

# Biblical Astronomy

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## NEW MOON REPORT

Nehemia Gordon from Jerusalem, Israel compiled the following New Moon Report for August 2007 and the beginning of the Sixth Month on the Biblical Calendar.

“On Tuesday August 14, 2007 the New Moon was sighted from Israel. The moon was first sighted from Jerusalem at 19:36 by Nehemia Gordon followed a few seconds later by Devorah Gordon, Avi Marcus, Dina Marcus, and Johann Schutte, then a minute later from the same location by David Linvill and Ziw Arieli. The moon was also sighted from Ranen by Magdi Shamuel at 19:35 and from another part of Jerusalem by Neria Haroeh at 19:36.”

The next New Moon is expected to be visible from Jerusalem near sunset on September 13, 2007. That will mark the beginning of the first day of the Seventh Month on the Biblical calendar also known as the month of Tishri on the Hebrew Calendar. The first day of this month is Yom Teruah or Yom Zicron, the Day of Trumpets or Day of Shouting. This day is also popularly known as Rosh Hashanah. On the Gregorian calendar that day will be from sundown September 13 to sundown September 14. I will have the other dates of the Fall Feasts in the September/October 2007 issue of *Biblical Astronomy*. You can also find all of the Feast dates for the current Biblical year in the March/April 2007 issue of *Biblical Astronomy*.

## MOON AND MERCURY IN CONJUNCTION

The first crescent of the New Moon will be seen from Jerusalem as the moon and *Catab* (*Mercury*) come into conjunction on September 13, 2007 (Tishri 1, Yom Teruah).

**Chart 444** shows the position of the moon and Mercury in the sign *Bethulah* (*Virgo*) as seen from Jerusalem at the time of conjunction on September 13, 2007. It is also around the time, if not the exact time, that the first crescent will be sighted. The moon is shown oversized here for better graphics.

The planet Mercury represents Gabriel the messenger angel in one of its major portrayals. Perhaps Gabriel will be blowing his horn (trumpet, shofar) at the onset of Yom Teruah (Day to Trumpets) which begins with the sighting of the crescent New Moon.

