

Fort Bend Astronomy Club
P.O. Box 942
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The FBAC Observer

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MAY EVERYONE IN FBAC HAVE A PROSPEROUS AND HAPPY NEW YEAR

Midnight.....
There is no sound in the forest -
only the phantom murmur
of the far wind
and the wind's shadow drifting
as smoke
through ebon branches; there a single star
glistens in the heart of night....
A star!
Look skyward now...
and see above...INFINITY
Vast and dark and deep
and endless....your heritage:
Silent clouds of stars,
Other worlds uncountable and other suns
beyond numbering
and realms of fire-mist and star-cities
as grains of sand....
drifting...
Across the void....
Across the gulf of night....
Across the endless rain of years....
Across the ages.
Listen!
Were you the star-born you should hear
That silent music of which the ancient sages spoke
Though in silent words...
Here then is our quest
and our world
and our Home.
Come with me now, Pilgrim of the stars,
For our time is upon us and our eyes
shall see the far country
and the shining cities of Infinity
which the wise men knew
in ages past, and shall know again
in the ages yet to be.
Look to the east....there shines
the Morning Star...soon shall the sunrise come...
We await the Dawn,
Rise, oh eternal light;
Awaken the World!
With trumpets and cymbals and harp and the sound
of glad song!
And now...
The clouds of night are rolled away;
Sing welcome to the Dawn
Of the bright new day!

From Burnham's Celestial Handbook, by Robert Burnham Jr., 1978.

Searching For Supernovas

“Silently one by one, in the infinite meadows of heaven
Blossomed the lovely stars, the forget-me-nots of the angels.”

Henry Wadsworth Longfellow

I hear his cry before I see him. Then there’s a feathery flash between me and the stand of trees that ring the observatory hill. He calls again and a trio of distant answers echo across the clearing. The hawk maneuvers between the trees and is gone in an eye-blink.

I look above where the hawk disappeared and see the pale glow of a ghost moon struggling to shine through the clouds. I feel moisture on the handrail from rain that has been falling for the past two hours. There will be no supernova search tonight. But somehow I can’t bring myself to give up so I stand contemplating the silent white domes where the blinded telescopes wait to have their shutters peeled back and eyes opened to the heavens.

The pale moon disappears behind thickening clouds and I realize no one else is coming. I’m totally alone; even the hawk squadron has forsaken me. I splash through a half dozen puddles and make my way back down the stairs to my van.

There’s a gathering gloom in the trees. I sit quietly in the open doorway of my van watching fireflies—nature’s biological meteors—streak through the underbrush. Then, out of the corner of my eye, I see a dim shape rush toward me. My head snaps around and a primal yell leaps from my mouth before I realize it’s the observatory raccoon on her evening rounds. She gives me a sidewise look, never breaking stride as she heads down the gravel road.

I decide that it’s time to go. The raccoon gives me one last masked glance when I pass her on my way out of the trees toward the park road.

The road winds under age-old live oak trees, their languid limbs encased with Spanish moss. Under the limbs light has forsaken me and the road is darkening but I can’t bring myself to turn on the headlights. There are no vehicles other than mine and the moment seems to demand darkness.

Near the park exit, the road is serpentine and, as the last curve breaks out of the trees and dips into a tiny glade, a ground hugging fog envelopes my vehicle. I’m blinded, but in two seconds I’m through the fog. When I look up from the road the crescent moon is framed by a hole in crimson rain clouds. I slow my van to a crawl, then stop and turn off the engine. Sunbeams suddenly stream up through the hole. The landscape brightens as overhead clouds turn pink and then orange. I have seen no other person for two hours and I need a better view so I get out of the vehicle, leaving it abandoned in the middle of the road.

