



General Meeting of the Omaha Astronomical Society
2nd Friday, September 8th at 7:30 PM
Durham Science Center, Room 169, UNO Campus
Program: See Page 3

Now There are Eight

Well another month has gone by and how things have changed. While the IAU (International Astronomical Union) named Pluto's two new recently moons "Nix" (after the Greek Goddess of the Night) and "Hydra" (after the nine-headed monster that guarded Lake Lerna an entrance to the underworld). This fits as Charon, (Pluto's already named moon) is the offspring of Nix. However later on in the same meeting the IAU redefined what a planet is, and as a result Pluto has been demoted in status to what is now a Dwarf Planet. (The **2006 redefinition of planet** by the IAU states that, in the solar system, a planet is a celestial body that:

- Is in orbit around the Sun,
- Has sufficient mass so that it assumes a hydrostatic equilibrium (nearly round) shape, and
- Has "cleared the neighborhood" around its orbit.

A non-satellite body fulfilling only the first two of these criteria is classified as a "dwarf planet", whilst a non-satellite body fulfilling only the first criterion is termed a "small solar system body" (SSSB).

Pluto will be joined there by Ceres (an asteroid) and by the still unnamed 2006 UB313. So now there are eight, but just as easily there might have been twelve planets. One of the other motions was to add Ceres, Charon, and UB313 to the list of planets.

Upcoming Outreach Opportunities

Wednesday	6 Sept @ 7:30	Gretna 4-H Camp, School
Monday	11 Sept @ 7:30	Gretna 4-H Camp, School
Wednesday	13 Sept @ 7:30	Gretna 4-H Camp, School
Friday	15 Sept @ Dusk	Mahoney St Park, Public
Monday	18 Sept @ 7:30	Gretna 4-H Camp, School
Monday	18 Sept @ 7:30	Camp Neyati, IA School
Wednesday	20 Sept @ 7:30	Gretna 4-H Camp, School
Thursday	21 Sept @ 7:30	Camp Neyati, IA School
Saturday	23 Sept @ Dusk	Hitchcock Nature Center, IA
Monday	25 Sept @ 7:30	Gretna 4-H Camp, School
Monday	2 Oct @ 7:30	Gretna 4-H Camp, School
Wednesday	4 Oct @ 7:30	Gretna 4-H Camp, School

All of these events are long enough to qualify for the Astronomical League's Outreach Certificate program. So please try to do one event if possible.

Reminder of OAS Group Photograph

Please remember that OAS will be taking a group photograph on Friday the 8th of September prior to the regular meeting, so please try to arrive a few minutes early. George Allen will be taking a B&W photo, and we are looking for someone to take a color photo. Please contact Mark Weiss if you are willing to take the color photo.

**August Club Star Party,
September 23, 2006
OAS Club Site, Weeping Water**

Omaha Astronomical Society is a member of the NASA Night Sky Network

Events and Stuff Section

September Meeting Presentation

Astronomy for Beginner
Observing Series.

Eyepeices II by John Johnson

September Sky Calendar

7th Full Moon
14th Last Quarter Moon
22nd New Moon
30th First Quarter Moon

New Members

Stuart Westphal of Omaha
Archie Raymond of Omaha
Jim Macica of Omaha
Mike Carman of Omaha
Marudaraj Jivaraj of Omaha

Recent Observing Awards

None

Good August Observing Dates to Observe at the Club Site or other good location

Friday 15 September, last quarter moon
Saturday 16 September, last quarter moon
Friday 22 September, new moon
Saturday 23 September, new moon

Mahoney Public Star Parties

September 15, 2006

Last One Until 2007

All Friday evenings from Twilight On the Golf Driving Range of the Mahoney State Park Ashland, NE

Visit the club web site at:

www.OmahaAstro.com

Save the club money... and get your newsletter in full color by signing up for the email edition of the Stella. Signing up is easy... just send an e-mail to:

oas.mkw@cox.net

Astronomy Quiz



1. **What** is this a photo of?
2. Where can you find the star "**Kornephoros**?" (Hint: the name can translate to "club bearer.")
3. **Who** said, "*We had the sky, up there, all speckled with stars, and we used to lay on our backs and look up at them, and discuss about whether they was made, or only just happened.*"
4. The asterism "Great Square of Pegasus" is visible about ½ way to zenith September evenings. But only 3 of the 4 stars are in the constellation Pegasus. What is the name of the last **star** and what **constellation** is it in?
5. It's said that during a **meteor shower** you will see more meteors after about 1 AM than before. Is this true? Why or why not?