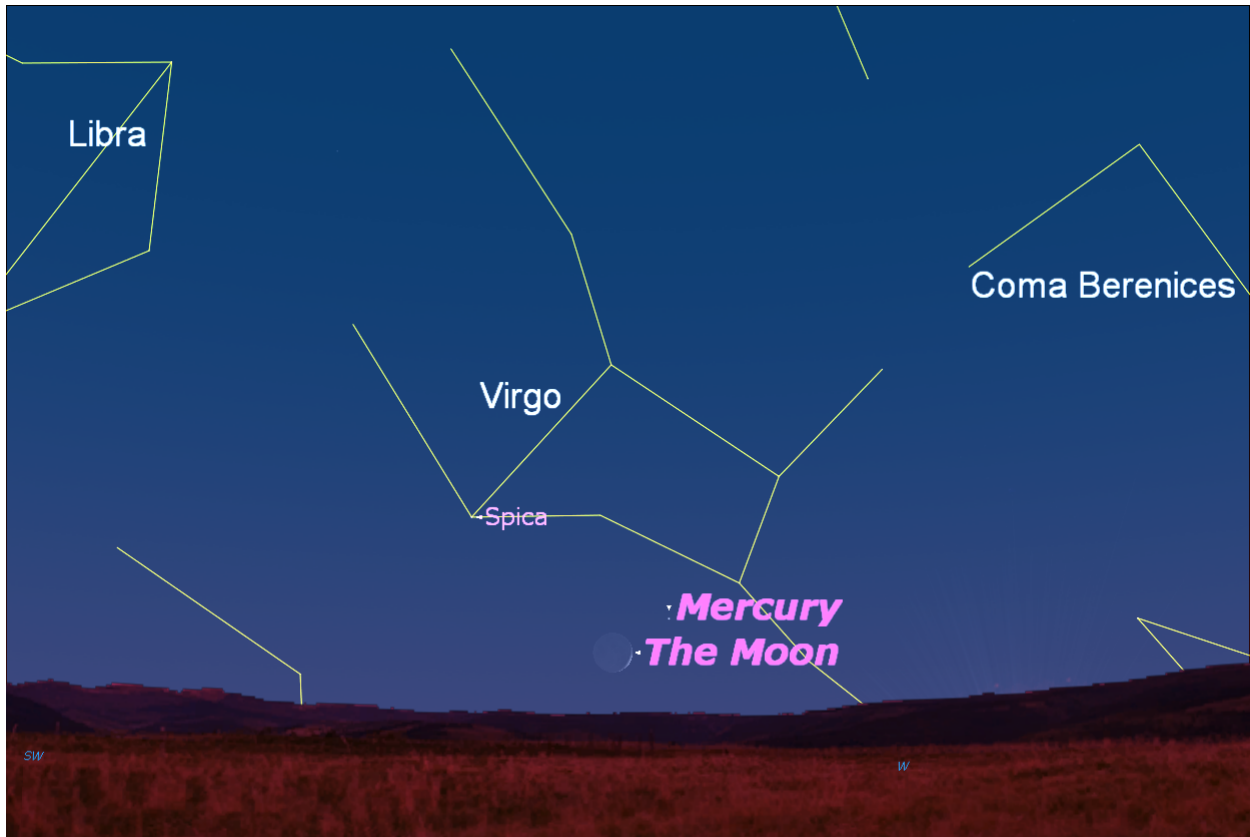
## VENUS AND SATURN IN CONJUNCTION

The planets *Nogah* (Venus) and Saturn came into conjunction on August 9, 2007. This is the second time this year that the two planets were in conjunction. The first was on July 1. Venus is doing a retrograde loop in *Arieh* (*Leo*) *the Lion*, and will come into conjunction with Saturn again on October 15, 2007. This is known as a triple conjunction.

