosphere, causing the pinpoint image of the star to change slightly in brightness and position, and hence "twinkle". Atmospheric disturbance isn't great enough to cause twinkling of non-pinpoint light from closer objects, like the sun, moon or planets.

The planets, like the sun and moon, rise in the east and set in the west, but their movement relative to the constant background stars is from west to east. This eastward motion is sufficiently slow that an observer must watch the sky for several nights before their wandering can be detected.

Mercury, Venus, Mars, Jupiter and Saturn are the planets that can be seen with the naked eye. Even a small telescope will bring Jupiter's four largest moons (the most recent count was 63 Jovan moons) and the rings of Saturn into view. Uranus, Neptune and Pluto can only be viewed with increasingly larger telescopes.

Summer is not the best time to view planets, but in Powell River it is the only season with consistently clear skies. This summer, Jupiter will dominate the night sky. Look up, find the brightest "star", and that will be Jupiter, next to the moon on August 1, and above it on August 29. Jupiter is so bright because it is so huge. Its mass is more than double all the other planets combined.

Saturn may not be as large as Jupiter but its rings are spectacular. The rings, composed of chunks of snow, ice and dirt, are 274 500 km across, but only 48 km thick. The chunks range in size from pebble-sized particles to hunks as large as football fields. Within the rings, there is a 290-km gap that results from a tiny moon, named Pan, ploughing a path through the rest of the debris. Look for Saturn on August 26th, close to Venus, low in the east before sunrise.

The first four planets from the sun are small and rocky. The next four are gaseous giants. Pluto is different yet again. There is now ongoing debate whether Pluto should be considered a planet. Other objects have been discovered orbiting our sun, such as Xena, in 2005. (Xena, temporarily named in honour of the TV character, was also found to have a moon, nicknamed Gabrielle.) Should Xena be considered a planet? It is 16 billion km away, compared to only 5.7 billion for Pluto, but Xena's diameter is 2 900 km, at least 30% bigger than Pluto. Logically, if Pluto is a planet, then so is Xena, and if Xena isn't a planet, then neither is Pluto. The International Astronomical Union has yet to decide.

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