STAR STUFF

The Newsletter of the Ford Amateur Astronomy Club

February 2002
Volume 11 Number 2

Editor: Jim Frisbie

In This Issue:

STAR STUFFis a monthly publication of the Ford Amateur Astronomy Club, an affiliate club of the Ford Employee Recreation Association.

Ford Amateur Astronomy Club
P.O. Box 7527
Dearborn MI 48121-7527

http://www.boonhill.net/faac

Submissions to STAR STUFF are welcome Please write to the address above or contact the editor:

Jim Frisbie
via tele #: 734-453-1422
or email:w8tu@peoplepc.com

Dead line is the 15th of each month for the following month of publication.

Officers:

President	Don Nakic
Vice President	Ken Anderson
Secretary	Don Klaser
Treasurer	Mike Bruno

General Meetings:
The Ford Amateur Astronomy Club holds regular general meeting on the fourth Thursday of each month (except the combined November/December meeting held the first Thursday of December) at 5:00 PM in conference room 1491 in the Ford Credit building in Dearborn, Michigan

Observing:
The Ford Amateur Astronomy Club observes at Spring Mill Pond within the Island Lake State Recreation Area near Brighton, Michigan. The club maintains a permit for after-hours access. Weather permitting, the club observes on Friday nights, Saturday nights, and nights before holidays.

Club Information:
Observing schedules and additional Club information is available by calling the Observing Hotline at: (313) 390-5456 or via the Ford Intranet: www.be.ford.com/astro/faac.html
or the public Internet: www.boonhill.net/faac.

Club Membership:
Membership in the Ford Amateur Astronomy Club is open to Ford employees and non-employees. Write or call for an application.
Annual - New Member: $25; Renewal: $ 20 (before Jan 31 of each year)
Lifetime - $ 150

Membership includes
A subscription to the STAR STUFF newsletter and the quarterly newsletter the REFLECTOR published by the Astronomical League.
Discounts on ASTRONOMY and SKY & TELESCOPE magazines, after-hours access to the observing site and discounts at selected area equipment retailers.

Magazine Discounts:
Do not send money to FAAC for SKY & TELESCOPE or ASTRONOMY magazine subscriptions. We have a form that you send in with your subscription directly to the publisher to receive a $10 discount. Pick up a form at the next meeting, or contact a club officer.

SWAP & SHOP

For Sale: Meade ETX125EC, 1 yr old, deluxe tripod, dew shield, hard case, 26mm plossl eyepiece, $ 1,150 obo. Contact: Tom Ellison, @ 248-549-7675

For Sale: Three Refractors: Celestron 80mm, w/tube rings, tripod socket, 6X30mm LER finder, diagonal and 25mm eyepiece - $145; Sky Watcher 102mm, w/ tube rings, 6X30mm erect image finder and 2" focuser $195; Sky-Watcher 150mm, w/adjustable lens cell, tube rings and 9X50 finder - $450. Contact: Jim Frisbie @ 734-453-1422

For Sale: Celestron CG4, equatorial mount & RAmotor. Like-new/excellent condition. Asking $175. Also, Celestron Ultima, 5mm eyepiece, 1 ¼", asking $45. Contact: Thomas Blaszak @ Ofc: 313.323.9842 After hours: 313.277.3365

LETTERS TO THE EDITOR

It has been brought to my attention that data in the January Star Stuff edition of the Astronomical Calendar was incorrect and actually reflected data for February 2001. My apologies.

CLUB CALENDAR

A club calendar will become a regular feature of Star Stuff. ***But I need your help!*** *Please submit subject, date and times of club happenings and special events so I can post them for all to see. This will be a running calendar in each issue and updated as new information becomes available.*

MINUTES OF THE JANUARY 24, 2002 FAAC GENERAL MEMBERSHIP MEETING

by Don Klaser

The meeting was called to order at 5:00 pm by President Dan Kmiecik. Pizza & pop was enjoyed as the round table discussion was held. The date chosen for the ILSP is Sat, Sept. 14th. The moon will be at 1st qtr on that date. More information on the upcoming star party will be forthcoming. Bob Fitzgerald asked if anyone was going to the observing site for the occultation of Jupiter by the moon. Several groups would like to attend our observing session if we will be there. Bob McFarland brought up the idea of planning for our annual FAAC dinner party; a tentative date of Sat., March 23rd will be looked into. At its next meeting the board will review our scholarship fund process.

Election of Officers:
The following members were nominated for office:
President - Don Nakic, Vice President - Ken Anderson, Secretary - Don Klaser, Treasurer - Mike Bruno All nominees were elected by acclimation.

