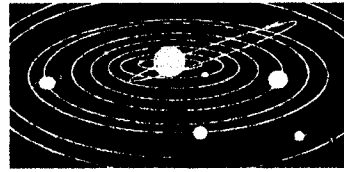


THE FLINT RIVER OBSERVER



Vol. 2, No. 8

FLINT RIVER ASTRONOMY CLUB

October, 1998

Officers: President, Larry Higgins (227-2233); 1st Vice President/newsletter editor, Bill Warren (229-6108 / e-mail: warren1212@mindspring.com; 2nd Vice President/Secretary-Treasurer, Ken Walburn (P. O. Box 1179, McDonough, GA 30253 / 954-9442; AICor, Neal Wellons (946-5039); Librarian, Keith Cox (227-8171); Observing Chairman, Steven "Smitty" Smith (583-2200); Telephone/Hospitality Committee Chairman: Dan Pillatzki (707-0270). Club mailing address: 1212 Everee Inn Road, Griffin, GA 30224. All of these phone numbers have 770 area code prefixes. FRAC web page address: <http://welcome.to/frac>.

Please notify **Bill Warren** and **Neal Wellons** promptly if you have a change of address.

* * *

Club Calendar. Thurs., Oct. 8: Club meeting (Beaverbrook, 7:30); **Fri., Oct. 9:** Beaverbrook "First Light"/ FRAC joint observing (Fair Oaks Farm, at dark); **Thurs., Oct. 15:** Observing for Phi Delta Kappa educational society (Mt. Zion H. S., 6:45); **Fri.-Sat., Oct. 16-17:** Zombie (overnight) Star Party, Cox Field; **Fri.-Sat., Oct. 23-24:** deep-sky observings (Cox Field, at dark).

* * *

Vice President's Message. Our deepest sympathies go out to **Larry Higgins**, whose brother **Arthur** died last month after a lengthy bout with cancer. "Now he goes along the dark road, thither whence they say no one returns. And forever, O my brother, hail and farewell!" (the Roman writer Gaius Catullus, 87 B.C.-54

B.C.) Larry, we've missed the warmth your presence brings us.

Please join me in extending a hearty welcome to our newest members, **Joe and Cody Hinton** of Fayetteville. They don't have a telescope yet, but they *do* have what matters most, i.e., an interest in stargazing and cash to cover the membership fee.

Congratulations to **Dan Pillatzki** for completing the requirements for a Lunar Club certificate and pin, and to **Smitty** for earning his Binocular Messier pin in August and his Messier pin in September. We hope to see several more of you taking part in these and other AL observing programs. The Lunar club is especially nice because the Moon renews itself each month and it doesn't take a year of seasons to complete the program. I found 72 of the 100 lunar targets in Sept., and will find the rest in Oct. if the sky doesn't fall.

Is it just **Tom Moore** and me, or has anyone else noticed how pretty and talented the GHS cheerleaders are this year?

The question arose recently, Do family members have to join the AL separately to qualify for observing awards, or can everyone in the family get in under the same \$3.00 membership that comes out of their FRAC dues? AL's reply: "All family members are eligible to earn our observing awards as long as their (observing) logs are verified. They do NOT need to have their own individual memberships." Thanks to **Neal Wellons** for finding out about that.

We're having a joint FRAC/AAC "**Zombie Star Party**" at Cox Field on the weekend of **Oct. 16th-17th**; please note that our regular Cox Field deep-sky observing has not been cancelled but will be held the following weekend on **Oct. 23rd-24th**.

Larry H. put it nicely: "I hope you'll plan to come and spend the night Fri. and Sat. I've been to a lot of star parties; they're always fun, and you'll learn more about your telescope and the night sky than you ever thought you could in so short a time...Use the checklist we've provided in this issue to help you prepare. Try to come early and get a good site and set up while it's light. We'll have Port-O-Lets available, and there's a faucet for drinking water in the barn at the far end of the field. You can cook out if you want to; be sure to take your trash with you when you leave on Sun. morning. Mr. Cox has graciously allowed us to use his field; we want to leave the area exactly like we found it. Be sure to thank him if he comes down; he'll be riding a golf cart."

I've promised Mr. Cox that there will be absolutely no alcohol on the premises, and no drugs stronger than No-Doz.

