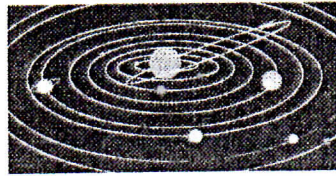


THE FLINT RIVER OBSERVER



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FLINT RIVER ASTRONOMY CLUB

November, 2001

Officers: Interim President, **Steve Knight:** (770)227-9871, 114 Central Lake Circle, Griffin, GA 30223 <sdknight@bellsouth.net>; Vice President/newsletter editor, **Bill Warren:** <warren1212@mindspring.com>, (770)229-6108; Secretary/Treasurer, **Dawn Knight** (see above); AICor, **Neal Wellons**, and Web Site Coordinator, **Cody Wellons:** (770)946-5039; Librarian, **Tom Moore:** (770)228-6447. Club mailing address: 1212 Everee Inn Road, Griffin, GA 30224. FRAC web page: <<http://welcome.to/frac>>.

Please notify **Bill Warren** promptly if you have a change of address or e-mail.

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Club Calendar. Thurs., Nov. 8: FRAC meeting (Beaverbrook, 7:30); **Fri., Nov. 9:** BB observing (at the school, at dark); **Sat., Nov. 10 and Fri.-Sat., Nov. 16-17:** Cox Field observings (at dark); **Thurs., Nov. 15-Sun., Nov. 18:** Chiefland Star Party.

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Vice President's Message. At our October meeting, **Steve Knight** was unanimously elected to serve as acting FRAC president during **Larry Higgins's** absence. With Steve serving as interim president, **Dawn** assumes the dual position of Secretary- Treasurer (which is, in fact, what our Bylaws call for).

Beyond that, FRAC owes two big "Thank you"s, the first going to **C. M. (Bud) Sosebee** of Conyers and the Rockdale Stargazers, and the second to **Bill Snyder**. Bud took the trouble to look up FRAC at the Peach State Star Gaze and offer us a bunch of old *Sky & Telescope* and *Astronomy* magazines to use as we see fit; Bill picked them up at Bud's house and delivered them to us..

-Bill Warren

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Last Month's Meeting/Activities. We had 12 members at our October meeting for **Dr. Richard Schmude's** fascinating presentation on "The 2001 Dust Storms on Mars." Prior to his talk, **Dawn Knight** received her Honorary Messier certificate and we briefly discussed the need for stabilizing FRAC's leadership. **Steve Knight** was elected interim president, **Bill Warren** vice president, and **Dawn Knight** secretary/treasurer. That slate of officers will remain in effect until Larry rejoins us, or until our next election of officers in Feb., 2003.

While our Oct. 12th-13th Cox Field observings were clouded out, we had a total of 16 members at our Oct. 19th-20th observings: **Steve & Dawn Knight, Joe Morris, Larry Fallin, Joe Auriemma, Smitty** and yr. editor (both nights); and **Steven Smith** (Fri. night) and **David Ward** (Sat. night).

* * *

Membership Renewals Due in November: **Keith & Denise Cox; Joanne Cirincione; Bob Greenfield; and Mike & Danielle Stuart.** Please send your check payable to **Steve Knight** or FRAC at Dawn's address listed on p. 1.

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This 'n That. What a *great* idea it was for **David Ward** to bring a DVD of **Stanley Kubrick's 2001** to the PSSG!

***Rich Jakiel's** e-mail address is now <rjakiel@earthlink.net>.

***A Message from Steve Knight...** "First,

let me thank all of you for allowing me to be your interim president. I'll try very hard to justify your faith in me. This is a new venture for me, so please bear with me while I get the hang of it.

"A reminder: the **Chiefland (Fla.) Star Party** is this month; we in FRAC will be attending from **Thurs.-Sun., Nov. 15th-18th**, and there's still time for you to get on board. We'll leave from the Griffin Home Depot parking lot on Hwy. 16 at 9:00 a.m. on **Thurs., Nov. 15th**. Call me in advance and let me know that you're going with us and I'll have a map ready for you when we leave. If there's enough interest, maybe we can arrange another trip down to those dark mag. 6+ skies next spring or summer when there is no party and crowds will be down.

