

Volume 22.3
Fall 2012
Third Quarter

PSF NEWS

Planetary Studies Foundation

President's Message	Pg. 2
Member's Corner	Pg. 3
SPECIAL FEATURE: Mars Exploration Panel	Pg. 4-9
Celestial Events	Pg. 9
Honey: Not Just For Your Morning Tea and Toast, A. Dubnick	Pg. 10-11
Upcoming Events	Pg. 11

SPECIAL FEATURE: MARS EXPLORATION ROUNDTABLE

In this special issue of *PSF News*, we feature a roundtable of science experts (all PSF members) discussing the issues around Mars exploration, the current space program, and in honor of the theme "curiosity", we ask the experts to share with our members what they are most curious about. Panelists include:

BILL HARTMANN, Ph.D.

Scientist, Writer and Painter

TONY IRVING, Ph.D.

Geochemist, Meteorite Expert, Professor - University of Washington

JACK SCHMITT, Ph.D.

Geologist, Astronaut - Apollo 17

PAUL SIPIERA, Ph.D.

Adjunct Curator of Meteorites - Field Museum, PSF Founder

NAPRAPATHY & YOGA

October 20th

STARGAZING

October 20th

WORKSHOP: VICTORIAN BONNET

October 27th

GET "HOOKED" ON CROCHET

November 3rd

WHAT'S IN A NAME?

November 10th

ARTS & CRAFTS FOR CHILDREN

November 17th

VICTORIAN HOLIDAYS

November 24th

WINTER CONSTELLATIONS

December 8th

PSF MEMBERS HOLIDAY PARTY

December 22nd



Executive Board Member, **Jennifer Schwartz**, sent in this incredible photo on September 21, 2012 that she took right outside her apartment in Pasadena, California. Space Shuttle Endeavour, aboard a NASA Shuttle Carrier Aircraft, was on its way to land at LAX and she was able to quickly capture this beautiful photo as well as a video which you can see at <http://youtu.be/Vf2Cy46kQVk>. Space Shuttle Endeavour will be on display beginning October 30, 2012 at the California Science Center in Los Angeles. Endeavour was the final space shuttle built.

PRESIDENT'S MESSAGE

This summer has been a very good season for your Planetary Studies Foundation despite the extreme heat and drought. The dry weather did provide us with some very good viewing nights at our monthly astronomy sessions at the *Apple River Fort State Historic Site* in Elizabeth and the *JETS Observatory* in Freeport, Illinois. The new "Stairway to the Heavens" has contributed significantly to our increased attendance by providing visitors with much easier access to the *1876 Banwarth House & Museum*. Our Saturday afternoon lecture series remains popular and the participants have enjoyed a variety of topics that have ranged from building a backyard pond to landing a rover on Mars. The largest audiences came to the programs that featured the Perseid meteor shower and the August 31st Blue Moon. I am personally looking forward to what our educational committee has planned for next year's programs.

Another summer season highlight was the Annual Members Meeting held on August 18th at the *1876 Banwarth House & Museum*. I would like to thank all the members in attendance and those who participated by responding with their proxy votes. I extend my congratulations to: **Joseph A. Auer, Jr., Patricia Tierney, and Herbert Windolf** for their election to the Executive Board. Thank you for your continued dedication to the Planetary Studies Foundation. Following the introduction of the new board members, the annual review provided detailed information on the financial condition and achievements of our organization. The various reports show that PSF's management is committed to maintaining an extremely frugal approach to spending and is making every effort to find new sources of income. I am very pleased to report that PSF remains "in the black" for both the present and near future. Our membership continues to grow and our primary contributors remain loyal. This does not mean that we can sit back and enjoy our current financial stability, but we must look ahead and be prepared for even harder financial times. As previously stated, our educational programs continue to provide services to regional educational institutions and community organizations.