-Bill Warren

* * *

FRAC On the Web. Cody Wellons (with minor assistance from father Neal) has put FRAC on the map with our own website. It's beautifully done, and makes us look like we know what we're talking about. Take a looksee at it at the address listed near the top of p. 1; if you can't do that, I have a copy I can show you. Cody and Neal will try to pull it up on the computer at the October meeting.

* * *

Last Month's Meetings/Activities. We had 22 in attendance at our Sept. club meeting. Everyone present received copies of the AL's observing programs and forms; see yr. **tireless but overworked reporter** for your own copies if you missed the meeting.

Our Sept. BB/FRAC Fair Oaks Farm and Cox Field deep-sky observings were clouded out, not because anyone purchased new observing equipment but because the sky knew how eager we were to get out and tackle the Messier, Lunar and other AL observing

programs. Maybe October will bring us clear skies on Oct. 16-17 and Oct. 23-24 -- let's hope so, anyway -- but even so you don't (and shouldn't) have to wait till then to go out and observe. The Urban Club was specially designed to accommodate the light-polluted conditions of backyard observing, and the Moon is an equally friendly and easily accessible target. I found and logged 28 of the Binocular Messiers in two nights of backyard observing.

* * *

Membership Renewals Due in October: none.

* * *

"Put three grains of sand inside a vast cathedral, and the cathedral will be more closely packed with sand than space is with stars." -Sir James Jeans

* * *

About the Lunar Features. A new member asked me recently what the features were on the AL's Lunar Club list. *Craters* are usually referred to by name alone, as in Copernicus, Tycho, etc. *Mare* (pronounced MAR-a) is Latin for "sea," which is what the dark areas of the Moon looked like to the ancients; actually, they are simply large, flat plains. (The plural of mare is *maria* [MAR ee uh].) *Oceanus* and *lacus* are obvious in the same watery context. *Sinus* means "bay" and *palus* means "swamp" -- and, like all of the aforementioned features, these terms are inaccurate because the Moon contains small amounts of ice but no standing water. *Promontorium* means "promontory," or a high point overlooking something below it; *rimas* are small valleys -- a large valley is referred to as a *vallis* -- and *rilles* are faults or channels through which lava once flowed. *Rupes* means "wall," as in *Rupes Recta*, the "straight wall" near Birt crater in Mare Imbrium: an 800' cliff that stretches for 70 miles along a fault in the Moon's surface.

* * *

October Meetings/Activities. Dr. Richard

Schmude of Gordon College will be the speaker at our **Thurs., Oct. 8th** club meeting at Beaverbrook. His topic, "Jupiter," will include mind-boggling slide photos that you will not soon forget. I attended his Jupiter presentation at GC last month, and the photo of lightning in Jupiter's upper atmosphere completely blew me away!

Our BB/FRAC joint observing will be at Fair Oaks Farm on **Fri., Oct. 9th**. Thanks to **Frances Farrar** for allowing us to use her land for these monthly observings since Beaverbrook's renovation messed up our observing site at the school: hopefully, we'll be able to return to BB in a month or two, when workers get the mess in back of the school cleared away.

We're holding an observing for the Phi Delta Kappa educational society (of which **yr. humble but erudite reporter** is a member) on **Thurs., Oct. 15th**. The observing will begin at about 6:45 at Mt. Zion H. S. in Clayton Co. To get there from Griffin, take Hwy. 19/41 north and turn right on Mt. Zion Rd. in Jonesboro like you're going to Southlake Mall. Go past the mall (it's on the left, a mile from 19/41). Cross S.R. 54, and stay on Mt. Zion Rd. past the 24-theater multiplex on the right. When you come to Mt. Zion Blvd. (there's a church on the far right corner), go thru the intersection, and follow Mt. Zion Rd. as it bears to the left where Conkle Rd. goes straight. Turn right when you get to the "Clayton Co. Performing Arts Center" sign; Mt. Zion H. S. is about 1/4 mi. on the right. We'll probably set up on the football field. If the weather doesn't cooperate, we'll take our 'scopes indoors and talk about telescopes and the night sky.

The **Zombie Star Party** is an annual fall observing weekend that was begun by **Larry Higgins** when he was AAC's observing chairman. AAC is joining us on the nights of **Fri.-Sat., Oct. 16th-17th**, to host the event at Cox Field this year. The fee is \$5 a night per person; please make every effort to attend: not only is AAC paying for the Port-O-Lets, but they're also letting us keep whatever gate receipts are collected, and frankly, we need the money!

