NIGHTFALL
Huachuca Astronomy Club of Southeastern Arizona

HAC MEETING: Friday, September 4, 2009

7 pm, Cochise College, Sierra Vista, Rm. 305A/B

PLUS our monthly Show-N-Tells, upcoming event details, refreshments & Door Prize!

Speaker: Glenn Minuth;

Topic: "CSI: in the Heavens--Forensic Astronomy Explored"

Speaker: Bob Gent;

Topic: Building a backyard Observatory in Cochise County

Speaker: Rich Swanson;

Topic: Summer Astronomy in Alaska ," or "It's sunny stupid, shoot the scenery instead!"

Star Party Corner

Keith Mullen, Star Party Coordinator (520) 366-0049 email: repogazer@msn.com

Participation is the Lifeblood of the Club!

With the Monsoon picking up a little steam and about one half of the club gone on vacation, August didn't have much of a chance to be a banner month. I had cancelled the monthly Members Star Party because there was no one around to host it, the Member/Public Star Party at JBO on the 15th turned out to be a good Member Star Party, we had over 20 members present and not a public soul in sight. Scott Schneeweis dusted off the C-14 and Titan to claim honors of biggest scope in the yard, with Dave and Big Blue taking requests during the evening. Good things happen when you take the time to participate.

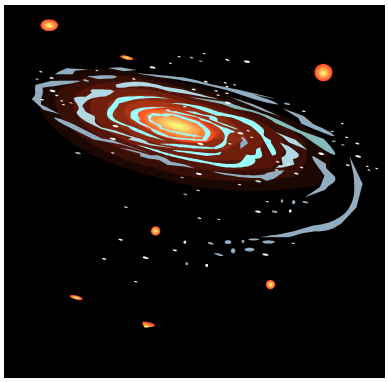
September Star Party Schedule

Public/Member Star Party, Friday Sept. 11th at JBO, lets get out there and show

(Continued on page 7)

President's Perspective

Wayne Johnson "Mr. Galaxy"



Our August 7th weekend was a busy one, especially those of us who participated in the activities we held! Starting with our General Meeting, which was on what will now be the first Fridays of the month, we had a different and fun presentation on "Music in Astronomy" from PhD candidate and composer Matt Whitehouse. We saw and heard from someone who, though much younger, is following in the footsteps of one of astronomy's most noted observers, William Herschel, who performed and composed music in the late 1700's before discovering the planet Uranus and redefining deep sky observing as we know it today. We hope to hear more from Matt as he progresses in his career!

The next day, Saturday, August 8th, fourteen of us began our admittedly aggressive day of touring by meeting shortly before 10am at the UA's Mirror Lab. It is located, amazingly enough, beneath the Wildcat football stadium on the east side of the university's campus. It is near the world renowned offices of UA's Steward Observatory and the National Optical and Astronomical Observatory (NOAO) who have their remote observatories on Kitt Peak, about 60 miles southwest of Tucson. We were greeted at the Mirror Lab by our host, Dean Ketelsen, who is a member and former president of the Tucson Amateur Astronomical Association (TAAA) and has worked at the Mirror Lab since it was established about 20 years ago. Dean first showed us a video to show us some history of the Lab. He then showed us the _hardware_! The optics would make any self-respecting amateur astronomer suffer extreme aperture envy! There were several 8.4 meter mirrors (that's nearly 28 feet or 333 inches across, folks!) meant for the LSST and Gemini telescopes and a "small" 6.5 meter (257 inch, larger than the famous 200 inch Glass Giant of Palomar Mountain) which is intended for the Mexican National Observatory's location at San Pedro de Martir in northern Baja, a really nice location that I toured as a member of another club in California. It was amazing standing next to these behemoths as they are in the process of being manufactured and seeing the material and steps that transform chunks of glass into exquisite optical components. Some of us, of course, saw some of the finished products when we went on our tour of the Large Binocular Telescope (LBT) Observatory on Mount Graham last year.