Our association with the *Robert A. Pritzker Center for Meteoritics and Polar Studies* at the *Field Museum of Natural History* in Chicago continues to provide educational community outreach programs. Together we offer a public service of "meteorite" identification whose goal is to educate the general public about the scientific importance of meteorites and planetary science, and in the process, hopefully find a new meteorite. PSF is also involved in its own meteorite research program that involves classifying new meteorites from Northwest Africa, Oman, and Tunisia. PSF is recognized by *The Meteoritical Society* as an official repository for meteorite type specimens. Through the efforts of our PSF research team that includes **Ted Bunch, Fabien Kuntz, Tony Irving, Scott Kuehner, Blaine Reed, Jim Wittke** and myself, we have classified over 120 new meteorites this year alone. The majority of these meteorites are referred to as ordinary chondrites, but there have been a few exceptional ones that merit presentations at various scientific conferences. One never knows what the next meteorite analysis may tell us. This is truly the excitement of studying meteorites.

Paul P. Szipiera



SPECIAL THANKS TO OUR SUMMER VOLUNTEERS

Alex, Jim & Beth Baranski
 Wulf Clifton
 Andrea Dubnick
 Phil & Suzanne Gabel
 Jeff, Judith & Phillip Glenn
 Tina Hollis
 Karen Lemon
 Sheila Magnus
 Anthony Martinez
 Alan Myelle
 Janice Myelle
 Jim & Lu Paglin
 Max & Martha Purchis
 Allen Reed
 Ken & Kim Thorsen
 Jim & Pat Tierney
 Dan & Pam Tindell
 Wanona Wellspring
 John & Jane Yoder

DONORS' SPOTLIGHT

\$500 - \$1,000

Anonymous

The Albert & Audrey Ratner Family Foundation

Diane & Paul Sipiera

\$25 - \$100

Cub Scout Pack #832

Galena Cultural Arts Alliance

John & Jane Yoder

MEMBER'S CORNER

RENEWING MEMBERSHIPS

Family Membership

Phil, Suzanne & Rachel Gable

Ron & Mary Damasco

John & Jane Yoder

Individual

Carl Bryant

Jerome Clair

Cecelia Cooper

Helen Kilgore

NEW MEMBERSHIPS

Individual

Eugenia Krzyzanski

CONGRATULATIONS

- To **Andrea Cosentino**, our Executive Secretary, Chief Communications Officer and *PSF News* Editor-in-Chief, on her recent move to New York City. As Frank Sinatra once sang, "If you can make it there, you can make it anywhere." We wish you the best of luck in your new endeavor. Andrea will continue to perform all of her responsibilities to the PSF and will keep us informed both by newsletters and email blasts.

CONDOLENCES

- Our sympathy goes to the entire DuPont family, including **Richard, Robert, Margurite, Claudette and Joseph**, of the passing of their beloved mother, **Violetta DuPont** in June.
- To **Jim & Sandy Napolitan** on the death of Jim's mother who as 90 years old.
- To the world and all of PSF's astronaut members, our sincerest condolences on the passing of **Neil Armstrong**.

SPECIAL FEATURE: MARS EXPLORATION ROUNDTABLE

By: Andrea Cosentino, Editor-in-Chief

One year ago, on November 26, 2011, while the majority of Americans were recovering from Thanksgiving Day's feast and football, the NASA launch team for the Mars Science Laboratory (MSL) was in its final stages to launch a mission that would hopefully bring about answers to longstanding questions and new discoveries previously unknown to man.

Nine months and 350 million miles later, the MSL team would approach the most crucial stage of the mission, landing the Mars rover "Curiosity" into Gale Crater. This landing had a lot of things that could have gone wrong. You had a team flying an unmanned spacecraft, carrying a 2,000 pound rover, into Mars' thin atmosphere at 13,000 miles per hour, that would reach a maximum of 1,600 degrees Fahrenheit!

It was an engineering challenge that attracted a worldwide audience. Everyone watching the historical event held their breath during the "seven minutes of terror", as it was dubbed by NASA's Jet Propulsion Lab, which was the delay in time it would take for the signal to transmit back to Earth. Those seven minutes were agonizing for so many people because 420 seconds would determine whether the \$2.5 billion mission was a success or failure.

