

The FBAC Observer

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Tribulation On Wheels

By Wes Whiddon

I am, by virtue of my nature and by plain old observation, pretty skeptical about the level of scientific knowledge in the general public around here. Over the past ten years, I've been part of a good number of events astronomical where, when someone looks in the eyepiece of my telescope, I get this question: Is that really the Moon? Now for crying out loud, what else could it be? If it's dark it couldn't be the Sun although I've been asked that question, too. I suppose the possibility exists that it's a streetlight but most of those don't have much in the way of surface features. So, as most of us do, I just nod and say, yes, that's really the Moon. Then I point out a round, cream-colored object in the sky exactly in the direction the telescope is looking while wondering how this particular person manages to navigate between the bed and the breakfast table every morning.

Over the aforementioned ten year period, I've noticed one thing about the uh... shall we say, uninformed questions. They mostly come from adults. That's right, adult scientific illiteracy is rampant among the population. But kids are a different story.

I'll admit that, for me, school was a long time ago. So long ago that Dick and Jane were infants and Spot was just a gleam in a stray mutt's eye. My memory of those times is vague to say the least. But one thing I do recall. We did not study the solar system in elementary school. I don't think I, until well in my teens, did much of anything except the three Rs—readin', 'ritin', and 'rithmetic. The only thing I knew about the solar system was what I learned from Buck Rogers movies. And I'm pretty sure Buster Crabbe knew even less.

But things change. Media centers and computers replaced Fun With Dick and Jane, Spot morphed into a standard Poodle, Buster Crabbe shuffled off this mortal coil for good, and third graders learn about the planets. I found that out a couple of weeks ago.

It started out innocently enough. A few months back Leonard Pattillo and I were trying to drum up business for Astronomy On Wheels and, in a meeting with local science teachers, we described our passion for educating school kids in the science and art of astronomy. We did our spiel and left the grounds with the vague promise that they would call if they needed us. We had done this before without result and I thought it was just another dud meeting. I couldn't have been more mistaken.

Weeks went by. We heard nothing. Astronomy On Wheels was stuck on the side of the freeway and about to be towed. Then Leonard got the call and we were saved from an ignominious fate behind Houston Mayor Bill White's insta-wrecker service. The science teachers wanted us to do two AOW star parties in less than seven days, each one for anywhere from 100 to 150 kids and parents. We needed telescopes and lots of them. It was time to call for reinforcements.

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February 2005 Astro Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 Look for Saturn a few degrees to the right of the moon tomorrow morning.	2 Last quarter moon at 1:27 a.m. CST. Watch for the shadow of the furry animal, Punxsutawney Phil	3 Check the sky tomorrow morning for the crescent Moon about 5 degrees from Antares.	4 Catch Comet Macholz in the north, just 7 degrees to the east of Cassiopeia	5 Absolutely nothing interesting happens today.
6 For a preview of warm weather, find the Summer Triangle low in the east this morning.	7 Pollux and Castor, the twins in Gemini sit to the upper right of Orion tonight. ¹	8 New Moon at 4:28 p.m. CST.	9 See if you can spot the young moon's crescent 5 degrees above the western horizon. Use your binoculars.	10 The Lunar crescent is prominent low in the western sky. Notice the earthshine on the unlit portion of the disk.	11 Align your sundial properly today and you will be able to tell time within seconds.	12 The Moon is in the faint constellation Aries.
13 See if you can find the star, Hamal, in Aries 11 degrees to the right of the Moon.	14 Mercury is in superior conjunction. ²	15 First Quarter Moon at 6:16 p.m. CST. The Pleiades sits 3 degrees away.	16 Aldebaran, the eye of Taurus, is 9 degrees below and left of the Moon.	17 Jupiter is in the morning sky sitting among the stars of Virgo.	18 Jupiter is rising earlier, about 4 hours after sunset. FBAC Club Meeting, 7:30 p.m.	19 Waxing gibbous Moon is 7 degrees above Saturn tonight.
20 Info: We think Pollux and Castor are virtual twins. They are actually 18 light years apart.	21 Don't confuse the star Theta 51 Vir with one of Jupiter's moons.	22 Info: The fainter of the twins, Castor, is in fact, not one but six stars.	23 Full Moon at 10:54 p.m. CST.	24 Catch Mars an hour and a half before sunrise. The planet is currently in Sagittarius.	25 Mercury very low—only 2 degrees—above the horizon. See if you can spot it in the evening.	26 The Moon occults Jupiter. Travel to Australia to see it happen.
27 Ursa Major stands on it's handle tonight.	28 Can you see the Zodiacal light tonight? ³	¹ Pollux and Castor are mag 1 and 2 stars respectively with Pollux slightly red and Castor hotter and white.	² Superior conjunction means the planet is on the far side of the Sun from Earth.	³ Zodiacal light is sunlight reflected off interplanetary dust. Look toward the west for a cone of wispy light tilted slightly to the south.		

