IO – September 2003

www.eugeneastro.org

Eugene Astronomical Society, Annual Club Dues $25, President: Jean Grendler, School Star Party Coordinator , 683-9382, moegren@msn.com
Vice-President & Treasurer: Sue Moe , suemoe@worldnet.att.net, Telescope lending program: Rossco . Web Master Dave, Nexstar11.com ;
IO editor, Sam Pitts, sampitts@aol.com :*Io (EYE-oh) is nearest to Jupiter and fastest orbiting of the four Galilean moons*

EAS September 8, 2003 Meeting

North Eugene High

Club Meeting 7 PM Room 319

This meeting is the Second Monday of the month!!!

Telescope Workshop The public and new members are invited to bring scopes for help from more experienced members.

Help locate objects under the Night Skies!

September EAS meeting date has been changed to the second Monday of the month, Sept. 8th, because of the Labor Day Holiday weekend.

Join the user List! Keep in-touch with Members and Events!

http://lists.cmc.net/cgi-bin/mailman/listinfo/eugeneastro

The Astronomical League
The World's Largest Federation of Amateur Astronomers

The Astronomical League Urban Club.

Urban Club Chair:

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Introduction

Welcome to the Astronomical League's Urban Club!
The purpose of the Urban Club is to bring amateur astronomy back to the cities, back to those areas that are affected by heavy light pollution. Amateur astronomy used to be called "backyard astronomy". This was in the days when light pollution was not a problem, and you could pursue your hobby from the comfort of your backyard. But as cities grew, so did light pollution, and the amateur astronomer was forced to drive further and further out into the country to escape that light pollution. It is not uncommon today for a city dweller to drive 100 miles to enjoy his/her hobby. But many people do not have the time or the resources to drive great distances to achieve dark skies. That is the reason for the creation of this club, to allow those who want to enjoy the wonders of the heavens in the comfort of their own neighborhoods to do so, and to maximize the observing experience despite the presence of heavy light pollution.
Our crack team of observers observed the objects on this list from the East Coast to Middle America to the West Coast, and from major metropolitan areas like Miami, Baltimore, Dallas, Houston, and Los Angeles. Limiting magnitudes went from a high of 4, down to 2, to a "Geez" as Becky Schultz commented on one particularly bad evening. Instruments ranged from a six-inch reflector to a ten-inch SCT. So as you can see, there is a world of objects out there that can be enjoyed under even poor skies, and it only takes a small to medium sized telescope to enjoy them. We sincerely hope that this club encourages you to continue your enjoyment of this wonderful hobby of ours.

Rules and Regulations.

To qualify for the A.L.'s Urban Club Certificate, you need only be a member of the Astronomical League, either through an affiliated club or as a Member-at-Large, and observe 100 objects on the Urban Club list in light polluted skies. Light polluted skies are defined as any area where you cannot see the Milky Way with the unaided eye. You may observe the objets with the naked eye, binoculars or any size telescope. However, telescopes from six- to ten-inches in aperture are recommended since a larger aperture helps pull out fainter objects in non-contrasty skies. Previous observations of these objects may be used toward this club as long as they were done in light polluted skies. Previous observations from dark sky sites may not be used. All observations made in achieving the certificate for the Urban Club may be used toward certificates of other A.L. observing programs.

To record your observations, you may use log sheets similar to those found in the back of the Astronomical League's manual *Observe: A Guide to the Messier Objects.* You can order the *Observe* manual through Astronomical League Sales. If you use your own log sheets, they should include: object, date, time, power, seeing, type of instrument, and observing notes.

*See their Web site for more information http://**www.astroleague.org**/*

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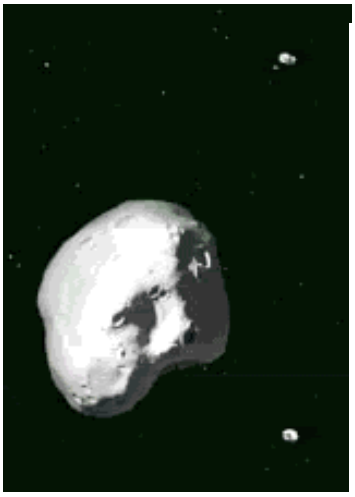
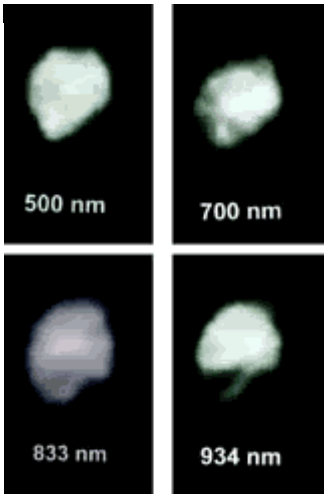
Asteroid Juno Has A Bite Out Of It

