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Martian Chronicles

Newsletter of the Museum Astronomical Resource Society
Volume 18, Number 9/10 September/October 2002

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UPCOMING EVENTS

SEPTEMBER 2002

- Sat. 09/07, SPAC Star Party, from dusk until dawn, at Hickory Hill (possible, call SPAC to confirm)
- Fri. 09/13, 7:30 p.m. - Monthly Meeting at MOSI, Program: 2003 Mars Exploration Rover Mission
- Sat. 09/14, evening - MOSI SkyWatch
- Sat. 09/21, evening - MARS SkyWatch at MOSI
- Sat. 09/28, evening - MARS SkyWatch at MOSI

OCTOBER 2002

- Thur. 10/03, 9 a.m. – 1 p.m., Aerospace Odyssey at MOSI
- Fri. 10/04, 9 a.m. – 1 p.m., Aerospace Odyssey at MOSI
- Sat. 10/05, 9 a.m. – 5 p.m., Aerospace Odyssey at MOSI
- Sat. 10/05, SPAC Star Party, from dusk until dawn, at Hickory Hill (possible, call SPAC to confirm)
- Fri. 10/11 – Dr. Thomas Bopp at MOSI
- Fri. 10/11, 7:30 p.m. - Monthly Meeting at MOSI, Program: Kuiper Belt Objects
- Sat. 10/12, evening - MOSI SkyWatch
- Sat. 10/19, evening - MARS SkyWatch at MOSI
- Sat. 10/26, 9 a.m. – 4 p.m., Girl Scout 90th Anniversary Celebration at MOSI
- Sat. 10/26, evening - MARS SkyWatch at MOSI
- Sat. 10/26, 7 p.m. – 9 p.m., MOSI's "Fall Back" SkyWatch at Green Swamp Wilderness Preserve

MOSI SkyWatch: Observing sessions are normally held on the Saturday evening nearest the First Quarter Moon and the two Saturday evenings following. SkyWatch sessions are held at MOSI. Call to check on any schedule changes. The Saunders Planetarium: 813-987-6360; MOSI Information Desk: 813-987-6012

SPAC Star Parties: Hosted by the St. Petersburg Astronomy Club (SPAC). Held on the Saturday evenings nearest the new moon, at Hickory Hill near Brooksville. For more information call the SPAC hotline: 813-792-0721

FIRST LIGHT

Hello, friends.

Here is your catch-up September-October hybrid newsletter. I hope that this will finally get us back on a "one month, one newsletter" schedule. Unfortunately, my work schedule and other commitments will force me to emphasize punctuality over content to make this happen. As always, I welcome all newsletter contributions. Please enjoy your hybrid edition.

Clear Skies,

Jimmy Thomas

MARTIAN HAPPENINGS

AUGUST MEETING

At the August 9 meeting our own Mark Dixon presented a wonderful overview of the Newtonian telescope that he constructed as part of his projects to achieve the rank of Eagle Scout. Because of time, the Voyager mission presentation was postponed to the following month.

SEPTEMBER MEETING

At the September 13 meeting we discussed and voted on some items of business. The result is as follows: 1) MARS club annual dues were increased to \$15, and 2) the dues renewal time was changed to be the month of September each year for all club members. Other items of business were also discussed, including the option that club members have to voluntarily receive their newsletters electronically only, thereby saving club funds. Following the general discussions, the group briefly reviewed the presentation on the Voyager mission, which celebrated its 25th anniversary in August. We learned about the current Voyager mission, in which the two spacecraft are looking for the heliopause, the edge of our solar system and the beginning of interstellar space.

OCTOBER MEETING

At the October 11 meeting we will review the study of Kuiper Belt Objects (KBOs) and consider recent discoveries of larger KBOs.

NEW ONLINE CLUB CALENDAR

We have made a positive step with regard to updating our club calendar. With the help of MARS member Jose Suarez we have established an online calendar that is hosted by Calendars.Net. The new calendar allows posted events to be color coded. In addition, the events may display additional information or take the reader to a related website when the event is clicked upon.

