

April Highlight:
Comet 124P MRKOS

***NIGHTFALL**
Huachuca Astronomy Club of Southeastern Arizona



HAC MEETING: Friday, April 18, 2008

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

PLUS our monthly Show-N-Tells, upcoming event details, refreshments & NEW Exciting Door Prizes!

Speaker: Glen Minuth

Topic: Earth's Energy Balance

Star Party Corner

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

Participation is the Lifblood of the Club!

March roared like a lion alright, a long winded lion. We did manage to salvage the Public Star Party at JBO on the 5th with a few members' scopes and of course Dave's Big Blue is always the crowd pleaser. On to the member Star Party/Messier Marathon. Sorry about my not making that one but business called in Sacramento and I had to go.

Wayne was also out of town on a speaking engagement so neither of us were able to attend. From reports I have received the weather wasn't the best but all who did make it claim to have had a good time. Maybe next year we can do better attendance-wise especially seeing that the Marathon date will be further into the month as is normally the case; old man Moon caused us to have the event three weeks early.

April Star Party Schedule

Saturday, April 5th: Members Star Party and First Light celebration at Rich Swanson's brand new "WMO" Windy Mountain Observatory. Glen Sanner was the scheduled host for April but a daughter has called him away and Rich just so happened to have finished his observatory so lets get over there and show Rich some of that good ole HAC camaraderie and help him get WMO off to a great start. Del has entered Del has entered directions to Rich's place on the HAC website.

Friday, April 11th: Public Star Party at Patterson Observatory on the U of A South Campus which includes the Saturn Watch. Saturn will be well positioned in the night sky for early observing, so get out there with a scope and help us fight off the crowds.

We have several special events coming up in May (Astronomy Night) at the Lawley Automotive Center and a special Members Star Party at Neil Galt's "High Knoll Observatory". I heard he has a 36 inch scope up there, we better go and see.. June see's Celestron's new Star Party representative along with their Service Manager dropping by RGO for a Star B-Q and question/answer period on any and all Celestron products. This will be an opportunity to figure out that GO-TO system and all the other options we never use.

The weather is starting to shape up so there's no reason not to be making some of these events, get out there and Participate!

STARIZONA
ADVENTURES IN ASTRONOMY & NATURE

Official Donor of the Huachuca Astronomy Club Door Prizes!!!

President's Perspective

Wayne Johnson

Our April 18th HAC meeting's speaker, Glenn Minuth, will give a more practical and down-to-earth (literally) presentation than we are usually treated to at our meetings. His topic concerns the interaction between the earth and sun and what the earth does with all the radiation the sun imparts to it. Glenn works on Fort Huachuca; please see his biography and a short synopsis of his talk elsewhere in the newsletter. This should be a great presentation not only for the astronomers in the group, but also for those interested in global warming, whether it be caused by mankind or as a result of natural cycles of heating and cooling that occur over long periods of time. Glenn's talk should be thought-provoking and stimulating, and definitely appropriate to the college folks who attend our meetings, allowing us to sort out some of the biased information the news floods us with on a daily basis. We look forward to seeing all of you there!

Our refreshments committee has remarked that the breaks at the end of the meeting are not conducive to selling goodies and bringing funds into the club coffers. We are going to try taking a 15-minute break after the Deep Sky Guys and Keith do their presentations and have the speaker make his presentation after the break. Let me know whether the mid-meeting break is a good idea or not. Please reply to my home email: mrgalaxy@juno.com.

The weather we have in Arizona is enough to make folks from other parts of the country turn green with envy, if not come and stay with us for many months of the year. This time of the year is especially pleasant and we have the opportunity to watch as the winter skies, which host

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Dollar\$ & Cent\$

Bob Kepple

The Club has a checkbook balance (mid March) of \$4529.38, with \$121.55 in petty cash.

Club Resources

The Club has four remaining 2008 Astronomy Calendars and they are on Sale for \$5.00 ea. Get yours before they're gone.

The Club also has iron on HAC Patches available for \$2.00 ea.

Contact Bob Kepple at 366-0490/ astrocards@aol.com

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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.

Outreach Biz

Rich Swanson

Well here comes April already. March was “event”ful, with the Huachuca Oaks events, and the first ever SV Library Family Night which was supported by Dave Healy and myself. Thirty-one participants were treated to M42, The Double Cluster, Saturn and M45. I personally was amazed by the level of knowledge some of the kids in SV have of the night sky.

Coming up we have the Myer School Book Fair on Thursday, April 3rd beginning at sundown. I personally won't be able to attend. So with one less telescope there, all support would be appreciated since this tends to be a fairly large event. And at the end of the month we revisit The Oaks for installment 3&4 for Fred Stahl's Science Camps. The first is on Wednesday, the 30th of April, and then the following week on Wednesday, the 7th of May. Both of these events will begin at sundown.