The first phase of our tour was over much too soon and then it was time to head over to the Lunar and Planetary Laboratory's (LPL) Meteorite Lab. Our very enthusiastic and knowledgeable hostess

(Continued on page 3)

Huachuca Astronomy Club P.O. Box 922 Sierra Vista, AZ 85636 **http://hacastronomy.com** email: mrgalaxy@juno.com

Yearly Membership: Individual: $25; Family: $35; Military: $20; Student:$10 (with restrictions)

President: Wayne Johnson, mrgalaxy@juno.com ; **Vice President**: Keith Mullen, 520.366.0049/ repogazer@msn.com

Treasurer: Bob Kepple: 366-0490/ astrocards@aol.com; **Secretary**: Bob Gent 378-2915; **Past President**: Doug Snyder

Star Party Coordinator: Keith Mullen, repogazer@msn.com;

Outreach Events Coordinator: Rich Swanson, 803-7298 or telegeek-64@cox.net

Loaner Scopes: Bob Gent 378-2915; Newsletter Editor: Teresa Mullen, edugazer1@yahoo.com / 366-0049

This issue of Nightfall can also be found on-line at **hacastronomy.com**. Click 'Newsletter' link. There is much more information about astronomy and our HAC activities on our club web site. *To join the HAC-LIST, send an email to ***haclist-subscribe@yahoogroups.com .***

(Continued from page 2)

was Delores Hill, who came and spoke to us last year - strangely enough on meteorites! She invited us to come down to see her facility when she gave her talk and fortunately we were able to take her up on her offer while we were in Tucson this time. It was a delight to see Delores in her environment. The main theme of her tour was to show us what was involved when someone wants the Lab to determine the composition (or type) of their find or to determine whether it is, in fact, a meteorite or a meteor-wrong! Actually, one of the samples she had under inspection was the famous recent Arizona witnessed-fall meteorite found by one of our local meteorite hunters/dentists, Dr. Jack Schrader. An interesting note is that one of Jack's sons works at the Lab, much to his chagrin, because one of the main tenets of science is to maintain objectivity, a difficult thing to do when you're examining one of your father's finds! I understood that the son excused himself from examining the meteorites. There were about ten tests that are conducted on a rock and I frankly do not remember all the steps, but some of the basic ones consist of checking the "object under test" with a magnet (though not all meteorites are magnetic) and looking for a fusion crust (the result of entering the earth's atmosphere), something which any one of us who have a suspicious object can do to filter it out. We then got into the more expensive equipment, which only a laboratory of this stature could afford, that is used to determine the chemical composition of the object. One was the mass spectrometer in which a small sample is vaporized and a resulting spectrum is produced on a monitor and the resulting elements reveal themselves. There was also an electron microscope for extreme closeup detail and, I think, everyone's favorite, the polarizing microscope, which showed exquisite imagery like those seen on covers of magazines. It was very difficult to leave Delores and the Meteorite Lab, though a few people opted to take a lunch break despite my warning to bring a snack to tide them over, but we had one or two more items to see before our day was done.

Even though I had hoped we could see the Geology Museum, which is in the basement of the Flandrau Planetarium, our last tour of the day turned out to be seeing the Planetarium Projector in action with Mike Terenzoni operating it and giving us a tour of the northern (and southern!) skies. It was great seeing the machine operating under most of its former glory. Because of on-going budget problems, our group apparently was one of the first to see it in operation in a while and it looks like we might have been the last because there is more money needed to get it back to functioning properly. Despite the financial straits of the Planetarium it is still a worthy machine and it would be nice to find someone who could underwrite its operations. Tucson, the astronomical capital of the world, really should have a decent planetarium to show off to the world.

We pretty much declared a victory at this point and nearly everyone went their own way. Ken Duncan, my wife, Arlene (aka MrsMrGalaxy) and I went to a nice Vietnamese restaurant, Miss Saigon, next to the campus, and then headed over to Dean Koenig's fine astronomy shop, Starizona, in northwest Tucson. We spent about an hour ogling all the equipment stuffed into his store and we both finally bought some books and Dean graciously gave me some door prizes to hand out at our general meetings. Thanks, Dean, and thanks to our three hosts (Dean, Delores and Mike) at UA and special thanks to all those who toughed out the "grand astronomical tour of Tucson"!