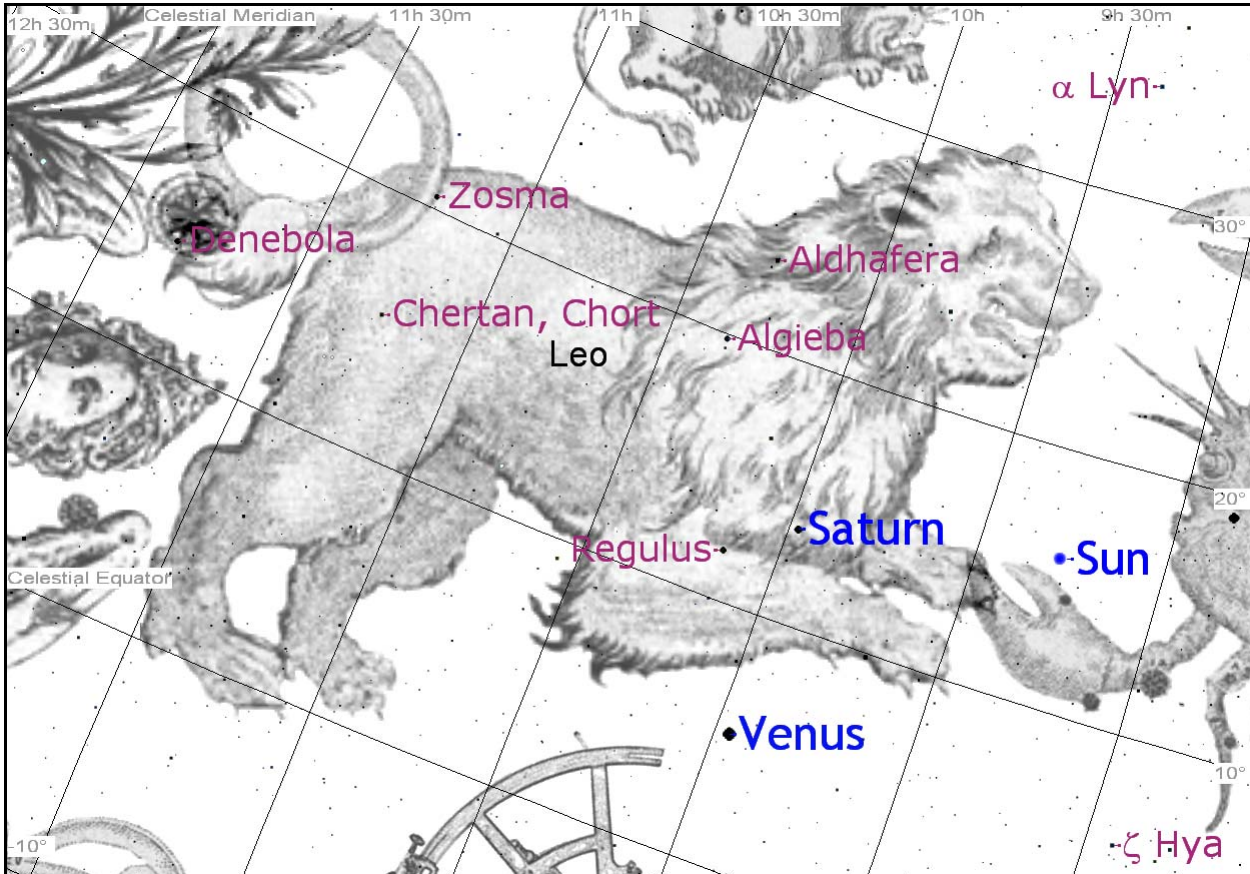
This may be of some significance since *Nogah* is the bright and morning star and is doing a retrograde loop in the *Lion of Judah*. *Y'shua* is the bright and morning star and the Lion of the Tribe of Judah. During this loop, *Nogah* is performing a triple conjunction with Saturn (represents Satan).