Harvard-Smithsonian Center for Astrophysics
Release No.: 03-18 For Release: August 6, 2003





Cambridge, MA -If someone sneaks a bite of your chocolate chip cookie, they leave behind evidence of their pilferage in the form of a crescent of missing cookie. The same is true in our solar system, where an impact can take a bite out of a planet or moon, leaving behind evidence in the form of a crater. By combining modern technology with a historical telescope, astronomers have discovered that the asteroid Juno has a bite out of it. The first direct images of the surface of Juno show that it is scarred bya fresh impact crater.

Juno, the third asteroid ever discovered, was first spotted by astronomers early in the 19th century. It orbits the Sun with thousands of other bits of space rock in the main asteroid belt between Mars and Jupiter. One of the largest asteroids, at a size of 150 miles across, Juno essentially isa leftover building block of the solar system.

Astronomer Sallie Baliunas (Harvard-Smithsonian Center for Astrophysics) and colleagues photographed Juno when it was located relatively nearby in astronomical terms, about 10 percent further from the Earth than the Earth is from the Sun. Even at that distance, Juno appeared very tiny in the sky, subtending only 330 milli-arcseconds - the equivalent of a dime seen at a distance of 7 miles. Imaging Juno at the high resolution needed to resolve surface details thus presented a challenge.

To solve the problem, the scientists used an adaptive optics system connected to the 100-inch Hooker telescope at Mount Wilson Observatory. Adaptive optics enables astronomers to compensate for the distortion created by air currents in our planet's atmosphere, yielding images as sharp and clear as those taken in space.

Their surface maps showed that Juno, like other asteroids, is misshapen rather than round, and that it has "sharp" edges. Even better, as Juno tumbled through space during the night of observing, a "bite" came into view - an area that appeared dark as seen at near-infrared wavelengths.

The astronomers concluded that the asteroid had recently (in astronomical terms) collided with another object, resulting in a 60-mile-wide crater, or possibly a smaller crater that is surrounded by a 60-mile blanket of ejecta debris.

"I look at an asteroid as a garden - a garden not of flowers and leaves, but one of rubble and dust churned up by constant impacts. This process of gardening pulverizes the asteroid's surface into a fine-grained regolith," said Baliunas. "The recent, large impact on Juno gives us an opportunity to see through the regolith and study excavated material from beneath the surface - a rare look into the material out of which the early Earth was formed."

The blast that knocked a bite out of Juno may also have provided researchers with a convenient way of studying that asteroid up close without ever leaving our planet. Some meteorites found on the Earth are actually pieces of large asteroids like Juno. Those pieces were broken off and launched into space by an impact, and then fell on our planet. The newly-found impact crater on Juno may have sent samples of that asteroid to the Earth.

This remarkable result demonstrates how technology can be used to renew historical observatories, giving them a new lease on life. The Hooker telescope, now nearing the end of its first century of observing, can use adaptive optics systems to obtain views of the cosmos as clear as though the telescope were in space. Hence, the telescope that Edwin Hubble and his assistant used to discover evidence of the expanding universe continues to make groundbreaking discoveries today. These results were published in the May 2003 issue of the astronomyjournal Icarus.

Headquartered in Cambridge, Massachusetts, the Harvard-Smithsonian Center for Astrophysics (CfA) is a joint collaboration between the Smithsonian Astrophysical Observatory and the Harvard College Observatory. CfA scientists organized into six research divisions study the origin, evolution, and ultimate fate of the universe.

For more information, contact: David Aguilar, Director of Public Affairs, Harvard-Smithsonian Center for Astrophysics Phone: 617-495-7462 Fax: 617-495-7468, daguilar@cfa.harvard.edu Christine Lafon, Public Affairs Specialist, Harvard-Smithsonian Center for Astrophysics, Phone: 617-495-7463, Fax: 617-495-7016, clafon@cfa.harvard.edu

Mars Star Party

Huge Sucess

A HUGE THANK YOU, to everyone who came out with scopes and to Anny who generously let herself get captured at the club table again. The club table is a hub of activity and good PR for us; Anny personally talked to almost every single visitor. I also received many, many comments and compliments on everyone's telescopes and the operator's commitment to the community by taking the time to set up for last night's Mars extravaganza! That crowd was very close to a thousand people, if not more.
We printed 1,000 skymaps and they are almost all gone...