This year's monsoon have been fairly kind to Arizona observers and I hope most of you have been able to take advantage of the situation either with member and/or star parties or going out observing by yourself. You don't have to go anywhere or have a particularly big telescope to observe the Moon and Jupiter, both of which have been very interesting to watch. Jupiter, especially, has been fun to watch with its recent impact area visible for a few weeks, complex belt structure, and mutual transits/eclipses of the Jovian moons. During this monsoon I have also seen a couple comets, the Milky Way has been spectacular and, of course, I have been observing galaxies galore. Hard to believe the rainy season is almost done and fall is nearly here, prime time for observing in Arizona. Get out there and observe!

Clear skies!

While the Deep Sky Guys are away we are running one of their previous articles.

Travels on the Celestial Sphere

Bob Kepple and Glen Sanner

We thought we would try something different this month for our "deep sky" article. This one is "shallow sky," covering four constellations in the summer sky. We want you to be able to locate these four relatively obscure constellations. They can be a little difficult to isolate because none of them have any really bright stars, nor do they have a distinctive, easily found shape. By right ascension, they are as follows:

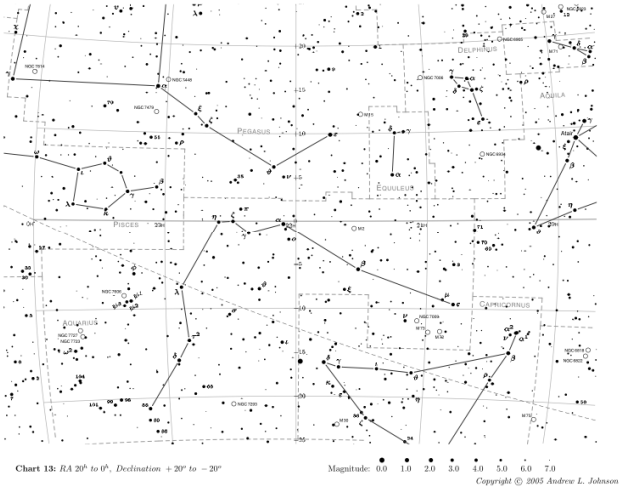


Chart 13: *RA 20h to 0h, Declination +20° to −20°* Magnitude: 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0

Microscopium-the Microscope
Genitive: Microscopii Abbreviation: Mic
Culminates: 9PM-September 18th Area: 210 square degrees
Approximate central coordinates: RA 20h 30m, Dec. -35° 10'

This constellation was created by French astronomer Nicolas Louis de Lacaille in the 1750s. It commemorates the invention of the microscope in the early 1600's by several scientists: Zaccharias Janssen, Anton van Leeuwenhoek, and Galileo Galilei. Lacaille put the constellation in his maps of the sky in 1752. It is a scattering of faint naked eye stars and has little resemblance to a microscope as we know it. It is found due south of Capricornus between Piscis Austrinus and Sagittarius. The best deep sky objects found in this constellation are galaxies NGC 6925, NGC 6958 and IC 5105. Use the chart to find this constellation.

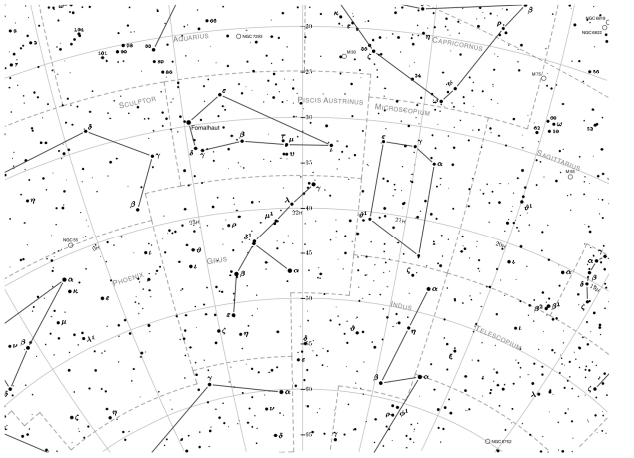


Chart 19: *RA 20h to 0h, Declination −20° to −65°* Magnitude: 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0

Equuleus-the Colt
Genitive: Equulei Abbreviation: Equ

Culminates: 9PM-September 22nd Area: 72 square degrees
Approximate central coordinates: RA 21h 11m, Dec. +07° 11' This constellation is a collection of faint stars forming a trapezoid between Delphinus and the nose of Pegasus. We have inherited this constellation from Greco-Roman civilization and it appears on star maps dating from the late 1600s. It also appears in Jamieson's maps published in the early 1800s. The head of "The Colt," appears on most maps right next to the head of Pegasus. Hipparchos may have invented this constellation and some have said that this is the horse that Mercury gave to Castor. In any case it is the second smallest constellation, only Crux in the southern Milky Way is smaller. It has a sprinkling of galaxies and a handful of double stars. Use the chart to find this constellation.