The meeting was adjourned at 7:00 pm.

A MESSAGE FROM THE PRESIDENT

by Don Nakic

I would like to thank everyone for electing me the 2002 president of FAAC. It was a surprise to see the number of people interested in me leading the club. I assure you, that I will not let you down.

For me, the science and hobby of astronomy is extremely interesting and exciting. Some of the more fascinating parts of astronomy lie in its history. Its hard to image that it wasn't until the mid 1500s when a Polish churchman named Nicolas Copernicus proposed in his manuscript, entitled De Revoutionibus Orbium Coelestium, the theory of a heliocentric universe. He didn't suffer the repercussions of his theory since he passed away before it was published. Others with the same ideals, unfortunately, had to deal with persecution from philosophers and theologians alike. Galileo Galilei was put under house arrest for 26 years by the pope for stating his beliefs, which support the Copernican theory. It's awesome to know that we can talk freely about our beliefs of the universe without suffering such consequences. Courage and perseverance seem to be traits of those that share the same interest as you and I. Now what do I mean by that? When it is cold out and people are curled up near the fireplace we are outside peering into the clear, star lit skies. But its not just about being out on a cold winters night that define us. It is our willingness to form theories to better understand the universe's exquisite beauty like those before us.
In addition to having a strong will, astronomy promotes a passion within use too. It is easy to see this passion when you attend star parties and hear people talk about their equipment and favorite objects in the sky. You may even catch someone comparing their favorite eyepiece to their favorite car.

My goal as president of FAAC is to elevate the club's level of enthusiasm and passion for the science and hobby of astronomy. I would like to do this by having brief technical discuss during club meetings (e.g. how to use a planisphere and why are stars the color they are and its significance) and more club participation with public astronomy events. I feel that only together can we grow our interest in astronomy.

SIGHTS AND SOUNDS OF THE HEAVENS

(Authors name withheld by request)

For me, astronomy has always been a hobby of superlatives--or at least as many as can be culled from my limited vocabulary. Those words that I know fall far short of describing the pleasure that comes on a crystal clear winter's night, after weeks of forced inactivity, when Orion is perched majestically in the south with the Great Nebula glowing in the sword. Add to that mix the enthusiasm of a gathering crowd of astronomy novices, waiting for twilight to end, and you have the perfect evening.
The Hunter was only one of the many delights that Club members were able to share with the public at our participation in the Ice Days festivities at Lake Erie Metropark on 19 February. Members' contributions followed the same pattern that has proved so successful at the outreach programs and public awareness star parties that have become a hallmark of the Club: an on-going display of scopes and other equipment used by stargazers (and sungazers with Clay Kessler's reflector); Greg Burnett's Astronomy 101 program, ably presented by George Korody, followed by host Bob MacFarland's explanation of the various types of instruments and their capabilities; and then (after a dinner break to permit darkness to set in) observing for as long as there were those

who wanted to satisfy their curiosity about our universe and to experience the thrills of glorious sights.
And thrilled they were. On what was certainly the best viewing in the five or six years of our involvement, folks were treated to whatever they wanted to see. Jupiter and Saturn, with attendant moons and rings, were usually asked for first, followed by Orion and the Andromeda Galaxy. More powerful optics brought in distant nebulae.
The rich-field instruments introduced a host of new viewers (although there were many returnees from previous years) to the wonders of open clusters. The "sounds" of the heavens really came from Earth, running the gamut from "Wow!" to "Oh, my Lord" when people experienced for the first time the sparkle of the Pleiades like diamonds on black velvet, to a perhaps slightly more reserved response to the Beehive ("not as bright as the Seven Sisters"), but then followed by an enthusiastic "I see them!, I see them!" when led, with only ten power, to a much fainter M35 and to the realization that they had completed a journey from showpiece entertainment to the exercise of a newly acquired skill of finding faint objects and that dim can be beautiful. Let's hope that some sparks were ignited.