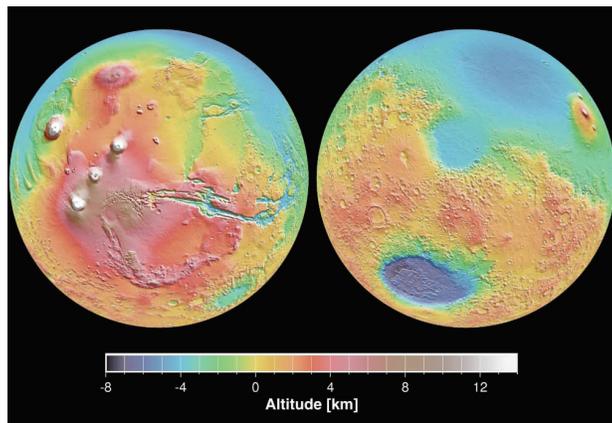
The human fascination of Mars is easy to understand. The two planets have so many similarities that to understand Mars, helps to understand ourselves. Exploration of Mars provides us with a control set when we're trying to

understand the processes of climate change, geophysics and the potential for life beyond our own planet.

Earth and Mars have roughly the same amount of land surface area and the atmospheric chemistry is relatively similar, specifically when comparing our own planet to the other bodies of the solar system. Both planets have large, sustained polar caps and the current thinking is they're both largely made of water ice. They both have or had magnetic fields, although Mars' is a thing of the past. And in terms of topography, Mars and Earth have some fascinating volcanic features.

Most notably is Olympus Mons, a Martian volcano so large that its own peak reaches above most of the Martian atmosphere. The volcanic giant rises a little over 14 miles from the surrounding plains. Earth too has numerous volcanic structures. Due to gravity, however, the closest thing resembling the massive land feature of Olympus Mons are the Mauna Loa and Mauna Kea peaks on Hawaii, which rise about 6 miles from their base on the floor of the Pacific Ocean.

With a generally similar planet so close, we become even more tantalized by the question: what type of life could (or does) exist in the solar system and what findings might be unveiled on our "sibling" planet to prove so? Until more



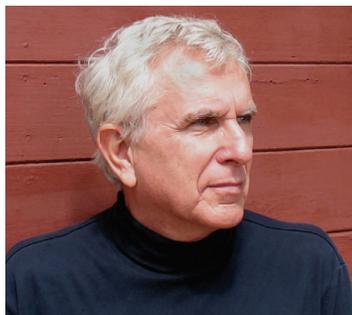
information can be gleaned from Curiosity, we must rely on experts to provide insight and expertise to the most difficult questions.

As a small organization, the Planetary Studies Foundation is so fortunate to have such a robust membership with leading experts in a variety of fields. When we came up with the idea for a panel specific to issues regarding the exploration of Mars, we didn't have to look very far to find heavy hitters in the areas of planetary science, geology and geochemistry to answer our questions and share with us their expertise in these respected fields. ♦

MEET THE EXPERTS

**William “Bill” Hartmann, Ph.D.
Scientist, Writer and Painter**

Dr. Hartmann has done extensive research in the origin and evolution of planets and planetary surfaces, as well as the small bodies of the solar system. He has authored three college level textbooks in astronomy and planetary science and is also a space artist. He has been commissioned twice by the NASA Fine Arts Program.



Bill Hartmann

**Anthony “Tony” Irving, Ph.D.
Geochemist, Meteorite Expert and
Professor - University of
Washington**

Dr. Irving is an Australian-born geochemist who spent his early career working with lunar fragments from the Apollo missions. He is a Lunar and Martian meteorite expert and is highly recognized for the sheer quantity of Martian meteorites he has analyzed. He also works as a geology professor affiliated with the University of Washington.



*Tony Irving
Courtesy of the Seattle Times*

**Harrison “Jack” Schmitt, Ph.D.
Geologist, Astronaut - Apollo 17**

Dr. Schmitt participated on the last lunar mission, Apollo 17, as Lunar Module Pilot in 1972. As the only geologist of the crew, he collected rock samples which have been called “without doubt the most interesting sample returned from the

Moon” by NASA’s Lunar Sample Compendium. In 1975, He resigned from NASA to seek election to the U.S. Senate representing the state of New Mexico for one term and was the ranking Republican member of the Science, Technology and Space Subcommittee. In addition, he is an adjunct professor of the University of Wisconsin-Madison, chair of the NASA Advisory Council and published author.

