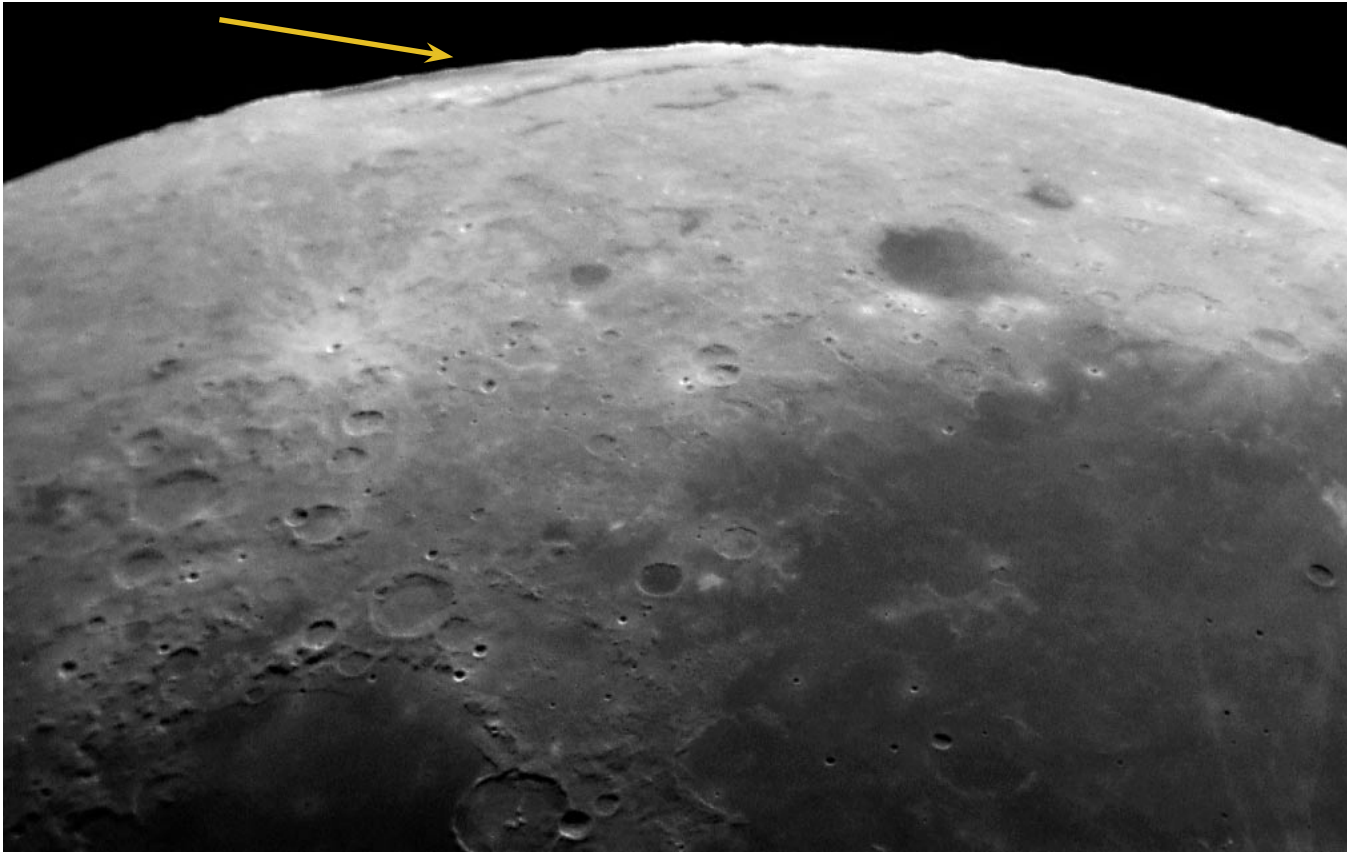




**Current** SEPTEMBER  
**Astronomy** 2003  
RIVER BEND ASTRONOMY CLUB NEWSLETTER

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The Mare Orientale basin (top) is among the less-observed lunar features. This large crater system can be seen edge-on along the western limb only when the Moon is favorably positioned. Photo by Eric Young.