"I'll bring back plenty of photos of the site, the party and those monster 'scopes. I've been told that there'll be a 42" 'scope, a 40" 'scope and at least one 36" 'scope at this year's shindig. It takes a *big* ladder to see the universe through one of those bad boys.

"Again, thanks for having confidence in me. We have a **great** club, and I'm glad you're a part of it. Be sure not to miss **Phil Sacco's** talk at our meeting on **Thurs., Nov. 8th**: it'll be one of the highlights of our meeting schedule this year.

"Now, full speed ahead and straight on till morning.

-Steve Knight"

***...And a Letter from Katie Moore:** "I just wanted to write and let you know what I have been up to. I *love* Arizona!

"Two weeks ago, I got to go to Kitt Peak with **Dr. Don McCarthy**, the director of the astronomy camp I came to in 1999. Another girl who is an astronomy major and also had been a camper came too. Don and a colleague were using the 2.3m telescope with an infrared camera to take digital images of several different comets, including **Comet Borrelly** which the spacecraft Deep Space 1 had passed by earlier in the day. They will compare their data with what DS1 sends back.

"A walkway outside the observatory gave us a nice view of the southern sky. (Actually, this

was my first time getting to view anything other than the Moon, since I can't see much from campus). I forgot my binoculars, so it was just naked-eye observing but you can imagine how great it was for me. I had a nice night of observing at Kitt Peak.

"We got up the mountain before dark, and Don took us to see the McMath-Pierce solar telescope. We went underground to see the different mirrors and instruments, and then we climbed to the top and stood on the roof. We had a great view of the mountain from there, and we could see down inside the telescope.

"I wish you and FRAC could have been there. Don is such an interesting person and I know you would enjoy seeing the big telescopes and being on Kitt Peak.

"Other than that trip, I have been busy with cheerleading and school...

-Katie

"P. S.: Please share this with FRAC: you know I love to make you guys jealous with my good luck! Say hi to everyone for me!"

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Upcoming Meetings/Activities. **Phil Sacco** will be the guest speaker at our club meeting at Beaverbrook at 7:30 on **Thurs., Nov. 8th**. Phil, the Southeastern Regional Astronomical League (SERAL) representative and observing pin collector extraordinaire, claims the mythology of the heavens as his special area of expertise, but in truth Phil is well versed in virtually every area of astronomy. His Nov. talk will be on "Matter Vs. Nothingness: The Scale of Matter." Take it from those of us who have enjoyed Phil's talks before, you *won't* want to miss this one.

We'll hold a Beaverbrook observing on **Fri., Nov. 9th**, and a Cox Field observing on **Sat., Nov. 10th**. If you aren't attending the **Chiefland Star Party**, be advised that we'll have Cox Field observings on **Fri.-Sat., Nov. 16th-17th**. The latter date may be especially interesting because experts are predicting a **Leonids meteor storm** during the pre-dawn hours of **Sun. morning, Nov. 18th**. Zombies at Cox Field or Chiefland should see it around **5-5:30 a.m.** when the peak is expected.

The new moon falls on **Thurs., Nov. 15th**,

the day before our Cox Field observings.

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The Sky in November. Mars, Uranus and Neptune will be in *Capricornus* all month. (A map on p. 76 of the Nov. *Astronomy* will show you where to look.) On the evening of Nov. 25th, Mars and Uranus will be a lovely red-and-green combo for binoculars, lying less than 1° apart.

Saturn, nearing opposition, will rise shortly after sundown and "is already nearly as bright and big and open-ringed as it ever gets." (*S&T*, Nov., p. 104) On Nov. 30th, the Moon will overtake and occult Saturn low in the E sky shortly after sunset; the planet will reappear around 8:30.

Jupiter will rise about 2 hrs. after Saturn.