Going Deep!

By Keith Rivich

A while back Paul Downing and I started writing a column titled "Going Deep". We wrote a few articles about deep sky observing when real life suddenly got in the way. I think we all know how that can go! Starting this month I will try my best to write interesting articles about not so well known deep sky objects that are observable from our not-so-great skies.

The first thing you may think is "Why should I read this? I do not have a big enough scope to observe these objects". I'll let you in on a little secret...everyone in this club "owns" an 18", motor driven, computer go to scope with Nagler eyepieces and Lumicon narrow band filters! That's right, I'm talking about the clubs scope out at the George Observatory. Now you have no more excuses!

I am going to re-launch my articles with a series titled: "In the Neighborhood". These deep sky objects are located "In the Neighborhood" of more well known objects and should be fairly easy to locate.

Our first neighborhood is **M46-M47**, two very fine, contrasting open clusters that are well known to any Messier observer. The open cluster **M46** is famous for the interesting planetary nebula that lies superimposed upon it. **NGC2348** is a fine ring shaped planetary that seems to float on the multitude of stars that comprise **M46**. Think of **NGC2348** as **M57's** little brother!

But did you know that another planetary lies a mere 30' north of the cluster center? **Minkowski 1-18** is small and faint, and few people know about it. Without an OIII filter it is out of reach of even an 18-inch telescope under dark skies. But the OIII (and UHC) have brought this planetary within reach of larger amateur instruments.

It's not clear what minimum aperture is required to see it, but based on my observations I'd say it should be detectable in a 14-inch scope, if not a 12-inch. It should be a

real treat for those with access to 20-inch or larger scopes.

Now, lets do a little "open cluster hopping" to a wonderful object that rivals many of the bright summer Milky Way nebulae that so often brings delight to our photon starved eyes.

From **M46** hop over to **M47**. Spend a few minutes looking then move your scope 1.8° to the NW and you will find **NGC2401**. For star hopping enthusiasts, you can follow a nice chain of 5th to 7th magnitude stars all the way to the cluster. This nice little cluster is well detached from the background and should be easy to find. From **NGC2401** move an additional 1.5° to the NW and you will find the sparse cluster **NGC2374**. This loose cluster may require a wide field finder to identify. Note that there is an 8th magnitude star on the clusters SW edge.

Now, put in your widest field eyepiece, move 1.3° due west and scan the area. Can you make out a misty cloud that nearly fills 1/3 of the eyepiece? Under our skies maybe...but if you slip in either an OIII or a UHC watch what happens. This fine nebula comes to life!

NGC2359, a.k.a. **Thor's Helmet**, is the result of the substantial mass loss of a Wolf-Rayet type star. In photographs it looks like a starfish with multiple arms jutting from a central condensation. Ongoing studies indicate that a nearby supernova may be responsible for this odd appearance.

Visually, however, the nebula takes on a different look. Imagine the way old style Viking helmets are depicted: a cone shaped hat with horns jutting out the top.

NGC2359 is similar but with one exception; only one of the horns is readily apparent. The other horn requires a very dark sky to see. At higher magnifications filaments and bow shocks (possibly from the supernova) can be seen.

But there's more. While you're in the neighborhood you can also check out **NGC's 2425, 2414 and 2423**. Good luck with these fine, neighboring objects.