**NEXT MEETING: SATURDAY, OCTOBER 18, 2003 • 7:00 P.M.**

**“Nights and Days Atop Mt. Evans”**

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# By the Light of the Moon

BY MARK BROWN

All your life you have seen the moon in the night sky and even during the daytime sky. Sometimes it is a full moon, sometimes only a thin crescent. Why is this? The moon is one of the most obvious celestial objects for a novice to start observing. If you know your constellations, you can watch how far the moon moves from one night to the next and how much the phase changes with it. Take your front row seat and view the moon's changing face and position in the evening sky.

Understanding the Earth-Moon-Sun system seems challenging for many people. We see the moon only because sunlight reflects back to us from its surface. If we could magically look down on the Earth-Moon-Sun system, we would see that the half of the Moon facing the Sun is always lit—but the lit side does not always face the Earth! How much we can see changes as the Moon circles the Earth. Known as the phases of the Moon, this cycle repeats over and over.

During New Moon, the Moon is lined up between the Earth and the Sun. We see the dark side of the Moon unlit by the Sun—thus, we see no Moon at all, because the brightness of the Sun outshines the dim Moon. Also, a new moon rises with the sun and sets with the Sun.

As the Moon moves eastward, away from the Sun in the sky, we see a bit more of the sunlit side of the Moon each night. A few days after New Moon, we see a thin crescent in the western evening sky. The crescent Moon waxes (waxing crescent), or appears to grow bigger and brighter each night. (Think of Mr. Miyagi.... “Wax on, Danielson.”)

When the Moon appears half illuminated, we call it the first quarter Moon. This name comes from the fact that the Moon is now one-quarter of the way through the lunar month. The Moon, Earth and Sun now form a right triangle, so the sun lights up half of it as seen from our vantage point on Earth.

**Take your front row seat  
and view the Moon's changing  
face and position in the  
evening sky.**

As the Moon continues to wax, more than half of the disc is illuminated and assumes a shape we call gibbous. The gibbous Moon appears to grow larger each night until we see the full sunlit face of the Moon. We call this phase the Full Moon. Now, the Moon-Earth-Sun system forms a line but with the moon opposite the Sun in our sky. The full Moon rises almost exactly as the Sun sets and sets just as the Sun rises the next day. The Moon has now completed one half of the lunar month.

After passing the full phase, the Moon's face appears to shrink and grow less bright, called waning. The phases progress towards the “waning” gibbous, third quarter, crescent, and finally the new phase. The Moon rises later each evening and appears in the wee hours of the morning. After 29.5 days, the lunar phase cycle starts again.

Take a few minutes each evening and observe how our nearest celestial neighbor treks across the sky, sporting a different look each night. No telescope is needed, just your time and your eyes.

*Club member Mark Brown, who coordinated our Astronomy Day celebration in May of 2003, is an avid astrophotographer and teaches astronomy at McKendree College.*

# The River's Edge

BY GALILEO SPAGHETTI

## PUTTING THE “NEW” IN NEWS-LETTER

Well, here goes. The River Bend Astronomy Club keeps growing...maybe the newsletter should, too. We've published seven issues of a basic e-mail newsletter. That format was direct and fast to create, not to mention inexpensive to publish. Still, that format was limited. We need a better way to communicate and encourage new membership. So here's a new look and a new direction.

**AND THE WINNER IS...** A new look deserved a new name. I considered several possible appellations for this monthly effort. Finally I decided on “Current Astronomy”—that is, “current” as in river current, get it? That may make you “bend” over in pain. Oh, well. It beats a close runner-up, “Eridanus.” After all, any title including the letters A-N-U-S might not play well in Peoria, if our membership ever reaches that far. Any member who's ever attempted to discuss the solar system with schoolchildren and made it as far as the planet YOUR-ANUS knows what I'm talking about here.

**ROLLIN' ON THE RIVER** The club drew inspiration for its name, of course, from its proximity to the Mississippi River, and for this reason we feel affinity to two celestial rivers. There is the “river of stars” that we've all heard of, but some of us seldom see, the glittering plane of our home galaxy called the Milky Way. Then there is the constellation Eridanus, just a smattering of stars within the galaxy, faintly marking a sinuous celestial river.

