

The Flint River Observer

Newsletter of the Flint River Astronomy Club

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Please notify **Dawn Knight** if you have a change of address, telephone number and or new e-mail address.

President's Message: The day before writing this, I had a project for work that required my leaving the house at six a.m. As I stumbled outside having gotten up nearly two hours earlier than usual I looked up as I always do when it's dark and reasonably clear out. Suddenly I wasn't tired anymore, as good old Orion was standing there nearly at the zenith. Having stopped cold in my tracks, I was left pondering my favorite constellation, and why it's my favorite. First, it was the first constellation I really learned, and on my own no less. When I got my first scope, I went out on the deck when the clouds finally cleared, and using a beginner's book, I found that Orion was going to be out. After a short time I found the hunter looking much like the book said he would, large and proud, rectangular body, three stars making a narrow waist, arms bravely holding a sword (or club depending on your mythology) and the shield (or lion's mane) ready for battle. I could make out the sheath of the sword hanging down with ease, and looking at my book, I could see that there was a nebula right in the middle that you could see naked eye, and I thought I really could see it. Turning my little scope that way, I finally found it, and that image is burned into my brain to this day. It was huge, with sweeping arcs and filaments. I was filled with joy and happiness over this glorious sight that I was seeing. Second, Orion has "my object". B-33, IC434, close friends just call it "The Horsehead". A dark nebula superimposed over a region of glowing hydrogen, it really does look like a horse's head. I first saw it on Nov. 16 at about 3:00 a.m. Dawn had bought me an H-beta filter for my birthday and I had been saving it for this. I turned to where the maps said it was and saw nothing. A little worried, I double checked myself. There is a good reason few people have seen it. Then, an image appeared. Slowly at first, the hydrogen region came in, then a dark spot, could this be it? A few moments more and I could see some shape to it, and then it was there, right in front of me. It was as real as anything I've ever seen. I had

that same feeling of elation I experienced on the night I first saw M42 in the old 4.5. I tried to quietly call Joe Auriemma over for a look, and wound up with a line 30 people long wanting a peek. That's when I decided it was "my object". Something that goes ignored, rarely looked upon, except by a few. I've shown it to everyone I could, with mixed results, but I wish I could have had all of you there that first night, because it was galloping like Seabiscuit. Lastly, it's prominent during my favorite time of year. I love the cold nights, the crisp air, and the stillness of those winter nights. You're left undistracted with your scope, your thoughts and your company. Bundled up and warm is much better than sweating with the mosquitoes gnawing at you any day. The DSO's are great and plenty, with some easy and some nearly impossible. Not only is it easy to make out, it's really nice to look upon, plus it actually looks like what it's meant to depict. Orion is my favorite by far. I want to hear from you about your favorite constellation, what it is and why it's your favorite. List your first experience with it and your favorite objects in it. No objects? Then cover some mythology, or what you think it really looks like or why it's unique. Send them in and we'll run them in the newsletter so that everyone else can see that constellation through your eyes and hopefully give it a fresh look with their own eyes.

Club Calendar: September 30 – October 1: Cox Field Observing; October 21 – October 22: Cox Field Observing; October 22, 4:30 p.m. **Bring a Dish Dinner at Cox Field/Meeting**, this is our annual dinner on the grounds to thank Mr. and Mrs. Cox for their extreme generosity in everything they do for the club, if you plan to attend please make sure and contact John Wallace about what you will bring; October 28 – October 29: Cox Field Observing.

Membership Renewals: All renewals are due during the month of February.

Last Month's Meeting Highlights: In attendance were Curt Cole, Chuck Sims, Smitty, Steve and Dawn. This meeting was held at the University of Georgia Experiment Station in Griffin. We discussed ways to improve attendance at club functions. We will be implementing a somewhat quarterly dinner meeting to see if that helps to improve meeting attendance. We will also be planning more future meetings with speakers or presentations. As of late, we have not had any speakers or presentations planned because of lack of time to get them planned. If anyone knows of a speaker or presentation they would like to see please let us know. FRAC is not just Steve and Smitty's club, it belongs to every member and therefore we would like input and suggestions from everyone. We will also be briefly discussing GSV 06 at upcoming meetings. We have gotten some great suggestions and we need to work on streamlining a few things for the event.