The entire western sky is alight. I stand transfixed, unable to move my eyes from this conjunction of moon and clouds. Finally I look down and there at my feet a tiny moon and clouds are perfectly reflected in a rain puddle. As I look, the colors start to fade and I realize that the ground fog has crept up out of the glade toward me. I spin around to look at it and then, as if

possessed, I start to turn faster and faster. Like a helicopter I throw my arms out from my body and look straight up at the cloud deck. After six turns I’m dizzy and I stop to consider the madness of what I’m doing. The dizziness subsides and I bend slowly toward the lunar apparition in the rain puddle, finding that it is surrounded by touch-me-nots, the flowers looking all the world like tiny pink globular clusters. I run a finger the length of one and it flattens its leaves against the stem. I consider the wonder of a plant that can command such a thing without even one synapse to work with. Then it dawns on me that, even though the touch-me-nots have no mental process, they and I share an ancient commonality. In my mind I picture the event that has somehow linked human and plant.

I see a huge star that, for millions of years has been fusing hydrogen—the simplest element in the universe—into helium. Now its mantle is depleted and no longer able to sustain life giving reactions. A profound process sets in and begins to fuse helium into heavier elements. Carbon and oxygen form as the star’s internal temperature and pressure soar. Enormous amounts of energy are released. Round after round of reactions continue until the core finally fuses into iron. Gravitation begins its irresistible work, collapsing the iron core. The core’s temperature soars and, as it begins to expand, the outer layers rush in, trying to fill the collapsed core’s void. The core and outer layers collide. In a heartbeat, one of the most violent events in the universe occurs. A huge cloud races away from the explosion at thousands of miles per second, carrying the heavy elements that were formed in the blast. A supernova has seeded the galaxy with building blocks of life.

Time passes. The shock wave that leapt out from the explosion careens across light years. Finally, it perturbs a molecular cloud located in one arm of a minor spiral galaxy. Gravity’s strange, unexplained attraction brings together first one molecule and then another. Matter clumps together. Another star, then a host of worlds are born. Nature holds one of these worlds in high esteem, giving it an abundance of water. Life flourishes, declines, and then flourishes again. Humans arrive and begin to understand their minuscule place in the universe...

It’s dark now, but one thought remains with me. The hawk, the raccoon, the brainless touch-me-nots, the crescent moon, the clouds, indeed everything and everyone on this planet share a common heritage. We are made of stars. I may never discover a supernova and I don’t have to. One has already found me.

In the distance a coyote barks. Fog is swirling at my feet. A shiver runs through my body. The spell is broken and it’s time to go home.

-by Wes Whiddon

Test your knowledge of some of 2004's most important and intriguing findings and events. If you can score 8 of 10, you've been paying close attention! Have fun!

1. What substance found by a Mars rover helped scientists conclude that Mars once had significant amounts of standing water?

- Iron
- Carbon Dioxide
- Hematite
- Hemoglobin

2. The biggest object of this kind ever known to fly past Earth did so on September 29.

- Comet
- Asteroid
- Planet
- Black Hole

3. The eclipse of October 27 was unusual because...

- It was visible from all around the world
- It played out during a World Series game
- It lasted longer than any in modern history
- It blotted out the entire Sun

4. Amateur astronomer, Jay McNeil, discovered this type of object and it now bears his name.

- Nebula
- Moon
- Star
- Inhabited planet

5. The Hubble Ultra Deep Field revealed ...

- A new funding source to keep the telescope alive
- Faraway galaxies in every direction of the sky
- New puzzles that astronomers must now work on
- A 14-billion year old galaxy

6. The Cassini spacecraft revealed that Saturn's rings are ...

- Dirtier than was known
- Less than 100,000 years old
- Likely to disappear within 10,000 years
- Like the Moon, made mostly of cheese

7. The most luminous star known has scientists puzzled because at 150 times the mass of the Sun ...

- It should not be so bright
- It should be much brighter
- It should swallow us whole
- It should not have formed in the first place

8. NASA's Stardust spacecraft found that comet Wild-2 is ...

- Unlike any other comet known
- Half as big as Earth
- On a course to strike Earth
- Just a decoy designed to keep NASA on its toes

9. Thanks to the Mars rovers, scientists now know ...

- There is life on Mars
- Your ancestors were Martians
- Conditions were once suitable for the presence of life
- Conditions are perfect for life on Mars today

10. The universe's primal scream, a sound byte from the early universe created by Mark Whittle, was based on ...

- Hubble Space Telescope observations
- The cosmic microwave background
- Sensitive measurements of sound waves
- An actual recording made 13.6 billion years ago

Borrowed From space.com—Submitted By Cynthia Gustava—Maybe there'll be answers someday.