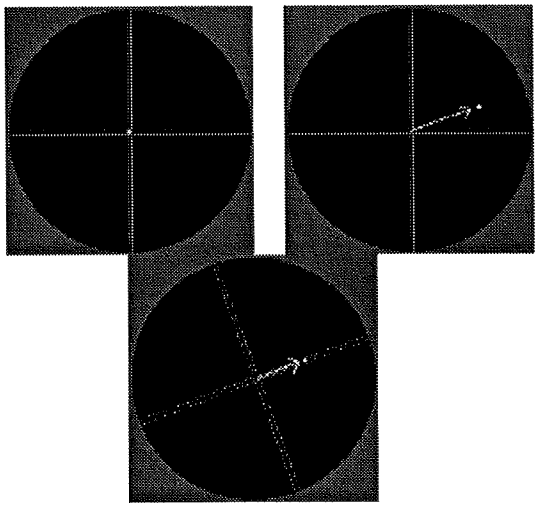
SCT STAR DRIFT ALIGNMENT

By Scott Tucker of Tucson, AZ

Unless you are lucky enough to live in a dark location and have a permanent observatory, you will have to accurately polar align your telescope each and every time you go out. An accurate polar alignment is required to eliminate "field rotation".A perfectly guided astrophoto will still show error if the mount is not very accurately polar aligned. Field rotation shows up in an image as curved stars at the outer edges of the imageThis is not to be mistaken for coma, usually seen in fast camera lenses, in which the stars are bloated little UFO-like things well-aligned mount will not show field rotation. The following procedure for the drift method of polar alignment assumes the use of a Schmidt-Cassegrain (SCT) telescope.

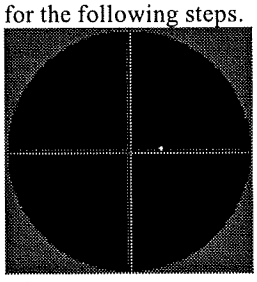
The drift method of polar alignment requires the use of an illuminated crosshair eyepiece. A simple double-crosshair works perfectly, although a fancier eyepiece such a Celestron's Micro Guide eyepiece will work fine as well.

The telescope mount should already be roughly polar aligned, preferably using a polar alignment scope. The drift alignment requires that you let the telescope track on two different stars are specific locations in the skyWatching how the stars drift relative to the reticle in the crosshair eyepiece tells how far the mount is offset from true celestial north and in which direction. Pick a star near the meridian, just north of the celestial equator (due south, between about 60°-70° above the horizon)Select a star that is reasonably bright but not too bright (about magnitude 5-6).Be sure that no other similar stars are in the field of view, as you do not want to get confused as to which star is which. Aim the telescope to this starRotate the diagonal (if using an SCT or refractor) until the eyepiece is oriented so that you are standing on the north side of the telescope when looking into the eyepiece. These steps are not absolutely necessary but will make the following procedure easier. The eyepiece's crosshairs must be aligned with the north-south and east-west directions. Center the star in the eyepieceUse the mount's hand-controller to move the star east and west (left and right) in the eyepiece.You should see that the star's motion is not perfectly parallel to the horizontal lines in the eyepiece. Rotate the eyepiece and check the east-west motion again. Repeat until the crosshairs are properly aligned.



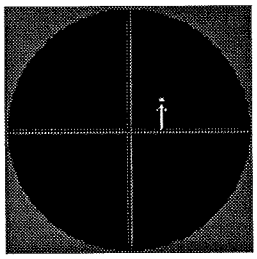
Rotate the eyepiece so that the crosshairs are parallel to the east-west motion of the star in the telescope.

Once the crosshairs are oriented, place the star on one of the lines east-west (approximately horizontal) linesIn other words, the star image should be bisected by one of the horizontal lines as shown belowDo not place the star between the lines, as it will not provide enough accuracy for the following steps.

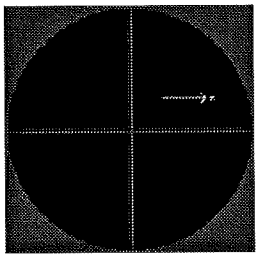


Place star on east-west line

If the star drifts up, use the mount's azimuth adjustment knobs to move the mount so that the star appears to move right in the field of view. If the star drifts down, use the mount's azimuth adjustment knobs to move the mount so that the star appears to move left in the field of view.