Curator of Meteorites at the Field Museum of Natural History in Chicago

at the Robert A. Pritzker Center for Meteoritics and Polar Studies.

In addition, Dr. Sipiера is a renowned meteorite expert having gone on numerous missions to Antarctica in search of meteorite specimens.



*Jack Schmitt
Courtesy of NASA*



Courtesy of santafenewmexico.com

**Paul P. Sipiера, Ph.D.
Adjunct Curator of
Meteorites - Field
Museum, PSF Founder**

Dr. Sipiера is President and Chief Executive Officer of the Planetary Studies Foundation. He is professor emeritus of geology and astronomy at William Rainey Harper College in Palatine, IL. He currently serves as Adjunct



Paul Sipiера

CONTINUED FROM PREVIOUS PAGE

ASK THE EXPERTS

Concerning Mars exploration, do you think more can be gained from human exploration than robotic missions?

Bill Hartmann: Yes, if either could be delivered to Mars easily. Of course the problem is that humans are much harder and more costly to get there. The day will come...

Tony Irving: I think both have value, but judging from the history of geological discoveries on Earth by humans, it will eventually be necessary to have real time human involvement on the surface of (or at least in orbit around) Mars.

Jack Schmitt: Ultimately, trained and experienced field geologists, biologists, and geophysicists will gain far more knowledge through field exploration than will robots. This has always been the case when new environments become accessible to humans. Robots are valuable in gathering data in environments not accessible to humans and in helping to plan future field exploration where humans can follow. Also, robots can follow-up human field exploration to gather new data not previously recognized as important.

Paul Sipiera: The Apollo moon missions proved the value of having “in situ” human participation for their ability to immediately recognize unusual specimens and to make quick decisions to change the “game plan” when the need arises. On the other hand, robots can go places where no humans can survive. Humans should return to the Moon and continue our exploration

where Apollo left off, and our deep-space robotic missions should continue to amaze us with their magnificent findings.

Beginning in the 1960’s, there was a lot of national support behind the Apollo program. What do you think it will take to change the country’s current attitude towards the continuation of human exploration of space?

Tony Irving: I think there actually is a lot of public support for space exploration, because people are intrinsically curious. With regard to Mars, I would like to see the scientific goals expanded beyond the “follow the water” theme.

“I would like to see the scientific goals expanded beyond the “follow the water” theme.”

- Tony Irving

Jack Schmitt: National leaders that recognize and can articulate the importance of American geopolitical leadership in all major areas of human endeavor. That leadership remains necessary to the protection of human freedom on Earth and eventually in the Solar System and beyond.

Paul Sipiera: The culture of the 1960’s was based on the previous generation’s hard work and sacrifice. The biggest difference between today and the 1960’s can be attributed to our problems with the economy and our loss of the “can-do” spirit that was so evident during World War II and into the “Cold War”. Human exploration beyond our planet will once again become popular when the United States sets itself a realistic, achievable goal based on a technologically sound plan to achieve that end. For the present, Mars rovers and images from deep-space probes will continue to fuel the human imagination.

Bill Hartmann: Unfortunately, it probably needs a perceived competitive challenge from other countries. More ideally, it would be a move to express our humanity by a truly global venture with many nations cooperating.

Do you think human exploration of Mars will be through government, private sector or both?

Jack Schmitt: The American government will need to lead the initiative at the outset, however, the technological and resource foundations created by the private sector in the development of lunar Helium-3 fusion energy will greatly reduce the difficulty and cost of early visits to Mars. Eventually, as with the Moon, economic possibilities for settlements on Mars may result in a shift from government to private leadership.

Paul Sipiera: I feel that the private sector is in a very good position to take

over from government-run space programs, especially with human space flight. Private corporations have the ability to “cut-through” most of the bureaucracy and “red-tape” associated with governmental programs and probably will get the job done cheaper and faster in the process. Two good examples can be found in Richard Garriott’s flight to the International Space Station and Elon Musk’s success with his Space X Corporation.