**Chart 445** shows the position of the two planets in *Leo* as seen from Jerusalem when they were in conjunction on August 9. They are not very close together here but are in the same celestial longitude which is the astronomical definition for a conjunction.

This conjunction was most likely very difficult to see since the planets were very close to the horizon shortly after sunset. It is very doubtful that Saturn was seen with the naked eye at that time.



**Chart 444** – Mercury and New Moon conjunction on September 13 as seen from Jerusalem



**Chart 445** – Venus and Saturn in conjunction on August 9, 2007 as seen from Jerusalem

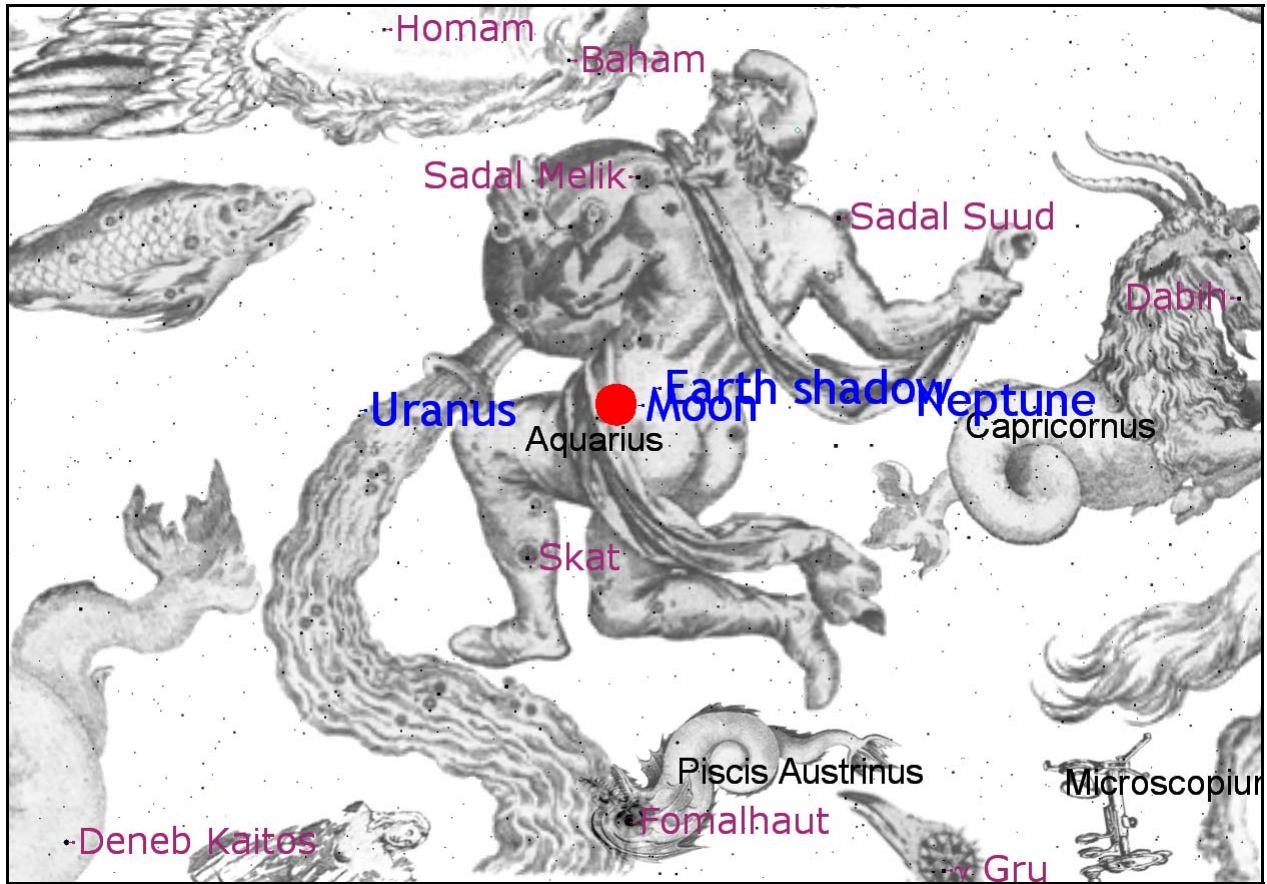


Chart 446 – Total Lunar Eclipse in *Aquarius* on August 28, 2007 as seen from Portland, Oregon