(Continued on page 7)

Space Place Partner Column

A Planet Named Easterbunny?

You know Uranus, Neptune, and Pluto. But how about their smaller cousins Eris, Ceres, Orcus, and Makemake? How about Easterbunny?

These are all names given to relatively large "planet-like" objects recently found in the outer reaches of our solar system. Some were just temporary nicknames, others are now official and permanent. Each has a unique story.

"The names we chose are important," says Caltech astronomer Mike Brown, who had a hand in many of the discoveries. "These objects are a part of our solar system; they're in our neighborhood. We 'gravitate' to them more if they have real names, instead of technical names like 2003 UB313."

Nearby planets such as Venus and Mars have been known since antiquity and were named by the ancient Romans after their gods. In modern times, though, who gets to name newly discovered dwarf planets and other important solar-system bodies?

In short, whoever finds it names it. For example, a few days after Easter 2005, Brown and his colleagues discovered a bright dwarf planet orbiting in the Kuiper belt. The team's informal nickname for this new object quickly became Easterbunny.

However, ever since its formation in 1919, the International Astronomical Union (IAU) ultimately decides whether to accept or reject the name suggested by an object's discoverers. "Easterbunny" probably wouldn't be approved.

According to IAU guidelines, comets are named after whoever discovered them—such as comet Hale-Bopp, named after its discoverers Alan Hale and Thomas Bopp. Asteroids can be named almost anything. IAU rules state that objects in the Kuiper belt should be given mythological names related to creation.

So Brown's team started brainstorming. They considered several Easter-esque names: Eostre, the pagan mythological figure that may be Easter's namesake; Manabozho, the Algonquin rabbit trickster god.

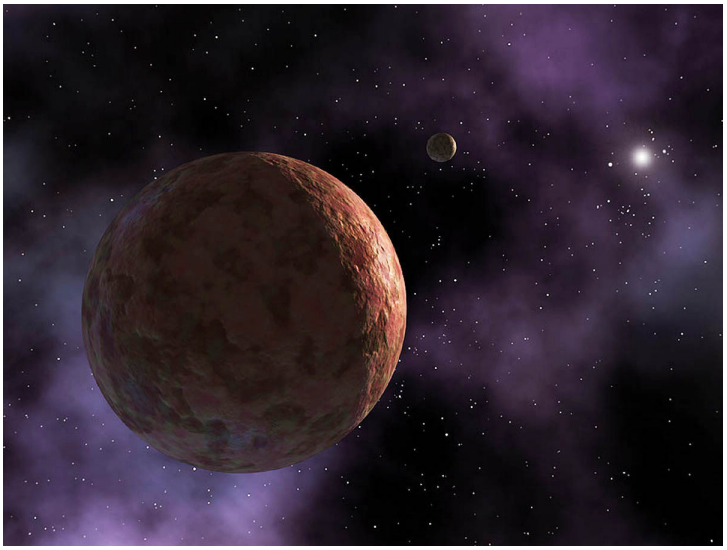
In the end, they settled on Makemake (pronounced MAH-kay MAH-kay), the creator of humanity in the mythology of Easter Island, so named because Europeans first arrived there on Easter 1722.

Other names have other rationales. The dwarf planet discovered in 2005 that triggered a fierce debate over Pluto's status was named Eris, for the Greek goddess of strife and discord. Another dwarf planet with an orbit that mirrors Pluto's was dubbed Orcus, a god in Etruscan mythology that, like Pluto, ruled the underworld.

Brown says he takes "this naming business" very seriously and probably spends too much time on it. "But I enjoy it." More tales of discovery and naming may be found in Brown's blog MikeBrownsPlanets.com.