From Oct. 27th-Nov. 7th, Mercury and Venus will be less than 1° apart above the E horizon in the pre-dawn sky.

Comet LINEAR WM1 will be a mag. 8 binocular target in Nov. as it passes through *Perseus*, *Aries* and *Pisces*, and the mag. 7 asteroid Vesta will be in *Taurus* all month, passing S of the V-shaped face of the Bull. *Astronomy* charts (Nov., 2001, p. 79) will show you where to find them.

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DOES STEVE K. HAVE MOB TIES?

A Special FRAC Investigative Report by Bill Warren

Last April, we reported in these pages that FRAC's newly elected treasurer, Steve Knight (a.k.a. "Slippery Steve"), and his partner in crime, the sultry and sensuous Dawn Knight (a.k.a. "The Body"), were planning to ransack our club treasury and run off to Tahiti. Unfortunately, the devilish duo eventually beat that rap on a minor technicality (i.e., this reporter made up the whole thing in hopes of winning a Pulitzer Prize).

The nefarious Knights later lost the slander phase of their lawsuit against this reporter because Steve wasn't any great shakes at spelling: the judge said no one had ever been convicted of "*clander*."

It took every ounce of this reporter's persuasive powers, though, to convince the judge that the *defamation of character* charge was equally frivolous because the Knights have no character to defame. In finding in favor of this reporter, the judge relied heavily on transcripts of the Knights' responses to the Rorschach Inkblot Test:

Psychologist (showing Steve an ink blot): What does this look like? What do you see?

Steve: Uh -- an oil leak from an '88 Camaro?

"The Body" saw the same inkblot as a fat lady bending over while working in her garden.

"Case dismissed," said the judge, hoping that the next case would bring him his own TV show.

Now, word comes to us from a reliable source -- if you're silly enough to consider Grady Dukes reliable, that is -- that the Knights are at it again. Only this time they've stepped up to the Major Leagues of Crime.

Money laundering.

But let's have Grady tell you about it in his own words (except for the parts this reporter changed to make the Crooked Ks even guiltier than Slippery Steve looks normally):

"I gave Steve my dues check at the Peach State Star Gaze," Grady told us. "He couldn't find it later, but it now appears that he may have found it in pieces in either the washing machine or the dryer filter.

"Does this mean that Steve is under investigation for money laundering?"

It certainly does, Grady. But while we admire your courage in coming forward to implicate this oil slick on the road of humanity, a problem has arisen that you need to know about.

Although this reporter voted in Executive Session to publicly commend you for standing up for Truth, Justice and the American Way, he was out-voted, 2 to 1, by the other two officers present. (Guess who?)

Worse, those same officers voted you out of the club forever, or until Tom Moore earns his Lunar pin.

The smart money is betting on forever.

* * *

SEEING DOUBLE

article by Bill Warren

(Editor's note: This is the first in a 2-part series on the Double Star Club. The series will conclude next month by telling you how to log your Double Star observations, and how to find the "missing" Double Stars on the list.)

Everything You Need to Know About Double Stars in 202 Words. A double star is a pair of stars that are associated visually and/or physically. **Visual doubles** are pairs that can be split (i.e., separated) by the observer, whether via naked eye, binoculars or a telescope, and whether they are lying in close proximity to each other or appear so from our vantage point. **Physical doubles**, or *binary stars*, either orbit each other or are traveling together in space (e.g., one star overtaking or passing another). **Eclipsing binaries** vary in brightness whenever one of the stars passes in front of the other. The brightest eclipsing binary is *Algol (Alpha Persei)*. **Spectroscopic binaries** such as *Capella (Alpha Aurigae)* cannot be split visually; their presence can be detected only by studying their spectral light emissions. **Multiple stars** are individual or double stars which, upon closer examination, turn out to be three or more stars. *Epsilon Lyrae*, the "Double-Double," is a good example of a multiple star; the *Mizar/Alcor* trio in *Ursa Major* is another. The brightest star of a double or multiple system is known as the **primary**, the fainter star(s) as the **companion(s)**.