Test your knowledge of people and happenings in the Fort Bend Astronomy Club during 2004. If you can score 8 out of 10 you may need psychological counseling.

- 1. What was found inside the 10" LX200 loaner scope?**
 - Air
 - Left over photons
 - A ticket to the 1997 Texas Star Party.
 - A tumblebug

- 2. The biggest object of this kind every known to pass through a club meeting...**
 - FBAC budget deficit
 - Randy's newest equatorial mount
 - Calvin Embry's car.
 - Stephen O'Meara's ego.

- 3. How many times was Don d'Entremont's name pronounced correctly?**
 - Once
 - Once
 - Once
 - Never

- 4. What travels faster than the speed of light?**
 - People leaving a meeting when asked to volunteer for something.
 - Derek Newton on his way back from California.
 - Gossip.
 - Certain club members headed for the food table.

- 5. The October 27 eclipse was unusual because...**
 - The moon doesn't rise in October.
 - Dennis Borgman was unable to point out the flag left on the moon by the astronauts.
 - The George Observatory was closed.
 - It never happened...CBS News made it up.

- 6. Barbara Wilson has been known to chase away alligators with...**
 - Buster's G-11 mount.
 - Left-overs from the observatory refrigerator.
 - A building manager.
 - A garden rake.

- 7. A sharp, extra loud twanging noise from inside the research dome means...**
 - Hee-haw is back on the air.
 - The operator is giving banjo lessons.
 - The scope just went lower than 7 degrees and the primary mirror fell out.
 - Someone crossed the chains...again.

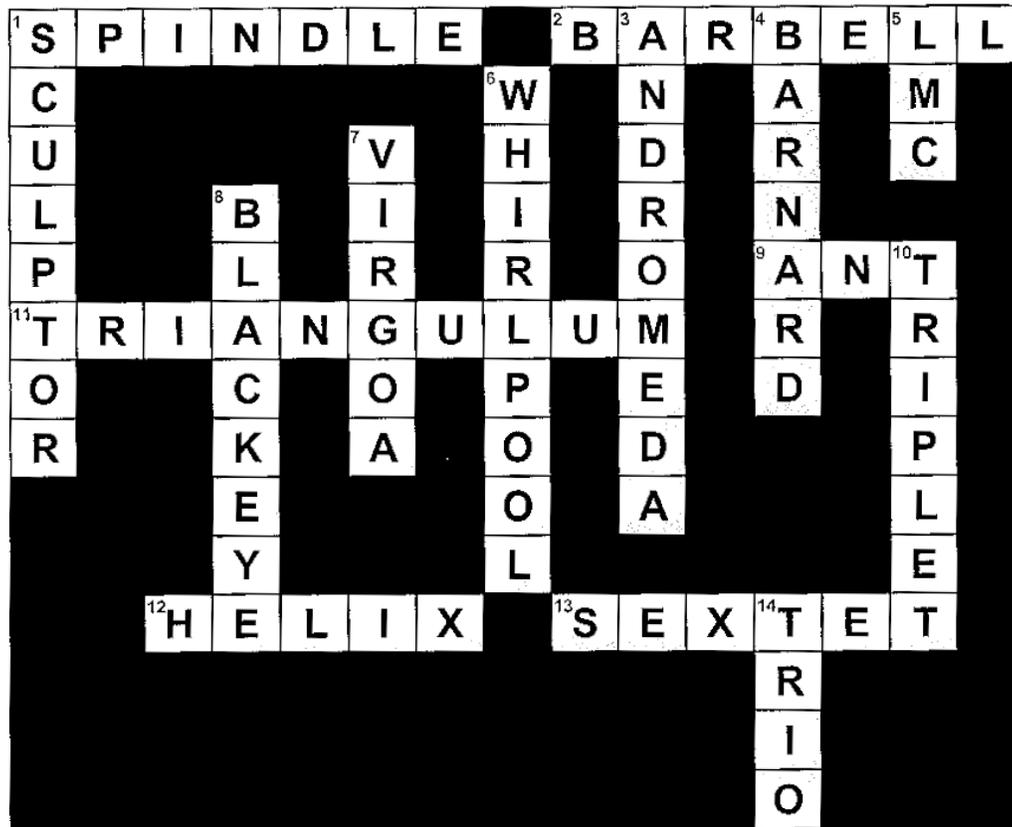
- 8. At Telescopes For Telethon you could...**
 - Take in a movie.
 - Meet the scientific literati of Houston.
 - Stand up for 8 hours straight.
 - Convince people they really are looking at the moon.