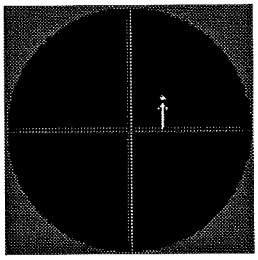


Star drifts up

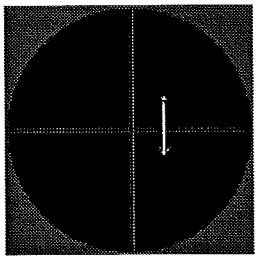


Adjust mount to move star right

Use the hand-controller to move the star back onto the horizontal line. Let the star drift again. You should notice that it takes longer for the star to begin drifting off the line. Repeat the azimuth adjustments, placing the star back on the crosshair again when finished. Continue letting the star drift and making adjustments until the star takes about 5 minutes to drift off the line. Again, ignore any left-right motion. Once the star stays bisected by the line (not just close to the line) for 5 minutes without any drift, your mount is accurately aligned in azimuth. Now you just need to adjust the mount in altitude. Pick a second star in the east, about 20° above the horizon, near the same declination as your first star (near the celestial equator). there are any obstructions on your eastern horizon, it is possible to achieve an accurate alignment using a star up to about 50° above the horizon. If you do not have an unobstructed view to the east, a star in the west can be chosen. You must reverse the adjustments below, however, if you use a star in the west. Rotate the diagonal so that you are now standing on the south side of the telescope when looking in the eyepiece. Again, this just makes the adjustments easier. Orient the crosshairs again as you did above, so that the horizontal crosshairs are parallel to east-west motion and the vertical crosshairs are parallel to north-south motion. Place the star on one of the horizontal lines. Let the star drift. You should notice some drift after only a minute or so unless you initial rough alignment happened to be very good. If the star drifts up, use the mount's altitude adjustment knobs to move the mount so that the star appears to move down in the field of view. If the star drifts down, use the mount's *altitude* adjustment knobs to move the mount so that the star appears to move up in the field of view.



Star drifts up



Adjust mount so star moves down

Use the hand-controller to move the star back onto the horizontal line. Let the star drift again. You should notice that it takes longer for the star to begin drifting off the line. Repeat the altitude adjustments, placing the star back on the crosshair again when finished. Continue letting the star drift and making adjustments until the star takes about 5 minutes to drift off the line. Again, ignore any left-right motion. Once the star stays bisected by the line (not just close to the line) for 5 minutes without any drift, your mount is accurately polar aligned. You are ready to begin imaging the heavens!

The original text by Scott can be found at http://www.darkskyimages.com/gpolar.html

Star Stuff Book Review

Reviewed by Greg Burnett

The Soul of the Night--An Astronomical Pilgrimage
Chet Raymo, Hungry Mind Press, Saint Paul, Minnesota, 1996, $15.00.

Chet Raymo is an amateur astronomer, one who, true to the word "amateur," pursues it out of love. Raymo's love of the night sky comes through clearly in The Soul of the Night. He takes the reader on a sensitive, almost poetic tour of the universe, bringing the beauty and mystery of the cosmos down to Earth by exploring the connections between familiar elements of our natural world and the wonders of the heavens.

Raymo challenges us to see our familiar astronomical targets in new, deeper ways. His description of M42, the Great Nebula in Orion, evokes images of dynamic, overpowering energy:

> *"There is movement and violence; the nebula seems charged with a terrible malevolent power... It is the face of Leviathan, wrenching us into a space as deep and terrible as the bowels of the sea.*

It is God's sturdy hand, the fist that grips us in its clinched infinities. This is the power that hides in the colorless night like rocks in foaming breakers that crack a ship, or the white whale that drags all who seek him into black oblivion."

But few of Raymo's interpretations are as dark. More typical of his reflections, the life cycle of a butterfly becomes a metaphor for the creation and flow of matter through the universe. Born in the cores of stars, matter circulates through everything; through planets, through rocks and living things alike, through you and me, through butterflies.

For those of us who pursue amateur astronomy, Raymo reminds us why. For those who do not, The Soul of the Nightcould be the inspiration they have been waiting for.

Chet Raymo is a professor of physics at Stonehill College, in Boston, Massachusetts. He writes a weekly column for The Boston Globe and is the author of several books. He resides part of each year in County Kerry, Ireland.