Bill Hartmann: I suspect it will be a communal adventure organized by several nations. I am very concerned, however, about the concept of private companies, international corporations or nations following a 16th century model and trying to establish ownership of the resources in space. Do we really want whichever corporate entities happen to have the most money in the mid-21st century of human development to end up “owning” the best Martian sites or asteroidal resources --- thus destabilizing Earth even more with the gulf between the “have” and “have not” nations?

“Do we really want whichever corporate entities happen to have the most money in the mid-21st century... to end up “owning” the best Martian sites?”

- Bill Hartmann

Tony Irving: I would hope that both would be involved. Rather than competing, I feel that each of these sectors has different expertise, and we need all the expertise we can get.

Do you think the fastest and most economical way for humans to get to Mars is by way of the Moon?

Paul Sipiera: No, but I think that would be the most logical and technologically correct way to do it. I believe that either various governments or the private sector will choose the more spectacular approach like Project Apollo was for the Moon and go with a Mars-direct mission to cultivate both public interest and financial investors.

Bill Hartmann: No. Tom Paine’s Presidential Commission on Space in the 1980’s discussed establishing an infrastructure involving permanent space-station like ships in solar orbit between Earth and Mars, with aphelion somewhat beyond Mars. These would be “hotels” with support facilities, amenities for passengers, shielded refuges against solar storms, etc. Light, fast ships would deliver Martian explorers direct to such stations and depart when the station reached the Mars vicinity at predetermined intervals. This seems like a better long-term scenario than trying to involve landings and take-offs from the moon.

Tony Irving: Not necessarily. It would be nice to have further human exploration of different areas on the Moon, but I think we should “keep our eye on the prize”. I favor a series of direct missions into Mars orbit culminating in a “locally” managed landing party of geologists to select samples. This scenario has aspects of the Apollo missions, but because of the higher gravity, it would be necessary with current propulsion methods to have

a staging platform from which to launch an experienced crew with sufficient fuel to actually allow them to return to the orbiting craft.

Jack Schmitt: Once resource production settlements exist on the Moon, the primary resources of the Moon (water, oxygen, hydrogen and food) can vastly lower the cost of going to Mars and establishing initial bases there. As the Moon is only a few days away from Earth, development and testing of exploration equipment, sampling techniques, operational procedures, and autonomous human exploration during lunar exploration and settlement will greatly lower the risks of Mars exploration. Large quantities of lunar water will provide the radiation protection necessary for round trips to Mars. The heavy lift launch vehicle and long duration habitats necessary for lunar settlement meet most of the requirements for Mars transit and settlement and can be paid for by private investment in lunar Helium-3 fusion fuels. Those launch vehicles can be used to test Entry and Descent concepts in the upper atmosphere of Earth (Note: we do not know how to enter, descend and land a 40 metric tonne spacecraft on Mars.) Finally, the successful development of Helium-3 fusion systems for terrestrial power applications will enable fusion rocket technology necessary to significantly shorten trips to and from Mars.

Based on what we know now, what kind of geology/mineralogy may be discovered in Gale Crater?

Bill Hartmann: It looks like Gale Crater may have had massive sedimentary deposits, which have been

CONTINUED FROM PREVIOUS PAGE

partly removed, exhuming old sediments, so we may be able to understand what kind of fluvial, sedimentary, and proto-biological activity happened there.

Tony Irving: We already know now that there are sedimentary conglomerates in a purported alluvial fan deposit. But what are the pebbles composed of? I presume that these are volcanic rocks, but it will be fascinating to find out and compare them to Martian meteorites.

Paul Sipiera: Gale Crater appears to be a large impact crater that could have deep-seated igneous rocks in its central peak (Mt. Sharp). If so, these rocks may be similar in composition to the apparent “Martian-meteorites” found on Earth. Also, the crater floor appears to be filled with sediment that may provide evidence of a past wetter Mars and possibly fossils from that era.

“[The floor of Gale Crater] appears to be filled with sediment that may provide evidence of a past wetter Mars and possibly fossils from that era.”

- Paul Sipiera

Given the fact that all the Martian meteorites found on Earth are various forms of igneous rock and the recent rovers have identified sedimentary rocks and minerals on Mars, when will we (if ever) find a sedimentary Martian rock on Earth?