The October calendar has several MARS and MOSI events that I hope you will interest you. To visit the new calendar, go to the club website, www.marsastro.org, and click on the link near the top that says "Check out Our New Online Club Calendar."

CLUB MEMBERSHIPS

At the September meeting it was agreed that MARS annual club membership would be increased to \$15.00. In addition, it was agreed that membership renewal would be changed so that all memberships expire in September of each year.

For those of you who are MARS members, you should receive a letter in the next few days from club treasurer Jerry Scalzo. In the letter you will find information on how you may renew your membership if it has expired, or extend your current membership to September of 2003, which is the next renewal time. Look for your letter and please respond promptly.

MOSI'S AEROSPACE ODYSSEY 2002

MOSI's Aerospace Odyssey 2002 is going on this week, during the mornings of October 3 and 4 and all day on Saturday, October 5. MARS members Joe Wasielewski and Mildred Simpson are giving what available time they have to represent our club as exhibitors at this event. Thanks, Joe and Mildred. We all appreciate your time and willingness to serve!

OCTOBER SKYWATCH DATES

The SkyWatch dates for this month are the evenings of October 12, 19 and 26. MOSI and MARS will participate on the evening of October 12 and MARS will host the SkyWatch events on October 19 and 26.

GIRL SCOUT CELEBRATION AT MOSI

On Saturday, October 26, from 9:00am to 4:00pm, MOSI is hosting Girl Scout troupes as they celebrate the 90th anniversary of the Girl Scouts of America. MARS has been asked to assist in providing solar observing and to provide some club displays. No more details on this event were known as of the time of this writing. If you wish to participate in this event, please contact Jimmy Thomas A.S.A.P.

"FALL BACK SKYWATCH"

In keeping with the change of daylight savings time, MOSI will host a "Fall Back" SkyWatch session at Green Swamp Wilderness Preserve on Saturday, October 26 from 7:00pm to 9:pm. Nothing more is known by this reporter regarding this event at this time, for more information, contact The Saunders Planetarium at 813-987-6369.

WHAT PRESENTATIONS DO YOU WANT TO SEE?

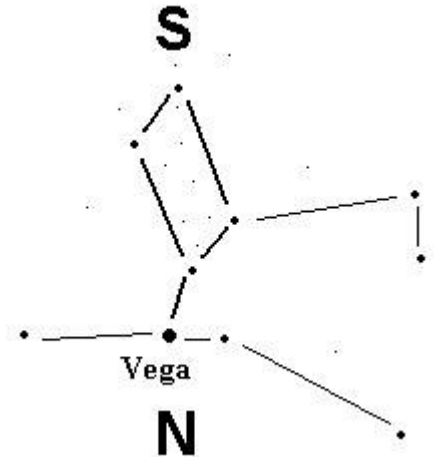
Do you have a particular astronomical topic that you would like to learn more about? Get studying! We need presentations for our monthly meetings and our best ones come from enthusiastic and knowledgeable members. Why not start right now? Decide on a topic, schedule yourself for a particular month, and then get to work. You can do it. And we all will benefit.

CONSTELLATION OF THE MONTH by Craig MacDougal

September: Lyra

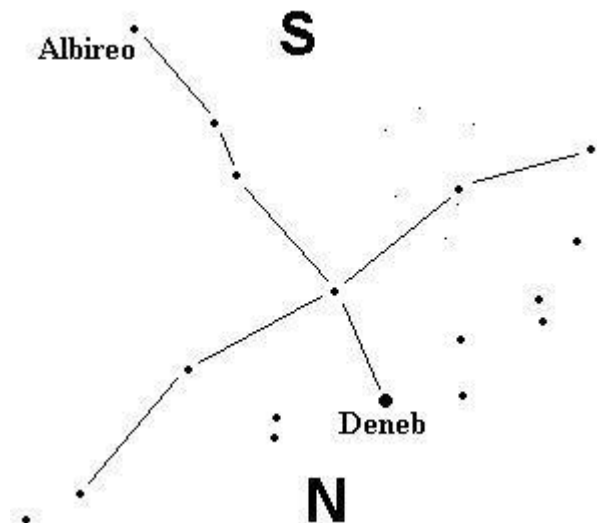
To this point in our monthly excursions through the heavens, we have been looking for relatively big constellations. This is because these are the most obvious star patterns in the sky. One could argue that if they weren't so obvious, the ancients would have divided them into smaller constellations. One can argue many things however, and I find that I have digressed before I've even gotten started.....