Object	Type	R.A./Dec	Size	Magnitude
M46	Open Cluster	07 41 47 -14 48 36	27'	6.1
NGC 2348	Planetary Nebula	07 41 50 -14 44 06	64"	10.1
M1-18	Planetary Nebula	07 42 04 -14 21 19	32"	13.0
M47	Open Cluster	07 36 36 -14 29 00	29'	4.4
NGC 2401	Open Cluster	07 29 25 -13 58 00	2'	12.6
NGC 2374	Open Cluster	07 23 57 -13 58 48	19'	8.0
NGC 2359	Bright Nebula	07 18 31 -13 14 00	13'x11'	N/A
NGC 2425	Open Cluster	07 38 18 -14 52 42	3.3'	N/A
NGC 2414	Open Cluster	07 33 13 -15 27 12	4.0'	7.9
NGC 2423	Open Cluster	07 37 07 -15 32 18	19'	6.7

OBSOLETE CONSTELLATIONS

PART V

Leonard Pattillo, FBAC

You will recall in the past our discussion of constellations that are no longer recognized by the IAU. You will also recall that there were over 100 constellations named after animals, insects, machines, royalty, and just about any thing else the human mind could conjure up. In this continuing series we will bring them back into the light just to see what they were.

—MUSCA borealis—

the northern fly

This constellation has a confusing history. It was first introduced on a globe of 1613 attributed to the Dutchman Petrus Plancius. He called it Apes, the bee, and it lay just north of Aries. The German astronomer Jacob Bartsch changed the name to Vespa, the Wasp, on his map of 1624. Johannes Hevelius renamed it Musca on his atlas of 1687. But there was already an equivalent insect in the southern sky (Musca, the Fly) and so the northern fly was eventually *swatted* by astronomers. And to add to the confusion, the same stars were used in 1674 by the Frenchman Ignace-Gaston Pardies to form the constellation Liliium, the national flower of France.

—OFFICINA TYPOGRAPHICA—

the printing shop

Johann Bode introduced this constellation in 1801 to commemorate the 350th anniversary of Gutenberg's invention of movable type. This constellation was in the northern part of Puppis, the stern of the ship Argo.

—QUADRANS MURALIS—

the mural quadrant

Probably one of the best known of the obsolete constellations, because it gave its name to the annual meteor shower known as the Quadrantids that radiate from this area every January. The constellation was invented by Joseph-Jerome de Lalande to commemorate the wall mounted instrument which he used for measuring star positions. It was first pictured in an atlas in 1795. Quadrans Muralis rested in what is known now as the northern part of BOÖtes, near the tip of the Plough's handle.

—RANGIFER—

the reindeer

Introduced by the Frenchman Pierre-Charles Le Monnier on his star map of 1743, under the name of Renne. Fittingly the celestial reindeer was placed near the north pole. This constellation was invented after his trip to Lapland to measure the length of a degree of latitude in the far north. It has also been known under the name of Tarandus.

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Over the past several years Netslyder, the FBAC email list server has, for better or worse, given club members a way to communicate quickly and efficiently on just about any topic including the opportunity to backbite and grouse about most anything. But when a member needs help or assistance there's usually someone that will step into the gap. There's also a whole host of lurkers who never seem to be on line but show up when you need them. This time was no exception. Leonard's email asking for help went out several times but response seemed lackluster. A couple of people volunteered on line and that was it. Time was running out and help didn't seem to be forthcoming.

Meanwhile I was developing what I thought was an outstanding presentation on the solar system, one that third graders would find absolutely riveting. Big mistake as I was to find out later.

Friday, January 14 arrived and it was time for the first star party at Colony Meadows Elementary. We knew we had at least 2 telescopes and, if necessary, mine would be a third. Leonard and I were first to arrive and I discovered as soon as I got there that I had left the Honda generator behind. Thinking we would need it for power, I raced back home through Friday evening traffic, finding when I returned that four scopes were already there and hooked up to shore power. No generator needed.

So now that the scope problem seemed to be in hand, I went in to set up for my talk on the solar system. The school teachers were great, giving me a place to set up the LCD projector and a nice big screen. I booted my laptop, launched PowerPoint and began the talk. As predicted, about 100 kids and parents showed up and sat down on the floor in front of my projector. I went through the presentation with ease, fielding questions from the floor, and getting them outside just in time to see the clouds roll away so the guys with the scopes could do their thing. For the next two hours, we kept the kids and parents enthralled with views of Saturn, the Moon, M42, and Comet Macholz. It was a good star party and well done by the volunteers. We finished up, shot the breeze for a while, and left, anticipating the next one to come. Disaster for me was a week away.