Here's how star parties usually go. Attendees stay up until the wee hours of the morning pursuing whatever observing projects or AL programs they're involved in, and then hit the sack in tents, sleeping bags, etc. Mornings are devoted to sleeping late or going out for breakfast (there's a Hardee's about 8 miles away in Zebulon, I'll tell you how to get there if you're interested); afternoons are for socializing and getting ready for the night's observing. Sometimes groups will caravan en masse to an unsuspecting restaurant for lunch or an early supper.

As **Larry H.** has noted, you'll get your money's worth out of any star party. Even if you're not a social animal or don't know enough about astronomy or stargazing to qualify as an expert -- and that includes most of us -- you'll learn a lot just by walking around, looking at (and through) telescopes and positioning yourself on the fringes of conversations. If a particular conversation is over your head, just nod wisely every now and then and people will think you understand what they're talking about. I do it all the time when talking with **Rich Jakiel**.

A checklist of things you may want to consider bringing with you to the star party appears on pp. 4-5.

Our regular Cox Field deep-sky observings will be held on the following weekend, **Fri.-Sat., Oct. 23rd-24th**.

* * *

"May you go safe today,
With time and stars above, and time and
space below."

-Edward Plunkett, Lord Dunsany

* * *

My apologies for not including the second half of **Rich Jakiel's** article on drawing celestial objects due to space limitations; it will appear in next month's *Observer*.

##

STAR PARTY EQUIPMENT/SUPPLIES CHECKLIST

This checklist is to remind you of what you might want to bring with you to the Star Party -- and once there, it will remind you of what you brought and want to take home. Just check off items as you pack them. (You don't have to bring everything on the list, of course; bring what you need (e.g., a sleeping bag or cot), what you want (e.g., a transistor radio), and what you have (e.g., binoculars, a telescope). Don't bring a Coleman lantern or oil lamps. (The chemicals they emit can damage optical coatings.)

<u>Cox</u> <u>Field</u>	<u>Going</u> <u>Home</u>	<u>Camping Gear</u>
_____	_____	Tent/camper/RV/etc.
_____	_____	Sleeping bag/cot/air mattress/etc.
_____	_____	Food/snacks/etc.
_____	_____	Cooking gear, equipment
_____	_____	Plates/cups/eating utensils
_____	_____	Cooler or thermos (with ice)
_____	_____	Blanket(s)
_____	_____	Toiletries (e.g., soap, towels, Visine, No-Doz)
_____	_____	Sunglasses
_____	_____	Table, chair(s)
_____	_____	Lawn chair/stool
_____	_____	Insect repellent
_____	_____	Trash bag(s)
_____	_____	Flashlight (white beam)
		<u>Clothing</u>
_____	_____	Cool daytime clothing (e.g., shorts)
_____	_____	Warm late-night clothing (e.g., long pants, sweater)
_____	_____	Raincoat
_____	_____	Extra pair of shoes, socks
		<u>Observing Equipment</u>
_____	_____	Telescope
_____	_____	Binoculars
_____	_____	Star charts
_____	_____	Eyepieces
_____	_____	Filters (solar and/or nebular)
_____	_____	Telrad/finderscope
_____	_____	Extra batteries (telescope/Telrad/flashlights)
_____	_____	Flashlight (red beam)
_____	_____	Dew shields
_____	_____	Collimating tool
_____	_____	Other tools (e.g., screwdriver, Allen wrench)
_____	_____	Coated lens cleaner
_____	_____	Camera

Cox
Field

Going
Home

Observing Equipment

Tripod
Film
Tarp (to cover telescope when not in use)
Handwarmer(s)
Notebook, pencils
Observing plan

THE SKY IN OCTOBER

JUPITER, dependable as ever, is in Aquarius and, like SATURN in Pisces and trailing Jupiter by 35 degrees, will be up all evening. According to the Oct. issue of Astronomy, at least 6 of Saturn's moons should be visible in an 8" telescope.

MARS rises about 3 a.m.; on Oct 6-8, it will be about 1 degree from Regulus, its orange color contrasting nicely with the bluish-white of Leo's brightest star. And if you've never seen an asteroid except in photos, on Oct. 7th the mag. 8.3 minor planet VESTA will be less than 1 degree -- that's 2 Moon-widths -- S of Praesepe (M44, the Beehive Cluster) in the constellation Cancer (the Crab).