This month we have an obvious constellation that is pretty small. It's easy to find simply because the brightest star in this constellation is the fourth brightest star that can be seen from Tampa, and the fifth brightest in the entire sky. The constellation is **LYRA** (LIE-ra), and its bright beacon is **VEGA** (VEE-ga. That's right Chevrolet, got it wrong, but few astronomers I know are very picky about how you pronounce it.) I said Lyra is small, but I can hear you asking "How small is it?" Well, if you hold your arm stretched to the sky, palm of your hand facing up, and fingers together, you can cover up the main asterism of Lyra. Go out at 9:30, and if you can see any stars at all, face north and look straight up, and just a bit to your left (which is west). There you will find a very bright blueish-white star. It is the brightest star around that part of the sky. It is a tad dimmer than our friend Arcturus (remember Arcturus?) which is now low in the west. Compare the color of Vega to Arcturus, and you will get a good example of the range of star colors. Just to the south of Vega you will see a neat parallelogram of stars.



Lyra represents a lyre, which is a small harp. This harp has a place in the sky because it was part of one of the most famous of the Greek legends. Although it was invented by Hermes, he gave it to Orpheus, by far the best musician in the land. Orpheus was able to charm trees to grow where he wanted, and to change the course of streams by playing this lyre. He went with Jason and the Argonauts on their quest, and saved them from the songs of the Sirens with his own music. Orpheus was married to Eurydice, a most beautiful Nymph. When she died of a snakebite, Orpheus was heartbroken. He went to the Underworld to ask to have her restored. He played his lyre and charmed Hades, the big cheese of the Underworld. Hades said that he could have her back as long as he walked back up to daylight without looking back to see if she was behind him. Orpheus did OK until he just reached the daylight. He then turned back and saw her just long enough to watch her disappear. He was then inconsolable. He just sat on rocks and sang sad songs. Many ladies of the land offered to help him get over his loss, but he ignored them all. Thoroughly annoyed at this, the ladies ganged up and stoned him to death. Then, he finally joined Eurydice in the Underworld, and his lyre was placed in the sky.

If you have some binoculars at hand, start at Vega and go east just a little ways. You should come across an obvious pair of stars. They are almost exactly the same magnitude, and aligned north-south, more or less. In some binoculars, you will get to this pair before Vega leaves the field of view. This is Epsilon Lyra, the so called double-double. It gets such a name because each of those two stars can be resolved into a pair of their own, if you have access to a telescope that is bigger than 4 inches in diameter. Now that you know where Epsilon is, take away the binoculars and look with the unaided eye. Can you resolve the pair? If you can, don't let anyone tell you that you need glasses.



October: Cygnus

Last month we looked at Lyra, with its brightest star Vega. This month we shall look for **CYGNUS** (SIG-nes), the Swan. The brightest star in Cygnus is **DENE**B (DEN-eb), which means "tail", since its place marks the tail of the Swan in the classical representation. Go out at about 9:30 PM and face north. Vega is now a bit more to the west than it was last month. Taking up

Vega's old spot (that is, almost straight up, and just a tad toward the west) you'll find a star of about the same color as Vega, but not quite as bright; this is Deneb. Now that you've found it, turn more towards the west (left), so that you won't throw your neck completely out of kilter. Cygnus is also known as the Northern Cross. If you think of Deneb as being the top of the cross, go to the left, and a bit down, and you'll come across one star, then some space, another star, even more space, then a third. This star is named **ALBIREO**, which means nothing in particular. It started out as the Arabic word for bird, and then got mistranslated back and forth between Latin and Arabic a couple of times, losing all meaning in the process. Albireo is at a distance from Deneb that is more than your hand stretched as wide as it will go, held at arms length. This is the vertical part of the cross (although at the moment, it appears to be leaning over quite a bit with respect to the horizon). Go back to that first star from Deneb. That's the crossing point with stars a good distance on either side to show us the cross piece. I like to think of this pattern as a swan though, flying towards the S.W. horizon with its neck stretched out. There is even two more stars beyond the cross piece that I just mentioned that give the impression of slightly swept back wings.

