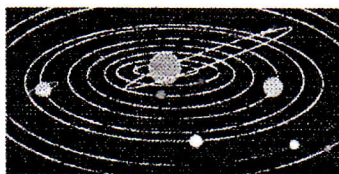


THE FLINT RIVER OBSERVER



Vol. 5, No. 3

FLINT RIVER ASTRONOMY CLUB

May, 2001

Officers: President, **Larry Higgins:** (770) 884-3982; <larrylhiggins@yahoo.com>; Vice President/newsletter editor, **Bill Warren:**(770) 229-6108<warren1212@mindspring.com>; Secretary (**Dawn Knight**)/Treasurer (**Steve Knight**): (770)227-9871, membership renewals to Steve at 114 Central Lake Circle, Griffin, GA 30223 <sdknight@bellsouth.net>; AICor, **Neal Wellons**, and Web Site Coordinator, **Cody Wellons**, (770)946-5039; Librarian, **Katie 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. Tues., May 1: Futral Road Elementary School observing (Futral Rd. E.S., 7:00); **Sat., May 5:** Astronomy Day rainout date, if necessary (Kroger parking lot, 12:00-9:00); **Thurs., May 10:** FRAC meeting (Beaverbrook media center, 7:30); **Fri., May 11:** BB observing (at dark); **Fri.-Sat., May 18-19** and **Fri.-Sat., May 25-26:** Cox Field observings, at dark.

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Vice President's Message. So much to say, so little space to say it in. This month, we have an article we think you'll enjoy by our Wash., D.C. correspondent, **Stephen Byous**, and a long-overdue article by me on the missing Double Star Club targets -- "missing" in the sense that some of them don't even appear on the *Sky Atlas 2000* charts, let alone *Seasonal Star Charts* or *Cambridge Star Atlas*.

-Bill Warren

* * *

Last Month's Meeting/Activities. Seventeen members showed up for our April meeting, including **Tim Astin** and **Dawn Knight** who received their Regular Messier certificates. In addition to our regularly scheduled talk, **Neal Wellons** told us about recent and upcoming solar activity. Neal should be declared a club treasure for all he does for us.

If you went by BB the next night before 9:00, you missed **yr. tardy editor**, who stayed at the school for 45 min. by himself and then headed out to Cox Field where the skies were considerably clearer.

Car trouble at the last minute kept **yr. ill-fated editor** away from Cox Field on the 19th, but that didn't keep **Ken Wilson, Dan Byous, Katie Moore, Larry Higgins, Larry Fallin, Steve & Dawn Knight, Donald Harden** and **Dan Newcombe** from testing the hazy skies.

A smaller, sitting-room-only crowd of five members -- eight if you count **Mr. Cox** and his two dogs -- showed up on Sat. night under slightly improved skies. Steve K. played with his remote control car while it was light and yo-yoed after dark -- try *that* sometime! -- to the less than utter delight of attendees **Larry Fallin, Dawn Knight, Smitty** and **yrs. truly.**

* * *

Membership Renewals Due in May: **Rod Dougherty;** and **Neal, Cody & Suzy Wellons.** Send your \$12 check made out to **Steve Knight** and signify for "FRAC dues" at the

bottom of the check. Steve's address is listed on p. 1.

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This 'n That. From newcomer **Dan Newcombe:** "The discoverer of **Markarian's Chain** was **Benik Markarian.**" And from **Tom Moore:** "His initials were E. B."

*From **Smitty:** "For owners of Orion Skyquest Dobsonian telescopes (any size), or Coulter Odyssey or Discovery telescopes, there are some great websites in which users discuss problems, solutions and information regarding their own 'scopes. The e-mail addresses are: <<http://groups.yahoo.com/group/Skyquest-Telescopes>>; <<http://groups.yahoo.com/group/Odyssey-Users>>; and <http://groups.yahoo.com/group/Discovery-Dob-Users>

"There are a number of different groups for Meade, so I haven't listed them here. You don't have to own that brand of telescope to be a member; I'm a member of all three.

"I highly recommend the Skyquest group for any Orion owner: there is *much* information in their "Files" section concerning the XT 'scopes, from eyepiece magnification charts to modifications that can be made to enhance your telescope's performance."

*e-mail changes: **Mike Stuart** <mgstul1@yahoo.com>

*Thanx ever so muchly from **yrs. truly** **Veronica & Larry Fallin** for giving me the 2001 Masters hat. Believe it, I have *big* plans for that hat!

* * *

Upcoming Meetings/Activities. We're holding an observing for Futral Road Elem. School in Griffin on **Tues., May 1st** at 7:00. We'll set up behind the school.