**LIGHTS, CAMERA...** Gary Kronk and Mark Brown previewed vacation photos and movies of their trip to Mt. Evans where the two photographed Mars and comets. Some of their memorable snapshots taken at 10,700 feet show misty cloud bottoms drifting by. Now that's high up! Gary said the hairpin-turn

roads up the side of the mountain made for a harrowing (or hairpinning) drive each day. Mark is preparing a multi-media presentation which will include animations of some of their best imaging efforts. The dynamic observing duo will share their experience with the club at the October meeting.

## SCIENCE IS NO LAUGHING MATTER

Word has it that when Mark gets high (altitude, that is) he gets the giggles. Fellow astronomers on the mountain were baffled by Mark's foolish behavior. Gary reassured them that Mark was perfectly sane—just a little low on oxygen. Still, Mark's red wig, baggy pants and bulbous red nose had them all wondering.

## TERRORIST ON THE MOUNTAINTOP

Seriously, though, several images from Mt. Evans show Mark appearing as what looks like the costume-party version of an Al-Qaeda terrorist. Once again, fellow astronomers had to be reassured that Mark was indeed trustworthy and really perfectly normal. However, observatory logs later revealed that Mark spent several hours tracking spy satellites, even though he was really attempting to grab a video feed from the Sci-Fi Channel.

## BETTER ASTRONOMY THROUGH HERBAL MEDICINE

Ginkgo biloba, a wonder herb frequently touted as a brain enhancer, was recommended to Gary and Mark as a means to combat the effects of high altitude. Only later did they learn that it's also a mild stimulant, and not at all helpful when you're already having trouble sleeping due to thin air. Mark was taking two a day. A doctor later informed him that this was like taking “speed” at bedtime. Nighty-nite—not.

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**COAL MINER'S SON** Jace's Perham's Obsession telescope delivers gorgeous, memorable views of the heavens (that look at the Swan Nebula was just ducky.) The large truss-tube reflector requires quite an effort to set up, though. In fact, the base comes with two side-handles and wheels to help cart the wooden rocker box enclosing the large, heavy mirror. Wearing his head-mounted red/white lamp, and pushing that wheelbarrow-like rocker box assembly, Jace looks every bit a coal miner's son, or maybe like an over-grown brother of the seven dwarves, minus the sooty face.

**RIVER BEND CLOTHING LINE** This winter, better clothing stores everywhere most certainly will not carry the River Bend clothing line. So just where can you get genuine River Bend apparel? Well, uh, nowhere, actually. What you need to do is go buy some t-shirts and then bring them to the next meeting. Jamie Goggin will help us iron transfer patches—featuring the club logo—onto your shirts. Since the iron will be very hot, we strongly recommend that you not wear the shirt while it is being ironed. Bring as many shirts as you like and we can have some to spare...maybe we can have enough to sell or award as prizes at future events. Please offer to reimburse Jamie for the cost of the transfer material.

**WATCHING THE ISS** We watched the International Space Station appear in the south and grow brighter as it zipped toward the zenith on the evening of September 20th. The show didn't last long. Meanwhile, Gary and Mark attempted to image it. Gary tracked with his large Dobsonian telescope and Mark giggled uncontrollably as he worked the software controlling the telescope's web cam. (What's with that damn giggling?) A few fuzzy frames were visible—the images need further processing to see what took.

**START 'EM OUT RIGHT** We were pleased to welcome several young visitors. Kurt Sleeter brought his nephew Josh, who is interested in science and has a mean microscope at home. (If you have decent optics, we love ya, Josh.) Josh's family said he was greatly impressed by his telescope time—so much so it seems Josh talked astronomy all Sunday. Tom

Schalk brought his son, Michael, who, along with my son, Mark, also enjoyed their stargazing, including a look at that Goose. (Or was it the Swan?)

**WHO'S THAT IN THE DARK?** Another special guest was Joe Walters, a Washington University systems administrator who stopped by at Gary's invitation. Joe's interested in astronomy, and for years he's planned camping trips around prominent meteor showers, including the Perseids, Leonids and Geminids. In honor of Joe's visit, Mother Nature tossed a few meteors our way that evening.