Blue-green URANUS (Mag. 5.8) is an easy early-evening binocular target SE of Upsilon Capricorni in October; blue NEPTUNE (mag. 7.9) is a tougher target straddling the Sagittarius-Capricornus border W of Sigma Capricorni.

On Oct. 8th -- our club meeting night -- COMET GIACOBINI-ZIMMER will produce a rare early-evening meteor shower called the Draconids. (Its meteors are called the "Dragon's Tears.") Since the meteor shower occurs only when the comet comes around, this will be the last Draconids shower for 6 yrs. S&T has a nice article on it in the Oct. issue, pp. 100-105. The comet itself will be faint (mag. 10 in Oct.), its visibility near the open cluster IC 4665 in Ophiuchus on Oct. 10th hindered by a waning gibbous Moon after 9 p.m.

The annual ORIONIDS METEOR SHOWER will peak on Oct. 21st, so there should still be plenty of activity at our Cox Field observing 2 days later. Astronomy advises, "Remember to pack your binoculars and have them ready to pounce on the trails -- it's interesting to watch them twist in Earth's rarefied atmospheric winds. Expect to see 10 to 15 meteors per hour." This meteor shower consists of dust from Halley's Comet, which won't return until the year 2062.

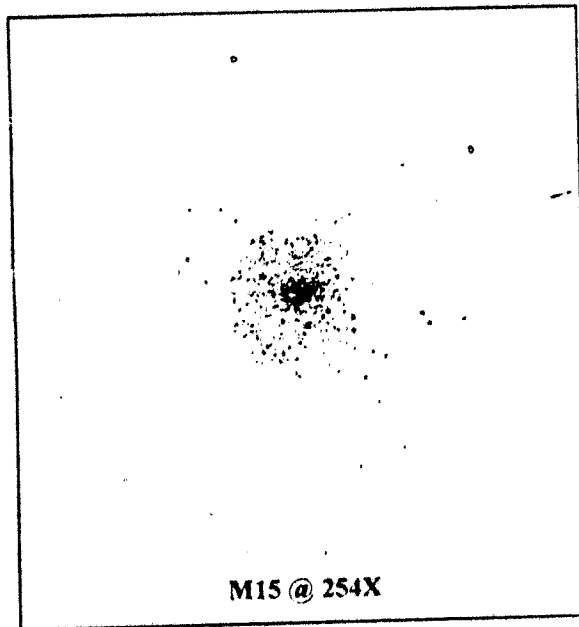
(Note: 35 degrees = a pinky-to-thumb span of your right hand + an index finger-to-pinky width of your left hand.)

Beginner's Star-Hops; October, 1996

By Art Russell

It seems that our long wait through the summer has finally paid off. Our patience has already been rewarded with cooler evenings and some of the clearest nights since last spring. I just hope that next summer the wait isn't as long or as arduous. This month be sure you don't miss catching **Saturn**. It will be at its closest approach to the earth this year and appear largest in the eyepiece as well.

This month's star-hops will be south of the **Zenith** (which is located directly overhead) and therefore easier to observe than those we located last month. We'll start off near the "**Great Square of Pegasus**" and journey to the spectacular globular cluster **M15**. From there we'll then journey to the constellation **Aquarius**. There we'll find the globular cluster **M2**, the open cluster **M73** and its close companion, the globular cluster **M72**. The stars used for pointing the way in these star-hops are not as bright as those you may have become accustomed to previously. However, if you can observe from dark skies with little light pollution to obscure them, even these dimmer pointing stars will be sufficient to locate this month's deep sky quarry. But once again, the key is dark skies! You can't do these star-hops from downtown Atlanta. Pack up your telescope, charts and eyepieces, and escape to the country to chase down this month's deep sky objects.