To get to the school from Hwy. 19/41 N of Griffin, bear right off the 4-lane at the Griffin exit just pass the RR overpass 1/2 mi. beyond

McIntosh Rd. Follow the exit road through the stoplight at Ellis Rd. and go up the long hill. Turn left at the stoplight at the top of the hill and stay on that road -- Taylor Street -- all the way through town, past KFC on the right, Taylor St. Middle School on the right, the library on the right, and after you pass the next stoplight and the Dairy Queen on the right, bear right at the next road, Old Atlanta Rd.. After going down one hill and up another, the road curves to the left; at that point you'll see 1st Presbyterian Church on the left; turn left there onto Futral Road. The school will be on the right, .3 mile away. Drive around the school and you'll find us parked in the back.

In the event that our **Astronomy Day Kroger/Beaverbrook/FAC Observing on Sat., Apr. 28th** is cancelled due to unruly skies, we'll try again on **Sat., May 5th.** (Note: we will **not** show up on the 5th if the observing on the 28th is successful.)

Our club meeting on **Thurs., May 10th,** will feature the long-awaited appearance of AAC's **Richard Jakiel**, one of the nation's premier deep-sky visual observers. Rich will talk about the contributions of amateur astronomers throughout history. Be sure to bring your May copies of *Astronomy* and *Sky & Telescope* for Rich to autograph. (He has articles in both issues.)

Our regular Beaverbrook observing -- and, incidentally, our last BB observing until the fall -- will be held on **Fri., May 11th,** and our Cox Field club observings on **Fri.-Sat., May 18th-19th** and **Fri.-Sat., May 25th-26th,** giving us *four* shots at observing on a clear, largely moonless night.

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The Sky in May. Bright little **Mercury** (mag. -1.2) shows up in May for awhile after sunsets: it will be 4° to the right of **Saturn** on **May 5th** and 3° to the right of **Jupiter** on **May 14th,** all three of them fairly low in the NW sky at sunset. (The bright yellow star to the left of Saturn will be **Aldebaran**, in *Taurus*.) The thin crescent **Moon** will be 4° to the left of Mercury on **May 24th.** In any case, May will be a good -- and *safe* -- time for you to

complete the Mercury portion of your Planetary Club observations.

Mars (mag. -1.4) will rise about midnight on **May 1st**, and at 10:00 by the end of the month. The May issue of *Astronomy* (p. 66) offers suggestions for observing and drawing Mars telescopically.

The same issue of *Astronomy* (p. 69) also plots the progress of 11th-mag. **Comet 24P Schaumasse** in May.

Venus (mag. 4.5) will rise about 5 a.m.

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The Science and Romance of Pluto

article by **Stephen Byous**

On Feb. 7, 2001, I attended a symposium sponsored by the Planetary Society in partnership with the Carnegie Institute. The symposium, "The Science and Romance of Pluto," was held to inform and educate the public on the importance of sending a robot probe to explore Pluto, the only planet as yet unvisited. The event was hosted by **Louis Freedman**, executive director (and, with the late **Carl Sagan**, co-founder) of the Planetary Society. Panelists included: **Wes Huntress**, Planetary Society vice president; **Neil Tyson**, director of New York's Hayden Planetarium; planetary scientist **Alan Stern**; and **Bill Nye**, the Science Guy.

After Dr. Friedman welcomed the crowd of several hundred and introduced the panelists, Dr. Huntress took the podium to give a background of Pluto exploration. Astronomer **Clyde Tombaugh** discovered Pluto in 1930, as the result of a search for a "Planet X" that had begun due to perceived irregularities in the orbit of Neptune. Pluto was named for the Roman god of the underworld. **James Christy** discovered a single moon in 1978 and named it Charon, after the mythical ferryman who transported the souls of the dead to the underworld across the river Styx. (Author's Note: in the original Greek the word *Charon* would be pronounced with a hard **K** sound, like "KAR un" -- but Christy wanted to honor his wife so it is pronounced *Sharon*.)

Dr. Huntress traced the history of NASA's mission plans for Pluto. NASA's original plan, the **Pluto-Kuiper Express**, was scheduled for launch in 2004 with a transit time of 8-10 years. It would have taken advantage of a gravity assist from Jupiter, or else the transit time would have expanded to 14-16 years). In Sept., 2000, the *P-K Express* was cancelled because of budget problems. As a result of the outcry from both scientists and the public -- one Planetary Society petition alone had 10,000 signatures -- NASA reconsidered and, on Dec. 20, 2000, announced that they would begin accepting proposals for a new Pluto mission. (Author's Note: That was the state of affairs at the time of the symposium. The whole mission subsequently was scrapped in the Bush 2002 budget, but on March 1st Congress requested that NASA continue accepting proposals. The fight over the budget has yet to really begin so the future of this mission is still in doubt.)