6. **Polaris** is slowly moving, from our point of view. Is it moving closer or farther away from the celestial North Pole?
7. **Who**, in 1969, compiled a list of southern sky objects that might be mistaken for comets. (Very much like the list Charles Messier made for the northern skies.)
8. This constellation contains the Blaze Star, a recurrent nova, which is an unusual type of binary star. It is near Ursa Major and Bootes and is 179 square degrees in area. Which **constellation** is it?
9. Cassini is now ½ way through its mission to explore Saturn and it's moons. Saturn has 34 named moons; **how many** were known in 1997 when Cassini launched?
10. This **constellation** is near Aquarius, is 189 square degrees in area, and contains globular cluster NGC 7006. Which is it?
11. **True or false?** Mercury is smaller than Jupiter's moon Titan.
12. On April 12, 2006, the Visual and Infrared Thermal Imaging Spectrometer (VIRTIS) imaged this planets south pole for the first time. **Which** planet is it and what is the probe called?

2. Public Star Party, Mahoney State Park 8/18/2006.
3. Whispering Hills Winery, Wine Tasting & Star Party, Carson, IA 8/19/2006.
4. Club Star Party at Astropark in Weeping Water, NE 8/19/2006
5. Papillion/La Vista Schools Outdoor Ed. Program, Gretna 4-H Camp.
 Dates for August: Thur. the 24th, Mon. the 28th, Wed. the 30th.
 Dates for September: Wed. the 6th, Mon. the 11th, Wed. the 13th, Mon. the 18th, Wed. the 20th, Mon. the 25th.
 Dates for October: Mon. the 2nd, Wed. the 4th.
6. Girl Scouts have asked for our help at 2 events Sep. 25th and 28th Glennwood, IA.

OAS Telescope Loan Program

6 inch Dobsonian	Nina and Clete Baker
6 inch Newtonian	Keith Jones
8 inch SCT	Rita Corell
8 inch Dobsonian	Joe Alvarado
13 inch Dobsonian	Chris Jewell
Binoculars, 11x80	Gary Grimes.

Awards Two awards are pending.

Observing Sagittarius is in very good position to the South if you are looking for deep sky objects to observe. You may see some meteors on the 12th however it is so near the full moon that all but the brightest meteors may be washed out.

Old Business

1. Report on 2006 Nebraska Star Party from Eric Balcom. Event was attended by over 200 people from local area, surrounding states, and as far away as MS, CA and FL. Excellent viewing with 6 of 7 nights being clear!
2. Save the Date!! OAS PAC Astronomy Banquet will be Sunday, October 15th, 6:30 PM at the SAC Museum. BBQ meal is planned. We will keep ticket prices to \$10 per person or less. Questions? Ask any club officer or Tony at 614-4738.

New Business

Nebraska Star Party (NSP) is planning a trial Fall Star Party, October 19th, 20th and 21st (Thur., Fri., and Sat.) in the National Forest near Halsey, NE. It is about 4 and ½ hours (west) from Omaha and good, dark skies. Should be much cooler than Valentine in July, too! Contact Eric Balcom if you want more info.

OAS Meeting Minutes 4 August 06 Durham Science Building, UNO, Rm. 169.

Meeting was called to order at 7:32 PM by Al Dorn. We welcomed four guests, and had a total of 46 people at the meeting.

Minutes of July OAS Meeting read by Kim Moss-Allen. A motion was made to accept the minutes by Bob Jones, seconded by Howard Bohm.

Treasurer's Report August income:\$109, Expenses \$558.54, Balance of \$5,063.17.

Outreach John Johnson reported on upcoming events. (August use of Astropark: 1.)
 1. Hitchcock Nature Center, Perseid Meteor Watch 8/12/06

October is also the time when we elect officers for the club. Consider giving some of you time, energy or talent to your club! You may nominate yourself or any other member for any office.

3. Motion was made (by Mark Weiss) to move the September Meeting to September 8th, so as not to be on labor Day weekend. Seconded by Gary Grimes and passed. Also the Group verbally agreed it would be a good time to try to do a group picture. Bring your telescope for the photo if you like.

Motion made to close meeting by Gary Grimes, seconded by Mark Weiss. Time: 8:05 PM. Next meeting will be Friday 9/8/2006 at the UNO Physics Building Room 169.

Program: **Eyeieces** By John Johnson

Minutes by OAS Secretary
Kim Moss-Allen

The Fight for Pluto Rages On

September 1, 2006

by the Editors of *Sky & Telescope*

Despite being only 0.9 arcsecond apart, the "dwarf planet" Pluto and its largest moon, Charon, appear well separated in this Hubble Space Telescope image snapped in 1994.

R. Albrecht (ESA/ESTEC) and NASA.

It's not over yet.

In the past week a small but growing group of scientists made their first formal attack against the International Astronomical Union's August 24th resolution that left the solar system with eight planets and downgraded Pluto to a new class of objects known as "dwarf planets."