Tony Irving: Remote sensing data suggest that the majority of rocks at the Martian surface are igneous rocks (albeit mostly covered with ancient red-brown dust). The selection of landing sites visited so far is biased towards regions with evidence for flowing water or hematite-rich mineral deposits. So I think the chances of finding and confirming a Martian sedimentary meteorite are very low, especially given that so far we have only 65 specimens in total.

Jack Schmitt: I suspect that an ejected near surface breccia fragment may be found someday; however, such fragments will have a difficult time surviving transit through the Earth's atmosphere. Looking closely at very small meteoritic debris in the Antarctic ice might show some clues as to a sedimentary origin now that we understand better what to look for.

Bill Hartmann: It's a great question that I've been asking meteorite experts for some years. The problem is: if a meteorite collecting team, say in Antarctica, picks up a Martian meteorite that is an obvious sedimentary rock, would it be recognized as a meteorite? I did an abstract some years ago with Derek Sears (U. Arkansas) and one of his students, suggesting that such “Martian sediment meteorites” would have fusion crusts, but possibly of somewhat different appearance or color than the fusion crust on the normal meteorites.

“To stand much of a chance of finding extent life on Mars, we probably need to drill to the subsurface horizon where fluid water replaces ice.”

- Jack Schmitt

In honor of the curiosity theme, is there something you are curious about?

Jack Schmitt: To stand much of a chance of finding extent life on Mars, we probably need to drill to the subsurface horizon where fluid water replaces ice. This horizon has been stable, although probably geologically mobile in depth, through Martian time, at least since complex organic precursors to life formed prior to 3.8-3.5 billion years ago. If simple, replicating life forms appeared on Mars (as they did in a similar aqueous, impact and clay dominated environment on Earth), then this water-ice horizon would have been a stable environment for their survival and possible limited evolution. That is something to be curious about until that horizon can be sampled. At times when the water-ice horizon may have intersected the surface of Mars, life forms may have been at that surface; so, at those locations, fossils might be found. Will Gale Crater turn out to have been one of those places of intersection?

Paul Sipiera: I am most curious about finding definitive evidence for either past or present life on Mars. For over forty years I have been a true believer that there was or is life on Mars based on its many similarities to Earth. I'm sure it won't be "little green men" but some nice microbes would be just fine.

Bill Hartmann: Lots! But in particular, how, and how often, did biological activity get started in the solar system, and what was the role of liquid water? Were there multiple starts that were then wiped out by giant, basin-forming, atmosphere-disrupting impacts every hundred million years or so during the first 600 M.Y.? And thus, the larger scale question: what is the role of life in the universe as a whole?

Tony Irving: I'd REALLY like to hold a sample from the summit caldera of Olympus Mons to see what type of volcanic rock it is.

NOTE FROM THE EDITOR

I really want to give a special thank you to Bill, Tony, Jack and Paul. These topics are so timely and all of them were extremely gracious with their participation and quick turnaround to get this newsletter out in time for the fall!

For any comments, questions or suggestions for future issues, please do not hesitate to email me at andrea2986@aol.com

- Andrea Cosentino, Editor-in-Chief

FALL CELESTIAL EVENTS

October 29

Full Moon

November 13

Total Solar Eclipse

The path of totality will be visible in parts of extreme northern Australia and the southern Pacific Ocean. A partial eclipse will be visible in most parts of eastern Australia and New Zealand.

November 17 & 18

Leonids Meteor Shower

The Leonids is one of the better meteor showers to observe, producing an average of 40 meteors per hour at their peak. The shower peaks on the 17th and 18th, but you may see some meteors from November 13-20. Look for the shower radiating from the constellation Leo after midnight and be sure to find a dark location for viewing.

November 27

Conjunction of Venus and Saturn

These two bright planets will be within one degree of each other in the morning sky. Look to the east around sunrise.

November 28

Full Moon

December 3

Jupiter at Opposition

The giant planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. This is the best time to view and photograph Jupiter and its moons.

December 13 & 14

Geminids Meteor Shower

This meteor shower is known for producing up to 60 multicolored meteors per hour at its peak. The radiant point for this shower will be in the constellation Gemini. This year, the new moon will guarantee a dark sky.