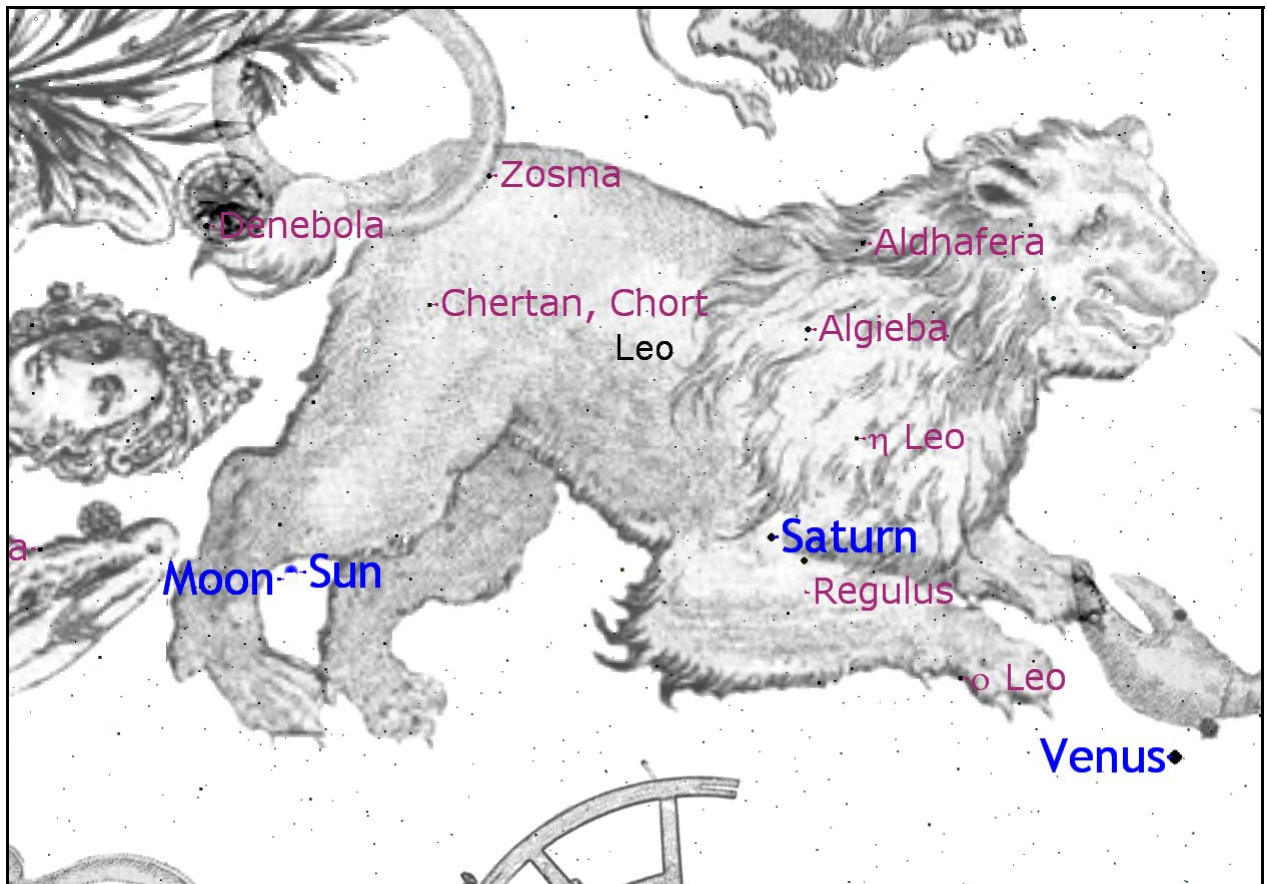


Chart 447 – Position of the sun and moon in *Leo* during the solar eclipse on September 11, 2007



## TOTAL LUNAR ECLIPSE

There will be a total eclipse of the moon on August 28, 2007. This will be best seen from the Pacific Ocean, western North America, and eastern Australia. It will be partially visible throughout the Americas, eastern Asia, and Australia. This eclipse will not be visible from Israel.

**Chart 446** shows the position of the moon in the sign *Deli (Aquarius)* near the peak of the eclipse (around 3:30 am PDST) as seen from Portland, Oregon. The moon may appear blood red at that time to viewers in western North America.

The sign *Deli (Aquarius)* represents God's blessings being poured forth to His people. This also portrays the pouring forth of holy spirit from The Holy Spirit (The Almighty).

**A note of interest:** It was on August 27, 2003 that the planet Mars reached its closest approach to the earth in about 60,000 years. Mars reached opposition the next evening, August 28, 2003. The position of the moon in the August 28, 2007 eclipse is close to the same the position that Mars was in Aquarius when it was in opposition on August 28, 2003 – exactly 4 years to the very day. Mars is red and represents the atoning blood of Messiah in one of its portrayals. A blood red moon can also represent the atoning blood of Messiah that was, and is, necessary so that the blessings or holy spirit can be poured forth, through which we have our salvation. It was at the end of the 4<sup>th</sup> millennium from the creation of Adam that Messiah was crucified and paid the atonement for our sins and thus our salvation.

## PARTIAL SOLAR ECLIPSE

There will be a partial eclipse of the sun on September 11, 2007. This eclipse will be visible from Southern South America. It will not be visible from North America or Israel.

**Chart 447** shows the position of the sun and the moon in the sign *Arieh (Leo) the Lion* at the peak of the eclipse.

Lunar eclipses occur about every 6 months. Solar eclipses occur or can occur 2 weeks before a lunar eclipse or 2 weeks after a lunar eclipse, and sometimes both. So, about every six months we can look forward to a lunar eclipse and a solar eclipse visible from somewhere on planet Earth.

## POSSIBLE METEOR STORM

There is the possibility of a major meteor shower on the evening and early morning of August 30/September 1, 2007. It was on August 12 that we had the Perseid Meteor Shower (see the July 2007 newsletter for details), but the one coming up at the end of the August and beginning of September is the Aurigid Meteor Shower. This normally is not much of a shower to get excited about, but this year we may get a big surprise.

The following is an August 17, 2006 news release written by Joe Rao from Space.com. Yes, the date of the news release is correct, August 2006. I had this article in my files for a year now waiting for this newsletter.

### Spectacular Meteor Shower Possible for 2007

“A spectacular [meteor shower](#) might be in the offing late next summer, *SPACE.com* has learned.