Constellations have also been named after ancient gods, human figures, and animals. Kids can start to learn their constellations by making a Star Finder for this month at spaceplace.nasa.gov/en/kids/st6starfinder/st6starfinder.shtml. There you will also find a handy explanation of why astrology has no place in science.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



-Caption:

Artist's rendering of dwarf planet MakeMake, discovered around Easter 2005. Unlikely to gain acceptance their nickname Easterbunny, the discoverers named it for the god of humanity in the mythology of Easter Island.

Speakers…

Glenn Minuth: Astroforensics is the fascinating field in the practice of forensics that involves the use of astronomy in civil and criminal cases to find, the exact natural lighting conditions existing during a crime. The discipline is much older than you would think, but is has maintained quiescence, until recently. Find out how a past US President used it in the 1800s to defend his client; under what circumstances Stonewall Jackson was killed by friendly fire, how it was used to explain the sinking of the USS Indianapolis in WWII among other case studies. We also investigate its uses to study classic works of art and photography.

Bio: Glenn Minuth is a Department of Army Civilian employed at Fort Huachuca as a division chief/technical integrator for the Network Enterprise Technology Command. During the past 26 years, his civil service assignments have been as a: cartographer for the Defense Mapping Agency Aerospace and Hydro-Topographic Centers, instructor of acquisition law and project management in the National Defense University, and US Air Force information management specialist.

His bachelors and graduate degrees are in geography with concentrations in cartography, geomorphology, remote sensing, and geology. Others areas of academic focus were biogeography (flora/fauna), weather/climate, and pedology (soils). His graduate research focused in the area of geomorphology and geology examining mound micro-relief (Mima-type mounds) on volcanic mudflows in the central Sierra Nevada foothills, California.

Glenn was an instructor in geography, geology, physical science, and biology in the Life and Physical Science Department of American River College, Sacramento for seven years. He was an instructor in geography and geology for 10 years at Cochise College for credit and non-credit programs and 8 years with the City of Sierra Vista parks and Recreation Dept. He now leads field trips and lectures again for the Cochise College in the areas of military history, ecology, weather/climate, geography, and geology.

He enjoys canoeing, snowshoeing, downhill skiing as a member of the National Ski Patrol for 38 years performing winter mountain rescue work and is a proficiency instructor in the areas of outdoor emergency care, avalanche rescue, and toboggan handling.

His local academic interests in the greater southeastern Arizona area involve geology (ancient (fossilized) coral reefs, metamorphic core complexes, industrial copper mining, speleology (cave study), volcanic terrains); regional agriculture; forest fire ecology; sky island biogeography; monsoon dynamics; and military history such as the Apache Campaign).

Bob Gent: Built a backyard observatory this year, and this talk will be a very brief summary of how this was accomplished. It will include some of the challenges and how these were overcome.
Bob has been a member of HAC since 2004, and he currently serves as secretary on the board of directors. He is past president of both the Astronomical League and the International Dark-Sky Association.

Rich Swanson is the owner and chief observer at the Windy Mountain Observatory (WMO). While my main passion is astro-photography and outreach (not necessarily in that order), I also dabble in wildlife and nature photography. I am currently entered into a wildlife photography competition held by the National Wildlife Foundation, the photos which you will get to see tonight. You can also see some of my work in the September issue of The Reflector.

(Continued from page 1)

Dave we appreciate his endless contributions of time and effort to host these events month after month.

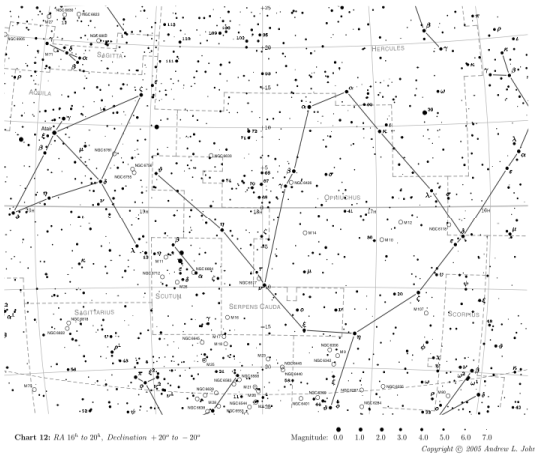
Dine under the Stars (DUTS), Saturday Sept. 12th, at the U of A South campus's Patterson Observatory. Call Rich Swanson to volunteer at 803-7298. Bring a scope and get a free $50.00 dinner.