I am also awaiting contact with Ms. Delgado from Bisbee for an annual event that she requests support for. More on that on the HACLIST if the time comes. That is about it for this month.

Keep 'em lookin' up!
Swanee

Backyard Astronomer

Neal Galt

What's UP...

Mercury swings past the sun and starts to rise in our evening skies just over the western horizon. By the end of April it will be easy to see, but May will be an even better month for seeing Mercury.

Venus will be difficult to see in the morning sky over the eastern horizon as it gets closer to being lost in the solar glare. It is on its way to the evening sky and will be seen there in June.

Mars continues to distance itself from the earth. It can be seen almost directly overhead when the sun sets, in the constellation of Gemini. By the end of the month it will have dimmed down to the same magnitude of Pollux, one of the twin stars. During the period 4/26 - 4/28 it will dance with Pollux....go watch!

Jupiter is still a morning object and can be seen low in the south-eastern sky. It will become the showpiece for the summer months in Sagittarius.

Saturn is high in the sky at sunset, still in Leo and still edging towards Regulus. Saturn is brighter than Regulus and has a yellowish tint. Now is a good time to be viewing Saturn with a medium sized telescope.

April 22 should be a good night to see the Lyrid meteor shower peak. These meteors are usually very fast and very bright.

Get out and view the greatest show from earth.

About the Speaker...

Glenn Minuth is a Department of Army Civilian employed at Fort Huachuca as a 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 mud-flows 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. He now leads field trips and lectures for the City of Sierra Vista Parks and Recreation Department 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 Pa-

trol 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 season dynamics; and military history such as the Apache Campaign).

Library News

A Gracious "30 years worth" Donation!

This is to acknowledge that the Huachuca Astronomy Club has received a gracious donation from Mr. Bob Gent (member and president of IDA) of a large collection in the form of 30 (thirty) years worth of Sky & Telescope magazines. Not only this, but they were even bound in official Sky & Telescope binders. The value can only be imagined. In behalf of the club membership, "thank you very much", Bob.

Received by:
Hans Clahsen
HAC Board Member
Club Librarian

Travels on the Celestial Sphere – April

Galaxies in Canes Venatici

By Glen Sanner and Bob Kepple

This month we continue our quest for spring galaxies in the constellation Canes Venatici, the Hunting Dogs. The dogs, Asterion and Chara, are held on a leash by Bootes, the Herdsman, were named by Hevelius in the 17th century. When looking toward Canes Venatici we peer through three layers of galaxy groups. The first is the Canes Venatici I Cloud - at 20 million light years, the second is the Canes Venatici II Cloud - at 30 to 40 million light years, and the third is the Ursa Major I Cloud - at 70 to 80 million light years. M94 (NGC 4736) and NGC 4244, are the closest among those we will describe.

NGC 4151, Type (R')SAB(rs)ab:, Dia. 6.4' x 5.5', Mag. 10.8v, SB 14.5, 12h10.5m +39°24'

This type I Seyfert galaxy is a fairly bright face-on galaxy with a surrounding halo elongated 3' x 1.75' NW-SE. There are a few 12th and 13th magnitude stars touching the halo. NGC 4156 is 5.5' NE of 4151. NGC 4151 is a little over 50 million light years distant.

NGC 4217, Type Sb, Dia. 5' x 1.5', Mag. 11.2v, SB 13.2, 12h15.8 +47°06'

This galaxy is nestled among three stars making it somewhat more difficult to see, however, with a little patience, enough aperture and averted vision you will be pleased to see its faint dust lane along its SE edge. The halo stretches 4.5' x 1' NE-SW with a brighter nucleus at center.

NGC 4244, Type SA(s)cd:sp IV, Dia. 17' x 2.2', Mag. 10.4v, SB 14.2, 12h17.5m +37°49'

This is one of those amazing edge-on galaxies similar to those we spoke of in last month's newsletter. It is a long, thin spindle spanning 15' to 17' NE-SW. With enough aperture some faint knots may be seen on both sides of its extended core. It lies at a distance of 6.5 million light years and thus is somewhat closer than other galaxies.

M106 (NGC 4258), Type SAB(s)bc II-III, Dia. 20' x 8.4', Mag. 8.4v, SB 13.8, 12h19.0m +47°18'

This galaxy was discovered by Mechain in 1781 and is a spectacular galaxy elongated NNW-SSE. Its bright core is surrounded by a fainter halo with hints of spiral structure responding to magnification and aperture. A companion, NGC 4248, may be seen 13' NW.

M94 (NGC 4736), Type (R)SA(r)ab II, Dia. 13' x 11', Mag. 8.2v, SB 13.5, 12h50.9m +41°07'

M94, found by Mechain in 1781, has a brilliant core encircled by a diffuse halo. If you use enough magnification and aperture some mottling may be seen with knots to the east and southeast. M94 lies at a distance of 21 million light years.