The next speaker was Dr. **Alan Stern**, a planetary scientist specializing in the outer solar system. Dr. Stern pointed out that, because of modern astronomical technology, we've learned more about Pluto and Charon in the last 20 years than in the previous fifty. A bit of luck was involved because shortly after Charon was discovered a series of mutual Pluto/Charon eclipses began which enabled us to settle some of the hotly debated arguments about their characteristics. Pluto is much smaller than our own Moon. Like the Earth and Moon, Pluto and Charon form a double planet -- but in the case of these outer bodies, Pluto and Charon always keep the same hemispheres oriented toward each other. Thus, Charon is invisible from many areas of Pluto.

Rather than the dull ball of ice previously imagined, Pluto turned out to be a strange and interesting place. A hot summer's day would average a scorching 40° above Absolute Zero: -395° in the shade! To an observer on the surface, the Sun would be merely the brightest of the cold, cold stars. Pluto's surface appears to be water ice covered with a pinkish snow consisting of condensed methane, nitrogen and carbon monoxide. Pluto has a big bulb of atmosphere, far larger than would be expected

detective work -- and more than one set of star charts -- is necessary to complete a project.

I've done that detective work for you.

Here it is.

First, you need a list of the 100 Double Stars; you can get it from the A.L.'s website, or order one from the A. L. I just type in "Astronomical League" on my computer and punch "GoTo," and then click on Observing Clubs to go to the Double Star Club.

Second, you need a copy of the Greek alphabet (lower case) to remind you of what you're looking for, since few stars' familiar names (e.g., **Rigel**, **Castor**) appear on the charts.

Third, you need a *Seasonal Star Charts* and a *Cambridge Star Atlas*. (SSC is easier to use whenever possible, since it shows the imaginary lines connecting the major stars in each constellation.) Of the 100 double or multiple stars in the Double Star Club, 89 are shown and named in SSC.

Of the remaining 11 Double Stars, five -- **1 Cam**, **118 Tau**, **12 Lyn**, **19 Lyn** and **N Hya** -- are shown and named in *Cambridge* (hereafter referred to as "CSA").

Of the remaining six, five -- **32 Cam**, **Struve (ε) 1999**, **Struve (ε) 2404**, **Otto Struve (Ϸ) 525** and **31 Cyg** -- are shown but not named in CSA.

The last one, **Theta (θ) 2 Ori**, is not shown or named in SSC or CSA. (Incidentally, of the aforementioned six double stars only the last one is named in *SA 2000.0*, either. That's what I meant by "detective work.")

In CSA chart #1, **32 Cam** is the unidentified 5th-mag. double star (i.e., the star with a line through it) lying to the left of **Polaris** near **I. 3568**, the brighter star being yellow and the other white. I found it by triangulating with **Polaris** and **Beta (β) UMi**.

Struve 1999 is in the same field of view as **Xi (ξ) Sco**; **Struve 1999** is a deep yellow pair, while the **Xi Sco** stars are white and grayish.

In CSA chart #12, **Struve 2404** is the tiny, unidentified double star lying just N of **NGC 6709** in *Aquila*. Both stars are tiny and yellow, and are best seen at about 150x.

In CSA chart #6, **Otto Struve 525** is the unidentified double star lying almost directly to

the W of **Beta Lyrae**; it's *not* the smaller double star lying above and to the NW of Beta.

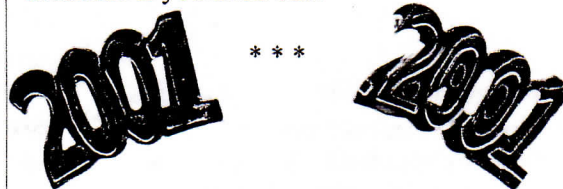
31 Cyg is a very wide double star listed in CSA #7 as **30 Cyg** -- it's not a mistake, **30 Cyg** being the other star -- that I saw as a triple, the companion stars being equidistant from the brighter yellow star at the center of the arcing line they form. The other stars are blue and off-white. **30/31 Cyg** forms a flat triangle with **Deneb** and **Delta (δ) Cyg**.

Finally, there is **Theta (θ) 2 Ori**, a wide double consisting of the other two stars located near (but not in) another, more famous Double Star Club target, **Theta (θ) 1 Ori (the Trapezium)**, which is shown and named in SSC.

You might want to save this copy of the *Observer* in case you want to pursue a Double Star Club certificate and pin at a later date. Since -- as usual, given my lack of foresight -- I kept my Double Star observing logs but failed to record how I found the stars and which star atlases I used to find them, it took me about two hours to track them down again in preparing this article.

When you find a given double star, try different magnifications to find out which gives the best view, then draw what you see. (Make the brighter star bigger.) Then watch it as it drifts out of view and draw a line indicating which way is west. (I drew the stars in the field, and then re-drew them with proper N-W alignment at home, but you don't absolutely have to do it that way if you prefer not to.) Record the date, time, instrument used, magnification, and whatever notes you take (e.g., colors), although notes are not required. (Best advice here: don't put down anything you aren't required to record.)

I have Double Star Club observing forms available if you need one.



HAPPY GRADUATION, KATIE!!!

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