On Thursday two heavy hitters in the planetary-science community — Mark Sykes, director of the Planetary Science Institute, and S. Alan Stern, an executive director of the Southwest Research Institute and leader of the Pluto-bound New Horizons mission — unveiled a petition formally disputing the new definition. The petition, signed by more than 300 of the world's leading space scientists, states, "We, as planetary scientists and astronomers, do not agree with the IAU's definition of a planet, nor will we use it."

The signatories call for a "better definition" of a planet and ask that the method to determine that definition includes more input from the global astro-

nomical community. According to the petitioners, only about 4% of the IAU's nearly 10,000 members were present in Prague to vote on the resolution. In a prepared statement Sykes wrote, "A more open process, involving a broader cross section of the community engaged in planetary studies of our own solar system and others, should be undertaken." Says Stern, "From the number of signatories that the petition received in a few days, it's clear that there is significant unhappiness among scientists with the IAU's planet definition and that it will not be universally adopted by scientists and textbook writers."

Other battle lines are being drawn as some scientists are questioning the IAU's authority in this matter altogether. The director of the Center for Space Exploration Policy Research, Mark Bullock, released the following statement: "A key public-policy question is who has the social mandate to alter the definition of something as fundamental as a planet. Scientists have in the past vested the IAU with authority to name asteroids and other planetary objects. However, the word 'planet' has cultural, historical, and social meaning and as such requires much broader discussion and consensus than those required for the naming of astronomical bodies."

Meanwhile the chair of the American Astronomical Society's Division for Planetary Sciences, Richard G. French (Wellesley College), urged the group's more than 1,200 members to recognize the authority of the IAU to render their decision and reiterated that refinements to the definition are desired. In a letter to the DPS community, he writes, "There is still work to be done, too, in constructing a definition that is generally applicable to extra-solar planetary systems. These and other changes, radical or moderate, presumably will be addressed at the next IAU General Assembly in Rio de Janeiro in 2009, and the DPS community will continue to be involved in all stages of this process."

You can read the Sykes-Stern petition, including the list of signatories, at <http://www.ipetitions.com/petition/planetprotest>.

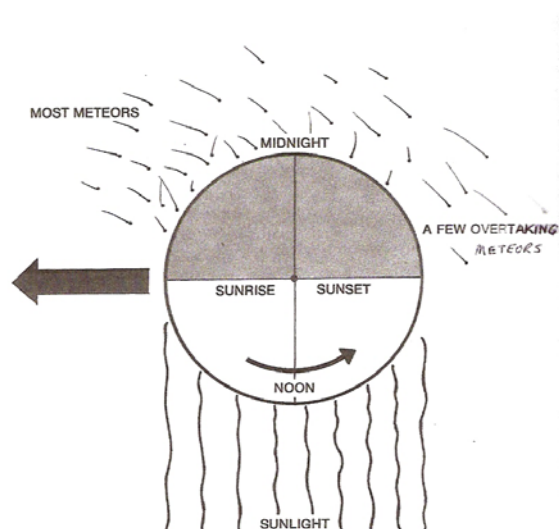
Remember Elections in October

Remember next month we will be holding elections. We will be voting for the following officers;

President
Vice-President
Treasurer
Program Chair
Outreach Coordinator
Secretary

Astronomy Quiz Answers

1. This is a close up from Voyager 2 of Jupiter's moon **Europa**. It is about the same size as our moon but apparently covered in water ice. The dark lines are probably fractures in the ice filled in with material from beneath the ice.
2. Kornephoros is Beta star in the constellation **Hercules**.
3. **Mark Twain**, *Huckleberry Finn*.
4. **Alpheratz**, the most northerly of the 4 stars in the square belongs to **Andromeda**.
5. It's **true** and it's because of the direction of the Earth's rotation and the direction that we orbit the sun. Early in the evening we are facing the area of space already swept clear of most meteors by the Earth. Then after 1 AM our area of the Earth's surface is facing the direction in which we are moving in our orbit (like walking into a blowing rain) and we see more meteors. See diagram.



6. It's moving **closer** and will be closest in about 100 years (in 2105).
7. This was South African **John** (Jack) Cais-ter **Bennet**. We call the list the Bennett Catalog; for example the globular cluster Omega Centauri is listed as Bennett 61.
8. It's **Corona Borealis**, the Northern Crown.

The Blaze Star is a red giant/ white dwarf pair; the red giant transfers gas to the smaller star and this causes periodic ex-plosions. It flared up in 1866 and 1946, varying in magnitude from 15 to 2.

9. 18

10. It's **Delphinus**, the Dolphin, and NGC 7006 is one of the globular clusters most distant from Earth at 110,000 light years.

11. **True**

12. It's **Venus**. The **Venus Express** showed spiral shaped cloud patterns called a po-lar vortex similar to what is already known to be over Venus's north pole.