Star-Hop #1; M15, NGC 7078. M15 is a spectacular globular cluster and the closest rival of **M13** in the skies north of the celestial equator. Located in the western most reaches of the constellation **Pegasus**, M15 makes an interesting contrast to the other globular clusters still visible at this time of year. Locating M15 will also orient us for our subsequent star-hops this evening. So where to start? Looking directly overhead on the evening of 15 October at 10PM, you'll find the zenith as portrayed by our map of star-hops. From there, you will find the "**Great Square of Pegasus**" located a little more than 20 degrees, or the distance between the tip of your thumb and little finger when you hold your hand at arms length and outstretched against the sky, to the east-southeast. You may also be able to find the "**Great Square of Pegasus**" from the constellation **Cygnus**. From **Cygnus**, the "**Great Square of Pegasus**" is located a little more than 40

degrees or two hand spans, also to the east-southeast. The sometimes easily identified "**Great Square of Pegasus**" is notable by the relative lack of stars within its boundaries. Once we've located the "**Great Square of Pegasus**" we have completed the toughest part of locating M15. Locate **Alpha (α) Pegasi** at the southwest corner of the "**Great Square of Pegasus**." From there, extend an imaginary line about 15 degrees, or the distance spanned by your fist against the sky, past **Xi (ξ)** and **Zeta (ζ) Pegasi**, to the star **Theta (θ) Pegasi**. From **Theta (θ) Pegasi**, extend an imaginary line to the northwest past the star **Epsilon (ε) Pegasi**. Past **Epsilon (ε) Pegasi**, extend the line a little less than 4 degrees or slightly less than your forefinger and index finger held together at arms length. M15 will be just slightly north of this line. In binoculars and small telescopes, M15 appears as a small circular nebulous object without any hint of individual stars. Medium telescopes will resolve many stars and reveal the globular cluster to be nonsymmetrical in shape. Larger telescopes will resolve many more stars and also suggest the appearance of lanes within the globular cluster itself. What does your telescope show?

Star-Hop #2; M2, NGC 7089. Just like the star-hop to M15, we use **Alpha (α) Pegasi** in the "**Great Square of Pegasus**" as our starting point to star-hop to M2. As before, we extend an imaginary line about

15 degrees to the star *Theta (θ) Pegasi*. Extending this line past *Theta (θ) Pegasi* for another 11 degrees, or just a bit more than the distance spanned by your fist at arm's length will bring you to **M2**. There are also two alternative ways to locate **M2**. The planet *Saturn* is about 15 degrees, or the distance spanned by your index and little fingers against the night sky, south of the star *Gamma (γ) Pegasi*, the southeastern star in the "Great Square of Pegasus." From there, **M2** is about 40 degrees due west, or twice the distance spanned by the between the tip of your thumb and little finger against the night sky. A second alternative is to locate the stars *Alpha (α) Aquarii* and *Beta (β) Aquarii* in the constellation Aquarius. **M2** forms the apex of a right triangle located to the west of *Alpha (α) Aquarii* and north of *Beta (β) Aquarii*. In binoculars and small telescopes **M2** appears as a small circular nebulous object with a sharply concentrated nucleus, but without resolving any individual stars. Moderate telescopes will resolve many of the outer stars of **M2**, but most of the stars in the center of the cluster remain unresolved.

Star-Hop #3; M73, NGC 6994 and M72, NGC 6981 The open cluster **M73** is only a little more than a degree, or the width spanned by your little finger against the sky, away from the globular cluster **M72**. Since they are so close, we can use the same star-hop for **M73** and **M72**. Although **M73** and **M72** lie in the constellation Aquarius, we will need two pointing stars in the constellation Capricornus to help us locate them. Starting in the Aquarius, locate the star *Epsilon (ε) Aquarii*. *Epsilon (ε) Aquarii* forms the northern apex of an imaginary equilateral triangle formed with our other pointing stars. *Beta (β) Capricorni*, the southwestern apex of the triangle is located about 10 degrees, the distance spanned by your fist at arm's length, to the southwest from *Epsilon (ε) Aquarii*. *Theta (θ) Capricorni* forms the southeastern apex and final corner of our triangle. *Theta (θ) Capricorni* is located a little less than 10 degrees to the southeast of *Epsilon (ε) Aquarii* and just a little bit more than 10 degrees east-southeast of *Beta (β) Capricorni*. We'll find **M72** and **M73** a little bit past the mid point along an imaginary line from *Theta (θ) Capricorni* to *Epsilon (ε) Aquarii*. At this point we'll find **M73** just to the east of our imaginary line and **M72** just to the west of our imaginary line. Both of these deep sky objects are reserved for telescopes or perhaps BIG binoculars, so be sure to observe them from a dark site. In a medium sized telescope **M73** appears as only a few dim stars and **M72** appears as a dim circular nebulous object.