For our purposes, all of the objects in the AL Double Star Club observing program are visual doubles.

There are four steps in observing the AL's Double Stars: preparation; observing what you find; describing what you observe; and finding what you want to observe.

Preparation. You need six things before you begin: a list of the AL's double stars that includes their constellations, brightnesses,

separations and position angles; a star atlas that shows the location of those stars; a decent telescope of any size; two or three eyepieces of different magnifications; an AL Double Star observing form (I have copies, or you can get it off the AL website); and a list of the Greek alphabet characters. (Use the one at the end of Part Two in next month's *Observer*.)

The term **separation** refers to the visual distances between the stars, i.e., 1" = 1 arc-second, 60" = 1 arc-minute (1'), 60' = 1 degree (1°), etc. **Position angle** (p.a.) refers to the angle a companion lies N, S, E or W of the primary star.

Observation. Find the double star at low power; if you can't split the stars at that magnification, switch to your next highest magnification, and so on, until you can separate them.

If you have a problem determining which double star in a given field is the one you're looking for, refer to the separation figures on your AL list. For example, *Zeta UMa -- Mizar/Alcor* -- lists separations of 14.4" and 709". (The two figures mean that *three* stars are involved, not two.) *Mizar A* and *Mizar B* are only 14.4" apart, which means you can expect them to be very close at low power. *Alcor*, however, is 709", or about 12', from *Mizar A* (709" divided by 60" = 11.8'). And 12' = slightly more than two pinky-widths in your low power eyepiece. So even before you find them you know to look for a bright (mags. 2.3, 4.0), close double star with another bright (mag. 4.0) star about 2 pinky-widths away.

Another way to tell which is the double star you're looking for is to consider their relative brightnesses. (A difference of one magnitude of brightness means that one star is 2.5 times brighter than another.) For example, while the double stars *Xi (ξ) Scorpii* and *Struve 1999* are in the same low power field of view, *Xi's* stars are mag. 4.8 and 7.3 while *1999's* are mag. 7.4 and 8.1; whichever pair contains that much brighter 4.8 star is *Xi Sco*, the other *Struve 1999*.

A third way to identify your double star is by color. For example, *Albireo (Beta Cygni)* is a pretty YELLOW/blue combination. The AL

list doesn't mention colors, so you'll have to find that information elsewhere.

Those same considerations -- separation, brightness and color -- can and should be used in identifying *any* double star.

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Editor's Note: Are you having trouble organizing your monthly searches for objects in the night sky? Beginning this month, Larry Fallin offers a list of which Messiers, Caldwells, Herschel 400s and Double Stars are up. His first monthly installment is below.

Errata. Our newest member is **Joe Morris**, not "Joe Moore" as stated on p. 1 of last month's newsletter. Sorry 'bout that, Joe; it was my wife's error and not mine, as I'm sure she'd be the first to tell you if I unlocked the attic and let her out. Everyone knows that **yr. brilliant and talented editor** doesn't make mistakes.

##

Constellations of the Month - November

	Messiers	Caldwells	Herschell 400	Double Stars
Andromeda	M31 M32 M110	C22 NGC 7662 C23 NGC 891 C28 NGC 752	NGC 205 NGC 404 NGC 752 NGC 891 NGC 7662 NGC 7686	Gamma Andromedae
Cassiopeia	M52 M103	C8 NGC 559 C10 NGC 663 C11 NGC 7635 C13 NGC 457 C17 NGC 147 C18 NGC 185	NGC 129 NGC 136 NGC 185 NGC 225 NGC 278 NGC 381 NGC 436 NGC 457 NGC 559 NGC 637 NGC 654 NGC 659 NGC 663 NGC 1027 NGC 7789 NGC 7790	Eta Cassiopeiae Sigma Cassiopeiae
Pisces	M74	<i>none</i>	NGC 488 NGC 524	65 Piscium Alpha Piscium Psi 1 Piscium Zeta Piscium