Erik Carlstrom's Mars intro talk was extremely well received. Carlstrom took audience questions for quite some time. Erik, the president of the Oregon chapter of the Mars Society, agreed to talk about Mars, facts and real science stuff. He had lots of info to share on the importance of the Mars meteorites, how we identify them, and what we learn from them. We thank him for helping, too.

The teachers at North Eugene set up the barricades and "manned" the admission tables, and helped with PR. Steve was still collecting money after 11pm!! Teacher Sue Moe does double duty as EAS scope operator, board member and Teacher/Building Supervisor for our events at NEHS. She is required to stay until we are all gone and then secure the facility. And we had help at the "gate" from Ashley, a daughter of new EAS member who set up the club ETX and ran it via his laptop.

We also have to thank one person in the school district grounds management for getting us accesses to drive on the field. New construction work out there had made access a last minute problem and this person got gravel hauled and solve the problem in a matter of hours!

I want everyone to know how many miles AC hauled the Rob Adams Telescope for us to do live spots on TV! Also up to McKenzie Bridge to show the teachers! The BOD has been meeting news crews as early as 3 AM for three days to promote this event. And it has paid off so well! We are happy to serve the membership in this way!

EAS raised ALOT of money for EAS and the North Eugene High School Science Dept.
We worked together in such a wonderful way and it was FUN! Thank you to all!

- Jean, (President-EAS)

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EAS CLUB CALENDAR-Updated 8/23/03

August 22 (or 23 if "rainout") EAS Mars Party @ College Hill Reservoir, 24th and Lawrence Street, Eugene 8:30-Midnight (Volunteers be set up by 8pm)

August 27 - Mars closest approach to Earth in 60,000 years. EAS Mars Mania Fundraiser at North Eugene High School. A once in a lifetime opportunity! Admission $5 per person, children 5 and under free. Benefits NEHS Science Dept. and EAS.

September 8 - Club meeting – 7 pm North Eugene High School, Room 319 Note the change! This is one meeting is the second Monday of the month!!! Telescope Workshop The public and new members are invited to bring scopes for help from more experienced members. Help to locate objects under the night sky.

September 12 – EAS "Back to School" Star Party – College Hill Reservoir 7:30-11pm Setup early and help distribute information to teachers and the public! (Setup 7pm)

September 20- Eugene Celebration Parade – EAS will have a float featuring our Rob Adams Telescope and a "backyard astronomy" - info TBA on time to be in line downtown on the morning of the parade!

September 23 - Fall equinox

September 27 – Saturday - Mt. Pisgah Arboretum Star Party (Joint fundraiser for EAS and Mt. Pisgah Arboretum) EAS will have educational talk in the "Quonset Hut" and telescope viewing in the field area near the hut. 7PM. Donation $3 per person, $6 per family. EAS will have access to power and there will be less dust in this area, but the sky will be limited by the trees. The trees will shelter the scopes from light from cars coming and going. We will use what sky we have and do our best! Set up is early (6:00pm) so we can get our cars in and unload scopes before the talk begins.

October 4 –Saturday – EAS Star Party follows an evening planetarium show at The Science Factory. The theme is "Bon Voyage Mars!" 7-11pm

October 6 – EAS club meeting 7pm North Eugene High School Room 319 Astrophotography Presentation covering a ll the basics of imaging with film. Gain an understanding of terms used with astronomical telescopes and camera lenses. Presenter: Sam Pitts Members are invited to display their photographs after the presentation.

November 3 – EAS club meeting 7pm North Eugene High School Room 319 Image Processing - the Digital Darkroom presenter: Dave Cole

December 1 – EAS club meeting 7pm North Eugene High School Room 319 Introduction to CCD a brief program by Sam Pitts followed by Dessert Potluck and member swap & sale tables. Members- bring your astronomy related stuff to sell or trade!

For further information contact: Jean Grendler, Eugene Astronomical Society President at: 683-9382 or moegren@msn.com

See our Treasure Sue Moe

Subscribe to Sky & Telescope and/or Astronomy Magazine

Take advantage of our club's **10%** discount

You also get a **10%** discount at the S & T Store

Image of the Month

Please submit your Astronomy photos, images or drawings to Dave Cole so he can select one to post on the EAS Web-Site. I can digitize 35mm negatives or prints so they can be used. -Sam

