# Stars over Sisters

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Correspondent

Ask someone to name a prominent constellation of winter and the response you'll probably get is Orion. This will often be the case even if the person doesn't know and is totally guessing. It works because, after the Big Dipper, the mighty celestial hunter's name is so well known.

Orion is, of course, the right answer.

This stunning stellar grouping rides high in the southern sky during the evening hours of this last full month of winter, and can't be missed by anyone who glances up into a clear sky. The focus of this article, however, isn't about the constellation itself, but instead features a very special object that resides within its borders.

Orion's belt is marked by three evenly spaced, relatively bright stars lying in a nearly straight line. Beneath the Hunter's belt are three vertically oriented, dimmer stars spaced closer together. They denote his sword. Upon closer naked-eye inspection, the middle "star" looks kind of fuzzy, and is, in fact, not a star at all.

The Orion Great Nebula, commonly referred to as M42, is the brightest and closest diffuse nebula in the entire sky. A diffuse nebula is an interstellar cloud of gas and dust where new stars are believed to form based on strong observational evidence.

Astronomers estimate that M42 lies at a distance of 1,344 light-years, is 24 light-years across, and contains enough material to form about 2,000 sun-size stars. It is one of the most scrutinized and photographed objects in the night sky, and this intense examination has revealed much about the process of how star and planetary systems are brought into existence from collapsing clouds of gas and dust. In fact, protoplanetary disks, brown dwarfs, and the photo-ionizing effects of massive nearby stars have been measured within this object.

As a favorite target of star-gazers worldwide, no praise is too high for the Great Orion Nebula. Upon seeing it for first time through a telescope, observers often use superlatives like "gorgeous," "incredible," "magnificent," and "spectacular," to describe what they see. Almost any backyard telescope will produce an impressive image of this glowing cloud of gas and dust. Use low power to get the widest possible field of view.

For those who have never before seen an asteroid of our solar system, that opportunity presents itself early in February. Although Vesta is only about half the size of the largest member of the asteroid belt, dwarf planet Ceres, it is four times brighter, owing to its high reflectivity. From February 3 through February 5 is an ideal time to attempt the search because Vesta will be the brightest "star" between two brighter stars in the constellation of Gemini.

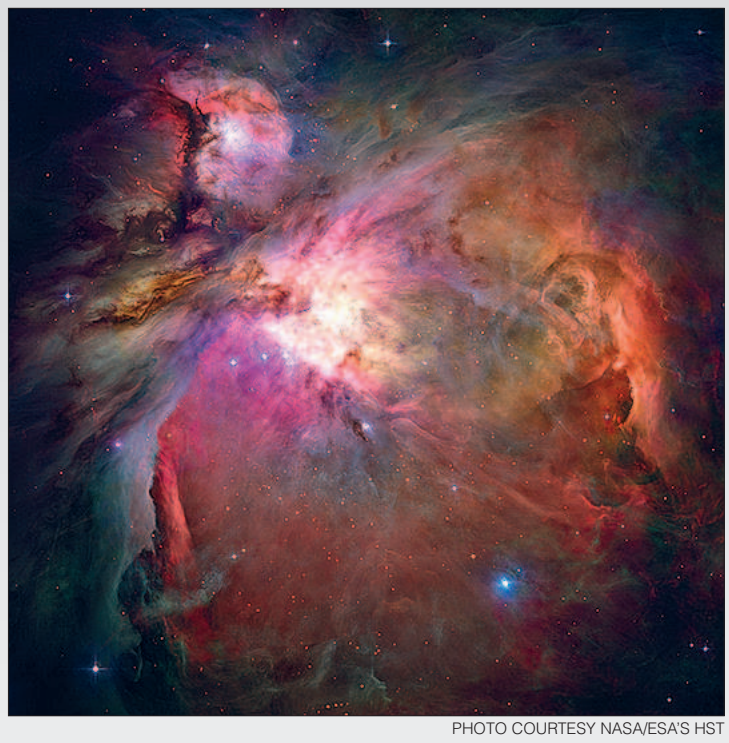

PHOTO COURTESY NASA/ESA'S HST

**The Great Orion Nebula is the brightest and nearest region of active star formation.**

Kappa Geminorum, at 3.6 magnitude, lies about five degrees south of Pollux, Gemini's brightest star. Two degrees north of Kappa is the 5.3 magnitude star 76 Geminorum. Dimmer Vesta will pass between these stars, making it relatively easy to identify through a pair of binoculars.

The best planetary display this month is still in the western sky, when on February 1 Venus, Mars and a waxing crescent moon will line up, putting on a grand spectacle. Venus will attain its greatest brilliance on February 16/17. Rising half an hour before midnight on February 1, Jupiter is now officially an evening planet.

On the morning stage, early in the month, Saturn comes up in the southeast just before 4 a.m., while Mercury pops into view a mere five degrees above the eastern horizon half an hour before sunrise. Optical aid may be necessary to coax it out of the brightening dawn. For the remainder of the month the swift planet quickly falls back toward the sun.

The surface of the moon gradually becomes more illuminated during the first 10 days of February, becoming the Full Snow Moon on February 10. Thereafter, the moon is on the wane, finally going dark at new moon on February 26.

## SAGE GROUSE:
## Volunteers help biologist collect data

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and learn how to survey for new leks. To reach their leks the volunteers drive primitive ranch and high desert roads through sagebrush habitat with GPS units, maps, spotting scopes, and binoculars. And something to think about: With the snow load this year, there is the distinct possibility access to the leks will be difficult at best, and requiring four-wheel drive.

The volunteers are assigned leks that agency personnel would not be able to count during the short breeding season. A great result of this project is that professional wildlife biologists find the accuracy of the data gathered by the volunteers matches the accuracy gathered by agency staff. Therefore the count information will be used to help estimate the breeding population and add it to the sage grouse database used by federal and state biologists, data sorely needed for management decisions.

To sign up for the Adopt-a-Lek program, contact your local ODFW office, or contact Lee Foster, ODFW coordinator of the Adopt-a-Lek project by phone: 541-573-6582, or email: lee.j.foster@state.or.us.