HONEY: NOT JUST FOR YOUR MORNING TEA AND TOAST

The Planetary Studies Foundation has had a lot of success with its presentations and workshops at the *1876 Banwarth House & Museum*. From out-of-town visitors to tri-state locals, attendance has been overwhelming and it's been truly rewarding to set-up educational programs for people who enjoy learning new things. One of the most well-attended presentations this past summer, was a presentation by Andrea Dubnick about honeybees and the various uses and remedies derived from raw honey. Andrea and her husband, Allen, are originally from Chicago and relocated to rural Ogle County, Illinois in 2003. After discovering a monthly class at a local forest preserve about keeping bees, they decided they would keep several hives and preach the gospel of local honey. Below is an informative article written by Andrea, including some beneficial skin treatments that can be made with raw honey.

By: Andrea Dubnick, for *Leaf River Honey*



Honey has been a prized food for millennia — before people kept honeybees, they hunted and raided honeybee colonies. In

folk medicine,

honey has been prescribed informally by cultures around the world for everything from asthma to smallpox, baldness, indigestion, weight loss (strict moderation being key here, I think), kidney stones, contraception, and even cancer.

In our modern times, I know that many people claim to find relief from seasonal nasal allergy symptoms by eating local raw honey — honey made in the area of the pollens that cause the symptoms. Rigorous scientific investigation has not yet confirmed these results, so we can only call the evidence anecdotal, but there seems to be a lot of it!

The website WebMD.com suggests that people react more to wind-blown pollens, rather than bee-carried grains. The National Center for Biotechnology Information at the National Institute of Health reported on a small study comparing two local varietal honeys,

using an imitation-honey-flavored corn syrup product as a control. Results were negative, but the sample size was small and data collected for only a short time. As producers (with our bees) of quality local raw honey, of course we at Leaf River Honey want to share this gift with our neighbors. And if it relieves *your* symptoms, by all means, continue to enjoy it!

Honey-lemon cough drops are a mainstream “flavor” in many drugstore brands. Professional singers often keep a throat in condition with hot lemon and honey. In 1759, Sir John Hill prescribed honey for hoarseness, coughs, and asthma. He was convinced that springtime honey made the best medicine because the bees are most vigorous and capture the full force of the first flowers. Much more recently (August 2012), a group of Tel Aviv University researchers reported results on a randomized trial, including 300 children ages one to five who were suffering from throat infections. About 75 percent were given a teaspoon of either eucalyptus honey, citrus honey or labiatae honey before bedtime, while the rest received the placebo — made from sweet, yet honey-free, dates. The parents of children who received honey gratefully reported markedly fewer coughing wake-ups.

But it may be in the area of wound care

that modern scientific researchers are most enthusiastic. Honey is naturally hygroscopic, so dressing traumatic wounds, pressure sores and abscesses with honey keeps them moist without sticking to the bandaging material. Honey is naturally antibacterial and contains anti-oxidants, which also aid in healing. These properties seem to be the result of low water activity causing osmosis, a hydrogen peroxide effect, heightened acidity, and the bacteria-killing activity of methylglyoxal. Researchers are particularly impressed with dark buckwheat honey, which seems to be richer in anti-oxidants than lighter honeys. But the current favorite among scientific researchers is apparently Manuka honey — a varietal from a New Zealand tree (called jelly bush in Australia), which seems to have particularly powerful anti-bacterial properties. The wound-dressing product MediHoney, made of Manuka honey, has recently come to the market — though not yet in the U.S.

There is plenty of research interest in honey in other areas as well — small studies looking into anti-viral possibilities, including rubella and herpes, for instance, although at this time not in human tissue. Based on honey's glycemic index of 55, compared to sucrose's 61, there is even investigation for its use in diabetes!

Also from the folk traditions, honey has long been used in facial masks. Honey preparations reduce redness and relieve acne, eczema and skin irritations. For dry skin try this one: 2 tablespoons of avocado flesh, 2 tablespoons honey, 1 egg yolk. Mash ingredients together thoroughly. Spread the mask over your face and neck, and leave it on for at least 30 minutes. (Keep your green face indoors or you'll not only scare the neighbors, you'll attract quite a variety of insects, not all of them as polite as honeybees!) For oily skin: mash 2-3 cooked carrots with 4-1/2 tablespoons of honey. Mix and apply gently to skin.