Sources: Carl Sagen, *Cosmos*; *Astronomy* magazine, July 2006; Robert Claiborne, *The Summer Stargazer*

Pluto: Down But Maybe Not Out

By **Robert Roy Britt** LiveScience Managing Editor

If you did not like Pluto's demotion, don't give up hope. Arguments over the newly approved definition for "planet" are likely to continue at least until 2009, and astronomers say there is much that remains to be clarified and refined. While it is entirely unclear if the definition could ever be altered enough to reinstate Pluto as a planet, astronomers clearly expect some changes. In a statement today, the largest group of planetary scientists in the world offered lukewarm support for the definition, which was adopted last week by a vote of just a few hundred astronomers at the International Astronomical Union (IAU) General As-sembly meeting in Prague.

Lukewarm support

The definition basically states that the eight worlds from Mercury to Neptune are planets, and that Pluto and other small round objects in the outer solar system are not plan-ets but will be referred to as dwarf planets.

The wording has been heavily criticized as being vague and arbitrary and failing to include planets around other stars. One highly controversial aspect is the idea that a planet must control a zone of space by clearing it of other objects. In fact, Earth and some of the giant planets have not cleared their paths—asteroids cross the planetary or-bits frequently and in some cases orbit in lockstep with the planets. Nonetheless, the Division for Planetary Sciences (DPS) of the American Astronomical Society (AAS) "recognizes the authority of the IAU to render a decision," today's statement reads. "All definitions have a degree of fuzziness that requires intelligent application: what does 'round' really mean? What does it mean to 'control a zone'?"

The statement suggests there are at least three years of wrangling ahead: "These are technical issues to be addressed by Division III of the IAU, currently chaired by Ted Bowell, a fellow DPS member. There is still work to be done, too, in constructing a definition that is generally applicable to extra-solar planetary systems. These and other changes, radical or moderate, presumably will be addressed at the next IAU General Assembly in Rio de Janeiro in 2009, and the DPS community will continue to be involved in all stages of this process. [UPDATE 9:10 p.m. ET: A separate group of more than 300 astronomers announced today they will not use the new definition.]

Lack of authority?

Other astronomers have said or indicated that the IAU decision might not carry much weight. David Morrison, an astronomer at NASA's Ames Research Center, was in Prague for the debates and the vote. He called the resulting definition "reasonable" but termed the IAU process "highly convoluted."

"The definition of a planet is not primarily a science issue. Scientists can (and often do) use all sorts of jargon," Morrison told *SPACE.com*. "This issue is of interest because non-scientists, including writers of science textbooks, want a definition. Now they have one. But it is not obvious to me that planetary scientists will adjust their terminology because of the IAU votes."

The IAU's final proposal was lambasted by many astronomers for having been slapped together at the last minute and for not adhering to recommendations from two separate committees. Morrison was on an IAU committee of astronomers that debated for months on a definition proposal. The one they adopted, Morrison said, was approved by the committee in a vote of 11-8. But it never saw the light of day. Ultimately, another committee of seven, including historians, was formed by the IAU, and the second committee's proposed definition was scrapped too, in the last moments in Prague.

"Is Pluto, then, still a planet? Yes and no," Morrison said. "The answer is semantic, based on whether dwarf planets are planets, just as dwarf pines are pines. I would say that Pluto is a planet, but it is a dwarf planet, and the first example of the class of trans-Neptunian dwarf planets."

Lack of science

The whole debate, many astronomers say, has little if anything to do with science.

Geoff Marcy, a researcher at the University of California, Berkeley, has led the discovery of dozens of planets outside our solar system. "The astrophysics of planetary bodies is so rich and complex that defining 'planet' has never been an issue under discussion among professionals," Marcy said in an email interview earlier this week.

Pressed on whether the definition made any sense, Marcy said: "It makes no scientific sense to have a definition that pertains only to our solar system and not to other planetary systems." The DPS represents 1,300 astronomers, about a third of them from outside the United States. Today's statement included a phrase that hints at the discontent felt among many members and the likelihood that all is not said and done:

"Ultimately, the definition of a planet will come through common usage and scientific utility. There is no need to throw away current school texts; Pluto has not gone away."

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**BENEFITS OF
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- ◆ Members receive the STELLA, our monthly newsletter.
- ◆ Each member is automatically a member of the Astronomical League, the only nation-wide organization for amateur astronomers.
- ◆ Use of the observing site at Weeping Water, NE
- ◆ The opportunity to borrow one of several club-owned telescopes.
- ◆ Organized trips to local observatories, planetariums and museums.
- ◆ Significant savings on subscriptions to **Sky & Telescope** and **Astronomy** magazines.
- ◆ Savings on astronomy books and printed materials.

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