So who was this swan of mythology? It's Zeus in disguise (again) looking to seduce some beautiful woman of the countryside. In this case he is heading off to sneak up on Queen Leda of Sparta. If you know the story of Gemini (the constellation for March) you'll know that this bit of bad behavior created Pollux, one of the Twins, and Helen (later of Troy).

METEOR SHOWERS by James M. Thomas

October Draconids

Also called the Giacobinids, this shower is caused by dust from Comet Giacobini-Zinner. Meteors from the October Draconid shower may be visible from October 7 to 10. The shower peaks on October 8/9. The rate of the shower is variable and the peak lasts only a few hours. This shower gives a good display only when the parent comet returns to perihelion, which is every 6.5 years. The meteors will appear to originate from a point in the sky near the head of the constellation Draco, the Dragon.

Orionids

This shower is caused by dust from Halley's Comet, which is also responsible for the Eta Aquarid Shower in the spring. Meteors from the Orionid shower may be visible throughout the month of October and through the first week of November. The maximum will probably last from the 19th through the 23rd, with the peak around the 22nd. At its height the shower should produce 15 to 20 meteors per hour. The meteors will appear to originate from a point in the sky between the constellations Gemini and Orion, high in the southern sky during the October evenings. The Hunter's Moon on October 24 will affect viewing of this year's Orionid shower. The overwhelming brightness of the moon will leave only the most spectacular members of the shower visible to dedicated observers.

Taurids

Much of the dust from this shower is caused by Periodic Comet Encke. Meteors from this shower may be visible from Oct. 20 through Nov. 30. The meteors will appear to originate from two points in the constellation of Taurus (RA 03 hrs 44 min, Dec +14° and RA 03 hrs 44 min, Dec +22°).

Observing Meteors

Meteors are best viewed from a dark-sky location. Observers in for the duration of the evening, or at least for several hours, should bring along a few things: a sleeping bag or blankets for warmth, a recliner or lawn chair, a hot beverage to help cut the chill, and binoculars to view the smoke trails of just-past meteors.

THIS MONTH IN HISTORY by James M. Thomas

September in History

September 10, 1813 - A small shower of meteors fell on Limerick (Adare), Ireland. The largest meteorite weighed 65 pounds.

September 13, 1902 - A meteorite weighing 9 pounds fell in Crumlin, Antrim, Ireland.

September 9, 1959 - NASA launched "Big Joe," an Atlas ICBM, topped with a full-scale Mercury spacecraft. The purpose of the flight was to orbit a Mercury payload to test the heatshield which protected the capsule during re-entry. The capsule survived and post-flight examinations proved the heatshield's structural integrity.

September 18, 1959 - The U.S. satellite Vanguard 3 was launched into Earth orbit. The satellite measured solar X-rays, determined environmental conditions in space, and explored Earth's magnetic field.

September 12, 1966 - A Titan rocket launched the Gemini 11 spacecraft with astronauts Charles "Pete" Conrad Jr. and Gordon. The flight lasted 71 hours 17 minutes. The crew returned safely to Earth.

September 10, 1967, 8:50 p.m. local time - A large fireball was observed over northern Ohio moving from east to west and broke up into smaller pieces near Oberlin. No trail was observed, but the meteor did produce a hissing sound as it passed. An eyewitness in Akron reported that the fireball appeared several times larger than the Moon. "It had every color and a boiling surface moving slow enough to see
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molten colors moving on the surface." the entire event lasted about 5 seconds. The break up of the fireball produced a rumbling sound that lasted for several seconds afterward.