Member Star Party, Saturday Sept. 19th, Dave Butler is hosting this months event on his property out side of Huachuca City, he says it's plenty dark and easy to find. Check out the HAC Web Page for a map and directions, Dave says he will have lot of munchies on hand, so let's give Dave a big turnout for his first hosted event. If you have any questions give him a call at 439-9365

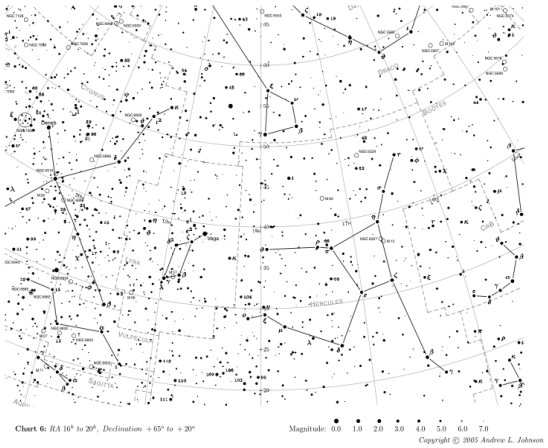
Special event Notice: Leonids Star Party, Monday November 16th at JBO, the ones in the know are talking of maybe a 500 per hour event, nobody wants to miss that kind of a night, time is open as the shower will begin before sun down with the highest count being after midnight. Dave will serve coffee, tea and other delightful snack, don't miss it!

Scutum-the Shield
Genitive: Scuti Abbreviation: Scu

Culminates: 9PM-August 15th Area: 109 square degrees
Approximate central coordinates: RA 18h 41m, Dec. -10° 00'



This constellation was introduced in 1690 by Johannes Hevelius to honor King John (Sobieski) III, who became king of Poland (by election) in 1674 and who subsequently broke the siege of Vienna by leading the Polish cavalry against the Turks in 1683. It was originally named Scutum Sobiescianum, and was shortened to Scutum in the 18th century. It has no distinctive star pattern other than an elongated rhombus. The NE part of it is one of the richest areas of the summer Milky Way being the Scutum Star Cloud, this is offset in the NW portion by the Great Rift. What a visually striking area of the sky! By looking at the Scutum Star Cloud you are visually traveling down a portion of the Sagittarius arm (see fig.#1-courtesy NASA/JPL). Figure #1 This is a wonderful area to look at with binoculars! Scutum may be found between Aquila and Sagittarius. The star chart will help you find it.



Vulpecula-the Little Fox Genitive: Vulpeculae Abbreviation: Vul tes: 9PM-September 8th Area: 268 square degrees Approximate central coordinates: RA 20h 14m, Dec. +24° 51'

Johannes Hevelius also introduced this constellation in the late 17th century. It was originally Vulpecula cum Ansere, the Little Fox and the Goose. It has since been shortened to Vulpecula and is situated between Cygnus and Delphinus. This is a marvelous area to sweep with binoculars and the Little Fox shows itself extending from the Great Rift on the west to the summer Milky Way on the east. We find the "coathanger" in this constellation as well as M27, a wonderful planetary. It has no major bright stars to mark it but with a little help from our star chart , you will easily find this summer gem.

Mark Your Calendars for ALCon 2010

The Tucson Amateur Astronomy Association, the International Dark-Sky Association, and the Astronomical League will be jointly hosting the annual convention of the League from June 24 until 26, 2010 at the Tucson Hilton East in Southern Arizona.

Noted astronomer and comet discoverer, David Levy will be one of the many outstanding speakers. With Kitt Peak National Observatory and other world class destinations, there will be many exciting tour opportunities.

The League will be holding its annual awards banquet, and it will present major national awards during the conference. Among other prestigious awards, the National Young Astronomer Award will be presented.

In addition, astronomy vendors from across the USA will display their latest products. We also expect leaders in IDA's dark sky movement to participate. Keith Schlottman, VP of TAAA, and Bob Gent, Past President of the Astronomical League, are the event's co-chairs. Please mark your calendars and stay tuned for additional updates.