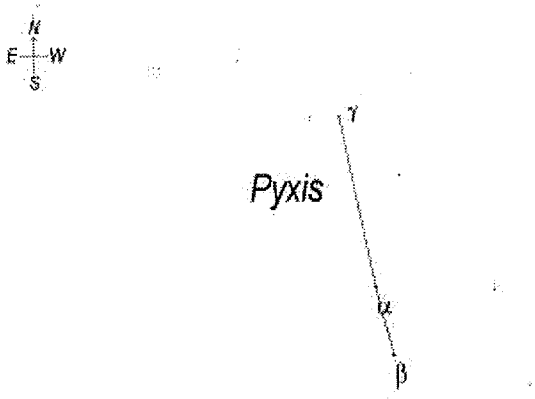
CONSTELLATIONS FOR THE BEGINNER

February — Pyxis

By Janice A. Kessler

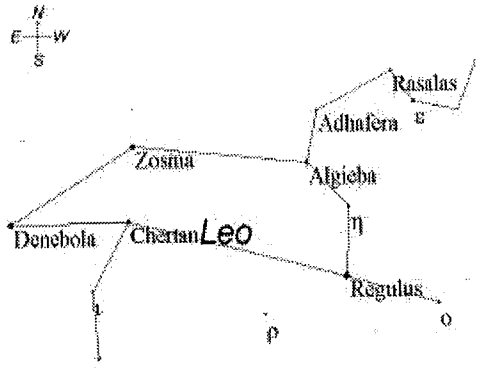
Pyxis is a small constellation in February that sets low in the southern horizon. Its small size proximity to the horizon may make it difficult to find this constellation. Its stars include:

α Pyxidis: Magnitude 3.68
β Pyxidis: Magnitude 3.97
γ Pyxidis: Magnitude 4.01



March — Leo

Leo is a large constellation seen south of the zenith during the month of March. Its stars include:
Denebola oβ Leonis: Magnitude 2.14
Chertan oθLeonis: Magnitude 3.34
ZosmaδLeonis: Magnitude 2.56
RegulusαLeonis: Magnitude 1.35
RasalasμLeonis: Magnitude 3.88
AdheferaεLeonis: Magnitude 3.44
AlgeibaγLeonis: Magnitude 2.61
η Leonis: Magnitude 3.52
o Leonis: Magnitude 3.52
ρ Leonis: Magnitude 3.85
ι Leonis: Magnitude 3.94
e Leonis: Magnitude 2.98



All maps and facts are courtesy of Chris Marriott and SkyMap 4.0.

All maps were designed to be viewed from Southeastern Michigan at Midnight around the 1st of the month. If you are at another location or viewing at another time, you may not be able to see this constellation.

FAAC
February 28, 2002
General Membership Meeting
5:00 pm to 6:30 pm
Agenda

- Introductions	Ken Anderson	20 min
- Secretary's Report	Don Klaser	5 min
- Treasurer's Report	Mike Bruno	5 min
- Business	Ken Anderson	10 min
- Upcoming Events	Ken Anderson	5 min
- Technical Discussion	Jim Frisbie	15 min
- Main Program	TBD	30 min

A CALL FOR PAPERS!

Star Stuff is looking for FAAC Member written articles, topic of your choice, for the March edition. Please submit articles by 15 March 2002 to Jim Frisbie, email: w8tu@peoplepc.com

ASTRONOMICAL CALENDAR

March 2002

All times are Eastern Standard Time or Eastern Daylight Saving Time, whichever applies.

March 1	During March, four planets visible at dusk. Spread along a W to E line -- Venus, Mars, Saturn near Aldebaran, Jupiter.
March 2	Moon near Spica (dawn)
March 5	Last Quarter 8:24 pm Moon near Antares (dawn)
March 13	New Moon 9:02 pm
March 15	Moon near Venus (dusk)
March 17	Moon lower left of Mars (dusk)
March 19	Moon approaching Saturn; Aldebaran 4° lower left of Saturn (dusk)
March 20	Equinox 2:16 pm Moon upper left of Saturn (dusk)
March 21	First Quarter 9:28 pm Moon approaching Jupiter (dusk)
March 22	Moon near Jupiter (dusk)
March 23	Moon near Gemini Twins (dusk)
March 25	Moon near Regulus (dusk)
March 28	Full Moon 1:25 pm*(Sap Moon)*
March 29	Moon near Spica (9 pm)

This information was obtained from the Henry J. Buhl, Jr. Planetarium in Pittsburg, PA.

CLUB CALENDAR

Activity	Date	Time	Contact
- FAAC Dinner Party	Mar 23	-	-
- Island Lake Star Party	Sep 14	-	-
- GLACC Star Party	-	-	-
- Beginners Night	-	-	-
- Lake Erie Ice Days	-	-	-

Please help with new items and filling in the blanks.....

FAAC ROAD TRIP !

During the last FAAC Board Meeting the possibility of a ROAD TRIP was discussed. Suggestions included a trip to one of the following: Abram's Planetarium, Detroit Science Center Planetarium, Cranbrook Observatory, and NOAA at Whitelake.

WHAT DO YOU THINK?

Is this a good idea?

Would you participate?

Should it happen on a regular meeting night?

Other locations you would like to see?

Ford Amateur Astronomy Club
Star Stuff Newsletter
P.O. Box 7527
Dearborn, MI 48121-7527