After 10 minutes, you'll have nourished your face with potassium, the antioxidant vitamins A and C, enzymes, minerals and amino acids. For sensitive skin, make extra breakfast and then: mix 1/2 a mashed banana, 1/4 cup oatmeal cooked with milk, 1 egg, and 1/2 tablespoon of honey. Massage onto your face with slow, circular motions; leave the mask on for 15 minutes. Oatmeal is high in vitamins and minerals, gently cleansing the skin. Banana has vitamin A; eggs contain emollient lecithin; honey supports skin's natural acid mantle.

So while FDA warnings about the remote but possible introduction of botulism spores into newborns may dissuade you from offering raw honey to babies (although I'm sure the miraculous episodes included botulism protection!), go ahead – eat your honey, dress your “owwies” with it, take honey for cough and allergies, and smear it on your skin!

For more information, please contact us by email (LRHoney61047@aol.com) or telephone (815-973-1064) or find us on Facebook.

UPCOMING EVENTS

NAPRAPATHY & YOGA

Saturday, October 20th
Banwarth House, Elizabeth, IL
1:00 - 2:00 p.m.

STARGAZING

Saturday, October 20th
Apple River Fort, Elizabeth, IL
Begins at sunset

VICTORIAN HARD BONNET MAKING

Saturday, October 27th
Banwarth House, Elizabeth, IL
10:00 a.m. - 2:30 p.m.

GET “HOOKED” ON CROCHET

Saturday, November 3rd
Banwarth House, Elizabeth, IL
10:00 a.m. - 2:30 p.m.

WHAT’S IN A NAME?

Saturday, November 10th
Banwarth House, Elizabeth, IL
1:00 - 2:30 p.m.

ARTS & CRAFTS FOR CHILDREN

Saturday, November 17th
Banwarth House, Elizabeth, IL
1:00 - 2:30 p.m.

VICTORIAN HOLIDAYS

Saturday, November 24th
Banwarth House, Elizabeth, IL
1:00 - 2:30 p.m.

CHRISTMAS IN ELIZABETH—OPEN HOUSE

Saturday, December 1st
Banwarth House, Elizabeth, IL
10:00 a.m. - 3:00 p.m.

WINTER CONSTELLATIONS

Saturday, December 8th
Banwarth House, Elizabeth, IL
1:00 - 2:30 p.m.

PSF MEMBERS HOLIDAY PARTY

Saturday, December 22nd
Banwarth House, Elizabeth, IL
1:00 - 3:00 p.m.

Membership Form

Regular Membership	___ \$	20.00	1 year	or ___ \$	35.00	for 2 years
Family Membership	___ \$	35.00	1 year	or ___ \$	60.00	for 2 years
Sponsoring Membership	___ \$	50.00	1 year	or ___ \$	90.00	for 2 years
Contributing Membership	___ \$	100.00	1 year	or ___ \$	180.00	for 2 years
Student Membership	___ \$	10.00	1 year			
Life Membership	___ \$	500.00				
Please accept this donation	___ \$	_____				

Please fill out the form completely and return it to:

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Email: _____

Phone: _____

Please make checks payable to

Planetary Studies Foundation

Please mail the membership form along with a check to the address below.

Thank you for your support!

Our mission is to promote the study of planetary science and astronomy with emphasis on meteorites; and to sponsor, encourage, and assist in the physical, astronomical, earth, environmental and cultural sciences so as to broaden our knowledge of all phases of the universe.

Contact Us

*Planetary Studies Foundation
 10 Winterwood Lane, Unit B
 Galena, IL 61036
 Phone: (815) 858-2014
 Email: dsipiera@planets.org*

General questions, membership inquiries and comments please send to:

Andrea2986@aol.com

PLANETARY STUDIES FOUNDATION

ONLINE

Make sure to check out all the news and upcoming events at:

www.planets.org

And be sure to "like" us on Facebook:

Planetary Studies Foundation - and - 1876 Banwarth House & Museum