



Mountain Skies

March and April, 1999

During January and February, Jupiter and the stars of Orion have moved westward in the early evening sky. The objects in the early evening sky, just after the sun has set, are those just to the east of the sun as viewed from our position along Earth's annual path. Earth passed Jupiter and Saturn in September and October of 1998 and has since been leaving them behind in the orbital plane so that they will gradually slip from sight behind the glare of the sun at the ends of March and April respectively.

The planets

Meanwhile, Venus has been slowly emerging from behind the sun since October, and Mercury since early February, thus appearing to rise in the western sky at dusk as Jupiter and Saturn appear to set. On February 23, a bright Venus rose past the dimmer, setting Jupiter, coming to within 0.15 degrees in the sky . . . but about 450 million miles in the plane of the solar system! Since then, the two brightest planets have been separating at about 1° per day, and Mercury has been rising. It will almost meet Jupiter on March 6 as it reaches its greatest elongation, farthest apparent point from the sun.

Mercury will then appear to set with Jupiter as it continues toward Earth and back toward the sun to pass between us on March 19, the same day that Venus comes closest to Saturn, leaving only 2.5 degrees between them. Mars, on the opposite side of the sky, in

Virgo, rises after 10 p.m. in early March, but by April 24 rises at sunset. This places Earth directly between the Sun and Mars as Earth passes Mars in its faster orbit. This configuration is called the "opposition" of Mars; it is at its brightest and closest to Earth, a mere 550 million miles away.

The stars

By the end of April, due to the rapid lengthening of the day through the spring and daylight savings time "leaping us ahead" on Sunday, April 5, Orion will stand on the horizon as twilight finally deepens into night at 9 p.m. But in early March, the great hunter stands high in the southern sky as darkness falls. Rigel,

the bright bluish star south of the belt, holds down one of the southern corners of an asterism (a recognized group of stars that is not a constellation) known as the Winter Hexagon. The Big and Little Dippers are asterisms, as is Orion's Belt.

The Winter Hexagon spreads across more than an eighth of the visible sky in a wedge from the horizon to the zenith (the point directly above the observer). As shown on the diagram, the major stars are Rigel (RYE-jell) in Orion, Sirius (as in "serious") in Canis Major (the Big Dog), Procyon (PRO-see-on) in Canis Minor (the Small Dog), Pollux (PAUL-lux) and Castor (KASS-tor) in Gemini (the twins), Capella (as in *a cappella* choirs) in Auriga (o-REE-ga) the charioteer (who carries two small goats . . . the kids), and Aldebaran (al-deb-a-ron) in Taurus (the bull).

Herald of the summer sky

As the Winter Hexagon rapidly vanishes from sight in the lengthening daylight of late spring, the first bright herald of the summer sky rises in the east. After 9 p.m.

on March 1, and 7 p.m. on April 1, Arcturus (arc-TOUR-us) in Boötes (the herdsman, with the "oo" pronounced like the two o's in cooperate) can be seen above the eastern horizon. To find this bright star, look to the northeast where the Big Dipper stands on its handle. Follow the arc of the handle and continue it in an "arc to Arcturus." An hour later, continue along this arc in a "spike to Spica (spike-a-a)."

Half an hour later, the red planet, Mars, rises. In its orbit, the Earth is catching up and passing Mars at this time, so the red planet is in "retrograde" motion, where it moves westward with respect to the stars. After mid-April, watch Mars and Spica as the gap between them (13° on April 15) closes to a minimum of 6° on June 6 when both the snow and stars of winter will have disappeared once again. —Aileen O'Donoghue