September 9, 1975 - The Viking 2 Orbiter/Lander spacecraft was launched. It entered Martian orbit on Aug. 7, 1976. The Lander reached the surface on September 3, 1976, landing in the region known as Utopia Planitia. The Orbiter stopped transmitting on July 25, 1978. The Lander functioned for 3-1/2 years, stopping on April 11, 1980.

September 5, 1977 - The Voyager 1 spacecraft was launched. The spacecraft encountered Jupiter on March 5, 1979 and provided evidence that Jupiter had a ring. It passed near Saturn on Nov. 12, 1980 and gave a close up view of Titan, Saturn's largest moon.

September 29, 1987 - The Space Shuttle *Discovery* (STS-26) was launched with astronauts Richard Hauck, Richard O. Covey, David C. Hilmers, George D. Nelson, John M. Lounge, Bruce McCandless, Kathryn D. Sullivan, Loren J. Shriver, Charles F. Bolden Jr., and Steven A. Hawley. This was the first flight of the redesigned Space Shuttle since the explosion of the Space Shuttle *Challenger* on January 1, 1986.

September 7, 1990 - Part of a U.S. Titan rocket fell from a crane at Edwards Air Force Base. It exploded sending flames 150 feet (45 meters) into the air and killing at least one person.

September 12, 1992 - The Space Shuttle *Endeavour* (STS-47) was launched with astronauts Robert "Hoot" Gibson, Curtis L Brown Jr., Mark Lee, Jay Apt, N. Jan Davis, Mae Carol Jemison, and Momoru Mohri. Jemison became the first black woman in space. Lee and Davis were the first married couple to travel together in space. And this was the first flight of the Japanese Spacelab. The crew returned September 21.

September 25, 1992 - The U.S. spacecraft Mars Observer was launched toward the planet Mars on a photaphic mapping mission. Contact with the spacecraft was lost on Aug. 21, 1993. An extensive investigation concluded that a malfunction in the spacecraft's propulsion system probably caused the spacecraft to spin out of control. The results of the investigation triggered changes in the design of future spacecraft, beginning with its successor, the Mars Global Surveyor.

September 7, 1995 - The Space Shuttle *Endeavour* (STS-69) was launched with astronauts David M. Walker, Kenneth D. Cockrell, James Voss, Jim Newman, and Michael Gernhardt. The crew relayed video images of an Atlantic hurricane to Earth. Two scientific-studies satellites were deployed and then retrieved because of malfunctions. The crew returned to Earth September 18.

September 16, 1996 - The Space Shuttle *Atlantis* (STS-79) was launched with astronauts Jay Apt, Terry Wilcutt, William Readdy, Tom Akers, Carl E. Walz, and John Blaha. Atlantis docked with the Russian *Mir* space station on September 18. A crew exchange was performed, transferring John Blaha to *Mir* and retrieving astronaut Shannon Lucid, who set the U.S. and women's individual duration in space record, 188 days. The revised crew returned safely to Earth on September 26.

September 10, 1998 - A computer malfunction brought down a Ukrainian rocket carrying 12 commercial satellites, minutes after blast off from Baikonur Cosmodrome.

October in History

Oct. 4, 1957 - The Soviet Union launched Sputnik, Earth's first artificial satellite, officially opening the age of space exploration.

Oct. 4, 1959 - The Soviet spacecraft Luna 3 was launched. The spacecraft flew around and passed the moon, transmitting back to Earth the first pictures of the lunar far side on Oct. 7.

Oct. 3, 1962 - The Mercury 8 spacecraft, Sigma 7, was launched with astronaut Walter M. Schirra Jr. The flight lasted 9 hours, 13 minutes and Schirra maneuvered the spacecraft to a splash-down landing just 5 miles from the planned target coordinates.

Oct. 12, 1964 - The Soviet spacecraft Voskhod 1 was launched, achieving the first 3-man orbital flight, with cosmonauts Vladimir M. Komarov, Konstantin P. Feoktistov and Boris B. Yegorov. This was also the first flight without space suits. The mission lasted 24 hours and 17 minutes, with the spacecraft returning safely to Earth on Oct. 13.