It may not last very long, but could produce a bevy of bright, swift shooting stars for favorably positioned skywatchers. The prediction is found in a technical report, co-authored by two astronomers who are targeting Sept. 1, 2007 as the date for the potential display.

The meteors are called "Aurigids" because they appear to fan-out from the constellation of Auriga, the Charioteer.

### At least a strong shower

Meteor showers occur whenever we ride into the dusty debris left behind in a comet's orbit. The debris left behind by Kiess, a [comet](#) last seen in 1911, is what produces the Aurigids. The comet takes approximately 2,500 years to orbit the Sun, but there are also dense trails of dust traveling along its orbit. Earth has had glancing blows in the past with a few of these dust trails in 1935, 1986 and 1994.

In 2007, however, the Earth is expected to pass very close to the center of a dust trail, which astronomers Esko Lyytinen of Finland and Peter Jenniskens of the SETI Institute in California said, should result in "a spectacularly rich shower of bright meteors."

The researchers in the past used computer models to predict outbursts of the Leonid meteor shower, which wowed skywatchers in [2001](#) and [2002](#).

Shooting stars, or meteors, are common any night of the year; five or six per hour are normal. During a respectable meteor shower, they can be seen streaking across the sky every few minutes. But occasionally the sky explodes in a shower of sparks, a rare meteor "storm" that is something to get excited about.

### Meteor storm possible?

No one is certain how strong next year's Aurigids may be, but tomorrow, Jenniskens will make an announcement at the General Assembly of the International Astronomical Union in Prague concerning an "Aurigid Meteor Storm" of Sept. 1, 2007.

Meteor storms are typically said to involve at least 1,000 meteors per hour, a rate sometimes achieved only in 15-minute bursts. It is not clear what sort of hourly rate Jenniskens will announce as his prediction, however.

"I do not know why Peter Jenniskens will announce this as a storm," Lyytinen told *SPACE.com*. "I have not especially tried to predict the strength but I would guess only a good or moderate shower, a storm not impossible."

The peak of the shower is predicted to occur at 11:37 GMT. Unfortunately this comes during daylight for Europe and much of North America. But the western United States and Canada, as well as much of Alaska and Hawaii will still be in pre-dawn darkness and would be in an excellent position to view it.

Another drawback will be a gibbous Moon, four days past full, whose light could interfere with observing. But, Lytinen said, many of the meteors are expected to be very bright. "So, maybe the moon does not make very much harm in the observations ... I hope."

### Update: Aug. 18, 2006

At the International Astronomical Union General Assembly in Prague today, Peter Jenniskens revealed his outlook for the 2007 Aurigid Meteor Shower. He forecast rates of at least 400, possibly even exceeding 1,000 meteors per hour.

This prediction is based on the modeling of the trajectories of dust particles ejected from comet Kiess, which in turn fits the three past outbursts of the Aurigids. But this time we will hit - according to the model - very close to the center of the dust cloud, within 39,000 miles (63,000 km.).

Since this has never been the case with this shower before, there's no way to know how strong the shower might be."

The Aurigids' radiant is in the constellation *Auriga, the Shepherd*. This constellation portrays the Great Shepherd, Messiah Y'shua, protecting his flock from the wrath of the Almighty in His judgment on his enemies on the day of His wrath. For His sheepfold that belongs to Him, he took that wrath upon himself when he suffered for the atonement of our sins when He was crucified. (See the article on Auriga in the June 2005 issue of *Biblical Astronomy* for further details).

The chart below shows the radiant of the meteor shower in the bosom of the Shepherd. That is also where he is holding his suckling lambs.



### INTERESTING PHOTO OF STAR MIRA

The photo below is a mosaic of photos of the star *Mira* taken by NASA's [Galaxy Evolution Explorer \(GALEX\)](#) satellite.



The star looks like a monstrous comet with a very long tail. The following article on this star is

from an August 17 news release posted on the Sky & Telescope website.

## Mira's Marvelous Tail

“The famous long-period variable star Mira (Omicron Ceti) is just a tiny pinpoint in the eyepiece of a telescope. But, astronomers announced today, Mira has blown off a gassy hood and tail so big that they wouldn't even fit into your telescope's field of view.