October Binocular Highlights:

"Sagitta, The Arrow. The small arrow of Alpha, Beta, Delta, Gamma and Eta Sagittae is about 7° long and will just fit in the field of view of 7X wide-angle binoculars. It lies in the bright eastern branch of the Milky Way, a beautiful area to sweep with binoculars." – From the book **Binocular Astronomy, Crossen and Tirion.**

I use my Oberwerks 11X70 binoculars mounted in a rather shaky camera tripod to observe. But they do deliver some awesome views of the skies. I start my "sweep" at Gamma Sagittae and end at the Alpha and Beta point. Along the way I observe the globular cluster M71. In the binoculars the cluster is easy to spot as a faint glow close to three distinct stars in a curve shape. The glow of the cluster is seen as having sort of a roundish shape and beaming back a nice, faint glow that stands out in the immediate area. The cluster has a slight concentration rich in stars and has no nebulosity.

From Binocular Astronomy, "As the low surface brightness of its binocular image suggest, M71 is one of the loosest globulars. Its distance is about 12,000 light years, so its true diameter is slightly over 20 light years and its integrated absolute magnitude is – 5.5 – both very small values for a globular."

The Constellation Guidebook by Antonin Rukl, "The Arrow was connected with many different myths: according to one of them it was the arrow with which Apollo killed the one-eyed, Cyclops. According to another version the arrow was released by Cupid, the god of love."

Astro Calendar of Events:

Tennessee Star Party (TNSP) is October 7 – 9, at Camp Nakanawa located 1,950 feet above sea level on the Cumberland Plateau, is a near-ideal location for the TNSP. With convenient proximity to Interstate 40, this remote produces quite dark skies with a very prominent Milky Way. Camp Nakanawa has twelve hundred acres of wooded and open land plus a large clear water lake. Activities such as canoeing, paddle boating, fishing, biking, hiking, and tennis are all included with your registration fee.

Chiefland Winter Star Party, Chiefland, FL is October 30 to November 5. October 1 is the deadline to register without doubling the cost.

Peach State Star Gaze (PSSG) is scheduled November 2 – 6, White Water Express High Adventure Camp Ducktown, TN (Just across the Georgia border).

Wanderings by Felix:

Another business trip took me over to Knoxville, TN. I had hopes to take off after work and do some binocular observing. Unfortunately, it was cloudy every single day and evening except the day we returned to Atlanta. Better luck next time.

We also took a vacation to Puerto Rico to visit our families. My In-laws live sort of out in the countryside but still close enough to reach town within a short amount of time. I had hopes to do some binocular observing (sounds like a broken record). Checking the Weather Channel it was forecasted that most of Puerto Rico would be pretty much under a rain shower every afternoon and possible evenings. I took my binoculars along and left the scope at home. Sure thing – it rained and it rained hard every single afternoon between 3:00 PM to 4:30 PM. But by evening time the skies were clear. Sagittarius and Scorpius were placed well above the horizon and I took the opportunity to observe without having to hurry at all. Lot of details and

with the Milky Way nicely placed overhead it sure was a pleasure observing from the countryside.

One very sunny afternoon prior to the expected afternoon showers, naked eye, I found the thin crescent Moon placed right in front of the In-laws porch. I think I spent some 30 minutes just gazing directly at the Moon. You could hardly see it but after scanning the skies back and forth for a few minutes there it was. A nice surprise.

Astro News:

The following article is from the official NASA web site.

From www.nasa.gov <http://www.nasa.gov/lb/missions/solarsystem/cev.html>

Before the end of the next decade, NASA astronauts will again explore the surface of the moon. And this time, we're going to stay, building outposts and paving the way for eventual journeys to Mars and beyond. There are echoes of the iconic images of the past, but it won't be your grandfather's moon shot.

This journey begins soon, with development of a new spaceship. Building on the best of Apollo and shuttle technology, NASA's creating a 21st century exploration system that will be affordable, reliable, versatile, and safe.