Seven days later we were setting up our scopes for the next star party at Lexington Creek Elementary. I was first to arrive but within a few minutes several volunteers were there, ready to go. I drug my scope and mount across the grass to the basketball court and put it all together, anticipating that it would be needed later. We had been promised about 150 people so it would be a busy night. Weather looked good, with a few clouds scooting around the sky.

By then the science teachers were on site and people were beginning to arrive. Most schools nowadays--especially elementary--don't have auditoriums. The cafeteria does double duty and typically has a stage with drop down screen. That had been the case at Colony Meadows and held true here. I hauled my laptop and projector into the cafeteria where we were doing the talk and started to set up. Unlike the previous star party, this room was set up with chairs--hundreds of them. In a matter of minutes, kids and parents started pouring into the room--lots of kids and parents. I couldn't believe what I was seeing. The teachers had set up a couple of tables near my projector with projects for the kids to do if it was cloudy. We had been told that about 150 people were going to be there. But there were hundreds streaming in, trying to get to the tables, tripping over my equipment, and threatening to disconnect my computer or even worse, drag the whole thing off on the floor. One hundred and fifty people had turned into five hundred and we needed crowd control in a bad way.

Things were getting worse. By now the teachers were trying to restore order by shouting into the PA system for people to not run around screaming like banshees. And, with one teacher's help we found some barricades to put across the extension cord and around my equipment table. The barricades lasted about a minute before they were breached by a mob of kids. I kept putting them back up and they kept knocking them down. Somehow a roll of duct tape appeared and I managed to secure the extension cord across the floor. Finally, after repeated exhortations, the crowd began to settle down. I was ready to start my talk on the planets. That's where things began to go bad. (continued on next page)

I've done many stand up presentations in my life. Getting in front of a crowd never bothers me. As a broadcast engineer, I've presented technical talks at conventions, served as a moderator, and chaired all kind of committees. I've spoken in front of hundreds of people and never felt uneasy. But star party #2 taught me a valuable lesson. Be careful with your material and don't assume anything.

Making astronomy simple is hard. And what works in one place might not work in another. I had only gotten about ten slides into my presentation when I heard a tiny voice from somewhere out in front say, "This is boring." I ignored it and plowed ahead. Within another ten slides, I noticed an undertone of restlessness beginning to set in. Many of the parents had brought little kids, some two years or younger and they were beginning to fret. The fretting kids generated a response from parents trying to calm them down and the noise level in the room was growing. To compensate I moved the microphone closer to my mouth and started talking louder. But that didn't help. The louder I talked the more the kids squirmed and the more the parents corrected them. By now the teachers were loudly shushing the crowd with no effect whatsoever. The place had overflowed with people and the ones standing in the back were beginning to shuffle around. It became painfully obvious that I was not presenting them with a riveting talk on our solar system. I needed to do something quick. So I did the only thing I knew to do: I sped up by just touching on the highlights of each slide as it came on the screen. I went through the last twenty slides in about five minutes, finished off my talk, and sent them on their way outside with the admonition to not touch the telescopes. My talk was finished and so was I.

What went wrong? I used this exact same presentation last week and the kids loved it. The grade levels were the same so why did I bomb this week? The sheer number of people was a large part of the problem. When they started talking and shuffling around, I couldn't compete for their attention, especially the littlest ones. Kids have short attention spans and when they lose interest, you're doomed. But, going straight to the bottom line, I think there were two problems with my slide show. It was too complex (remember I said astronomy is hard to make simple) and it didn't have enough pizzazz. There were a couple of times when I put in some fancy graphics, moving text, etc. and that seemed to pique their interest. Otherwise, a picture of Saturn with some statistics next to it didn't cut the mustard. Lesson learned? Make it more interesting, use moving graphics, maybe even audio when dealing with kids. They watch TV, play video games, and expect everything to look that way.

So, at last it was over. I rolled up my stuff, and trudged outside where the scopes were set up. And found six telescopes with long lines at each one and a bunch of dedicated guys patiently explaining the rings of Saturn, features on the Moon, and the characteristics of M42. I may have bombed inside but they were making hay outside. We had just done the biggest Astronomy On Wheels project in the history of FBAC. AOW was doing its job and doing it well. Many thanks to everyone who helped out with these two adventures.



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

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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 February 18, 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.

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



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