Like puffy smoke from a steam locomotive in an old Western, Mira's tail consists of gas and dust puffed out by the star during its speedy trek through the interstellar gas of the Milky Way. The tail was discovered only now because it emits only far-ultraviolet light. As reported in the August 16th issue of *Nature*, D. Christopher Martin (Caltech) and his colleagues spotted signs of Mira's tail during routine inspection of images from NASA's [Galaxy Evolution Explorer \(GALEX\)](#) satellite, which is on a mission to map the far-ultraviolet sky. “One of our team members noted a bit of fluff around Mira,” says Martin, “and we decided to take deeper images.”

Mira is an old, pulsating red giant on the verge of becoming a planetary nebula. The star has about 1.5 times the mass of the Sun and is orbited every 18 years by a much fainter companion. Like all long-period red variables, Mira is shedding a lot of material into space: about one Earth mass every eight years.

Mira is plunging through our part of the Milky Way with an unusually large space velocity, 130 kilometers per second. This accounts for the length of the tail that it has left behind in the interstellar medium. In addition, some the blown-off gas piles up in a bow shock in front of the star, as is dimly visible in the GALEX images.

According to the team, the far-ultraviolet glow is probably caused by fluorescence of hydrogen molecules hit by energetic electrons.

At Mira's distance of 350 light-years, the 2° length of the tail translates into a physical length of 13 light-years — the distance the star covers in about 30,000 years. Thus, the tail serves as a fossil record of the star's mass loss over the past 300 centuries. Says Martin, “This will tell us how other stars like our Sun [in the far future] age over time.”

The tail is wider and brighter at positions that correspond to roughly 10,000, 20,000, and 30,000 years ago, suggesting a long-term periodicity in Mira's stellar wind. “It all fits together very nicely,” says astrophysicist Lex Kaper (University of Amsterdam). Theoretical models predict long-term “thermal pulses” for Mira-like stars, Kaper notes; these are probably related to the shell-like structures seen in the outer regions of some planetary nebulae.

However, Martin and his colleagues note in their

paper that the thermal-pulse period for lightweight old red giants like Mira should be much longer than 10,000 years. So, large-scale turbulence or density variations in the interstellar medium may be what shaped the tail instead.”

*Mira* is a star in the neck of constellation *Cetus* (*the beast from the sea*). *Mira* means THE REBEL. The following is from E.W Bullinger's *The Witness of the Stars* on the star *Mira*.

“ The star  $\circ$  (in the neck) is named *Mira*, which means THE REBEL. Its name is ominous, for the star is one of the most remarkable. It is very bright, but it was not till 1596 that it was discovered to be *variable*. It disappears periodically *seven* times in *six* years! It continues at its brightest for fifteen days together. M. Bade says that during 334 days it shines with its greatest light, then it diminishes, till it entirely disappears for some time (to the naked eye). In fact, during that period it passes through several degrees of magnitude, both increasing and diminishing. Indeed its variableness is so great as to make it appear *unsteady*!

Here, then, is the picture of the Great Rebel as shown in the heavens. What is it, as written in the Word? The Almighty asks man: (Read Job 41:1-10)

But he whom man cannot bind can be bound by the Lamb, and He is seen with "the Band" that has bound the fishes, now in His hands, which he has fastened with a bright star to his neck, saying, (Read Isaiah 51:22, 23; Isaiah 26:21-27:1; and Psalm 74:12-14).

## BIBLICAL ASTRONOMY SEMINAR

There is a Biblical Astronomy Seminar tentatively scheduled for September 14 and 15, 2007. If it is a go, this seminar will be held at or near Bonners Ferry, Idaho. If you live in the vicinity of northwest Idaho and wish to attend the seminar, RVSP to Linda Elliston at **208-267-2348** for further information. We need at least 25 people to attend to make it happen.

There will be a fee of \$25.00 for each person attending the seminar to cover the expenses and teacher's honorarium.

**Yahweh bless you super-abundantly above all that you can ask or think through His beloved son Y'shua HaMashiach (Jesus Christ).**