Web Master Dave : **Nexstar11.com**

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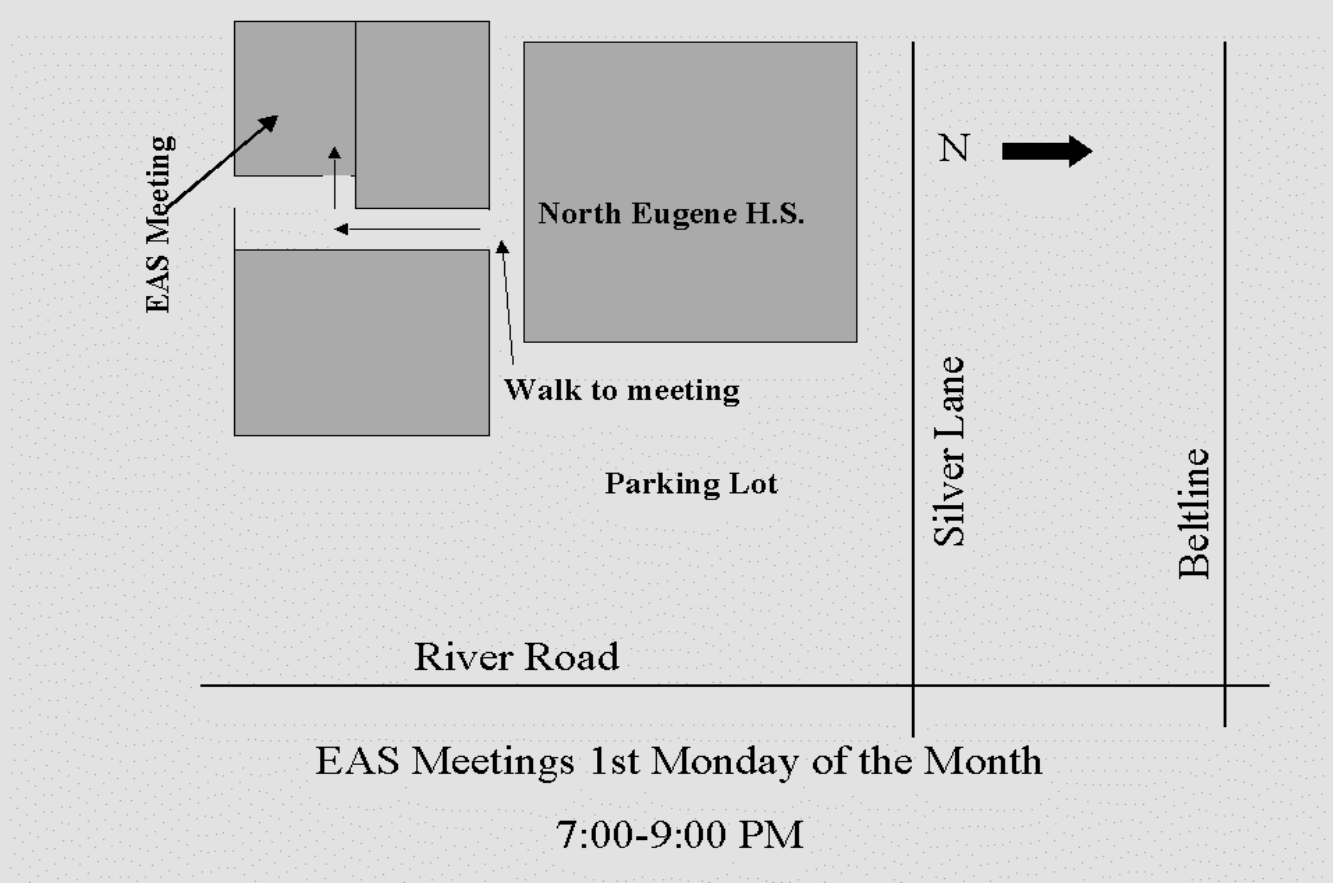

September Meeting will be the 2nd Monday in September

September 8th

At 7:00 PM North Eugene High School

October 4 Star Party

The Science Factory Hands-On Children's Museum and the Eugene Astronomical Society (EAS) are pleased to announce a joint Star Party to be held October 4, 2003. The "Goodbye Mars Star Party" will take place that Saturday from 7 to 11 p.m. and will celebrate the departure of Mars from its closest approach to Earth in 60,000 years. The Planetarium at The Science Factory will present short programs at 7:00 and 7:30 to introduce visitors to the constellations in the night sky, and members of EAS will have their telescopes on hand to give close-up looks at Mars, the Moon, double stars, galaxies and more. There will also be interactive exhibits and astronomy software to try out in The Science Factory. The event will take place at The Science Factory, located at 2300 Leo Harris Parkway, across from Autzen Stadium in Alton Baker Park. Admission to the entire event is a special price of $5. Members of The Science Factory get a discounted price of $3.