The centerpiece of this system is a new spacecraft designed to carry four astronauts to and from the moon, support up to six crewmembers on future missions to Mars, and deliver crew and supplies to the International Space Station.

The new crew vehicle will be shaped like an Apollo capsule, but it will be three times larger, allowing four astronauts to travel to the moon at a time.

The new spacecraft has solar panels to provide power, and both the capsule and the lunar lander use liquid methane in their engines. Why methane? NASA is thinking ahead, planning for a day when future astronauts can convert Martian atmospheric resources into methane fuel.

The new ship can be reused up to 10 times. After the craft parachutes to dry land (with a splashdown as a backup option), NASA can easily recover it, replace the heat shield and launch it again.

Coupled with the new lunar lander, the system sends twice as many astronauts to the surface as Apollo, and they can stay longer, with the initial missions lasting four to seven days. And while Apollo was limited to landings along the moon's equator, the new ship carries enough propellant to land anywhere on the moon's surface.

Once a lunar outpost is established, crews could remain on the lunar surface for up to six months. The spacecraft can also operate without a crew in lunar orbit, eliminating the need for one astronaut to stay behind while others explore the surface.

Safe and reliable

The launch system that will get the crew off the ground builds on powerful, reliable shuttle propulsion elements. Astronauts will launch on a rocket made up of a single shuttle solid rocket booster, with a second stage powered by a shuttle main engine.

A second, heavy-lift system uses a pair of longer solid rocket boosters and five shuttle main engines to put up to 125 metric tons in orbit -- about one and a half times the weight of a shuttle orbiter. This versatile system will be used to carry cargo and to put the components needed to go to the moon and Mars into orbit. The heavy-lift rocket can be modified to carry crew as well.

Best of all, these launch systems are 10 times safer than the shuttle because of an escape rocket on top of the capsule that can quickly blast the crew away if launch problems develop. There's also little chance of damage from launch vehicle debris, since the capsule sits on top of the rocket.

The Flight Plan

In just five years, the new ship will begin to ferry crew and supplies to the International Space Station. Plans call for as many as six trips to the outpost a year. In the meantime, robotic missions will lay the groundwork for lunar exploration. In 2018, humans will return to the moon. Here's how a mission would unfold: A heavy-lift rocket blasts off, carrying a lunar lander and a "departure stage" needed to leave Earth's orbit. The crew launches separately, then docks their capsule with the lander and departure stage and heads for the moon.

Three days later, the crew goes into lunar orbit. The four astronauts climb into the lander, leaving the capsule to wait for them in orbit. After landing and exploring the surface for seven days, the crew blasts off in a portion of the lander, docks with the capsule and travels back to Earth. After a de-orbit burn, the service module is jettisoned, exposing the heat shield for the first time in the mission. The parachutes deploy, the heat shield is dropped and the capsule sets down on dry land.

'Into the Cosmos'

With a minimum of two lunar missions per year, momentum will build quickly toward a permanent outpost. Crews will stay longer and learn to exploit the moon's resources, while landers make one way trips to deliver cargo. Eventually, the new system could rotate crews to and from a lunar outpost every six months.

Planners are already looking at the lunar south pole as a candidate for an outpost because of concentrations of hydrogen thought to be in the form of water ice, and an abundance of sunlight to provide power.

These plans give NASA a huge head start in getting to Mars. We will already have the heavy-lift system needed to get there, as well as a versatile crew capsule and propulsion systems that can make use of Martian resources. A lunar outpost just three days away from Earth will give us needed practice of "living off the land" away from our home planet, before making the longer trek to Mars.

October 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 Cox Field Observing
2	3	4	5	6	7 TNSP	8 TNSP
9 TNSP	10	11	12	13	14	15
16	17	18	19	20	21 Cox Field Observing	22 Cox Field Observing / Bring a Dish Dinner at the field 4:30 p.m.
23	24	25	26	27	28 Cox Field Observing	29 Cox Field Observing
30 Chiefland Fall Party	31 Chiefland Fall Party					