**FISH STORY** Kurt Sleeter arrived following a successful day of fishing. When asked what distinctive, outdoorsy scent he was wearing, Kurt replied, "Eau de Shamu."

**STICKER SHOCK** Historians of astronomy are eagerly awaiting the next book in Gary's four-volume series, *Cometography*, due out this fall. See the Cambridge University Press website for more information—<http://books.cambridge.org/0521585058.htm>. Once you calculate the exchange rate, you may safely assume that Gary's research is worth solid gold, judging by the price. Gary was taken aback to realize that the volume may cost nearly \$200 in U.S. currency. Buy one for yourself and several to give as gifts! Not only does the book contain a wealth of comet information, but the multi-purpose tome is thick and heavy enough to serve as an excellent door stop, wheel block, boat anchor...

**LUNAR ECLIPSE** There will be a lunar eclipse the evening of Saturday, November 8, 2003. The moon will rise while in the lightly shadowed or penumbral phase and then enter full eclipse. Some of the group would like to meet in St. Jacob Park and invite the public. There will be more discussion at the October meeting.

## YOUR CHANCE TO OVERTHROW THE GOVERNMENT

Power corrupts, as they say, and no doubt we stink as bad as the next group of elected officials, but maybe not as bad as Kurt after a day on the lake. Anyway, at the next meeting we will discuss the “executive council,” as it were, and talk about who wants to continue holding what position, as well as further opportunities for member involvement. When the club began—formally, that is—we needed to certify officers to qualify for membership in the Astronomical League. Ed Cunnius at that time generously took on what could have been two separate roles. Given the experience, enthusiasm, and great people skills embodied in our club—oh, wait a minute, I’m thinking about the local chapter of the Daughters of the American Revolution. Well, in any case, we’ll talk more about this important issue. You don’t need to be an officer, of course, to make a difference in the club, and we’re eager to hear your ideas for moving the club into the 21st century. But wait, we’re already there!

**MEMBERSHIP BROCHURE** A club membership brochure has been developed. It’s one-color, one side, making it easy to print or copy in quantity, as well as making it simple for prospective members to print and download from the website. Please consider printing some yourself, on colored paper if you have it, and distributing as you see fit (schools, libraries, bars, wrestling matches) so that our club can continue to grow. We need more fine people like yourself! (Yet different.)

**YOUNG ASTRONOMERS** Meet the newest member of the Young family: the Orion XT 4.5 inch Dobsonian reflector, Mark’s seventh birthday present. Mark spent hours studying the catalog we all know and love from Orion Telescopes and Binoculars. It was tough deciding what would make the “best” beginner scope for Mark. Our family went with this model for its size, ease of use, quality and price. Unpacking the scope from its two boxes and assembling the base took Daddy about 45 minutes. We’ve put the telescope through its paces over the last few weeks and enjoyed very nice views ranging from the moon to the Andromeda galaxy. Now Mark is excited for the moon

to reposition itself in the evening sky—and isn’t that excitement what it’s all about?

**WHERE IN ILLINOIS IS JAMIE?** Jamie was not onhand for last meeting, as he was at Astrofest, one of the Midwest’s premier astronomy fairs, held in northern Illinois. We hope to have a full report next meeting.

**AND SPEAKING OF JAMIE** The spacecraft Galileo recently gave up the ghost, following many productive years—it went for a one-way swim into Jupiter’s atmosphere. This brought back some memories for Jamie. As he recalls, “In the fall of ’88, I was interviewing at Hughes Aircraft. I was able to see Galileo sitting on a table, disassembled. It’s launch was so delayed, because of the shuttle accident, that they decided to take it apart and inspect it. I’ve always followed Galileo because of this. I was 23 at the time...”

**ST. JACOB OR BUST** Deb Wagner and Lois Butler were on their way to the meeting when their camel fell ill. They watched stars from the side of the road while waiting for a tow truck. It was quite an unexpected surprise when the two of them dropped into Gary’s backyard while dangling from expertly-controlled stunt parachutes. No word on how the camel is feeling.



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