- 9. Leonard Pattillo is affectionately known as Mother because...**
 - He makes good pecan pies.
 - He has extra long silky hair and eyelashes.
 - He's in charge of the Astronomy On Wheels car pool.
 - He's been a member so long nobody can remember why.

- 10. Jack McKaye has actually been know to pray for...**
 - A plurality of Democrats in Congress
 - A new and enhanced brand of kitty litter.
 - Binoculars with 10" objective lenses.
 - The shutters on the research dome to open.

Submitted by Anon Y. Mous

Galactic Name Game



Across	Down
1. Thread holder	1. Like Michelangelo
2. Workout device	3. M110 Companion
9. Common insect	4. NGC6822
11. Has three sides	5. The big Magellan
12. Rhymes with Felix	6. Scourge of boats
13. Seyfert's _____	7. M87_NGC 4486
	8. Fight result
	10. Zwicky Times 3
	14. Three in Leo

Answers to last month's puzzle. How many did you get right?

Astro Happenings

Deep South Texas Stargaze 2005 Third Annual DSTS February 2-6, 2005 Escondido Ranch, McMullen County, Texas Hosted by the Kingsville Astronomical Society, P.O. Box 5918, Kingsville, TX 78364 Registration form and other information can be found at: http://www.geocities.com/kingsville_astronomical_society/dsts.htm

2005 Desert Sunset Star Party

Pat and Arleen Heimann will again be hosting the Desert Sunset Star Party May 4-8, 2005, at the Caballo Loco RV Ranch southwest of Tucson. Caballo Loco is located east of Kitt Peak and nestled against the Sierrita Mountains. Whipple Observatory on Mt Hopkins is located to the east. Lots to do during the day and great skies at night. There will be speakers and door prizes on Friday and Saturday evenings. Check our website for details: <http://www.chartmarker.com/sunset.htm>

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Dedicated to the acquisition and dissemination of information pertaining to the science of astronomy

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We're On The Web
[Http://www.fbac.org](http://www.fbac.org)



You are invited to submit your opinions for inclusion on this page. Please be thoughtful and respectful of others in your comments. Rants will not be published. All articles should be 450 words or less and are subject to editing for clarity and length before publication. Please submit in Word format to:
stargazer411@earthlink.net

The Fort Bend Astronomy Club meets on the third Friday of every month except for those months when special meetings are called. The next regular meeting will be at 7:30 PM on January 21, 2005 at the First Colony Conference Center, 3232 Austin Parkway, Sugar Land, TX. Dues are \$30/year for the first member, \$5 per additional household member. Student dues are \$15/year.

The **Houston Astronomical Society** meets the first Friday of the month in room 117 of the University of Houston Research Building. The novice program begins at 7:00 PM and main meeting at 8:00 PM.

For the **Johnson Space Center Club**, refer to the JSCAS web site for meeting times and sites. There is a link on the FBAC web site.

North Houston Astronomy Club meets on the 4th Friday of the month at Kingwood College. The meeting starts at 6:45 PM, main meeting at 7:30 PM.

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ou've probably noticed by now that this issue of The Observer is full of...uh, kinda different stuff, most of which has not much to do with the nuts and bolts of astronomy. But sometimes you just have to get a little goofy so, in celebration of the brand new year, I decided to do something different. Most of it had already been written and even published before so I didn't have to use a lot of brain power to get this thing put to bed.