Oct. 11, 1968 - The Apollo 7 spacecraft was launched, making it the first piloted flight of the Apollo program. Astronauts Walter M. Schirra, Donn F. Eisele and R. Walter Cunningham were in orbit for 260 hours and 9 minutes, and returned to Earth on Oct. 22.

Oct. 11, 1969 - The Soviet spacecraft Soyuz 6 was launched with cosmonauts Georgi S. Shonin and Valery N. Kubasov. On Oct. 12 they were joined by the Soyuz 7 spacecraft with cosmonauts Anatoly V. Flipchenko, Vladislav N. Volkov, and Viktor V. Gorbatko. On Oct. 13 they were joined by the Soyuz 8 spacecraft with cosmonauts Vladimir A. Shatalov and Aleksei S. Yeliseyev. This was the first time three spacecraft and seven crew members orbited the Earth at one time. The crews performed space lab construction tests. The Soyuz 6 crew performed the first welding of metals in space. The Soyuz 6 crew returned safely to Earth on Oct. 16, the Soyuz 7 crew returned on Oct 17 and the Soyuz 8 crew returned on Oct 18.

Oct. 30, 1981 - The Soviet spacecraft Venera 13 was launched. The spacecraft landed on Venus on March 1, 1982. Venera 13 took the first X-ray fluorescence analysis of the planet's surface. It transmitted data to Earth for 2 hours and 7 minutes before it was destroyed by the planet's atmospheric pressure.

Oct. 5, 1984 - The Space Shuttle Challenger (41-G) was launched with the first 7-person crew: Robert L. Crippen, Jon A. McBride, Kathryn D. Sullivan, Sally K. Ride, Marc Garneau, David C. Lesstma, and Paul D. Scully-Power. The Challenger returned to Earth on Oct. 13.

Oct. 18, 1989 - The Space Shuttle Atlantis (STS-34) was launched with astronauts Donald E. Williams, Michael J. McCulley, Shannon W. Lucid, Franklin R. Chang-Diaz, and Ellen S. Baker. In addition to other mission activities, the crew launched, on Oct. 18, the Galileo spacecraft on its mission to Jupiter. The Atlantis crew returned safely to Earth on Oct. 23. Galileo used Earth's gravity to propel it toward Jupiter, encountering Venus in February of 1991. Galileo took close-up images of Comet Shoemaker-Levy as the pieces impacted Jupiter's upper cloud layer in July of 1994. Galileo encountered Jupiter on December 7, 1995 and released a probe into the Jovian atmosphere.

Oct. 6, 1990 - The Space Shuttle Discovery (STS-41) was launched with astronauts Richard N. Richards, Robert D. Cabana, Bruce E. Meinick, William M. Shepherd, and Thomas D. Akers. The crew launched the Ulysses spacecraft to investigate interstellar space and the Sun. The Discovery crew returned safely to Earth on Oct. 10.

Oct. 15, 1997 - a Titan IV rocket launched the Cassini spacecraft on its mission to Saturn. Cassini flew passed Venus in April 1998 and June 1999, and passed Earth in August 1999. Cassini will also fly passed Jupiter in December 2000. These "swingbys" allow Cassini to use the gravity of the planets to propel it toward Saturn. Cassini will study Saturn's atmosphere, its rings, and its moons. A probe, named Huygens, will land on the largest moon, Titan. Cassini will reach Saturn in 2004.

PUBLICATION INFORMATION

Martian Chronicles is published monthly by the Museum Astronomical Resource Society (also known as the MARS Astronomy Club) to provide club news and other items of interest to its members. MARS is sponsored by the Museum of Science and Industry (MOSI), Tampa, Florida. Annual club membership dues are \$15.00, which may be paid to any officer at club-sponsored events or mailed to the address listed below. Make checks payable to Jerry Scalzo, our club treasurer. Newsletters are available to nonmembers by requesting a complimentary trial issue. Please send all inquiries, comments and newsletter contributions to the address below. The deadline for submitted contributions is the 15th of the month prior to the next issue. Contributions may be delayed in publication due to available space.

NEWSLETTER EDITION DETAILS

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