M63 (NGC 5055), Type SA(rs)bc II-III, Dia. 13.5' x 8.3', Mag. 8.6v, SB 13.6, 13h15.8m +42°02'

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Astronomers Wanted Dead or Alive

By the time this reaches YOU, I still won't have the required number of Telescopes for a successful Astronomy Day event; just a handful more will do it. To volunteer, call Keith at 366-0049 and help the club to make this year's event the best ever.



Space Place Astronomy Club Article

Tracking Wildlife from Space

by Patrick Barry

It's 10 o'clock, and do you know where your Oriental Honey Buzzard is?

Tracking the whereabouts of birds and other migrating wildlife across thousands of miles of land, air, and sea is no easy feat. Yet to protect the habitats of endangered species, scientists need to know where these roving animals go during their seasonal travels.


Rather than chasing these animals around the globe, a growing number of scientists are leveraging the bird's-eye view of orbiting satellites to easily monitor animals' movements anywhere in the world.

The system piggybacks on weather satellites called Polar Operational Environmental Satellites, which are operated by the National Oceanic and Atmospheric Administration (NOAA), as well as a European satellite called MetOp. Sensors aboard these satellites pick up signals beamed from portable transmitters on the Earth's surface, 850 kilometers below. NOAA began the project—called Argos—in cooperation with NASA and the French space agency (CNES) in 1974. At that time, scientists placed these transmitters primarily on buoys and balloons to study the oceans and atmosphere. As electronics shrank and new satellites' sensors became more sensitive, the transmitters became small and light enough by the 1990s that scientists could mount them safely on animals. Yes, even on birds like the Oriental Honey Buzzard.

“Scientists just never had the capability of doing this before,” says Christopher O'Connors, Program Manager for Argos at NOAA.

Today, transmitters weigh as little as 1/20th of a pound and require a fraction of a watt of power. The satellites can detect these feeble signals in part because the transmitters broadcast at frequencies between 401 and 403 MHz, a part of the spectrum reserved for environmental uses. That way there's very little interference from other sources of radio noise.

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“Argos is being used more and more for animal tracking,” O’Connors says. More than 17,000 transmitters are currently being tracked by Argos, and almost 4,000 of them are on wildlife. “The animal research has been the most interesting area in terms of innovative science.”

For example, researchers in Japan used Argos to track endangered Grey-faced Buzzards and Oriental Honey Buzzards for thousands of kilometers along the birds’ migrations through Japan and Southeast Asia. Scientists have also mapped the movements of loggerhead sea turtles off the west coast of Africa. Other studies have documented migrations of wood storks, Malaysian elephants, porcupine caribou, right whales, and walruses, to name a few.

Argos data is available online at www.argos-system.org, so every evening, scientists can check the whereabouts of all their herds, schools, and flocks. Kids can learn about some of these endangered species and play a memory game with them at spaceplace.nasa.gov/en/kids/poes_tracking.

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

Caption:

The ARGOS program tracks the whereabouts of endangered migrating animals via miniature transmitters on the animals and the POES satellites in orbit.

Note to editors:

This image may be downloaded at http://spaceplace.nasa.gov/news_images/argos_tracking.jpg.



3” Celestron Newtonian Telescope to HAC Jr. Astronomer

We have a new three inch Celestron Newtonian Telescope that was donated to the club with the instructions that it be given to a worthy HAC Junior Astronomer. So, any son or daughter of a HAC member 16 years or younger feeling that they deserve this telescope need to write a one (1) page essay on why they feel they should win this scope. All essays will be presented to the general membership for a vote during the June Meeting, held on Friday June 20th. The results of the vote will be final and the winning Jr. Astronomer will be presented with the telescope that night.

Please contact Keith Mullen with any questions, 366-0049.



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Visit us on the web at hacastronomy.com

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Orion among other constellations, set in the west, while the galaxies of Virgo are at their best and, if you stay up late enough, the summer skies, which we really don't get to see in the summer(!), are just starting to poke their head over the horizon. One of the reasons to belong to a club such as ours is to take advantage of one of Arizona's best known resources: clear, dark skies, and use resources like our club members' observatories, which are willingly open to all who will come to enjoy the wondrous sights the heavens have to offer.

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This is the Sunflower galaxy discovered by Mechain in 1779. NGC 5055 has a large central nucleus surrounded by many spiral arms with "short arcs" throughout its periphery. It has a bright core and is elongated ESE-WNW. It lies at a distance of 37 million light years.

We hope you enjoy these spring galaxies. Remember to dark adapt for at least ten minutes before observing and use averted vision to see fainter detail. You will be surprised at what you can see if you all willing to get out there and look.