I'm always glad to see the holidays come and I'm glad to see 'em go. Then suddenly they are gone and we crank out a lot of year end introspection when everybody and their dog makes a list of things they are for sure gonna do in the new year. And there's retrospection, too. We think about all the stuff we swore we were going to accomplish and somehow didn't. Clear nights when the lure of television kept us from packing up and making the trek to dark skies. Club meetings we should have attended but it was too much trouble to get out on that rainy night. The new scope we were going to build that's still a figment of our imagination. Lives are filled with stuff: family, kids, social events, work, ad infinitum. It's a busy world and we don't have much time. Or do we? Sometimes we get caught up in the busy-ness of life and don't stop long enough to smell the roses...or WD-40 for that matter.

Aha! You think I'm getting sentimental, right? Thought I was going to philosophize, huh. No way. I'm just setting you up for my annual plea. I need newsletter submissions! And I need them now. Post haste. Quickly. In short order. Soon. ASAP. Pronto.

You can do it. I know you can and I'll take anything you write. Well, actually it probably needs to be related to astronomy in some small way. So, get out those word processors and get started. I'll even settle for something written with a quill pen. Just make sure you don't drop any feathers in with the article. I'm allergic to goose down.

And last but not least, as the old year ends and the new begins, I say thanks to all who donated their time and talent to the newsletter. You know who you are and I'm forever grateful. May your corrector plate never dew up and your eyepiece never hit the dirt.

Happy New Year To All.

Wes Whiddon

January 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Earth is at perihelion. Do you feel warmer today?
2 <i>Quadrantid meteor shower tomorrow morning. Last quarter moon won't help.</i>	3 <i>Last quarter Moon at 11:46 a.m. CST. Before dawn Luna sits 7 degrees west of Jupiter</i>	4 <i>Latest sunrise of the year. Five planets visible in the early morning.</i>	5 <i>Venus and Mercury 5 degrees up an hour before sunrise.</i>	6 <i>Moon, Mars, and Antares in the southeast this morning.</i>	7 <i>A skinny Moon sits 4 degrees above the southeastern horizon.</i>	8 <i>Comet Machholz, shining at mag 4, can be seen 3 degrees above the Pleiades.</i>
9 <i>Saturn passes into the ascending node today. It'll happen again in 29 years so set your alarm clock.</i>	10 <i>Moon passes closest to Earth and turns New at 6:03 a.m. CST. Could cause higher than normal tides—get out your</i>	11 <i>Mercury and Venus 1/3 degree apart.</i>	12 <i>Orion rises at sunset. Good viewing in the evening.</i>	13 <i>Saturn reaches opposition, rising at sunset.*</i>	14 <i>Happy Julian New Year for year 2005</i>	15 <i>Comet Machholz sits near Algol in Perseus.</i>
16 <i>Mercury below Venus and pulling away.</i>	17 <i>First quarter Moon at 12:57 a.m. CST.</i>	18 <i>Say bye-bye to the Summer Triangle... finally.</i>	19 <i>Pleiades cluster 2 degrees above the Moon.</i>	20 <i>The Sun is in Capricornus.</i>	21 <i>FBAC Club Meeting. 7:30 p.m., First Colony Conference Center, 3232 Austin Parkway, Sugar Land, TX</i>	22 <i>Comet Machholz 3 degrees above Mirfak@, the Alpha star in Perseus. Oh, wait, that was yesterday. Go back.</i>
23 <i>Waxing gibbous Moon 6 degrees above Saturn.</i>	24 <i>Mars reaches first magnitude. Hurray!</i>	25 <i>Deep sky observers rage against the Full Moon tonight.</i>	26 <i>Leo the Lion's lips lap languorously at Luna.</i>	27 <i>Check out Venus in the dawning twilight.</i>	28 <i>And check out the Perseus and Orion arms of the Winter Milky Way.</i>	29 <i>See if you can find Hevelius constellation, Lynx. Good luck.</i>
30 <i>Stay up late and watch Jupiter rise about 6 hours after sunset.</i>	<small>31 How soon after sundown can you spot Sirius and it's colorful light show through our atmosphere.</small>	<small>*Opposition in astronomy means a planet and the sun are on opposite sides of the sky.</small>	<small>†Astronomical Julian dates began January 1, 4713 BC.</small>	<small>@Mirfak is part of the Alpha Persei open cluster</small>		